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

Arcadis
Mayflower AR Project
(Contract # B0086022.1301)
November 19, 2013 and November 20, 2013
Collection Dates

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

(QC Batches ENV 3165 and ENV 3166)

December 8, 2013

Technical Report 13-3157

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Introduction

B&B Laboratories received a shipment of one (1) ice chest that were sent by Jessica Geurts of Arcadis using FedEx on November 20, 2013 and arrived on November 21, 2013 in College Station, Texas. The ice chest arrived sealed and in good condition.

Cooler Number	Temperature	Samples Received
1	1.2°C 0.6°C (Temp Blank)	Twenty (20) sediment samples in 8oz jars Two (2) 1L water samples in B/R amber bottles.

The water and sediment/soil samples were collected between November 19, 2013 and November 20, 2013 in support of the Mayflower AR, Project (Arcadis-US Contract # B0086022.1301). The water samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled refrigerator (4.0°C) prior to analysis. The sediment samples were logged in according to B&B Laboratories standard operating procedure (B&B 1009) and were stored in an access-controlled freezer (<-16.0°C) prior to analysis. Selected sediment and 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 TPH, ALI, PAH, selected hopane's, and TAS compounds in the sediment samples are included in this report.

Analytical Methods

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

Table 1. Standard Operating Procedures for each analytical test.

Matrix	Extraction	ALI/TPH	PAH
Water	B&B 1011	B&B 1016	B&B 1006
Sediment	B&B 1003	B&B 1016	B&B 1006

Data Reporting

The reporting units for each analyte are listed in Table 2. Analytes that are detected below the method detection limit are qualified as "J". Analytes that are detected in the method blanks greater than 3X MDL

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

Table 2. Analytical reporting units.

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

Table 3. Data Qualifier Definitions.

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

Table 4. Method Detection Limits.

Aliphatics	**Water MDLs**	**Sediment MDLs**
Sample size	1L, 1ml final extract volume	15 g, 1ml final extract volume
Unit of measure	µg/L	µg/g
n-C9	0.288	0.012
n-C10	0.252	0.021
n-C11	0.251	0.016
n-C12	0.266	0.019
n-C13	0.258	0.045
i-c15	0.256	0.016
n-C14	0.277	0.013
i-c16	0.234	0.004
n-C15	0.256	0.016
n-C16	0.234	0.004
i-c18	0.100	0.004
n-C17	0.174	0.003
Pristane	0.190	0.003
n-C18	0.100	0.004
Phytane	0.201	0.006
n-C19	0.073	0.005
n-C20	0.077	0.012
n-C21	0.081	0.004
n-C22	0.150	0.003
n-C23	0.117	0.008
n-C24	0.069	0.005
n-C25	0.066	0.007
n-C26	0.070	0.008
n-C27	0.069	0.011
n-C28	0.077	0.011
n-C29	0.087	0.021
n-C30	0.081	0.013
n-C31	0.126	0.015
n-C32	0.083	0.012
n-C33	0.282	0.021
n-C34	0.106	0.016
n-C35	0.112	0.015
n-C36	0.113	0.016
n-C37	0.148	0.017
n-C38	0.127	0.019
n-C39	0.160	0.019
n-C40	0.144	0.019
Total Petroleum Hydrocarbons	13.0	1.4
Total Resolved Hydrocarbons	13.0	1.4
Unresolved Complex Mixture	13.0	1.4
Extractable Organic Matter	100	100

Table 4. Continued. Method Detection Limits.

PAH Sample size Unit of measure	Water MDLs 1L, 1ml final extract volume ng/L	Sediment MDLs 15.0 g, 1ml final extract volume ng/g
cis/trans Decalin	1.14	0.132
C1-Decalins	2.28	0.263
C2-Decalins	2.28	0.263
C3-Decalins	2.28	0.263
C4-Decalins	2.28	0.263
Naphthalene	2.91	0.342
C1-Naphthalenes	1.36	1.03
C2-Naphthalenes	5.82	0.684
C3-Naphthalenes	5.82	0.684
C4-Naphthalenes	5.82	0.684
Benzothiophene	1.29	0.090
C1-Benzothiophenes	2.57	0.180
C2-Benzothiophenes	2.57	0.180
C3-Benzothiophenes	2.57	0.180
C4-Benzothiophenes	2.57	0.180
Biphenyl	5.09	0.294
Acenaphthylene	1.17	0.041
Acenaphthene	1.44	0.103
Dibenzofuran	1.19	0.204
Fluorene	0.81	0.183
C1-Fluorenes	1.63	0.367
C2-Fluorenes	1.63	0.367
C3-Fluorenes	1.63	0.367
Carbazole	0.83	0.150
Anthracene	0.77	0.115
Phenanthrene	2.26	0.208
C1-Phenanthrenes/Anthracenes	0.70	0.077
C2-Phenanthrenes/Anthracenes	3.03	0.285
C3-Phenanthrenes/Anthracenes	3.03	0.285
C4-Phenanthrenes/Anthracenes	3.03	0.285
Dibenzothiophene	0.82	0.116
C1-Dibenzothiophenes	0.67	0.064
C2-Dibenzothiophenes	1.34	0.232
C3-Dibenzothiophenes	1.34	0.232
C4-Dibenzothiophenes	1.34	0.232
Fluoranthene	1.09	0.333
Pyrene	1.37	0.136
C1-Fluoranthenes/Pyrenes	2.47	0.469
C2-Fluoranthenes/Pyrenes	2.47	0.469
C3-Fluoranthenes/Pyrenes	2.47	0.469
C4-Fluoranthenes/Pyrenes	2.47	0.469
Naphthobenzothiophene	1.03	0.128
C1-Naphthobenzothiophenes	2.07	0.256
C2-Naphthobenzothiophenes	2.07	0.256
C3-Naphthobenzothiophenes	2.07	0.256
C4-Naphthobenzothiophenes	2.07	0.256
Benz(a)anthracene	0.74	0.192
Chrysene/Triphenylene	0.80	0.116
C1-Chrysenes	1.60	0.232

PAH (continued)	WaterMDLs	Sediment MDLs
Sample size	1L, 1ml final extract volume	15.0 g, 1ml final extract volume
Unit of measure	ng/L	ng/g
C2-Chrysenes	1.60	0.232
C3-Chrysenes	1.60	0.232
C4-Chrysenes	1.60	0.232
Benzo(b)fluoranthene	2.38	0.203
Benzo(k,j)fluoranthene	2.51	0.098
Benzo(a)fluoranthene	2.51	0.098
Benzo(e)pyrene	2.69	0.177
Benzo(a)pyrene	1.91	0.101
Perylene	0.63	1.27
Indeno(1,2,3-c,d)pyrene	1.39	0.050
Dibenzo(a,h)anthracene	1.14	0.064
Benzo(g,h,i)perylene	2.51	0.088
Individual Alkyl Isomers,TAS, and Hopane's		
2-Methylnaphthalene	1.10	1.30
1-Methylnaphthalene	1.42	0.546
2,6-Dimethylnaphthalene	0.70	0.261
1,6,7-Trimethylnaphthalene	0.67	0.127
1-Methylfluorene	1.47	0.191
4-Methyldibenzothiophene	0.97	0.091
2/3-Methyldibenzothiophene	0.97	0.091
1-Methyldibenzothiophene	0.97	0.091
3-Methylphenanthrene	0.94	0.097
2/4-Methylphenanthrene	0.94	0.097
2-Methylanthracene	0.94	0.097
9-Methylphenanthrene	0.94	0.097
1-Methylphenanthrene	0.94	0.097
3,6-Dimethylphenanthrene	1.67	0.110
Retene	1.59	0.231
2-Methylfluoranthene	1.15	0.223
Benzo(b)fluorene	1.37	0.125
C29-Hopane	8.19	0.575
18a-Oleanane	8.19	0.575
C30-Hopane	8.19	0.575
C20-TAS	2.60	0.575
C21-TAS	2.60	0.575
C26(20S)-TAS	2.60	0.575
C26(20R)/C27(20S)-TAS	2.60	0.575
C28(20S)-TAS	2.60	0.575
C27(20R)-TAS	2.60	0.575
C28(20R)-TAS	2.60	0.575

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 method blank, and 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. Method 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 oil SRM 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%.

Polycyclic Aromatic Hydrocarbons (PAH)

The quality assurance/quality control procedure for this program included the analyses of a method blank, blank spike/blank spike duplicate per analytical batch of no more than 20 samples. Two standard reference oils (SRM 1582 and SRM 2779) were analyzed with this data set. Method 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. 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% and for Decalin which is 25% to 120%). The QC criterion for RPDs for valid spiked duplicates is ±30%. The QC criterion for the reference oil 1582 SRM is ± 20% the laboratory derived mean. The QC criterion for the reference oil 2779 SRM is ± 20% the NIST reference range.

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.

Quality Assurance/Quality Control – Sediment/Soil

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

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

for RPDs for valid laboratory duplicates is ≤30%. The QC criterion for the NIST SRM 2779 is <20% of the laboratory determined mean.

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

Polycyclic Aromatic Hydrocarbons (PAH)

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

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

Quality Assurance/Quality Control Variances – Water

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

Initial Calibration

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- No variances were observed.

Method Blank

Observation

- No variances were observed.

Blank Spike/Blank Spike Duplicate

Observation

- No variances were observed.

Laboratory Control Standards

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Polycyclic Aromatic Hydrocarbons (PAH)

Initial Calibration

Observation

- No variances were observed.

Initial Calibration Verification and Continuing Calibration Checks (The CCC is a prepared from a second source.)

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- No variances were observed.

Method Blank

Observation

- No variances were observed.

Blank Spike/Blank Spike Duplicate

Observation

- No variances were observed.

Standard Reference Materials

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Quality Assurance/Quality Control Variances – Sediment

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.

Method Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Eight (8) analytes are qualified with the "Y" qualifier even though the recoveries of these analytes are within the QC% recovery limits of 40% to 120% recovery in ENV3166C MS (SED-DA-037R (0-0.5)) and ENV3166D MSD (SED-DA-037R (0-0.5))

Comment

- These eight (8) analytes are considered invalid spikes due to high native concentrations of petroleum hydrocarbons in the samples. These peaks are qualified with a "Y".

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Petroleum)

Observation

- No variances were observed.

Additional QC Batch Information

Observation

- No variances were observed.

Polycyclic Aromatic Hydrocarbons (PAH)

Initial Calibration (Six Point)

Observation

- No variances were observed.

Initial Calibration Verification

Observation

- No variances were observed.

Mass Discrimination Ratio

Observation

- No variances were observed.

Internal Standard Area Response

Observation

- No variances were observed.

Continuing Calibration Checks

Observation

- No variances were observed.

Surrogate Recoveries

Observation

- d12-Perylene was detected outside of the QC% recovery limits of 10 to 120% in two (2) client submitted samples ARC2018 (SED-DA-033R (0-0.5)) and ARC2027 (SED-DA-DUP-10-112013), and one (1) laboratory QC sample ENV3166E (Dupl. (SED-DA-033R (0-0.5)).

Comment

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

Method Blank

Observation

- No variances were observed.

Matrix Spike/Matrix Spike Duplicate

Observation

- Nineteen (19) analytes were either detected outside of the QC %recovery limits of 40% to 120% or are considered invalid spike peaks due to the high concentration of PAHs in the samples in ENV3166C MS (SED-DA-037R (0-0.5) MS/MSD)) and ENV3166D MSD (SED-DA-037R (0-0.5) MS/MSD))

Comment

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

Laboratory Duplicate

Observation

- No variances were observed.

Laboratory Control Standard (Solution, Sediment, and Petroleum)

Observation

- No variances were observed.

Additional QC Batch Information

Observation

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

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

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

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

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

Element or Sample Type	Minimum Frequency	Measurement Quality Objective/ Acceptance Criteria	Corrective Action
Tuning	Prior to every sequence	Tune as specified in laboratory SOP	Resolve before proceeding.
Initial Calibration (All parent PAH and selected alkyl homologue PAH)	Prior to every sequence, or as needed based on continuing calibration/verification check.	6-point calibration curve over two orders of magnitude RPD ≤ 20%	Resolve before proceeding.
Continuing Calibration Verification (CCV)	Every 12 hours or 6-9 field samples	RPD ≤ 25%, No more than 2 analytes can be between 25% and 35% RPD.	Perform instrument maintenance. Re-analyze affected samples.
Initial Calibration Verification (Second Source or can be met if CCV is second source)	Per initial calibration	%R target analytes 80-120%	Resolve before proceeding.
SRM 1941b for sediment; SRM 1974c for tissue If available use SRMs for appropriate matrices	One per batch/every 20 field samples	Within ±30% of NIST 95% uncertainty range for analytes within the quantitation range. No more than 2 analytes may exceed this criterion.	Resolve before proceeding.
SRM 2779 Reference Oil	One per batch/every 20 field samples	Peak resolution >70% of 4/9-methylphenanthrene from 1-methylphenanthrene (m/z 192). Within ±20% of NIST 95% uncertainty range for analytes within the quantitation range. No more than 2 analytes may exceed this criterion.	Resolve before proceeding.
Matrix Spike/Matrix Spike Duplicate (Sediments, Soils, Tissues only)	One per batch/every 20 field samples	%R 40% - 120% for target analytes, except biphenyl (40-140%), decalin (25-120%) and perylene (10-120%); RPD ≤30%, average %R 60-120% for valid spikes. No more than 2 analytes may exceed 40-120% recovery or >35% RPD.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Blank Spike/Blank Spike Duplicate	One per batch/every 20 field samples	See MS/MSD criteria above.	Evaluate impact to data, discuss with lab manager to determine if corrective action is needed.
Method 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.

It is our judgment that these QA/QC variances do not impact the overall quality of the data submitted in this report.

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

Juan A. Ramirez
Environmental Laboratory Manager

Donell S. Frank
Project Quality Manager

Sample/Analyses Description

B&B Laboratories
Project J13034
Report 13-3157

Arcadis - Mayflower AR
Sample Inventory

Client Project #B0086022.1301

#	File Number	Client Identification	Collection Date	Received Date	Analysis	Matrix	Comments	B&B SDG	Client Project #
1	ARC2006	SED-DA-EB-11-112013	11/20/13	11/21/13	PAH, TPH, ALI	Water	1 of 2	13112101	B0086022.1301
2	ARC2008	SED-DA-036R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
3	ARC2011	SED-DA-037R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
4	ARC2012	SED-DA-037R (0-0.5) MS/MSD	11/19/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
5	ARC2015	SED-DA-038R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
6	ARC2018	SED-DA-033R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
7	ARC2021	SED-DA-034R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
8	ARC2024	SED-DA-035R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301
9	ARC2027	SED-DA-DUP-10-112013	11/20/13	11/21/13	PAH, TPH, ALI	Sediment		13112101	B0086022.1301

Water Samples

Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons/ Extractable Organic Matter Concentrations

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

Sample Name	ARC2006.D
Client Name	SED-DA-EB-11-112013
Matrix	Water
Collection Date	11/20/13
Received Date	11/21/13
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	05-Dec-2013, 22:58:42
Method	ALI2012.M
Sample Volume (L)	1.0
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Q
n-C9	<0.288	U
n-C10	<0.252	U
n-C11	<0.251	U
n-C12	<0.266	U
n-C13	<0.258	U
i-C15	<0.256	U
n-C14	<0.277	U
i-C16	<0.234	U
n-C15	<0.256	U
n-C16	<0.234	U
i-C18	<0.100	U
n-C17	<0.174	U
Pristane	<0.190	U
n-C18	<0.100	U
Phytane	<0.201	U
n-C19	<0.073	U
n-C20	<0.077	U
n-C21	<0.081	U
n-C22	<0.150	U
n-C23	<0.117	U
n-C24	<0.069	U
n-C25	<0.066	U
n-C26	<0.070	U
n-C27	<0.069	U
n-C28	<0.077	U
n-C29	<0.087	U
n-C30	<0.081	U
n-C31	<0.126	U
n-C32	<0.083	U
n-C33	<0.282	U
n-C34	<0.106	U
n-C35	<0.112	U
n-C36	<0.113	U
n-C37	<0.148	U
n-C38	<0.127	U
n-C39	<0.160	U
n-C40	<0.144	U
Total Alkanes		U
Total Petroleum Hydrocarbons	<13	U
Total Resolved Hydrocarbons	<13	U
Unresolved Complex Mixture	<13	U
EOM (µg/L)	150	

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	65
n-eicosane-d42	94
n-triacontane-d62	96

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

Sample Name	ENV3165A.D
Client Name	Method Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	05-Dec-2013, 19:27:50
Method	ALI2012.M
Sample Volume (L)	1.0
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Q	Q	3X MDL Conc. (µg/L)	Actual MDL Conc. (µg/L)
n-C9	<0.288	U		0.865	0.288
n-C10	<0.252	U		0.755	0.252
n-C11	<0.251	U		0.752	0.251
n-C12	<0.266	U		0.799	0.266
n-C13	<0.258	U		0.775	0.258
i-C15	<0.256	U		0.769	0.256
n-C14	<0.277	U		0.830	0.277
i-C16	<0.234	U		0.702	0.234
n-C15	<0.256	U		0.769	0.256
n-C16	<0.234	U		0.702	0.234
i-C18	<0.100	U		0.301	0.100
n-C17	<0.174	U		0.521	0.174
Pristane	<0.190	U		0.570	0.190
n-C18	<0.100	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	<0.150	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	<0.070	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	<0.160	U		0.481	0.160
n-C40	<0.144	U		0.431	0.144
Total Alkanes					
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			300	100

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	73
n-eicosane-d42	95
n-triacontane-d62	97

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

Sample Name	ENV3165B.D	ENV3165C.D
Client Name	Blank Spike	Blank Spike Duplicate
Matrix	Water	Water
Collection Date	NA	NA
Received Date	NA	NA
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3165	ENV 3165
Date Acquired	05-Dec-2013, 20:38:04	05-Dec-2013, 21:48:21
Method	ALI2012.M	ALI2012.M
Sample Volume (L)	1.0	1.0
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/L)	Recovery (%)	Q	Su. Corrected Conc. (µg/L)	Recovery (%)	Q	RPD (%)	Q	Spike Amount (µg)
n-C9	6.09	61		6.12	61		1		10.0
n-C10	6.72	67		6.35	64		6		10.0
n-C11	7.23	72		6.90	69		5		10.01
n-C12	7.35	73		7.06	70		4		10.0
n-C13	7.64	76		7.38	74		3		10.0
n-C14	8.12	81		7.85	78		3		10.02
n-C15	8.62	86		8.42	84		2		10.02
n-C16	8.95	89		8.82	88		1		10.0
n-C17	8.95	90		8.84	88		1		10.00
Pristane	9.06	91		8.94	89		1		10.00
n-C18	9.21	92		9.09	91		1		10.0
Phytane	9.32	91		9.18	89		2		10.26
n-C19	9.38	94		9.26	92		1		10.0
n-C20	9.37	94		9.24	92		1		10.0
n-C21	9.39	94		9.26	92		1		10.0
n-C22	9.29	93		9.16	92		1		10.00
n-C23	9.43	94		9.28	93		2		10.01
n-C24	9.46	94		9.29	93		2		10.0
n-C25	9.35	94		9.22	92		1		10.0
n-C26	9.50	95		9.34	93		2		10.0
n-C27	9.53	95		9.37	94		2		10.00
n-C28	9.44	94		9.36	94		1		10.0
n-C29	9.52	95		9.36	93		2		10.0
n-C30	9.48	95		9.34	93		1		10.0
n-C31	9.56	93		9.40	92		2		10.3
n-C32	9.38	94		9.25	92		1		10.0
n-C33	9.31	93		9.22	92		1		10.0
n-C34	9.53	95		9.40	94		1		10.0
n-C35	9.67	94		9.49	92		2		10.3
n-C36	9.34	93		9.19	92		2		10.0
n-C37	9.80	95		9.74	94		1		10.3
n-C38	10.1	98		9.85	96		2		10.3
n-C39	10.4	101		10.3	100		1		10.3
n-C40	10.4	104		10.3	103		2		10.0
Average %Recovery		90			88				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	74	74
n-eicosane-d42	96	95
n-triacontane-d62	97	97

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

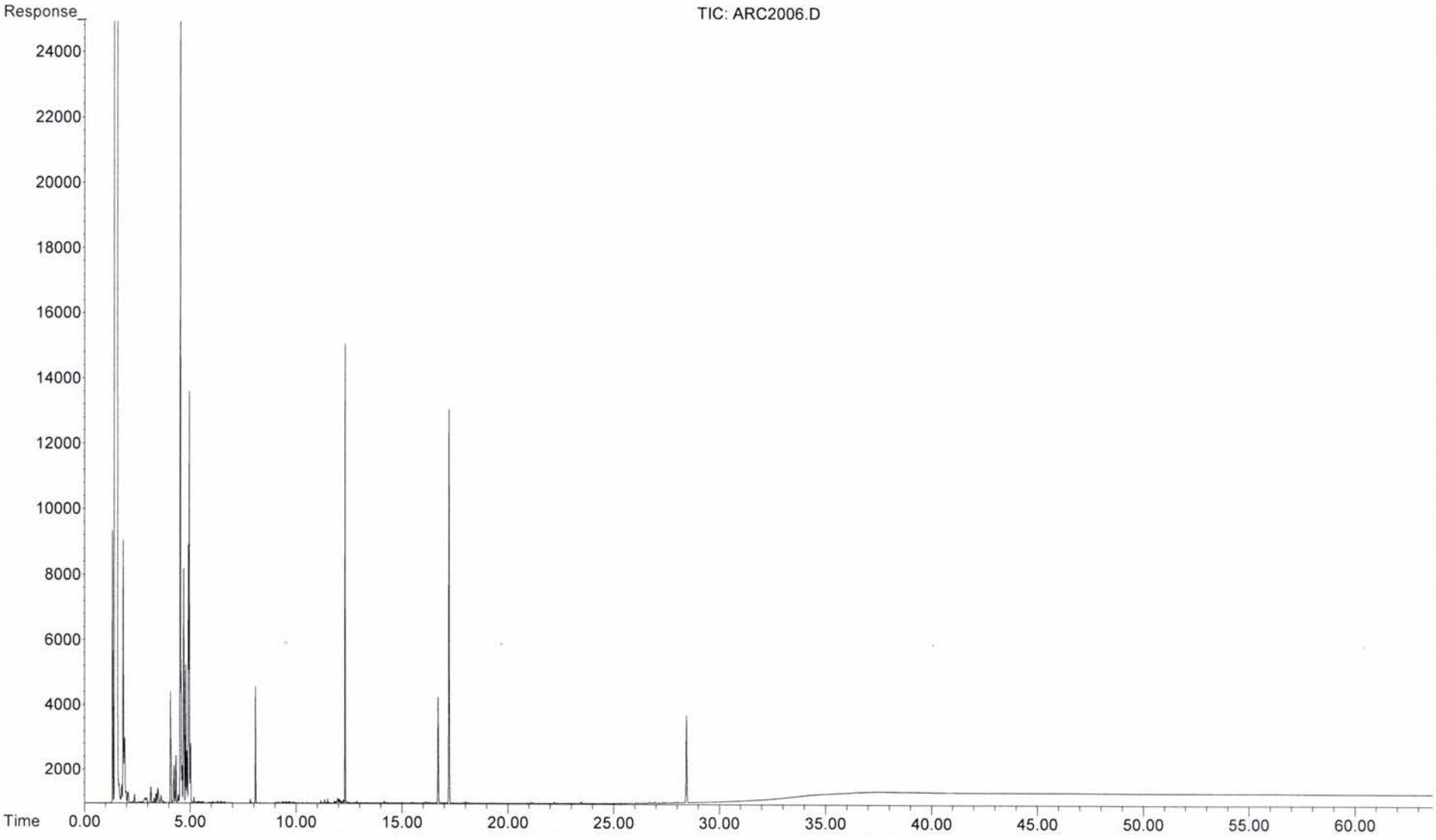
Sample Name	FID10127C.D
Client Name	AL-SRM2779-20-02
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	05-Dec-2013, 14:45:31
Method	ALI2012.M
Sample Weight (mg)	20.0
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/mg)	Q	Q	RPD (%)	B&B Average	-20% Conc. (µg/mg)	+20% Conc. (µg/mg)
n-C9	14.2			5	13.5	10.8	16.2
n-C10	12.2			2	12.0	9.60	14.4
n-C11	11.0			1	10.8	8.64	13.0
n-C12	9.47			4	9.82	7.86	11.8
n-C13	8.69			3	8.41	6.73	10.1
i-C15	1.89			3	1.95	1.56	2.34
n-C14	7.14			8	7.70	6.16	9.24
i-C16	2.94			0	2.95	2.36	3.54
n-C15	7.18			1	7.23	5.78	8.68
n-C16	6.22			1	6.15	4.92	7.38
i-C18	1.70			9	1.56	1.25	1.87
n-C17	4.46			5	4.69	3.75	5.63
Pristane	2.31			5	2.42	1.94	2.90
n-C18	3.84			0	3.84	3.07	4.61
Phytane	1.51			0	1.51	1.21	1.81
n-C19	3.49			1	3.47	2.78	4.16
n-C20	2.84			0	2.84	2.27	3.41
n-C21	2.40			1	2.37	1.90	2.84
n-C22	2.09			2	2.04	1.63	2.45
n-C23	1.88			2	1.84	1.47	2.21
n-C24	1.64			1	1.66	1.33	1.99
n-C25	1.40			2	1.37	1.10	1.64
n-C26	1.16			3	1.13	0.904	1.36
n-C27	0.880			1	0.892	0.714	1.07
n-C28	0.774			0	0.776	0.621	0.931
n-C29	0.765			3	0.739	0.591	0.887
n-C30	0.668			0	0.666	0.533	0.799
n-C31	0.575			6	0.539	0.431	0.647
n-C32	0.457			3	0.443	0.354	0.532
n-C33	0.484			4	0.467	0.374	0.560
n-C34	0.438			2	0.428	0.342	0.514
n-C35	0.336	J		2	0.342	0.274	0.410
n-C36	0.220	J		4	0.211	0.169	0.253
n-C37	0.209	J		1	0.206	0.165	0.247
n-C38	0.168	J		2	0.172	0.138	0.206
n-C39	0.179	J		6	0.169	0.135	0.203
n-C40	0.191	J		8	0.176	0.141	0.211
Total Petroleum Hydrocarbons	608			0	607	484	726

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	93
n-eicosane-d42	94
n-triacontane-d62	99

Total Petroleum Hydrocarbons Chromatograms

File :P:\2013\J13034\Aliphatics\ENV 3165\FID10127\ARC2006.D
Operator : Meghan Dailey
Acquired : 05-Dec-2013, 22:58:42 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-EB-11-112013
Misc Info :
Vial Number: 59



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2006.D
Client Name	SED-DA-EB-11-112013
Matrix	Water
Collection Date	11/20/13
Received Date	11/21/13
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/30/13 3:14
Method	PAH-2012.M
Sample Volume (L)	1.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q
cis/trans Decalin	<1.1	U
C1-Decalins	<2.3	U
C2-Decalins	<2.3	U
C3-Decalins	<2.3	U
C4-Decalins	<2.3	U
Naphthalene	21.7	
C1-Naphthalenes	1.37	
C2-Naphthalenes	<5.8	U
C3-Naphthalenes	<5.8	U
C4-Naphthalenes	<5.8	U
Benzothiophene	<1.3	U
C1-Benzothiophenes	<2.6	U
C2-Benzothiophenes	<2.6	U
C3-Benzothiophenes	<2.6	U
C4-Benzothiophenes	<2.6	U
Biphenyl	<5.1	U
Acenaphthylene	<1.2	U
Acenaphthene	<1.4	U
Dibenzofuran	<1.2	U
Fluorene	0.92	
C1-Fluorenes	<1.6	U
C2-Fluorenes	<1.6	U
C3-Fluorenes	<1.6	U
Carbazole	<0.8	U
Anthracene	<0.8	U
Phenanthrene	3.15	
C1-Phenanthrenes/Anthracenes	<0.7	U
C2-Phenanthrenes/Anthracenes	<3	U
C3-Phenanthrenes/Anthracenes	<3	U
C4-Phenanthrenes/Anthracenes	<3	U
Dibenzothiophene	<0.8	U
C1-Dibenzothiophenes	<0.7	U
C2-Dibenzothiophenes	<1.3	U
C3-Dibenzothiophenes	<1.3	U
C4-Dibenzothiophenes	<1.3	U
Fluoranthene	1.08	J
Pyrene	1.51	
C1-Fluoranthenes/Pyrenes	<2.5	U
C2-Fluoranthenes/Pyrenes	<2.5	U
C3-Fluoranthenes/Pyrenes	<2.5	U
C4-Fluoranthenes/Pyrenes	<2.5	U
Naphthobenzothiophene	<1	U
C1-Naphthobenzothiophenes	<2.1	U
C2-Naphthobenzothiophenes	<2.1	U
C3-Naphthobenzothiophenes	<2.1	U
C4-Naphthobenzothiophenes	<2.1	U
Benz(a)anthracene	<0.7	U
Chrysene/Triphenylene	<0.8	U
C1-Chrysenes	<1.6	U
C2-Chrysenes	<1.6	U
C3-Chrysenes	<1.6	U
C4-Chrysenes	<1.6	U
Benzo(b)fluoranthene	<2.4	U
Benzo(k,j)fluoranthene	<2.5	U
Benzo(a)fluoranthene	<2.5	U
Benzo(e)pyrene	<2.7	U
Benzo(a)pyrene	<1.9	U
Perylene	0.29	J
Indeno(1,2,3-c,d)pyrene	0.99	J
Dibenzo(a,h)anthracene	1.01	J
Benzo(g,h,i)perylene	1.26	J
Total PAHs	33.3	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2006.D
Client Name	SED-DA-EB-11-112013
Matrix	Water
Collection Date	11/20/13
Received Date	11/21/13
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/30/13 3:14
Method	PAH-2012.M
Sample Volume (L)	1.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/L)	Q
Individual Alkyl Isomers and Hopanes		
2-Methylnaphthalene	1.48	
1-Methylnaphthalene	0.811	J
2,6-Dimethylnaphthalene	<0.7	U
1,6,7-Trimethylnaphthalene	<0.7	U
1-Methylfluorene	<1.5	U
4-Methyldibenzothiophene	<1	U
2/3-Methyldibenzothiophene	<1	U
1-Methyldibenzothiophene	<1	U
3-Methylphenanthrene	<0.9	U
2-Methylphenanthrene	<0.9	U
2-Methylanthracene	<0.9	U
4/9-Methylphenanthrene	<0.9	U
1-Methylphenanthrene	<0.9	U
3,6-Dimethylphenanthrene	<1.7	U
Retene	<1.6	U
2-Methylfluoranthene	<1.1	U
Benzo(b)fluorene	<1.4	U
C29-Hopane	<8.2	U
18a-Oleanane	<8.2	U
C30-Hopane	<8.2	U
C20-TAS	<2.6	U
C21-TAS	<2.6	U
C26(20S)-TAS	<2.6	U
C26(20R)/C27(20S)-TAS	<2.6	U
C28(20S)-TAS	<2.6	U
C27(20R)-TAS	<2.6	U
C28(20R)-TAS	<2.6	U

Surrogate Recovery

Naphthalene-d8	90
Acenaphthene-d10	96
Phenanthrene-d10	95
Chrysene-d12	91
Perylene-d12	96

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3165A.D
Client Name	Method Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/29/13 23:55
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	3.77		8.72	2.91
C1-Naphthalenes	<1.4	U	4.09	1.36
C2-Naphthalenes	<5.8	U	17.4	5.82
C3-Naphthalenes	<5.8	U	17.4	5.82
C4-Naphthalenes	<5.8	U	17.4	5.82
Benzothiophene	<1.3	U	3.86	1.29
C1-Benzothiophenes	<2.6	U	7.72	2.57
C2-Benzothiophenes	<2.6	U	7.72	2.57
C3-Benzothiophenes	<2.6	U	7.72	2.57
C4-Benzothiophenes	<2.6	U	7.72	2.57
Biphenyl	<5.1	U	15.27	5.09
Acenaphthylene	<1.2	U	3.52	1.17
Acenaphthene	<1.4	U	4.31	1.44
Dibenzofuran	<1.2	U	3.57	1.19
Fluorene	<0.8	U	2.44	0.81
C1-Fluorenes	<1.6	U	4.88	1.63
C2-Fluorenes	<1.6	U	4.88	1.63
C3-Fluorenes	<1.6	U	4.88	1.63
Carbazole	<0.8	U	2.50	0.833
Anthracene	<0.8	U	2.30	0.767
Phenanthrene	1.83	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		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	6.98			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3165A.D
Client Name	Method Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/29/13 23:55
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	<1.1	U	3.31	1.10
1-Methylnaphthalene	<1.4	U	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	86
Acenaphthene-d10	94
Phenanthrene-d10	91
Chrysene-d12	96
Perylene-d12	97

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3165A.D
Client Name	Method Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/29/13 23:55
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	3.77		8.72	2.91
C1-Naphthalenes	<1.4	U	4.09	1.36
C2-Naphthalenes	<5.8	U	17.4	5.82
C3-Naphthalenes	<5.8	U	17.4	5.82
C4-Naphthalenes	<5.8	U	17.4	5.82
Benzothiophene	<1.3	U	3.86	1.29
C1-Benzothiophenes	<2.6	U	7.72	2.57
C2-Benzothiophenes	<2.6	U	7.72	2.57
C3-Benzothiophenes	<2.6	U	7.72	2.57
C4-Benzothiophenes	<2.6	U	7.72	2.57
Biphenyl	<5.1	U	15.27	5.09
Acenaphthylene	<1.2	U	3.52	1.17
Acenaphthene	<1.4	U	4.31	1.44
Dibenzofuran	<1.2	U	3.57	1.19
Fluorene	<0.8	U	2.44	0.81
C1-Fluorenes	<1.6	U	4.88	1.63
C2-Fluorenes	<1.6	U	4.88	1.63
C3-Fluorenes	<1.6	U	4.88	1.63
Carbazole	<0.8	U	2.50	0.833
Anthracene	<0.8	U	2.30	0.767
Phenanthrene	1.83	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		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	6.98			

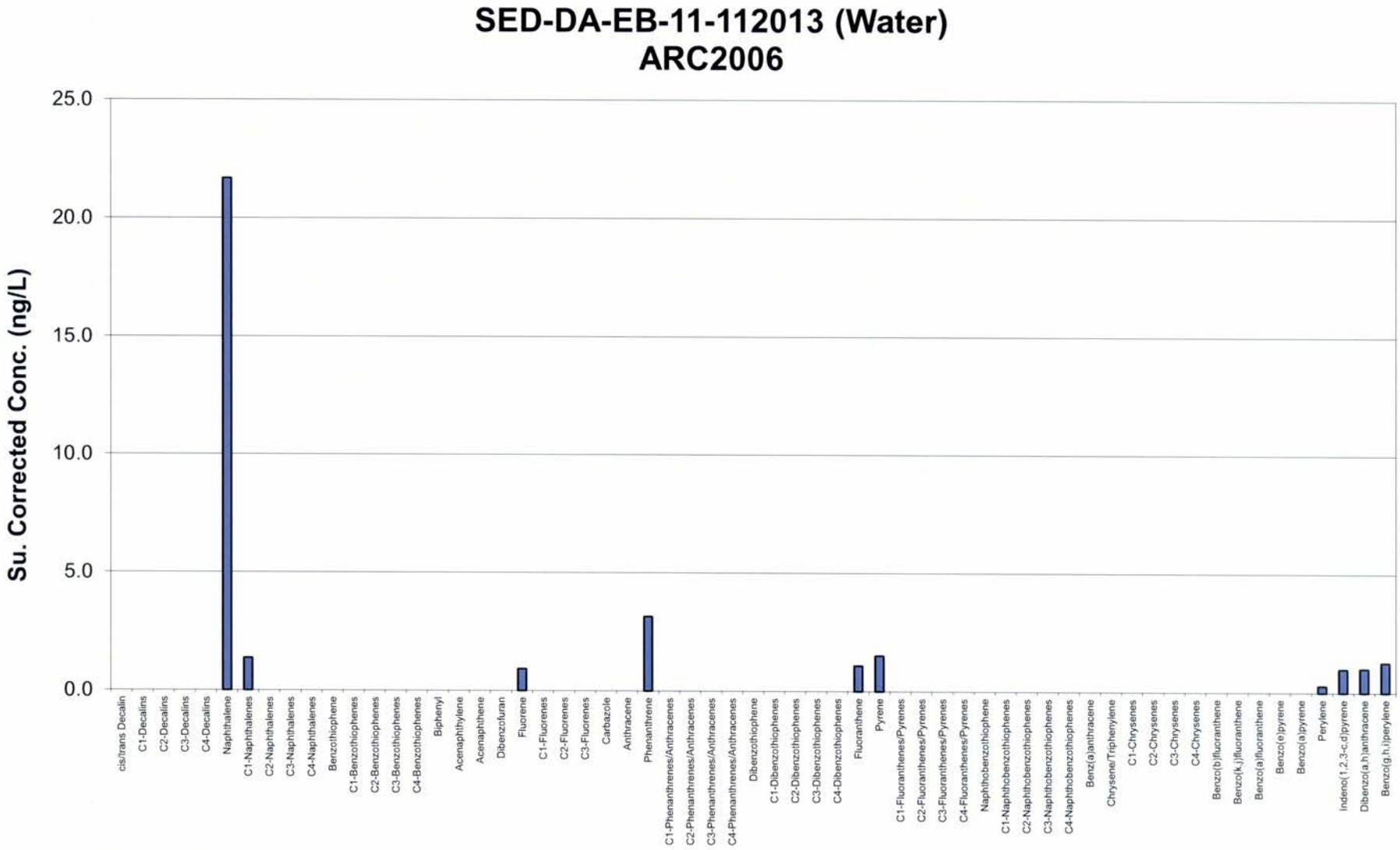
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3165A.D
Client Name	Method Blank
Matrix	Water
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3165
Date Acquired	11/29/13 23:55
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	<1.1	U	3.31	1.10
1-Methylnaphthalene	<1.4	U	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	86
Acenaphthene-d10	94
Phenanthrene-d10	91
Chrysene-d12	96
Perylene-d12	97

Polycyclic Aromatic Hydrocarbon Histograms


SED-DA-EB-11-112013 (Water)
ARC2006
Su. Corrected Conc. (ng/L)
25.0
20.0
15.0
10.0
5.0
0.0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

```
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Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013   3:14     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-EB-11-112013
Misc Info  :
Vial Number: 15
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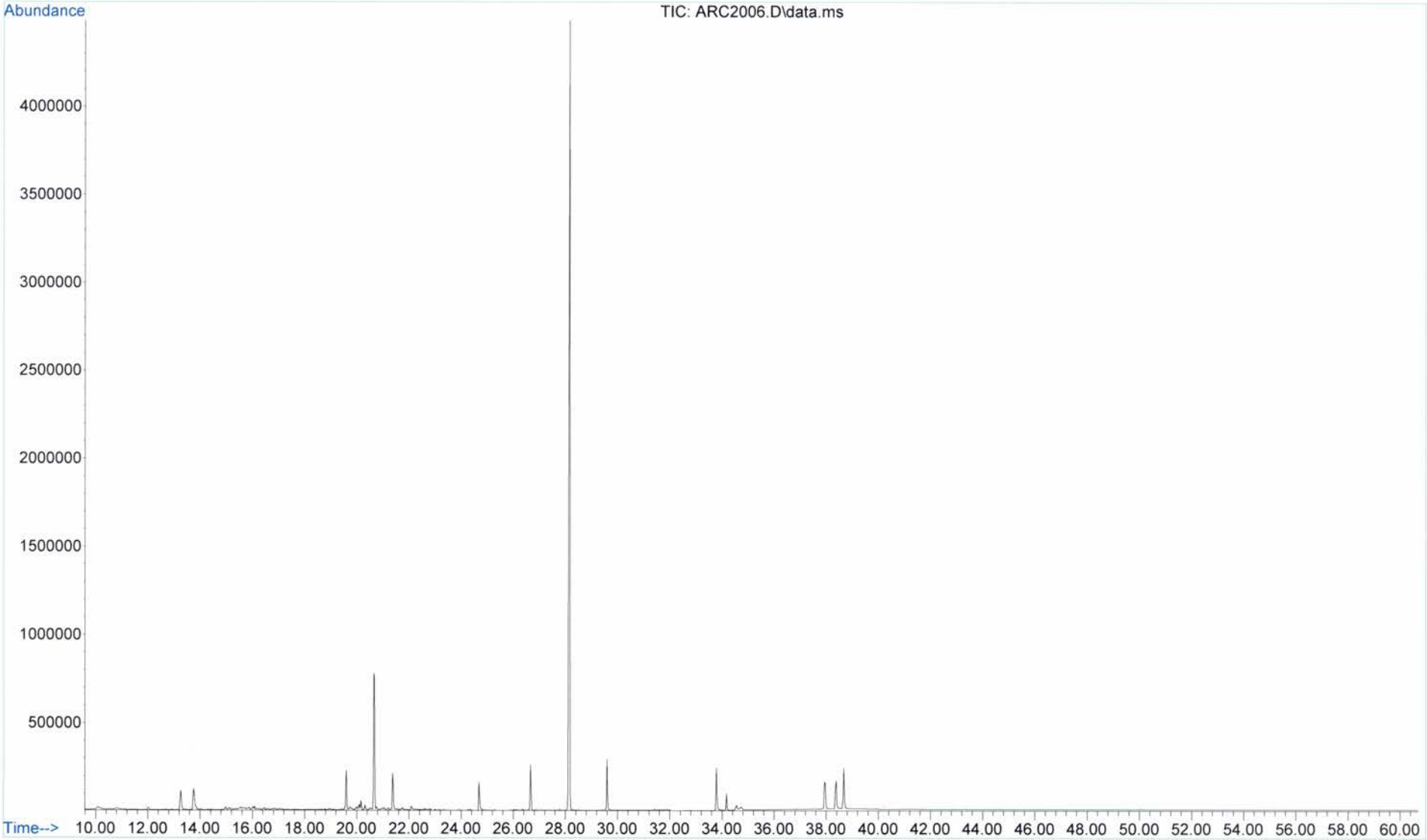


Sediment Samples

Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons/ Extractable Organic Matter Concentrations

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

Sample Name	ARC2008.D	ARC2011.D	ARC2015.D	ARC2018.D
Client Name	SED-DA-036R (0-0.5)	SED-DA-037R (0-0.5)	SED-DA-038R (0-0.5)	SED-DA-033R (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13	11/20/13
Received Date	11/21/13	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166	ENV 3166
Date Acquired	28-Nov-2013, 06:30:55	28-Nov-2013, 08:51:49	28-Nov-2013, 10:02:20	28-Nov-2013, 11:12:20
Method	ALI2012.M	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.0	15.0	15.1	15.0
Sample Wet Weight (g)	42.6	48.5	57.9	26.5
% Dry	35	31	26	57
% Moisture	65	69	74	43
% Lipid (dry)	NA	NA	NA	NA
% Lipid (wet)	NA	NA	NA	NA
Dilution	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	0.062		0.044		0.052		0.027	
n-C10	0.459		0.750		0.749		0.185	
n-C11	0.743		1.511		1.492		0.275	
n-C12	0.283		0.683		0.668		0.108	
n-C13	0.076		0.194		0.186		0.031	J
i-C15	0.024		0.017		0.012	J	0.016	J
n-C14	0.098		0.243		0.233		0.041	
i-C16	0.028		0.053		0.067		0.007	
n-C15	0.041		0.163		0.088		0.022	
n-C16	0.037		0.084		0.082		0.025	
i-C18	0.011		0.034		0.034		0.007	
n-C17	0.295		0.687		0.444		0.129	
Pristane	0.029		0.059		0.031		0.016	
n-C18	0.551		0.909		0.785		0.171	
Phytane	0.091		0.139		0.115		0.027	
n-C19	1.189		2.063		2.094		0.562	
n-C20	0.255		0.530		0.611		0.056	
n-C21	0.521		0.973		1.138		0.107	
n-C22	0.224		0.319		0.325		0.058	
n-C23	0.887		1.710		1.454		0.234	
n-C24	0.259		0.500		0.421		0.098	
n-C25	0.895		1.920		1.514		0.260	
n-C26	0.717		0.633		0.591		1.354	
n-C27	1.309		2.189		1.707		0.446	
n-C28	0.395		0.689		0.606		0.216	
n-C29	1.658		2.457		1.863		1.729	
n-C30	0.439		1.050		0.618		0.281	
n-C31	1.151		2.269		3.473		1.926	
n-C32	0.601		0.760		0.311		0.148	
n-C33	1.085		1.581		4.865		1.688	
n-C34	0.411		0.687		0.287		0.145	
n-C35	0.735		1.309		4.195		1.503	
n-C36	0.334		0.511		0.216		0.064	
n-C37	0.459		1.111		1.173		0.617	
n-C38	0.088		0.083		0.108		0.044	
n-C39	0.098		0.230		0.287		0.036	
n-C40	<0.019	U	0.019	J	0.108		<0.019	U
Total Alkanes	16.5		29.2		33.0		12.7	
Total Petroleum Hydrocarbons	407		556		556		177	
Total Resolved Hydrocarbons	201		301		227		89	
Unresolved Complex Mixture	206		255		329		88	
EOM (µg/dry g)	969		1151		1212		317	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	81	78	77	81
n-eicosane-d42	97	70	97	96
n-triacontane-d62	93	90	88	92

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

Sample Name	ARC2021.D	ARC2024.D	ARC2027.D
Client Name	SED-DA-034R (0-0.5)	SED-DA-035R (0-0.5)	SED-DA-DUP-10-112013
Matrix	Sediment	Sediment	Sediment
Collection Date	11/20/13	11/20/13	11/20/13
Received Date	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166
Date Acquired	28-Nov-2013, 12:22:42	28-Nov-2013, 13:32:46	28-Nov-2013, 14:43:19
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.2	15.0	15.1
Sample Wet Weight (g)	36.7	35.3	26.0
% Dry	41	43	58
% Moisture	59	57	42
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q
n-C9	0.051		0.050		0.030	
n-C10	0.409		0.458		0.281	
n-C11	0.718		0.764		0.450	
n-C12	0.299		0.304		0.182	
n-C13	0.083		0.077		0.055	
i-C15	0.021		0.022		0.013	J
n-C14	0.092		0.100		0.069	
i-C16	0.013		0.022		0.009	
n-C15	0.063		0.062		0.043	
n-C16	0.045		0.038		0.031	
i-C18	0.011		0.016		0.008	
n-C17	0.525		0.247		0.161	
Pristane	0.032		0.021		0.024	
n-C18	0.424		0.460		0.269	
Phytane	0.089		0.072		0.036	
n-C19	1.317		1.743		0.813	
n-C20	0.204		0.208		0.049	
n-C21	0.399		0.319		0.135	
n-C22	0.202		0.142		0.068	
n-C23	0.794		0.719		0.276	
n-C24	0.245		0.225		0.113	
n-C25	0.749		0.728		0.330	
n-C26	0.964		0.243		0.854	
n-C27	1.333		1.144		0.769	
n-C28	0.674		0.356		0.174	
n-C29	6.267		2.274		1.951	
n-C30	1.004		0.427		0.196	
n-C31	7.053		2.515		1.892	
n-C32	0.818		0.154		0.199	
n-C33	6.327		3.650		1.560	
n-C34	0.355		0.149		0.285	
n-C35	5.985		3.342		0.943	
n-C36	0.566		0.056		0.113	
n-C37	1.271		0.795		0.577	
n-C38	0.131		<0.019	U	0.063	
n-C39	0.162		<0.019	U	0.042	
n-C40	<0.019	U	<0.019	U	<0.019	U
Total Alkanes	39.7		21.9		13.1	
Total Petroleum Hydrocarbons	353		278		193	
Total Resolved Hydrocarbons	201		148		106	
Unresolved Complex Mixture	152		129		87	
EOM (µg/dry g)	842		634		416	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	77	81	80
n-eicosane-d42	93	92	96
n-triacontane-d62	98	97	91

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

Sample Name	ENV3166A.D
Client Name	Method Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	28-Nov-2013, 01:50:07
Method	ALI2012.M
Sample Dry Weight (g)	15.0
Sample Wet Weight (g)	NA
% Dry	NA
% Moisture	NA
% Lipid (dry)	NA
% Lipid (wet)	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Q	3X MDL Conc. (µg/dry g)	Actual MDL Conc. (µg/dry g)
n-C9	<0.012	U		0.037	0.012
n-C10	<0.021	U		0.064	0.021
n-C11	<0.016	U		0.049	0.016
n-C12	<0.019	U		0.056	0.019
n-C13	<0.045	U		0.134	0.045
i-C15	<0.016	U		0.049	0.016
n-C14	<0.013	U		0.039	0.013
i-C16	<0.004	U		0.013	0.004
n-C15	<0.016	U		0.049	0.016
n-C16	<0.004	U		0.013	0.004
i-C18	<0.004	U		0.011	0.004
n-C17	<0.003	U		0.010	0.003
Pristane	<0.003	U		0.008	0.003
n-C18	<0.004	U		0.011	0.004
Phytane	<0.006	U		0.018	0.006
n-C19	<0.005	U		0.015	0.005
n-C20	<0.012	U		0.037	0.012
n-C21	<0.004	U		0.012	0.004
n-C22	<0.003	U		0.010	0.003
n-C23	<0.008	U		0.024	0.008
n-C24	<0.005	U		0.016	0.005
n-C25	<0.007	U		0.021	0.007
n-C26	<0.008	U		0.023	0.008
n-C27	<0.011	U		0.032	0.011
n-C28	<0.011	U		0.033	0.011
n-C29	<0.021	U		0.064	0.021
n-C30	<0.013	U		0.038	0.013
n-C31	<0.015	U		0.044	0.015
n-C32	<0.012	U		0.035	0.012
n-C33	<0.021	U		0.064	0.021
n-C34	<0.016	U		0.049	0.016
n-C35	<0.015	U		0.044	0.015
n-C36	<0.016	U		0.047	0.016
n-C37	<0.017	U		0.052	0.017
n-C38	<0.019	U		0.057	0.019
n-C39	<0.019	U		0.056	0.019
n-C40	<0.019	U		0.056	0.019
Total Alkanes		U			
Total Petroleum Hydrocarbons	<1.4	U		4.20	1.40
Total Resolved Hydrocarbons	<1.4	U		4.20	1.40
Unresolved Complex Mixture	<1.4	U		4.20	1.40
EOM (µg/dry g)	<100			300	100

Surrogate (Su)	Su Recovery (%)
n-dodecane-d26	84
n-eicosane-d42	94
n-triacontane-d62	97

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

Sample Name	ARC2011.D	ENV3166C.D	ENV3166D.D
Client Name	SED-DA-037R (0-0.5)	MS (SED-DA-037R (0-0.5))	MSD (SED-DA-037R (0-0.5))
Matrix	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13
Received Date	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166
Date Acquired	28-Nov-2013, 08:51:49	28-Nov-2013, 03:00:33	28-Nov-2013, 04:10:31
Method	ALI2012.M	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
Sample Wet Weight (g)	48.5	50.0	49.9
% Dry	31	30	30
% Moisture	69	70	70
% Lipid (dry)	NA	NA	NA
% Lipid (wet)	NA	NA	NA
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q	Q	Su. Corrected Conc. (µg/dry g)	Q	Recovery (%)	Q	Q	RPD (%)	Q	Spike Amount (µg)
n-C9	0.044		0.437		59			0.453		61			4		10.02
n-C10	0.750		1.122		56			1.166		62			4		10.00
n-C11	1.511		1.774		40		Y	1.794		43		Y	1		10.01
n-C12	0.683		1.102		63			1.141		69			3		10.02
n-C13	0.194		0.756		85			0.799		91			5		10.02
i-C15	0.017		NA					NA							
n-C14	0.243		0.832		89			0.865		93			4		10.02
i-C16	0.053		NA					NA							
n-C15	0.163		0.793		95			0.824		99			4		10.02
n-C16	0.084		0.740		99			0.780		104			5		10.01
i-C18	0.034		NA					NA							
n-C17	0.687		1.271		88			1.366		102			7		10.00
Pristane	0.059		0.705		97			0.738		102			5		10.00
n-C18	0.909		1.392		73			1.451		82			4		10.00
Phytane	0.139		0.814		99			0.853		105			5		10.26
n-C19	2.063		2.474		63		Y	2.453		59		Y	1		10.02
n-C20	0.530		1.054		79			1.131		90			7		10.01
n-C21	0.973		1.570		90			1.682		106			7		10.02
n-C22	0.319		0.941		94			0.991		101			5		10.00
n-C23	1.710		2.083		57		Y	2.191		72		Y	5		10.01
n-C24	0.500		1.063		85			1.112		92			4		10.01
n-C25	1.920		2.304		59		Y	2.500		87		Y	8		10.00
n-C26	0.633		0.946		47			1.023		59			8		10.02
n-C27	2.189		2.613		65		Y	2.537		52		Y	3		10.00
n-C28	0.689		1.393		106			1.366		102			2		10.01
n-C29	2.457		2.811		54		Y	3.100		97		Y	10		10.02
n-C30	1.050		1.628		88			1.819		116			11		10.01
n-C31	2.269		2.688		63		Y	2.833		83		Y	5		10.27
n-C32	0.760		1.205		67			1.343		87			11		10.02
n-C33	1.581		2.257		103		Y	2.326		112		Y	3		10.00
n-C34	0.687		1.290		91			1.313		94			2		10.00
n-C35	1.309		1.776		69			2.052		109			14		10.27
n-C36	0.511		0.797		43			0.815		46			2		10.00
n-C37	1.111		1.642		78			1.672		82			2		10.32
n-C38	0.083		0.577		73			0.546		68			5		10.26
n-C39	0.230		0.661		63			0.671		64			2		10.30
n-C40	0.019	J	0.701		103			0.748		109			6		10.01
Average %Recovery					76					85					

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	78	81	83
n-eicosane-d42	70	88	86
n-triacontane-d62	90	98	81

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

Sample Name	ARC2018.D	ENV3166E.D
Client Name	SED-DA-033R (0-0.5)	Dup (SED-DA-033R (0-0.5))
Matrix	Sediment	Sediment
Collection Date	11/20/13	11/20/13
Received Date	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166
Date Acquired	28-Nov-2013, 11:12:20	28-Nov-2013, 05:20:28
Method	ALI2012.M	ALI2012.M
Sample Dry Weight (g)	15.0	15.0
Sample Wet Weight (g)	26.5	26.5
% Dry	57	57
% Moisture	43	43
% Lipid (dry)	NA	NA
% Lipid (wet)	NA	NA
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (µg/dry g)	Q	Su. Corrected Conc. (µg/dry g)	Q	RPD (%)	Q	Q	MDL (µg/dry g)	3X MDL (µg/dry g)
n-C9	0.027		0.024		12		X	0.012	0.037
n-C10	0.185		0.186		1			0.021	0.064
n-C11	0.275		0.279		1			0.016	0.049
n-C12	0.108		0.109		1			0.019	0.056
n-C13	0.031	J	0.033	J	6		X	0.045	0.134
i-C15	0.016	J	0.017		6		X	0.016	0.049
n-C14	0.041		0.046		11			0.013	0.039
i-C16	0.007		0.009		25		X	0.004	0.013
n-C15	0.022		0.020		10		X	0.016	0.049
n-C16	0.025		0.021		17			0.004	0.013
i-C18	0.007		0.006		15		X	0.004	0.011
n-C17	0.129		0.128		1			0.003	0.010
Pristane	0.016		0.014		13			0.003	0.008
n-C18	0.171		0.175		2			0.004	0.011
Phytane	0.027		0.027		0			0.006	0.018
n-C19	0.562		0.575		2			0.005	0.015
n-C20	0.056		0.054		4			0.012	0.037
n-C21	0.107		0.106		1			0.004	0.012
n-C22	0.058		0.056		4			0.003	0.010
n-C23	0.234		0.235		0			0.008	0.024
n-C24	0.098		0.096		2			0.005	0.016
n-C25	0.260		0.257		1			0.007	0.021
n-C26	1.354		1.358		0			0.008	0.023
n-C27	0.446		0.414		7			0.011	0.032
n-C28	0.216		0.208		4			0.011	0.033
n-C29	1.729		1.732		0			0.021	0.064
n-C30	0.281		0.275		2			0.013	0.038
n-C31	1.926		2.007		4			0.015	0.044
n-C32	0.148		0.137		8			0.012	0.035
n-C33	1.688		1.845		9			0.021	0.064
n-C34	0.145		0.163		12			0.016	0.049
n-C35	1.503		1.480		2			0.015	0.044
n-C36	0.064		0.064		0			0.016	0.047
n-C37	0.617		0.715		15			0.017	0.052
n-C38	0.044		0.047		7		X	0.019	0.057
n-C39	0.036		0.039		8		X	0.019	0.056
n-C40	<0.019	U	<0.019	U	0			0.019	0.056
Total Alkanes	12.7		13.0		2				
Total Petroleum Hydrocarbons	177		173		2			1.40	4.20
Total Resolved Hydrocarbons	89		96		8			1.40	4.20
Unresolved Complex Mixture	88		76		14			1.40	4.20
EOM (µg/dry g)	317		360		13				

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)
n-dodecane-d26	81	80
n-eicosane-d42	96	94
n-triacontane-d62	92	95

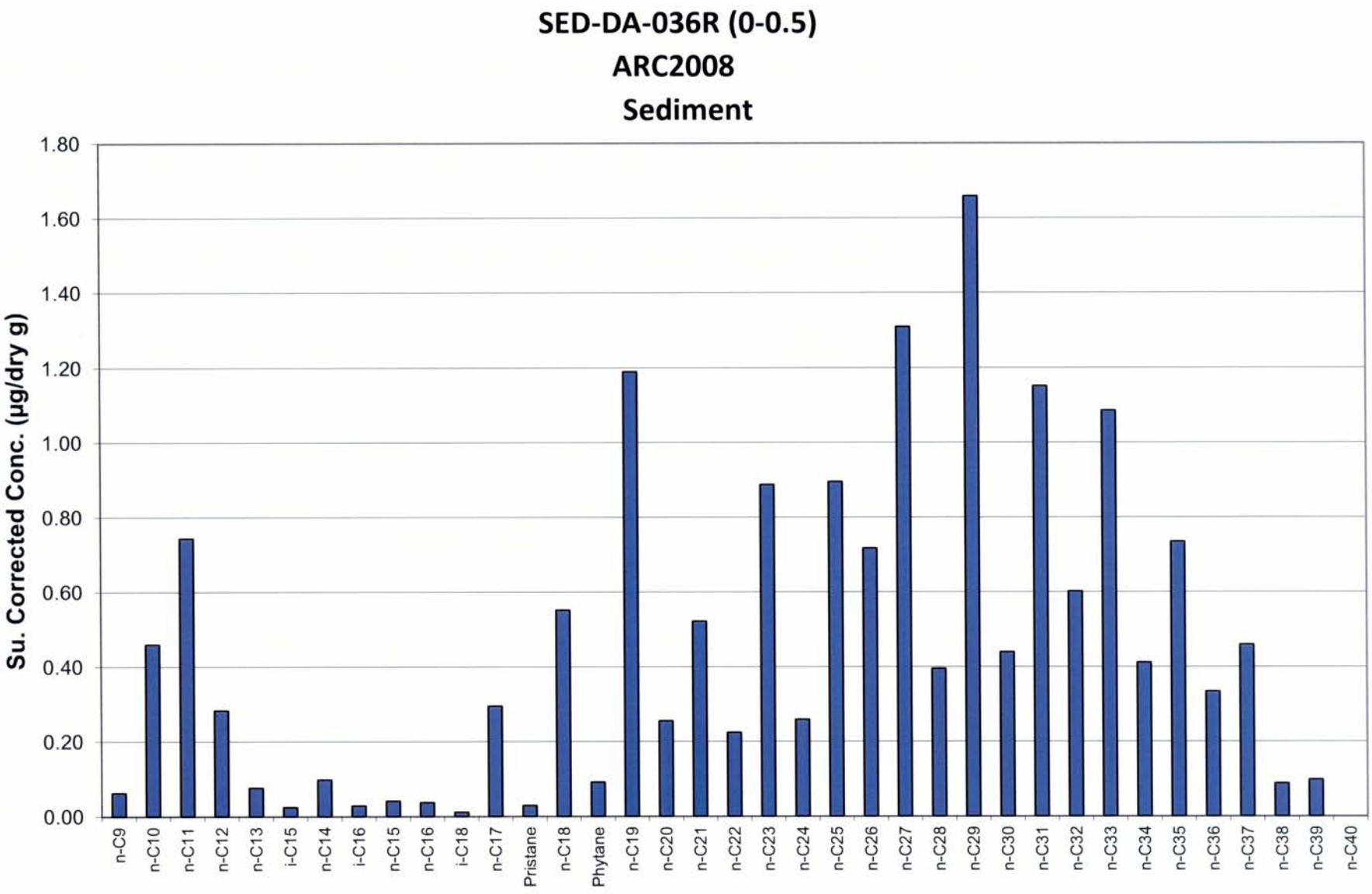
Arcadis-Mayflower AR
Aliphatic Hydrocarbon and Total Petroleum Hydrocarbon Data
Standard Reference Material Report

Sample Name	FID30103C.D
Client Name	AL-SRM2779-20-02
Matrix	Reference Oil
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	27-Nov-2013, 21:08:45
Method	ALI2012.M
Sample Weight (mg)	20.0
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	13.7			1	13.5	10.8	16.2
n-C10	11.6			3	12.0	9.60	14.4
n-C11	10.2			6	10.8	8.64	13.0
n-C12	9.02			9	9.82	7.86	11.8
n-C13	7.88			7	8.41	6.73	10.1
i-C15	1.81			8	1.95	1.56	2.34
n-C14	7.46			3	7.70	6.16	9.24
i-C16	2.99			1	2.95	2.36	3.54
n-C15	6.65			8	7.23	5.78	8.68
n-C16	5.70			8	6.15	4.92	7.38
i-C18	1.54			1	1.56	1.25	1.87
n-C17	4.38			7	4.69	3.75	5.63
Pristane	2.29			5	2.42	1.94	2.90
n-C18	3.67			5	3.84	3.07	4.61
Phytane	1.47			3	1.51	1.21	1.81
n-C19	3.17			9	3.47	2.78	4.16
n-C20	2.92			3	2.84	2.27	3.41
n-C21	2.36			1	2.37	1.90	2.84
n-C22	2.05			0	2.04	1.63	2.45
n-C23	1.81			1	1.84	1.47	2.21
n-C24	1.59			4	1.66	1.33	1.99
n-C25	1.37			0	1.37	1.10	1.64
n-C26	1.10			2	1.13	0.904	1.36
n-C27	0.883			1	0.892	0.714	1.07
n-C28	0.714			8	0.776	0.621	0.931
n-C29	0.711			4	0.739	0.591	0.887
n-C30	0.608	J		9	0.666	0.533	0.799
n-C31	0.582	J		8	0.539	0.431	0.647
n-C32	0.443	J		0	0.443	0.354	0.532
n-C33	0.449	J		4	0.467	0.374	0.560
n-C34	0.408	J		5	0.428	0.342	0.514
n-C35	0.322	J		6	0.342	0.274	0.410
n-C36	0.199	J		6	0.211	0.169	0.253
n-C37	0.209	J		1	0.206	0.165	0.247
n-C38	0.178	J		3	0.172	0.138	0.206
n-C39	0.159	J		6	0.169	0.135	0.203
n-C40	0.185	J		5	0.176	0.141	0.211
Total Petroleum Hydrocarbons	558			8	607	484	726

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

Aliphatic Hydrocarbon Histograms


SED-DA-036R (0-0.5)
ARC2008
Sediment
Su. Corrected Conc. (µg/dry g)
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
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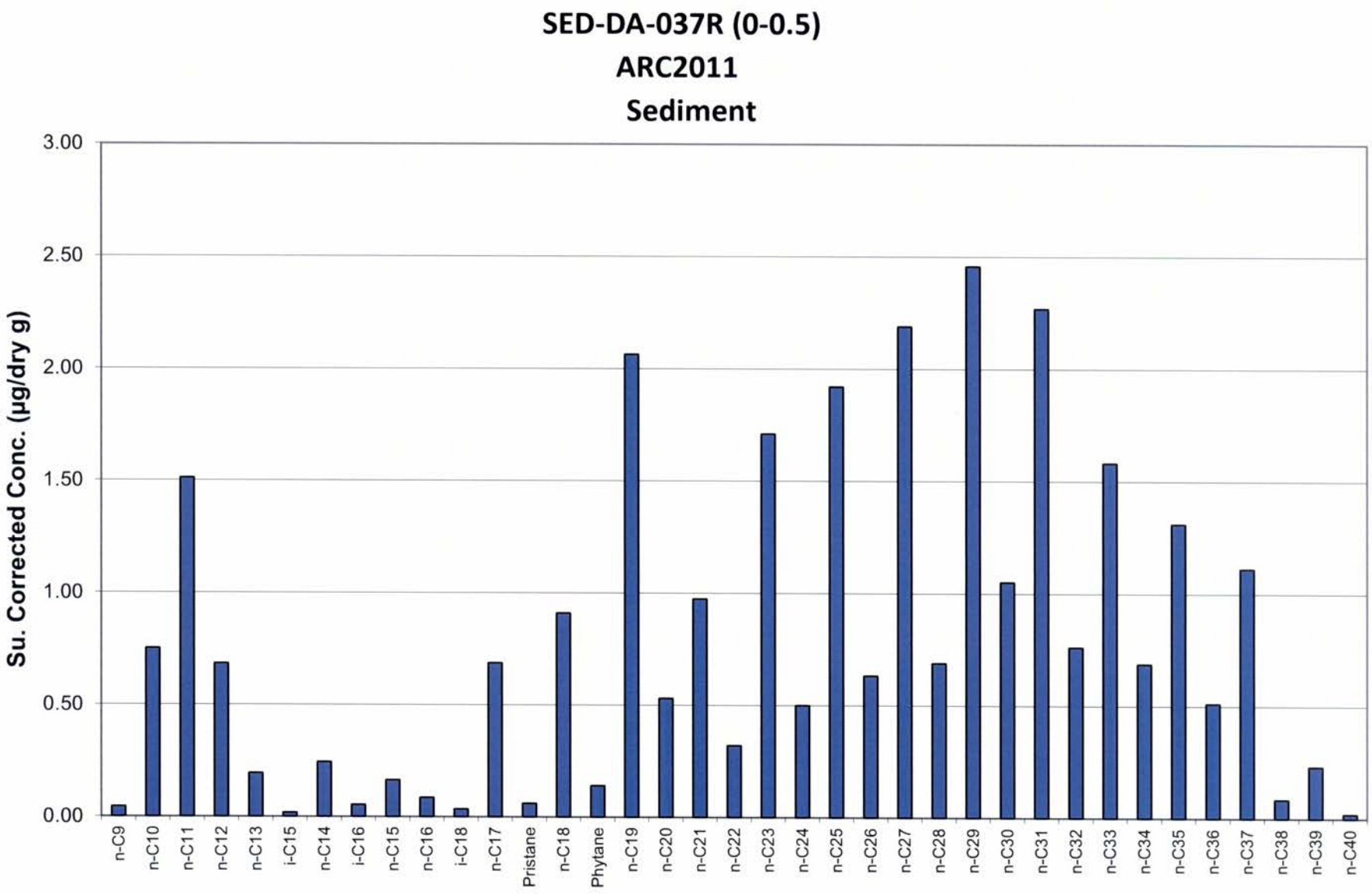
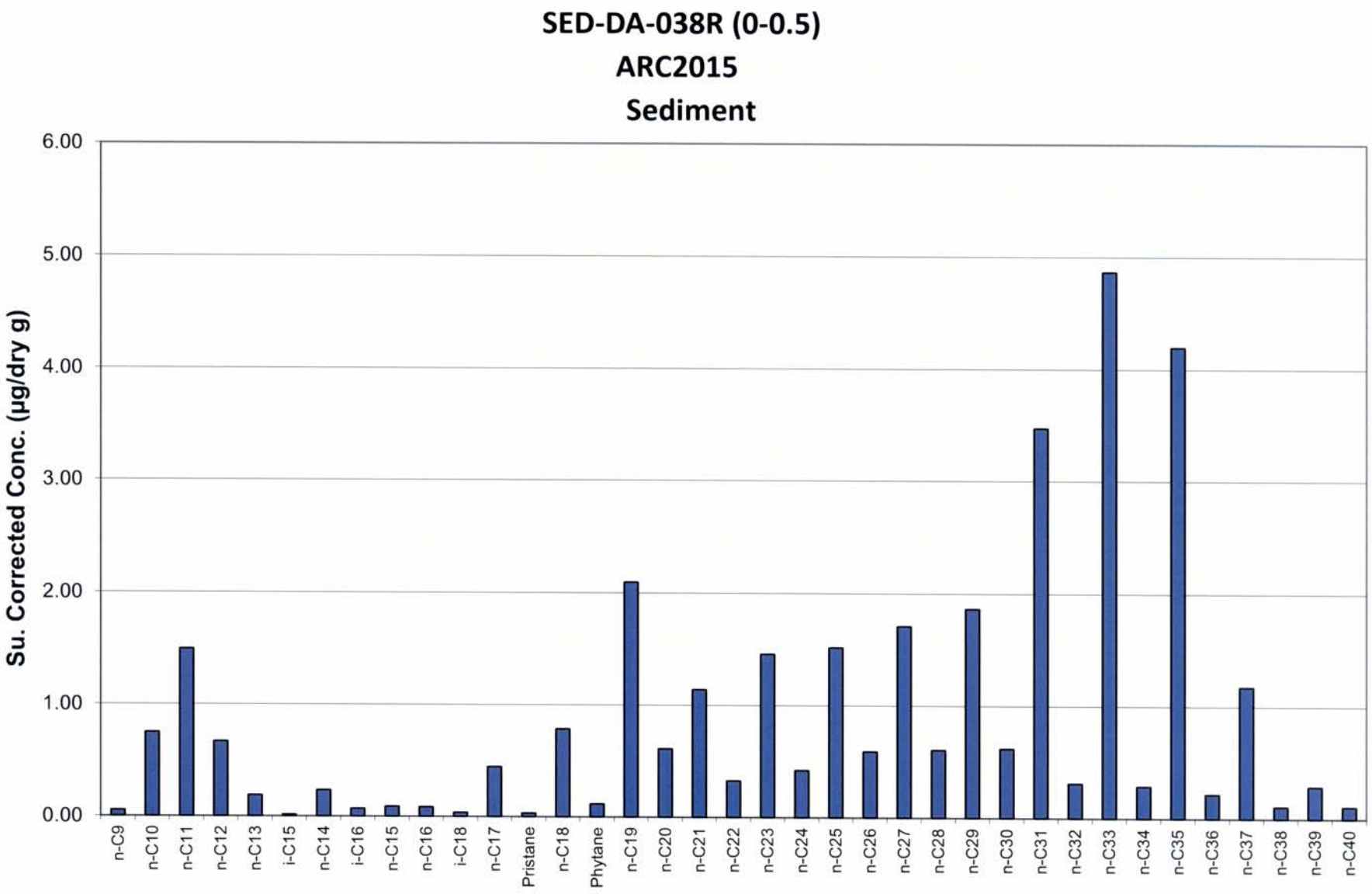
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-037R (0-0.5)
ARC2011
Sediment
Su. Corrected Conc. (µg/dry g)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-038R (0-0.5)
ARC2015
Sediment
Su. Corrected Conc. (µg/dry g)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
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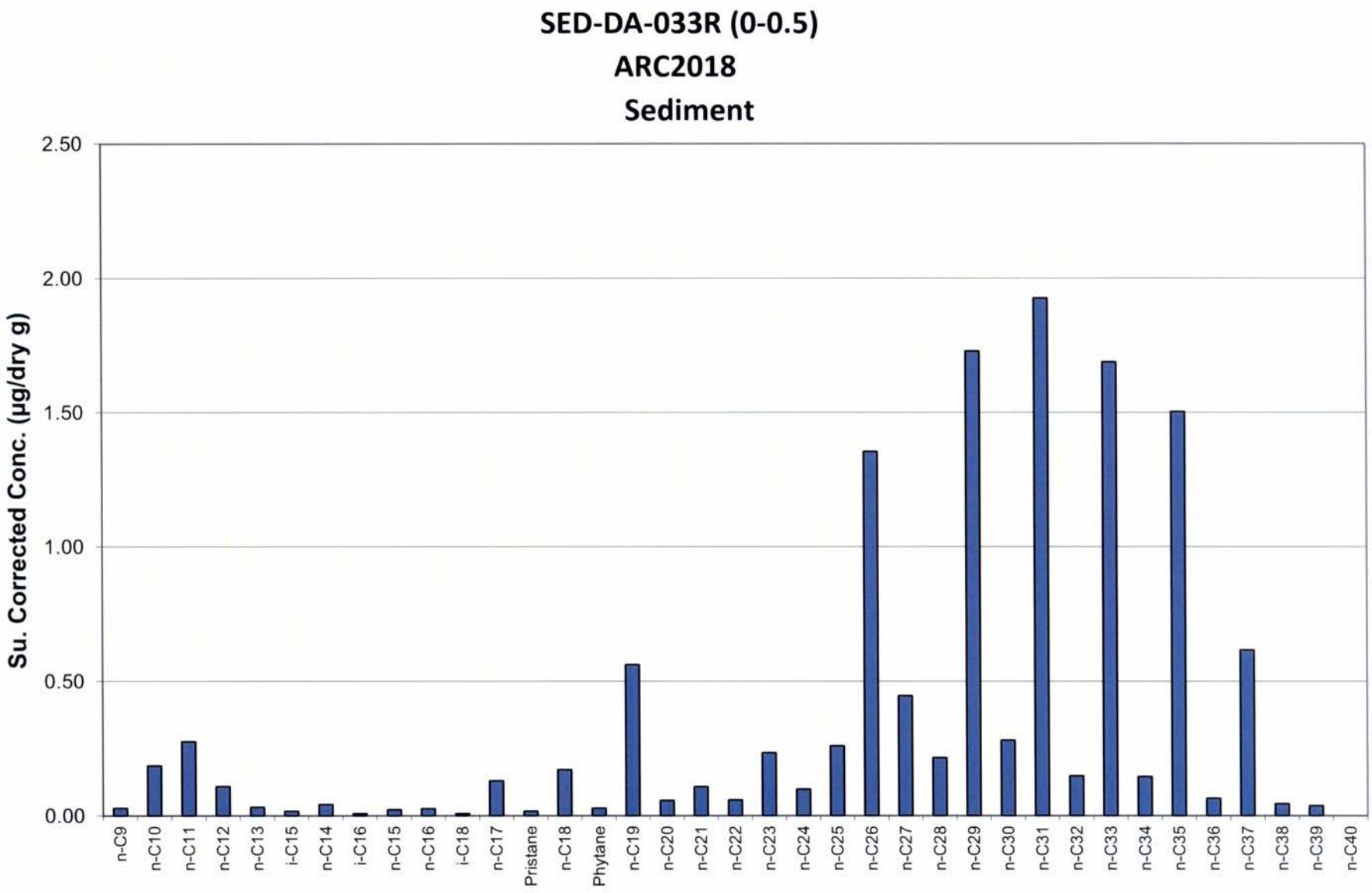
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-033R (0-0.5)
ARC2018
Sediment
Su. Corrected Conc. (µg/dry g)
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
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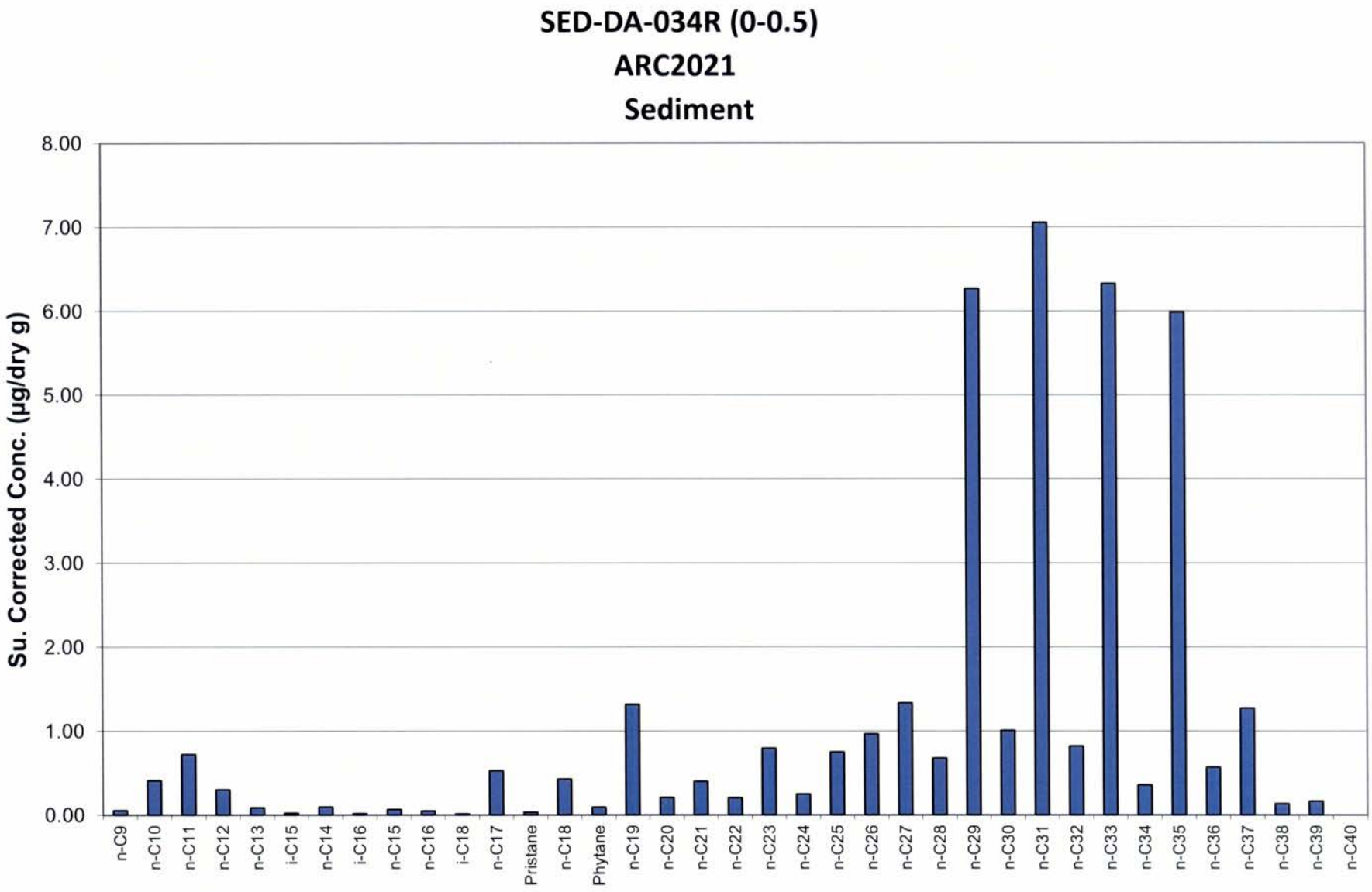
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-034R (0-0.5)
ARC2021
Sediment
Su. Corrected Conc. (µg/dry g)
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
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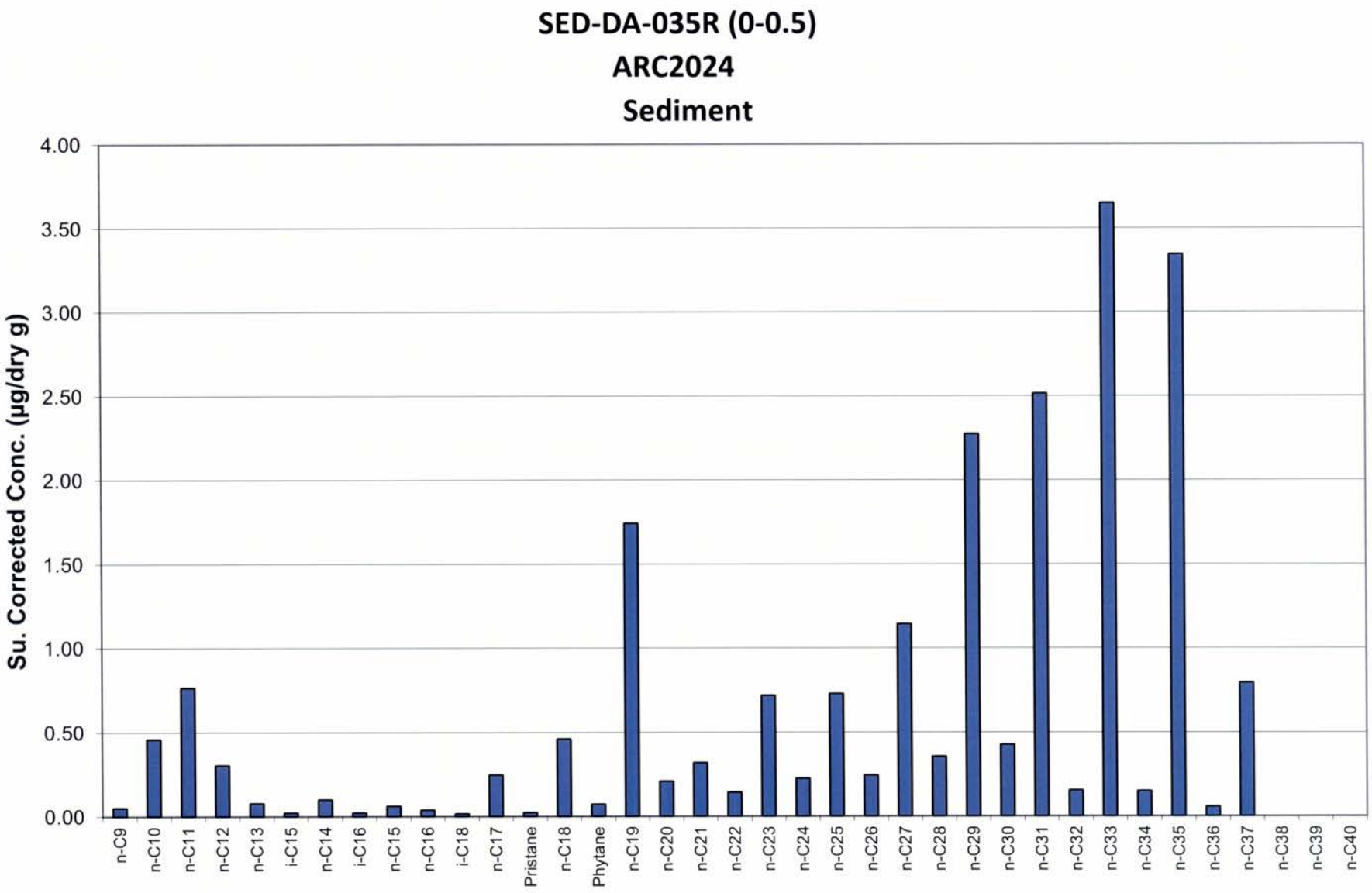
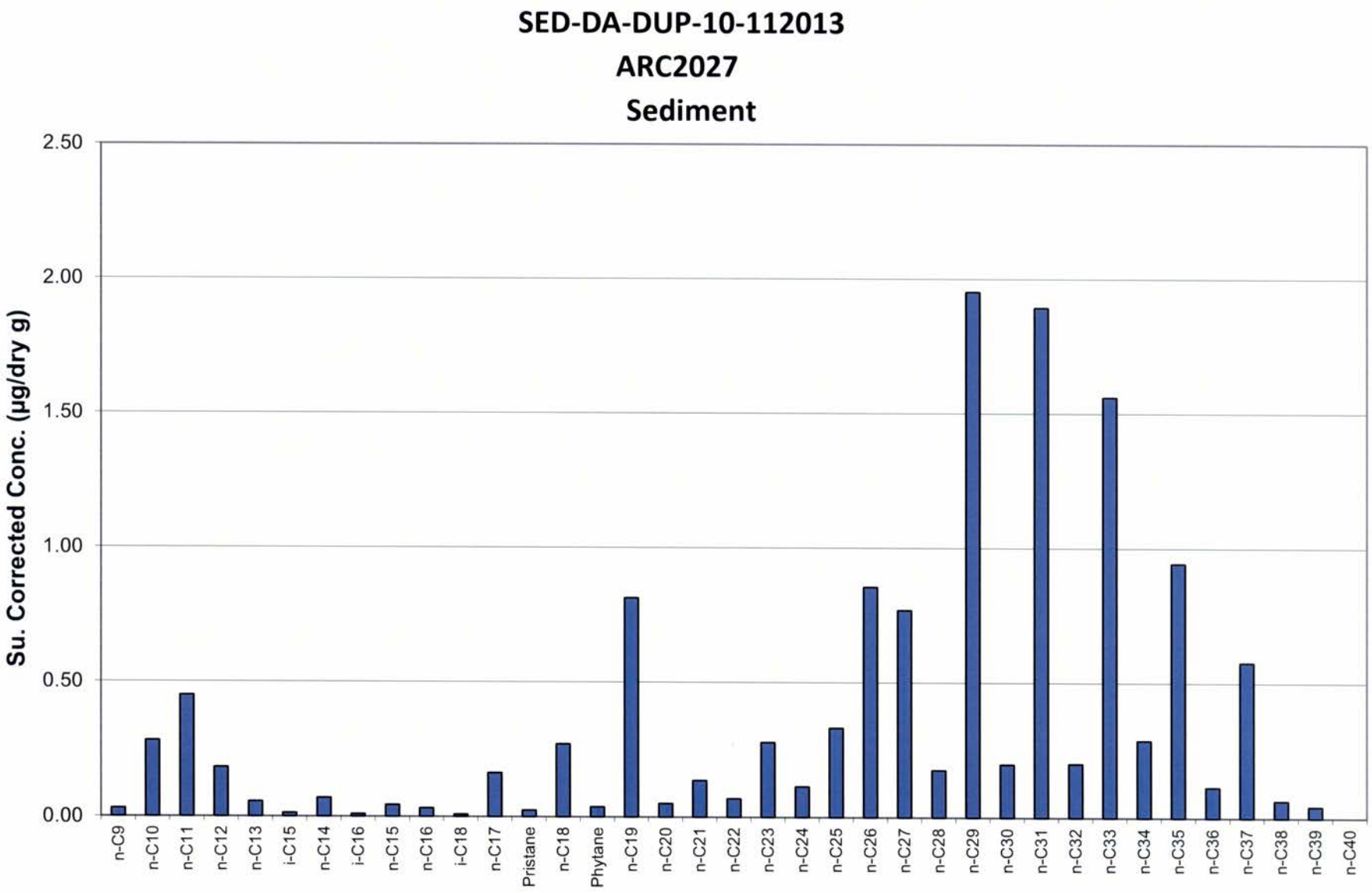
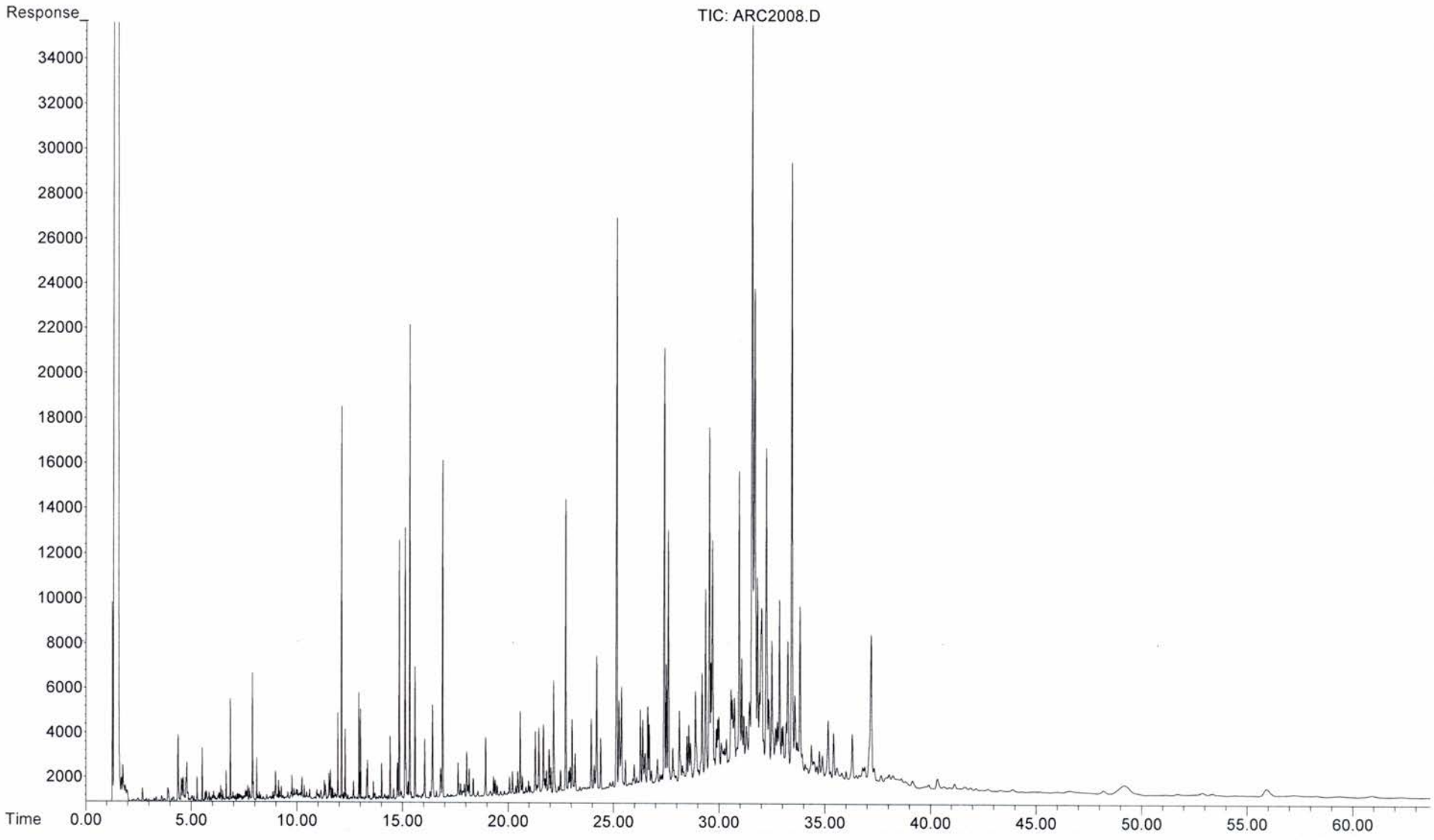
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40


SED-DA-035R (0-0.5)
ARC2024
Sediment
Su. Corrected Conc. (µg/dry g)
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

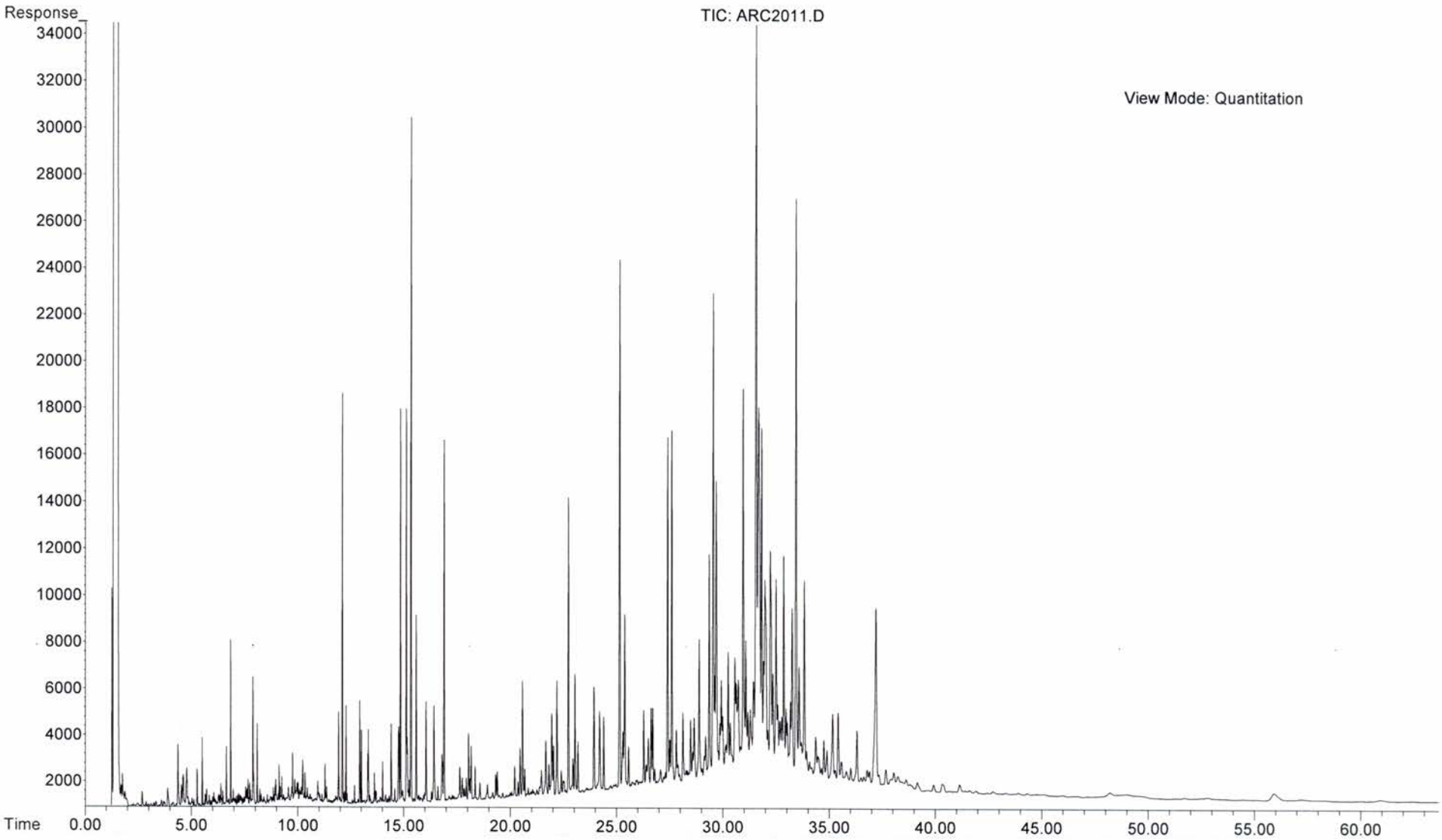

SED-DA-DUP-10-112013
ARC2027
Sediment
Su. Corrected Conc. (µg/dry g)
2.50
2.00
1.50
1.00
0.50
0.00
n-C9
n-C10
n-C11
n-C12
n-C13
i-C15
n-C14
i-C16
n-C15
n-C16
i-C18
n-C17
Pristane
n-C18
Phytane
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40

Total Petroleum Hydrocarbons Chromatograms

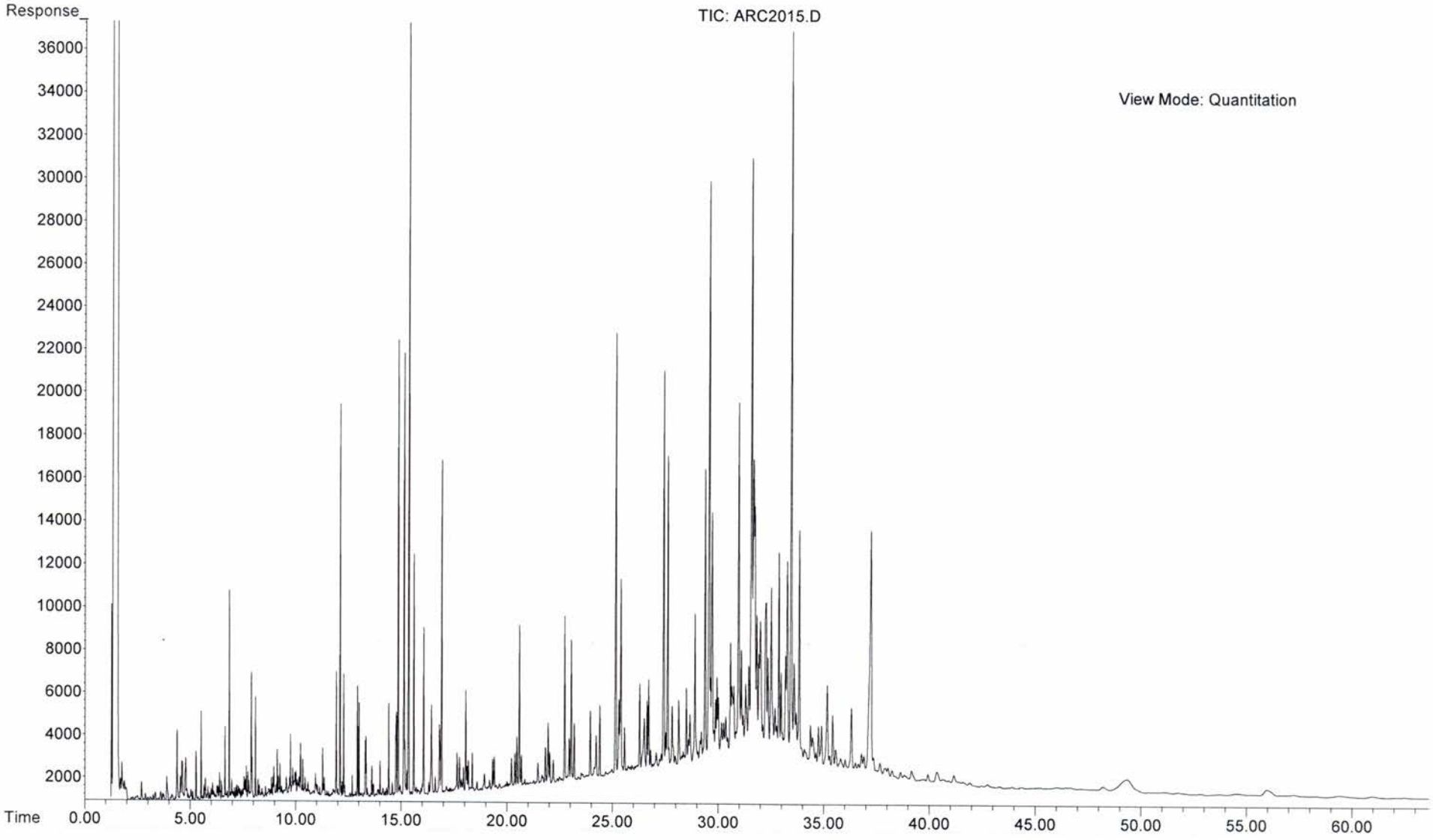
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2008.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 06:30:55 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-036R (0-0.5)
Misc Info :
Vial Number: 60



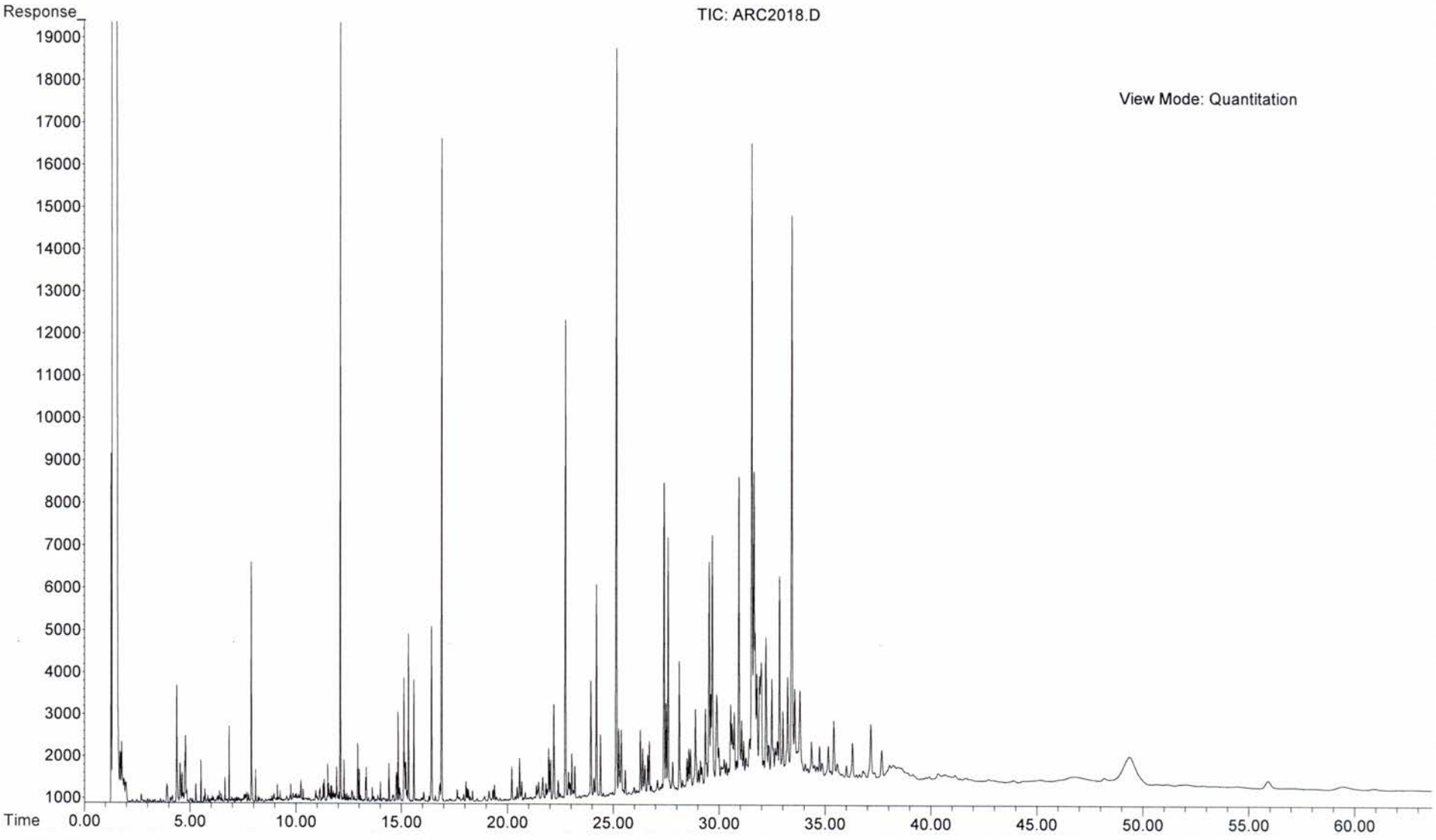
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2011.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 08:51 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-037R (0-0.5)
Misc Info :
Vial Number: 62



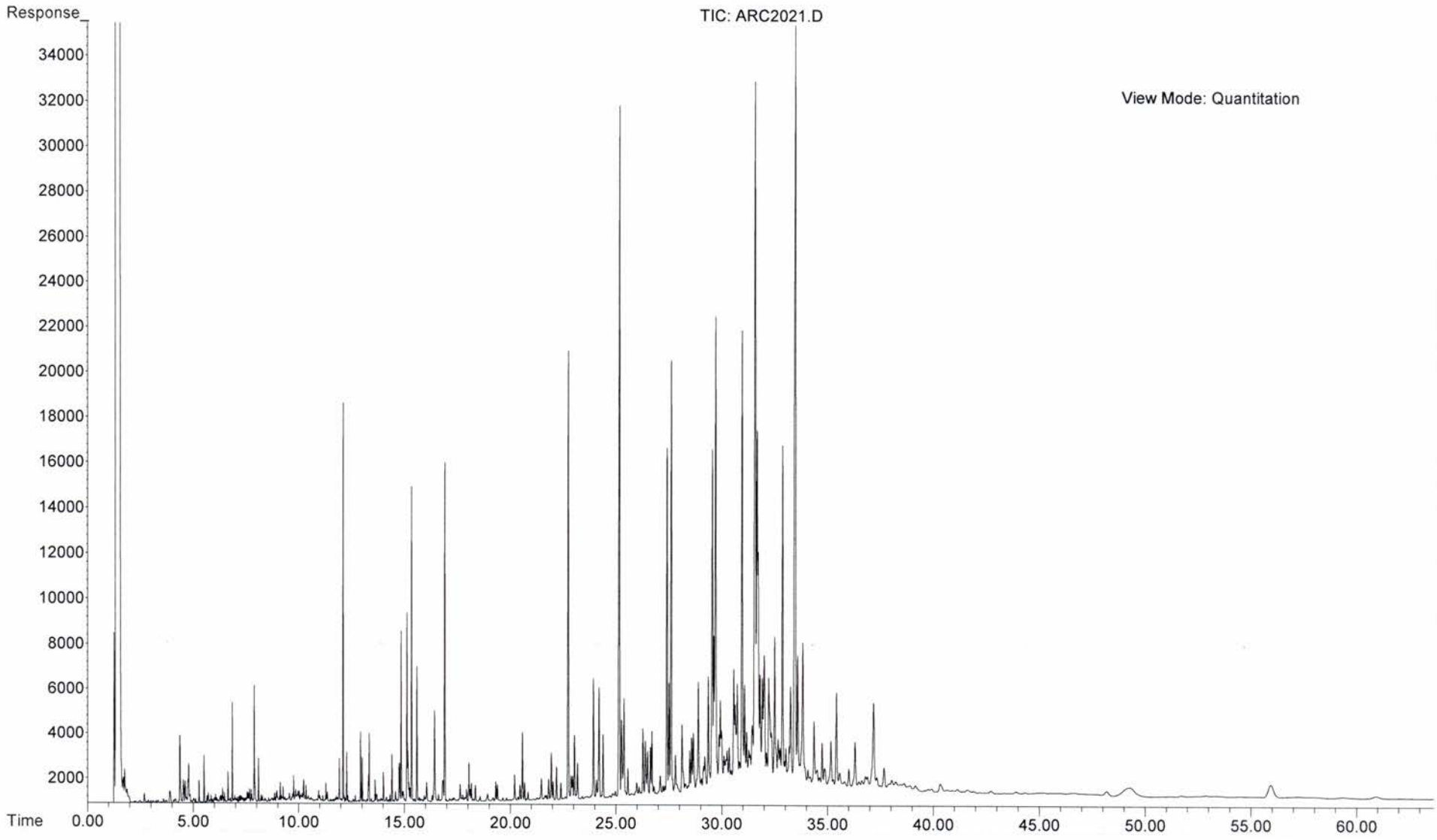
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2015.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 10:02 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-038R (0-0.5)
Misc Info :
Vial Number: 63



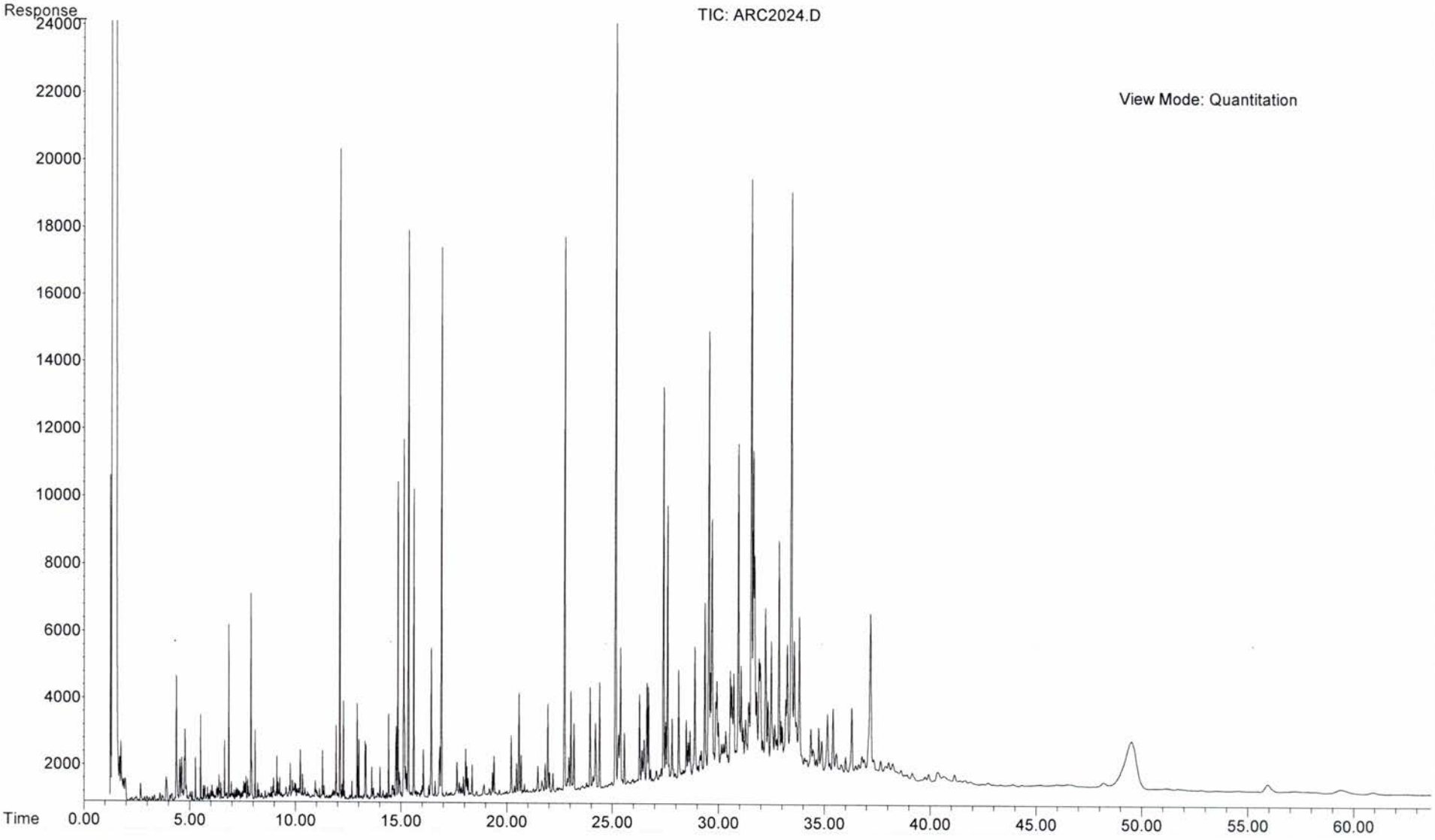
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2018.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 11:12 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-033R (0-0.5)
Misc Info :
Vial Number: 64



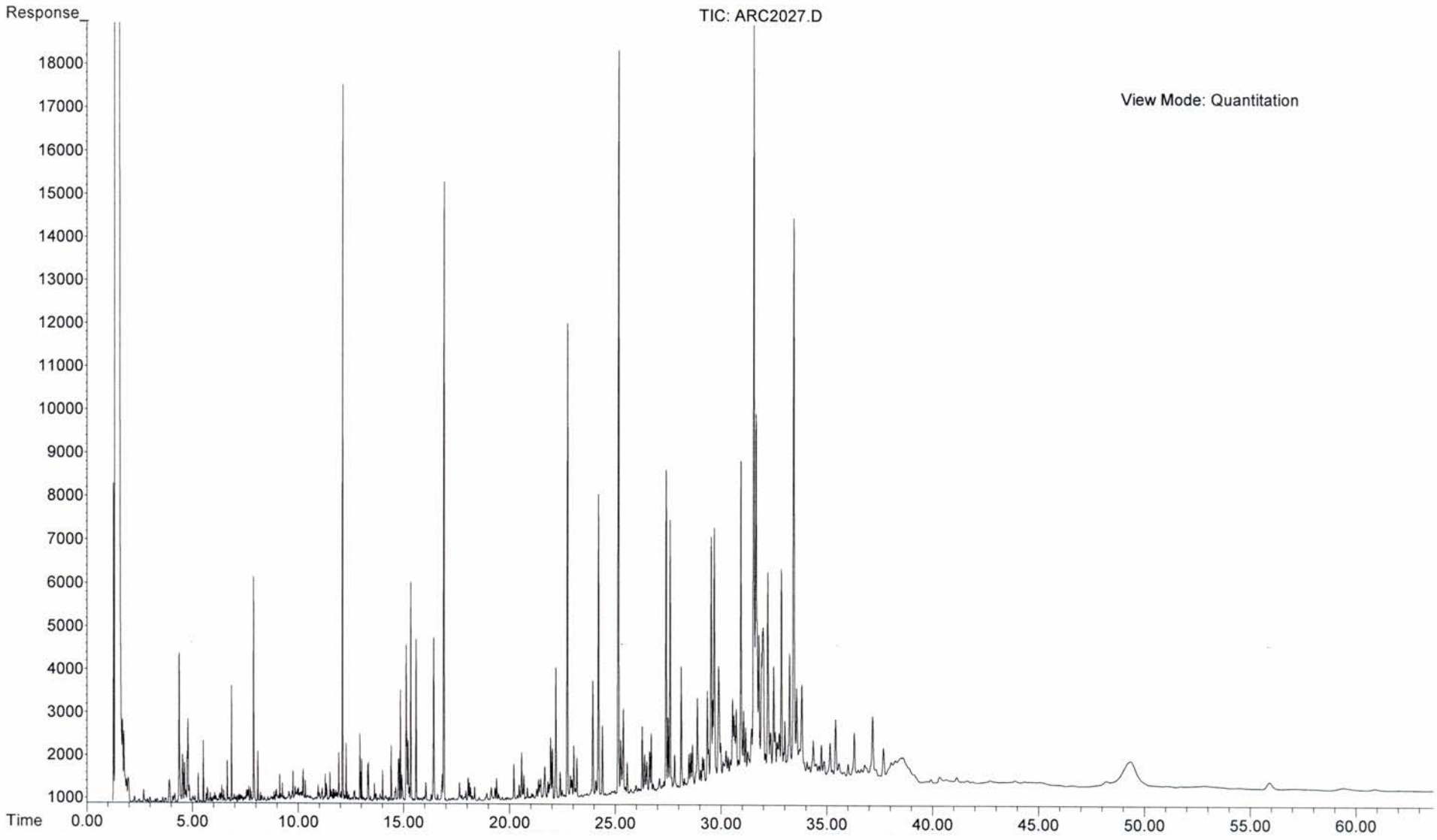
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2021.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 12:22 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-034R (0-0.5)
Misc Info :
Vial Number: 65



File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2024.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 13:32 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-035R (0-0.5)
Misc Info :
Vial Number: 66



File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\ARC2027.D
Operator : Meghan Dailey
Acquired : 28-Nov-2013, 14:43 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: SED-DA-DUP-10-112013
Misc Info :
Vial Number: 67



Polycyclic Aromatic Hydrocarbon Concentration

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2008.D	ARC2011.D	ARC2015.D	ARC2018.D	ARC2021.D
Client Name	SED-DA-036R (0-0.5)	SED-DA-037R (0-0.5)	SED-DA-038R (0-0.5)	SED-DA-033R (0-0.5)	SED-DA-034R (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13	11/20/13	11/20/13
Received Date	11/21/13	11/21/13	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166	ENV 3166	ENV 3166
Date Acquired	11/30/13 10:58	11/30/13 12:04	11/30/13 13:10	11/30/13 14:16	11/30/13 15:23
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.1	15.0	15.2
% Dry	36	31	26	57	41
% Moisture	64	69	74	43	59
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	12.6		15.7		17.4		5.64		8.09	
C1-Decalins	18.2		20.2		25.1		7.71		15.8	
C2-Decalins	13.6		19.2		25.2		4.85		12.1	
C3-Decalins	11.3		12.5		27.0		4.15		10.5	
C4-Decalins	12.4		18.2		18.4		6.46		9.56	
Naphthalene	23.3		33.9		43.2		8.25		23.0	
C1-Naphthalenes	17.5		28.2		36.9		6.25		17.1	
C2-Naphthalenes	16.6		24.6		31.5		7.55		13.8	
C3-Naphthalenes	10.1		12.8		17.0		4.70		7.53	
C4-Naphthalenes	12.8		6.30		10.2		<0.7	U	5.41	
Benzothiophene	0.928		1.43		1.85		<0.1	U	1.06	
C1-Benzothiophenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C2-Benzothiophenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C3-Benzothiophenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
C4-Benzothiophenes	<0.2	U	<0.2	U	<0.2	U	<0.2	U	<0.2	U
Biphenyl	5.45		7.11		8.93		4.64		5.72	
Acenaphthylene	7.94		12.2		17.1		2.18		7.41	
Acenaphthene	1.61		2.37		2.75		0.744		1.08	
Dibenzofuran	5.59		8.34		11.2		2.61		5.36	
Fluorene	11.0		14.5		20.1		4.71		8.89	
C1-Fluorenes	6.84		7.38		10.0		2.58		4.25	
C2-Fluorenes	12.3		34.32		29.6		9.95		7.72	
C3-Fluorenes	9.18		18.8		32.4		4.75		9.93	
Carbazole	2.44		3.83		4.55		1.02		2.70	
Anthracene	11.6		18.1		24.3		3.09		10.4	
Phenanthrene	15.6		22.2		26.6		9.28		16.7	
C1-Phenanthrenes/Anthracenes	15.9		20.5		25.8		9.06		13.5	
C2-Phenanthrenes/Anthracenes	23.4		33.5		44.6		11.7		16.1	
C3-Phenanthrenes/Anthracenes	26.3		34.2		54.1		5.44		13.5	
C4-Phenanthrenes/Anthracenes	26.7		32.8		40.9		6.71		13.0	
Dibenzothiophene	4.01		4.42		6.09		2.29		3.08	
C1-Dibenzothiophenes	5.02		5.74		7.53		2.27		3.02	
C2-Dibenzothiophenes	11.4		14.5		19.7		3.30		5.64	
C3-Dibenzothiophenes	21.6		24.5		33.9		4.57		7.23	
C4-Dibenzothiophenes	14.3		28.8		36.2		4.62		6.02	
Fluoranthene	30.7		44.1		57.5		10.6		30.0	
Pyrene	26.9		38.8		55.6		7.49		21.5	
C1-Fluoranthenes/Pyrenes	31.1		52.9		72.5		9.12		21.0	
C2-Fluoranthenes/Pyrenes	53.3		60.2		65.9		19.2		19.9	
C3-Fluoranthenes/Pyrenes	16.5		33.5		44.8		5.81		13.2	
C4-Fluoranthenes/Pyrenes	17.6		22.6		25.8		11.3		20.7	
Naphthobenzothiophene	13.4		24.5		20.8		6.44		10.1	
C1-Naphthobenzothiophenes	33.7		45.6		65.2		7.49		13.6	
C2-Naphthobenzothiophenes	62.7		75.3		121		15.9		22.7	
C3-Naphthobenzothiophenes	47.6		60.9		95.4		10.4		13.4	
C4-Naphthobenzothiophenes	19.7		26.4		38.9		7.60		7.58	
Benz(a)anthracene	18.8		26.4		34.1		4.89		16.1	
Chrysene/Triphenylene	35.7		49.6		66.2		11.3		29.3	
C1-Chrysenes	72.6		71.3		52.3		<0.2	U	62.3	
C2-Chrysenes	28.7		41.3		54.3		<0.2	U	10.9	
C3-Chrysenes	23.6		25.5		41.2		<0.2	U	7.07	
C4-Chrysenes	<0.2	U	<0.2	U	18.6		<0.2	U	<0.2	U
Benzo(b)fluoranthene	56.7		75.6		103		14.5		52.0	
Benzo(k,j)fluoranthene	9.09		14.3		24.9		3.87		7.75	
Benzo(a)fluoranthene	11.4		6.87		6.27		2.58		5.80	
Benzo(e)pyrene	23.4		31.7		48.9		5.43		20.5	
Benzo(a)pyrene	13.4		17.8		27.3		3.03		11.0	
Perylene	909		854		997		275		745	
Indeno(1,2,3-c,d)pyrene	14.6		18.2		23.5		4.46		15.0	
Dibenzo(a,h)anthracene	5.68		24.5		8.08		2.01		5.50	
Benzo(g,h,i)perylene	17.8		22.7		29.7		4.90		14.7	
Total PAHs	1981		2306		2908		595		1482	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2008.D	ARC2011.D	ARC2015.D	ARC2018.D	ARC2021.D
Client Name	SED-DA-036R (0-0.5)	SED-DA-037R (0-0.5)	SED-DA-038R (0-0.5)	SED-DA-033R (0-0.5)	SED-DA-034R (0-0.5)
Matrix	Sediment	Sediment	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13	11/20/13	11/20/13
Received Date	11/21/13	11/21/13	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166	ENV 3166	ENV 3166
Date Acquired	11/30/13 10:58	11/30/13 12:04	11/30/13 13:10	11/30/13 14:16	11/30/13 15:23
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0	15.1	15.0	15.2
% Dry	36	31	26	57	41
% Moisture	64	69	74	43	59
Dilution	1X	1X	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopanes										
2-Methylnaphthalene	19.7		31.5		41.4		7.00		18.8	
1-Methylnaphthalene	9.64		15.7		20.3		3.47		9.82	
2,6-Dimethylnaphthalene	8.30		12.4		17.11		3.37		6.17	
1,6,7-Trimethylnaphthalene	1.04		1.39		1.85		0.365		0.753	
1-Methylfluorene	3.57		3.91		4.88		1.65		2.17	
4-Methyldibenzothiophene	3.04		3.61		4.65		1.39		2.02	
2/3-Methyldibenzothiophene	2.74		3.03		4.32		1.33		1.42	
1-Methyldibenzothiophene	0.736		0.797		0.792		0.233		0.479	
3-Methylphenanthrene	4.92		6.17		8.24		2.69		3.84	
2-Methylphenanthrene	4.83		6.05		7.91		3.14		4.58	
2-Methylanthracene	7.13		9.03		10.2		4.98		6.60	
4/9-Methylphenanthrene	4.03		5.53		8.70		1.52		2.91	
1-Methylphenanthrene	2.56		3.55		3.06		1.08		2.01	
3,6-Dimethylphenanthrene	1.95		3.02		3.94		0.563		1.03	
Retene	6.78		7.63		6.89		2.50		5.81	
2-Methylfluoranthene	4.18		6.19		8.72		1.23		3.17	
Benzo(b)fluorene	8.66		13.2		16.1		2.43		5.52	
C29-Hopane	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
18a-Oleanane	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C30-Hopane	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C20-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C21-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C26(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C28(20S)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C27(20R)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
C28(20R)-TAS	<0.6	U	<0.6	U	<0.6	U	<0.6	U	<0.6	U
Surrogate Recovery										
Naphthalene-d8	75		74		74		76		73	
Acenaphthene-d10	79		84		82		75		81	
Phenanthrene-d10	84		88		86		85		86	
Chrysene-d12	90		96		98		92		94	
Perylene-d12	36		30		34		5	L	13	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2024.D	ARC2027.D
Client Name	SED-DA-035R (0-0.5)	SED-DA-DUP-10-112013
Matrix	Sediment	Sediment
Collection Date	11/20/13	11/20/13
Received Date	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166
Date Acquired	11/30/13 16:29	11/30/13 17:35
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1
% Dry	43	58
% Moisture	57	42
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
cis/trans Decalin	11.8		7.37	
C1-Decalins	17.7		11.4	
C2-Decalins	13.5		7.81	
C3-Decalins	9.79		7.95	
C4-Decalins	9.48		6.17	
Naphthalene	22.9		13.0	
C1-Naphthalenes	16.3		10.2	
C2-Naphthalenes	15.7		11.2	
C3-Naphthalenes	6.50		10.9	
C4-Naphthalenes	6.38		9.35	
Benzothiophene	<0.1	U	<0.1	U
C1-Benzothiophenes	<0.2	U	<0.2	U
C2-Benzothiophenes	<0.2	U	<0.2	U
C3-Benzothiophenes	<0.2	U	<0.2	U
C4-Benzothiophenes	<0.2	U	<0.2	U
Biphenyl	5.80		6.08	
Acenaphthylene	7.78		2.92	
Acenaphthene	1.60		0.911	
Dibenzofuran	5.56		4.19	
Fluorene	9.61		6.71	
C1-Fluorenes	5.01		3.15	
C2-Fluorenes	<0.4	U	5.71	
C3-Fluorenes	<0.4	U	5.08	
Carbazole	2.52		1.28	
Anthracene	11.4		4.21	
Phenanthrene	15.3		12.6	
C1-Phenanthrenes/Anthracenes	15.0		10.7	
C2-Phenanthrenes/Anthracenes	20.2		12.9	
C3-Phenanthrenes/Anthracenes	17.3		8.42	
C4-Phenanthrenes/Anthracenes	15.6		6.19	
Dibenzothiophene	3.19		2.91	
C1-Dibenzothiophenes	3.38		3.09	
C2-Dibenzothiophenes	7.90		4.55	
C3-Dibenzothiophenes	10.6		6.20	
C4-Dibenzothiophenes	8.93		5.66	
Fluoranthene	30.3		14.5	
Pyrene	24.3		9.99	
C1-Fluoranthenes/Pyrenes	26.4		12.4	
C2-Fluoranthenes/Pyrenes	26.6		17.0	
C3-Fluoranthenes/Pyrenes	15.1		7.77	
C4-Fluoranthenes/Pyrenes	13.9		14.0	
Naphthobenzothiophene	11.7		10.0	
C1-Naphthobenzothiophenes	19.3		10.6	
C2-Naphthobenzothiophenes	36.2		21.2	
C3-Naphthobenzothiophenes	25.9		12.2	
C4-Naphthobenzothiophenes	10.7		7.06	
Benz(a)anthracene	17.2		6.88	
Chrysene/Triphenylene	30.0		15.6	
C1-Chrysenes	33.4		<0.2	U
C2-Chrysenes	22.0		<0.2	U
C3-Chrysenes	15.84		<0.2	U
C4-Chrysenes	<0.2	U	<0.2	U
Benzo(b)fluoranthene	52.5		22.7	
Benzo(k,j)fluoranthene	8.15		2.51	
Benzo(a)fluoranthene	0.89		<0.1	U
Benzo(e)pyrene	20.8		9.08	
Benzo(a)pyrene	11.5		4.59	
Perylene	819		332	
Indeno(1,2,3-c,d)pyrene	11.6		5.98	
Dibenzo(a,h)anthracene	3.43		2.30	
Benzo(g,h,i)perylene	14.9		6.31	
Total PAHs	1599		753	

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	ARC2024.D	ARC2027.D
Client Name	SED-DA-035R (0-0.5)	SED-DA-DUP-10-112013
Matrix	Sediment	Sediment
Collection Date	11/20/13	11/20/13
Received Date	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166
Date Acquired	11/30/13 16:29	11/30/13 17:35
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1
% Dry	43	58
% Moisture	57	42
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q
Individual Alkyl Isomers and Hopa				
2-Methylnaphthalene	18.3		11.5	
1-Methylnaphthalene	9.06		5.60	
2,6-Dimethylnaphthalene	8.03		5.63	
1,6,7-Trimethylnaphthalene	0.918		0.652	
1-Methylfluorene	2.55		2.26	
4-Methyldibenzothiophene	2.27		1.86	
2/3-Methyldibenzothiophene	1.71		1.79	
1-Methyldibenzothiophene	0.393		0.364	
3-Methylphenanthrene	4.41		3.28	
2-Methylphenanthrene	4.81		3.98	
2-Methylanthracene	7.42		5.26	
4/9-Methylphenanthrene	3.46		2.00	
1-Methylphenanthrene	2.07		1.34	
3,6-Dimethylphenanthrene	1.53		0.719	
Retene	2.77		2.84	
2-Methylfluoranthene	3.58		1.59	
Benzo(b)fluorene	7.23		3.44	
C29-Hopane	<0.6	U	<0.6	U
18a-Oleanane	<0.6	U	<0.6	U
C30-Hopane	<0.6	U	<0.6	U
C20-TAS	<0.6	U	<0.6	U
C21-TAS	<0.6	U	<0.6	U
C26(20S)-TAS	<0.6	U	<0.6	U
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U
C28(20S)-TAS	<0.6	U	<0.6	U
C27(20R)-TAS	<0.6	U	<0.6	U
C28(20R)-TAS	<0.6	U	<0.6	U

Surrogate Recovery			
Naphthalene-d8	76	79	
Acenaphthene-d10	86	82	
Phenanthrene-d10	84	85	
Chrysene-d12	93	95	
Perylene-d12	23	9	L

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3166A.D
Client Name	Method Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	11/30/13 4:20
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	3X MDL	Actual MDL
cis/trans Decalin	<0.1	U	0.395	0.132
C1-Decalins	<0.3	U	0.790	0.263
C2-Decalins	<0.3	U	0.790	0.263
C3-Decalins	<0.3	U	0.790	0.263
C4-Decalins	<0.3	U	0.790	0.263
Naphthalene	<0.3	U	1.03	0.342
C1-Naphthalenes	<1	U	3.09	1.03
C2-Naphthalenes	<0.7	U	2.05	0.684
C3-Naphthalenes	<0.7	U	2.05	0.684
C4-Naphthalenes	<0.7	U	2.05	0.684
Benzothiophene	<0.1	U	0.270	0.090
C1-Benzothiophenes	<0.2	U	0.540	0.180
C2-Benzothiophenes	<0.2	U	0.540	0.180
C3-Benzothiophenes	<0.2	U	0.540	0.180
C4-Benzothiophenes	<0.2	U	0.540	0.180
Biphenyl	0.109	J	0.881	0.294
Acenaphthylene	<0	U	0.122	0.041
Acenaphthene	<0.1	U	0.308	0.103
Dibenzofuran	<0.2	U	0.613	0.204
Fluorene	<0.2	U	0.550	0.183
C1-Fluorenes	<0.4	U	1.10	0.367
C2-Fluorenes	<0.4	U	1.10	0.367
C3-Fluorenes	<0.4	U	1.10	0.367
Carbazole	<0.1	U	0.449	0.150
Anthracene	<0.1	U	0.346	0.115
Phenanthrene	0.072	J	0.624	0.208
C1-Phenanthrenes/Anthracenes	<0.1	U	0.232	0.077
C2-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C3-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
C4-Phenanthrenes/Anthracenes	<0.3	U	0.855	0.285
Dibenzothiophene	<0.1	U	0.348	0.116
C1-Dibenzothiophenes	<0.1	U	0.191	0.064
C2-Dibenzothiophenes	<0.2	U	0.696	0.232
C3-Dibenzothiophenes	<0.2	U	0.696	0.232
C4-Dibenzothiophenes	<0.2	U	0.696	0.232
Fluoranthene	<0.3	U	1.00	0.333
Pyrene	<0.1	U	0.408	0.136
C1-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C2-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C3-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
C4-Fluoranthenes/Pyrenes	<0.5	U	1.41	0.469
Naphthobenzothiophene	<0.1	U	0.383	0.128
C1-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C2-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C3-Naphthobenzothiophenes	<0.3	U	0.767	0.256
C4-Naphthobenzothiophenes	<0.3	U	0.767	0.256
Benz(a)anthracene	<0.2	U	0.577	0.192
Chrysene/Triphenylene	<0.1	U	0.347	0.116
C1-Chrysenes	<0.2	U	0.695	0.232
C2-Chrysenes	<0.2	U	0.695	0.232
C3-Chrysenes	<0.2	U	0.695	0.232
C4-Chrysenes	<0.2	U	0.695	0.232
Benzo(b)fluoranthene	<0.2	U	0.609	0.203
Benzo(k,j)fluoranthene	<0.1	U	0.294	0.098
Benzo(a)fluoranthene	<0.1	U	0.294	0.098
Benzo(e)pyrene	<0.2	U	0.530	0.177
Benzo(a)pyrene	<0.1	U	0.304	0.101
Perylene	<1.3	U	3.80	1.27
Indeno(1,2,3-c,d)pyrene	0.0	J	0.151	0.050
Dibenzo(a,h)anthracene	0.0	J	0.193	0.064
Benzo(g,h,i)perylene	0.1	J	0.264	0.088
Total PAHs	0.303			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Method Blank Report

Sample Name	ENV3166A.D
Client Name	Method Blank
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	11/30/13 4:20
Method	PAH-2012.M
Sample Dry Weight (g)	15.0
% Dry	NA
% Moisture	NA
Dilution	1X

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

Surrogate Recovery	
Naphthalene-d8	92
Acenaphthene-d10	94
Phenanthrene-d10	94
Chrysene-d12	86
Perylene-d12	90

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC2011.D	ENV3166C.D	ENV3166D.D
Client Name	SED-DA-037R (0-0.5)	MS (SED-DA-037R (0-0.5) MS/MSD)	MSD (SED-DA-037R (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13
Received Date	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166
Date Acquired	11/30/13 12:04	11/30/13 6:33	11/30/13 7:39
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	31	30	30
% Moisture	69	70	70
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q	Q1	RPD (%)	Q	Spike Amount (ng)
cis/trans Decalin	15.7		20.4		73		Y	20.9		79		Y	2		98.9
C1-Decalins	20.2		NA					NA							
C2-Decalins	19.2		NA					NA							
C3-Decalins	12.5		NA					NA							
C4-Decalins	18.2		NA					NA							
Naphthalene	33.9		39.2		81		Y	37.4		53		Y	5		100
C1-Naphthalenes	28.2		NA					NA							
C2-Naphthalenes	24.6		NA					NA							
C3-Naphthalenes	12.8		NA					NA							
C4-Naphthalenes	6.30		NA					NA							
Benzothiophene	1.43		6.9		83			6.68		79			3		99.4
C1-Benzothiophenes	<0.2	U	NA					NA							
C2-Benzothiophenes	<0.2	U	NA					NA							
C3-Benzothiophenes	<0.2	U	NA					NA							
C4-Benzothiophenes	<0.2	U	NA					NA							
Biphenyl	7.11		12.8		87			12.9		88			1		99.1
Acenaphthylene	12.2		17.4		80			17.0		73			2		99.2
Acenaphthene	2.37		9.04		100			8.73		95			4		100
Dibenzofuran	8.34		15.6		111			15.0		101			4		100
Fluorene	14.5		22.3		117		Y	21.9		110		Y	2		100
C1-Fluorenes	7.38		NA					NA							
C2-Fluorenes	34.3		NA					NA							
C3-Fluorenes	18.8		NA					NA							
Carbazole	3.83		8.30		68			8.31		68			0		99.1
Anthracene	18.1		24.5		97		Y	24.6		97		Y	0		100
Phenanthrene	22.2		27.7		84		Y	27.9		87		Y	1		99.1
C1-Phenanthrenes/Anthracenes	20.5		NA					NA							
C2-Phenanthrenes/Anthracenes	33.5		NA					NA							
C3-Phenanthrenes/Anthracenes	34.2		NA					NA							
C4-Phenanthrenes/Anthracenes	32.8		NA					NA							
Dibenzothiophene	4.42		10.8		98			11.1		102			3		98.6
C1-Dibenzothiophenes	5.74		NA					NA							
C2-Dibenzothiophenes	14.5		NA					NA							
C3-Dibenzothiophenes	24.5		NA					NA							
C4-Dibenzothiophenes	28.8		NA					NA							
Fluoranthene	44.1		52.4		128		Y	52.9		134		Y	1		100
Pyrene	38.8		47.4		130		Y	47.0		123		Y	1		100
C1-Fluoranthenes/Pyrenes	52.9		NA					NA							
C2-Fluoranthenes/Pyrenes	60.2		NA					NA							
C3-Fluoranthenes/Pyrenes	33.5		NA					NA							
C4-Fluoranthenes/Pyrenes	22.6		NA					NA							
Naphthobenzothiophene	24.5		NA					NA							
C1-Naphthobenzothiophenes	45.6		NA					NA							
C2-Naphthobenzothiophenes	75.3		NA					NA							
C3-Naphthobenzothiophenes	60.9		NA					NA							
C4-Naphthobenzothiophenes	26.4		NA					NA							
Benz(a)anthracene	26.4		34.4		122		Y	34.0		115		Y	1		100
Chrysene/Triphenylene	49.6		56.6		108		Y	55.6		91		Y	2		99.4
C1-Chrysenes	71.3		NA					NA							
C2-Chrysenes	41.3		NA					NA							
C3-Chrysenes	25.5		NA					NA							
C4-Chrysenes	<0.2	U	NA					NA							
Benzo(b)fluoranthene	75.6		92.9		263		Y	88.2		189		Y	5		100
Benzo(k,j)fluoranthene	14.3		17.0		41		Y	18.8		68		Y	10		100
Benzo(a)fluoranthene	6.87		NA					NA							
Benzo(e)pyrene	31.7		41.7		153		Y	39.5		117		Y	6		100
Benzo(a)pyrene	17.8		23.4		84		Y	23.8		90		Y	2		100
Perylene	854		832		-286		Y	840		-193		Y	1		100
Indeno(1,2,3-c,d)pyrene	18.2		25.6		115		Y	22.4		64		Y	14		98.3
Dibenzo(a,h)anthracene	24.5		41.8		263		Y	36.5		181		Y	13		99.1
Benzo(g,h,i)perylene	22.7		31.0		127		Y	28.4		88		Y	8		99.1
Average % Recovery					96					88					

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Matrix Spike Report

Sample Name	ARC2011.D	ENV3166C.D	ENV3166D.D
Client Name	SED-DA-037R (0-0.5)	MS (SED-DA-037R (0-0.5) MS/MSD)	MSD (SED-DA-037R (0-0.5) MS/MSD)
Matrix	Sediment	Sediment	Sediment
Collection Date	11/19/13	11/19/13	11/19/13
Received Date	11/21/13	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166	ENV 3166
Date Acquired	11/30/13 12:04	11/30/13 6:33	11/30/13 7:39
Method	PAH-2012.M	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.1	15.0
% Dry	31	30	30
% Moisture	69	70	70
Dilution	1X	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q Q1	Su. Corrected Conc. (ng/dry g)	Q	Recovery (%)	Q Q1	RPD (%)	Q	Spike Amount (ng)
Individual Alkyl Isomers and Hopanes													
2-Methylnaphthalene	31.5		36.2		72	Y	34.4		45	Y	5		100
1-Methylnaphthalene	15.7		21.0		81	Y	20.3		70	Y	3		100
2,6-Dimethylnaphthalene	12.4		19.1		102		18.6		93		3		100
1,6,7-Trimethylnaphthalene	1.39		6.61		79		6.87		82		4		100
1-Methylfluorene	3.91		11.7		117		11.7		116		0		101
4-Methyldibenzothiophene	3.61		10.2		99		10.1		97		1		101
2/3-Methyldibenzothiophene	3.03		NA				NA						
1-Methyldibenzothiophene	0.80		NA				NA						
3-Methylphenanthrene	6.17		NA				NA						
2-Methylphenanthrene	6.05		NA				NA						
2-Methylanthracene	9.03		NA				NA						
4/9-Methylphenanthrene	5.53		NA				NA						
1-Methylphenanthrene	3.55		10.4		104		10.2		101		2		98.9
3,6-Dimethylphenanthrene	3.02		10.7		115		10.5		113		1		100
Retene	7.63		12.7		85		12.3		79		3		89.4
2-Methylfluoranthene	6.19		13.4		109		14.1		118		5		101
Benzo(b)fluorene	13.2		20.3		107		20.8		114		2		101
C29-Hopane	<0.6	U	NA				NA						
18a-Oleanane	<0.6	U	NA				NA						
C30-Hopane	<0.6	U	NA				NA						
C20-TAS	<0.6	U	NA				NA						
C21-TAS	<0.6	U	NA				NA						
C26(20S)-TAS	<0.6	U	NA				NA						
C26(20R)/C27(20S)-TAS	<0.6	U	3.58		54		3.52		53		2		100
C28(20S)-TAS	<0.6	U	NA				NA						
C27(20R)-TAS	<0.6	U	NA				NA						
C28(20R)-TAS	<0.6	U	NA				NA						

Surrogate Recovery			
Naphthalene-d8	74	74	74
Acenaphthene-d10	84	84	84
Phenanthrene-d10	88	85	85
Chrysene-d12	96	88	93
Perylene-d12	30	33	31

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC2018.D	ENV3166E.D
Client Name	SED-DA-033R (0-0.5)	Dupl. (SED-DA-033R (0-0.5))
Matrix	Sediment	Sediment
Collection Date	11/20/13	11/20/13
Received Date	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166
Date Acquired	11/30/13 14:16	11/30/13 9:51
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	57	57
% Moisture	43	43
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q Q1	3X MDL	MDL
cis/trans Decalin	5.64		5.04		11		0.40	0.13
C1-Decalins	7.71		8.07		5		0.79	0.26
C2-Decalins	4.85		5.85		19		0.79	0.26
C3-Decalins	4.15		3.93		6		0.79	0.26
C4-Decalins	6.46		6.71		4		0.79	0.26
Naphthalene	8.25		8.42		2		1.03	0.34
C1-Naphthalenes	6.25		6.44		3		3.09	1.03
C2-Naphthalenes	7.55		8.61		13		2.05	0.68
C3-Naphthalenes	4.70		5.53		16		2.05	0.68
C4-Naphthalenes	<0.7	U	<0.7	U			2.05	0.68
Benzothiophene	<0.1	U	<0.1	U			0.27	0.09
C1-Benzothiophenes	<0.2	U	<0.2	U			0.54	0.18
C2-Benzothiophenes	<0.2	U	<0.2	U			0.54	0.18
C3-Benzothiophenes	<0.2	U	<0.2	U			0.54	0.18
C4-Benzothiophenes	<0.2	U	<0.2	U			0.54	0.18
Biphenyl	4.64		4.29		8		0.88	0.29
Acenaphthylene	2.18		2.24		3		0.12	0.04
Acenaphthene	0.744		0.939		23		0.31	0.10
Dibenzofuran	2.61		2.99		13		0.61	0.20
Fluorene	4.71		4.52		4		0.55	0.18
C1-Fluorenes	2.58		2.12		20		1.10	0.37
C2-Fluorenes	9.95		8.16		20		1.10	0.37
C3-Fluorenes	4.75		4.17		13		1.10	0.37
Carbazole	1.02		0.93		9		0.45	0.15
Anthracene	3.09		3.12		1		0.35	0.12
Phenanthrene	9.28		9.17		1		0.62	0.21
C1-Phenanthrenes/Anthracenes	9.06		9.06		0		0.23	0.08
C2-Phenanthrenes/Anthracenes	11.7		10.1		15		0.86	0.29
C3-Phenanthrenes/Anthracenes	5.44		6.71		21		0.86	0.29
C4-Phenanthrenes/Anthracenes	6.71		6.29		6		0.86	0.29
Dibenzothiophene	2.29		2.26		1		0.35	0.12
C1-Dibenzothiophenes	2.27		2.45		7		0.19	0.06
C2-Dibenzothiophenes	3.30		3.47		5		0.70	0.23
C3-Dibenzothiophenes	4.57		4.75		4		0.70	0.23
C4-Dibenzothiophenes	4.62		4.08		12		0.70	0.23
Fluoranthene	10.6		11.0		4		1.00	0.33
Pyrene	7.49		8.33		11		0.41	0.14
C1-Fluoranthenes/Pyrenes	9.12		9.04		1		1.41	0.47
C2-Fluoranthenes/Pyrenes	19.2		16.9		13		1.41	0.47
C3-Fluoranthenes/Pyrenes	5.81		6.21		7		1.41	0.47
C4-Fluoranthenes/Pyrenes	11.3		12.5		10		1.41	0.47
Naphthobenzothiophene	6.44		6.89		7		0.38	0.13
C1-Naphthobenzothiophenes	7.49		7.70		3		0.77	0.26
C2-Naphthobenzothiophenes	15.9		15.3		3		0.77	0.26
C3-Naphthobenzothiophenes	10.4		12.4		17		0.77	0.26
C4-Naphthobenzothiophenes	7.60		6.98		8		0.77	0.26
Benz(a)anthracene	4.89		5.48		11		0.58	0.19
Chrysene/Triphenylene	11.3		12.1		7		0.35	0.12
C1-Chrysenes	<0.2	U	<0.2	U			0.69	0.23
C2-Chrysenes	<0.2	U	<0.2	U			0.69	0.23
C3-Chrysenes	<0.2	U	<0.2	U			0.69	0.23
C4-Chrysenes	<0.2	U	<0.2	U			0.69	0.23
Benzo(b)fluoranthene	14.5		13.7		6		0.61	0.20
Benzo(k,j)fluoranthene	3.87		3.70		4		0.29	0.10
Benzo(a)fluoranthene	2.58		2.67		3		0.29	0.10
Benzo(e)pyrene	5.43		6.40		16		0.53	0.18
Benzo(a)pyrene	3.03		3.09		2		0.30	0.10
Perylene	275		256		7		3.80	1.27
Indeno(1,2,3-c,d)pyrene	4.46		4.74		6		0.15	0.05
Dibenzo(a,h)anthracene	2.01		2.37		16		0.19	0.06
Benzo(g,h,i)perylene	4.90		5.60		13		0.26	0.09
Total PAHs	595		579		3			

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Duplicate Report

Sample Name	ARC2018.D	ENV3166E.D
Client Name	SED-DA-033R (0-0.5)	Dupl. (SED-DA-033R (0-0.5))
Matrix	Sediment	Sediment
Collection Date	11/20/13	11/20/13
Received Date	11/21/13	11/21/13
Extraction Date	11/26/13	11/26/13
Extraction Batch	ENV 3166	ENV 3166
Date Acquired	11/30/13 14:16	11/30/13 9:51
Method	PAH-2012.M	PAH-2012.M
Sample Dry Weight (g)	15.0	15.0
% Dry	57	57
% Moisture	43	43
Dilution	1X	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	Su. Corrected Conc. (ng/dry g)	Q	RPD %	Q	Q1	3X MDL	MDL
Individual Alkyl Isomers and Hopanes									
2-Methylnaphthalene	7.00		7.33		5			3.89	1.30
1-Methylnaphthalene	3.47		3.45		0			1.64	0.546
2,6-Dimethylnaphthalene	3.37		3.57		6			0.782	0.261
1,6,7-Trimethylnaphthalene	0.36		0.404		10			0.382	0.127
1-Methylfluorene	1.65		1.58		5			0.574	0.191
4-Methyldibenzothiophene	1.39		1.41		2			0.274	0.091
2/3-Methyldibenzothiophene	1.33		1.50		12			0.274	0.091
1-Methyldibenzothiophene	0.233		0.255		9		X	0.274	0.091
3-Methylphenanthrene	2.69		2.56		5			0.291	0.097
2-Methylphenanthrene	3.14		3.01		4			0.291	0.097
2-Methylanthracene	4.98		5.14		3			0.291	0.097
4/9-Methylphenanthrene	1.52		1.56		3			0.291	0.097
1-Methylphenanthrene	1.08		1.13		4			0.291	0.097
3,6-Dimethylphenanthrene	0.56		0.57		1			0.329	0.110
Retene	2.50		2.28		9			0.694	0.231
2-Methylfluoranthene	1.23		1.26		2			0.668	0.223
Benzo(b)fluorene	2.43		2.46		1			0.374	0.125
C29-Hopane	<0.6	U	<0.6	U				1.72	0.575
18a-Oleanane	<0.6	U	<0.6	U				1.72	0.575
C30-Hopane	<0.6	U	<0.6	U				1.72	0.575
C20-TAS	<0.6	U	<0.6	U				1.72	0.575
C21-TAS	<0.6	U	<0.6	U				1.72	0.575
C26(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C26(20R)/C27(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C28(20S)-TAS	<0.6	U	<0.6	U				1.72	0.575
C27(20R)-TAS	<0.6	U	<0.6	U				1.72	0.575
C28(20R)-TAS	<0.6	U	<0.6	U				1.72	0.575

Surrogate Recovery				
Naphthalene-d8	76		75	
Acenaphthene-d10	75		76	
Phenanthrene-d10	85		85	
Chrysene-d12	92		91	
Perylene-d12	5	L	6	L

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

Sample Name	ENV3166B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	11/30/13 5:26
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
cis/trans Decalin	33.3					
C1-Decalins	7.97					
C2-Decalins	11.3					
C3-Decalins	24.6					
C4-Decalins	34.7					
Naphthalene	764		10	848 ± 95	527	1226
C1-Naphthalenes	222					
C2-Naphthalenes	200					
C3-Naphthalenes	134					
C4-Naphthalenes	79.5					
Benzothiophene	30.7					
C1-Benzothiophenes	13.1					
C2-Benzothiophenes	16.2					
C3-Benzothiophenes	16.0					
C4-Benzothiophenes	11.6					
Biphenyl	70.2					
Acenaphthylene	81.7					
Acenaphthene	29.7					
Dibenzofuran	93.9					
Fluorene	64.4		28	85 ± 15	49.0	130
C1-Fluorenes	53.0					
C2-Fluorenes	75.7					
C3-Fluorenes	198					
Carbazole	21.9					
Anthracene	212		14	184 ± 18	116	263
Phenanthrene	410		1	406 ± 44	253	585
C1-Phenanthrenes/Anthracenes	293					
C2-Phenanthrenes/Anthracenes	285					
C3-Phenanthrenes/Anthracenes	213					
C4-Phenanthrenes/Anthracenes	129					
Dibenzothiophene	51.2					
C1-Dibenzothiophenes	66.7					
C2-Dibenzothiophenes	113					
C3-Dibenzothiophenes	122					
C4-Dibenzothiophenes	77.5					
Fluoranthene	740		13	651 ± 50	421	911
Pyrene	520		11	581 ± 39	379	806
C1-Fluoranthenes/Pyrenes	425					
C2-Fluoranthenes/Pyrenes	433					
C3-Fluoranthenes/Pyrenes	181					
C4-Fluoranthenes/Pyrenes	154					
Naphthobenzothiophene	140					
C1-Naphthobenzothiophenes	139					
C2-Naphthobenzothiophenes	144					
C3-Naphthobenzothiophenes	98.0					
C4-Naphthobenzothiophenes	42.9					
Benz(a)anthracene	392		16	335 ± 25	217	468
Chrysene/Triphenylene	456		13	399 ± 36	254	566
C1-Chrysenes	293					
C2-Chrysenes	182					
C3-Chrysenes	101					
C4-Chrysenes	27.1					
Benzo(b)fluoranthene	555		20	453 ± 21	302	616
Benzo(k,j)fluoranthene	416		6	442 ± 23	293	605
Benzo(a)fluoranthene	76.3					
Benzo(e)pyrene	341		5	325 ± 25	210	455
Benzo(a)pyrene	279		25	358 ± 17	239	488
Perylene	352		12	397 ± 45	246	575
Indeno(1,2,3-c,d)pyrene	289		16	341 ± 57	199	517
Dibenzo(a,h)anthracene	55.7		5	53 ± 10	30.1	81.9
Benzo(g,h,i)perylene	261		16	307 ± 45	183	458
Total PAHs	11356					

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

Sample Name	ENV3166B.D
Client Name	SRM 1941b
Matrix	Sediment
Collection Date	NA
Received Date	NA
Extraction Date	11/26/13
Extraction Batch	ENV 3166
Date Acquired	11/30/13 5:26
Method	PAH-2012.M
Sample Dry Weight (g)	4.0
% Dry	98
% Moisture	2
Dilution	1X

Target Compounds	Su. Corrected Conc. (ng/dry g)	Q	RPD (%)	SRM 1941b Certified Conc. (ng/dry g)	-30% Certified Conc. (ng/dry g)	+30% Certified Conc. (ng/dry g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	254					
1-Methylnaphthalene	117					
2,6-Dimethylnaphthalene	110					
1,6,7-Trimethylnaphthalene	18.5					
1-Methylfluorene	36.7					
4-Methyldibenzothiophene	44.2					
2/3-Methyldibenzothiophene	30.9					
1-Methyldibenzothiophene	11.4					
3-Methylphenanthrene	103		2	105 ± 13	64.4	153
2-Methylphenanthrene	114					
2-Methylanthracene	63.5					
4/9-Methylphenanthrene	80					
1-Methylphenanthrene	71.2		3	73.2 ± 5.9	47.1	103
3,6-Dimethylphenanthrene	22.4					
Retene	37.5					
2-Methylfluoranthene	82					
Benzo(b)fluorene	94.9					
C29-Hopane	226					
18a-Oleanane	36.8					
C30-Hopane	335					
C20-TAS	<2.2	U				
C21-TAS	<2.2	U				
C26(20S)-TAS	<2.2	U				
C26(20R)/C27(20S)-TAS	<2.2	U				
C28(20S)-TAS	<2.2	U				
C27(20R)-TAS	<2.2	U				
C28(20R)-TAS	<2.2	U				

Surrogate Recovery	
Naphthalene-d8	79
Acenaphthene-d10	92
Phenanthrene-d10	88
Chrysene-d12	91
Perylene-d12	86

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

Sample Name	MS50182K.D
Client Name	AR-SRM2779-WK-4.0-003
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/29/13 22:49
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	865						
C1-Decalins	1147						
C2-Decalins	888						
C3-Decalins	757						
C4-Decalins	483						
Naphthalene	871			2	855 ± 46	647	1081
C1-Naphthalenes	1791						
C2-Naphthalenes	2172						
C3-Naphthalenes	1359						
C4-Naphthalenes	785						
Benzothiophene	10.8						
C1-Benzothiophenes	36.7						
C2-Benzothiophenes	23.6						
C3-Benzothiophenes	36.8						
C4-Benzothiophenes	29.7						
Biphenyl	183						
Acenaphthylene	8.18	J					
Acenaphthene	16.5						
Dibenzofuran	27.2						
Fluorene	157						
C1-Fluorenes	355						
C2-Fluorenes	386						
C3-Fluorenes	352						
Carbazole	7.05	J					
Anthracene	3.24	J		5	3.42 ± 0.59	2.26	4.81
Phenanthrene	274			6	258 ± 27	185	342
C1-Phenanthrenes/Anthracenes	654						
C2-Phenanthrenes/Anthracenes	762						
C3-Phenanthrenes/Anthracenes	464						
C4-Phenanthrenes/Anthracenes	273						
Dibenzothiophene	57.4			10	51.8 ± 2.1	39.8	64.7
C1-Dibenzothiophenes	156						
C2-Dibenzothiophenes	196						
C3-Dibenzothiophenes	128						
C4-Dibenzothiophenes	62.2						
Fluoranthene	4.77	J		9	4.36 ± 0.40	3.17	5.71
Pyrene	13.6			9	14.81 ± 0.39	11.5	18.2
C1-Fluoranthenes/Pyrenes	82.2						
C2-Fluoranthenes/Pyrenes	152						
C3-Fluoranthenes/Pyrenes	144						
C4-Fluoranthenes/Pyrenes	110						
Naphthobenzothiophene	35.5						
C1-Naphthobenzothiophenes	75.5						
C2-Naphthobenzothiophenes	105						
C3-Naphthobenzothiophenes	68.6						
C4-Naphthobenzothiophenes	29.9						
Benz(a)anthracene	8.42	J		18	7.03 ± 0.85	4.94	9.5
Chrysene/Triphenylene	52.7			11	47.4 ± 1.7	36.6	58.9
C1-Chrysenes	139						
C2-Chrysenes	152						
C3-Chrysenes	119						
C4-Chrysenes	53.4						
Benzo(b)fluoranthene	5.14	J		9	5.62 ± 0.34	4.22	7.15
Benzo(k,j)fluoranthene	0.818	J					
Benzo(a)fluoranthene	<10	U					
Benzo(e)pyrene	12.4			14	10.78 ± 0.60	8.14	13.7
Benzo(a)pyrene	1.65	J					
Perylene	0.596	J					
Indeno(1,2,3-c,d)pyrene	0.686	J					
Dibenzo(a,h)anthracene	0.576	J		0	0.574 ± 0.091	0.386	0.798
Benzo(g,h,i)perylene	2.31	J		9	2.11 ± 0.26	1.48	2.84
Total PAHs	17146						

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

Sample Name	MS50182K.D
Client Name	AR-SRM2779-WK-4.0-003
Matrix	Gulf of Mexico Crude Oil
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/29/13 22:49
Method	PAH-2012.M
Sample Weight (mg)	4.1

Target Compounds	Su. Corrected Conc. (ng/mg)	Q	RPD (%)	SRM 2779 Certified Value (ug/g)	-20% Certified Value (ug/g)	+20% Certified Value (ug/g)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	1813		11	1630 ± 50	1264	2016
1-Methylnaphthalene	1187		4	1140 ± 20	896	1392
2,6-Dimethylnaphthalene	1143					
1,6,7-Trimethylnaphthalene	200					
1-Methylfluorene	316					
4-Methyldibenzothiophene	114					
2/3-Methyldibenzothiophene	53.7					
1-Methyldibenzothiophene	34.4					
3-Methylphenanthrene	237		14	206 ± 32	139	286
2-Methylphenanthrene	243		5	230 ± 14	173	293
2-Methylanthracene	15.1					
4/9-Methylphenanthrene	275		17	232 ± 19	170	301
1-Methylphenanthrene	199		16	169 ± 10	127	215
3,6-Dimethylphenanthrene	56.0					
Retene	9.26	J				
2-Methylfluoranthene	8.72	J				
Benzo(b)fluorene	22.1					
C29-Hopane	23.5					
18a-Oleanane	<10	U				
C30-Hopane	52.1					
C20-TAS	7.54	J				
C21-TAS	9.66	J				
C26(20S)-TAS	5.61	J				
C26(20R)/C27(20S)-TAS	16.8					
C28(20S)-TAS	11.9					
C27(20R)-TAS	10.4					
C28(20R)-TAS	8.81	J				

Surrogate Recovery	
Naphthalene-d8	84
Acenaphthene-d10	94
Phenanthrene-d10	91
Chrysene-d12	90
Perylene-d12	90

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

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

Sample Name	MS50182L.D
Client Name	AR-WKCC-250-039
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/30/13 8:45
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	223		10.5	247	210	284
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	222		11.8	250	213	288
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	219		12.4	249	211	286
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	229		7.9	248	211	285
Acenaphthylene	254		2.2	248	211	285
Acenaphthene	235		6.3	251	213	288
Dibenzofuran	238		4.3	249	211	286
Fluorene	246		1.8	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	260		5.0	248	211	285
Anthracene	236		5.9	251	213	288
Phenanthrene	223		10.4	248	211	285
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	223		10.1	247	210	283
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	251		0.2	250	213	288
Pyrene	230		8.5	250	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	264		5.0	252	214	289
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	283		12.7	250	212	287
Chrysene/Triphenylene	248		0.3	249	211	286
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	255		1.7	251	213	288
Benzo(k,j)fluoranthene	245		1.7	249	212	286
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	241		3.1	249	212	286
Benzo(a)pyrene	252		0.8	250	212	287
Perylene	258		2.9	250	213	288
Indeno(1,2,3-c,d)pyrene	225		8.9	246	209	283
Dibenzo(a,h)anthracene	233		6.3	248	211	285
Benzo(g,h,i)perylene	215		14.1	248	211	285

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

Sample Name	MS50182L.D
Client Name	AR-WKCC-250-039
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/30/13 8:45
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	230		8.5	250	213	288
1-Methylnaphthalene	225		10.2	250	212	287
2,6-Dimethylnaphthalene	241		3.8	250	213	288
1,6,7-Trimethylnaphthalene	240		4.2	250	213	288
1-Methylfluorene	265		5.1	252	214	290
4-Methyldibenzothiophene	233		8.0	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	231		7.0	247	210	284
3,6-Dimethylphenanthrene	257		2.5	250	213	288
Retene	234		4.9	223	190	257
2-Methylfluoranthene	265		5.1	252	214	289
Benzo(b)fluorene	279		10.1	252	214	290
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	255		2.1	250	213	288
C20-TAS	NA					
C21-TAS	NA					
C26(20S)-TAS	NA					
C26(20R)/C27(20S)-TAS	285		13.1	250	213	288
C28(20S)-TAS	NA					
C27(20R)-TAS	NA					
C28(20R)-TAS	NA					

Surrogate Recovery	
Naphthalene-d8	88
Acenaphthene-d10	93
Phenanthrene-d10	87
Chrysene-d12	99
Perylene-d12	98

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

Sample Name	MS50182I.D
Client Name	AR-WKICV-250-005
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/29/13 20:37
Method	PAH-2012.M
Sample Volume (mL)	1.0

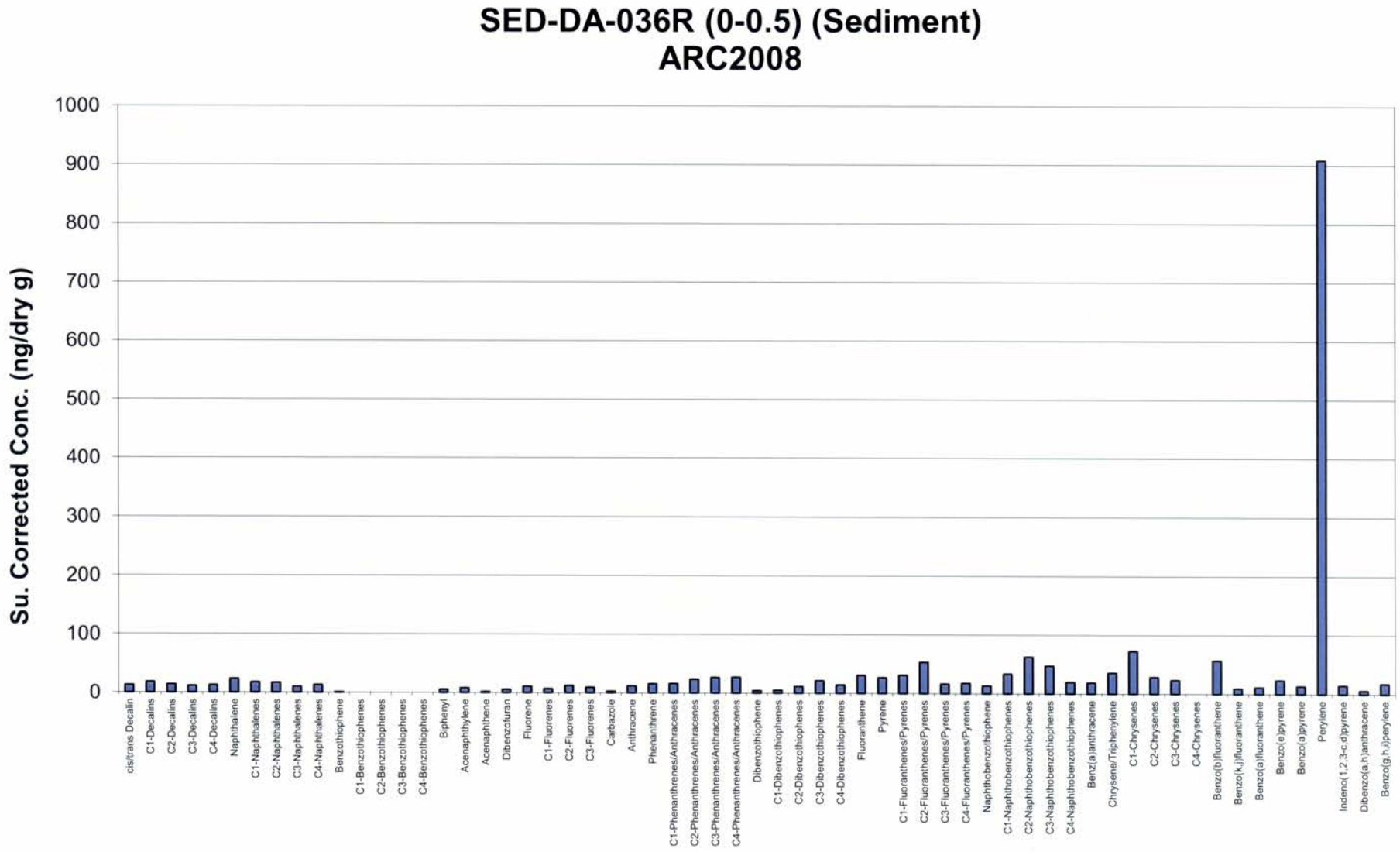
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
cis/trans Decalin	270		7.7	250	200	300
C1-Decalins	NA					
C2-Decalins	NA					
C3-Decalins	NA					
C4-Decalins	NA					
Naphthalene	274		9.2	250	200	300
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	277		10.2	250	200	300
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
C4-Benzothiophenes	NA					
Biphenyl	258		2.9	251	201	301
Acenaphthylene	238					
Acenaphthene	263		5.0	250	200	300
Dibenzofuran	271		7.9	250	200	300
Fluorene	253		1.0	250	200	300
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	222		12.2	250	200	300
Anthracene	250		0.1	250	200	300
Phenanthrene	269		7.1	250	200	300
C1-Phenanthrenes/Anthracenes	NA					
C2-Phenanthrenes/Anthracenes	NA					
C3-Phenanthrenes/Anthracenes	NA					
C4-Phenanthrenes/Anthracenes	NA					
Dibenzothiophene	272		8.2	250	200	300
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
C4-Dibenzothiophenes	NA					
Fluoranthene	250		0.0	250	200	300
Pyrene	263		5.1	250	200	300
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
C4-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	NA					
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
C4-Naphthobenzothiophenes	NA					
Benz(a)anthracene	234		6.8	250	200	300
Chrysene/Triphenylene	251		0.3	250	200	300
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	279		10.8	250	200	300
Benzo(k,j)fluoranthene	276		9.8	250	200	300
Benzo(a)fluoranthene	NA					
Benzo(e)pyrene	275		9.4	250	200	300
Benzo(a)pyrene	276		9.7	250	200	300
Perylene	269		7.1	251	200	301
Indeno(1,2,3-c,d)pyrene	264		5.5	250	200	300
Dibenzo(a,h)anthracene	278		10.5	250	200	300
Benzo(g,h,i)perylene	274		9.1	250	200	300

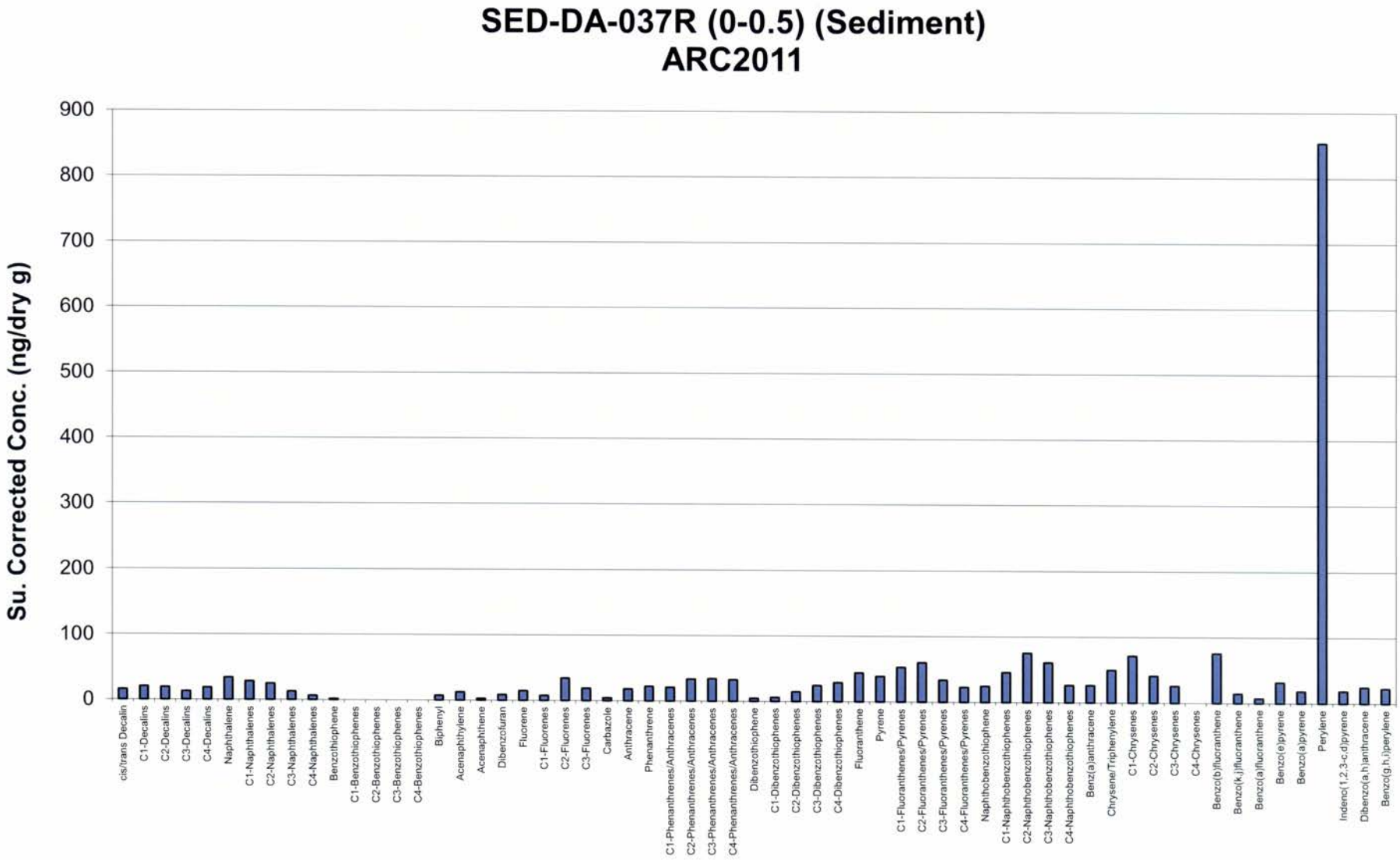
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Material Report

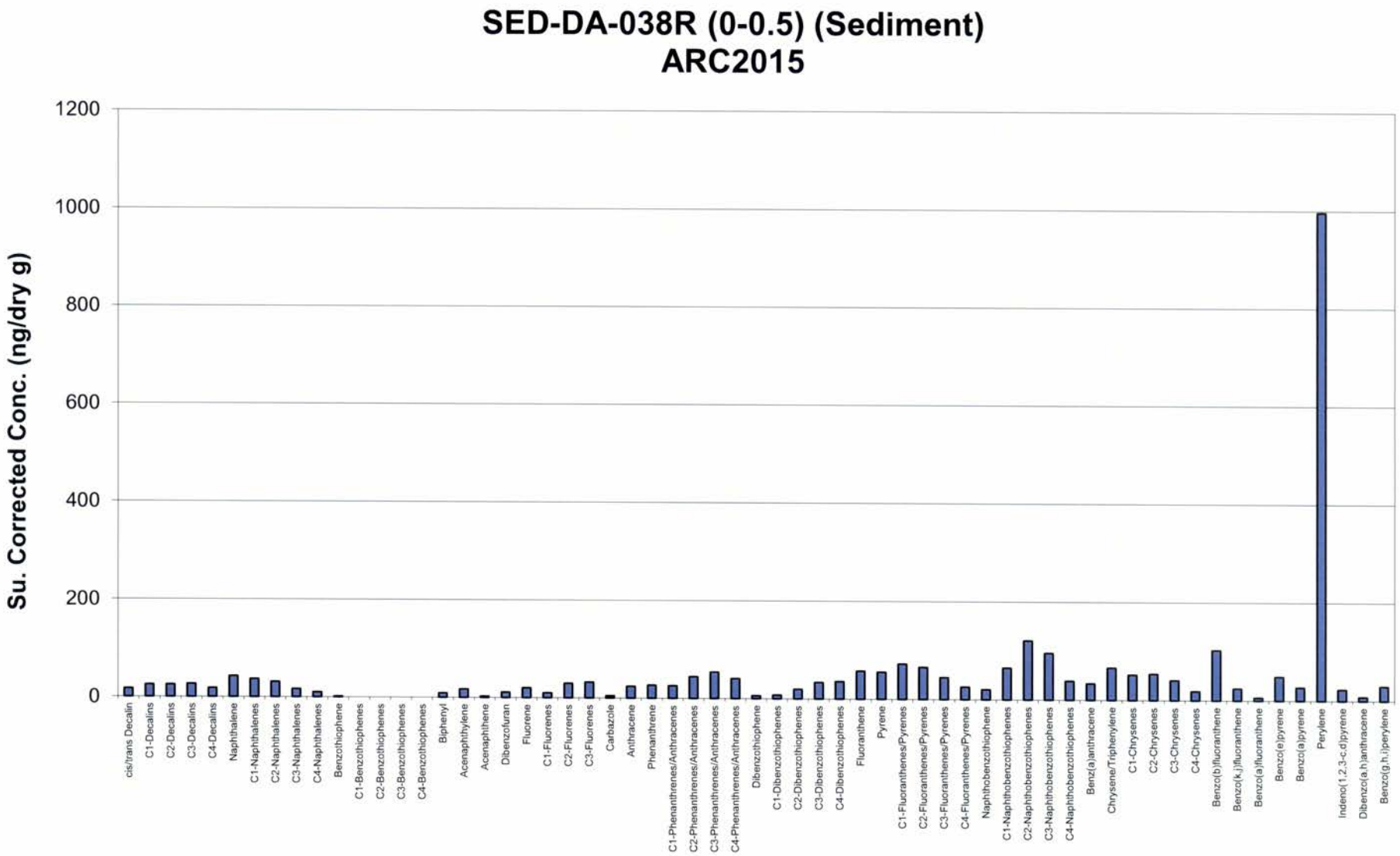
Sample Name	MS50182I.D
Client Name	AR-WKICV-250-005
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	ENV3165/ENV3166
Date Acquired	11/29/13 20:37
Method	PAH-2012.M
Sample Volume (mL)	1.0

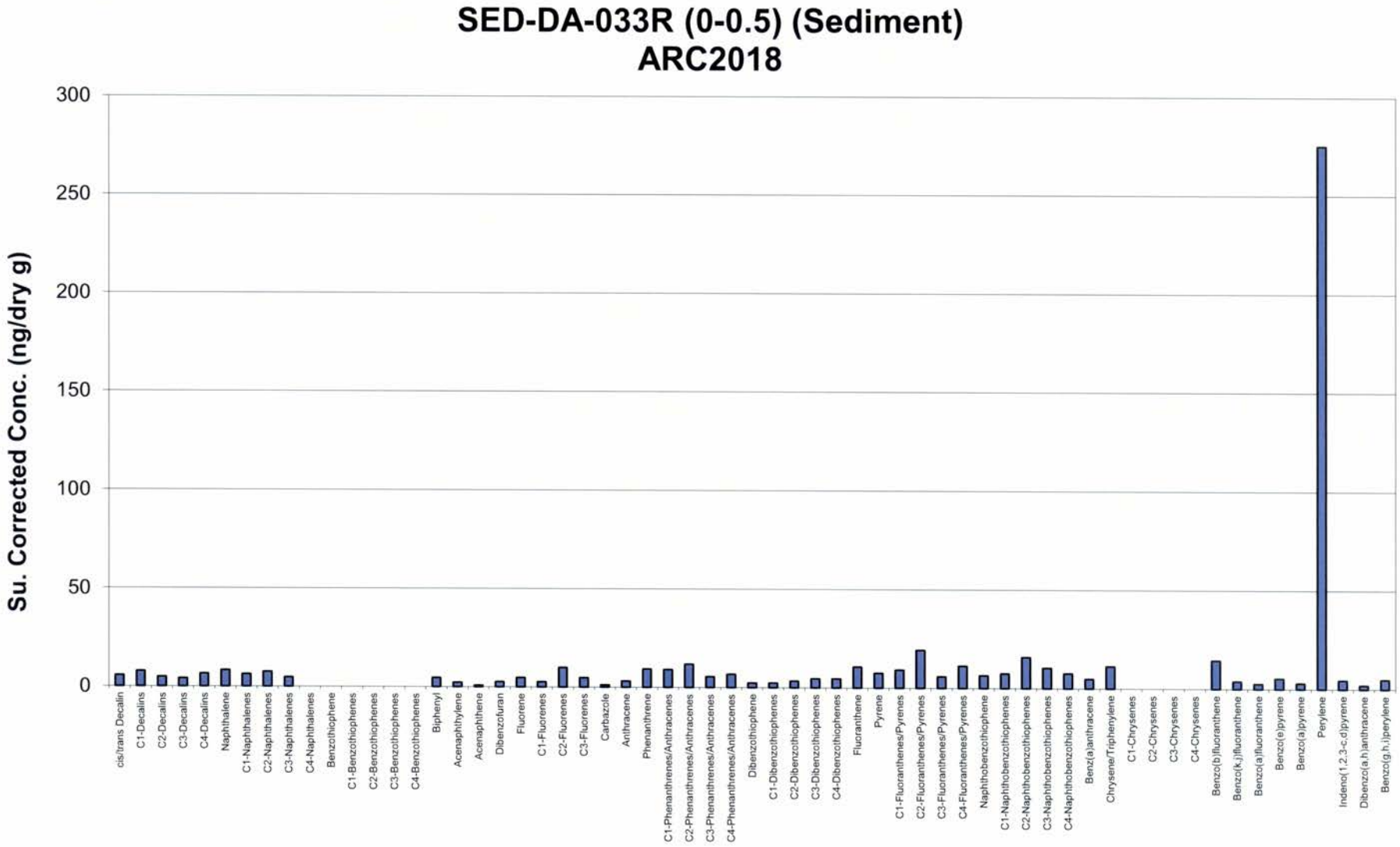
Target Compounds	Concentration (ng/mL)	Q	RPD (%)	ICV Certified Conc. (ng/mL)	-20% Certified Conc. (ng/mL)	+20% Certified Conc. (ng/mL)
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	275		9.5	250	200	301
1-Methylnaphthalene	283		12.0	251	200	301
2,6-Dimethylnaphthalene	261		4.2	250	200	300
1,6,7-Trimethylnaphthalene	262		4.3	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	250		0.2	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	272		8.4	250	200	300
Acenaphthene-d10	259		3.4	250	200	300
Phenanthrene-d10	261		4.3	250	200	300
Chrysene-d12	253		1.1	250	200	300
Perylene-d12	259		3.4	250	200	300

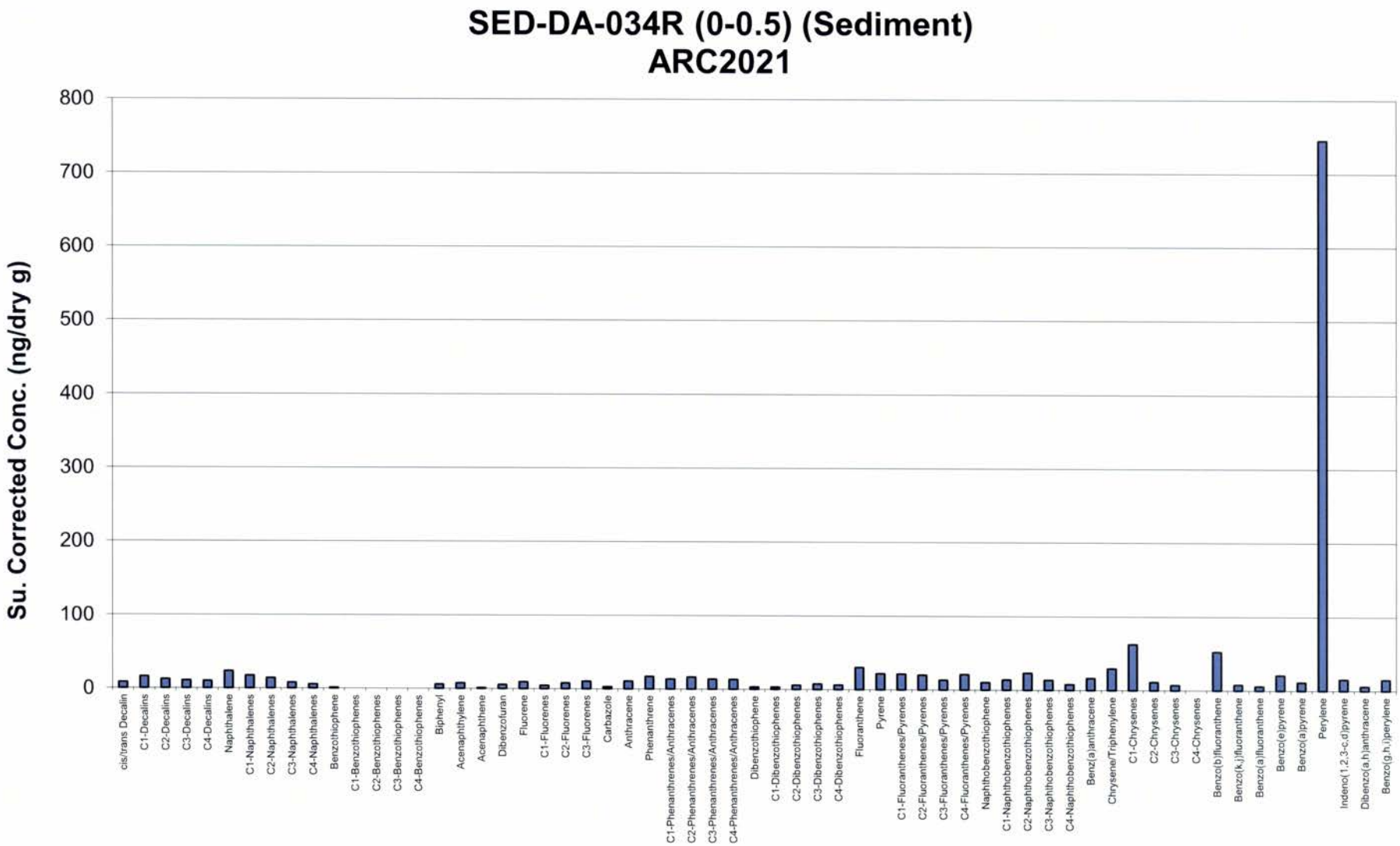
Polycyclic Aromatic Hydrocarbon Histograms

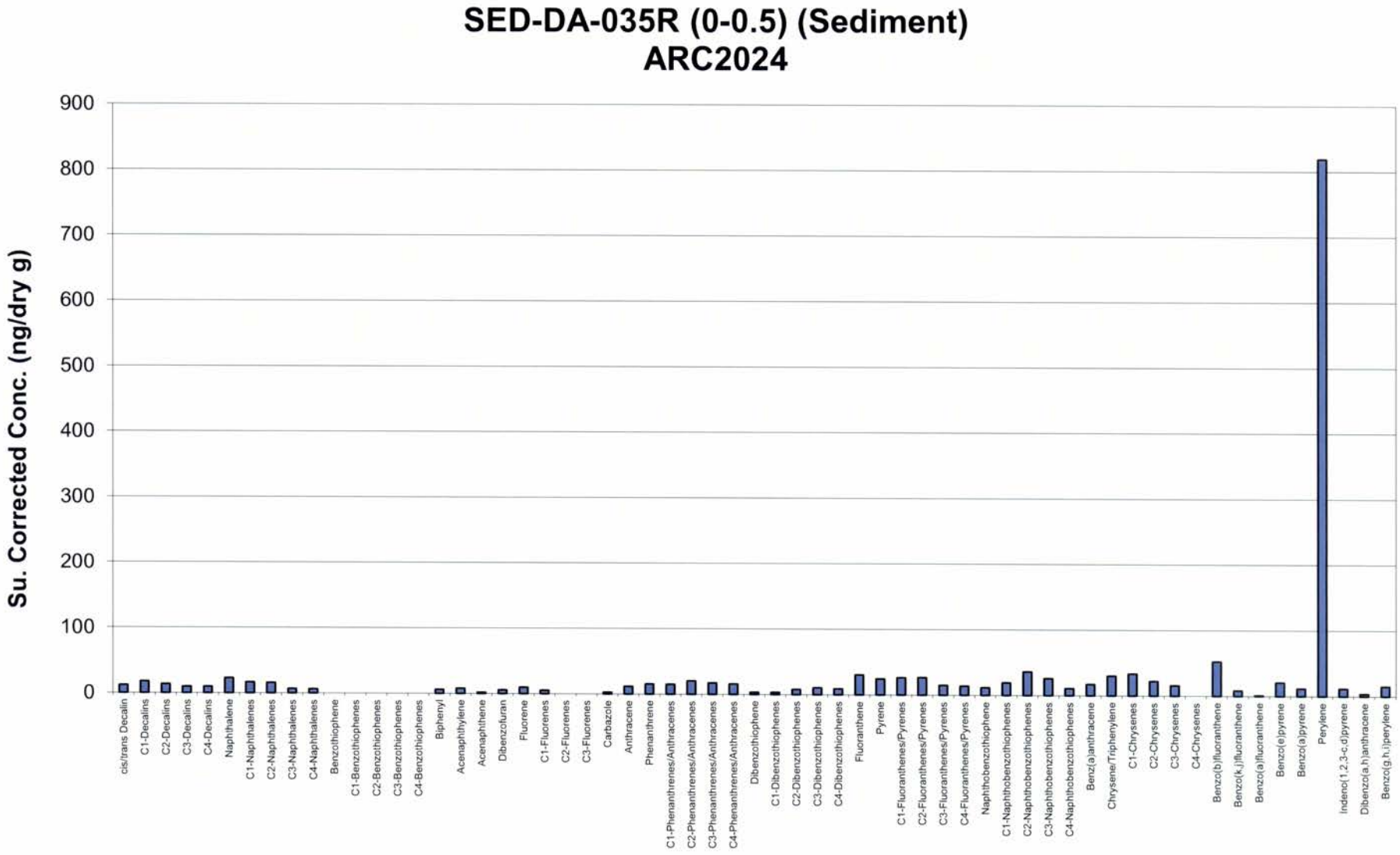

SED-DA-036R (0-0.5) (Sediment)
ARC2008
Su. Corrected Conc. (ng/dry g)
1000
900
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

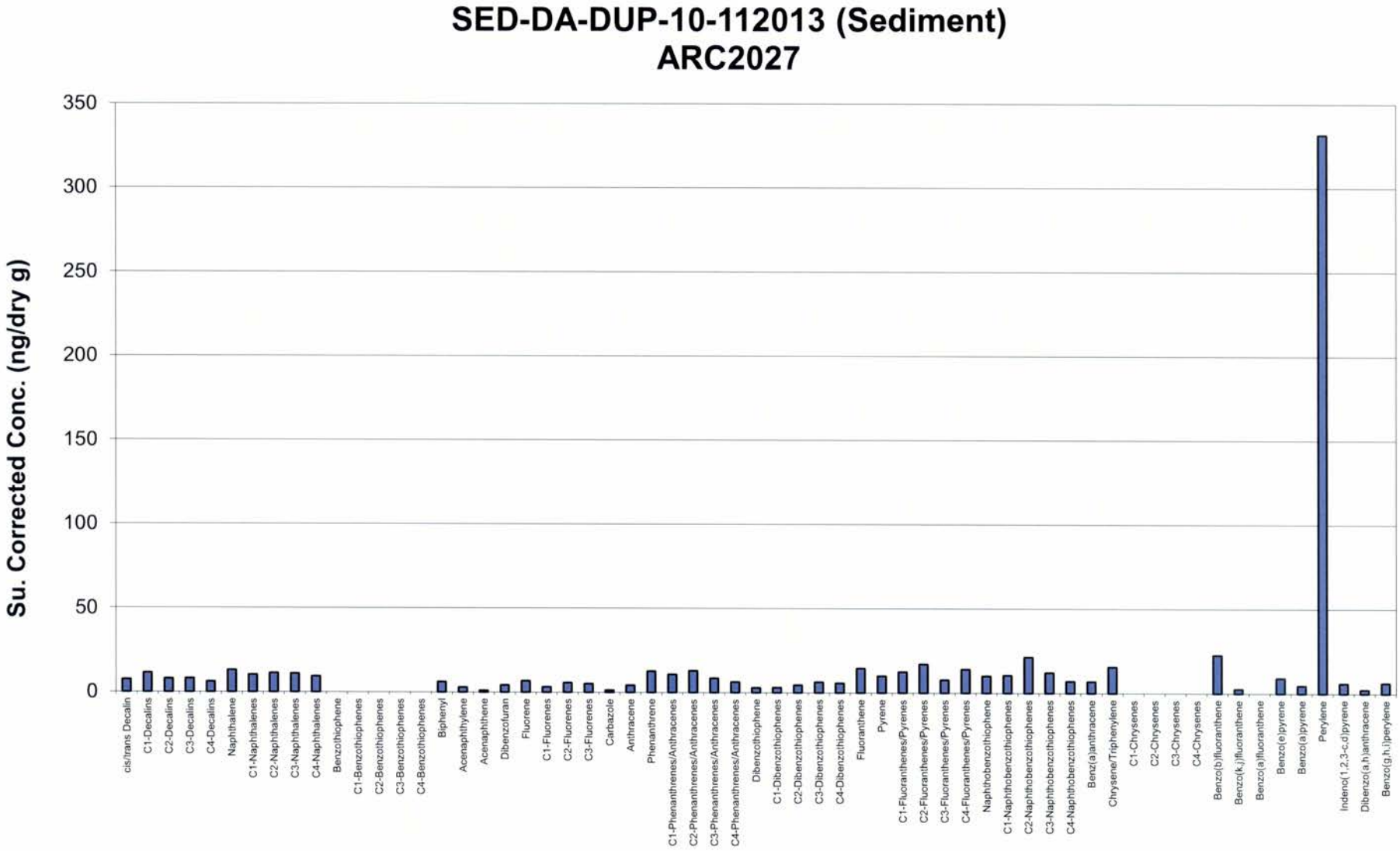

SED-DA-037R (0-0.5) (Sediment)
ARC2011
Su. Corrected Conc. (ng/dry g)
900
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-038R (0-0.5) (Sediment)
ARC2015
Su. Corrected Conc. (ng/dry g)
1200
1000
800
600
400
200
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-033R (0-0.5) (Sediment)
ARC2018
Su. Corrected Conc. (ng/dry g)
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-034R (0-0.5) (Sediment)
ARC2021
Su. Corrected Conc. (ng/dry g)
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-035R (0-0.5) (Sediment)
ARC2024
Su. Corrected Conc. (ng/dry g)
900
800
700
600
500
400
300
200
100
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene


SED-DA-DUP-10-112013 (Sediment)
ARC2027
Su. Corrected Conc. (ng/dry g)
350
300
250
200
150
100
50
0
cis/trans Decalin
C1-Decalins
C2-Decalins
C3-Decalins
C4-Decalins
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
C4-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrenes/Anthracenes
C2-Phenanthrenes/Anthracenes
C3-Phenanthrenes/Anthracenes
C4-Phenanthrenes/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
C4-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
C4-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
C4-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene/Triphenylene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k,j)fluoranthene
Benzo(a)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

