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

GeoInsight, Inc.
Buzzards Bay Spill Project
October 25, 2006 Collection Date

Determination of:
Polycyclic Aromatic Hydrocarbons in a Tar Ball Sample

(QC Batch EOM 215)

November 8, 2006

Technical Report 06-1755

GeoInsight, Inc.
Buzzards Bay Project
October 25, 2006 Collection Date
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B&B Laboratories
08-November-2006

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Narrative

Technical Report 06-1755
GeoInsight, Inc.
Buzzards Bay Spill Project
Tar Ball Samples

November 8, 2006

Introduction

B&B Laboratories received one (1) ice chest that contained one (1) glass jar that contained a tar ball/asphalt sample that was sent on October 27, 2006 and arrived on October 28, 2006 at B&B Laboratories in College Station, Texas sealed and in good condition. The internal temperature of the cooler was 12.0°C. The tar ball sample was collected in support of the Buzzards Bay Spill Project (GeoInsight Project 3871-002). The tar ball sample was stored in an access-controlled refrigerator (4.0°C) until processing. The tar ball was analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by GC/MS-SIM.

The results for PAH and hopane are included in this report.

Analytical Methods

The analytical methods employed for PAH are listed in Table 1.

Table 1. Standard Operating Procedures for each analytical test.

Matrix	Extraction	PAH
Tar Ball	SW-846 3580A	B&B 1006

Data Reporting

The reporting units for each analyte are listed in Table 2. The method detection limits (MDL) for each analyte are listed in Table 3. Analytes that are detected below the method detection limit are qualified as "J". Analytes that are detected in the procedural blanks greater than 3X MDL are qualified with a "B". Analytical interference's that are detected in the sample are qualified with an "I". Analytes not detected in the samples are qualified with a "U". RPD for analytes in duplicate samples that are <2X 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.

Table 2. Analytical Reporting Units.

Matrix	PAH
Tar Ball	ng/mg

Table 3. Method Detection Limits.

PAH Unit of measure	Tar Ball RL ng/mg
Naphthalene	10
C1-Naphthalenes	10
C2-Naphthalenes	10
C3-Naphthalenes	10
C4-Naphthalenes	10
Benzothiophene	10
C1-Benzothiophenes	10
C2-Benzothiophenes	10
C3-Benzothiophenes	10
Biphenyl	10
Acenaphthylene	10
Acenaphthene	10
Dibenzofuran	10
Fluorene	10
C1-Fluorenes	10
C2-Fluorenes	10
C3-Fluorenes	10
Carbazole	10
Anthracene	10
Phenanthrene	10
C1-Phenanthrenes/Anthracenes	10
C2-Phenanthrenes/Anthracenes	10
C3-Phenanthrenes/Anthracenes	10
C4-Phenanthrenes/Anthracenes	10
Dibenzothiophene	10
C1-Dibenzothiophenes	10
C2-Dibenzothiophenes	10
C3-Dibenzothiophenes	10
Fluoranthene	10
Pyrene	10
C1-Fluoranthenes/Pyrenes	10
C2-Fluoranthenes/Pyrenes	10
C3-Fluoranthenes/Pyrenes	10
Benz(a)anthracene	10
Chrysene	10
C1-Chrysenes	10
C2-Chrysenes	10
C3-Chrysenes	10
C4-Chrysenes	10
Benzo(b)fluoranthene	10
Benzo(k)fluoranthene	10
Benzo(e)pyrene	10
Benzo(a)pyrene	10
Perylene	10
Indeno(1,2,3-c,d)pyrene	10
Dibenzo(a,h)anthracene	10
Benzo(g,h,i)perylene	10

PAH (Continued) Unit of measure	Tar Ball RL ng/mg
Individual Alkyl Isomers and Hopanes	
2-Methylnaphthalene	10
1-Methylnaphthalene	10
2,6-Dimethylnaphthalene	10
1,6,7-Trimethylnaphthalene	10
1-Methylphenanthrene	10
C29-Hopane	10
18a-Oleanane	10
C30-Hopane	10

Quality Assurance/Quality Control

Tar Ball

PAH

The quality assurance/quality control procedure for this program included a standard reference oil (NIST 1582) and a laboratory control solution that were analyzed with this data set. 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 the reference oil SRM and the laboratory control material is ± 15% the laboratory derived 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%, except d12-perylene.

Quality Assurance/Quality Control Variances

Tar Ball

PAH

Surrogate Recoveries

Observation

- No variances were observed.

Standard Reference Materials/Laboratory Control Materials

Observation

- No variances were observed.

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

Thomas J. McDonald
Project Manager

Susanne J. McDonald
Quality Officer

Sample/Analyses Description

B&B Laboratories
Project J04406
Report 06-1755

GeoInsight, Inc.
Buzzards Bay Spill Project
Tar Ball Sample
Sample Inventory

Client Project #3871-002

Laboratory File Number	Client Identification	Collection Date	Receive Date	Analysis	Matrix	Comments	B&B SDG	GeoInsight Project #
GEO0047	W2B-03-S2	10/25/06	10/28/06	PAH	Other	Tar ball, asphalt?	06102801	3871-002

20000

Product Samples

Polycyclic Aromatic Hydrocarbon Concentration

GeoInsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Sample Name	GEO0047.D
Client Name	W2B-03-S2
Matrix	Tarball
Collection Date	10/25/06
Received Date	10/28/06
Extraction Date	10/31/06
Extraction Batch	EOM 215
Date Acquired	11/07/06
Method	PAH-2002
Sample Weight (mg)	1.7
Dilution	NA

Target Compounds	Su Corrected Conc. (ng/mg)	Q
Naphthalene	3150	
C1-Naphthalenes	1910	
C2-Naphthalenes	2140	
C3-Naphthalenes	1390	
C4-Naphthalenes	573	
Benzothiophene	131	
C1-Benzothiophenes	98.1	
C2-Benzothiophenes	128	
C3-Benzothiophenes	98.6	
Biphenyl	630	
Acenaphthylene	1520	
Acenaphthene	3940	
Dibenzofuran	4430	
Fluorene	5940	
C1-Fluorenes	2000	
C2-Fluorenes	833	
C3-Fluorenes	1530	
Carbazole	4110	
Anthracene	8000	
Phenanthrene	47000	
C1-Phenanthrene/Anthracenes	13900	
C2-Phenanthrene/Anthracenes	6820	
C3-Phenanthrene/Anthracenes	2550	
C4-Phenanthrene/Anthracenes	917	
Dibenzothiophene	2410	
C1-Dibenzothiophenes	1190	
C2-Dibenzothiophenes	542	
C3-Dibenzothiophenes	332	
Fluoranthene	33400	
Pyrene	35900	
C1-Fluoranthenes/Pyrenes	11900	
C2-Fluoranthenes/Pyrenes	4570	
C3-Fluoranthenes/Pyrenes	1900	
Naphthobenzothiophene	3890	
C1-Naphthobenzothiophenes	1130	
C2-Naphthobenzothiophenes	359	
C3-Naphthobenzothiophenes	120	
Benz(a)anthracene	16500	
Chrysene	18200	
C1-Chrysenes	8760	
C2-Chrysenes	2700	
C3-Chrysenes	474	
C4-Chrysenes	851	
Benzo(b)fluoranthene	12300	
Benzo(k)fluoranthene	3460	
Benzo(e)pyrene	5810	
Benzo(a)pyrene	11100	
Perylene	2200	
Indeno(1,2,3-c,d)pyrene	4530	
Dibenzo(a,h)anthracene	1140	
Benzo(g,h,i)perylene	3310	
Total PAHs	302717	
Individual Alkyl Isomers and Hopanes		
2-Methylnaphthalene	1630	
1-Methylnaphthalene	1420	
2,6-Dimethylnaphthalene	891	
1,6,7-Trimethylnaphthalene	226	
1-Methylphenanthrene	2950	
C29-Hopane	4.0	J
18a-Oleanane	<10	U
C30-Hopane	7.7	J

Surrogate (Su)	Su Recovery (%)
Naphthalene-d8	95
Acenaphthene-d10	99
Phenanthrene-d10	95
Chrysene-d12	86
Perylene-d12	93

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Geoinsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS30323B.D
Client Name	SRM 1582
Matrix	Petroleum
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	EOM 215
Date Acquired	11/06/06
Method	PAH-2002
Sample Weight (g)	1.7

Target Compounds	Su Corrected Conc. (ug/g)	Q	RPD (%)	SRM 1582 Certified Conc. (ug/ g)	B&B Average	-15% Conc. (ug/g)	+15% Conc. (ug/g)
Naphthalene		149	2.7		145	123	167
C1-Naphthalenes		623	0.2		622	529	715
C2-Naphthalenes		1040	13.4		1189	1011	1367
C3-Naphthalenes		957	8.0		1037	881	1193
C4-Naphthalenes		676	10.9		754	641	867
Benzothiophene		10.2					
C1-Benzothiophenes		19.5					
C2-Benzothiophenes		78.6					
C3-Benzothiophenes		154					
Biphenyl		31.6	8.8		34.5	29.3	39.7
Acenaphthylene		<10 U					
Acenaphthene		20.4	7.6		18.9	16.1	21.7
Dibenzofuran		12.9					
Fluorene		37.6	4.9		35.8	30.4	41.2
C1-Fluorenes		137	3.7		132	112	152
C2-Fluorenes		253	1.2		256	218	294
C3-Fluorenes		248	2.4		242	206	278
Carbazole		11.6					
Anthracene		2.8 J					
Phenanthrene		126	13.7	100 ± 7.0	110	93.3	126
C1-Phenanthrene/Anthracenes		345	5.7		326	277	375
C2-Phenanthrene/Anthracenes		596	9.3		543	462	624
C3-Phenanthrene/Anthracenes		515	1.4		522	444	600
C4-Phenanthrene/Anthracenes		295	7.0		275	234	316
Dibenzothiophene		40.8	13.9	32.9 ± 1.7	35.5	30.2	40.8
C1-Dibenzothiophene		143	13.4		125	106	144
C2-Dibenzothiophene		272	5.7		257	218	296
C3-Dibenzothiophene		254	1.6		250	213	288
Fluoranthene		8.7 J					
Pyrene		11.6					
C1-Fluoranthenes/Pyrenes		73.5	6.6		68.8	58.5	79.1
C2-Fluoranthenes/Pyrenes		101	3.9		105	89.3	121
C3-Fluoranthenes/Pyrenes		86.4	1.2		85.4	72.6	98.2
Naphthobenzothiophene		41.8	4.9		39.8	33.8	45.8
C1-Naphthobenzothiophenes		58.0	1.5		58.9	50.1	67.7
C2-Naphthobenzothiophenes		76.2	2.5		78.1	66.4	89.8
C3-Naphthobenzothiophenes		50.3	9.3		55.2	46.9	63.5
Benz(a)anthracene		4.1 J					
Chrysene		22.8	5.4		21.6	18.4	24.8
C1-Chrysenes		72.8	6.2		68.4	58.1	78.7
C2-Chrysenes		123	1.6		125	106	144
C3-Chrysenes		97.4	9.6		88.5	75.2	102
C4-Chrysenes		<10 U					
Benzo(b)fluoranthene		2.0 J					
Benzo(k)fluoranthene		0.9 J					
Benzo(e)pyrene		4.1 J					
Benzo(a)pyrene		2.1 J					
Perylene		32.1	4.2	30.2± 1.7	33.5	28.4	38.5
Indeno(1,2,3-c,d)pyrene		2.8 J					
Dibenzo(a,h)anthracene		0.3 J					
Benzo(g,h,i)perylene		2.2 J					
Total PAHs		7923					
Selected Ratios							
D2/P2	0.456		3.6		0.473	0.402	0.544
D3/P3	0.493		2.9		0.479	0.407	0.551
D2/C2	2.211		7.3		2.056	1.748	2.364
D3/C3	2.608		8.0		2.825	2.401	3.249
FI-Py2/C2	0.821		2.3		0.840	0.714	0.966
FI-Py3/C3	0.887		8.4		0.965	0.820	1.110
Individual Alkyl Isomers and Hopane							
2-Methylnaphthalene		584	3.0		602	512	692
1-Methylnaphthalene		400	3.7		415	353	477
2,6-Dimethylnaphthalene		524	13.9		602	512	692
1,6,7-Trimethylnaphthalene		143	6.1		152	129	175
1-Methylphenanthrene		109	8.6		100	85.0	115
C29-Hopane		345					
18a-Oleanane		73.6					
C30-Hopane		316	8.2		291	239	323

Surrogate (Su)	Su Recovery (%)
Naphthalene-d8	92
Acenaphthene-d10	99
Phenanthrene-d10	97
Chrysene-d12	92
Perylene-d12	99

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Geoinsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Standard Report

Sample Name	MS30323I.D
Client Name	AR-WKCC-250-022
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	EOM 215
Date Acquired	11/06/06
Method	PAH-2002
Sample Volume (mL)	1

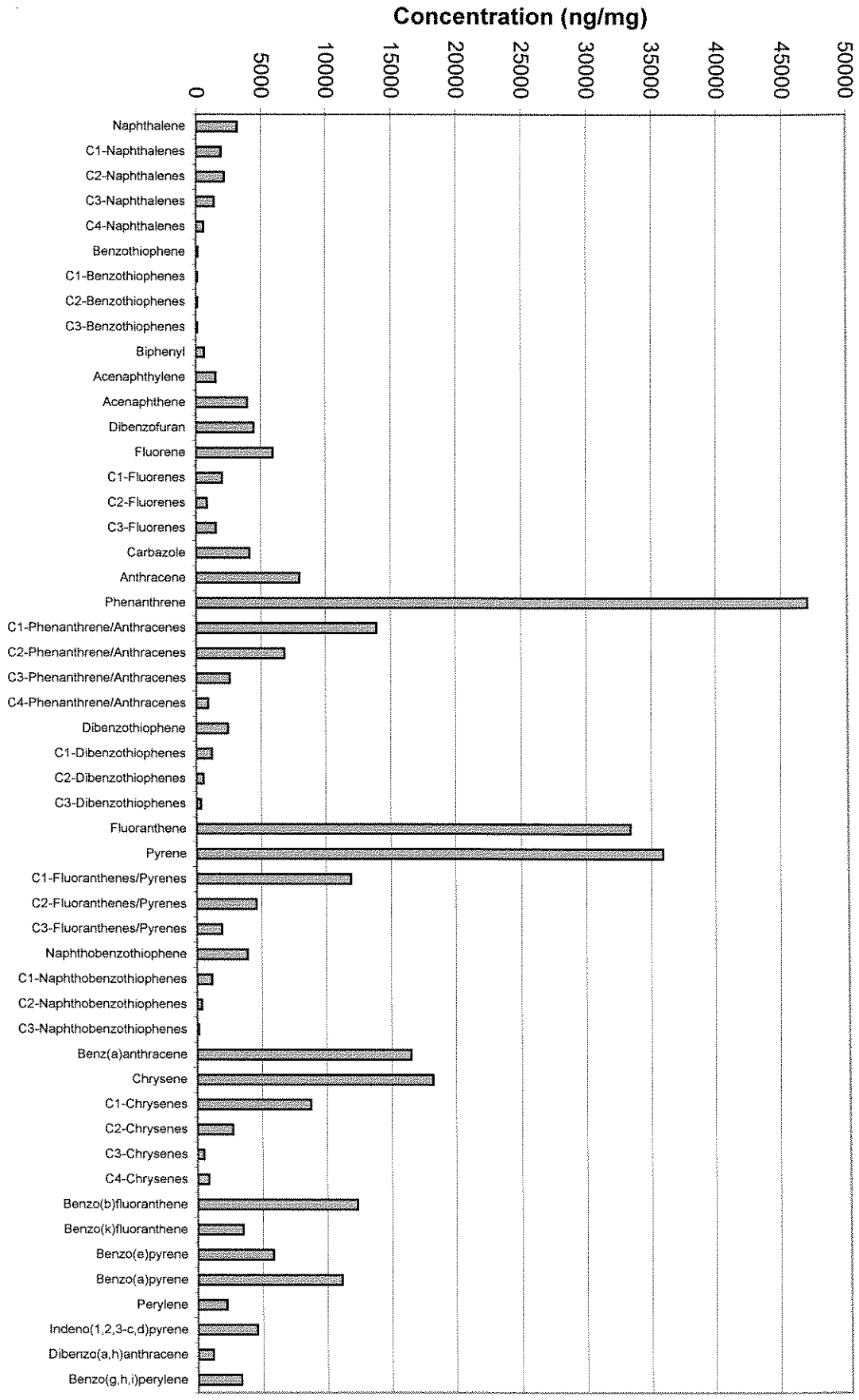
Target Compounds	Conc. (ng/ml)	Q	RPD (%)	LCS Certified Conc. Conc. (ng/ml)	-15% Conc. Conc. (ng/ml)	+15% Conc. Conc. (ng/ml)
Naphthalene	252		-0.2	253	215	290
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	256		2.2	251	213	288
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
Biphenyl	263		4.9	250	213	288
Acenaphthylene	256		2.3	250	213	288
Acenaphthene	248		-1.0	251	213	288
Dibenzofuran	266					
Fluorene	252		0.6	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	214		-15.6	250	213	288
Anthracene	251		0.2	250	213	288
Phenanthrene	269		7.1	251	213	288
C1-Phenanthrene/Anthracenes	NA					
C2-Phenanthrene/Anthracenes	NA					
C3-Phenanthrene/Anthracenes	NA					
C4-Phenanthrene/Anthracenes	NA					
Dibenzothiophene	252		0.6	250	213	288
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
Fluoranthene	258		2.9	251	213	288
Pyrene	264		5.2	251	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	270		7.8	250	212	287
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
Benz(a)anthracene	247		-1.4	251	213	288
Chrysene	252		0.5	251	213	288
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	271		7.9	250	213	288
Benzo(k)fluoranthene	279		10.7	251	213	288
Benzo(e)pyrene	271		7.8	251	213	288
Benzo(a)pyrene	229		-8.9	250	213	288
Perylene	225		-10.7	250	213	288
Indeno(1,2,3-c,d)pyrene	243		-3.0	251	213	288
Dibenzo(a,h)anthracene	249		-0.6	250	213	288
Benzo(g,h,i)perylene	249		-0.6	250	213	288
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	258		2.9	251	213	288
1-Methylnaphthalene	238		-5.1	251	213	288
2,6-Dimethylnaphthalene	258		2.9	251	213	288
1,6,7-Trimethylnaphthalene	267		6.4	250	213	288
1-Methylphenanthrene	263		4.9	251	213	288
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	261		4.3	250	213	288

Surrogate (Su)	Su Recovery (%)
Naphthalene-d8	101
Acenaphthene-d10	103
Phenanthrene-d10	112
Chrysene-d12	109
Perylene-d12	91

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Polycyclic Aromatic Hydrocarbon Histograms

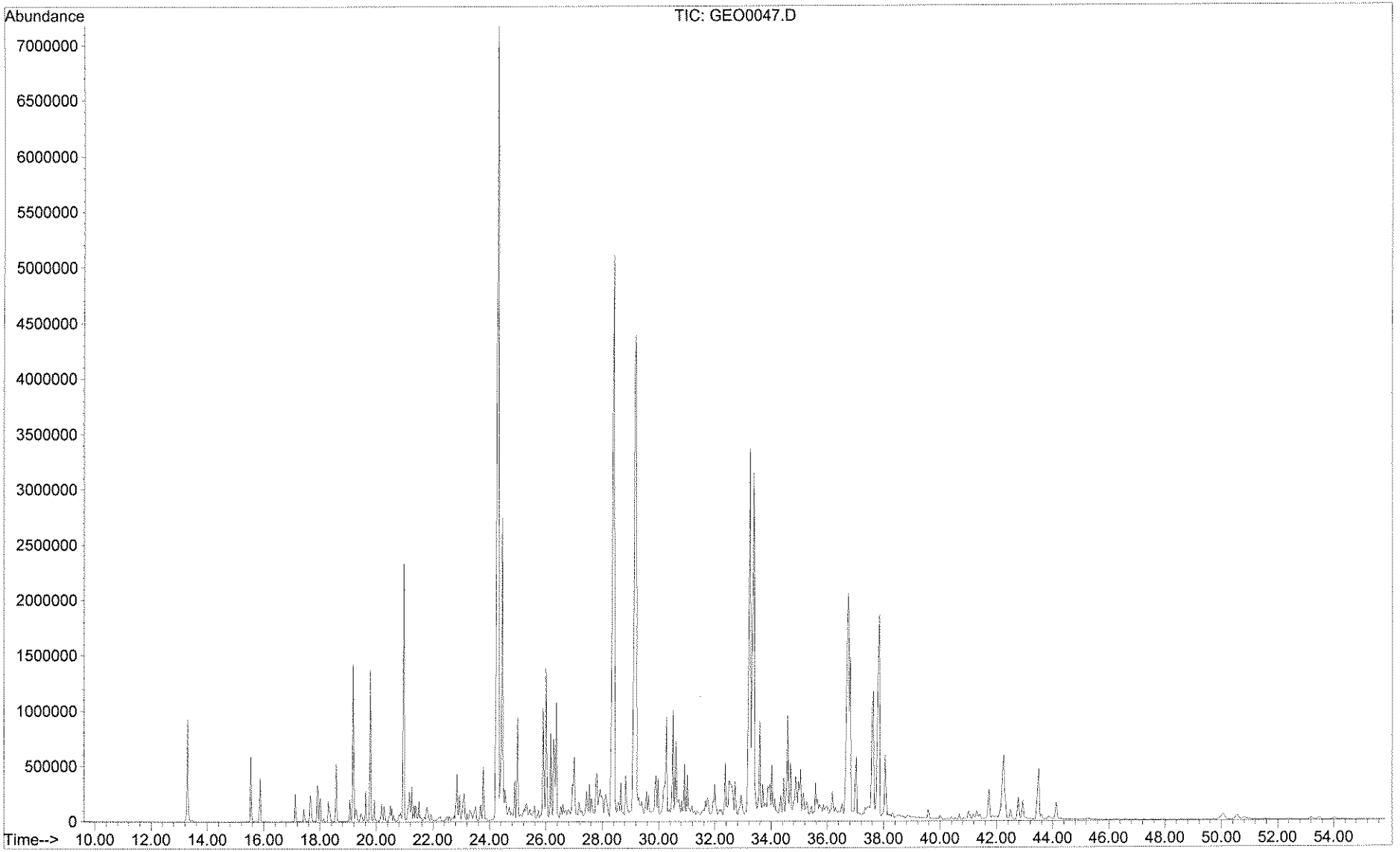
600000



W2B-03-S2 (Tar Ball)
GEO0047

Polycyclic Aromatic Hydrocarbon Total Ion Chromatograms

File : X:\1\DATA\MS30323\GEO0047.D
Operator : TJM
Acquired : 7 Nov 2006 12:57 am using AcqMethod PAH-2002
Instrument : GC/MS Ins
Sample Name: W2B-03-S2
Misc Info :
Vial Number: 38



Polycyclic Aromatic Hydrocarbon
Raw Data

B&B LABORATORIES PAHs QA FORM

Extraction Page:	EOM-215	Analyst:	Y Miao / T. McDonald
Client:	GeoInsight	Date:	11-7-06
Job: #:	JO 4406	QA Manager:	W Wellspeak
SDG #:	0610280/	Date:	11/09/06

Calibration:	WNF unless
Surrogate Recoveries:	WNF unless
Procedural Blank:	NA
Blank Spike:	NA
Blank Spike Duplicate:	NA
Laboratory Duplicate:	NA
Matrix Spike:	NA
Matirx Spike Duplicate:	NA
SRM/LCS:	WNF unless
CCC:	WNF unless
Comments:	None

Sequence Name: Z:\1\SEQUENCE\MS30323.S
Comment: Entrix-NOAA-Sediments
Operator: TJM
Data Path: C:\HPCHEM\1\data\ms30323\
Pre-Seq Cmd:
Post-Seq Cmd:

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

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	MS30323A	PAH-2002	Solvent Rinse
2	Sample	2	MS30323B	PAH-2002	SRM 1582
3	Sample	3	MS30323C	PAH-2002	IS/SU Mixture
4	Sample	41	MS30323D	PAH-2002	Cal Level 1
5	Sample	42	MS30323E	PAH-2002	Cal Level 2
6	Sample	43	MS30323F	PAH-2002	Cal Level 3
7	Sample	44	MS30323G	PAH-2002	Cal Level 4
8	Sample	45	MS30323H	PAH-2002	Cal Level 5
9	Sample	4	MS30323I	PAH-2002	AR-WKCC-250-022
10	Sample	5	ENV1530A	PAH-2002	— In separate folder
11	Sample	38	GEO0047	PAH-2002	
12	Sample	39	ETX6697	PAH-2002	
13	Sample	6	ENV1530B	PAH-2002	
14	Sample	7	ENV1530C	PAH-2002	
15	Sample	8	ENV1530D	PAH-2002	In separate folder
16	Sample	9	ENV1530E	PAH-2002	
17	Sample	10	ETX6710	PAH-2002	
18	Sample	11	ETX6711	PAH-2002	
19	Sample	13	MS30323J	PAH-2002	AR-WKCC-250-022

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30323\MS30323I.D
Acq On : 6 Nov 2006 10:49 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:31 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	90	0.00
2	S	Naphthalene-d8	1.865	1.882	-0.9	86	0.00
3	T	Decalin	0.421	0.407	3.3	87	0.00
4	un	C1-Decalin	0.421	0.000	100.0#	0#	-12.88#
5	un	C2-Decalin	0.421	0.000	100.0#	0#	-14.41#
6	un	C3-Decalin	0.421	0.000	100.0#	0#	-16.01#
7	un	C4-Decalin	0.421	0.000	100.0#	0#	-19.88#
8	T	Naphthalene	2.160	2.171	-0.5	91	0.00
9	T	2-Methylnaphthalene	1.465	1.509	-3.0	89	0.00
10	T	1-Methylnaphthalene	1.228	1.169	4.8	85	0.00
11	T	2,6-Dimethylnaphthalene	1.242	1.280	-3.1	89	0.00
12	T	1,6,7-Trimethylnaphthalene	1.103	1.178	-6.8	90	0.00
13	un	C2-Naphthalenes	2.160	0.000	100.0#	0#	-18.12#
14	un	C3-Naphthalenes	2.160	0.000	100.0#	0#	-20.32#
15	un	C4-Naphthalenes	2.160	0.000	100.0#	0#	-22.46#
16	T	Benzothiophene	1.708	1.747	-2.3	89	0.00
17	un	C1-Benzothiophene	1.708	0.000	100.0#	0#	-15.74#
18	un	C2-Benzothiophene	1.708	0.000	100.0#	0#	-18.15#
19	un	C3-Benzothiophene	1.708	0.000	100.0#	0#	-19.80#
20	S	Acenaphthene-d10	1.038	1.071	-3.2	93	0.00
21	T	Biphenyl	1.640	1.724	-5.1	88	0.00
22	T	Acenaphthylene	1.933	1.974	-2.1	89	0.00
23	T	Acenaphthene	1.196	1.183	1.1	88	0.00
24	T	Dibenzofuran	1.919	2.040	-6.3	91	0.00
25	T	Fluorene	1.516	1.525	-0.6	92	0.00
26	un	C1-Fluorenes	1.516	0.000	100.0#	0#	-22.88#
27	un	C2-Fluorenes	1.516	0.000	100.0#	0#	-24.57#
28	un	C3-Fluorenes	1.516	0.000	100.0#	0#	-26.45#
29	I	Pyrene-d10	1.000	1.000	0.0	90	0.00
30	S	Phenanthrene-d10	0.648	0.726	-12.0	98	0.00
31	T	Pentachlorophenol	0.066	0.059	10.6	85	0.00
32	T	Carbazole	0.917	0.785	14.4	78	0.00
33	T	Dibenzothiophene	0.930	0.936	-0.6	84	0.00
34	un	C1-Dibenzothiophene	0.930	0.000	100.0#	0#	-25.28#
35	un	C2-Dibenzothiophene	0.930	0.000	100.0#	0#	-26.65#
36	un	C3-Dibenzothiophene	0.930	0.000	100.0#	0#	-28.77#
37	T	Phenanthrene	0.812	0.871	-7.3	96	0.00
38	T	Anthracene	1.037	1.039	-0.2	88	0.00
39	T	1-Methylphenanthrene	0.714	0.751	-5.2	95	0.00
40	un	C1-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30323\MS30323I.D
Acq On : 6 Nov 2006 10:49 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:31 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-27.70#
42	un	C3-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-30.27#
43	un	C4-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-30.99#
44	T	Naphthobenzothiophene	0.991	1.071	-8.1	92	0.00
45	un	C1-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-33.26#
46	un	C2-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-34.94#
47	un	C3-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-36.30#
48	T	Fluoranthene	1.195	1.231	-3.0	89	0.00
49	T	Pyrene	1.079	1.137	-5.4	93	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-30.73#
51	un	C2-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-32.10#
52	un	C3-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-33.16#
53	S	Chrysene-d12	0.883	0.960	-8.7	90	0.00
54	T	Benz(a)anthracene	1.040	1.026	1.3	83	0.00
55	T	Chrysene	0.868	0.873	-0.6	92	0.00
56	un	C1-Chrysenes	0.868	0.000	100.0#	0#	-34.49#
57	un	C2-Chrysenes	0.868	0.000	100.0#	0#	-35.69#
58	un	C3-Chrysenes	0.868	0.000	100.0#	0#	-37.12#
59	un	C4-Chrysenes	0.868	0.000	100.0#	0#	-42.68#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	86	0.00
61	un	C29-Hopane	0.679	0.000	100.0#	0#	-40.65#
62	un	18a-Oleanane	0.679	0.000	100.0#	0#	-42.52#
63	T	C30-Hopane	0.679	0.709	-4.4	87	0.00
64	T	Benzo(b)fluoranthene	1.789	1.935	-8.2	84	0.00
65	T	Benzo(k)fluoranthene	1.541	1.713	-11.2	91	0.00
66	T	Benzo(e)pyrene	1.548	1.674	-8.1	88	0.00
67	T	Benzo(a)pyrene	1.423	1.303	8.4	77	0.00
68	T	Indeno(1,2,3-c,d)pyrene	1.158	1.122	3.1	79	0.00
69	T	Dibenzo(a,h)anthracene	1.102	1.094	0.7	82	0.00
70	un	C1-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-42.80#
71	un	C2-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-44.72#
72	un	C3-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-45.19#
73	T	Benzo(g,h,i)perylene	1.174	1.167	0.6	81	0.00
74	S	Perylene-d12	0.795	0.722	9.2	76	0.00
75	T	Perylene	1.477	1.324	10.4	76	0.00