```
File        :C:\GCMS5\MS50182\ARC2008.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  10:58     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-036R (0-0.5)
Misc Info  :
Vial Number: 22
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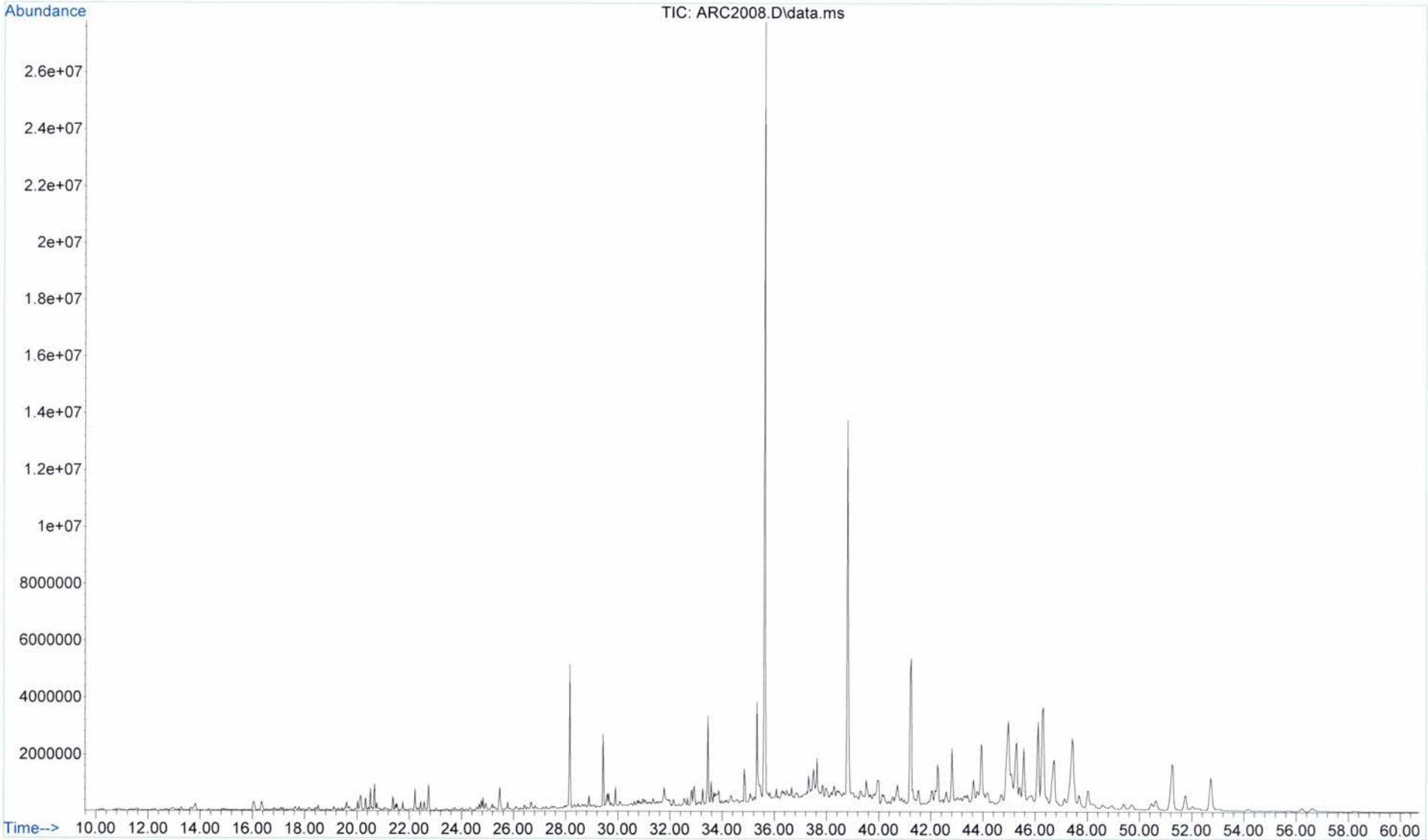
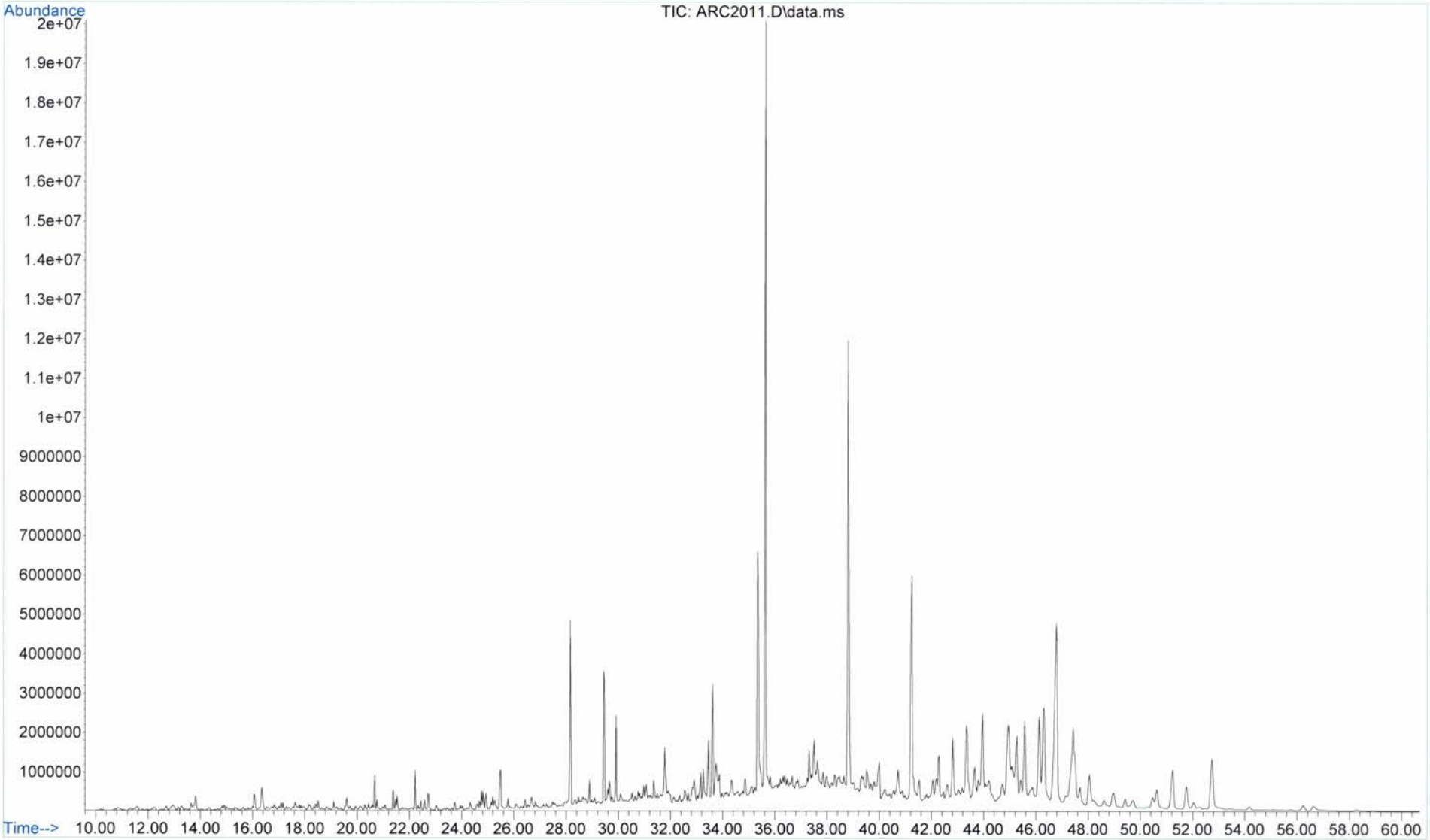


```
File        :C:\GCMS5\MS50182\ARC2011.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  12:04     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-037R (0-0.5)
Misc Info  :
Vial Number: 23
```



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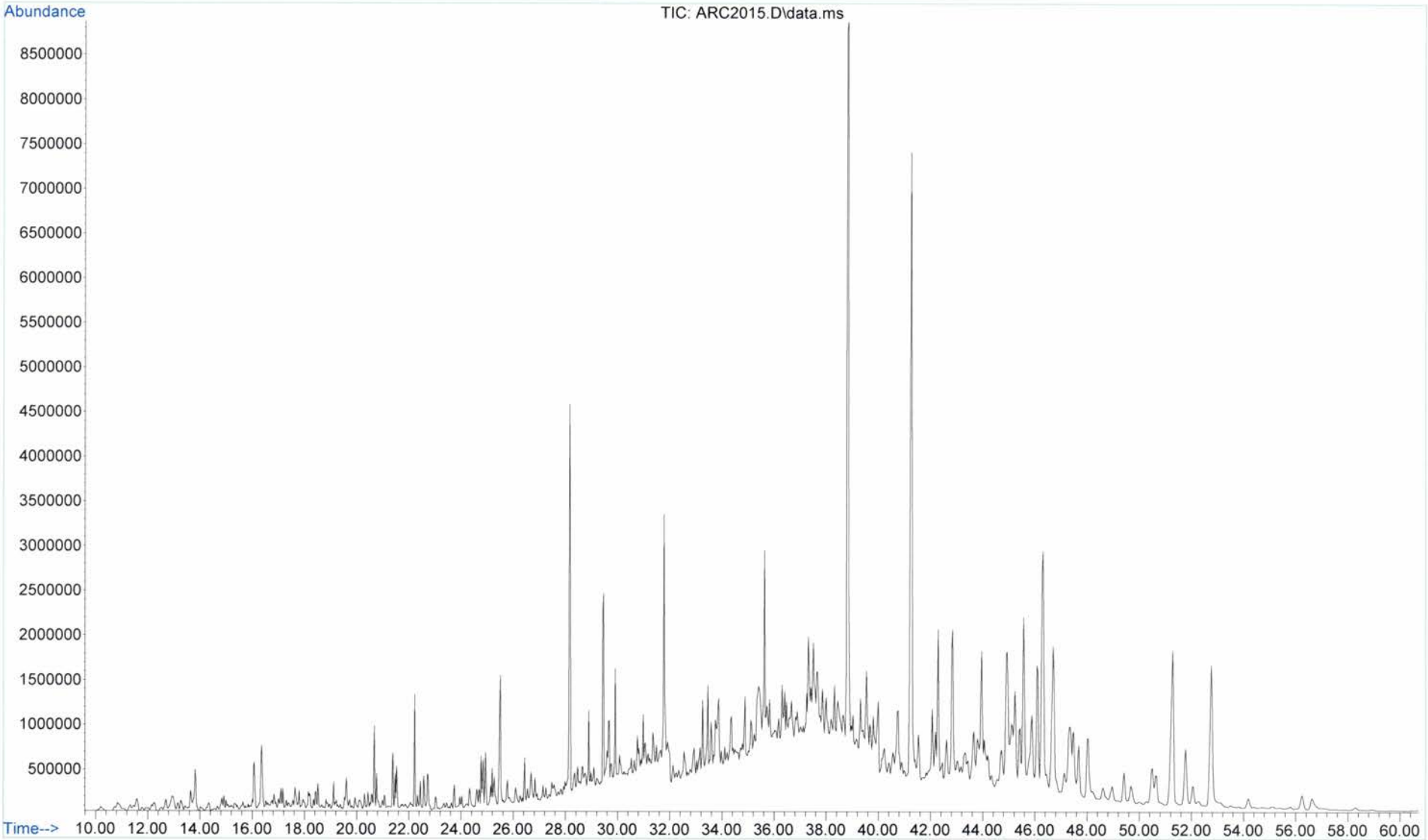
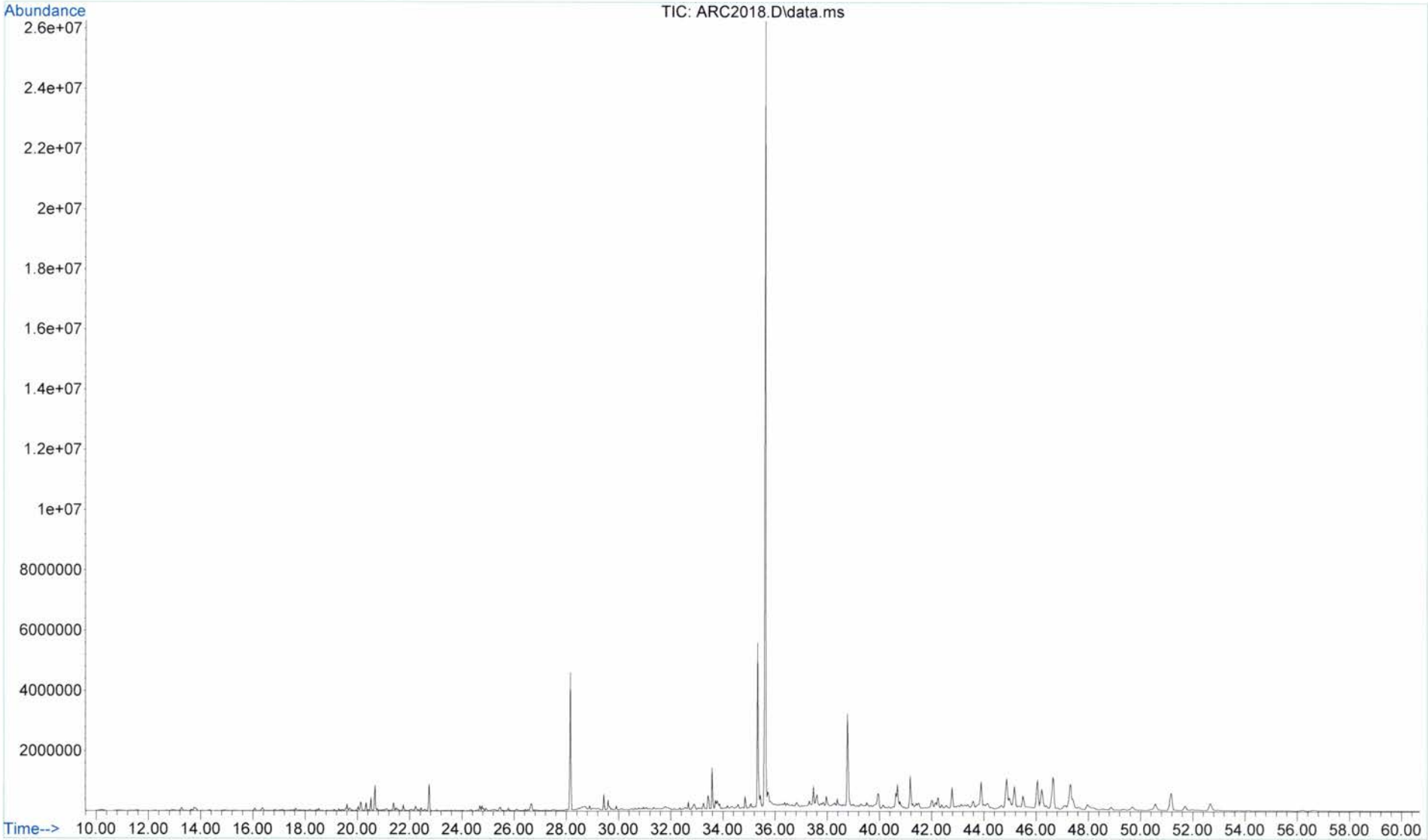
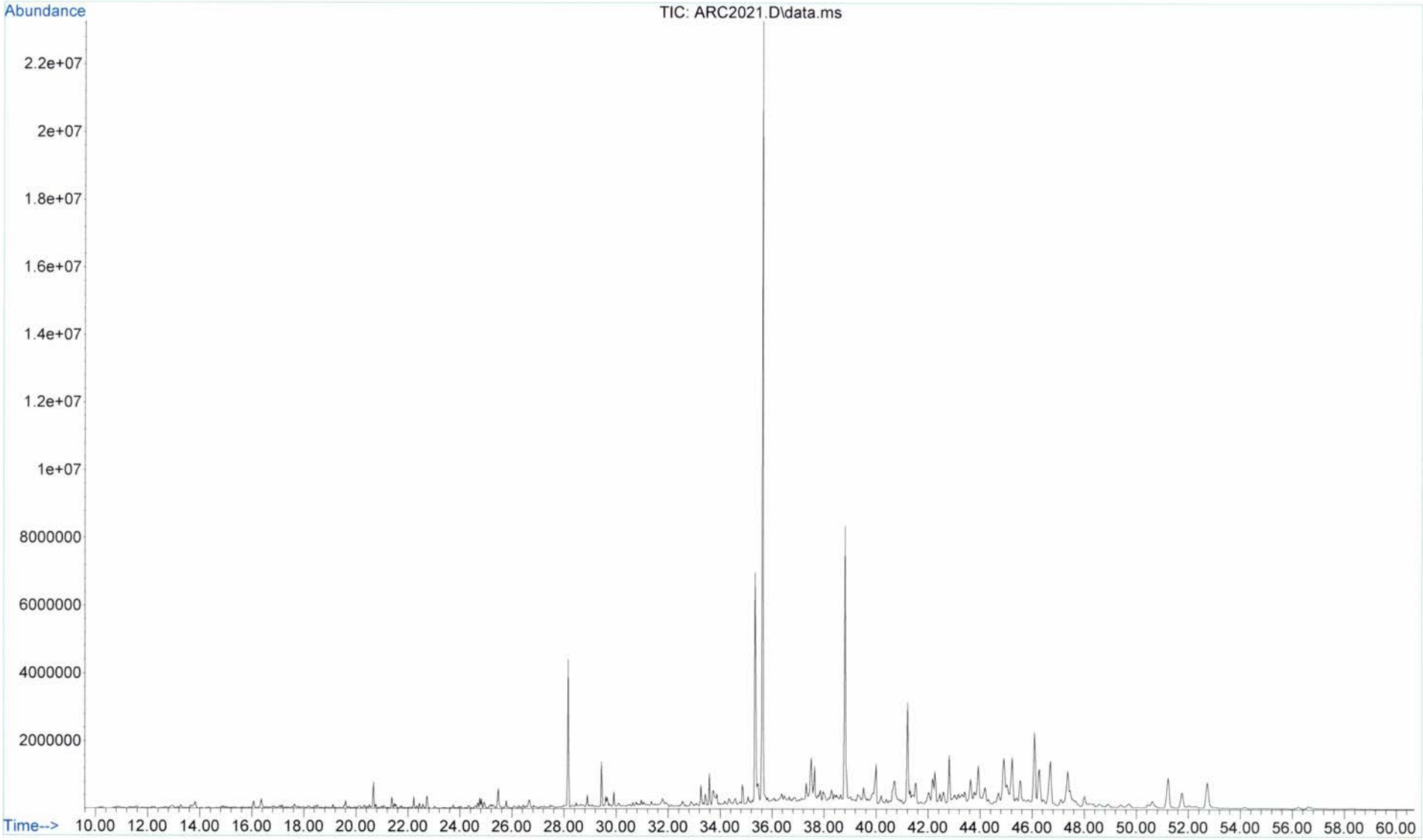
File        :C:\GCMS5\MS50182\ARC2015.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  13:10     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-038R (0-0.5)
Misc Info  :
Vial Number: 24
```



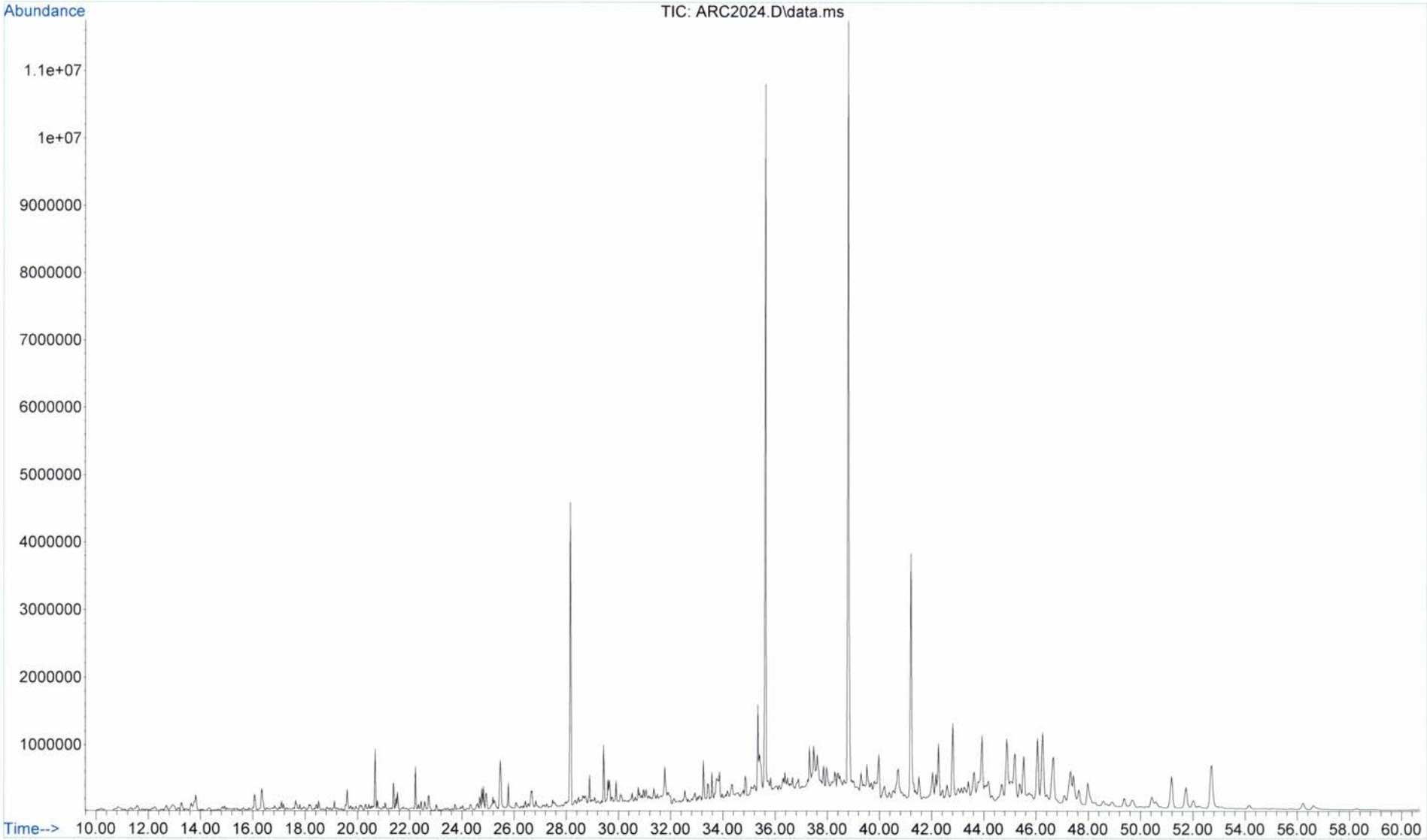
```
File        :C:\GCMS5\MS50182\ARC2018.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  14:16     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-033R (0-0.5)
Misc Info  :
Vial Number: 25
```



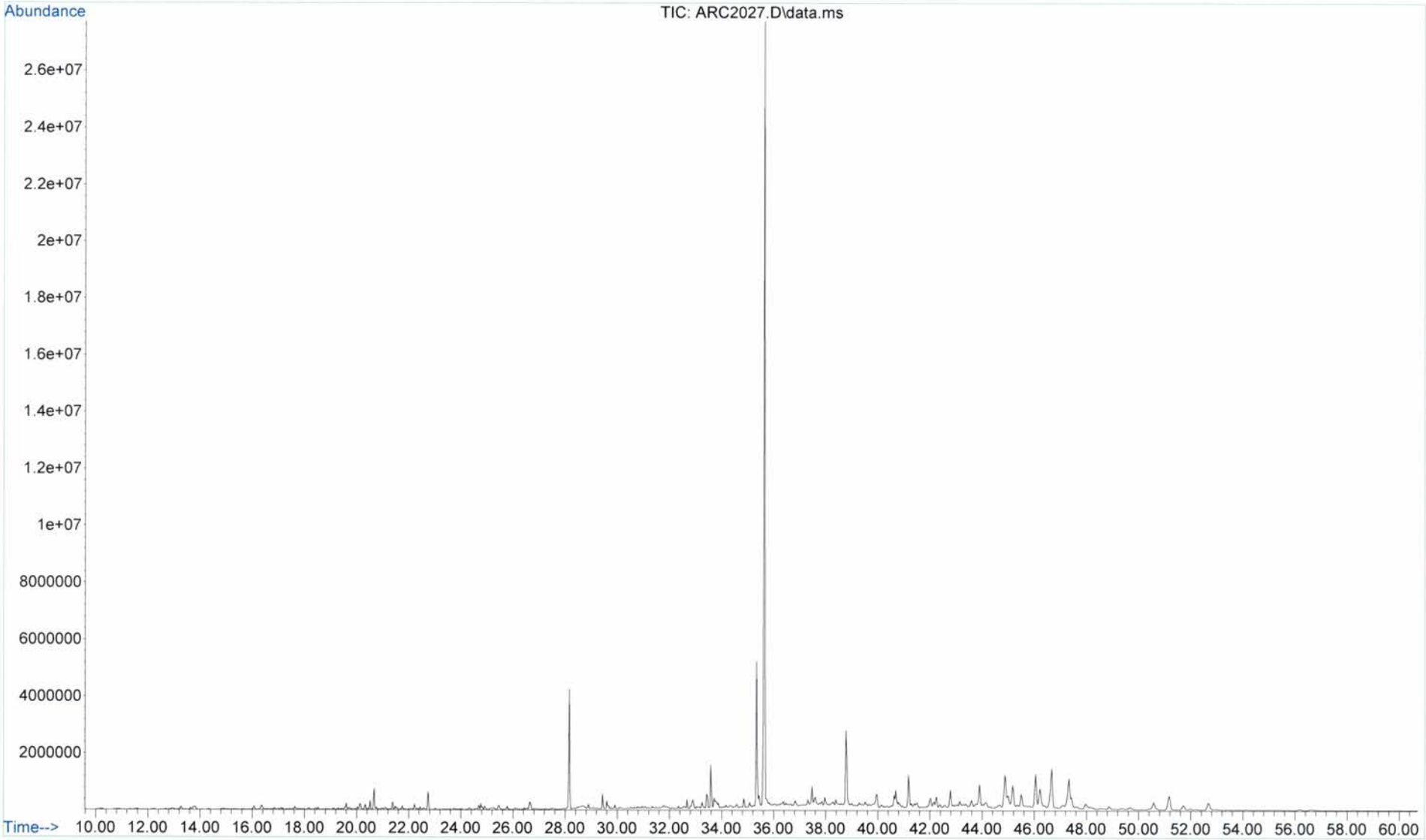
```
File        :C:\GCMS5\MS50182\ARC2021.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  15:23     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-034R (0-0.5)
Misc Info  :
Vial Number: 26
```



```
File        :C:\GCMS5\MS50182\ARC2024.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  16:29     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-035R (0-0.5)
Misc Info  :
Vial Number: 27
```



```
File        :C:\GCMS5\MS50182\ARC2027.D
Operator    : ECM(YMIAO)
Acquired    : 30 Nov 2013  17:35     using AcqMethod PAH-2012.M
Instrument :   GCMS5
Sample Name: SED-DA-DUP-10-112013
Misc Info  :
Vial Number: 28
```



Total Petroleum Hydrocarbons/ Aliphatic Hydrocarbons Raw Data

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page:___ENV 3165 (Waters)_____	Analyst:_____M. Dailey_____
Client:____Arcadis Mayflower _____	Date:___December 8, 2013_____
Job: #:_____J13034_____	Project Quality Manager:_____
SDG #:____13112101_____	Date:_____

Initial Calibration: No Failures	ICV No Failures
Surrogate Recoveries: No Failures	
Method Blank: No Failures	
Blank Spike: No Failures	
Blank Spike Duplicate: No Failures	
Laboratory Duplicate: NA	
Matrix Spike: NA	
Matrix Spike Duplicate: NA	
SRM 2779 Reference Oil No Failures	
Mass Discrimination Check (n-C36/n-C20 >0.7) No Failures	

B&B LABORATORIES ALIPHATICS/TEH QA FORM

Extraction Page: ENV 3166 (Sediments)	Analyst: M. Dailey
Client: Arcadis Mayflower	Date: December 8, 2013
Job: #: J13034	Project Quality Manager: J Juan
SDG #: 13112101	Date: 12/12/13

Initial Calibration: No Failures	ICV No Failures
Surrogate Recoveries: No Failures	
Method Blank: No Failures	
Blank Spike: NA	
Blank Spike Duplicate: NA	
Laboratory Duplicate: No Failures	
Matrix Spike:	Eight (8) analytes are qualified with the "Y" qualifier even though the recoveries of these analytes are within the QC% recovery limits of 40% to 120% recovery
Matrix Spike Duplicate:	Eight (8) analytes are qualified with the "Y" qualifier even though the recoveries of these analytes are within the QC% recovery limits of 40% to 120% recovery
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: FID10126 2013-12-05 08-50-19

Acquisition date: 12/5/2013 8:50:21 AM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\3\DATA\FID10126 2013-12-05 08-50-19

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 51	Solvent Blank	FID10127A.D	ALI2012.M	12/05/2013 12:24:35
5	Vial 52	AL-WKCC-25-026	FID10127B.D	ALI2012.M	12/05/2013 13:35:04
6	Vial 53	AL-SRM2779-20-02	FID10127C.D	ALI2012.M	12/05/2013 14:45:31
7	Vial 51	Solvent Blank	FID10127D.D	ALI2012.M	12/05/2013 15:56:06
8	Vial 54	AL-RetWin-002	FID10127E.D	ALI2012.M	12/05/2013 17:06:40
9	Vial 55	Al-WKPem-002	FID10127F.D	ALI2012.M	12/05/2013 18:17:30
10	Vial 56		ENV3165A.D	ALI2012.M	12/05/2013 19:27:50
11	Vial 57		ENV3165B.D	ALI2012.M	12/05/2013 20:38:04
12	Vial 58		ENV3165C.D	ALI2012.M	12/05/2013 21:48:21
13	Vial 59		ARC2006.D	ALI2012.M	12/05/2013 22:58:42
14	Vial 60	AL-WKCC-25-026	FID10127G.D	ALI2012.M	12/06/2013 00:09:31

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 13:35:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:06:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	100	0.00
2		n-C8	0.959	0.976	-1.8	103	0.00
3		n-C9	1.023	1.031	-0.8	102	0.00
4		n-C10	1.085	1.086	-0.1	100	0.00
5		n-C11	1.114	1.113	0.1	101	0.00
6	S	n-dodecane-d26	1.032	1.037	-0.5	100	0.00
7		n-C12	1.175	1.170	0.4	101	0.00
10		n-C13	1.171	1.163	0.7	100	0.00
12		n-C14	1.194	1.192	0.2	100	0.00
14		n-C15	1.224	1.203	1.7	100	0.00
15		n-C16	1.228	1.219	0.7	101	0.00
16	I	5a-androstane	1.000	1.000	0.0	100	0.00
18		n-C17	1.011	0.995	1.6	98	0.00
19		Pristane	1.028	1.012	1.6	100	0.00
20		n-C18	1.013	1.005	0.8	100	0.00
21		Phytane	1.020	0.878	13.9	87	0.00
22		n-C19	1.008	1.003	0.5	101	0.00
23	S	n-eicosane-d42	0.813	0.806	0.9	99	0.00
24		n-C20	1.006	0.987	1.9	99	0.00
25		n-C21	1.004	1.004	0.0	101	0.00
26		n-C22	1.015	1.028	-1.3	102	0.00
27		n-C23	0.998	0.984	1.4	100	0.00
28		n-C24	0.999	0.982	1.7	100	0.00
29		n-C25	0.989	0.976	1.3	100	0.00
30		n-C26	0.984	0.970	1.4	100	0.00
31		n-C27	0.961	0.938	2.4	100	0.00
32		n-C28	0.959	0.935	2.5	99	0.00
33		n-C29	0.956	0.939	1.8	100	0.00
34	S	n-triacontane-d62	0.727	0.721	0.8	100	-0.01
35		n-C30	0.946	0.928	1.9	100	0.00
36		n-C31	0.927	0.879	5.2	97	0.00
37		n-C32	0.921	0.901	2.2	99	0.00
38		n-C33	0.871	0.854	2.0	97	0.00
39		n-C34	0.894	0.878	1.8	98	0.00
40		n-C35	0.879	0.874	0.6	100	-0.01
41		n-C36	0.919	0.894	2.7	96	0.00
42		n-C37	0.839	0.855	-1.9	104	0.00
43		n-C38	0.796	0.841	-5.7	105	0.00

44	n-C39	0.770	0.820	-6.5	108	-0.01
45	n-C40	0.727	0.772	-6.2	111	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.48#
9	i-14	0.020	0.000	100.0#	0#	-9.18#
11	i-15	0.020	0.000	100.0#	0#	-10.32#
13	i-16	0.020	0.000	100.0#	0#	-11.22#
17	i-18	0.020	0.000	100.0#	0#	-13.07#
46	TPH	0.019	0.000	100.0#	0#	-27.61#
47	TRH1	0.019	0.000	100.0#	0#	-7.36#
48	TRH2	0.019	0.000	100.0#	0#	-15.13#
49	TRH3	0.019	0.000	100.0#	0#	-22.22#
50	TRH4	0.019	0.000	100.0#	0#	-26.99#
51	TRH5	0.019	0.000	100.0#	0#	-31.72#
52	TRH6	0.019	0.000	100.0#	0#	-42.61#
53	GRO	0.019	0.000	100.0#	0#	-5.01#
54	DRO	0.019	0.000	100.0#	0#	-13.60#
55	RRO	0.019	0.000	100.0#	0#	-31.37#

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

FID1C08BACK120513.M Fri Dec 06 09:07:00 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 13:35:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:06:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.314	210390	50.000	ug/mlm
16) I	5a-androstane	17.239	257938	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.086	109047	25.123	ug/mlm
23) S	n-eicosane-d42	16.719	104294	24.951	ug/mlm
34) S	n-triacontane-d62	28.454	92817	24.837	ug/mlm
Target Compounds					
2)	n-C8	3.028	102716	25.459	ug/mlm
3)	n-C9	4.297	108429	25.201	ug/mlm
4)	n-C10	5.690	114262	25.033	ug/mlm
5)	n-C11	7.035	117193	25.000	ug/mlm
7)	n-C12	8.290	120922	24.453	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.456	122545	24.862	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.545	125607	25.009	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.568	125752	24.417	ug/mlm
15)	n-C16	12.548	127614	24.699	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.580	126650	24.367	ug/mlm
19)	Pristane	13.687	128584	24.318	ug/mlm
20)	n-C18	14.689	128084	24.583	ug/mlm
21)	Phytane	14.839	113047	21.552	ug/mlm
22)	n-C19	15.870	128708	24.833	ug/mlm
24)	n-C20	17.103	126805	24.506	ug/mlm
25)	n-C21	18.366	129344	25.037	ug/mlm
26)	n-C22	19.641	131072	25.104	ug/mlm
27)	n-C23	20.908	126739	24.702	ug/mlm
28)	n-C24	22.154	124959	24.324	ug/mlm
29)	n-C25	23.375	125101	24.596	ug/mlm
30)	n-C26	24.564	124965	24.685	ug/mlm
31)	n-C27	25.719	120703	24.411	ug/mlm
32)	n-C28	26.841	120372	24.412	ug/mlm
33)	n-C29	27.928	120822	24.573	ug/mlm
35)	n-C30	28.985	118895	24.436	ug/mlm
36)	n-C31	30.010	113377	23.786	ug/mlm
37)	n-C32	31.002	114407	24.142	ug/mlm
38)	n-C33	31.967	109760	24.496	ug/mlm
39)	n-C34	32.904	112643	24.489	ug/mlm
40)	n-C35	33.811	112465	24.862	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 13:35:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:06:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.774	112592	23.813	ug/mlm
42)	n-C37	35.877	110009	25.497	ug/mlm
43)	n-C38	37.148	108265	26.431	ug/mlm
44)	n-C39	38.636	105490	26.624	ug/mlm
45)	n-C40	40.385	99054	26.483	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

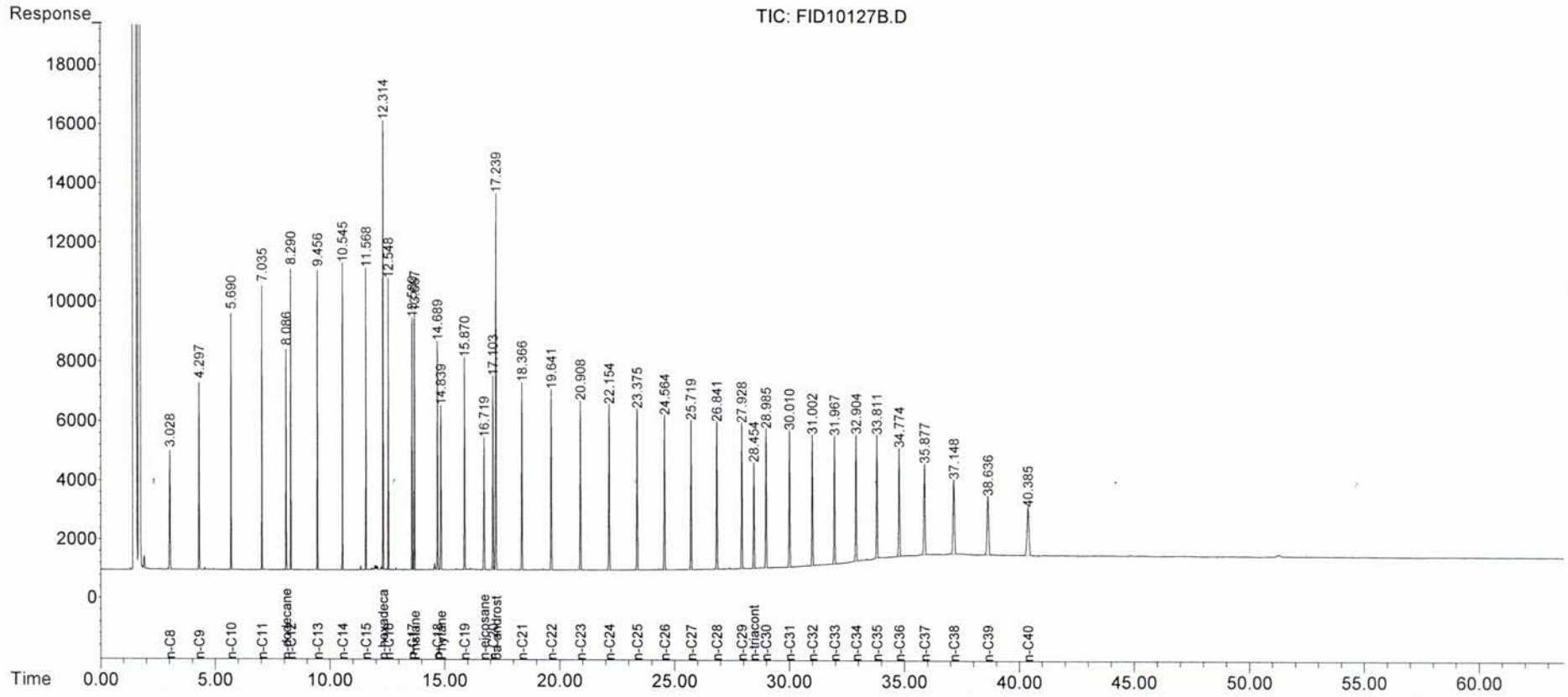
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 13:35:04
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:06:52 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127G.D
Signal(s) : FID2B.CH
Acq On : 06-Dec-2013, 00:09:31
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:14:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	101	0.00
2		n-C8	0.959	0.956	0.3	102	0.00
3		n-C9	1.023	1.018	0.5	102	0.00
4		n-C10	1.085	1.073	1.1	100	0.00
5		n-C11	1.114	1.102	1.1	101	0.00
6	S	n-dodecane-d26	1.032	1.031	0.1	100	0.00
7		n-C12	1.175	1.164	0.9	101	0.00
10		n-C13	1.171	1.159	1.0	101	0.00
12		n-C14	1.194	1.189	0.4	101	0.00
14		n-C15	1.224	1.199	2.0	100	0.00
15		n-C16	1.228	1.215	1.1	101	0.00
16	I	5a-androstane	1.000	1.000	0.0	101	-0.02
18		n-C17	1.011	0.995	1.6	99	0.00
19		Pristane	1.028	1.012	1.6	101	0.00
20		n-C18	1.013	1.006	0.7	101	0.00
21		Phytane	1.020	0.884	13.3	88	0.00
22		n-C19	1.008	1.006	0.2	102	0.00
23	S	n-eicosane-d42	0.813	0.808	0.6	100	0.00
24		n-C20	1.006	0.988	1.8	99	0.00
25		n-C21	1.004	1.004	0.0	102	-0.01
26		n-C22	1.015	1.029	-1.4	103	-0.01
27		n-C23	0.998	0.986	1.2	101	-0.01
28		n-C24	0.999	0.985	1.4	100	-0.01
29		n-C25	0.989	0.978	1.1	100	-0.01
30		n-C26	0.984	0.973	1.1	101	-0.01
31		n-C27	0.961	0.942	2.0	101	-0.01
32		n-C28	0.959	0.941	1.9	100	-0.01
33		n-C29	0.956	0.941	1.6	100	-0.01
34	S	n-triacontane-d62	0.727	0.722	0.7	100	-0.02
35		n-C30	0.946	0.933	1.4	101	-0.01
36		n-C31	0.927	0.881	5.0	97	-0.02
37		n-C32	0.921	0.903	2.0	100	-0.01
38		n-C33	0.871	0.855	1.8	98	-0.01
39		n-C34	0.894	0.877	1.9	99	-0.01
40		n-C35	0.879	0.877	0.2	101	-0.01
41		n-C36	0.919	0.895	2.6	97	-0.02
42		n-C37	0.839	0.859	-2.4	105	-0.02
43		n-C38	0.796	0.842	-5.8	106	-0.02
44		n-C39	0.770	0.821	-6.6	109	-0.04
45		n-C40	0.727	0.766	-5.4	111	-0.04

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127G.D
Signal(s) : FID2B.CH
Acq On : 06-Dec-2013, 00:09:31
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:14:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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)

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.48#
9	i-14	0.020	0.000	100.0#	0#	-9.18#
11	i-15	0.020	0.000	100.0#	0#	-10.32#
13	i-16	0.020	0.000	100.0#	0#	-11.22#
17	i-18	0.020	0.000	100.0#	0#	-13.07#
46	TPH	0.019	0.000	100.0#	0#	-27.61#
47	TRH1	0.019	0.000	100.0#	0#	-7.36#
48	TRH2	0.019	0.000	100.0#	0#	-15.13#
49	TRH3	0.019	0.000	100.0#	0#	-22.22#
50	TRH4	0.019	0.000	100.0#	0#	-26.99#
51	TRH5	0.019	0.000	100.0#	0#	-31.72#
52	TRH6	0.019	0.000	100.0#	0#	-42.61#
53	GRO	0.019	0.000	100.0#	0#	-5.01#
54	DRO	0.019	0.000	100.0#	0#	-13.60#
55	RRO	0.019	0.000	100.0#	0#	-31.37#

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

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127G.D
Signal(s) : FID2B.CH
Acq On : 06-Dec-2013, 00:09:31
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:14:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.310	212234	50.000	ug/mlm
16) I	5a-androstane	17.231	259269	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.083	109407	24.987	ug/mlm
23) S	n-eicosane-d42	16.714	105064	25.007	ug/mlm
34) S	n-triacontane-d62	28.444	93411	24.868	ug/mlm
Target Compounds					
2)	n-C8	3.025	101579	24.959	ug/mlm
3)	n-C9	4.294	108011	24.886	ug/mlm
4)	n-C10	5.688	113876	24.731	ug/mlm
5)	n-C11	7.033	117082	24.759	ug/mlm
7)	n-C12	8.287	121351	24.326	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.453	123136	24.765	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.542	126452	24.959	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.565	126448	24.338	ug/mlm
15)	n-C16	12.544	128280	24.613	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.576	127322	24.371	ug/mlm
19)	Pristane	13.684	129182	24.305	ug/mlm
20)	n-C18	14.686	128856	24.604	ug/mlm
21)	Phytane	14.834	114282	21.676	ug/mlm
22)	n-C19	15.865	129650	24.886	ug/mlm
24)	n-C20	17.097	127562	24.526	ug/mlm
25)	n-C21	18.359	130026	25.039	ug/mlm
26)	n-C22	19.632	131836	25.121	ug/mlm
27)	n-C23	20.900	127578	24.738	ug/mlm
28)	n-C24	22.147	126009	24.402	ug/mlm
29)	n-C25	23.367	125923	24.631	ug/mlm
30)	n-C26	24.555	125989	24.760	ug/mlm
31)	n-C27	25.711	121773	24.501	ug/mlm
32)	n-C28	26.834	121724	24.559	ug/mlm
33)	n-C29	27.921	121732	24.630	ug/mlm
35)	n-C30	28.977	120132	24.564	ug/mlm
36)	n-C31	29.999	114177	23.831	ug/mlm
37)	n-C32	30.993	115159	24.177	ug/mlm
38)	n-C33	31.958	110486	24.532	ug/mlm
39)	n-C34	32.895	113058	24.453	ug/mlm
40)	n-C35	33.807	113446	24.950	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127G.D
Signal(s) : FID2B.CH
Acq On : 06-Dec-2013, 00:09:31
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:14:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.766	113379	23.856	ug/mlm
42)	n-C37	35.861	111068	25.610	ug/mlm
43)	n-C38	37.133	109038	26.483	ug/mlm
44)	n-C39	38.611	106181	26.661	ug/mlm
45)	n-C40	40.366	98841	26.290	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

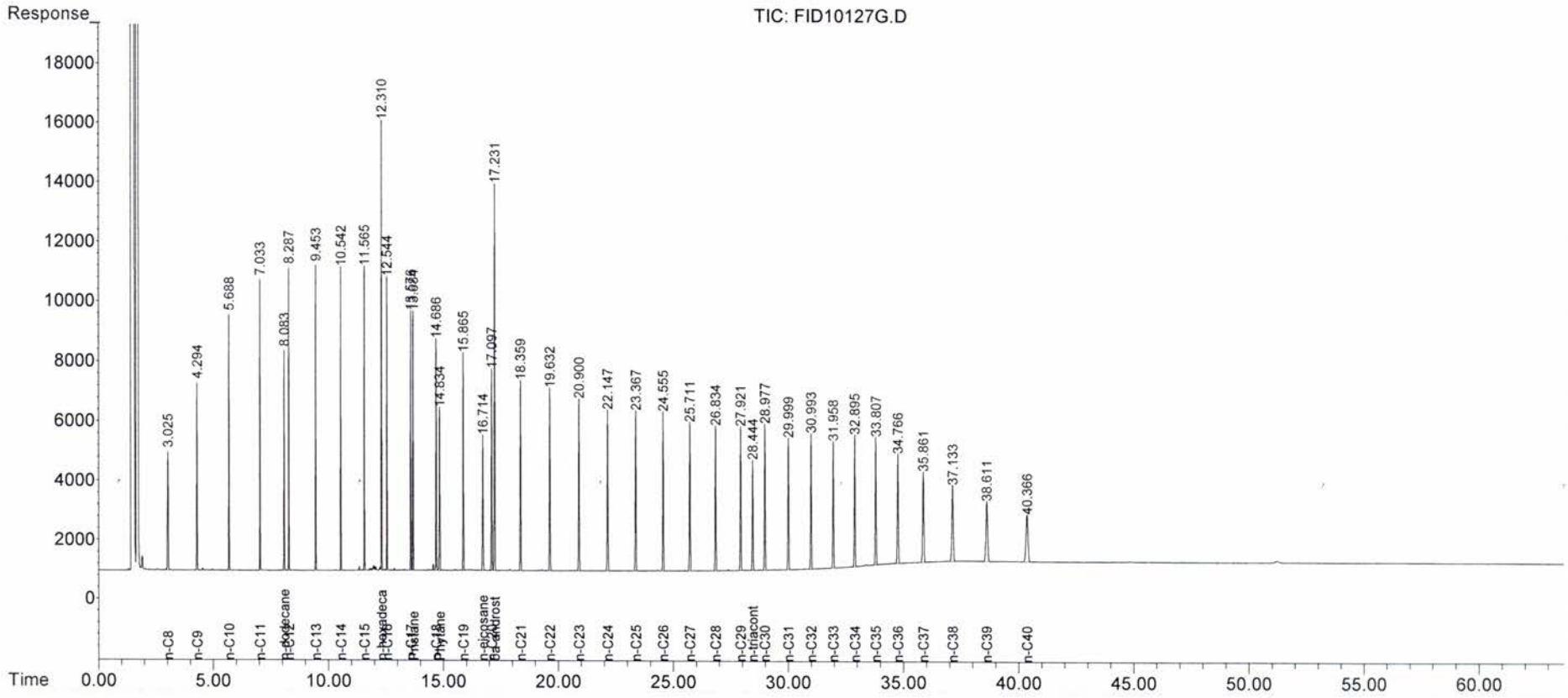
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3165\FID10127\
Data File : FID10127G.D
Signal(s) : FID2B.CH
Acq On : 06-Dec-2013, 00:09:31
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:14:41 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID1C08BACK120513.M Fri Dec 06 09:15:42 2013

			Concentration
Data File Name	**FID10127C.D**		FID10127C.D
Sample Name	**AL-SRM2779-20-02**		AL-SRM2779-20-02
Misc Info	**0**		05-Dec-2013, 14:45:31
Data File Path	**C:\msdchem\2\data\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 14:45:31**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	53
Vial Number	**53**	IS Area 1	182817
Sample Multiplier	**0.05**	IS Area 2	278142

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.03	1147260	16.36	16.362
3)	n-C9	4.30	1000150	13.38	13.376
4)	n-C10	5.70	913969	11.52	11.522
5)	n-C11	7.04	839811	10.31	10.309
7)	n-C12	8.30	765571	8.91	8.908
8)	i-13	8.48	181490	2.12	2.119
9)	i-14	9.18	134355	1.54	1.539
10)	n-C13	9.47	700690	8.18	8.180
11)	i-15	10.32	159001	1.78	1.776
12)	n-C14	10.55	586332	6.72	6.718
13)	i-16	11.22	248504	2.77	2.768
14)	n-C15	11.58	604704	6.76	6.756
15)	n-C16	12.56	525768	5.86	5.855
17)	i-18	13.08	180094	1.60	1.603
18)	n-C17	13.59	470504	4.20	4.197
19)	Pristane	13.69	247907	2.17	2.174
20)	n-C18	14.70	405822	3.61	3.611
21)	Phytane	14.84	160245	1.42	1.417
22)	n-C19	15.88	366978	3.28	3.283
24)	n-C20	17.11	298553	2.68	2.675
25)	n-C21	18.38	251485	2.26	2.257
26)	n-C22	19.65	221301	1.97	1.965
27)	n-C23	20.91	195744	1.77	1.769
28)	n-C24	22.16	171371	1.55	1.547
29)	n-C25	23.38	144365	1.32	1.316
30)	n-C26	24.57	119515	1.09	1.095
31)	n-C27	25.73	88268.9	0.83	0.828
32)	n-C28	26.85	77440.8	0.73	0.728
33)	n-C29	27.93	76337.2	0.72	0.720
35)	n-C30	28.99	65981.9	0.63	0.629
36)	n-C31	30.01	55628.1	0.54	0.541
37)	n-C32	31.00	43928.8	0.43	0.430
38)	n-C33	31.97	43956.4	0.45	0.455
39)	n-C34	32.91	40891	0.41	0.412
40)	n-C35	33.82	30861.3	0.32	0.316
41)	n-C36	34.78	21133.6	0.21	0.207
42)	n-C37	35.87	18331	0.20	0.197
43)	n-C38	37.14	13932.1	0.16	0.158
44)	n-C39	38.63	14340.5	0.17	0.168
45)	n-C40	40.40	14496.5	0.18	0.180
46)	TPH	7.04	66907700	645.96	645.955
47)	TRH1	7.04	9481110	91.54	91.535
48)	TRH2	11.58	7187410	69.39	69.391
49)	TRH3	20.91	1266610	12.23	12.228
50)	TRH4	25.73	756320	7.30	7.302
51)	TRH5	31.00	450396	4.35	4.348
52)	TRH6	34.78	133213	1.29	1.286
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	8.08	69856.5	0.93	92.6
23)	n-eicosane-d42	16.72	84684.3	0.94	94.1
34)	n-triacontane-d62	28.46	79572.5	0.99	98.8
1)	n-hexadecane-d34	12.32	182817	2.50	182817.000
16)	5a-androstane	17.25	278142	50.15	278142.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 14:45:31
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 06 09:42:04 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.317	182817	50.000 ug/mlm
16) I	5a-androstane	17.245	278142	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.085	69856	0.926 ug/mlm
23) S	n-eicosane-d42	16.723	84684	0.939 ug/mlm
34) S	n-triacontane-d62	28.459	79573	0.987 ug/mlm
Target Compounds				
2)	n-C8	3.026	1147259	16.362 ug/mlm
3)	n-C9	4.300	1000146	13.376 ug/mlm
4)	n-C10	5.697	913969	11.522 ug/mlm
5)	n-C11	7.044	839811	10.309 ug/mlm
7)	n-C12	8.298	765571	8.908 ug/mlm
8)	i-13	8.478	181490	2.119 ug/mlm
9)	i-14	9.176	134355	1.539 ug/mlm
10)	n-C13	9.465	700690	8.180 ug/mlm
11)	i-15	10.325	159001	1.776 ug/mlm
12)	n-C14	10.554	586332	6.718 ug/mlm
13)	i-16	11.216	248504	2.768 ug/mlm
14)	n-C15	11.578	604704	6.756 ug/mlm
15)	n-C16	12.557	525768	5.855 ug/mlm
17)	i-18	13.077	180094	1.603 ug/mlm
18)	n-C17	13.589	470504	4.197 ug/mlm
19)	Pristane	13.688	247907	2.174 ug/mlm
20)	n-C18	14.698	405822	3.611 ug/mlm
21)	Phytane	14.844	160245	1.417 ug/mlm
22)	n-C19	15.879	366978	3.283 ug/mlm
24)	n-C20	17.112	298553	2.675 ug/mlm
25)	n-C21	18.375	251485	2.257 ug/mlm
26)	n-C22	19.648	221301	1.965 ug/mlm
27)	n-C23	20.914	195744	1.769 ug/mlm
28)	n-C24	22.162	171371	1.547 ug/mlm
29)	n-C25	23.380	144365	1.316 ug/mlm
30)	n-C26	24.569	119515	1.095 ug/mlm
31)	n-C27	25.726	88269	0.828 ug/mlm
32)	n-C28	26.845	77441	0.728 ug/mlm
33)	n-C29	27.934	76337	0.720 ug/mlm
35)	n-C30	28.989	65982	0.629 ug/mlm
36)	n-C31	30.012	55628	0.541 ug/mlm
37)	n-C32	31.005	43929	0.430 ug/mlm
38)	n-C33	31.968	43956	0.455 ug/mlm
39)	n-C34	32.908	40891	0.412 ug/mlm
40)	n-C35	33.818	30861	0.316 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 14:45:31
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 06 09:42:04 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.778	21134	0.207	ug/mlm
42)	n-C37	35.873	18331	0.197	ug/mlm
43)	n-C38	37.144	13932	0.158	ug/mlm
44)	n-C39	38.633	14340	0.168	ug/mlm
45)	n-C40	40.396	14496	0.180	ug/mlm
46)	TPH	7.044f	66907688	645.957	ug/mlm
47)	TRH1	7.044	9481112	91.535	ug/mlm
48)	TRH2	11.578f	7187414	69.390	ug/mlm
49)	TRH3	20.914f	1266611	12.228	ug/mlm
50)	TRH4	25.726f	756320	7.302	ug/mlm
51)	TRH5	31.005	450396	4.348	ug/mlm
52)	TRH6	34.778f	133213	1.286	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

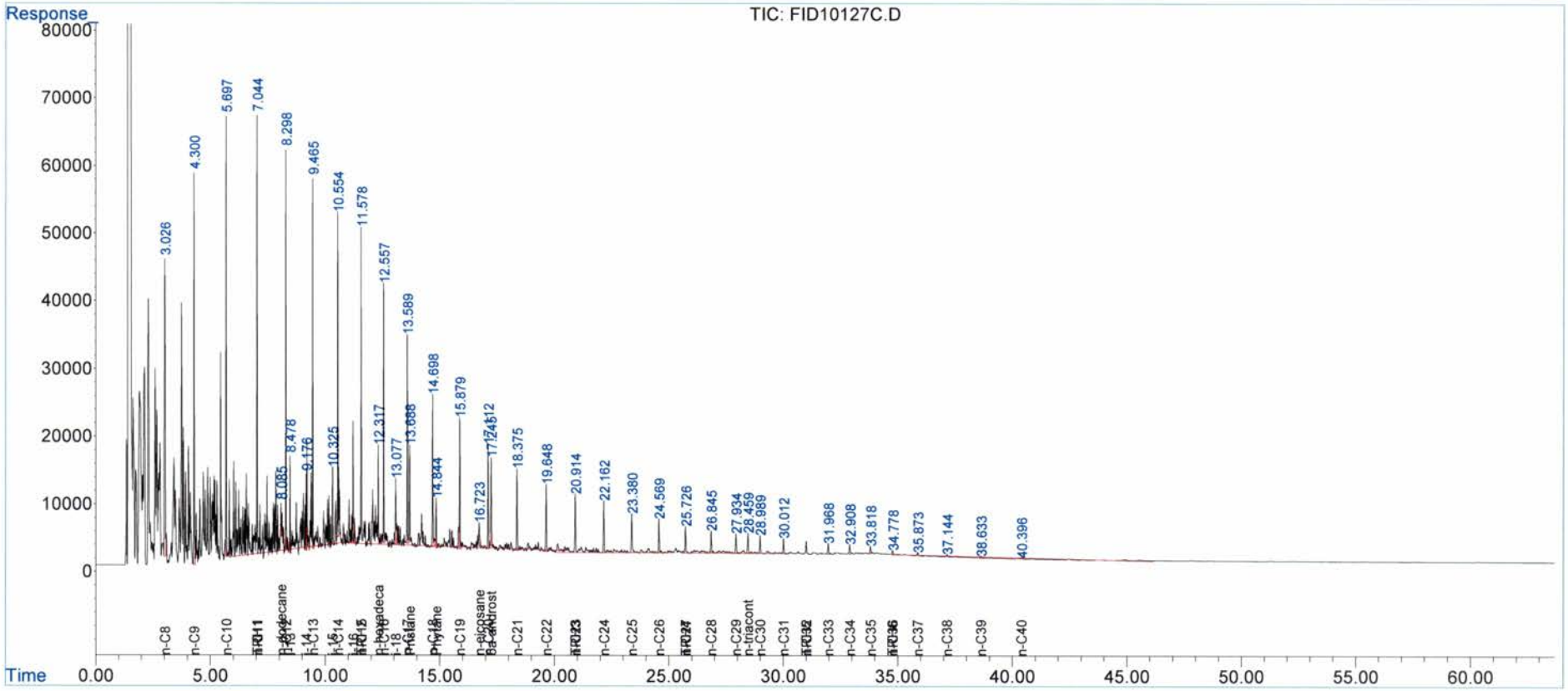
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 14:45:31
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 06 09:42:04 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID10127F.D**		FID10127F.D
Sample Name	**AI-WKPem-002**		AI-WKPem-002
Misc Info	**0**		05-Dec-2013, 18:17:30
Data File Path	**C:\msdchem\2\data\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 18:17:30**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	55
Vial Number	**55**	IS Area 1	222002
Sample Multiplier	**1**	IS Area 2	286139

#	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	12.31	7911340	1484.90	1484.900
47)	TRH1	12.31	340397	63.89	63.890
48)	TRH2	17.24	412525	77.43	77.428
49)	TRH3	28.45	111899	21.00	21.003
50)	TRH4	35.04	37410.2	7.02	7.022
51)	TRH5	37.15	17120	3.21	3.213
52)	TRH6	47.55	12920.5	2.43	2.425
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	8.08	86189.1	18.82	94.1
23)	n-eicosane-d42	16.72	90396.9	19.50	97.7
34)	n-triacontane-d62	28.45	82584.6	19.92	99.7
1)	n-hexadecane-d34	12.31	222002	50.00	222002.000
16)	5a-androstane	17.24	286139	50.15	286139.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127F.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 18:17:30
Operator : Meghan Dailey
Sample : Al-WKPem-002
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:24:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.312	222002	50.000	ug/mlm
16) I	5a-androstane	17.235	286139	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.084	86189	18.818	ug/mlm
23) S	n-eicosane-d42	16.716	90397	19.495	ug/mlm
34) S	n-triacontane-d62	28.449	82585	19.921	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/ml
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/ml
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/ml
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/ml
36)	n-C31	0.000	0	N.D.	ug/ml
37)	n-C32	0.000	0	N.D.	ug/ml
38)	n-C33	0.000	0	N.D.	ug/ml
39)	n-C34	0.000	0	N.D.	ug/ml
40)	n-C35	0.000	0	N.D.	ug/ml

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127F.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 18:17:30
Operator : Meghan Dailey
Sample : Al-WKPem-002
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:24:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	0.000	0	N.D.	ug/ml
42)	n-C37	0.000	0	N.D.	ug/ml
43)	n-C38	0.000	0	N.D.	ug/mld
44)	n-C39	0.000	0	N.D.	ug/mld
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.312f	7911336	1484.897	ug/mlm
47)	TRH1	12.312f	340397	63.890	ug/mlm
48)	TRH2	17.235	412525	77.428	ug/mlm
49)	TRH3	28.449f	111899	21.003	ug/mlm
50)	TRH4	35.044f	37410	7.022	ug/mlm
51)	TRH5	37.146f	17120	3.213	ug/mlm
52)	TRH6	47.547f	12921	2.425	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

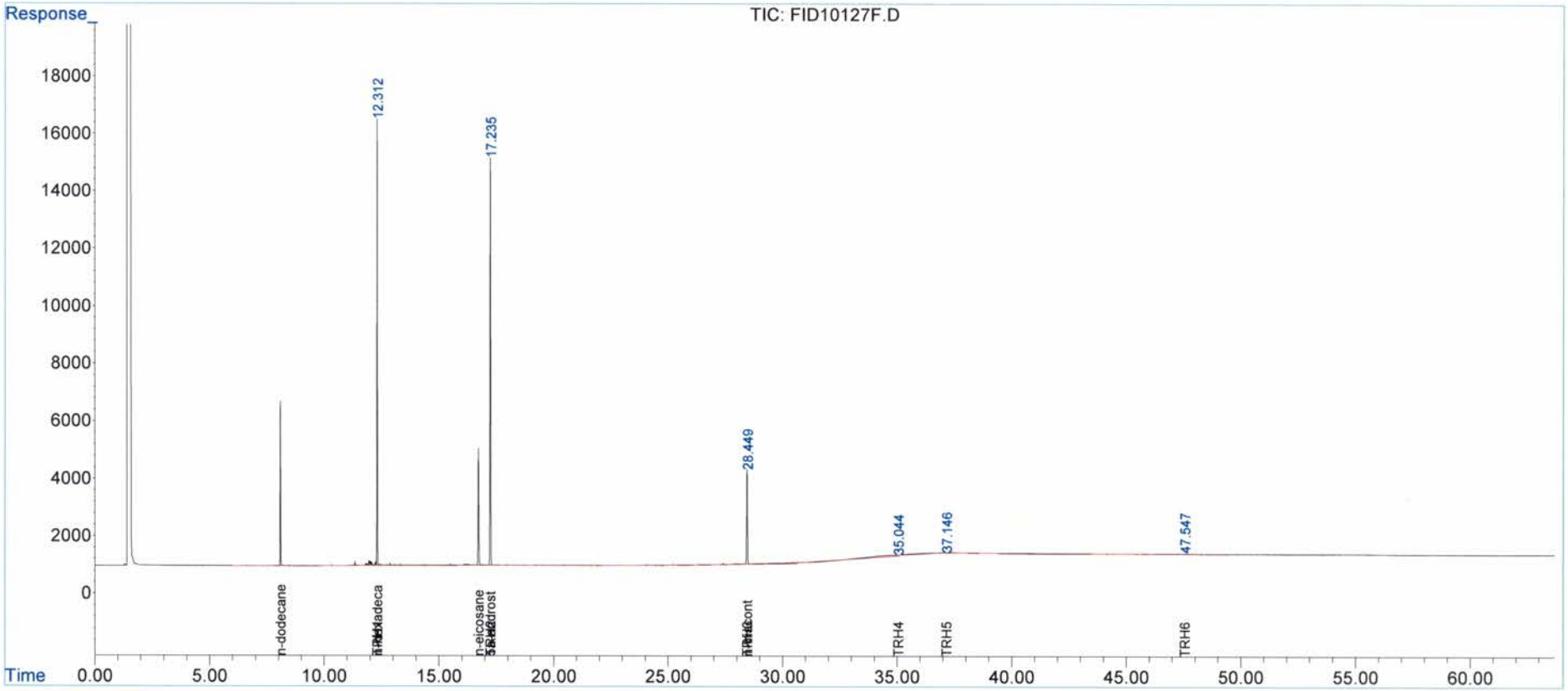
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : FID10127F.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 18:17:30
Operator : Meghan Dailey
Sample : Al-WKPem-002
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:24:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3165A.D**		ENV3165A.D
Sample Name	**Method Blank**		Method Blank
Misc Info	**0**		05-Dec-2013, 19:27:50
Data File Path	**C:\msdchem\2\data\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 19:27:50**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	56
Vial Number	**56**	IS Area 1	196859
Sample Multiplier	**1**	IS Area 2	241137

#	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	12.31	6647530	1480.54	1480.540
47)	TRH1	12.31	298882	66.57	66.567
48)	TRH2	17.23	333375	74.25	74.250
49)	TRH3	28.44	71156.5	15.85	15.848
50)	TRH4	36.90	44038	9.81	9.808
51)	TRH5	37.71	3313.56	0.74	0.738
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	8.08	59373.4	14.62	73.1
23)	n-eicosane-d42	16.71	73857.9	18.90	94.7
34)	n-triacontane-d62	28.44	67850.1	19.42	97.2
1)	n-hexadecane-d34	12.31	196859	50.00	196859.000
16)	5a-androstane	17.23	241137	50.15	241137.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165A.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 19:27:50
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:52:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.310	196859	50.000	ug/mlm
16) I	5a-androstane	17.232	241137	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.084	59373	14.619	ug/mlm
23) S	n-eicosane-d42	16.714	73858	18.901	ug/mlm
34) S	n-triacontane-d62	28.445	67850	19.421	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\FID10127\
Data File : ENV3165A.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 19:27:50
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:52:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.310f	6647527	1480.541	ug/mlm
47)	TRH1	12.310f	298882	66.567	ug/mlm
48)	TRH2	17.232	333375	74.249	ug/mlm
49)	TRH3	28.445f	71156	15.848	ug/mlm
50)	TRH4	36.898f	44038	9.808	ug/mlm
51)	TRH5	37.713f	3314	0.738	ug/mlm
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/ml

SemiQuant Compounds - Not Calibrated on this Instrument

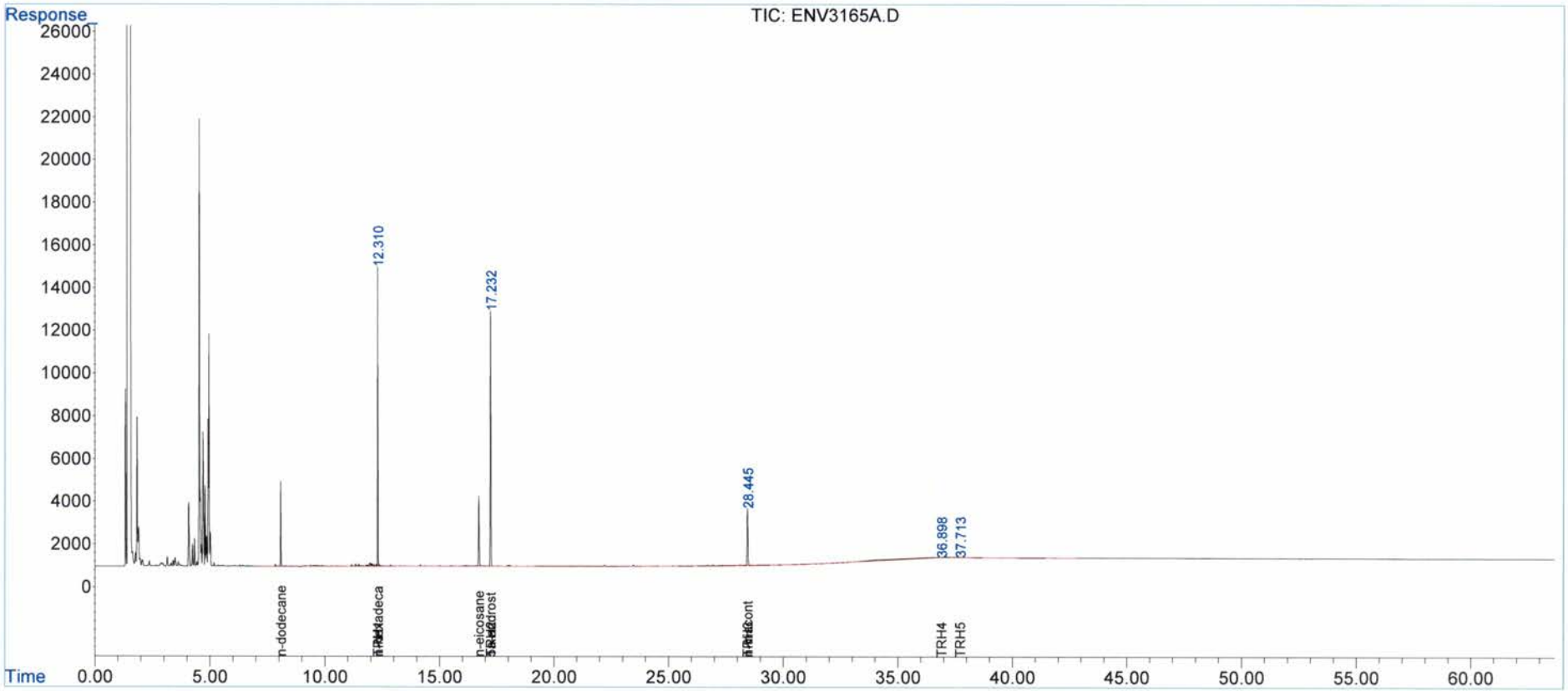
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165A.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 19:27:50
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 09:52:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3165B.D**		ENV3165B.D
Sample Name	**Blank Spike**		Blank Spike
Misc Info	**0**		05-Dec-2013, 20:38
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3165\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 20:38**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	57
Vial Number	**57**	IS Area 1	203887
Sample Multiplier	**1**	IS Area 2	250156

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.03	14094.8	3.60	3.605
3)	n-C9	4.30	24305.4	5.83	5.829
4)	n-C10	5.69	28462.2	6.43	6.434
5)	n-C11	7.03	31445.2	6.92	6.922
7)	n-C12	8.29	33697.9	7.03	7.032
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.45	34918.5	7.31	7.310
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.54	37829.6	7.77	7.772
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.56	41172.8	8.25	8.249
15)	n-C16	12.54	42885.8	8.57	8.565
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.58	43178.4	8.57	8.566
19)	Pristane	13.68	44477.8	8.67	8.673
20)	n-C18	14.68	44545.9	8.82	8.815
21)	Phytane	14.83	45386.7	8.92	8.922
22)	n-C19	15.86	45111.3	8.97	8.975
24)	n-C20	17.10	44981	8.96	8.963
25)	n-C21	18.36	45029	8.99	8.987
26)	n-C22	19.63	45007.9	8.89	8.888
27)	n-C23	20.90	44895	9.02	9.023
28)	n-C24	22.15	45099.6	9.05	9.052
29)	n-C25	23.37	44149.7	8.95	8.950
30)	n-C26	24.55	44615.8	9.09	9.088
31)	n-C27	25.71	43739.5	9.12	9.121
32)	n-C28	26.83	43221.6	9.04	9.038
33)	n-C29	27.92	43442.4	9.11	9.110
35)	n-C30	28.98	42793.7	9.07	9.069
36)	n-C31	30.00	42289.1	9.15	9.148
37)	n-C32	30.99	41255.1	8.98	8.977
38)	n-C33	31.96	38737.1	8.91	8.914
39)	n-C34	32.89	40703.1	9.12	9.124
40)	n-C35	33.80	40587.7	9.25	9.252
41)	n-C36	34.76	40993.7	8.94	8.940
42)	n-C37	35.86	39245.9	9.38	9.379
43)	n-C38	37.13	38233.4	9.62	9.624
44)	n-C39	38.61	38315.1	9.97	9.971
45)	n-C40	40.36	36269.3	10.00	9.998
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	8.08	62467.9	14.85	74.3
23)	n-eicosane-d42	16.71	77425.7	19.10	95.7
34)	n-triacontane-d62	28.45	70314.7	19.40	97.1
1)	n-hexadecane-d34	12.31	203887	50.00	203887.000
16)	5a-androstane	17.23	250156	50.15	250156.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 20:38:04
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:23:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.310	203887	50.000 ug/mlm
16) I	5a-androstane	17.233	250156	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.083	62468	14.851 ug/mlm
23) S	n-eicosane-d42	16.714	77426	19.100 ug/mlm
34) S	n-triacontane-d62	28.446	70315	19.401 ug/mlm
Target Compounds				
2)	n-C8	3.025	14095	3.605 ug/mlm
3)	n-C9	4.296	24305	5.829 ug/mlm
4)	n-C10	5.689	28462	6.434 ug/mlm
5)	n-C11	7.033	31445	6.922 ug/mlm
7)	n-C12	8.287	33698	7.032 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	9.453	34919	7.310 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.541	37830	7.772 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.564	41173	8.249 ug/mlm
15)	n-C16	12.543	42886	8.565 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.575	43178	8.566 ug/mlm
19)	Pristane	13.682	44478	8.673 ug/mlm
20)	n-C18	14.684	44546	8.815 ug/mlm
21)	Phytane	14.835	45387	8.922 ug/mlm
22)	n-C19	15.864	45111	8.975 ug/mlm
24)	n-C20	17.097	44981	8.963 ug/mlm
25)	n-C21	18.359	45029	8.987 ug/mlm
26)	n-C22	19.633	45008	8.888 ug/mlm
27)	n-C23	20.899	44895	9.023 ug/mlm
28)	n-C24	22.146	45100	9.052 ug/mlm
29)	n-C25	23.366	44150	8.950 ug/mlm
30)	n-C26	24.553	44616	9.088 ug/mlm
31)	n-C27	25.710	43740	9.121 ug/mlm
32)	n-C28	26.829	43222	9.038 ug/mlm
33)	n-C29	27.920	43442	9.110 ug/mlm
35)	n-C30	28.977	42794	9.069 ug/mlm
36)	n-C31	30.001	42289	9.148 ug/mlm
37)	n-C32	30.994	41255	8.977 ug/mlm
38)	n-C33	31.958	38737	8.914 ug/mlm
39)	n-C34	32.892	40703	9.124 ug/mlm
40)	n-C35	33.804	40588	9.252 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 20:38:04
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:23:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.763	40994	8.940	ug/mlm
42)	n-C37	35.860	39246	9.379	ug/mlm
43)	n-C38	37.129	38233	9.624	ug/mlm
44)	n-C39	38.613	38315	9.971	ug/mlm
45)	n-C40	40.355	36269	9.998	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

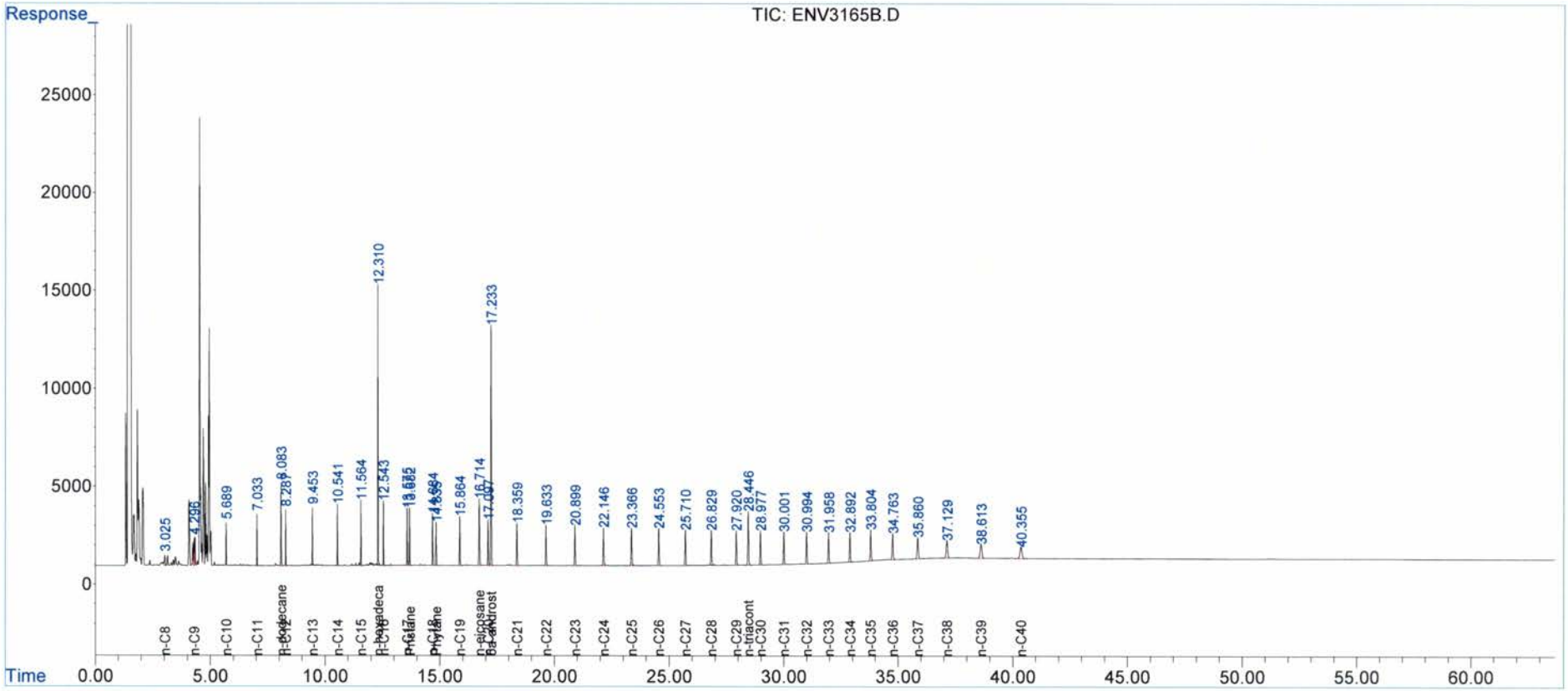
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165B.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 20:38:04
Operator : Meghan Dailey
Sample : Blank Spike
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:23:49 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3165C.D**		ENV3165C.D
Sample Name	**Blank Spike Duplicate**		Blank Spike Duplicate
Misc Info	**0**		05-Dec-2013, 21:48:21
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3165\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 21:48:21**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	58
Vial Number	**58**	IS Area 1	182088
Sample Multiplier	**1**	IS Area 2	223436

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	3.03	11156.1	3.19	3.195
3)	n-C9	4.30	21642.8	5.81	5.812
4)	n-C10	5.69	23810.8	6.03	6.027
5)	n-C11	7.03	26573.2	6.55	6.550
7)	n-C12	8.29	28660.9	6.70	6.697
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.45	29881.1	7.00	7.004
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.54	32372.5	7.45	7.447
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.56	35617.5	7.99	7.991
15)	n-C16	12.54	37414.4	8.37	8.367
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.57	37783.8	8.39	8.392
19)	Pristane	13.68	38846.3	8.48	8.481
20)	n-C18	14.68	38931.5	8.63	8.626
21)	Phytane	14.83	39588.2	8.71	8.713
22)	n-C19	15.86	39441.6	8.78	8.785
24)	n-C20	17.10	39310.9	8.77	8.770
25)	n-C21	18.36	39305.4	8.78	8.783
26)	n-C22	19.63	39316.1	8.69	8.693
27)	n-C23	20.90	39120.3	8.80	8.802
28)	n-C24	22.15	39245	8.82	8.819
29)	n-C25	23.36	38562.1	8.75	8.752
30)	n-C26	24.55	38884.3	8.87	8.867
31)	n-C27	25.71	38101.9	8.90	8.896
32)	n-C28	26.83	37944.9	8.88	8.884
33)	n-C29	27.92	37825.1	8.88	8.881
35)	n-C30	28.98	37363	8.86	8.865
36)	n-C31	30.00	36843	8.92	8.923
37)	n-C32	30.99	36048.1	8.78	8.782
38)	n-C33	31.96	33964.4	8.75	8.751
39)	n-C34	32.89	35560.6	8.92	8.925
40)	n-C35	33.80	35274.2	9.00	9.002
41)	n-C36	34.77	35731.6	8.72	8.724
42)	n-C37	35.86	34561.6	9.25	9.247
43)	n-C38	37.13	33151	9.34	9.343
44)	n-C39	38.62	33520.8	9.77	9.766
45)	n-C40	40.36	31615.8	9.76	9.758
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	8.08	55369	14.74	73.7
23)	n-eicosane-d42	16.71	68571	18.94	94.9
34)	n-triacontane-d62	28.45	62471.2	19.30	96.5
1)	n-hexadecane-d34	12.31	182088	50.00	182088.000
16)	5a-androstane	17.23	223436	50.15	223436.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 21:48:21
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:55:24 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.310	182088	50.000 ug/mlm
16) I	5a-androstane	17.231	223436	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.083	55369	14.739 ug/mlm
23) S	n-eicosane-d42	16.714	68571	18.938 ug/mlm
34) S	n-triacontane-d62	28.446	62471	19.298 ug/mlm
Target Compounds				
2)	n-C8	3.026	11156	3.195 ug/mlm
3)	n-C9	4.296	21643	5.812 ug/mlm
4)	n-C10	5.688	23811	6.027 ug/mlm
5)	n-C11	7.033	26573	6.550 ug/mlm
7)	n-C12	8.287	28661	6.697 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	9.452	29881	7.004 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.541	32373	7.447 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.564	35618	7.991 ug/mlm
15)	n-C16	12.544	37414	8.367 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.575	37784	8.392 ug/mlm
19)	Pristane	13.682	38846	8.481 ug/mlm
20)	n-C18	14.683	38932	8.626 ug/mlm
21)	Phytane	14.834	39588	8.713 ug/mlm
22)	n-C19	15.864	39442	8.785 ug/mlm
24)	n-C20	17.096	39311	8.770 ug/mlm
25)	n-C21	18.359	39305	8.783 ug/mlm
26)	n-C22	19.632	39316	8.693 ug/mlm
27)	n-C23	20.898	39120	8.802 ug/mlm
28)	n-C24	22.146	39245	8.819 ug/mlm
29)	n-C25	23.363	38562	8.752 ug/mlm
30)	n-C26	24.554	38884	8.867 ug/mlm
31)	n-C27	25.710	38102	8.896 ug/mlm
32)	n-C28	26.832	37945	8.884 ug/mlm
33)	n-C29	27.921	37825	8.881 ug/mlm
35)	n-C30	28.976	37363	8.865 ug/mlm
36)	n-C31	29.999	36843	8.923 ug/mlm
37)	n-C32	30.992	36048	8.782 ug/mlm
38)	n-C33	31.956	33964	8.751 ug/mlm
39)	n-C34	32.892	35561	8.925 ug/mlm
40)	n-C35	33.803	35274	9.002 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 21:48:21
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:55:24 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.765	35732	8.724	ug/mlm
42)	n-C37	35.864	34562	9.247	ug/mlm
43)	n-C38	37.129	33151	9.343	ug/mlm
44)	n-C39	38.619	33521	9.766	ug/mlm
45)	n-C40	40.360	31616	9.758	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

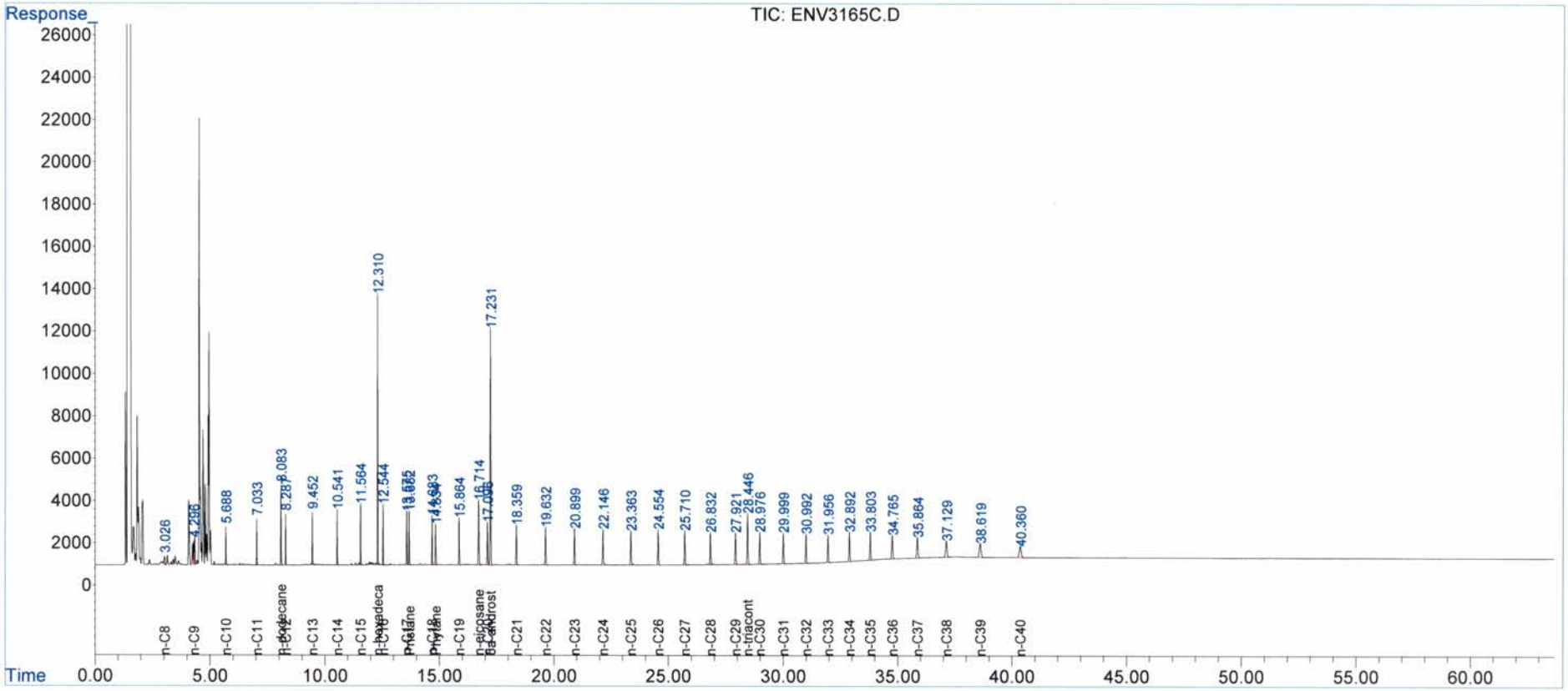
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ENV3165C.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 21:48:21
Operator : Meghan Dailey
Sample : Blank Spike Duplicate
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 10:55:24 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2006.D**		ARC2006.D
Sample Name	**SED-DA-EB-11-112013**		SED-DA-EB-11-112013
Misc Info	**0**		05-Dec-2013, 22:58:42
Data File Path	**C:\msdchem\2\data\FID10127**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**05-Dec-2013, 22:58:42**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	59
Vial Number	**59**	IS Area 1	201523
Sample Multiplier	**1**	IS Area 2	246826

#	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	12.31	6071480	1321.07	1321.070
47)	TRH1	12.31	288852	62.85	62.851
48)	TRH2	17.23	338496	73.65	73.652
49)	TRH3	26.96	10825.5	2.36	2.355
50)	TRH4	28.45	70987.9	15.45	15.446
51)	TRH5	37.51	56748.1	12.35	12.348
52)	TRH6	49.97	1451.08	0.32	0.316
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	8.08	53712.8	12.92	64.6
23)	n-eicosane-d42	16.71	74804.1	18.70	93.7
34)	n-triacontane-d62	28.45	68339.6	19.11	95.6
1)	n-hexadecane-d34	12.31	201523	50.00	201523.000
16)	5a-androstane	17.23	246826	50.15	246826.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ARC2006.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 22:58:42
Operator : Meghan Dailey
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 11:12:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.311	201523	50.000	ug/mlm
16) I	5a-androstane	17.231	246826	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.083	53713	12.919	ug/mlm
23) S	n-eicosane-d42	16.714	74804	18.702	ug/mlm
34) S	n-triacontane-d62	28.446	68340	19.111	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\FID10127\
Data File : ARC2006.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 22:58:42
Operator : Meghan Dailey
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 11:12:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.311f	6071476	1321.074	ug/mlm
47)	TRH1	12.311f	288852	62.851	ug/mlm
48)	TRH2	17.231	338496	73.652	ug/mlm
49)	TRH3	26.956f	10825	2.355	ug/mlm
50)	TRH4	28.446f	70988	15.446	ug/mlm
51)	TRH5	37.507f	56748	12.348	ug/mlm
52)	TRH6	49.973f	1451	0.316	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

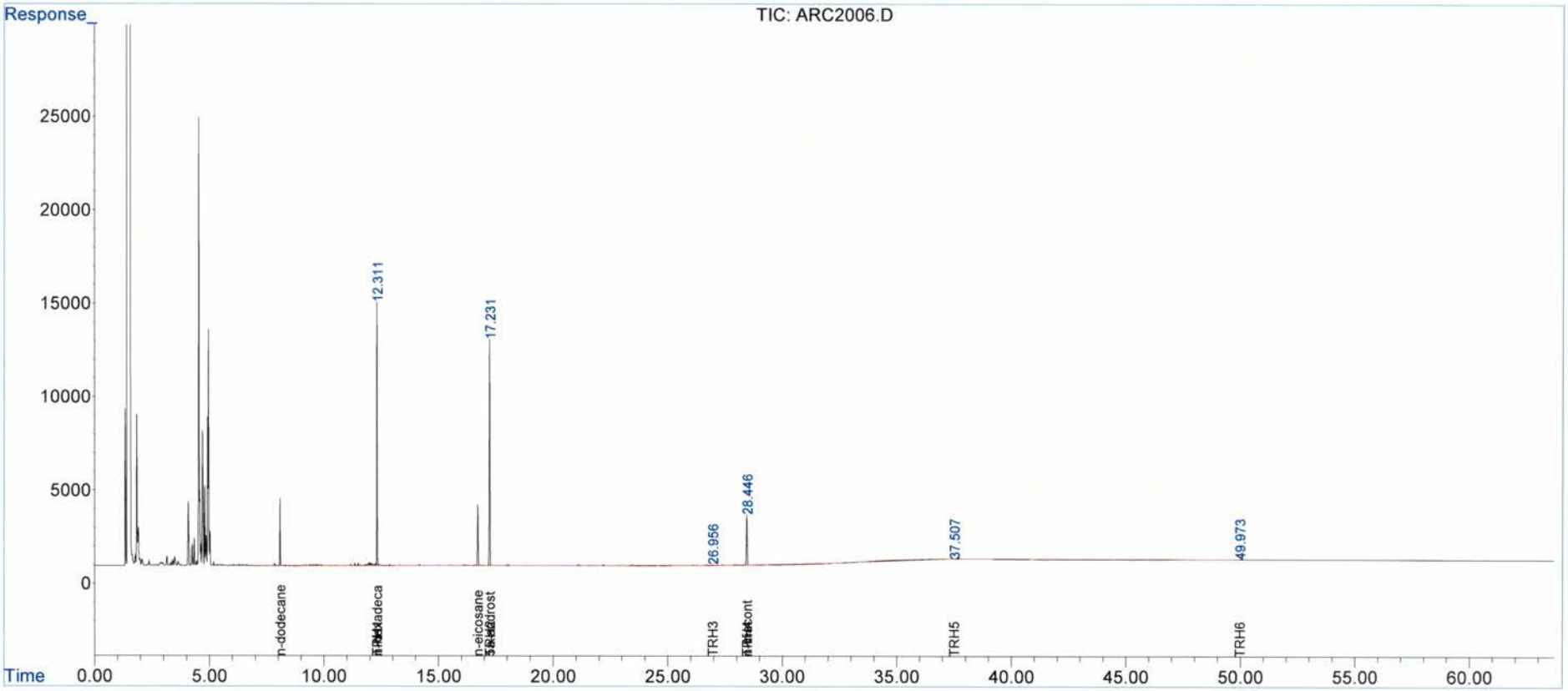
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID10127\
Data File : ARC2006.D
Signal(s) : FID2B.CH
Acq On : 05-Dec-2013, 22:58:42
Operator : Meghan Dailey
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 06 11:12:07 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3165\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID Sequence Summary Report

B&B Laboratories, Inc.

Sequence name: FID30102 2013-11-27 15-14-18

Acquisition date: 11/27/2013 3:14:21 PM

Acquired by: Meghan Dailey

Data Directory C:\CHEM32\4\DATA\FID30102 2013-11-27 15-14-18

Line	Location	Sample Name	Datafile	Method	Injection Date
4	Vial 51	Solvent Blank	FID30103A.D	ALI2012.M	11/27/2013 18:47:59
5	Vial 52	AL-WKCC-25-026	FID30103B.D	ALI2012.M	11/27/2013 19:58:23
6	Vial 53	AL-SRM2779-20-02	FID30103C.D	ALI2012.M	11/27/2013 21:08:45
7	Vial 51	Solvent Blank	FID30103D.D	ALI2012.M	11/27/2013 22:19:07
8	Vial 54	AL-RetWin-002	FID30103E.D	ALI2012.M	11/27/2013 23:29:27
9	Vial 55	AL-WKPem-001	FID30103F.D	ALI2012.M	11/28/2013 00:39:45
10	Vial 56		ENV3166A.D	ALI2012.M	11/28/2013 01:50:07
11	Vial 57		ENV3166C.D	ALI2012.M	11/28/2013 03:00:33
12	Vial 58		ENV3166D.D	ALI2012.M	11/28/2013 04:10:31
13	Vial 59		ENV3166E.D	ALI2012.M	11/28/2013 05:20:28
14	Vial 60		ARC2008.D	ALI2012.M	11/28/2013 06:30:55
15	Vial 61	AL-WKCC-25-026	FID30103G.D	ALI2012.M	11/28/2013 07:41:22
16	Vial 62		ARC2011.D	ALI2012.M	11/28/2013 08:51:49
17	Vial 63		ARC2015.D	ALI2012.M	11/28/2013 10:02:20
18	Vial 64		ARC2018.D	ALI2012.M	11/28/2013 11:12:20
19	Vial 65		ARC2021.D	ALI2012.M	11/28/2013 12:22:42
20	Vial 66		ARC2024.D	ALI2012.M	11/28/2013 13:32:46
21	Vial 67		ARC2027.D	ALI2012.M	11/28/2013 14:43:19
22	Vial 68	AL-WKCC-25-026	FID30103H.D	ALI2012.M	11/28/2013 15:53:51

Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103B.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 19:58:23
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 11:32:38 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	104	0.00
2		n-C8	0.970	0.956	1.4	104	0.00
3		n-C9	1.017	1.014	0.3	105	0.00
4		n-C10	1.075	1.063	1.1	104	0.00
5		n-C11	1.104	1.092	1.1	105	0.00
6	S	n-dodecane-d26	1.023	1.018	0.5	104	0.00
7		n-C12	1.171	1.153	1.5	104	0.00
10		n-C13	1.171	1.150	1.8	104	0.00
12		n-C14	1.202	1.184	1.5	104	-0.01
14		n-C15	1.234	1.198	2.9	103	0.00
15		n-C16	1.233	1.217	1.3	104	0.00
16	I	5a-androstane	1.000	1.000	0.0	104	0.00
18		n-C17	0.995	0.979	1.6	102	0.00
19		Pristane	1.017	0.998	1.9	103	0.00
20		n-C18	0.996	0.991	0.5	104	0.00
21		Phytane	1.011	0.868	14.1	90	0.00
22		n-C19	0.992	0.992	0.0	105	0.00
23	S	n-eicosane-d42	0.799	0.793	0.8	103	0.00
24		n-C20	0.992	0.978	1.4	103	0.00
25		n-C21	0.993	0.997	-0.4	105	0.00
26		n-C22	1.007	1.025	-1.8	106	0.00
27		n-C23	0.989	0.982	0.7	104	0.00
28		n-C24	0.988	0.980	0.8	103	0.00
29		n-C25	0.972	0.968	0.4	103	0.00
30		n-C26	0.958	0.953	0.5	103	0.00
31		n-C27	0.924	0.908	1.7	102	0.00
32		n-C28	0.907	0.892	1.7	101	0.00
33		n-C29	0.893	0.881	1.3	102	0.00
34	S	n-triacontane-d62	0.681	0.671	1.5	101	0.00
35		n-C30	0.882	0.862	2.3	101	0.00
36		n-C31	0.861	0.809	6.0	97	0.00
37		n-C32	0.857	0.827	3.5	100	0.00
38		n-C33	0.810	0.782	3.5	98	0.00
39		n-C34	0.837	0.802	4.2	99	0.00
40		n-C35	0.825	0.802	2.8	101	0.00
41		n-C36	0.857	0.821	4.2	97	0.00
42		n-C37	0.791	0.790	0.1	104	0.00
43		n-C38	0.758	0.777	-2.5	105	0.00

44	n-C39	0.745	0.764	-2.6	109	0.00
45	n-C40	0.686	0.715	-4.2	110	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.28#
9	i-14	0.019	0.000	100.0#	0#	-8.98#
11	i-15	0.020	0.000	100.0#	0#	-10.12#
13	i-16	0.020	0.000	100.0#	0#	-11.03#
17	i-18	0.020	0.000	100.0#	0#	-12.85#
46	TPH	0.018	0.000	100.0#	0#	-27.07#
47	TRH1	0.018	0.000	100.0#	0#	-7.22#
48	TRH2	0.018	0.000	100.0#	0#	-14.84#
49	TRH3	0.018	0.000	100.0#	0#	-21.78#
50	TRH4	0.018	0.000	100.0#	0#	-26.46#
51	TRH5	0.018	0.000	100.0#	0#	-31.10#
52	TRH6	0.018	0.000	100.0#	0#	-41.78#
53	GRO	0.018	0.000	100.0#	0#	-4.91#
54	DRO	0.018	0.000	100.0#	0#	-13.33#
55	RRO	0.018	0.000	100.0#	0#	-30.75#

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

FID3C08BACK112213.M Fri Nov 29 11:32:45 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103B.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 19:58:23
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 11:32:38 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	262386	50.000	ug/mlm
16) I	5a-androstane	16.908	328585	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.893	133588	24.882	ug/mlm
23) S	n-eicosane-d42	16.427	130822	25.003	ug/mlm
34) S	n-triacontane-d62	28.113	109986	24.651	ug/mlm
Target Compounds					
2)	n-C8	2.878	125566	24.669	ug/mlm
3)	n-C9	4.129	133042	24.928	ug/mlm
4)	n-C10	5.510	139408	24.718	ug/mlm
5)	n-C11	6.848	143486	24.758	ug/mlm
7)	n-C12	8.097	148684	24.205	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.258	151124	24.589	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.343	155691	24.692	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.364	156166	24.115	ug/mlm
15)	n-C16	12.335	158906	24.566	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.344	158695	24.333	ug/mlm
19)	Pristane	13.448	161521	24.230	ug/mlm
20)	n-C18	14.431	160827	24.635	ug/mlm
21)	Phytane	14.576	142331	21.483	ug/mlm
22)	n-C19	15.591	162170	24.943	ug/mlm
24)	n-C20	16.806	160119	24.640	ug/mlm
25)	n-C21	18.055	163627	25.141	ug/mlm
26)	n-C22	19.319	166373	25.207	ug/mlm
27)	n-C23	20.577	161031	24.855	ug/mlm
28)	n-C24	21.819	158946	24.546	ug/mlm
29)	n-C25	23.037	157951	24.807	ug/mlm
30)	n-C26	24.225	156271	24.889	ug/mlm
31)	n-C27	25.379	148757	24.582	ug/mlm
32)	n-C28	26.499	146204	24.608	ug/mlm
33)	n-C29	27.589	144411	24.695	ug/mlm
35)	n-C30	28.644	140581	24.325	ug/mlm
36)	n-C31	29.667	132912	23.559	ug/mlm
37)	n-C32	30.662	133668	23.804	ug/mlm
38)	n-C33	31.625	128023	24.112	ug/mlm
39)	n-C34	32.564	131037	23.908	ug/mlm
40)	n-C35	33.473	131349	24.307	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103B.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 19:58:23
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 11:32:38 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.395	131802	23.459	ug/mlm
42)	n-C37	35.438	129490	24.976	ug/mlm
43)	n-C38	36.634	127463	25.681	ug/mlm
44)	n-C39	38.032	125133	25.640	ug/mlm
45)	n-C40	39.664	116815	25.980	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

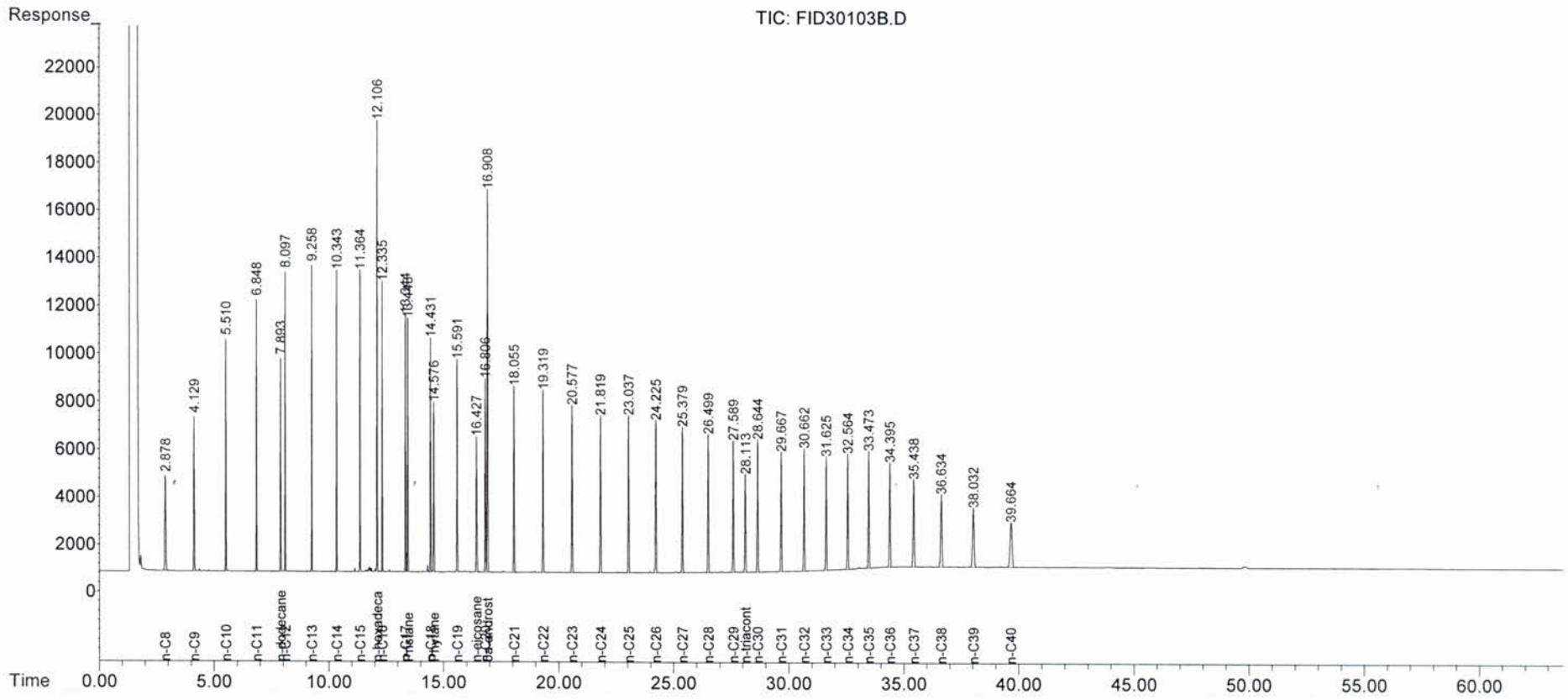
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103B.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 19:58:23
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 52 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 11:32:38 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103G.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 07:41:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:17:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	107	0.00
2		n-C8	0.970	0.963	0.7	108	0.00
3		n-C9	1.017	1.029	-1.2	110	0.00
4		n-C10	1.075	1.086	-1.0	109	0.00
5		n-C11	1.104	1.115	-1.0	110	0.00
6	S	n-dodecane-d26	1.023	1.037	-1.4	109	0.00
7		n-C12	1.171	1.178	-0.6	110	0.00
10		n-C13	1.171	1.168	0.3	109	0.00
12		n-C14	1.202	1.197	0.4	108	-0.01
14		n-C15	1.234	1.210	1.9	107	0.00
15		n-C16	1.233	1.225	0.6	108	0.00
16	I	5a-androstane	1.000	1.000	0.0	106	0.00
18		n-C17	0.995	0.985	1.0	106	0.00
19		Pristane	1.017	1.001	1.6	106	0.00
20		n-C18	0.996	0.996	0.0	107	0.00
21		Phytane	1.011	0.870	13.9	93	0.00
22		n-C19	0.992	0.995	-0.3	108	0.00
23	S	n-eicosane-d42	0.799	0.795	0.5	106	0.00
24		n-C20	0.992	0.981	1.1	106	0.00
25		n-C21	0.993	1.000	-0.7	108	0.00
26		n-C22	1.007	1.027	-2.0	109	0.00
27		n-C23	0.989	0.985	0.4	107	0.00
28		n-C24	0.988	0.985	0.3	106	0.00
29		n-C25	0.972	0.976	-0.4	106	0.00
30		n-C26	0.958	0.963	-0.5	107	0.00
31		n-C27	0.924	0.924	0.0	107	0.00
32		n-C28	0.907	0.907	0.0	106	0.00
33		n-C29	0.893	0.895	-0.2	106	0.00
34	S	n-triacontane-d62	0.681	0.683	-0.3	106	0.00
35		n-C30	0.882	0.876	0.7	106	0.00
36		n-C31	0.861	0.831	3.5	103	0.00
37		n-C32	0.857	0.839	2.1	104	0.00
38		n-C33	0.810	0.793	2.1	102	0.00
39		n-C34	0.837	0.811	3.1	103	0.00
40		n-C35	0.825	0.879	-6.5	114	0.00
41		n-C36	0.857	0.828	3.4	100	0.00
42		n-C37	0.791	0.794	-0.4	107	0.00
43		n-C38	0.758	0.780	-2.9	108	0.00

44	n-C39	0.745	0.783	-5.1	115	0.00
45	n-C40	0.686	0.715	-4.2	114	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.28#
9	i-14	0.019	0.000	100.0#	0#	-8.98#
11	i-15	0.020	0.000	100.0#	0#	-10.12#
13	i-16	0.020	0.000	100.0#	0#	-11.03#
17	i-18	0.020	0.000	100.0#	0#	-12.85#
46	TPH	0.018	0.000	100.0#	0#	-27.07#
47	TRH1	0.018	0.000	100.0#	0#	-7.22#
48	TRH2	0.018	0.000	100.0#	0#	-14.84#
49	TRH3	0.018	0.000	100.0#	0#	-21.78#
50	TRH4	0.018	0.000	100.0#	0#	-26.46#
51	TRH5	0.018	0.000	100.0#	0#	-31.10#
52	TRH6	0.018	0.000	100.0#	0#	-41.78#
53	GRO	0.018	0.000	100.0#	0#	-4.91#
54	DRO	0.018	0.000	100.0#	0#	-13.33#
55	RRO	0.018	0.000	100.0#	0#	-30.75#

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

FID3C08BACK112213.M Fri Nov 29 13:17:13 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103G.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 07:41:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:17:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.107	270155	50.000	ug/mlm
16) I	5a-androstane	16.910	337479	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.895	140032	25.332	ug/mlm
23) S	n-eicosane-d42	16.429	134596	25.046	ug/mlm
34) S	n-triacontane-d62	28.116	114978	25.091	ug/mlm
Target Compounds					
2)	n-C8	2.885	130202	24.845	ug/mlm
3)	n-C9	4.132	139026	25.301	ug/mlm
4)	n-C10	5.511	146723	25.267	ug/mlm
5)	n-C11	6.849	150756	25.265	ug/mlm
7)	n-C12	8.098	156420	24.732	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.259	158051	24.977	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.344	162023	24.958	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.365	162488	24.369	ug/mlm
15)	n-C16	12.335	164669	24.725	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.344	164042	24.489	ug/mlm
19)	Pristane	13.450	166382	24.301	ug/mlm
20)	n-C18	14.431	166154	24.780	ug/mlm
21)	Phytane	14.579	146464	21.524	ug/mlm
22)	n-C19	15.592	167071	25.019	ug/mlm
24)	n-C20	16.809	164927	24.711	ug/mlm
25)	n-C21	18.056	168527	25.212	ug/mlm
26)	n-C22	19.321	171310	25.271	ug/mlm
27)	n-C23	20.580	165859	24.926	ug/mlm
28)	n-C24	21.822	164053	24.667	ug/mlm
29)	n-C25	23.039	163638	25.023	ug/mlm
30)	n-C26	24.227	162334	25.174	ug/mlm
31)	n-C27	25.383	155430	25.007	ug/mlm
32)	n-C28	26.501	152814	25.042	ug/mlm
33)	n-C29	27.590	150822	25.111	ug/mlm
35)	n-C30	28.646	146788	24.729	ug/mlm
36)	n-C31	29.669	140163	24.189	ug/mlm
37)	n-C32	30.664	139349	24.161	ug/mlm
38)	n-C33	31.628	133389	24.461	ug/mlm
39)	n-C34	32.565	136235	24.201	ug/mlm
40)	n-C35	33.474	147894	26.648	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103G.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 07:41:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:17:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.396	136509	23.657	ug/mlm
42)	n-C37	35.439	133665	25.102	ug/mlm
43)	n-C38	36.637	131351	25.767	ug/mlm
44)	n-C39	38.032	131730	26.281	ug/mlm
45)	n-C40	39.675	120087	26.004	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

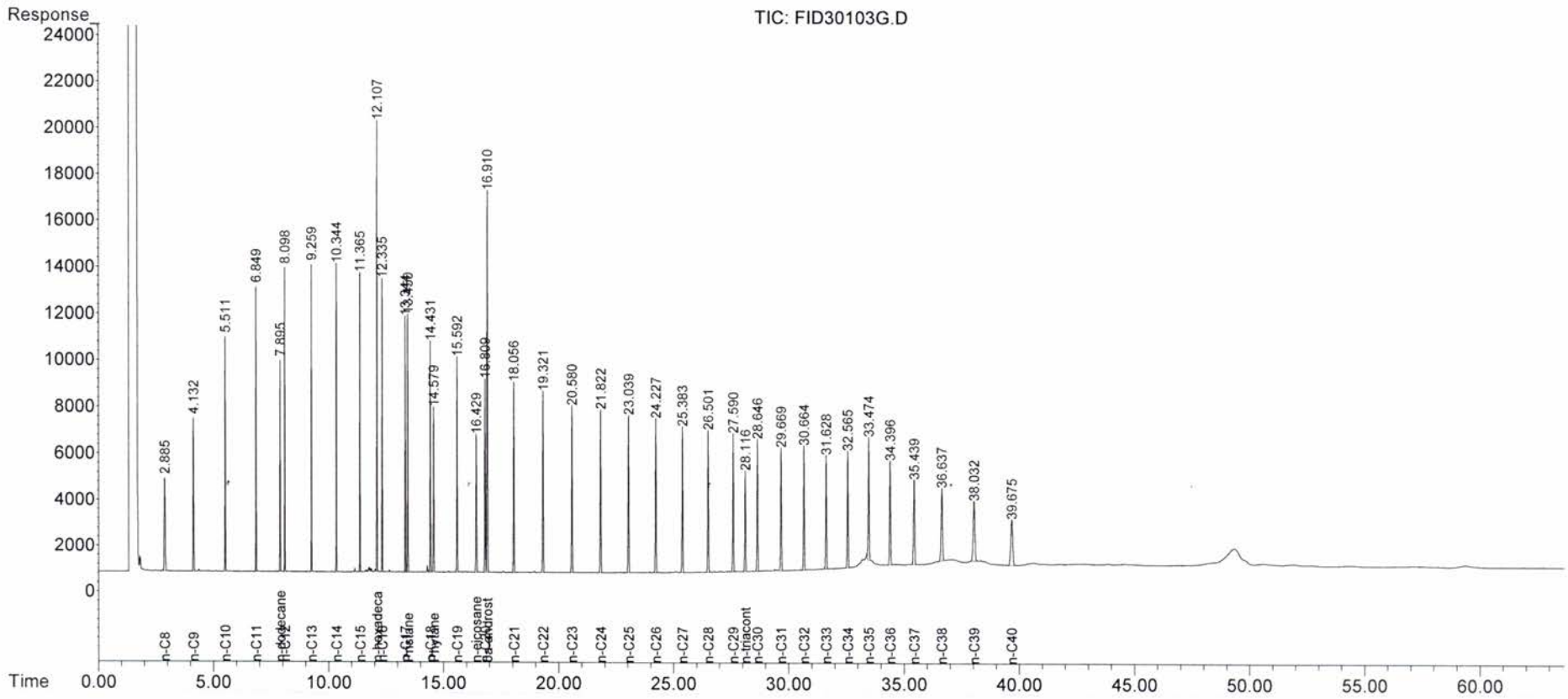
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103G.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 07:41:22
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 61 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:17:08 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103H.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 15:53:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:21:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	106	0.00
2		n-C8	0.970	0.952	1.9	106	0.00
3		n-C9	1.017	1.017	0.0	108	0.00
4		n-C10	1.075	1.075	0.0	107	0.00
5		n-C11	1.104	1.103	0.1	108	0.00
6	S	n-dodecane-d26	1.023	1.028	-0.5	107	0.00
7		n-C12	1.171	1.168	0.3	108	0.00
10		n-C13	1.171	1.164	0.6	108	0.00
12		n-C14	1.202	1.195	0.6	107	-0.01
14		n-C15	1.234	1.207	2.2	106	0.00
15		n-C16	1.233	1.226	0.6	108	0.00
16	I	5a-androstane	1.000	1.000	0.0	106	0.00
18		n-C17	0.995	0.980	1.5	105	0.00
19		Pristane	1.017	0.996	2.1	106	0.00
20		n-C18	0.996	0.993	0.3	106	0.00
21		Phytane	1.011	0.869	14.0	92	0.00
22		n-C19	0.992	0.993	-0.1	108	0.00
23	S	n-eicosane-d42	0.799	0.795	0.5	106	0.00
24		n-C20	0.992	0.978	1.4	105	0.00
25		n-C21	0.993	1.000	-0.7	108	0.00
26		n-C22	1.007	1.028	-2.1	109	0.00
27		n-C23	0.989	0.988	0.1	107	0.00
28		n-C24	0.988	0.987	0.1	106	0.00
29		n-C25	0.972	0.978	-0.6	107	0.00
30		n-C26	0.958	0.967	-0.9	107	0.00
31		n-C27	0.924	0.927	-0.3	107	0.00
32		n-C28	0.907	0.912	-0.6	107	0.00
33		n-C29	0.893	0.905	-1.3	107	0.00
34	S	n-triacontane-d62	0.681	0.692	-1.6	107	0.00
35		n-C30	0.882	0.891	-1.0	107	0.00
36		n-C31	0.861	0.850	1.3	105	0.00
37		n-C32	0.857	0.866	-1.1	107	0.00
38		n-C33	0.810	0.825	-1.9	106	0.00
39		n-C34	0.837	0.851	-1.7	108	0.00
40		n-C35	0.825	0.903	-9.5	117	0.00
41		n-C36	0.857	0.876	-2.2	106	0.00
42		n-C37	0.791	0.848	-7.2	114	0.00
43		n-C38	0.758	0.833	-9.9	116	0.01

44	n-C39	0.745	0.830	-11.4	122	0.01
45	n-C40	0.686	0.765	-11.5	121	0.01

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.28#
9	i-14	0.019	0.000	100.0#	0#	-8.98#
11	i-15	0.020	0.000	100.0#	0#	-10.12#
13	i-16	0.020	0.000	100.0#	0#	-11.03#
17	i-18	0.020	0.000	100.0#	0#	-12.85#
46	TPH	0.018	0.000	100.0#	0#	-27.07#
47	TRH1	0.018	0.000	100.0#	0#	-7.22#
48	TRH2	0.018	0.000	100.0#	0#	-14.84#
49	TRH3	0.018	0.000	100.0#	0#	-21.78#
50	TRH4	0.018	0.000	100.0#	0#	-26.46#
51	TRH5	0.018	0.000	100.0#	0#	-31.10#
52	TRH6	0.018	0.000	100.0#	0#	-41.78#
53	GRO	0.018	0.000	100.0#	0#	-4.91#
54	DRO	0.018	0.000	100.0#	0#	-13.33#
55	RRO	0.018	0.000	100.0#	0#	-30.75#

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

FID3C08BACK112213.M Fri Nov 29 13:22:53 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103H.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 15:53:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:21:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	268689	50.000	ug/mlm
16) I	5a-androstane	16.907	337065	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.893	138103	25.119	ug/mlm
23) S	n-eicosane-d42	16.427	134480	25.055	ug/mlm
34) S	n-triacontane-d62	28.113	116498	25.454	ug/mlm
Target Compounds					
2)	n-C8	2.887	128008	24.559	ug/mlm
3)	n-C9	4.133	136669	25.007	ug/mlm
4)	n-C10	5.511	144402	25.003	ug/mlm
5)	n-C11	6.848	148385	25.003	ug/mlm
7)	n-C12	8.097	154169	24.509	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.257	156673	24.894	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.342	160821	24.908	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.364	161154	24.301	ug/mlm
15)	n-C16	12.334	163863	24.739	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.343	163003	24.364	ug/mlm
19)	Pristane	13.449	165324	24.176	ug/mlm
20)	n-C18	14.430	165324	24.687	ug/mlm
21)	Phytane	14.577	146210	21.513	ug/mlm
22)	n-C19	15.591	166462	24.959	ug/mlm
24)	n-C20	16.806	164227	24.637	ug/mlm
25)	n-C21	18.055	168235	25.199	ug/mlm
26)	n-C22	19.318	171273	25.296	ug/mlm
27)	n-C23	20.578	166163	25.002	ug/mlm
28)	n-C24	21.821	164165	24.714	ug/mlm
29)	n-C25	23.037	163758	25.072	ug/mlm
30)	n-C26	24.226	162786	25.275	ug/mlm
31)	n-C27	25.382	155836	25.104	ug/mlm
32)	n-C28	26.500	153484	25.183	ug/mlm
33)	n-C29	27.590	152265	25.383	ug/mlm
35)	n-C30	28.646	149191	25.165	ug/mlm
36)	n-C31	29.670	143288	24.759	ug/mlm
37)	n-C32	30.664	143650	24.938	ug/mlm
38)	n-C33	31.628	138696	25.465	ug/mlm
39)	n-C34	32.565	142669	25.375	ug/mlm
40)	n-C35	33.474	151770	27.380	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103H.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 15:53:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:21:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.398	144185	25.018	ug/mlm
42)	n-C37	35.440	142614	26.816	ug/mlm
43)	n-C38	36.639	140118	27.520	ug/mlm
44)	n-C39	38.035	139555	27.876	ug/mlm
45)	n-C40	39.679	128281	27.813	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

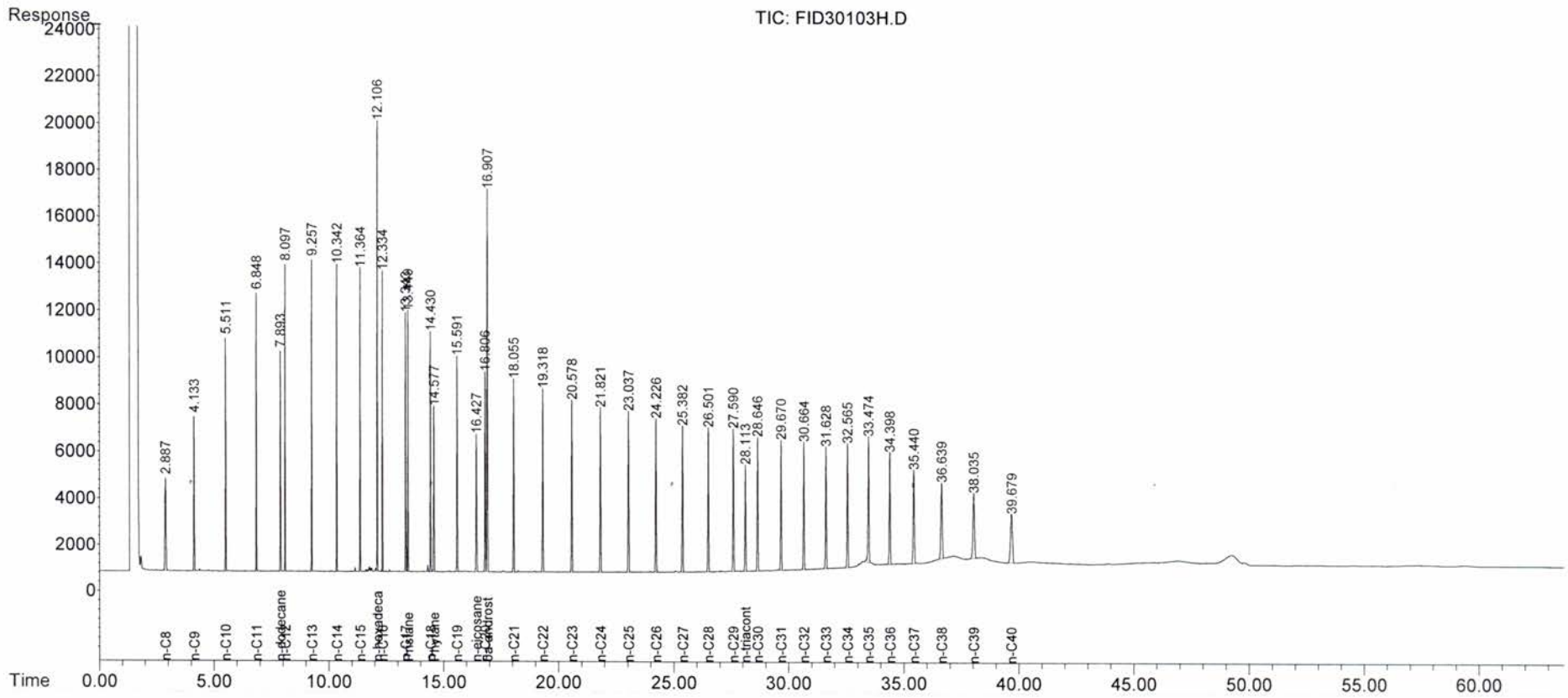
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13034\Aliphatics\ENV 3166\FID30103\
Data File : FID30103H.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 15:53:51
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 68 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 29 13:21:34 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID3C08BACK112213.M Fri Nov 29 13:23:08 2013

			Concentration
Data File Name	**FID30103C.D**		FID30103C.D
Sample Name	**AL-SRM2779-20-02**		AL-SRM2779-20-02
Misc Info	**0**		27-Nov-2013, 21:08:45
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3166\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**27-Nov-2013, 21:08:45**		0.05
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	53
Vial Number	**53**	IS Area 1	234884
Sample Multiplier	**0.05**	IS Area 2	339457

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	1449620	15.91	15.907
3)	n-C9	4.14	1267550	13.27	13.266
4)	n-C10	5.52	1138980	11.28	11.280
5)	n-C11	6.86	1026440	9.89	9.892
7)	n-C12	8.11	962912	8.76	8.756
8)	i-13	8.29	213159	1.94	1.937
9)	i-14	8.99	149756	1.33	1.327
10)	n-C13	9.27	841459	7.65	7.647
11)	i-15	10.13	203759	1.76	1.757
12)	n-C14	10.36	817252	7.24	7.240
13)	i-16	11.02	335799	2.90	2.900
14)	n-C15	11.38	748376	6.45	6.455
15)	n-C16	12.35	641302	5.54	5.538
17)	i-18	12.86	202229	1.50	1.499
18)	n-C17	13.36	572967	4.25	4.252
19)	Pristane	13.45	306700	2.23	2.227
20)	n-C18	14.45	480524	3.56	3.562
21)	Phytane	14.59	195207	1.43	1.426
22)	n-C19	15.61	413900	3.08	3.081
24)	n-C20	16.82	380020	2.83	2.830
25)	n-C21	18.07	307897	2.29	2.290
26)	n-C22	19.33	271098	1.99	1.988
27)	n-C23	20.59	235587	1.76	1.760
28)	n-C24	21.83	206141	1.54	1.541
29)	n-C25	23.05	174880	1.33	1.329
30)	n-C26	24.23	139034	1.07	1.072
31)	n-C27	25.39	107200	0.86	0.857
32)	n-C28	26.51	85075	0.69	0.693
33)	n-C29	27.59	83328.7	0.69	0.690
35)	n-C30	28.65	70499.9	0.59	0.590
36)	n-C31	29.67	65880.5	0.57	0.565
37)	n-C32	30.67	49886.8	0.43	0.430
38)	n-C33	31.63	47857.3	0.44	0.436
39)	n-C34	32.57	44865.8	0.40	0.396
40)	n-C35	33.48	34995.7	0.31	0.313
41)	n-C36	34.40	22348.9	0.19	0.193
42)	n-C37	35.44	21771.4	0.20	0.203
43)	n-C38	36.64	17719.3	0.17	0.173
44)	n-C39	38.03	15536.2	0.15	0.154
45)	n-C40	39.67	16714.1	0.18	0.180
46)	TPH	6.86	72031400	589.64	589.635
47)	TRH1	6.86	12520900	102.49	102.494
48)	TRH2	11.38	10012600	81.96	81.961
49)	TRH3	20.59	1180690	9.66	9.665
50)	TRH4	25.39	908369	7.44	7.436
51)	TRH5	30.67	389077	3.18	3.185
52)	TRH6	34.40	198280	1.62	1.623
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	7.90	92679.7	0.96	96.4
23)	n-eicosane-d42	16.44	104780	0.97	97.1
34)	n-triacontane-d62	28.12	86080.4	0.93	93.4
1)	n-hexadecane-d34	12.11	234884	2.50	234884.000
16)	5a-androstane	16.92	339457	50.15	339457.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : FID30103C.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 21:08:45
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 02 08:59:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.111	234884	50.000 ug/mlm
16) I	5a-androstane	16.920	339457	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.900	92680	0.964 ug/mlm
23) S	n-eicosane-d42	16.435	104780	0.969 ug/mlm
34) S	n-triacontane-d62	28.121	86080	0.934 ug/mlm
Target Compounds				
2)	n-C8	2.882	1449621	15.907 ug/mlm
3)	n-C9	4.138	1267549	13.266 ug/mlm
4)	n-C10	5.522	1138978	11.280 ug/mlm
5)	n-C11	6.862	1026435	9.892 ug/mlm
7)	n-C12	8.111	962912	8.756 ug/mlm
8)	i-13	8.287	213159	1.937 ug/mlm
9)	i-14	8.988	149756	1.327 ug/mlm
10)	n-C13	9.272	841459	7.647 ug/mlm
11)	i-15	10.127	203759	1.757 ug/mlm
12)	n-C14	10.359	817252	7.240 ug/mlm
13)	i-16	11.015	335799	2.900 ug/mlm
14)	n-C15	11.380	748376	6.455 ug/mlm
15)	n-C16	12.349	641302	5.538 ug/mlm
17)	i-18	12.855	202229	1.499 ug/mlm
18)	n-C17	13.359	572967	4.252 ug/mlm
19)	Pristane	13.454	306700	2.227 ug/mlm
20)	n-C18	14.446	480524	3.562 ug/mlm
21)	Phytane	14.586	195207	1.426 ug/mlm
22)	n-C19	15.607	413900	3.081 ug/mlm
24)	n-C20	16.823	380020	2.830 ug/mlm
25)	n-C21	18.070	307897	2.290 ug/mlm
26)	n-C22	19.332	271098	1.988 ug/mlm
27)	n-C23	20.591	235587	1.760 ug/mlm
28)	n-C24	21.832	206141	1.541 ug/mlm
29)	n-C25	23.049	174880	1.329 ug/mlm
30)	n-C26	24.233	139034	1.072 ug/mlm
31)	n-C27	25.388	107200	0.857 ug/mlm
32)	n-C28	26.506	85075	0.693 ug/mlm
33)	n-C29	27.594	83329	0.690 ug/mlm
35)	n-C30	28.650	70500	0.590 ug/mlm
36)	n-C31	29.674	65880	0.565 ug/mlm
37)	n-C32	30.667	49887	0.430 ug/mlm
38)	n-C33	31.631	47857	0.436 ug/mlm
39)	n-C34	32.567	44866	0.396 ug/mlm
40)	n-C35	33.478	34996	0.313 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : FID30103C.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 21:08:45
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 02 08:59:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.400	22349	0.193	ug/mlm
42)	n-C37	35.441	21771	0.203	ug/mlm
43)	n-C38	36.644	17719	0.173	ug/mlm
44)	n-C39	38.034	15536	0.154	ug/mlm
45)	n-C40	39.667	16714	0.180	ug/mlm
46)	TPH	6.862f	72031449	589.634	ug/mlm
47)	TRH1	6.862	12520932	102.494	ug/mlm
48)	TRH2	11.380f	10012609	81.961	ug/mlm
49)	TRH3	20.591f	1180694	9.665	ug/mlm
50)	TRH4	25.388	908369	7.436	ug/mlm
51)	TRH5	30.667	389077	3.185	ug/mlm
52)	TRH6	34.400f	198280	1.623	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

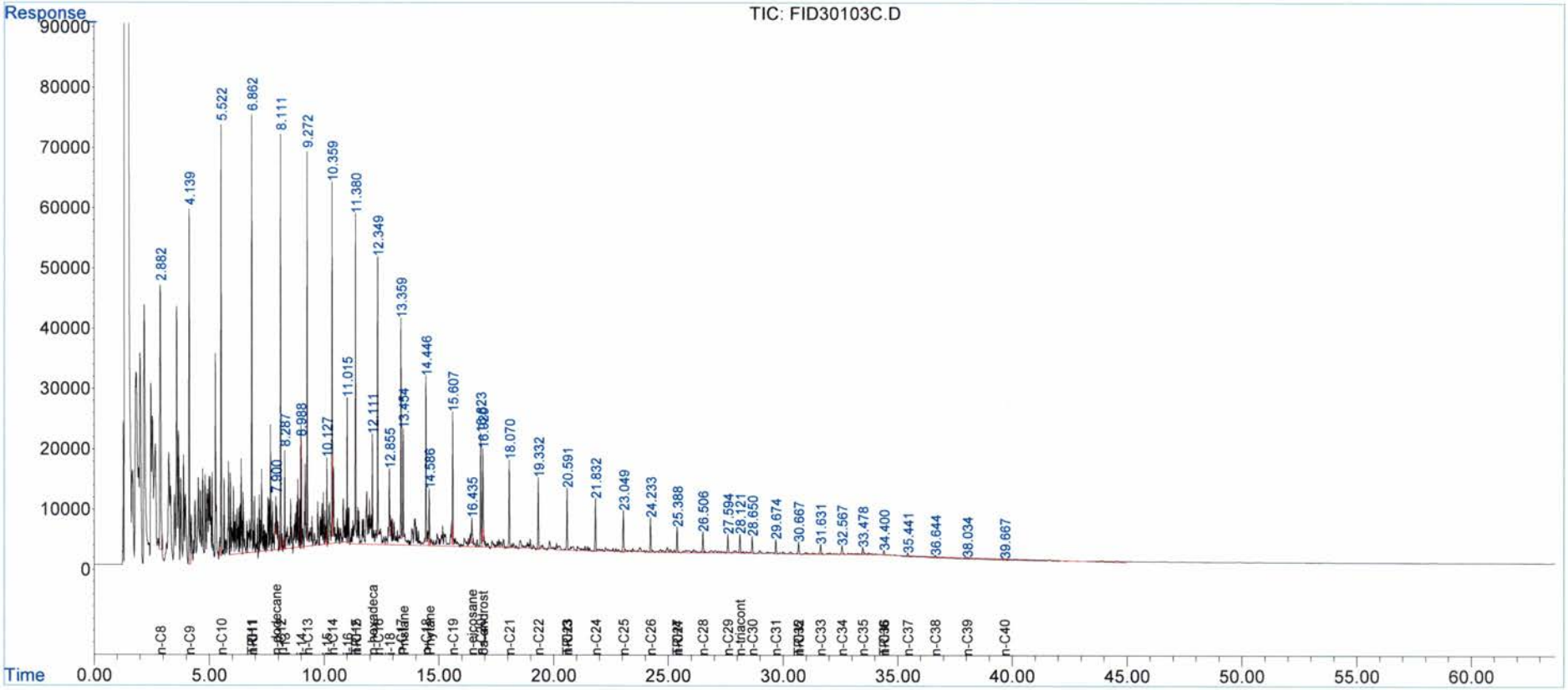
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : FID30103C.D
Signal(s) : FID2B.CH
Acq On : 27-Nov-2013, 21:08:45
Operator : Meghan Dailey
Sample : AL-SRM2779-20-02
Misc :
ALS Vial : 53 Sample Multiplier: 0.05

Integration File: autoint1.e
Quant Time: Dec 02 08:59:54 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**FID30103F.D**		FID30103F.D
Sample Name	**AL-WKPem-001**		AL-WKPem-001
Misc Info	**0**		28-Nov-2013, 00:39:45
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 00:39:45**		1
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	55
Vial Number	**55**	IS Area 1	256276
Sample Multiplier	**1**	IS Area 2	320585

#	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	12.11	5533240	959.21	959.205
47)	TRH1	12.11	393718	68.25	68.252
48)	TRH2	16.91	433887	75.22	75.216
49)	TRH3	28.11	104913	18.19	18.187
50)	TRH4	32.70	15905.7	2.76	2.757
51)	TRH5	34.83	26043.6	4.51	4.515
52)	TRH6	43.63	63741.2	11.05	11.050
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	7.89	103488	19.74	98.7
23)	n-eicosane-d42	16.43	99015.6	19.40	97.2
34)	n-triacontane-d62	28.11	88640.5	20.36	101.9
1)	n-hexadecane-d34	12.11	256276	50.00	256276.000
16)	5a-androstane	16.91	320585	50.15	320585.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : FID30103F.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 00:39:45
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 02 09:37:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	256276	50.000	ug/mlm
16) I	5a-androstane	16.906	320585	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.893	103488	19.735	ug/mlm
23) S	n-eicosane-d42	16.426	99016	19.396	ug/mlm
34) S	n-triacontane-d62	28.110	88640	20.363	ug/mlm
Target Compounds					