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323I.D
Acq On : 6 Nov 2006 10:49 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:58 2006

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	3046m	51.08 ng/ml	0.00
29) Pyrene-d10	29.00	212	7179m	49.98	0.00
60) Benzo(a)pyrene-d12	37.63	264	3802m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.20	136	28061m	252.26	0.00
20) Acenaphthene-d10	19.05	164	15965m	257.81	0.00
30) Phenanthrene-d10	24.11	188	26065	279.95	0.00
53) Chrysene-d12	33.17	240	34485m	271.89	0.00
74) Perylene-d12	37.88	264	15051m	227.11	0.00
Target Compounds					Qvalue
3) Decalin	10.59	138	6075m	241.95 ng/ml	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.29	128	32437m	251.78	
9) 2-Methylnaphthalene	15.54	142	22559m	258.21	
10) 1-Methylnaphthalene	15.88	142	17447m	238.19	
11) 2,6-Dimethylnaphthalene	17.65	156	19128m	258.36	
12) 1,6,7-Trimethylnaphthalene	20.49	170	17586m	267.41	
13) C2-Naphthalenes	0.00	156	0	N.D. d	
14) C3-Naphthalenes	0.00	170	0	N.D. d	
15) C4-Naphthalenes	0.00	184	0	N.D. d	
16) Benzothiophene	13.46	134	26097m	256.16 ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	17.11	154	25745m	263.20	
22) Acenaphthylene	18.55	152	29498m	255.92	
23) Acenaphthene	19.17	154	17647m	247.54	
24) Dibenzofuran	19.76	168	30461m	266.12 ng/ml	
25) Fluorene	20.94	166	22790m	252.04	
26) C1-Fluorenes	0.00	180	0	N.D. d	
27) C2-Fluorenes	0.00	194	0	N.D. d	
28) C3-Fluorenes	0.00	208	0	N.D. d	
31) Pentachlorophenol	23.51	266	2124	224.46 ng/ml	
32) Carbazole	24.95	167	28238m	214.32 ng/ml	
33) Dibenzothiophene	23.78	184	33657	251.99	
34) C1-Dibenzothiophene	0.00	198	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

000017

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323I.D
Acq On : 6 Nov 2006 10:49 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:58 2006

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D. d	
36) C3-Dibenzothiophene	0.00	226	0	N.D. d	
37) Phenanthrene	24.21	178	31340m	268.74	
38) Anthracene	24.38	178	37376m	250.94	
39) 1-Methylphenanthrene	26.34	192	27021m	263.31	
40) C1-Phenanthrene/Anthracene	26.30	192	0	N.D.	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44) Naphthobenzothiophene	32.33	234	38424m	269.80	
45) C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48) Fluoranthene	28.29	202	44331m	258.33	
49) Pyrene	29.06	202	40931m	264.15	
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54) Benz(a)anthracene	33.14	228	36926m	247.13	
55) Chrysene	33.28	228	31437m	252.20	
56) C1-Chrysenes	0.00	242	0	N.D. d	
57) C2-Chrysenes	0.00	256	0	N.D. d	
58) C3-Chrysenes	0.00	270	0	N.D. d	
59) C4-Chrysenes	0.00	284	0	N.D. d	
61) C29-Hopane	0.00	191	0	N.D. d	
62) 18a-Oleanane	0.00	191	0	N.D. d	
63) C30-Hopane	42.10	191	14785	261.07 ng/ml	
64) Benzo(b)fluoranthene	36.60	252	40365	270.64	
65) Benzo(k)fluoranthene	36.71	252	35779m	278.53	
66) Benzo(e)pyrene	37.52	252	34983m	271.16	
67) Benzo(a)pyrene	37.70	252	27206m	229.43	
68) Indeno(1,2,3-c,d)pyrene	42.13	276	23436m	242.81	
69) Dibenzo(a,h)anthracene	42.26	278	22829m	248.57	
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73) Benzo(g,h,i)perylene	43.37	276	24362m	248.96	
75) Perylene	37.98	252	27641m	224.54	

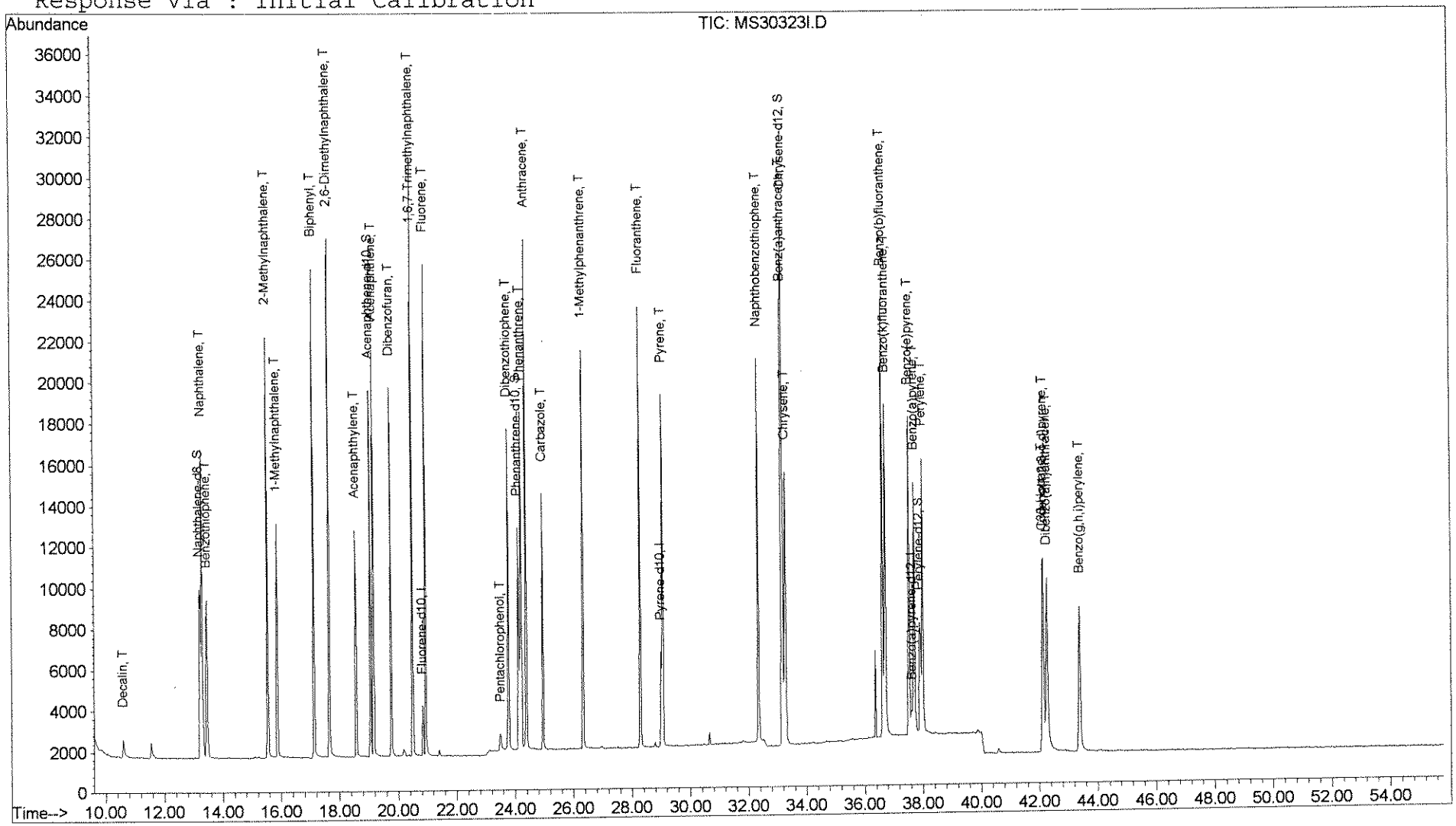
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323I.D
Acq On : 6 Nov 2006 10:49 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:58 2006

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



000019

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30323\MS30323J.D
Acq On : 7 Nov 2006 9:26 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 25% 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	102	0.00
2	S	Naphthalene-d8	1.865	1.826	2.1	96	0.00
3	T	Decalin	0.421	0.385	8.6	94	0.00
4	un	C1-Decalin	0.421	0.000	100.0#	0#	-12.88#
5	un	C2-Decalin	0.421	0.000	100.0#	0#	-14.41#
6	un	C3-Decalin	0.421	0.000	100.0#	0#	-16.01#
7	un	C4-Decalin	0.421	0.000	100.0#	0#	-19.88#
8	T	Naphthalene	2.160	1.972	8.7	94	0.00
9	T	2-Methylnaphthalene	1.465	1.383	5.6	93	0.00
10	T	1-Methylnaphthalene	1.228	1.223	0.4	101	-0.02
11	T	2,6-Dimethylnaphthalene	1.242	1.204	3.1	95	0.00
12	T	1,6,7-Trimethylnaphthalene	1.103	1.134	-2.8	99	0.00
13	un	C2-Naphthalenes	2.160	0.000	100.0#	0#	-18.12#
14	un	C3-Naphthalenes	2.160	0.000	100.0#	0#	-20.32#
15	un	C4-Naphthalenes	2.160	0.000	100.0#	0#	-22.46#
16	T	Benzothiophene	1.708	1.720	-0.7	100	-0.02
17	un	C1-Benzothiophene	1.708	0.000	100.0#	0#	-15.74#
18	un	C2-Benzothiophene	1.708	0.000	100.0#	0#	-18.15#
19	un	C3-Benzothiophene	1.708	0.000	100.0#	0#	-19.80#
20	S	Acenaphthene-d10	1.038	0.983	5.3	98	0.00
21	T	Biphenyl	1.640	1.773	-8.1	103	0.00
22	T	Acenaphthylene	1.933	1.994	-3.2	103	0.00
23	T	Acenaphthene	1.196	1.138	4.8	97	0.00
24	T	Dibenzofuran	1.919	1.969	-2.6	100	0.00
25	T	Fluorene	1.516	1.351	10.9	93	0.00
26	un	C1-Fluorenes	1.516	0.000	100.0#	0#	-22.88#
27	un	C2-Fluorenes	1.516	0.000	100.0#	0#	-24.57#
28	un	C3-Fluorenes	1.516	0.000	100.0#	0#	-26.45#
29	I	Pyrene-d10	1.000	1.000	0.0	98	0.00
30	S	Phenanthrene-d10	0.648	0.724	-11.7	107	0.00
31	T	Pentachlorophenol	0.066	0.061	7.6	96	0.00
32	T	Carbazole	0.917	0.966	-5.3	105	0.00
33	T	Dibenzothiophene	0.930	0.931	-0.1	92	0.00
34	un	C1-Dibenzothiophene	0.930	0.000	100.0#	0#	-25.28#
35	un	C2-Dibenzothiophene	0.930	0.000	100.0#	0#	-26.65#
36	un	C3-Dibenzothiophene	0.930	0.000	100.0#	0#	-28.77#
37	T	Phenanthrene	0.812	0.829	-2.1	100	0.00
38	T	Anthracene	1.037	1.083	-4.4	100	0.00
39	T	1-Methylphenanthrene	0.714	0.727	-1.8	100	0.00
40	un	C1-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-26.30#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30323\MS30323J.D
Acq On : 7 Nov 2006 9:26 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-27.70#
42	un	C3-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-30.27#
43	un	C4-Phenanthrene/Anthracene	0.812	0.000	100.0#	0#	-30.99#
44	T	Naphthobenzothiophene	0.991	1.130	-14.0	107	0.00
45	un	C1-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-33.26#
46	un	C2-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-34.94#
47	un	C3-Naphthobenzothiophene	0.991	0.000	100.0#	0#	-36.30#
48	T	Fluoranthene	1.195	1.302	-9.0	103	0.00
49	T	Pyrene	1.079	1.121	-3.9	100	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-30.73#
51	un	C2-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-32.10#
52	un	C3-Fluoranthenes/Pyrenes	1.195	0.000	100.0#	0#	-33.16#
53	S	Chrysene-d12	0.883	0.928	-5.1	95	0.00
54	T	Benz(a)anthracene	1.040	1.136	-9.2	101	0.00
55	T	Chrysene	0.868	0.923	-6.3	106	0.00
56	un	C1-Chrysenes	0.868	0.000	100.0#	0#	-34.49#
57	un	C2-Chrysenes	0.868	0.000	100.0#	0#	-35.69#
58	un	C3-Chrysenes	0.868	0.000	100.0#	0#	-37.12#
59	un	C4-Chrysenes	0.868	0.000	100.0#	0#	-42.68#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	106	-0.04
61	un	C29-Hopane	0.679	0.000	100.0#	0#	-40.65#
62	un	18a-Oleanane	0.679	0.000	100.0#	0#	-42.52#
63	T	C30-Hopane	0.679	0.656	3.4	99	0.00
64	T	Benzo(b)fluoranthene	1.789	1.850	-3.4	98	0.00
65	T	Benzo(k)fluoranthene	1.541	1.527	0.9	99	0.00
66	T	Benzo(e)pyrene	1.548	1.502	3.0	96	0.00
67	T	Benzo(a)pyrene	1.423	1.475	-3.7	106	0.00
68	T	Indeno(1,2,3-c,d)pyrene	1.158	1.121	3.2	96	0.00
69	T	Dibenzo(a,h)anthracene	1.102	1.157	-5.0	106	-0.02
70	un	C1-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-42.80#
71	un	C2-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-44.72#
72	un	C3-Dibenzo(a,h)anthracene	1.102	0.000	100.0#	0#	-45.19#
73	T	Benzo(g,h,i)perylene	1.174	1.060	9.7	90	0.00
74	S	Perylene-d12	0.795	0.812	-2.1	104	0.00
75	T	Perylene	1.477	1.530	-3.6	107	0.00

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

000021

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323J.D
Acq On : 7 Nov 2006 9:26 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 13:16 2006

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	3476m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	7871m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	4654m	45.61		-0.04
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	31073	244.78		0.00
20) Acenaphthene-d10	19.06	164	16722m	236.63		0.00
30) Phenanthrene-d10	24.11	188	28518m	279.37		0.00
53) Chrysene-d12	33.17	240	36523m	262.64		0.00
74) Perylene-d12	37.88	264	20705m	255.23		0.00
Target Compounds						Qvalue
3) Decalin	10.59	138	6566	229.15	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	33615m	228.65		
9) 2-Methylnaphthalene	15.54	142	23591m	236.61		
10) 1-Methylnaphthalene	15.85	142	20836m	249.27		
11) 2,6-Dimethylnaphthalene	17.65	156	20531m	243.00		
12) 1,6,7-Trimethylnaphthalene	20.49	170	19331m	257.58		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	29320m	252.20	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.12	154	30223m	270.76		
22) Acenaphthylene	18.55	152	33996m	258.46		
23) Acenaphthene	19.17	154	19377m	238.18		
24) Dibenzofuran	19.76	168	33548m	256.83	ng/ml	
25) Fluorene	20.94	166	23029m	223.18		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	2405m	231.81	ng/ml	
32) Carbazole	24.95	167	38080m	263.61	ng/ml	
33) Dibenzothiophene	23.78	184	36695m	250.59		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323J.D
Acq On : 7 Nov 2006 9:26 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 13:16 2006

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36) C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37) Phenanthrene	24.21	178	32717m	255.88		
38) Anthracene	24.38	178	42688m	261.40		
39) 1-Methylphenanthrene	26.34	192	28677m	254.88		
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44) Naphthobenzothiophene	32.33	234	44439m	284.60		
45) C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48) Fluoranthene	28.29	202	51370m	273.03		
49) Pyrene	29.06	202	44245m	260.43		
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54) Benz(a)anthracene	33.14	228	44809m	273.52		
55) Chrysene	33.28	228	36412m	266.43		
56) C1-Chrysenes	0.00	242	0	N.D.	d	
57) C2-Chrysenes	0.00	256	0	N.D.	d	
58) C3-Chrysenes	0.00	270	0	N.D.	d	
59) C4-Chrysenes	0.00	284	0	N.D.	d	
61) C29-Hopane	0.00	191	0	N.D.	d	
62) 18a-Oleanane	0.00	191	0	N.D.	d	
63) C30-Hopane	42.10	191	16733m	241.38	ng/ml	
64) Benzo(b)fluoranthene	36.60	252	47251m	258.81		
65) Benzo(k)fluoranthene	36.71	252	39059m	248.40		
66) Benzo(e)pyrene	37.52	252	38422m	243.29		
67) Benzo(a)pyrene	37.70	252	37690m	259.66		
68) Indeno(1,2,3-c,d)pyrene	42.13	276	28657m	242.55		
69) Dibenzo(a,h)anthracene	42.23	278	29561m	262.94		
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73) Benzo(g,h,i)perylene	43.37	276	27082m	226.09		
75) Perylene	37.98	252	39100m	259.48		

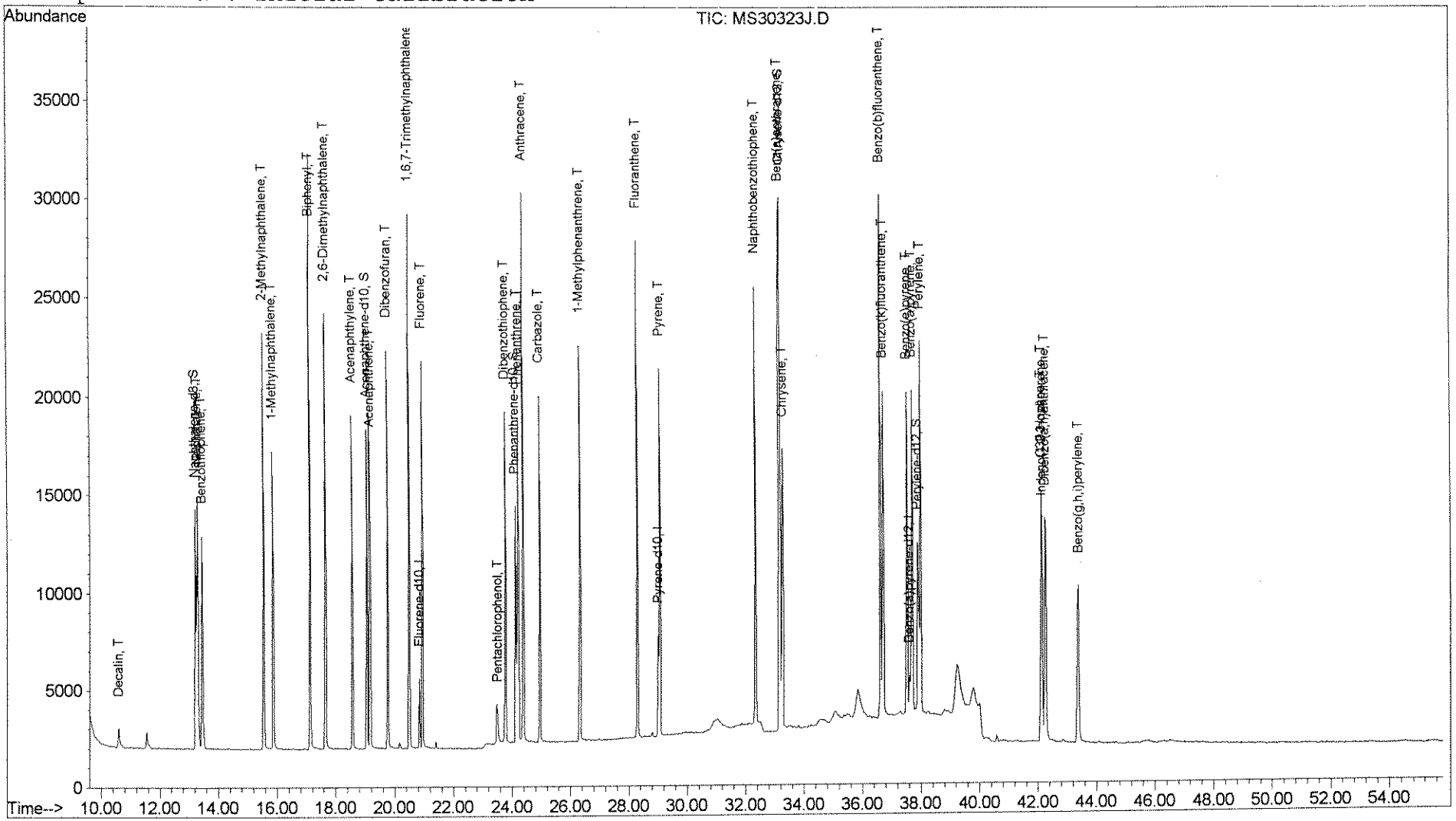
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323J.D
Acq On : 7 Nov 2006 9:26 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 13:16 2006

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name	**MS30323B.D**	**Su Amt = 50**	MS30323B.D
Data File Path	**X:\1\DATA\MS30323**		SRM 1582
Operator	**TJM**		
Date Acquired	**11/ 6/20 -1:3:**		
Method File	**PAH-2002**		
Sample Name	**SRM 1582**		
Misc Info			
Instrument Name	**GC/MS Ins**		11/ 6/20 -1:3:
Vial Number	**2**		PAH-2002
Sample Multiplier	**0.588**		1.70
Sample Amount	**0**		

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	13.29	41870	144.26	148.59
9+10)	C1-Naphthalenes	15.71	175620	605.10	623.23
13)	C2-Naphthalenes	18.02	294391	1014.32	1044.72
14)	C3-Naphthalenes	19.93	269591	928.88	956.71
15)	C4-Naphthalenes	22.52	190354	655.86	675.52
16)	Benzothiophene	13.55	2263	9.86	10.16
17)	C1-Benzothiophene	15.54	4346	18.94	19.50
18)	C2-Benzothiophene	18.05	17521	76.34	78.63
19)	C3-Benzothiophene	19.73	34235	149.16	153.63
21)	Biphenyl	17.12	6752	30.64	31.56
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	19.17	3181	19.81	20.40
24)	Dibenzofuran	19.76	3224	12.50	12.88
25)	Fluorene	20.94	7426	36.45	37.55
26)	C1-Fluorenes	22.94	27125	133.15	137.14
27)	C2-Fluorenes	24.58	50004	245.47	252.82
28)	C3-Fluorenes	26.71	49099	241.02	248.25
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	24.96	2892	11.25	11.59
38)	Anthracene	24.38	794	2.73	2.81
37)	Phenanthrene	24.21	27821	122.26	125.92
40)	C1-Phenanthrene/Anthracene	26.34	76216	334.93	344.96
41)	C2-Phenanthrene/Anthracene	27.78	131578	578.21	595.54
42)	C3-Phenanthrene/Anthracene	29.37	113879	500.43	515.43
43)	C4-Phenanthrene/Anthracene	31.22	65236	286.67	295.27
33)	Dibenzothiophene	23.78	10314	39.57	40.76
34)	C1-Dibenzothiophene	25.29	36174	138.80	142.96
35)	C2-Dibenzothiophene	26.71	68862	264.22	272.14
36)	C3-Dibenzothiophene	28.90	64364	246.96	254.36
48)	Fluoranthene	28.29	2814	8.40	8.66
49)	Pyrene	29.07	3450	11.41	11.75
50)	C1-Fluoranthenes/Pyrenes	30.88	23899	71.37	73.51
51)	C2-Fluoranthenes/Pyrenes	31.73	32754	97.81	100.75
52)	C3-Fluoranthenes/Pyrenes	33.42	28100	83.92	86.43
44)	Naphthobenzothiophene	32.33	11271	40.56	41.77
45)	C1-Naphthobenzothiophene	34.09	15637	56.27	57.96
46)	C2-Naphthobenzothiophene	35.19	20548	73.94	76.16
47)	C3-Naphthobenzothiophene	36.57	13560	48.80	50.26
54)	Benz(a)anthracene	33.17	1148	3.94	4.06
55)	Chrysene	33.28	5391	22.16	22.83
56)	C1-Chrysenes	34.66	17194	70.69	72.81
57)	C2-Chrysenes	35.97	28955	119.04	122.61
58)	C3-Chrysenes	37.35	23000	94.56	97.39
59)	C4-Chrysenes	0.00	0	0.00	0.00
64)	Benzo(b)fluoranthene	36.60	766	1.98	2.04
65)	Benzo(k)fluoranthene	36.71	295	0.89	0.91
66)	Benzo(e)pyrene	37.52	1343	4.02	4.14
67)	Benzo(a)pyrene	37.66	619	2.01	2.07
75)	Perylene	37.98	9933	31.12	32.06
68)	Indeno(1,2,3-c,d)pyrene	42.15	680	2.72	2.80
69)	Dibenzo(a,h)anthracene	42.36	70	0.29	0.30
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.37	533	2.10	2.16
	Total PAH				7926
	Individual Isomers				
9)	2-Methylnaphthalene	15.54	111514	566.55	583.53
10)	1-Methylnaphthalene	15.88	64106	388.48	400.12
11)	2,6-Dimethylnaphthalene	17.65	84937	509.23	524.49
12)	1,6,7-Trimethylnaphthalene	20.49	20581	138.91	143.07
39)	1-Methylphenanthrene	26.34	21218	105.96	109.14
61)	C29-Hopane	40.10	49189	335.02	345.06
62)	18a-Oleanane	41.19	10486	71.42	73.56
63)	C30-Hopane	41.40	45030	306.69	315.88
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.24	6804	27.15	92
20)	Acenaphthene-d10	19.06	4074	29.20	99
30)	Phenanthrene-d10	24.15	5186	28.54	97
53)	Chrysene-d12	33.17	6725	27.17	92
74)	Perylene-d12	37.91	4994	29.07	99
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.86	4035	51.08	
29)	Pyrene-d10	29.00	8237	49.98	
60)	Benzo(a)pyrene-d12	37.63	5796	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30323\MS30323B.D
Acq On : 6 Nov 2006 3:24 pm
Sample : SRM 1582
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 7:40 2006

Vial: 2
Operator: TJM
Inst : GC/MS Ins
Multiplr: 0.59
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.86	176	4035m	51.08	ng/ml	0.03
29) Pyrene-d10	29.00	212	8237m	49.98		0.00
60) Benzo(a)pyrene-d12	37.63	264	5796m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.24	136	6804m	27.15		0.03
20) Acenaphthene-d10	19.06	164	4074m	29.20		0.00
30) Phenanthrene-d10	24.15	188	5186m	28.54		0.03
53) Chrysene-d12	33.17	240	6725m	27.17		0.00
74) Perylene-d12	37.91	264	4994m	29.07		0.04
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D.	d	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	41870	144.26		
9) 2-Methylnaphthalene	15.54	142	111514	566.55		
10) 1-Methylnaphthalene	15.88	142	64106	388.48		
11) 2,6-Dimethylnaphthalene	17.65	156	84937m	509.23		
12) 1,6,7-Trimethylnaphthalene	20.49	170	20581m	138.91		
13) C2-Naphthalenes	18.02	156	294391	1014.32		
14) C3-Naphthalenes	19.93	170	269591	928.88		
15) C4-Naphthalenes	22.52	184	190354	655.86		
16) Benzothiophene	13.55	134	2263	9.86	ng/ml	
17) C1-Benzothiophene	15.54	148	4346	18.94	ng/ml	
18) C2-Benzothiophene	18.05	162	17521	76.34	ng/ml	
19) C3-Benzothiophene	19.73	176	34235	149.16	ng/ml	
21) Biphenyl	17.12	154	6752m	30.64		
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	19.17	154	3181	19.81		
24) Dibenzofuran	19.76	168	3224	12.50	ng/ml	
25) Fluorene	20.94	166	7426	36.45		
26) C1-Fluorenes	22.94	180	27125	133.15		
27) C2-Fluorenes	24.58	194	50004	245.47		
28) C3-Fluorenes	26.71	208	49099	241.02		
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	24.96	167	2892m	11.25	ng/ml	
33) Dibenzothiophene	23.78	184	10314m	39.57		
34) C1-Dibenzothiophene	25.29	198	36174m	138.80		
35) C2-Dibenzothiophene	26.71	212	68862m	264.22		
36) C3-Dibenzothiophene	28.90	226	64364m	246.96		
37) Phenanthrene	24.21	178	27821m	122.26		
38) Anthracene	24.38	178	794m	2.73		
39) 1-Methylphenanthrene	26.34	192	21218m	105.96		
40) C1-Phenanthrene/Anthracene	26.34	192	76216m	334.93		
41) C2-Phenanthrene/Anthracene	27.78	206	131578m	578.21		
42) C3-Phenanthrene/Anthracene	29.37	220	113879m	500.43		
43) C4-Phenanthrene/Anthracene	31.22	234	65236m	286.67		
44) Naphthobenzothiophene	32.33	234	11271m	40.56		
45) C1-Naphthobenzothiophene	34.09	248	15637m	56.27		
46) C2-Naphthobenzothiophene	35.19	262	20548m	73.94		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30323\MS30323B.D Vial: 2
Acq On : 6 Nov 2006 3:24 pm Operator: TJM
Sample : SRM 1582 Inst : GC/MS Ins
Misc : Multiplr: 0.59
MS Integration Params: rteint.p
Quant Time: Nov 8 7:40 2006 Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47) C3-Naphthobenzothiophene	36.57	276	13560m	48.80		
48) Fluoranthene	28.29	202	2814m	8.40		
49) Pyrene	29.07	202	3450m	11.41		
50) C1-Fluoranthenes/Pyrenes	30.88	216	23899m	71.37	ng/mL	
51) C2-Fluoranthenes/Pyrenes	31.73	230	32754m	97.81	ng/mL	
52) C3-Fluoranthenes/Pyrenes	33.42	244	28100m	83.92	ng/mL	
54) Benz(a)anthracene	33.17	228	1148m	3.94		
55) Chrysene	33.28	228	5391m	22.16		
56) C1-Chrysenes	34.66	242	17194m	70.69	ng/mL	
57) C2-Chrysenes	35.97	256	28955m	119.04	ng/mL	
58) C3-Chrysenes	37.35	270	23000m	94.56	ng/mL	
59) C4-Chrysenes	0.00	284	0	N.D.	d	
61) C29-Hopane	40.10	191	49189m	335.02	ng/ml	
62) 18a-Oleanane	41.19	191	10486m	71.42	ng/ml	
63) C30-Hopane	41.40	191	45030m	306.69	ng/ml	
64) Benzo(b)fluoranthene	36.60	252	766m	1.98		
65) Benzo(k)fluoranthene	36.71	252	295m	0.89		
66) Benzo(e)pyrene	37.52	252	1343m	4.02		
67) Benzo(a)pyrene	37.66	252	619m	2.01		
68) Indeno(1,2,3-c,d)pyrene	42.15	276	680m	2.72		
69) Dibenzo(a,h)anthracene	42.36	278	70m	0.29		
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73) Benzo(g,h,i)perylene	43.37	276	533m	2.10		
75) Perylene	37.98	252	9933m	31.12		