2)	n-C8	0.000	0	N.D.	ug/ml
3)	n-C9	0.000	0	N.D.	ug/ml
4)	n-C10	0.000	0	N.D.	ug/mld
5)	n-C11	0.000	0	N.D.	ug/ml
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\FID30103\
Data File : FID30103F.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 00:39:45
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 02 09:37:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106f	5533244	959.205	ug/mlm
47)	TRH1	12.106f	393718	68.252	ug/mlm
48)	TRH2	16.906	433887	75.216	ug/mlm
49)	TRH3	28.110f	104913	18.187	ug/mlm
50)	TRH4	32.700f	15906	2.757	ug/mlm
51)	TRH5	34.828f	26044	4.515	ug/mlm
52)	TRH6	43.631	63741	11.050	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

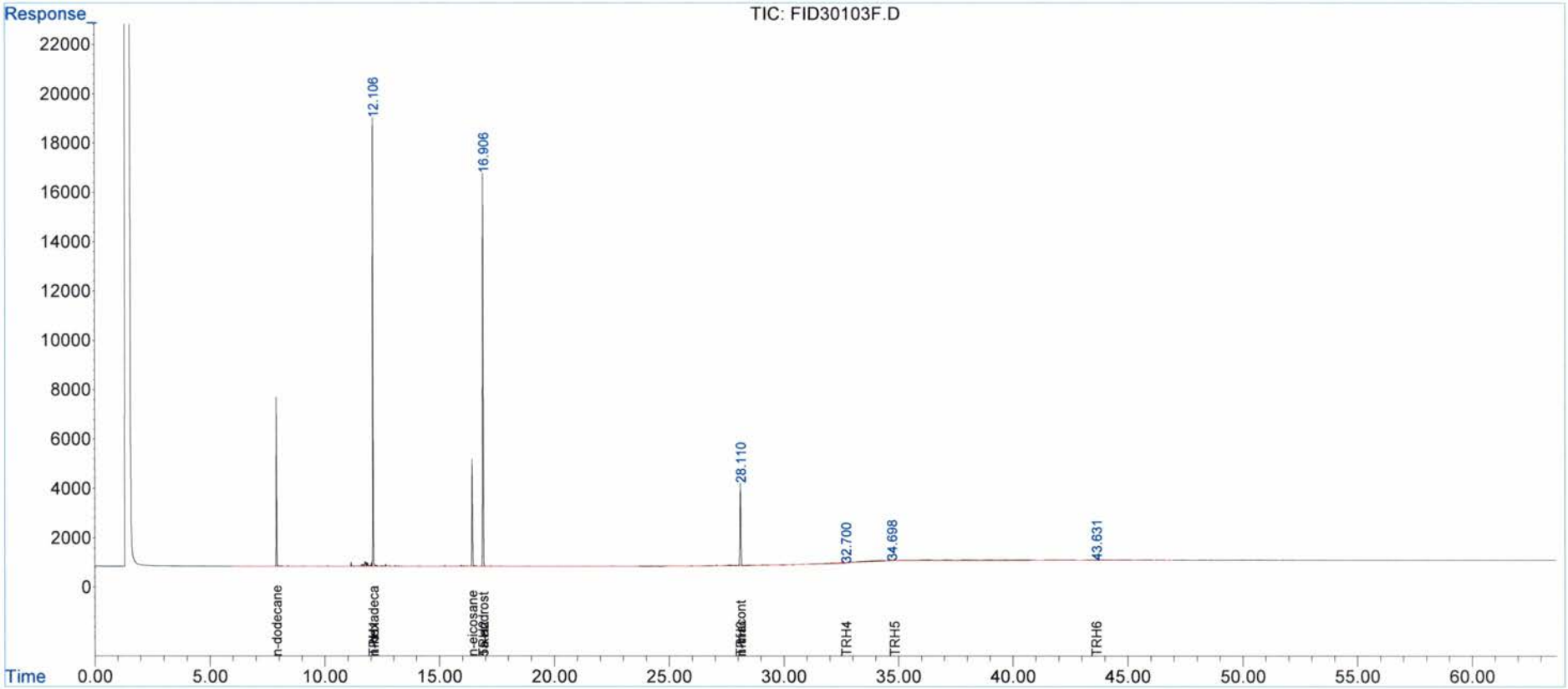
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : FID30103F.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 00:39:45
Operator : Meghan Dailey
Sample : AL-WKPem-001
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 02 09:37:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3166A.D**		ENV3166A.D
Sample Name	**Method Blank**		Method Blank
Misc Info	**0**		28-Nov-2013, 01:50:07
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 01:50:07**		0.06667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	56
Vial Number	**56**	IS Area 1	232097
Sample Multiplier	**0.06667**	IS Area 2	290735

#	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	12.10	4447820	56.68	56.683
47)	TRH1	7.89	115115	1.47	1.467
48)	TRH2	12.10	643531	8.20	8.201
49)	TRH3	23.10	8875.33	0.11	0.113
50)	TRH4	28.11	82167.3	1.05	1.047
51)	TRH5	34.39	6766.68	0.09	0.086
52)	TRH6	41.82	46510.1	0.59	0.593
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	7.89	79663.1	1.12	83.9
23)	n-eicosane-d42	16.42	86944.8	1.25	94.1
34)	n-triacontane-d62	28.11	76308	1.29	96.7
1)	n-hexadecane-d34	12.10	232097	3.33	232097.000
16)	5a-androstane	16.90	290735	50.15	290735.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166A.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 01:50:07
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.06667

Integration File: autoint1.e
Quant Time: Dec 02 09:38:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.104	232097	50.000	ug/mlm
16) I	5a-androstane	16.904	290735	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.892	79663	1.118	ug/mlm
23) S	n-eicosane-d42	16.424	86945	1.252	ug/mlm
34) S	n-triacontane-d62	28.108	76308	1.289	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/ml
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\FID30103\
Data File : ENV3166A.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 01:50:07
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.06667

Integration File: autoint1.e
Quant Time: Dec 02 09:38:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.104f	4447824	56.683	ug/mlm
47)	TRH1	7.892	115115	1.467	ug/mlm
48)	TRH2	12.104f	643531	8.201	ug/mlm
49)	TRH3	23.097f	8875	0.113	ug/mlm
50)	TRH4	28.108f	82167	1.047	ug/mlm
51)	TRH5	34.389f	6767	0.086	ug/mlm
52)	TRH6	41.823	46510	0.593	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

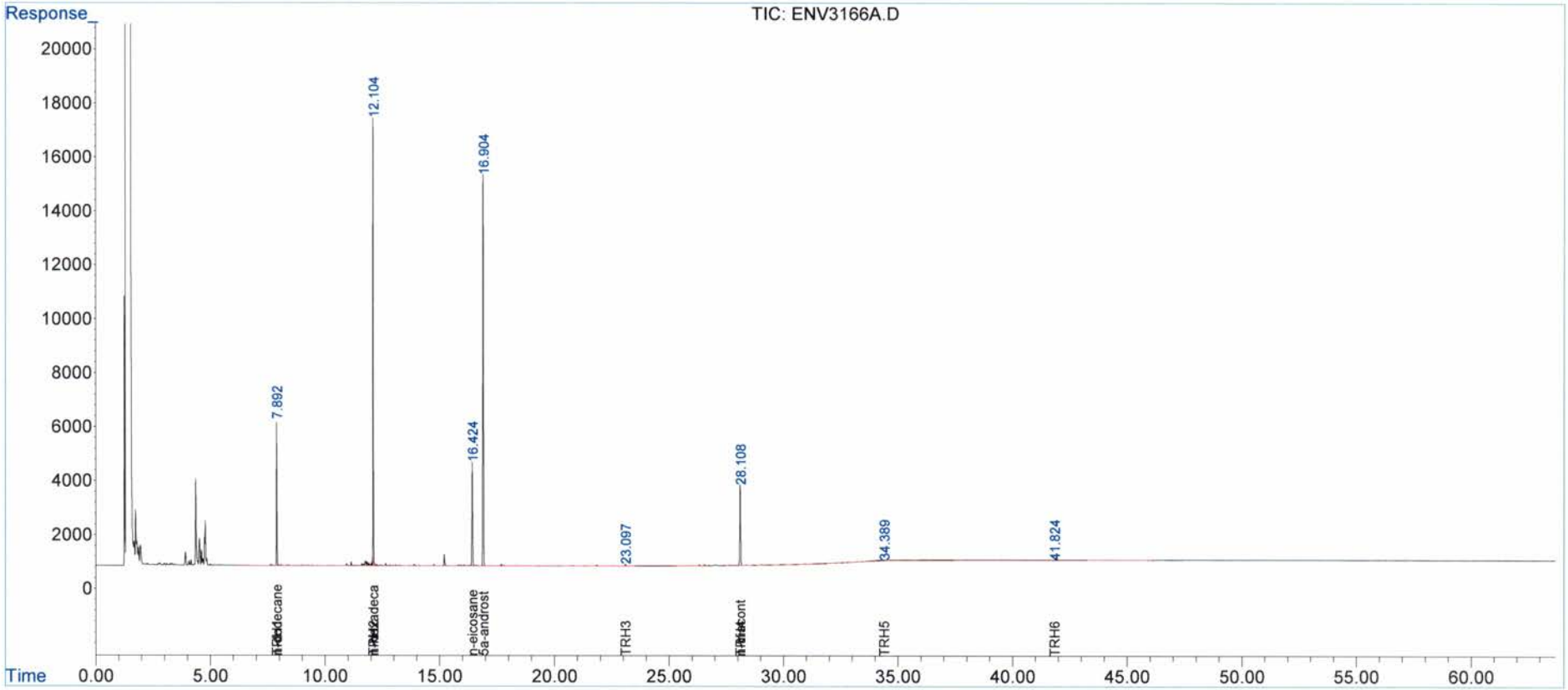
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166A.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 01:50:07
Operator : Meghan Dailey
Sample : Method Blank
Misc :
ALS Vial : 56 Sample Multiplier: 0.06667

Integration File: autoint1.e
Quant Time: Dec 02 09:38:20 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3166C.D**		ENV3166C.D
Sample Name	**MS (SED-DA-037R (0-0.5))**		MS (SED-DA-037R (0-0.5)
Misc Info	**0**		28-Nov-2013, 03:00:33
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 03:00:33**		0.0664011
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	57
Vial Number	**57**	IS Area 1	250976
Sample Multiplier	**0.0664011**	IS Area 2	321349

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	18315.2	0.25	0.250
3)	n-C9	4.13	29631.9	0.39	0.385
4)	n-C10	5.51	80423.2	0.99	0.990
5)	n-C11	6.85	130648	1.56	1.565
7)	n-C12	8.10	85964.8	0.97	0.972
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.26	59051.2	0.67	0.667
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.34	66678.2	0.73	0.734
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.36	65167.5	0.70	0.699
15)	n-C16	12.33	60855.6	0.65	0.653
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.34	107715	1.12	1.121
19)	Pristane	13.45	61103.6	0.62	0.622
20)	n-C18	14.42	118035	1.23	1.228
21)	Phytane	14.58	70026.9	0.72	0.718
22)	n-C19	15.59	208956	2.18	2.182
24)	n-C20	16.80	89036.3	0.93	0.930
25)	n-C21	18.05	132734	1.38	1.385
26)	n-C22	19.32	80674.5	0.83	0.830
27)	n-C23	20.58	175245	1.84	1.837
28)	n-C24	21.82	89444.6	0.94	0.938
29)	n-C25	23.04	190557	2.03	2.032
30)	n-C26	24.22	77151.8	0.83	0.834
31)	n-C27	25.39	205464	2.31	2.305
32)	n-C28	26.50	107544	1.23	1.229
33)	n-C29	27.60	213519	2.48	2.479
35)	n-C30	28.65	122242	1.44	1.436
36)	n-C31	29.70	197050	2.37	2.371
37)	n-C32	30.63	87939.3	1.06	1.063
38)	n-C33	31.67	155722	1.99	1.991
39)	n-C34	32.58	91867.5	1.14	1.138
40)	n-C35	33.46	124673	1.57	1.566
41)	n-C36	34.40	58132.2	0.70	0.703
42)	n-C37	35.44	110535	1.45	1.448
43)	n-C38	36.64	37208.7	0.51	0.509
44)	n-C39	38.04	41874.6	0.58	0.583
45)	n-C40	39.67	40944.5	0.62	0.618
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	7.89	83526.6	1.08	81.3
23)	n-eicosane-d42	16.43	90109.3	1.17	88.2
34)	n-triacontane-d62	28.12	85139.6	1.30	97.6
1)	n-hexadecane-d34	12.11	250976	3.32	250976.000
16)	5a-androstane	16.91	321349	50.15	321349.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166C.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 03:00:33
Operator : Meghan Dailey
Sample : MS (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:09:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	250976	50.000	ug/mlm
16) I	5a-androstane	16.909	321349	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.893	83527	1.080	ug/mlm
23) S	n-eicosane-d42	16.426	90109	1.169	ug/mlm
34) S	n-triacontane-d62	28.124	85140	1.296	ug/mlm
Target Compounds					
2)	n-C8	2.882	18315	0.250	ug/mlm
3)	n-C9	4.133	29632	0.385	ug/mlm
4)	n-C10	5.512	80423	0.990	ug/mlm
5)	n-C11	6.848	130648	1.565	ug/mlm
7)	n-C12	8.096	85965	0.971	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.256	59051	0.667	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.341	66678	0.734	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.362	65168	0.699	ug/mlm
15)	n-C16	12.332	60856	0.653	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.342	107715	1.121	ug/mlm
19)	Pristane	13.446	61104	0.622	ug/mlm
20)	n-C18	14.420	118035	1.228	ug/mlm
21)	Phytane	14.576	70027	0.718	ug/mlm
22)	n-C19	15.594	208956	2.182	ug/mlm
24)	n-C20	16.805	89036	0.930	ug/mlm
25)	n-C21	18.051	132734	1.385	ug/mlm
26)	n-C22	19.316	80674	0.830	ug/mlm
27)	n-C23	20.581	175245	1.837	ug/mlm
28)	n-C24	21.818	89445	0.938	ug/mlm
29)	n-C25	23.042	190557	2.032	ug/mlm
30)	n-C26	24.221	77152	0.834	ug/mlm
31)	n-C27	25.392	205464	2.305	ug/mlm
32)	n-C28	26.502	107544	1.229	ug/mlm
33)	n-C29	27.603	213519	2.479	ug/mlm
35)	n-C30	28.653	122242	1.436	ug/mlm
36)	n-C31	29.700	197050	2.371	ug/mlm
37)	n-C32	30.628	87939	1.063	ug/mlm
38)	n-C33	31.666	155722	1.991	ug/mlm
39)	n-C34	32.576	91867	1.138	ug/mlm
40)	n-C35	33.457	124673	1.566	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166C.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 03:00:33
Operator : Meghan Dailey
Sample : MS (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:09:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.400	58132	0.703	ug/mlm
42)	n-C37	35.437	110535	1.448	ug/mlm
43)	n-C38	36.641	37209	0.509	ug/mlm
44)	n-C39	38.039	41875	0.583	ug/mlm
45)	n-C40	39.668	40944	0.618	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

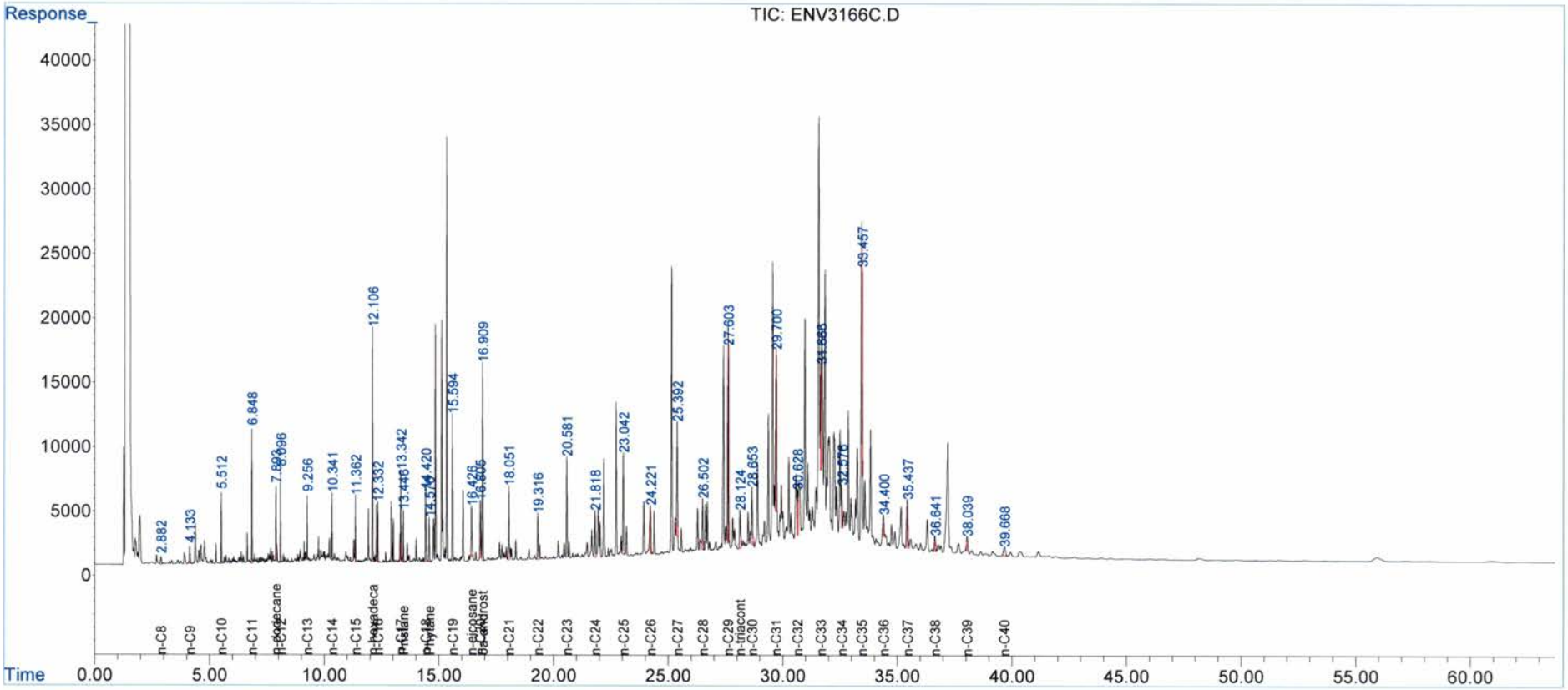
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166C.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 03:00:33
Operator : Meghan Dailey
Sample : MS (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 57 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:09:17 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3166D.D**		ENV3166D.D
Sample Name	**MSD (SED-DA-037R (0-0.5))**		MSD (SED-DA-037R (0-0.5
Misc Info	**0**		28-Nov-2013, 04:10:31
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 04:10:31**		0.0665779
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	58
Vial Number	**58**	IS Area 1	233946
Sample Multiplier	**0.0665779**	IS Area 2	295028

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	16692.3	0.24	0.245
3)	n-C9	4.14	27936.6	0.39	0.391
4)	n-C10	5.51	76022.2	1.01	1.007
5)	n-C11	6.85	120263	1.55	1.550
7)	n-C12	8.10	81135.4	0.99	0.986
8)	i-13	0.00	0	0.00	0.000
9)	i-14	0.00	0	0.00	0.000
10)	n-C13	9.26	56758	0.69	0.690
11)	i-15	0.00	0	0.00	0.000
12)	n-C14	10.34	63089.1	0.75	0.747
13)	i-16	0.00	0	0.00	0.000
14)	n-C15	11.36	61781.2	0.71	0.712
15)	n-C16	12.33	58377.1	0.67	0.674
17)	i-18	0.00	0	0.00	0.000
18)	n-C17	13.34	103798	1.18	1.180
19)	Pristane	13.45	57329.4	0.64	0.638
20)	n-C18	14.42	110435	1.25	1.254
21)	Phytane	14.58	65874.6	0.74	0.737
22)	n-C19	15.59	185808	2.12	2.119
24)	n-C20	16.81	85626.7	0.98	0.977
25)	n-C21	18.05	127567	1.45	1.453
26)	n-C22	19.32	76221.6	0.86	0.856
27)	n-C23	20.58	165399	1.89	1.893
28)	n-C24	21.82	83896.7	0.96	0.961
29)	n-C25	23.04	185491	2.16	2.160
30)	n-C26	24.22	74873.4	0.88	0.884
31)	n-C27	25.39	178920	2.19	2.192
32)	n-C28	26.50	94554.7	1.18	1.180
33)	n-C29	27.61	211206	2.68	2.678
35)	n-C30	28.65	122523	1.57	1.572
36)	n-C31	29.70	186263	2.45	2.448
37)	n-C32	30.63	87839.4	1.16	1.160
38)	n-C33	31.68	143939	2.01	2.010
39)	n-C34	32.58	83843	1.13	1.134
40)	n-C35	33.46	129193	1.77	1.773
41)	n-C36	34.40	53324.5	0.70	0.704
42)	n-C37	35.43	101033	1.45	1.445
43)	n-C38	36.65	31619	0.47	0.472
44)	n-C39	38.04	38157.4	0.58	0.580
45)	n-C40	39.67	39195.8	0.65	0.646
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	7.89	79587.4	1.11	83.1
23)	n-eicosane-d42	16.43	81065.2	1.15	86.4
34)	n-triacontane-d62	28.13	64833.5	1.08	81.0
1)	n-hexadecane-d34	12.11	233946	3.33	233946.000
16)	5a-androstane	16.91	295028	50.15	295028.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166D.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 04:10:31
Operator : Meghan Dailey
Sample : MSD (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Dec 05 18:13:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	233946	50.000 ug/mlm
16) I	5a-androstane	16.910	295028	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.894	79587	1.107 ug/mlm
23) S	n-eicosane-d42	16.427	81065	1.149 ug/mlm
34) S	n-triacontane-d62	28.125	64834	1.077 ug/mlm
Target Compounds				
2)	n-C8	2.883	16692	0.245 ug/mlm
3)	n-C9	4.137	27937	0.391 ug/mlm
4)	n-C10	5.514	76022	1.007 ug/mlm
5)	n-C11	6.850	120263	1.550 ug/mlm
7)	n-C12	8.097	81135	0.986 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	9.257	56758	0.690 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.342	63089	0.747 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.363	61781	0.712 ug/mlm
15)	n-C16	12.332	58377	0.674 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.342	103798	1.180 ug/mlm
19)	Pristane	13.447	57329	0.638 ug/mlm
20)	n-C18	14.421	110435	1.254 ug/mlm
21)	Phytane	14.577	65875	0.737 ug/mlm
22)	n-C19	15.594	185808	2.119 ug/mlm
24)	n-C20	16.806	85627	0.977 ug/mlm
25)	n-C21	18.052	127567	1.453 ug/mlm
26)	n-C22	19.317	76222	0.856 ug/mlm
27)	n-C23	20.582	165399	1.893 ug/mlm
28)	n-C24	21.820	83897	0.961 ug/mlm
29)	n-C25	23.044	185491	2.160 ug/mlm
30)	n-C26	24.223	74873	0.884 ug/mlm
31)	n-C27	25.393	178920	2.192 ug/mlm
32)	n-C28	26.503	94555	1.180 ug/mlm
33)	n-C29	27.607	211206	2.678 ug/mlm
35)	n-C30	28.654	122523	1.572 ug/mlm
36)	n-C31	29.697	186263	2.448 ug/mlm
37)	n-C32	30.633	87839	1.160 ug/mlm
38)	n-C33	31.677f	143939	2.010 ug/mlm
39)	n-C34	32.577	83843	1.134 ug/mlm
40)	n-C35	33.455	129193	1.773 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166D.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 04:10:31
Operator : Meghan Dailey
Sample : MSD (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Dec 05 18:13:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.403	53324	0.704	ug/mlm
42)	n-C37	35.434	101033	1.445	ug/mlm
43)	n-C38	36.646	31619	0.472	ug/mlm
44)	n-C39	38.038	38157	0.580	ug/mlm
45)	n-C40	39.671	39196	0.646	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

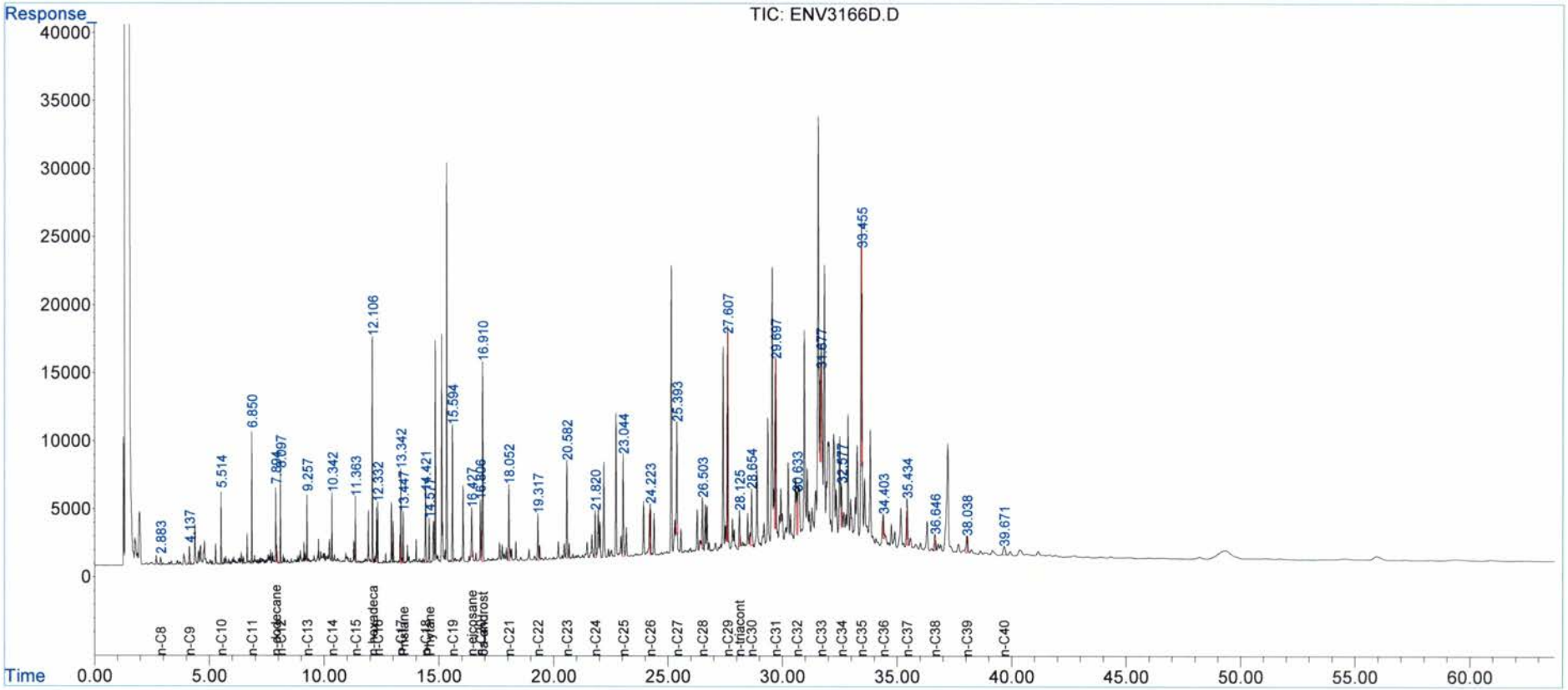
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166D.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 04:10:31
Operator : Meghan Dailey
Sample : MSD (SED-DA-037R (0-0.5))
Misc :
ALS Vial : 58 Sample Multiplier: 0.0665779

Integration File: autoint1.e
Quant Time: Dec 05 18:13:48 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ENV3166E.D**		ENV3166E.D
Sample Name	**Dup (SED-DA-033R (0-0.5))**		Dup (SED-DA-033R (0-0.5)
Misc Info	**0**		28-Nov-2013, 05:20:28
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 05:20:28**		0.0666667
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	59
Vial Number	**59**	IS Area 1	248762
Sample Multiplier	**0.0666667**	IS Area 2	304694

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	1803.7	0.02	0.025
3)	n-C9	4.14	1762.69	0.02	0.023
4)	n-C10	5.51	14050.1	0.18	0.175
5)	n-C11	6.85	21565.3	0.26	0.262
7)	n-C12	8.10	8946.77	0.10	0.102
8)	i-13	8.28	1036.9	0.01	0.012
9)	i-14	8.97	1859.9	0.02	0.021
10)	n-C13	9.26	2693.74	0.03	0.031
11)	i-15	10.13	1496.74	0.02	0.016
12)	n-C14	10.34	3888.54	0.04	0.043
13)	i-16	11.04	716.823	0.01	0.008
14)	n-C15	11.36	1719.4	0.02	0.019
15)	n-C16	12.33	1865.19	0.02	0.020
17)	i-18	12.84	560.972	0.01	0.006
18)	n-C17	13.34	10880.8	0.12	0.120
19)	Pristane	13.44	1213.64	0.01	0.013
20)	n-C18	14.41	14858.8	0.16	0.164
21)	Phytane	14.58	2288.1	0.02	0.025
22)	n-C19	15.59	48840.2	0.54	0.540
24)	n-C20	16.81	4599.13	0.05	0.051
25)	n-C21	18.05	9070.68	0.10	0.100
26)	n-C22	19.32	4910.11	0.05	0.053
27)	n-C23	20.57	19884.3	0.22	0.221
28)	n-C24	21.82	8130.06	0.09	0.090
29)	n-C25	23.04	21380.2	0.24	0.241
30)	n-C26	24.20	111344	1.27	1.275
31)	n-C27	25.38	32752	0.39	0.389
32)	n-C28	26.50	16088.7	0.19	0.195
33)	n-C29	27.59	132268	1.63	1.626
35)	n-C30	28.65	20729.1	0.26	0.258
36)	n-C31	29.68	147921	1.89	1.885
37)	n-C32	30.65	10079.4	0.13	0.129
38)	n-C33	31.65	127905	1.73	1.732
39)	n-C34	32.55	11675.3	0.15	0.153
40)	n-C35	33.44	104471	1.39	1.390
41)	n-C36	34.38	4658.32	0.06	0.060
42)	n-C37	35.41	48403.6	0.67	0.671
43)	n-C38	36.62	3070.13	0.04	0.044
44)	n-C39	38.05	2535.11	0.04	0.037
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	25.15	18589100	226.04	226.037
47)	TRH1	12.11	962902	11.71	11.709
48)	TRH2	16.91	963533	11.72	11.716
49)	TRH3	25.15	2062770	25.08	25.083
50)	TRH4	31.54	3595910	43.72	43.725
51)	TRH5	35.41	513443	6.24	6.243
52)	TRH6	49.34	332046	4.04	4.038
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	7.89	81738.2	1.07	80.3
23)	n-eicosane-d42	16.43	90948	1.25	93.9
34)	n-triacontane-d62	28.12	78651	1.27	95.1
1)	n-hexadecane-d34	12.11	248762	3.33	248762.000
16)	5a-androstane	16.91	304694	50.15	304694.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166E.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 05:20:28
Operator : Meghan Dailey
Sample : Dup (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Dec 02 15:03:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.107	248762	50.000	ug/mlm
16) I	5a-androstane	16.908	304694	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.894	81738	1.071	ug/mlm
23) S	n-eicosane-d42	16.426	90948	1.250	ug/mlm
34) S	n-triacontane-d62	28.117	78651	1.267	ug/mlm
Target Compounds					
2)	n-C8	2.882	1804	0.025	ug/mlm
3)	n-C9	4.142	1763	0.023	ug/mlm
4)	n-C10	5.513	14050	0.175	ug/mlm
5)	n-C11	6.848	21565	0.262	ug/mlm
7)	n-C12	8.097	8947	0.102	ug/mlm
8)	i-13	8.283	1037	0.012	ug/mlm
9)	i-14	8.968	1860	0.021	ug/mlm
10)	n-C13	9.257	2694	0.031	ug/mlm
11)	i-15	10.125	1497	0.016	ug/mlm
12)	n-C14	10.342	3889	0.043	ug/mlm
13)	i-16	11.035	717	0.008	ug/mlm
14)	n-C15	11.362	1719	0.019	ug/mlm
15)	n-C16	12.335	1865	0.020	ug/mlm
17)	i-18	12.835	561	0.006	ug/mlm
18)	n-C17	13.340	10881	0.120	ug/mlm
19)	Pristane	13.444	1214	0.013	ug/mlm
20)	n-C18	14.413	14859	0.164	ug/mlm
21)	Phytane	14.581	2288	0.025	ug/mlm
22)	n-C19	15.590	48840	0.540	ug/mlm
24)	n-C20	16.810	4599	0.051	ug/mlm
25)	n-C21	18.050	9071	0.100	ug/mlm
26)	n-C22	19.315	4910	0.053	ug/mlm
27)	n-C23	20.575	19884	0.221	ug/mlm
28)	n-C24	21.817	8130	0.090	ug/mlm
29)	n-C25	23.036	21380	0.241	ug/mlm
30)	n-C26	24.198	111344	1.275	ug/mlm
31)	n-C27	25.378	32752	0.389	ug/mlm
32)	n-C28	26.497	16089	0.195	ug/mlm
33)	n-C29	27.594	132268	1.626	ug/mlm
35)	n-C30	28.648	20729	0.258	ug/mlm
36)	n-C31	29.678	147921	1.885	ug/mlm
37)	n-C32	30.647	10079	0.129	ug/mlm
38)	n-C33	31.646	127905	1.732	ug/mlm
39)	n-C34	32.554	11675	0.153	ug/mlm
40)	n-C35	33.436	104471	1.390	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166E.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 05:20:28
Operator : Meghan Dailey
Sample : Dup (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Dec 02 15:03:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.378	4658	0.060	ug/mlm
42)	n-C37	35.409	48404	0.671	ug/mlm
43)	n-C38	36.618	3070	0.044	ug/mlm
44)	n-C39	38.049	2535	0.037	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	25.149	18589133	226.037	ug/mlm
47)	TRH1	12.107f	962902	11.709	ug/mlm
48)	TRH2	16.908	963533	11.716	ug/mlm
49)	TRH3	25.149f	2062774	25.083	ug/mlm
50)	TRH4	31.540f	3595910	43.725	ug/mlm
51)	TRH5	35.409f	513443	6.243	ug/mlm
52)	TRH6	49.336f	332046	4.038	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

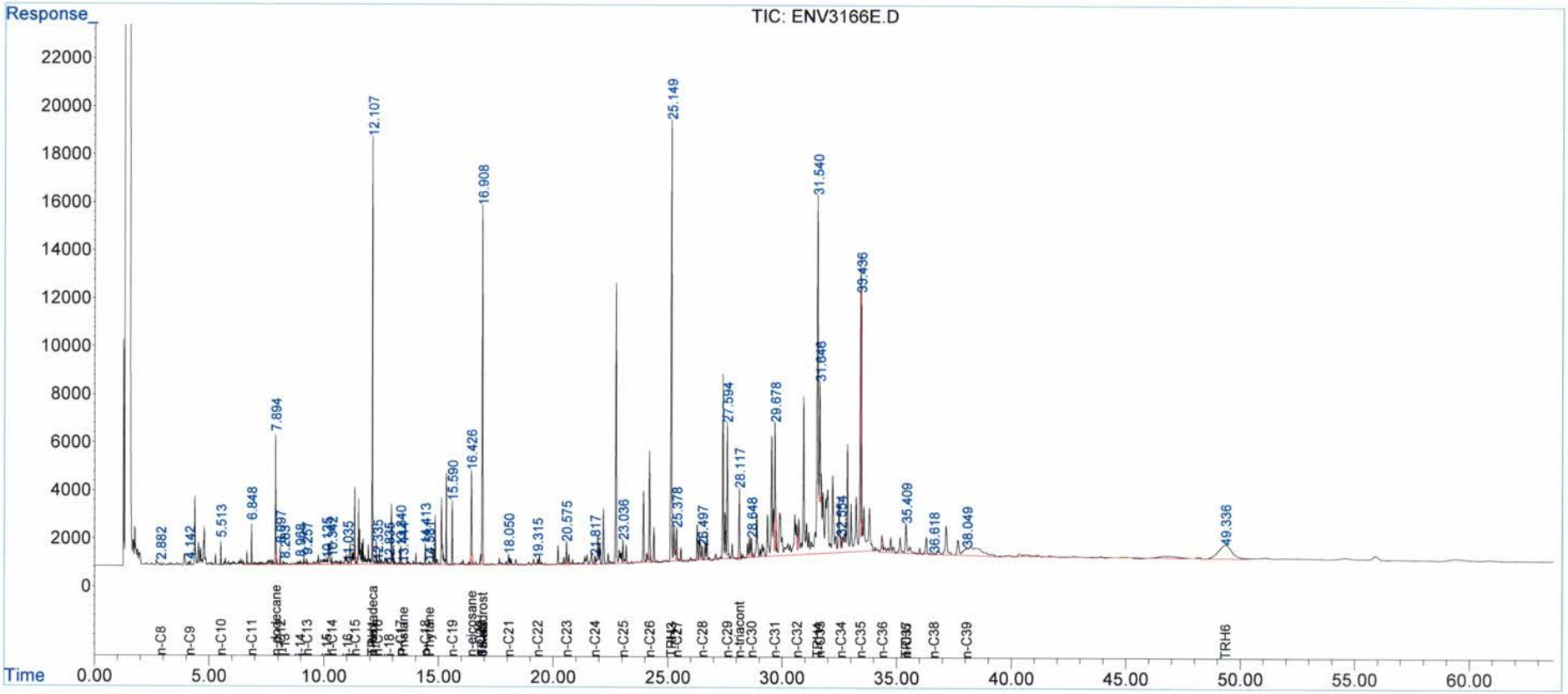
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ENV3166E.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 05:20:28
Operator : Meghan Dailey
Sample : Dup (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 59 Sample Multiplier: 0.0666667

Integration File: autoint1.e
Quant Time: Dec 02 15:03:09 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2008.D**		ARC2008.D
Sample Name	**SED-DA-036R (0-0.5)**		SED-DA-036R (0-0.5)
Misc Info	**0**		28-Nov-2013, 06:30:55
Data File Path	**P:\2013\J13034\Aliphatics\ENV 3166\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 06:30:55**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	60
Vial Number	**60**	IS Area 1	243589
Sample Multiplier	**0.0666223**	IS Area 2	304961

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	3766.65	0.05	0.053
3)	n-C9	4.14	4437.9	0.06	0.060
4)	n-C10	5.51	34851.6	0.44	0.443
5)	n-C11	6.85	57868.6	0.72	0.717
7)	n-C12	8.10	23352.2	0.27	0.273
8)	i-13	8.28	2726.06	0.03	0.032
9)	i-14	8.98	16405.7	0.19	0.187
10)	n-C13	9.26	6249.75	0.07	0.073
11)	i-15	10.13	2111.89	0.02	0.023
12)	n-C14	10.34	8311.77	0.09	0.095
13)	i-16	11.04	2416.01	0.03	0.027
14)	n-C15	11.36	3595.59	0.04	0.040
15)	n-C16	12.33	3266.17	0.04	0.036
17)	i-18	12.84	1044.6	0.01	0.011
18)	n-C17	13.34	25853.7	0.28	0.285
19)	Pristane	13.44	2627.36	0.03	0.028
20)	n-C18	14.41	48364.4	0.53	0.532
21)	Phytane	14.58	8160.9	0.09	0.088
22)	n-C19	15.59	103845	1.15	1.147
24)	n-C20	16.80	22236.4	0.25	0.246
25)	n-C21	18.05	45628.6	0.50	0.503
26)	n-C22	19.32	19873.7	0.22	0.216
27)	n-C23	20.58	77256.3	0.86	0.856
28)	n-C24	21.82	22560.5	0.25	0.250
29)	n-C25	23.04	76594.7	0.86	0.864
30)	n-C26	24.21	60516.1	0.69	0.692
31)	n-C27	25.39	106478	1.26	1.263
32)	n-C28	26.50	31546.5	0.38	0.381
33)	n-C29	27.60	130349	1.60	1.600
35)	n-C30	28.65	34117.1	0.42	0.424
36)	n-C31	29.69	87337.1	1.11	1.111
37)	n-C32	30.63	45392.3	0.58	0.580
38)	n-C33	31.66	77463.5	1.05	1.047
39)	n-C34	32.54	30339.7	0.40	0.397
40)	n-C35	33.47	53402.5	0.71	0.709
41)	n-C36	34.37	25206.4	0.32	0.322
42)	n-C37	35.42	32009.6	0.44	0.443
43)	n-C38	36.64	5845.48	0.08	0.085
44)	n-C39	38.04	6429.71	0.09	0.095
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	31.57	37607700	456.59	456.591
47)	TRH1	7.89	653823	7.94	7.938
48)	TRH2	15.35	2467430	29.96	29.957
49)	TRH3	25.16	4017430	48.78	48.775
50)	TRH4	31.57	7462140	90.60	90.597
51)	TRH5	33.44	2269120	27.55	27.549
52)	TRH6	40.34	101052	1.23	1.227
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	7.89	80748.8	1.08	81.0
23)	n-eicosane-d42	16.43	93516.9	1.28	96.5
34)	n-triacontane-d62	28.12	77287.1	1.24	93.4
1)	n-hexadecane-d34	12.11	243589	3.33	243589.000
16)	5a-androstane	16.91	304961	50.15	304961.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2008.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 06:30:55
Operator : Meghan Dailey
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 60 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 15:42:42 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	243589	50.000 ug/mlm
16) I	5a-androstane	16.909	304961	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.893	80749	1.079 ug/mlm
23) S	n-eicosane-d42	16.426	93517	1.283 ug/mlm
34) S	n-triacontane-d62	28.125	77287	1.243 ug/mlm
Target Compounds				
2)	n-C8	2.879	3767	0.053 ug/mlm
3)	n-C9	4.139	4438	0.060 ug/mlm
4)	n-C10	5.512	34852	0.443 ug/mlm
5)	n-C11	6.848	57869	0.717 ug/mlm
7)	n-C12	8.095	23352	0.273 ug/mlm
8)	i-13	8.281	2726	0.032 ug/mlm
9)	i-14	8.983	16406	0.187 ug/mlm
10)	n-C13	9.256	6250	0.073 ug/mlm
11)	i-15	10.126	2112	0.023 ug/mlm
12)	n-C14	10.342	8312	0.095 ug/mlm
13)	i-16	11.038	2416	0.027 ug/mlm
14)	n-C15	11.361	3596	0.040 ug/mlm
15)	n-C16	12.333	3266	0.036 ug/mlm
17)	i-18	12.843	1045	0.011 ug/mlm
18)	n-C17	13.340	25854	0.285 ug/mlm
19)	Pristane	13.443	2627	0.028 ug/mlm
20)	n-C18	14.413	48364	0.532 ug/mlm
21)	Phytane	14.580	8161	0.088 ug/mlm
22)	n-C19	15.591	103845	1.147 ug/mlm
24)	n-C20	16.803	22236	0.246 ug/mlm
25)	n-C21	18.049	45629	0.503 ug/mlm
26)	n-C22	19.315	19874	0.216 ug/mlm
27)	n-C23	20.579	77256	0.856 ug/mlm
28)	n-C24	21.817	22560	0.250 ug/mlm
29)	n-C25	23.039	76595	0.864 ug/mlm
30)	n-C26	24.205	60516	0.692 ug/mlm
31)	n-C27	25.386	106478	1.263 ug/mlm
32)	n-C28	26.497	31546	0.381 ug/mlm
33)	n-C29	27.600	130349	1.600 ug/mlm
35)	n-C30	28.654	34117	0.424 ug/mlm
36)	n-C31	29.687	87337	1.111 ug/mlm
37)	n-C32	30.632	45392	0.580 ug/mlm
38)	n-C33	31.663	77463	1.047 ug/mlm
39)	n-C34	32.537	30340	0.397 ug/mlm
40)	n-C35	33.467	53402	0.709 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2008.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 06:30:55
Operator : Meghan Dailey
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 60 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 15:42:42 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.367	25206	0.322	ug/mlm
42)	n-C37	35.424	32010	0.443	ug/mlm
43)	n-C38	36.637	5845	0.085	ug/mlm
44)	n-C39	38.044	6430	0.095	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	31.571	37607740	456.591	ug/mlm
47)	TRH1	7.893	653823	7.938	ug/mlm
48)	TRH2	15.345	2467429	29.957	ug/mlm
49)	TRH3	25.160f	4017430	48.775	ug/mlm
50)	TRH4	31.571f	7462135	90.597	ug/mlm
51)	TRH5	33.443f	2269117	27.549	ug/mlm
52)	TRH6	40.344	101052	1.227	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

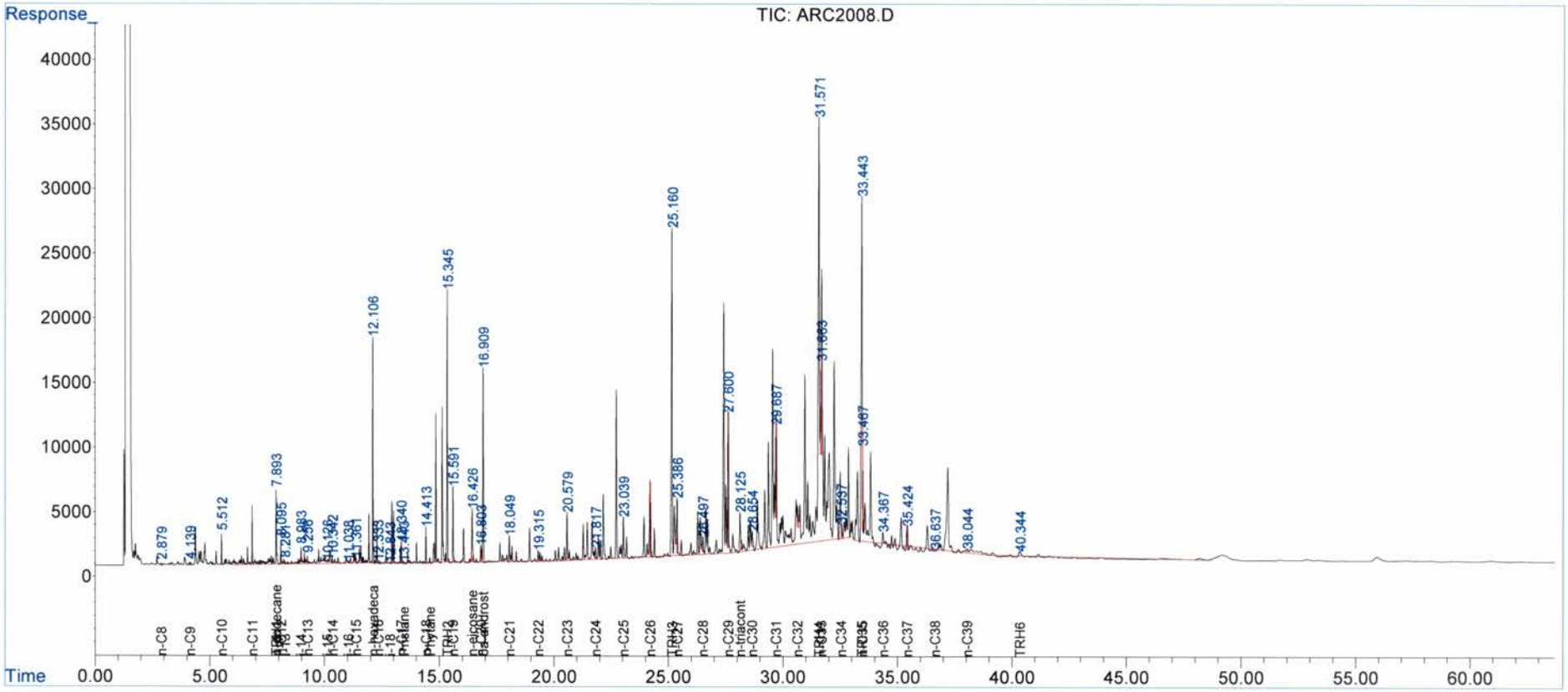
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2008.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 06:30:55
Operator : Meghan Dailey
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 60 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 15:42:42 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2011.D**		ARC2011.D
Sample Name	**SED-DA-037R (0-0.5)**		SED-DA-037R (0-0.5)
Misc Info	**0**		28-Nov-2013, 08:51:49
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 08:51:49**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	62
Vial Number	**62**	IS Area 1	250145
Sample Multiplier	**0.0666223**	IS Area 2	316806

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	5295.99	0.07	0.073
3)	n-C9	4.13	2371.96	0.03	0.031
4)	n-C10	5.51	42357.8	0.52	0.525
5)	n-C11	6.85	87769	1.06	1.058
7)	n-C12	8.09	42012	0.48	0.478
8)	i-13	8.28	4827.12	0.05	0.055
9)	i-14	8.97	15964.2	0.18	0.177
10)	n-C13	9.25	11983	0.14	0.136
11)	i-15	10.10	1069.89	0.01	0.012
12)	n-C14	10.34	15343	0.17	0.170
13)	i-16	11.04	3439.07	0.04	0.037
14)	n-C15	11.36	10575	0.11	0.114
15)	n-C16	12.33	5498.06	0.06	0.059
17)	i-18	12.84	2291.66	0.02	0.024
18)	n-C17	13.34	45396.5	0.48	0.481
19)	Pristane	13.44	3992.85	0.04	0.041
20)	n-C18	14.41	60050.4	0.64	0.636
21)	Phytane	14.58	9261.46	0.10	0.097
22)	n-C19	15.59	135896	1.44	1.444
24)	n-C20	16.80	34903.9	0.37	0.371
25)	n-C21	18.05	64165.4	0.68	0.681
26)	n-C22	19.32	21307.7	0.22	0.223
27)	n-C23	20.58	112190	1.20	1.197
28)	n-C24	21.81	32781.8	0.35	0.350
29)	n-C25	23.04	123814	1.34	1.344
30)	n-C26	24.21	40250	0.44	0.443
31)	n-C27	25.39	134200	1.53	1.532
32)	n-C28	26.50	41442.7	0.48	0.482
33)	n-C29	27.60	145605	1.72	1.720
35)	n-C30	28.65	61455.7	0.73	0.735
36)	n-C31	29.69	129671	1.59	1.588
37)	n-C32	30.63	43209.1	0.53	0.532
38)	n-C33	31.67	85080.4	1.11	1.107
39)	n-C34	32.57	38141	0.48	0.481
40)	n-C35	33.46	71598	0.92	0.916
41)	n-C36	34.37	29072.4	0.36	0.358
42)	n-C37	35.43	58354.5	0.78	0.778
43)	n-C38	36.63	4140.3	0.06	0.058
44)	n-C39	38.04	11397.2	0.16	0.161
45)	n-C40	39.69	813.478	0.01	0.013
46)	TPH	31.57	38758000	452.96	452.963
47)	TRH1	12.11	1261190	14.74	14.740
48)	TRH2	15.35	3451480	40.34	40.337
49)	TRH3	25.15	5576360	65.17	65.171
50)	TRH4	31.57	7992370	93.41	93.406
51)	TRH5	37.21	690748	8.07	8.073
52)	TRH6	41.15	98447.4	1.15	1.151
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	7.89	79548.6	1.04	77.7
23)	n-eicosane-d42	16.43	70491.4	0.93	70.0
34)	n-triacontane-d62	28.12	77114.6	1.19	89.7
1)	n-hexadecane-d34	12.11	250145	3.33	250145.000
16)	5a-androstane	16.91	316806	50.15	316806.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2011.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 08:51:49
Operator : Meghan Dailey
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 10:56:43 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	250145	50.000 ug/mlm
16) I	5a-androstane	16.909	316806	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.893	79549	1.035 ug/mlm
23) S	n-eicosane-d42	16.426	70491	0.931 ug/mlm
34) S	n-triacontane-d62	28.124	77115	1.194 ug/mlm
Target Compounds				
2)	n-C8	2.875	5296	0.073 ug/mlm
3)	n-C9	4.134	2372	0.031 ug/mlm
4)	n-C10	5.510	42358	0.525 ug/mlm
5)	n-C11	6.847	87769	1.058 ug/mlm
7)	n-C12	8.095	42012	0.478 ug/mlm
8)	i-13	8.280	4827	0.055 ug/mlm
9)	i-14	8.966	15964	0.177 ug/mlm
10)	n-C13	9.255	11983	0.136 ug/mlm
11)	i-15	10.099	1070	0.012 ug/mlm
12)	n-C14	10.341	15343	0.170 ug/mlm
13)	i-16	11.037	3439	0.037 ug/mlm
14)	n-C15	11.362	10575	0.114 ug/mlm
15)	n-C16	12.331	5498	0.059 ug/mlm
17)	i-18	12.842	2292	0.024 ug/mlm
18)	n-C17	13.340	45396	0.481 ug/mlm
19)	Pristane	13.441	3993	0.041 ug/mlm
20)	n-C18	14.412	60050	0.636 ug/mlm
21)	Phytane	14.579	9261	0.097 ug/mlm
22)	n-C19	15.592	135896	1.444 ug/mlm
24)	n-C20	16.802	34904	0.371 ug/mlm
25)	n-C21	18.047	64165	0.681 ug/mlm
26)	n-C22	19.315	21308	0.223 ug/mlm
27)	n-C23	20.578	112190	1.197 ug/mlm
28)	n-C24	21.814	32782	0.350 ug/mlm
29)	n-C25	23.041	123814	1.344 ug/mlm
30)	n-C26	24.209	40250	0.443 ug/mlm
31)	n-C27	25.388	134200	1.532 ug/mlm
32)	n-C28	26.498	41443	0.482 ug/mlm
33)	n-C29	27.600	145605	1.720 ug/mlm
35)	n-C30	28.651	61456	0.735 ug/mlm
36)	n-C31	29.693	129671	1.588 ug/mlm
37)	n-C32	30.629	43209	0.532 ug/mlm
38)	n-C33	31.667	85080	1.107 ug/mlm
39)	n-C34	32.573	38141	0.481 ug/mlm
40)	n-C35	33.465	71598	0.916 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2011.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 08:51:49
Operator : Meghan Dailey
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 10:56:43 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.366	29072	0.358	ug/mlm
42)	n-C37	35.425	58354	0.778	ug/mlm
43)	n-C38	36.630	4140	0.058	ug/mlm
44)	n-C39	38.041	11397	0.161	ug/mlm
45)	n-C40	39.692	813	0.013	ug/mlm
46)	TPH	31.574	38757989	452.963	ug/mlm
47)	TRH1	12.106f	1261193	14.740	ug/mlm
48)	TRH2	15.348	3451484	40.337	ug/mlm
49)	TRH3	25.154f	5576361	65.171	ug/mlm
50)	TRH4	31.574f	7992368	93.406	ug/mlm
51)	TRH5	37.205f	690748	8.073	ug/mlm
52)	TRH6	41.145	98447	1.151	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

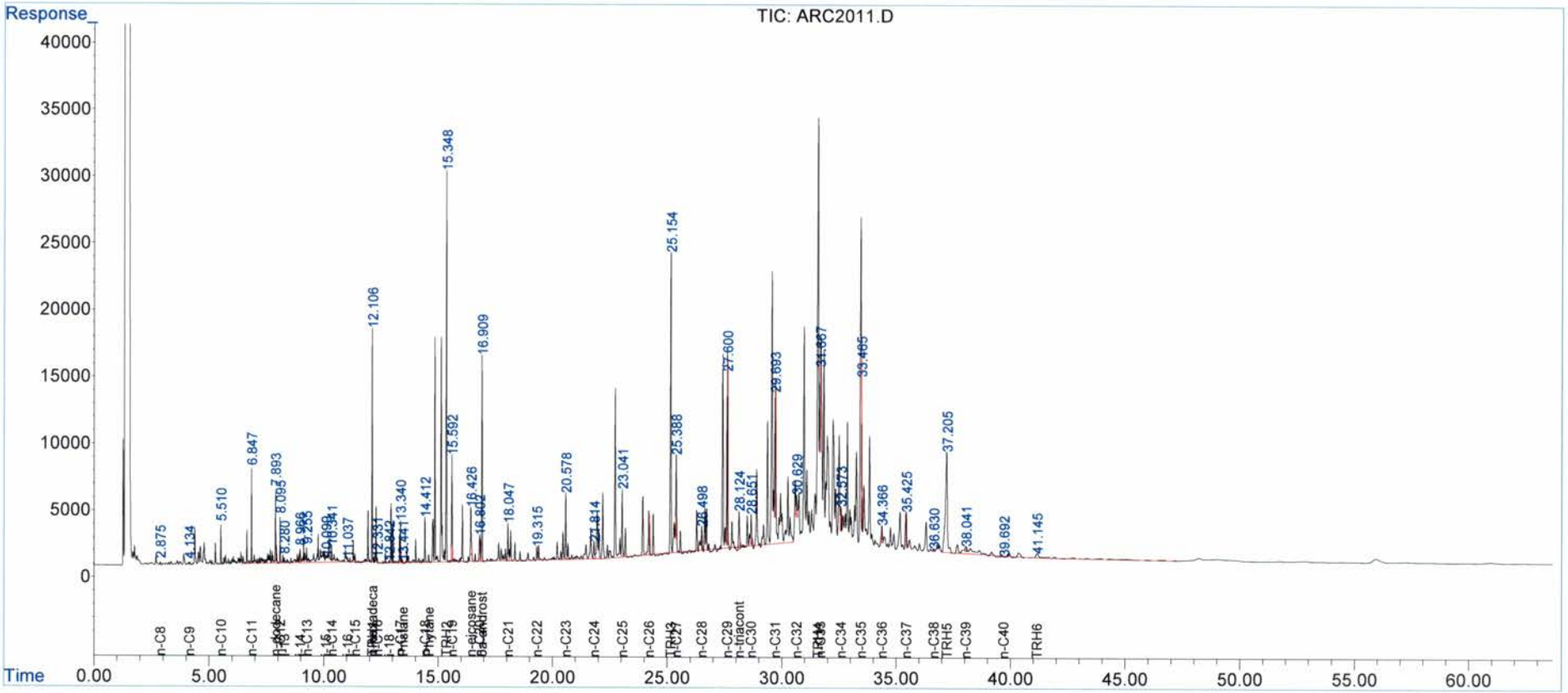
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2011.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 08:51:49
Operator : Meghan Dailey
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 62 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 02 10:56:43 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2015.D**		ARC2015.D
Sample Name	**SED-DA-038R (0-0.5)**		SED-DA-038R (0-0.5)
Misc Info	**0**		28-Nov-2013, 10:02:20
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 10:02:20**		0.0660939
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	63
Vial Number	**63**	IS Area 1	255547
Sample Multiplier	**0.0660939**	IS Area 2	318519

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	7660.18	0.10	0.102
3)	n-C9	4.14	3937.76	0.05	0.050
4)	n-C10	5.51	60417.2	0.73	0.727
5)	n-C11	6.85	123549	1.45	1.447
7)	n-C12	8.10	58674.5	0.65	0.648
8)	i-13	8.28	6016.94	0.07	0.066
9)	i-14	8.97	13583.4	0.15	0.146
10)	n-C13	9.26	16316.4	0.18	0.180
11)	i-15	10.10	1162.44	0.01	0.012
12)	n-C14	10.34	20963.8	0.23	0.226
13)	i-16	11.04	6193.51	0.06	0.065
14)	n-C15	11.36	8087.77	0.08	0.085
15)	n-C16	12.33	7600.84	0.08	0.080
17)	i-18	12.84	3158.13	0.03	0.033
18)	n-C17	13.34	41196.4	0.43	0.431
19)	Pristane	13.44	2943.57	0.03	0.030
20)	n-C18	14.41	72902.8	0.76	0.761
21)	Phytane	14.58	10846.8	0.11	0.112
22)	n-C19	15.60	193674	2.03	2.031
24)	n-C20	16.81	56532	0.59	0.593
25)	n-C21	18.05	105413	1.10	1.104
26)	n-C22	19.32	30535.4	0.32	0.315
27)	n-C23	20.58	133938	1.41	1.410
28)	n-C24	21.82	38727.8	0.41	0.408
29)	n-C25	23.04	137191	1.47	1.469
30)	n-C26	24.23	52805.1	0.57	0.573
31)	n-C27	25.39	147009	1.66	1.656
32)	n-C28	26.51	51233.4	0.59	0.588
33)	n-C29	27.61	154958	1.81	1.807
35)	n-C30	28.66	50802.3	0.60	0.599
36)	n-C31	29.71	278774	3.37	3.369
37)	n-C32	30.64	24874.6	0.30	0.302
38)	n-C33	31.57	367483	4.72	4.719
39)	n-C34	32.55	22311.3	0.28	0.278
40)	n-C35	33.46	322474	4.07	4.069
41)	n-C36	34.38	17339.9	0.21	0.210
42)	n-C37	35.43	86544.1	1.14	1.138
43)	n-C38	36.65	7628.23	0.10	0.105
44)	n-C39	38.04	19927.9	0.28	0.278
45)	n-C40	39.78	6942.81	0.11	0.105
46)	TPH	15.35	52268700	602.76	602.757
47)	TRH1	6.85	1576990	18.19	18.186
48)	TRH2	15.35	4031540	46.49	46.491
49)	TRH3	31.57	11000700	126.86	126.859
50)	TRH4	33.45	3266070	37.66	37.664
51)	TRH5	40.37	285125	3.29	3.288
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	7.89	80522.2	1.02	77.0
23)	n-eicosane-d42	16.43	98159.4	1.28	97.0
34)	n-triacontane-d62	28.13	76020.1	1.16	87.9
1)	n-hexadecane-d34	12.11	255547	3.30	255547.000
16)	5a-androstane	16.91	318519	50.15	318519.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2015.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 10:02:20
Operator : Meghan Dailey
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0660939

Integration File: autoint1.e
Quant Time: Dec 05 18:39:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	255547	50.000 ug/mlm
16) I	5a-androstane	16.912	318519	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.894	80522	1.018 ug/mlm
23) S	n-eicosane-d42	16.429	98159	1.279 ug/mlm
34) S	n-triacontane-d62	28.127	76020	1.162 ug/mlm
Target Compounds				
2)	n-C8	2.877	7660	0.102 ug/mlm
3)	n-C9	4.138	3938	0.050 ug/mlm
4)	n-C10	5.512	60417	0.727 ug/mlm
5)	n-C11	6.848	123549	1.447 ug/mlm
7)	n-C12	8.096	58674	0.648 ug/mlm
8)	i-13	8.281	6017	0.066 ug/mlm
9)	i-14	8.966	13583	0.146 ug/mlm
10)	n-C13	9.256	16316	0.180 ug/mlm
11)	i-15	10.102	1162	0.012 ug/mlm
12)	n-C14	10.342	20964	0.226 ug/mlm
13)	i-16	11.038	6194	0.065 ug/mlm
14)	n-C15	11.362	8088	0.085 ug/mlm
15)	n-C16	12.332	7601	0.080 ug/mlm
17)	i-18	12.843	3158	0.033 ug/mlm
18)	n-C17	13.341	41196	0.431 ug/mlm
19)	Pristane	13.440	2944	0.030 ug/mlm
20)	n-C18	14.414	72903	0.761 ug/mlm
21)	Phytane	14.580	10847	0.112 ug/mlm
22)	n-C19	15.596	193674	2.031 ug/mlm
24)	n-C20	16.807	56532	0.593 ug/mlm
25)	n-C21	18.049	105413	1.104 ug/mlm
26)	n-C22	19.317	30535	0.315 ug/mlm
27)	n-C23	20.584	133938	1.410 ug/mlm
28)	n-C24	21.820	38728	0.408 ug/mlm
29)	n-C25	23.044	137191	1.469 ug/mlm
30)	n-C26	24.227	52805	0.573 ug/mlm
31)	n-C27	25.395	147009	1.656 ug/mlm
32)	n-C28	26.506	51233	0.588 ug/mlm
33)	n-C29	27.607	154958	1.807 ug/mlm
35)	n-C30	28.660	50802	0.599 ug/mlm
36)	n-C31	29.705	278774	3.369 ug/mlm
37)	n-C32	30.637	24875	0.302 ug/mlm
38)	n-C33	31.572f	367483	4.719 ug/mlm
39)	n-C34	32.548	22311	0.278 ug/mlm
40)	n-C35	33.456	322474	4.069 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2015.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 10:02:20
Operator : Meghan Dailey
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0660939

Integration File: autoint1.e
Quant Time: Dec 05 18:39:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.378	17340	0.210	ug/mlm
42)	n-C37	35.431	86544	1.138	ug/mlm
43)	n-C38	36.648	7628	0.105	ug/mlm
44)	n-C39	38.044	19928	0.278	ug/mlm
45)	n-C40	39.776f	6943	0.105	ug/mlm
46)	TPH	15.353	52268710	602.757	ug/mlm
47)	TRH1	6.848	1576991	18.186	ug/mlm
48)	TRH2	15.353	4031537	46.491	ug/mlm
49)	TRH3	31.572f	11000691	126.859	ug/mlm
50)	TRH4	33.453f	3266069	37.664	ug/mlm
51)	TRH5	40.373f	285125	3.288	ug/mlm
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

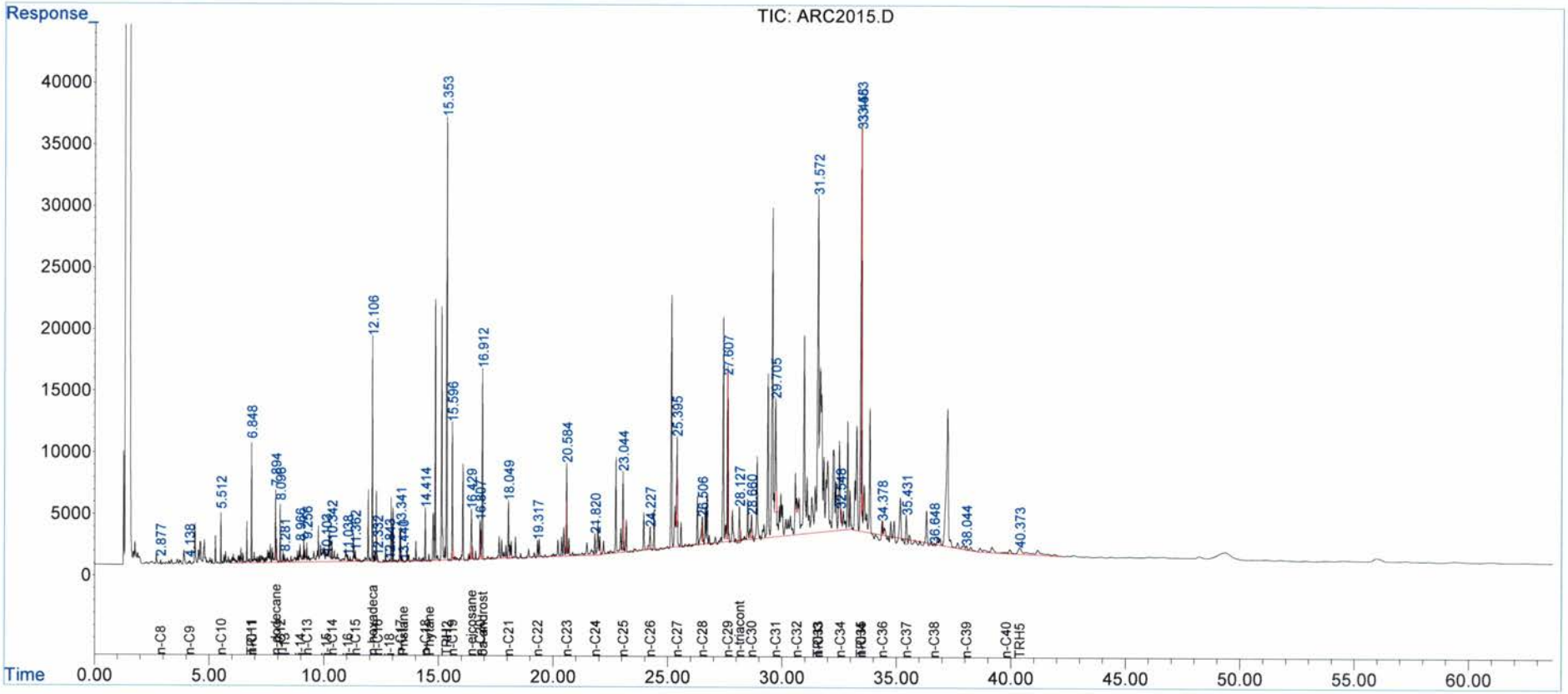
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2015.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 10:02:20
Operator : Meghan Dailey
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 63 Sample Multiplier: 0.0660939

Integration File: autoint1.e
Quant Time: Dec 05 18:39:12 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	ARC2018.D		ARC2018.D
Sample Name	SED-DA-033R (0-0.5)		SED-DA-033R (0-0.5)
Misc Info	0		28-Nov-2013, 11:12:20
Data File Path	C:\msdchem\2\data\FID30103\		ALI2012.M
Operator	Meghan Dailey		
Date Acquired	28-Nov-2013, 11:12:20		0.0665336
Instrument Name	HP5890		
Acq. Method File	ALI2012.M	Vial #	64
Vial Number	64	IS Area 1	255937
Sample Multiplier	0.0665336	IS Area 2	318222

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.88	1460.64	0.02	0.020
3)	n-C9	4.15	2045.97	0.03	0.026
4)	n-C10	5.51	14693.2	0.18	0.178
5)	n-C11	6.85	22484.3	0.26	0.265
7)	n-C12	8.10	9321.14	0.10	0.104
8)	i-13	8.28	967.782	0.01	0.011
9)	i-14	8.97	1861.16	0.02	0.020
10)	n-C13	9.26	2709.76	0.03	0.030
11)	i-15	10.13	1415.88	0.01	0.015
12)	n-C14	10.34	3742.92	0.04	0.040
13)	i-16	11.04	704.728	0.01	0.007
14)	n-C15	11.36	2036.47	0.02	0.021
15)	n-C16	12.33	2235.36	0.02	0.024
17)	i-18	12.84	684.285	0.01	0.007
18)	n-C17	13.34	11802.6	0.12	0.124
19)	Pristane	13.45	1499.82	0.02	0.015
20)	n-C18	14.41	15723.5	0.17	0.165
21)	Phytane	14.58	2517.34	0.03	0.026
22)	n-C19	15.59	51267.9	0.54	0.542
24)	n-C20	16.81	5118.24	0.05	0.054
25)	n-C21	18.05	9728.42	0.10	0.103
26)	n-C22	19.32	5367.36	0.06	0.056
27)	n-C23	20.58	21315.8	0.23	0.226
28)	n-C24	21.82	8861	0.09	0.094
29)	n-C25	23.04	23289.4	0.25	0.251
30)	n-C26	24.20	119290	1.31	1.305
31)	n-C27	25.38	37842.5	0.43	0.430
32)	n-C28	26.50	17978.1	0.21	0.208
33)	n-C29	27.59	141908	1.67	1.667
35)	n-C30	28.65	22806.5	0.27	0.271
36)	n-C31	29.68	152479	1.86	1.857
37)	n-C32	30.66	11655.5	0.14	0.143
38)	n-C33	31.65	125703	1.63	1.627
39)	n-C34	32.55	11180.5	0.14	0.140
40)	n-C35	33.44	113982	1.45	1.449
41)	n-C36	34.37	5072.54	0.06	0.062
42)	n-C37	35.41	44907.1	0.60	0.595
43)	n-C38	36.62	3050.24	0.04	0.042
44)	n-C39	38.04	2511.17	0.04	0.035
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	12.11	20167700	234.34	234.337
47)	TRH1	7.89	256536	2.98	2.981
48)	TRH2	12.11	1281120	14.89	14.886
49)	TRH3	25.15	1543500	17.93	17.935
50)	TRH4	31.54	3130760	36.38	36.378
51)	TRH5	33.43	1487820	17.29	17.288
52)	TRH6	37.68	718353	8.35	8.347
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	7.89	84366.6	1.07	80.5
23)	n-eicosane-d42	16.43	97497.5	1.28	96.4
34)	n-triacontane-d62	28.12	79424.3	1.22	92.0
1)	n-hexadecane-d34	12.11	255937	3.33	255937.000
16)	5a-androstane	16.91	318222	50.15	318222.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2018.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 11:12:20
Operator : Meghan Dailey
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Dec 02 15:01:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.107	255937	50.000 ug/mlm
16) I	5a-androstane	16.909	318222	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.894	84367	1.072 ug/mlm
23) S	n-eicosane-d42	16.428	97497	1.280 ug/mlm
34) S	n-triacontane-d62	28.117	79424	1.223 ug/mlm
Target Compounds				
2)	n-C8	2.883	1461	0.020 ug/mlm
3)	n-C9	4.150	2046	0.026 ug/mlm
4)	n-C10	5.514	14693	0.178 ug/mlm
5)	n-C11	6.849	22484	0.265 ug/mlm
7)	n-C12	8.097	9321	0.104 ug/mlm
8)	i-13	8.283	968	0.011 ug/mlm
9)	i-14	8.969	1861	0.020 ug/mlm
10)	n-C13	9.257	2710	0.030 ug/mlm
11)	i-15	10.125	1416	0.015 ug/mlm
12)	n-C14	10.343	3743	0.040 ug/mlm
13)	i-16	11.036	705	0.007 ug/mlm
14)	n-C15	11.356	2036	0.021 ug/mlm
15)	n-C16	12.335	2235	0.024 ug/mlm
17)	i-18	12.838	684	0.007 ug/mlm
18)	n-C17	13.341	11803	0.124 ug/mlm
19)	Pristane	13.445	1500	0.015 ug/mlm
20)	n-C18	14.414	15724	0.165 ug/mlm
21)	Phytane	14.582	2517	0.026 ug/mlm
22)	n-C19	15.591	51268	0.542 ug/mlm
24)	n-C20	16.808	5118	0.054 ug/mlm
25)	n-C21	18.051	9728	0.103 ug/mlm
26)	n-C22	19.317	5367	0.056 ug/mlm
27)	n-C23	20.576	21316	0.226 ug/mlm
28)	n-C24	21.819	8861	0.094 ug/mlm
29)	n-C25	23.036	23289	0.251 ug/mlm
30)	n-C26	24.200	119290	1.305 ug/mlm
31)	n-C27	25.379	37842	0.430 ug/mlm
32)	n-C28	26.497	17978	0.208 ug/mlm
33)	n-C29	27.594	141908	1.667 ug/mlm
35)	n-C30	28.649	22807	0.271 ug/mlm
36)	n-C31	29.680	152479	1.857 ug/mlm
37)	n-C32	30.663	11656	0.143 ug/mlm
38)	n-C33	31.645	125703	1.627 ug/mlm
39)	n-C34	32.550	11180	0.140 ug/mlm
40)	n-C35	33.438	113982	1.449 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2018.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 11:12:20
Operator : Meghan Dailey
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Dec 02 15:01:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.370	5073	0.062	ug/mlm
42)	n-C37	35.414	44907	0.595	ug/mlm
43)	n-C38	36.618	3050	0.042	ug/mlm
44)	n-C39	38.040	2511	0.035	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	12.107f	20167655	234.338	ug/mlm
47)	TRH1	7.894	256536	2.981	ug/mlm
48)	TRH2	12.107f	1281124	14.886	ug/mlm
49)	TRH3	25.148f	1543495	17.935	ug/mlm
50)	TRH4	31.541f	3130763	36.378	ug/mlm
51)	TRH5	33.427f	1487822	17.288	ug/mlm
52)	TRH6	37.676f	718353	8.347	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

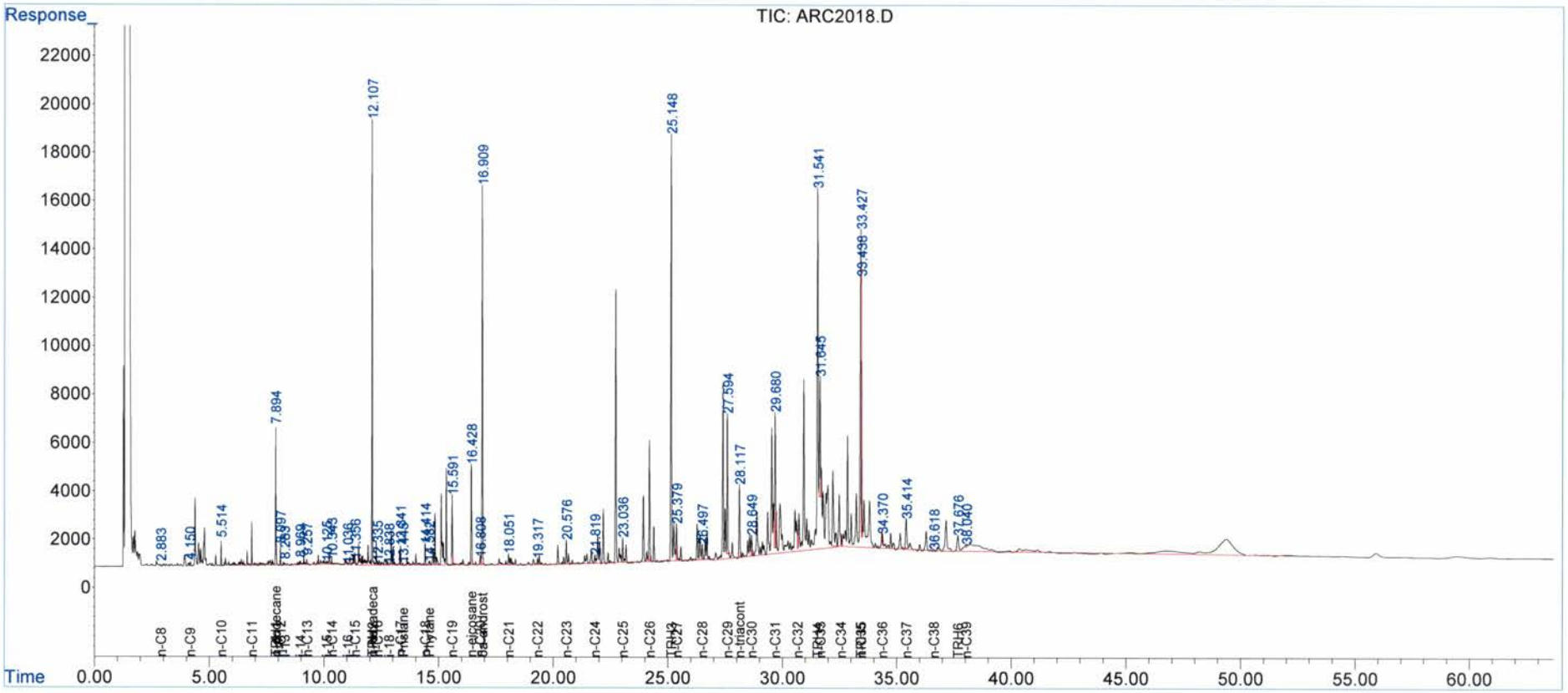
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2018.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 11:12:20
Operator : Meghan Dailey
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 64 Sample Multiplier: 0.0665336

Integration File: autoint1.e
Quant Time: Dec 02 15:01:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2021.D**		ARC2021.D
Sample Name	**SED-DA-034R (0-0.5)**		SED-DA-034R (0-0.5)
Misc Info	**0**		28-Nov-2013, 12:22:42
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 12:22:42**		0.0660066
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	65
Vial Number	**65**	IS Area 1	243230
Sample Multiplier	**0.0660066**	IS Area 2	304227

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.87	3728.82	0.05	0.052
3)	n-C9	4.14	3604.91	0.05	0.048
4)	n-C10	5.51	30219.8	0.38	0.382
5)	n-C11	6.85	54571.4	0.67	0.670
7)	n-C12	8.09	24108.6	0.28	0.279
8)	i-13	8.28	2688.05	0.03	0.031
9)	i-14	8.96	4758.89	0.05	0.054
10)	n-C13	9.26	6674.32	0.08	0.077
11)	i-15	10.14	1843.81	0.02	0.020
12)	n-C14	10.34	7629.08	0.09	0.086
13)	i-16	11.04	1078.39	0.01	0.012
14)	n-C15	11.36	5338.96	0.06	0.059
15)	n-C16	12.33	3852.75	0.04	0.042
17)	i-18	12.84	960.79	0.01	0.010
18)	n-C17	13.34	44815.6	0.49	0.490
19)	Pristane	13.44	2791.82	0.03	0.030
20)	n-C18	14.41	36238.1	0.40	0.396
21)	Phytane	14.58	7726.9	0.08	0.083
22)	n-C19	15.59	112089	1.23	1.229
24)	n-C20	16.81	17279.9	0.19	0.190
25)	n-C21	18.05	33925.8	0.37	0.372
26)	n-C22	19.32	17446.5	0.19	0.188
27)	n-C23	20.58	67338.3	0.74	0.741
28)	n-C24	21.82	20782.4	0.23	0.229
29)	n-C25	23.04	62453.3	0.70	0.699
30)	n-C26	24.20	79153.6	0.90	0.899
31)	n-C27	25.38	105607	1.24	1.244
32)	n-C28	26.50	52396.8	0.63	0.629
33)	n-C29	27.62	479577	5.85	5.847
35)	n-C30	28.66	75930.4	0.94	0.937
36)	n-C31	29.71	520693	6.58	6.580
37)	n-C32	30.63	60091.7	0.76	0.763
38)	n-C33	31.58	439599	5.90	5.903
39)	n-C34	32.54	25476.3	0.33	0.331
40)	n-C35	33.48	423248	5.58	5.584
41)	n-C36	34.37	41634.2	0.53	0.528
42)	n-C37	35.43	86258.9	1.19	1.186
43)	n-C38	36.63	8522.57	0.12	0.122
44)	n-C39	38.04	10360.6	0.15	0.151
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	33.48	32563800	392.64	392.644
47)	TRH1	12.11	1230320	14.83	14.835
48)	TRH2	22.75	2570630	31.00	30.996
49)	TRH3	25.17	3422460	41.27	41.267
50)	TRH4	31.58	6129740	73.91	73.910
51)	TRH5	33.48	2940740	35.46	35.458
52)	TRH6	37.68	212092	2.56	2.557
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	7.89	76133.3	1.01	76.5
23)	n-eicosane-d42	16.43	90220.2	1.23	93.3
34)	n-triacontane-d62	28.12	80878.2	1.29	97.9
1)	n-hexadecane-d34	12.11	243230	3.30	243230.000
16)	5a-androstane	16.91	304227	50.15	304227.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2021.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 12:22:42
Operator : Meghan Dailey
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Dec 02 16:43:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	243230	50.000 ug/mlm
16) I	5a-androstane	16.908	304227	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.892	76133	1.010 ug/mlm
23) S	n-eicosane-d42	16.426	90220	1.229 ug/mlm
34) S	n-triacontane-d62	28.123	80878	1.292 ug/mlm
Target Compounds				
2)	n-C8	2.874	3729	0.052 ug/mlm
3)	n-C9	4.144	3605	0.048 ug/mlm
4)	n-C10	5.510	30220	0.382 ug/mlm
5)	n-C11	6.846	54571	0.670 ug/mlm
7)	n-C12	8.094	24109	0.279 ug/mlm
8)	i-13	8.280	2688	0.031 ug/mlm
9)	i-14	8.964	4759	0.054 ug/mlm
10)	n-C13	9.255	6674	0.077 ug/mlm
11)	i-15	10.135	1844	0.020 ug/mlm
12)	n-C14	10.341	7629	0.086 ug/mlm
13)	i-16	11.038	1078	0.012 ug/mlm
14)	n-C15	11.363	5339	0.059 ug/mlm
15)	n-C16	12.331	3853	0.042 ug/mlm
17)	i-18	12.841	961	0.010 ug/mlm
18)	n-C17	13.340	44816	0.490 ug/mlm
19)	Pristane	13.443	2792	0.030 ug/mlm
20)	n-C18	14.413	36238	0.396 ug/mlm
21)	Phytane	14.581	7727	0.083 ug/mlm
22)	n-C19	15.592	112089	1.229 ug/mlm
24)	n-C20	16.805	17280	0.190 ug/mlm
25)	n-C21	18.050	33926	0.372 ug/mlm
26)	n-C22	19.315	17446	0.188 ug/mlm
27)	n-C23	20.577	67338	0.741 ug/mlm
28)	n-C24	21.815	20782	0.229 ug/mlm
29)	n-C25	23.039	62453	0.699 ug/mlm
30)	n-C26	24.202	79154	0.899 ug/mlm
31)	n-C27	25.385	105607	1.244 ug/mlm
32)	n-C28	26.498	52397	0.629 ug/mlm
33)	n-C29	27.615	479577	5.847 ug/mlm
35)	n-C30	28.656	75930	0.937 ug/mlm
36)	n-C31	29.708	520693	6.580 ug/mlm
37)	n-C32	30.625	60092	0.763 ug/mlm
38)	n-C33	31.576	439599	5.903 ug/mlm
39)	n-C34	32.543	25476	0.331 ug/mlm
40)	n-C35	33.475	423248	5.584 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2021.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 12:22:42
Operator : Meghan Dailey
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Dec 02 16:43:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.366	41634	0.528	ug/mlm
42)	n-C37	35.426	86259	1.186	ug/mlm
43)	n-C38	36.629	8523	0.122	ug/mlm
44)	n-C39	38.040	10361	0.151	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	33.475	32563760	392.644	ug/mlm
47)	TRH1	12.106f	1230317	14.835	ug/mlm
48)	TRH2	22.746f	2570632	30.996	ug/mlm
49)	TRH3	25.166f	3422460	41.267	ug/mlm
50)	TRH4	31.576f	6129739	73.910	ug/mlm
51)	TRH5	33.475f	2940739	35.459	ug/mlm
52)	TRH6	37.679f	212092	2.557	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

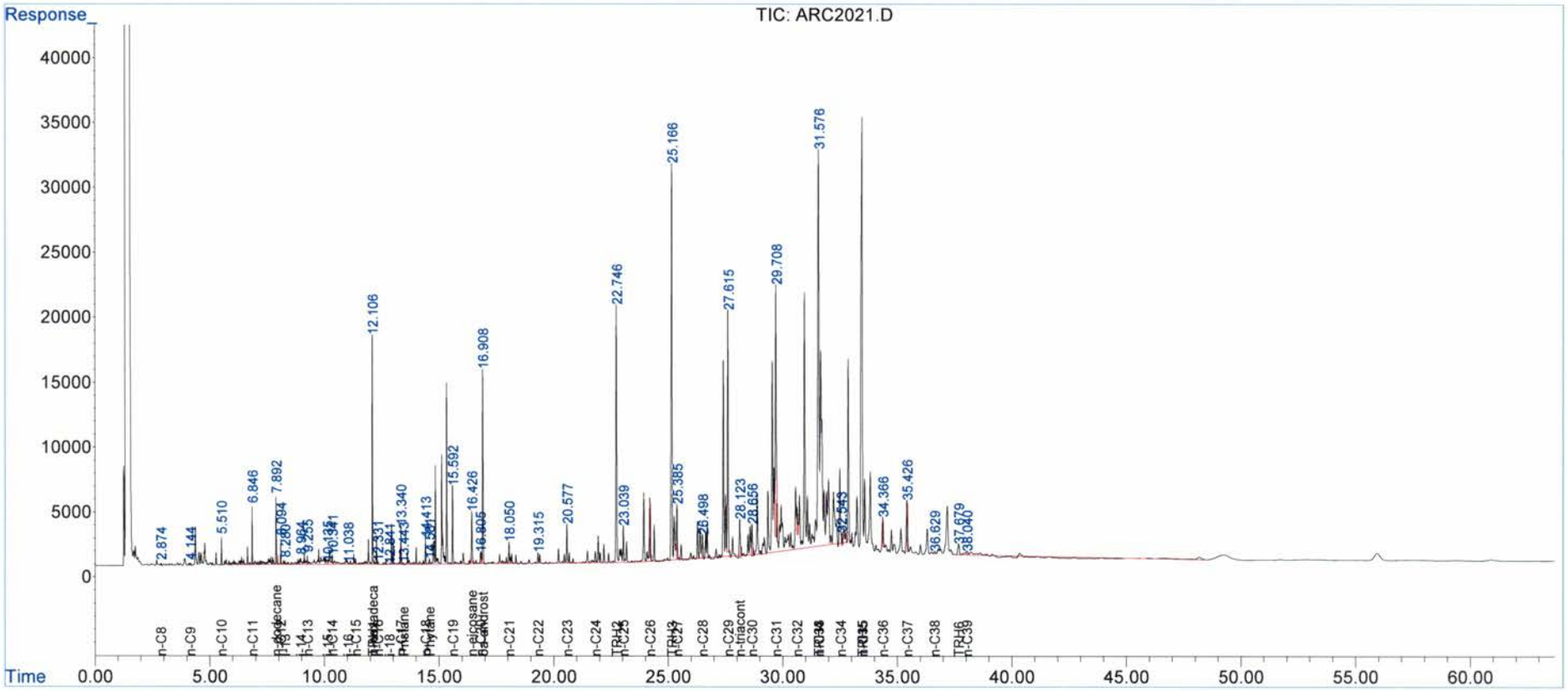
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2021.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 12:22:42
Operator : Meghan Dailey
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 65 Sample Multiplier: 0.0660066

Integration File: autoint1.e
Quant Time: Dec 02 16:43:46 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2024.D**		ARC2024.D
Sample Name	**SED-DA-035R (0-0.5)**		SED-DA-035R (0-0.5)
Misc Info	**0**		28-Nov-2013, 13:32:46
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 13:32:46**		0.0666223
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	66
Vial Number	**66**	IS Area 1	266437
Sample Multiplier	**0.0666223**	IS Area 2	334431

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.87	3337.96	0.04	0.043
3)	n-C9	4.14	3719.88	0.05	0.046
4)	n-C10	5.51	36296.2	0.42	0.422
5)	n-C11	6.85	62205	0.70	0.704
7)	n-C12	8.09	26220.3	0.28	0.280
8)	i-13	8.28	2989.21	0.03	0.032
9)	i-14	8.97	6484.39	0.07	0.067
10)	n-C13	9.26	6645.06	0.07	0.071
11)	i-15	10.14	1950.66	0.02	0.020
12)	n-C14	10.34	8806.52	0.09	0.092
13)	i-16	11.04	2010.92	0.02	0.020
14)	n-C15	11.36	5673.81	0.06	0.057
15)	n-C16	12.33	3414.82	0.03	0.035
17)	i-18	12.84	1535.12	0.02	0.015
18)	n-C17	13.34	22667.5	0.23	0.228
19)	Pristane	13.44	1965.04	0.02	0.019
20)	n-C18	14.41	42253.5	0.42	0.424
21)	Phytane	14.58	6653.89	0.07	0.066
22)	n-C19	15.60	159580	1.61	1.607
24)	n-C20	16.81	19078.6	0.19	0.192
25)	n-C21	18.05	29272.9	0.29	0.294
26)	n-C22	19.32	13228	0.13	0.131
27)	n-C23	20.58	65626	0.66	0.663
28)	n-C24	21.82	20463	0.21	0.207
29)	n-C25	23.04	65246.8	0.67	0.671
30)	n-C26	24.21	21440.7	0.22	0.224
31)	n-C27	25.39	97503.4	1.05	1.055
32)	n-C28	26.50	29799.9	0.33	0.328
33)	n-C29	27.60	187304	2.10	2.097
35)	n-C30	28.66	34831.2	0.39	0.394
36)	n-C31	29.69	199866	2.32	2.319
37)	n-C32	30.65	12151.6	0.14	0.142
38)	n-C33	31.55	272982	3.37	3.365
39)	n-C34	32.54	11511.1	0.14	0.137
40)	n-C35	33.44	254334	3.08	3.081
41)	n-C36	34.38	4463.89	0.05	0.052
42)	n-C37	35.42	58024.1	0.73	0.733
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	25.16	28884500	319.78	319.782
47)	TRH1	12.11	1190090	13.18	13.176
48)	TRH2	15.34	2406130	26.64	26.638
49)	TRH3	25.16	8878780	98.30	98.297
50)	TRH4	37.19	930734	10.30	10.304
51)	TRH5	41.16	26148.3	0.29	0.289
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	7.89	88175.6	1.08	80.9
23)	n-eicosane-d42	16.43	97968.4	1.23	92.2
34)	n-triacontane-d62	28.12	88332.6	1.30	97.3
1)	n-hexadecane-d34	12.11	266437	3.33	266437.000
16)	5a-androstane	16.91	334431	50.15	334431.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2024.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 13:32:46
Operator : Meghan Dailey
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 03 08:45:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.107	266437	50.000 ug/mlm
16) I	5a-androstane	16.910	334431	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.893	88176	1.078 ug/mlm
23) S	n-eicosane-d42	16.428	97968	1.226 ug/mlm
34) S	n-triacontane-d62	28.122	88333	1.296 ug/mlm
Target Compounds				
2)	n-C8	2.867	3338	0.043 ug/mlm
3)	n-C9	4.136	3720	0.046 ug/mlm
4)	n-C10	5.509	36296	0.422 ug/mlm
5)	n-C11	6.847	62205	0.704 ug/mlm
7)	n-C12	8.095	26220	0.280 ug/mlm
8)	i-13	8.280	2989	0.032 ug/mlm
9)	i-14	8.968	6484	0.067 ug/mlm
10)	n-C13	9.255	6645	0.071 ug/mlm
11)	i-15	10.135	1951	0.020 ug/mlm
12)	n-C14	10.342	8807	0.092 ug/mlm
13)	i-16	11.038	2011	0.020 ug/mlm
14)	n-C15	11.363	5674	0.057 ug/mlm
15)	n-C16	12.331	3415	0.035 ug/mlm
17)	i-18	12.841	1535	0.015 ug/mlm
18)	n-C17	13.340	22667	0.228 ug/mlm
19)	Pristane	13.443	1965	0.019 ug/mlm
20)	n-C18	14.413	42254	0.424 ug/mlm
21)	Phytane	14.583	6654	0.066 ug/mlm
22)	n-C19	15.595	159580	1.607 ug/mlm
24)	n-C20	16.806	19079	0.192 ug/mlm
25)	n-C21	18.050	29273	0.294 ug/mlm
26)	n-C22	19.316	13228	0.131 ug/mlm
27)	n-C23	20.579	65626	0.663 ug/mlm
28)	n-C24	21.817	20463	0.207 ug/mlm
29)	n-C25	23.039	65247	0.671 ug/mlm
30)	n-C26	24.214	21441	0.224 ug/mlm
31)	n-C27	25.387	97503	1.055 ug/mlm
32)	n-C28	26.499	29800	0.328 ug/mlm
33)	n-C29	27.601	187304	2.097 ug/mlm
35)	n-C30	28.656	34831	0.394 ug/mlm
36)	n-C31	29.689	199866	2.319 ug/mlm
37)	n-C32	30.645	12152	0.142 ug/mlm
38)	n-C33	31.551f	272982	3.365 ug/mlm
39)	n-C34	32.545	11511	0.137 ug/mlm
40)	n-C35	33.443	254334	3.081 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2024.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 13:32:46
Operator : Meghan Dailey
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 03 08:45:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.381	4464	0.052	ug/mlm
42)	n-C37	35.420	58024	0.733	ug/mlm
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	25.158	28884546	319.781	ug/mlm
47)	TRH1	12.107f	1190095	13.176	ug/mlm
48)	TRH2	15.344	2406132	26.638	ug/mlm
49)	TRH3	25.158f	8878778	98.297	ug/mlm
50)	TRH4	37.186f	930734	10.304	ug/mlm
51)	TRH5	41.156f	26148	0.289	ug/mlm
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

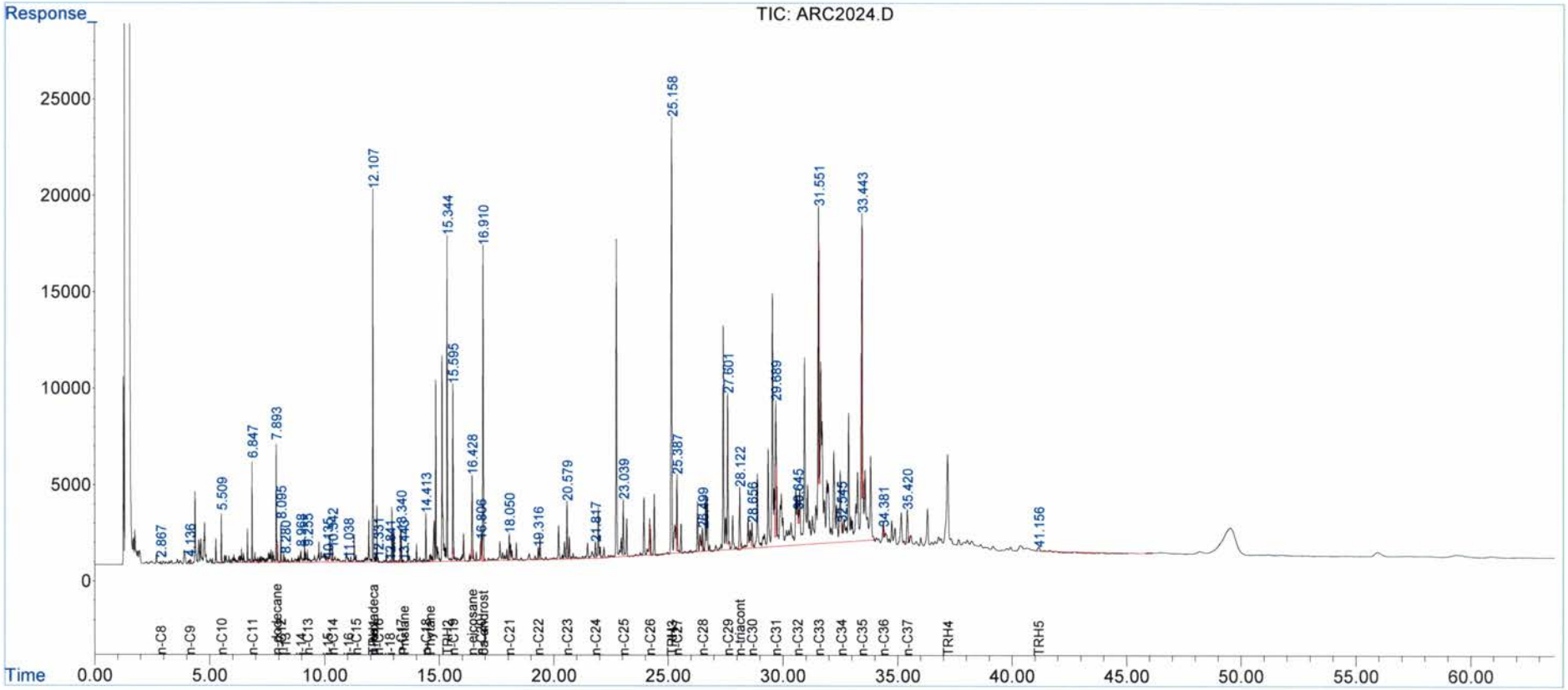
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2024.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 13:32:46
Operator : Meghan Dailey
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 66 Sample Multiplier: 0.0666223

Integration File: autoint1.e
Quant Time: Dec 03 08:45:39 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



			Concentration
Data File Name	**ARC2027.D**		ARC2027.D
Sample Name	**SED-DA-DUP-10-112013**		SED-DA-DUP-10-112013
Misc Info	**0**		28-Nov-2013, 14:43:19
Data File Path	**C:\msdchem\2\data\FID30103**		ALI2012.M
Operator	**Meghan Dailey**		
Date Acquired	**28-Nov-2013, 14:43:19**		0.0664011
Instrument Name	**HP5890**		
Acq. Method File	**ALI2012.M**	Vial #	67
Vial Number	**67**	IS Area 1	234635
Sample Multiplier	**0.0664011**	IS Area 2	292578

#	Name	Ret Time	Target Response	Amount	Concentration
2)	n-C8	2.87	2500.41	0.04	0.036
3)	n-C9	4.14	2085.2	0.03	0.029
4)	n-C10	5.51	20475.5	0.27	0.270
5)	n-C11	6.85	33693.5	0.43	0.432
7)	n-C12	8.10	14477.6	0.18	0.175
8)	i-13	8.28	1545.88	0.02	0.019
9)	i-14	8.97	2675.65	0.03	0.032
10)	n-C13	9.26	4382.2	0.05	0.053
11)	i-15	10.12	1031.03	0.01	0.012
12)	n-C14	10.34	5595.6	0.07	0.066
13)	i-16	11.04	772.577	0.01	0.009
14)	n-C15	11.36	3599.35	0.04	0.041
15)	n-C16	12.33	2641.47	0.03	0.030
17)	i-18	12.84	741.798	0.01	0.008
18)	n-C17	13.34	13541.6	0.15	0.155
19)	Pristane	13.44	2025.14	0.02	0.023
20)	n-C18	14.41	22583.7	0.26	0.258
21)	Phytane	14.58	3136.18	0.04	0.035
22)	n-C19	15.59	68038.8	0.78	0.780
24)	n-C20	16.81	4111.68	0.05	0.047
25)	n-C21	18.05	11357.6	0.13	0.130
26)	n-C22	19.31	5744.79	0.06	0.065
27)	n-C23	20.58	23000.3	0.26	0.265
28)	n-C24	21.82	9392.63	0.11	0.108
29)	n-C25	23.04	27107.8	0.32	0.317
30)	n-C26	24.21	69033.3	0.82	0.820
31)	n-C27	25.38	59861.3	0.74	0.738
32)	n-C28	26.50	13270.6	0.17	0.167
33)	n-C29	27.59	146908	1.87	1.873
35)	n-C30	28.65	14548.6	0.19	0.188
36)	n-C31	29.68	137365	1.82	1.816
37)	n-C32	30.65	14365.3	0.19	0.191
38)	n-C33	31.65	106646	1.50	1.498
39)	n-C34	32.56	20126.7	0.27	0.274
40)	n-C35	33.45	65565.3	0.90	0.905
41)	n-C36	34.37	8154.9	0.11	0.108
42)	n-C37	35.41	38481.4	0.55	0.554
43)	n-C38	36.64	3972.15	0.06	0.060
44)	n-C39	38.04	2638.28	0.04	0.040
45)	n-C40	0.00	0	0.00	0.000
46)	TPH	31.54	19724500	248.78	248.778
47)	TRH1	12.11	832474	10.50	10.500
48)	TRH2	16.91	1914410	24.15	24.146
49)	TRH3	25.15	2274060	28.68	28.682
50)	TRH4	31.54	3212710	40.52	40.521
51)	TRH5	37.16	707551	8.92	8.924
52)	TRH6	43.90	92824.9	1.17	1.171
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	7.89	76834	1.06	80.0
23)	n-eicosane-d42	16.43	89252.3	1.27	96.0
34)	n-triacontane-d62	28.12	72294.4	1.21	91.0
1)	n-hexadecane-d34	12.11	234635	3.32	234635.000
16)	5a-androstane	16.91	292578	50.15	292578.000

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2027.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 14:43:19
Operator : Meghan Dailey
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 67 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:37:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	234635	50.000 ug/mlm
16) I	5a-androstane	16.906	292578	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.893	76834	1.063 ug/mlm
23) S	n-eicosane-d42	16.427	89252	1.272 ug/mlm
34) S	n-triacontane-d62	28.118	72294	1.208 ug/mlm
Target Compounds				
2)	n-C8	2.875	2500	0.036 ug/mlm
3)	n-C9	4.140	2085	0.029 ug/mlm
4)	n-C10	5.511	20476	0.270 ug/mlm
5)	n-C11	6.847	33694	0.432 ug/mlm
7)	n-C12	8.095	14478	0.175 ug/mlm
8)	i-13	8.282	1546	0.019 ug/mlm
9)	i-14	8.966	2676	0.032 ug/mlm
10)	n-C13	9.255	4382	0.053 ug/mlm
11)	i-15	10.124	1031	0.012 ug/mlm
12)	n-C14	10.342	5596	0.066 ug/mlm
13)	i-16	11.036	773	0.009 ug/mlm
14)	n-C15	11.361	3599	0.041 ug/mlm
15)	n-C16	12.333	2641	0.030 ug/mlm
17)	i-18	12.842	742	0.008 ug/mlm
18)	n-C17	13.340	13542	0.155 ug/mlm
19)	Pristane	13.444	2025	0.023 ug/mlm
20)	n-C18	14.412	22584	0.258 ug/mlm
21)	Phytane	14.584	3136	0.035 ug/mlm
22)	n-C19	15.591	68039	0.780 ug/mlm
24)	n-C20	16.810	4112	0.047 ug/mlm
25)	n-C21	18.049	11358	0.130 ug/mlm
26)	n-C22	19.315	5745	0.065 ug/mlm
27)	n-C23	20.575	23000	0.265 ug/mlm
28)	n-C24	21.817	9393	0.108 ug/mlm
29)	n-C25	23.036	27108	0.317 ug/mlm
30)	n-C26	24.206	69033	0.820 ug/mlm
31)	n-C27	25.382	59861	0.738 ug/mlm
32)	n-C28	26.496	13271	0.167 ug/mlm
33)	n-C29	27.594	146908	1.873 ug/mlm
35)	n-C30	28.650	14549	0.188 ug/mlm
36)	n-C31	29.679	137365	1.816 ug/mlm
37)	n-C32	30.646	14365	0.191 ug/mlm
38)	n-C33	31.651	106646	1.498 ug/mlm
39)	n-C34	32.557	20127	0.274 ug/mlm
40)	n-C35	33.449	65565	0.905 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2027.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 14:43:19
Operator : Meghan Dailey
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 67 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:37:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.366	8155	0.108	ug/mlm
42)	n-C37	35.415	38481	0.554	ug/mlm
43)	n-C38	36.637	3972	0.060	ug/mlm
44)	n-C39	38.043	2638	0.040	ug/mlm
45)	n-C40	0.000	0	N.D.	ug/mld
46)	TPH	31.543	19724454	248.779	ug/mlm
47)	TRH1	12.106f	832474	10.500	ug/mlm
48)	TRH2	16.906	1914412	24.146	ug/mlm
49)	TRH3	25.149f	2274058	28.682	ug/mlm
50)	TRH4	31.543f	3212710	40.521	ug/mlm
51)	TRH5	37.160f	707551	8.924	ug/mlm
52)	TRH6	43.902	92825	1.171	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

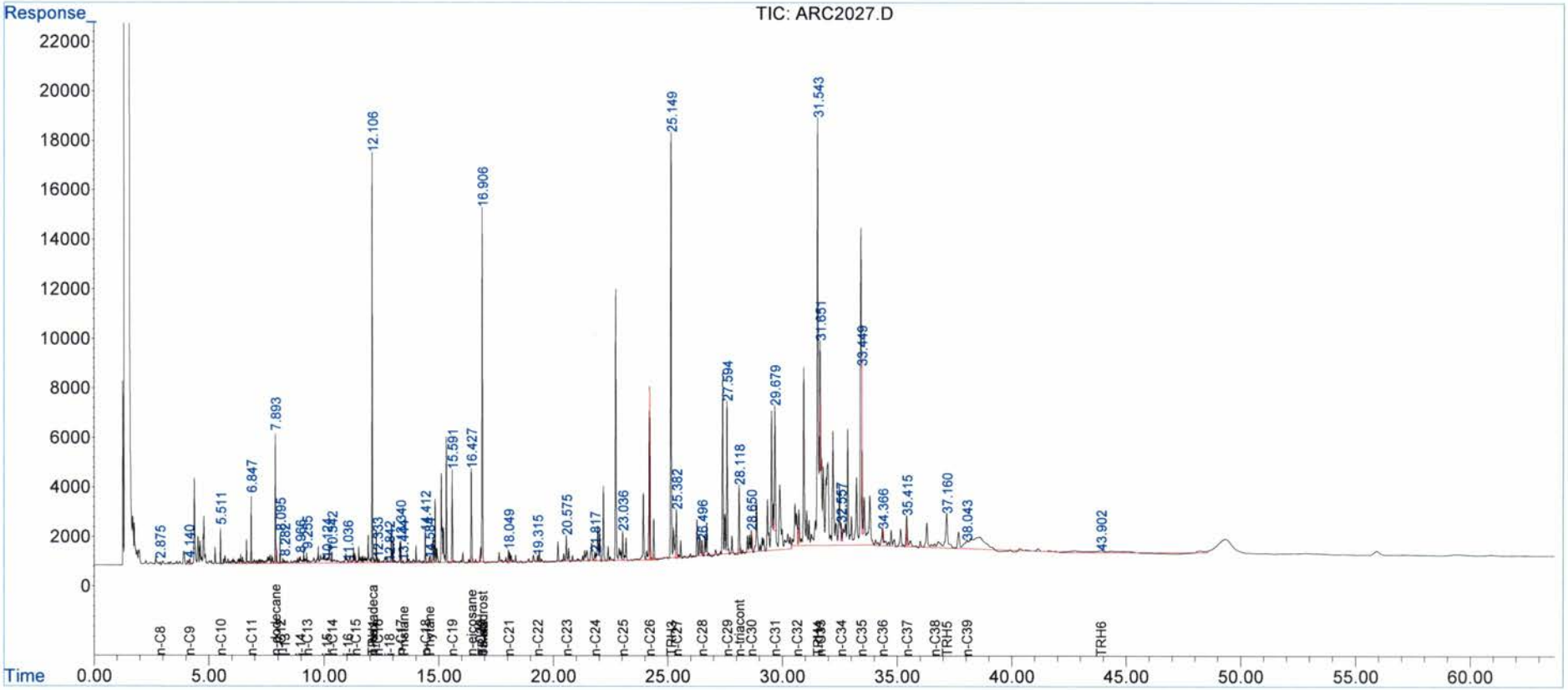
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\FID30103\
Data File : ARC2027.D
Signal(s) : FID2B.CH
Acq On : 28-Nov-2013, 14:43:19
Operator : Meghan Dailey
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 67 Sample Multiplier: 0.0664011

Integration File: autoint1.e
Quant Time: Dec 05 18:37:50 2013
Quant Method : P:\2013\J13034\Aliphatics\ENV 3166\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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: ENV3165 (waters)	Analyst: Y. Miao
Client: Arcadis - Mayflower AR	Date: December 6, 2013
Job: #: J13034	Project Quality Manager: [illegible]
SDG #: 13112101	Date: 12/12/13

Initial Calibration: No failures	ICV (from the second source): No failures
Surrogate Recoveries: No failures	
Method Blank: No failures	
Blank Spike: No failures	
Blank Spike Duplicate: No failures	
Laboratory Duplicate: NA	
Matrix Spike: NA	
Matirx Spike Duplicate: NA	
SRM/LCS (Solution, Tissue, Sediment): Solution: No failures	
CCC (from a second source): No failures	
SRM-2279 Reference Oil No failures	
Mass Discrimination Check (benzo(ghi)perylene/phenanthrene ≥ 0.7) No failures	

B&B LABORATORIES PAHs QA FORM

Extraction Page: ENV3166 (sediments)	Analyst: Y. Miao
Client: Arcadis - Mayflower AR	Date: December 6, 2013
Job: #: J13034	Project Quality Manager: D Juan
SDG #: 13112101	Date: 12/12/13

Initial Calibration: No failures	ICV (from the second source): No failures

Surrogate Recoveries:	Perylene-d12 in ENV3166E, ARC2018, and ARC2077 is outside of the laboratory QC %recovery limit
Method Blank:	No failures
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	No failures
Matrix Spike:	Nineteen (19) analytes were either detected outside of the QC %recovery limits of 40% to 120% or are considered invalid spike peaks due to the high concentration of PAHs in the samples
Matirx Spike Duplicate:	Nineteen (19) analytes were either detected outside of the QC %recovery limits of 40% to 120% or are considered invalid spike peaks due to the high concentration of PAHs in the samples

SRM/LCS (Solution, Tissue, Sediment):

Solution: No failures

SRM1941b (Sediment): No failures

CCC (from a second source):

No failures

SRM-2279 Reference Oil

No failures

Mass Discrimination Check (benzo(ghi)perylene/phenanthrene ≥ 0.7)

No failures