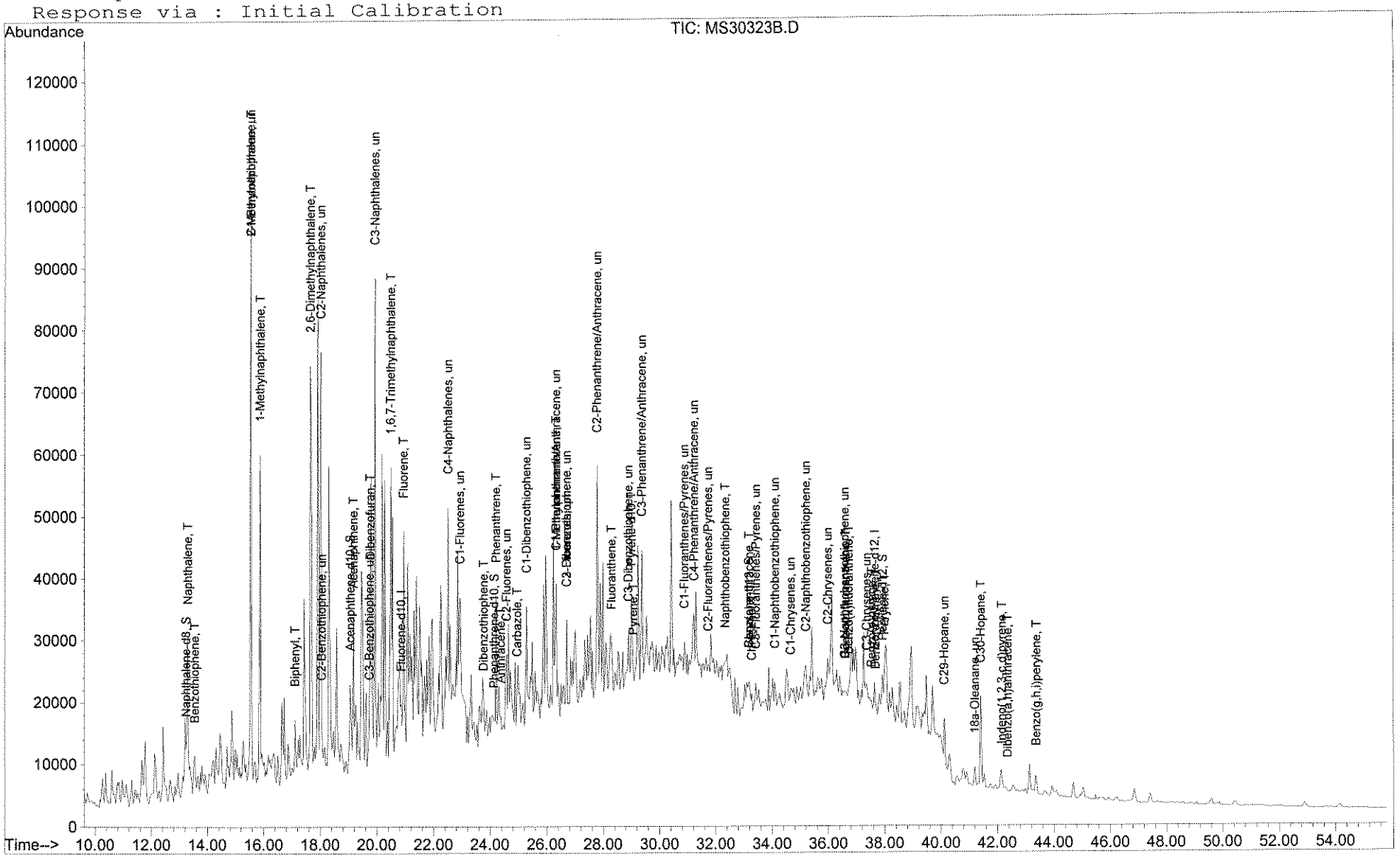
(#) = qualifier out of range (m) = manual integration

Data File : X:\1\DATA\MS30323\MS30323B.D
Acq On : 6 Nov 2006 3:24 pm
Sample : SRM 1582
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 7:40 2006

Vial: 2
Operator: TJM
Inst : GC/MS Ins
Multiplr: 0.59

Quant Results File: 110706.RES

Method : X:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



820000

Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name	MS30323C.D	Su Amt = 50	MS30323C.D
Data File Path	X:\1\DATA\MS30323\		IS/SU Mixture
Operator	TJM		
Date Acquired	11/ 6/20 -1:4:		
Method File	PAH-2002		
Sample Name	IS/SU Mixture		
Misc Info			
Instrument Name	GC/MS Ins		11/ 6/20 -1:4:
Vial Number	3		PAH-2002
Sample Multiplier	1		1.00
Sample Amount	0		

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	0.00	0	0.00	0.00
9+10)	C1-Naphthalenes	0.00	0	#DIV/0!	#DIV/0!
13)	C2-Naphthalenes	0.00	0	0.00	0.00
14)	C3-Naphthalenes	0.00	0	0.00	0.00
15)	C4-Naphthalenes	0.00	0	0.00	0.00
16)	Benzothiophene	0.00	0	0.00	0.00
17)	C1-Benzothiophene	0.00	0	0.00	0.00
18)	C2-Benzothiophene	0.00	0	0.00	0.00
19)	C3-Benzothiophene	0.00	0	0.00	0.00
21)	Biphenyl	0.00	0	0.00	0.00
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	0.00	0	0.00	0.00
24)	Dibenzofuran	0.00	0	0.00	0.00
25)	Fluorene	0.00	0	0.00	0.00
26)	C1-Fluorenes	0.00	0	0.00	0.00
27)	C2-Fluorenes	0.00	0	0.00	0.00
28)	C3-Fluorenes	0.00	0	0.00	0.00
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	0.00	0	0.00	0.00
38)	Anthracene	0.00	0	0.00	0.00
37)	Phenanthrene	0.00	0	0.00	0.00
40)	C1-Phenanthrene/Anthracene	0.00	0	0.00	0.00
41)	C2-Phenanthrene/Anthracene	0.00	0	0.00	0.00
42)	C3-Phenanthrene/Anthracene	0.00	0	0.00	0.00
43)	C4-Phenanthrene/Anthracene	0.00	0	0.00	0.00
33)	Dibenzothiophene	0.00	0	0.00	0.00
34)	C1-Dibenzothiophene	0.00	0	0.00	0.00
35)	C2-Dibenzothiophene	0.00	0	0.00	0.00
36)	C3-Dibenzothiophene	0.00	0	0.00	0.00
48)	Fluoranthene	0.00	0	0.00	0.00
49)	Pyrene	0.00	0	0.00	0.00
50)	C1-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
51)	C2-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
52)	C3-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
44)	Naphthobenzothiophene	0.00	0	0.00	0.00
45)	C1-Naphthobenzothiophene	0.00	0	0.00	0.00
46)	C2-Naphthobenzothiophene	0.00	0	0.00	0.00
47)	C3-Naphthobenzothiophene	0.00	0	0.00	0.00
54)	Benz(a)anthracene	0.00	0	0.00	0.00
55)	Chrysene	0.00	0	0.00	0.00
56)	C1-Chrysenes	0.00	0	0.00	0.00
57)	C2-Chrysenes	0.00	0	0.00	0.00
58)	C3-Chrysenes	0.00	0	0.00	0.00
59)	C4-Chrysenes	0.00	0	0.00	0.00
64)	Benzo(b)fluoranthene	0.00	0	0.00	0.00
65)	Benzo(k)fluoranthene	0.00	0	0.00	0.00
66)	Benzo(e)pyrene	0.00	0	0.00	0.00
67)	Benzo(a)pyrene	0.00	0	0.00	0.00
75)	Perylene	0.00	0	0.00	0.00
68)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.00	0.00
69)	Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	0.00	0	0.00	0.00
	Total PAH				#DIV/0!
	Individual Isomers				
9)	2-Methylnaphthalene	0.00	0	0.00	0.00
10)	1-Methylnaphthalene	0.00	0	0.00	0.00
11)	2,6-Dimethylnaphthalene	0.00	0	0.00	0.00
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.00	0.00
39)	1-Methylphenanthrene	0.00	0	0.00	0.00
61)	C29-Hopane	0.00	0	0.00	0.00
62)	18a-Oleanane	0.00	0	0.00	0.00
63)	C30-Hopane	0.00	0	0.00	0.00
	Surrogates				Su Recovery (%)
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.21	5822	50.08	100
20)	Acenaphthene-d10	19.06	3286	50.78	102
30)	Phenanthrene-d10	24.11	4922	48.71	97
53)	Chrysene-d12	33.17	6322	45.92	92
74)	Perylene-d12	37.88	3592	49.79	100
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.83	3183	51.08	
29)	Pyrene-d10	29.00	7792	49.98	
60)	Benzo(a)pyrene-d12	37.63	4139	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30323\MS30323C.D
Acq On : 6 Nov 2006 4:27 pm
Sample : IS/SU Mixture
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 8:08 2006

Vial: 3
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	3183m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	7792m	49.98		0.00
60) Benzo(a)pyrene-d12	37.63	264	4139m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	5822m	50.08		0.00
20) Acenaphthene-d10	19.06	164	3286m	50.78		0.00
30) Phenanthrene-d10	24.11	188	4922	48.71		0.00
53) Chrysene-d12	33.17	240	6322	45.92		0.00
74) Perylene-d12	37.88	264	3592m	49.79		0.00
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D.	d	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	0.00	128	0	N.D.		
9) 2-Methylnaphthalene	0.00	142	0	N.D.		
10) 1-Methylnaphthalene	0.00	142	0	N.D.		
11) 2,6-Dimethylnaphthalene	0.00	156	0	N.D.	d	
12) 1,6,7-Trimethylnaphthalene	0.00	170	0	N.D.		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	0.00	134	0	N.D.		
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	0.00	154	0	N.D.		
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	0.00	154	0	N.D.	d	
24) Dibenzofuran	0.00	168	0	N.D.	d	
25) Fluorene	0.00	166	0	N.D.		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	0.00	167	0	N.D.		
33) Dibenzothiophene	0.00	184	0	N.D.	d	
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	
35) C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36) C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37) Phenanthrene	0.00	178	0	N.D.		
38) Anthracene	0.00	178	0	N.D.		
39) 1-Methylphenanthrene	0.00	192	0	N.D.		
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44) Naphthobenzothiophene	0.00	234	0	N.D.		
45) C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Data File : X:\1\DATA\MS30323\MS30323C.D Vial: 3
Acq On : 6 Nov 2006 4:27 pm Operator: TJM
Sample : IS/SU Mixture Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 7 8:08 2006 Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
47) C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48) Fluoranthene	0.00	202	0	N.D.	
49) Pyrene	0.00	202	0	N.D.	
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54) Benz(a)anthracene	0.00	228	0	N.D.	
55) Chrysene	0.00	228	0	N.D.	
56) C1-Chrysenes	0.00	242	0	N.D. d	
57) C2-Chrysenes	0.00	256	0	N.D. d	
58) C3-Chrysenes	0.00	270	0	N.D. d	
59) C4-Chrysenes	0.00	284	0	N.D. d	
61) C29-Hopane	0.00	191	0	N.D. d	
62) 18a-Oleanane	0.00	191	0	N.D. d	
63) C30-Hopane	0.00	191	0	N.D. d	
64) Benzo(b)fluoranthene	0.00	252	0	N.D.	
65) Benzo(k)fluoranthene	0.00	252	0	N.D.	
66) Benzo(e)pyrene	0.00	252	0	N.D.	
67) Benzo(a)pyrene	0.00	252	0	N.D.	
68) Indeno(1,2,3-c,d)pyrene	0.00	276	0	N.D.	
69) Dibenzo(a,h)anthracene	0.00	278	0	N.D. d	
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73) Benzo(g,h,i)perylene	0.00	276	0	N.D. d	
75) Perylene	0.00	252	0	N.D.	

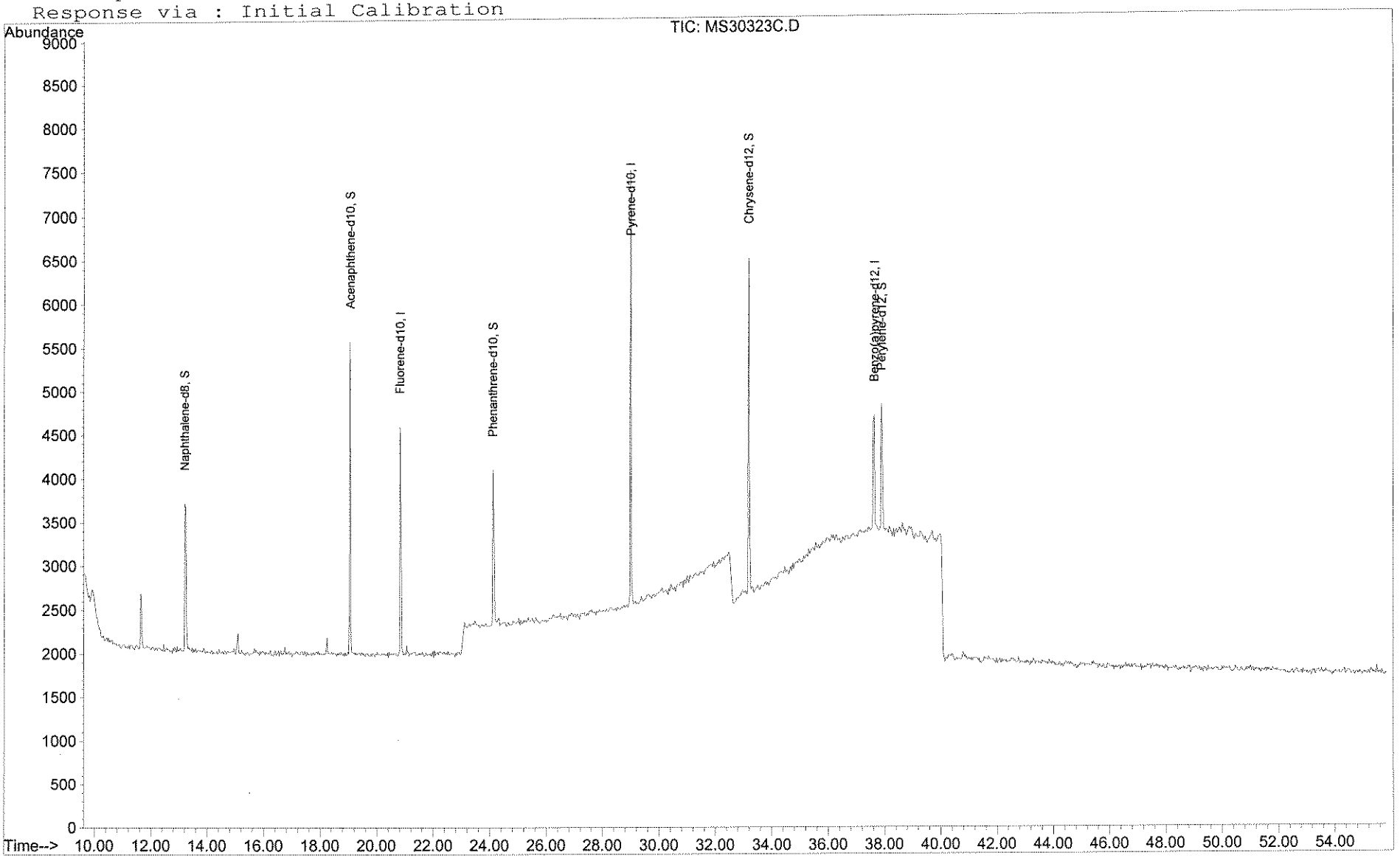
(#) = qualifier out of range (m) = manual integration

Data File : X:\1\DATA\MS30323\MS30323C.D
Acq On : 6 Nov 2006 4:27 pm
Sample : IS/SU Mixture
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 8:08 2006

Vial: 3
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : X:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



000032

Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name	GEO0047.D	Su Amt = 50	GEO0047.D
Data File Path	X:\1\DATA\MS30323\		W2B-03-S2
Operator	TJM		
Date Acquired	11/ 7/20 -1:2:		
Method File	PAH-2002		
Sample Name	W2B-03-S2		
Misc Info			
Instrument Name	GC/MS Ins		11/ 7/20 -1:2:
Vial Number	38		PAH-2002
Sample Multiplier	2.9533		0.34
Sample Amount	0		

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	13.29	1901842	2985.96	3149.95
9+10)	C1-Naphthalenes	15.71	1155322	1813.90	1913.52
13)	C2-Naphthalenes	17.93	1293557	2030.93	2142.47
14)	C3-Naphthalenes	19.93	840193	1319.13	1391.58
15)	C4-Naphthalenes	22.26	345740	542.82	572.64
16)	Benzothiophene	13.46	62567	124.22	131.04
17)	C1-Benzothiophene	15.71	46851	93.02	98.13
18)	C2-Benzothiophene	17.68	61071	121.25	127.91
19)	C3-Benzothiophene	19.48	47066	93.45	98.58
21)	Biphenyl	17.11	288942	597.49	630.30
22)	Acenaphthylene	18.58	820417	1439.68	1518.75
23)	Acenaphthene	19.17	1315915	3733.50	3938.55
24)	Dibenzofuran	19.79	2376789	4200.00	4430.66
25)	Fluorene	20.97	2515565	5627.03	5936.06
26)	C1-Fluorenes	22.85	849065	1899.26	2003.57
27)	C2-Fluorenes	24.58	353170	790.00	833.39
28)	C3-Fluorenes	27.01	647465	1448.30	1527.85
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	24.99	2136242	3896.52	4110.52
38)	Anthracene	24.45	4702689	7580.72	7997.06
37)	Phenanthrene	24.31	21637587	44548.18	46994.78
40)	C1-Phenanthrene/Anthracene	26.00	6388253	13152.35	13874.68
41)	C2-Phenanthrene/Anthracene	27.82	3142090	6469.04	6824.32
42)	C3-Phenanthrene/Anthracene	29.40	1174871	2418.86	2551.71
43)	C4-Phenanthrene/Anthracene	31.22	422216	869.27	917.01
33)	Dibenzothiophene	23.78	1269145	2281.48	2406.78
34)	C1-Dibenzothiophene	25.59	629305	1131.27	1193.40
35)	C2-Dibenzothiophene	27.28	285781	513.73	541.95
36)	C3-Dibenzothiophene	29.17	174942	314.48	331.76
48)	Fluoranthene	28.42	22656127	31698.74	33439.65
49)	Pyrene	29.20	21989260	34072.39	35943.65
50)	C1-Fluoranthenes/Pyrenes	30.51	8062543	11280.50	11900.03
51)	C2-Fluoranthenes/Pyrenes	32.71	3099140	4336.08	4574.22
52)	C3-Fluoranthenes/Pyrenes	33.56	1286294	1799.69	1898.52
44)	Naphthobenzothiophene	32.37	2189614	3691.50	3894.24
45)	C1-Naphthobenzothiophene	33.56	635288	1071.04	1129.86
46)	C2-Naphthobenzothiophene	35.44	202009	340.57	359.27
47)	C3-Naphthobenzothiophene	36.28	67281	113.43	119.66
54)	Benz(a)anthracene	33.24	9746238	15661.23	16521.35
55)	Chrysene	33.39	8960777	17259.75	18207.66
56)	C1-Chrysenes	34.59	4312164	8305.85	8762.01
57)	C2-Chrysenes	36.00	1328382	2558.66	2699.18
58)	C3-Chrysenes	36.96	233284	449.34	474.02
59)	C4-Chrysenes	41.38	418619	806.32	850.60
64)	Benzo(b)fluoranthene	36.74	9327808	11652.98	12292.96
65)	Benzo(k)fluoranthene	36.82	2258127	3275.38	3455.27
66)	Benzo(e)pyrene	37.63	3810831	5503.64	5805.90
67)	Benzo(a)pyrene	37.84	6676125	10490.13	11066.25
75)	Perylene	38.05	1376549	2083.52	2197.95
68)	Indeno(1,2,3-c,d)pyrene	42.23	2226400	4297.84	4533.87
69)	Dibenzo(a,h)anthracene	42.31	534737	1084.85	1144.43
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.50	1647632	3137.28	3309.58
	Total PAH				302769
	Individual Isomers				
9)	2-Methylnaphthalene	15.54	667024	1544.22	1629.03
10)	1-Methylnaphthalene	15.88	488298	1348.37	1422.42
11)	2,6-Dimethylnaphthalene	17.65	309060	844.33	890.71
12)	1,6,7-Trimethylnaphthalene	20.49	69653	214.22	225.99
39)	1-Methylphenanthrene	26.37	1196208	2798.76	2952.47
61)	C29-Hopane	40.11	1163	3.83	4.04
62)	18a-Oleanane	0.00	0	0.00	0.00
63)	C30-Hopane	41.40	2211	7.27	7.67
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.23	77150	140.28	95
20)	Acenaphthene-d10	19.05	44767	146.22	99
30)	Phenanthrene-d10	24.18	54281	139.98	95
53)	Chrysene-d12	33.28	66843	126.53	86
74)	Perylene-d12	37.95	48778	137.14	93
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.85	44475	51.08	
29)	Pyrene-d10	29.06	88304	49.98	
60)	Benzo(a)pyrene-d12	37.70	60263	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30323\GEO0047.D
Acq On : 7 Nov 2006 12:57 am
Sample : W2B-03-S2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 7:27 2006

Vial: 38
Operator: TJM
Inst : GC/MS Ins
Multiplr: 2.95
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.85	176	44475m	51.08	ng/ml	0.03
29) Pyrene-d10	29.06	212	88304m	49.98		0.07
60) Benzo(a)pyrene-d12	37.70	264	60263m	45.61		0.07
System Monitoring Compounds						
2) Naphthalene-d8	13.23	136	77150m	140.28		0.03
20) Acenaphthene-d10	19.05	164	44767m	146.22		0.00
30) Phenanthrene-d10	24.18	188	54281m	139.98		0.07
53) Chrysene-d12	33.28	240	66843m	126.53		0.11
74) Perylene-d12	37.95	264	48778m	137.14		0.07
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D.	d	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	1901842m	2985.96		
9) 2-Methylnaphthalene	15.54	142	667024m	1544.22		
10) 1-Methylnaphthalene	15.88	142	488298m	1348.37		
11) 2,6-Dimethylnaphthalene	17.65	156	309060m	844.33		
12) 1,6,7-Trimethylnaphthalene	20.49	170	69653m	214.22		
13) C2-Naphthalenes	17.93	156	1293557m	2030.93		
14) C3-Naphthalenes	19.93	170	840193m	1319.13		
15) C4-Naphthalenes	22.26	184	345740m	542.82		
16) Benzothiophene	13.46	134	62567m	124.22	ng/ml	
17) C1-Benzothiophene	15.71	148	46851m	93.02	ng/ml	
18) C2-Benzothiophene	17.68	162	61071m	121.25	ng/ml	
19) C3-Benzothiophene	19.48	176	47066m	93.45	ng/ml	
21) Biphenyl	17.11	154	288942m	597.49		
22) Acenaphthylene	18.58	152	820417m	1439.68		
23) Acenaphthene	19.17	154	1315915m	3733.50		
24) Dibenzofuran	19.79	168	2376789m	4200.00	ng/ml	
25) Fluorene	20.97	166	2515565m	5627.03		
26) C1-Fluorenes	22.85	180	849065m	1899.26		
27) C2-Fluorenes	24.58	194	353170m	790.00		
28) C3-Fluorenes	27.01	208	647465m	1448.30		
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	24.99	167	2138242m	3896.52	ng/ml	
33) Dibenzothiophene	23.78	184	1269145m	2281.48		
34) C1-Dibenzothiophene	25.59	198	629305m	1131.27		
35) C2-Dibenzothiophene	27.28	212	285781m	513.73		
36) C3-Dibenzothiophene	29.17	226	174942m	314.48		
37) Phenanthrene	24.31	178	21637587m	44548.18		
38) Anthracene	24.45	178	4702689m	7580.72		
39) 1-Methylphenanthrene	26.37	192	1196208m	2798.76		
40) C1-Phenanthrene/Anthracene	26.00	192	6388253m	13152.35		
41) C2-Phenanthrene/Anthracene	27.82	206	3142090m	6469.04		
42) C3-Phenanthrene/Anthracene	29.40	220	1174871m	2418.86		
43) C4-Phenanthrene/Anthracene	31.22	234	422216m	869.27		
44) Naphthobenzothiophene	32.37	234	2189614m	3691.50		
45) C1-Naphthobenzothiophene	33.56	248	635288m	1071.04		
46) C2-Naphthobenzothiophene	35.44	262	202009m	340.57		

(#) = qualifier out of range (m) = manual integration

Data File : X:\1\DATA\MS30323\GEO0047.D
Acq On : 7 Nov 2006 12:57 am
Sample : W2B-03-S2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 7:27 2006

Vial: 38
Operator: TJM
Inst : GC/MS Ins
Multiplr: 2.95
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47) C3-Naphthobenzothiophene	36.28	276	67281m	113.43		
48) Fluoranthene	28.42	202	22656127m	31698.74		
49) Pyrene	29.20	202	21989260m	34072.39		
50) C1-Fluoranthenes/Pyrenes	30.51	216	8062543m	11280.50	ng/mL	
51) C2-Fluoranthenes/Pyrenes	32.71	230	3099140m	4336.08	ng/mL	
52) C3-Fluoranthenes/Pyrenes	33.56	244	1286294m	1799.69	ng/mL	
54) Benz(a)anthracene	33.24	228	9746238m	15661.23		
55) Chrysene	33.39	228	8960777m	17259.75		
56) C1-Chrysenes	34.59	242	4312164m	8305.85	ng/mL	
57) C2-Chrysenes	36.00	256	1328382m	2558.66	ng/mL	
58) C3-Chrysenes	36.96	270	233284m	449.34	ng/mL	
59) C4-Chrysenes	41.38	284	418619m	806.32	ng/mL	
61) C29-Hopane	40.11	191	1163m	3.83	ng/ml	
62) 18a-Oleanane	0.00	191	0	N.D.	d	
63) C30-Hopane	41.40	191	2211m	7.27	ng/ml	
64) Benzo(b)fluoranthene	36.74	252	9327808m	11652.98		
65) Benzo(k)fluoranthene	36.82	252	2258127m	3275.38		
66) Benzo(e)pyrene	37.63	252	3810831m	5503.64		
67) Benzo(a)pyrene	37.84	252	6676125m	10490.13		
68) Indeno(1,2,3-c,d)pyrene	42.23	276	2226400m	4297.84		
69) Dibenzo(a,h)anthracene	42.31	278	534737m	1084.85		
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73) Benzo(g,h,i)perylene	43.50	276	1647632m	3137.28		
75) Perylene	38.05	252	1376549m	2083.52		