```
   Sequence Name: C:\msdchem\1\sequence\MS50182.s
         Comment: Arcadis Mayflower AR-PAH (11/29/13)
        Operator: ECM(YMIAO)
       Data Path: C:\MSDCHEM\1\DATA\MS50182\
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              (X) On Mismatch, Inject Anyway
    ( ) Reprocessing Only        ( ) On Mismatch, Don't Inject
                                 ( ) Barcode Disabled
   ---------------------------------------------------------------------
   Line                    Sample Name/Misc Info
 1)  Sample          1  MS50182A PAH-2012 Solvent
 2)  Sample          2  MS50182B PAH-2012 AR-WKC1-020-031
 3)  Sample          3  MS50182C PAH-2012 AR-WKC2-100-031
 4)  Sample          4  MS50182D PAH-2012 AR-WKC3-250-031
 5)  Sample          5  MS50182E PAH-2012 AR-WKC4-500-031
 6)  Sample          6  MS50182F PAH-2012 AR-WKC5-1000-031
 7)  Sample          7  MS50182G PAH-2012 AR-WKC6-5000-031
 8)  Sample          8  MS50182H PAH-2012 AR-WKISSU-250-005
 9)  Sample          9  MS50182I PAH-2012 AR-WKICV-250-005
10)  Sample         10  MS50182J PAH-2012 AR-WKCC-250-039
11)  Sample         11  MS50182K PAH-2012 AR-SRM2779-WK-4.0-003
12)  Sample         12  ENV3165A PAH-2012
13)  Sample         13  ENV3165B PAH-2012
14)  Sample         14  ENV3165C PAH-2012
15)  Sample         15  ARC2006  PAH-2012
16)  Sample         16  ENV3166A PAH-2012
17)  Sample         17  ENV3166B PAH-2012
18)  Sample         18  ENV3166C PAH-2012
19)  Sample         19  ENV3166D PAH-2012
20)  Sample         20  MS50182L PAH-2012 AR-WKCC-250-039
21)  Sample         21  ENV3166E PAH-2012
22)  Sample         22  ARC2008  PAH-2012
23)  Sample         23  ARC2011  PAH-2012
24)  Sample         24  ARC2015  PAH-2012
25)  Sample         25  ARC2018  PAH-2012
26)  Sample         26  ARC2021  PAH-2012
27)  Sample         27  ARC2024  PAH-2012
28)  Sample         28  ARC2027  PAH-2012
29)  Sample         29  MS50182M PAH-2012 AR-WKCC-250-039
```

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	1.850	1.953	-5.6	91	0.00
3	T	cis/trans Decalin	0.365	0.391	-7.1	92	0.00
4	un	C1-Decalins	0.365	0.000	100.0#	0#	-12.61#
5	un	C2-Decalins	0.365	0.000	100.0#	0#	-13.30#
6	un	C3-Decalins	0.365	0.000	100.0#	0#	-16.14#
7	un	C4-Decalins	0.365	0.000	100.0#	0#	-18.73#
8	T	Naphthalene	1.937	2.059	-6.3	91	0.00
9	T	2-Methylnaphthalene	1.162	1.180	-1.5	89	0.02
10	T	1-Methylnaphthalene	1.148	1.193	-3.9	89	0.00
11	T	2,6-Dimethylnaphthalene	1.011	1.006	0.5	87	0.00
12	T	1,6,7-Trimethylnaphthalene	0.947	0.911	3.8	84	0.00
13	un	C2-Naphthalenes	1.937	0.000	100.0#	0#	-18.82#
14	un	C3-Naphthalenes	1.937	0.000	100.0#	0#	-19.98#
15	un	C4-Naphthalenes	1.937	0.000	100.0#	0#	-22.33#
16	T	Benzothiophene	1.501	1.595	-6.3	92	0.02
17	un	C1-Benzothiophenes	1.501	0.000	100.0#	0#	-15.42#
18	un	C2-Benzothiophenes	1.501	0.000	100.0#	0#	-18.33#
19	un	C3-Benzothiophenes	1.501	0.000	100.0#	0#	-20.25#
20	un	C4-Benzothiophenes	1.501	0.000	100.0#	0#	-22.02#
21	S	Acenaphthene-d10	0.972	0.976	-0.4	88	0.00
22	T	Biphenyl	1.422	1.459	-2.6	89	0.02
23	T	Acenaphthylene	1.610	1.489	7.5	82	0.00
24	T	Acenaphthene	1.025	1.033	-0.8	87	0.00
25	T	Dibenzofuran	1.424	1.456	-2.2	90	0.00
26	T	Fluorene	1.166	1.132	2.9	84	0.00
27	T	1-Methylfluorene	0.676	0.605	10.5	78	0.00
28	un	C1-Fluorenes	1.166	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.166	0.000	100.0#	0#	-25.84#
30	un	C3-Fluorenes	1.166	0.000	100.0#	0#	-27.25#
31	I	Pyrene-d10	1.000	1.000	0.0	78	0.00
32	S	Phenanthrene-d10	0.837	0.863	-3.1	83	0.00
33	T	Carbazole	0.627	0.546	12.9	71	0.00
34	T	Dibenzothiophene	0.855	0.918	-7.4	85	0.00
35	T	4-Methyldibenzothiophene	0.659	0.680	-3.2	82	0.00
36	un	2/3-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.18#
37	un	1-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	0.855	0.000	100.0#	0#	-27.79#
39	un	C3-Dibenzothiophenes	0.855	0.000	100.0#	0#	-28.75#
40	un	C4-Dibenzothiophenes	0.855	0.000	100.0#	0#	-30.42#
41	T	Phenanthrene	0.984	1.070	-8.7	87	0.00
42	T	Anthracene	0.821	0.790	3.8	78	0.00
43	un	3-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
44	un	2-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
45	un	2-Methylanthracene	0.665	0.000	100.0#	0#	-26.88#
46	un	4/9-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
47	T	1-Methylphenanthrene	0.665	0.644	3.2	79	0.00
48	T	3,6-Dimethylphenanthrene	0.582	0.533	8.4	76	0.00
49	T	Retene	0.304	0.269	11.5	73	0.00

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)
50	un	C2-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-28.52#
51	un	C3-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-29.37#
52	un	C4-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-32.09#
53	T	Naphthobenzothiophene	0.922	0.898	2.6	80	0.00
54	un	C1-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-34.56#
55	un	C2-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.31#
56	un	C3-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.54#
57	un	C4-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.38#
58	T	Fluoranthene	0.953	0.942	1.2	80	0.03
59	T	Pyrene	1.168	1.181	-1.1	81	0.00
60	T	2-Methylfluoranthene	0.695	0.642	7.6	77	0.00
61	T	Benzo(b)fluorene	0.590	0.499	15.4	72	0.00
62	un	C1-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-31.69#
63	un	C2-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-32.12#
64	un	C3-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-34.20#
65	un	C4-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-35.79#
66	S	Chrysene-d12	0.967	0.963	0.4	79	0.00
67	T	Benz(a)anthracene	0.927	0.813	12.3	73	0.00
68	T	Chrysene/Triphenylene	0.999	1.049	-5.0	85	0.00
69	un	C1-Chrysenes	0.999	0.000	100.0#	0#	-35.79#
70	un	C2-Chrysenes	0.999	0.000	100.0#	0#	-36.66#
71	un	C3-Chrysenes	0.999	0.000	100.0#	0#	-38.09#
72	un	C4-Chrysenes	0.999	0.000	100.0#	0#	-39.39#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	72	0.00
74	un	C29-Hopane	0.570	0.000	100.0#	0#	-40.62#
75	un	18a-Oleanane	0.570	0.000	100.0#	0#	-42.00#
76	T	C30-Hopane	0.570	0.557	2.3	73	0.00
77	T	Benzo(b)fluoranthene	1.295	1.253	3.2	72	0.00
78	T	Benzo(k,j)fluoranthene	1.195	1.224	-2.4	76	0.00
79	un	Benzo(a)fluoranthene	1.195	0.000	100.0#	0#	-37.28#
80	T	Benzo(e)pyrene	1.315	1.347	-2.4	77	0.00
81	T	Benzo(a)pyrene	1.227	1.252	-2.0	76	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.331	1.312	1.4	75	0.00
83	T	Dibenzo(a,h)anthracene	1.058	1.066	-0.8	77	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-49.55#
86	un	C3-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.99#
87	T	Benzo(g,h,i)perylene	1.159	1.186	-2.3	77	-0.03
88	S	Perylene-d12	1.159	1.159	0.0	77	0.00
89	T	Perylene	1.263	1.289	-2.1	77	0.00
90	S	5(b)H-Cholane	0.317	0.291	8.2	70	0.00
91	un	C20-TAS	1.704	0.000	100.0#	0#	-33.78#
92	un	C21-TAS	1.704	0.000	100.0#	0#	-34.17#
93	un	C26(20S)-TAS	1.704	0.000	100.0#	0#	-38.67#
94	T	C26(20R)/C27(20S)-TAS	1.704	1.344	21.1	61	0.00
95	un	C28(20S)-TAS	1.704	0.000	100.0#	0#	-40.62#
96	un	C27(20R)-TAS	1.704	0.000	100.0#	0#	-40.62#
97	un	C28(20R)-TAS	1.704	0.000	100.0#	0#	-41.77#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	265742m	251.05	0.00
31) Pyrene-d10	29.597	212	451423m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	364170m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	517025m	264.06	0.00
21) Acenaphthene-d10	19.603	164	258551m	251.31	0.00
32) Phenanthrene-d10	24.681	188	388728m	257.98	0.00
66) Chrysene-d12	33.777	240	433877m	249.09	0.00
88) Perylene-d12	38.673	264	421750m	250.12	0.00
90) 5(b)H-Cholane	34.166	217	105967m	229.83	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	102213m	264.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.813	128	544812m	265.69	
9) 2-Methylnaphthalene	16.071	142	312558m	254.13	
10) 1-Methylnaphthalene	16.384	142	315320m	259.56	
11) 2,6-Dimethylnaphthalene	18.150	156	266103m	248.71	
12) 1,6,7-Trimethylnaphtha...	21.011	170	241032m	240.39	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	419534m	264.06	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.636	154	382496m	254.19	
23) Acenaphthylene	19.111	152	390921m	229.34	
24) Acenaphthene	19.692	154	273789m	252.26	
25) Dibenzofuran	20.296	168	383247m	254.28	
26) Fluorene	21.481	166	300288m	243.23	
27) 1-Methylfluorene	23.438	180	161233m	225.31	
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	25.529	167	243528m	215.74	
34) Dibenzothiophene	24.342	184	407489m	264.74	
35) 4-Methyldibenzothiophene	25.839	198	308915m	260.20	
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	24.766	178	477467m	269.45	
42) Anthracene	24.935	178	356641m	241.26	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

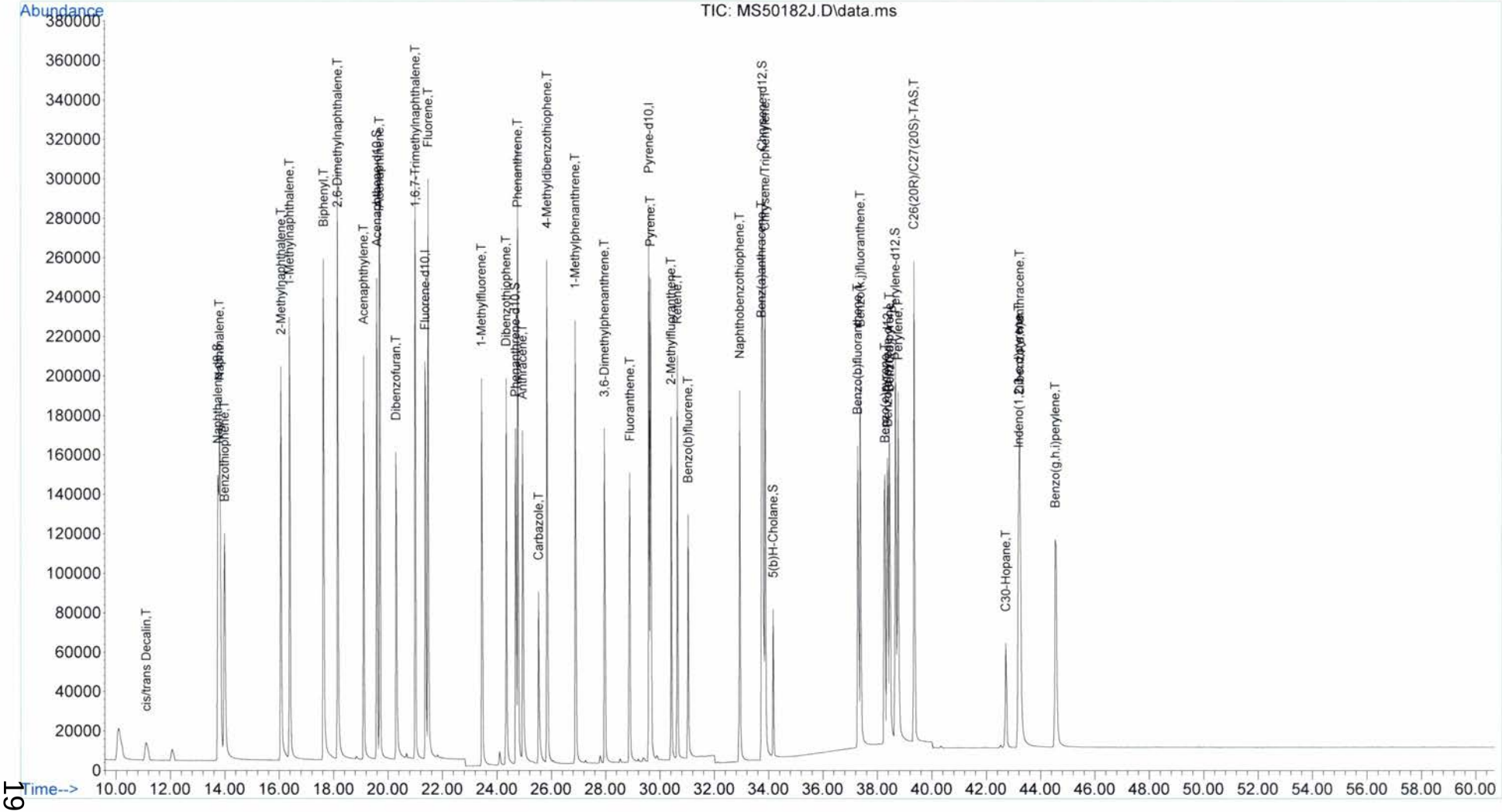
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.885	192	286724m	239.25	
48)	3,6-Dimethylphenanthrene	27.958	206	240110m	228.89	
49)	Retene	30.642	234	108269m	197.69	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.934	234	406904m	245.15	
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	28.891	202	424381m	247.16	
59)	Pyrene	29.653	202	531994m	252.78	
60)	2-Methylfluoranthene	30.416	216	291162m	232.59	
61)	Benzo(b)fluorene	31.038	216	226650m	213.30	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	365384m	218.81	
68)	Chrysene/Triphenylene	33.875	228	469622m	260.99	
69)	C1-Chrysenes	0.000		0	N.D. d	
70)	C2-Chrysenes	0.000		0	N.D. d	
71)	C3-Chrysenes	0.000		0	N.D. d	
72)	C4-Chrysenes	0.000		0	N.D. d	
74)	C29-Hopane	0.000		0	N.D. d	
75)	18a-Oleanane	0.000		0	N.D. d	
76)	C30-Hopane	42.716	191	202671m	244.35	
77)	Benzo(b)fluoranthene	37.279	252	456455m	242.21	
78)	Benzo(k,j)fluoranthene	37.376	252	443465m	255.07	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.284	252	487899m	255.09	
81)	Benzo(a)pyrene	38.446	252	454467m	254.70	
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	468914m	242.14	
83)	Dibenzo(a,h)anthracene	43.239	278	384334m	249.70	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.547	276	427381m	253.45	
89)	Perylene	38.770	252	469311m	255.46	
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	39.354	231	488905m	197.18	
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182J.D
Acq On : 29 Nov 2013 9:43 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 01 20:22:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	97	0.00
2	S	Naphthalene-d8	1.850	1.621	12.4	86	0.00
3	T	cis/trans Decalin	0.365	0.329	9.9	88	0.00
4	un	C1-Decalins	0.365	0.000	100.0#	0#	-12.61#
5	un	C2-Decalins	0.365	0.000	100.0#	0#	-13.30#
6	un	C3-Decalins	0.365	0.000	100.0#	0#	-16.14#
7	un	C4-Decalins	0.365	0.000	100.0#	0#	-18.73#
8	T	Naphthalene	1.937	1.721	11.2	87	0.00
9	T	2-Methylnaphthalene	1.162	1.067	8.2	92	0.02
10	T	1-Methylnaphthalene	1.148	1.036	9.8	88	0.00
11	T	2,6-Dimethylnaphthalene	1.011	0.973	3.8	96	0.00
12	T	1,6,7-Trimethylnaphthalene	0.947	0.908	4.1	95	0.00
13	un	C2-Naphthalenes	1.937	0.000	100.0#	0#	-18.82#
14	un	C3-Naphthalenes	1.937	0.000	100.0#	0#	-19.98#
15	un	C4-Naphthalenes	1.937	0.000	100.0#	0#	-22.33#
16	T	Benzothiophene	1.501	1.325	11.7	87	0.02
17	un	C1-Benzothiophenes	1.501	0.000	100.0#	0#	-15.42#
18	un	C2-Benzothiophenes	1.501	0.000	100.0#	0#	-18.33#
19	un	C3-Benzothiophenes	1.501	0.000	100.0#	0#	-20.25#
20	un	C4-Benzothiophenes	1.501	0.000	100.0#	0#	-22.02#
21	S	Acenaphthene-d10	0.972	0.903	7.1	92	0.00
22	T	Biphenyl	1.422	1.313	7.7	91	0.02
23	T	Acenaphthylene	1.610	1.647	-2.3	103	0.00
24	T	Acenaphthene	1.025	0.963	6.0	92	0.00
25	T	Dibenzofuran	1.424	1.364	4.2	96	0.00
26	T	Fluorene	1.166	1.146	1.7	97	0.00
27	T	1-Methylfluorene	0.676	0.711	-5.2	105	0.00
28	un	C1-Fluorenes	1.166	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.166	0.000	100.0#	0#	-25.84#
30	un	C3-Fluorenes	1.166	0.000	100.0#	0#	-27.25#
31	I	Pyrene-d10	1.000	1.000	0.0	105	0.00
32	S	Phenanthrene-d10	0.837	0.729	12.9	95	0.00
33	T	Carbazole	0.627	0.659	-5.1	116	0.00
34	T	Dibenzothiophene	0.855	0.773	9.6	97	0.00
35	T	4-Methyldibenzothiophene	0.659	0.609	7.6	100	0.00
36	un	2/3-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.18#
37	un	1-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	0.855	0.000	100.0#	0#	-27.79#
39	un	C3-Dibenzothiophenes	0.855	0.000	100.0#	0#	-28.75#
40	un	C4-Dibenzothiophenes	0.855	0.000	100.0#	0#	-30.42#
41	T	Phenanthrene	0.984	0.886	10.0	98	0.00
42	T	Anthracene	0.821	0.773	5.8	103	0.00
43	un	3-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
44	un	2-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
45	un	2-Methylanthracene	0.665	0.000	100.0#	0#	-26.88#
46	un	4/9-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
47	T	1-Methylphenanthrene	0.665	0.621	6.6	104	0.00
48	T	3,6-Dimethylphenanthrene	0.582	0.597	-2.6	116	0.00
49	T	Retene	0.304	0.319	-4.9	118	0.00

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)
50	un	C2-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-28.52#
51	un	C3-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-29.37#
52	un	C4-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-32.09#
53	T	Naphthobenzothiophene	0.922	0.968	-5.0	117	0.00
54	un	C1-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-34.56#
55	un	C2-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.31#
56	un	C3-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.54#
57	un	C4-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.38#
58	T	Fluoranthene	0.953	0.955	-0.2	110	0.03
59	T	Pyrene	1.168	1.074	8.0	100	0.00
60	T	2-Methylfluoranthene	0.695	0.731	-5.2	119	0.00
61	T	Benzo(b)fluorene	0.590	0.653	-10.7	128	0.00
62	un	C1-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-31.69#
63	un	C2-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-32.12#
64	un	C3-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-34.20#
65	un	C4-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-35.79#
66	S	Chrysene-d12	0.967	0.956	1.1	106	0.00
67	T	Benz(a)anthracene	0.927	1.053	-13.6	129	0.00
68	T	Chrysene/Triphenylene	0.999	0.996	0.3	110	0.00
69	un	C1-Chrysenes	0.999	0.000	100.0#	0#	-35.79#
70	un	C2-Chrysenes	0.999	0.000	100.0#	0#	-36.66#
71	un	C3-Chrysenes	0.999	0.000	100.0#	0#	-38.09#
72	un	C4-Chrysenes	0.999	0.000	100.0#	0#	-39.39#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	107	0.00
74	un	C29-Hopane	0.570	0.000	100.0#	0#	-40.62#
75	un	18a-Oleanane	0.570	0.000	100.0#	0#	-42.00#
76	T	C30-Hopane	0.570	0.582	-2.1	115	0.00
77	T	Benzo(b)fluoranthene	1.295	1.318	-1.8	114	0.00
78	T	Benzo(k,j)fluoranthene	1.195	1.175	1.7	110	0.00
79	un	Benzo(a)fluoranthene	1.195	0.000	100.0#	0#	-37.28#
80	T	Benzo(e)pyrene	1.315	1.275	3.0	110	0.00
81	T	Benzo(a)pyrene	1.227	1.237	-0.8	112	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.331	1.218	8.5	105	0.00
83	T	Dibenzo(a,h)anthracene	1.058	0.993	6.1	108	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-49.55#
86	un	C3-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.99#
87	T	Benzo(g,h,i)perylene	1.159	1.006	13.2	98	-0.03
88	S	Perylene-d12	1.159	1.138	1.8	114	0.00
89	T	Perylene	1.263	1.300	-2.9	117	0.00
90	S	5(b)H-Cholane	0.317	0.336	-6.0	122	0.00
91	un	C20-TAS	1.704	0.000	100.0#	0#	-33.78#
92	un	C21-TAS	1.704	0.000	100.0#	0#	-34.17#
93	un	C26(20S)-TAS	1.704	0.000	100.0#	0#	-38.67#
94	T	C26(20R)/C27(20S)-TAS	1.704	1.944	-14.1	132	0.00
95	un	C28(20S)-TAS	1.704	0.000	100.0#	0#	-40.62#
96	un	C27(20R)-TAS	1.704	0.000	100.0#	0#	-40.62#
97	un	C28(20R)-TAS	1.704	0.000	100.0#	0#	-41.77#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	302521m	251.05	0.00
31) Pyrene-d10	29.597	212	612862m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	547214m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	488462m	219.14	0.00
21) Acenaphthene-d10	19.603	164	272294m	232.49	0.00
32) Phenanthrene-d10	24.681	188	446091m	218.06	0.00
66) Chrysene-d12	33.777	240	584307m	247.09	0.00
88) Perylene-d12	38.673	264	621744m	245.38	0.00
90) 5(b)H-Cholane	34.166	217	183655m	265.09	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	97958m	222.65	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.813	128	518471m	222.10	
9) 2-Methylnaphthalene	16.071	142	321701m	229.76	
10) 1-Methylnaphthalene	16.384	142	311770m	225.43	
11) 2,6-Dimethylnaphthalene	18.150	156	293125m	240.66	
12) 1,6,7-Trimethylnaphtha...	21.011	170	273631m	239.72	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	396853m	219.42	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.635	154	392137m	228.91	
23) Acenaphthylene	19.111	152	492152m	253.62	
24) Acenaphthene	19.692	154	290634m	235.23	
25) Dibenzofuran	20.296	168	408858m	238.30	
26) Fluorene	21.481	166	345904m	246.12	
27) 1-Methylfluorene	23.438	180	215911m	265.04	
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	25.529	167	399098m	260.43	
34) Dibenzothiophene	24.342	184	465714m	222.87	
35) 4-Methyldibenzothiophene	25.839	198	375134m	232.74	
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	24.766	178	536898m	223.18	
42) Anthracene	24.935	178	474239m	236.31	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

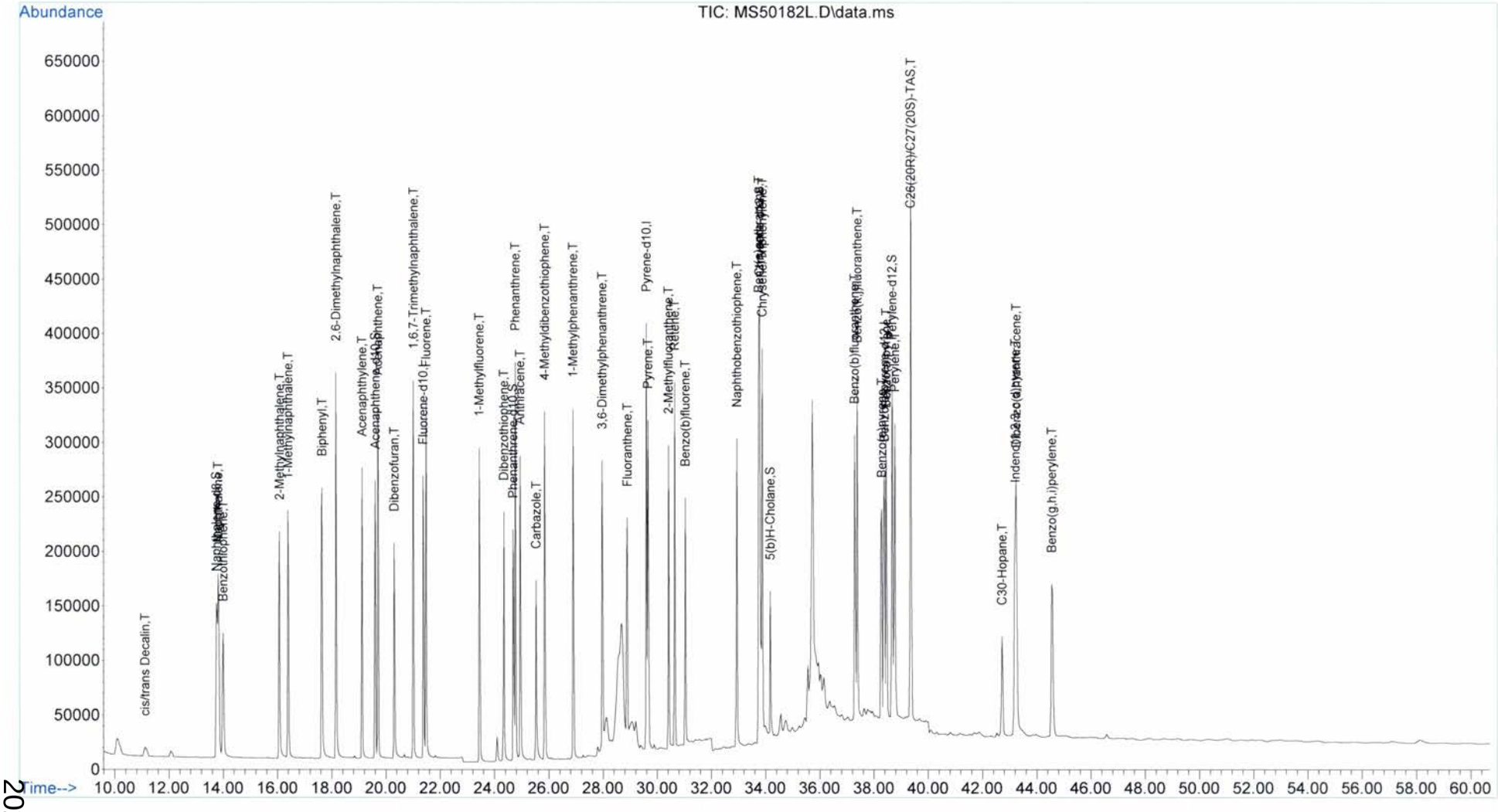
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.885	192	375240m	230.63		
48)	3,6-Dimethylphenanthrene	27.958	206	365599m	256.71		
49)	Retene	30.642	234	174345m	234.48		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.934	234	595665m	264.34		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.891	202	584400m	250.70		
59)	Pyrene	29.653	202	656381m	229.73		
60)	2-Methylfluoranthene	30.416	216	450084m	264.83		
61)	Benzo(b)fluorene	31.038	216	402686m	279.15		
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	33.745	228	642197m	283.27		
68)	Chrysene/Triphenylene	33.875	228	604982m	247.65		
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	42.716	191	318338m	255.42		
77)	Benzo(b)fluoranthene	37.279	252	721771m	254.88		
78)	Benzo(k,j)fluoranthene	37.376	252	639591m	244.83		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.284	252	693760m	241.39		
81)	Benzo(a)pyrene	38.446	252	674404m	251.53		
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	654423m	224.89		
83)	Dibenzo(a,h)anthracene	43.239	278	537942m	232.59		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.547	276	545065m	215.12		
89)	Perylene	38.770	252	711240m	257.65		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.354	231	1062254m	285.11		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182L.D
Acq On : 30 Nov 2013 8:45 am
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 05 09:17:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	84	0.02
2	S	Naphthalene-d8	1.850	1.623	12.3	74	0.00
3	T	cis/trans Decalin	0.365	0.341	6.6	79	0.00
4	un	C1-Decalins	0.365	0.000	100.0#	0#	-12.61#
5	un	C2-Decalins	0.365	0.000	100.0#	0#	-13.30#
6	un	C3-Decalins	0.365	0.000	100.0#	0#	-16.14#
7	un	C4-Decalins	0.365	0.000	100.0#	0#	-18.73#
8	T	Naphthalene	1.937	1.708	11.8	74	0.00
9	T	2-Methylnaphthalene	1.162	1.082	6.9	80	0.02
10	T	1-Methylnaphthalene	1.148	1.032	10.1	76	0.00
11	T	2,6-Dimethylnaphthalene	1.011	0.960	5.0	82	0.00
12	T	1,6,7-Trimethylnaphthalene	0.947	0.917	3.2	83	0.00
13	un	C2-Naphthalenes	1.937	0.000	100.0#	0#	-18.82#
14	un	C3-Naphthalenes	1.937	0.000	100.0#	0#	-19.98#
15	un	C4-Naphthalenes	1.937	0.000	100.0#	0#	-22.33#
16	T	Benzothiophene	1.501	1.322	11.9	75	0.02
17	un	C1-Benzothiophenes	1.501	0.000	100.0#	0#	-15.42#
18	un	C2-Benzothiophenes	1.501	0.000	100.0#	0#	-18.33#
19	un	C3-Benzothiophenes	1.501	0.000	100.0#	0#	-20.25#
20	un	C4-Benzothiophenes	1.501	0.000	100.0#	0#	-22.02#
21	S	Acenaphthene-d10	0.972	0.893	8.1	79	0.00
22	T	Biphenyl	1.422	1.309	7.9	78	0.02
23	T	Acenaphthylene	1.610	1.639	-1.8	88	0.00
24	T	Acenaphthene	1.025	0.960	6.3	79	0.02
25	T	Dibenzofuran	1.424	1.373	3.6	84	0.00
26	T	Fluorene	1.166	1.154	1.0	84	0.00
27	T	1-Methylfluorene	0.676	0.687	-1.6	87	0.03
28	un	C1-Fluorenes	1.166	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.166	0.000	100.0#	0#	-25.84#
30	un	C3-Fluorenes	1.166	0.000	100.0#	0#	-27.25#
31	I	Pyrene-d10	1.000	1.000	0.0	92	0.00
32	S	Phenanthrene-d10	0.837	0.709	15.3	81	0.00
33	T	Carbazole	0.627	0.683	-8.9	106	0.00
34	T	Dibenzothiophene	0.855	0.787	8.0	87	0.00
35	T	4-Methyldibenzothiophene	0.659	0.592	10.2	85	0.00
36	un	2/3-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.18#
37	un	1-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	0.855	0.000	100.0#	0#	-27.79#
39	un	C3-Dibenzothiophenes	0.855	0.000	100.0#	0#	-28.75#
40	un	C4-Dibenzothiophenes	0.855	0.000	100.0#	0#	-30.42#
41	T	Phenanthrene	0.984	0.881	10.5	85	0.00
42	T	Anthracene	0.821	0.793	3.4	92	0.00
43	un	3-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
44	un	2-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
45	un	2-Methylanthracene	0.665	0.000	100.0#	0#	-26.88#
46	un	4/9-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
47	T	1-Methylphenanthrene	0.665	0.620	6.8	91	0.00
48	T	3,6-Dimethylphenanthrene	0.582	0.604	-3.8	102	0.03
49	T	Retene	0.304	0.310	-2.0	100	0.00

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)
50	un	C2-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-28.52#
51	un	C3-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-29.37#
52	un	C4-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-32.09#
53	T	Naphthobenzothiophene	0.922	1.077	-16.8	114	0.00
54	un	C1-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-34.56#
55	un	C2-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.31#
56	un	C3-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.54#
57	un	C4-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.38#
58	T	Fluoranthene	0.953	0.996	-4.5	100	0.03
59	T	Pyrene	1.168	1.082	7.4	88	0.00
60	T	2-Methylfluoranthene	0.695	0.733	-5.5	105	0.00
61	T	Benzo(b)fluorene	0.590	0.706	-19.7	121	0.00
62	un	C1-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-31.69#
63	un	C2-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-32.12#
64	un	C3-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-34.20#
65	un	C4-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-35.79#
66	S	Chrysene-d12	0.967	0.928	4.0	90	0.00
67	T	Benz(a)anthracene	0.927	1.121	-20.9	120	0.00
68	T	Chrysene/Triphenylene	0.999	1.126	-12.7	109	0.00
69	un	C1-Chrysenes	0.999	0.000	100.0#	0#	-35.79#
70	un	C2-Chrysenes	0.999	0.000	100.0#	0#	-36.66#
71	un	C3-Chrysenes	0.999	0.000	100.0#	0#	-38.09#
72	un	C4-Chrysenes	0.999	0.000	100.0#	0#	-39.39#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	91	0.00
74	un	C29-Hopane	0.570	0.000	100.0#	0#	-40.62#
75	un	18a-Oleanane	0.570	0.000	100.0#	0#	-42.00#
76	T	C30-Hopane	0.570	0.541	5.1	90	0.00
77	T	Benzo(b)fluoranthene	1.295	1.247	3.7	91	0.03
78	T	Benzo(k,j)fluoranthene	1.195	1.326	-11.0	105	0.00
79	un	Benzo(a)fluoranthene	1.195	0.000	100.0#	0#	-37.28#
80	T	Benzo(e)pyrene	1.315	1.276	3.0	93	0.00
81	T	Benzo(a)pyrene	1.227	1.168	4.8	90	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.331	1.018	23.5	74	0.00
83	T	Dibenzo(a,h)anthracene	1.058	0.825	22.0	76	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-49.55#
86	un	C3-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.99#
87	T	Benzo(g,h,i)perylene	1.159	0.792	31.7#	65	0.00
88	S	Perylene-d12	1.159	1.098	5.3	93	0.00
89	T	Perylene	1.263	1.280	-1.3	98	0.00
90	S	5(b)H-Cholane	0.317	0.350	-10.4	107	0.00
91	un	C20-TAS	1.704	0.000	100.0#	0#	-33.78#
92	un	C21-TAS	1.704	0.000	100.0#	0#	-34.17#
93	un	C26(20S)-TAS	1.704	0.000	100.0#	0#	-38.67#
94	T	C26(20R)/C27(20S)-TAS	1.704	1.930	-13.3	111	0.00
95	un	C28(20S)-TAS	1.704	0.000	100.0#	0#	-40.62#
96	un	C27(20R)-TAS	1.704	0.000	100.0#	0#	-40.62#
97	un	C28(20R)-TAS	1.704	0.000	100.0#	0#	-41.77#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.391	176	261081m	251.05	0.02
31) Pyrene-d10	29.597	212	535526m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	462777m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	422088m	219.42	0.00
21) Acenaphthene-d10	19.603	164	232223m	229.75	0.00
32) Phenanthrene-d10	24.681	188	379246m	212.16	0.00
66) Chrysene-d12	33.777	240	496045m	240.06	0.00
88) Perylene-d12	38.673	264	507756m	236.96	0.00
90) 5(b)H-Cholane	34.166	217	161704m	275.99	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	87684m	230.93	
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	13.813	128	444140m	220.46	
9) 2-Methylnaphthalene	16.071	142	281629m	233.07	
10) 1-Methylnaphthalene	16.384	142	268090m	224.62	
11) 2,6-Dimethylnaphthalene	18.150	156	249507m	237.36	
12) 1,6,7-Trimethylnaphtha...	21.011	170	238437m	242.05	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	341754m	218.94	
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	17.636	154	337135m	228.04	
23) Acenaphthylene	19.111	152	422839m	252.49	
24) Acenaphthene	19.715	154	249961m	234.42	
25) Dibenzofuran	20.296	168	355117m	239.83	
26) Fluorene	21.481	166	300703m	247.92	
27) 1-Methylfluorene	23.466	180	179932m	255.93	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.529	167	361772m	270.16	
34) Dibenzothiophene	24.342	184	414455m	226.98	
35) 4-Methyldibenzothiophene	25.839	198	318730m	226.31	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.766	178	466410m	221.88	
42) Anthracene	24.935	178	424991m	242.35	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

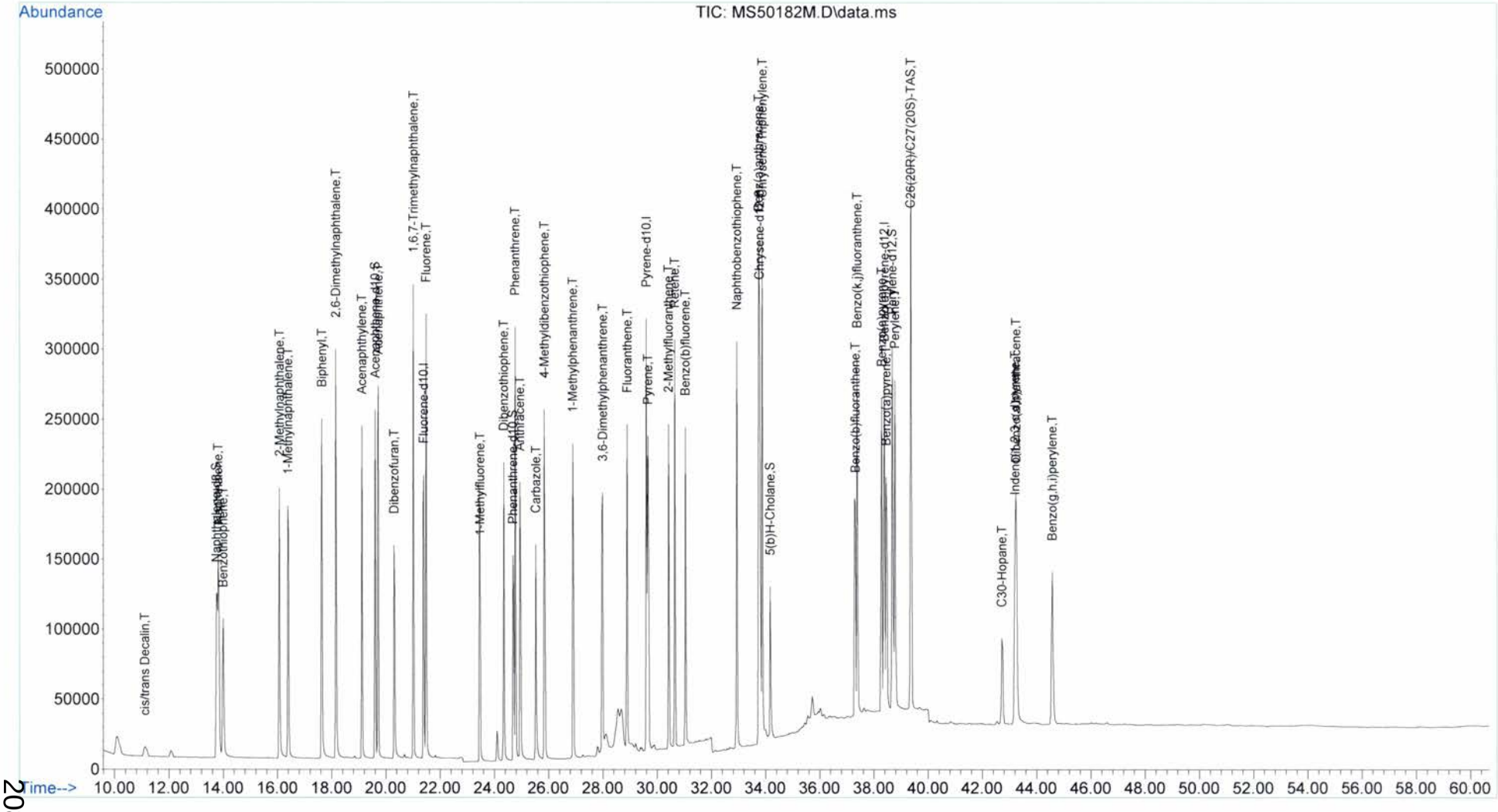
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46) 4/9-Methylphenanthrene	0.000		0	N.D. d	
47) 1-Methylphenanthrene	26.885	192	327592m	230.43	
48) 3,6-Dimethylphenanthrene	27.987	206	322814m	259.40	
49) Retene	30.642	234	147940m	227.70	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53) Naphthobenzothiophene	32.934	234	578867m	293.98	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.891	202	532596m	261.48	
59) Pyrene	29.653	202	577729m	231.40	
60) 2-Methylfluoranthene	30.416	216	394498m	265.65	
61) Benzo(b)fluorene	31.038	216	380519m	301.87	
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	33.745	228	597814m	301.78	
68) Chrysene/Triphenylene	33.875	228	598046m	280.16	
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	42.716	191	249829m	237.03	
77) Benzo(b)fluoranthene	37.311	252	577480m	241.13	
78) Benzo(k,j)fluoranthene	37.376	252	610581m	276.36	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	587429m	241.69	
81) Benzo(a)pyrene	38.446	252	538811m	237.62	
82) Indeno(1,2,3-c,d)pyrene	43.206	276	462581m	187.97	
83) Dibenzo(a,h)anthracene	43.239	278	377772m	193.14	
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	44.579	276	362967m	169.39	
89) Perylene	38.770	252	591985m	253.58	
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	39.354	231	892203m	283.16	
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182M.D
Acq On : 30 Nov 2013 6:41 pm
Operator : ECM(YMIAO)
Sample : AR-WKCC-250-039
Misc :
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Dec 01 20:46:17 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name MS50182H.D
Data File Path C:\GCMS5\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/29/2013 19:30
Acq. Method File PAH-2012.M
Sample Name AR-WKISSU-250-005
Misc Info 0
Instrument Name GCMS5
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

MS50182H.D
AR-WKISSU-250-005
11/29/2013 19:30
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	13.75	532680	255.44	102.12
21)	Acenaphthene-d10	19.60	274700	250.70	100.22
32)	Phenanthrene-d10	24.68	406025	241.95	96.71
66)	Chrysene-d12	33.78	400779	206.60	82.63
88)	Perylene-d12	38.67	444189	248.84	99.52
90)	5(b)H-Cholane	34.17	117631	241.00	96.40
	Internal Standards				
1)	Fluorene-d10	21.37	283026	251.05	
31)	Pyrene-d10	29.60	502747	250.63	
73)	Benzo(a)pyrene-d12	38.38	385517	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182H.D
Acq On : 29 Nov 2013 7:30 pm
Operator : ECM(YMIAO)
Sample : AR-WKISSU-250-005
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 20:00:50 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	283026m	251.05	0.00
31) Pyrene-d10	29.597	212	502747m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	385517m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	532680m	255.44	0.00
21) Acenaphthene-d10	19.603	164	274700m	250.70	0.00
32) Phenanthrene-d10	24.681	188	406025m	241.95	0.00
66) Chrysene-d12	33.777	240	400779m	206.60	0.00
88) Perylene-d12	38.673	264	444189m	248.84	0.00
90) 5(b)H-Cholane	34.166	217	117631m	241.00	0.00

Target Compounds				Qvalue
3) cis/trans Decalin	0.000	0	N.D. d	
4) C1-Decalins	0.000	0	N.D. d	
5) C2-Decalins	0.000	0	N.D. d	
6) C3-Decalins	0.000	0	N.D. d	
7) C4-Decalins	0.000	0	N.D. d	
8) Naphthalene	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.	
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\MS50182\
Data File : MS50182H.D
Acq On : 29 Nov 2013 7:30 pm
Operator : ECM(YMIAO)
Sample : AR-WKISSU-250-005
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 20:00:50 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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\MS50182\
Data File : MS50182H.D
Acq On : 29 Nov 2013 7:30 pm
Operator : ECM(YMIAO)
Sample : AR-WKISSU-250-005
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 20:00:50 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

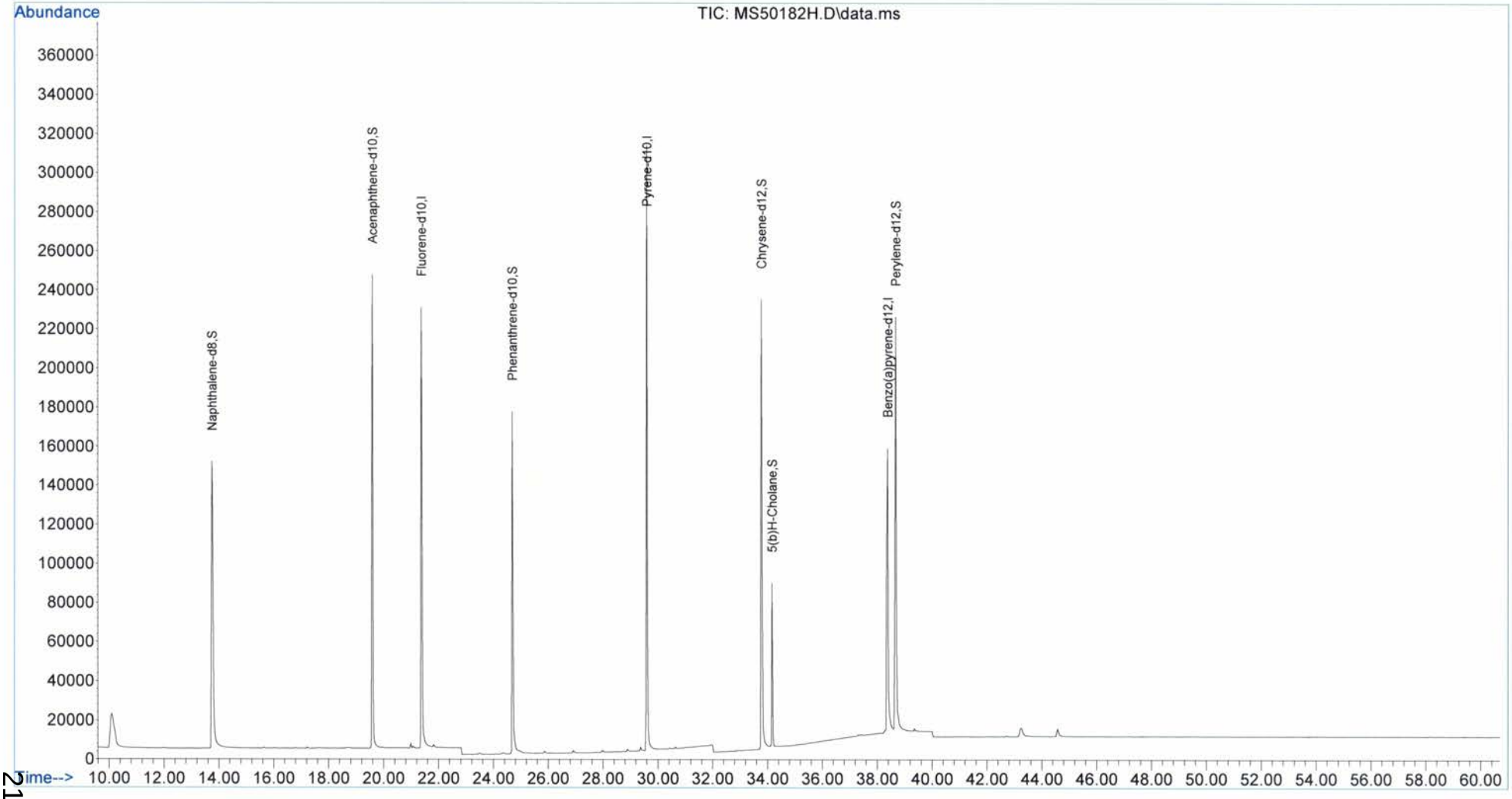
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182H.D
Acq On : 29 Nov 2013 7:30 pm
Operator : ECM(YMIAO)
Sample : AR-WKISSU-250-005
Misc :
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 01 20:00:50 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name MS50182K.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/29/2013 22:49
Acq. Method File PAH-2012.M
Sample Name AR-SRM2779-WK-4.0-003
Misc Info 0
Instrument Name GCMS5
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

MS50182K.D
.R-SRM2779-WK-4.0-003
11/29/2013 22:49
PAH-2012.M
4.088140305

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	1634900	783.7280	864.9227
4)	C1-Decalins	12.27	2168790	1039.6610	1147.3706
5)	C2-Decalins	14.64	1678400	804.5810	887.9361
6)	C3-Decalins	16.61	1430020	685.5146	756.5344
7)	C4-Decalins	17.64	913326	437.8250	483.1840
8)	Naphthalene	13.81	8736610	789.3516	871.1289
9)+10)	C1-Naphthalenes	16.22	17961160	1622.7885	1790.9105
13)	C2-Naphthalenes	18.42	21782200	1968.0195	2171.9077
14)	C3-Naphthalenes	20.43	13630800	1231.5429	1359.1315
15)	C4-Naphthalenes	22.76	7875070	711.5118	785.2249
16)	Benzothiophene	14.01	83760	9.7673	10.7792
17)	C1-Benzothiophenes	15.58	285452	33.2868	36.7353
18)	C2-Benzothiophenes	18.31	183376	21.3836	23.5989
19)	C3-Benzothiophenes	20.25	285701	33.3156	36.7672
20)	C4-Benzothiophenes	22.69	230513	26.8802	29.6650
22)	Biphenyl	17.61	1348370	166.0117	183.2106
23)	Acenaphthylene	19.11	68230	7.4158	8.1841
24)	Acenaphthene	19.71	87663	14.9644	16.5147
25)	Dibenzofuran	20.30	200214	24.6114	27.1612
26)	Fluorene	21.48	947266	142.1534	156.8806
28)	C1-Fluorenes	23.44	2141330	321.3417	354.6329
29)	C2-Fluorenes	25.19	2327810	349.3275	385.5181
30)	C3-Fluorenes	26.83	2123020	318.5947	351.6014
33)	Carbazole	25.53	45241	6.3904	7.0525
42)	Anthracene	24.91	27237	2.9378	3.2422
41)	Phenanthrene	24.77	2761560	248.4895	274.2332
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	6590447	593.0188	654.4559
50)	C2-Phenanthrenes/Anthracenes	28.33	7674670	690.5805	762.1251
51)	C3-Phenanthrenes/Anthracenes	29.88	4674970	420.6607	464.2414
52)	C4-Phenanthrenes/Anthracenes	31.74	2753580	247.7728	273.4422
34)	Dibenzothiophene	24.34	502181	52.0210	57.4104
35)+36)+37)	C1-Dibenzothiophenes	26.16	1363263	141.2205	155.8510
38)	C2-Dibenzothiophenes	27.25	1716970	177.8601	196.2865
39)	C3-Dibenzothiophenes	28.78	1118060	115.8194	127.8184
40)	C4-Dibenzothiophenes	30.19	543728	56.3246	62.1599
58)	Fluoranthene	28.89	46550	4.3228	4.7706
59)	Pyrene	29.65	162405	12.3042	13.5789
62)	C1-Fluoranthenes/Pyrenes	30.81	802213	74.4962	82.2141
63)	C2-Fluoranthenes/Pyrenes	32.29	1483090	137.7250	151.9934
64)	C3-Fluoranthenes/Pyrenes	33.97	1401660	130.1626	143.6475
65)	C4-Fluoranthenes/Pyrenes	35.11	1074250	99.7583	110.0933
53)	Naphthobenzothiophene	32.93	334836	32.1652	35.4976
54)	C1-Naphthobenzothiophenes	34.10	712447	68.4397	75.5301
55)	C2-Naphthobenzothiophenes	35.79	988423	94.9505	104.7874
56)	C3-Naphthobenzothiophenes	37.15	646973	62.1500	68.5888
57)	C4-Naphthobenzothiophenes	38.15	281937	27.0837	29.8896
67)	Benz(a)anthracene	33.75	79928	7.6319	8.4225
68)	Chrysene/Triphenylene	33.87	538462	47.7134	52.6565
69)	C1-Chrysenes	35.07	1420630	125.8827	138.9242
70)	C2-Chrysenes	36.57	1551450	137.4747	151.7172
71)	C3-Chrysenes	37.96	1214520	107.6189	118.7682
72)	C4-Chrysenes	39.39	546310	48.4088	53.4240
77)	Benzo(b)fluoranthene	37.31	66696	4.6569	5.1393
78)	Benzo(k,j)fluoranthene	37.34	9794	0.7413	0.8181
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	163086	11.2200	12.3824
81)	Benzo(a)pyrene	38.45	20239	1.4925	1.6471
89)	Perylene	38.77	7544	0.5404	0.5963
82)	Indeno(1,2,3-c,d)pyrene	43.21	9147	0.6215	0.6859
83)	Dibenzo(a,h)anthracene	43.24	6102	0.5217	0.5757
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	26786	2.0902	2.3068

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	10908700	1643.2264	1813.4658
10)	1-Methylnaphthalene	16.38	7052460	1075.5379	1186.9644
11)	2,6-Dimethylnaphthalene	18.15	5983580	1036.1117	1143.4536
12)	1,6,7-Trimethylnaphthalene	21.01	982535	181.5486	200.3571
27)	1-Methylfluorene	23.44	1106450	286.4579	316.1351
35)	4-Methyldibenzothiophene	25.84	769284	103.3171	114.0209
36)	2/3-Methyldibenzothiophene	26.15	362205	48.6451	53.6848
37)	1-Methyldibenzothiophene	26.49	231774	31.1278	34.3527
43)	3-Methylphenanthrene	26.43	1610750	214.3072	236.5096
44)	2-Methylphenanthrene	26.52	1651830	219.7728	242.5414
45)	2-Methylanthracene	26.69	102717	13.6663	15.0821
46)	4/9-Methylphenanthrene	26.80	1873100	249.2111	275.0296
47)	1-Methylphenanthrene	26.88	1352050	179.8882	198.5247
48)	3,6-Dimethylphenanthrene	27.96	334044	50.7727	56.0328
49)	Retene	30.64	28812	8.3882	9.2572
60)	2-Methylfluoranthene	30.42	62062	7.9049	8.7238
61)	Benzo(b)fluorene	31.04	133702	20.0630	22.1415
74)	C29-Hopane	40.69	134156	21.2832	23.4882
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.00	297331	47.1701	52.0570
91)	C20-TAS	33.32	128771	6.8338	7.5418
92)	C21-TAS	34.39	164942	8.7534	9.6603
93)	C26(20S)-TAS	38.51	95792	5.0837	5.6103
94)	C26(20R)/C27(20S)-TAS	39.42	286223	15.1897	16.7634
95)	C28(20S)-TAS	40.20	203372	10.7929	11.9110
96)	C27(20R)-TAS	40.62	176859	9.3858	10.3582
97)	C28(20R)-TAS	41.77	150396	7.9815	8.8083
	Surrogate Standards				
2)	Naphthalene-d8	13.75	540915	51.18	83.65
21)	Acenaphthene-d10	19.60	319808	57.59	94.12
32)	Phenanthrene-d10	24.68	524064	55.45	90.61
66)	Chrysene-d12	33.78	602152	55.12	90.12
88)	Perylene-d12	38.67	703102	54.87	89.71
90)	5(b)H-Cholane	34.17	211153	60.26	98.54
	Internal Standards				
1)	Fluorene-d10	21.37	350858	61.41	
31)	Pyrene-d10	29.60	692538	61.31	
73)	Benzo(a)pyrene-d12	38.38	676972	61.23	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182K.D
Acq On : 29 Nov 2013 10:49 pm
Operator : ECM(YMIAO)
Sample : AR-SRM2779-WK-4.0-003
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Dec 08 15:20:41 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	350858m	251.05	0.00
31) Pyrene-d10	29.597	212	692538m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	676972m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	540915m	51.18	0.00
21) Acenaphthene-d10	19.603	164	319808m	57.59	0.00
32) Phenanthrene-d10	24.681	188	524064m	55.45	0.00
66) Chrysene-d12	33.777	240	602152m	55.12	0.00
88) Perylene-d12	38.673	264	703102m	54.87	0.00
90) 5(b)H-Cholane	34.166	217	211153m	60.26	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	1634897m	783.73	
4) C1-Decalins	12.270	152	2168788m	1039.66	
5) C2-Decalins	14.640	166	1678397m	804.58	
6) C3-Decalins	16.607	180	1430018m	685.51	
7) C4-Decalins	17.636	194	913326m	437.82	
8) Naphthalene	13.813	128	8736611m	789.35	
9) 2-Methylnaphthalene	16.048	142	10908717m	1643.23	
10) 1-Methylnaphthalene	16.384	142	7052459m	1075.54	
11) 2,6-Dimethylnaphthalene	18.150	156	5983583m	1036.11	
12) 1,6,7-Trimethylnaphtha...	21.011	170	982535m	181.55	
13) C2-Naphthalenes	18.418	156	21782228m	1968.02	
14) C3-Naphthalenes	20.430	170	13630832m	1231.54	
15) C4-Naphthalenes	22.755	184	7875070m	711.51	
16) Benzothiophene	14.014	134	83760m	9.77	
17) C1-Benzothiophenes	15.579	148	285452m	33.29	
18) C2-Benzothiophenes	18.306	162	183376m	21.38	
19) C3-Benzothiophenes	20.251	176	285701m	33.32	
20) C4-Benzothiophenes	22.688	190	230513m	26.88	
22) Biphenyl	17.613	154	1348368m	166.01	
23) Acenaphthylene	19.111	152	68230m	7.42	
24) Acenaphthene	19.715	154	87663m	14.96	
25) Dibenzofuran	20.296	168	200214m	24.61	
26) Fluorene	21.481	166	947266m	142.15	
27) 1-Methylfluorene	23.438	180	1106445m	286.46	
28) C1-Fluorenes	23.438	180	2141326m	321.34	
29) C2-Fluorenes	25.190	194	2327806m	349.33	
30) C3-Fluorenes	26.828	208	2123024m	318.60	
33) Carbazole	25.529	167	45241m	6.39	
34) Dibenzothiophene	24.342	184	502181m	52.02	
35) 4-Methyldibenzothiophene	25.839	198	769284m	103.32	
36) 2/3-Methyldibenzothiop...	26.150	198	362205m	48.65	
37) 1-Methyldibenzothiophene	26.489	198	231774m	31.13	
38) C2-Dibenzothiophenes	27.252	212	1716965m	177.86	
39) C3-Dibenzothiophenes	28.778	226	1118058m	115.82	
40) C4-Dibenzothiophenes	30.190	240	543728m	56.32	
41) Phenanthrene	24.766	178	2761562m	248.49	
42) Anthracene	24.907	178	27237m	2.94	
43) 3-Methylphenanthrene	26.433	192	1610752m	214.31	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182K.D
Acq On : 29 Nov 2013 10:49 pm
Operator : ECM(YMIAO)
Sample : AR-SRM2779-WK-4.0-003
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Dec 08 15:20:41 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.518	192	1651832m	219.77	
45) 2-Methylanthracene	26.687	192	102717m	13.67	
46) 4/9-Methylphenanthrene	26.800	192	1873095m	249.21	
47) 1-Methylphenanthrene	26.885	192	1352054m	179.89	
48) 3,6-Dimethylphenanthrene	27.958	206	334044m	50.77	
49) Retene	30.642	234	28812m	8.39	
50) C2-Phenanthrenes/Anthr...	28.326	206	7674667m	690.58	
51) C3-Phenanthrenes/Anthr...	29.880	220	4674966m	420.66	
52) C4-Phenanthrenes/Anthr...	31.744	234	2753584m	247.77	
53) Naphthobenzothiophene	32.935	234	334836m	32.17	
54) C1-Naphthobenzothiophenes	34.102	248	712447m	68.44	
55) C2-Naphthobenzothiophenes	35.787	262	988423m	94.95	
56) C3-Naphthobenzothiophenes	37.149	276	646973m	62.15	
57) C4-Naphthobenzothiophenes	38.154	290	281937m	27.08	
58) Fluoranthene	28.891	202	46550m	4.32	
59) Pyrene	29.654	202	162405m	12.30	
60) 2-Methylfluoranthene	30.416	216	62062m	7.90	
61) Benzo(b)fluorene	31.038	216	133702m	20.06	
62) C1-Fluoranthenes/Pyrenes	30.812	216	802213m	74.50	
63) C2-Fluoranthenes/Pyrenes	32.286	230	1483091m	137.72	
64) C3-Fluoranthenes/Pyrenes	33.972	244	1401657m	130.16	
65) C4-Fluoranthenes/Pyrenes	35.107	258	1074248m	99.76	
67) Benz(a)anthracene	33.745	228	79928m	7.63	
68) Chrysene/Triphenylene	33.875	228	538462m	47.71	
69) C1-Chrysenes	35.074	242	1420628m	125.88	
70) C2-Chrysenes	36.566	256	1551447m	137.47	
71) C3-Chrysenes	37.960	270	1214515m	107.62	
72) C4-Chrysenes	39.386	284	546310m	48.41	
74) C29-Hopane	40.688	191	134156m	21.28	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	41.996	191	297331m	47.17	
77) Benzo(b)fluoranthene	37.311	252	66696m	4.66	
78) Benzo(k,j)fluoranthene	37.344	252	9794m	0.74	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	163086m	11.22	
81) Benzo(a)pyrene	38.446	252	20239m	1.49	
82) Indeno(1,2,3-c,d)pyrene	43.206	276	9147m	0.62	
83) Dibenzo(a,h)anthracene	43.239	278	6102m	0.52	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	
87) Benzo(g,h,i)perylene	44.579	276	26786m	2.09	
89) Perylene	38.770	252	7544m	0.54	
91) C20-TAS	33.324	231	128771m	6.83	
92) C21-TAS	34.393	231	164942m	8.75	
93) C26(20S)-TAS	38.511	231	95792m	5.08	
94) C26(20R)/C27(20S)-TAS	39.419	231	286223m	15.19	
95) C28(20S)-TAS	40.198	231	203372m	10.79	
96) C27(20R)-TAS	40.623	231	176859m	9.39	
97) C28(20R)-TAS	41.767	231	150396m	7.98	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182K.D
Acq On : 29 Nov 2013 10:49 pm
Operator : ECM(YMIAO)
Sample : AR-SRM2779-WK-4.0-003
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Dec 08 15:20:41 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

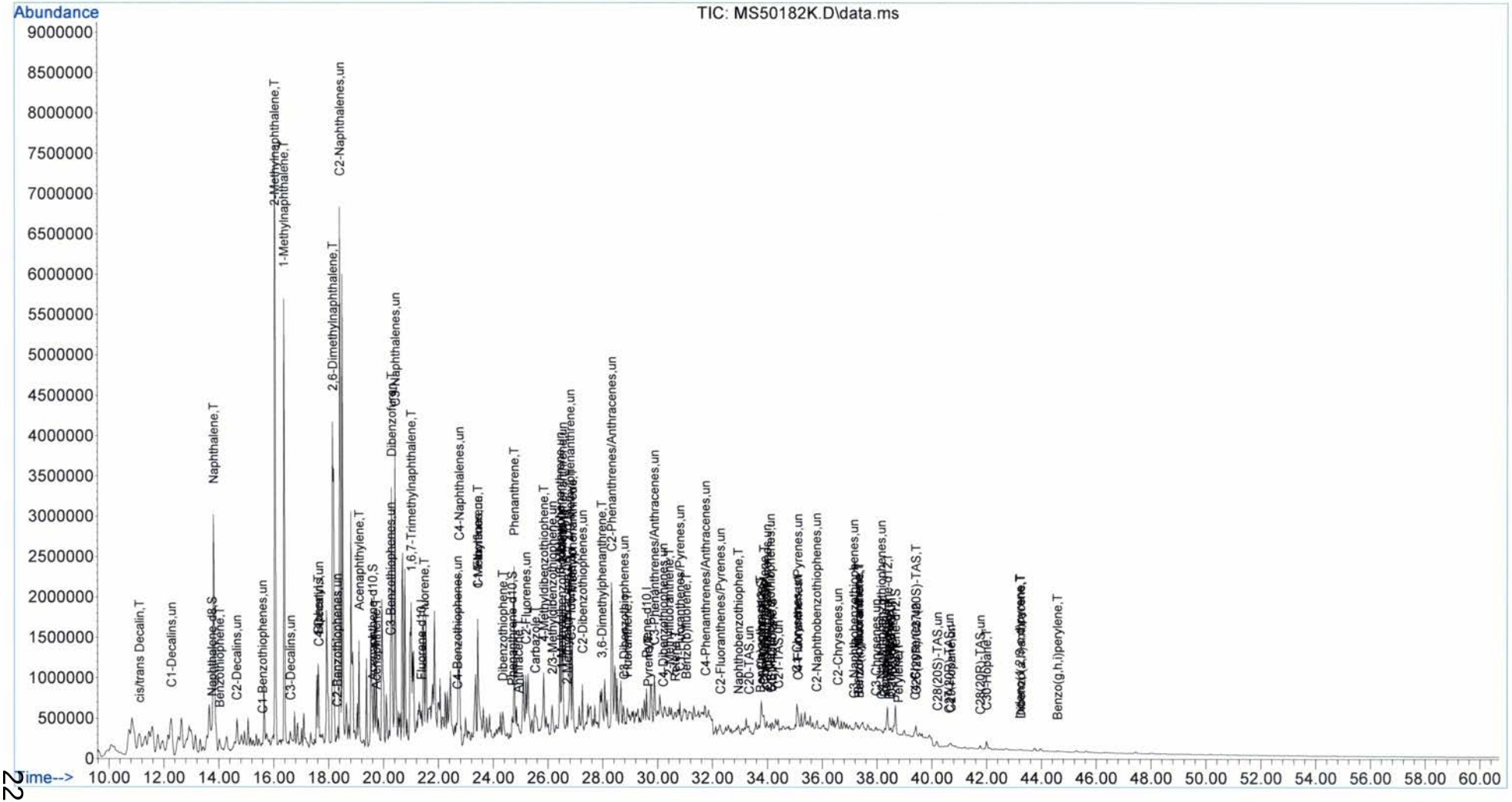
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : MS50182K.D
Acq On : 29 Nov 2013 10:49 pm
Operator : ECM(YMIAO)
Sample : AR-SRM2779-WK-4.0-003
Misc :
ALS Vial : 11 Sample Multiplier: 0.24461

Quant Time: Dec 08 15:20:41 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3165A.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/29/2013 23:55
Acq. Method File PAH-2012.M
Sample Name Method Blank
Misc Info 0
Instrument Name GCMS5
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

ENV3165A.D
Method Blank
11/29/2013 23:55
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	13.84	6767	3.4110	3.7653
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	24.77	3188	1.6588	1.8311
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	29.65	2858	1.2521	1.3821
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	13.75	405232	213.92	85.53
21)	Acenaphthene-d10	19.60	233227	234.32	93.67
32)	Phenanthrene-d10	24.68	370416	226.65	90.59
66)	Chrysene-d12	33.78	453311	239.95	95.96
88)	Perylene-d12	38.67	507585	241.43	96.56
90)	5(b)H-Cholane	34.17	146208	254.33	101.73
	Internal Standards				
1)	Fluorene-d10	21.37	257096	251.05	
31)	Pyrene-d10	29.60	489611	250.63	
73)	Benzo(a)pyrene-d12	38.38	454056	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165A.D
Acq On : 29 Nov 2013 11:55 pm
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 05 07:41:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	257096m	251.05	0.00
31) Pyrene-d10	29.597	212	489611m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	454056m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	405232m	213.92	0.00
21) Acenaphthene-d10	19.603	164	233227m	234.32	0.00
32) Phenanthrene-d10	24.681	188	370416m	226.65	0.00
66) Chrysene-d12	33.777	240	453311m	239.95	0.00
88) Perylene-d12	38.673	264	507585m	241.43	0.00
90) 5(b)H-Cholane	34.166	217	146208m	254.33	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	13.835	128	6767m	3.41	
9) 2-Methylnaphthalene	0.000		0	N.D. d	
10) 1-Methylnaphthalene	0.000		0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	0.000		0	N.D. d	
27) 1-Methylfluorene	0.000		0	N.D. d	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	0.000		0	N.D. d	
34) Dibenzothiophene	0.000		0	N.D. d	
35) 4-Methyldibenzothiophene	0.000		0	N.D. d	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.766	178	3188m	1.66	
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\MS50182\
Data File : ENV3165A.D
Acq On : 29 Nov 2013 11:55 pm
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 05 07:41:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	29.653	202	2858m	1.25		
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.		
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\MS50182\
Data File : ENV3165A.D
Acq On : 29 Nov 2013 11:55 pm
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 05 07:41:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

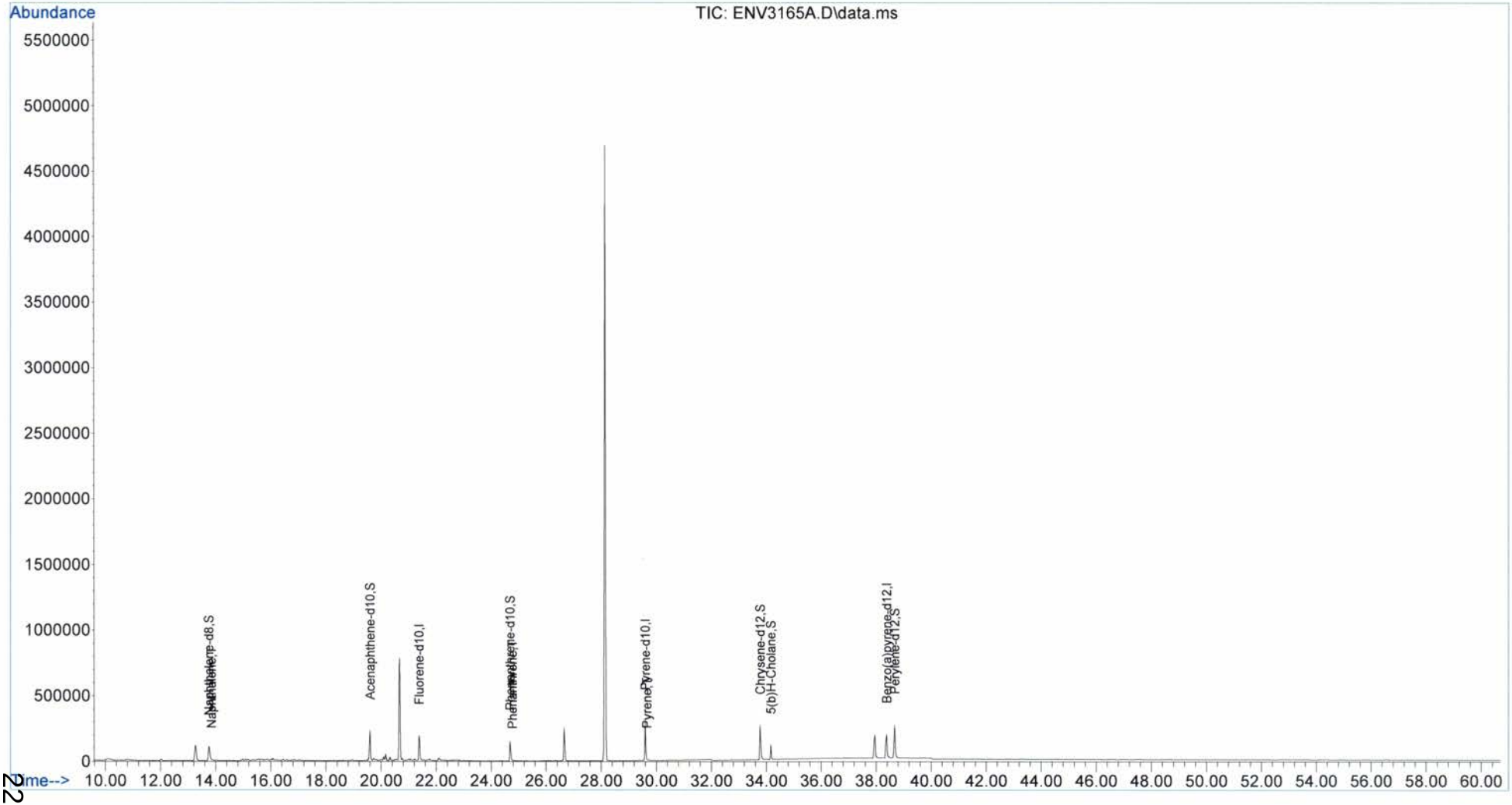
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165A.D
Acq On : 29 Nov 2013 11:55 pm
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 05 07:41:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3165B.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 1:02
Acq. Method File PAH-2012.M
Sample Name Blank Spike
Misc Info 0
Instrument Name GCMS5
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

ENV3165B.D
Blank Spike
11/30/2013 1:02
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	34889	90.4665	91.6649
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	13.81	185732	90.7692	91.9716
9)+10)	C1-Naphthalenes	16.23	211648	103.4346	104.8048
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.99	139184	87.7913	88.9543
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	127354	84.8140	85.9375
23)	Acenaphthylene	19.11	141543	83.2142	84.3165
24)	Acenaphthene	19.69	99131	91.5326	92.7451
25)	Dibenzofuran	20.32	136113	90.5037	91.7026
26)	Fluorene	21.48	113729	92.3168	93.5397
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	25.53	114224	93.2065	94.4412
42)	Anthracene	24.96	136836	85.2632	86.3927
41)	Phenanthrene	24.77	178185	92.6224	93.8494
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	127494	66.2727	67.1506
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	192359	115.1120	116.6369
35)+36)+37)	C1-Dibenzothiophenes	8.61	125678	75.2086	76.2049
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	28.89	189426	101.6190	102.9652
59)	Pyrene	29.65	218128	95.4672	96.7319
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	32.93	193762	107.5260	108.9504
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	33.75	193757	106.8760	108.2918
68)	Chrysene/Triphenylene	33.87	200099	102.4290	103.7859
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	37.28	214950	90.4465	91.6446
78)	Benzo(k,j)fluoranthene	37.38	242666	110.6830	112.1492
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	230156	95.4237	96.6878
81)	Benzo(a)pyrene	38.45	201982	89.7637	90.9528
89)	Perylene	38.77	219879	94.9115	96.1688
82)	Indeno(1,2,3-c,d)pyrene	43.21	244891	100.2790	101.6074
83)	Dibenzo(a,h)anthracene	43.24	186824	96.2517	97.5268
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	203505	95.7011	96.9689

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	106867	87.0747	88.2282
10)	1-Methylnaphthalene	16.38	104781	86.4355	87.5805
11)	2,6-Dimethylnaphthalene	18.15	92511	86.6490	87.7968
12)	1,6,7-Trimethylnaphthalene	21.01	92306	92.2570	93.4791
27)	1-Methylfluorene	23.44	69034	96.6760	97.9567
35)	4-Methyldibenzothiophene	25.84	125678	97.5070	98.7987
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	26.88	127494	97.9916	99.2897
48)	3,6-Dimethylphenanthrene	27.99	124038	108.9110	110.3537
49)	Retene	30.64	53679	90.2795	91.4754
60)	2-Methylfluoranthene	30.42	139292	102.4910	103.8487
61)	Benzo(b)fluorene	31.04	128851	111.6960	113.1756
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.72	102329	97.8327	99.1287
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	39.35	337047	107.7940	109.2220
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	13.75	442706	226.58	90.59
21)	Acenaphthene-d10	19.60	251412	244.89	97.89
32)	Phenanthrene-d10	24.68	403940	246.92	98.69
66)	Chrysene-d12	33.78	472726	249.98	99.98
88)	Perylene-d12	38.67	526764	247.73	99.08
90)	5(b)H-Cholane	34.17	149131	256.49	102.60
	Internal Standards				
1)	Fluorene-d10	21.37	265175	251.05	
31)	Pyrene-d10	29.60	490093	250.63	
73)	Benzo(a)pyrene-d12	38.38	459239	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165B.D
Acq On : 30 Nov 2013 1:02 am
Operator : ECM(YMIAO)
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 05 08:44:10 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	265175m	251.05	0.00
31) Pyrene-d10	29.597	212	490093m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	459239m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	442706m	226.58	0.00
21) Acenaphthene-d10	19.603	164	251412m	244.89	0.00
32) Phenanthrene-d10	24.681	188	403940m	246.92	0.00
66) Chrysene-d12	33.777	240	472726m	249.98	0.00
88) Perylene-d12	38.673	264	526764m	247.72	0.00
90) 5(b)H-Cholane	34.166	217	149131m	256.49	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	34889m	90.47	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.813	128	185732m	90.77	
9) 2-Methylnaphthalene	16.071	142	106867m	87.07	
10) 1-Methylnaphthalene	16.384	142	104781m	86.44	
11) 2,6-Dimethylnaphthalene	18.150	156	92511m	86.65	
12) 1,6,7-Trimethylnaphtha...	21.012	170	92306m	92.26	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.992	134	139184m	87.79	
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	17.636	154	127354m	84.81	
23) Acenaphthylene	19.111	152	141543m	83.21	
24) Acenaphthene	19.692	154	99131m	91.53	
25) Dibenzofuran	20.318	168	136113m	90.50	
26) Fluorene	21.481	166	113729m	92.32	
27) 1-Methylfluorene	23.438	180	69034m	96.68	
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	25.529	167	114224m	93.21	
34) Dibenzothiophene	24.342	184	192359m	115.11	
35) 4-Methyldibenzothiophene	25.840	198	125678m	97.51	
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	24.766	178	178185m	92.62	
42) Anthracene	24.964	178	136836m	85.26	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165B.D
Acq On : 30 Nov 2013 1:02 am
Operator : ECM(YMIAO)
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 05 08:44:10 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	26.885	192	127494m	97.99	
48) 3,6-Dimethylphenanthrene	27.987	206	124038m	108.91	
49) Retene	30.642	234	53679m	90.28	
50) C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51) C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52) C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53) Naphthobenzothiophene	32.935	234	193762m	107.53	
54) C1-Naphthobenzothiophenes	0.000		0	N.D. d	
55) C2-Naphthobenzothiophenes	0.000		0	N.D. d	
56) C3-Naphthobenzothiophenes	0.000		0	N.D. d	
57) C4-Naphthobenzothiophenes	0.000		0	N.D. d	
58) Fluoranthene	28.891	202	189426m	101.62	
59) Pyrene	29.654	202	218128m	95.47	
60) 2-Methylfluoranthene	30.416	216	139292m	102.49	
61) Benzo(b)fluorene	31.038	216	128851m	111.70	
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	33.745	228	193757m	106.88	
68) Chrysene/Triphenylene	33.875	228	200099m	102.43	
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	42.716	191	102329m	97.83	
77) Benzo(b)fluoranthene	37.279	252	214950m	90.45	
78) Benzo(k,j)fluoranthene	37.376	252	242666m	110.68	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	230156m	95.42	
81) Benzo(a)pyrene	38.446	252	201982m	89.76	
82) Indeno(1,2,3-c,d)pyrene	43.206	276	244891m	100.28	
83) Dibenzo(a,h)anthracene	43.239	278	186824m	96.25	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.580	276	203505m	95.70	
89) Perylene	38.770	252	219879m	94.91	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.354	231	337047m	107.79	
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\MS50182\
Data File : ENV3165B.D
Acq On : 30 Nov 2013 1:02 am
Operator : ECM(YMIAO)
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 05 08:44:10 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

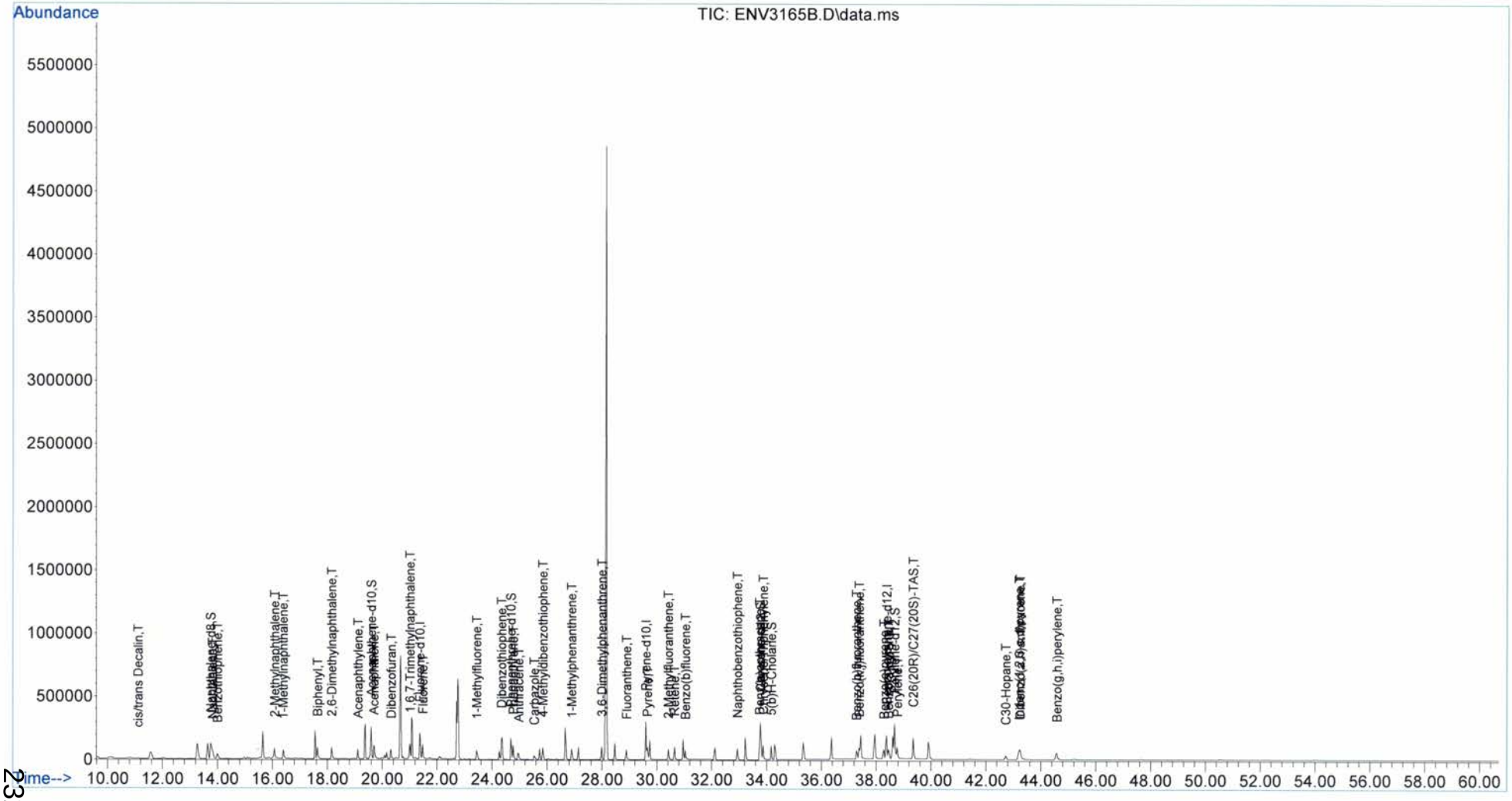
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165B.D
Acq On : 30 Nov 2013 1:02 am
Operator : ECM(YMIAO)
Sample : Blank Spike
Misc :
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 05 08:44:10 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



232

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

Data File Name ENV3165C.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 2:08
Acq. Method File PAH-2012.M
Sample Name Blank Spike Dupl.
Misc Info 0
Instrument Name GCMS5
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

ENV3165C.D
Blank Spike Dupl.
11/30/2013 2:08
PAH-2012.M
1

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	29625	78.8311	82.5706
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	13.81	167461	83.9857	87.9697
9)+10)	C1-Naphthalenes	16.23	191006	95.7941	100.3383
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.99	123609	80.0115	83.8070
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	111961	76.5177	80.1475
23)	Acenaphthylene	19.11	130159	78.5278	82.2529
24)	Acenaphthene	19.69	90663	85.9085	89.9838
25)	Dibenzofuran	20.32	123055	83.9665	87.9496
26)	Fluorene	21.48	103376	86.1131	90.1981
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	25.53	101366	85.2135	89.2558
42)	Anthracene	24.94	125900	80.8191	84.6529
41)	Phenanthrene	24.77	161732	86.6100	90.7185
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	115457	61.8290	64.7620
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	178554	110.0790	115.3008
35)+36)+37)	C1-Dibenzothiophenes	8.61	113473	69.9564	73.2749
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	28.89	169457	93.6531	98.0957
59)	Pyrene	29.65	197496	89.0488	93.2730
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	32.93	164651	94.1320	98.5974
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	33.75	169880	96.5364	101.1158
68)	Chrysene/Triphenylene	33.87	168661	88.9443	93.1636
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	37.28	198628	84.5510	88.5619
78)	Benzo(k,j)fluoranthene	37.38	212534	98.0674	102.7194
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	208148	87.3032	91.4446
81)	Benzo(a)pyrene	38.45	185708	83.4916	87.4522
89)	Perylene	38.77	200202	87.4234	91.5705
82)	Indeno(1,2,3-c,d)pyrene	43.21	219175	90.7931	95.1001
83)	Dibenzo(a,h)anthracene	43.24	174734	91.0704	95.3905
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	179557	85.4217	89.4739

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	96792	80.9334	84.7727
10)	1-Methylnaphthalene	16.38	94214	79.7563	83.5397
11)	2,6-Dimethylnaphthalene	18.15	83432	80.1942	83.9984
12)	1,6,7-Trimethylnaphthalene	21.01	84653	86.8264	90.9452
27)	1-Methylfluorene	23.44	61627	88.5659	92.7672
35)	4-Methyldibenzothiophene	25.84	113473	90.6977	95.0001
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	26.88	115457	91.4211	95.7579
48)	3,6-Dimethylphenanthrene	27.99	108167	97.8453	102.4868
49)	Retene	30.64	48103	83.3459	87.2996
60)	2-Methylfluoranthene	30.42	123146	93.3486	97.7768
61)	Benzo(b)fluorene	31.04	113738	101.5740	106.3924
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.72	87803	84.9217	88.9502
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	39.35	298283	96.5065	101.0845
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	13.75	410740	215.73	86.25
21)	Acenaphthene-d10	19.60	236729	236.64	94.59
32)	Phenanthrene-d10	24.68	379295	238.86	95.47
66)	Chrysene-d12	33.78	454430	247.56	99.01
88)	Perylene-d12	38.67	495423	235.70	94.27
90)	5(b)H-Cholane	34.17	141042	245.40	98.16
	Internal Standards				
1)	Fluorene-d10	21.37	258400	251.05	
31)	Pyrene-d10	29.60	475720	250.63	
73)	Benzo(a)pyrene-d12	38.38	453957	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165C.D
Acq On : 30 Nov 2013 2:08 am
Operator : ECM(YMIAO)
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 05 08:24:26 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	258400m	251.05	0.00
31) Pyrene-d10	29.597	212	475720m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	453957m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	410740m	215.73	0.00
21) Acenaphthene-d10	19.603	164	236729m	236.64	0.00
32) Phenanthrene-d10	24.681	188	379295m	238.86	0.00
66) Chrysene-d12	33.777	240	454430m	247.56	0.00
88) Perylene-d12	38.673	264	495423m	235.70	0.00
90) 5(b)H-Cholane	34.166	217	141042m	245.40	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	29625m	78.83	
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	13.813	128	167461m	83.99	
9) 2-Methylnaphthalene	16.071	142	96792m	80.93	
10) 1-Methylnaphthalene	16.384	142	94214m	79.76	
11) 2,6-Dimethylnaphthalene	18.150	156	83432m	80.19	
12) 1,6,7-Trimethylnaphtha...	21.011	170	84653m	86.83	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.992	134	123609m	80.01	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.636	154	111961m	76.52	
23) Acenaphthylene	19.111	152	130159m	78.53	
24) Acenaphthene	19.692	154	90663m	85.91	
25) Dibenzofuran	20.318	168	123055m	83.97	
26) Fluorene	21.481	166	103376m	86.11	
27) 1-Methylfluorene	23.438	180	61627m	88.57	
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	25.529	167	101366m	85.21	
34) Dibenzothiophene	24.342	184	178554m	110.08	
35) 4-Methyldibenzothiophene	25.839	198	113473m	90.70	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.766	178	161732m	86.61	
42) Anthracene	24.935	178	125900m	80.82	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165C.D
Acq On : 30 Nov 2013 2:08 am
Operator : ECM(YMIAO)
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 05 08:24:26 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	26.885	192	115457m	91.42	
48) 3,6-Dimethylphenanthrene	27.987	206	108167m	97.85	
49) Retene	30.642	234	48103m	83.35	
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	32.934	234	164651m	94.13	
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	28.891	202	169457m	93.65	
59) Pyrene	29.654	202	197496m	89.05	
60) 2-Methylfluoranthene	30.416	216	123146m	93.35	
61) Benzo(b)fluorene	31.038	216	113738m	101.57	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	169880m	96.54	
68) Chrysene/Triphenylene	33.875	228	168661m	88.94	
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	42.716	191	87803m	84.92	
77) Benzo(b)fluoranthene	37.279	252	198628m	84.55	
78) Benzo(k,j)fluoranthene	37.376	252	212534m	98.07	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	208148m	87.30	
81) Benzo(a)pyrene	38.446	252	185708m	83.49	
82) Indeno(1,2,3-c,d)pyrene	43.206	276	219175m	90.79	
83) Dibenzo(a,h)anthracene	43.239	278	174734m	91.07	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.579	276	179557m	85.42	
89) Perylene	38.770	252	200202m	87.42	
91) C20-TAS	0.000		0	N.D. d	
92) C21-TAS	0.000		0	N.D. d	
93) C26(20S)-TAS	0.000		0	N.D. d	
94) C26(20R)/C27(20S)-TAS	39.354	231	298283m	96.51	
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\MS50182\
Data File : ENV3165C.D
Acq On : 30 Nov 2013 2:08 am
Operator : ECM(YMIAO)
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 05 08:24:26 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

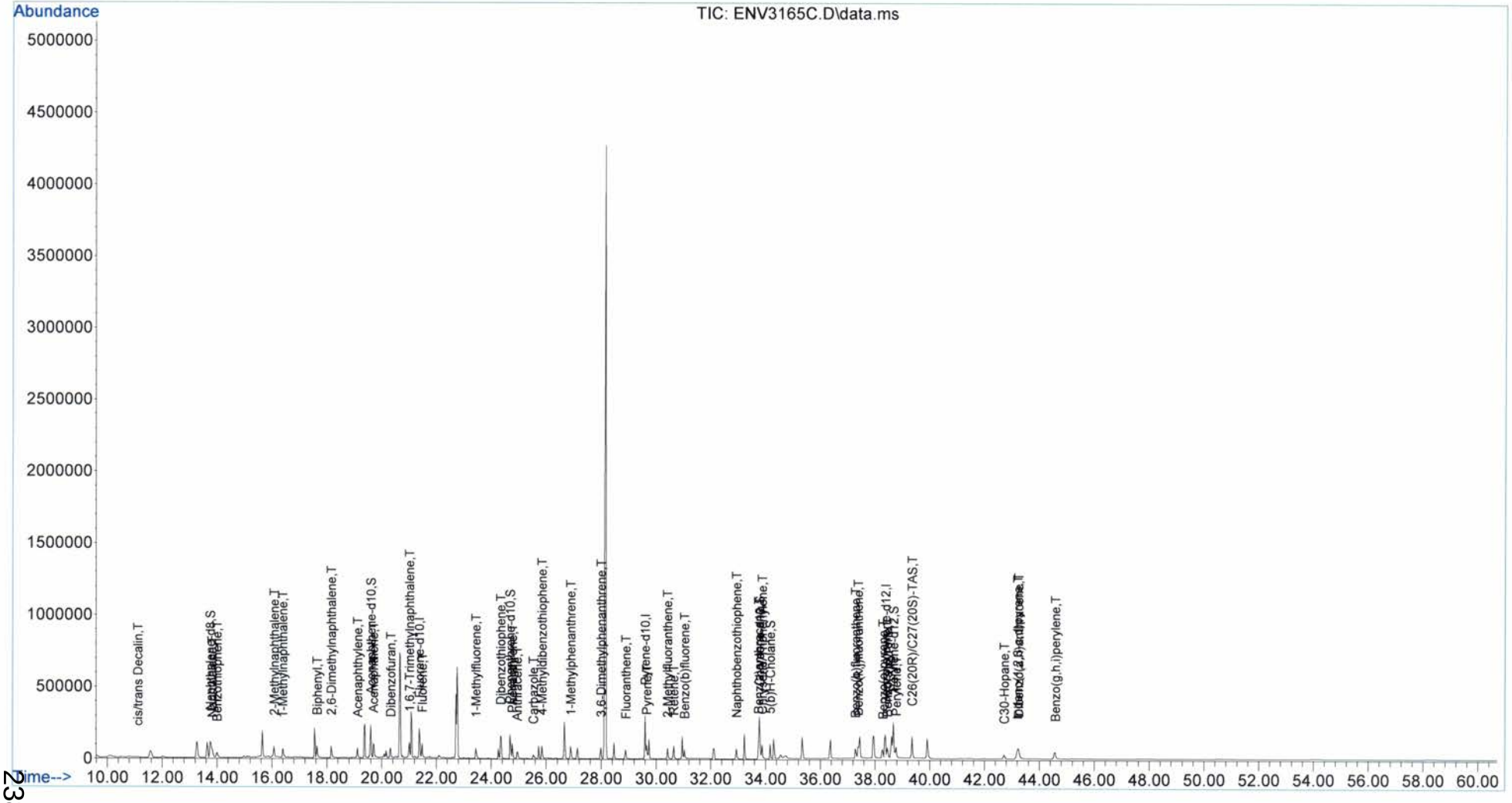
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3165C.D
Acq On : 30 Nov 2013 2:08 am
Operator : ECM(YMIAO)
Sample : Blank Spike Dupl.
Misc :
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 05 08:24:26 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2006.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 3:14
Acq. Method File PAH-2012.M
Sample Name SED-DA-EB-11-112013
Misc Info 0
Instrument Name GCMS5
Vial Number 15
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

ARC2006.D
SED-DA-EB-11-112013
11/30/2013 3:14
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	13.81	41428	20.5236	21.6758
9)+10)	C1-Naphthalenes	16.25	2620	1.2980	1.3708
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	0.00	0	0.0000	0.0000
23)	Acenaphthylene	0.00	0	0.0000	0.0000
24)	Acenaphthene	0.00	0	0.0000	0.0000
25)	Dibenzofuran	0.00	0	0.0000	0.0000
26)	Fluorene	21.48	1060	0.8722	0.9212
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	24.77	5470	2.9802	3.1475
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	28.89	1819	1.0228	1.0802
59)	Pyrene	29.65	3112	1.4276	1.5077
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	0.00	0	0.0000	0.0000
68)	Chrysene/Triphenylene	0.00	0	0.0000	0.0000
69)	C1-Chrysenes	0.00	0	0.0000	0.0000
70)	C2-Chrysenes	0.00	0	0.0000	0.0000
71)	C3-Chrysenes	0.00	0	0.0000	0.0000
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	0.00	0	0.0000	0.0000
78)	Benzo(k,j)fluoranthene	0.00	0	0.0000	0.0000
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	0.00	0	0.0000	0.0000
81)	Benzo(a)pyrene	0.00	0	0.0000	0.0000
89)	Perylene	38.77	595	0.2719	0.2871
82)	Indeno(1,2,3-c,d)pyrene	43.24	2156	0.9346	0.9870
83)	Dibenzo(a,h)anthracene	43.27	1756	0.9577	1.0114
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	2399	1.1942	1.2613

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.09	1702	1.4058	1.4847
10)	1-Methylnaphthalene	16.41	918	0.7676	0.8107
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	13.75	431774	224.02	89.56
21)	Acenaphthene-d10	19.60	243610	240.54	96.15
32)	Phenanthrene-d10	24.68	369740	236.90	94.68
66)	Chrysene-d12	33.78	409218	226.81	90.71
88)	Perylene-d12	38.67	481344	239.62	95.84
90)	5(b)H-Cholane	34.17	130791	238.12	95.25
	Internal Standards				
1)	Fluorene-d10	21.37	261592	251.05	
31)	Pyrene-d10	29.60	467588	250.63	
73)	Benzo(a)pyrene-d12	38.38	433832	250.33	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2006.D
Acq On : 30 Nov 2013 3:14 am
Operator : ECM(YMIAO)
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 05 08:28:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	261592m	251.05	0.00
31) Pyrene-d10	29.597	212	467588m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	433832m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	431774m	224.01	0.00
21) Acenaphthene-d10	19.603	164	243610m	240.54	0.00
32) Phenanthrene-d10	24.681	188	369740m	236.90	0.00
66) Chrysene-d12	33.777	240	409218m	226.81	0.00
88) Perylene-d12	38.673	264	481344m	239.62	0.00
90) 5(b)H-Cholane	34.166	217	130791m	238.12	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	13.813	128	41428m	20.52	
9) 2-Methylnaphthalene	16.093	142	1702m	1.41	
10) 1-Methylnaphthalene	16.406	142	918m	0.77	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	0.000		0	N.D. d	
23) Acenaphthylene	0.000		0	N.D. d	
24) Acenaphthene	0.000		0	N.D. d	
25) Dibenzofuran	0.000		0	N.D. d	
26) Fluorene	21.481	166	1060m	0.87	
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	24.766	178	5470m	2.98	
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\MS50182\
Data File : ARC2006.D
Acq On : 30 Nov 2013 3:14 am
Operator : ECM(YMIAO)
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 05 08:28:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	28.891	202	1819m	1.02	
59) Pyrene	29.653	202	3112m	1.43	
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	43.239	276	2156m	0.93	
83) Dibenzo(a,h)anthracene	43.271	278	1756m	0.96	
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	44.579	276	2399m	1.19	
89) Perylene	38.770	252	595m	0.27	
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\MS50182\
Data File : ARC2006.D
Acq On : 30 Nov 2013 3:14 am
Operator : ECM(YMIAO)
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 05 08:28:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

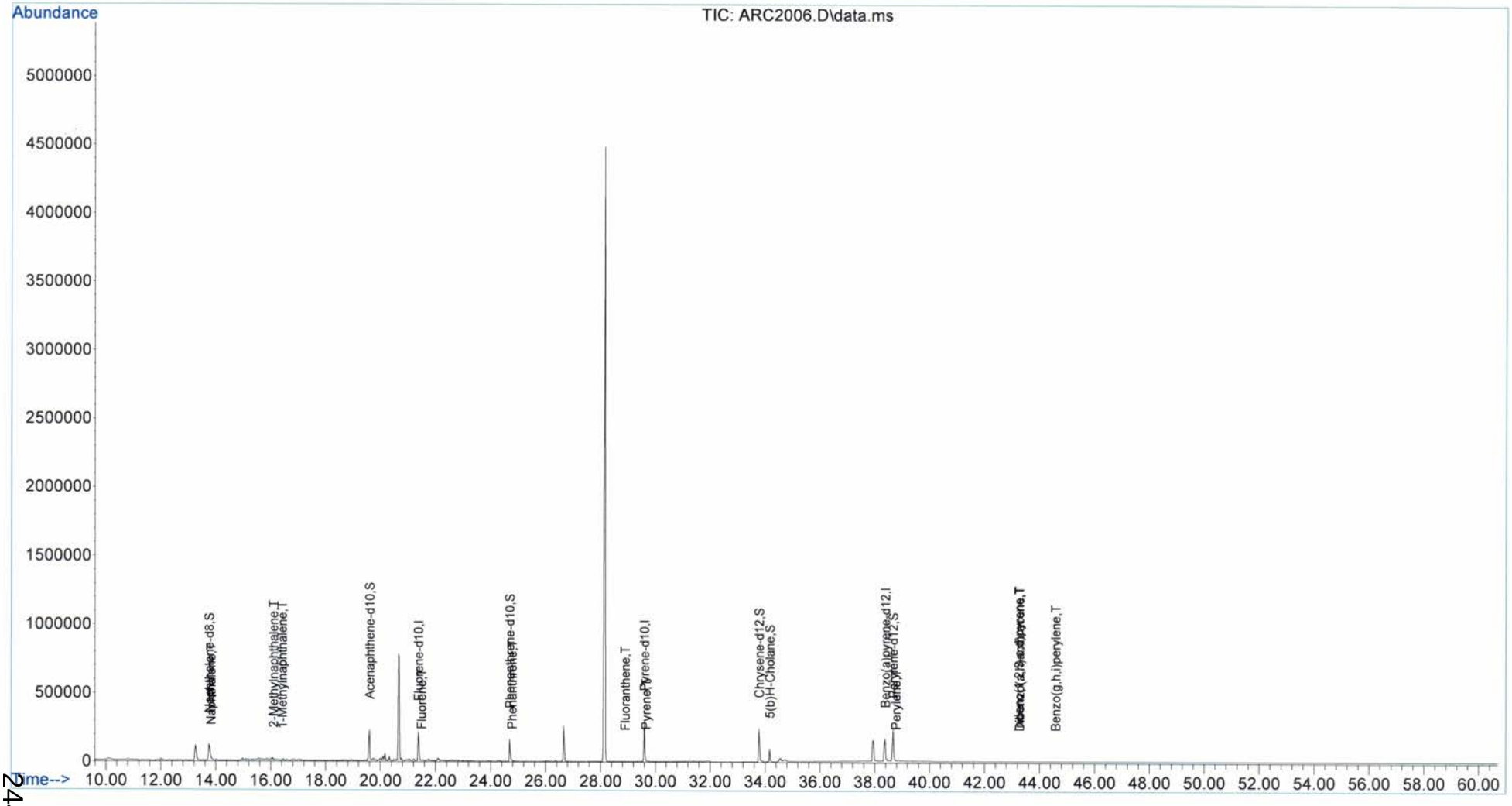
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2006.D
Acq On : 30 Nov 2013 3:14 am
Operator : ECM(YMIAO)
Sample : SED-DA-EB-11-112013
Misc :
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 05 08:28:43 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3166A.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 4:20
Acq. Method File PAH-2012.M
Sample Name Method Blank
Misc Info 0
Instrument Name GCMS5
Vial Number 16
Sample Multiplier 0.06667
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3166A.D
Method Blank
11/30/2013 4:20
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	0.00	0	0.0000	0.0000
4)	C1-Decalins	0.00	0	0.0000	0.0000
5)	C2-Decalins	0.00	0	0.0000	0.0000
6)	C3-Decalins	0.00	0	0.0000	0.0000
7)	C4-Decalins	0.00	0	0.0000	0.0000
8)	Naphthalene	0.00	0	0.0000	0.0000
9)+10)	C1-Naphthalenes	0.00	0	0.0000	0.0000
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	0.00	0	0.0000	0.0000
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.66	2046	0.1019	0.1088
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	24.77	1692	0.0678	0.0723
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	43.24	840	0.0266	0.0284
83)	Dibenzo(a,h)anthracene	43.30	802	0.0320	0.0342
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	1522	0.0555	0.0592

#	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	13.75	399644	15.30	91.77
21)	Acenaphthene-d10	19.60	214341	15.62	93.66
32)	Phenanthrene-d10	24.68	331803	15.63	93.70
66)	Chrysene-d12	33.78	351573	14.33	85.94
88)	Perylene-d12	38.67	413406	15.06	90.35
90)	5(b)H-Cholane	34.17	110728	14.75	88.52
	Internal Standards				
1)	Fluorene-d10	21.37	236302	16.74	
31)	Pyrene-d10	29.60	424001	16.71	
73)	Benzo(a)pyrene-d12	38.38	395206	16.69	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166A.D
Acq On : 30 Nov 2013 4:20 am
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Dec 05 09:23:30 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	236302m	251.05	0.00
31) Pyrene-d10	29.597	212	424001m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	395206m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	399644m	15.30	0.00
21) Acenaphthene-d10	19.603	164	214341m	15.62	0.00
32) Phenanthrene-d10	24.681	188	331803m	15.63	0.00
66) Chrysene-d12	33.777	240	351573m	14.33	0.00
88) Perylene-d12	38.673	264	413406m	15.06	0.00
90) 5(b)H-Cholane	34.166	217	110728m	14.75	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	0.000		0	N.D. d	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	0.000		0	N.D. d	
9) 2-Methylnaphthalene	0.000		0	N.D. d	
10) 1-Methylnaphthalene	0.000		0	N.D. d	
11) 2,6-Dimethylnaphthalene	0.000		0	N.D. d	
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D. d	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	0.000		0	N.D. d	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.658	154	2046m	0.10	
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	24.766	178	1692m	0.07	
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\MS50182\
Data File : ENV3166A.D
Acq On : 30 Nov 2013 4:20 am
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Dec 05 09:23:30 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	43.239	276	840m	0.03	
83) Dibenzo(a,h)anthracene	43.304	278	802m	0.03	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.579	276	1522m	0.06	
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\MS50182\
Data File : ENV3166A.D
Acq On : 30 Nov 2013 4:20 am
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Dec 05 09:23:30 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

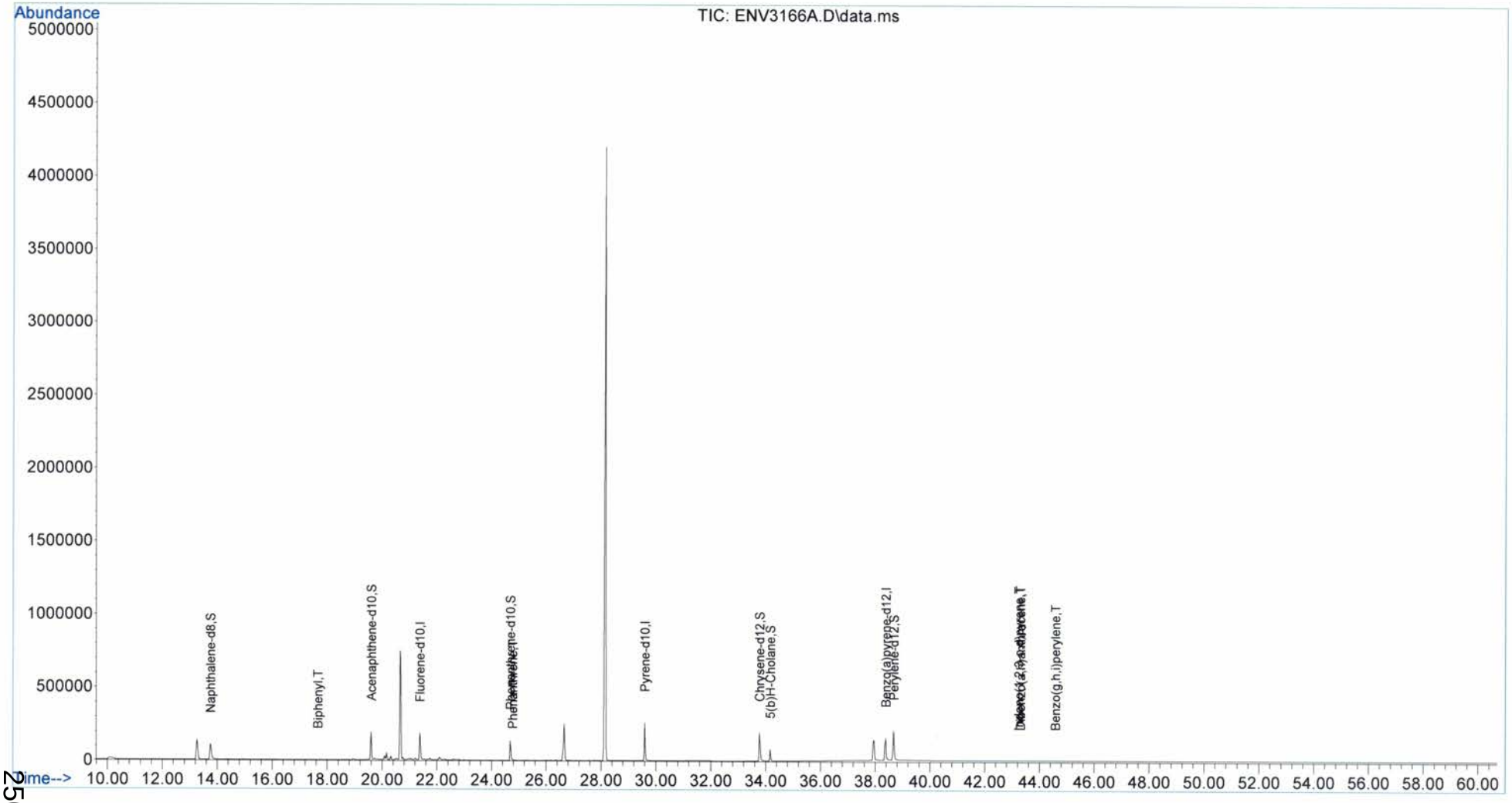
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166A.D
Acq On : 30 Nov 2013 4:20 am
Operator : ECM(YMIAO)
Sample : Method Blank
Misc :
ALS Vial : 16 Sample Multiplier: 0.06667

Quant Time: Dec 05 09:23:30 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3166B.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 5:26
Acq. Method File PAH-2012.M
Sample Name SRM 1941b
Misc Info 0
Instrument Name GCMS5
Vial Number 17
Sample Multiplier 0.24938
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3166B.D
SRM 1941b
11/30/2013 5:26
PAH-2012.M
4.009944663

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.35	46828	29.3411	33.3463
4)	C1-Decalins	12.27	11193	7.0132	7.9706
5)	C2-Decalins	14.64	15832	9.9199	11.2740
6)	C3-Decalins	17.23	34600	21.6794	24.6388
7)	C4-Decalins	17.52	48722	30.5279	34.6951
8)	Naphthalene	13.81	5696050	672.6626	764.4856
9)+10)	C1-Naphthalenes	16.22	1651523	195.0330	221.6563
13)	C2-Naphthalenes	18.42	1488350	175.7630	199.7559
14)	C3-Naphthalenes	20.43	996713	117.7046	133.7721
15)	C4-Naphthalenes	22.76	592514	69.9715	79.5231
16)	Benzothiophene	13.99	177437	27.0445	30.7363
17)	C1-Benzothiophenes	16.07	75798	11.5529	13.1300
18)	C2-Benzothiophenes	18.17	93339	14.2265	16.1685
19)	C3-Benzothiophenes	20.25	92386	14.0812	16.0034
20)	C4-Benzothiophenes	22.11	67022	10.2153	11.6098
22)	Biphenyl	17.61	383956	61.7886	70.2232
23)	Acenaphthylene	19.11	505831	71.8598	81.6692
24)	Acenaphthene	19.69	117240	26.1585	29.7293
25)	Dibenzofuran	20.30	514391	82.6480	93.9300
26)	Fluorene	21.48	288938	56.6743	64.4108
28)	C1-Fluorenes	23.44	237622	46.6089	52.9713
29)	C2-Fluorenes	26.07	339689	66.6288	75.7241
30)	C3-Fluorenes	27.56	889064	174.3872	198.1922
33)	Carbazole	25.53	114190	19.2581	21.8870
42)	Anthracene	24.94	1448560	186.5502	212.0156
41)	Phenanthrene	24.77	3360200	361.0000	410.2789
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	2397703	257.5950	292.7585
50)	C2-Phenanthrenes/Anthracenes	28.33	2335440	250.9062	285.1566
51)	C3-Phenanthrenes/Anthracenes	29.88	1748520	187.8505	213.4933
52)	C4-Phenanthrenes/Anthracenes	30.64	1058870	113.7592	129.2881
34)	Dibenzothiophene	24.34	364471	45.0784	51.2319
35)+36)+37)	C1-Dibenzothiophenes	26.14	474284	58.6603	66.6678
38)	C2-Dibenzothiophenes	27.25	807115	99.8253	113.4521
39)	C3-Dibenzothiophenes	29.43	868643	107.4354	122.1011
40)	C4-Dibenzothiophenes	30.81	551611	68.2241	77.5372
58)	Fluoranthene	28.89	5873990	651.2783	740.1822
59)	Pyrene	29.65	5054060	457.1734	519.5806
62)	C1-Fluoranthenes/Pyrenes	30.81	3376070	374.3219	425.4193
63)	C2-Fluoranthenes/Pyrenes	32.55	3439330	381.3344	433.3892
64)	C3-Fluoranthenes/Pyrenes	33.97	1439740	159.6304	181.4210
65)	C4-Fluoranthenes/Pyrenes	35.30	1225150	135.8388	154.3817
53)	Naphthobenzothiophene	32.93	1077050	123.5314	140.3942
54)	C1-Naphthobenzothiophenes	34.10	1062570	121.8713	138.5075
55)	C2-Naphthobenzothiophenes	35.82	1102710	126.4751	143.7398
56)	C3-Naphthobenzothiophenes	37.15	751841	86.2321	98.0034
57)	C4-Naphthobenzothiophenes	38.15	328852	37.7175	42.8662
67)	Benz(a)anthracene	33.74	3027000	345.0896	392.1966
68)	Chrysene/Triphenylene	33.87	3792030	401.1851	455.9495
69)	C1-Chrysenes	35.11	2434530	257.5671	292.7268
70)	C2-Chrysenes	36.57	1511540	159.9169	181.7467
71)	C3-Chrysenes	37.96	843548	89.2451	101.4277
72)	C4-Chrysenes	39.42	225353	23.8417	27.0963
77)	Benzo(b)fluoranthene	37.28	5639280	488.2835	554.9375
78)	Benzo(k,j)fluoranthene	37.31	3899110	365.9602	415.9162
79)	Benzo(a)fluoranthene	37.64	715404	67.1458	76.3117
80)	Benzo(e)pyrene	38.28	3512570	299.6775	340.5854
81)	Benzo(a)pyrene	38.45	2688830	245.8924	279.4584
89)	Perylene	38.77	3488470	309.8596	352.1576
82)	Indeno(1,2,3-c,d)pyrene	43.21	3019750	254.4499	289.1840
83)	Dibenzo(a,h)anthracene	43.24	462475	49.0296	55.7225
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.58	2375970	229.9206	261.3063

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	1135480	223.5627	254.0805
10)	1-Methylnaphthalene	16.38	516043	102.8648	116.9065
11)	2,6-Dimethylnaphthalene	18.15	426624	96.5577	109.7385
12)	1,6,7-Trimethylnaphthalene	21.01	67352	16.2664	18.4869
27)	1-Methylfluorene	23.44	95305	32.2511	36.6536
35)	4-Methyldibenzothiophene	25.84	242511	38.8871	44.1954
36)	2/3-Methyldibenzothiophene	26.12	169446	27.1709	30.8800
37)	1-Methyldibenzothiophene	26.46	62327	9.9943	11.3585
43)	3-Methylphenanthrene	26.43	571483	90.7821	103.1744
44)	2-Methylphenanthrene	26.52	634024	100.7169	114.4654
45)	2-Methylanthracene	26.69	351716	55.8713	63.4982
46)	4/9-Methylphenanthrene	26.80	445868	70.8277	80.4961
47)	1-Methylphenanthrene	26.88	394612	62.6854	71.2424
48)	3,6-Dimethylphenanthrene	27.99	108692	19.7248	22.4174
49)	Retene	30.64	94813	32.9573	37.4562
60)	2-Methylfluoranthene	30.42	476626	72.4830	82.3775
61)	Benzo(b)fluorene	31.04	466039	83.4964	94.8942
74)	C29-Hopane	40.69	1011620	199.0212	226.1889
75)	18a-Oleanane	41.80	164402	32.3436	36.7587
76)	C30-Hopane	42.00	1496130	294.3407	334.5202
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	13.75	398097	49.23	78.93
21)	Acenaphthene-d10	19.60	243439	57.30	91.85
32)	Phenanthrene-d10	24.68	434534	54.90	87.99
66)	Chrysene-d12	33.78	519049	56.73	90.98
88)	Perylene-d12	38.67	553330	53.55	85.88
90)	5(b)H-Cholane	34.17	178654	63.23	101.42
	Internal Standards				
1)	Fluorene-d10	21.37	273667	62.61	
31)	Pyrene-d10	29.60	591347	62.50	
73)	Benzo(a)pyrene-d12	38.38	556552	62.43	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166B.D
Acq On : 30 Nov 2013 5:26 am
Operator : ECM(YMIAO)
Sample : SRM 1941b
Misc :
ALS Vial : 17 Sample Multiplier: 0.24938

Quant Time: Dec 08 15:25:39 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	273667m	251.05	0.00
31) Pyrene-d10	29.597	212	591347m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	556552m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	398097m	49.23	0.00
21) Acenaphthene-d10	19.603	164	243439m	57.30	0.00
32) Phenanthrene-d10	24.681	188	434534m	54.90	0.00
66) Chrysene-d12	33.777	240	519049m	56.73	0.00
88) Perylene-d12	38.673	264	553330m	53.55	0.00
90) 5(b)H-Cholane	34.166	217	178654m	63.23	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.353	138	46828m	29.34	
4) C1-Decalins	12.270	152	11193m	7.01	
5) C2-Decalins	14.640	166	15832m	9.92	
6) C3-Decalins	17.233	180	34600m	21.68	
7) C4-Decalins	17.524	194	48722m	30.53	
8) Naphthalene	13.812	128	5696054m	672.66	
9) 2-Methylnaphthalene	16.048	142	1135480m	223.56	
10) 1-Methylnaphthalene	16.383	142	516043m	102.86	
11) 2,6-Dimethylnaphthalene	18.150	156	426624m	96.56	
12) 1,6,7-Trimethylnaphtha...	21.011	170	67352m	16.27	
13) C2-Naphthalenes	18.418	156	1488346m	175.76	
14) C3-Naphthalenes	20.430	170	996713m	117.70	
15) C4-Naphthalenes	22.755	184	592514m	69.97	
16) Benzothiophene	13.991	134	177437m	27.04	
17) C1-Benzothiophenes	16.070	148	75798m	11.55	
18) C2-Benzothiophenes	18.172	162	93339m	14.23	
19) C3-Benzothiophenes	20.251	176	92386m	14.08	
20) C4-Benzothiophenes	22.107	190	67022m	10.22	
22) Biphenyl	17.613	154	383956m	61.79	
23) Acenaphthylene	19.111	152	505831m	71.86	
24) Acenaphthene	19.692	154	117240m	26.16	
25) Dibenzofuran	20.296	168	514391m	82.65	
26) Fluorene	21.481	166	288938m	56.67	
27) 1-Methylfluorene	23.438	180	95305m	32.25	
28) C1-Fluorenes	23.438	180	237622m	46.61	
29) C2-Fluorenes	26.065	194	339689m	66.63	
30) C3-Fluorenes	27.563	208	889064m	174.39	
33) Carbazole	25.528	167	114190m	19.26	
34) Dibenzothiophene	24.342	184	364471m	45.08	
35) 4-Methyldibenzothiophene	25.839	198	242511m	38.89	
36) 2/3-Methyldibenzothiop...	26.122	198	169446m	27.17	
37) 1-Methyldibenzothiophene	26.461	198	62327m	9.99	
38) C2-Dibenzothiophenes	27.252	212	807115m	99.83	
39) C3-Dibenzothiophenes	29.427	226	868643m	107.44	
40) C4-Dibenzothiophenes	30.812	240	551611m	68.22	
41) Phenanthrene	24.766	178	3360195m	361.00	
42) Anthracene	24.935	178	1448561m	186.55	
43) 3-Methylphenanthrene	26.433	192	571483m	90.78	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166B.D
Acq On : 30 Nov 2013 5:26 am
Operator : ECM(YMIAO)
Sample : SRM 1941b
Misc :
ALS Vial : 17 Sample Multiplier: 0.24938

Quant Time: Dec 08 15:25:39 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.517	192	634024m	100.72
45) 2-Methylanthracene	26.687	192	351716m	55.87
46) 4/9-Methylphenanthrene	26.800	192	445868m	70.83
47) 1-Methylphenanthrene	26.885	192	394612m	62.69
48) 3,6-Dimethylphenanthrene	27.986	206	108692m	19.72
49) Retene	30.642	234	94813m	32.96
50) C2-Phenanthrenes/Anthr...	28.325	206	2335435m	250.91
51) C3-Phenanthrenes/Anthr...	29.879	220	1748517m	187.85
52) C4-Phenanthrenes/Anthr...	30.642	234	1058872m	113.76
53) Naphthobenzothiophene	32.934	234	1077045m	123.53
54) C1-Naphthobenzothiophenes	34.101	248	1062571m	121.87
55) C2-Naphthobenzothiophenes	35.820	262	1102711m	126.48
56) C3-Naphthobenzothiophenes	37.149	276	751841m	86.23
57) C4-Naphthobenzothiophenes	38.154	290	328852m	37.72
58) Fluoranthene	28.890	202	5873987m	651.28
59) Pyrene	29.653	202	5054056m	457.17
60) 2-Methylfluoranthene	30.416	216	476626m	72.48
61) Benzo(b)fluorene	31.038	216	466039m	83.50
62) C1-Fluoranthenes/Pyrenes	30.812	216	3376065m	374.32
63) C2-Fluoranthenes/Pyrenes	32.545	230	3439333m	381.34
64) C3-Fluoranthenes/Pyrenes	33.972	244	1439735m	159.63
65) C4-Fluoranthenes/Pyrenes	35.301	258	1225153m	135.84
67) Benz(a)anthracene	33.745	228	3026997m	345.09
68) Chrysene/Triphenylene	33.874	228	3792025m	401.19
69) C1-Chrysenes	35.106	242	2434527m	257.57
70) C2-Chrysenes	36.565	256	1511541m	159.92
71) C3-Chrysenes	37.959	270	843548m	89.25
72) C4-Chrysenes	39.418	284	225353m	23.84
74) C29-Hopane	40.688	191	1011624m	199.02
75) 18a-Oleanane	41.800	191	164402m	32.34
76) C30-Hopane	41.996	191	1496129m	294.34
77) Benzo(b)fluoranthene	37.279	252	5639278m	488.28
78) Benzo(k,j)fluoranthene	37.311	252	3899114m	365.96
79) Benzo(a)fluoranthene	37.635	252	715404m	67.15
80) Benzo(e)pyrene	38.284	252	3512569m	299.68
81) Benzo(a)pyrene	38.446	252	2688825m	245.89
82) Indeno(1,2,3-c,d)pyrene	43.206	276	3019752m	254.45
83) Dibenzo(a,h)anthracene	43.239	278	462475m	49.03
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.579	276	2375974m	229.92
89) Perylene	38.770	252	3488471m	309.86
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	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\MS50182\
Data File : ENV3166B.D
Acq On : 30 Nov 2013 5:26 am
Operator : ECM(YMIAO)
Sample : SRM 1941b
Misc :
ALS Vial : 17 Sample Multiplier: 0.24938

Quant Time: Dec 08 15:25:39 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

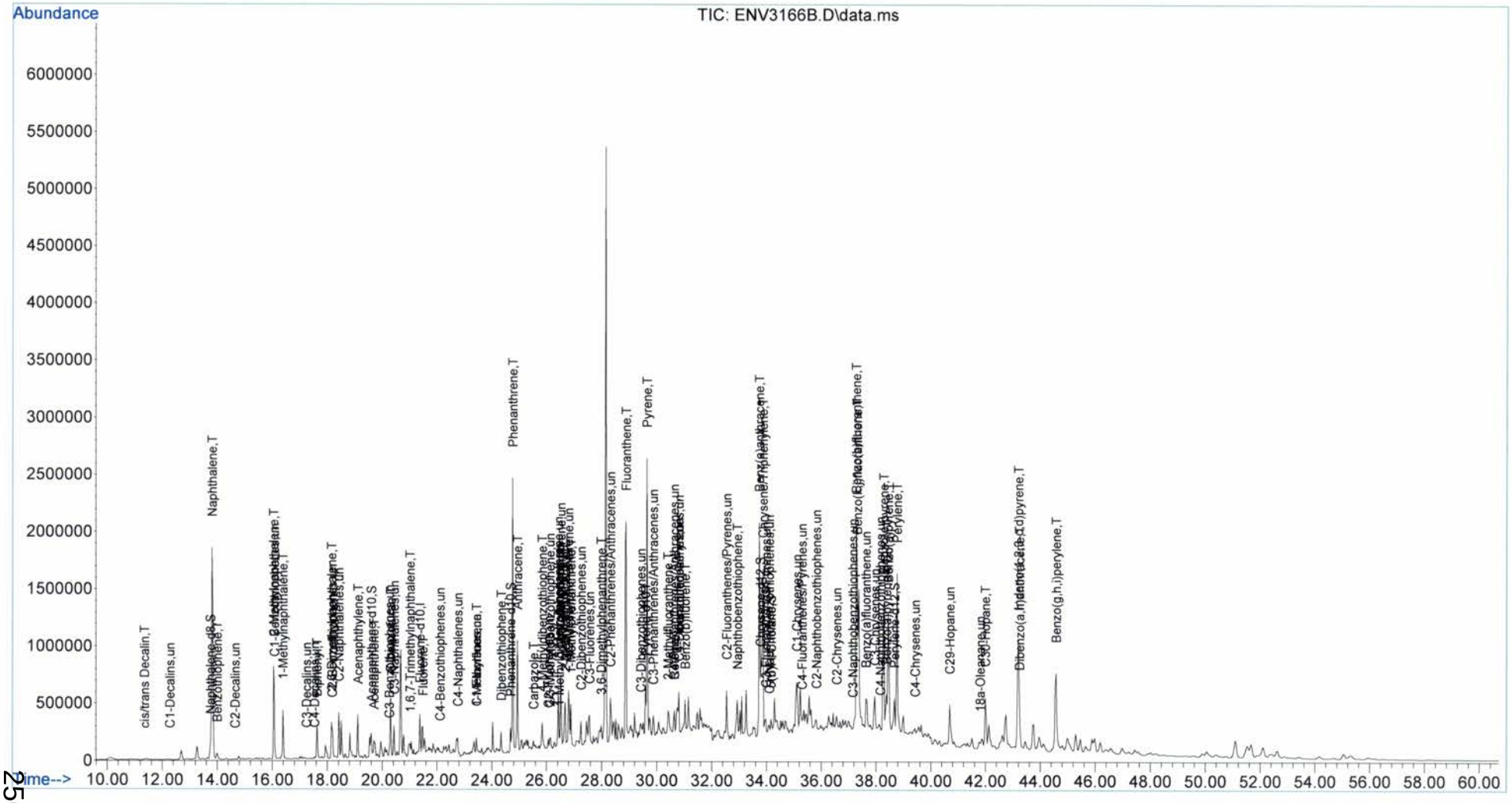
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166B.D
Acq On : 30 Nov 2013 5:26 am
Operator : ECM(YMIAO)
Sample : SRM 1941b
Misc :
ALS Vial : 17 Sample Multiplier: 0.24938

Quant Time: Dec 08 15:25:39 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3166C.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 6:33
Acq. Method File PAH-2012.M
Sample Name MS (SED-DA-037R (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS5
Vial Number 18
Sample Multiplier 0.0664
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3166C.D
ED-DA-037R (0-0.5) MS/MSD)
11/30/2013 6:33
PAH-2012.M
15.06024096

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.35	117793	17.3007	20.4264
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	13.81	1198880	33.1873	39.1832
9)+10)	C1-Naphthalenes	16.22	1044414	28.9114	34.1347
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.99	163049	5.8254	6.8779
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	287534	10.8465	12.8061
23)	Acenaphthylene	19.11	442539	14.7369	17.3994
24)	Acenaphthene	19.69	146465	7.6603	9.0443
25)	Dibenzofuran	20.30	351161	13.2257	15.6151
26)	Fluorene	21.48	410227	18.8617	22.2693
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	25.53	184584	7.0262	8.2956
42)	Anthracene	24.94	714319	20.7629	24.5141
41)	Phenanthrene	24.77	966245	23.4297	27.6627
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	245145	5.9443	7.0183
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	328776	9.1779	10.8360
35)+36)+37)	C1-Dibenzothiophenes	8.61	239776	6.6934	7.9027
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	28.89	1774630	44.4097	52.4331
59)	Pyrene	29.65	1965300	40.1243	47.3734
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.75	1130880	29.0987	34.3559
68)	Chrysene/Triphenylene	33.87	2006980	47.9241	56.5825
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	37.31	3476350	78.6634	92.8753
78)	Benzo(k,j)fluoranthene	37.41	587273	14.4048	17.0073
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	1585910	35.3596	41.7479
81)	Benzo(a)pyrene	38.48	827961	19.7876	23.3626
89)	Perylene	38.80	30348600	704.4774	831.7534
82)	Indeno(1,2,3-c,d)pyrene	43.27	986140	21.7155	25.6388
83)	Dibenzo(a,h)anthracene	43.37	1277520	35.3947	41.7893
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	44.68	1036580	26.2143	30.9503

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	663731	30.6327	36.1670
10)	1-Methylnaphthalene	16.38	380683	17.7876	21.0013
11)	2,6-Dimethylnaphthalene	18.15	305279	16.1962	19.1223
12)	1,6,7-Trimethylnaphthalene	21.01	98881	5.5979	6.6093
27)	1-Methylfluorene	23.44	125448	9.9510	11.7488
35)	4-Methyldibenzothiophene	25.84	239776	8.6779	10.2458
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	26.88	245145	8.7894	10.3773
48)	3,6-Dimethylphenanthrene	27.99	220477	9.0306	10.6621
49)	Retene	30.64	136785	10.7314	12.6703
60)	2-Methylfluoranthene	30.42	331625	11.3826	13.4391
61)	Benzo(b)fluorene	31.04	425725	17.2152	20.3254
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.35	176073	3.0282	3.5753
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	13.75	426440	12.36	74.44
21)	Acenaphthene-d10	19.60	252548	13.93	83.89
32)	Phenanthrene-d10	24.68	493444	14.07	84.70
66)	Chrysene-d12	33.81	593406	14.64	88.17
88)	Perylene-d12	38.71	215203	5.44	32.78
90)	5(b)H-Cholane	34.17	211901	19.60	118.07
	Internal Standards				
1)	Fluorene-d10	21.37	310853	16.67	
31)	Pyrene-d10	29.60	697608	16.64	
73)	Benzo(a)pyrene-d12	38.38	567038	16.62	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166C.D
Acq On : 30 Nov 2013 6:33 am
Operator : ECM(YMIAO)
Sample : MS (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 18 Sample Multiplier: 0.0664

Quant Time: Dec 06 08:00:09 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	310853m	251.05	0.00
31) Pyrene-d10	29.597	212	697608m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	567038m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	426440m	12.36	0.00
21) Acenaphthene-d10	19.603	164	252548m	13.93	0.00
32) Phenanthrene-d10	24.681	188	493444m	14.07	0.00
66) Chrysene-d12	33.810	240	593406m	14.64	0.03
88) Perylene-d12	38.705	264	215203m	5.44	0.03
90) 5(b)H-Cholane	34.166	217	211901m	19.60	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.353	138	117793m	17.30	
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	13.813	128	1198879m	33.19	
9) 2-Methylnaphthalene	16.048	142	663731m	30.63	
10) 1-Methylnaphthalene	16.384	142	380683m	17.79	
11) 2,6-Dimethylnaphthalene	18.150	156	305279m	16.20	
12) 1,6,7-Trimethylnaphtha...	21.011	170	98881m	5.60	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.992	134	163049m	5.83	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.613	154	287534m	10.85	
23) Acenaphthylene	19.111	152	442539m	14.74	
24) Acenaphthene	19.692	154	146465m	7.66	
25) Dibenzofuran	20.296	168	351161m	13.23	
26) Fluorene	21.481	166	410227m	18.86	
27) 1-Methylfluorene	23.438	180	125448m	9.95	
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	25.529	167	184584m	7.03	
34) Dibenzothiophene	24.342	184	328776m	9.18	
35) 4-Methyldibenzothiophene	25.839	198	239776m	8.68	
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	24.766	178	966245m	23.43	
42) Anthracene	24.935	178	714319m	20.76	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166C.D
Acq On : 30 Nov 2013 6:33 am
Operator : ECM(YMIAO)
Sample : MS (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 18 Sample Multiplier: 0.0664

Quant Time: Dec 06 08:00:09 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	26.885	192	245145m	8.79	
48) 3,6-Dimethylphenanthrene	27.987	206	220477m	9.03	
49) Retene	30.642	234	136785m	10.73	
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. 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	28.891	202	1774628m	44.41	
59) Pyrene	29.654	202	1965300m	40.12	
60) 2-Methylfluoranthene	30.416	216	331625m	11.38	
61) Benzo(b)fluorene	31.038	216	425725m	17.22	
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	33.745	228	1130883m	29.10	
68) Chrysene/Triphenylene	33.875	228	2006977m	47.92	
69) C1-Chrysenes	0.000		0	N.D. d	
70) C2-Chrysenes	0.000		0	N.D. d	
71) C3-Chrysenes	0.000		0	N.D. d	
72) C4-Chrysenes	0.000		0	N.D. d	
74) C29-Hopane	0.000		0	N.D. d	
75) 18a-Oleanane	0.000		0	N.D. d	
76) C30-Hopane	0.000		0	N.D. d	
77) Benzo(b)fluoranthene	37.311	252	3476348m	78.66	
78) Benzo(k,j)fluoranthene	37.408	252	587273m	14.40	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	1585910m	35.36	
81) Benzo(a)pyrene	38.478	252	827961m	19.79	
82) Indeno(1,2,3-c,d)pyrene	43.272	276	986140m	21.72	
83) Dibenzo(a,h)anthracene	43.370	278	1277519m	35.39	
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	44.678	276	1036577m	26.21	
89) Perylene	38.803	252	30348594m	704.48	
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	39.354	231	176073m	3.03	
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\MS50182\
Data File : ENV3166C.D
Acq On : 30 Nov 2013 6:33 am
Operator : ECM(YMIAO)
Sample : MS (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 18 Sample Multiplier: 0.0664

Quant Time: Dec 06 08:00:09 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

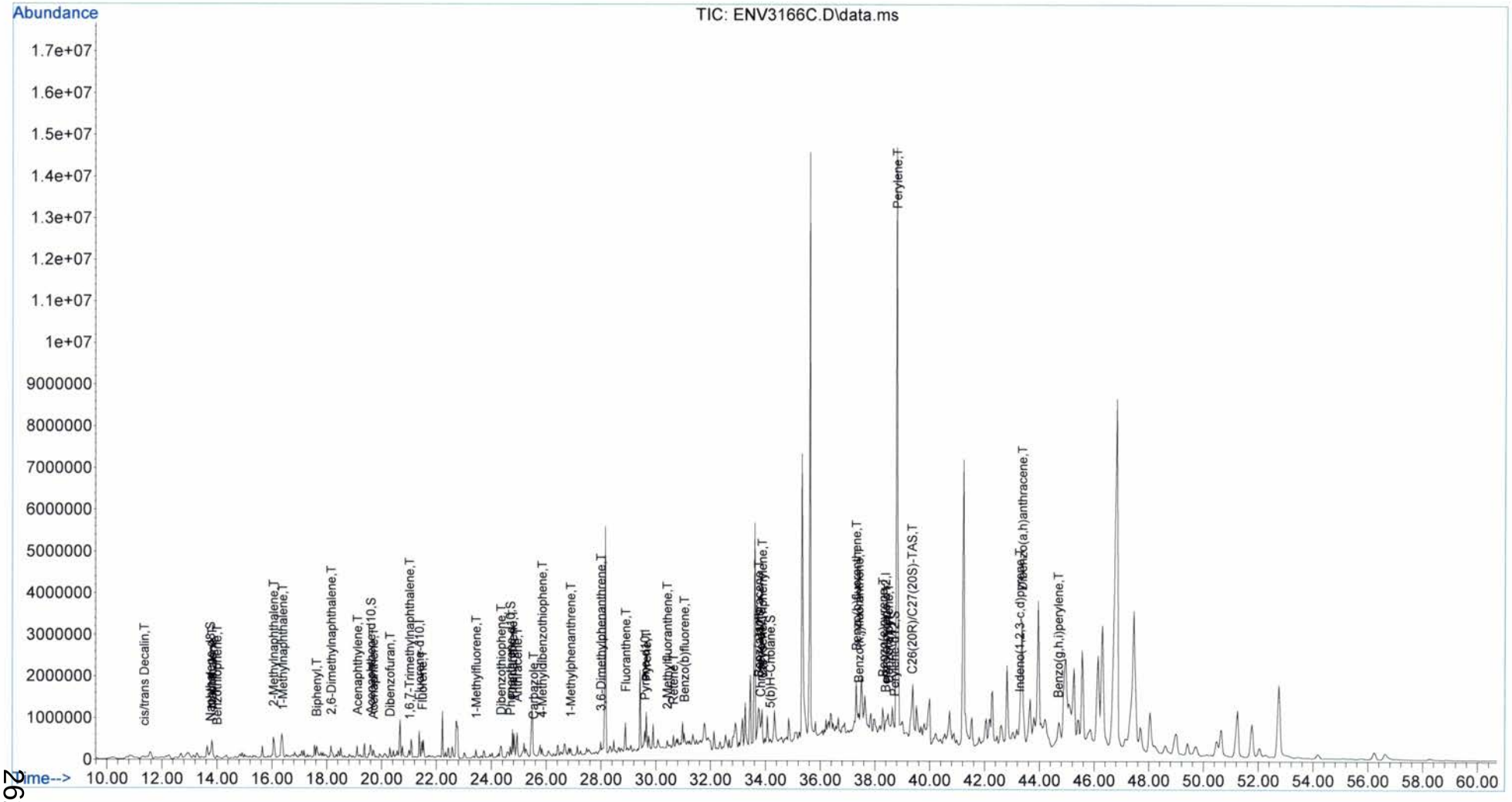
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166C.D
Acq On : 30 Nov 2013 6:33 am
Operator : ECM(YMIAO)
Sample : MS (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 18 Sample Multiplier: 0.0664

Quant Time: Dec 06 08:00:09 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ENV3166D.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 7:39
Acq. Method File PAH-2012.M
Sample Name MSD (SED-DA-037R (0-0.5) MS/MSD)
Misc Info 0
Instrument Name GCMS5
Vial Number 19
Sample Multiplier 0.06658
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3166D.D
SED-DA-037R (0-0.5) MS/MSD)
11/30/2013 7:39
PAH-2012.M
15.01952538

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.35	118458	17.7167	20.8868
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	13.81	1125380	31.7228	37.3991
9)+10)	C1-Naphthalenes	16.22	983631	27.7271	32.6884
13)	C2-Naphthalenes	0.00	0	0.0000	0.0000
14)	C3-Naphthalenes	0.00	0	0.0000	0.0000
15)	C4-Naphthalenes	0.00	0	0.0000	0.0000
16)	Benzothiophene	13.99	155647	5.6627	6.6759
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.61	285000	10.9476	12.9065
23)	Acenaphthylene	19.11	424959	14.4104	16.9888
24)	Acenaphthene	19.69	138982	7.4019	8.7263
25)	Dibenzofuran	20.30	332596	12.7557	15.0381
26)	Fluorene	21.48	395993	18.5403	21.8578
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	25.53	177565	7.0485	8.3097
42)	Anthracene	24.94	688378	20.8658	24.5994
41)	Phenanthrene	24.77	935108	23.6458	27.8768
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	5.38	231718	5.8594	6.9078
50)	C2-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
51)	C3-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
52)	C4-Phenanthrenes/Anthracenes	0.00	0	0.0000	0.0000
34)	Dibenzothiophene	24.34	324604	9.4495	11.1403
35)+36)+37)	C1-Dibenzothiophenes	8.61	227423	6.6205	7.8051
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	28.89	1720730	44.9051	52.9400
59)	Pyrene	29.65	1871900	39.8541	46.9853
62)	C1-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
63)	C2-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
64)	C3-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
65)	C4-Fluoranthenes/Pyrenes	0.00	0	0.0000	0.0000
53)	Naphthobenzothiophene	0.00	0	0.0000	0.0000
54)	C1-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
55)	C2-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
56)	C3-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
57)	C4-Naphthobenzothiophenes	0.00	0	0.0000	0.0000
67)	Benz(a)anthracene	33.74	1074920	28.8433	34.0042
68)	Chrysene/Triphenylene	33.87	1894260	47.1699	55.6100
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	37.31	3254690	74.7960	88.1793
78)	Benzo(k,j)fluoranthene	37.41	640473	15.9546	18.8093
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	1479270	33.4959	39.4894
81)	Benzo(a)pyrene	38.48	831875	20.1911	23.8039
89)	Perylene	38.80	30228200	712.6191	840.1290
82)	Indeno(1,2,3-c,d)pyrene	43.27	848023	18.9652	22.3586
83)	Dibenzo(a,h)anthracene	43.37	1100490	30.9654	36.5060
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	44.68	939463	24.1287	28.4461

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	621440	29.2057	34.4315
10)	1-Methylnaphthalene	16.38	362191	17.2332	20.3168
11)	2,6-Dimethylnaphthalene	18.15	291989	15.7745	18.5971
12)	1,6,7-Trimethylnaphthalene	21.01	101140	5.8306	6.8739
27)	1-Methylfluorene	23.44	122935	9.9301	11.7069
35)	4-Methyldibenzothiophene	25.84	227423	8.5834	10.1192
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	26.91	231718	8.6638	10.2140
48)	3,6-Dimethylphenanthrene	27.99	209116	8.9321	10.5303
49)	Retene	30.64	127657	10.4443	12.3131
60)	2-Methylfluoranthene	30.42	333547	11.9389	14.0752
61)	Benzo(b)fluorene	31.04	418576	17.6510	20.8093
74)	C29-Hopane	0.00	0	0.0000	0.0000
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	0.00	0	0.0000	0.0000
91)	C20-TAS	0.00	0	0.0000	0.0000
92)	C21-TAS	0.00	0	0.0000	0.0000
93)	C26(20S)-TAS	0.00	0	0.0000	0.0000
94)	C26(20R)/C27(20S)-TAS	39.35	170917	2.9854	3.5196
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	13.75	414869	12.25	73.54
21)	Acenaphthene-d10	19.60	248653	13.97	83.88
32)	Phenanthrene-d10	24.68	475159	14.13	84.82
66)	Chrysene-d12	33.81	603125	15.51	93.20
88)	Perylene-d12	38.71	198266	5.09	30.59
90)	5(b)H-Cholane	34.17	211386	19.86	119.29
	Internal Standards				
1)	Fluorene-d10	21.37	306095	16.71	
31)	Pyrene-d10	29.60	670771	16.69	
73)	Benzo(a)pyrene-d12	38.38	559848	16.67	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166D.D
Acq On : 30 Nov 2013 7:39 am
Operator : ECM(YMIAO)
Sample : MSD (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06658

Quant Time: Dec 06 08:02:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	306095m	251.05	0.00
31) Pyrene-d10	29.597	212	670771m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	559848m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	414869m	12.25	0.00
21) Acenaphthene-d10	19.603	164	248653m	13.97	0.00
32) Phenanthrene-d10	24.681	188	475159m	14.13	0.00
66) Chrysene-d12	33.810	240	603125m	15.51	0.03
88) Perylene-d12	38.705	264	198266m	5.09	0.03
90) 5(b)H-Cholane	34.166	217	211386m	19.86	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.353	138	118458m	17.72	
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	13.812	128	1125382m	31.72	
9) 2-Methylnaphthalene	16.048	142	621440m	29.21	
10) 1-Methylnaphthalene	16.383	142	362191m	17.23	
11) 2,6-Dimethylnaphthalene	18.150	156	291989m	15.77	
12) 1,6,7-Trimethylnaphtha...	21.011	170	101140m	5.83	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.991	134	155647m	5.66	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.613	154	285000m	10.95	
23) Acenaphthylene	19.111	152	424959m	14.41	
24) Acenaphthene	19.692	154	138982m	7.40	
25) Dibenzofuran	20.296	168	332596m	12.76	
26) Fluorene	21.481	166	395993m	18.54	
27) 1-Methylfluorene	23.438	180	122935m	9.93	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.528	167	177565m	7.05	
34) Dibenzothiophene	24.342	184	324604m	9.45	
35) 4-Methyldibenzothiophene	25.839	198	227423m	8.58	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D. d	
37) 1-Methyldibenzothiophene	0.000		0	N.D. d	
38) C2-Dibenzothiophenes	0.000		0	N.D. d	
39) C3-Dibenzothiophenes	0.000		0	N.D. d	
40) C4-Dibenzothiophenes	0.000		0	N.D. d	
41) Phenanthrene	24.766	178	935108m	23.65	
42) Anthracene	24.935	178	688378m	20.87	
43) 3-Methylphenanthrene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166D.D
Acq On : 30 Nov 2013 7:39 am
Operator : ECM(YMIAO)
Sample : MSD (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06658

Quant Time: Dec 06 08:02:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	26.913	192	231718m	8.66	
48) 3,6-Dimethylphenanthrene	27.986	206	209116m	8.93	
49) Retene	30.642	234	127657m	10.44	
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	28.891	202	1720726m	44.91	
59) Pyrene	29.653	202	1871900m	39.85	
60) 2-Methylfluoranthene	30.416	216	333547m	11.94	
61) Benzo(b)fluorene	31.038	216	418576m	17.65	
62) C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63) C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64) C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65) C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67) Benz(a)anthracene	33.745	228	1074916m	28.84	
68) Chrysene/Triphenylene	33.874	228	1894261m	47.17	
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	37.311	252	3254691m	74.80	
78) Benzo(k,j)fluoranthene	37.408	252	640473m	15.95	
79) Benzo(a)fluoranthene	0.000		0	N.D. d	
80) Benzo(e)pyrene	38.284	252	1479265m	33.50	
81) Benzo(a)pyrene	38.478	252	831875m	20.19	
82) Indeno(1,2,3-c,d)pyrene	43.271	276	848023m	18.97	
83) Dibenzo(a,h)anthracene	43.369	278	1100494m	30.97	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87) Benzo(g,h,i)perylene	44.677	276	939463m	24.13	
89) Perylene	38.802	252	30228163m	712.62	
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	39.353	231	170917m	2.99	
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\MS50182\
Data File : ENV3166D.D
Acq On : 30 Nov 2013 7:39 am
Operator : ECM(YMIAO)
Sample : MSD (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06658

Quant Time: Dec 06 08:02:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

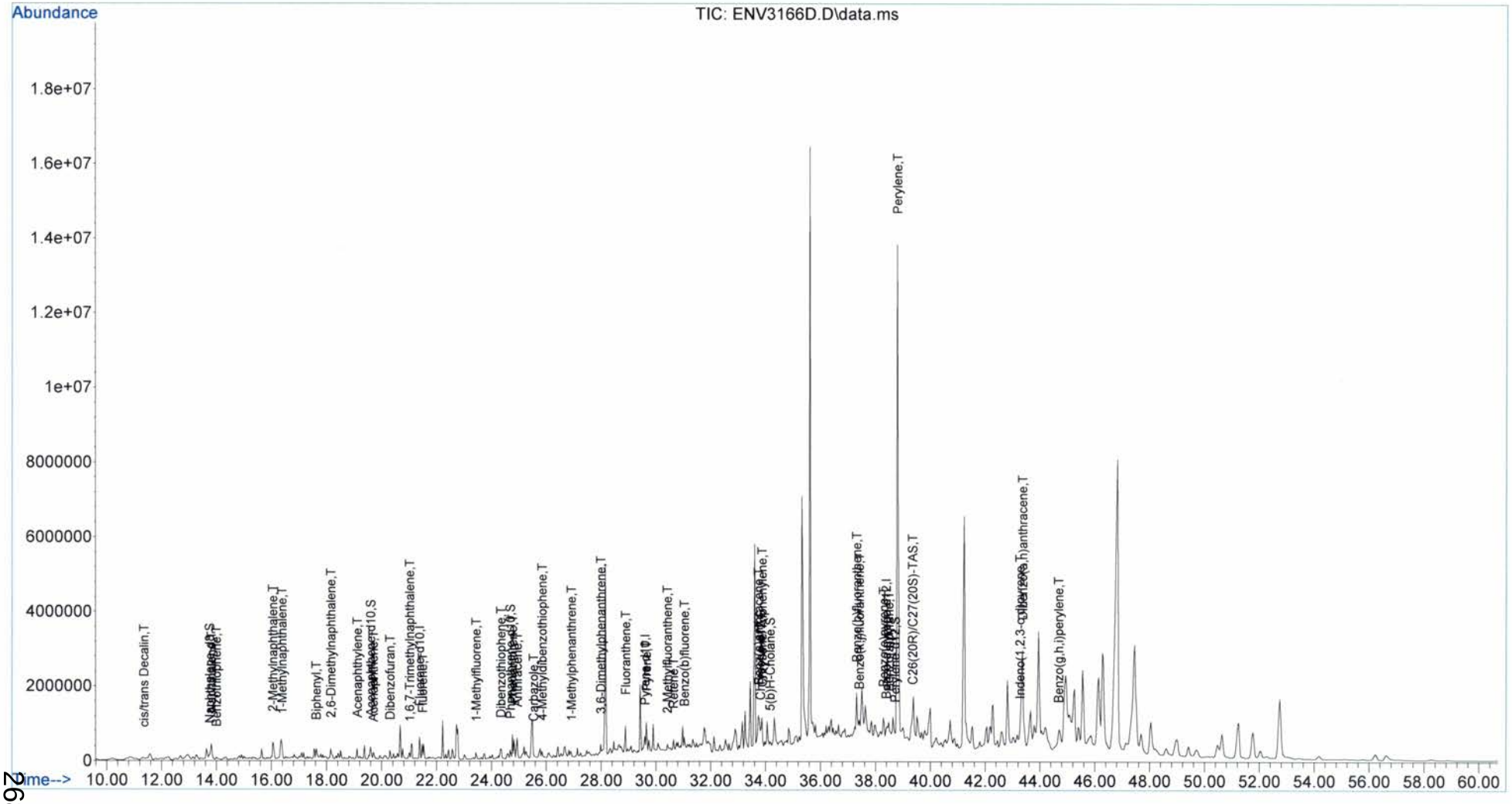
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166D.D
Acq On : 30 Nov 2013 7:39 am
Operator : ECM(YMIAO)
Sample : MSD (SED-DA-037R (0-0.5) MS/MSD)
Misc :
ALS Vial : 19 Sample Multiplier: 0.06658

Quant Time: Dec 06 08:02:11 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



2668

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

Data File Name ENV3166E.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 9:51
Acq. Method File PAH-2012.M
Sample Name Dupl. (SED-DA-033R (0-0.5))
Misc Info 0
Instrument Name GCMS5
Vial Number 21
Sample Multiplier 0.06667
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ENV3166E.D
ıpl. (SED-DA-033R (0-0.5))
11/30/2013 9:51
PAH-2012.M
14.99925004

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	26262	4.2613	5.0421
4)	C1-Decalins	12.27	42043	6.8220	8.0720
5)	C2-Decalins	13.41	30478	4.9454	5.8516
6)	C3-Decalins	15.74	20446	3.3176	3.9255
7)	C4-Decalins	18.31	34945	5.6703	6.7092
8)	Naphthalene	13.81	232737	7.1177	8.4218
9)+10)	C1-Naphthalenes	16.23	177967	5.4427	6.4399
13)	C2-Naphthalenes	18.51	238014	7.2790	8.6127
14)	C3-Naphthalenes	20.34	152729	4.6708	5.5266
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	17.64	87053	3.6279	4.2927
23)	Acenaphthylene	19.11	51538	1.8961	2.2435
24)	Acenaphthene	19.69	13728	0.7932	0.9386
25)	Dibenzofuran	20.32	60706	2.5259	2.9887
26)	Fluorene	21.48	75178	3.8187	4.5184
28)	C1-Fluorenes	23.44	35242	1.7902	2.1182
29)	C2-Fluorenes	25.47	135726	6.8943	8.1576
30)	C3-Fluorenes	27.56	69301	3.5202	4.1652
33)	Carbazole	25.53	17175	0.7894	0.9340
42)	Anthracene	24.94	75087	2.6353	3.1182
41)	Phenanthrene	24.77	264671	7.7493	9.1691
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.66	261532	7.6573	9.0604
50)	C2-Phenanthrenes/Anthracenes	28.16	291822	8.5442	10.1097
51)	C3-Phenanthrenes/Anthracenes	29.88	193690	5.6710	6.7101
52)	C4-Phenanthrenes/Anthracenes	30.64	181561	5.3159	6.2899
34)	Dibenzothiophene	24.34	56723	1.9119	2.2623
35)+36)+37)	C1-Dibenzothiophenes	26.16	61348	2.0678	2.4467
38)	C2-Dibenzothiophenes	27.25	87128	2.9368	3.4749
39)	C3-Dibenzothiophenes	28.75	118977	4.0103	4.7451
40)	C4-Dibenzothiophenes	30.81	102396	3.4514	4.0838
58)	Fluoranthene	28.89	308629	9.3257	11.0344
59)	Pyrene	29.65	285497	7.0380	8.3276
62)	C1-Fluoranthenes/Pyrenes	30.81	252965	7.6437	9.0442
63)	C2-Fluoranthenes/Pyrenes	32.68	471699	14.2530	16.8646
64)	C3-Fluoranthenes/Pyrenes	34.56	173714	5.2490	6.2108
65)	C4-Fluoranthenes/Pyrenes	35.63	348773	10.5387	12.4696
53)	Naphthobenzothiophene	32.93	186299	5.8232	6.8902
54)	C1-Naphthobenzothiophenes	34.10	208188	6.5074	7.6997
55)	C2-Naphthobenzothiophenes	35.33	414722	12.9631	15.3383
56)	C3-Naphthobenzothiophenes	37.18	335060	10.4731	12.3921
57)	C4-Naphthobenzothiophenes	37.99	188728	5.8992	6.9800
67)	Benz(a)anthracene	33.74	149120	4.6330	5.4819
68)	Chrysene/Triphenylene	33.87	354524	10.2218	12.0947
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	37.31	489560	11.5691	13.6889
78)	Benzo(k,j)fluoranthene	37.34	122192	3.1301	3.7036
79)	Benzo(a)fluoranthene	37.57	87968	2.2534	2.6663
80)	Benzo(e)pyrene	38.28	232217	5.4072	6.3979
81)	Benzo(a)pyrene	38.48	104706	2.6134	3.0922
89)	Perylene	38.77	8907370	215.9361	255.5009
82)	Indeno(1,2,3-c,d)pyrene	43.24	174290	4.0082	4.7426
83)	Dibenzo(a,h)anthracene	43.27	69292	2.0049	2.3723
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.61	179147	4.7314	5.5983

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	121440	6.1920	7.3265
10)	1-Methylnaphthalene	16.38	56527	2.9180	3.4526
11)	2,6-Dimethylnaphthalene	18.19	51443	3.0152	3.5677
12)	1,6,7-Trimethylnaphthalene	21.01	5455	0.3412	0.4037
27)	1-Methylfluorene	23.44	15247	1.3362	1.5810
35)	4-Methyldibenzothiophene	25.84	27360	1.1956	1.4147
36)	2/3-Methyldibenzothiophene	26.15	29050	1.2695	1.5021
37)	1-Methyldibenzothiophene	26.49	4938	0.2158	0.2553
43)	3-Methylphenanthrene	26.43	50060	2.1672	2.5643
44)	2-Methylphenanthrene	26.52	58688	2.5407	3.0062
45)	2-Methylanthracene	26.66	100300	4.3422	5.1378
46)	4/9-Methylphenanthrene	26.80	30502	1.3205	1.5624
47)	1-Methylphenanthrene	26.88	21982	0.9516	1.1260
48)	3,6-Dimethylphenanthrene	27.99	9675	0.4785	0.5662
49)	Retene	30.64	20342	1.9270	2.2801
60)	2-Methylfluoranthene	30.42	25627	1.0621	1.2567
61)	Benzo(b)fluorene	31.04	42604	2.0802	2.4613
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	13.75	389525	12.48	74.81
21)	Acenaphthene-d10	19.60	207983	12.68	76.01
32)	Phenanthrene-d10	24.68	409437	14.10	84.51
66)	Chrysene-d12	33.78	508777	15.15	90.91
88)	Perylene-d12	38.67	39000	1.03	6.18
90)	5(b)H-Cholane	34.17	165617	16.00	95.98
	Internal Standards				
1)	Fluorene-d10	21.37	282516	16.74	
31)	Pyrene-d10	29.60	580098	16.71	
73)	Benzo(a)pyrene-d12	38.38	545166	16.69	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166E.D
Acq On : 30 Nov 2013 9:51 am
Operator : ECM(YMIAO)
Sample : Dupl. (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 21 Sample Multiplier: 0.06667

Quant Time: Dec 08 15:37:31 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	282516m	251.05	0.00
31) Pyrene-d10	29.597	212	580098m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	545166m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	389525m	12.48	0.00
21) Acenaphthene-d10	19.603	164	207983m	12.68	0.00
32) Phenanthrene-d10	24.681	188	409437m	14.10	0.00
66) Chrysene-d12	33.777	240	508777m	15.15	0.00
88) Perylene-d12	38.673	264	39000m	1.03	0.00
90) 5(b)H-Cholane	34.166	217	165617m	16.00	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	26262m	4.26	
4) C1-Decalins	12.270	152	42043m	6.82	
5) C2-Decalins	13.410	166	30478m	4.95	
6) C3-Decalins	15.735	180	20446m	3.32	
7) C4-Decalins	18.306	194	34945m	5.67	
8) Naphthalene	13.813	128	232737m	7.12	
9) 2-Methylnaphthalene	16.071	142	121440m	6.19	
10) 1-Methylnaphthalene	16.384	142	56527m	2.92	
11) 2,6-Dimethylnaphthalene	18.194	156	51443m	3.02	
12) 1,6,7-Trimethylnaphtha...	21.011	170	5455m	0.34	
13) C2-Naphthalenes	18.507	156	238014m	7.28	
14) C3-Naphthalenes	20.341	170	152729m	4.67	
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	17.636	154	87053m	3.63	
23) Acenaphthylene	19.111	152	51538m	1.90	
24) Acenaphthene	19.692	154	13728m	0.79	
25) Dibenzofuran	20.318	168	60706m	2.53	
26) Fluorene	21.481	166	75178m	3.82	
27) 1-Methylfluorene	23.438	180	15247m	1.34	
28) C1-Fluorenes	23.438	180	35242m	1.79	
29) C2-Fluorenes	25.472	194	135726m	6.89	
30) C3-Fluorenes	27.563	208	69301m	3.52	
33) Carbazole	25.529	167	17175m	0.79	
34) Dibenzothiophene	24.342	184	56723m	1.91	
35) 4-Methyldibenzothiophene	25.839	198	27360m	1.20	
36) 2/3-Methyldibenzothiop...	26.150	198	29050m	1.27	
37) 1-Methyldibenzothiophene	26.489	198	4938m	0.22	
38) C2-Dibenzothiophenes	27.252	212	87128m	2.94	
39) C3-Dibenzothiophenes	28.749	226	118977m	4.01	
40) C4-Dibenzothiophenes	30.812	240	102396m	3.45	
41) Phenanthrene	24.766	178	264671m	7.75	
42) Anthracene	24.935	178	75087m	2.64	
43) 3-Methylphenanthrene	26.433	192	50060m	2.17	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166E.D
Acq On : 30 Nov 2013 9:51 am
Operator : ECM(YMIAO)
Sample : Dupl. (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 21 Sample Multiplier: 0.06667

Quant Time: Dec 08 15:37:31 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.517	192	58688m	2.54
45) 2-Methylanthracene	26.659	192	100300m	4.34
46) 4/9-Methylphenanthrene	26.800	192	30502m	1.32
47) 1-Methylphenanthrene	26.885	192	21982m	0.95
48) 3,6-Dimethylphenanthrene	27.987	206	9675m	0.48
49) Retene	30.642	234	20342m	1.93
50) C2-Phenanthrenes/Anthr...	28.156	206	291822m	8.54
51) C3-Phenanthrenes/Anthr...	29.879	220	193690m	5.67
52) C4-Phenanthrenes/Anthr...	30.642	234	181561m	5.32
53) Naphthobenzothiophene	32.934	234	186299m	5.82
54) C1-Naphthobenzothiophenes	34.102	248	208188m	6.51
55) C2-Naphthobenzothiophenes	35.334	262	414722m	12.96
56) C3-Naphthobenzothiophenes	37.181	276	335060m	10.47
57) C4-Naphthobenzothiophenes	37.992	290	188728m	5.90
58) Fluoranthene	28.891	202	308629m	9.33
59) Pyrene	29.653	202	285497m	7.04
60) 2-Methylfluoranthene	30.416	216	25627m	1.06
61) Benzo(b)fluorene	31.038	216	42604m	2.08
62) C1-Fluoranthenes/Pyrenes	30.812	216	252965m	7.64
63) C2-Fluoranthenes/Pyrenes	32.675	230	471699m	14.25
64) C3-Fluoranthenes/Pyrenes	34.555	244	173714m	5.25
65) C4-Fluoranthenes/Pyrenes	35.625	258	348773m	10.54
67) Benz(a)anthracene	33.745	228	149120m	4.63
68) Chrysene/Triphenylene	33.875	228	354524m	10.22
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	37.311	252	489560m	11.57
78) Benzo(k,j)fluoranthene	37.344	252	122192m	3.13
79) Benzo(a)fluoranthene	37.570	252	87968m	2.25
80) Benzo(e)pyrene	38.284	252	232217m	5.41
81) Benzo(a)pyrene	38.478	252	104706m	2.61
82) Indeno(1,2,3-c,d)pyrene	43.239	276	174290m	4.01
83) Dibenzo(a,h)anthracene	43.271	278	69292m	2.00
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	44.612	276	179147m	4.73
89) Perylene	38.770	252	8907370m	215.94
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\MS50182\
Data File : ENV3166E.D
Acq On : 30 Nov 2013 9:51 am
Operator : ECM(YMIAO)
Sample : Dupl. (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 21 Sample Multiplier: 0.06667

Quant Time: Dec 08 15:37:31 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

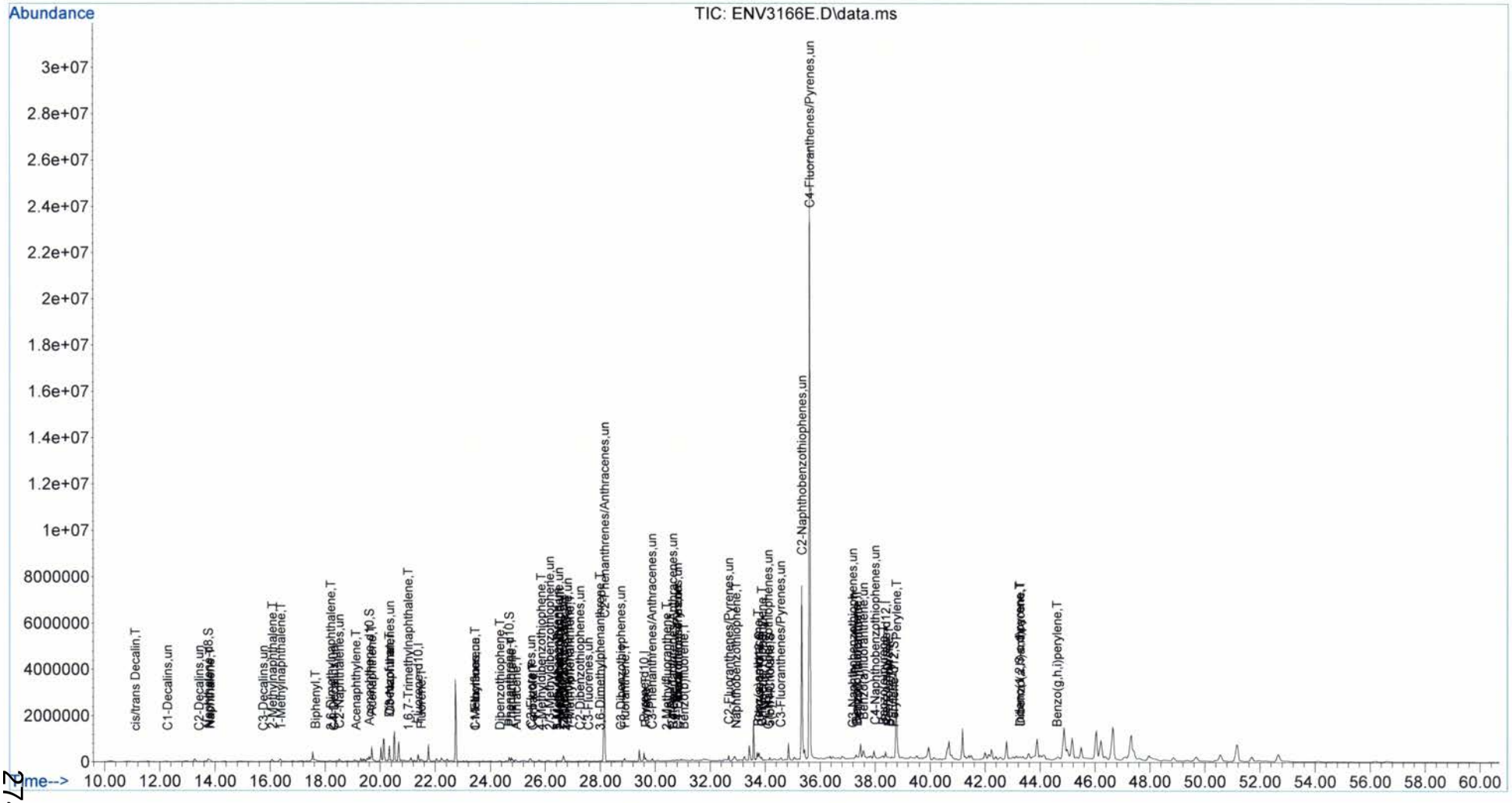
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ENV3166E.D
Acq On : 30 Nov 2013 9:51 am
Operator : ECM(YMIAO)
Sample : Dupl. (SED-DA-033R (0-0.5))
Misc :
ALS Vial : 21 Sample Multiplier: 0.06667

Quant Time: Dec 08 15:37:31 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2008.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 10:58
Acq. Method File PAH-2012.M
Sample Name SED-DA-036R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 22
Sample Multiplier 0.06662
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

ARC2008.D
SED-DA-036R (0-0.5)
11/30/2013 10:58
PAH-2012.M
15.01050736

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.13	67974	10.6031	12.6021
4)	C1-Decalins	12.27	98350	15.3414	18.2337
5)	C2-Decalins	13.43	73555	11.4737	13.6368
6)	C3-Decalins	15.74	60886	9.4975	11.2880
7)	C4-Decalins	18.31	66949	10.4432	12.4121
8)	Naphthalene	13.81	667645	19.6285	23.3291
9)+10)	C1-Naphthalenes	16.22	501213	14.7355	17.5136
13)	C2-Naphthalenes	18.51	475763	13.9873	16.6243
14)	C3-Naphthalenes	21.06	290392	8.5374	10.1470
15)	C4-Naphthalenes	22.76	365891	10.7571	12.7851
16)	Benzothiophene	14.01	20566	0.7804	0.9275
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	114437	4.5847	5.4491
23)	Acenaphthylene	19.11	188927	6.6818	7.9415
24)	Acenaphthene	19.71	24331	1.3515	1.6063
25)	Dibenzofuran	20.30	117615	4.7046	5.5915
26)	Fluorene	21.48	189363	9.2469	10.9903
28)	C1-Fluorenes	23.44	117810	5.7528	6.8374
29)	C2-Fluorenes	25.78	211876	10.3462	12.2968
30)	C3-Fluorenes	27.56	158243	7.7273	9.1841
33)	Carbazole	25.53	49891	2.0511	2.4378
42)	Anthracene	24.94	310202	9.7384	11.5744
41)	Phenanthrene	24.77	500149	13.0987	15.5682
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	510128	13.3600	15.8788
50)	C2-Phenanthrenes/Anthracenes	28.16	751219	19.6741	23.3833
51)	C3-Phenanthrenes/Anthracenes	29.88	844719	22.1228	26.2937
52)	C4-Phenanthrenes/Anthracenes	30.64	856376	22.4281	26.6565
34)	Dibenzothiophene	24.34	111894	3.3736	4.0097
35)+36)+37)	C1-Dibenzothiophenes	26.16	140207	4.2273	5.0243
38)	C2-Dibenzothiophenes	27.25	317953	9.5864	11.3937
39)	C3-Dibenzothiophenes	28.78	602255	18.1581	21.5815
40)	C4-Dibenzothiophenes	30.19	397698	11.9907	14.2514
58)	Fluoranthene	28.89	954444	25.7970	30.6605
59)	Pyrene	29.65	1026440	22.6339	26.9011
62)	C1-Fluoranthenes/Pyrenes	30.81	967592	26.1523	31.0829
63)	C2-Fluoranthenes/Pyrenes	32.16	1659900	44.8643	53.3226
64)	C3-Fluoranthenes/Pyrenes	34.56	512566	13.8538	16.4656
65)	C4-Fluoranthenes/Pyrenes	35.66	548054	14.8130	17.6057
53)	Naphthobenzothiophene	32.93	402544	11.2549	13.3768
54)	C1-Naphthobenzothiophenes	34.10	1013680	28.3419	33.6852
55)	C2-Naphthobenzothiophenes	35.37	1888100	52.7904	62.7429
56)	C3-Naphthobenzothiophenes	37.18	1432650	40.0562	47.6080
57)	C4-Naphthobenzothiophenes	38.19	591484	16.5376	19.6555
67)	Benz(a)anthracene	33.74	568623	15.8026	18.7819
68)	Chrysene/Triphenylene	33.87	1164920	30.0440	35.7082
69)	C1-Chrysenes	35.66	2369180	61.1024	72.6221
70)	C2-Chrysenes	36.27	936334	24.1486	28.7013
71)	C3-Chrysenes	37.51	771534	19.8983	23.6497
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.31	1974160	47.6937	56.6854
78)	Benzo(k,j)fluoranthene	37.41	292085	7.6490	9.0911
79)	Benzo(a)fluoranthene	37.67	367341	9.6198	11.4334
80)	Benzo(e)pyrene	38.28	826755	19.6804	23.3908
81)	Benzo(a)pyrene	38.48	442559	11.2923	13.4212
89)	Perylene	38.80	30843000	764.3912	908.5023
82)	Indeno(1,2,3-c,d)pyrene	43.27	524088	12.3216	14.6446
83)	Dibenzo(a,h)anthracene	43.30	161665	4.7821	5.6836
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	44.68	554474	14.9708	17.7933

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.05	337825	16.5589	19.6807
10)	1-Methylnaphthalene	16.38	163388	8.1081	9.6367
11)	2,6-Dimethylnaphthalene	18.15	123914	6.9820	8.2984
12)	1,6,7-Trimethylnaphthalene	21.01	14581	0.8767	1.0420
27)	1-Methylfluorene	23.44	35680	3.0059	3.5726
35)	4-Methyldibenzothiophene	25.84	65447	2.5583	3.0406
36)	2/3-Methyldibenzothiophene	26.15	58909	2.3027	2.7369
37)	1-Methyldibenzothiophene	26.49	15851	0.6196	0.7364
43)	3-Methylphenanthrene	26.43	106982	4.1428	4.9238
44)	2-Methylphenanthrene	26.55	105036	4.0674	4.8343
45)	2-Methylanthracene	26.69	154951	6.0004	7.1316
46)	4/9-Methylphenanthrene	26.80	87587	3.3917	4.0312
47)	1-Methylphenanthrene	26.91	55572	2.1520	2.5577
48)	3,6-Dimethylphenanthrene	27.99	37046	1.6389	1.9478
49)	Retene	30.64	67327	5.7050	6.7806
60)	2-Methylfluoranthene	30.42	94764	3.5131	4.1754
61)	Benzo(b)fluorene	31.04	166833	7.2864	8.6601
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	13.75	408336	12.57	75.45
21)	Acenaphthene-d10	19.60	224955	13.18	79.10
32)	Phenanthrene-d10	24.68	455348	14.02	84.14
66)	Chrysene-d12	33.81	563477	15.01	90.12
88)	Perylene-d12	38.71	224539	6.06	36.40
90)	5(b)H-Cholane	34.17	190740	18.84	113.09
	Internal Standards				
1)	Fluorene-d10	21.37	293661	16.72	
31)	Pyrene-d10	29.60	648037	16.70	
73)	Benzo(a)pyrene-d12	38.38	532868	16.68	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2008.D
Acq On : 30 Nov 2013 10:58 am
Operator : ECM(YMIAO)
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:37:02 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	293661m	251.05	0.00
31) Pyrene-d10	29.597	212	648037m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	532868m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	408336m	12.57	0.00
21) Acenaphthene-d10	19.603	164	224955m	13.18	0.00
32) Phenanthrene-d10	24.681	188	455348m	14.02	0.00
66) Chrysene-d12	33.810	240	563477m	15.01	0.03
88) Perylene-d12	38.705	264	224539m	6.06	0.03
90) 5(b)H-Cholane	34.166	217	190740m	18.84	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.130	138	67974m	10.60	
4) C1-Decalins	12.270	152	98350m	15.34	
5) C2-Decalins	13.432	166	73555m	11.47	
6) C3-Decalins	15.735	180	60886m	9.50	
7) C4-Decalins	18.306	194	66949m	10.44	
8) Naphthalene	13.812	128	667645m	19.63	
9) 2-Methylnaphthalene	16.048	142	337825m	16.56	
10) 1-Methylnaphthalene	16.383	142	163388m	8.11	
11) 2,6-Dimethylnaphthalene	18.150	156	123914m	6.98	
12) 1,6,7-Trimethylnaphtha...	21.011	170	14581m	0.88	
13) C2-Naphthalenes	18.507	156	475763m	13.99	
14) C3-Naphthalenes	21.056	170	290392m	8.54	
15) C4-Naphthalenes	22.755	184	365891m	10.76	
16) Benzothiophene	14.014	134	20566m	0.78	
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	17.635	154	114437m	4.58	
23) Acenaphthylene	19.111	152	188927m	6.68	
24) Acenaphthene	19.715	154	24331m	1.35	
25) Dibenzofuran	20.296	168	117615m	4.70	
26) Fluorene	21.481	166	189363m	9.25	
27) 1-Methylfluorene	23.438	180	35680m	3.01	
28) C1-Fluorenes	23.438	180	117810m	5.75	
29) C2-Fluorenes	25.783	194	211876m	10.35	
30) C3-Fluorenes	27.563	208	158243m	7.73	
33) Carbazole	25.528	167	49891m	2.05	
34) Dibenzothiophene	24.342	184	111894m	3.37	
35) 4-Methyldibenzothiophene	25.839	198	65447m	2.56	
36) 2/3-Methyldibenzothiop...	26.150	198	58909m	2.30	
37) 1-Methyldibenzothiophene	26.489	198	15851m	0.62	
38) C2-Dibenzothiophenes	27.252	212	317953m	9.59	
39) C3-Dibenzothiophenes	28.778	226	602255m	18.16	
40) C4-Dibenzothiophenes	30.190	240	397698m	11.99	
41) Phenanthrene	24.766	178	500149m	13.10	
42) Anthracene	24.935	178	310202m	9.74	
43) 3-Methylphenanthrene	26.433	192	106982m	4.14	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2008.D
Acq On : 30 Nov 2013 10:58 am
Operator : ECM(YMIAO)
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:37:02 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	105036m	4.07
45) 2-Methylanthracene	26.687	192	154951m	6.00
46) 4/9-Methylphenanthrene	26.800	192	87587m	3.39
47) 1-Methylphenanthrene	26.913	192	55572m	2.15
48) 3,6-Dimethylphenanthrene	27.986	206	37046m	1.64
49) Retene	30.642	234	67327m	5.71
50) C2-Phenanthrenes/Anthr...	28.156	206	751219m	19.67
51) C3-Phenanthrenes/Anthr...	29.879	220	844719m	22.12
52) C4-Phenanthrenes/Anthr...	30.642	234	856376m	22.43
53) Naphthobenzothiophene	32.934	234	402544m	11.25
54) C1-Naphthobenzothiophenes	34.101	248	1013678m	28.34
55) C2-Naphthobenzothiophenes	35.366	262	1888101m	52.79
56) C3-Naphthobenzothiophenes	37.181	276	1432652m	40.06
57) C4-Naphthobenzothiophenes	38.186	290	591484m	16.54
58) Fluoranthene	28.890	202	954444m	25.80
59) Pyrene	29.653	202	1026438m	22.63
60) 2-Methylfluoranthene	30.416	216	94764m	3.51
61) Benzo(b)fluorene	31.038	216	166833m	7.29
62) C1-Fluoranthenes/Pyrenes	30.812	216	967592m	26.15
63) C2-Fluoranthenes/Pyrenes	32.156	230	1659900m	44.86
64) C3-Fluoranthenes/Pyrenes	34.555	244	512566m	13.85
65) C4-Fluoranthenes/Pyrenes	35.658	258	548054m	14.81
67) Benz(a)anthracene	33.745	228	568623m	15.80
68) Chrysene/Triphenylene	33.874	228	1164923m	30.04
69) C1-Chrysenes	35.658	242	2369183m	61.10
70) C2-Chrysenes	36.274	256	936334m	24.15
71) C3-Chrysenes	37.505	270	771534m	19.90
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	37.311	252	1974164m	47.69
78) Benzo(k,j)fluoranthene	37.408	252	292085m	7.65
79) Benzo(a)fluoranthene	37.668	252	367341m	9.62
80) Benzo(e)pyrene	38.284	252	826755m	19.68
81) Benzo(a)pyrene	38.478	252	442559m	11.29
82) Indeno(1,2,3-c,d)pyrene	43.271	276	524088m	12.32
83) Dibenzo(a,h)anthracene	43.304	278	161665m	4.78
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	44.677	276	554474m	14.97
89) Perylene	38.802	252	30842951m	764.39
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\MS50182\
Data File : ARC2008.D
Acq On : 30 Nov 2013 10:58 am
Operator : ECM(YMIAO)
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:37:02 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

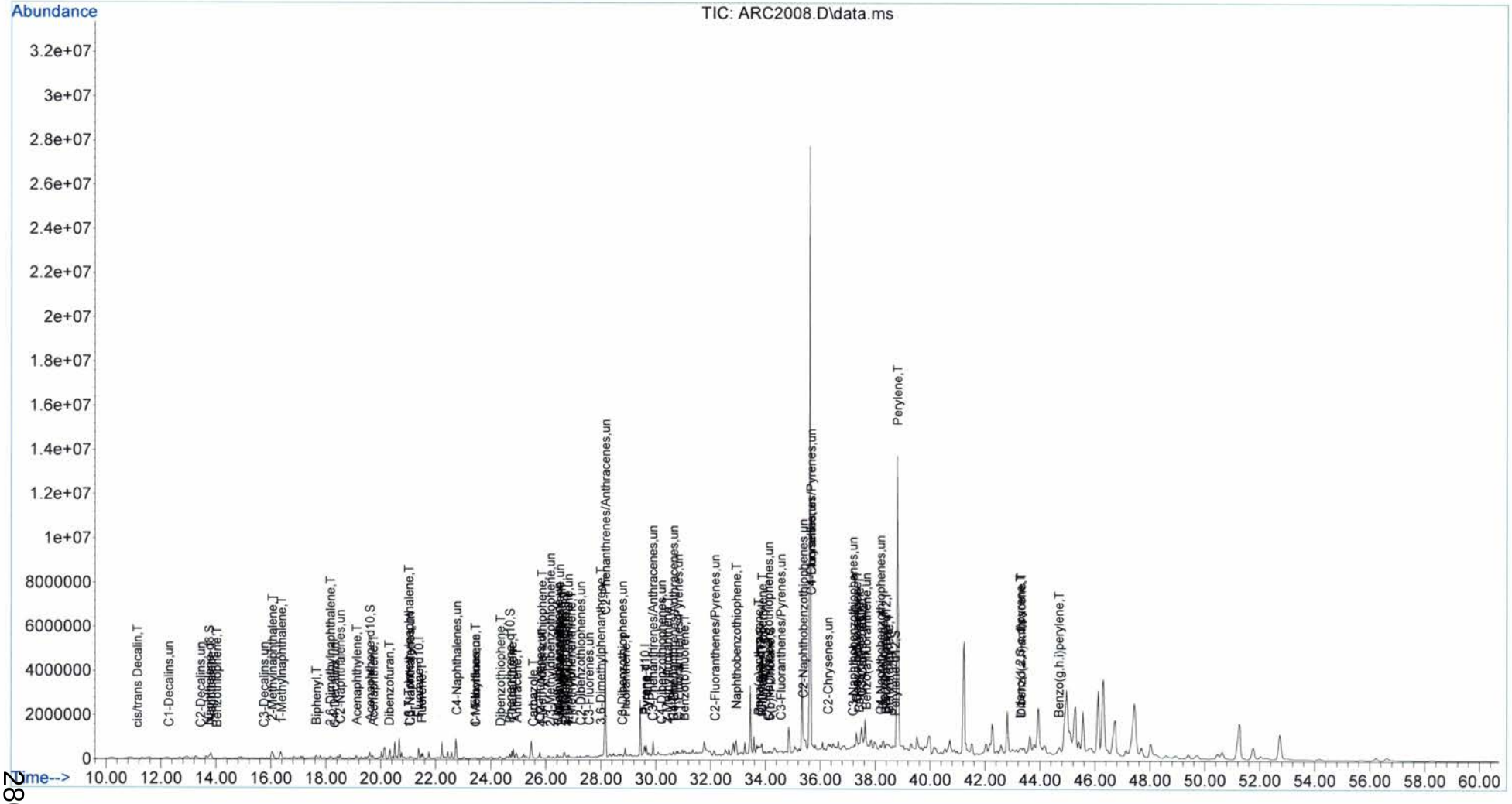
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2008.D
Acq On : 30 Nov 2013 10:58 am
Operator : ECM(YMIAO)
Sample : SED-DA-036R (0-0.5)
Misc :
ALS Vial : 22 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:37:02 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2011.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 12:04
Acq. Method File PAH-2012.M
Sample Name SED-DA-037R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 23
Sample Multiplier 0.06662
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

ARC2011.D
SED-DA-037R (0-0.5)
11/30/2013 12:04
PAH-2012.M
15.01050736

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.35	85416	13.8530	15.6635
4)	C1-Decalins	12.27	109904	17.8244	20.1541
5)	C2-Decalins	13.43	104475	16.9439	19.1585
6)	C3-Decalins	15.74	68314	11.0793	12.5273
7)	C4-Decalins	17.90	99221	16.0919	18.1950
8)	Naphthalene	13.81	980661	29.9760	33.8938
9)+10)	C1-Naphthalenes	16.23	814787	24.9057	28.1608
13)	C2-Naphthalenes	18.51	712873	21.7905	24.6384
14)	C3-Naphthalenes	21.06	370167	11.3149	12.7938
15)	C4-Naphthalenes	22.76	182243	5.5707	6.2987
16)	Benzothiophene	14.01	32160	1.2688	1.4346
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	150931	6.2869	7.1086
23)	Acenaphthylene	19.11	293082	10.7771	12.1857
24)	Acenaphthene	19.71	36234	2.0926	2.3661
25)	Dibenzofuran	20.30	177376	7.3768	8.3409
26)	Fluorene	21.48	253452	12.8679	14.5497
28)	C1-Fluorenes	23.35	128480	6.5230	7.3756
29)	C2-Fluorenes	25.50	597876	30.3545	34.3218
30)	C3-Fluorenes	27.56	326645	16.5840	18.7515
33)	Carbazole	25.53	76161	3.3833	3.8255
42)	Anthracene	24.94	472602	16.0315	18.1268
41)	Phenanthrene	24.77	693208	19.6167	22.1805
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	641109	18.1423	20.5135
50)	C2-Phenanthrenes/Anthracenes	28.35	1047430	29.6406	33.5146
51)	C3-Phenanthrenes/Anthracenes	29.91	1069200	30.2566	34.2111
52)	C4-Phenanthrenes/Anthracenes	31.74	1025230	29.0123	32.8042
34)	Dibenzothiophene	24.34	120013	3.9098	4.4208
35)+36)+37)	C1-Dibenzothiophenes	26.16	155825	5.0765	5.7400
38)	C2-Dibenzothiophenes	27.25	393828	12.8301	14.5070
39)	C3-Dibenzothiophenes	28.78	664573	21.6505	24.4802
40)	C4-Dibenzothiophenes	30.19	782641	25.4969	28.8293
58)	Fluoranthene	28.89	1334050	38.9605	44.0526
59)	Pyrene	29.65	1441700	34.3507	38.8402
62)	C1-Fluoranthenes/Pyrenes	30.81	1602360	46.7964	52.9126
63)	C2-Fluoranthenes/Pyrenes	32.55	1822480	53.2251	60.1815
64)	C3-Fluoranthenes/Pyrenes	34.10	1015880	29.6684	33.5459
65)	C4-Fluoranthenes/Pyrenes	35.37	685551	20.0213	22.6380
53)	Naphthobenzothiophene	32.93	715773	21.6241	24.4503
54)	C1-Naphthobenzothiophenes	34.10	1335540	40.3478	45.6212
55)	C2-Naphthobenzothiophenes	35.37	2205510	66.6307	75.3391
56)	C3-Naphthobenzothiophenes	37.18	1783950	53.8945	60.9384
57)	C4-Naphthobenzothiophenes	38.19	773199	23.3590	26.4119
67)	Benz(a)anthracene	33.74	776926	23.3302	26.3794
68)	Chrysene/Triphenylene	33.87	1575460	43.9038	49.6419
69)	C1-Chrysenes	35.37	2262510	63.0499	71.2904
70)	C2-Chrysenes	36.31	1309830	36.5013	41.2719
71)	C3-Chrysenes	37.51	810739	22.5930	25.5459
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.31	2588540	66.8812	75.6224
78)	Benzo(k,j)fluoranthene	37.41	452882	12.6838	14.3416
79)	Benzo(a)fluoranthene	37.67	216845	6.0732	6.8669
80)	Benzo(e)pyrene	38.28	1102310	28.0629	31.7307
81)	Benzo(a)pyrene	38.48	578289	15.7807	17.8433
89)	Perylene	38.80	28482000	754.9179	853.5839
82)	Indeno(1,2,3-c,d)pyrene	43.27	639633	16.0829	18.1849
83)	Dibenzo(a,h)anthracene	43.37	686271	21.7103	24.5477
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	44.68	693732	20.0322	22.6503

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	545949	27.8230	31.4594
10)	1-Methylnaphthalene	16.38	268838	13.8709	15.6838
11)	2,6-Dimethylnaphthalene	18.15	187091	10.9604	12.3929
12)	1,6,7-Trimethylnaphthalene	21.01	19670	1.2296	1.3903
27)	1-Methylfluorene	23.44	39439	3.4545	3.9060
35)	4-Methyldibenzothiophene	25.84	75605	3.1933	3.6107
36)	2/3-Methyldibenzothiophene	26.15	63541	2.6838	3.0346
37)	1-Methyldibenzothiophene	26.49	16679	0.7045	0.7965
43)	3-Methylphenanthrene	26.43	130444	5.4581	6.1714
44)	2-Methylphenanthrene	26.55	127935	5.3531	6.0527
45)	2-Methylanthracene	26.69	190895	7.9875	9.0314
46)	4/9-Methylphenanthrene	26.83	116819	4.8880	5.5268
47)	1-Methylphenanthrene	26.91	75016	3.1388	3.5491
48)	3,6-Dimethylphenanthrene	27.99	55952	2.6746	3.0241
49)	Retene	30.64	73653	6.7436	7.6250
60)	2-Methylfluoranthene	30.42	136586	5.4712	6.1863
61)	Benzo(b)fluorene	31.04	246989	11.6558	13.1792
74)	C29-Hopane	40.66	364824	21.4172	24.2164
75)	18a-Oleanane	0.00	0	0.0000	0.0000
76)	C30-Hopane	42.06	1411640	82.8713	93.7024
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	13.75	383779	12.29	73.73
21)	Acenaphthene-d10	19.60	228840	13.94	83.66
32)	Phenanthrene-d10	24.68	442968	14.74	88.44
66)	Chrysene-d12	33.81	554462	15.96	95.82
88)	Perylene-d12	38.71	172761	4.99	29.95
90)	5(b)H-Cholane	34.20	173993	18.38	110.33
	Internal Standards				
1)	Fluorene-d10	21.37	282445	16.72	
31)	Pyrene-d10	29.60	599744	16.70	
73)	Benzo(a)pyrene-d12	38.41	498252	16.68	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2011.D
Acq On : 30 Nov 2013 12:04 pm
Operator : ECM(YMIAO)
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:34:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	282445m	251.05	0.00
31) Pyrene-d10	29.597	212	599744m	250.63	0.00
73) Benzo(a)pyrene-d12	38.413	264	498252m	250.32	0.03
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	383779m	12.29	0.00
21) Acenaphthene-d10	19.603	164	228840m	13.94	0.00
32) Phenanthrene-d10	24.681	188	442968m	14.74	0.00
66) Chrysene-d12	33.810	240	554462m	15.96	0.03
88) Perylene-d12	38.705	264	172761m	4.99	0.03
90) 5(b)H-Cholane	34.199	217	173993m	18.38	0.03
Target Compounds					Qvalue
3) cis/trans Decalin	11.353	138	85416m	13.85	
4) C1-Decalins	12.270	152	109904m	17.82	
5) C2-Decalins	13.432	166	104475m	16.94	
6) C3-Decalins	15.735	180	68314m	11.08	
7) C4-Decalins	17.904	194	99221m	16.09	
8) Naphthalene	13.813	128	980661m	29.98	
9) 2-Methylnaphthalene	16.071	142	545949m	27.82	
10) 1-Methylnaphthalene	16.384	142	268838m	13.87	
11) 2,6-Dimethylnaphthalene	18.150	156	187091m	10.96	
12) 1,6,7-Trimethylnaphtha...	21.011	170	19670m	1.23	
13) C2-Naphthalenes	18.507	156	712873m	21.79	
14) C3-Naphthalenes	21.056	170	370167m	11.31	
15) C4-Naphthalenes	22.755	184	182243m	5.57	
16) Benzothiophene	14.014	134	32160m	1.27	
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	17.635	154	150931m	6.29	
23) Acenaphthylene	19.111	152	293082m	10.78	
24) Acenaphthene	19.715	154	36234m	2.09	
25) Dibenzofuran	20.296	168	177376m	7.38	
26) Fluorene	21.481	166	253452m	12.87	
27) 1-Methylfluorene	23.438	180	39439m	3.45	
28) C1-Fluorenes	23.353	180	128480m	6.52	
29) C2-Fluorenes	25.500	194	597876m	30.35	
30) C3-Fluorenes	27.563	208	326645m	16.58	
33) Carbazole	25.529	167	76161m	3.38	
34) Dibenzothiophene	24.342	184	120013m	3.91	
35) 4-Methyldibenzothiophene	25.839	198	75605m	3.19	
36) 2/3-Methyldibenzothiop...	26.150	198	63541m	2.68	
37) 1-Methyldibenzothiophene	26.489	198	16679m	0.70	
38) C2-Dibenzothiophenes	27.252	212	393828m	12.83	
39) C3-Dibenzothiophenes	28.778	226	664573m	21.65	
40) C4-Dibenzothiophenes	30.190	240	782641m	25.50	
41) Phenanthrene	24.766	178	693208m	19.62	
42) Anthracene	24.935	178	472602m	16.03	
43) 3-Methylphenanthrene	26.433	192	130444m	5.46	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2011.D
Acq On : 30 Nov 2013 12:04 pm
Operator : ECM(YMIAO)
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:34:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	127935m	5.35
45) 2-Methylanthracene	26.687	192	190895m	7.99
46) 4/9-Methylphenanthrene	26.828	192	116819m	4.89
47) 1-Methylphenanthrene	26.913	192	75016m	3.14
48) 3,6-Dimethylphenanthrene	27.986	206	55952m	2.67
49) Retene	30.642	234	73653m	6.74
50) C2-Phenanthrenes/Anthr...	28.354	206	1047430m	29.64
51) C3-Phenanthrenes/Anthr...	29.908	220	1069198m	30.26
52) C4-Phenanthrenes/Anthr...	31.744	234	1025229m	29.01
53) Naphthobenzothiophene	32.934	234	715773m	21.62
54) C1-Naphthobenzothiophenes	34.101	248	1335539m	40.35
55) C2-Naphthobenzothiophenes	35.366	262	2205514m	66.63
56) C3-Naphthobenzothiophenes	37.181	276	1783945m	53.89
57) C4-Naphthobenzothiophenes	38.186	290	773199m	23.36
58) Fluoranthene	28.891	202	1334050m	38.96
59) Pyrene	29.653	202	1441700m	34.35
60) 2-Methylfluoranthene	30.416	216	136586m	5.47
61) Benzo(b)fluorene	31.038	216	246989m	11.66
62) C1-Fluoranthenes/Pyrenes	30.812	216	1602360m	46.80
63) C2-Fluoranthenes/Pyrenes	32.545	230	1822484m	53.23
64) C3-Fluoranthenes/Pyrenes	34.101	244	1015875m	29.67
65) C4-Fluoranthenes/Pyrenes	35.366	258	685551m	20.02
67) Benz(a)anthracene	33.745	228	776926m	23.33
68) Chrysene/Triphenylene	33.875	228	1575464m	43.90
69) C1-Chrysenes	35.366	242	2262510m	63.05
70) C2-Chrysenes	36.306	256	1309829m	36.50
71) C3-Chrysenes	37.506	270	810739m	22.59
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	40.656	191	364824m	21.42
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	42.062	191	1411636m	82.87
77) Benzo(b)fluoranthene	37.311	252	2588536m	66.88
78) Benzo(k,j)fluoranthene	37.408	252	452882m	12.68
79) Benzo(a)fluoranthene	37.668	252	216845m	6.07
80) Benzo(e)pyrene	38.284	252	1102313m	28.06
81) Benzo(a)pyrene	38.478	252	578289m	15.78
82) Indeno(1,2,3-c,d)pyrene	43.271	276	639633m	16.08
83) Dibenzo(a,h)anthracene	43.370	278	686271m	21.71
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	44.677	276	693732m	20.03
89) Perylene	38.802	252	28481961m	754.92
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2011.D
Acq On : 30 Nov 2013 12:04 pm
Operator : ECM(YMIAO)
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:34:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

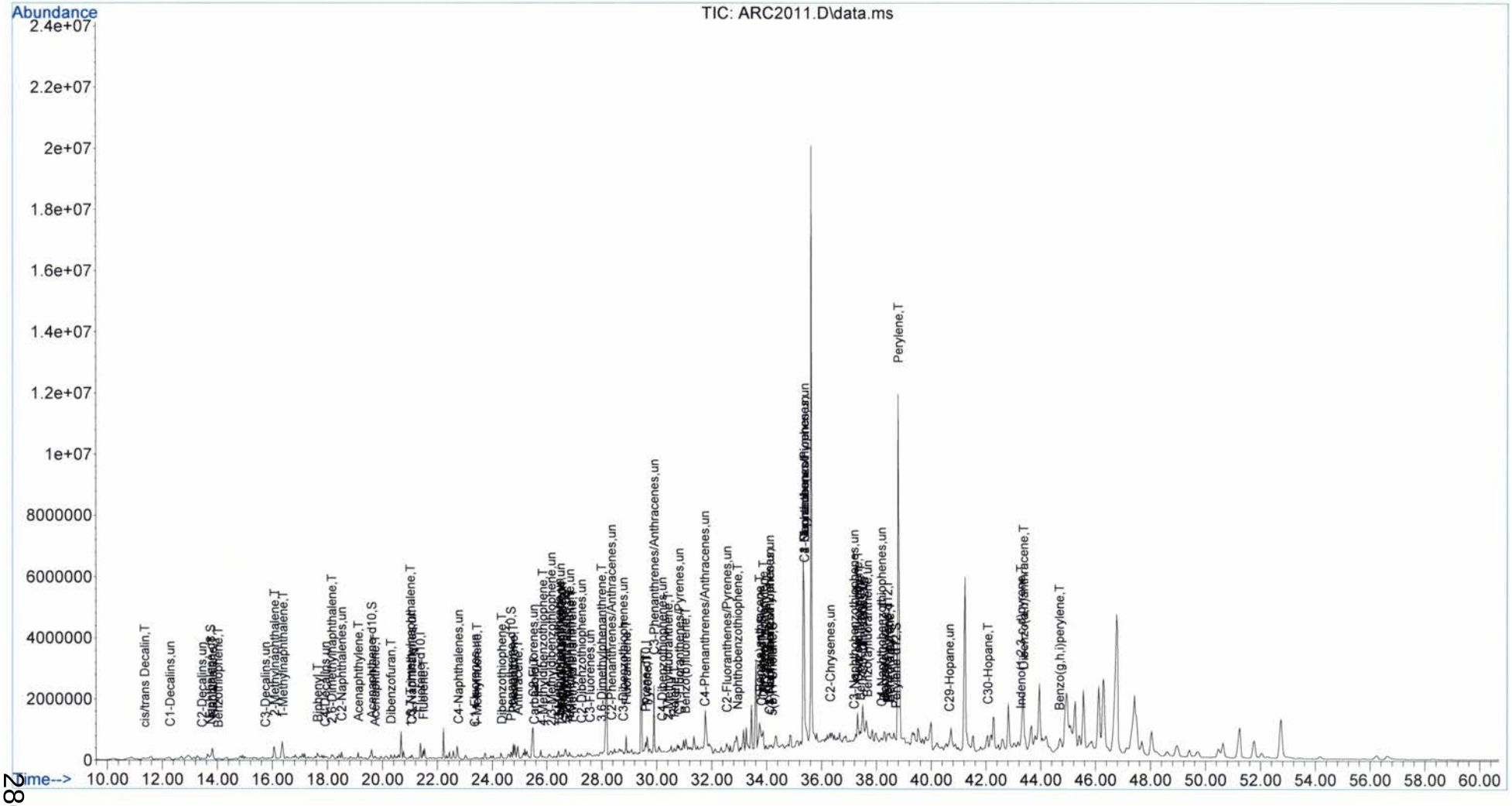
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2011.D
Acq On : 30 Nov 2013 12:04 pm
Operator : ECM(YMIAO)
Sample : SED-DA-037R (0-0.5)
Misc :
ALS Vial : 23 Sample Multiplier: 0.06662

Quant Time: Dec 08 15:34:00 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2015.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 13:10
Acq. Method File PAH-2012.M
Sample Name SED-DA-038R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 24
Sample Multiplier 0.06609
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC2015.D
SED-DA-038R (0-0.5)
11/30/2013 13:10
PAH-2012.M
15.13088213

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.35	92538	14.8605	17.3742
4)	C1-Decalins	12.27	133893	21.5016	25.1386
5)	C2-Decalins	13.43	134257	21.5601	25.2070
6)	C3-Decalins	15.76	143845	23.0998	27.0072
7)	C4-Decalins	17.64	97912	15.7235	18.3831
8)	Naphthalene	13.81	1221460	36.9696	43.2231
9)+10)	C1-Naphthalenes	16.23	1041658	31.5276	36.8606
13)	C2-Naphthalenes	18.51	890158	26.9422	31.4995
14)	C3-Naphthalenes	21.06	480111	14.5314	16.9894
15)	C4-Naphthalenes	22.76	289359	8.7580	10.2394
16)	Benzothiophene	14.01	40573	1.5849	1.8530
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	185184	7.6379	8.9299
23)	Acenaphthylene	19.11	400623	14.5868	17.0542
24)	Acenaphthene	19.71	41073	2.3488	2.7461
25)	Dibenzofuran	20.30	232104	9.5579	11.1747
26)	Fluorene	21.48	341950	17.1904	20.0982
28)	C1-Fluorenes	23.35	170518	8.5722	10.0222
29)	C2-Fluorenes	26.43	504133	25.3437	29.6306
30)	C3-Fluorenes	27.56	550598	27.6795	32.3615
33)	Carbazole	25.53	89616	3.8913	4.5495
42)	Anthracene	24.94	626590	20.7761	24.2905
41)	Phenanthrene	24.77	822934	22.7630	26.6135
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	797043	22.0469	25.7762
50)	C2-Phenanthrenes/Anthracenes	28.35	1379310	38.1528	44.6064
51)	C3-Phenanthrenes/Anthracenes	29.91	1672430	46.2608	54.0859
52)	C4-Phenanthrenes/Anthracenes	31.74	1263560	34.9512	40.8633
34)	Dibenzothiophene	24.34	163646	5.2112	6.0926
35)+36)+37)	C1-Dibenzothiophenes	26.16	202136	6.4368	7.5256
38)	C2-Dibenzothiophenes	27.59	530292	16.8867	19.7431
39)	C3-Dibenzothiophenes	28.78	911444	29.0241	33.9336
40)	C4-Dibenzothiophenes	30.19	971578	30.9390	36.1724
58)	Fluoranthene	28.89	1722630	49.1754	57.4935
59)	Pyrene	29.68	2043540	47.5933	55.6438
62)	C1-Fluoranthenes/Pyrenes	31.49	2172120	62.0068	72.4954
63)	C2-Fluoranthenes/Pyrenes	32.55	1974660	56.3699	65.9051
64)	C3-Fluoranthenes/Pyrenes	34.10	1342840	38.3335	44.8177
65)	C4-Fluoranthenes/Pyrenes	35.30	773710	22.0869	25.8229
53)	Naphthobenzothiophene	32.93	603657	17.8261	20.8415
54)	C1-Naphthobenzothiophenes	34.10	1888380	55.7643	65.1970
55)	C2-Naphthobenzothiophenes	35.37	3505130	103.5069	121.0153
56)	C3-Naphthobenzothiophenes	37.18	2764600	81.6390	95.4485
57)	C4-Naphthobenzothiophenes	38.19	1127560	33.2970	38.9293
67)	Benz(a)anthracene	33.75	993195	29.1526	34.0838
68)	Chrysene/Triphenylene	33.87	2079520	56.6447	66.2264
69)	C1-Chrysenes	35.11	1642040	44.7282	52.2941
70)	C2-Chrysenes	36.31	1704720	46.4355	54.2902
71)	C3-Chrysenes	37.51	1292940	35.2190	41.1763
72)	C4-Chrysenes	39.32	582805	15.8752	18.5605
77)	Benzo(b)fluoranthene	37.31	3193470	87.7860	102.6353
78)	Benzo(k,j)fluoranthene	37.41	716056	21.3366	24.9458
79)	Benzo(a)fluoranthene	37.64	180087	5.3661	6.2738
80)	Benzo(e)pyrene	38.32	1543610	41.8098	48.8820
81)	Benzo(a)pyrene	38.48	805473	23.3854	27.3411
89)	Perylene	38.84	30226200	852.3627	996.5422
82)	Indeno(1,2,3-c,d)pyrene	43.27	752856	20.1399	23.5466
83)	Dibenzo(a,h)anthracene	43.34	205261	6.9086	8.0772
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	44.68	826624	25.3955	29.6912

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	702396	35.4441	41.4396
10)	1-Methylnaphthalene	16.38	339262	17.3324	20.2643
11)	2,6-Dimethylnaphthalene	18.19	252263	14.6331	17.1084
12)	1,6,7-Trimethylnaphthalene	21.01	25560	1.5821	1.8498
27)	1-Methylfluorene	23.47	48082	4.1702	4.8755
35)	4-Methyldibenzothiophene	25.84	96344	3.9776	4.6504
36)	2/3-Methyldibenzothiophene	26.15	89395	3.6907	4.3150
37)	1-Methyldibenzothiophene	26.49	16397	0.6770	0.7915
43)	3-Methylphenanthrene	26.43	172312	7.0475	8.2396
44)	2-Methylphenanthrene	26.55	165441	6.7665	7.9111
45)	2-Methylanthracene	26.69	213221	8.7206	10.1958
46)	4/9-Methylphenanthrene	26.83	181995	7.4435	8.7026
47)	1-Methylphenanthrene	26.91	64074	2.6206	3.0639
48)	3,6-Dimethylphenanthrene	27.99	72192	3.3731	3.9437
49)	Retene	30.64	65803	5.8891	6.8853
60)	2-Methylfluoranthene	30.44	190458	7.4573	8.7187
61)	Benzo(b)fluorene	31.04	299247	13.8038	16.1387
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	13.75	388439	12.31	74.48
21)	Acenaphthene-d10	19.60	224215	13.53	81.81
32)	Phenanthrene-d10	24.68	434786	14.14	85.53
66)	Chrysene-d12	33.81	575292	16.19	97.96
88)	Perylene-d12	38.71	183834	5.65	34.18
90)	5(b)H-Cholane	34.20	137418	15.44	93.45
	Internal Standards				
1)	Fluorene-d10	21.39	282979	16.59	
31)	Pyrene-d10	29.60	608687	16.56	
73)	Benzo(a)pyrene-d12	38.41	464588	16.54	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2015.D
Acq On : 30 Nov 2013 1:10 pm
Operator : ECM(YMIAO)
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06609

Quant Time: Dec 06 08:47:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.392	176	282979m	251.05	0.02
31) Pyrene-d10	29.597	212	608687m	250.63	0.00
73) Benzo(a)pyrene-d12	38.413	264	464588m	250.32	0.03
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	388439m	12.31	0.00
21) Acenaphthene-d10	19.603	164	224215m	13.53	0.00
32) Phenanthrene-d10	24.681	188	434786m	14.14	0.00
66) Chrysene-d12	33.810	240	575292m	16.19	0.03
88) Perylene-d12	38.705	264	183834m	5.65	0.03
90) 5(b)H-Cholane	34.199	217	137418m	15.44	0.03
Target Compounds					Qvalue
3) cis/trans Decalin	11.353	138	92538m	14.86	
4) C1-Decalins	12.270	152	133893m	21.50	
5) C2-Decalins	13.433	166	134257m	21.56	
6) C3-Decalins	15.758	180	143845m	23.10	
7) C4-Decalins	17.636	194	97912m	15.72	
8) Naphthalene	13.813	128	1221460m	36.97	
9) 2-Methylnaphthalene	16.071	142	702396m	35.44	
10) 1-Methylnaphthalene	16.384	142	339262m	17.33	
11) 2,6-Dimethylnaphthalene	18.195	156	252263m	14.63	
12) 1,6,7-Trimethylnaphtha...	21.012	170	25560m	1.58	
13) C2-Naphthalenes	18.508	156	890158m	26.94	
14) C3-Naphthalenes	21.056	170	480111m	14.53	
15) C4-Naphthalenes	22.755	184	289359m	8.76	
16) Benzothiophene	14.014	134	40573m	1.58	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.636	154	185184m	7.64	
23) Acenaphthylene	19.111	152	400623m	14.59	
24) Acenaphthene	19.715	154	41073m	2.35	
25) Dibenzofuran	20.296	168	232104m	9.56	
26) Fluorene	21.481	166	341950m	17.19	
27) 1-Methylfluorene	23.466	180	48082m	4.17	
28) C1-Fluorenes	23.353	180	170518m	8.57	
29) C2-Fluorenes	26.433	194	504133m	25.34	
30) C3-Fluorenes	27.563	208	550598m	27.68	
33) Carbazole	25.529	167	89616m	3.89	
34) Dibenzothiophene	24.342	184	163646m	5.21	
35) 4-Methyldibenzothiophene	25.840	198	96344m	3.98	
36) 2/3-Methyldibenzothiop...	26.150	198	89395m	3.69	
37) 1-Methyldibenzothiophene	26.489	198	16397m	0.68	
38) C2-Dibenzothiophenes	27.591	212	530292m	16.89	
39) C3-Dibenzothiophenes	28.778	226	911444m	29.02	
40) C4-Dibenzothiophenes	30.190	240	971578m	30.94	
41) Phenanthrene	24.766	178	822934m	22.76	
42) Anthracene	24.935	178	626590m	20.78	
43) 3-Methylphenanthrene	26.433	192	172312m	7.05	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2015.D
Acq On : 30 Nov 2013 1:10 pm
Operator : ECM(YMIAO)
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06609

Quant Time: Dec 06 08:47:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	165441m	6.77
45) 2-Methylanthracene	26.687	192	213221m	8.72
46) 4/9-Methylphenanthrene	26.828	192	181995m	7.44
47) 1-Methylphenanthrene	26.913	192	64074m	2.62
48) 3,6-Dimethylphenanthrene	27.987	206	72192m	3.37
49) Retene	30.642	234	65803m	5.89
50) C2-Phenanthrenes/Anthr...	28.354	206	1379307m	38.15
51) C3-Phenanthrenes/Anthr...	29.908	220	1672429m	46.26
52) C4-Phenanthrenes/Anthr...	31.744	234	1263564m	34.95
53) Naphthobenzothiophene	32.935	234	603657m	17.83
54) C1-Naphthobenzothiophenes	34.102	248	1888383m	55.76
55) C2-Naphthobenzothiophenes	35.366	262	3505127m	103.51
56) C3-Naphthobenzothiophenes	37.182	276	2764600m	81.64
57) C4-Naphthobenzothiophenes	38.187	290	1127559m	33.30
58) Fluoranthene	28.891	202	1722630m	49.18
59) Pyrene	29.682	202	2043536m	47.59
60) 2-Methylfluoranthene	30.445	216	190458m	7.46
61) Benzo(b)fluorene	31.038	216	299247m	13.80
62) C1-Fluoranthenes/Pyrenes	31.490	216	2172118m	62.01
63) C2-Fluoranthenes/Pyrenes	32.545	230	1974658m	56.37
64) C3-Fluoranthenes/Pyrenes	34.102	244	1342835m	38.33
65) C4-Fluoranthenes/Pyrenes	35.301	258	773710m	22.09
67) Benz(a)anthracene	33.745	228	993195m	29.15
68) Chrysene/Triphenylene	33.875	228	2079519m	56.64
69) C1-Chrysenes	35.107	242	1642044m	44.73
70) C2-Chrysenes	36.306	256	1704721m	46.44
71) C3-Chrysenes	37.506	270	1292944m	35.22
72) C4-Chrysenes	39.321	284	582805m	15.88
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	37.311	252	3193470m	87.79
78) Benzo(k,j)fluoranthene	37.408	252	716056m	21.34
79) Benzo(a)fluoranthene	37.635	252	180087m	5.37
80) Benzo(e)pyrene	38.316	252	1543610m	41.81
81) Benzo(a)pyrene	38.478	252	805473m	23.39
82) Indeno(1,2,3-c,d)pyrene	43.272	276	752856m	20.14
83) Dibenzo(a,h)anthracene	43.337	278	205261m	6.91
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	44.678	276	826624m	25.40
89) Perylene	38.835	252	30226214m	852.36
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2015.D
Acq On : 30 Nov 2013 1:10 pm
Operator : ECM(YMIAO)
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06609

Quant Time: Dec 06 08:47:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

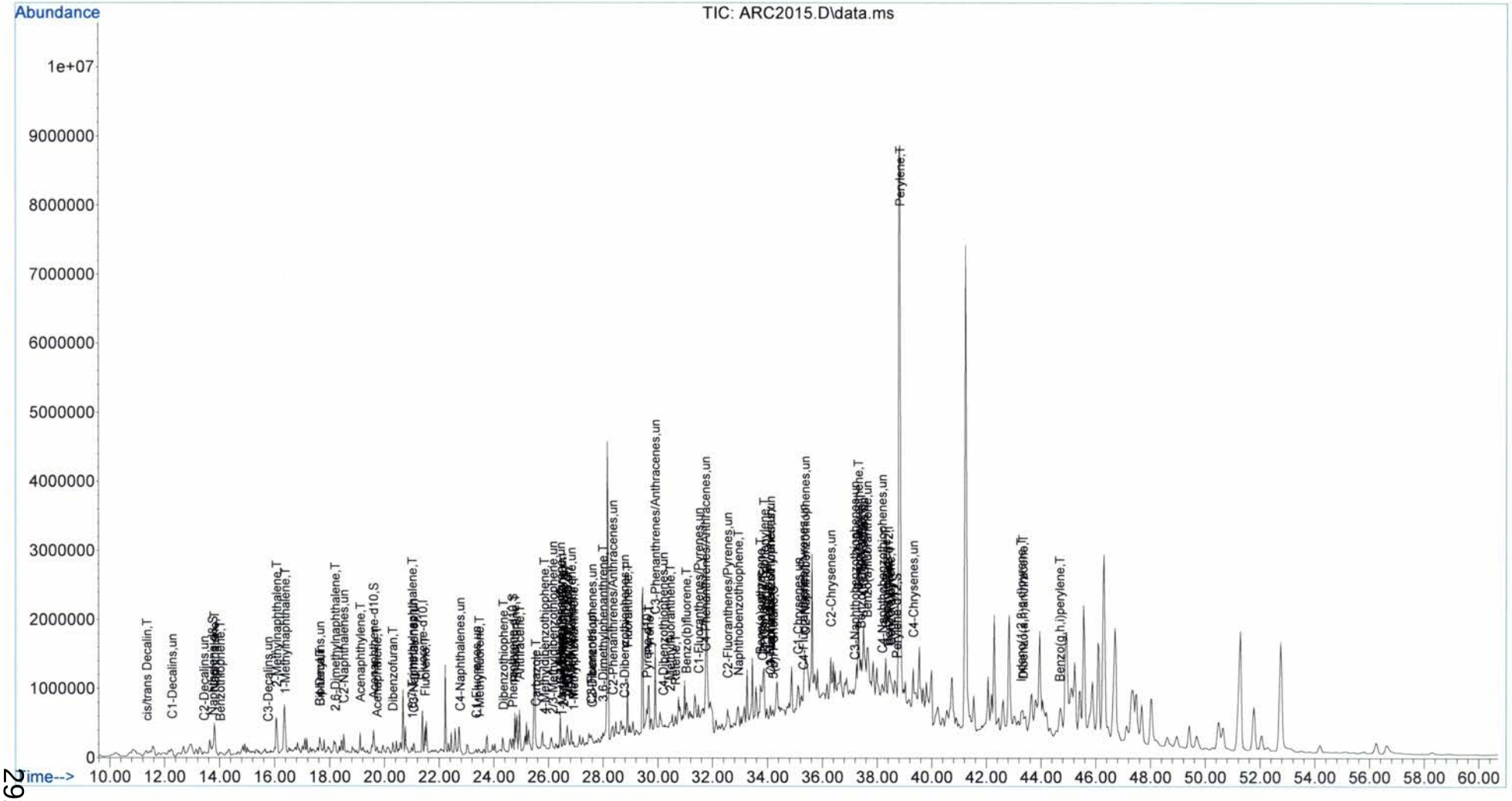
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2015.D
Acq On : 30 Nov 2013 1:10 pm
Operator : ECM(YMIAO)
Sample : SED-DA-038R (0-0.5)
Misc :
ALS Vial : 24 Sample Multiplier: 0.06609

Quant Time: Dec 06 08:47:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2018.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 14:16
Acq. Method File PAH-2012.M
Sample Name SED-DA-033R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 25
Sample Multiplier 0.06653
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC2018.D
SED-DA-033R (0-0.5)
11/30/2013 14:16
PAH-2012.M
15.03081317

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	27784	4.8074	5.6369
4)	C1-Decalins	12.27	37987	6.5728	7.7070
5)	C2-Decalins	13.43	23920	4.1388	4.8530
6)	C3-Decalins	15.76	20467	3.5413	4.1524
7)	C4-Decalins	18.31	31831	5.5076	6.4580
8)	Naphthalene	13.81	215780	7.0368	8.2511
9)+10)	C1-Naphthalenes	16.23	163533	5.3330	6.2532
13)	C2-Naphthalenes	18.53	197571	6.4430	7.5548
14)	C3-Naphthalenes	20.34	122908	4.0082	4.6998
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	17.64	88999	3.9551	4.6376
23)	Acenaphthylene	19.11	47292	1.8553	2.1754
24)	Acenaphthene	19.71	10300	0.6346	0.7441
25)	Dibenzofuran	20.32	50204	2.2275	2.6119
26)	Fluorene	21.48	74227	4.0205	4.7143
28)	C1-Fluorenes	23.47	40583	2.1982	2.5775
29)	C2-Fluorenes	25.47	156695	8.4875	9.9521
30)	C3-Fluorenes	27.56	74818	4.0526	4.7519
33)	Carbazole	25.53	18501	0.8707	1.0210
42)	Anthracene	24.94	73295	2.6341	3.0886
41)	Phenanthrene	24.77	264026	7.9155	9.2815
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	257815	7.7293	9.0631
50)	C2-Phenanthrenes/Anthracenes	28.16	334050	10.0149	11.7431
51)	C3-Phenanthrenes/Anthracenes	29.91	154880	4.6433	5.4446
52)	C4-Phenanthrenes/Anthracenes	30.64	190907	5.7234	6.7111
34)	Dibenzothiophene	24.34	56618	1.9541	2.2913
35)+36)+37)	C1-Dibenzothiophenes	26.16	56179	1.9390	2.2736
38)	C2-Dibenzothiophenes	27.25	81505	2.8131	3.2985
39)	C3-Dibenzothiophenes	28.78	112898	3.8966	4.5690
40)	C4-Dibenzothiophenes	30.19	114245	3.9431	4.6235
58)	Fluoranthene	28.89	293161	9.0705	10.6357
59)	Pyrene	29.65	252899	6.3838	7.4854
62)	C1-Fluoranthenes/Pyrenes	30.81	251358	7.7771	9.1191
63)	C2-Fluoranthenes/Pyrenes	32.68	530568	16.4159	19.2487
64)	C3-Fluoranthenes/Pyrenes	33.45	160199	4.9566	5.8119
65)	C4-Fluoranthenes/Pyrenes	35.63	311055	9.6242	11.2849
53)	Naphthobenzothiophene	32.93	171654	5.4940	6.4421
54)	C1-Naphthobenzothiophenes	34.10	199671	6.3907	7.4935
55)	C2-Naphthobenzothiophenes	35.37	422553	13.5244	15.8581
56)	C3-Naphthobenzothiophenes	37.18	278164	8.9030	10.4393
57)	C4-Naphthobenzothiophenes	37.99	202396	6.4780	7.5958
67)	Benz(a)anthracene	33.74	131003	4.1677	4.8868
68)	Chrysene/Triphenylene	33.87	325250	9.6025	11.2595
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	37.31	459841	12.3458	14.4762
78)	Benzo(k,j)fluoranthene	37.34	113448	3.3016	3.8714
79)	Benzo(a)fluoranthene	37.60	75536	2.1983	2.5776
80)	Benzo(e)pyrene	38.28	174893	4.6266	5.4250
81)	Benzo(a)pyrene	38.48	91057	2.5820	3.0276
89)	Perylene	38.77	8525210	234.8010	275.3185
82)	Indeno(1,2,3-c,d)pyrene	43.24	145654	3.8056	4.4623
83)	Dibenzo(a,h)anthracene	43.27	52219	1.7166	2.0128
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.61	139149	4.1752	4.8957

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	109819	5.9709	7.0012
10)	1-Methylnaphthalene	16.38	53714	2.9567	3.4669
11)	2,6-Dimethylnaphthalene	18.19	46011	2.8757	3.3719
12)	1,6,7-Trimethylnaphthalene	21.01	4663	0.3110	0.3647
27)	1-Methylfluorene	23.47	15095	1.4106	1.6540
35)	4-Methyldibenzothiophene	25.84	26471	1.1845	1.3889
36)	2/3-Methyldibenzothiophene	26.15	25275	1.1310	1.3262
37)	1-Methyldibenzothiophene	26.49	4433	0.1984	0.2326
43)	3-Methylphenanthrene	26.43	51780	2.2954	2.6915
44)	2-Methylphenanthrene	26.55	60335	2.6746	3.1361
45)	2-Methylanthracene	26.69	95732	4.2437	4.9760
46)	4/9-Methylphenanthrene	26.80	29168	1.2930	1.5161
47)	1-Methylphenanthrene	26.91	20800	0.9220	1.0812
48)	3,6-Dimethylphenanthrene	27.99	9480	0.4801	0.5629
49)	Retene	30.64	21952	2.1294	2.4968
60)	2-Methylfluoranthene	30.42	24688	1.0477	1.2285
61)	Benzo(b)fluorene	31.04	41514	2.0755	2.4337
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	13.75	370743	12.66	76.09
21)	Acenaphthene-d10	19.60	193065	12.55	75.40
32)	Phenanthrene-d10	24.68	402646	14.20	85.28
66)	Chrysene-d12	33.78	500414	15.26	91.75
88)	Perylene-d12	38.67	30227	0.91	5.45
90)	5(b)H-Cholane	34.17	164885	18.09	108.79
	Internal Standards				
1)	Fluorene-d10	21.39	264385	16.70	
31)	Pyrene-d10	29.60	565335	16.67	
73)	Benzo(a)pyrene-d12	38.38	478847	16.65	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2018.D
Acq On : 30 Nov 2013 2:16 pm
Operator : ECM(YMIAO)
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Dec 08 15:37:55 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.391	176	264385m	251.05	0.02
31) Pyrene-d10	29.597	212	565335m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	478847m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	370743m	12.66	0.00
21) Acenaphthene-d10	19.603	164	193065m	12.55	0.00
32) Phenanthrene-d10	24.681	188	402646m	14.20	0.00
66) Chrysene-d12	33.777	240	500414m	15.26	0.00
88) Perylene-d12	38.673	264	30227m	0.91	0.00
90) 5(b)H-Cholane	34.166	217	164885m	18.09	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	27784m	4.81	
4) C1-Decalins	12.270	152	37987m	6.57	
5) C2-Decalins	13.432	166	23920m	4.14	
6) C3-Decalins	15.758	180	20467m	3.54	
7) C4-Decalins	18.306	194	31831m	5.51	
8) Naphthalene	13.812	128	215780m	7.04	
9) 2-Methylnaphthalene	16.071	142	109819m	5.97	
10) 1-Methylnaphthalene	16.384	142	53714m	2.96	
11) 2,6-Dimethylnaphthalene	18.194	156	46011m	2.88	
12) 1,6,7-Trimethylnaphtha...	21.011	170	4663m	0.31	
13) C2-Naphthalenes	18.530	156	197571m	6.44	
14) C3-Naphthalenes	20.341	170	122908m	4.01	
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	17.635	154	88999m	3.96	
23) Acenaphthylene	19.111	152	47292m	1.86	
24) Acenaphthene	19.715	154	10300m	0.63	
25) Dibenzofuran	20.318	168	50204m	2.23	
26) Fluorene	21.481	166	74227m	4.02	
27) 1-Methylfluorene	23.466	180	15095m	1.41	
28) C1-Fluorenes	23.466	180	40583m	2.20	
29) C2-Fluorenes	25.472	194	156695m	8.49	
30) C3-Fluorenes	27.563	208	74818m	4.05	
33) Carbazole	25.529	167	18501m	0.87	
34) Dibenzothiophene	24.342	184	56618m	1.95	
35) 4-Methyldibenzothiophene	25.839	198	26471m	1.18	
36) 2/3-Methyldibenzothiop...	26.150	198	25275m	1.13	
37) 1-Methyldibenzothiophene	26.489	198	4433m	0.20	
38) C2-Dibenzothiophenes	27.252	212	81505m	2.81	
39) C3-Dibenzothiophenes	28.778	226	112898m	3.90	
40) C4-Dibenzothiophenes	30.190	240	114245m	3.94	
41) Phenanthrene	24.766	178	264026m	7.92	
42) Anthracene	24.935	178	73295m	2.63	
43) 3-Methylphenanthrene	26.433	192	51780m	2.30	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2018.D
Acq On : 30 Nov 2013 2:16 pm
Operator : ECM(YMIAO)
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Dec 08 15:37:55 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	60335m	2.67
45) 2-Methylanthracene	26.687	192	95732m	4.24
46) 4/9-Methylphenanthrene	26.800	192	29168m	1.29
47) 1-Methylphenanthrene	26.913	192	20800m	0.92
48) 3,6-Dimethylphenanthrene	27.986	206	9480m	0.48
49) Retene	30.642	234	21952m	2.13
50) C2-Phenanthrenes/Anthr...	28.156	206	334050m	10.01
51) C3-Phenanthrenes/Anthr...	29.908	220	154880m	4.64
52) C4-Phenanthrenes/Anthr...	30.642	234	190907m	5.72
53) Naphthobenzothiophene	32.934	234	171654m	5.49
54) C1-Naphthobenzothiophenes	34.101	248	199671m	6.39
55) C2-Naphthobenzothiophenes	35.366	262	422553m	13.52
56) C3-Naphthobenzothiophenes	37.181	276	278164m	8.90
57) C4-Naphthobenzothiophenes	37.992	290	202396m	6.48
58) Fluoranthene	28.891	202	293161m	9.07
59) Pyrene	29.653	202	252899m	6.38
60) 2-Methylfluoranthene	30.416	216	24688m	1.05
61) Benzo(b)fluorene	31.038	216	41514m	2.08
62) C1-Fluoranthenes/Pyrenes	30.812	216	251358m	7.78
63) C2-Fluoranthenes/Pyrenes	32.675	230	530568m	16.42
64) C3-Fluoranthenes/Pyrenes	33.453	244	160199m	4.96
65) C4-Fluoranthenes/Pyrenes	35.625	258	311055m	9.62
67) Benz(a)anthracene	33.745	228	131003m	4.17
68) Chrysene/Triphenylene	33.875	228	325250m	9.60
69) C1-Chrysenes	0.000		0	N.D. d
70) C2-Chrysenes	0.000		0	N.D. d
71) C3-Chrysenes	0.000		0	N.D. d
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	0.000		0	N.D. d
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.311	252	459841m	12.35
78) Benzo(k,j)fluoranthene	37.343	252	113448m	3.30
79) Benzo(a)fluoranthene	37.603	252	75536m	2.20
80) Benzo(e)pyrene	38.284	252	174893m	4.63
81) Benzo(a)pyrene	38.478	252	91057m	2.58
82) Indeno(1,2,3-c,d)pyrene	43.239	276	145654m	3.81
83) Dibenzo(a,h)anthracene	43.271	278	52219m	1.72
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d
87) Benzo(g,h,i)perylene	44.612	276	139149m	4.18
89) Perylene	38.770	252	8525205m	234.80
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	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\MS50182\
Data File : ARC2018.D
Acq On : 30 Nov 2013 2:16 pm
Operator : ECM(YMIAO)
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Dec 08 15:37:55 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

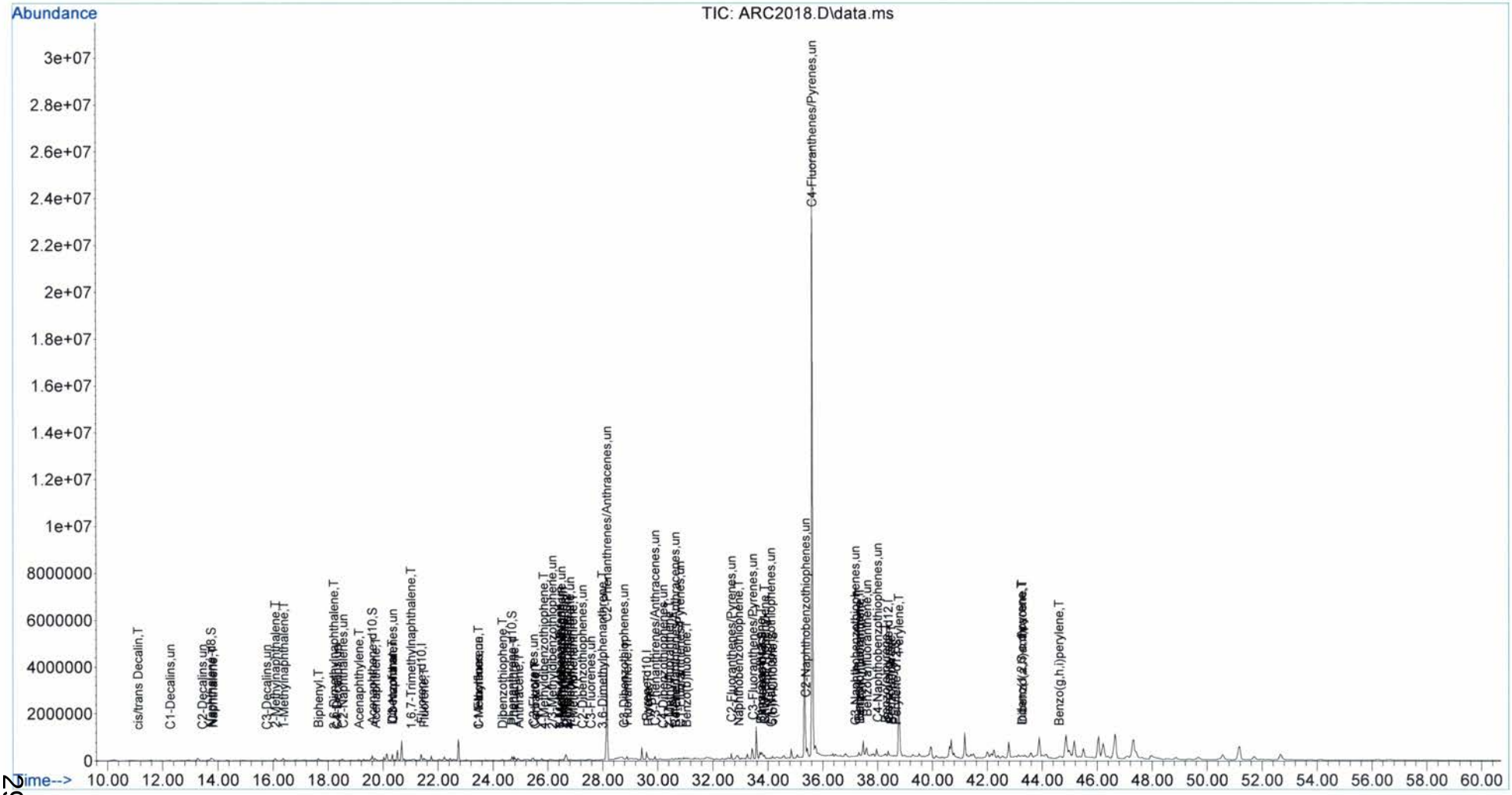
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2018.D
Acq On : 30 Nov 2013 2:16 pm
Operator : ECM(YMIAO)
Sample : SED-DA-033R (0-0.5)
Misc :
ALS Vial : 25 Sample Multiplier: 0.06653

Quant Time: Dec 08 15:37:55 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2021.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 15:23
Acq. Method File PAH-2012.M
Sample Name SED-DA-034R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 26
Sample Multiplier 0.06601
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

ARC2021.D
SED-DA-034R (0-0.5)
11/30/2013 15:23
PAH-2012.M
15.14921982

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.13	35892	6.9821	8.0927
4)	C1-Decalins	12.27	70198	13.6557	15.8277
5)	C2-Decalins	13.43	53519	10.4111	12.0671
6)	C3-Decalins	15.76	46553	9.0560	10.4965
7)	C4-Decalins	17.97	42410	8.2501	9.5623
8)	Naphthalene	13.81	541635	19.8586	23.0172
9)+10)	C1-Naphthalenes	16.23	402593	14.7607	17.1085
13)	C2-Naphthalenes	18.53	323852	11.8737	13.7623
14)	C3-Naphthalenes	21.06	177122	6.4940	7.5270
15)	C4-Naphthalenes	22.76	127230	4.6648	5.4067
16)	Benzothiophene	14.01	19343	0.9153	1.0609
17)	C1-Benzothiophenes	0.00	0	0.0000	0.0000
18)	C2-Benzothiophenes	0.00	0	0.0000	0.0000
19)	C3-Benzothiophenes	0.00	0	0.0000	0.0000
20)	C4-Benzothiophenes	0.00	0	0.0000	0.0000
22)	Biphenyl	17.64	98734	4.9330	5.7176
23)	Acenaphthylene	19.11	144996	6.3952	7.4124
24)	Acenaphthene	19.71	13508	0.9357	1.0846
25)	Dibenzofuran	20.30	92640	4.6212	5.3562
26)	Fluorene	21.48	125983	7.6721	8.8924
28)	C1-Fluorenes	23.47	60159	3.6635	4.2462
29)	C2-Fluorenes	25.78	109336	6.6583	7.7173
30)	C3-Fluorenes	27.56	140707	8.5687	9.9316
33)	Carbazole	25.53	45684	2.3285	2.6988
42)	Anthracene	24.94	230167	8.9582	10.3831
41)	Phenanthrene	24.77	444892	14.4450	16.7425
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	358111	11.6273	13.4767
50)	C2-Phenanthrenes/Anthracenes	28.16	426721	13.8550	16.0588
51)	C3-Phenanthrenes/Anthracenes	29.91	359947	11.6869	13.5458
52)	C4-Phenanthrenes/Anthracenes	30.64	345528	11.2188	13.0032
34)	Dibenzothiophene	24.34	71131	2.6588	3.0817
35)+36)+37)	C1-Dibenzothiophenes	26.16	69783	2.6084	3.0233
38)	C2-Dibenzothiophenes	27.25	130131	4.8641	5.6378
39)	C3-Dibenzothiophenes	28.78	166954	6.2406	7.2332
40)	C4-Dibenzothiophenes	29.57	138980	5.1949	6.0212
58)	Fluoranthene	28.89	773529	25.9197	30.0424
59)	Pyrene	29.65	679356	18.5720	21.5260
62)	C1-Fluoranthenes/Pyrenes	30.81	541054	18.1298	21.0135
63)	C2-Fluoranthenes/Pyrenes	32.55	511527	17.1404	19.8667
64)	C3-Fluoranthenes/Pyrenes	34.56	339480	11.3754	13.1848
65)	C4-Fluoranthenes/Pyrenes	35.37	534004	17.8936	20.7397
53)	Naphthobenzothiophene	32.93	252545	8.7539	10.1463
54)	C1-Naphthobenzothiophenes	34.10	339737	11.7763	13.6493
55)	C2-Naphthobenzothiophenes	35.37	563877	19.5456	22.6544
56)	C3-Naphthobenzothiophenes	37.18	334512	11.5951	13.4394
57)	C4-Naphthobenzothiophenes	37.99	188596	6.5373	7.5771
67)	Benz(a)anthracene	33.75	403974	13.9185	16.1324
68)	Chrysene/Triphenylene	33.87	791679	25.3130	29.3392
69)	C1-Chrysenes	35.63	1680500	53.7319	62.2784
70)	C2-Chrysenes	36.82	293793	9.3937	10.8878
71)	C3-Chrysenes	37.51	190775	6.0998	7.0700
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.31	1418280	44.8869	52.0264
78)	Benzo(k,j)fluoranthene	37.41	194860	6.6850	7.7483
79)	Benzo(a)fluoranthene	37.64	145827	5.0028	5.7985
80)	Benzo(e)pyrene	38.28	567067	17.6836	20.4963
81)	Benzo(a)pyrene	38.48	285086	9.5294	11.0451
89)	Perylene	38.80	19805000	643.0034	745.2775
82)	Indeno(1,2,3-c,d)pyrene	43.27	420114	12.9392	14.9973
83)	Dibenzo(a,h)anthracene	43.30	122403	4.7432	5.4976
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	44.68	359693	12.7226	14.7463

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	265714	16.2425	18.8260
10)	1-Methylnaphthalene	16.38	136879	8.4711	9.8184
11)	2,6-Dimethylnaphthalene	18.19	75749	5.3228	6.1694
12)	1,6,7-Trimethylnaphthalene	21.01	8667	0.6499	0.7532
27)	1-Methylfluorene	23.47	17804	1.8705	2.1680
35)	4-Methyldibenzothiophene	25.84	35915	1.7405	2.0173
36)	2/3-Methyldibenzothiophene	26.15	25340	1.2280	1.4233
37)	1-Methyldibenzothiophene	26.49	8528	0.4133	0.4790
43)	3-Methylphenanthrene	26.43	68970	3.3111	3.8378
44)	2-Methylphenanthrene	26.55	82218	3.9472	4.5750
45)	2-Methylanthracene	26.69	118579	5.6928	6.5983
46)	4/9-Methylphenanthrene	26.80	52230	2.5075	2.9063
47)	1-Methylphenanthrene	26.91	36114	1.7338	2.0095
48)	3,6-Dimethylphenanthrene	27.99	16272	0.8924	1.0344
49)	Retene	30.64	47725	5.0136	5.8110
60)	2-Methylfluoranthene	30.42	59566	2.7376	3.1731
61)	Benzo(b)fluorene	31.04	87999	4.7648	5.5227
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	13.75	315681	12.12	73.41
21)	Acenaphthene-d10	19.60	184014	13.45	81.43
32)	Phenanthrene-d10	24.68	373180	14.25	86.28
66)	Chrysene-d12	33.81	468887	15.49	93.83
88)	Perylene-d12	38.71	60381	2.14	12.94
90)	5(b)H-Cholane	34.17	155627	20.13	121.99
	Internal Standards				
1)	Fluorene-d10	21.39	233320	16.57	
31)	Pyrene-d10	29.60	517929	16.54	
73)	Benzo(a)pyrene-d12	38.38	403038	16.52	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2021.D
Acq On : 30 Nov 2013 3:23 pm
Operator : ECM(YMIAO)
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06601

Quant Time: Dec 06 08:59:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.392	176	233320m	251.05	0.02
31) Pyrene-d10	29.597	212	517929m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	403038m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	315681m	12.12	0.00
21) Acenaphthene-d10	19.603	164	184014m	13.45	0.00
32) Phenanthrene-d10	24.681	188	373180m	14.25	0.00
66) Chrysene-d12	33.810	240	468887m	15.49	0.03
88) Perylene-d12	38.705	264	60381m	2.14	0.03
90) 5(b)H-Cholane	34.166	217	155627m	20.13	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.130	138	35892m	6.98	
4) C1-Decalins	12.270	152	70198m	13.66	
5) C2-Decalins	13.433	166	53519m	10.41	
6) C3-Decalins	15.758	180	46553m	9.06	
7) C4-Decalins	17.971	194	42410m	8.25	
8) Naphthalene	13.813	128	541635m	19.86	
9) 2-Methylnaphthalene	16.071	142	265714m	16.24	
10) 1-Methylnaphthalene	16.384	142	136879m	8.47	
11) 2,6-Dimethylnaphthalene	18.195	156	75749m	5.32	
12) 1,6,7-Trimethylnaphtha...	21.012	170	8667m	0.65	
13) C2-Naphthalenes	18.530	156	323852m	11.87	
14) C3-Naphthalenes	21.056	170	177122m	6.49	
15) C4-Naphthalenes	22.755	184	127230m	4.66	
16) Benzothiophene	14.014	134	19343m	0.92	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.636	154	98734m	4.93	
23) Acenaphthylene	19.111	152	144996m	6.40	
24) Acenaphthene	19.715	154	13508m	0.94	
25) Dibenzofuran	20.296	168	92640m	4.62	
26) Fluorene	21.481	166	125983m	7.67	
27) 1-Methylfluorene	23.466	180	17804m	1.87	
28) C1-Fluorenes	23.466	180	60159m	3.66	
29) C2-Fluorenes	25.783	194	109336m	6.66	
30) C3-Fluorenes	27.563	208	140707m	8.57	
33) Carbazole	25.529	167	45684m	2.33	
34) Dibenzothiophene	24.342	184	71131m	2.66	
35) 4-Methyldibenzothiophene	25.839	198	35915m	1.74	
36) 2/3-Methyldibenzothiop...	26.150	198	25340m	1.23	
37) 1-Methyldibenzothiophene	26.489	198	8528m	0.41	
38) C2-Dibenzothiophenes	27.252	212	130131m	4.86	
39) C3-Dibenzothiophenes	28.778	226	166954m	6.24	
40) C4-Dibenzothiophenes	29.569	240	138980m	5.19	
41) Phenanthrene	24.766	178	444892m	14.45	
42) Anthracene	24.935	178	230167m	8.96	
43) 3-Methylphenanthrene	26.433	192	68970m	3.31	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2021.D
Acq On : 30 Nov 2013 3:23 pm
Operator : ECM(YMIAO)
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06601

Quant Time: Dec 06 08:59:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
44) 2-Methylphenanthrene	26.546	192	82218m	3.95	
45) 2-Methylanthracene	26.687	192	118579m	5.69	
46) 4/9-Methylphenanthrene	26.800	192	52230m	2.51	
47) 1-Methylphenanthrene	26.913	192	36114m	1.73	
48) 3,6-Dimethylphenanthrene	27.987	206	16272m	0.89	
49) Retene	30.642	234	47725m	5.01	
50) C2-Phenanthrenes/Anthr...	28.156	206	426721m	13.86	
51) C3-Phenanthrenes/Anthr...	29.908	220	359947m	11.69	
52) C4-Phenanthrenes/Anthr...	30.642	234	345528m	11.22	
53) Naphthobenzothiophene	32.935	234	252545m	8.75	
54) C1-Naphthobenzothiophenes	34.102	248	339737m	11.78	
55) C2-Naphthobenzothiophenes	35.366	262	563877m	19.55	
56) C3-Naphthobenzothiophenes	37.182	276	334512m	11.60	
57) C4-Naphthobenzothiophenes	37.992	290	188596m	6.54	
58) Fluoranthene	28.891	202	773529m	25.92	
59) Pyrene	29.654	202	679356m	18.57	
60) 2-Methylfluoranthene	30.416	216	59566m	2.74	
61) Benzo(b)fluorene	31.038	216	87999m	4.76	
62) C1-Fluoranthenes/Pyrenes	30.812	216	541054m	18.13	
63) C2-Fluoranthenes/Pyrenes	32.545	230	511527m	17.14	
64) C3-Fluoranthenes/Pyrenes	34.556	244	339480m	11.38	
65) C4-Fluoranthenes/Pyrenes	35.366	258	534004m	17.89	
67) Benz(a)anthracene	33.745	228	403974m	13.92	
68) Chrysene/Triphenylene	33.875	228	791679m	25.31	
69) C1-Chrysenes	35.625	242	1680499m	53.73	
70) C2-Chrysenes	36.825	256	293793m	9.39	
71) C3-Chrysenes	37.506	270	190775m	6.10	
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	37.311	252	1418282m	44.89	
78) Benzo(k,j)fluoranthene	37.408	252	194860m	6.68	
79) Benzo(a)fluoranthene	37.635	252	145827m	5.00	
80) Benzo(e)pyrene	38.284	252	567067m	17.68	
81) Benzo(a)pyrene	38.478	252	285086m	9.53	
82) Indeno(1,2,3-c,d)pyrene	43.272	276	420114m	12.94	
83) Dibenzo(a,h)anthracene	43.304	278	122403m	4.74	
84) C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85) C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86) C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87) Benzo(g,h,i)perylene	44.678	276	359693m	12.72	
89) Perylene	38.803	252	19805048m	643.00	
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\MS50182\
Data File : ARC2021.D
Acq On : 30 Nov 2013 3:23 pm
Operator : ECM(YMIAO)
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06601

Quant Time: Dec 06 08:59:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

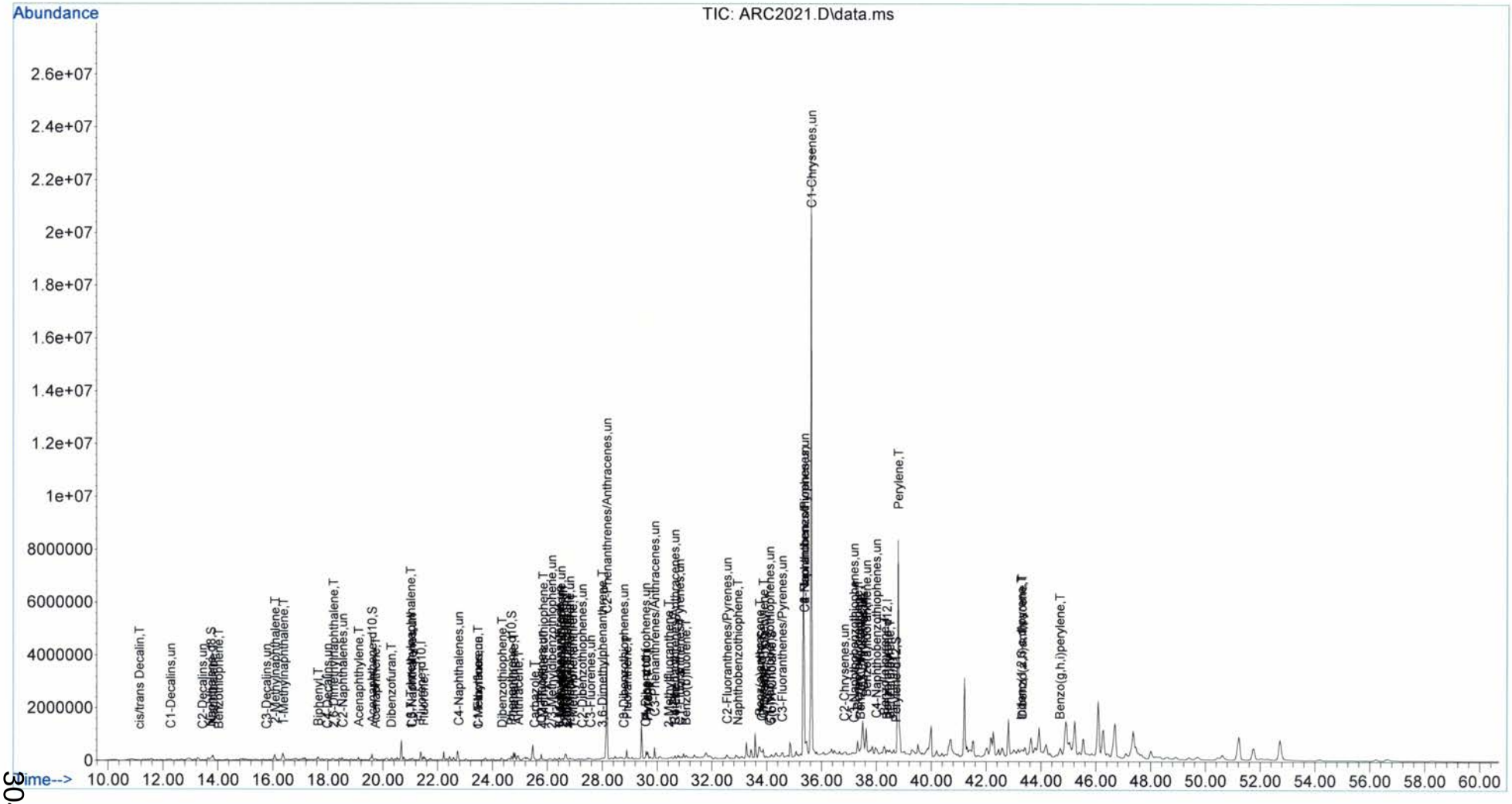
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2021.D
Acq On : 30 Nov 2013 3:23 pm
Operator : ECM(YMIAO)
Sample : SED-DA-034R (0-0.5)
Misc :
ALS Vial : 26 Sample Multiplier: 0.06601

Quant Time: Dec 06 08:59:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2024.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 16:29
Acq. Method File PAH-2012.M
Sample Name SED-DA-035R (0-0.5)
Misc Info 0
Instrument Name GCMS5
Vial Number 27
Sample Multiplier 0.06662
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

ARC2024.D
SED-DA-035R (0-0.5)
11/30/2013 16:29
PAH-2012.M
15.01050736

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.13	61223	9.9451	11.8090
4)	C1-Decalins	12.27	91518	14.8663	17.6525
5)	C2-Decalins	13.43	70179	11.3999	13.5365
6)	C3-Decalins	16.05	50752	8.2442	9.7894
7)	C4-Decalins	18.31	49167	7.9867	9.4836
8)	Naphthalene	13.81	630433	19.3013	22.9187
9)+10)	C1-Naphthalenes	16.23	449487	13.7615	16.3406
13)	C2-Naphthalenes	18.51	433126	13.2606	15.7459
14)	C3-Naphthalenes	20.43	178771	5.4732	6.4990
15)	C4-Naphthalenes	22.76	175596	5.3760	6.3836
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	17.64	117092	4.8852	5.8007
23)	Acenaphthylene	19.11	177863	6.5507	7.7785
24)	Acenaphthene	19.71	23246	1.3447	1.5967
25)	Dibenzofuran	20.30	112488	4.6856	5.5638
26)	Fluorene	21.48	159121	8.0916	9.6081
28)	C1-Fluorenes	23.47	82960	4.2187	5.0093
29)	C2-Fluorenes	0.00	0	0.0000	0.0000
30)	C3-Fluorenes	0.00	0	0.0000	0.0000
33)	Carbazole	25.53	49673	2.1185	2.5155
42)	Anthracene	24.94	293894	9.5712	11.3651
41)	Phenanthrene	24.77	473930	12.8758	15.2890
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	464688	12.6248	14.9909
50)	C2-Phenanthrenes/Anthracenes	28.16	627493	17.0479	20.2430
51)	C3-Phenanthrenes/Anthracenes	29.77	536567	14.5776	17.3097
52)	C4-Phenanthrenes/Anthracenes	31.74	482157	13.0994	15.5544
34)	Dibenzothiophene	24.34	85990	2.6895	3.1936
35)+36)+37)	C1-Dibenzothiophenes	26.16	90879	2.8424	3.3751
38)	C2-Dibenzothiophenes	27.25	212662	6.6514	7.8980
39)	C3-Dibenzothiophenes	28.78	284558	8.9001	10.5681
40)	C4-Dibenzothiophenes	30.19	240433	7.5200	8.9294
58)	Fluoranthene	28.89	910870	25.5392	30.3258
59)	Pyrene	29.65	893126	20.4302	24.2592
62)	C1-Fluoranthenes/Pyrenes	30.81	792427	22.2183	26.3824
63)	C2-Fluoranthenes/Pyrenes	32.55	798857	22.3986	26.5965
64)	C3-Fluoranthenes/Pyrenes	34.56	454049	12.7307	15.1167
65)	C4-Fluoranthenes/Pyrenes	35.63	416767	11.6854	13.8755
53)	Naphthobenzothiophene	32.93	339963	9.8604	11.7084
54)	C1-Naphthobenzothiophenes	34.10	559116	16.2168	19.2561
55)	C2-Naphthobenzothiophenes	35.37	1052060	30.5144	36.2333
56)	C3-Naphthobenzothiophenes	37.18	752388	21.8225	25.9125
57)	C4-Naphthobenzothiophenes	38.19	309710	8.9829	10.6665
67)	Benz(a)anthracene	33.75	503332	14.5108	17.2304
68)	Chrysene/Triphenylene	33.87	944967	25.2819	30.0202
69)	C1-Chrysenes	35.63	1050630	28.1087	33.3768
70)	C2-Chrysenes	36.31	693528	18.5548	22.0323
71)	C3-Chrysenes	38.80	498505	13.3371	15.8368
72)	C4-Chrysenes	0.00	0	0.0000	0.0000
77)	Benzo(b)fluoranthene	37.31	1649470	44.1932	52.4758
78)	Benzo(k,j)fluoranthene	37.41	236347	6.8640	8.1504
79)	Benzo(a)fluoranthene	37.57	25893	0.7520	0.8929
80)	Benzo(e)pyrene	38.28	664509	17.5425	20.8303
81)	Benzo(a)pyrene	38.48	342678	9.6969	11.5143
89)	Perylene	38.80	25099100	689.8434	819.1334
82)	Indeno(1,2,3-c,d)pyrene	43.24	374433	9.7626	11.5923
83)	Dibenzo(a,h)anthracene	43.30	87998	2.8867	3.4277
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	44.64	419545	12.5625	14.9170

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	301875	15.4089	18.2968
10)	1-Methylnaphthalene	16.38	147612	7.6283	9.0579
11)	2,6-Dimethylnaphthalene	18.19	115214	6.7604	8.0274
12)	1,6,7-Trimethylnaphthalene	21.01	12349	0.7732	0.9181
27)	1-Methylfluorene	23.47	24455	2.1455	2.5475
35)	4-Methyldibenzothiophene	25.84	47228	1.9151	2.2740
36)	2/3-Methyldibenzothiophene	26.15	35487	1.4390	1.7087
37)	1-Methyldibenzothiophene	26.49	8164	0.3311	0.3931
43)	3-Methylphenanthrene	26.43	92435	3.7132	4.4092
44)	2-Methylphenanthrene	26.55	100784	4.0486	4.8074
45)	2-Methylanthracene	26.69	155596	6.2505	7.4220
46)	4/9-Methylphenanthrene	26.83	72466	2.9111	3.4566
47)	1-Methylphenanthrene	26.91	43407	1.7437	2.0705
48)	3,6-Dimethylphenanthrene	27.99	28134	1.2911	1.5331
49)	Retene	30.64	26508	2.3301	2.7668
60)	2-Methylfluoranthene	30.42	78482	3.0182	3.5839
61)	Benzo(b)fluorene	31.04	134393	6.0889	7.2301
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	13.75	395893	12.69	76.18
21)	Acenaphthene-d10	19.60	234284	14.30	85.78
32)	Phenanthrene-d10	24.68	439356	14.04	84.22
66)	Chrysene-d12	33.81	560944	15.50	93.07
88)	Perylene-d12	38.71	126079	3.78	22.66
90)	5(b)H-Cholane	34.17	219694	24.06	144.46
	Internal Standards				
1)	Fluorene-d10	21.39	281995	16.72	
31)	Pyrene-d10	29.60	624693	16.70	
73)	Benzo(a)pyrene-d12	38.38	480493	16.68	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2024.D
Acq On : 30 Nov 2013 4:29 pm
Operator : ECM(YMIAO)
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06662

Quant Time: Dec 06 09:09:37 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.392	176	281995m	251.05	0.02
31) Pyrene-d10	29.597	212	624693m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	480493m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	395893m	12.69	0.00
21) Acenaphthene-d10	19.603	164	234284m	14.30	0.00
32) Phenanthrene-d10	24.681	188	439356m	14.04	0.00
66) Chrysene-d12	33.810	240	560944m	15.50	0.03
88) Perylene-d12	38.705	264	126079m	3.78	0.03
90) 5(b)H-Cholane	34.166	217	219694m	24.06	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.130	138	61223m	9.95	
4) C1-Decalins	12.270	152	91518m	14.87	
5) C2-Decalins	13.433	166	70179m	11.40	
6) C3-Decalins	16.048	180	50752m	8.24	
7) C4-Decalins	18.306	194	49167m	7.99	
8) Naphthalene	13.813	128	630433m	19.30	
9) 2-Methylnaphthalene	16.071	142	301875m	15.41	
10) 1-Methylnaphthalene	16.384	142	147612m	7.63	
11) 2,6-Dimethylnaphthalene	18.195	156	115214m	6.76	
12) 1,6,7-Trimethylnaphtha...	21.011	170	12349m	0.77	
13) C2-Naphthalenes	18.507	156	433126m	13.26	
14) C3-Naphthalenes	20.430	170	178771m	5.47	
15) C4-Naphthalenes	22.755	184	175596m	5.38	
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	17.636	154	117092m	4.89	
23) Acenaphthylene	19.111	152	177863m	6.55	
24) Acenaphthene	19.715	154	23246m	1.34	
25) Dibenzofuran	20.296	168	112488m	4.69	
26) Fluorene	21.481	166	159121m	8.09	
27) 1-Methylfluorene	23.466	180	24455m	2.15	
28) C1-Fluorenes	23.466	180	82960m	4.22	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.529	167	49673m	2.12	
34) Dibenzothiophene	24.342	184	85990m	2.69	
35) 4-Methyldibenzothiophene	25.839	198	47228m	1.92	
36) 2/3-Methyldibenzothiop...	26.150	198	35487m	1.44	
37) 1-Methyldibenzothiophene	26.489	198	8164m	0.33	
38) C2-Dibenzothiophenes	27.252	212	212662m	6.65	
39) C3-Dibenzothiophenes	28.778	226	284558m	8.90	
40) C4-Dibenzothiophenes	30.190	240	240433m	7.52	
41) Phenanthrene	24.766	178	473930m	12.88	
42) Anthracene	24.935	178	293894m	9.57	