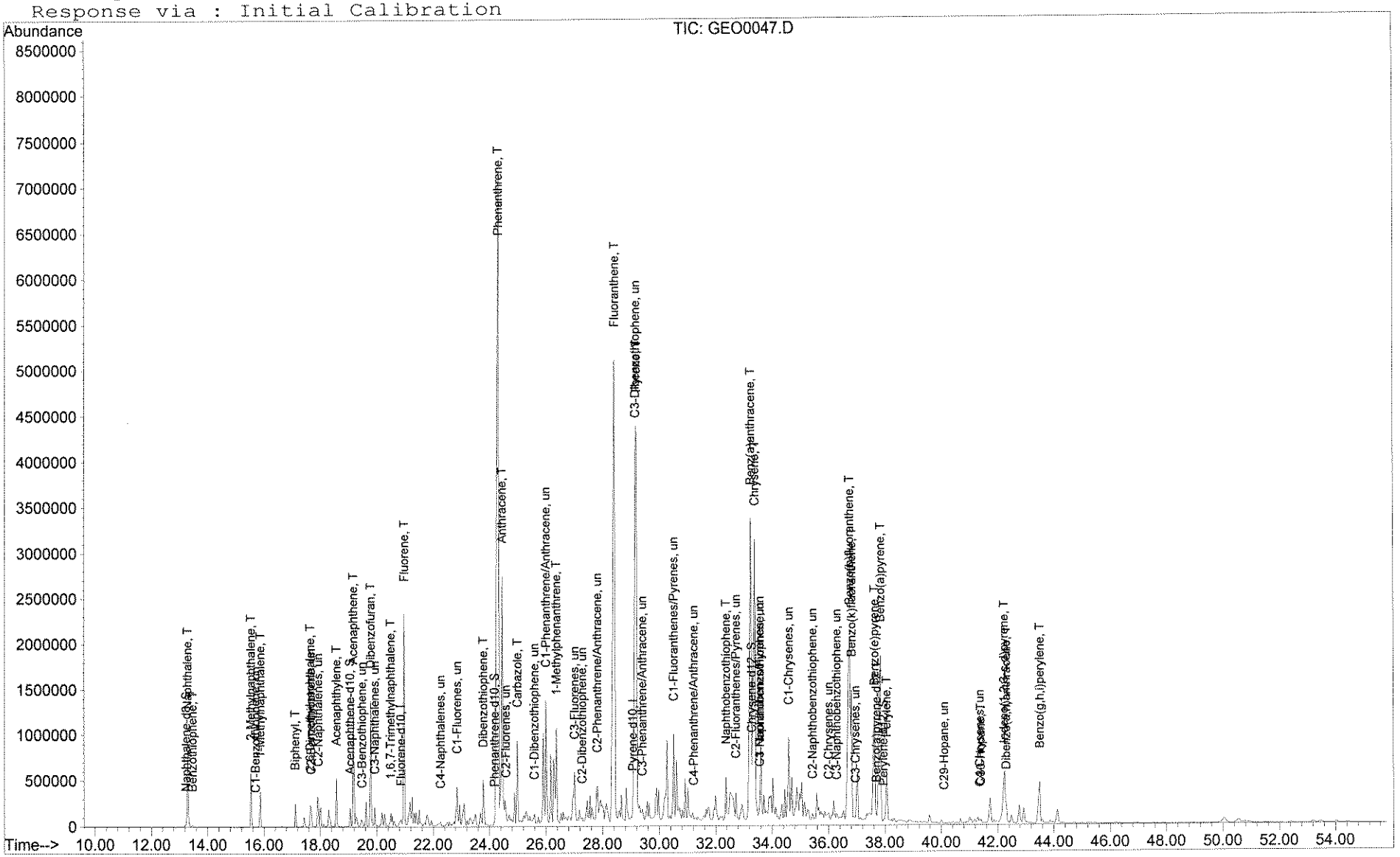
(#) = qualifier out of range (m) = manual integration

Data File : X:\1\DATA\MS30323\GEO0047.D
Acq On : 7 Nov 2006 12:57 am
Sample : W2B-03-S2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 8 7:27 2006

Vial: 38
Operator: TJM
Inst : GC/MS Ins
Multiplr: 2.95

Quant Results File: 110706.RES

Method : X:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



000036

Polycyclic Aromatic Hydrocarbon Initial Calibration Data

PAH ICAL
110706.M

GC/MS 3
(PAH 2002)

Response Factor Report GC/MS Ins

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:31 2006
Response via : Initial Calibration

Calibration Files
1 =MS30323D.D 2 =MS30323E.D 3 =MS30323F.D
4 =MS30323G.D 5 =MS30323H.D

		Compound	1	2	3	4	5	Avg	%RSD
1)	I	Fluorene-d10	ISTD						
2)	S	Naphthalene-d8	1.757	1.884	1.954	1.947	1.786	1.865	4.87
3)	T	Decalin	0.425	0.449	0.421	0.428	0.382	0.421	5.81
4)	un	C1-Decalin	0.425	0.449	0.421	0.428	0.382	0.421	5.81
5)	un	C2-Decalin	0.425	0.449	0.421	0.428	0.382	0.421	5.81
6)	un	C3-Decalin	0.425	0.449	0.421	0.428	0.382	0.421	5.81
7)	un	C4-Decalin	0.425	0.449	0.421	0.428	0.382	0.421	5.81
8)	T	Naphthalene	2.182	2.196	2.138	2.255	2.031	2.160	3.87
9)	T	2-Methylnaphthalene	1.380	1.456	1.522	1.561	1.406	1.465	5.19
10)	T	1-Methylnaphthalene	1.183	1.241	1.238	1.279	1.201	1.228	3.06
11)	T	2,6-Dimethylnaphthale	1.108	1.260	1.290	1.340	1.209	1.242	7.14
12)	T	1,6,7-Trimethylnaphth	0.967	1.120	1.169	1.155	1.103	1.103	7.28
13)	un	C2-Naphthalenes	2.182	2.196	2.138	2.255	2.031	2.160	3.87
14)	un	C3-Naphthalenes	2.182	2.196	2.138	2.255	2.031	2.160	3.87
15)	un	C4-Naphthalenes	2.182	2.196	2.138	2.255	2.031	2.160	3.87
16)	T	Benzothiophene	1.578	1.720	1.756	1.813	1.675	1.708	5.19
17)	un	C1-Benzothiophene	1.578	1.720	1.756	1.813	1.675	1.708	5.19
18)	un	C2-Benzothiophene	1.578	1.720	1.756	1.813	1.675	1.708	5.19
19)	un	C3-Benzothiophene	1.578	1.720	1.756	1.813	1.675	1.708	5.19
20)	S	Acenaphthene-d10	0.973	1.058	1.029	1.117	1.015	1.038	5.14
21)	T	Biphenyl	1.454	1.669	1.760	1.736	1.583	1.640	7.60
22)	T	Acenaphthylene	1.776	1.947	1.981	2.064	1.897	1.933	5.51
23)	T	Acenaphthene	1.106	1.237	1.197	1.284	1.153	1.196	5.81
24)	T	Dibenzofuran	1.789	1.942	2.003	1.988	1.876	1.919	4.60
25)	T	Fluorene	1.416	1.571	1.482	1.635	1.478	1.516	5.70
26)	un	C1-Fluorenes	1.416	1.571	1.482	1.635	1.478	1.516	5.70
27)	un	C2-Fluorenes	1.416	1.571	1.482	1.635	1.478	1.516	5.70
28)	un	C3-Fluorenes	1.416	1.571	1.482	1.635	1.478	1.516	5.70
29)	I	Pyrene-d10	ISTD						
30)	S	Phenanthrene-d10	0.578	0.637	0.667	0.688	0.671	0.648	6.65
31)	T	Pentachlorophenol	0.064	0.062	0.063	0.068	0.074	0.066	7.29
32)	T	Carbazole	0.876	0.918	0.908	0.955	0.930	0.917	3.17
33)	T	Dibenzothiophene	0.903	0.885	0.995	0.923	0.942	0.930	4.55
34)	un	C1-Dibenzothiophene	0.903	0.885	0.995	0.923	0.942	0.930	4.55
35)	un	C2-Dibenzothiophene	0.903	0.885	0.995	0.923	0.942	0.930	4.55
36)	un	C3-Dibenzothiophene	0.903	0.885	0.995	0.923	0.942	0.930	4.55
37)	T	Phenanthrene	0.801	0.816	0.819	0.811	0.813	0.812	0.85
38)	T	Anthracene	0.948	1.000	1.066	1.085	1.086	1.037	5.88
39)	T	1-Methylphenanthrene	0.675	0.731	0.713	0.741	0.713	0.714	3.54
40)	un	C1-Phenanthrene/Anthr	0.801	0.816	0.819	0.811	0.813	0.812	0.85
41)	un	C2-Phenanthrene/Anthr	0.801	0.816	0.819	0.811	0.813	0.812	0.85
42)	un	C3-Phenanthrene/Anthr	0.801	0.816	0.819	0.811	0.813	0.812	0.85

(#) = Out of Range

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:31 2006
Response via : Initial Calibration

Calibration Files
1 =MS30323D.D 2 =MS30323E.D 3 =MS30323F.D
4 =MS30323G.D 5 =MS30323H.D

		Compound	1	2	3	4	5	Avg	%RSD
43)	un	C4-Phenanthrene/Anthr	0.801	0.816	0.819	0.811	0.813	0.812	0.85
44)	T	Naphthobenzothiophene	0.888	0.939	1.043	1.072	1.015	0.991	7.66
45)	un	C1-Naphthobenzothioph	0.888	0.939	1.043	1.072	1.015	0.991	7.66
46)	un	C2-Naphthobenzothioph	0.888	0.939	1.043	1.072	1.015	0.991	7.66
47)	un	C3-Naphthobenzothioph	0.888	0.939	1.043	1.072	1.015	0.991	7.66
48)	T	Fluoranthene	1.058	1.130	1.246	1.298	1.242	1.195	8.20
49)	T	Pyrene	0.977	1.052	1.102	1.120	1.143	1.079	6.10
50)	un	C1-Fluoranthenes/Pyre	1.058	1.130	1.246	1.298	1.242	1.195	8.20
51)	un	C2-Fluoranthenes/Pyre	1.058	1.130	1.246	1.298	1.242	1.195	8.20
52)	un	C3-Fluoranthenes/Pyre	1.058	1.130	1.246	1.298	1.242	1.195	8.20
53)	S	Chrysene-d12	0.793	0.824	0.957	0.971	0.870	0.883	8.96
54)	T	Benz(a)anthracene	0.892	1.019	1.106	1.140	1.044	1.040	9.22
55)	T	Chrysene	0.794	0.833	0.854	0.906	0.952	0.868	7.19
56)	un	C1-Chrysenes	0.794	0.833	0.854	0.906	0.952	0.868	7.19
57)	un	C2-Chrysenes	0.794	0.833	0.854	0.906	0.952	0.868	7.19
58)	un	C3-Chrysenes	0.794	0.833	0.854	0.906	0.952	0.868	7.19
59)	un	C4-Chrysenes	0.794	0.833	0.854	0.906	0.952	0.868	7.19
60)	I	Benzo(a)pyrene-d12	----------ISTD----------						
61)	un	C29-Hopane	0.665	0.655	0.701	0.722	0.654	0.679	4.47
62)	un	18a-Oleanane	0.665	0.655	0.701	0.722	0.654	0.679	4.47
63)	T	C30-Hopane	0.665	0.655	0.701	0.722	0.654	0.679	4.47
64)	T	Benzo(b)fluoranthene	1.588	1.776	1.989	1.786	1.807	1.789	7.95
65)	T	Benzo(k)fluoranthene	1.354	1.592	1.635	1.513	1.611	1.541	7.40
66)	T	Benzo(e)pyrene	1.431	1.492	1.650	1.563	1.602	1.548	5.64
67)	T	Benzo(a)pyrene	1.270	1.445	1.468	1.406	1.524	1.423	6.70
68)	T	Indeno(1,2,3-c,d)pyre	0.978	1.113	1.232	1.213	1.254	1.158	9.84
69)	T	Dibenzo(a,h)anthracen	0.916	1.064	1.158	1.144	1.225	1.102	10.75
70)	un	C1-Dibenzo(a,h)anthra	0.916	1.064	1.158	1.144	1.225	1.102	10.75
71)	un	C2-Dibenzo(a,h)anthra	0.916	1.064	1.158	1.144	1.225	1.102	10.75
72)	un	C3-Dibenzo(a,h)anthra	0.916	1.064	1.158	1.144	1.225	1.102	10.75
73)	T	Benzo(g,h,i)perylene	1.034	1.155	1.248	1.186	1.246	1.174	7.46
74)	S	Perylene-d12	0.694	0.785	0.826	0.823	0.847	0.795	7.62
75)	T	Perylene	1.277	1.499	1.515	1.486	1.607	1.477	8.22

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323D.D
Acq On : 6 Nov 2006 5:31 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.85	176	3821m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	9251m	49.98		0.00
60) Benzo(a)pyrene-d12	37.63	264	5240m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.23	136	2628m	25.96		0.00
20) Acenaphthene-d10	19.05	164	1456m	25.29		0.00
30) Phenanthrene-d10	24.11	188	2141	10.02		0.00
53) Chrysene-d12	33.17	240	2934m	18.81		0.00
74) Perylene-d12	37.91	264	1595	17.51		0.00
Target Compounds						Qvalue
3) Decalin	10.59	138	636m	34.96	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	3271m	30.37		
9) 2-Methylnaphthalene	15.54	142	2071m	26.41		
10) 1-Methylnaphthalene	15.87	142	1772m	26.25		
11) 2,6-Dimethylnaphthalene	17.65	156	1661m	26.39		
12) 1,6,7-Trimethylnaphthalene	20.49	170	1450m	20.26		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.46	134	2366m	25.70	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.11	154	2179m	20.92		
22) Acenaphthylene	18.57	152	2663m	20.26		
23) Acenaphthene	19.17	154	1657m	23.32		
24) Dibenzofuran	19.76	168	2680m	22.38	ng/ml	
25) Fluorene	20.94	166	2123m	25.53		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	236m	18.67	ng/ml	
32) Carbazole	24.95	167	3246m	15.70	ng/ml	
33) Dibenzothiophene	23.78	184	3349m	13.59		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

000041

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323D.D
Acq On : 6 Nov 2006 5:31 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.21	178	2971m	9.86		
38)	Anthracene	24.38	178	3513m	15.48		
39)	1-Methylphenanthrene	26.34	192	2502m	12.64		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	3291m	18.90		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	3927m	17.27		
49)	Pyrene	29.06	202	3626m	12.58		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	3309m	19.14		
55)	Chrysene	33.28	228	2945m	13.37		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.10	191	1529	16.08	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	3653	21.05		
65)	Benzo(k)fluoranthene	36.71	252	3119	16.81		
66)	Benzo(e)pyrene	37.52	252	3297	20.80		
67)	Benzo(a)pyrene	37.70	252	2923	22.43		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	2253	25.96		
69)	Dibenzo(a,h)anthracene	42.26	278	2109	23.17		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	2381	27.53		
75)	Perylene	37.98	252	2940	22.13		

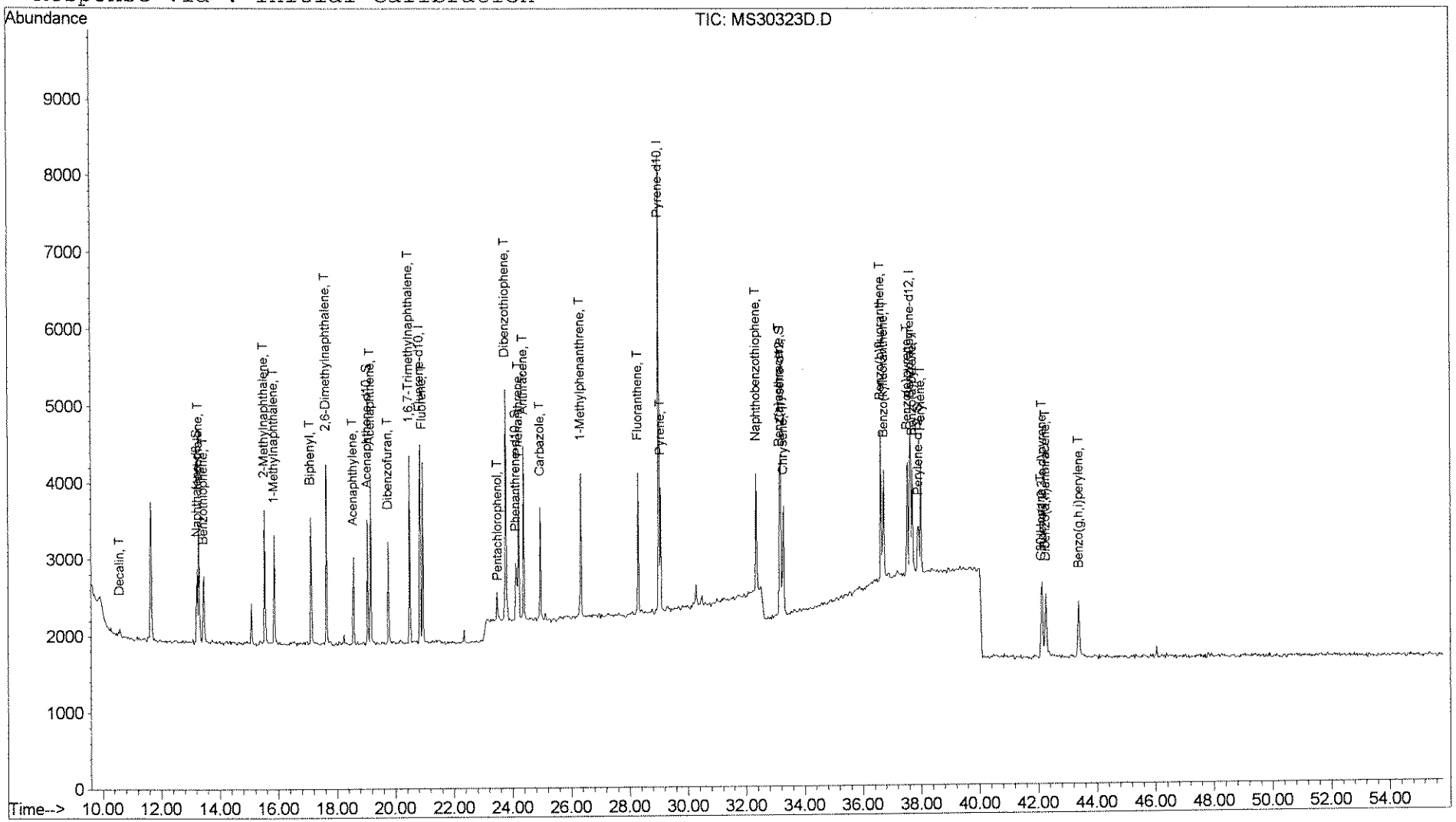
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323D.D
Acq On : 6 Nov 2006 5:31 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



000043

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323E.D
Acq On : 6 Nov 2006 6:34 pm
Sample : Cal Level 2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 42
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	3572m	51.08 ng/ml	-0.02
29) Pyrene-d10	29.00	212	9017m	49.98	0.00
60) Benzo(a)pyrene-d12	37.63	264	4947m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.23	136	13177m	139.22	0.00
20) Acenaphthene-d10	19.06	164	7399m	137.47	0.00
30) Phenanthrene-d10	24.11	188	11495m	55.22	0.00
53) Chrysene-d12	33.17	240	14865m	97.75	0.00
74) Perylene-d12	37.88	264	8515m	99.03	-0.03
Target Compounds					Qvalue
3) Decalin	10.59	138	3147m	185.02 ng/ml	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.29	128	15389m	152.83	
9) 2-Methylnaphthalene	15.54	142	10212m	139.28	
10) 1-Methylnaphthalene	15.88	142	8693m	137.76	
11) 2,6-Dimethylnaphthalene	17.65	156	8832m	150.10	
12) 1,6,7-Trimethylnaphthalene	20.49	170	7843m	117.22	
13) C2-Naphthalenes	0.00	156	0	N.D. d	
14) C3-Naphthalenes	0.00	170	0	N.D. d	
15) C4-Naphthalenes	0.00	184	0	N.D. d	
16) Benzothiophene	13.46	134	12054m	140.04 ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	17.12	154	11695m	120.14	
22) Acenaphthylene	18.55	152	13642m	111.05	
23) Acenaphthene	19.17	154	8656m	130.29	
24) Dibenzofuran	19.76	168	13602m	121.50 ng/ml	
25) Fluorene	20.94	166	11012m	141.64	
26) C1-Fluorenes	0.00	180	0	N.D. d	
27) C2-Fluorenes	0.00	194	0	N.D. d	
28) C3-Fluorenes	0.00	208	0	N.D. d	
31) Pentachlorophenol	23.51	266	1118m	90.75 ng/ml	
32) Carbazole	24.96	167	16582m	82.27 ng/ml	
33) Dibenzothiophene	23.78	184	15995m	66.57	
34) C1-Dibenzothiophene	0.00	198	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323E.D
Acq On : 6 Nov 2006 6:34 pm
Sample : Cal Level 2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 42
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36) C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37) Phenanthrene	24.21	178	14763m	50.26		
38) Anthracene	24.38	178	18072m	81.69		
39) 1-Methylphenanthrene	26.34	192	13208m	68.47		
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44) Naphthobenzothiophene	32.33	234	16965m	99.98		
45) C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48) Fluoranthene	28.29	202	20430m	92.16		
49) Pyrene	29.07	202	19015m	67.69		
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54) Benz(a)anthracene	33.14	228	18422m	109.30		
55) Chrysene	33.28	228	15064m	70.17		
56) C1-Chrysenes	0.00	242	0	N.D.	d	
57) C2-Chrysenes	0.00	256	0	N.D.	d	
58) C3-Chrysenes	0.00	270	0	N.D.	d	
59) C4-Chrysenes	0.00	284	0	N.D.	d	
61) C29-Hopane	0.00	191	0	N.D.	d	
62) 18a-Oleanane	0.00	191	0	N.D.	d	
63) C30-Hopane	42.10	191	7107m	79.17	ng/ml	
64) Benzo(b)fluoranthene	36.60	252	19283m	117.67		
65) Benzo(k)fluoranthene	36.71	252	17311m	98.80		
66) Benzo(e)pyrene	37.52	252	16220m	108.37		
67) Benzo(a)pyrene	37.70	252	15696m	127.58		
68) Indeno(1,2,3-c,d)pyrene	42.13	276	12093m	147.57		
69) Dibenzo(a,h)anthracene	42.26	278	11559m	134.52		
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73) Benzo(g,h,i)perylene	43.37	276	12553m	153.71		
75) Perylene	37.98	252	16285m	129.85		

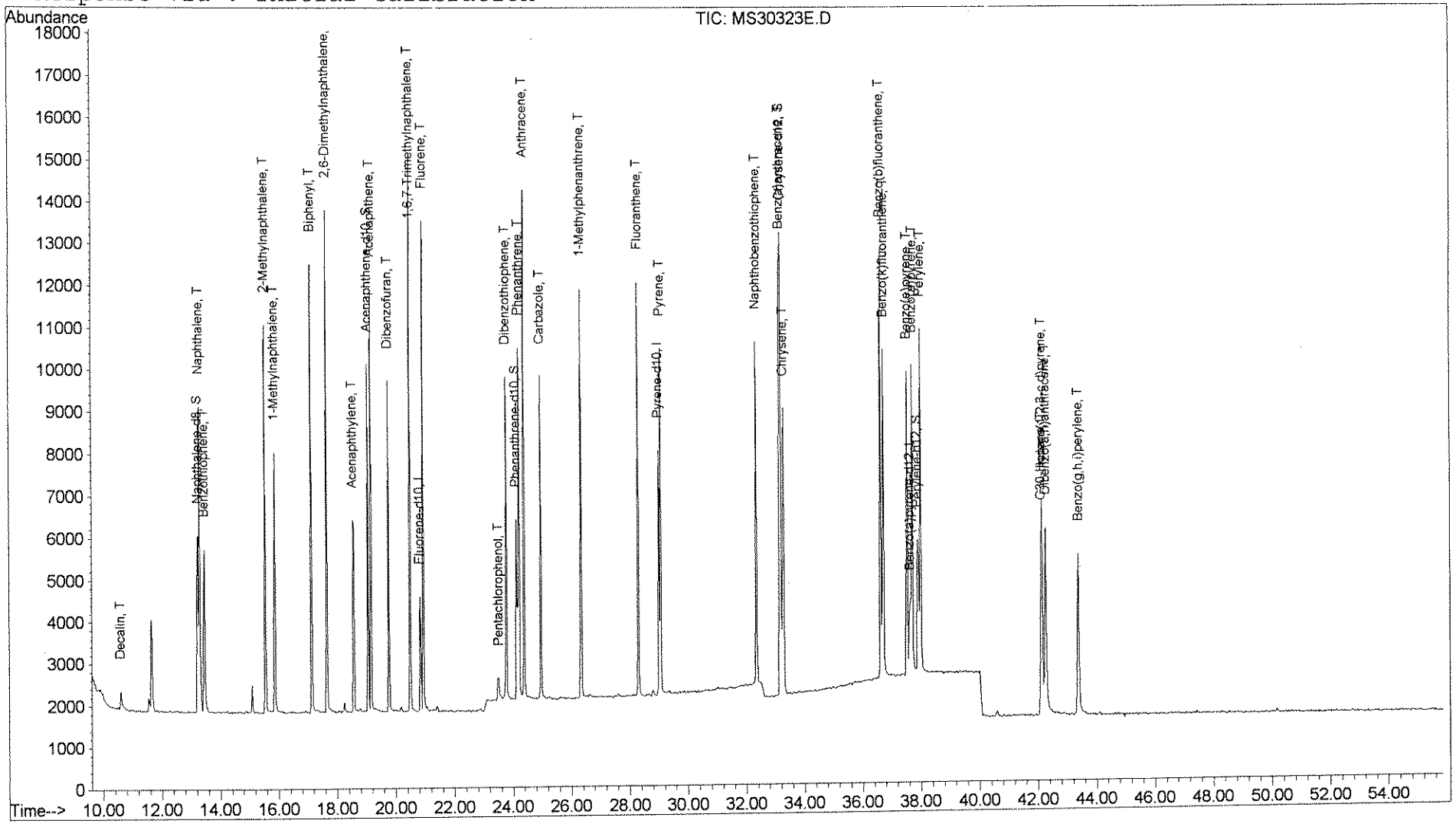
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323E.D
Acq On : 6 Nov 2006 6:34 pm
Sample : Cal Level 2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 42
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



970006

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323F.D Vial: 43
Acq On : 6 Nov 2006 7:38 pm Operator: TJM
Sample : Cal Level 3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006 Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	3402m	51.08 ng/ml	-0.02
29) Pyrene-d10	29.00	212	7992m	49.98	0.00
60) Benzo(a)pyrene-d12	37.63	264	4398m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.21	136	32531m	360.89	-0.02
20) Acenaphthene-d10	19.06	164	17135m	334.27	0.00
30) Phenanthrene-d10	24.11	188	26645m	144.41	0.00
53) Chrysene-d12	33.17	240	38263m	283.88	0.00
74) Perylene-d12	37.88	264	19924m	260.64	-0.03
Target Compounds					Qvalue
3) Decalin	10.59	138	7019m	433.30 ng/ml	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.29	128	35672m	371.96	
9) 2-Methylnaphthalene	15.54	142	25419m	364.01	
10) 1-Methylnaphthalene	15.88	142	20647m	343.56	
11) 2,6-Dimethylnaphthalene	17.65	156	21525m	384.10	
12) 1,6,7-Trimethylnaphthalene	20.49	170	19502m	306.03	
13) C2-Naphthalenes	0.00	156	0	N.D. d	
14) C3-Naphthalenes	0.00	170	0	N.D. d	
15) C4-Naphthalenes	0.00	184	0	N.D. d	
16) Benzothiophene	13.43	134	29290m	357.29 ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	17.12	154	29351m	316.57	
22) Acenaphthylene	18.55	152	33048m	282.46	
23) Acenaphthene	19.17	154	19946m	315.23	
24) Dibenzofuran	19.76	168	33395m	313.22 ng/ml	
25) Fluorene	20.94	166	24731m	333.99	
26) C1-Fluorenes	0.00	180	0	N.D. d	
27) C2-Fluorenes	0.00	194	0	N.D. d	
28) C3-Fluorenes	0.00	208	0	N.D. d	
31) Pentachlorophenol	23.51	266	2512m	230.05 ng/ml	
32) Carbazole	24.96	167	36356m	203.51 ng/ml	
33) Dibenzothiophene	23.78	184	39847m	187.12	
34) C1-Dibenzothiophene	0.00	198	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

000047

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323F.D
Acq On : 6 Nov 2006 7:38 pm
Sample : Cal Level 3
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 43
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36) C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37) Phenanthrene	24.21	178	32796m	125.98		
38) Anthracene	24.38	178	42696m	217.76		
39) 1-Methylphenanthrene	26.34	192	28549m	166.97		
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44) Naphthobenzothiophene	32.33	234	41645m	276.90		
45) C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48) Fluoranthene	28.29	202	49928m	254.10		
49) Pyrene	29.07	202	44140m	177.29		
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54) Benz(a)anthracene	33.14	228	44308m	296.59		
55) Chrysene	33.28	228	34222m	179.86		
56) C1-Chrysenes	0.00	242	0	N.D.	d	
57) C2-Chrysenes	0.00	256	0	N.D.	d	
58) C3-Chrysenes	0.00	270	0	N.D.	d	
59) C4-Chrysenes	0.00	284	0	N.D.	d	
61) C29-Hopane	0.00	191	0	N.D.	d	
62) 18a-Oleanane	0.00	191	0	N.D.	d	
63) C30-Hopane	42.10	191	16898m	211.74	ng/ml	
64) Benzo(b)fluoranthene	36.60	252	48006m	329.51		
65) Benzo(k)fluoranthene	36.71	252	39505m	253.62		
66) Benzo(e)pyrene	37.52	252	39889m	299.78		
67) Benzo(a)pyrene	37.70	252	35442m	324.04		
68) Indeno(1,2,3-c,d)pyrene	42.13	276	29764m	408.56		
69) Dibenzo(a,h)anthracene	42.26	278	27966m	366.09		
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73) Benzo(g,h,i)perylene	43.37	276	30150m	415.28		
75) Perylene	37.98	252	36581m	328.09		