43) 3-Methylphenanthrene	26.433	192	92435m	3.71	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2024.D
Acq On : 30 Nov 2013 4:29 pm
Operator : ECM(YMIAO)
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06662

Quant Time: Dec 06 09:09:37 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	100784m	4.05
45) 2-Methylanthracene	26.687	192	155596m	6.25
46) 4/9-Methylphenanthrene	26.828	192	72466m	2.91
47) 1-Methylphenanthrene	26.913	192	43407m	1.74
48) 3,6-Dimethylphenanthrene	27.987	206	28134m	1.29
49) Retene	30.642	234	26508m	2.33
50) C2-Phenanthrenes/Anthr...	28.156	206	627493m	17.05
51) C3-Phenanthrenes/Anthr...	29.767	220	536567m	14.58
52) C4-Phenanthrenes/Anthr...	31.744	234	482157m	13.10
53) Naphthobenzothiophene	32.934	234	339963m	9.86
54) C1-Naphthobenzothiophenes	34.102	248	559116m	16.22
55) C2-Naphthobenzothiophenes	35.366	262	1052063m	30.51
56) C3-Naphthobenzothiophenes	37.181	276	752388m	21.82
57) C4-Naphthobenzothiophenes	38.186	290	309710m	8.98
58) Fluoranthene	28.891	202	910870m	25.54
59) Pyrene	29.653	202	893126m	20.43
60) 2-Methylfluoranthene	30.416	216	78482m	3.02
61) Benzo(b)fluorene	31.038	216	134393m	6.09
62) C1-Fluoranthenes/Pyrenes	30.812	216	792427m	22.22
63) C2-Fluoranthenes/Pyrenes	32.545	230	798857m	22.40
64) C3-Fluoranthenes/Pyrenes	34.555	244	454049m	12.73
65) C4-Fluoranthenes/Pyrenes	35.625	258	416767m	11.69
67) Benz(a)anthracene	33.745	228	503332m	14.51
68) Chrysene/Triphenylene	33.875	228	944967m	25.28
69) C1-Chrysenes	35.625	242	1050625m	28.11
70) C2-Chrysenes	36.306	256	693528m	18.55
71) C3-Chrysenes	38.802	270	498505m	13.34
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	37.311	252	1649469m	44.19
78) Benzo(k,j)fluoranthene	37.408	252	236347m	6.86
79) Benzo(a)fluoranthene	37.571	252	25893m	0.75
80) Benzo(e)pyrene	38.284	252	664509m	17.54
81) Benzo(a)pyrene	38.478	252	342678m	9.70
82) Indeno(1,2,3-c,d)pyrene	43.239	276	374433m	9.76
83) Dibenzo(a,h)anthracene	43.304	278	87998m	2.89
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	44.645	276	419545m	12.56
89) Perylene	38.802	252	25099078m	689.84
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	0.000		0	N.D. d
95) C28(20S)-TAS	0.000		0	N.D. d
96) C27(20R)-TAS	0.000		0	N.D. d
97) C28(20R)-TAS	0.000		0	N.D. d

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2024.D
Acq On : 30 Nov 2013 4:29 pm
Operator : ECM(YMIAO)
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06662

Quant Time: Dec 06 09:09:37 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

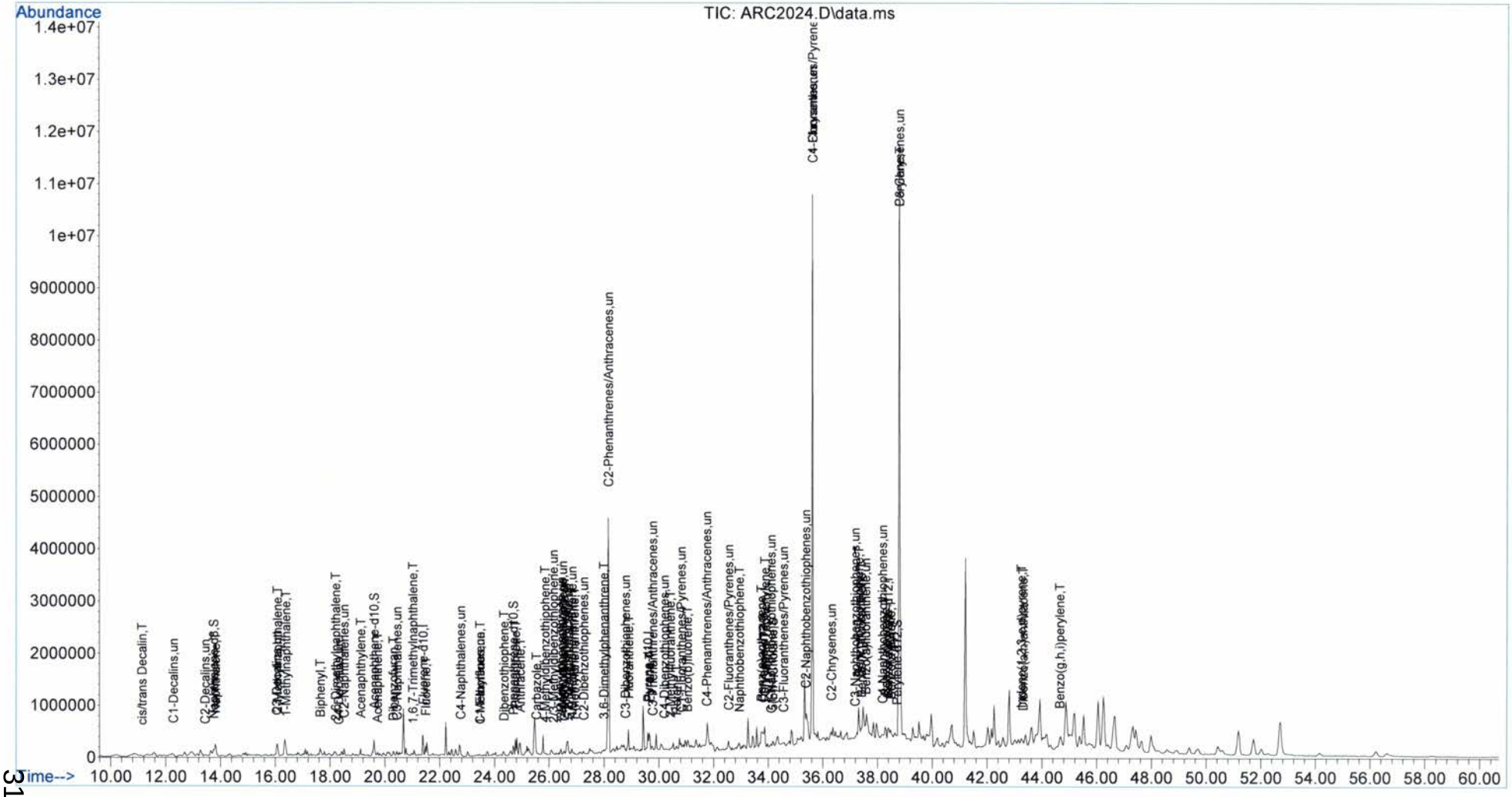
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2024.D
Acq On : 30 Nov 2013 4:29 pm
Operator : ECM(YMIAO)
Sample : SED-DA-035R (0-0.5)
Misc :
ALS Vial : 27 Sample Multiplier: 0.06662

Quant Time: Dec 06 09:09:37 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

Data File Name ARC2027.D
Data File Path C:\msdchem\2\data\MS50182\
Operator ECM(YMIAO)
Date Acquired 11/30/2013 17:35
Acq. Method File PAH-2012.M
Sample Name SED-DA-DUP-10-112013
Misc Info 0
Instrument Name GCMS5
Vial Number 28
Sample Multiplier 0.0664
Sample Amount 0

Surrogate/Internal Multiplier Factor: 1.00

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

Copy data below to Spread Sheet

ARC2027.D
SED-DA-DUP-10-112013
11/30/2013 17:35
PAH-2012.M
15.06024096

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
3)	cis/trans Decalin	11.11	30751	6.2584	7.3653
4)	C1-Decalins	12.27	47753	9.7186	11.4375
5)	C2-Decalins	13.43	32598	6.6343	7.8077
6)	C3-Decalins	15.76	33212	6.7593	7.9548
7)	C4-Decalins	17.97	25768	5.2443	6.1718
8)	Naphthalene	13.81	288773	11.0767	13.0358
9)+10)	C1-Naphthalenes	16.23	225866	8.6637	10.1961
13)	C2-Naphthalenes	18.53	248288	9.5238	11.2083
14)	C3-Naphthalenes	21.06	242500	9.3018	10.9470
15)	C4-Naphthalenes	22.76	207203	7.9479	9.3536
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	17.64	98873	5.1682	6.0822
23)	Acenaphthylene	19.11	53794	2.4823	2.9213
24)	Acenaphthene	19.71	10678	0.7739	0.9107
25)	Dibenzofuran	20.30	68241	3.5614	4.1912
26)	Fluorene	21.48	89506	5.7025	6.7111
28)	C1-Fluorenes	23.47	41973	2.6741	3.1471
29)	C2-Fluorenes	25.78	76157	4.8520	5.7102
30)	C3-Fluorenes	27.56	67730	4.3151	5.0783
33)	Carbazole	25.53	20353	1.0912	1.2842
42)	Anthracene	24.94	87455	3.5803	4.2136
41)	Phenanthrene	24.77	312390	10.6688	12.5558
43)+44)+45)+46)+47)	C1-Phenanthrenes/Anthracenes	26.68	266906	9.1154	10.7277
50)	C2-Phenanthrenes/Anthracenes	28.16	321646	10.9850	12.9278
51)	C3-Phenanthrenes/Anthracenes	29.91	209373	7.1505	8.4153
52)	C4-Phenanthrenes/Anthracenes	30.64	154109	5.2632	6.1941
34)	Dibenzothiophene	24.34	62784	2.4685	2.9051
35)+36)+37)	C1-Dibenzothiophenes	26.16	66804	2.6266	3.0911
38)	C2-Dibenzothiophenes	27.25	98333	3.8662	4.5500
39)	C3-Dibenzothiophenes	28.78	133999	5.2685	6.2003
40)	C4-Dibenzothiophenes	30.19	122371	4.8113	5.6623
58)	Fluoranthene	28.89	349237	12.3092	14.4863
59)	Pyrene	29.65	295275	8.4907	9.9924
62)	C1-Fluoranthenes/Pyrenes	30.81	300080	10.5767	12.4473
63)	C2-Fluoranthenes/Pyrenes	32.68	410941	14.4841	17.0459
64)	C3-Fluoranthenes/Pyrenes	34.56	187288	6.6012	7.7687
65)	C4-Fluoranthenes/Pyrenes	35.66	337591	11.8987	14.0033
53)	Naphthobenzothiophene	32.93	233824	8.5253	10.0332
54)	C1-Naphthobenzothiophenes	34.10	246027	8.9702	10.5568
55)	C2-Naphthobenzothiophenes	35.37	494283	18.0218	21.2092
56)	C3-Naphthobenzothiophenes	37.18	283673	10.3429	12.1722
57)	C4-Naphthobenzothiophenes	37.99	164633	6.0026	7.0643
67)	Benz(a)anthracene	33.75	161361	5.8478	6.8821
68)	Chrysene/Triphenylene	33.87	393553	13.2360	15.5770
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	37.31	574168	19.2612	22.6680
78)	Benzo(k,j)fluoranthene	37.38	58620	2.1316	2.5086
79)	Benzo(a)fluoranthene	0.00	0	0.0000	0.0000
80)	Benzo(e)pyrene	38.28	233362	7.7136	9.0778
81)	Benzo(a)pyrene	38.48	109962	3.8960	4.5851
89)	Perylene	38.77	8187130	281.7458	331.5778
82)	Indeno(1,2,3-c,d)pyrene	43.24	155722	5.0837	5.9828
83)	Dibenzo(a,h)anthracene	43.27	47598	1.9550	2.3008
84)	C1-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
85)	C2-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
86)	C3-Dibenzo(a,h)anthracenes	0.00	0	0.0000	0.0000
87)	Benzo(g,h,i)perylene	44.61	142927	5.3586	6.3063

#	Compound Name	Ret Time (minute)	Target Response (area)	Concentration	Su. Corrected Concentration
	Individual Alkyl Isomers and Hopanes				
9)	2-Methylnaphthalene	16.07	152388	9.7455	11.4691
10)	1-Methylnaphthalene	16.38	73478	4.7574	5.5988
11)	2,6-Dimethylnaphthalene	18.19	65110	4.7865	5.6331
12)	1,6,7-Trimethylnaphthalene	20.99	7066	0.5543	0.6523
27)	1-Methylfluorene	23.47	17501	1.9236	2.2639
35)	4-Methyldibenzothiophene	25.84	30954	1.5779	1.8569
36)	2/3-Methyldibenzothiophene	26.15	29782	1.5181	1.7866
37)	1-Methyldibenzothiophene	26.49	6068	0.3093	0.3640
43)	3-Methylphenanthrene	26.43	55197	2.7873	3.2803
44)	2-Methylphenanthrene	26.55	66961	3.3814	3.9795
45)	2-Methylanthracene	26.69	88469	4.4675	5.2577
46)	4/9-Methylphenanthrene	26.80	33720	1.7028	2.0040
47)	1-Methylphenanthrene	26.91	22559	1.1392	1.3407
48)	3,6-Dimethylphenanthrene	27.99	10595	0.6112	0.7193
49)	Retene	30.64	21819	2.4110	2.8374
60)	2-Methylfluoranthene	30.42	27929	1.3502	1.5890
61)	Benzo(b)fluorene	31.04	51349	2.9245	3.4418
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	13.75	328607	13.20	79.48
21)	Acenaphthene-d10	19.60	178229	13.63	82.03
32)	Phenanthrene-d10	24.68	351477	14.12	84.97
66)	Chrysene-d12	33.81	452636	15.73	94.72
88)	Perylene-d12	38.71	38752	1.45	8.75
90)	5(b)H-Cholane	34.17	154962	21.25	128.00
	Internal Standards				
1)	Fluorene-d10	21.39	224335	16.67	
31)	Pyrene-d10	29.60	495303	16.64	
73)	Benzo(a)pyrene-d12	38.38	382486	16.62	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2027.D
Acq On : 30 Nov 2013 5:35 pm
Operator : ECM(YMIAO)
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 28 Sample Multiplier: 0.0664

Quant Time: Dec 06 09:20:01 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.392	176	224335m	251.05	0.02
31) Pyrene-d10	29.597	212	495303m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	382486m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	328607m	13.20	0.00
21) Acenaphthene-d10	19.603	164	178229m	13.63	0.00
32) Phenanthrene-d10	24.681	188	351477m	14.12	0.00
66) Chrysene-d12	33.810	240	452636m	15.73	0.03
88) Perylene-d12	38.705	264	38752m	1.45	0.03
90) 5(b)H-Cholane	34.166	217	154962m	21.25	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	30751m	6.26	
4) C1-Decalins	12.270	152	47753m	9.72	
5) C2-Decalins	13.433	166	32598m	6.63	
6) C3-Decalins	15.758	180	33212m	6.76	
7) C4-Decalins	17.971	194	25768m	5.24	
8) Naphthalene	13.813	128	288773m	11.08	
9) 2-Methylnaphthalene	16.071	142	152388m	9.75	
10) 1-Methylnaphthalene	16.384	142	73478m	4.76	
11) 2,6-Dimethylnaphthalene	18.195	156	65110m	4.79	
12) 1,6,7-Trimethylnaphtha...	20.989	170	7066m	0.55	
13) C2-Naphthalenes	18.530	156	248288m	9.52	
14) C3-Naphthalenes	21.056	170	242500m	9.30	
15) C4-Naphthalenes	22.755	184	207203m	7.95	
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	17.636	154	98873m	5.17	
23) Acenaphthylene	19.111	152	53794m	2.48	
24) Acenaphthene	19.715	154	10678m	0.77	
25) Dibenzofuran	20.296	168	68241m	3.56	
26) Fluorene	21.481	166	89506m	5.70	
27) 1-Methylfluorene	23.466	180	17501m	1.92	
28) C1-Fluorenes	23.466	180	41973m	2.67	
29) C2-Fluorenes	25.783	194	76157m	4.85	
30) C3-Fluorenes	27.563	208	67730m	4.32	
33) Carbazole	25.529	167	20353m	1.09	
34) Dibenzothiophene	24.342	184	62784m	2.47	
35) 4-Methyldibenzothiophene	25.839	198	30954m	1.58	
36) 2/3-Methyldibenzothiop...	26.150	198	29782m	1.52	
37) 1-Methyldibenzothiophene	26.489	198	6068m	0.31	
38) C2-Dibenzothiophenes	27.252	212	98333m	3.87	
39) C3-Dibenzothiophenes	28.778	226	133999m	5.27	
40) C4-Dibenzothiophenes	30.190	240	122371m	4.81	
41) Phenanthrene	24.766	178	312390m	10.67	
42) Anthracene	24.935	178	87455m	3.58	
43) 3-Methylphenanthrene	26.433	192	55197m	2.79	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2027.D
Acq On : 30 Nov 2013 5:35 pm
Operator : ECM(YMIAO)
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 28 Sample Multiplier: 0.0664

Quant Time: Dec 06 09:20:01 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units Dev(Min)
44) 2-Methylphenanthrene	26.546	192	66961m	3.38
45) 2-Methylanthracene	26.687	192	88469m	4.47
46) 4/9-Methylphenanthrene	26.800	192	33720m	1.70
47) 1-Methylphenanthrene	26.913	192	22559m	1.14
48) 3,6-Dimethylphenanthrene	27.987	206	10595m	0.61
49) Retene	30.642	234	21819m	2.41
50) C2-Phenanthrenes/Anthr...	28.156	206	321646m	10.98
51) C3-Phenanthrenes/Anthr...	29.908	220	209373m	7.15
52) C4-Phenanthrenes/Anthr...	30.642	234	154109m	5.26
53) Naphthobenzothiophene	32.934	234	233824m	8.53
54) C1-Naphthobenzothiophenes	34.102	248	246027m	8.97
55) C2-Naphthobenzothiophenes	35.366	262	494283m	18.02
56) C3-Naphthobenzothiophenes	37.181	276	283673m	10.34
57) C4-Naphthobenzothiophenes	37.992	290	164633m	6.00
58) Fluoranthene	28.891	202	349237m	12.31
59) Pyrene	29.654	202	295275m	8.49
60) 2-Methylfluoranthene	30.416	216	27929m	1.35
61) Benzo(b)fluorene	31.038	216	51349m	2.92
62) C1-Fluoranthenes/Pyrenes	30.812	216	300080m	10.58
63) C2-Fluoranthenes/Pyrenes	32.675	230	410941m	14.48
64) C3-Fluoranthenes/Pyrenes	34.555	244	187288m	6.60
65) C4-Fluoranthenes/Pyrenes	35.658	258	337591m	11.90
67) Benz(a)anthracene	33.745	228	161361m	5.85
68) Chrysene/Triphenylene	33.875	228	393553m	13.24
69) C1-Chrysenes	0.000		0	N.D. d
70) C2-Chrysenes	0.000		0	N.D. d
71) C3-Chrysenes	0.000		0	N.D. d
72) C4-Chrysenes	0.000		0	N.D. d
74) C29-Hopane	0.000		0	N.D. d
75) 18a-Oleanane	0.000		0	N.D. d
76) C30-Hopane	0.000		0	N.D. d
77) Benzo(b)fluoranthene	37.311	252	574168m	19.26
78) Benzo(k,j)fluoranthene	37.376	252	58620m	2.13
79) Benzo(a)fluoranthene	0.000		0	N.D. d
80) Benzo(e)pyrene	38.284	252	233362m	7.71
81) Benzo(a)pyrene	38.478	252	109962m	3.90
82) Indeno(1,2,3-c,d)pyrene	43.239	276	155722m	5.08
83) Dibenzo(a,h)anthracene	43.272	278	47598m	1.96
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	44.612	276	142927m	5.36
89) Perylene	38.770	252	8187129m	281.75
91) C20-TAS	0.000		0	N.D. d
92) C21-TAS	0.000		0	N.D. d
93) C26(20S)-TAS	0.000		0	N.D. d
94) C26(20R)/C27(20S)-TAS	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\MS50182\
Data File : ARC2027.D
Acq On : 30 Nov 2013 5:35 pm
Operator : ECM(YMIAO)
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 28 Sample Multiplier: 0.0664

Quant Time: Dec 06 09:20:01 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

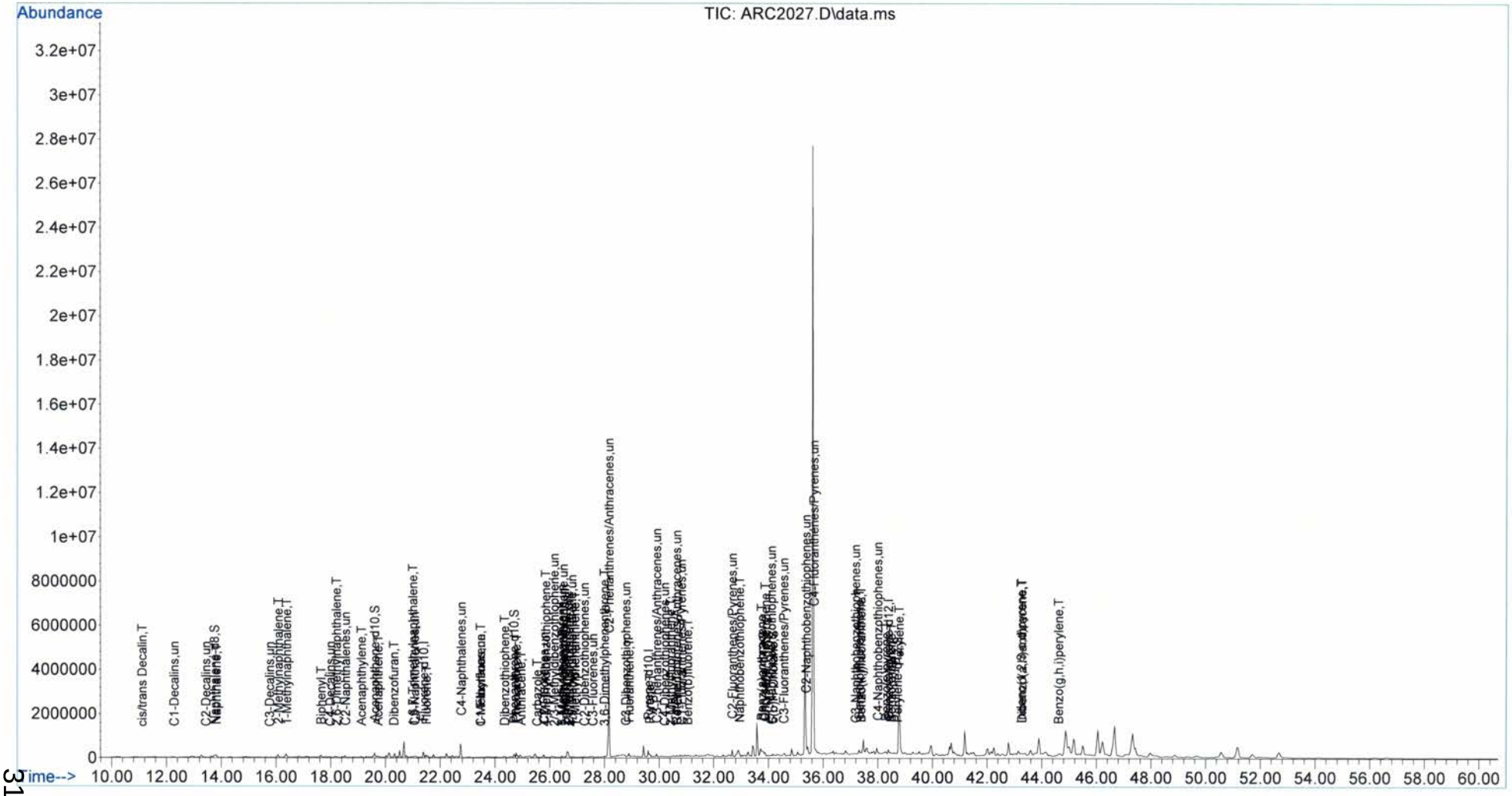
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\2\data\MS50182\
Data File : ARC2027.D
Acq On : 30 Nov 2013 5:35 pm
Operator : ECM(YMIAO)
Sample : SED-DA-DUP-10-112013
Misc :
ALS Vial : 28 Sample Multiplier: 0.0664

Quant Time: Dec 06 09:20:01 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



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

TPH/Aliphatic
ICAL
FID3C08BACK112213.M

GC/FID-3 BACK

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Method File : FID3C08BACK112213.M
Title : C8 - C40 aliphatic
Last Update : Mon Nov 25 10:40:16 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID30101H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Nov 22 15:26 2013	Nov 22 09:58 2013	21-Nov-2013, 18:13:32
2	2	Nov 22 16:02 2013	Nov 22 16:01 2013	21-Nov-2013, 19:24:07
3	3	Nov 22 16:18 2013	Nov 22 16:16 2013	21-Nov-2013, 20:34:07
4	4	Nov 25 09:14 2013	Nov 25 09:14 2013	21-Nov-2013, 21:44:42
5	5	Nov 25 09:28 2013	Nov 25 09:28 2013	21-Nov-2013, 22:55:12
6	6	Nov 25 09:50 2013	Nov 25 09:50 2013	22-Nov-2013, 00:05:13

FID3C08BACK112213.M Mon Nov 25 10:42:20 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Method File : FID3C08BACK112213.M
Title : C8 - C40 aliphatic
Last Update : Mon Nov 25 10:40:16 2013
Response Via : Initial Calibration

Calibration Files
1 =FID30101C.D 2 =FID30101D.D 3 =FID30101E.D
4 =FID30101F.D 5 =FID30101G.D 6 =FID30101H.D

11/25/13

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	----------ISTD----------							
2)		n-C8	0.977	0.977	0.951	0.973	0.951	0.990	0.970	1.63
3)		n-C9	0.996	1.024	0.997	1.025	1.013	1.047	1.017	1.88
4)		n-C10	1.058	1.084	1.062	1.084	1.065	1.096	1.075	1.42
5)		n-C11	1.086	1.113	1.082	1.111	1.103	1.131	1.104	1.66
6)	S	n-dodecane-d26	1.002	1.020	1.017	1.046	1.032	1.021	1.023	1.45
7)		n-C12	1.161	1.180	1.146	1.178	1.167	1.192	1.171	1.38
8)		i-13	1.164	1.187	1.148	1.178	1.167	1.183	1.171	1.24
9)		i-14	1.202	1.221	1.184	1.207	1.190	1.205	1.202	1.10
10)		n-C13	1.164	1.187	1.148	1.178	1.167	1.183	1.171	1.24
11)		i-15	1.261	1.257	1.210	1.234	1.215	1.228	1.234	1.70
12)		n-C14	1.202	1.221	1.184	1.207	1.190	1.205	1.202	1.10
13)		i-16	1.241	1.254	1.208	1.237	1.223	1.233	1.233	1.26
14)		n-C15	1.261	1.257	1.210	1.234	1.215	1.228	1.234	1.70
15)		n-C16	1.240	1.254	1.208	1.237	1.223	1.233	1.233	1.26
16)	I	5a-androstane	----------ISTD----------							
17)		i-18	0.997	1.020	0.991	0.982	0.981	1.008	0.996	1.52
18)		n-C17	1.015	1.020	0.992	0.977	0.971	0.998	0.995	1.99
19)		Pristane	1.035	1.039	1.001	0.996	1.005	1.030	1.017	1.87
20)		n-C18	0.997	1.020	0.991	0.982	0.981	1.008	0.996	1.52
21)		Phytane	1.031	1.035	1.000	0.992	0.989	1.020	1.011	1.98
22)		n-C19	1.000	1.014	0.981	0.975	0.980	1.003	0.992	1.59
23)	S	n-eicosane-d42	0.808	0.802	0.798	0.793	0.799	0.791	0.799	0.78
24)		n-C20	0.992	1.018	0.987	0.975	0.980	1.000	0.992	1.56
25)		n-C21	1.008	1.014	0.984	0.972	0.981	1.001	0.993	1.69
26)		n-C22	1.029	1.029	1.000	0.988	0.990	1.008	1.007	1.83
27)		n-C23	1.000	1.011	0.982	0.970	0.976	0.994	0.989	1.59
28)		n-C24	1.000	1.014	0.986	0.969	0.974	0.988	0.988	1.67
29)		n-C25	0.989	1.003	0.975	0.954	0.950	0.959	0.972	2.19
30)		n-C26	0.983	0.990	0.960	0.939	0.936	0.942	0.958	2.42
31)		n-C27	0.949	0.953	0.918	0.902	0.906	0.914	0.924	2.36
32)		n-C28	0.924	0.941	0.910	0.888	0.885	0.893	0.907	2.47
33)		n-C29	0.903	0.924	0.895	0.878	0.872	0.883	0.893	2.15
34)	S	n-triacontane...	0.701	0.692	0.685	0.674	0.673	0.661	0.681	2.14
35)		n-C30	0.905	0.908	0.882	0.861	0.861	0.876	0.882	2.36
36)		n-C31	0.871	0.887	0.861	0.843	0.844	0.859	0.861	1.94
37)		n-C32	0.878	0.879	0.858	0.835	0.837	0.855	0.857	2.21
38)		n-C33	0.821	0.842	0.826	0.798	0.779	0.796	0.810	2.87
39)		n-C34	0.849	0.860	0.840	0.820	0.816	0.834	0.837	2.01
40)		n-C35	0.834	0.845	0.823	0.807	0.811	0.828	0.825	1.73
41)		n-C36	0.853	0.893	0.877	0.847	0.829	0.845	0.857	2.71
42)		n-C37	0.815	0.810	0.787	0.773	0.776	0.786	0.791	2.19
43)		n-C38	0.757	0.785	0.765	0.748	0.743	0.748	0.758	2.03
44)		n-C39	0.799	0.757	0.724	0.723	0.732	0.735	0.745	3.91
45)		n-C40	0.693	0.706	0.670	0.670	0.691	0.688	0.686	2.03
46)		TPH	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
47)		TRH1	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
48)		TRH2	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
49)		TRH3	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
50)		TRH4	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
51)		TRH5	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
52)		TRH6	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69

53)	GRO	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
54)	DRO	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69
55)	RRO	0.912	0.924	0.896	0.885	0.888	0.909	0.902	1.69

(#) = Out of Range

FID3C08BACK112213.M Mon Nov 25 10:40:35 2013

Area for TPH Calculations

Last Calibration Update Mon Nov 25 09:50:27 2013
Quant Method FID1C08FRONT112213.M

	Level 1 FID30101C.D	Level 2 FID30101D.D	Level 3 FID30101E.D	Level 4 FID30101F.D	Level 5 FID30101G.D	Level 6 FID30101H.D
n-C8	6260	49134	120443	194706	290122	509440
n-C9	6379	51446	126201	204897	308659	538029
n-C10	6770	54409	134460	216776	324508	563444
n-C11	6962	55927	137149	222476	336541	582184
n-C12	7303	58262	142505	231293	349542	601981
n-C13	7463	59744	145546	235788	356227	609514
n-C14	7716	61437	150116	241822	363453	620636
n-C15	8025	62723	152234	245235	368186	627438
n-C16	7903	62637	152211	246209	370909	630920
n-C17	8067	63219	155268	247351	366204	621451
Pristane	8201	64257	156337	251492	378456	640229
n-C18	7926	63283	155254	248804	370617	628527
Phytane	8274	64893	158197	253907	380073	642377
n-C19	8003	63331	154710	248722	372456	629820
n-C20	7949	63664	155885	249053	373111	628791
n-C21	8103	63635	155785	248975	374389	630855
n-C22	8182	63873	156708	250223	373912	628896
n-C23	8035	63388	155428	248234	372336	626298
n-C24	7939	62837	154294	245131	367527	615142
n-C25	7911	62564	153697	243028	360722	601316
n-C26	7894	62089	152070	240413	357353	594167
n-C27	7617	59651	145294	230596	345513	575232
n-C28	7414	59007	144098	227351	337515	562250
n-C29	7250	57918	141775	224584	332679	556096
n-C30	7234	56626	138911	219179	326618	548631
n-C31	7005	55737	136506	216108	322636	542400
n-C32	6950	54352	133981	210748	314950	530734
n-C33	6582	52735	130670	203908	296915	501161
n-C34	6799	53751	132534	209203	310390	523970
n-C35	6688	52943	130123	206472	309130	521242
n-C36	6707	54818	135837	212282	309811	521228
n-C37	6542	50769	124578	197816	295987	495188
n-C38	6083	49177	121167	191379	283550	471231
n-C39	6407	47417	114508	184801	279054	462327
n-C40	5546	44107	105741	170950	262609	431909
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	7317	57879	141721	226283	338362	571859
n-C36/n-C20	0.84	0.86	0.87	0.85	0.83	0.83

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 3\FID30101\
Data File : FID30101C.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 18:13:32
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 09:58:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.108	256052	50.000	ug/mlm
16) I	5a-androstane	16.910	321828	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.895	6415	1.164	ug/mlm
23) S	n-eicosane-d42	16.427	6525	1.270	ug/mlm
34) S	n-triacontane-d62	28.112	5630	1.125	ug/mlm
Target Compounds					
2)	n-C8	2.887	6260	1.133	ug/mlm
3)	n-C9	4.135	6379	1.105	ug/mlm
4)	n-C10	5.514	6770	1.127	ug/mlm
5)	n-C11	6.850	6962	1.156	ug/mlm
7)	n-C12	8.098	7303	1.170	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/ml
10)	n-C13	9.258	7463	1.211	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.343	7716	1.238	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.365	8025	1.273	ug/mlm
15)	n-C16	12.334	7903	1.267	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.342	8067	1.268	ug/mlm
19)	Pristane	13.448	8201	1.264	ug/mlm
20)	n-C18	14.429	7926	1.247	ug/mlm
21)	Phytane	14.576	8274	1.285	ug/mlm
22)	n-C19	15.589	8003	1.266	ug/mlm
24)	n-C20	16.805	7949	1.258	ug/mlm
25)	n-C21	18.053	8103	1.279	ug/mlm
26)	n-C22	19.316	8182	1.266	ug/mlm
27)	n-C23	20.576	8035	1.254	ug/mlm
28)	n-C24	21.819	7939	1.227	ug/mlm
29)	n-C25	23.035	7911	1.227	ug/mlm
30)	n-C26	24.223	7894	1.214	ug/mlm
31)	n-C27	25.379	7617	1.189	ug/mlm
32)	n-C28	26.499	7414	1.150	ug/mlm
33)	n-C29	27.587	7250	1.120	ug/mlm
35)	n-C30	28.642	7234	1.115	ug/mlm
36)	n-C31	29.667	7005	1.090	ug/mlm
37)	n-C32	30.659	6950	1.079	ug/mlm
38)	n-C33	31.623	6582	1.076	ug/mlm
39)	n-C34	32.559	6799	1.069	ug/mlm
40)	n-C35	33.470	6688	1.069	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101C.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 18:13:32
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 09:58:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.391	6707	1.033	ug/mlm
42)	n-C37	35.431	6542	1.108	ug/mlm
43)	n-C38	36.628	6083	1.073	ug/mlm
44)	n-C39	38.025	6407	1.158	ug/mlm
45)	n-C40	39.667	5546	1.082	ug/mlm
46)	TPH	0.000	0	N.D.	ug/ml
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

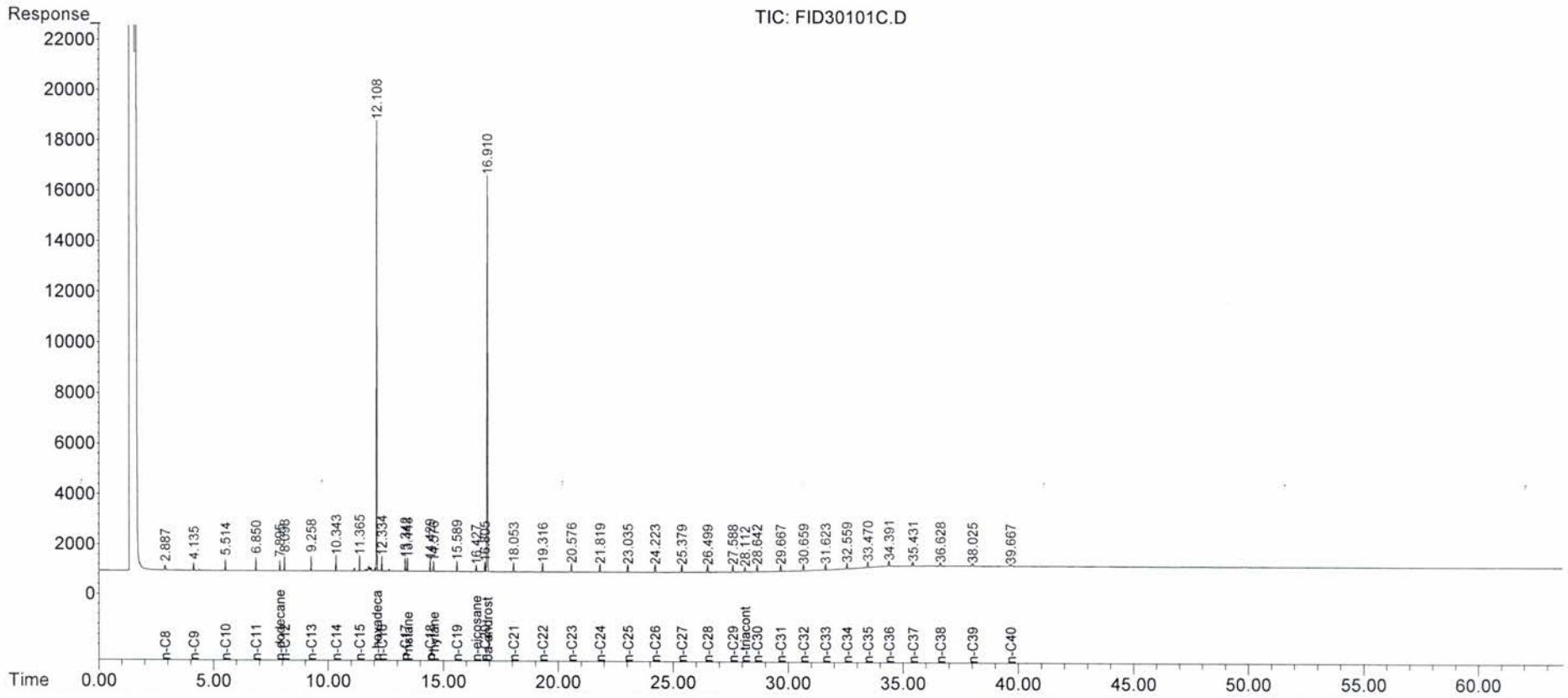
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101C.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 18:13:32
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-019
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 09:58:20 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 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 3\FID30101\
Data File : FID30101D.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 19:24:07
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:01:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.109	251080	50.000	ug/mlm
16) I	5a-androstane	16.911	314044	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.895	51199	9.470	ug/mlm
23) S	n-eicosane-d42	16.428	50560	10.082	ug/mlm
34) S	n-triacontane-d62	28.115	43392	8.889	ug/mlm
Target Compounds					
2)	n-C8	2.886	49134	9.068	ug/mlm
3)	n-C9	4.133	51446	9.092	ug/mlm
4)	n-C10	5.513	54409	9.239	ug/mlm
5)	n-C11	6.849	55927	9.470	ug/mlm
7)	n-C12	8.098	58262	9.518	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.258	59744	9.889	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.344	61437	10.056	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.365	62723	10.144	ug/mlm
15)	n-C16	12.335	62637	10.243	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.344	63219	10.182	ug/mlm
19)	Pristane	13.449	64257	10.153	ug/mlm
20)	n-C18	14.430	63283	10.205	ug/mlm
21)	Phytane	14.579	64893	10.326	ug/mlm
22)	n-C19	15.591	63331	10.270	ug/mlm
24)	n-C20	16.807	63664	10.329	ug/mlm
25)	n-C21	18.055	63635	10.295	ug/mlm
26)	n-C22	19.319	63873	10.125	ug/mlm
27)	n-C23	20.577	63387	10.139	ug/mlm
28)	n-C24	21.820	62837	9.950	ug/mlm
29)	n-C25	23.036	62564	9.942	ug/mlm
30)	n-C26	24.224	62089	9.789	ug/mlm
31)	n-C27	25.378	59651	9.539	ug/mlm
32)	n-C28	26.500	59007	9.378	ug/mlm
33)	n-C29	27.587	57918	9.170	ug/mlm
35)	n-C30	28.644	56626	8.941	ug/mlm
36)	n-C31	29.668	55737	8.885	ug/mlm
37)	n-C32	30.661	54352	8.646	ug/mlm
38)	n-C33	31.626	52735	8.832	ug/mlm
39)	n-C34	32.562	53751	8.659	ug/mlm
40)	n-C35	33.472	52943	8.675	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101D.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 19:24:07
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:01:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.393	54818	8.652	ug/mlm
42)	n-C37	35.436	50769	8.810	ug/mlm
43)	n-C38	36.634	49177	8.892	ug/mlm
44)	n-C39	38.028	47417	8.784	ug/mlm
45)	n-C40	39.667	44107	8.815	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

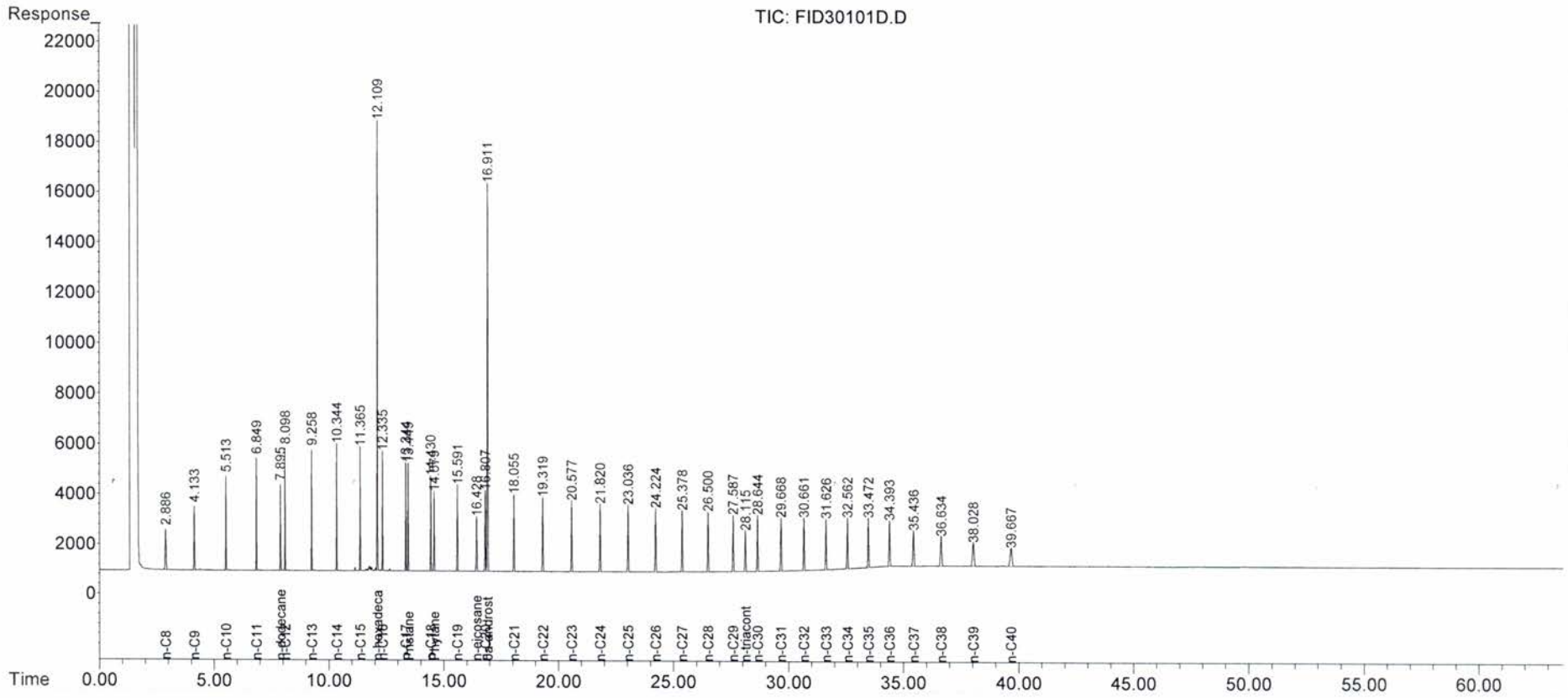
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101D.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 19:24:07
Operator : Meghan Dailey
Sample : AL-WKC2-10-019
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:01:54 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID3C08BACK112213.M Mon Nov 25 10:41:22 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101E.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 20:34:07
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:16:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.108	253128	50.000	ug/mlm
16) I	5a-androstane	16.910	317215	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.895	128764	23.623	ug/mlm
23) S	n-eicosane-d42	16.430	127016	25.074	ug/mlm
34) S	n-triacontane-d62	28.114	108517	22.008	ug/mlm
Target Compounds					
2)	n-C8	2.887	120443	22.049	ug/mlm
3)	n-C9	4.135	126201	22.123	ug/mlm
4)	n-C10	5.514	134460	22.647	ug/mlm
5)	n-C11	6.850	137149	23.036	ug/mlm
7)	n-C12	8.098	142505	23.093	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.259	145546	23.896	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.345	150116	24.373	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.366	152234	24.421	ug/mlm
15)	n-C16	12.336	152211	24.689	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.345	155268	24.758	ug/mlm
19)	Pristane	13.451	156337	24.454	ug/mlm
20)	n-C18	14.432	155254	24.785	ug/mlm
21)	Phytane	14.580	158197	24.923	ug/mlm
22)	n-C19	15.593	154710	24.838	ug/mlm
24)	n-C20	16.808	155885	25.037	ug/mlm
25)	n-C21	18.058	155785	24.952	ug/mlm
26)	n-C22	19.322	156708	24.593	ug/mlm
27)	n-C23	20.580	155428	24.612	ug/mlm
28)	n-C24	21.821	154294	24.189	ug/mlm
29)	n-C25	23.039	153697	24.180	ug/mlm
30)	n-C26	24.227	152070	23.736	ug/mlm
31)	n-C27	25.381	145294	23.003	ug/mlm
32)	n-C28	26.501	144098	22.672	ug/mlm
33)	n-C29	27.590	141775	22.223	ug/mlm
35)	n-C30	28.645	138911	21.714	ug/mlm
36)	n-C31	29.670	136506	21.543	ug/mlm
37)	n-C32	30.665	133981	21.100	ug/mlm
38)	n-C33	31.627	130670	21.666	ug/mlm
39)	n-C34	32.565	132534	21.137	ug/mlm
40)	n-C35	33.474	130123	21.107	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101E.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 20:34:07
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:16:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.396	135837	21.225	ug/mlm
42)	n-C37	35.438	124578	21.403	ug/mlm
43)	n-C38	36.636	121167	21.689	ug/mlm
44)	n-C39	38.031	114508	21.001	ug/mlm
45)	n-C40	39.672	105741	20.922	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

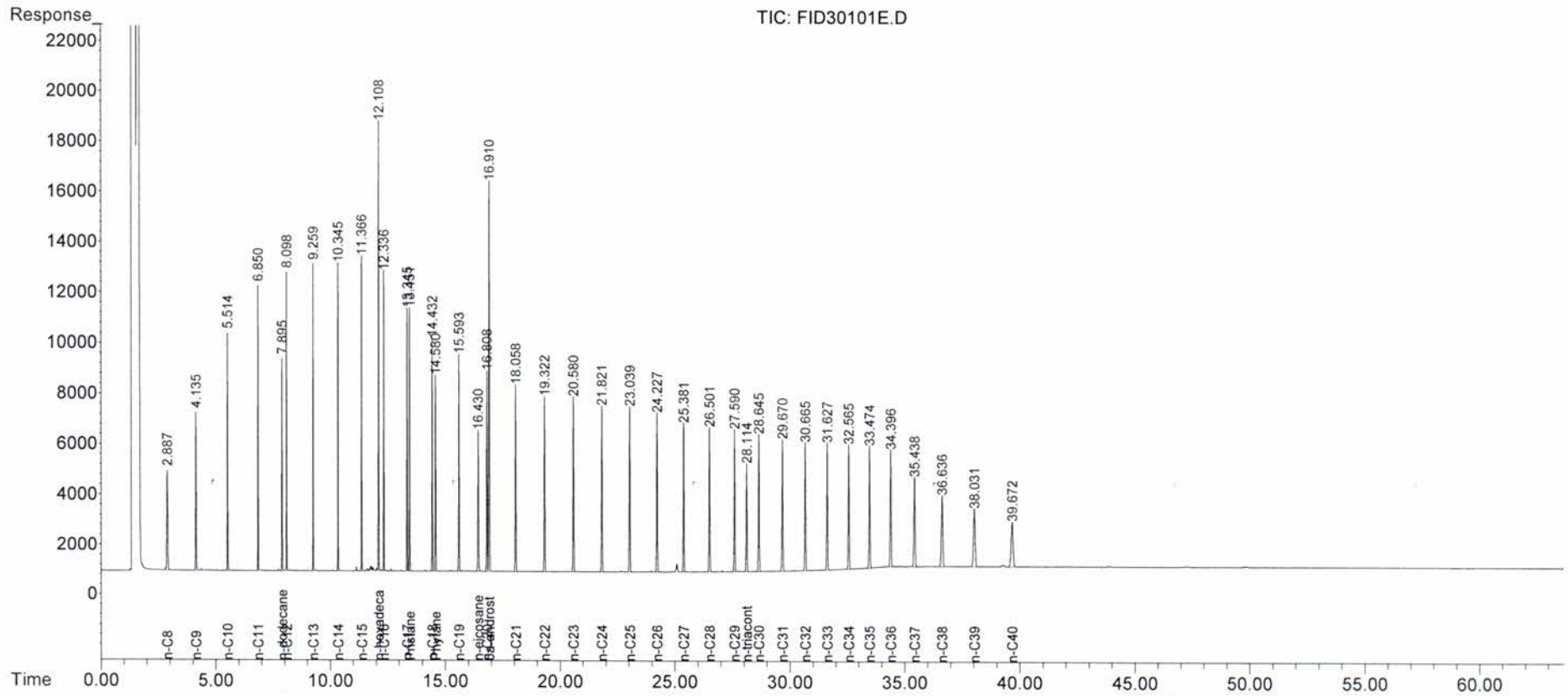
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101E.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 20:34:07
Operator : Meghan Dailey
Sample : AL-WKC3-25-019
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 22 16:16:35 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 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 3\FID30101\
Data File : FID30101F.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 21:44:42
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:14:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.108	249903	50.000	ug/mlm
16) I	5a-androstane	16.910	320504	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.896	209206	38.876	ug/mlm
23) S	n-eicosane-d42	16.432	204103	39.878	ug/mlm
34) S	n-triacontane-d62	28.117	172434	34.612	ug/mlm
Target Compounds					
2)	n-C8	2.883	194706	36.104	ug/mlm
3)	n-C9	4.131	204897	36.382	ug/mlm
4)	n-C10	5.512	216776	36.982	ug/mlm
5)	n-C11	6.850	222476	37.849	ug/mlm
7)	n-C12	8.099	231293	37.965	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.260	235788	39.211	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.346	241822	39.769	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.368	245235	39.848	ug/mlm
15)	n-C16	12.337	246209	40.452	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.347	247351	39.036	ug/mlm
19)	Pristane	13.453	251492	38.935	ug/mlm
20)	n-C18	14.435	248804	39.312	ug/mlm
21)	Phytane	14.583	253907	39.590	ug/mlm
22)	n-C19	15.595	248722	39.522	ug/mlm
24)	n-C20	16.811	249053	39.591	ug/mlm
25)	n-C21	18.060	248975	39.468	ug/mlm
26)	n-C22	19.324	250223	38.866	ug/mlm
27)	n-C23	20.584	248234	38.904	ug/mlm
28)	n-C24	21.825	245131	38.035	ug/mlm
29)	n-C25	23.042	243028	37.842	ug/mlm
30)	n-C26	24.230	240413	37.140	ug/mlm
31)	n-C27	25.386	230596	36.133	ug/mlm
32)	n-C28	26.506	227351	35.403	ug/mlm
33)	n-C29	27.594	224584	34.842	ug/mlm
35)	n-C30	28.648	219179	33.910	ug/mlm
36)	n-C31	29.672	216108	33.755	ug/mlm
37)	n-C32	30.667	210748	32.850	ug/mlm
38)	n-C33	31.628	203908	33.463	ug/mlm
39)	n-C34	32.568	209203	33.022	ug/mlm
40)	n-C35	33.478	206472	33.148	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101F.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 21:44:42
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:14:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.400	212282	32.830	ug/mlm
42)	n-C37	35.438	197816	33.636	ug/mlm
43)	n-C38	36.637	191379	33.906	ug/mlm
44)	n-C39	38.035	184801	33.545	ug/mlm
45)	n-C40	39.674	170950	33.477	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

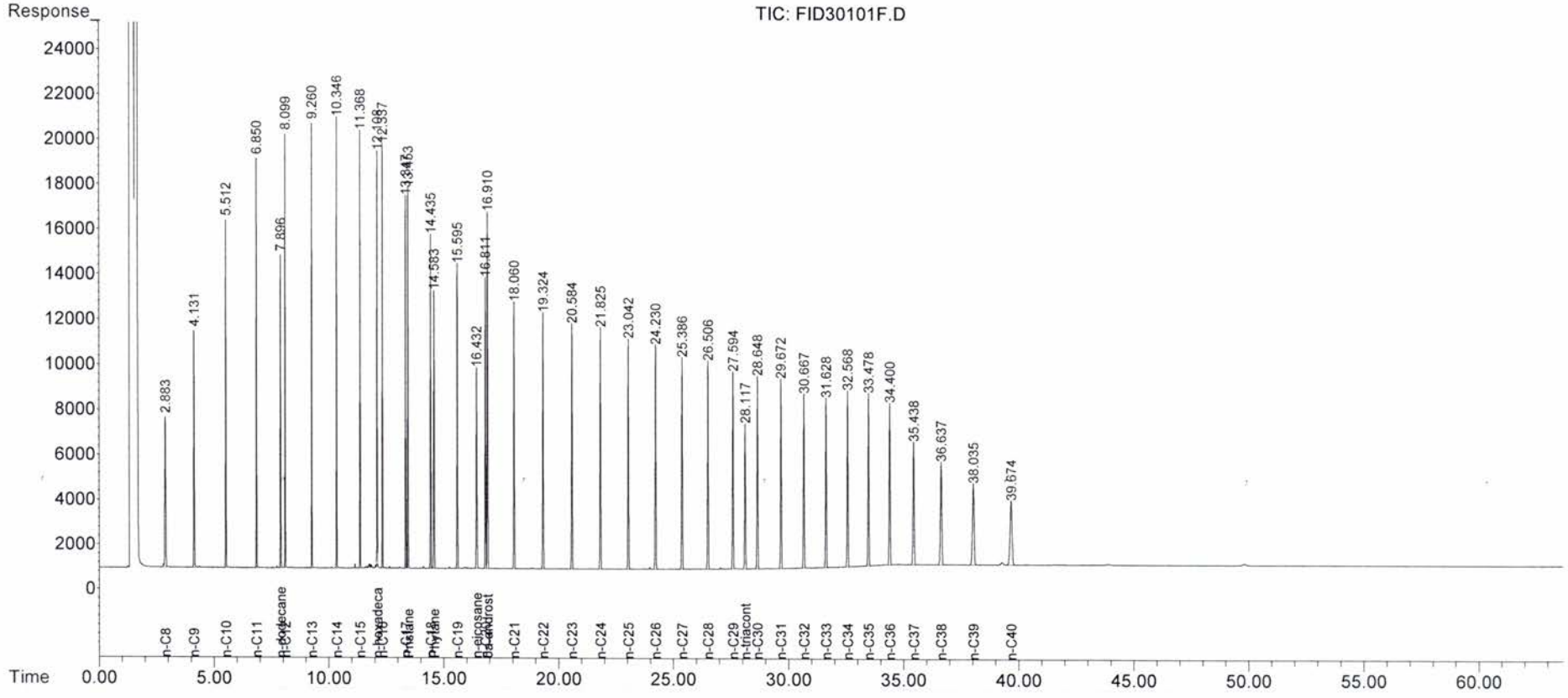
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101F.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 21:44:42
Operator : Meghan Dailey
Sample : AL-WKC4-40-019
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:14:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID3C08BACK112213.M Mon Nov 25 10:41:37 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101G.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 22:55:12
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:28:45 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.108	304842	50.000	ug/mlm
16) I	5a-androstane	16.912	382282	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.897	314545	47.917	ug/mlm
23) S	n-eicosane-d42	16.434	306692	50.238	ug/mlm
34) S	n-triacontane-d62	28.119	256655	43.192	ug/mlm
Target Compounds					
2)	n-C8	2.888	290122	44.102	ug/mlm
3)	n-C9	4.134	308659	44.929	ug/mlm
4)	n-C10	5.515	324508	45.384	ug/mlm
5)	n-C11	6.852	336541	46.936	ug/mlm
7)	n-C12	8.101	349542	47.034	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.262	356227	48.564	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.348	363453	49.000	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.369	368186	49.044	ug/mlm
15)	n-C16	12.340	370909	49.957	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.350	366204	48.453	ug/mlm
19)	Pristane	13.456	378456	49.123	ug/mlm
20)	n-C18	14.438	370617	49.095	ug/mlm
21)	Phytane	14.585	380073	49.686	ug/mlm
22)	n-C19	15.599	372456	49.619	ug/mlm
24)	n-C20	16.816	373111	49.727	ug/mlm
25)	n-C21	18.064	374389	49.758	ug/mlm
26)	n-C22	19.327	373912	48.693	ug/mlm
27)	n-C23	20.587	372336	48.924	ug/mlm
28)	n-C24	21.829	367527	47.811	ug/mlm
29)	n-C25	23.047	360722	47.091	ug/mlm
30)	n-C26	24.236	357353	46.283	ug/mlm
31)	n-C27	25.390	345513	45.391	ug/mlm
32)	n-C28	26.510	337515	44.064	ug/mlm
33)	n-C29	27.599	332679	43.272	ug/mlm
35)	n-C30	28.654	326618	42.366	ug/mlm
36)	n-C31	29.676	322636	42.251	ug/mlm
37)	n-C32	30.670	314950	41.159	ug/mlm
38)	n-C33	31.633	296915	40.852	ug/mlm
39)	n-C34	32.572	310390	41.076	ug/mlm
40)	n-C35	33.480	309130	41.609	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101G.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 22:55:12
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:28:45 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.404	309811	40.170	ug/mlm
42)	n-C37	35.444	295987	42.196	ug/mlm
43)	n-C38	36.645	283550	42.118	ug/mlm
44)	n-C39	38.043	279054	42.468	ug/mlm
45)	n-C40	39.682	262609	43.116	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

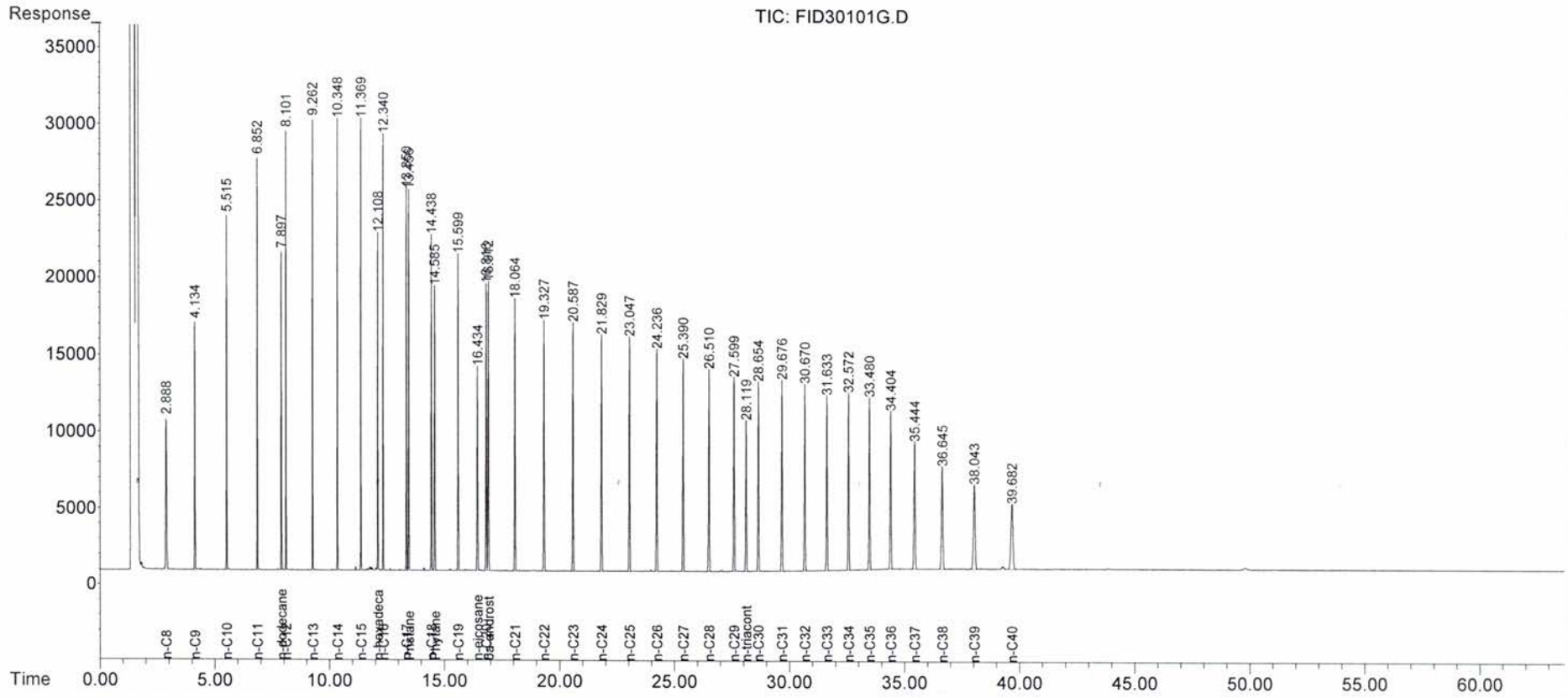
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101G.D
Signal(s) : FID2B.CH
Acq On : 21-Nov-2013, 22:55:12
Operator : Meghan Dailey
Sample : AL-WKC5-50-019
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:28:45 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 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 3\FID30101\
Data File : FID30101H.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 00:05:13
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:50:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.107	257047	50.000	ug/mlm
16) I	5a-androstane	16.910	315577	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.901	524959	94.840	ug/mlm
23) S	n-eicosane-d42	16.440	500894	99.392	ug/mlm
34) S	n-triacontane-d62	28.126	416429	84.894	ug/mlm
Target Compounds					
2)	n-C8	2.890	509440	91.840	ug/mlm
3)	n-C9	4.137	538029	92.878	ug/mlm
4)	n-C10	5.518	563444	93.452	ug/mlm
5)	n-C11	6.856	582184	96.293	ug/mlm
7)	n-C12	8.105	601981	96.064	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.266	609514	98.545	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.352	620636	99.230	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.374	627438	99.117	ug/mlm
15)	n-C16	12.345	630920	100.778	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.354	621451	99.605	ug/mlm
19)	Pristane	13.463	640229	100.665	ug/mlm
20)	n-C18	14.444	628527	100.859	ug/mlm
21)	Phytane	14.592	642377	101.726	ug/mlm
22)	n-C19	15.607	629820	101.641	ug/mlm
24)	n-C20	16.824	628791	101.517	ug/mlm
25)	n-C21	18.073	630855	101.566	ug/mlm
26)	n-C22	19.337	628896	99.210	ug/mlm
27)	n-C23	20.597	626298	99.689	ug/mlm
28)	n-C24	21.839	615142	96.937	ug/mlm
29)	n-C25	23.056	601316	95.093	ug/mlm
30)	n-C26	24.244	594167	93.221	ug/mlm
31)	n-C27	25.401	575232	91.543	ug/mlm
32)	n-C28	26.518	562250	88.920	ug/mlm
33)	n-C29	27.607	556096	87.621	ug/mlm
35)	n-C30	28.664	548631	86.206	ug/mlm
36)	n-C31	29.687	542400	86.044	ug/mlm
37)	n-C32	30.681	530734	84.018	ug/mlm
38)	n-C33	31.642	501161	83.529	ug/mlm
39)	n-C34	32.580	523970	83.997	ug/mlm
40)	n-C35	33.492	521242	84.989	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101H.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 00:05:13
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:50:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.413	521228	81.867	ug/mlm
42)	n-C37	35.462	495188	85.516	ug/mlm
43)	n-C38	36.658	471231	84.790	ug/mlm
44)	n-C39	38.057	462327	85.232	ug/mlm
45)	n-C40	39.697	431909	85.901	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

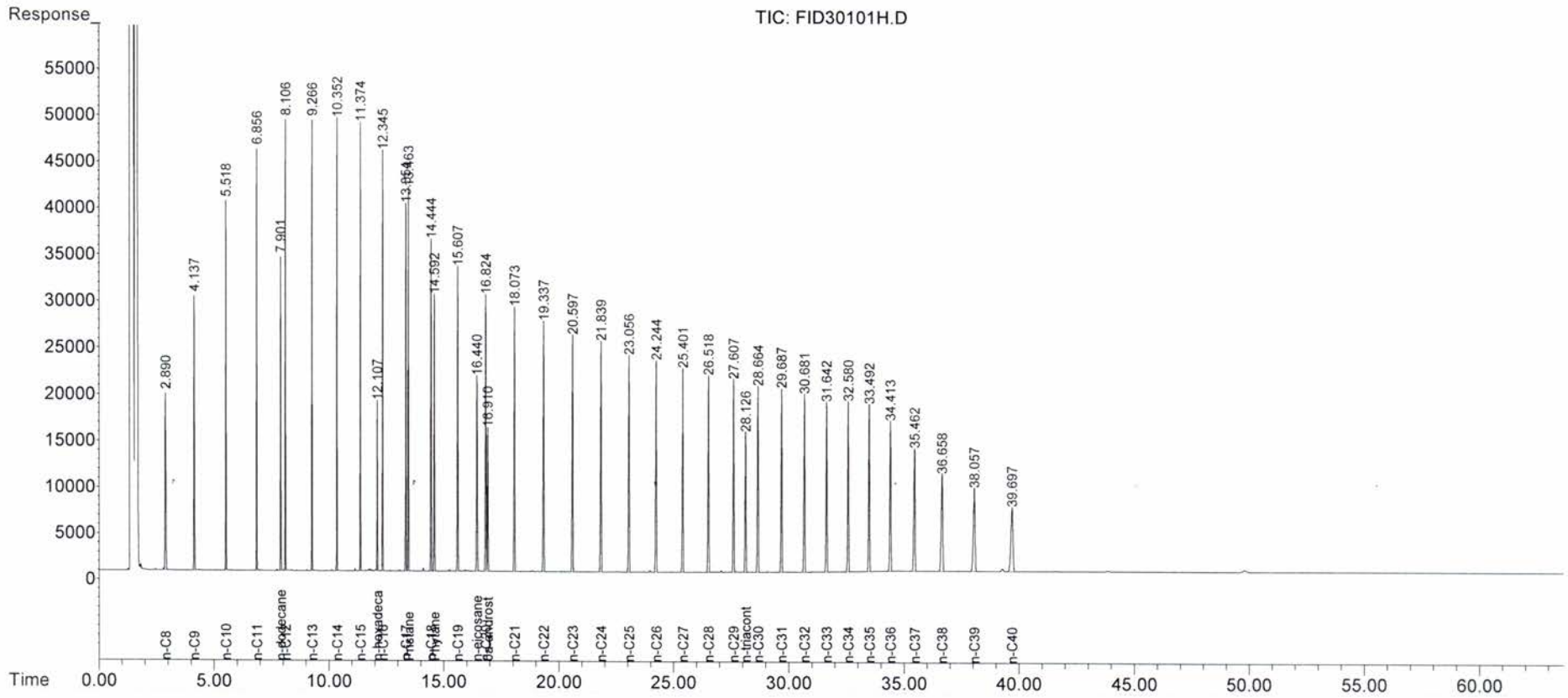
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101H.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 00:05:13
Operator : Meghan Dailey
Sample : AL-WKC6-100-001
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 09:50:14 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Fri Oct 18 15:24:21 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101I.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 01:15:43
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:48:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	101	0.00
2		n-C8	0.970	0.936	3.5	100	0.00
3		n-C9	1.017	1.016	0.1	103	0.00
4		n-C10	1.075	1.071	0.4	102	0.00
5		n-C11	1.104	1.114	-0.9	104	0.00
6	S	n-dodecane-d26	1.023	0.987	3.5	98	0.00
7		n-C12	1.171	1.164	0.6	103	0.00
10		n-C13	1.171	1.167	0.3	103	0.00
12		n-C14	1.202	1.186	1.3	102	-0.01
14		n-C15	1.234	1.227	0.6	103	0.00
15		n-C16	1.233	1.232	0.1	103	0.00
16	I	5a-androstane	1.000	1.000	0.0	101	0.00
18		n-C17	0.995	1.003	-0.8	102	0.00
19		Pristane	1.017	0.999	1.8	100	0.00
20		n-C18	0.996	1.005	-0.9	102	0.00
21		Phytane	1.011	0.995	1.6	100	0.00
22		n-C19	0.992	1.008	-1.6	103	0.00
23	S	n-eicosane-d42	0.799	0.772	3.4	97	0.00
24		n-C20	0.992	0.994	-0.2	101	0.00
25		n-C21	0.993	1.010	-1.7	103	0.00
26		n-C22	1.007	1.014	-0.7	102	0.00
27		n-C23	0.989	0.994	-0.5	102	0.00
28		n-C24	0.988	0.993	-0.5	101	0.00
29		n-C25	0.972	0.903	7.1	93	0.00
30		n-C26	0.958	0.972	-1.5	102	0.00
31		n-C27	0.924	0.949	-2.7	104	0.00
32		n-C28	0.907	0.928	-2.3	102	0.00
33		n-C29	0.893	0.898	-0.6	101	0.00
34	S	n-triacontane-d62	0.681	0.668	1.9	98	0.00
35		n-C30	0.882	0.894	-1.4	102	0.00
36		n-C31	0.861	0.850	1.3	99	0.00
37		n-C32	0.857	0.857	0.0	100	0.00
38		n-C33	0.810	0.846	-4.4	103	0.00
39		n-C34	0.837	0.862	-3.0	103	0.00
40		n-C35	0.825	0.791	4.1	97	0.00
41		n-C36	0.857	0.831	3.0	95	0.00
42		n-C37	0.791	0.716	9.5	91	0.00
43		n-C38	0.758	0.679	10.4	89	0.00

44	n-C39	0.745	0.639	14.2	89	0.00
45	n-C40	0.686	0.619	9.8	93	-0.01

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.28#
9	i-14	0.019	0.000	100.0#	0#	-8.98#
11	i-15	0.020	0.000	100.0#	0#	-10.12#
13	i-16	0.020	0.000	100.0#	0#	-11.03#
17	i-18	0.020	0.000	100.0#	0#	-12.85#
46	TPH	0.018	0.000	100.0#	0#	-27.07#
47	TRH1	0.018	0.000	100.0#	0#	-7.22#
48	TRH2	0.018	0.000	100.0#	0#	-14.84#
49	TRH3	0.018	0.000	100.0#	0#	-21.78#
50	TRH4	0.018	0.000	100.0#	0#	-26.46#
51	TRH5	0.018	0.000	100.0#	0#	-31.10#
52	TRH6	0.018	0.000	100.0#	0#	-41.78#
53	GRO	0.018	0.000	100.0#	0#	-4.91#
54	DRO	0.018	0.000	100.0#	0#	-13.33#
55	RRO	0.018	0.000	100.0#	0#	-30.75#

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

FID3C08BACK112213.M Mon Nov 25 10:48:57 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101I.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 01:15:43
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:48:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	256534	50.000	ug/mlm
16) I	5a-androstane	16.907	318867	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	7.895	126650	24.128	ug/mlm
23) S	n-eicosane-d42	16.427	123514	24.325	ug/mlm
34) S	n-triacontane-d62	28.110	106388	24.571	ug/mlm
Target Compounds					
2)	n-C8	2.883	120178	24.150	ug/mlm
3)	n-C9	4.132	130281	24.968	ug/mlm
4)	n-C10	5.512	137429	24.923	ug/mlm
5)	n-C11	6.849	143124	25.259	ug/mlm
7)	n-C12	8.097	146795	24.442	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.258	149972	24.958	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.343	152432	24.727	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.365	156420	24.705	ug/mlm
15)	n-C16	12.335	157212	24.859	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.344	157762	24.927	ug/mlm
19)	Pristane	13.449	156905	24.255	ug/mlm
20)	n-C18	14.429	158390	25.001	ug/mlm
21)	Phytane	14.577	158321	24.624	ug/mlm
22)	n-C19	15.591	159880	25.340	ug/mlm
24)	n-C20	16.806	157848	25.031	ug/mlm
25)	n-C21	18.055	160866	25.470	ug/mlm
26)	n-C22	19.318	159740	24.939	ug/mlm
27)	n-C23	20.577	158132	25.151	ug/mlm
28)	n-C24	21.818	156205	24.858	ug/mlm
29)	n-C25	23.035	142960	23.137	ug/mlm
30)	n-C26	24.223	154721	25.393	ug/mlm
31)	n-C27	25.380	150867	25.690	ug/mlm
32)	n-C28	26.499	147620	25.603	ug/mlm
33)	n-C29	27.587	142847	25.171	ug/mlm
35)	n-C30	28.643	141602	25.248	ug/mlm
36)	n-C31	29.666	135426	24.736	ug/mlm
37)	n-C32	30.658	134446	24.672	ug/mlm
38)	n-C33	31.622	134446	26.094	ug/mlm
39)	n-C34	32.561	136708	25.702	ug/mlm
40)	n-C35	33.469	125713	23.973	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101I.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 01:15:43
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:48:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.391	129412	23.736	ug/mlm
42)	n-C37	35.430	113847	22.628	ug/mlm
43)	n-C38	36.626	108048	22.433	ug/mlm
44)	n-C39	38.023	101602	21.453	ug/mlm
45)	n-C40	39.656	98218	22.510	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

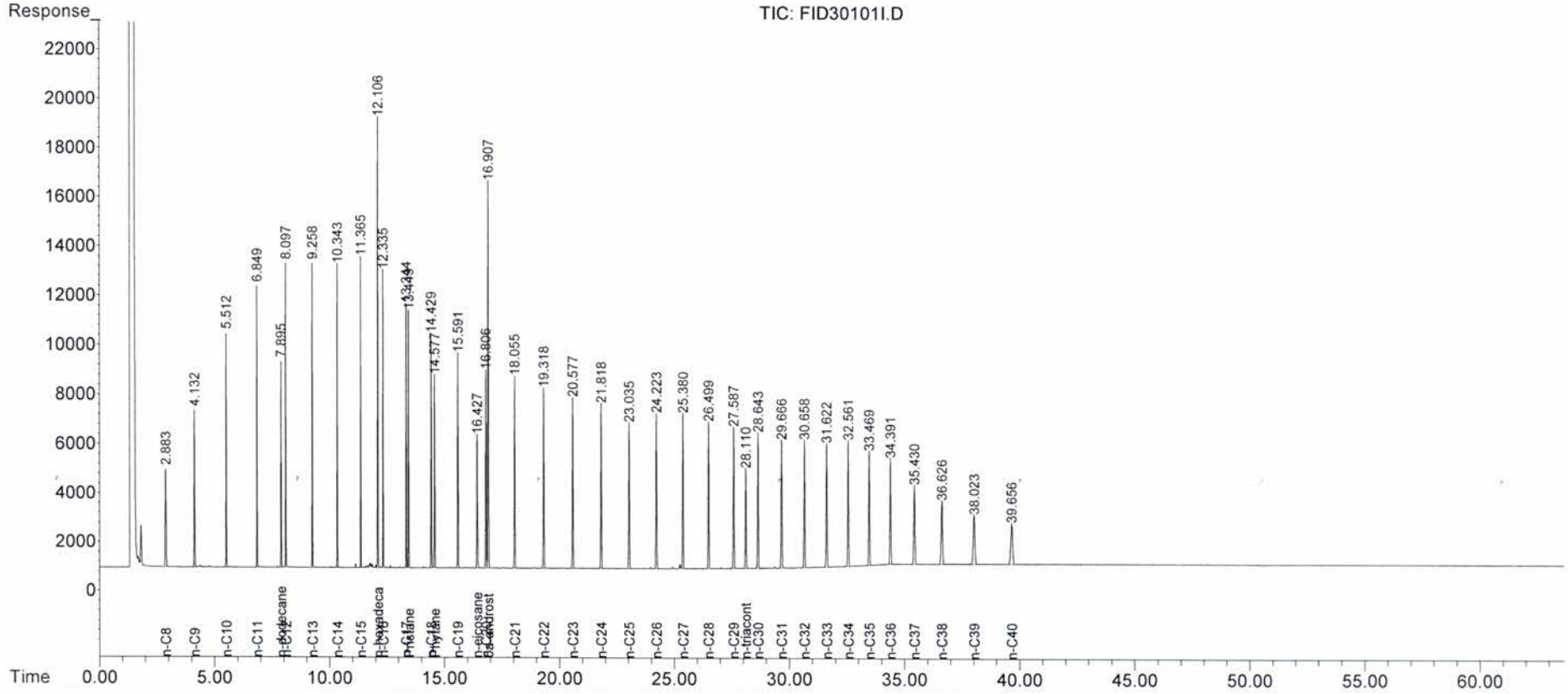
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101I.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 01:15:43
Operator : Meghan Dailey
Sample : AL-WKICV-25-002
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:48:49 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Evaluate Continuing Calibration Report

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101J.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 02:26:10
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:53:40 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	102	0.00
2		n-C8	0.970	0.952	1.9	102	0.00
3		n-C9	1.017	1.007	1.0	103	0.00
4		n-C10	1.075	1.061	1.3	102	0.00
5		n-C11	1.104	1.095	0.8	103	0.00
6	S	n-dodecane-d26	1.023	1.021	0.2	102	0.00
7		n-C12	1.171	1.156	1.3	103	0.00
10		n-C13	1.171	1.156	1.3	103	0.00
12		n-C14	1.202	1.187	1.2	102	-0.01
14		n-C15	1.234	1.203	2.5	101	0.00
15		n-C16	1.233	1.219	1.1	103	0.00
16	I	5a-androstane	1.000	1.000	0.0	102	0.00
18		n-C17	0.995	0.978	1.7	100	0.00
19		Pristane	1.017	0.999	1.8	101	0.00
20		n-C18	0.996	0.990	0.6	101	0.00
21		Phytane	1.011	0.872	13.7	89	0.00
22		n-C19	0.992	0.992	0.0	103	0.00
23	S	n-eicosane-d42	0.799	0.792	0.9	101	0.00
24		n-C20	0.992	0.977	1.5	101	0.00
25		n-C21	0.993	0.995	-0.2	103	0.00
26		n-C22	1.007	1.023	-1.6	104	0.00
27		n-C23	0.989	0.982	0.7	102	0.00
28		n-C24	0.988	0.980	0.8	101	0.00
29		n-C25	0.972	0.971	0.1	101	0.00
30		n-C26	0.958	0.958	0.0	101	0.00
31		n-C27	0.924	0.917	0.8	101	0.00
32		n-C28	0.907	0.904	0.3	101	0.00
33		n-C29	0.893	0.893	0.0	101	0.00
34	S	n-triacontane-d62	0.681	0.681	0.0	101	0.00
35		n-C30	0.882	0.874	0.9	101	0.00
36		n-C31	0.861	0.820	4.8	97	0.00
37		n-C32	0.857	0.835	2.6	99	0.00
38		n-C33	0.810	0.787	2.8	97	0.00
39		n-C34	0.837	0.807	3.6	98	0.00
40		n-C35	0.825	0.808	2.1	100	0.00
41		n-C36	0.857	0.821	4.2	95	0.00
42		n-C37	0.791	0.790	0.1	102	0.00
43		n-C38	0.758	0.779	-2.8	103	0.00

44	n-C39	0.745	0.763	-2.4	107	0.00
45	n-C40	0.686	0.715	-4.2	108	0.00

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.28#
9	i-14	0.019	0.000	100.0#	0#	-8.98#
11	i-15	0.020	0.000	100.0#	0#	-10.12#
13	i-16	0.020	0.000	100.0#	0#	-11.03#
17	i-18	0.020	0.000	100.0#	0#	-12.85#
46	TPH	0.018	0.000	100.0#	0#	-27.07#
47	TRH1	0.018	0.000	100.0#	0#	-7.22#
48	TRH2	0.018	0.000	100.0#	0#	-14.84#
49	TRH3	0.018	0.000	100.0#	0#	-21.78#
50	TRH4	0.018	0.000	100.0#	0#	-26.46#
51	TRH5	0.018	0.000	100.0#	0#	-31.10#
52	TRH6	0.018	0.000	100.0#	0#	-41.78#
53	GRO	0.018	0.000	100.0#	0#	-4.91#
54	DRO	0.018	0.000	100.0#	0#	-13.33#
55	RRO	0.018	0.000	100.0#	0#	-30.75#

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

FID3C08BACK112213.M Mon Nov 25 10:53:59 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101J.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 02:26:10
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:53:40 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 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	12.106	257985	50.000 ug/mlm
16) I	5a-androstane	16.907	322068	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	7.894	131720	24.952 ug/mlm
23) S	n-eicosane-d42	16.426	128059	24.970 ug/mlm
34) S	n-triacontane-d62	28.108	109539	25.048 ug/mlm
Target Compounds				
2)	n-C8	2.886	122869	24.551 ug/mlm
3)	n-C9	4.133	129949	24.764 ug/mlm
4)	n-C10	5.512	136867	24.682 ug/mlm
5)	n-C11	6.849	141365	24.808 ug/mlm
7)	n-C12	8.097	146569	24.268 ug/mlm
8)	i-13	0.000	0	N.D. ug/mld
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	9.258	149360	24.717 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.343	153359	24.737 ug/mlm
13)	i-16	0.000	0	N.D. ug/mld
14)	n-C15	11.364	154286	24.231 ug/mlm
15)	n-C16	12.334	156537	24.613 ug/mlm
17)	i-18	0.000	0	N.D. ug/mld
18)	n-C17	13.342	155514	24.327 ug/mlm
19)	Pristane	13.448	158463	24.252 ug/mlm
20)	n-C18	14.429	157528	24.618 ug/mlm
21)	Phytane	14.577	140082	21.571 ug/mlm
22)	n-C19	15.590	158893	24.933 ug/mlm
24)	n-C20	16.805	156779	24.615 ug/mlm
25)	n-C21	18.055	160045	25.089 ug/mlm
26)	n-C22	19.317	162825	25.168 ug/mlm
27)	n-C23	20.577	157790	24.848 ug/mlm
28)	n-C24	21.819	155724	24.535 ug/mlm
29)	n-C25	23.035	155297	24.884 ug/mlm
30)	n-C26	24.222	153997	25.023 ug/mlm
31)	n-C27	25.378	147254	24.826 ug/mlm
32)	n-C28	26.497	145312	24.952 ug/mlm
33)	n-C29	27.585	143519	25.039 ug/mlm
35)	n-C30	28.639	139688	24.659 ug/mlm
36)	n-C31	29.664	132029	23.876 ug/mlm
37)	n-C32	30.656	132358	24.047 ug/mlm
38)	n-C33	31.620	126431	24.294 ug/mlm
39)	n-C34	32.558	129336	24.075 ug/mlm
40)	n-C35	33.469	129818	24.510 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101J.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 02:26:10
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:53:40 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.389	129221	23.465	ug/mlm
42)	n-C37	35.430	126999	24.991	ug/mlm
43)	n-C38	36.626	125321	25.760	ug/mlm
44)	n-C39	38.021	122487	25.606	ug/mlm
45)	n-C40	39.661	114532	25.988	ug/mlm
46)	TPH	0.000	0	N.D.	ug/mld
47)	TRH1	0.000	0	N.D.	ug/mld
48)	TRH2	0.000	0	N.D.	ug/mld
49)	TRH3	0.000	0	N.D.	ug/mld
50)	TRH4	0.000	0	N.D.	ug/mld
51)	TRH5	0.000	0	N.D.	ug/mld
52)	TRH6	0.000	0	N.D.	ug/mld
53)	GRO	0.000	0	N.D.	ug/mld
54)	DRO	0.000	0	N.D.	ug/mld
55)	RRO	0.000	0	N.D.	ug/mld

SemiQuant Compounds - Not Calibrated on this Instrument

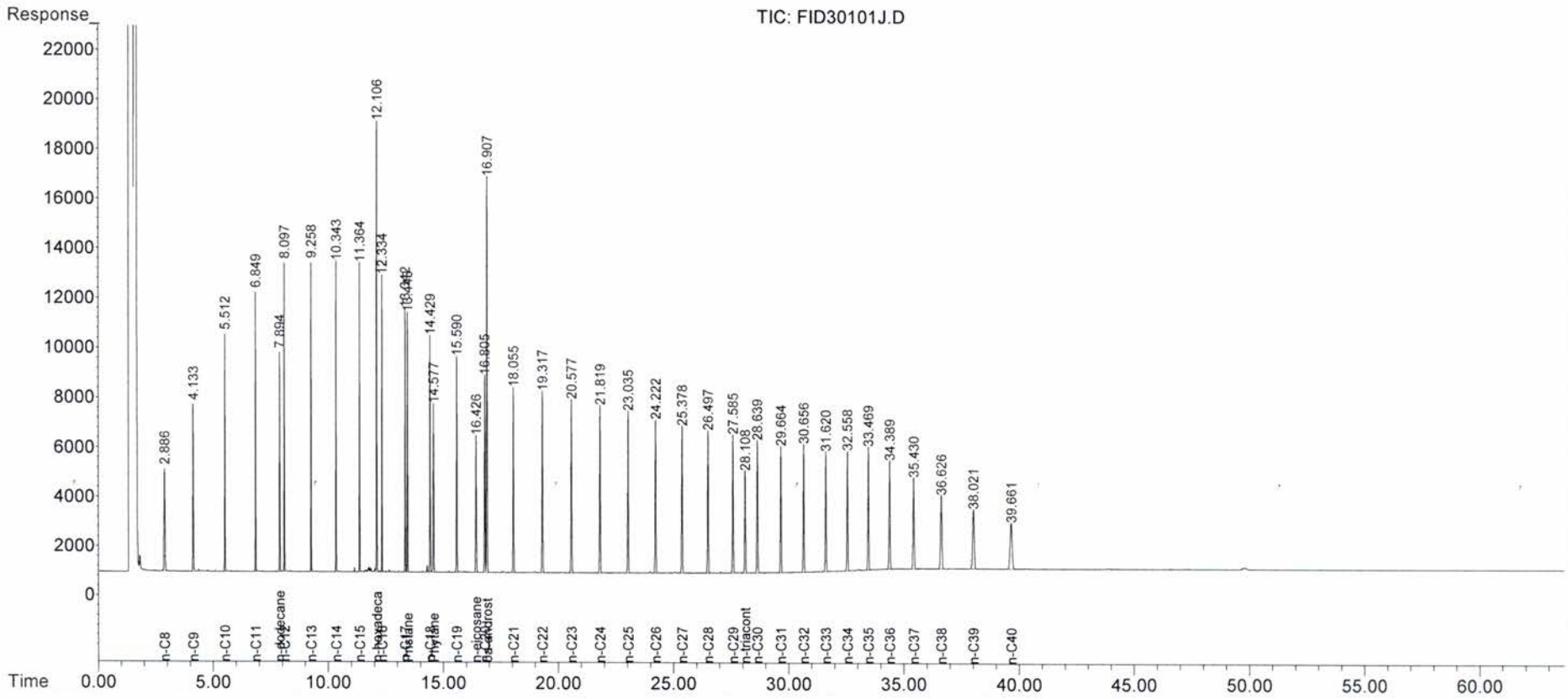
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\
Data File : FID30101J.D
Signal(s) : FID2B.CH
Acq On : 22-Nov-2013, 02:26:10
Operator : Meghan Dailey
Sample : AL-WKCC-25-026
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Nov 25 10:53:40 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 3\FID30101\FID3C08BACK112213.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 25 10:40:16 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



TPH/Aliphatic
ICAL
FID1C08BACK120513.M

GC/FID-1 BACK

Calibration Status Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Method File : FID1C08BACK120513.M
Title : C8 - C40 aliphatic
Last Update : Thu Dec 05 13:55:45 2013
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	1	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125C.D
2	2	10	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125D.D
3	3	25	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125E.D
4	4	40	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125F.D
5	5	50	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125G.D
6	6	100	50	P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID10125H.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Dec 05 11:11 2013	Dec 05 11:11 2013	04-Dec-2013, 14:57:22
2	2	Dec 05 11:16 2013	Dec 05 11:16 2013	04-Dec-2013, 16:07:53
3	3	Dec 05 11:31 2013	Dec 05 11:31 2013	04-Dec-2013, 17:18:08
4	4	Dec 05 13:11 2013	Dec 05 13:11 2013	04-Dec-2013, 18:28:33
5	5	Dec 05 13:34 2013	Dec 05 13:34 2013	04-Dec-2013, 19:38:50
6	6	Dec 05 13:43 2013	Dec 05 13:41 2013	04-Dec-2013, 20:49:34

FID1C08BACK120513.M Thu Dec 05 14:22:49 2013

Response Factor Report HP5890

Method Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Method File : FID1C08BACK120513.M
Title : C8 - C40 aliphatic
Last Update : Thu Dec 05 13:55:45 2013
Response Via : Initial Calibration

Calibration Files
1 =FID10125C.D 2 =FID10125D.D 3 =FID10125E.D
4 =FID10125F.D 5 =FID10125G.D 6 =FID10125H.D

12/5/13

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	n-hexadecane-d34	----------ISTD----------							
2)		n-C8	0.962	0.988	0.944	0.951	0.945	0.963	0.959	1.73
3)		n-C9	1.019	1.048	1.008	1.010	1.019	1.031	1.023	1.48
4)		n-C10	1.077	1.110	1.083	1.072	1.077	1.089	1.085	1.28
5)		n-C11	1.111	1.138	1.102	1.097	1.110	1.126	1.114	1.38
6)	S	n-dodecane-d26	1.031	1.037	1.033	1.028	1.037	1.022	1.032	0.56
7)		n-C12	1.184	1.200	1.160	1.154	1.168	1.186	1.175	1.50
8)		i-13	1.185	1.196	1.158	1.149	1.161	1.180	1.171	1.56
9)		i-14	1.203	1.223	1.184	1.172	1.180	1.200	1.194	1.55
10)		n-C13	1.185	1.196	1.158	1.149	1.161	1.180	1.171	1.56
11)		i-15	1.273	1.248	1.205	1.192	1.202	1.224	1.224	2.55
12)		n-C14	1.203	1.223	1.184	1.172	1.180	1.200	1.194	1.55
13)		i-16	1.279	1.248	1.206	1.195	1.210	1.229	1.228	2.55
14)		n-C15	1.273	1.248	1.205	1.192	1.202	1.224	1.224	2.55
15)		n-C16	1.279	1.248	1.206	1.195	1.210	1.229	1.228	2.56
16)	I	5a-androstane	----------ISTD----------							
17)		i-18	1.034	1.038	1.007	0.994	0.989	1.018	1.013	2.02
18)		n-C17	1.040	1.035	1.014	0.989	0.979	1.007	1.011	2.41
19)		Pristane	1.057	1.050	1.013	1.003	1.006	1.038	1.028	2.28
20)		n-C18	1.034	1.038	1.007	0.994	0.989	1.018	1.013	2.02
21)		Phytane	1.043	1.042	1.011	0.999	0.993	1.031	1.020	2.14
22)		n-C19	1.039	1.025	0.998	0.985	0.986	1.012	1.008	2.18
23)	S	n-eicosane-d42	0.828	0.815	0.814	0.807	0.808	0.804	0.813	1.07
24)		n-C20	1.026	1.028	1.001	0.988	0.983	1.010	1.006	1.88
25)		n-C21	1.035	1.021	0.993	0.984	0.985	1.009	1.004	2.06
26)		n-C22	1.042	1.036	1.007	0.994	0.994	1.018	1.015	2.04
27)		n-C23	1.024	1.014	0.984	0.979	0.980	1.004	0.998	1.93
28)		n-C24	1.014	1.019	0.988	0.982	0.983	1.007	0.999	1.68
29)		n-C25	1.016	1.009	0.980	0.971	0.966	0.992	0.989	2.05
30)		n-C26	1.000	1.007	0.975	0.967	0.966	0.990	0.984	1.77
31)		n-C27	0.978	0.981	0.942	0.942	0.950	0.975	0.961	1.95
32)		n-C28	0.984	0.978	0.946	0.941	0.939	0.964	0.959	2.02
33)		n-C29	0.986	0.974	0.944	0.937	0.936	0.959	0.956	2.17
34)	S	n-triacontane...	0.727	0.733	0.725	0.725	0.727	0.722	0.727	0.50
35)		n-C30	0.971	0.965	0.931	0.928	0.928	0.952	0.946	2.04
36)		n-C31	0.940	0.947	0.912	0.912	0.915	0.935	0.927	1.69
37)		n-C32	0.940	0.943	0.908	0.904	0.907	0.925	0.921	1.88
38)		n-C33	0.887	0.897	0.881	0.863	0.842	0.858	0.871	2.38
39)		n-C34	0.887	0.922	0.896	0.886	0.881	0.895	0.894	1.63
40)		n-C35	0.880	0.902	0.875	0.870	0.870	0.880	0.879	1.36
41)		n-C36	0.947	0.950	0.931	0.908	0.888	0.892	0.919	2.96
42)		n-C37	0.872	0.853	0.828	0.828	0.826	0.826	0.839	2.31
43)		n-C38	0.788	0.828	0.803	0.796	0.784	0.780	0.796	2.23
44)		n-C39	0.763	0.801	0.760	0.765	0.772	0.762	0.770	2.02
45)		n-C40	0.786	0.740	0.695	0.709	0.723	0.711	0.727	4.43
46)		TPH	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
47)		TRH1	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
48)		TRH2	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
49)		TRH3	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
50)		TRH4	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
51)		TRH5	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
52)		TRH6	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77

53)	GRO	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
54)	DRO	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77
55)	RRO	0.950	0.955	0.925	0.918	0.917	0.937	0.934	1.77

(#) = Out of Range

FID1C08BACK120513.M Thu Dec 05 13:55:54 2013

Area for TPH Calculations

Last Calibration Update Thu Dec 05 13:43:47 2013

Quant Method FID1C08BACK120513.M

	Level 1 FID10125C.D	Level 2 FID10125D.D	Level 3 FID10125E.D	Level 4 FID10125F.D	Level 5 FID10125G.D	Level 6 FID10125H.D
n-C8	4861	40037	99549	159190	240314	421056
n-C9	5143	42441	106199	169036	258904	450254
n-C10	5438	44941	114149	179292	273801	475593
n-C11	5619	46104	116291	183732	282502	492137
n-C12	5872	47741	120161	189640	291573	508874
n-C13	5994	48491	122219	192475	295496	516266
n-C14	6091	49586	125037	196460	300466	524811
n-C15	6392	50213	126252	198140	303636	531317
n-C16	6427	50273	126520	198946	306006	534021
n-C17	6381	50509	128771	199387	301835	526009
Pristane	6470	51162	128396	201922	309711	541254
n-C18	6350	50700	127994	200556	305097	532230
Phytane	6464	51427	129827	203705	311620	544695
n-C19	6422	50412	127669	200174	306357	532899
n-C20	6352	50627	128280	201029	306042	532765
n-C21	6419	50431	127643	200648	307277	533699
n-C22	6398	50612	128002	200593	306843	532576
n-C23	6352	50054	126406	199649	305495	530559
n-C24	6217	49754	125474	197886	302909	526216
n-C25	6271	49531	125316	196994	299760	521742
n-C26	6203	49750	125277	197318	301287	523743
n-C27	6062	48373	120859	191950	296051	514820
n-C28	6097	48269	121540	191796	292820	509496
n-C29	6111	48072	121279	190953	291717	506784
n-C30	5989	47406	118967	188301	287917	500344
n-C31	5838	46815	117370	186143	285663	494882
n-C32	5746	45908	115052	181769	278860	481937
n-C33	5492	44225	113066	175723	262099	452644
n-C34	5485	45355	114722	180092	273690	471219
n-C35	5447	44481	112286	177180	271145	464597
n-C36	5750	45887	117050	181306	270901	461331
n-C37	5406	42115	106262	168772	257333	436530
n-C38	4889	40883	103185	162276	244415	411914
n-C39	4724	39498	97478	155872	240357	402261
n-C40	4855	36392	89028	144079	224556	374514
Average Area (use for TPH, TRPH, GRO, DRO, RRO)	5886	47099	118674	186942	285556	494743
n-C36/n-C20	0.91	0.91	0.91	0.90	0.89	0.87

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\FID10125\
Data File : FID10125C.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 14:57:22
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-020
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:11:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 11 11:10:28 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	12.317	201961	50.000 ug/mlm
16) I	5a-androstane	17.247	248487	50.150 ug/mlm
System Monitoring Compounds				
6) S	n-dodecane-d26	8.089	5208	1.242 ug/mlm
23) S	n-eicosane-d42	16.723	5163	1.302 ug/mlm
34) S	n-triacontane-d62	28.462	4509	1.234 ug/mlm
Target Compounds				
2)	n-C8	3.028	4861	1.211 ug/mlm
3)	n-C9	4.299	5143	1.213 ug/mlm
4)	n-C10	5.693	5438	1.214 ug/mlm
5)	n-C11	7.038	5619	1.232 ug/mlm
7)	n-C12	8.292	5872	1.227 ug/mlm
8)	i-13	0.000	0	N.D. ug/ml
9)	i-14	0.000	0	N.D. ug/mld
10)	n-C13	9.458	5994	1.260 ug/mlm
11)	i-15	0.000	0	N.D. ug/mld
12)	n-C14	10.547	6091	1.256 ug/mlm
13)	i-16	0.000	0	N.D. ug/ml
14)	n-C15	11.571	6392	1.292 ug/mlm
15)	n-C16	12.551	6427	1.295 ug/mlm
17)	i-18	0.000	0	N.D. ug/mlm
18)	n-C17	13.583	6381	1.290 ug/mlm
19)	Pristane	13.691	6470	1.283 ug/mlm
20)	n-C18	14.693	6350	1.282 ug/mlm
21)	Phytane	14.843	6464	1.294 ug/mlm
22)	n-C19	15.874	6422	1.302 ug/mlm
24)	n-C20	17.107	6352	1.289 ug/mlm
25)	n-C21	18.371	6419	1.305 ug/mlm
26)	n-C22	19.645	6398	1.281 ug/mlm
27)	n-C23	20.910	6352	1.294 ug/mlm
28)	n-C24	22.160	6217	1.258 ug/mlm
29)	n-C25	23.379	6271	1.283 ug/mlm
30)	n-C26	24.568	6203	1.268 ug/mlm
31)	n-C27	25.723	6062	1.264 ug/mlm
32)	n-C28	26.846	6097	1.275 ug/mlm
33)	n-C29	27.934	6111	1.281 ug/mlm
35)	n-C30	28.992	5989	1.270 ug/mlm
36)	n-C31	30.017	5838	1.262 ug/mlm
37)	n-C32	31.006	5746	1.255 ug/mlm
38)	n-C33	31.970	5492	1.275 ug/mlm
39)	n-C34	32.910	5485	1.240 ug/mlm
40)	n-C35	33.822	5447	1.269 ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125C.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 14:57:22
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-020
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:11:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 11 11:10:28 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.784	5750	1.289	ug/mlm
42)	n-C37	35.883	5406	1.337	ug/mlm
43)	n-C38	37.157	4889	1.253	ug/mlm
44)	n-C39	38.648	4724	1.264	ug/mlm
45)	n-C40	40.403	4855	1.424	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

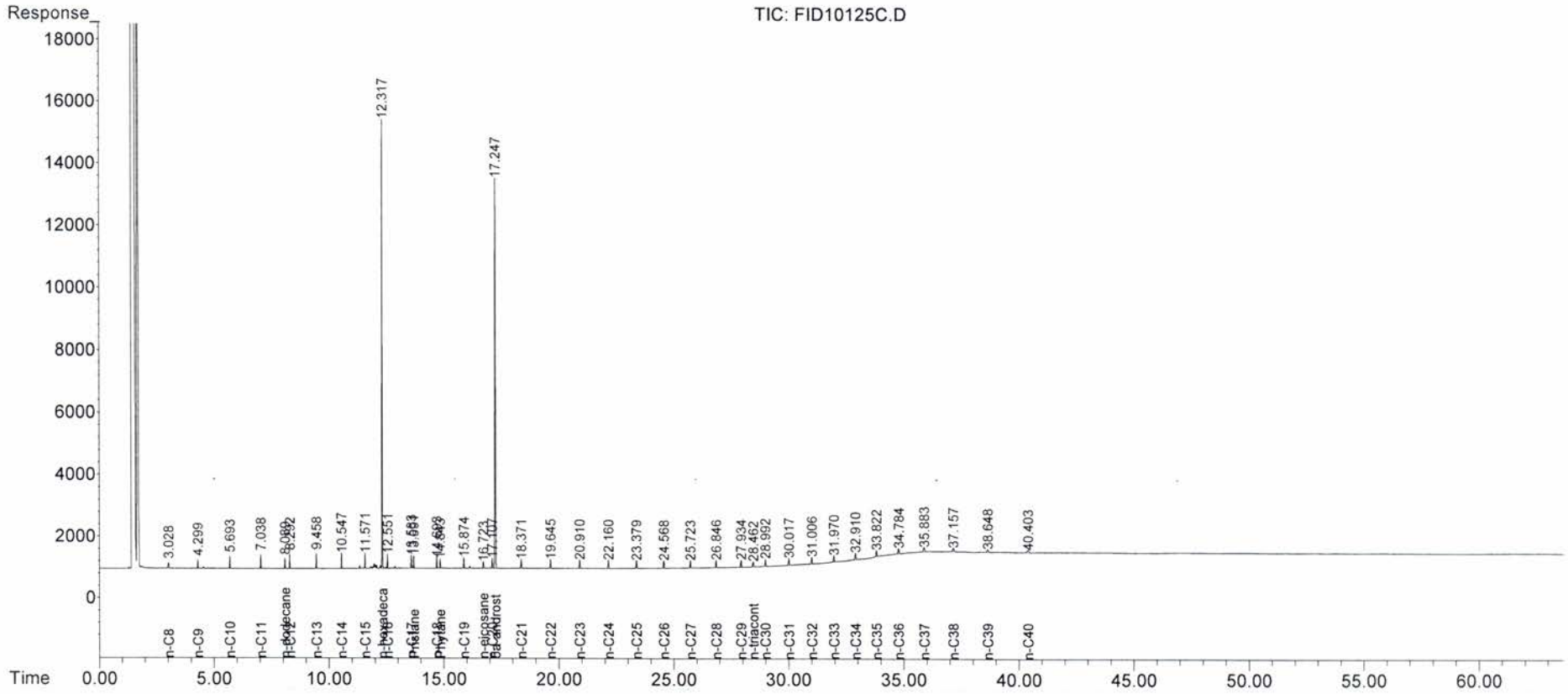
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125C.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 14:57:22
Operator : Meghan Dailey
Sample : AL-WKC1-1.25-020
Misc :
ALS Vial : 53 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:11:01 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Mon Nov 11 11:10:28 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\FID10125\
Data File : FID10125D.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 16:07:53
Operator : Meghan Dailey
Sample : AL-WKC2-10-020
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:16:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:11:10 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	12.316	202394	50.000	ug/mlm
16) I	5a-androstane	17.244	247274	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.087	41982	9.984	ug/mlm
23) S	n-eicosane-d42	16.722	40438	10.203	ug/mlm
34) S	n-triacontane-d62	28.459	36183	10.020	ug/mlm
Target Compounds					
2)	n-C8	3.028	40037	10.041	ug/mlm
3)	n-C9	4.299	42441	10.040	ug/mlm
4)	n-C10	5.693	44941	10.081	ug/mlm
5)	n-C11	7.037	46104	10.111	ug/mlm
7)	n-C12	8.291	47741	9.958	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.457	48491	10.167	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.547	49586	10.222	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.570	50213	10.106	ug/mlm
15)	n-C16	12.550	50273	10.090	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.582	50509	10.233	ug/mlm
19)	Pristane	13.690	51162	10.182	ug/mlm
20)	n-C18	14.691	50700	10.251	ug/mlm
21)	Phytane	14.842	51427	10.308	ug/mlm
22)	n-C19	15.874	50412	10.233	ug/mlm
24)	n-C20	17.106	50627	10.290	ug/mlm
25)	n-C21	18.369	50431	10.260	ug/mlm
26)	n-C22	19.645	50612	10.170	ug/mlm
27)	n-C23	20.911	50054	10.214	ug/mlm
28)	n-C24	22.160	49754	10.125	ug/mlm
29)	n-C25	23.379	49531	10.157	ug/mlm
30)	n-C26	24.570	49750	10.232	ug/mlm
31)	n-C27	25.725	48373	10.162	ug/mlm
32)	n-C28	26.845	48269	10.144	ug/mlm
33)	n-C29	27.936	48072	10.120	ug/mlm
35)	n-C30	28.993	47406	10.080	ug/mlm
36)	n-C31	30.015	46815	10.178	ug/mlm
37)	n-C32	31.009	45908	10.075	ug/mlm
38)	n-C33	31.972	44225	10.286	ug/mlm
39)	n-C34	32.909	45355	10.333	ug/mlm
40)	n-C35	33.820	44481	10.359	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125D.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 16:07:53
Operator : Meghan Dailey
Sample : AL-WKC2-10-020
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:16:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:11:10 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.784	45887	10.273	ug/mlm
42)	n-C37	35.884	42115	10.382	ug/mlm
43)	n-C38	37.153	40883	10.662	ug/mlm
44)	n-C39	38.648	39497	10.702	ug/mlm
45)	n-C40	40.399	36392	10.452	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

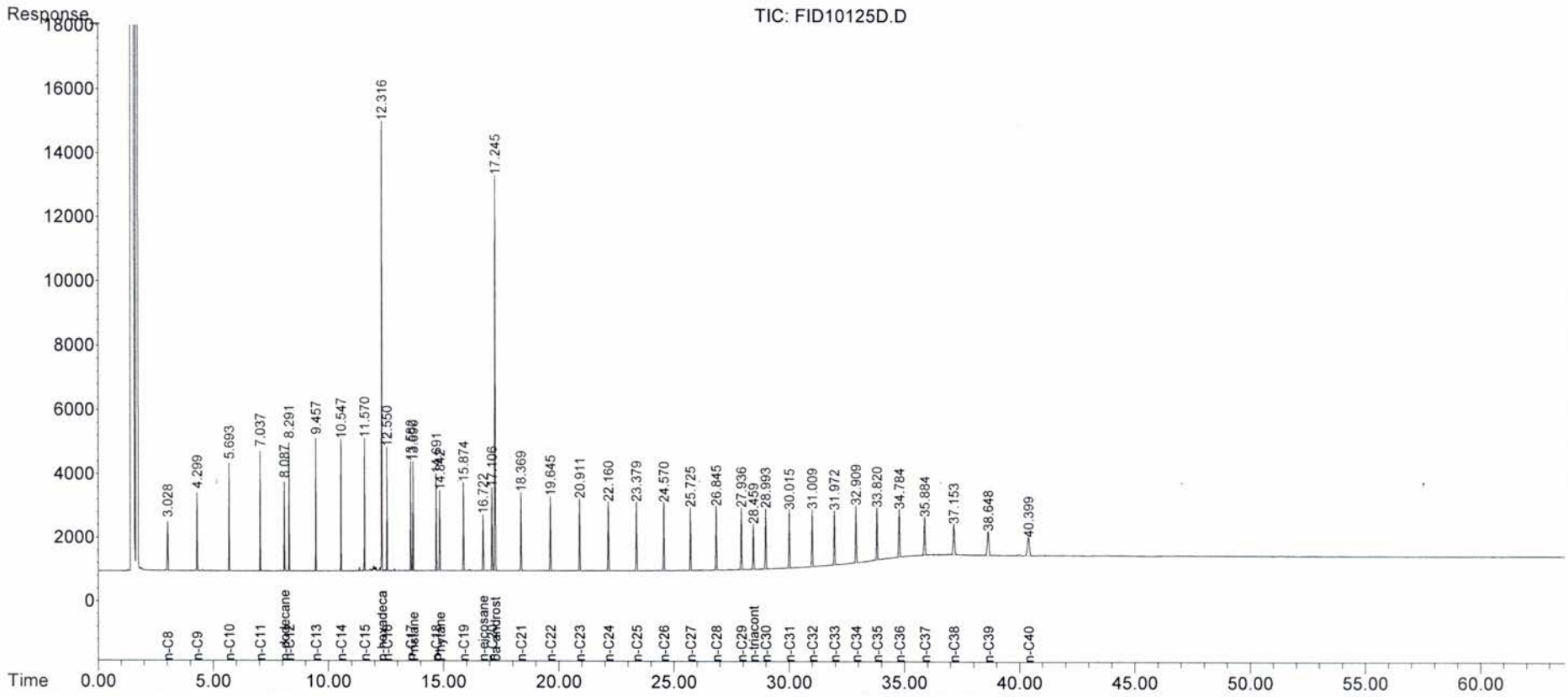
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125D.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 16:07:53
Operator : Meghan Dailey
Sample : AL-WKC2-10-020
Misc :
ALS Vial : 54 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:16:03 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:11:10 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID1C08BACK120513.M Thu Dec 05 13:56:34 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125E.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 17:18:08
Operator : Meghan Dailey
Sample : AL-WKC3-25-020
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:31:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:16:11 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	12.316	210809	50.000	ug/mlm
16) I	5a-androstane	17.244	257350	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.087	108934	24.920	ug/mlm
23) S	n-eicosane-d42	16.725	105125	25.452	ug/mlm
34) S	n-triacontane-d62	28.462	93166	24.842	ug/mlm
Target Compounds					
2)	n-C8	3.030	99549	24.044	ug/mlm
3)	n-C9	4.299	106199	24.178	ug/mlm
4)	n-C10	5.693	114149	24.647	ug/mlm
5)	n-C11	7.038	116291	24.545	ug/mlm
7)	n-C12	8.292	120161	24.103	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.458	122219	24.641	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.547	125037	24.771	ug/mlm
13)	i-16	0.000	0	N.D.	ug/ml
14)	n-C15	11.571	126252	24.409	ug/mlm
15)	n-C16	12.551	126520	24.398	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.582	128771	25.015	ug/mlm
19)	Pristane	13.690	128396	24.491	ug/mlm
20)	n-C18	14.692	127994	24.803	ug/mlm
21)	Phytane	14.844	129827	24.961	ug/mlm
22)	n-C19	15.875	127669	24.869	ug/mlm
24)	n-C20	17.107	128280	25.032	ug/mlm
25)	n-C21	18.371	127643	24.944	ug/mlm
26)	n-C22	19.646	128002	24.714	ug/mlm
27)	n-C23	20.912	126406	24.800	ug/mlm
28)	n-C24	22.159	125474	24.555	ug/mlm
29)	n-C25	23.379	125316	24.728	ug/mlm
30)	n-C26	24.570	125277	24.785	ug/mlm
31)	n-C27	25.727	120859	24.433	ug/mlm
32)	n-C28	26.848	121540	24.599	ug/mlm
33)	n-C29	27.937	121279	24.586	ug/mlm
35)	n-C30	28.993	118967	24.362	ug/mlm
36)	n-C31	30.016	117370	24.567	ug/mlm
37)	n-C32	31.009	115052	24.274	ug/mlm
38)	n-C33	31.974	113066	25.292	ug/mlm
39)	n-C34	32.910	114722	25.102	ug/mlm
40)	n-C35	33.820	112286	25.086	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125E.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 17:18:08
Operator : Meghan Dailey
Sample : AL-WKC3-25-020
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:31:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:16:11 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.781	117050	25.106	ug/mlm
42)	n-C37	35.886	106262	25.089	ug/mlm
43)	n-C38	37.158	103185	25.732	ug/mlm
44)	n-C39	38.647	97478	25.194	ug/mlm
45)	n-C40	40.398	89028	24.393	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

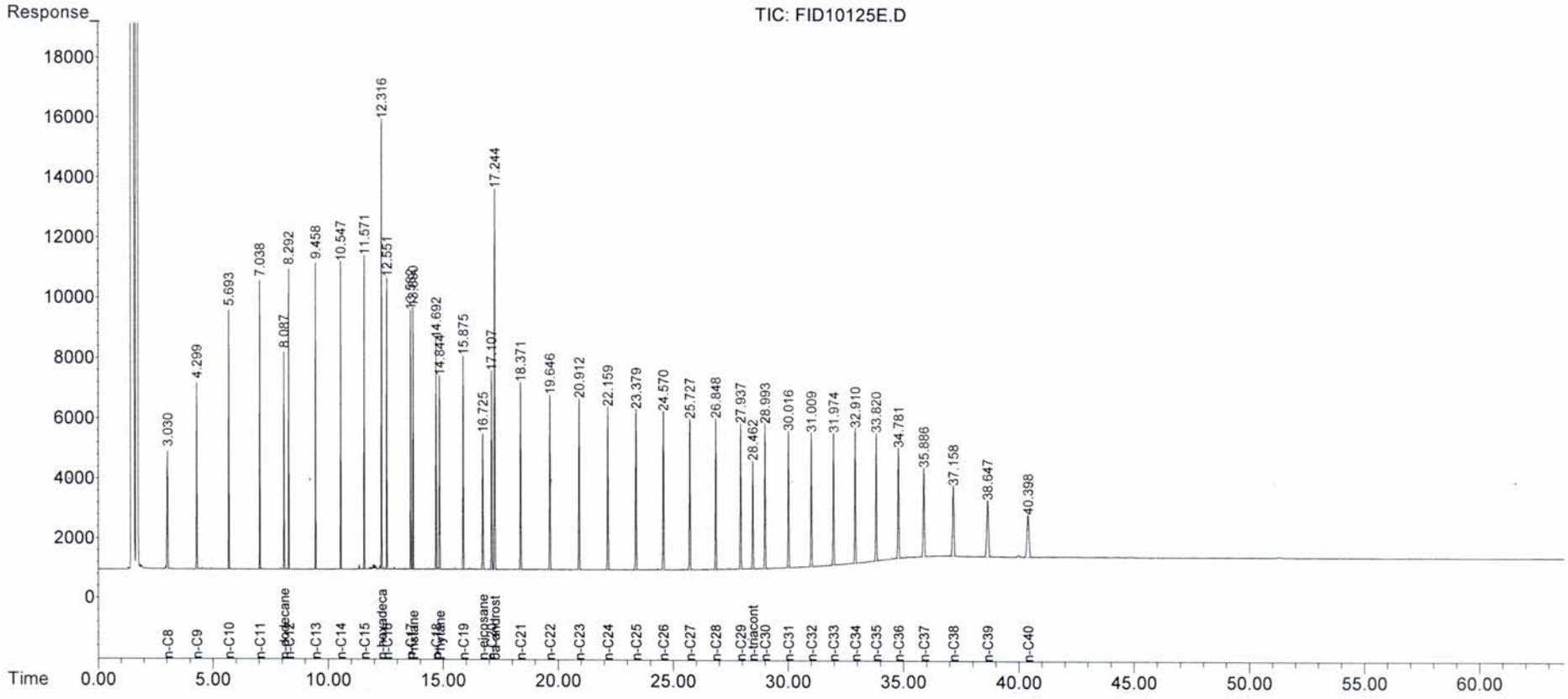
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125E.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 17:18:08
Operator : Meghan Dailey
Sample : AL-WKC3-25-020
Misc :
ALS Vial : 55 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 11:31:00 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:16:11 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID1C08BACK120513.M Thu Dec 05 13:56:42 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125F.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 18:28:33
Operator : Meghan Dailey
Sample : AL-WKC4-40-020
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:11:42 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:31:45 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	12.316	209119	50.000	ug/mlm
16) I	5a-androstane	17.243	255366	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.088	172057	39.705	ug/mlm
23) S	n-eicosane-d42	16.725	165462	40.262	ug/mlm
34) S	n-triacontane-d62	28.461	147831	39.807	ug/mlm
Target Compounds					
2)	n-C8	3.030	159190	39.028	ug/mlm
3)	n-C9	4.299	169036	38.968	ug/mlm
4)	n-C10	5.693	179292	39.129	ug/mlm
5)	n-C11	7.038	183732	39.154	ug/mlm
7)	n-C12	8.293	189640	38.381	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.458	192475	39.136	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.547	196460	39.241	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.571	198140	38.624	ug/mlm
15)	n-C16	12.552	198946	38.685	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.584	199387	38.919	ug/mlm
19)	Pristane	13.691	201922	38.741	ug/mlm
20)	n-C18	14.694	200556	39.071	ug/mlm
21)	Phytane	14.846	203705	39.390	ug/mlm
22)	n-C19	15.876	200174	39.190	ug/mlm
24)	n-C20	17.109	201029	39.428	ug/mlm
25)	n-C21	18.372	200648	39.414	ug/mlm
26)	n-C22	19.648	200593	38.948	ug/mlm
27)	n-C23	20.913	199649	39.421	ug/mlm
28)	n-C24	22.160	197886	38.985	ug/mlm
29)	n-C25	23.381	196994	39.155	ug/mlm
30)	n-C26	24.572	197318	39.346	ug/mlm
31)	n-C27	25.728	191950	39.136	ug/mlm
32)	n-C28	26.849	191796	39.165	ug/mlm
33)	n-C29	27.938	190953	39.067	ug/mlm
35)	n-C30	28.993	188301	38.934	ug/mlm
36)	n-C31	30.018	186143	39.333	ug/mlm
37)	n-C32	31.011	181769	38.681	ug/mlm
38)	n-C33	31.973	175723	39.634	ug/mlm
39)	n-C34	32.913	180092	39.679	ug/mlm
40)	n-C35	33.823	177180	39.804	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125F.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 18:28:33
Operator : Meghan Dailey
Sample : AL-WKC4-40-020
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:11:42 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:31:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.787	181306	39.069	ug/mlm
42)	n-C37	35.886	168772	40.009	ug/mlm
43)	n-C38	37.160	162276	40.566	ug/mlm
44)	n-C39	38.654	155872	40.351	ug/mlm
45)	n-C40	40.397	144079	39.546	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

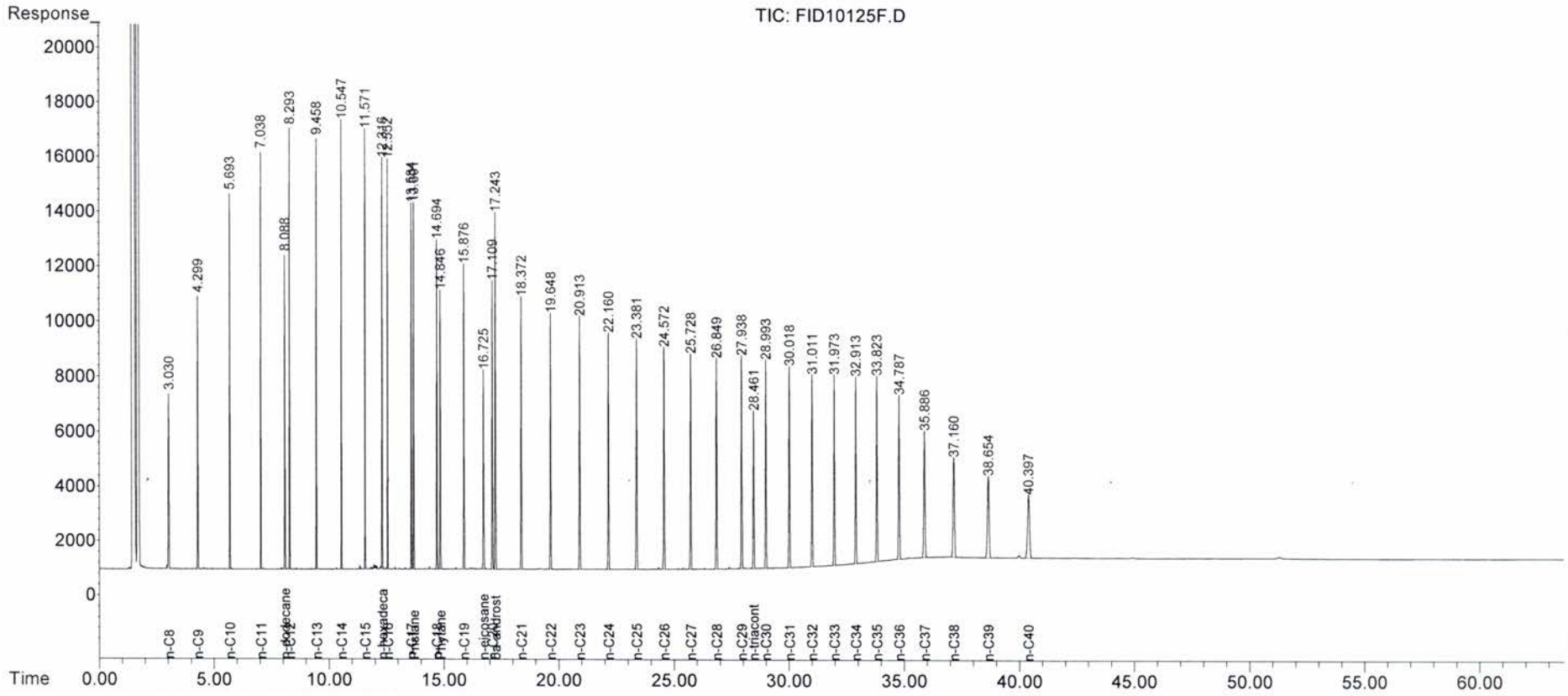
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125F.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 18:28:33
Operator : Meghan Dailey
Sample : AL-WKC4-40-020
Misc :
ALS Vial : 56 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:11:42 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 11:31:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



FID1C08BACK120513.M Thu Dec 05 13:56:50 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125G.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 19:38:50
Operator : Meghan Dailey
Sample : AL-WKC5-50-020
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:11:48 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	12.316	254125	50.000	ug/mlm
16) I	5a-androstane	17.245	312383	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.089	263521	50.148	ug/mlm
23) S	n-eicosane-d42	16.725	253426	50.295	ug/mlm
34) S	n-triacontane-d62	28.463	226696	50.004	ug/mlm
Target Compounds					
2)	n-C8	3.028	240314	48.722	ug/mlm
3)	n-C9	4.298	258904	49.309	ug/mlm
4)	n-C10	5.693	273801	49.348	ug/mlm
5)	n-C11	7.039	282502	49.675	ug/mlm
7)	n-C12	8.293	291573	48.670	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.459	295496	49.520	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.549	300466	49.448	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.573	303636	48.769	ug/mlm
15)	n-C16	12.552	306006	49.010	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.585	301835	48.110	ug/mlm
19)	Pristane	13.693	309711	48.512	ug/mlm
20)	n-C18	14.697	305097	48.510	ug/mlm
21)	Phytane	14.847	311620	49.204	ug/mlm
22)	n-C19	15.878	306357	48.944	ug/mlm
24)	n-C20	17.111	306042	48.976	ug/mlm
25)	n-C21	18.375	307277	49.262	ug/mlm
26)	n-C22	19.649	306843	48.649	ug/mlm
27)	n-C23	20.915	305495	49.263	ug/mlm
28)	n-C24	22.162	302909	48.758	ug/mlm
29)	n-C25	23.384	299760	48.703	ug/mlm
30)	n-C26	24.575	301287	49.140	ug/mlm
31)	n-C27	25.730	296051	49.398	ug/mlm
32)	n-C28	26.851	292820	48.955	ug/mlm
33)	n-C29	27.941	291717	48.880	ug/mlm
35)	n-C30	28.997	287917	48.743	ug/mlm
36)	n-C31	30.020	285663	49.415	ug/mlm
37)	n-C32	31.014	278860	48.563	ug/mlm
38)	n-C33	31.977	262099	48.344	ug/mlm
39)	n-C34	32.912	273690	49.280	ug/mlm
40)	n-C35	33.824	271145	49.708	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125G.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 19:38:50
Operator : Meghan Dailey
Sample : AL-WKC5-50-020
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:11:48 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.788	270901	47.620	ug/mlm
42)	n-C37	35.892	257333	49.666	ug/mlm
43)	n-C38	37.164	244415	49.720	ug/mlm
44)	n-C39	38.649	240357	50.593	ug/mlm
45)	n-C40	40.400	224556	50.091	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

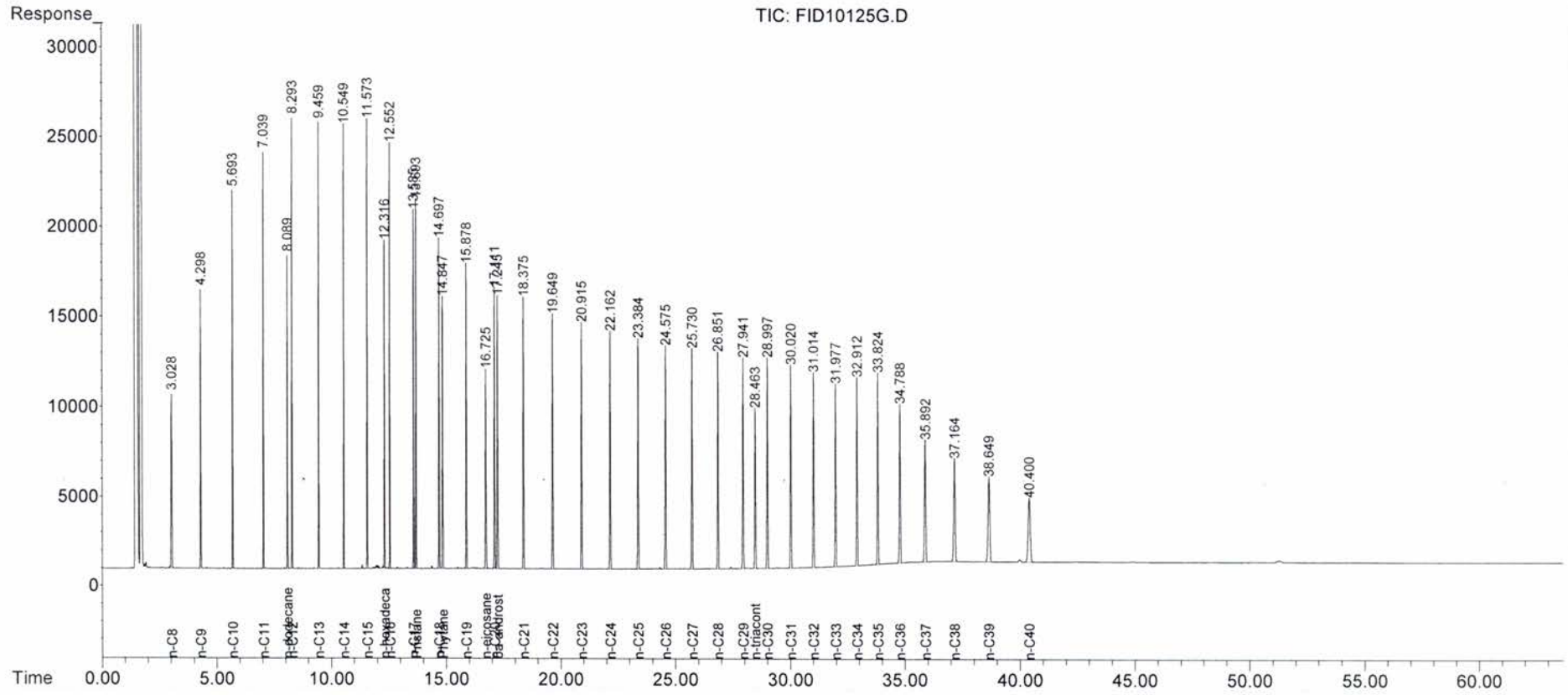
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125G.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 19:38:50
Operator : Meghan Dailey
Sample : AL-WKC5-50-020
Misc :
ALS Vial : 57 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:34:06 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:11:48 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\FID10125\
Data File : FID10125H.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 20:49:34
Operator : Meghan Dailey
Sample : AL-WKC6-100-002
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:41:56 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:34:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
Internal Standards					
1) I	n-hexadecane-d34	12.315	218293	50.000	ug/mlm
16) I	5a-androstane	17.244	264673	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.091	446096	98.876	ug/mlm
23) S	n-eicosane-d42	16.729	426968	99.731	ug/mlm
34) S	n-triacontane-d62	28.466	381524	99.373	ug/mlm
Target Compounds					
2)	n-C8	3.030	421056	99.757	ug/mlm
3)	n-C9	4.301	450254	100.158	ug/mlm
4)	n-C10	5.695	475593	99.947	ug/mlm
5)	n-C11	7.041	492137	100.853	ug/mlm
7)	n-C12	8.296	508874	98.956	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.462	516266	100.775	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.551	524811	100.585	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.575	531317	99.367	ug/mlm
15)	n-C16	12.556	534021	99.559	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.589	526009	98.742	ug/mlm
19)	Pristane	13.697	541254	99.879	ug/mlm
20)	n-C18	14.700	532230	99.674	ug/mlm
21)	Phytane	14.852	544695	101.345	ug/mlm
22)	n-C19	15.882	532899	100.286	ug/mlm
24)	n-C20	17.117	532765	100.453	ug/mlm
25)	n-C21	18.380	533699	100.783	ug/mlm
26)	n-C22	19.655	532576	99.482	ug/mlm
27)	n-C23	20.920	530559	100.827	ug/mlm
28)	n-C24	22.169	526216	99.842	ug/mlm
29)	n-C25	23.390	521742	99.978	ug/mlm
30)	n-C26	24.579	523743	100.774	ug/mlm
31)	n-C27	25.736	514820	101.379	ug/mlm
32)	n-C28	26.858	509496	100.569	ug/mlm
33)	n-C29	27.946	506784	100.282	ug/mlm
35)	n-C30	29.003	500344	100.048	ug/mlm
36)	n-C31	30.028	494882	101.041	ug/mlm
37)	n-C32	31.020	481937	99.006	ug/mlm
38)	n-C33	31.982	452644	98.425	ug/mlm
39)	n-C34	32.918	471219	99.904	ug/mlm
40)	n-C35	33.829	464597	100.205	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125H.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 20:49:34
Operator : Meghan Dailey
Sample : AL-WKC6-100-002
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:41:56 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:34:17 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.794	461331	95.279	ug/mlm
42)	n-C37	35.898	436530	98.872	ug/mlm
43)	n-C38	37.171	411914	98.282	ug/mlm
44)	n-C39	38.661	402261	99.241	ug/mlm
45)	n-C40	40.411	374514	97.870	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

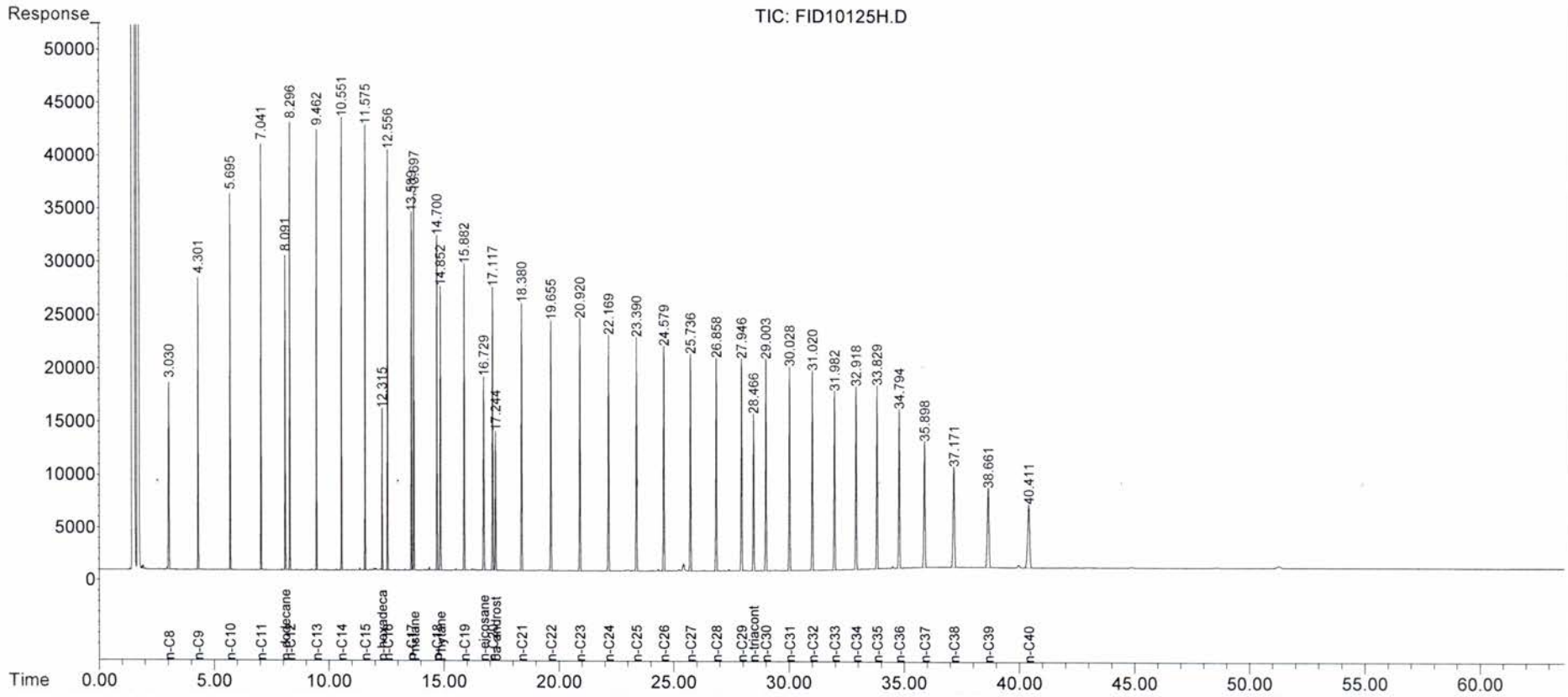
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125H.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 20:49:34
Operator : Meghan Dailey
Sample : AL-WKC6-100-002
Misc :
ALS Vial : 58 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 13:41:56 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:34:17 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\FID10125\
Data File : FID10125I.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 22:00:27
Operator : Meghan Dailey
Sample : AL-WKICV-25-003
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:06:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	I	n-hexadecane-d34	1.000	1.000	0.0	101	0.00
2		n-C8	0.959	0.956	0.3	102	0.00
3		n-C9	1.023	1.036	-1.3	104	0.00
4		n-C10	1.085	1.086	-0.1	101	0.00
5		n-C11	1.114	1.131	-1.5	103	0.00
6	S	n-dodecane-d26	1.032	0.997	3.4	97	0.00
7		n-C12	1.175	1.176	-0.1	102	0.00
10		n-C13	1.171	1.174	-0.3	102	0.00
12		n-C14	1.194	1.188	0.5	101	0.00
14		n-C15	1.224	1.223	0.1	102	0.00
15		n-C16	1.228	1.231	-0.2	103	0.00
16	I	5a-androstane	1.000	1.000	0.0	101	0.00
18		n-C17	1.011	1.016	-0.5	101	0.00
19		Pristane	1.028	1.007	2.0	100	0.00
20		n-C18	1.013	1.019	-0.6	102	0.00
21		Phytane	1.020	1.003	1.7	100	0.00
22		n-C19	1.008	1.019	-1.1	103	0.00
23	S	n-eicosane-d42	0.813	0.784	3.6	97	0.00
24		n-C20	1.006	1.003	0.3	101	0.00
25		n-C21	1.004	1.020	-1.6	104	0.00
26		n-C22	1.015	1.020	-0.5	102	0.00
27		n-C23	0.998	0.999	-0.1	102	0.00
28		n-C24	0.999	0.998	0.1	102	0.00
29		n-C25	0.989	0.910	8.0	94	0.00
30		n-C26	0.984	0.988	-0.4	102	0.00
31		n-C27	0.961	0.977	-1.7	105	0.00
32		n-C28	0.959	0.965	-0.6	103	0.00
33		n-C29	0.956	0.945	1.2	101	0.00
34	S	n-triacontane-d62	0.727	0.708	2.6	98	0.00
35		n-C30	0.946	0.951	-0.5	103	0.00
36		n-C31	0.927	0.909	1.9	101	0.00
37		n-C32	0.921	0.919	0.2	102	0.00
38		n-C33	0.871	0.907	-4.1	104	0.00
39		n-C34	0.894	0.927	-3.7	104	0.00
40		n-C35	0.879	0.851	3.2	98	0.00
41		n-C36	0.919	0.894	2.7	97	0.00
42		n-C37	0.839	0.763	9.1	93	0.00
43		n-C38	0.796	0.716	10.1	90	0.00

44	n-C39	0.770	0.672	12.7	89	0.00
45	n-C40	0.727	0.651	10.5	95	-0.02

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.48#
9	i-14	0.020	0.000	100.0#	0#	-9.18#
11	i-15	0.020	0.000	100.0#	0#	-10.32#
13	i-16	0.020	0.000	100.0#	0#	-11.22#
17	i-18	0.020	0.000	100.0#	0#	-13.07#
46	TPH	0.019	0.000	100.0#	0#	-27.61#
47	TRH1	0.019	0.000	100.0#	0#	-7.36#
48	TRH2	0.019	0.000	100.0#	0#	-15.13#
49	TRH3	0.019	0.000	100.0#	0#	-22.22#
50	TRH4	0.019	0.000	100.0#	0#	-26.99#
51	TRH5	0.019	0.000	100.0#	0#	-31.72#
52	TRH6	0.019	0.000	100.0#	0#	-42.61#
53	GRO	0.019	0.000	100.0#	0#	-5.01#
54	DRO	0.019	0.000	100.0#	0#	-13.60#
55	RRO	0.019	0.000	100.0#	0#	-31.37#

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

FID1C08BACK120513.M Thu Dec 05 14:06:56 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125I.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 22:00:27
Operator : Meghan Dailey
Sample : AL-WKICV-25-003
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:06:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.315	212383	50.000	ug/ml
16) I	5a-androstane	17.240	259814	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.086	105853	24.158	ug/mlm
23) S	n-eicosane-d42	16.721	102159	24.264	ug/mlm
34) S	n-triacontane-d62	28.456	91764	24.378	ug/mlm
Target Compounds					
2)	n-C8	3.027	101563	24.937	ug/mlm
3)	n-C9	4.297	110049	25.338	ug/mlm
4)	n-C10	5.691	115364	25.037	ug/mlm
5)	n-C11	7.036	120205	25.402	ug/mlm
7)	n-C12	8.290	122755	24.591	ug/mlm
8)	i-13	0.000	0	N.D.	ug/mld
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.456	124907	25.103	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.546	126387	24.928	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.569	129140	24.839	ug/mlm
15)	n-C16	12.549	130070	24.938	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.580	130292	24.887	ug/mlm
19)	Pristane	13.688	128850	24.192	ug/mlm
20)	n-C18	14.690	130772	24.917	ug/mlm
21)	Phytane	14.840	130055	24.616	ug/mlm
22)	n-C19	15.872	131722	25.231	ug/mlm
24)	n-C20	17.105	129791	24.902	ug/mlm
25)	n-C21	18.368	132363	25.436	ug/mlm
26)	n-C22	19.643	130908	24.892	ug/mlm
27)	n-C23	20.908	129484	25.055	ug/mlm
28)	n-C24	22.155	127932	24.723	ug/mlm
29)	n-C25	23.374	117395	22.914	ug/mlm
30)	n-C26	24.565	128223	25.146	ug/mlm
31)	n-C27	25.722	126605	25.420	ug/mlm
32)	n-C28	26.842	125103	25.188	ug/mlm
33)	n-C29	27.931	122512	24.736	ug/mlm
35)	n-C30	28.987	122644	25.025	ug/mlm
36)	n-C31	30.010	118061	24.589	ug/mlm
37)	n-C32	31.002	117533	24.623	ug/mlm
38)	n-C33	31.968	117456	26.025	ug/mlm
39)	n-C34	32.906	119778	25.853	ug/mlm
40)	n-C35	33.816	110261	24.199	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125I.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 22:00:27
Operator : Meghan Dailey
Sample : AL-WKICV-25-003
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:06:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.779	113443	23.820	ug/mlm
42)	n-C37	35.878	98839	22.743	ug/mlm
43)	n-C38	37.152	92838	22.501	ug/mlm
44)	n-C39	38.639	87053	21.812	ug/mlm
45)	n-C40	40.384	84175	22.342	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

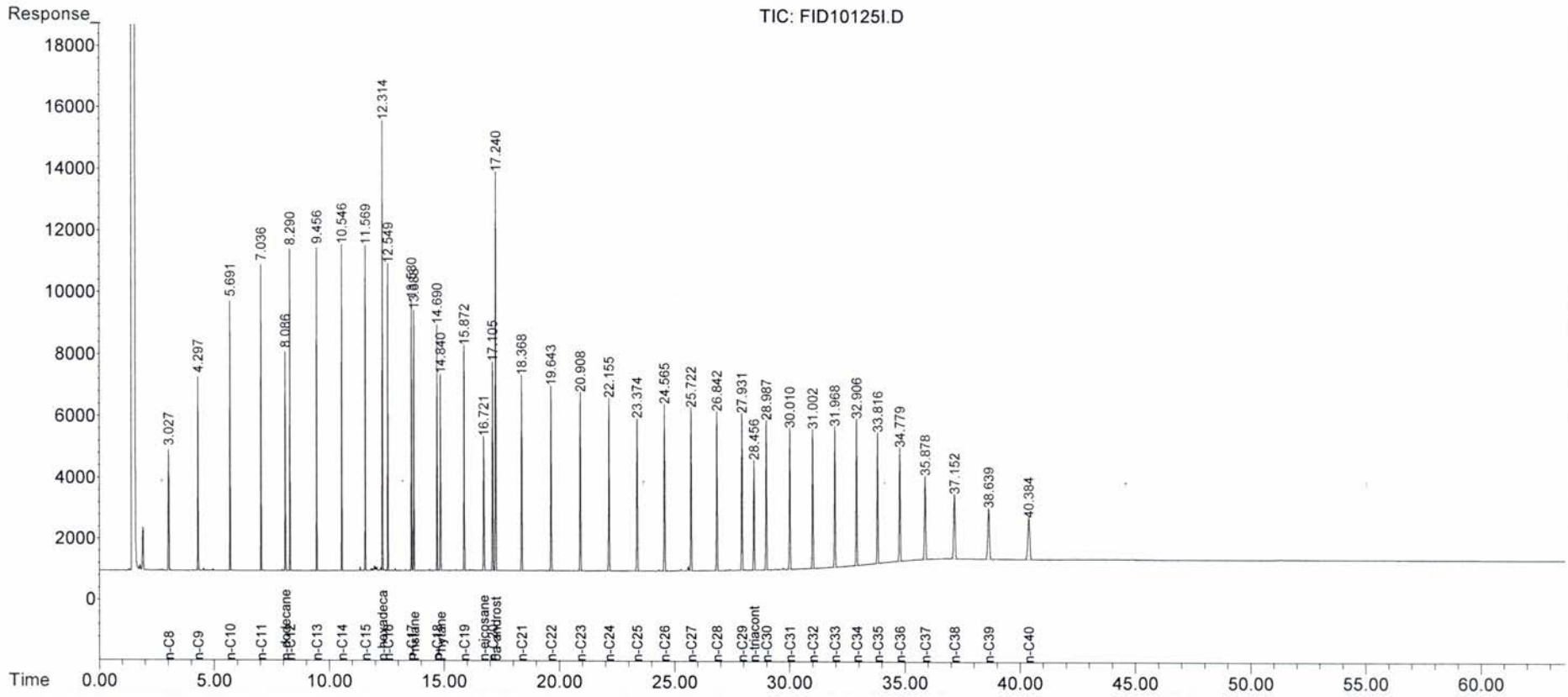
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125I.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 22:00:27
Operator : Meghan Dailey
Sample : AL-WKICV-25-003
Misc :
ALS Vial : 59 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:06:46 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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\FID10125\
Data File : FID10125J.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 23:10:43
Operator : Meghan Dailey
Sample : AL-WKCC-25-025
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:22:31 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	99	0.00
2		n-C8	0.959	0.961	-0.2	100	0.00
3		n-C9	1.023	1.014	0.9	99	0.00
4		n-C10	1.085	1.069	1.5	97	0.00
5		n-C11	1.114	1.099	1.3	98	0.00
6	S	n-dodecane-d26	1.032	1.029	0.3	98	0.00
7		n-C12	1.175	1.163	1.0	99	0.00
10		n-C13	1.171	1.156	1.3	99	0.00
12		n-C14	1.194	1.186	0.7	99	0.00
14		n-C15	1.224	1.199	2.0	98	0.00
15		n-C16	1.228	1.213	1.2	99	0.00
16	I	5a-androstane	1.000	1.000	0.0	99	0.00
18		n-C17	1.011	0.992	1.9	97	0.00
19		Pristane	1.028	1.010	1.8	99	0.00
20		n-C18	1.013	1.000	1.3	98	0.00
21		Phytane	1.020	0.877	14.0	86	0.00
22		n-C19	1.008	1.001	0.7	99	0.00
23	S	n-eicosane-d42	0.813	0.803	1.2	98	0.00
24		n-C20	1.006	0.986	2.0	98	0.00
25		n-C21	1.004	1.002	0.2	100	0.00
26		n-C22	1.015	1.027	-1.2	101	0.00
27		n-C23	0.998	0.983	1.5	99	0.00
28		n-C24	0.999	0.982	1.7	98	0.00
29		n-C25	0.989	0.977	1.2	99	0.00
30		n-C26	0.984	0.971	1.3	99	0.00
31		n-C27	0.961	0.939	2.3	99	0.00
32		n-C28	0.959	0.937	2.3	98	0.00
33		n-C29	0.956	0.937	2.0	98	0.00
34	S	n-triacontane-d62	0.727	0.720	1.0	98	-0.01
35		n-C30	0.946	0.929	1.8	99	0.00
36		n-C31	0.927	0.879	5.2	95	0.00
37		n-C32	0.921	0.898	2.5	98	0.00
38		n-C33	0.871	0.850	2.4	95	0.00
39		n-C34	0.894	0.874	2.2	97	0.00
40		n-C35	0.879	0.876	0.3	99	0.00
41		n-C36	0.919	0.891	3.0	95	0.00
42		n-C37	0.839	0.852	-1.5	102	0.00
43		n-C38	0.796	0.831	-4.4	103	0.00

44	n-C39	0.770	0.820	-6.5	107	-0.01
45	n-C40	0.727	0.763	-5.0	109	-0.03

Evaluate Continuing Calibration Report - Not Founds

8	i-13	0.019	0.000	100.0#	0#	-8.48#
9	i-14	0.020	0.000	100.0#	0#	-9.18#
11	i-15	0.020	0.000	100.0#	0#	-10.32#
13	i-16	0.020	0.000	100.0#	0#	-11.22#
17	i-18	0.020	0.000	100.0#	0#	-13.07#
46	TPH	0.019	0.000	100.0#	0#	-27.61#
47	TRH1	0.019	0.000	100.0#	0#	-7.36#
48	TRH2	0.019	0.000	100.0#	0#	-15.13#
49	TRH3	0.019	0.000	100.0#	0#	-22.22#
50	TRH4	0.019	0.000	100.0#	0#	-26.99#
51	TRH5	0.019	0.000	100.0#	0#	-31.72#
52	TRH6	0.019	0.000	100.0#	0#	-42.61#
53	GRO	0.019	0.000	100.0#	0#	-5.01#
54	DRO	0.019	0.000	100.0#	0#	-13.60#
55	RRO	0.019	0.000	100.0#	0#	-31.37#

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

FID1C08BACK120513.M Thu Dec 05 14:22:55 2013

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125J.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 23:10:43
Operator : Meghan Dailey
Sample : AL-WKCC-25-025
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:22:31 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 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	12.313	207964	50.000	ug/mlm
16) I	5a-androstane	17.239	254857	50.150	ug/mlm
System Monitoring Compounds					
6) S	n-dodecane-d26	8.086	106975	24.933	ug/mlm
23) S	n-eicosane-d42	16.719	102639	24.852	ug/mlm
34) S	n-triacontane-d62	28.455	91606	24.810	ug/mlm
Target Compounds					
2)	n-C8	3.028	100010	25.078	ug/mlm
3)	n-C9	4.298	105407	24.785	ug/mlm
4)	n-C10	5.691	111185	24.643	ug/mlm
5)	n-C11	7.036	114424	24.694	ug/mlm
7)	n-C12	8.290	118825	24.309	ug/mlm
8)	i-13	0.000	0	N.D.	ug/ml
9)	i-14	0.000	0	N.D.	ug/mld
10)	n-C13	9.456	120436	24.719	ug/mlm
11)	i-15	0.000	0	N.D.	ug/mld
12)	n-C14	10.546	123613	24.899	ug/mlm
13)	i-16	0.000	0	N.D.	ug/mld
14)	n-C15	11.569	123921	24.342	ug/mlm
15)	n-C16	12.548	125482	24.570	ug/mlm
17)	i-18	0.000	0	N.D.	ug/mld
18)	n-C17	13.580	124763	24.294	ug/mlm
19)	Pristane	13.687	126815	24.273	ug/mlm
20)	n-C18	14.690	125972	24.469	ug/mlm
21)	Phytane	14.841	111538	21.521	ug/mlm
22)	n-C19	15.871	126819	24.764	ug/mlm
24)	n-C20	17.103	125154	24.479	ug/mlm
25)	n-C21	18.367	127548	24.987	ug/mlm
26)	n-C22	19.641	129281	25.060	ug/mlm
27)	n-C23	20.909	125030	24.664	ug/mlm
28)	n-C24	22.154	123547	24.340	ug/mlm
29)	n-C25	23.373	123661	24.607	ug/mlm
30)	n-C26	24.562	123569	24.705	ug/mlm
31)	n-C27	25.720	119393	24.438	ug/mlm
32)	n-C28	26.841	119238	24.474	ug/mlm
33)	n-C29	27.931	119217	24.539	ug/mlm
35)	n-C30	28.986	117511	24.444	ug/mlm
36)	n-C31	30.010	111939	23.768	ug/mlm
37)	n-C32	31.003	112688	24.067	ug/mlm
38)	n-C33	31.964	107976	24.389	ug/mlm
39)	n-C34	32.905	110850	24.391	ug/mlm
40)	n-C35	33.813	111362	24.916	ug/mlm

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125J.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 23:10:43
Operator : Meghan Dailey
Sample : AL-WKCC-25-025
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:22:31 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc	Units
41)	n-C36	34.776	110946	23.748	ug/mlm
42)	n-C37	35.876	108276	25.399	ug/mlm
43)	n-C38	37.148	105776	26.136	ug/mlm
44)	n-C39	38.634	104179	26.611	ug/mlm
45)	n-C40	40.377	96690	26.163	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

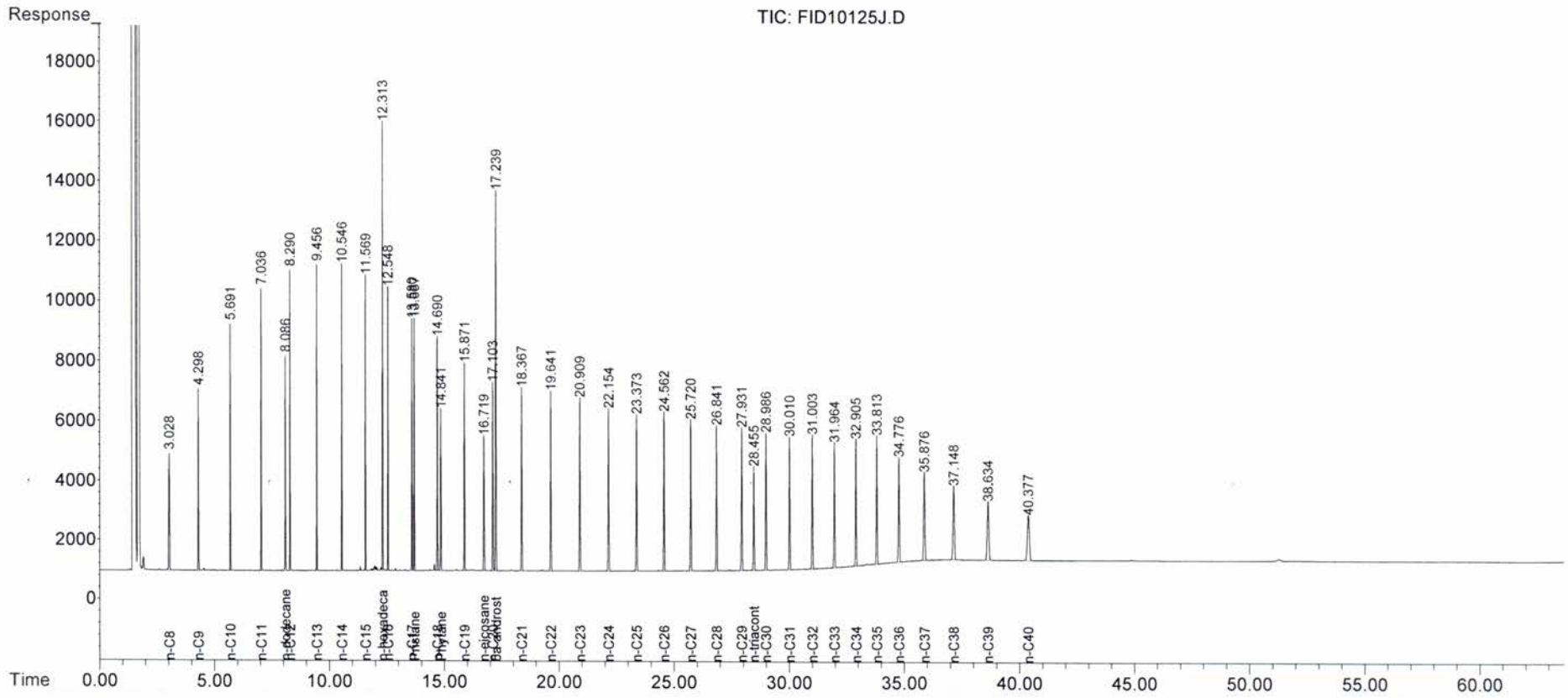
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\
Data File : FID10125J.D
Signal(s) : FID2B.CH
Acq On : 04-Dec-2013, 23:10:43
Operator : Meghan Dailey
Sample : AL-WKCC-25-025
Misc :
ALS Vial : 60 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: Dec 05 14:22:31 2013
Quant Method : P:\2013\J13001\ALI\MSDCHEM data\FID 1\FID10125\FID1C08BACK120513.M
Quant Title : C8 - C40 aliphatic
QLast Update : Thu Dec 05 13:55:45 2013
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



Aliphatic Mass Discrimination Ratio

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

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID10125C.D	AL-WKC1-1.25-020	6352	5750	0.91	
FID10125D.D	AL-WKC2-10-020	50627	45887	0.91	
FID10125E.D	AL-WKC3-25-020	128280	117050	0.91	
FID10125F.D	AL-WKC4-40-020	201029	181306	0.90	
FID10125G.D	AL-WKC5-50-020	306042	270901	0.89	
FID10125H.D	AL-WKC6-100-002	532765	461331	0.87	
FID10125I.D	AL-WKICV-25-003	129791	113443	0.87	
FID10125J.D	AL-WKCC-25-025	125154	110946	0.89	
FID10127B.D	AL-WKCC-25-026	126805	112592	0.89	
FID10127G.D	AL-WKCC-25-026	127562	113379	0.89	

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

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

File Name	Sample Name	n-C20 (Area)	n-C36 (Area)	n-C36/n-C20 ratio	Q
FID30101C.D	AL-WKC1-1.25-019	7949	6707	0.84	
FID30101D.D	AL-WKC2-10-019	63664	54818	0.86	
FID30101E.D	AL-WKC3-25-019	155885	135837	0.87	
FID30101F.D	AL-WKC4-40-019	249053	212282	0.85	
FID30101G.D	AL-WKC5-50-019	373111	309811	0.83	
FID30101H.D	AL-WKC6-100-001	628791	521228	0.83	
FID30101I.D	AL-WKICV-25-002	157848	129412	0.82	
FID30101J.D	AL-WKCC-25-026	156779	129221	0.82	
FID30103B.D	AL-WKCC-25-026	160119	131802	0.82	
FID30103G.D	AL-WKCC-25-026	164927	136509	0.83	
FID30103H.D	AL-WKCC-25-026	164227	144185	0.88	

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 13-3157

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

Client Project # B0086022.1301

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)
FID10125E.D	**AL-WKC3-25-020**	**210809**	**105405**	**421618**	**257350**	**128675**	**514700**
FID10125I.D	**AL-WKICV-25-003**	**212383**	**106192**	**424766**	**259814**	**129907**	**519628**
FID10125J.D	**AL-WKCC-25-025**	**207964**	**103982**	**415928**	**254857**	**127429**	**509714**
FID10127B.D	**AL-WKCC-25-026**	**210390**	**105195**	**420780**	**257938**	**128969**	**515876**
FID10127C.D	AL-SRM2779-20-02	182817			278142		
FID10127F.D	Al-WKPem-002	222002			286139		
ENV3165A.D	Method Blank	196859			241137		
ENV3165B.D	Blank Spike	203887			250156		
ENV3165C.D	Blank Spike Duplicate	182088			223436		
ARC2006.D	SED-DA-EB-11-112013	201523			246826		
FID10127G.D	**AL-WKCC-25-026**	**212234**	**106117**	**424468**	**259269**	**129635**	**518538**

B&B Laboratories
Project J13034
Report 13-3157

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

Client Project # B0086022.1301

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)
FID30101E.D	**AL-WKC3-25-019**	**253128**	**126564**	**506256**	**317215**	**158608**	**634430**
FID30101I.D	**AL-WKICV-25-002**	**256534**	**128267**	**513068**	**318867**	**159434**	**637734**
FID30101J.D	**AL-WKCC-25-026**	**257985**	**128993**	**515970**	**322068**	**161034**	**644136**
FID30103B.D	**AL-WKCC-25-026**	**262386**	**131193**	**524772**	**328585**	**164293**	**657170**
FID30103C.D	AL-SRM2779-20-02	234884			339457		
FID30103F.D	AL-WKPem-001	256276			320585		
ENV3166A.D	Method Blank	232097			290735		
ENV3166C.D	MS (SED-DA-037R (0-0.5))	250976			321349		
ENV3166D.D	MSD (SED-DA-037R (0-0.5))	233946			295028		
ENV3166E.D	Dup (SED-DA-033R (0-0.5))	248762			304694		
ARC2008.D	SED-DA-036R (0-0.5)	243589			304961		
ARC2011.D	SED-DA-037R (0-0.5)	250145			316806		
ARC2015.D	SED-DA-038R (0-0.5)	255547			318519		
FID30103G.D	**AL-WKCC-25-026**	**270155**	**135078**	**540310**	**337479**	**168740**	**674958**
ARC2018.D	SED-DA-033R (0-0.5)	255937			318222		
ARC2021.D	SED-DA-034R (0-0.5)	243230			304227		
ARC2024.D	SED-DA-035R (0-0.5)	266437			334431		
ARC2027.D	SED-DA-DUP-10-112013	234635			292578		
FID30103H.D	**AL-WKCC-25-026**	**268689**	**134345**	**537378**	**337065**	**168533**	**674130**

Polycyclic Aromatic Hydrocarbon Initial Calibration Data and Initial Calibration Verification Data

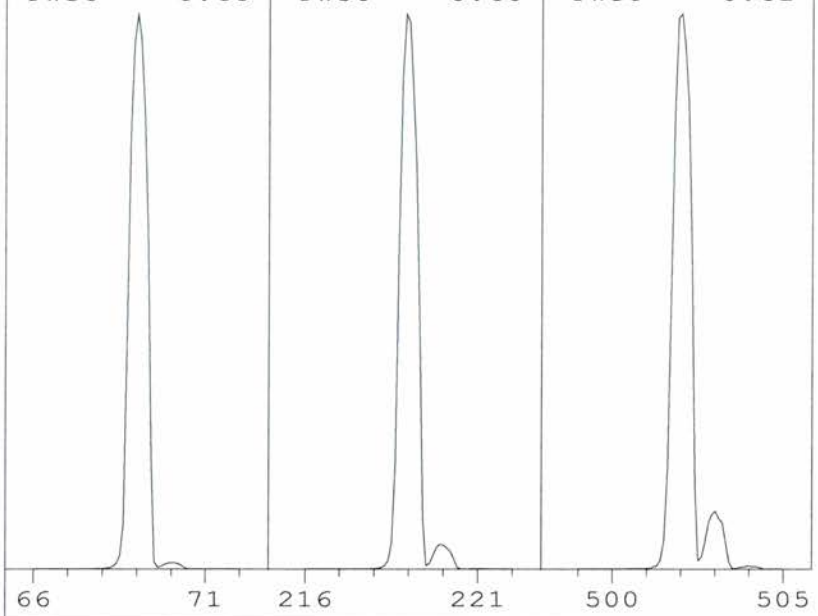
PAH ICAL
AR 50182.M

GC/MS 5
(PAH-2012)

Autotune

Fri Nov 29 08:09:05 2013 Instrument: GCMS5
C:\MSDCHEM\1\5975\atune.u US83141113

Mass	69.00	Mass	218.90	Mass	502.00
Ab	549323	Ab	370096	Ab	18312
Pw50	0.60	Pw50	0.60	Pw50	0.61

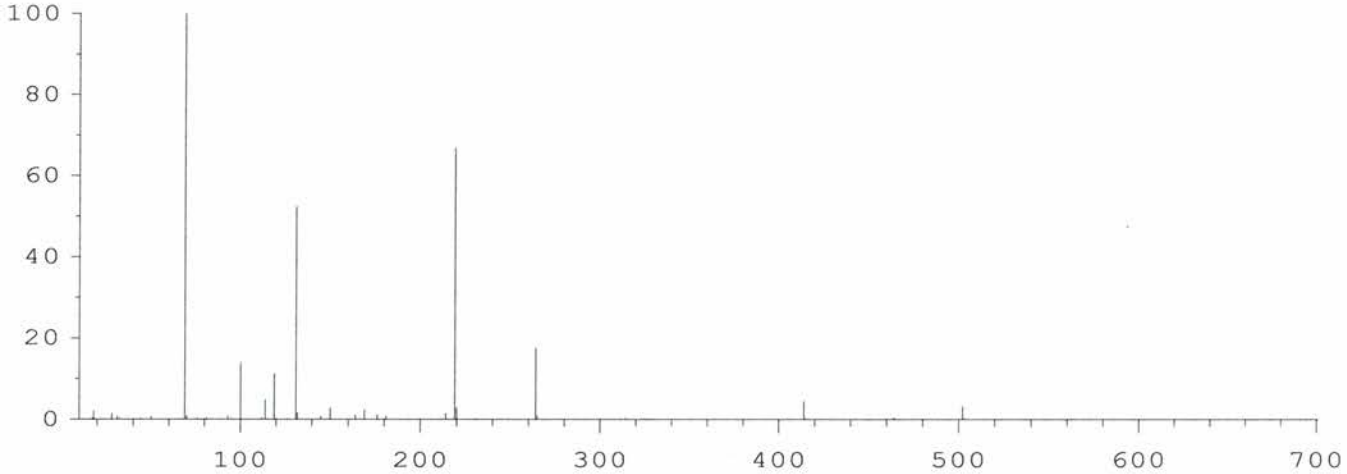


Ion Pol	Pos	MassGain	-600
		MassOffs	-38
Emission	34.6	AmuGain	1993
EIEnrgy	69.9	AmuOffs	121.19
Filament	1	Wid219	-0.012
		DC Pol	Neg
Repeller	25.93		
IonFcus	90.2	HEDEnab	On
EntLens	28.5	EMVolts	1529
EntOffs	18.57		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	290	Turbo Speed	100
MS Quad	180	HiVac	1.37e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
110 peaks Base: 69.00 Abundance: 526144



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	526144	100.00	70.00	5600	1.06
219.00	352512	67.00	220.00	15573	4.42
502.10	17328	3.29	503.10	1807	10.43

Air/Water Check: H2O~2.21% N2~1.62% O2~0.50% CO2~0.30% N2/H2O~73.32%

Column(1) Flow: 1.24 Column(2): 0 ml/min. Interface Temp: 290

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	33556
Repeller Maximum	35	volts using ion	219;	Gain Factor	0.34

MassGain Values(Samples): -590(3) -582(2) -574(1) -542(0) -455(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	121.2	121.2	121.2	121.2	121.2	121.2	121.2
Entrance Lens Offset:	18.6	18.6	18.6	18.6	18.6	18.6	18.6

MS 50182 YM

Response Factor Report GCMS5

Method Path : C:\GCMS5\MS50182\
Method File : AR50182.M
Title : PAH Calibration Table-2013A
Last Update : Sun Dec 01 19:58:11 2013
Response Via : Initial Calibration

Calibration Files
1 =MS50182B.D 2 =MS50182C.D 3 =MS50182D.D 4 =MS50182E.D
5 =MS50182F.D 6 =MS50182G.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorene-d10	----------ISTD----------							
2)	S	Naphthalene-d8	1.812	1.840	1.823	1.900	1.903	1.821	1.850	2.23
3)	T	cis/trans Decalin	0.383	0.396	0.361	0.363	0.356	0.331	0.365	6.20
4)	un	C1-Decalins	0.383	0.396	0.361	0.363	0.356	0.331	0.365	6.20
5)	un	C2-Decalins	0.383	0.396	0.361	0.363	0.356	0.331	0.365	6.20
6)	un	C3-Decalins	0.383	0.396	0.361	0.363	0.356	0.331	0.365	6.20
7)	un	C4-Decalins	0.383	0.396	0.361	0.363	0.356	0.331	0.365	6.20
8)	T	Naphthalene	1.881	1.913	1.922	2.003	1.992	1.911	1.937	2.53
9)	T	2-Methylnaphth...	1.113	1.128	1.128	1.188	1.211	1.205	1.162	3.76
10)	T	1-Methylnaphth...	1.118	1.135	1.137	1.182	1.178	1.137	1.148	2.26
11)	T	2,6-Dimethylna...	0.935	0.978	0.982	1.041	1.059	1.069	1.011	5.27
12)	T	1,6,7-Trimethy...	0.974	0.911	0.923	0.939	0.955	0.981	0.947	2.95
13)	un	C2-Naphthalenes	1.881	1.913	1.922	2.003	1.992	1.911	1.937	2.53
14)	un	C3-Naphthalenes	1.881	1.913	1.922	2.003	1.992	1.911	1.937	2.53
15)	un	C4-Naphthalenes	1.881	1.913	1.922	2.003	1.992	1.911	1.937	2.53
16)	T	Benzothiophene	1.450	1.502	1.478	1.549	1.541	1.486	1.501	2.54
17)	un	C1-Benzothioph...	1.450	1.502	1.478	1.549	1.541	1.486	1.501	2.54
18)	un	C2-Benzothioph...	1.450	1.502	1.478	1.549	1.541	1.486	1.501	2.54
19)	un	C3-Benzothioph...	1.450	1.502	1.478	1.549	1.541	1.486	1.501	2.54
20)	un	C4-Benzothioph...	1.450	1.502	1.478	1.549	1.541	1.486	1.501	2.54
21)	S	Acenaphthene-d10	0.989	0.955	0.948	0.975	0.988	0.977	0.972	1.73
22)	T	Biphenyl	1.301	1.382	1.396	1.468	1.502	1.480	1.422	5.35
23)	T	Acenaphthylene	1.605	1.552	1.552	1.589	1.633	1.731	1.610	4.15
24)	T	Acenaphthene	1.011	0.996	1.009	1.037	1.062	1.038	1.025	2.39
25)	T	Dibenzofuran	1.287	1.383	1.370	1.475	1.513	1.516	1.424	6.45
26)	T	Fluorene	1.149	1.126	1.142	1.160	1.198	1.223	1.166	3.15
27)	T	1-Methylfluorene	0.646	0.626	0.659	0.670	0.711	0.744	0.676	6.51
28)	un	C1-Fluorenes	1.149	1.126	1.142	1.160	1.198	1.223	1.166	3.15
29)	un	C2-Fluorenes	1.149	1.126	1.142	1.160	1.198	1.223	1.166	3.15
30)	un	C3-Fluorenes	1.149	1.126	1.142	1.160	1.198	1.223	1.166	3.15
31)	I	Pyrene-d10	----------ISTD----------							
32)	S	Phenanthrene-d10	0.754	0.787	0.812	0.885	0.914	0.868	0.837	7.37
33)	T	Carbazole	0.546	0.583	0.597	0.623	0.664	0.748	0.627	11.39
34)	T	Dibenzothiophene	0.790	0.832	0.836	0.870	0.896	0.904	0.855	5.09
35)	T	4-Methyldibenz...	0.574	0.616	0.644	0.690	0.720	0.712	0.659	8.79
36)	un	2/3-Methyldibe...	0.574	0.616	0.644	0.690	0.720	0.712	0.659	8.79
37)	un	1-Methyldibenz...	0.574	0.616	0.644	0.690	0.720	0.712	0.659	8.79
38)	un	C2-Dibenzothio...	0.790	0.832	0.836	0.870	0.896	0.904	0.855	5.09
39)	un	C3-Dibenzothio...	0.790	0.832	0.836	0.870	0.896	0.904	0.855	5.09
40)	un	C4-Dibenzothio...	0.790	0.832	0.836	0.870	0.896	0.904	0.855	5.09
41)	T	Phenanthrene	0.896	0.944	0.955	1.034	1.051	1.023	0.984	6.21
42)	T	Anthracene	0.630	0.725	0.790	0.876	0.945	0.957	0.821	15.76
43)	un	3-Methylphenan...	0.587	0.608	0.630	0.696	0.735	0.736	0.665	9.83
44)	un	2-Methylphenan...	0.587	0.608	0.630	0.696	0.735	0.736	0.665	9.83
45)	un	2-Methylanthra...	0.587	0.608	0.630	0.696	0.735	0.736	0.665	9.83
46)	un	4/9-Methylphen...	0.587	0.608	0.630	0.696	0.735	0.736	0.665	9.83
47)	T	1-Methylphenan...	0.587	0.608	0.630	0.696	0.735	0.736	0.665	9.83
48)	T	3,6-Dimethylph...	0.547	0.539	0.544	0.585	0.628	0.651	0.582	8.16
49)	T	Retene	0.273	0.270	0.285	0.311	0.335	0.351	0.304	11.12
50)	un	C2-Phenanthren...	0.896	0.944	0.955	1.034	1.051	1.023	0.984	6.21
51)	un	C3-Phenanthren...	0.896	0.944	0.955	1.034	1.051	1.023	0.984	6.21
52)	un	C4-Phenanthren...	0.896	0.944	0.955	1.034	1.051	1.023	0.984	6.21
53)	T	Naphthobenzoth...	0.896	0.866	0.872	0.894	0.949	1.052	0.922	7.61
54)	un	C1-Naphthobenz...	0.896	0.866	0.872	0.894	0.949	1.052	0.922	7.61
55)	un	C2-Naphthobenz...	0.896	0.866	0.872	0.894	0.949	1.052	0.922	7.61
56)	un	C3-Naphthobenz...	0.896	0.866	0.872	0.894	0.949	1.052	0.922	7.61

Method Path : C:\GCMS5\MS50182\
Method File : AR50182.M
Title : PAH Calibration Table-2013A

57)	un	C4-Naphthobenz...	0.896	0.866	0.872	0.894	0.949	1.052	0.922	7.61
58)	T	Fluoranthene	0.886	0.891	0.918	0.961	1.019	1.045	0.953	7.02
59)	T	Pyrene	1.162	1.130	1.136	1.182	1.222	1.178	1.168	2.90
60)	T	2-Methylfluora...	0.631	0.635	0.646	0.704	0.750	0.805	0.695	10.26
61)	T	Benzo(b)fluorene	0.534	0.513	0.537	0.576	0.636	0.743	0.590	14.70
62)	un	C1-Fluoranthen...	0.886	0.891	0.918	0.961	1.019	1.045	0.953	7.02
63)	un	C2-Fluoranthen...	0.886	0.891	0.918	0.961	1.019	1.045	0.953	7.02
64)	un	C3-Fluoranthen...	0.886	0.891	0.918	0.961	1.019	1.045	0.953	7.02
65)	un	C4-Fluoranthen...	0.886	0.891	0.918	0.961	1.019	1.045	0.953	7.02
66)	S	Chrysene-d12	0.836	0.877	0.949	1.043	1.105	0.993	0.967	10.47
67)	T	Benz(a)anthracene	0.824	0.836	0.863	0.929	0.995	1.116	0.927	12.13
68)	T	Chrysene/Triph...	0.940	0.933	0.956	0.973	1.033	1.159	0.999	8.62
69)	un	C1-Chrysenes	0.940	0.933	0.956	0.973	1.033	1.159	0.999	8.62
70)	un	C2-Chrysenes	0.940	0.933	0.956	0.973	1.033	1.159	0.999	8.62
71)	un	C3-Chrysenes	0.940	0.933	0.956	0.973	1.033	1.159	0.999	8.62
72)	un	C4-Chrysenes	0.940	0.933	0.956	0.973	1.033	1.159	0.999	8.62
73)	I	Benzo(a)pyrene-d12	----------ISTD----------							
74)	un	C29-Hopane	0.572	0.595	0.546	0.555	0.579	0.574	0.570	3.07
75)	un	18a-Oleanane	0.572	0.595	0.546	0.555	0.579	0.574	0.570	3.07
76)	T	C30-Hopane	0.572	0.595	0.546	0.555	0.579	0.574	0.570	3.07
77)	T	Benzo(b)fluora...	1.156	1.198	1.242	1.354	1.467	1.356	1.295	9.02
78)	T	Benzo(k,j)fluo...	1.137	1.139	1.150	1.179	1.228	1.337	1.195	6.47
79)	un	Benzo(a)fluora...	1.137	1.139	1.150	1.179	1.228	1.337	1.195	6.47
80)	T	Benzo(e)pyrene	1.340	1.266	1.246	1.306	1.364	1.367	1.315	3.86
81)	T	Benzo(a)pyrene	1.114	1.149	1.183	1.252	1.356	1.305	1.227	7.67
82)	T	Indeno(1,2,3-c...	1.245	1.218	1.248	1.340	1.441	1.495	1.331	8.63
83)	T	Dibenzo(a,h)an...	0.963	0.945	0.987	1.069	1.179	1.205	1.058	10.65
84)	un	C1-Dibenzo(a,h...	0.963	0.945	0.987	1.069	1.179	1.205	1.058	10.65
85)	un	C2-Dibenzo(a,h...	0.963	0.945	0.987	1.069	1.179	1.205	1.058	10.65
86)	un	C3-Dibenzo(a,h...	0.963	0.945	0.987	1.069	1.179	1.205	1.058	10.65
87)	T	Benzo(g,h,i)pe...	1.121	1.111	1.102	1.157	1.232	1.232	1.159	5.14
88)	S	Perylene-d12	1.246	1.081	1.077	1.140	1.208	1.202	1.159	6.10
89)	T	Perylene	1.222	1.179	1.190	1.249	1.338	1.399	1.263	6.93
90)	S	5(b)H-Cholane	0.316	0.297	0.297	0.319	0.343	0.330	0.317	5.74
91)	un	C20-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
92)	un	C21-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
93)	un	C26(20S)-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
94)	T	C26(20R)/C27(2...	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
95)	un	C28(20S)-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
96)	un	C27(20R)-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57
97)	un	C28(20R)-TAS	1.838	1.646	1.580	1.652	1.740	1.771	1.704	5.57

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182B.D
Acq On : 29 Nov 2013 12:53 pm
Operator : ECM(YMIAO)
Sample : AR-WKC1-020-031
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 01 18:59:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Nov 30 19:40:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	321473m	251.05	0.00
31) Pyrene-d10	29.597	212	607483m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	553019m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.768	136	46417m	20.37	0.02
21) Acenaphthene-d10	19.603	164	25339m	20.60	0.00
32) Phenanthrene-d10	24.709	188	36598m	18.03	0.03
66) Chrysene-d12	33.777	240	40523m	17.20	0.00
88) Perylene-d12	38.673	264	55071m	22.27	0.00
90) 5(b)H-Cholane	34.166	217	13967m	19.81	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	9700m	32.14	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.835	128	48172m	19.37	
9) 2-Methylnaphthalene	16.071	142	28540m	19.46	
10) 1-Methylnaphthalene	16.406	142	28593m	19.77	
11) 2,6-Dimethylnaphthalene	18.172	156	23956m	18.44	
12) 1,6,7-Trimethylnaphtha...	21.011	170	24954m	20.77	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D. d	
16) Benzothiophene	13.992	134	36906m	19.29	
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	17.636	154	33017m	18.03	
23) Acenaphthylene	19.111	152	40780m	19.76	
24) Acenaphthene	19.715	154	25934m	19.99	
25) Dibenzofuran	20.318	168	32793m	17.59	
26) Fluorene	21.481	166	29485m	19.79	
27) 1-Methylfluorene	23.466	180	16679m	19.11	
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	25.557	167	26238m	16.67	
34) Dibenzothiophene	24.342	184	37750m	18.16	
35) 4-Methyldibenzothiophene	25.839	198	28041m	17.46	
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	24.766	178	43045m	18.56	
42) Anthracene	24.964	178	30638m	15.67	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182B.D
Acq On : 29 Nov 2013 12:53 pm
Operator : ECM(YMIAO)
Sample : AR-WKC1-020-031
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 01 18:59:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Nov 30 19:40:11 2013
Response via : Initial Calibration

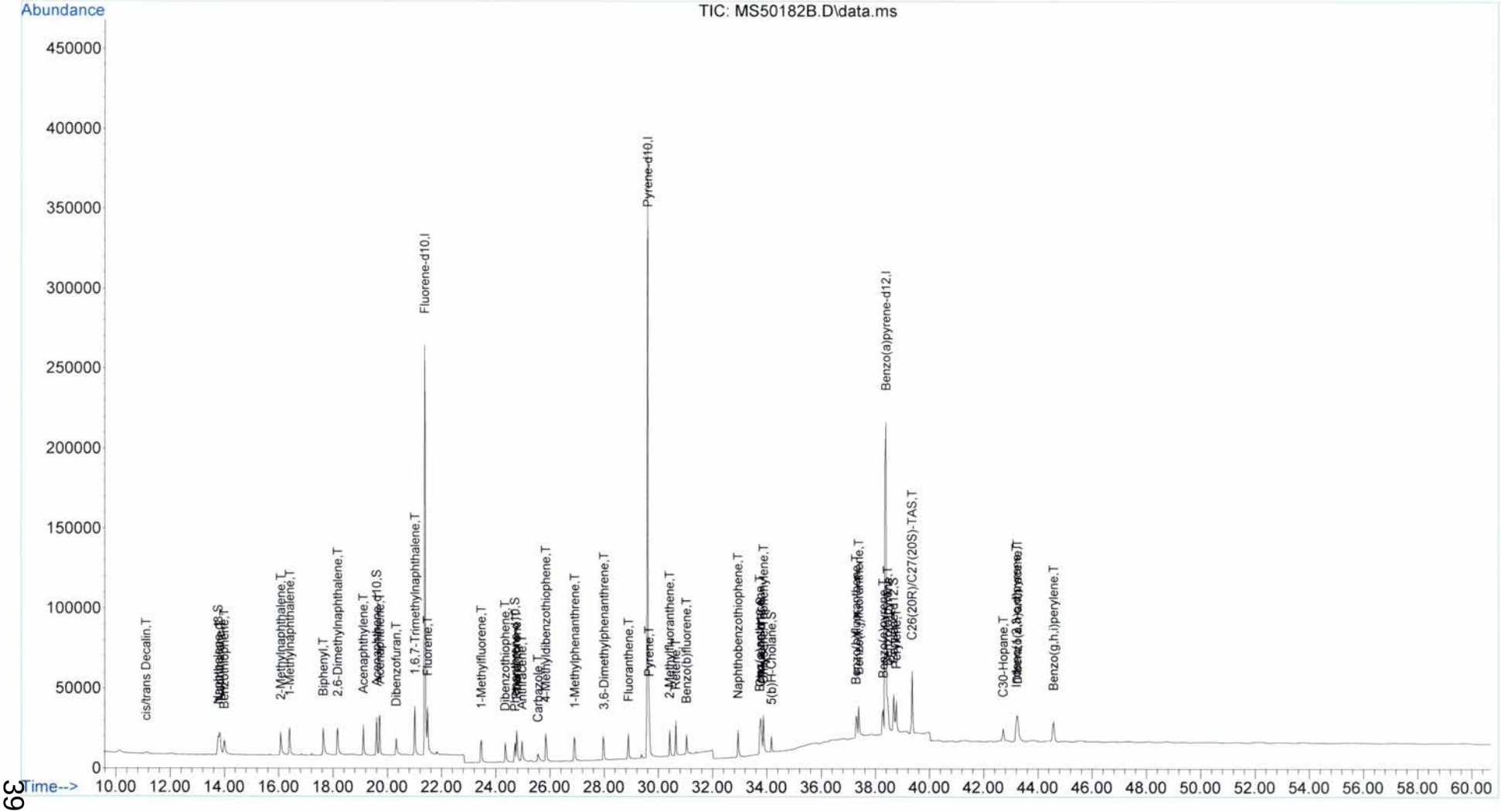
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.913	192	28161m	17.15	
48)	3,6-Dimethylphenanthrene	27.987	206	26554m	18.74	
49)	Retene	30.642	234	11804m	16.01	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D. d	
53)	Naphthobenzothiophene	32.934	234	43707m	19.33	
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	28.891	202	42984m	18.46	
59)	Pyrene	29.654	202	56351m	19.95	
60)	2-Methylfluoranthene	30.416	216	30777m	18.38	
61)	Benzo(b)fluorene	31.038	216	26117m	18.03	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.745	228	39887m	18.78	
68)	Chrysene/Triphenylene	33.875	228	45285m	19.93	
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	42.716	191	25288m	19.91	
77)	Benzo(b)fluoranthene	37.279	252	51181m	21.34	
78)	Benzo(k,j)fluoranthene	37.376	252	50053m	21.78	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.284	252	58952m	20.93	
81)	Benzo(a)pyrene	38.446	252	49139m	18.48	
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	54066m	18.03	
83)	Dibenzo(a,h)anthracene	43.239	278	42148m	17.58	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D. d	
87)	Benzo(g,h,i)perylene	44.579	276	49080m	18.98	
89)	Perylene	38.770	252	54041m	19.21	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	39.354	231	81195m	21.38	
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182B.D
Acq On : 29 Nov 2013 12:53 pm
Operator : ECM(YMIAO)
Sample : AR-WKC1-020-031
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Dec 01 18:59:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sat Nov 30 19:40:11 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182C.D
Acq On : 29 Nov 2013 1:59 pm
Operator : ECM(YMIAO)
Sample : AR-WKC2-100-031
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 01 19:09:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 18:59:27 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	309798m	251.05	0.00
31) Pyrene-d10	29.597	212	555832m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	493051m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.768	136	227138m	101.80	0.00
21) Acenaphthene-d10	19.603	164	117946m	98.90	0.00
32) Phenanthrene-d10	24.681	188	174703m	93.76	-0.03
66) Chrysene-d12	33.777	240	194464m	89.92	0.00
88) Perylene-d12	38.673	264	212945m	93.19	0.00
90) 5(b)H-Cholane	34.166	217	58438m	92.89	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	48370m	150.99	
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	13.813	128	236060m	98.75	
9) 2-Methylnaphthalene	16.071	142	139287m	97.47	
10) 1-Methylnaphthalene	16.384	142	139871m	99.96	
11) 2,6-Dimethylnaphthalene	18.150	156	120698m	96.29	
12) 1,6,7-Trimethylnaphtha...	21.012	170	112440m	96.56	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D. d	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.992	134	184240m	99.76	
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	17.636	154	168998m	95.91	
23) Acenaphthylene	19.111	152	189980m	95.39	
24) Acenaphthene	19.692	154	123132m	98.11	
25) Dibenzofuran	20.318	168	169856m	95.02	
26) Fluorene	21.481	166	139243m	96.66	
27) 1-Methylfluorene	23.438	180	77767m	92.51	
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	25.529	167	128086m	89.19	
34) Dibenzothiophene	24.342	184	181968m	95.27	
35) 4-Methyldibenzothiophene	25.839	198	137719m	93.70	
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	24.766	178	207438m	96.31	
42) Anthracene	24.935	178	161271m	89.99	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182C.D
Acq On : 29 Nov 2013 1:59 pm
Operator : ECM(YMIAO)
Sample : AR-WKC2-100-031
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 01 19:09:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 18:59:27 2013
Response via : Initial Calibration

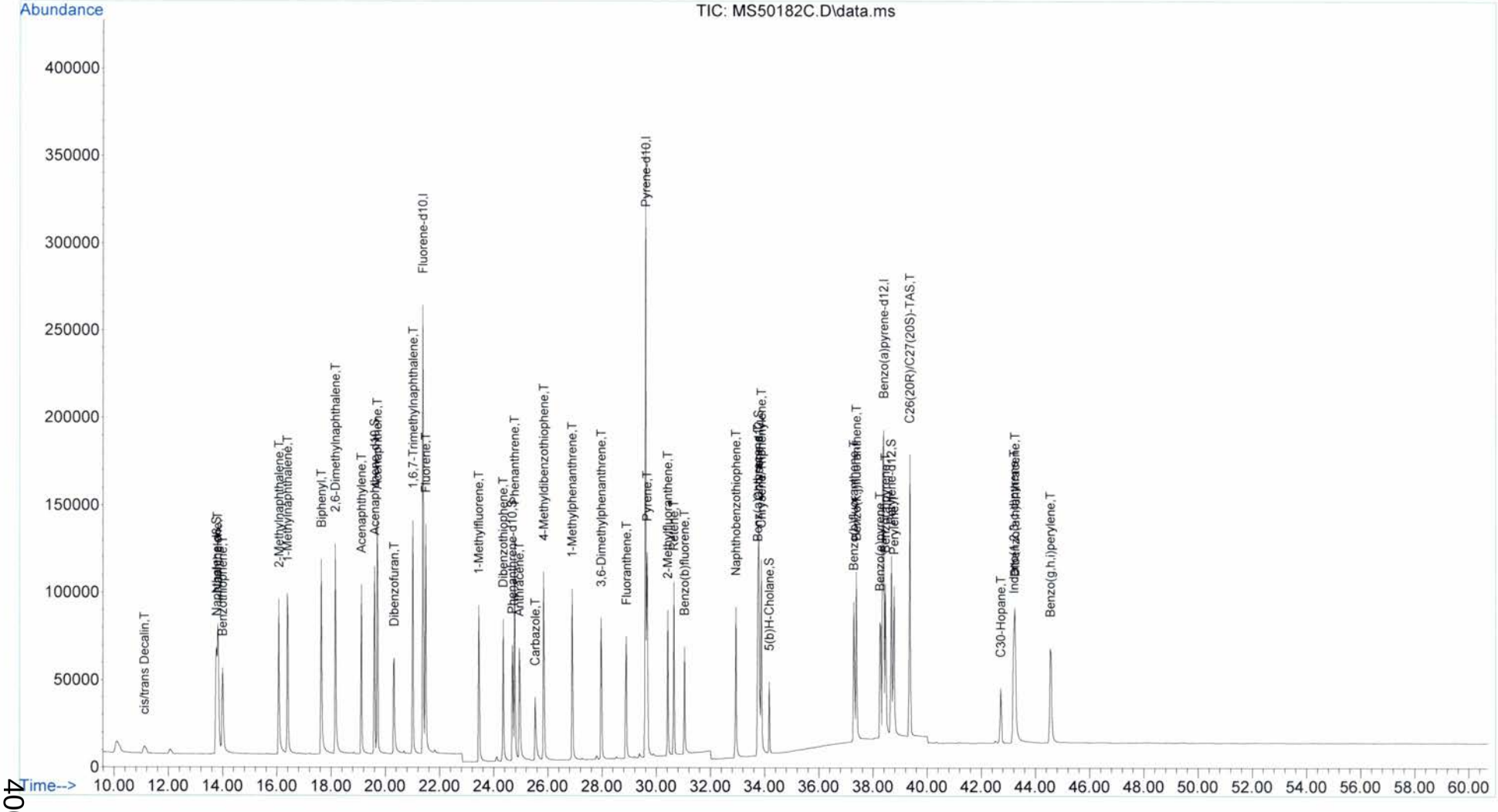
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.885	192	133269m	89.22		
48)	3,6-Dimethylphenanthrene	27.958	206	119695m	92.14		
49)	Retene	30.642	234	53546m	79.31		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.935	234	193299m	93.39		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.891	202	197809m	92.92		
59)	Pyrene	29.654	202	250537m	96.69		
60)	2-Methylfluoranthene	30.416	216	141768m	92.19		
61)	Benzo(b)fluorene	31.038	216	114887m	86.73		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D.	d	
67)	Benz(a)anthracene	33.745	228	184995m	93.37		
68)	Chrysene/Triphenylene	33.875	228	205746m	96.42		
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	42.716	191	117108m	105.04		
77)	Benzo(b)fluoranthene	37.279	252	236437m	107.31		
78)	Benzo(k,j)fluoranthene	37.376	252	223422m	104.89		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.251	252	248298m	97.04		
81)	Benzo(a)pyrene	38.446	252	225797m	94.61		
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	235915m	88.09		
83)	Dibenzo(a,h)anthracene	43.239	278	184450m	86.19		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.547	276	216885m	93.85		
89)	Perylene	38.770	252	232377m	92.04		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.354	231	324197m	95.40		
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182C.D
Acq On : 29 Nov 2013 1:59 pm
Operator : ECM(YMIAO)
Sample : AR-WKC2-100-031
Misc :
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 01 19:09:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 18:59:27 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182D.D
Acq On : 29 Nov 2013 3:06 pm
Operator : ECM(YMIAO)
Sample : AR-WKC3-250-031
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 01 19:19:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:09:29 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	312475m	251.05	0.00
31) Pyrene-d10	29.597	212	581252m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	509077m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	567532m	250.12	-0.02
21) Acenaphthene-d10	19.603	164	295206m	245.12	0.00
32) Phenanthrene-d10	24.681	188	471096m	241.62	0.00
66) Chrysene-d12	33.777	240	550130m	243.13	0.00
88) Perylene-d12	38.673	264	547642m	230.35	0.00
90) 5(b)H-Cholane	34.166	217	151027m	231.51	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	111243m	313.12	
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	13.813	128	598184m	248.59	
9) 2-Methylnaphthalene	16.071	142	351297m	242.86	
10) 1-Methylnaphthalene	16.384	142	353478m	249.89	
11) 2,6-Dimethylnaphthalene	18.150	156	305612m	242.02	
12) 1,6,7-Trimethylnaphtha...	21.012	170	287081m	244.22	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.992	134	457189m	244.99	
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	17.636	154	430381m	242.01	
23) Acenaphthylene	19.111	152	479204m	238.77	
24) Acenaphthene	19.692	154	314450m	248.06	
25) Dibenzofuran	20.296	168	424194m	235.55	
26) Fluorene	21.481	166	355991m	245.07	
27) 1-Methylfluorene	23.438	180	206480m	244.13	
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	25.529	167	342763m	230.03	
34) Dibenzothiophene	24.342	184	477811m	239.25	
35) 4-Methyldibenzothiophene	25.840	198	376395m	244.84	
36) 2/3-Methyldibenzothiop...	0.000		0	N.D.	
37) 1-Methyldibenzothiophene	0.000		0	N.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	24.766	178	548946m	241.75	
42) Anthracene	24.935	178	459673m	243.47	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182D.D
Acq On : 29 Nov 2013 3:06 pm
Operator : ECM(YMIAO)
Sample : AR-WKC3-250-031
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 01 19:19:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:09:29 2013
Response via : Initial Calibration

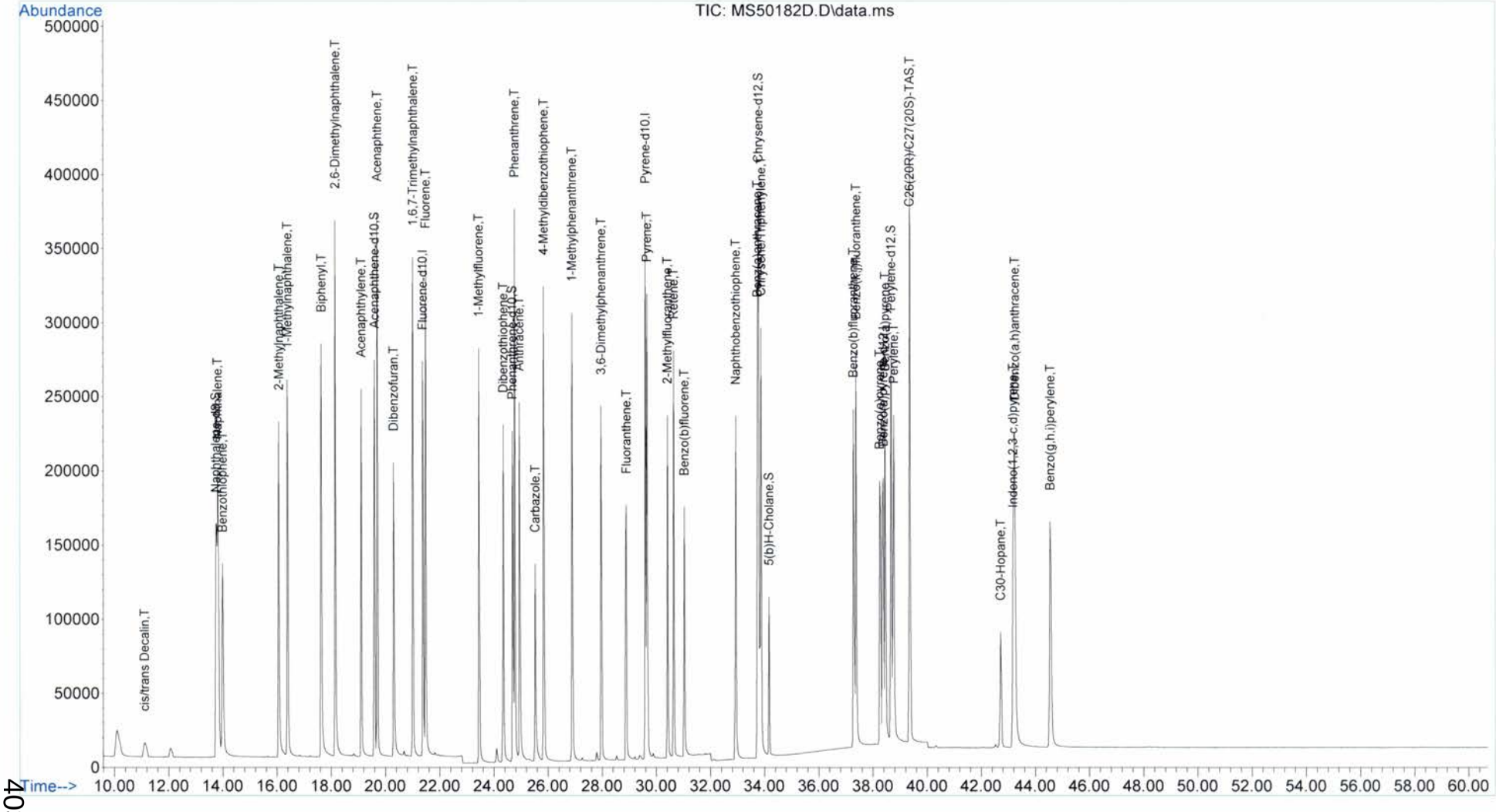
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.885	192	361457m	232.23	
48)	3,6-Dimethylphenanthrene	27.958	206	316034m	232.52	
49)	Retene	30.642	234	147585m	208.93	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D. d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.935	234	508866m	235.44	
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	28.891	202	532593m	239.39	
59)	Pyrene	29.654	202	658882m	242.55	
60)	2-Methylfluoranthene	30.416	216	376942m	233.79	
61)	Benzo(b)fluorene	31.038	216	313934m	227.25	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	499281m	237.99	
68)	Chrysene/Triphenylene	33.875	228	551104m	243.37	
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	42.716	191	277478m	238.00	
77)	Benzo(b)fluoranthene	37.279	252	632465m	270.35	
78)	Benzo(k,j)fluoranthene	37.376	252	582447m	255.39	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.251	252	631140m	236.88	
81)	Benzo(a)pyrene	38.446	252	600250m	242.28	
82)	Indeno(1,2,3-c,d)pyrene	43.174	276	623711m	225.77	
83)	Dibenzo(a,h)anthracene	43.239	278	497367m	225.81	
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	44.547	276	554992m	232.21	
89)	Perylene	38.770	252	605825m	232.02	
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	39.354	231	803212m	228.78	
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182D.D
Acq On : 29 Nov 2013 3:06 pm
Operator : ECM(YMIAO)
Sample : AR-WKC3-250-031
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 01 19:19:20 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:09:29 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182E.D
Acq On : 29 Nov 2013 4:12 pm
Operator : ECM(YMIAO)
Sample : AR-WKC4-500-031
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 01 19:31:15 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:19:50 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	326163m	251.05	0.00
31) Pyrene-d10	29.597	212	573759m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	505721m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	1234902m	518.08	0.00
21) Acenaphthene-d10	19.603	164	633581m	503.09	0.00
32) Phenanthrene-d10	24.681	188	1013501m	527.66	0.00
66) Chrysene-d12	33.777	240	1193825m	535.06	0.00
88) Perylene-d12	38.673	264	1151815m	487.76	0.00
90) 5(b)H-Cholane	34.166	217	322005m	497.62	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	233145m	585.55	
4) C1-Decalins	0.000		0	N.D. d	
5) C2-Decalins	0.000		0	N.D. d	
6) C3-Decalins	0.000		0	N.D. d	
7) C4-Decalins	0.000		0	N.D. d	
8) Naphthalene	13.813	128	1301399m	517.40	
9) 2-Methylnaphthalene	16.048	142	772307m	510.77	
10) 1-Methylnaphthalene	16.384	142	766766m	517.05	
11) 2,6-Dimethylnaphthalene	18.150	156	676230m	514.00	
12) 1,6,7-Trimethylnaphtha...	21.011	170	610086m	496.51	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	1000321m	512.84	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.613	154	945311m	510.01	
23) Acenaphthylene	19.111	152	1023755m	488.23	
24) Acenaphthene	19.692	154	674723m	508.58	
25) Dibenzofuran	20.296	168	953057m	511.19	
26) Fluorene	21.481	166	755188m	498.02	
27) 1-Methylfluorene	23.438	180	438598m	497.40	
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	25.529	167	706149m	483.64	
34) Dibenzothiophene	24.342	184	981363m	498.74	
35) 4-Methyldibenzothiophene	25.839	198	796476m	525.45	
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	24.766	178	1172550m	522.25	
42) Anthracene	24.935	178	1006172m	537.02	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182E.D
Acq On : 29 Nov 2013 4:12 pm
Operator : ECM(YMIAO)
Sample : AR-WKC4-500-031
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 01 19:31:15 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:19:50 2013
Response via : Initial Calibration

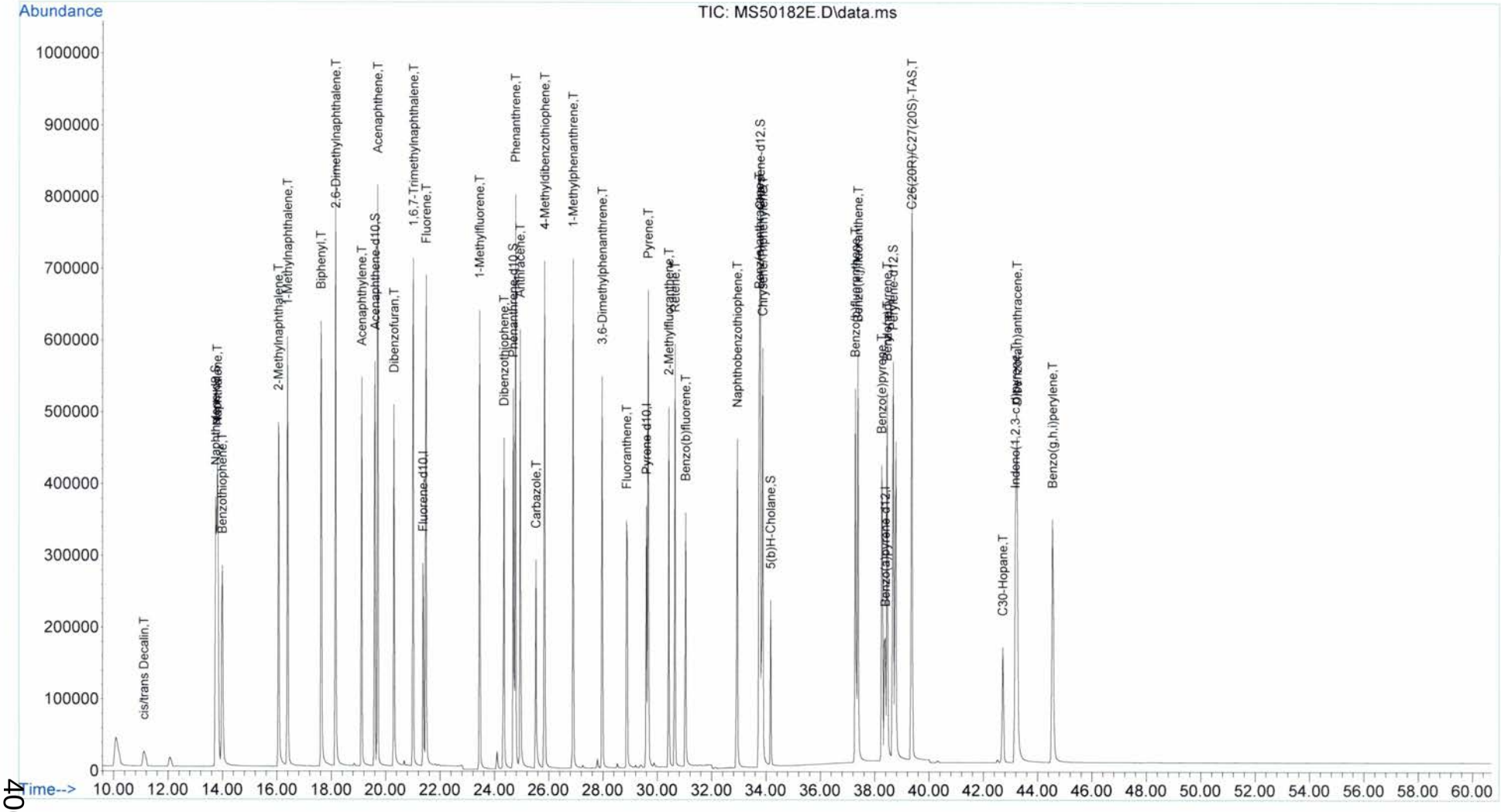
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.885	192	787851m	514.15		
48)	3,6-Dimethylphenanthrene	27.958	206	670523m	500.37		
49)	Retene	30.642	234	317707m	455.74		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.934	234	1029329m	483.73		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.	d	
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.862	202	1101675m	502.11		
59)	Pyrene	29.653	202	1352834m	504.50		
60)	2-Methylfluoranthene	30.416	216	811210m	509.94		
61)	Benzo(b)fluorene	31.038	216	665716m	489.39		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	1060994m	508.02		
68)	Chrysene/Triphenylene	33.875	228	1106522m	489.51		
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	42.716	191	560362m	484.14		
77)	Benzo(b)fluoranthene	37.279	252	1370405m	573.89		
78)	Benzo(k,j)fluoranthene	37.376	252	1186651m	507.53		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.251	252	1314090m	495.17		
81)	Benzo(a)pyrene	38.446	252	1261728m	510.98		
82)	Indeno(1,2,3-c,d)pyrene	43.173	276	1330736m	486.52		
83)	Dibenzo(a,h)anthracene	43.239	278	1069928m	491.36		
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d	
87)	Benzo(g,h,i)perylene	44.547	276	1158135m	489.19		
89)	Perylene	38.446	252	1262950m	487.81		
91)	C20-TAS	0.000		0	N.D.	d	
92)	C21-TAS	0.000		0	N.D.	d	
93)	C26(20S)-TAS	0.000		0	N.D.	d	
94)	C26(20R)/C27(20S)-TAS	39.354	231	1668980m	479.63		
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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182E.D
Acq On : 29 Nov 2013 4:12 pm
Operator : ECM(YMIAO)
Sample : AR-WKC4-500-031
Misc :
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 01 19:31:15 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:19:50 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182F.D
Acq On : 29 Nov 2013 5:18 pm
Operator : ECM(YMIAO)
Sample : AR-WKC5-1000-031
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 19:47:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:31:41 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	327081m	251.05	0.00
31) Pyrene-d10	29.597	212	575657m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	506014m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.745	136	2481100m	1034.32	0.00
21) Acenaphthene-d10	19.603	164	1287516m	1018.77	0.00
32) Phenanthrene-d10	24.681	188	2099871m	1091.85	0.00
66) Chrysene-d12	33.777	240	2539396m	1137.35	0.00
88) Perylene-d12	38.673	264	2442597m	1034.31	0.00
90) 5(b)H-Cholane	34.166	217	693203m	1072.70	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	458780m	1076.95	
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	13.812	128	2595560m	1029.05	
9) 2-Methylnaphthalene	16.048	142	1578847m	1042.06	
10) 1-Methylnaphthalene	16.384	142	1533306m	1028.10	
11) 2,6-Dimethylnaphthalene	18.150	156	1379819m	1046.45	
12) 1,6,7-Trimethylnaphtha...	21.011	170	1244276m	1008.90	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	1995147m	1019.77	
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	17.613	154	1939403m	1045.50	
23) Acenaphthylene	19.111	152	2109922m	1004.77	
24) Acenaphthene	19.692	154	1386275m	1040.58	
25) Dibenzofuran	20.296	168	1960731m	1052.51	
26) Fluorene	21.481	166	1563702m	1029.70	
27) 1-Methylfluorene	23.438	180	933435m	1058.01	
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	25.529	167	1511906m	1042.05	
34) Dibenzothiophene	24.342	184	2029701m	1031.39	
35) 4-Methyldibenzothiophene	25.839	198	1666688m	1098.48	
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	24.766	178	2392021m	1059.52	
42) Anthracene	24.935	178	2176688m	1155.64	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182F.D
Acq On : 29 Nov 2013 5:18 pm
Operator : ECM(YMIAO)
Sample : AR-WKC5-1000-031
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 19:47:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:31:41 2013
Response via : Initial Calibration

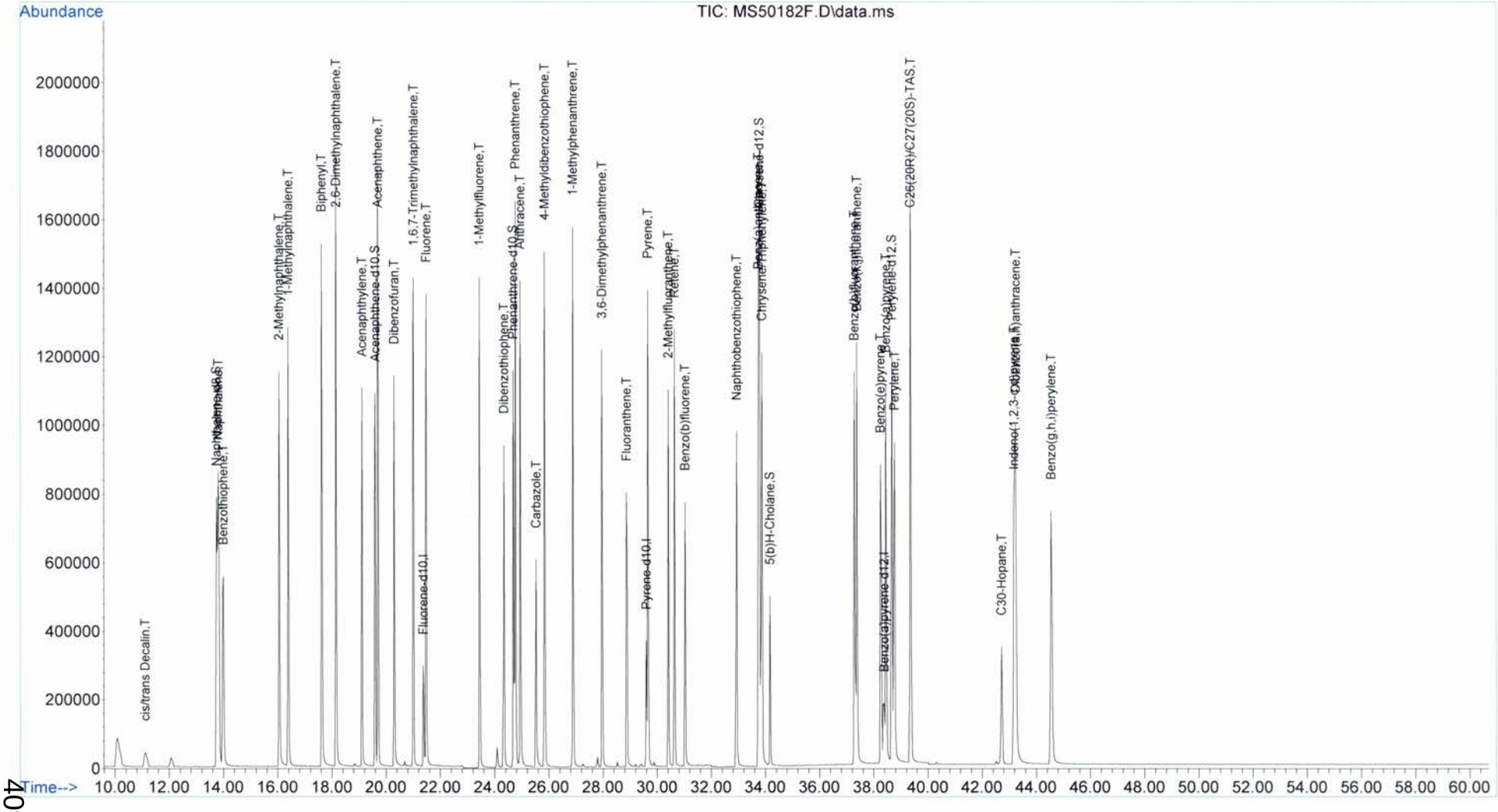
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d
47)	1-Methylphenanthrene	26.885	192	1669113m	1088.05	
48)	3,6-Dimethylphenanthrene	27.958	206	1443715m	1075.60	
49)	Retene	30.642	234	687662m	983.69	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.	
53)	Naphthobenzothiophene	32.934	234	2193939m	1031.45	
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	28.862	202	2342803m	1066.73	
59)	Pyrene	29.653	202	2807638m	1045.05	
60)	2-Methylfluoranthene	30.416	216	1734970m	1086.27	
61)	Benzo(b)fluorene	31.038	216	1474504m	1084.37	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	2280769m	1081.21	
68)	Chrysene/Triphenylene	33.875	228	2359370m	1037.57	
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	42.716	191	1170648m	1010.94	
77)	Benzo(b)fluoranthene	37.279	252	2971159m	1202.34	
78)	Benzo(k,j)fluoranthene	37.376	252	2471808m	1047.27	
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d
80)	Benzo(e)pyrene	38.251	252	2745926m	1031.80	
81)	Benzo(a)pyrene	38.446	252	2736476m	1106.21	
82)	Indeno(1,2,3-c,d)pyrene	43.173	276	2862695m	1050.02	
83)	Dibenzo(a,h)anthracene	43.239	278	2361935m	1090.03	
84)	C1-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
85)	C2-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
86)	C3-Dibenzo(a,h)anthrac...	0.000		0	N.D.	d
87)	Benzo(g,h,i)perylene	44.547	276	2467525m	1044.15	
89)	Perylene	38.770	252	2707436m	1049.68	
91)	C20-TAS	0.000		0	N.D.	d
92)	C21-TAS	0.000		0	N.D.	d
93)	C26(20S)-TAS	0.000		0	N.D.	d
94)	C26(20R)/C27(20S)-TAS	39.353	231	3516844m	1012.12	
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

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182F.D
Acq On : 29 Nov 2013 5:18 pm
Operator : ECM(YMIAO)
Sample : AR-WKC5-1000-031
Misc :
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 01 19:47:12 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:31:41 2013
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182G.D
Acq On : 29 Nov 2013 6:24 pm
Operator : ECM(YMIAO)
Sample : AR-WKC6-5000-031
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 19:58:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:47:20 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	353030m	251.05	0.00
31) Pyrene-d10	29.597	212	646473m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	595885m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	12808904m	4932.57	0.00
21) Acenaphthene-d10	19.603	164	6875778m	5035.52	0.00
32) Phenanthrene-d10	24.681	188	11200899m	5188.36	0.00
66) Chrysene-d12	33.777	240	12808312m	5110.01	0.00
88) Perylene-d12	38.673	264	14307273m	5151.99	0.00
90) 5(b)H-Cholane	34.167	217	3927857m	5171.66	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.108	138	2301372m	4718.72	
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	13.813	128	13438760m	4936.43	
9) 2-Methylnaphthalene	16.048	142	8477437m	5190.57	
10) 1-Methylnaphthalene	16.384	142	7987248m	4954.18	
11) 2,6-Dimethylnaphthalene	18.150	156	7516024m	5288.36	
12) 1,6,7-Trimethylnaphtha...	21.012	170	6897899m	5179.92	
13) C2-Naphthalenes	0.000		0	N.D. d	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.969	134	10385051m	4918.83	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.613	154	10315319m	5159.39	
23) Acenaphthylene	19.111	152	12075441m	5332.48	
24) Acenaphthene	19.692	154	7316077m	5080.10	
25) Dibenzofuran	20.296	168	10603322m	5289.82	
26) Fluorene	21.481	166	8616131m	5255.18	
27) 1-Methylfluorene	23.438	180	5273265m	5537.24	
28) C1-Fluorenes	0.000		0	N.D. d	
29) C2-Fluorenes	0.000		0	N.D. d	
30) C3-Fluorenes	0.000		0	N.D. d	
33) Carbazole	25.529	167	9559820m	5903.34	
34) Dibenzothiophene	24.342	184	11494053m	5209.60	
35) 4-Methyldibenzothiophene	25.840	198	9254397m	5439.39	
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	24.766	178	13074534m	5152.68	
42) Anthracene	24.935	178	12385236m	5846.53	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182G.D
Acq On : 29 Nov 2013 6:24 pm
Operator : ECM(YMIAO)
Sample : AR-WKC6-5000-031
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 19:58:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:47:20 2013
Response via : Initial Calibration

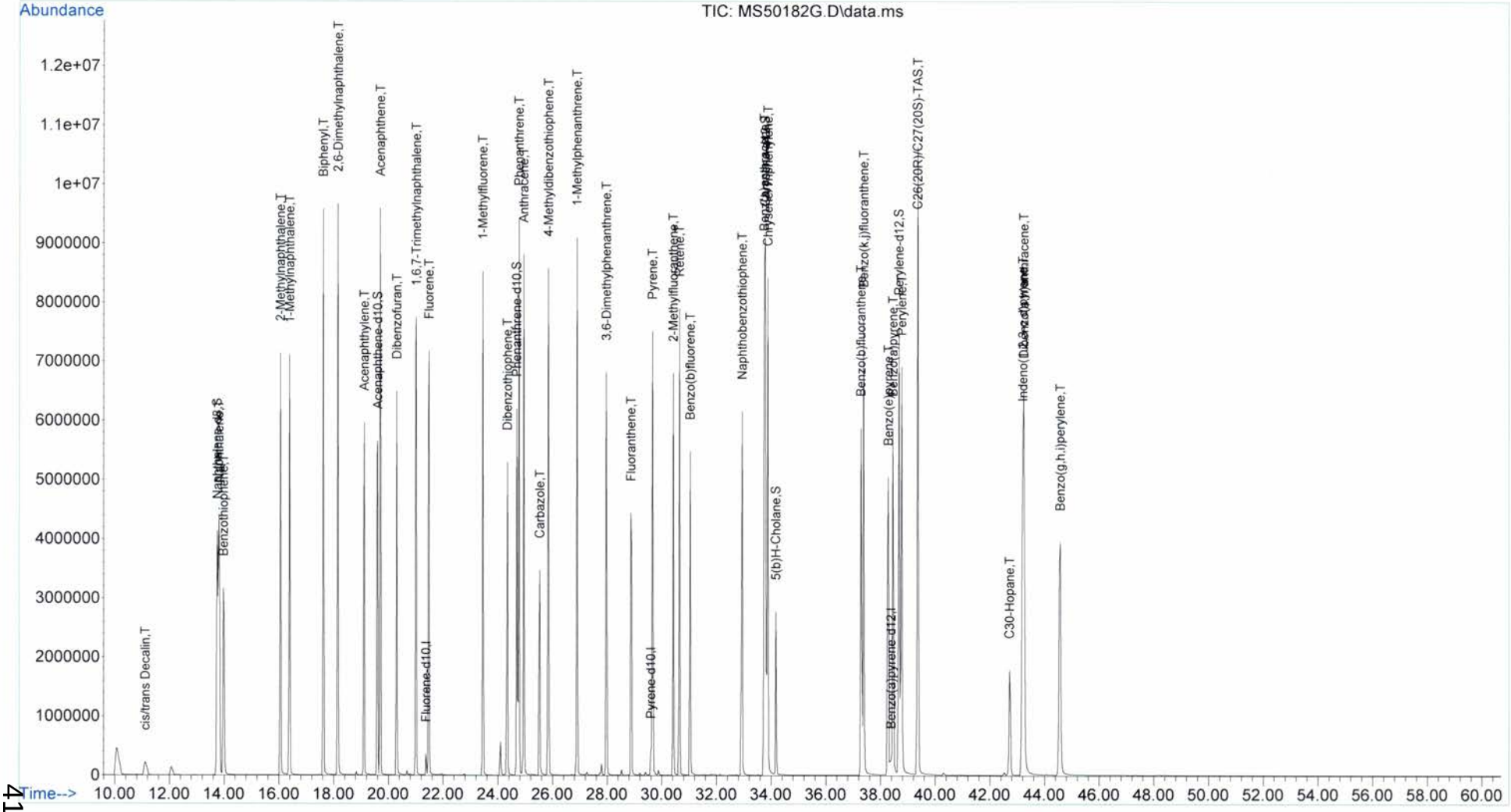
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D.	d	
47)	1-Methylphenanthrene	26.885	192	9388532m	5462.98		
48)	3,6-Dimethylphenanthrene	27.958	206	8401493m	5576.03		
49)	Retene	30.642	234	4045200m	5154.12		
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
51)	C3-Phenanthrenes/Anthr...	0.000		0	N.D.	d	
52)	C4-Phenanthrenes/Anthr...	0.000		0	N.D.		
53)	Naphthobenzothiophene	32.935	234	13646271m	5728.46		
54)	C1-Naphthobenzothiophenes	0.000		0	N.D.	d	
55)	C2-Naphthobenzothiophenes	0.000		0	N.D.		
56)	C3-Naphthobenzothiophenes	0.000		0	N.D.	d	
57)	C4-Naphthobenzothiophenes	0.000		0	N.D.	d	
58)	Fluoranthene	28.863	202	13485931m	5476.63		
59)	Pyrene	29.654	202	15191230m	5037.84		
60)	2-Methylfluoranthene	30.416	216	10453214m	5828.15		
61)	Benzo(b)fluorene	31.038	216	9668397m	6341.04		
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.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	33.745	228	14360939m	6027.21		
68)	Chrysene/Triphenylene	33.875	228	14855555m	5796.41		
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	42.716	191	6835439m	5020.23		
77)	Benzo(b)fluoranthene	37.279	252	16173019m	5356.38		
78)	Benzo(k,j)fluoranthene	37.376	252	15846810m	5677.74		
79)	Benzo(a)fluoranthene	0.000		0	N.D.	d	
80)	Benzo(e)pyrene	38.284	252	16200966m	5159.92		
81)	Benzo(a)pyrene	38.446	252	15502460m	5300.81		
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	17489030m	5475.45		
83)	Dibenzo(a,h)anthracene	43.239	278	14218773m	5594.34		
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	44.580	276	14536076m	5230.24		
89)	Perylene	38.770	252	16665237m	5513.25		
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	39.354	231	21075135m	5160.90		
95)	C28(20S)-TAS	0.000		0	N.D.	d	
96)	C27(20R)-TAS	0.000		0	N.D.	d	
97)	C28(20R)-TAS	0.000		0	N.D.	d	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182G.D
Acq On : 29 Nov 2013 6:24 pm
Operator : ECM(YMIAO)
Sample : AR-WKC6-5000-031
Misc :
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 01 19:58:04 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:47:20 2013
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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	82	0.00
2	S	Naphthalene-d8	1.850	2.012	-8.8	90	0.00
3	T	cis/trans Decalin	0.365	0.399	-9.3	90	0.00
4	un	C1-Decalins	0.365	0.000	100.0#	0#	-12.61#
5	un	C2-Decalins	0.365	0.000	100.0#	0#	-13.30#
6	un	C3-Decalins	0.365	0.000	100.0#	0#	-16.14#
7	un	C4-Decalins	0.365	0.000	100.0#	0#	-18.73#
8	T	Naphthalene	1.937	2.125	-9.7	90	0.00
9	T	2-Methylnaphthalene	1.162	1.278	-10.0	92	0.02
10	T	1-Methylnaphthalene	1.148	1.298	-13.1	93	0.00
11	T	2,6-Dimethylnaphthalene	1.011	1.055	-4.4	88	0.00
12	T	1,6,7-Trimethylnaphthalene	0.947	0.991	-4.6	88	0.00
13	un	C2-Naphthalenes	1.937	0.000	100.0#	0#	-18.82#
14	un	C3-Naphthalenes	1.937	0.000	100.0#	0#	-19.98#
15	un	C4-Naphthalenes	1.937	0.000	100.0#	0#	-22.33#
16	T	Benzothiophene	1.501	1.675	-11.6	92	0.02
17	un	C1-Benzothiophenes	1.501	0.000	100.0#	0#	-15.42#
18	un	C2-Benzothiophenes	1.501	0.000	100.0#	0#	-18.33#
19	un	C3-Benzothiophenes	1.501	0.000	100.0#	0#	-20.25#
20	un	C4-Benzothiophenes	1.501	0.000	100.0#	0#	-22.02#
21	S	Acenaphthene-d10	0.972	1.006	-3.5	86	0.00
22	T	Biphenyl	1.422	1.480	-4.1	86	0.02
23	T	Acenaphthylene	1.610	1.548	3.9	81	0.00
24	T	Acenaphthene	1.025	1.077	-5.1	87	0.00
25	T	Dibenzofuran	1.424	1.549	-8.8	92	0.00
26	T	Fluorene	1.166	1.177	-0.9	84	0.00
27	T	1-Methylfluorene	0.676	0.000	100.0#	0#	-23.44#
28	un	C1-Fluorenes	1.166	0.000	100.0#	0#	-23.44#
29	un	C2-Fluorenes	1.166	0.000	100.0#	0#	-25.84#
30	un	C3-Fluorenes	1.166	0.000	100.0#	0#	-27.25#
31	I	Pyrene-d10	1.000	1.000	0.0	75	0.00
32	S	Phenanthrene-d10	0.837	0.874	-4.4	80	0.00
33	T	Carbazole	0.627	0.560	10.7	70	0.00
34	T	Dibenzothiophene	0.855	0.942	-10.2	84	0.00
35	T	4-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-25.84#
36	un	2/3-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.18#
37	un	1-Methyldibenzothiophene	0.659	0.000	100.0#	0#	-26.49#
38	un	C2-Dibenzothiophenes	0.855	0.000	100.0#	0#	-27.79#
39	un	C3-Dibenzothiophenes	0.855	0.000	100.0#	0#	-28.75#
40	un	C4-Dibenzothiophenes	0.855	0.000	100.0#	0#	-30.42#
41	T	Phenanthrene	0.984	1.067	-8.4	83	0.00
42	T	Anthracene	0.821	0.819	0.2	77	0.00
43	un	3-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
44	un	2-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
45	un	2-Methylanthracene	0.665	0.000	100.0#	0#	-26.88#
46	un	4/9-Methylphenanthrene	0.665	0.000	100.0#	0#	-26.88#
47	T	1-Methylphenanthrene	0.665	0.672	-1.1	80	0.00
48	T	3,6-Dimethylphenanthrene	0.582	0.000	100.0#	0#	-27.96#
49	T	Retene	0.304	0.000	100.0#	0#	-30.64#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)
50	un	C2-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-28.52#
51	un	C3-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-29.37#
52	un	C4-Phenanthrenes/Anthracene	0.984	0.000	100.0#	0#	-32.09#
53	T	Naphthobenzothiophene	0.922	0.000	100.0#	0#	-32.93#
54	un	C1-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-34.56#
55	un	C2-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.31#
56	un	C3-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.54#
57	un	C4-Naphthobenzothiophenes	0.922	0.000	100.0#	0#	-37.38#
58	T	Fluoranthene	0.953	0.953	0.0	78	0.03
59	T	Pyrene	1.168	1.231	-5.4	81	0.00
60	T	2-Methylfluoranthene	0.695	0.000	100.0#	0#	-30.42#
61	T	Benzo(b)fluorene	0.590	0.000	100.0#	0#	-31.04#
62	un	C1-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-31.69#
63	un	C2-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-32.12#
64	un	C3-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-34.20#
65	un	C4-Fluoranthenes/Pyrenes	0.953	0.000	100.0#	0#	-35.79#
66	S	Chrysene-d12	0.967	0.978	-1.1	77	0.00
67	T	Benz(a)anthracene	0.927	0.869	6.3	75	0.00
68	T	Chrysene/Triphenylene	0.999	1.009	-1.0	79	0.00
69	un	C1-Chrysenes	0.999	0.000	100.0#	0#	-35.79#
70	un	C2-Chrysenes	0.999	0.000	100.0#	0#	-36.66#
71	un	C3-Chrysenes	0.999	0.000	100.0#	0#	-38.09#
72	un	C4-Chrysenes	0.999	0.000	100.0#	0#	-39.39#
73	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	68	0.00
74	un	C29-Hopane	0.570	0.000	100.0#	0#	-40.62#
75	un	18a-Oleanane	0.570	0.000	100.0#	0#	-42.00#
76	T	C30-Hopane	0.570	0.000	100.0#	0#	-42.72#
77	T	Benzo(b)fluoranthene	1.295	1.440	-11.2	79	0.00
78	T	Benzo(k,j)fluoranthene	1.195	1.325	-10.9	78	0.00
79	un	Benzo(a)fluoranthene	1.195	0.000	100.0#	0#	-37.28#
80	T	Benzo(e)pyrene	1.315	1.452	-10.4	79	-0.03
81	T	Benzo(a)pyrene	1.227	1.356	-10.5	78	0.00
82	T	Indeno(1,2,3-c,d)pyrene	1.331	1.432	-7.6	78	0.00
83	T	Dibenzo(a,h)anthracene	1.058	1.186	-12.1	82	0.00
84	un	C1-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.86#
85	un	C2-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-49.55#
86	un	C3-Dibenzo(a,h)anthracenes	1.058	0.000	100.0#	0#	-48.99#
87	T	Benzo(g,h,i)perylene	1.159	1.282	-10.6	79	-0.03
88	S	Perylene-d12	1.159	1.199	-3.5	76	0.00
89	T	Perylene	1.263	1.357	-7.4	77	0.00
90	S	5(b)H-Cholane	0.317	0.308	2.8	70	0.00
91	un	C20-TAS	1.704	0.000	100.0#	0#	-33.78#
92	un	C21-TAS	1.704	0.000	100.0#	0#	-34.17#
93	un	C26(20S)-TAS	1.704	0.000	100.0#	0#	-38.67#
94	T	C26(20R)/C27(20S)-TAS	1.704	0.000	100.0#	0#	-39.35#
95	un	C28(20S)-TAS	1.704	0.000	100.0#	0#	-40.62#
96	un	C27(20R)-TAS	1.704	0.000	100.0#	0#	-40.62#
97	un	C28(20R)-TAS	1.704	0.000	100.0#	0#	-41.77#

Evaluate Continuing Calibration Report

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 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)

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Fluorene-d10	21.369	176	254753m	251.05	0.00
31) Pyrene-d10	29.597	212	434345m	250.63	0.00
73) Benzo(a)pyrene-d12	38.381	264	345650m	250.32	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.746	136	510586m	272.02	0.00
21) Acenaphthene-d10	19.603	164	255303m	258.86	0.00
32) Phenanthrene-d10	24.681	188	378755m	261.24	0.00
66) Chrysene-d12	33.777	240	423841m	252.89	0.00
88) Perylene-d12	38.673	264	413892m	258.61	0.00
90) 5(b)H-Cholane	34.166	217	106203m	242.69	0.00
Target Compounds					Qvalue
3) cis/trans Decalin	11.107	138	100147m	270.30	
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	13.813	128	539029m	274.21	
9) 2-Methylnaphthalene	16.071	142	324638m	275.33	
10) 1-Methylnaphthalene	16.384	142	329010m	282.51	
11) 2,6-Dimethylnaphthalene	18.150	156	267611m	260.91	
12) 1,6,7-Trimethylnaphtha...	21.011	170	251388m	261.53	
13) C2-Naphthalenes	0.000		0	N.D.	
14) C3-Naphthalenes	0.000		0	N.D.	
15) C4-Naphthalenes	0.000		0	N.D.	
16) Benzothiophene	13.991	134	422371m	277.31	
17) C1-Benzothiophenes	0.000		0	N.D. d	
18) C2-Benzothiophenes	0.000		0	N.D. d	
19) C3-Benzothiophenes	0.000		0	N.D. d	
20) C4-Benzothiophenes	0.000		0	N.D. d	
22) Biphenyl	17.636	154	372178m	258.00	
23) Acenaphthylene	19.111	152	389459m	238.33	
24) Acenaphthene	19.692	154	273718m	263.08	
25) Dibenzofuran	20.296	168	391089m	270.68	
26) Fluorene	21.481	166	299066m	252.69	
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	25.529	167	240578m	221.51	
34) Dibenzothiophene	24.342	184	402304m	271.65	
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	24.766	178	458096m	268.69	
42) Anthracene	24.935	178	355968m	250.27	
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	

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration

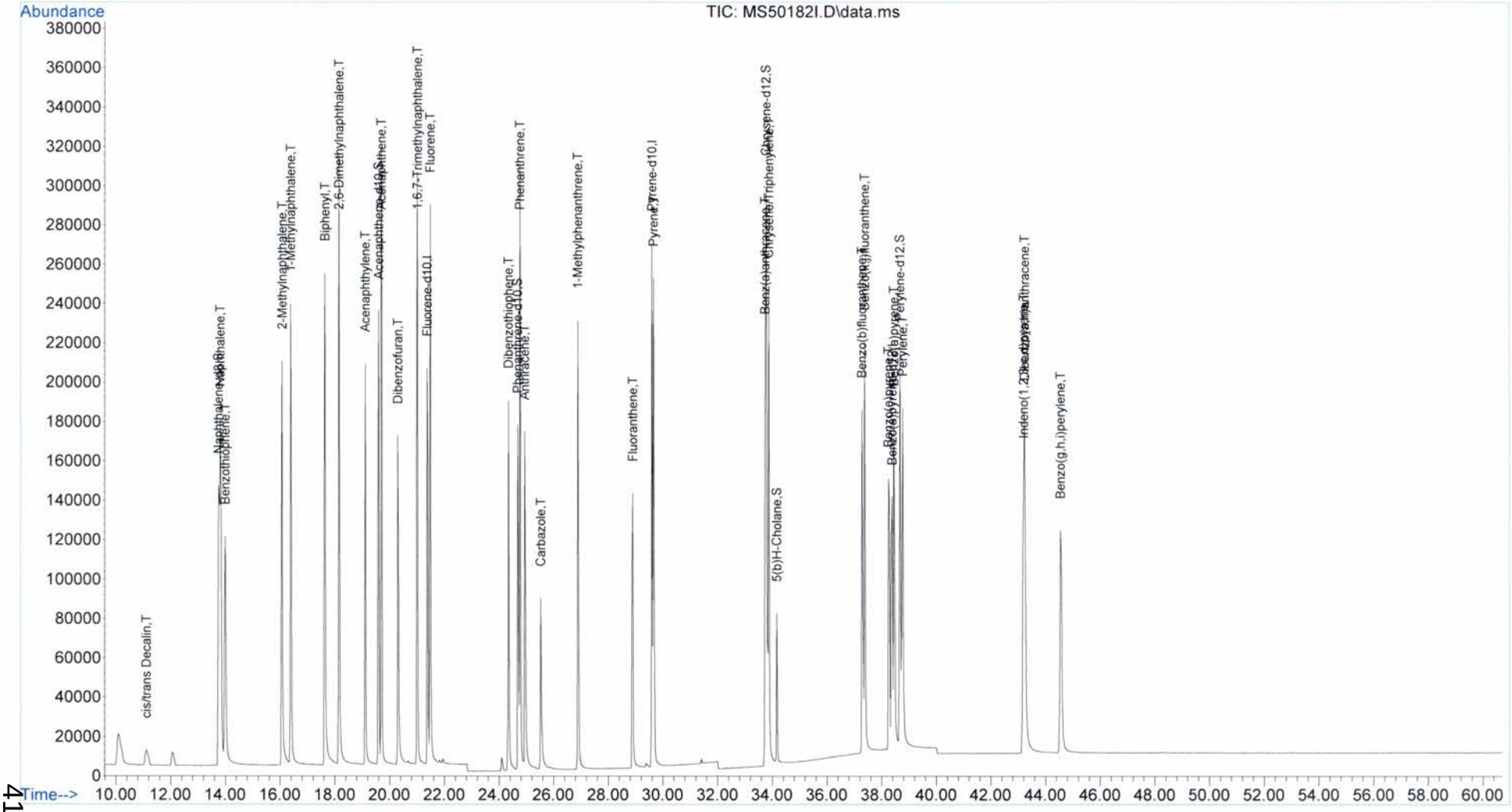
	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
46)	4/9-Methylphenanthrene	0.000		0	N.D. d	
47)	1-Methylphenanthrene	26.885	192	288087m	249.84	
48)	3,6-Dimethylphenanthrene	0.000		0	N.D. d	
49)	Retene	0.000		0	N.D. d	
50)	C2-Phenanthrenes/Anthr...	0.000		0	N.D. d	
51)	C3-Phenanthrenes/Anthr...	0.000		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	28.891	202	413233m	250.13	
59)	Pyrene	29.653	202	533174m	263.30	
60)	2-Methylfluoranthene	0.000		0	N.D. d	
61)	Benzo(b)fluorene	0.000		0	N.D. d	
62)	C1-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
63)	C2-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
64)	C3-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
65)	C4-Fluoranthenes/Pyrenes	0.000		0	N.D. d	
67)	Benz(a)anthracene	33.745	228	375651m	233.80	
68)	Chrysene/Triphenylene	33.875	228	434600m	251.02	
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	37.279	252	498241m	278.55	
78)	Benzo(k,j)fluoranthene	37.376	252	455501m	276.03	
79)	Benzo(a)fluoranthene	0.000		0	N.D. d	
80)	Benzo(e)pyrene	38.251	252	499350m	275.07	
81)	Benzo(a)pyrene	38.446	252	467001m	275.75	
82)	Indeno(1,2,3-c,d)pyrene	43.206	276	485760m	264.28	
83)	Dibenzo(a,h)anthracene	43.239	278	405741m	277.73	
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	44.547	276	438695m	274.10	
89)	Perylene	38.770	252	469030m	268.99	
91)	C20-TAS	0.000		0	N.D. d	
92)	C21-TAS	0.000		0	N.D. d	
93)	C26(20S)-TAS	0.000		0	N.D. d	
94)	C26(20R)/C27(20S)-TAS	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	

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

Quantitation Report (QT Reviewed)

Data Path : C:\GCMS5\MS50182\
Data File : MS50182I.D
Acq On : 29 Nov 2013 8:37 pm
Operator : ECM(YMIAO)
Sample : AR-WKICV-250-005
Misc :
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 05 06:46:29 2013
Quant Method : C:\GCMS5\MS50182\AR50182.M
Quant Title : PAH Calibration Table-2013A
QLast Update : Sun Dec 01 19:58:11 2013
Response via : Initial Calibration



PAH Mass Discrimination Ratio

B&B Laboratories
Project J13034
Report 13-3157

Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
Mass Discrimination Sheet

Client Project #B0086022.1301

File Name	Sample Name	Benzo(g,h,i)perylene Concentration (ng/mL)	Phenanthrene Concentration (ng/mL)	Benzo(g,h,i)perylene/ Phenanthrene ratio	Q
MS50182B.D	AR-WKC1-020-031	19.0	18.6	1.02	
MS50182C.D	AR-WKC2-100-031	93.9	96.3	0.97	
MS50182D.D	AR-WKC3-250-031	232	242	0.96	
MS50182E.D	AR-WKC4-500-031	489	522	0.94	
MS50182F.D	AR-WKC5-1000-031	1044	1060	0.99	
MS50182G.D	AR-WKC6-5000-031	5230	5153	1.02	
MS50182I.D	AR-WKICV-250-005	274	269	1.02	
MS50182J.D	AR-WKCC-250-039	253	269	0.94	
MS50182L.D	AR-WKCC-250-039	215	223	0.96	
MS50182M.D	AR-WKCC-250-039	169	222	0.76	

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 13-3157

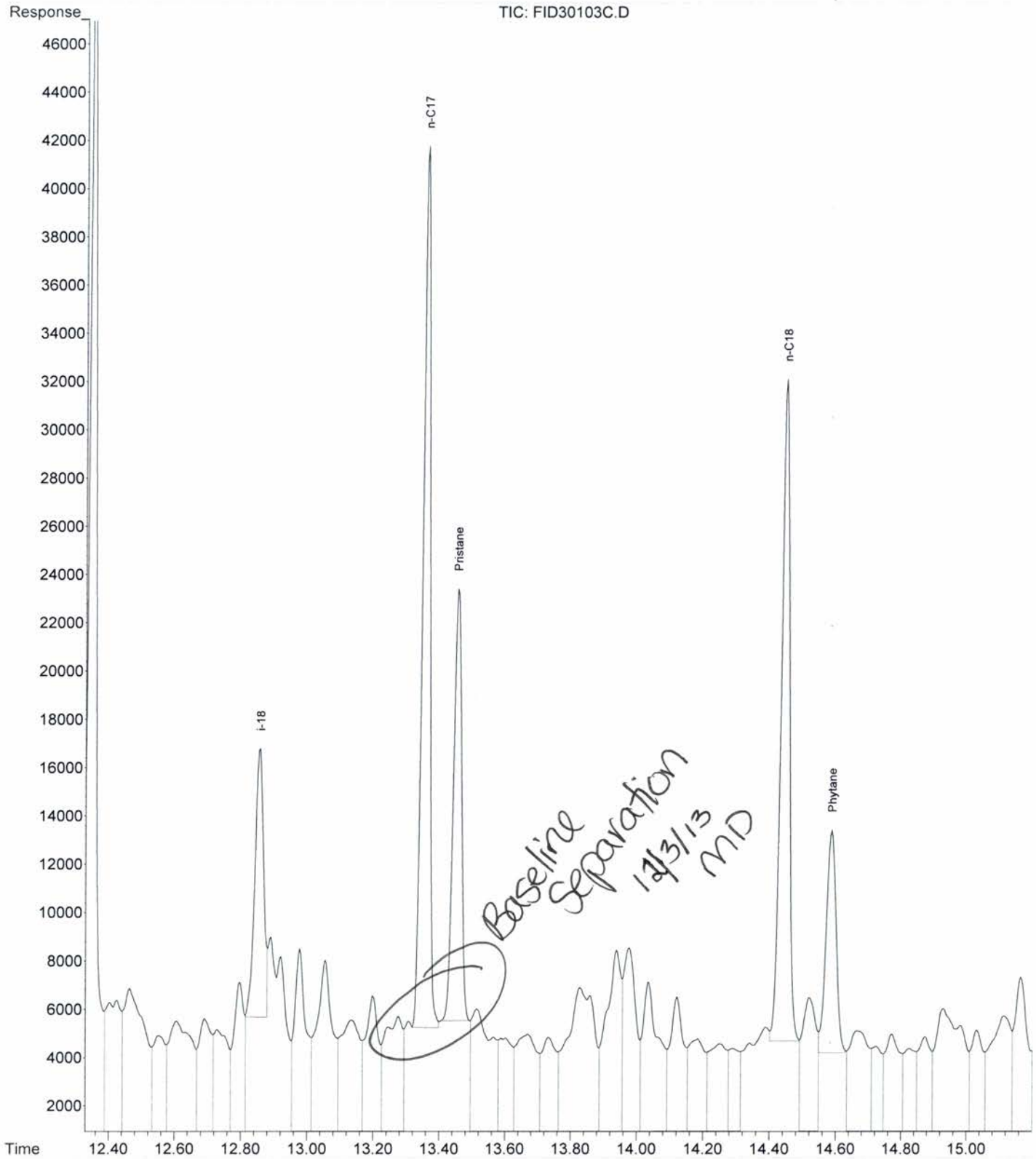
Arcadis - Mayflower AR
Polycyclic Aromatic Hydrocarbon Data
The Area of the Internal Standards in the Associated Calibration Standard

Client Project #B0086022.1301

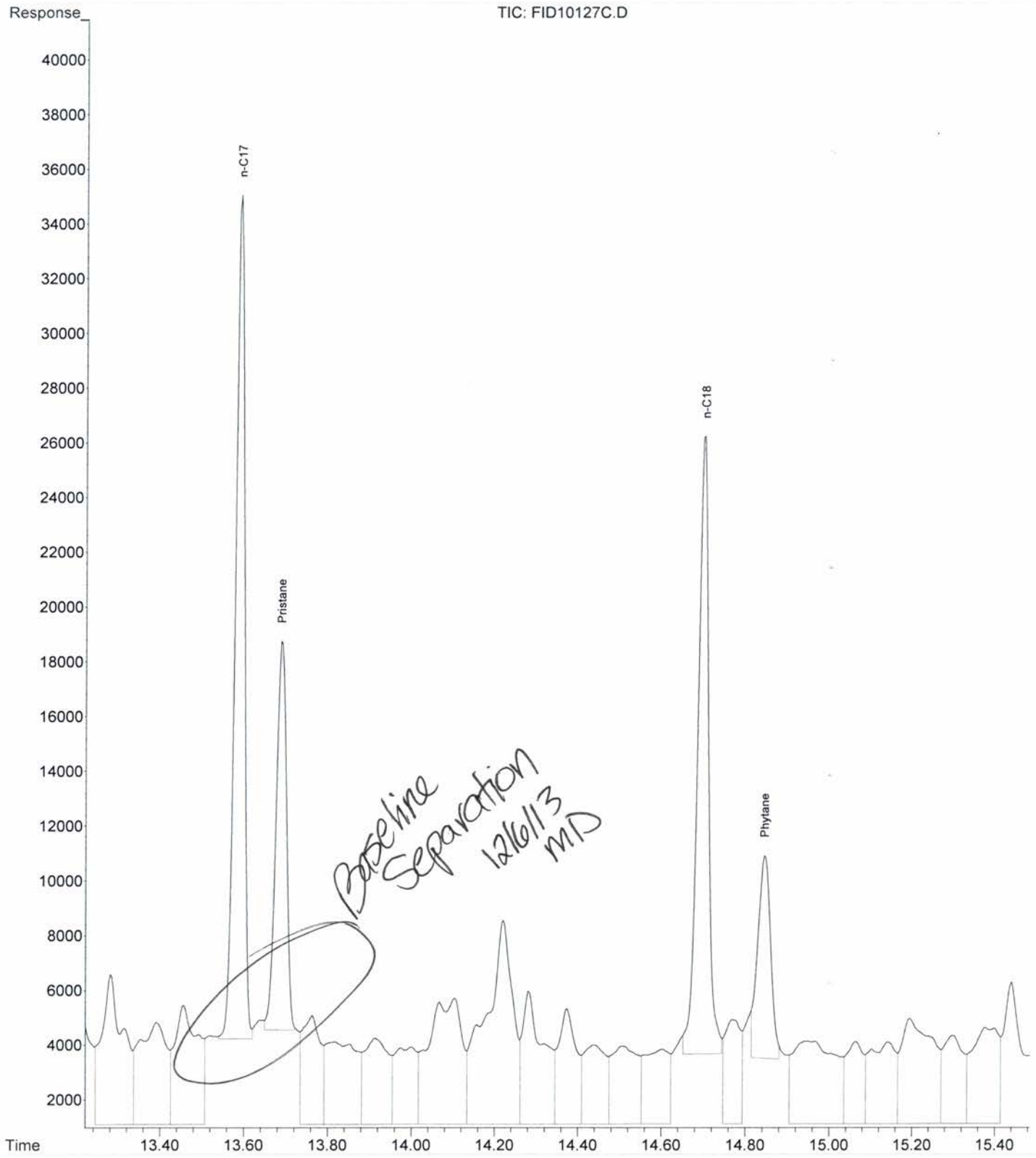
File Name	Sample Name	Internal Standard 1 Fluorene-d10			Internal Standard 2 Pyrene-d10			Internal Standard 3 Benzo(a)pyrene-d12		
		Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)	Response (Area)	50% (Area)	200% (Area)
MS50182D.D	**AR-WKC3-250-031**	**312475**	**156238**	**624950**	**581252**	**290626**	**1162504**	**509077**	**254539**	**1018154**
MS50182I.D	**AR-WKICV-250-005**	**254753**			**434345**			**345650**		
MS50182J.D	**AR-WKCC-250-039**	**265742**	**132871**	**531484**	**451423**	**225712**	**902846**	**364170**	**182085**	**728340**
ENV3165A.D	Method Blank	257096			489611			454056		
ENV3165B.D	Blank Spike	265175			490093			459239		
ENV3165C.D	Blank Spike Dupl.	258400			475720			453957		
ARC2006.D	SED-DA-EB-11-112013	261592			467588			433832		
ENV3166A.D	Method Blank	236302			424001			395206		
ENV3166B.D	SRM 1941b	273667			591347			556552		
ENV3166C.D	MS (SED-DA-037R (0-0.5) MS/MSD)	310853			697608			567038		
ENV3166D.D	MSD (SED-DA-037R (0-0.5) MS/MSD)	306095			670771			559848		
MS50182L.D	**AR-WKCC-250-039**	**302521**	**151261**	**605042**	**612862**	**306431**	**1225724**	**547214**	**273607**	**1094428**
ENV3166E.D	Dupl. (SED-DA-033R (0-0.5))	282516			580098			545166		
ARC2008.D	SED-DA-036R (0-0.5)	293661			648037			532868		
ARC2011.D	SED-DA-037R (0-0.5)	282445			599744			498252		
ARC2015.D	SED-DA-038R (0-0.5)	282979			608687			464588		
ARC2018.D	SED-DA-033R (0-0.5)	264385			565335			478847		
ARC2021.D	SED-DA-034R (0-0.5)	233320			517929			403038		
ARC2024.D	SED-DA-035R (0-0.5)	281995			624693			480493		
ARC2027.D	SED-DA-DUP-10-112013	224335			495303			382486		
MS50182M.D	**AR-WKCC-250-039**	**261081**	**130541**	**522162**	**535526**	**267763**	**1071052**	**462777**	**231389**	**925554**

SRM-2779 Reference Oil Aliphatic and PAH Resolution Checks

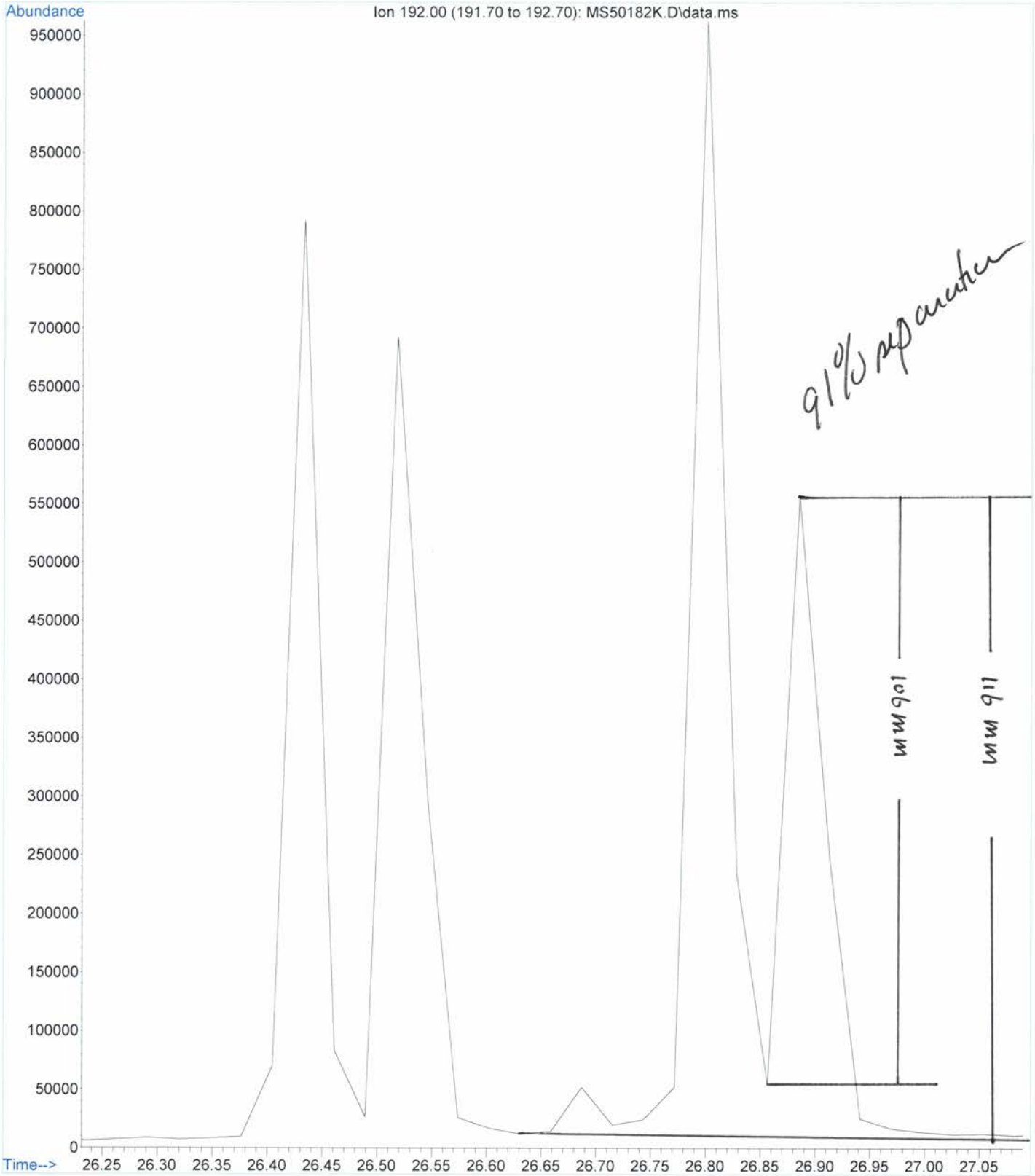
File :P:\2013\J13034\Aliphatics\ENV 3166\FID30103\FID30103C.D
Operator : Meghan Dailey
Acquired : 27-Nov-2013, 21:08 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-02
Misc Info :
Vial Number: 53



File :P:\2013\J13034\Aliphatics\ENV 3165\FID10127\FID10127C.D
Operator : Meghan Dailey
Acquired : 05-Dec-2013, 14:45 using AcqMethod ALI2012.M
Instrument : HP5890
Sample Name: AL-SRM2779-20-02
Misc Info :
Vial Number: 53



File :C:\GCMS5\MS50182\MS50182K.D
Operator : ECM(YMIAO)
Acquired : 29 Nov 2013 10:49 pm using AcqMethod PAH-2012.M
Instrument : GCMS5
Sample Name: AR-SRM2779-WK-4.0-003
Misc Info :
Vial Number: 11



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J13034 Date Received: 11/21/13 SDG#: 13112101

Sender: Arcadis- Mayflower AR
Arcadis: Jessica geurts

1. Number of Shipping Containers: 1

Comments: large blue cooler

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

Airbill Number: 8041 7032 6726

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: project # B0086022.1301

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

Temperature/Comments: 1.2°C/temp blank 0.6°C (T2

6. List of Broken Containers:

None

7. Number of Samples Expected: 1 cooler Number of Samples Received: 2 waters
20 seds

8. Problems/Discrepancies:

None

9. Resolutions:

N/A

10. Checked in by: amanda Brewster Date: 11/21/13

large blue cooler

Sdg 13112101
Cooler 1of1

Ice type: wet ice
Temp blank: 1.2°C
Thermometer: 2
Cooler temp: 0.6°C
Custody seal: intact

eurofins | Lancaster Laboratories

487444
CUSTODY SEAL
2425 New Holland Pike, Lancaster, PA 17601-5994 (717) 56-2300

DATE: 11-20-13
SIGNATURE:

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8041 7032 6726

1 From

Date 11-20-13

Sender's Name Brian Lovgren Phone 919 604-4552

Company Arcadis-US

Address 801 Corporate Center Drive Dept./Floor/Suite/Room

City Raleigh State ZIP

2 Your Internal Billing Reference B0086022.1301.60602

3 To

Recipient's Name Sample Administration Phone 979 693-3446

Company B&B Labs

Address 14391B South Bowling Road Dept./Floor/Suite/Room

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

Address

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

City 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 2Day to select locations.

8041 7032 6726

Form 10 Rev. 02

4 Express Pack

NOTE: Service order

Next Business D

FedEx First Overr

FedEx Priority Ove

FedEx Standard

5 Packaging

FedEx Envelope*

6 Special Hand

SATURDAY Deli

NOT available for FedE

No Signature Re

Does this shipmen

No Yes

7 Payment Bil

Sender

Total Packages T

1

Our liability is limited to US$100

Rev. Date 1/12 • Part #160001

FedEx TRK# 0200 8041 7032 6726

THU – 21 NOV 10:

PRIORITY OVERNI(

XH CLLA

778

TX-US

#958773 11/20 S1AG1/9SE6/1A9E

B&B Laboratories, Inc.

CHAIN OF CUSTODY RECORD

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

TDI Brooks

Client: ARCADIS

Project ID: B0086003.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: [signature]

Analyses

Other Instructions: sdg 13112101 Cooler 1 of 1 (1)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs by 8270SIM	TEH by 8015						Comments
SED-DA-036R(0-0.5)	11-19-13	1015	SED	None	8oz jar	1	X	X						Full PAH List
SED-DA-036R(0.5-1)	11-19-13	1020				1	X							44 PAH List
SED-DA-036R(1-1.5)	11-19-13	1025				1	X							44 PAH List
SED-DA-037R(0-0.5)		1100				1	X	X						Full PAH List
SED-DA-037R(0-0.5)MS/MSD		1100				1	X	X						Full PAH List
SED-DA-037R(0.5-1)		1105				1	X							44 PAH List
SED-DA-037R(1-1.5)		1110				1	X							44 PAH List
SED-DA-038R(0-0.5)		1350				1	X	X						Full PAH List
SED-DA-038R(0.5-1)		1355				1	X							44 PAH List
SED-DA-038R(1-1.5)		1400				1	X							44 PAH List
					Total # of Containers	10								

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jessica Geurts	ARCADIS	11/20/13	1730	Printed Name: Amanda Brewster	B&B Labs	11/21/13	10:00
Signature: [signature]				Signature: Amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

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

Sample Container: Vol/material

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

1/3

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: B0080063.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature:

Analyses

Other Instructions: sdg 1311 2101 cooler 1 of 1 (2)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs by 8270SIM	TEH by 8015						Comments
SED-DA-033R(0-0.5)	11-20-13	845	SED	None	8oz jar	1	X	X						Full PAH List
SED-DA-033R(0.5-1)		850				1	X							44 PAH List
SED-DA-033R(1-1.5)		855				1	X							↓
SED-DA-034R(0-0.5)		910				1	X	X						Full PAH List
SED-DA-034R(0.5-1)		915				1	X							44 PAH List
SED-DA-034R(1-1.5)		920				1	X							↓
SED-DA-035R(0-0.5)		945				1	X	X						Full PAH List
SED-DA-035R(0.5-1)		950				1	X							44 PAH List
SED-DA-035R(1-1.5)		955				1	X							↓
SED-DA-DUP-10-112013		—				1	X	X						Full PAH List
					Total # of Containers	10								

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jessica Geurts	ARCADIS	11-20-13	1230	Printed Name: Amanda Brewster	B&B Labs	11/21/13	10:00
Signature:				Signature: amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

Matrix:

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

Sample Container: Vol/material

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

2/3

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: [illegible] 3.1301 Mayflower Pipeline Incident

B&B Contact: Juan Ramirez

Sampler Signature: [signature]

Analyses: PAHs by 8270D SIM; TCH by 8015

Other Instructions: Sdg 13112101 Cooler 1 of 1 (3)

Sample ID	Sample Date	Sample Time	Sample Matrix	Preservative	Containers Type	Containers No.	PAHs by 8270D SIM	TCH by 8015					Comments
W SED-DA-EB-11-112013	11-20-13	11:45	W	None	1L Amber	2	X	X					
		11:40 outlet											

Total # of Containers: 2

Relinquished By	Company Name	Date	Time	Received By	Company Name	Date	Time
Printed Name: Jessica Gurtz	ARCADIS	11-20-13	1230	Printed Name: Amanda Brewster	B&B Labs	11/21/13	10:00
Signature: [signature]				Signature: amanda Brewster			
Printed Name:				Printed Name:			
Signature:				Signature:			

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

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

3/3

Report 13-3157

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13112101
Client: Arcadis-Mayflower AR
Initiation Date: 11/21/13

Number of Samples: 1
Matrix: water
Due Date: 30 days: 12/21/13
Comments: collected 11/20/13 extract by 11/26/13

Analyses

- [x] PAHs
- [ ] OCs/PCBs
- [x] Aliphatics/TPH
- [x] EOM
- [ ] Dry Wt.
- [ ] %Lipid
- [ ] TOC/TIC
- [ ] ____
- [x] Short Columns
- [ ] Long Columns
- [ ] ____
- [ ] ____

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

- [x] Blank
- [ ] SRM/LCS ____
- [x] Blank Spike
- [x] Blank Spike Duplicate
- [ ] Matrix Spike ____
- [ ] Matrix Spike Duplicate ____
- [ ] Duplicate ____

SEE BACK FOR SPECIFIC STANDARDS TO USE

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

Comments:

Sample Custodian Signature: amanda Brewster Date: 11/21/13
Laboratory Manager Signature: [signature] Date: 11/22/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
65246	J13034	Arcadis - Mayflower AR	ARC2006	SED-DA-EB-11-112013	11/20/13	11/21/13	PAH, TPH, ALI	WATER	1 of 2	13112101	Cooler 1	Arcadis: Jessica Geurts	1L amber BR glass bottle	B0086022.1301
65247	J13034	Arcadis - Mayflower AR	ARC2007	SED-DA-EB-11-112013	11/20/13	11/21/13	HOLD	WATER	2 of 2	13112101	Cooler 1	Arcadis: Jessica Geurts	1L amber BR glass bottle	B0086022.1301

2

Report 13-3157

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 131121 01
Client: Arcadis-Mayflower AR
Initiation Date: 11/21/13

Number of Samples: 12
Matrix: sediments
Due Date: 30 days: 12/21/13
Comments: 44 analytes

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 194/6	☐ Blank Spike	
☐ Blank Spike Duplicate		☒ Matrix Spike	
☒ Matrix Spike Duplicate		☒ Duplicate	

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH, All — Volume(s): 100ml
Spike Standard(s): PAH, All — Volume(s): 100ml
Internal Standard(s): PAH, All — Volume(s): 100ml
Final Extract Volume (ml): ~~[illegible]~~ 1.0 — Final Solvent: DCM

Comments: report only 44 PAHs.

Sample Custodian Signature: Amanda Brewster — Date: 11/21/13
Laboratory Manager Signature: [signature] — Date: 11/22/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
65249	J13034	Arcadis - Mayflower AR	ARC2009	SED-DA-036R (0.5-1)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65250	J13034	Arcadis - Mayflower AR	ARC2010	SED-DA-036R (1-1.5)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65253	J13034	Arcadis - Mayflower AR	ARC2013	SED-DA-037R (0.5-1)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65254	J13034	Arcadis - Mayflower AR	ARC2014	SED-DA-037R (1-1.5)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65256	J13034	Arcadis - Mayflower AR	ARC2016	SED-DA-038R (0.5-1)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65257	J13034	Arcadis - Mayflower AR	ARC2017	SED-DA-038R (1-1.5)	11/19/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65259	J13034	Arcadis - Mayflower AR	ARC2019	SED-DA-033R (0.5-1)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65260	J13034	Arcadis - Mayflower AR	ARC2020	SED-DA-033R (1-1.5)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65262	J13034	Arcadis - Mayflower AR	ARC2022	SED-DA-034R (0.5-1)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65263	J13034	Arcadis - Mayflower AR	ARC2023	SED-DA-034R (1-1.5)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65265	J13034	Arcadis - Mayflower AR	ARC2025	SED-DA-035R (0.5-1)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65266	J13034	Arcadis - Mayflower AR	ARC2026	SED-DA-035R (1-1.5)	11/20/13	11/21/13	PAH	SED	44 analytes	13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301

12

Report 13-3157

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J13034
SDG: 13112101
Client: Arcadis-Mayflower AR
Initiation Date: 11/21/13

Number of Samples: 8
Matrix: sediments
Due Date: 30 days: 12/21/13
Comments: PAH, TPH, ALI

Analyses

- [x] PAHs
- [ ] OCs/PCBs
- [x] Aliphatics/TPH
- [x] EOM
- [x] Dry Wt.
- [ ] %Lipid
- [ ] TOC/TIC
- [ ] ____
- [ ] Short Columns
- [ ] Long Columns
- [ ] ____
- [ ] ____

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

- [x] Blank
- [x] SRM/LCS 1941b
- [ ] Blank Spike
- [ ] Blank Spike Duplicate
- [x] Matrix Spike ARC2012
- [x] Matrix Spike Duplicate ARC2012
- [x] Duplicate ____

SEE BACK FOR SPECIFIC STANDARDS TO USE

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

Comments: Use ARC2012 as MS/MSD — ARC2011 is the original.

Sample Custodian Signature: Amanda Brewster — Date: 11/21/13
Laboratory Manager Signature: ____ — Date: 11/22/13

Sample Initiaiton - general Rev 1.doc
Rev 1

cc: COC Book
Extraction Lab

Log #	Job #	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	Analysis	MATRIX	COMMENTS	B&B SDG	Cooler #	Sent by:	Container	Project #
65248	J13034	Arcadis - Mayflower AR	ARC2008	SED-DA-036R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65251	J13034	Arcadis - Mayflower AR	ARC2011	SED-DA-037R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65252	J13034	Arcadis - Mayflower AR	ARC2012	SED-DA-037R (0-0.5) MS/MSD	11/19/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65255	J13034	Arcadis - Mayflower AR	ARC2015	SED-DA-038R (0-0.5)	11/19/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65258	J13034	Arcadis - Mayflower AR	ARC2018	SED-DA-033R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65261	J13034	Arcadis - Mayflower AR	ARC2021	SED-DA-034R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65264	J13034	Arcadis - Mayflower AR	ARC2024	SED-DA-035R (0-0.5)	11/20/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301
65267	J13034	Arcadis - Mayflower AR	ARC2027	SED-DA-DUP-10-112013	11/20/13	11/21/13	PAH, TPH, ALI	SED		13112101	Cooler 1	Arcadis: Jessica Geurts	8oz clear glass jar	B0086022.1301

/8

J13034 Arcadis- Mayflower coming 11/21/13

Amanda Brewster B0086022.1301

From: Parmelee, Rhiannon <Rhiannon.Parmelee@arcadis-us.com>
Sent: Tuesday, November 19, 2013 1:02 PM
To: 'Amanda J. Brewster' (amandabrewster@tdi-bi.com)
Cc: Juan Ramirez (juanramirez@tdi-bi.com); Donell Frank (donellfrank@tdi-bi.com); tommcdonald@tdi-bi.com; Mott, Lyndi; Geurts, Jessica; Mays, Daniel; Lipka, Shelby; Patil, Sonal
Subject: Reminder of Mayflower Pipeline Incident Project - Sediment Samples this week

Amanda –

As a reminder, we are collecting sediment samples this week that will be shipped to you on Wednesday night for Thursday delivery. Danny Mays or Jessica Geurts will be sending you the COCs Wednesday night. The scope of work previously discussed with Juan included the following samples:

Scope of Work for Additional Lake Conway Sediment Sampling:

1. Analyze six surface sediment samples (0-0.5 foot), one duplicate and one MS/MSD for full list PAHs (87 analytes; Method – B&B PAH2012.M) and TEHs (TPH/ALI; Method – B&B ALI2012.M).
2. Analyze twelve subsurface sediment samples (0.5-1.0 foot, 1.0-1.5 feet) for 44 PAHs (Method – B B&B PAH2012.M).
3. Analyze two equipment blanks (water) for full list PAHs (87 analytes; Method – B&B PAH2012.M) and TEHs (TPH/ALI; Method – B&B ALI2012.M).
4. Samples will be shipped to the laboratory on or about November 20, 2013 for overnight delivery. Please send sample received confirmation to:
    a. Rhiannon Parmelee (rhiannon.parmelee@arcadis-us.com)
    b. Lyndi Mott (lyndi.mott@arcadis-us.com)
    c. Sonal Patil (sonal.patil@arcadis-us.com)
    d. Jessica Geurts (jessica.geurts@arcadis-us.com)
5. Due date for reporting analytical results – December 23 for preliminary data and January 10 for final data packages (30 calendar days and 45 calendar days excluding holiday breaks).
6. Send the analytical results to:
    a. Rhiannon Parmelee (rhiannon.parmelee@arcadis-us.com)
    b. Lyndi Mott (lyndi.mott@arcadis-us.com)
    c. CC: Dak Patel, Dak.Patel@arcadis-us.com
    d. CC: Albert Zumbuhl, Albert.Zumbuhl@arcadis-us.com
    e. CC: Stephen Barrick, Stephen.Barrick@arcadis-us.com
    f. CC: Lisa Tomlinson, Lisa.Tomlinson@arcadis-us.com
    g. CC: Jennifer Chandler, Jennifer.Chandler@arcadis-us.com

Please let me know if you have any questions.

Also, as we just discussed. We are not expecting additional sheen sampling this week, but it may be early next week. I will let you know when it gets scheduled; thanks for your flexibility.

Thanks,
Rhiannon

Rhiannon Parmelee, P.E. | Project Environmental Engineer, Sediments and Waterfront | rhiannon.parmelee@arcadis-us.com

ARCADIS U.S., Inc. | 630 Plaza Drive, Suite 100 | Highlands Ranch, CO 80129
T: 303 471 3904 | M: 206 914 9625
www.arcadis-us.com

Amanda Brewster

From:	Amanda Brewster <amandabrewster@tdi-bi.com>
Sent:	Thursday, November 21, 2013 2:39 PM
To:	Parmelee, Rhiannon (Rhiannon.Parmelee@arcadis-us.com); Mott, Lyndi (Lyndi.Mott@arcadis-us.com); Patil, Sonal (Sonal.Patil@arcadis-us.com); Geurts, Jessica (Jessica.Geurts@arcadis-us.com)
Cc:	Juan Ramirez (juanramirez@tdi-bi.com); 'Donell Frank'; 'tommcdonald@tdi-bi.com' (tommcdonald@tdi-bi.com)
Subject:	Samples Received 11/21/13
Attachments:	COC 11-21-13.pdf

Hi Rhiannon,

We received your samples today in good condition.
The internal temperature of the cooler was 1.2ºC and the temperature blank was 0.6ºC.
A PDF of the COC is attached for your records.

Regards,
Amanda

Amanda Brewster
Sample Custodian

Please note our new address!
B&B Laboratories
14391B South Dowling Road
College Station, Texas 77845
Phone: (979) 693-3446
Email: amandabrewster@tdi-bi.com

Please consider the environment before printing this email!

Laboratory Bench Sheet Logs

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

MATRIX
- [ ] OTHER
- [x] WATER
- [ ] SEDIMENT
- [ ] TISSUE

Job #: J13034 SDG #: 131121101

Client: Arcadis - May Flower

Analysis: [x] PAH [ ] PESTS [ ] PCB [x] ALI

Other: TPH

Extraction Solvent: DCM

Final Solvent: DCM Final Volume: 1.0 mL

Lipids Y/(N)
Dry Wt. Y/(N)
Copper Y/(N)
EOM (Y)/N
Columns (Y)/N
Long/(Short)

Surrogate: 100 µL
PAH: AR-WKSU-2500-004 Bottle 2 of 3
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKSU-200-002 Bottle 4 of 7
Other: — Bottle ___ of ___

Spike: 100 µL
PAH: AR-WKSK-1000-021 Bottle 1 of 1
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKSK-100-021 Bottle 1 of 1
Other: — Bottle ___ of ___

GC Int Std: 100 µL
PAH: AR-WKIS-2500-004 Bottle 2 of 3
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKIS-500-002 Bottle 3 of 7
Other: — Bottle ___ of ___

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

General Comments:
Report 13-3157

	Added	Witness
Surrogate:	11/26/13 CK	11/26/13 SAA
Spike:	11/26/13 CK	11/26/13 SAA
Internal:	11/27/13 MA	11/27/13 CAO

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody	
1	ENV3165A	Method Blank	1.00				Extraction Prep	
2	ENV3165B	Blank Spike	1.00				Date: 11/26/13 Initials:	Date: 11/26/13 Initials:
3	ENV3165C	Blank Spike Dup	1.00					
4	ALC2006	SED-DA-EB-11-112013	1.00				Extraction	
5							Date: 11/26/13 Initials: CK	Date: 11/26/13 Initials: SAA
6								
7							Concentration	
8							Date: 11/26/13 Initials: CK	Date: 11-27-13 Initials:
9								
10							Short Columns	
11							Date: 11-27-13 Initials:	Date: 11-27-13 Initials:
12								

ENV 3165
Page 1 of 2

ENVIROLOG Rev 3 Env. Extraction Log

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						

Internal Chain of Custody

Concentration Short Columns		
	Date: 11-27-13	Date: 11-27-13
	Initials: EW	Initials: EW
Columns SA1		
	Date:	Date:
	Initials:	Initials:
Concentration SA1		
	Date:	Date:
	Initials:	Initials:
Columns SA2		
	Date:	Date:
	Initials:	Initials:
Concentration SA2		
	Date:	Date:
	Initials:	Initials:
Transfer for HPLC		
	Date:	Date:
	Initials:	Initials:
HPLC		
	Date:	Date:
	Initials:	Initials:
Post-HPLC Concentration		
	Date:	Date:
	Initials:	Initials:
Final Extract Transfer		
	Date: 11/27/13	Initials: BAS

Dry Weight Page

—

Lipid/EOM Page

EOM1065

Clean-up/Separation/Other Columns

—

Lot Numbers

DCM: 52314
Hexane: —
Hydromatrix: —
Water: DJ063-C
Silica: BCBK2257V
Alumina: VA26EZEMS
Sodium Sulfate: VI11H
Pentane: —
Copper: —
Hydrochloric Acid: 52262
SPE Columns: —
Other: —

Sample Storage Box #

J13034-2

HPLC Storage Box #

—

QC Review

Date	Initials
11/27/13	[illegible]

Equipment Used

- ☐ ASE1
- ☐ ASE2
- ☐ ASE3
- ☐ PLE
- ☐ HPLC1
- ☐ HPLC2

Copied to Folders

11/27/13 CK

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B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

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

Job #: J13034 SDG #: 13112101

Client: Arcadis-Mayflower AR

Analysis: ☒ PAH ☐ PESTS ☐ PCB ☒ ALI

Other:

Extraction Solvent: DCM

Final Solvent: DCM Final Volume: 1.00 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-2500-004 Bottle ~~1~~ of ~~7~~ CK 2 of 7
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKSU-200-002 Bottle 4 of 7
Other: — Bottle ___ of ___

Spike: 100 µL
PAH: AR-WKSK-1000-027 Bottle 1 of 1
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKSK-100-021 Bottle 1 of 1
Other: — Bottle ___ of ___

GC Int Std: 100 µL
PAH: AR-WKIS-2500-004 Bottle 2 of 3
Pest/PCB: — Bottle ___ of ___
Aliphatic: AL-WKIS-500-002 Bottle ___ of ___
Other: — Bottle ___ of ___

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

General Comments:

Report 13-3157

~~Report only 4+1 PAH~~ 11/26/13 CK

	Added	Witness
Surrogate:	11/26/13 HA	11/26/13 CK
Spike:	11/26/13 HA	11/26/13 CK
Internal:	11/27/13 HA	11/29/13 CK

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments	Internal Chain of Custody	
1	ENV3166A	Method Blank	—	—	—		Extraction Prep	
2	ENV3166B	SRM 1941b	4.11	97.61	4.01		Date: 11/26/13	Date: 11/26/13
3	ENV3166C	Matrix Spike (ARC2012)	50.03	30.10	15.06	>limited sample remaining	Initials: CK	Initials: CK
4	ENV3166D	Matrix Spike Dup (ARC2012)	49.90	30.10	15.02		Extraction	
5	ENV3166E	Duplicate (ARC2018)	26.47	56.67	15.00		Date: 11/26/13	Date: 11/27/13
6	ARC2008	SED-DA-036R (0-0.5)	42.57	35.26	15.01		Initials: CK	Initials: CK
7	ARC2011	SED-DA-037R (0-0.5)	48.51	30.94	15.01	original for MS/MSD	Concentration	
	~~8~~	~~ARC2012 SED-DA-037R (0-0.~~				11/26/13 CK	Date: 11-27-13	Date: 11-27-13
8	~~9~~	ARC2015 SED-DA-038R (0-0.5)	57.92	26.12	15.13		Initials: EW	Initials: EW
9	~~10~~	ARC2018 SED-DA-033R (0-0.5)	26.52	56.67	15.03		Short Columns	
10	~~11~~	ARC2021 SED-DA-034R (0-0.5)	36.69	41.29	15.15		Date: 11-27-13	Date: 11-27-13
11	~~12~~	ARC2024 SED-DA-035R (0-0.5)	35.28	42.54	15.01		Initials: EW	Initials: EW

ENV 3166
Page 1 of 2

ENVIROLOG Rev 3 Env. Extraction Log

B&B LABORATORIES ENVIRONMENTAL EXTRACTION LOG

	Sample Name	Client ID	Wet Wt. (g or L)	Dry Wt. %	Dry Wt. (g)	Extraction Comments
2 ~~13~~	ARC2027	SED-DA-DUP-10-112013	26.03	57.86	15.06	
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						

Internal Chain of Custody

Concentration Short Columns		
	Date: 11-27-13	Date: 11-27-13
	Initials: EW	Initials: EW
Columns SA1		
	Date:	Date:
	Initials:	Initials:
Concentration SA1		
	Date:	Date:
	Initials:	Initials:
Columns SA2		
	Date:	Date:
	Initials:	Initials:
Concentration SA2		
	Date:	Date:
	Initials:	Initials:
Transfer for HPLC		
	Date:	Date:
	Initials:	Initials:
HPLC		
	Date:	Date:
	Initials:	Initials:
Post-HPLC Concentration		
	Date:	Date:
	Initials:	Initials:
Final Extract Transfer		
	Date: 11/27/13	Initials: CK

Dry Weight Page: DRY1390

Lipid/EOM Page: EOM1066

Clean-up/Separation/Other Columns: —

Lot Numbers

- DCM: 52314
- Hexane: —
- Hydromatrix: —
- Water: DJ063-C
- Silica: BCBK2257V
- Alumina: VA26EZEMS
- Sodium Sulfate: VI11H
- Pentane: —
- Copper: 212201-AW
- Hydrochloric Acid: —
- SPE Columns: —
- Other: —

Sample Storage Box #: J13034-6

HPLC Storage Box #: —

QC Review

Date	Initials
11/27/13	CK

Equipment Used

- ☐ ASE1
- ☒ ASE2
- ☐ ASE3
- ☐ PLE
- ☐ HPLC1
- ☐ HPLC2

Copied to Folders: 11/27/13 CK

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B&B LABORATORIES % DRY WEIGHT LOGBOOK

MATRIX
- [ ] OTHER
- [x] SEDIMENT
- [ ] TISSUE

Type: _____

Job #: J13034 SDG #: 1311210

Client: Arcadis - May Flower AR

General comments:

Lab Mananger Date:	Lab Mananger Init:	Date/Init: [x] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [x] Bal. Cal.	Beaker + Dry Smpl (g) Date/Init: [x] Bal. Cal.	Date/Init:
11/27/13	[signature]	EN 11-22-13	11/25/13 CK	11/26/13 CK	11/26/13 CK

	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
1	ARC2008	SED-DA-036R (0-0.5)	1.32	2.88	1.87	1.87	35.26	
2	ARC2009	SED-DA-036R (0.5-1)	1.30	2.63	~~2.31~~ 11/25 2.40	2.32	76.69	
3	ARC2010	SED-DA-036R (1-1.5)	1.32	2.70		2.40	78.26	
4	ARC2011	SED-DA-037R (0-0.5)	1.31	2.70	1.73	1.74	30.94	
5	ARC2012	SED-DA-037R(0-0.5) MS/MSD	1.32	2.35	1.62	1.63	30.10	
6	ARC2013	SED-DA-037R (0.5-1)	1.32	2.61	2.03	2.04	55.81	
7	ARC2014	SED-DA-037R (1-1.5)	1.32	2.62	2.25	2.26	72.31	
8	ARC2015	SED-DA-038R (0-0.5)	1.32	2.66	1.67	1.67	26.12	
9	ARC2016	SED-DA-038R (0.5-1)	1.31	2.85	1.92	1.92	39.61	
10	ARC2017	SED-DA-038R (1-1.5)	1.30	2.62	2.21	2.21	68.94	
11	ARC2018	SED-DA-033R (0-0.5)	1.31	2.81	2.16	2.16	56.67	
12	ARC2019	SED-DA-033R (0.5-1)	1.33	2.94	2.54	2.53	74.53	
13	ARC2020	SED-DA-033R (1-1.5)	1.33	2.63	2.36	2.36	79.23	
14	ARC2021	SED-DA-034R (0-0.5)	1.33	2.88	1.98	1.97	41.29	
15	ARC2022	SED-DA-034R (0.5-1)	1.32	2.75	2.35	2.33	70.63	
16	ARC2023	SED-DA-034R (1-1.5)	1.31	2.88	2.48	2.50	75.80	

DRY 1390

B&B LABORATORIES % DRY WEIGHT LOGBOOK

					Beaker + Dry Smpl (g) Date/Init: 11/25/13 CK ☑ Bal. Cal.	Date/Init: 11/26/13 CK ☑ Bal. Cal.		
	Sample Name	Client ID	Beaker Wt (g)	Beaker + Wet Smpl (g)	1	2	(%) Dry Weight	Comments
17	ARC2024	SED-DA-035R (0-0.5)	1.33	2.67	1.91	1.90	42.54	
18	ARC 2025	SED-DA-035R (0.5-1)	1.31	2.57	2.06	2.06	59.52	
19	ARC 2026	SED-DA-035R (1-1.5)	1.32	2.64	2.32	2.30	74.24	
20	ARC 2027	SED-DA-DUP-10-112013	1.32	2.91	2.23	2.24	57.86	
21	ARC2008 DUP	Duplicate	1.32	2.54	1.75	1.76	36.07	
22								
23								
24								

$$\% \text{ Dry Weight} = \frac{[\text{Beaker + Dry SMPL (g)}] - [\text{Beaker Weight (g)}]}{[\text{Beaker + Wet SMPL (g)}] - [\text{Beaker Weight (g)}]} \times 100$$

$$\text{RPD} = \frac{[\text{Original \% Dry Weight Value} - \text{Duplicate \% Dry Weight Value}]}{[\text{Original \% Dry Weight Value} + \text{Duplicate \% Dry Weight Value}] \times 0.5} \times 100$$

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

Date / Init.	RPD
11/26/13 CK	2.269%
Sample # ARC2008	
Duplicate # ARC2008Dup	

DRY 1390

DRYWT LOG V0

B&B LABORATORIES EOM LOGBOOK

MATRIX: OTHER / SEDIMENT / WATER

Job #: J13034 SDG #: 13112101

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 11/27/13 [illegible]

Transferred by Date/Int: 11/26/13 CK From ENV Pg: ENV3165 From DRY Pg:

Date/Int: 11/27/13 [illegible]

Bal. Cal. X

Date/Int: 11/27/13 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	ENV3165A	~~Procedural~~ Method Blank	1.00		3	29.605	29.606	0.001	30		
2	ENV3165B	Blank Spike	1.00		3	29.813	29.825	0.012	360		
3	ENV3165C	Blank Spike Dup	1.00		3	30.309	30.321	0.012	360		
4	ARC2006	SED-DA-EB-11-112013	1.00		3	30.208	30.213	~~0.005~~ 11/27/13	150		0.005 mg
5											
6											
7											
8											
9											
10											
11											
12											

11/26/13 CK

11/26/13 CK

EOM 1065

Page 1 of 2

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											

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

$$\%\text{RPD} = \frac{(\text{EOM}_1 - \text{EOM}_2)}{(\text{EOM}_1 + \text{EOM}_2) \times 0.5} \times 100\%$$

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	29.696	29.696	0.000
EOM Standard: EOM-WRLC-10-004	30.365	40.621	10.256

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

Date/Int:	RPD
Sample:	
Duplicate:	

11/27/13

EOM 1065

B&B LABORATORIES EOM LOGBOOK

MATRIX: OTHER / SEDIMENT / WATER

Job #: J13034 SDG #: ~~1311~~ 11/26 CK 1311210 1

Client: Arcadis - Mayflower AR

General comments:

Lab Manager Date/Int: 11/27/13

Transferred by Date/Int: 11/26/13 CK From ENV Pg: ENV3166 From DRY Pg: DRY1390

Date/Int: 11/27/13

Bal. Cal. ✓ Date/Int: 11/27/13 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	ENV3166A	Method Blank	—	— OK 11/26 CK	3	30.062	30.064	0.002	—	—	
2	ENV3166B	SRM 1941b	4.01	97.61	3	30.064	30.200	0.136	993	1017	
3	ENV3166C	Matrix Spike (ARC2012)	15.06	30.10	3	30.031	30.262	~~0.369~~	139	460	0.231
4	ENV3166D	Matrix Spike Dup (ARC2012)	15.02	30.10	3	29.959	30.532	0.573	344	1144	
5	ENV3166E	Duplicate (ARC2018)	15.00	56.67	3	31.069	31.249	0.180	204	360	
6	ARC2008	SED-DA-036R (0-0.5)	15.01	35.26	3	30.409	30.894	0.485	342	969	
7	ARC2011	SED-DA-037R (0-0.5)	15.01	30.94	3	29.820	30.396	0.576	356	1151	MS/MSD
8	~~ARC2012~~ 11/26 CK ARC2015	SED-DA-038R (0-0.5)	15.13	26.12	3	30.289	30.900	0.611	316	1212	
9	ARC2018	SED-DA-033R (0-0.5)	15.03	56.67	3	29.694	29.853	0.159	180	317	DUP
10	ARC2021	SED-DA-034R (0-0.5)	15.15	41.29	3	30.627	31.052	OK ~~0.687~~	347	842	0.425
11	ARC2024	SED-DA-035R (0-0.5)	15.01	42.54	3	30.345	30.662	0.317	270	634	
12	ARC2027	SED-DA-DUP-10-112013	15.06	57.86	3	30.437	30.646	0.209	241	416	

OK 11/26 CK

EOM 1066

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											

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

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

12.588% RPD

	Initial Filter Wt (mg)	Filter & Sample Wt (mg)	Wt. of 100 µl Lipid Wt. (mg)
Solvent Blank	30.589	30.589	0.000
EOM Standard: EOM-WKLC-10-004	29.961	40.159	10.198

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

Date/Int:	RPD 11/27/13
11/27/13 RSB	~~[illegible]~~ CK 11/27
Sample: ~~ENW~~ 3166E 11/27/13	ANC2018
Duplicate: ENW 3166E	

EOM 1066

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