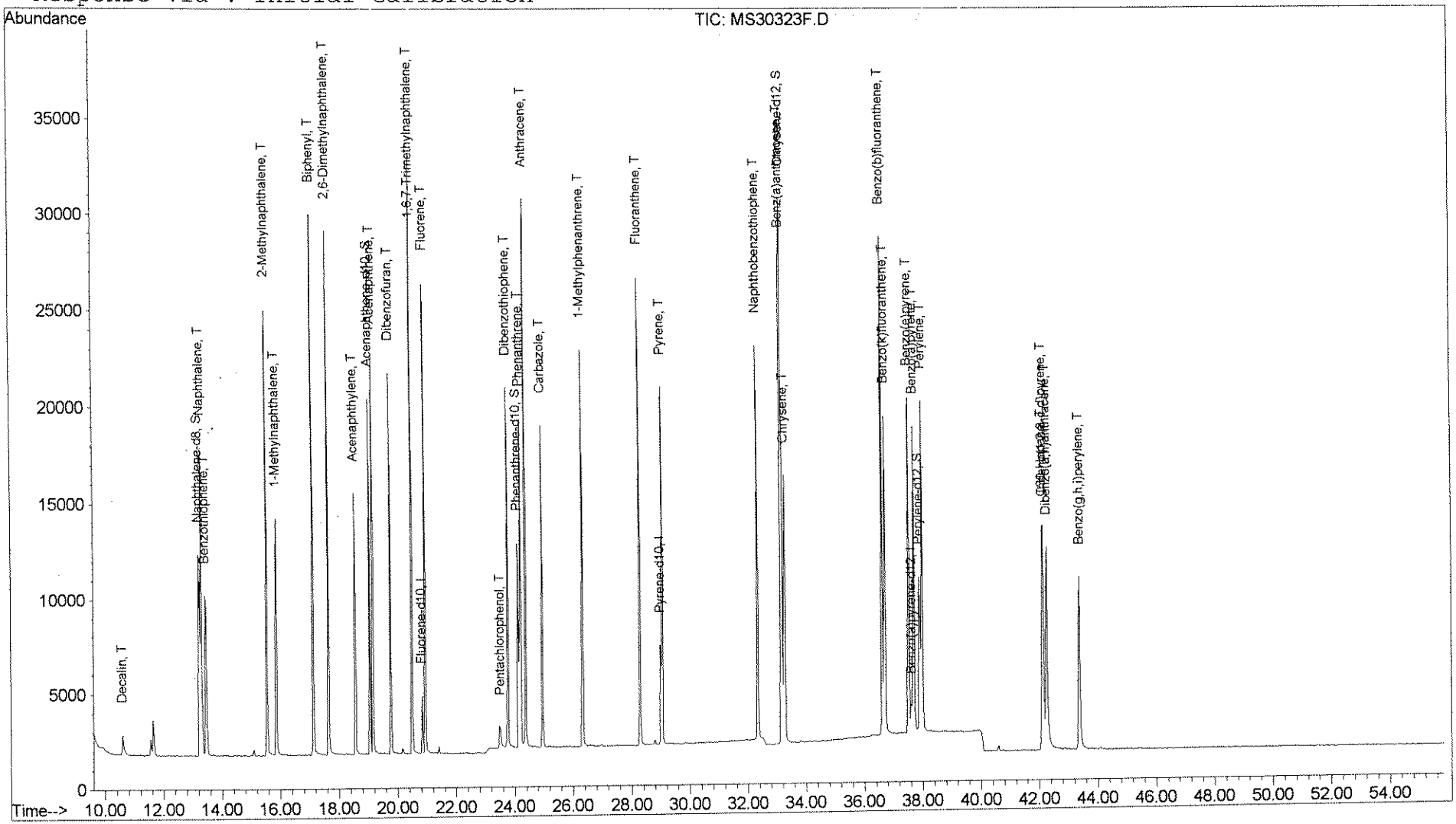
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323F.D
Acq On : 6 Nov 2006 7:38 pm
Sample : Cal Level 3
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:49 2006

Vial: 43
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323G.D
Acq On : 6 Nov 2006 8:42 pm
Sample : Cal Level 4
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 44
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	3125m	51.08	ng/ml	-0.03
29) Pyrene-d10	29.00	212	7559m	49.98		0.00
60) Benzo(a)pyrene-d12	37.63	264	4612m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.23	136	59554m	719.23		0.00
20) Acenaphthene-d10	19.05	164	34160m	725.46		0.00
30) Phenanthrene-d10	24.11	188	51999m	297.96		0.00
53) Chrysene-d12	33.17	240	73427m	575.97		0.00
74) Perylene-d12	37.88	264	41593m	518.86		-0.03
Target Compounds						Qvalue
3) Decalin	10.59	138	13125m	882.05	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	69131m	784.74		
9) 2-Methylnaphthalene	15.54	142	47870m	746.29		
10) 1-Methylnaphthalene	15.88	142	39165m	709.46		
11) 2,6-Dimethylnaphthalene	17.65	156	41091m	798.25		
12) 1,6,7-Trimethylnaphthalene	20.49	170	35407m	604.87		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.46	134	55576m	738.02	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.11	154	53187m	624.51		
22) Acenaphthylene	18.55	152	63258m	588.58		
23) Acenaphthene	19.17	154	39326m	676.60		
24) Dibenzofuran	19.76	168	60911m	621.93	ng/ml	
25) Fluorene	20.94	166	50122m	736.89		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	5116m	495.37	ng/ml	
32) Carbazole	24.96	167	72309m	427.95	ng/ml	
33) Dibenzothiophene	23.78	184	69912m	347.11		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

000050

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323G.D
Acq On : 6 Nov 2006 8:42 pm
Sample : Cal Level 4
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 44
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D. d	
36) C3-Dibenzothiophene	0.00	226	0	N.D. d	
37) Phenanthrene	24.21	178	61481m	249.69	
38) Anthracene	24.38	178	82158m	443.02	
39) 1-Methylphenanthrene	26.34	192	56134m	347.11	
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44) Naphthobenzothiophene	32.33	234	81154m	570.50	
45) C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48) Fluoranthene	28.29	202	98374m	529.34	
49) Pyrene	29.07	202	84856m	360.35	
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54) Benz(a)anthracene	33.14	228	86426m	611.67	
55) Chrysene	33.28	228	68708m	381.79	
56) C1-Chrysenes	0.00	242	0	N.D. d	
57) C2-Chrysenes	0.00	256	0	N.D. d	
58) C3-Chrysenes	0.00	270	0	N.D. d	
59) C4-Chrysenes	0.00	284	0	N.D. d	
61) C29-Hopane	0.00	191	0	N.D. d	
62) 18a-Oleanane	0.00	191	0	N.D. d	
63) C30-Hopane	42.10	191	36481m	435.92 ng/ml	
64) Benzo(b)fluoranthene	36.60	252	90432m	591.92	
65) Benzo(k)fluoranthene	36.71	252	76657m	469.31	
66) Benzo(e)pyrene	37.52	252	79223m	567.76	
67) Benzo(a)pyrene	37.70	252	71194m	620.72	
68) Indeno(1,2,3-c,d)pyrene	42.13	276	61439m	804.22	
69) Dibenzo(a,h)anthracene	42.26	278	57949m	723.39	
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73) Benzo(g,h,i)perylene	43.37	276	60065m	788.93	
75) Perylene	37.98	252	75276m	643.81	

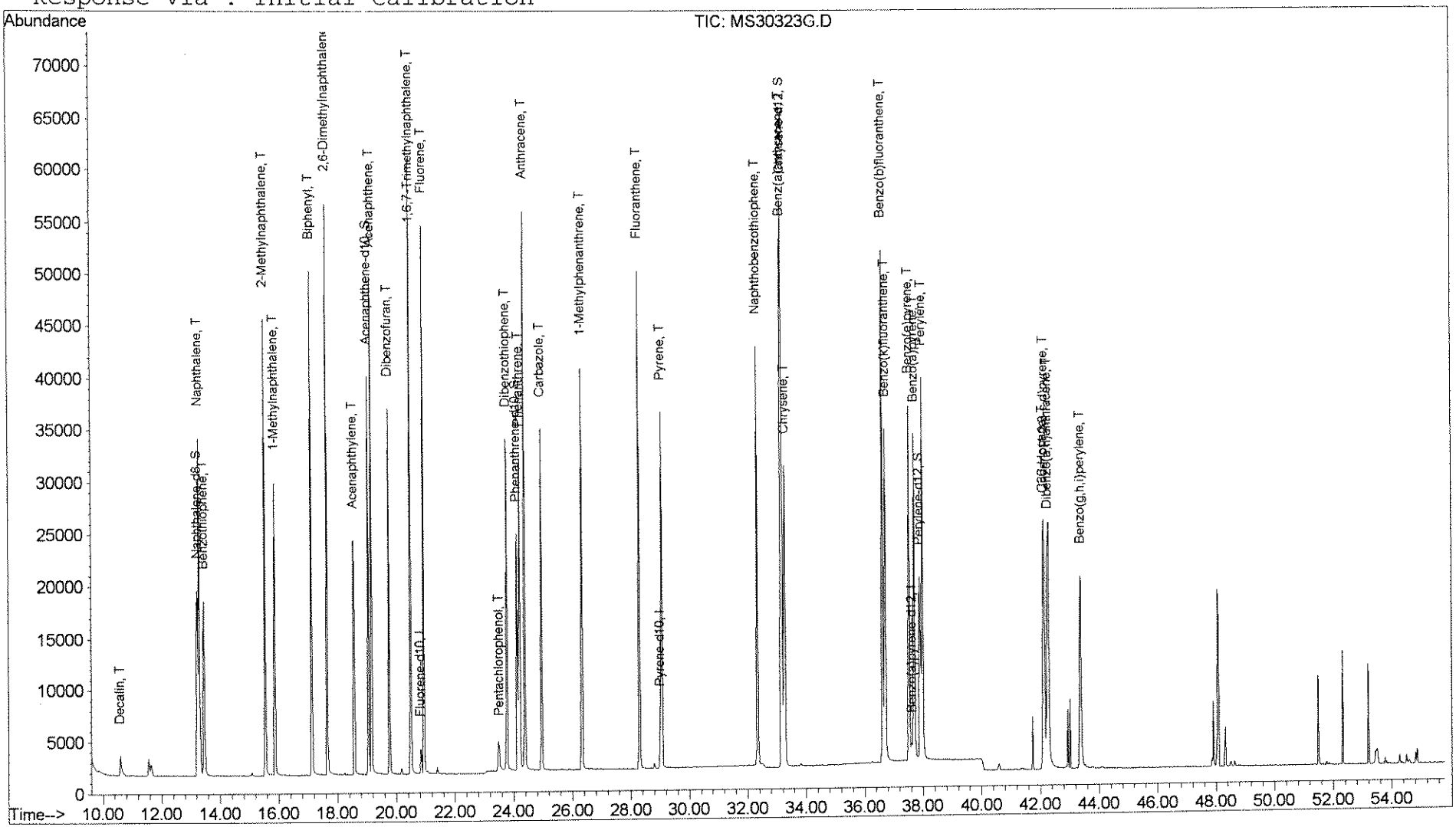
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323G.D
Acq On : 6 Nov 2006 8:42 pm
Sample : Cal Level 4
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 44
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323H.D
Acq On : 6 Nov 2006 9:46 pm
Sample : Cal Level 5
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 45
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	3217m	51.08	ng/ml	-0.03
29) Pyrene-d10	29.00	212	7416m	49.98		0.00
60) Benzo(a)pyrene-d12	37.63	264	4368m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	112455m	1319.28		-0.03
20) Acenaphthene-d10	19.05	164	63931m	1318.87		0.00
30) Phenanthrene-d10	24.11	188	99617m	581.82		0.00
53) Chrysene-d12	33.17	240	129157m	1032.65		0.00
74) Perylene-d12	37.88	264	81083m	1067.99		-0.04
Target Compounds						Qvalue
3) Decalin	10.59	138	24091m	1572.71	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.29	128	128178m	1413.41		
9) 2-Methylnaphthalene	15.54	142	88800m	1344.80		
10) 1-Methylnaphthalene	15.88	142	75733m	1332.64		
11) 2,6-Dimethylnaphthalene	17.65	156	76305m	1439.93		
12) 1,6,7-Trimethylnaphthalene	20.49	170	69572m	1154.54		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.46	134	105679m	1363.23	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.11	154	99876m	1139.19		
22) Acenaphthylene	18.55	152	119730m	1082.17		
23) Acenaphthene	19.17	154	72717m	1215.31		
24) Dibenzofuran	19.76	168	118304m	1173.40	ng/ml	
25) Fluorene	20.94	166	93260m	1331.90		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	10927m	1078.43	ng/ml	
32) Carbazole	24.95	167	138104m	833.11	ng/ml	
33) Dibenzothiophene	23.78	184	140031m	708.65		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30323\MS30323H.D
Acq On : 6 Nov 2006 9:46 pm
Sample : Cal Level 5
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 45
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 110706.RES

Quant Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:01:58 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.21	178	120864m	500.32		
38)	Anthracene	24.38	178	161342m	886.79		
39)	1-Methylphenanthrene	26.34	192	106075m	668.56		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	150522m	1078.56		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	184804m	1013.59		
49)	Pyrene	29.06	202	169959m	735.67		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	155267m	1120.07		
55)	Chrysene	33.28	228	141676m	802.44		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.10	191	62603m	789.85	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	173249m	1197.35		
65)	Benzo(k)fluoranthene	36.71	252	154676m	999.85		
66)	Benzo(e)pyrene	37.52	252	153867m	1164.30		
67)	Benzo(a)pyrene	37.70	252	146182m	1345.71		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	120314m	1662.84		
69)	Dibenzo(a,h)anthracene	42.26	278	117532m	1549.13		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	119543m	1657.85		
75)	Perylene	37.98	252	154239m	1392.85		

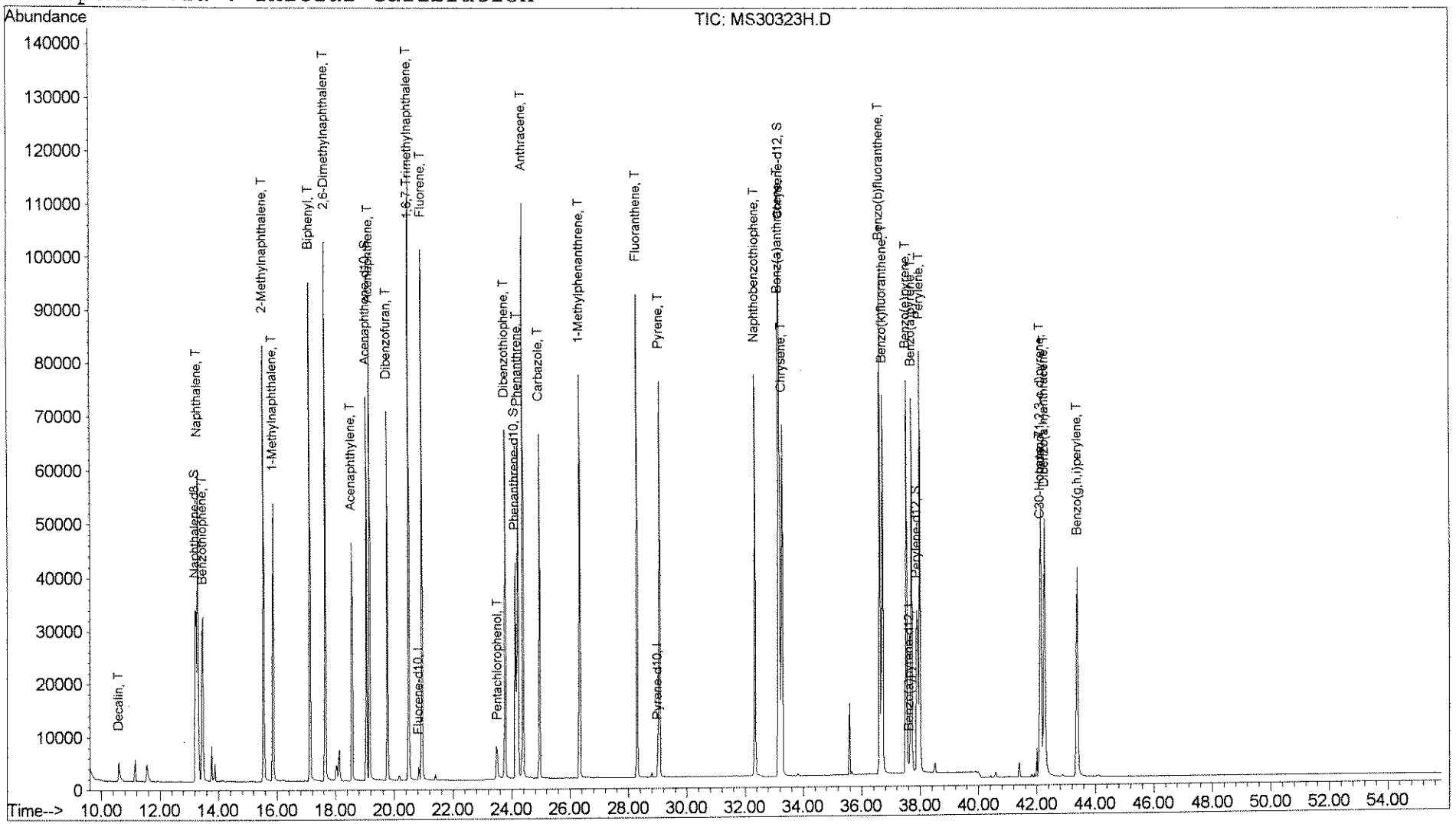
(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30323\MS30323H.D
Acq On : 6 Nov 2006 9:46 pm
Sample : Cal Level 5
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 7 7:50 2006

Vial: 45
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 110706.RES

Method : Z:\1\METHODS\110706.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Tue Nov 07 07:52:32 2006
Response via : Initial Calibration



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J04406 Date Received: 10/28/06 SDG#: 06102801

Sender: Geoinsight Kevin Trainer

1. Number of Shipping Containers: 1

Comments:

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

Airbill Number: 7915 7501 7354 Comments:

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

4. Chain of Custody Records? No (Yes) Comments

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

Temperature/Comments: 12.0°C

6. List of Broken Containers:

7. Number of Samples Expected: 0 Number of Samples Received: 1 tarhard asphalt?

8. Problems/Discrepancies:

9. Resolutions:

10. Checked in by: Darrell Grant Date: 10/28/06

From: Origin ID: (978)692-1114
Giovanna Thomasian
GEOINSIGHT
5 LAN DRIVE, STE 200

WESTFORD, MA 01886

FedEx Express

CLS 180386/19/23

Ship Date: 27OCT06
ActWgt: 2 LB
System#: 3590926/INET2500
Account#: S *********

REF: 3871-002-06 KDT

Delivery Address Bar Code

SHIP TO: (979)693-3446 **BILL SENDER**

B & B Laboratories, Inc. xxx
TDI-Brooks International Inc.
1902 Pinon Dr.

College Station, TX 77845

##
PRIORITY SATURDAY
##

TRK# 7915 7501 7354 FORM 0201

Deliver By: 28OCT06

IAH AA

77845 -TX-US

X0 CLLA

12°C

Shipping Label: Your shipment is complete

1. Use the 'Print' feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

000059

CHAIN OF CUSTODY RECORD

con-test ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

39 SPRUCE ST, 2ND FLOOR
EAST LONGMEADOW, MA 01028

Company Name: GeoInsight, Inc.
Address: 5 Lan Drive, Suite 200
Westford, MA 01886
Attention: Kevin Trainer
Project Location: B120 spill Buzzards Bay
Sampled By: Kevin Trainer

Telephone: (978) 692-1114
Project # 3871-002
Client PO # 3871-002

DATA DELIVERY (check one):
❒FAX ❒EMAIL ❒WEBSITE CLIENT
Fax # :
Email:
Format: ❒ EXCEL ❒ PDF ❒ GIS KEY

Proposal Provided? (For Billing purposes)
❒ yes _____ proposal date

Field ID	Sample Description	Lab #	Date Sampled: Start Date/Time	Date Sampled: Stop Date/Time	Composite	Grab	*Matrix Code	# of containers	**Preservation	~Cont.Code	Petroleum Fingerprint	ANALYSIS REQUESTED
	W2B-03-S2		10/25/06 4:50pm	→		X					✓	

~Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

Comments:

Relinquished by: (signature)	Date/Time: 10/27/06 2:50pm
Received by: (signature)	Date/Time: 10/28/06 11:00am
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround
❒ 24 Hour*
❒ 48 Hour*
❒ 72 Hour*
❒ Std.
❒ Other*
_____ Date needed**
*Require lab approval.

Detection Limit Requirements
Regulations? _____
Data Enhancement Project? ❒ Y ❒ N
(MA MCP sites only)
Special Requirements or DL's: _____

***Matrix Code:**
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

****Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
O = Other_____
X = Na hydroxide
T = Na thiosulfate

090003

Con-Test Laboratory is the ONLY independent laboratory in all of New England with both prestigious AIHA and NELAC Certifications!

Delivered-To: donellfrank@tdi-bi.com
X-Spam-Checker-Version: SpamAssassin 3.1.3 (2006-06-01) on localhost
X-Spam-Level: **
X-Spam-Status: No, score=2.0 required=9.5 tests=FORGED_RCVD_HELO autolearn=no
version=3.1.3
X-Virus-Scan: Scanned by clamdmail 0.15 (no viruses);
Tue, 31 Oct 2006 08:22:56 -0600
X-Sender: tommcdonald@tdi-bi.com@mail.tdi-bi.com
X-Mailer: QUALCOMM Windows Eudora Version 5.2.0.9
Date: Tue, 31 Oct 2006 08:24:23 -0600
To: DonellFrank@TDI-BI.com,juanramirez@tdi-bi.com,yiweimiao@tdi-bi.com
From: Tom McDonald <tommcdonald@tdi-bi.com>
Subject: Re: Geoinsight sample

Hi Donell: It is okay to give the sample its own job number or default back to the Geoinsight Project. Yiwei please run this product for PAHs. Tommy

At 02:24 PM 10/30/2006 -0600, Donell Frank wrote:

> Tommy,
>
> We received 1 cooler on Saturday from Geoinsight which contained 1 sample. This is not part of Entrix is it? Juan called Kevin Trainer and he said that this is his project and data goes to him. I'm confused because the last time these geoinsight samples came in I put them under the Entrix Buzzards Bay project. Should these have gone under their own project or can I still put them under the J03318 project? The previous samples that we received last year were sent by Groundwater analytical but were actually geoinsight. Then we received samples from geoinsight and I put them under their own job number. So I am totally confused about these samples. That's all.
>
> Donell

Environmental Sample Inventory

Log #	JOB#	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	ANALYSIS	MATRIX	COMMENTS	B&B SDG	Client Project #
41351	J04406	GeoInsight, Inc.	GEO0047	W2B-03-S2	10/25/06	10/28/06	PAH	OTHER	Tar ball, asphalt?	06102801	3871-002

290000

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J04406

SDG: 06102801

Client: Geomatrix

Initiation Date: 10/31/06

Number of Samples: 1

Matrix: tar ball

Due Date: _____

Comments: _____

Analyses

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

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

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

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): PAH Volume(s): 100

Spike Standard(s): _____ Volume(s): ---

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

Final Extract Volume (ml): ~1 Final Solvent: DCM

Comments:

Sample Custodian Signature: _____ Date: 10/31/06

Project Administrator Signature: _____ Date: 11/2/06

cc: COC Book
Extraction Lab

Extraction Standard Inventory

Organophosphates (OPs)

- ☐ OP-WKSU-0050-006 (Surrogate)
- ☐ OP-WKSK-TPT-006 (Surrogate)
- ☐ OP-WKIS-0100-006 (Int STD)

Aliphatic Hydrocarbons (ALI/TPH)

- ☐ AL-WKSU-20-008 (Surrogate)
- ☐ AL-WKSK-100-009 (Spike)
- ☐ AL-WKIS-200-006 (Int STD)
- ☐ AL-STSU-200-007 **(High Surrogate)**
- ☐ AL-WKIS-2000-007 **(High Int STD)**

Polycyclic Aromatic Hydrocarbons (PAHs)

- ☐ AR-WKSU-0500-016 (Surrogate)
- ☐ AR-WKSK-1000-013 (Spike)
- ☐ AR-WKIS-0500-010 (Int STD)
- ☐ AR-STSU-5000-009 **(High Surrogate)**
- ☐ AR-STIS-5000-007 **(High Int STD)**

Organochlorine Pesticides/PCBs (OCs/PCBs)

- ☐ OC-WKSU-1000-009 (Surrogate)
- ☐ OC-WKSK-0400-007 (Spike)
- ☐ OC-WKDDMU-928.8-001 (Spike)
- ☐ OC-WKIS-1000-007 (Int STD)
- ☐ PEST-WKSU-1000-002 (Surrogate) *(Epsilon-HCH)*

Polychlorinated Biphenyls (PCBs by GC/MS)

- ☐ PCB-WKSU-008-006 (Surrogate)
- ☐ PCB-INTAroclor-100-001 (Spike)
- ☐ PCB-WKIS-010-006 (Int STD)

Polybrominated Diphenyl Ether (PBDEs) and Polybrominated Biphenyls (PBBs)

- ☐ PBDE-WKSU-1.0-005 (Surrogate)
- ☐ PBDE-WKSK-1-005 (Spike)
- ☐ PBDE-WKIS-1-003 (Int STD)
- ☐ PBB-WKSU-5.0-004 (Surrogate)
- ☐ PBB-WKSK-2500-001 (Spike)
- ☐ PBB-WKIS-5.0-003 (Int STD)

Linear Alkylbenzenes (LABs)

- ☐ LAB-WKSK-2500-002 (Spike)

Laboratory Bench Sheet Logs

B&B LABORATORIES EOM LOGBOOK

MATRIX	Job #: J04406	SDG #: 0610280 1	General comments:
X OTHER	Client: GeoInsight, Inc.		PAH: High 2S, SU
SEDIMENT			
WATER	Lab Manager	Transferred by Date/Int:	Date/Int: Bal. Cal.
Tarball ?	Date/Int: 10/31/06 YM	From ENV Pg: — From DRY Pg: —	10/31/06 YM

	Date/Int:
	10/31/06 YM

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Wt. of 100 µl EOM Wt. (mg)	EOM (Wet Wt. Basis)	EOM (Dry Wt. Basis)	Comments
1	GEO #847	W23-03-S2				1.705			PAH: 500 nL ⇒ 1000 nL
2						1.683	Ave.	1.693	PAH: 200 nL ⇒ 1000 nL
3						1.691			
4									
5									
6				10/31/06					
7				YM					
8									
9									
10									
11									
12									
13									
14									
15									
16									

990006

EOM Logs

EOM 215

B&B LABORATORIES EOM LOGBOOK

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Wt. of 100 µl EOM Wt. (mg)	EOM (Wet Wt. Basis)	EOM (Dry Wt. Basis)	Comments
17									
18									
19									
20									
21									
22									
23									
24									

10/31/06

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

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

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

Date/Int:	RPD

Sample: _____

Duplicate: _____

29000

Last Page

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

GeoInsight, Inc.
Buzzards Bay Spill Project
October 25, 2006 Collection Date

Determination of:
Polycyclic Aromatic Hydrocarbons in a Tar Ball Samples

(QC Batch EOM 218)

November 28, 2006

Technical Report 06-1781

GeoInsight, Inc.
Buzzards Bay Project
October 25, 2006 Collection Date
Table of Contents
B&B Laboratories
28-November-2006

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Polycyclic Aromatic Hydrocarbon Histograms	8
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Narrative

Technical Report 06-1781
GeoInsight, Inc.
Buzzards Bay Spill Project
Tar Ball Samples

November 28, 2006

Introduction

B&B Laboratories received one (1) ice chest that contained three (3) glass jars that contained tar ball samples that was sent on November 13, 2006 and arrived on November 14, 2006 at B&B Laboratories in College Station, Texas sealed and in good condition. The internal temperature of the cooler was 15.4°C. The tar ball samples were collected in support of the Buzzards Bay Spill Project (GeoInsight Project 3871-002). The tar ball samples were stored in an access-controlled refrigerator (4.0°C) until processing. The tar balls were analyzed for Polycyclic Aromatic Hydrocarbons (PAHs) by GC/MS-SIM.

The results for PAH and hopane are included in this report.

Analytical Methods

The analytical methods employed for PAH are listed in Table 1.

Table 1. Standard Operating Procedures for each analytical test.

Matrix	Extraction	PAH
Tar Ball	SW-846 3580A	B&B 1006

Data Reporting

The reporting units for each analyte are listed in Table 2. The method detection limits (MDL) for each analyte are listed in Table 3. Analytes that are detected below the method detection limit are qualified as "J". Analytes that are detected in the procedural blanks greater than 3X MDL are qualified with a "B". Analytical interference's that are detected in the sample are qualified with an "I". Analytes not detected in the samples are qualified with a "U". RPD for analytes in duplicate samples that are <2X 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.

Table 2. Analytical Reporting Units.

Matrix	PAH
Tar Ball	ng/mg

Table 3. Method Detection Limits.

PAH Unit of measure	Tar Ball RL ng/mg
Naphthalene	10
C1-Naphthalenes	10
C2-Naphthalenes	10
C3-Naphthalenes	10
C4-Naphthalenes	10
Benzothiophene	10
C1-Benzothiophenes	10
C2-Benzothiophenes	10
C3-Benzothiophenes	10
Biphenyl	10
Acenaphthylene	10
Acenaphthene	10
Dibenzofuran	10
Fluorene	10
C1-Fluorenes	10
C2-Fluorenes	10
C3-Fluorenes	10
Carbazole	10
Anthracene	10
Phenanthrene	10
C1-Phenanthrenes/Anthracenes	10
C2-Phenanthrenes/Anthracenes	10
C3-Phenanthrenes/Anthracenes	10
C4-Phenanthrenes/Anthracenes	10
Dibenzothiophene	10
C1-Dibenzothiophenes	10
C2-Dibenzothiophenes	10
C3-Dibenzothiophenes	10
Fluoranthene	10
Pyrene	10
C1-Fluoranthenes/Pyrenes	10
C2-Fluoranthenes/Pyrenes	10
C3-Fluoranthenes/Pyrenes	10
Benz(a)anthracene	10
Chrysene	10
C1-Chrysenes	10
C2-Chrysenes	10
C3-Chrysenes	10
C4-Chrysenes	10
Benzo(b)fluoranthene	10
Benzo(k)fluoranthene	10
Benzo(e)pyrene	10
Benzo(a)pyrene	10
Perylene	10
Indeno(1,2,3-c,d)pyrene	10
Dibenzo(a,h)anthracene	10
Benzo(g,h,i)perylene	10

PAH (Continued) Unit of measure	Tar Ball RL ng/mg
Individual Alkyl Isomers and Hopanes	
2-Methylnaphthalene	10
1-Methylnaphthalene	10
2,6-Dimethylnaphthalene	10
1,6,7-Trimethylnaphthalene	10
1-Methylphenanthrene	10
C29-Hopane	10
18a-Oleanane	10
C30-Hopane	10

Quality Assurance/Quality Control

Tar Ball

PAH

The quality assurance/quality control procedure for this program included a standard reference oil (NIST 1582) and a laboratory control solution that were analyzed with this data set. 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 the reference oil SRM and the laboratory control material is ± 15% the laboratory derived 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%, except d12-perylene.

Quality Assurance/Quality Control Variances

Tar Ball

PAH

Surrogate Recoveries

Observation

- No variances were observed.

Standard Reference Materials/Laboratory Control Materials

Observation

- No variances were observed.

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

Thomas J. McDonald
Project Manager

Susanne J. McDonald
Quality Officer

Sample/Analyses Description

B&B Laboratories
Project J04406
Report 06-1781

GeoInsight, Inc.
Buzzards Bay Spill Project
Tar Ball Sample
Sample Inventory

Client Project #3871-002

Laboratory File Number	Client Identification	Collection Date	Receive Date	Analysis	Matrix	Comments	B&B SDG	GeoInsight Project #
GEO0048	Exhibit A	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002
GEO0049	Exhibit B	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002
GEO0050	Exhibit 31	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002

200000

11/28/06

Product Samples

Polycyclic Aromatic Hydrocarbon Concentration

B&B Laboratories
Project J04406
Report 06-1781

GeoInsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Client Submitted Samples

Client Project #3871-002

Sample Name	GEO0048.D	GEO0049.D	GEO0050.D
Client Name	Exhibit A	Exhitbit B	Exhibit 31
Matrix	Tarball	Tarball	Tarball
Collection Date	10/25/06	10/25/06	10/25/06
Received Date	11/14/06	11/14/06	11/14/06
Extraction Date	11/21/06	11/21/06	11/21/06
Extraction Batch	EOM 218	EOM 218	EOM 218
Date Acquired	11/26/06	11/27/06	11/27/06
Method	PAH-2002	PAH-2002	PAH-2002
Sample Weight (mg)	14.8	22.1	19.3
Dilution	NA	NA	NA

Target Compounds	Su Corrected Conc. (ng/mg)	Q	Su Corrected Conc. (ng/mg)	Q	Su Corrected Conc. (ng/mg)	Q
Naphthalene	<10	U	3.6	J	<10	U
C1-Naphthalenes	<10	U	2.3	J	<10	U
C2-Naphthalenes	<10	U	5.7	J	<10	U
C3-Naphthalenes	<10	U	34.7		<10	U
C4-Naphthalenes	<10	U	35.8		<10	U
Benzothiophene	<10	U	<10	U	<10	U
C1-Benzothiophenes	<10	U	<10	U	<10	U
C2-Benzothiophenes	<10	U	<10	U	<10	U
C3-Benzothiophenes	<10	U	<10	U	<10	U
Biphenyl	<10	U	<10	U	<10	U
Acenaphthylene	<10	U	<10	U	<10	U
Acenaphthene	<10	U	5.4	J	<10	U
Dibenzofuran	<10	U	3.6	J	<10	U
Fluorene	<10	U	7.8	J	<10	U
C1-Fluorenes	<10	U	5.2	J	<10	U
C2-Fluorenes	<10	U	38.7		<10	U
C3-Fluorenes	<10	U	111		<10	U
Carbazole	<10	U	9.0	J	<10	U
Anthracene	0.3	J	13.1		<10	U
Phenanthrene	0.6	J	54.3		1.2	J
C1-Phenanthrene/Anthracenes	3.9	J	41.9		3.8	J
C2-Phenanthrene/Anthracenes	14.9		216		14.1	
C3-Phenanthrene/Anthracenes	23.9		446		17.3	
C4-Phenanthrene/Anthracenes	20.9		375		16.5	
Dibenzothiophene	<10	U	3.3	J	<10	U
C1-Dibenzothiophenes	4.4	J	19.5		3.0	J
C2-Dibenzothiophenes	18.7		120		10.0	
C3-Dibenzothiophenes	31.1		311		15.9	
Fluoranthene	1.2	J	48.0		1.5	J
Pyrene	2.5	J	107		2.9	J
C1-Fluoranthenes/Pyrenes	10.7		291		7.7	J
C2-Fluoranthenes/Pyrenes	18.5		492		11.1	
C3-Fluoranthenes/Pyrenes	20.9		422		11.3	
Naphthobenzothiophene	9.0	J	33.8		4.4	J
C1-Naphthobenzothiophenes	49.2		126		20.4	
C2-Naphthobenzothiophenes	86.9		241		37.3	
C3-Naphthobenzothiophenes	60.1		152		19.4	
Benz(a)anthracene	3.0	J	34.2		1.9	J
Chrysene	9.8	J	74.5		5.9	J
C1-Chrysenes	26.5		279		15.7	
C2-Chrysenes	51.9		393		30.5	
C3-Chrysenes	29.8		180		9.9	J
C4-Chrysenes	17.9		27.3		<10	U
Benzo(b)fluoranthene	3.7	J	28.9		2.2	J
Benzo(k)fluoranthene	1.0	J	11.3		0.4	J
Benzo(e)pyrene	7.5	J	53.2		4.9	J
Benzo(a)pyrene	2.6	J	42.1		1.7	J
Perylene	1.9	J	20.2		<10	U
Indeno(1,2,3-c,d)pyrene	1.7	J	20.9		0.7	J
Dibenzo(a,h)anthracene	1.0	J	9.1	J	<10	U
Benzo(g,h,i)perylene	3.2	J	39.8		3.0	J
Total PAHs	539		4989		275	
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	<10	U	1.9	J	<10	U
1-Methylnaphthalene	<10	U	1.8	J	<10	U
2,6-Dimethylnaphthalene	<10	U	2.0	J	<10	U
1,6,7-Trimethylnaphthalene	<10	U	1.9	J	<10	U
1-Methylphenanthrene	1.0	J	11.9		1.2	J
C29-Hopane	52.3		182		27.5	
18a-Oleanane	<10	U	50.5		<10	U
C30-Hopane	118		338		66.3	

Surrogate (Su)	Su Recovery (%)	Su Recovery (%)	Su Recovery (%)
Naphthalene-d8	97	99	99
Acenaphthene-d10	100	100	99
Phenanthrene-d10	98	98	99
Chrysene-d12	99	98	93
Perylene-d12	98	100	99

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Geoinsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Standard Reference Material Report

Sample Name	MS30333B.D
Client Name	SRM 1582
Matrix	Petroleum
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	EOM 218
Date Acquired	11/25/06
Method	PAH-2002
Sample Weight (g)	1.7

Target Compounds	Su Corrected Conc. (ug/g)	Q	RPD (%)	SRM 1582 Certified Conc. (ug/ g)	B&B Average	-15% Conc. (ug/g)	+15% Conc. (ug/g)
Naphthalene		154	6.0		145	123	167
C1-Naphthalenes		630	1.3		622	529	715
C2-Naphthalenes		1070	10.5		1189	1011	1367
C3-Naphthalenes		992	4.4		1037	881	1193
C4-Naphthalenes		688	9.2		754	641	867
Benzothiophene		10.3					
C1-Benzothiophenes		22.7					
C2-Benzothiophenes		80.8					
C3-Benzothiophenes		147					
Biphenyl		34.0	1.5		34.5	29.3	39.7
Acenaphthylene		<10 U					
Acenaphthene		21.0	10.5		18.9	16.1	21.7
Dibenzofuran		14.0					
Fluorene		40.5	12.3		35.8	30.4	41.2
C1-Fluorenes		136	3.0		132	112	152
C2-Fluorenes		260	1.6		256	218	294
C3-Fluorenes		260	7.2		242	206	278
Carbazole		11.7					
Anthracene		3.0 J					
Phenanthrene		118	7.2	100 ± 7.0	110	93.3	126
C1-Phenanthrene/Anthracenes		345	5.7		326	277	375
C2-Phenanthrene/Anthracenes		558	2.7		543	462	624
C3-Phenanthrene/Anthracenes		505	3.3		522	444	600
C4-Phenanthrene/Anthracenes		276	0.4		275	234	316
Dibenzothiophene		38.2	7.3	32.9 ± 1.7	35.5	30.2	40.8
C1-Dibenzothiophene		142	12.7		125	106	144
C2-Dibenzothiophene		252	2.0		257	218	296
C3-Dibenzothiophene		239	4.5		250	213	288
Fluoranthene		14.8					
Pyrene		10.8					
C1-Fluoranthenes/Pyrenes		72.2	4.8		68.8	58.5	79.1
C2-Fluoranthenes/Pyrenes		116	10.0		105	89.3	121
C3-Fluoranthenes/Pyrenes		88.9	4.0		85.4	72.6	98.2
Naphthobenzothiophene		37.9	4.9		39.8	33.8	45.8
C1-Naphthobenzothiophenes		61.2	3.8		58.9	50.1	67.7
C2-Naphthobenzothiophenes		76.6	1.9		78.1	66.4	89.8
C3-Naphthobenzothiophenes		51.2	7.5		55.2	46.9	63.5
Benz(a)anthracene		4.2 J					
Chrysene		22.0	1.8		21.6	18.4	24.8
C1-Chrysenes		72.3	5.5		68.4	58.1	78.7
C2-Chrysenes		134	6.9		125	106	144
C3-Chrysenes		84.6	4.5		88.5	75.2	102
C4-Chrysenes		<10 U					
Benzo(b)fluoranthene		1.7 J					
Benzo(k)fluoranthene		1.1 J					
Benzo(e)pyrene		3.8 J					
Benzo(a)pyrene		3.7 J					
Perylene		33.9	1.3	30.2± 1.7	33.5	28.4	38.5
Indeno(1,2,3-c,d)pyrene		3.5 J					
Dibenzo(a,h)anthracene		2.2 J					
Benzo(g,h,i)perylene		1.8 J					
Total PAHs		7947					
Selected Ratios							
D2/P2	0.452		4.7		0.473	0.402	0.544
D3/P3	0.473		1.2		0.479	0.407	0.551
D2/C2	1.881		8.9		2.056	1.748	2.364
D3/C3	2.825		0.0		2.825	2.401	3.249
FI-Py2/C2	0.866		3.0		0.840	0.714	0.966
FI-Py3/C3	1.051		8.5		0.965	0.820	1.110
Individual Alkyl Isomers and Hopane							
2-Methylnaphthalene		623	3.4		602	512	692
1-Methylnaphthalene		414	0.2		415	353	477
2,6-Dimethylnaphthalene		598	0.7		602	512	692
1,6,7-Trimethylnaphthalene		156	2.6		152	129	175
1-Methylphenanthrene		90.5	10.0		100	85.0	115
C29-Hopane		177					
18a-Oleanane		68.2					
C30-Hopane		315	7.9		291	239	323

Surrogate (Su)	Su Recovery (%)
Naphthalene-d8	94
Acenaphthene-d10	94
Phenanthrene-d10	94
Chrysene-d12	94
Perylene-d12	94

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Geoinsight, Inc.
Buzzards Bay Project
Polycyclic Aromatic Hydrocarbon Data
Laboratory Control Standard Report

Sample Name	MS30333I.D
Client Name	AR-WKCC-250-022
Matrix	Solution
Collection Date	NA
Received Date	NA
Extraction Date	NA
Extraction Batch	EOM 218
Date Acquired	11/25/06
Method	PAH-2002
Sample Volume (mL)	1

Target Compounds	Conc. (ng/ml)	Q	RPD (%)	LCS Certified Conc. Conc. (ng/ml)	-15% Conc. Conc. (ng/ml)	+15% Conc. Conc. (ng/ml)
Naphthalene	272		7.4	253	215	290
C1-Naphthalenes	NA					
C2-Naphthalenes	NA					
C3-Naphthalenes	NA					
C4-Naphthalenes	NA					
Benzothiophene	259		3.3	251	213	288
C1-Benzothiophenes	NA					
C2-Benzothiophenes	NA					
C3-Benzothiophenes	NA					
Biphenyl	260		3.7	250	213	288
Acenaphthylene	253		1.1	250	213	288
Acenaphthene	271		7.9	251	213	288
Dibenzofuran	272					
Fluorene	279		10.7	251	213	288
C1-Fluorenes	NA					
C2-Fluorenes	NA					
C3-Fluorenes	NA					
Carbazole	263		4.9	250	213	288
Anthracene	266		6.1	250	213	288
Phenanthrene	276		9.7	251	213	288
C1-Phenanthrene/Anthracenes	NA					
C2-Phenanthrene/Anthracenes	NA					
C3-Phenanthrene/Anthracenes	NA					
C4-Phenanthrene/Anthracenes	NA					
Dibenzothiophene	283		12.2	250	213	288
C1-Dibenzothiophenes	NA					
C2-Dibenzothiophenes	NA					
C3-Dibenzothiophenes	NA					
Fluoranthene	254		1.3	251	213	288
Pyrene	281		11.5	251	213	288
C1-Fluoranthenes/Pyrenes	NA					
C2-Fluoranthenes/Pyrenes	NA					
C3-Fluoranthenes/Pyrenes	NA					
Naphthobenzothiophene	265		5.9	250	212	287
C1-Naphthobenzothiophenes	NA					
C2-Naphthobenzothiophenes	NA					
C3-Naphthobenzothiophenes	NA					
Benz(a)anthracene	259		3.3	251	213	288
Chrysene	287		13.5	251	213	288
C1-Chrysenes	NA					
C2-Chrysenes	NA					
C3-Chrysenes	NA					
C4-Chrysenes	NA					
Benzo(b)fluoranthene	240		-4.2	250	213	288
Benzo(k)fluoranthene	254		1.3	251	213	288
Benzo(e)pyrene	262		4.4	251	213	288
Benzo(a)pyrene	247		-1.4	250	213	288
Perylene	254		1.4	250	213	288
Indeno(1,2,3-c,d)pyrene	249		-0.6	251	213	288
Dibenzo(a,h)anthracene	239		-4.6	250	213	288
Benzo(g,h,i)perylene	253		1.0	250	213	288
Individual Alkyl Isomers and Hopanes						
2-Methylnaphthalene	267		6.3	251	213	288
1-Methylnaphthalene	261		4.1	251	213	288
2,6-Dimethylnaphthalene	264		5.2	251	213	288
1,6,7-Trimethylnaphthalene	258		3.0	250	213	288
1-Methylphenanthrene	273		8.6	251	213	288
C29-Hopane	NA					
18a-Oleanane	NA					
C30-Hopane	255		2.0	250	213	288

Surrogate (Su)	Su Recovery (%)
Naphthalene-d8	106
Acenaphthene-d10	104
Phenanthrene-d10	107
Chrysene-d12	106
Perylene-d12	108

Qualifiers (Q): J=Below the MDL, U=Not detected, B=In procedural blank > 3x MDL, I=Interference, D=Diluted value, NA=Not Applicable, *=Outside QA limits, refer to narrative

Polycyclic Aromatic Hydrocarbon Histograms

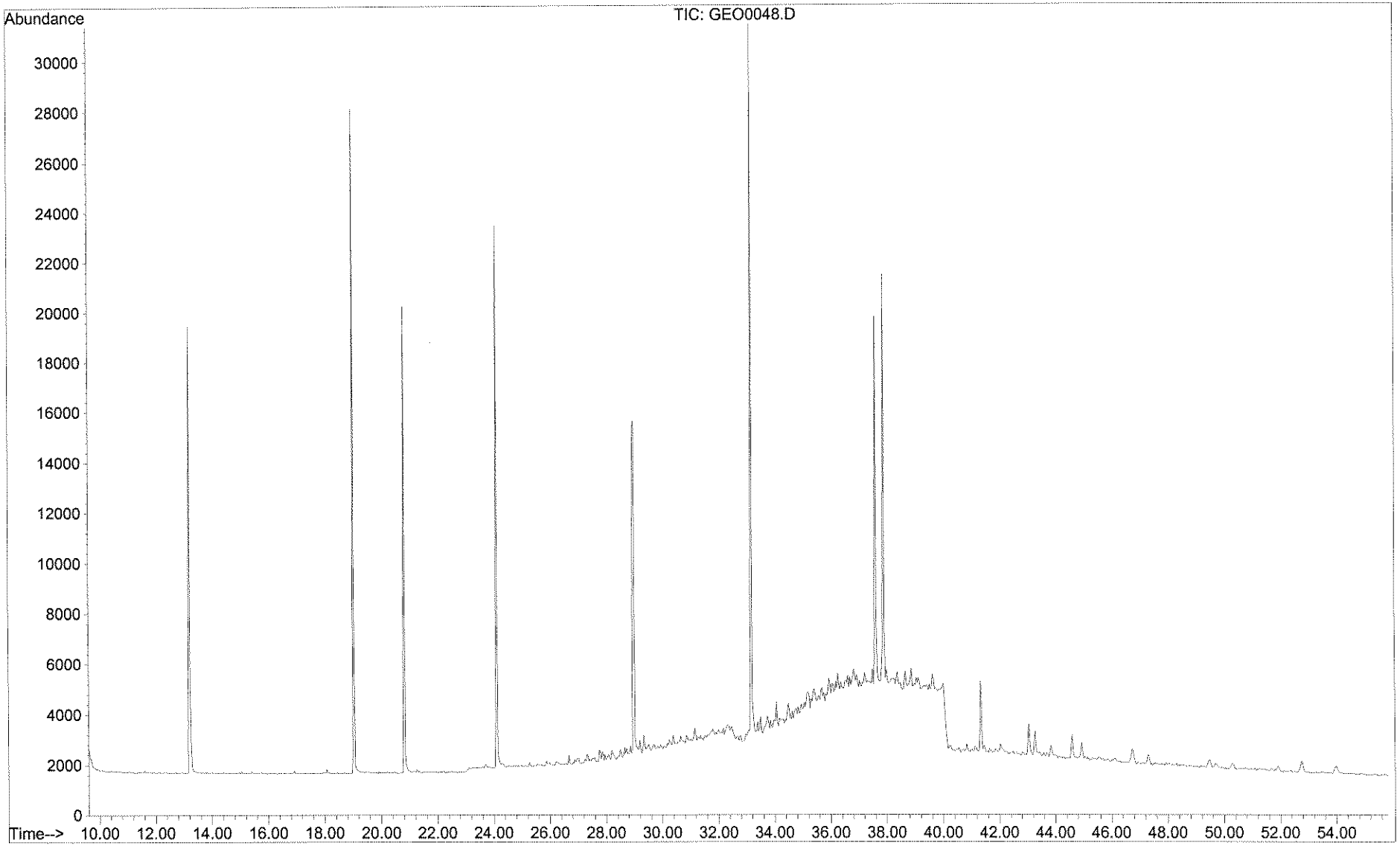
Exhibit A (Tarball)
GEO0048
Concentration (ng/mg)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrene/Anthracenes
C2-Phenanthrene/Anthracenes
C3-Phenanthrene/Anthracenes
C4-Phenanthrene/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

Exhibit B (Tarball)
GEO0049
Concentration (ng/mg)
0
100
200
300
400
500
600
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrene/Anthracenes
C2-Phenanthrene/Anthracenes
C3-Phenanthrene/Anthracenes
C4-Phenanthrene/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
Indeno(1,2,3-c,d)pyrene
Dibenzo(a,h)anthracene
Benzo(g,h,i)perylene

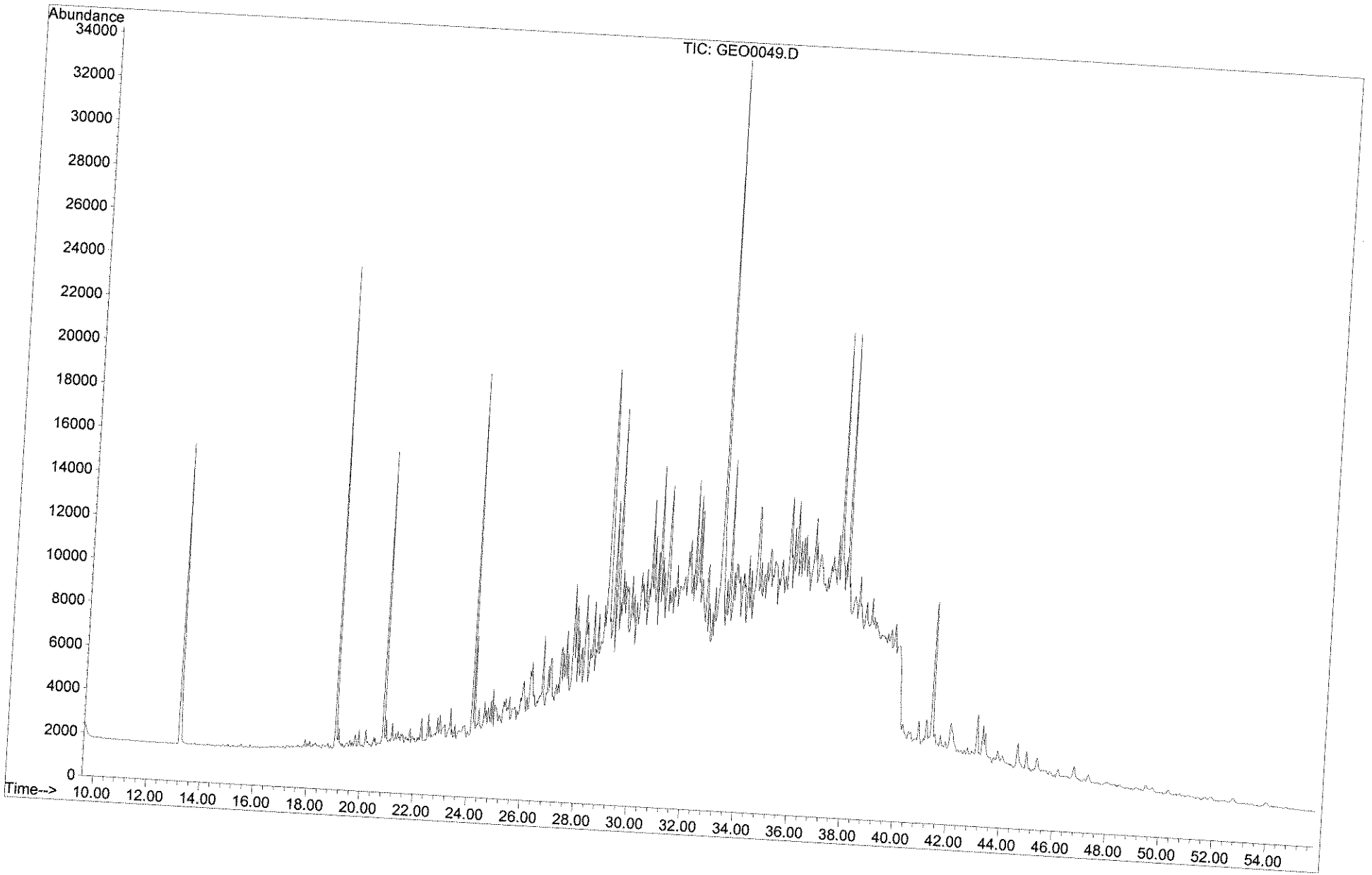
Exhibit 31 (Tarball)
GEO0050
Concentration (ng/mg)
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
Naphthalene
C1-Naphthalenes
C2-Naphthalenes
C3-Naphthalenes
C4-Naphthalenes
Benzothiophene
C1-Benzothiophenes
C2-Benzothiophenes
C3-Benzothiophenes
Biphenyl
Acenaphthylene
Acenaphthene
Dibenzofuran
Fluorene
C1-Fluorenes
C2-Fluorenes
C3-Fluorenes
Carbazole
Anthracene
Phenanthrene
C1-Phenanthrene/Anthracenes
C2-Phenanthrene/Anthracenes
C3-Phenanthrene/Anthracenes
C4-Phenanthrene/Anthracenes
Dibenzothiophene
C1-Dibenzothiophenes
C2-Dibenzothiophenes
C3-Dibenzothiophenes
Fluoranthene
Pyrene
C1-Fluoranthenes/Pyrenes
C2-Fluoranthenes/Pyrenes
C3-Fluoranthenes/Pyrenes
Naphthobenzothiophene
C1-Naphthobenzothiophenes
C2-Naphthobenzothiophenes
C3-Naphthobenzothiophenes
Benz(a)anthracene
Chrysene
C1-Chrysenes
C2-Chrysenes
C3-Chrysenes
C4-Chrysenes
Benzo(b)fluoranthene
Benzo(k)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

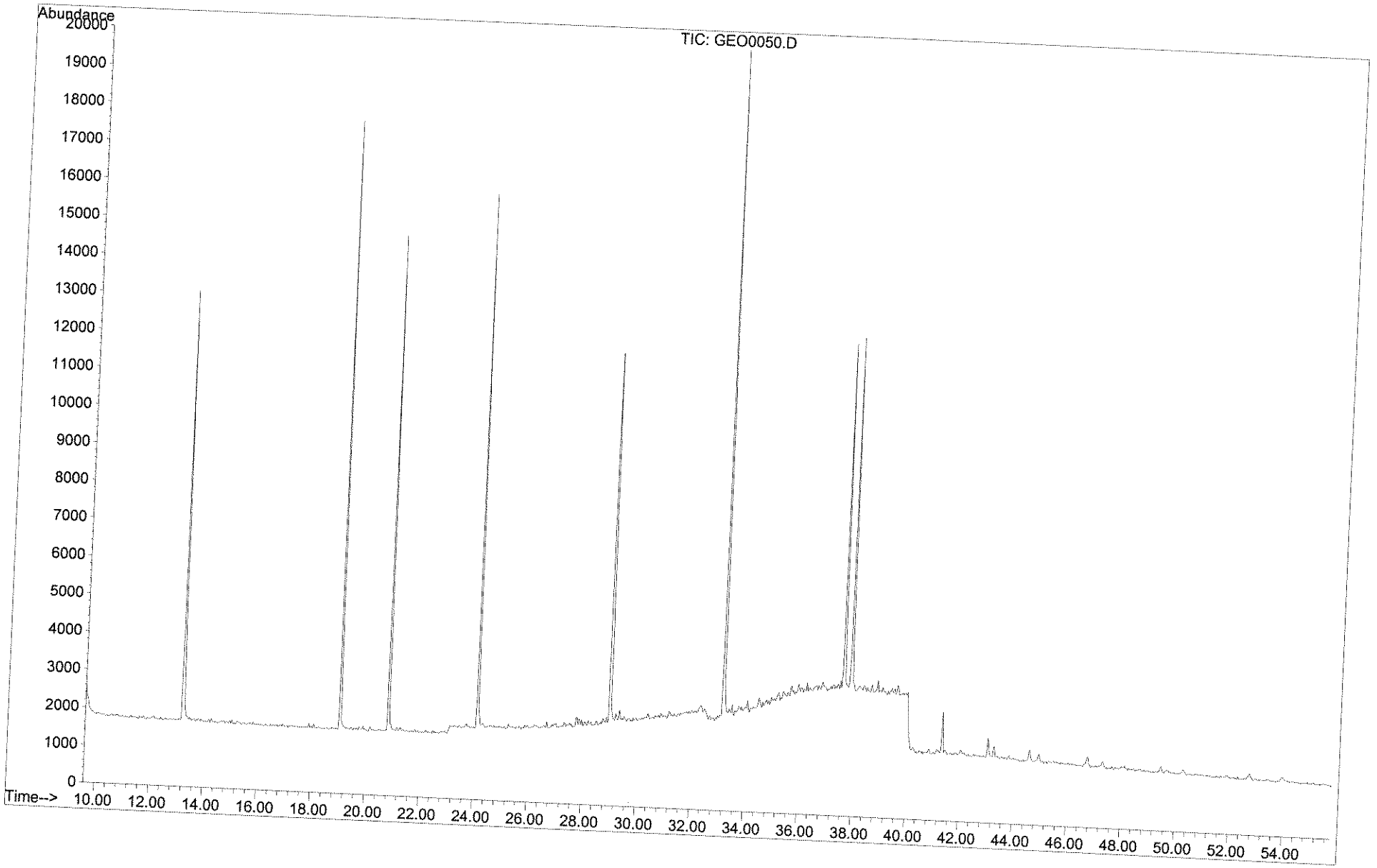
File : X:\1\DATA\MS30333\GEO0048.D
Operator : TJM
Acquired : 26 Nov 2006 11:34 pm using AcqMethod PAH-2002
Instrument : GC/MS Ins
Sample Name: Exhibit A
Misc Info :
Vial Number: 33



File : X:\1\DATA\MS30333\GEO0049.D
Operator : TJM
Acquired : 27 Nov 2006 12:37 am using AcqMethod PAH-2002
Instrument : GC/MS Ins
Sample Name: Exhibit B
Misc Info :
Vial Number: 34



File : X:\1\DATA\MS30333\GEO0050.D
Operator : TJM
Acquired : 27 Nov 2006 1:41 am using AcqMethod PAH-2002
Instrument : GC/MS Ins
Sample Name: Exhibit 31
Misc Info :
Vial Number: 35



Polycyclic Aromatic Hydrocarbon Raw Data

Sequence Name: C:\HPCHEM\1\SEQUENCE\MS30333.S
Comment: NOAA California Canyons 2005-Sediments
Operator: TJM
Data Path: C:\HPCHEM\1\data\ms30333\
Pre-Seq Cmd:
Post-Seq Cmd:

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

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

Line	Type	Vial	DataFile	Method	Sample Name
1	Sample	1	MS30333A	PAH-2002	Solvent Rinse
2	Sample	2	MS30333B	PAH-2002	SRM 1582
3	Sample	3	MS30333C	PAH-2002	IS/SU Mixture
4	Sample	41	MS30333D	PAH-2002	Cal Level 1
5	Sample	42	MS30333E	PAH-2002	Cal Level 2
6	Sample	43	MS30333F	PAH-2002	Cal Level 3
7	Sample	44	MS30333G	PAH-2002	Cal Level 4
8	Sample	45	MS30333H	PAH-2002	Cal Level 5
9	Sample	4	MS30333I	PAH-2002	AR-WKCC-250-022
10	Sample	5	ENV1543A	PAH-2002	
11	Sample	6	ENV1543B	PAH-2002	
12	Sample	7	ENV1543C	PAH-2002	
13	Sample	8	ENV1543D	PAH-2002	
14	Sample	9	ENV1543E	PAH-2002	
15	Sample	10	NOA1930	PAH-2002	
16	Sample	11	NOA1931	PAH-2002	
17	Sample	12	NOA1932	PAH-2002	
18	Sample	13	MS30333J	PAH-2002	AR-WKCC-250-022
19	Sample	14	NOA1933	PAH-2002	
20	Sample	15	NOA1934	PAH-2002	
21	Sample	16	NOA1935	PAH-2002	
22	Sample	17	NOA1936	PAH-2002	
23	Sample	18	NOA1937	PAH-2002	
24	Sample	19	NOA1938	PAH-2002	
25	Sample	20	NOA1939	PAH-2002	
26	Sample	21	NOA1942	PAH-2002	
27	Sample	22	MS30333K	PAH-2002	AR-WKCC-250-022
28	Sample	23	NOA1943	PAH-2002	
29	Sample	24	NOA1944	PAH-2002	
30	Sample	25	NOA1945	PAH-2002	
31	Sample	26	NOA1946	PAH-2002	
32	Sample	27	NOA1949	PAH-2002	
33	Sample	28	NOA1951	PAH-2002	
34	Sample	29	NOA1953	PAH-2002	
35	Sample	30	NOA1954	PAH-2002	
36	Sample	31	MS30333L	PAH-2002	AR-WKCC-250-022
37	Sample	33	GEO0048	PAH-2002	5x
38	Sample	34	GEO0049	PAH-2002	5x
39	Sample	35	GEO0050	PAH-2002	5x
40	Sample	36	MS30333M	PAH-2002	AR-WKCC-250-022

In Separate folder

In Separate folder

In Separate folder

Last Modified: Mon Nov 27 07:01:23 2006

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333I.D Vial: 4
Acq On : 25 Nov 2006 6:01 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:13 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 25% 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	91	0.00
2	S	Naphthalene-d8	2.017	2.137	-5.9	99	0.00
3	T	Decalin	0.402	0.405	-0.7	93	0.00
4	un	C1-Decalin	0.402	0.000	100.0#	0#	-12.87#
5	un	C2-Decalin	0.402	0.000	100.0#	0#	-14.39#
6	un	C3-Decalin	0.402	0.000	100.0#	0#	-16.00#
7	un	C4-Decalin	0.402	0.000	100.0#	0#	-19.86#
8	T	Naphthalene	2.344	2.549	-8.7	102	0.00
9	T	2-Methylnaphthalene	1.459	1.554	-6.5	103	0.00
10	T	1-Methylnaphthalene	1.374	1.435	-4.4	95	0.00
11	T	2,6-Dimethylnaphthalene	1.164	1.225	-5.2	102	0.00
12	T	1,6,7-Trimethylnaphthalene	1.046	1.078	-3.1	94	-0.03
13	un	C2-Naphthalenes	2.344	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	2.344	0.000	100.0#	0#	-20.30#
15	un	C4-Naphthalenes	2.344	0.000	100.0#	0#	-22.44#
16	T	Benzothiophene	1.885	1.952	-3.6	96	0.00
17	un	C1-Benzothiophene	1.885	0.000	100.0#	0#	-15.72#
18	un	C2-Benzothiophene	1.885	0.000	100.0#	0#	-18.13#
19	un	C3-Benzothiophene	1.885	0.000	100.0#	0#	-19.79#
20	S	Acenaphthene-d10	0.969	1.012	-4.4	103	0.00
21	T	Biphenyl	1.584	1.642	-3.7	100	-0.03
22	T	Acenaphthylene	2.216	2.235	-0.9	92	0.00
23	T	Acenaphthene	1.311	1.421	-8.4	98	0.00
24	T	Dibenzofuran	1.733	1.882	-8.6	102	-0.03
25	T	Fluorene	1.495	1.666	-11.4	104	0.00
26	un	C1-Fluorenes	1.495	0.000	100.0#	0#	-22.86#
27	un	C2-Fluorenes	1.495	0.000	100.0#	0#	-24.54#
28	un	C3-Fluorenes	1.495	0.000	100.0#	0#	-26.43#
29	I	Pyrene-d10	1.000	1.000	0.0	98	0.00
30	S	Phenanthrene-d10	1.049	1.121	-6.9	98	0.00
31	T	Pentachlorophenol	0.066	0.061	7.6	95	0.00
32	T	Carbazole	0.883	0.928	-5.1	100	-0.03
33	T	Dibenzothiophene	0.990	1.118	-12.9	104	0.00
34	un	C1-Dibenzothiophene	0.990	0.000	100.0#	0#	-25.26#
35	un	C2-Dibenzothiophene	0.990	0.000	100.0#	0#	-26.63#
36	un	C3-Dibenzothiophene	0.990	0.000	100.0#	0#	-28.74#
37	T	Phenanthrene	1.144	1.260	-10.1	99	0.00
38	T	Anthracene	0.956	1.015	-6.2	99	-0.03
39	T	1-Methylphenanthrene	0.772	0.842	-9.1	104	0.00
40	un	C1-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-26.27#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333I.D Vial: 4
Acq On : 25 Nov 2006 6:01 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:13 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-27.67#
42	un	C3-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.24#
43	un	C4-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.96#
44	T	Naphthobenzothiophene	1.229	1.304	-6.1	99	0.00
45	un	C1-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-33.23#
46	un	C2-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-34.90#
47	un	C3-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-36.27#
48	T	Fluoranthene	1.225	1.242	-1.4	94	0.00
49	T	Pyrene	1.211	1.356	-12.0	109	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-30.70#
51	un	C2-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-32.06#
52	un	C3-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-33.12#
53	S	Chrysene-d12	1.241	1.312	-5.7	99	0.00
54	T	Benz(a)anthracene	1.461	1.507	-3.1	96	0.00
55	T	Chrysene	1.128	1.292	-14.5	108	0.00
56	un	C1-Chrysenes	1.128	0.000	100.0#	0#	-34.45#
57	un	C2-Chrysenes	1.128	0.000	100.0#	0#	-35.65#
58	un	C3-Chrysenes	1.128	0.000	100.0#	0#	-37.09#
59	un	C4-Chrysenes	1.128	0.000	100.0#	0#	-42.64#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	98	0.00
61	un	C29-Hopane	0.747	0.000	100.0#	0#	-40.58#
62	un	18a-Oleanane	0.747	0.000	100.0#	0#	-42.44#
63	T	C30-Hopane	0.747	0.762	-2.0	98	0.00
64	T	Benzo(b)fluoranthene	1.803	1.731	4.0	93	0.00
65	T	Benzo(k)fluoranthene	1.554	1.573	-1.2	96	0.00
66	T	Benzo(e)pyrene	1.438	1.503	-4.5	101	-0.03
67	T	Benzo(a)pyrene	1.351	1.335	1.2	96	0.00
68	T	Indeno(1,2,3-c,d)pyrene	1.023	1.015	0.8	96	0.00
69	T	Dibenzo(a,h)anthracene	0.977	0.933	4.5	92	0.00
70	un	C1-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-42.72#
71	un	C2-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-44.64#
72	un	C3-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-45.11#
73	T	Benzo(g,h,i)perylene	1.115	1.128	-1.2	98	0.00
74	S	Perylene-d12	0.790	0.851	-7.7	101	0.00
75	T	Perylene	1.407	1.427	-1.4	98	0.00

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

000019

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333I.D Vial: 4
Acq On : 25 Nov 2006 6:01 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:09 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1541m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	2941m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	1852m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	16119m	264.87		0.00
20) Acenaphthene-d10	19.03	164	7629m	260.87		0.00
30) Phenanthrene-d10	24.11	188	16497	267.14		0.00
53) Chrysene-d12	33.17	240	19304m	264.25		0.00
74) Perylene-d12	37.88	264	8635m	269.29		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	3060m	252.31	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	19263m	272.36		
9) 2-Methylnaphthalene	15.51	142	11755m	267.05		
10) 1-Methylnaphthalene	15.85	142	10836m	261.47		
11) 2,6-Dimethylnaphthalene	17.62	156	9262m	263.74		
12) 1,6,7-Trimethylnaphthalene	20.46	170	8142m	258.10		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	14755m	259.49	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.09	154	12403m	259.60		
22) Acenaphthylene	18.55	152	16889m	252.67		
23) Acenaphthene	19.14	154	10725m	271.19		
24) Dibenzofuran	19.73	168	14213m	271.85	ng/ml	
25) Fluorene	20.91	166	12593m	279.16		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	893	228.43	ng/ml	
32) Carbazole	24.92	167	13673	263.23	ng/ml	
33) Dibenzothiophene	23.74	184	16474m	282.81		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333I.D Vial: 4
Acq On : 25 Nov 2006 6:01 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:09 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.18	178	18579m	275.99		
38)	Anthracene	24.35	178	14948m	265.76		
39)	1-Methylphenanthrene	26.30	192	12414m	273.13		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	19162m	264.93		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	18322m	254.17		
49)	Pyrene	29.03	202	19994m	280.68		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	22223m	258.53		
55)	Chrysene	33.25	228	19060m	287.20		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.05	191	7735m	255.17	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	17592m	240.36		
65)	Benzo(k)fluoranthene	36.67	252	16010m	253.76		
66)	Benzo(e)pyrene	37.49	252	15294m	261.89		
67)	Benzo(a)pyrene	37.70	252	13573m	247.39		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	10323m	248.52		
69)	Dibenzo(a,h)anthracene	42.23	278	9490m	239.11		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	11474m	253.45		
75)	Perylene	37.98	252	14510m	254.00		

(#) = qualifier out of range (m) = manual integration

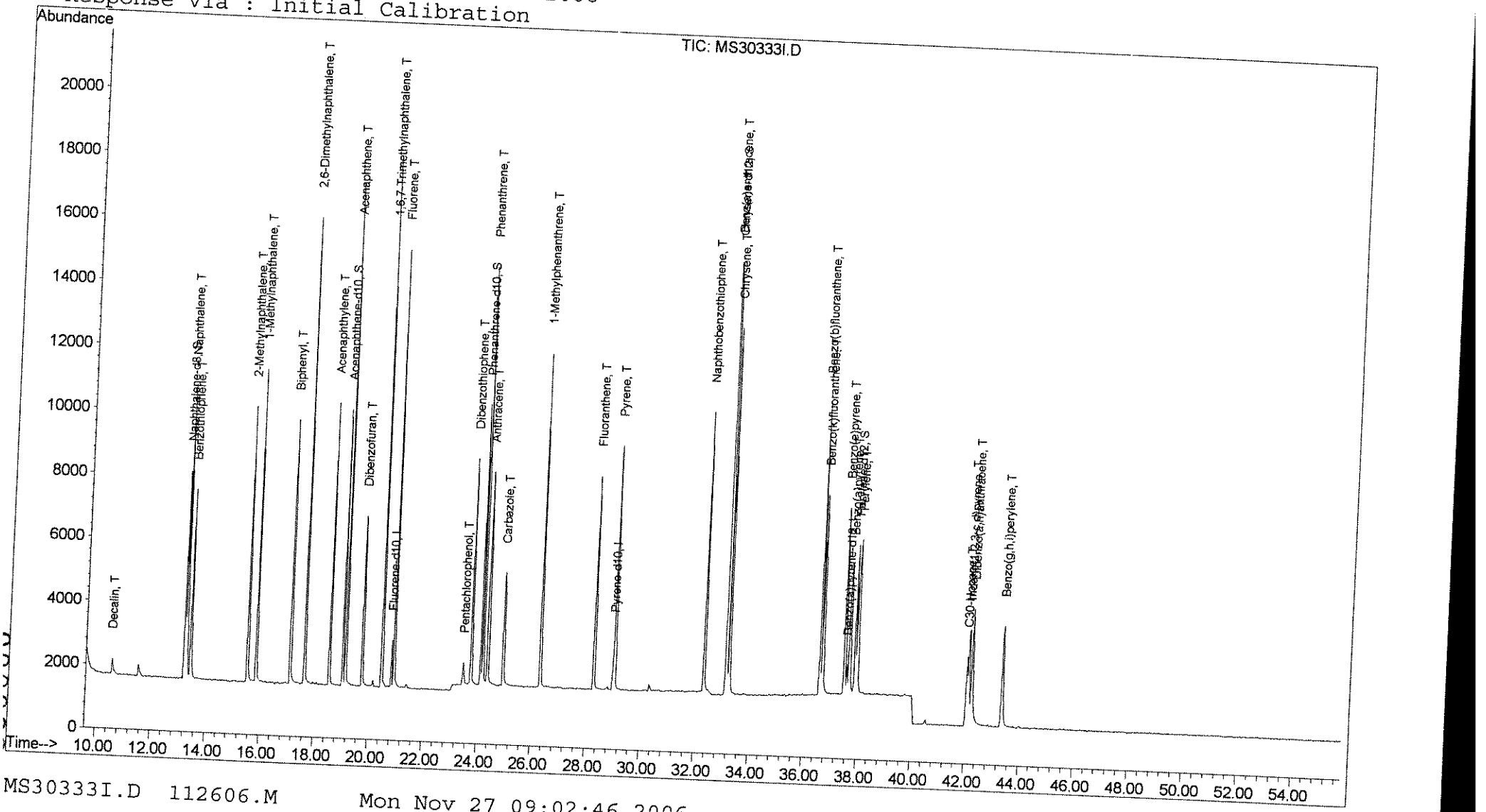
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333I.D
Acq On : 25 Nov 2006 6:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:09 2006

Vial: 4
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



MS30333I.D 112606.M Mon Nov 27 09:02:46 2006

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333J.D
Acq On : 26 Nov 2006 3:31 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 25% 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	99	0.00
2	S	Naphthalene-d8	2.017	2.075	-2.9	105	0.00
3	T	Decalin	0.402	0.436	-8.5	109	0.00
4	un	C1-Decalin	0.402	0.000	100.0#	0#	-12.87#
5	un	C2-Decalin	0.402	0.000	100.0#	0#	-14.39#
6	un	C3-Decalin	0.402	0.000	100.0#	0#	-16.00#
7	un	C4-Decalin	0.402	0.000	100.0#	0#	-19.86#
8	T	Naphthalene	2.344	2.484	-6.0	108	0.00
9	T	2-Methylnaphthalene	1.459	1.556	-6.6	112	0.00
10	T	1-Methylnaphthalene	1.374	1.423	-3.6	103	0.00
11	T	2,6-Dimethylnaphthalene	1.164	1.281	-10.1	116	0.00
12	T	1,6,7-Trimethylnaphthalene	1.046	1.108	-5.9	105	-0.03
13	un	C2-Naphthalenes	2.344	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	2.344	0.000	100.0#	0#	-20.30#
15	un	C4-Naphthalenes	2.344	0.000	100.0#	0#	-22.44#
16	T	Benzothiophene	1.885	1.945	-3.2	104	0.00
17	un	C1-Benzothiophene	1.885	0.000	100.0#	0#	-15.72#
18	un	C2-Benzothiophene	1.885	0.000	100.0#	0#	-18.13#
19	un	C3-Benzothiophene	1.885	0.000	100.0#	0#	-19.79#
20	S	Acenaphthene-d10	0.969	1.055	-8.9	116	0.00
21	T	Biphenyl	1.584	1.743	-10.0	115	-0.03
22	T	Acenaphthylene	2.216	2.323	-4.8	104	0.00
23	T	Acenaphthene	1.311	1.401	-6.9	105	0.00
24	T	Dibenzofuran	1.733	1.881	-8.5	111	-0.03
25	T	Fluorene	1.495	1.637	-9.5	111	0.00
26	un	C1-Fluorenes	1.495	0.000	100.0#	0#	-22.86#
27	un	C2-Fluorenes	1.495	0.000	100.0#	0#	-24.54#
28	un	C3-Fluorenes	1.495	0.000	100.0#	0#	-26.43#
29	I	Pyrene-d10	1.000	1.000	0.0	104	0.00
30	S	Phenanthrene-d10	1.049	1.142	-8.9	106	0.00
31	T	Pentachlorophenol	0.066	0.072	-9.1	119	0.00
32	T	Carbazole	0.883	0.970	-9.9	110	-0.03
33	T	Dibenzothiophene	0.990	1.151	-16.3	114	0.00
34	un	C1-Dibenzothiophene	0.990	0.000	100.0#	0#	-25.26#
35	un	C2-Dibenzothiophene	0.990	0.000	100.0#	0#	-26.63#
36	un	C3-Dibenzothiophene	0.990	0.000	100.0#	0#	-28.74#
37	T	Phenanthrene	1.144	1.333	-16.5	111	0.00
38	T	Anthracene	0.956	1.071	-12.0	110	-0.03
39	T	1-Methylphenanthrene	0.772	0.879	-13.9	114	0.00
40	un	C1-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-26.27#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333J.D Vial: 13
Acq On : 26 Nov 2006 3:31 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-27.67#
42	un	C3-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.24#
43	un	C4-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.96#
44	T	Naphthobenzothiophene	1.229	1.234	-0.4	99	0.00
45	un	C1-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-33.23#
46	un	C2-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-34.90#
47	un	C3-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-36.27#
48	T	Fluoranthene	1.225	1.241	-1.3	99	0.00
49	T	Pyrene	1.211	1.407	-16.2	120	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-30.70#
51	un	C2-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-32.06#
52	un	C3-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-33.12#
53	S	Chrysene-d12	1.241	1.237	0.3	99	0.00
54	T	Benz(a)anthracene	1.461	1.448	0.9	98	0.00
55	T	Chrysene	1.128	1.386	-22.9	122	0.00
56	un	C1-Chrysenes	1.128	0.000	100.0#	0#	-34.45#
57	un	C2-Chrysenes	1.128	0.000	100.0#	0#	-35.65#
58	un	C3-Chrysenes	1.128	0.000	100.0#	0#	-37.09#
59	un	C4-Chrysenes	1.128	0.000	100.0#	0#	-42.64#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	110	0.00
61	un	C29-Hopane	0.747	0.000	100.0#	0#	-40.58#
62	un	18a-Oleanane	0.747	0.000	100.0#	0#	-42.44#
63	T	C30-Hopane	0.747	0.708	5.2	103	-0.03
64	T	Benzo(b)fluoranthene	1.803	1.635	9.3	99	0.00
65	T	Benzo(k)fluoranthene	1.554	1.640	-5.5	113	0.00
66	T	Benzo(e)pyrene	1.438	1.368	4.9	104	-0.04
67	T	Benzo(a)pyrene	1.351	1.289	4.6	104	-0.04
68	T	Indeno(1,2,3-c,d)pyrene	1.023	0.977	4.5	104	-0.03
69	T	Dibenzo(a,h)anthracene	0.977	0.907	7.2	101	0.00
70	un	C1-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-42.72#
71	un	C2-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-44.64#
72	un	C3-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-45.11#
73	T	Benzo(g,h,i)perylene	1.115	1.064	4.6	104	-0.03
74	S	Perylene-d12	0.790	0.773	2.2	104	0.00
75	T	Perylene	1.407	1.289	8.4	100	-0.04

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

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333J.D Vial: 13
Acq On : 26 Nov 2006 3:31 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:23 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1676m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	3113m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	2087m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	17018m	257.12		0.00
20) Acenaphthene-d10	19.03	164	8656m	272.15		0.00
30) Phenanthrene-d10	24.11	188	17777m	271.96		0.00
53) Chrysene-d12	33.17	240	19269m	249.20		0.00
74) Perylene-d12	37.88	264	8840m	244.64		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	3585m	271.79	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	20416m	265.41		
9) 2-Methylnaphthalene	15.51	142	12797m	267.31		
10) 1-Methylnaphthalene	15.85	142	11690m	259.35		
11) 2,6-Dimethylnaphthalene	17.62	156	10533m	275.77		
12) 1,6,7-Trimethylnaphthalene	20.46	170	9103m	265.32		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	15988m	258.53	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.09	154	14324m	275.65		
22) Acenaphthylene	18.55	152	19094m	262.65		
23) Acenaphthene	19.14	154	11504m	267.45		
24) Dibenzofuran	19.73	168	15452m	271.74	ng/ml	
25) Fluorene	20.91	166	13454m	274.22		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	1118m	270.18	ng/ml	
32) Carbazole	24.92	167	15117m	274.95	ng/ml	
33) Dibenzothiophene	23.74	184	17949m	291.11		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333J.D
Acq On : 26 Nov 2006 3:31 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:23 2006

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D. d	
36) C3-Dibenzothiophene	0.00	226	0	N.D. d	
37) Phenanthrene	24.18	178	20802m	291.94	
38) Anthracene	24.35	178	16695m	280.42	
39) 1-Methylphenanthrene	26.30	192	13722m	285.23	
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44) Naphthobenzothiophene	32.33	234	19185m	250.59	
45) C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48) Fluoranthene	28.29	202	19370m	253.86	
49) Pyrene	29.03	202	21950m	291.11	
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54) Benz(a)anthracene	33.14	228	22593m	248.31	
55) Chrysene	33.24	228	21635m	307.99	
56) C1-Chrysenes	0.00	242	0	N.D. d	
57) C2-Chrysenes	0.00	256	0	N.D. d	
58) C3-Chrysenes	0.00	270	0	N.D. d	
59) C4-Chrysenes	0.00	284	0	N.D. d	
61) C29-Hopane	0.00	191	0	N.D. d	
62) 18a-Oleanane	0.00	191	0	N.D. d	
63) C30-Hopane	42.02	191	8098m	237.06 ng/ml	
64) Benzo(b)fluoranthene	36.60	252	18721m	226.98	
65) Benzo(k)fluoranthene	36.67	252	18808m	264.54	
66) Benzo(e)pyrene	37.49	252	15692m	238.45	
67) Benzo(a)pyrene	37.66	252	14764m	238.80	
68) Indeno(1,2,3-c,d)pyrene	42.10	276	11196m	239.18	
69) Dibenzo(a,h)anthracene	42.23	278	10393m	232.37	
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73) Benzo(g,h,i)perylene	43.35	276	12191m	238.96	
75) Perylene	37.95	252	14769m	229.42	

(#) = qualifier out of range (m) = manual integration

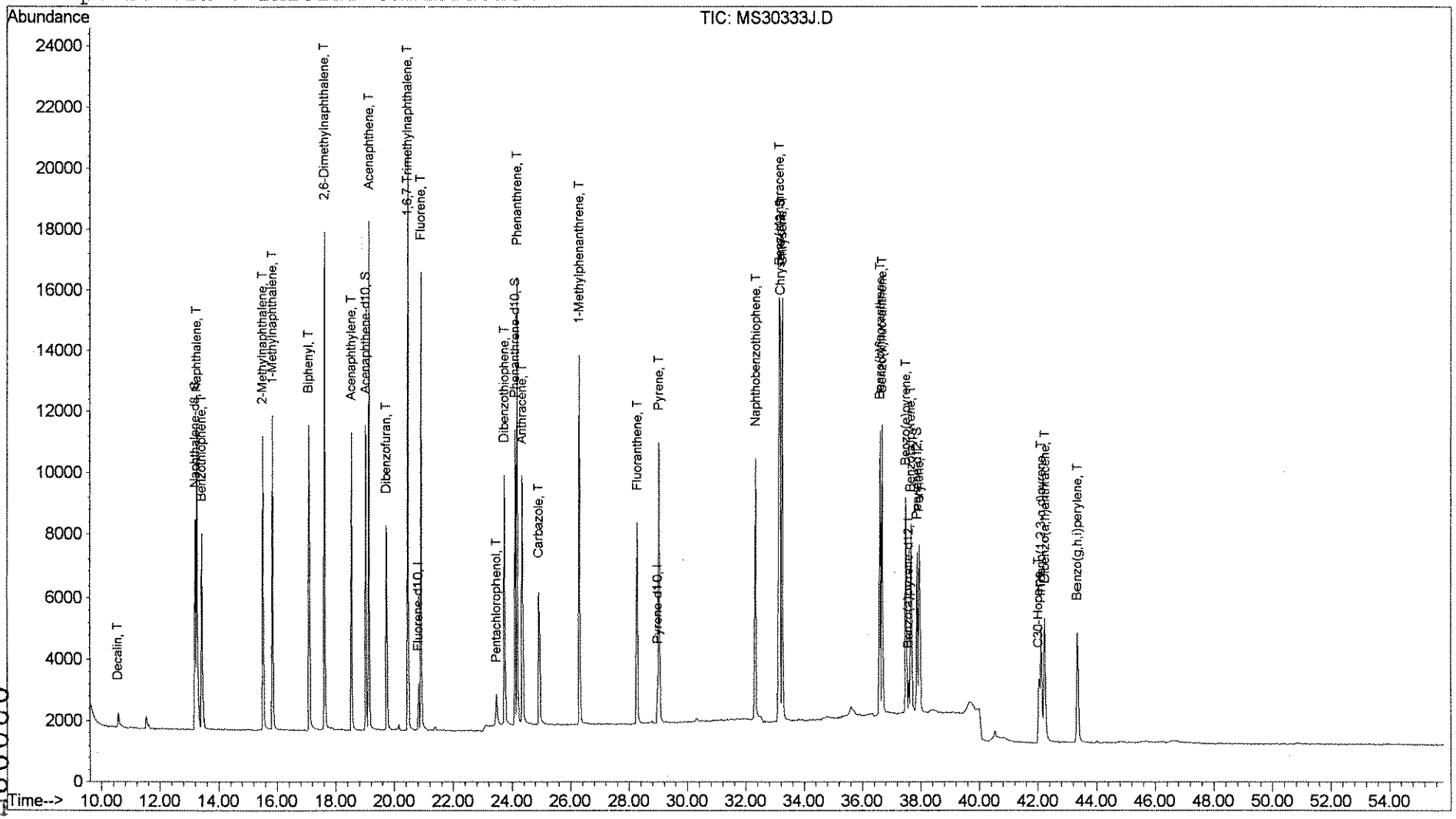
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333J.D
Acq On : 26 Nov 2006 3:31 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:23 2006

Vial: 13
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



120000

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333K.D
Acq On : 26 Nov 2006 1:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 22
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	111	0.00
2	S	Naphthalene-d8	2.017	2.023	-0.3	115	0.00
3	T	Decalin	0.402	0.399	0.7	113	0.00
4	un	C1-Decalin	0.402	0.000	100.0#	0#	-12.87#
5	un	C2-Decalin	0.402	0.000	100.0#	0#	-14.39#
6	un	C3-Decalin	0.402	0.000	100.0#	0#	-16.00#
7	un	C4-Decalin	0.402	0.000	100.0#	0#	-19.86#
8	T	Naphthalene	2.344	2.347	-0.1	114	0.00
9	T	2-Methylnaphthalene	1.459	1.501	-2.9	121	0.00
10	T	1-Methylnaphthalene	1.374	1.349	1.8	109	0.00
11	T	2,6-Dimethylnaphthalene	1.164	1.209	-3.9	123	0.00
12	T	1,6,7-Trimethylnaphthalene	1.046	1.073	-2.6	115	-0.03
13	un	C2-Naphthalenes	2.344	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	2.344	0.000	100.0#	0#	-20.30#
15	un	C4-Naphthalenes	2.344	0.000	100.0#	0#	-22.44#
16	T	Benzothiophene	1.885	1.853	1.7	111	0.00
17	un	C1-Benzothiophene	1.885	0.000	100.0#	0#	-15.72#
18	un	C2-Benzothiophene	1.885	0.000	100.0#	0#	-18.13#
19	un	C3-Benzothiophene	1.885	0.000	100.0#	0#	-19.79#
20	S	Acenaphthene-d10	0.969	1.019	-5.2	126	0.00
21	T	Biphenyl	1.584	1.617	-2.1	120	-0.03
22	T	Acenaphthylene	2.216	2.257	-1.9	114	0.00
23	T	Acenaphthene	1.311	1.354	-3.3	114	0.00
24	T	Dibenzofuran	1.733	1.795	-3.6	120	-0.03
25	T	Fluorene	1.495	1.634	-9.3	125	0.00
26	un	C1-Fluorenes	1.495	0.000	100.0#	0#	-22.86#
27	un	C2-Fluorenes	1.495	0.000	100.0#	0#	-24.54#
28	un	C3-Fluorenes	1.495	0.000	100.0#	0#	-26.43#
29	I	Pyrene-d10	1.000	1.000	0.0	108	0.00
30	S	Phenanthrene-d10	1.049	1.089	-3.8	105	0.00
31	T	Pentachlorophenol	0.066	0.079	-19.7	137	0.00
32	T	Carbazole	0.883	1.069	-21.1	127	-0.03
33	T	Dibenzothiophene	0.990	1.196	-20.8	123	0.00
34	un	C1-Dibenzothiophene	0.990	0.000	100.0#	0#	-25.26#
35	un	C2-Dibenzothiophene	0.990	0.000	100.0#	0#	-26.63#
36	un	C3-Dibenzothiophene	0.990	0.000	100.0#	0#	-28.74#
37	T	Phenanthrene	1.144	1.417	-23.9	123	0.00
38	T	Anthracene	0.956	1.180	-23.4	127	-0.03
39	T	1-Methylphenanthrene	0.772	0.938	-21.5	127	0.00
40	un	C1-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-26.27#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333K.D
Acq On : 26 Nov 2006 1:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 22
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-27.67#
42	un	C3-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.24#
43	un	C4-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.96#
44	T	Naphthobenzothiophene	1.229	1.232	-0.2	103	0.00
45	un	C1-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-33.23#
46	un	C2-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-34.90#
47	un	C3-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-36.27#
48	T	Fluoranthene	1.225	1.221	0.3	102	0.00
49	T	Pyrene	1.211	1.483	-22.5	131	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-30.70#
51	un	C2-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-32.06#
52	un	C3-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-33.12#
53	S	Chrysene-d12	1.241	1.223	1.5	101	0.00
54	T	Benz(a)anthracene	1.461	1.551	-6.2	109	0.00
55	T	Chrysene	1.128	1.372	-21.6	126	0.00
56	un	C1-Chrysenes	1.128	0.000	100.0#	0#	-34.45#
57	un	C2-Chrysenes	1.128	0.000	100.0#	0#	-35.65#
58	un	C3-Chrysenes	1.128	0.000	100.0#	0#	-37.09#
59	un	C4-Chrysenes	1.128	0.000	100.0#	0#	-42.64#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	123	0.00
61	un	C29-Hopane	0.747	0.000	100.0#	0#	-40.58#
62	un	18a-Oleanane	0.747	0.000	100.0#	0#	-42.44#
63	T	C30-Hopane	0.747	0.701	6.2	114	-0.03
64	T	Benzo(b)fluoranthene	1.803	1.531	15.1	103	0.00
65	T	Benzo(k)fluoranthene	1.554	1.613	-3.8	124	0.00
66	T	Benzo(e)pyrene	1.438	1.487	-3.4	126	-0.03
67	T	Benzo(a)pyrene	1.351	1.357	-0.4	123	-0.03
68	T	Indeno(1,2,3-c,d)pyrene	1.023	0.956	6.5	114	-0.03
69	T	Dibenzo(a,h)anthracene	0.977	0.888	9.1	110	0.00
70	un	C1-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-42.72#
71	un	C2-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-44.64#
72	un	C3-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-45.11#
73	T	Benzo(g,h,i)perylene	1.115	1.039	6.8	114	-0.03
74	S	Perylene-d12	0.790	0.799	-1.1	120	0.00
75	T	Perylene	1.407	1.328	5.6	115	-0.03

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

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333K.D
Acq On : 26 Nov 2006 1:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:31 2006

Vial: 22
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	1885m	51.08 ng/ml	0.00
29) Pyrene-d10	29.00	212	3240m	49.98	0.00
60) Benzo(a)pyrene-d12	37.59	264	2331m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.20	136	18667m	250.77	0.00
20) Acenaphthene-d10	19.03	164	9400m	262.77	0.00
30) Phenanthrene-d10	24.11	188	17641	259.30	0.00
53) Chrysene-d12	33.17	240	19815m	246.21	0.00
74) Perylene-d12	37.88	264	10204	252.83	0.00
Target Compounds					Qvalue
3) Decalin	10.56	138	3686m	248.46 ng/ml	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.26	128	21695m	250.76	
9) 2-Methylnaphthalene	15.51	142	13882m	257.82	
10) 1-Methylnaphthalene	15.85	142	12462m	245.83	
11) 2,6-Dimethylnaphthalene	17.62	156	11173m	260.09	
12) 1,6,7-Trimethylnaphthalene	20.46	170	9918m	257.03	
13) C2-Naphthalenes	0.00	156	0	N.D. d	
14) C3-Naphthalenes	0.00	170	0	N.D. d	
15) C4-Naphthalenes	0.00	184	0	N.D. d	
16) Benzothiophene	13.43	134	17128m	246.25 ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	17.09	154	14941m	255.65	
22) Acenaphthylene	18.55	152	20871m	255.26	
23) Acenaphthene	19.14	154	12508m	258.55	
24) Dibenzofuran	19.73	168	16581m	259.27 ng/ml	
25) Fluorene	20.91	166	15108m	273.79	
26) C1-Fluorenes	0.00	180	0	N.D. d	
27) C2-Fluorenes	0.00	194	0	N.D. d	
28) C3-Fluorenes	0.00	208	0	N.D. d	
31) Pentachlorophenol	23.47	266	1285m	298.36 ng/ml	
32) Carbazole	24.92	167	17353m	303.25 ng/ml	
33) Dibenzothiophene	23.74	184	19414m	302.53	
34) C1-Dibenzothiophene	0.00	198	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333K.D
Acq On : 26 Nov 2006 1:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:31 2006

Vial: 22
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.18	178	23021m	310.41		
38)	Anthracene	24.35	178	19150m	309.05		
39)	1-Methylphenanthrene	26.30	192	15234m	304.24		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	19938m	250.22		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	19843m	249.86		
49)	Pyrene	29.03	202	24078m	306.82		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	25189m	265.99		
55)	Chrysene	33.25	228	22294m	304.93		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.02	191	8959	234.82	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	19580	212.55		
65)	Benzo(k)fluoranthene	36.67	252	20657	260.13		
66)	Benzo(e)pyrene	37.49	252	19046	259.12		
67)	Benzo(a)pyrene	37.66	252	17364	251.46		
68)	Indeno(1,2,3-c,d)pyrene	42.10	276	12244	234.19		
69)	Dibenzo(a,h)anthracene	42.23	278	11361	227.43		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.34	276	13301	233.43		
75)	Perylene	37.95	252	17004	236.49		

(#) = qualifier out of range (m) = manual integration

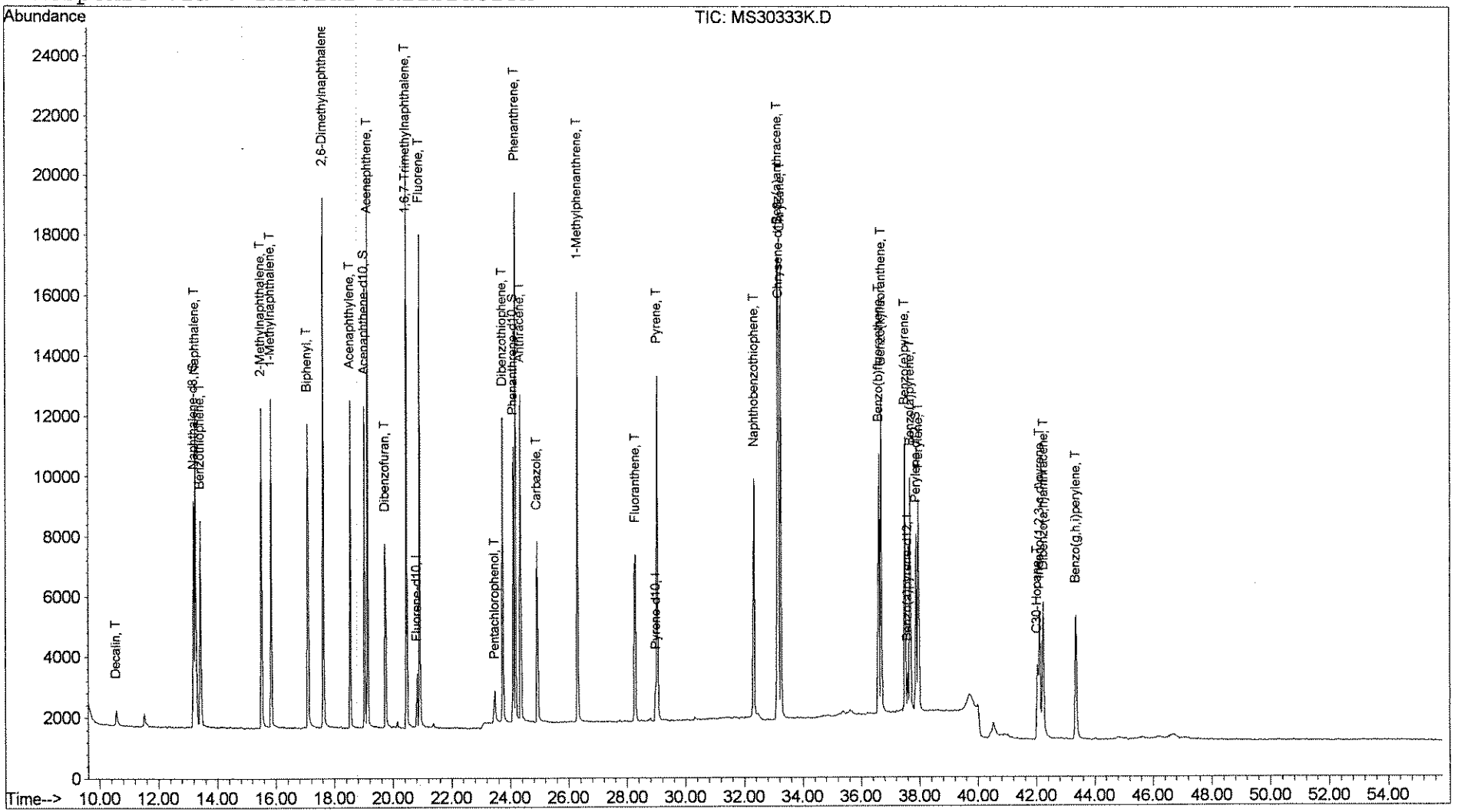
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333K.D
Acq On : 26 Nov 2006 1:01 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:31 2006

Vial: 22
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333L.D Vial: 31
Acq On : 26 Nov 2006 10:31 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Fluorene-d10	1.000	1.000	0.0	106	0.00
2	S	Naphthalene-d8	2.017	2.066	-2.4	112	0.00
3	T	Decalin	0.402	0.399	0.7	108	0.00
4	un	C1-Decalin	0.402	0.000	100.0#	0#	-12.87#
5	un	C2-Decalin	0.402	0.000	100.0#	0#	-14.39#
6	un	C3-Decalin	0.402	0.000	100.0#	0#	-16.00#
7	un	C4-Decalin	0.402	0.000	100.0#	0#	-19.86#
8	T	Naphthalene	2.344	2.469	-5.3	115	0.00
9	T	2-Methylnaphthalene	1.459	1.611	-10.4	125	0.00
10	T	1-Methylnaphthalene	1.374	1.411	-2.7	109	0.00
11	T	2,6-Dimethylnaphthalene	1.164	1.353	-16.2	132	0.00
12	T	1,6,7-Trimethylnaphthalene	1.046	1.194	-14.1	122	-0.03
13	un	C2-Naphthalenes	2.344	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	2.344	0.000	100.0#	0#	-20.30#
15	un	C4-Naphthalenes	2.344	0.000	100.0#	0#	-22.44#
16	T	Benzothiophene	1.885	1.892	-0.4	109	0.00
17	un	C1-Benzothiophene	1.885	0.000	100.0#	0#	-15.72#
18	un	C2-Benzothiophene	1.885	0.000	100.0#	0#	-18.13#
19	un	C3-Benzothiophene	1.885	0.000	100.0#	0#	-19.79#
20	S	Acenaphthene-d10	0.969	1.123	-15.9	133	0.00
21	T	Biphenyl	1.584	1.732	-9.3	123	-0.03
22	T	Acenaphthylene	2.216	2.217	-0.0	107	0.00
23	T	Acenaphthene	1.311	1.349	-2.9	109	0.00
24	T	Dibenzofuran	1.733	1.999	-15.3	127	-0.03
25	T	Fluorene	1.495	1.725	-15.4	126	0.00
26	un	C1-Fluorenes	1.495	0.000	100.0#	0#	-22.86#
27	un	C2-Fluorenes	1.495	0.000	100.0#	0#	-24.54#
28	un	C3-Fluorenes	1.495	0.000	100.0#	0#	-26.43#
29	I	Pyrene-d10	1.000	1.000	0.0	115	-0.03
30	S	Phenanthrene-d10	1.049	0.998	4.9	102	0.00
31	T	Pentachlorophenol	0.066	0.078	-18.2	144	0.00
32	T	Carbazole	0.883	1.047	-18.6	132	-0.03
33	T	Dibenzothiophene	0.990	1.219	-23.1	133	0.00
34	un	C1-Dibenzothiophene	0.990	0.000	100.0#	0#	-25.26#
35	un	C2-Dibenzothiophene	0.990	0.000	100.0#	0#	-26.63#
36	un	C3-Dibenzothiophene	0.990	0.000	100.0#	0#	-28.74#
37	T	Phenanthrene	1.144	1.424	-24.5	131	0.00
38	T	Anthracene	0.956	1.136	-18.8	130	-0.03
39	T	1-Methylphenanthrene	0.772	0.941	-21.9	136	0.00
40	un	C1-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-26.27#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333L.D
Acq On : 26 Nov 2006 10:31 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p

Vial: 31
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-27.67#
42	un	C3-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.24#
43	un	C4-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.96#
44	T	Naphthobenzothiophene	1.229	1.153	6.2	102	0.00
45	un	C1-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-33.23#
46	un	C2-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-34.90#
47	un	C3-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-36.27#
48	T	Fluoranthene	1.225	1.213	1.0	108	-0.03
49	T	Pyrene	1.211	1.504	-24.2	142	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-30.70#
51	un	C2-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-32.06#
52	un	C3-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-33.12#
53	S	Chrysene-d12	1.241	1.062	14.4	94	0.00
54	T	Benz(a)anthracene	1.461	1.320	9.7	99	0.00
55	T	Chrysene	1.128	1.397	-23.8	136	0.00
56	un	C1-Chrysenes	1.128	0.000	100.0#	0#	-34.45#
57	un	C2-Chrysenes	1.128	0.000	100.0#	0#	-35.65#
58	un	C3-Chrysenes	1.128	0.000	100.0#	0#	-37.09#
59	un	C4-Chrysenes	1.128	0.000	100.0#	0#	-42.64#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	124	0.00
61	un	C29-Hopane	0.747	0.000	100.0#	0#	-40.58#
62	un	18a-Oleanane	0.747	0.000	100.0#	0#	-42.44#
63	T	C30-Hopane	0.747	0.692	7.4	113	-0.03
64	T	Benzo(b)fluoranthene	1.803	1.473	18.3	100	0.00
65	T	Benzo(k)fluoranthene	1.554	1.647	-6.0	127	0.00
66	T	Benzo(e)pyrene	1.438	1.523	-5.9	129	-0.03
67	T	Benzo(a)pyrene	1.351	1.395	-3.3	126	-0.03
68	T	Indeno(1,2,3-c,d)pyrene	1.023	0.961	6.1	115	-0.03
69	T	Dibenzo(a,h)anthracene	0.977	0.885	9.4	110	0.00
70	un	C1-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-42.72#
71	un	C2-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-44.64#
72	un	C3-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-45.11#
73	T	Benzo(g,h,i)perylene	1.115	1.020	8.5	112	-0.03
74	S	Perylene-d12	0.790	0.807	-2.2	121	0.00
75	T	Perylene	1.407	1.337	5.0	116	-0.03

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333L.D Vial: 31
Acq On : 26 Nov 2006 10:31 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:39 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1804m	51.08	ng/ml	0.00
29) Pyrene-d10	28.96	212	3448m	49.98		-0.03
60) Benzo(a)pyrene-d12	37.59	264	2338m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	18240m	256.03		0.00
20) Acenaphthene-d10	19.03	164	9916m	289.64		0.00
30) Phenanthrene-d10	24.11	188	17213m	237.75		0.00
53) Chrysene-d12	33.17	240	18320m	213.91		0.00
74) Perylene-d12	37.88	264	10346m	255.58		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	3530m	248.63	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	21841m	263.79		
9) 2-Methylnaphthalene	15.51	142	14261m	276.75		
10) 1-Methylnaphthalene	15.85	142	12475m	257.13		
11) 2,6-Dimethylnaphthalene	17.62	156	11967m	291.09		
12) 1,6,7-Trimethylnaphthalene	20.46	170	10558m	285.90		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	16734m	251.39	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.09	154	15324m	273.97		
22) Acenaphthylene	18.55	152	19617m	250.69		
23) Acenaphthene	19.14	154	11927m	257.61		
24) Dibenzofuran	19.73	168	17676m	288.80	ng/ml	
25) Fluorene	20.91	166	15267m	289.10		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	1352m	294.98	ng/ml	
32) Carbazole	24.92	167	18076m	296.83	ng/ml	
33) Dibenzothiophene	23.74	184	21056m	308.32		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333L.D Vial: 31
Acq On : 26 Nov 2006 10:31 pm Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:39 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.18	178	24611m	311.83		
38)	Anthracene	24.35	178	19621m	297.55		
39)	1-Methylphenanthrene	26.30	192	16269m	305.31		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	19864m	234.25		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.26	202	20970m	248.12		
49)	Pyrene	29.03	202	25998m	311.30		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	22817m	226.41		
55)	Chrysene	33.24	228	24147m	310.35		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.02	191	8863m	231.60	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	18904m	204.59		
65)	Benzo(k)fluoranthene	36.67	252	21163m	265.70		
66)	Benzo(e)pyrene	37.49	252	19564m	265.37		
67)	Benzo(a)pyrene	37.66	252	17910m	258.59		
68)	Indeno(1,2,3-c,d)pyrene	42.10	276	12340m	235.32		
69)	Dibenzo(a,h)anthracene	42.23	278	11355m	226.63		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.34	276	13091m	229.06		
75)	Perylene	37.95	252	17167m	238.04		

(#) = qualifier out of range (m) = manual integration

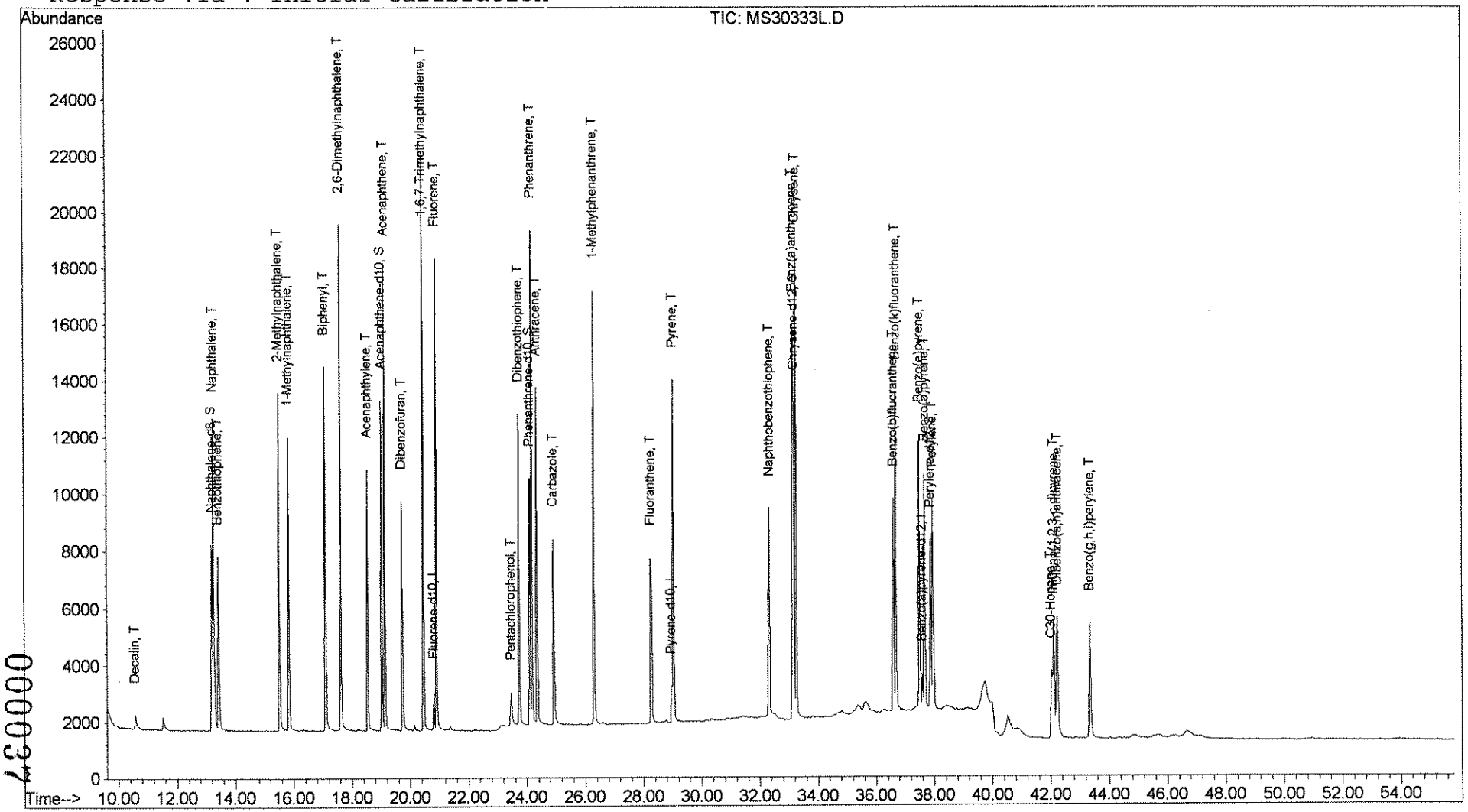
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333L.D
Acq On : 26 Nov 2006 10:31 pm
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:39 2006

Vial: 31
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333M.D Vial: 36
Acq On : 27 Nov 2006 2:44 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 25% 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	103	0.00
2	S	Naphthalene-d8	2.017	2.198	-9.0	116	0.00
3	T	Decalin	0.402	0.421	-4.7	110	0.00
4	un	C1-Decalin	0.402	0.000	100.0#	0#	-12.87#
5	un	C2-Decalin	0.402	0.000	100.0#	0#	-14.39#
6	un	C3-Decalin	0.402	0.000	100.0#	0#	-16.00#
7	un	C4-Decalin	0.402	0.000	100.0#	0#	-19.86#
8	T	Naphthalene	2.344	2.646	-12.9	120	0.00
9	T	2-Methylnaphthalene	1.459	1.678	-15.0	126	0.00
10	T	1-Methylnaphthalene	1.374	1.453	-5.7	109	0.00
11	T	2,6-Dimethylnaphthalene	1.164	1.354	-16.3	128	0.00
12	T	1,6,7-Trimethylnaphthalene	1.046	1.218	-16.4	121	-0.03
13	un	C2-Naphthalenes	2.344	0.000	100.0#	0#	-18.11#
14	un	C3-Naphthalenes	2.344	0.000	100.0#	0#	-20.30#
15	un	C4-Naphthalenes	2.344	0.000	100.0#	0#	-22.44#
16	T	Benzothiophene	1.885	1.978	-4.9	110	0.00
17	un	C1-Benzothiophene	1.885	0.000	100.0#	0#	-15.72#
18	un	C2-Benzothiophene	1.885	0.000	100.0#	0#	-18.13#
19	un	C3-Benzothiophene	1.885	0.000	100.0#	0#	-19.79#
20	S	Acenaphthene-d10	0.969	1.154	-19.1	133	0.00
21	T	Biphenyl	1.584	1.800	-13.6	124	-0.03
22	T	Acenaphthylene	2.216	2.341	-5.6	109	0.00
23	T	Acenaphthene	1.311	1.413	-7.8	111	0.00
24	T	Dibenzofuran	1.733	2.108	-21.6	130	-0.03
25	T	Fluorene	1.495	1.706	-14.1	121	0.00
26	un	C1-Fluorenes	1.495	0.000	100.0#	0#	-22.86#
27	un	C2-Fluorenes	1.495	0.000	100.0#	0#	-24.54#
28	un	C3-Fluorenes	1.495	0.000	100.0#	0#	-26.43#
29	I	Pyrene-d10	1.000	1.000	0.0	117	0.00
30	S	Phenanthrene-d10	1.049	1.052	-0.3	110	0.00
31	T	Pentachlorophenol	0.066	0.080	-21.2	150	0.00
32	T	Carbazole	0.883	0.943	-6.8	121	-0.03
33	T	Dibenzothiophene	0.990	1.195	-20.7	134	0.00
34	un	C1-Dibenzothiophene	0.990	0.000	100.0#	0#	-25.26#
35	un	C2-Dibenzothiophene	0.990	0.000	100.0#	0#	-26.63#
36	un	C3-Dibenzothiophene	0.990	0.000	100.0#	0#	-28.74#
37	T	Phenanthrene	1.144	1.342	-17.3	126	0.00
38	T	Anthracene	0.956	1.077	-12.7	126	-0.03
39	T	1-Methylphenanthrene	0.772	0.894	-15.8	132	0.00
40	un	C1-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-26.27#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : Z:\1\DATA\MS30333\MS30333M.D Vial: 36
Acq On : 27 Nov 2006 2:44 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	un	C2-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-27.67#
42	un	C3-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.24#
43	un	C4-Phenanthrene/Anthracene	1.144	0.000	100.0#	0#	-30.96#
44	T	Naphthobenzothiophene	1.229	1.178	4.1	107	0.00
45	un	C1-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-33.23#
46	un	C2-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-34.90#
47	un	C3-Naphthobenzothiophene	1.229	0.000	100.0#	0#	-36.27#
48	T	Fluoranthene	1.225	1.188	3.0	108	0.00
49	T	Pyrene	1.211	1.431	-18.2	138	0.00
50	un	C1-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-30.70#
51	un	C2-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-32.06#
52	un	C3-Fluoranthenes/Pyrenes	1.225	0.000	100.0#	0#	-33.12#
53	S	Chrysene-d12	1.241	1.139	8.2	103	0.00
54	T	Benz(a)anthracene	1.461	1.408	3.6	108	0.00
55	T	Chrysene	1.128	1.393	-23.5	139	0.00
56	un	C1-Chrysenes	1.128	0.000	100.0#	0#	-34.45#
57	un	C2-Chrysenes	1.128	0.000	100.0#	0#	-35.65#
58	un	C3-Chrysenes	1.128	0.000	100.0#	0#	-37.09#
59	un	C4-Chrysenes	1.128	0.000	100.0#	0#	-42.64#
60	I	Benzo(a)pyrene-d12	1.000	1.000	0.0	124	0.00
61	un	C29-Hopane	0.747	0.000	100.0#	0#	-40.58#
62	un	18a-Oleanane	0.747	0.000	100.0#	0#	-42.44#
63	T	C30-Hopane	0.747	0.747	0.0	122	-0.03
64	T	Benzo(b)fluoranthene	1.803	1.574	12.7	107	0.00
65	T	Benzo(k)fluoranthene	1.554	1.693	-8.9	130	0.00
66	T	Benzo(e)pyrene	1.438	1.500	-4.3	127	-0.04
67	T	Benzo(a)pyrene	1.351	1.283	5.0	116	-0.04
68	T	Indeno(1,2,3-c,d)pyrene	1.023	0.893	12.7	107	-0.03
69	T	Dibenzo(a,h)anthracene	0.977	0.871	10.8	109	0.00
70	un	C1-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-42.72#
71	un	C2-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-44.64#
72	un	C3-Dibenzo(a,h)anthracene	0.977	0.000	100.0#	0#	-45.11#
73	T	Benzo(g,h,i)perylene	1.115	0.934	16.2	102	-0.03
74	S	Perylene-d12	0.790	0.797	-0.9	120	0.00
75	T	Perylene	1.407	1.292	8.2	113	-0.04

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333M.D Vial: 36
Acq On : 27 Nov 2006 2:44 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:44 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1747m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	3521m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	2340m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	18794	272.41		0.00
20) Acenaphthene-d10	19.03	164	9870m	297.70		0.00
30) Phenanthrene-d10	24.11	188	18530m	250.63		0.00
53) Chrysene-d12	33.17	240	20067m	229.45		0.00
74) Perylene-d12	37.88	264	10225m	252.37		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	3608m	262.41	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	22672m	282.76		
9) 2-Methylnaphthalene	15.51	142	14384m	288.25		
10) 1-Methylnaphthalene	15.85	142	12442m	264.82		
11) 2,6-Dimethylnaphthalene	17.62	156	11602m	291.42		
12) 1,6,7-Trimethylnaphthalene	20.46	170	10430m	291.65		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	16948m	262.91	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.09	154	15416m	284.61		
22) Acenaphthylene	18.55	152	20055m	264.65		
23) Acenaphthene	19.14	154	12096m	269.79		
24) Dibenzofuran	19.73	168	18047m	304.48	ng/ml	
25) Fluorene	20.91	166	14622m	285.92		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	1405m	300.19	ng/ml	
32) Carbazole	24.92	167	16631m	267.44	ng/ml	
33) Dibenzothiophene	23.74	184	21074m	302.19		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333M.D Vial: 36
Acq On : 27 Nov 2006 2:44 am Operator: TJM
Sample : AR-WKCC-250-022 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 7:44 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D. d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D. d	
37)	Phenanthrene	24.18	178	23688m	293.92	
38)	Anthracene	24.35	178	19005m	282.23	
39)	1-Methylphenanthrene	26.30	192	15776m	289.92	
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44)	Naphthobenzothiophene	32.33	234	20722m	239.31	
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48)	Fluoranthene	28.29	202	20975m	243.04	
49)	Pyrene	29.03	202	25247m	296.04	
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54)	Benz(a)anthracene	33.14	228	24847m	241.44	
55)	Chrysene	33.24	228	24593m	309.53	
56)	C1-Chrysenes	0.00	242	0	N.D. d	
57)	C2-Chrysenes	0.00	256	0	N.D. d	
58)	C3-Chrysenes	0.00	270	0	N.D. d	
59)	C4-Chrysenes	0.00	284	0	N.D. d	
61)	C29-Hopane	0.00	191	0	N.D. d	
62)	18a-Oleanane	0.00	191	0	N.D. d	
63)	C30-Hopane	42.02	191	9577m	250.05 ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	20208m	218.52	
65)	Benzo(k)fluoranthene	36.67	252	21763m	273.00	
66)	Benzo(e)pyrene	37.49	252	19286m	261.37	
67)	Benzo(a)pyrene	37.66	252	16484m	237.79	
68)	Indeno(1,2,3-c,d)pyrene	42.10	276	11473m	218.60	
69)	Dibenzo(a,h)anthracene	42.23	278	11186m	223.06	
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73)	Benzo(g,h,i)perylene	43.35	276	11998m	209.75	
75)	Perylene	37.95	252	16600m	229.98	

(#) = qualifier out of range (m) = manual integration

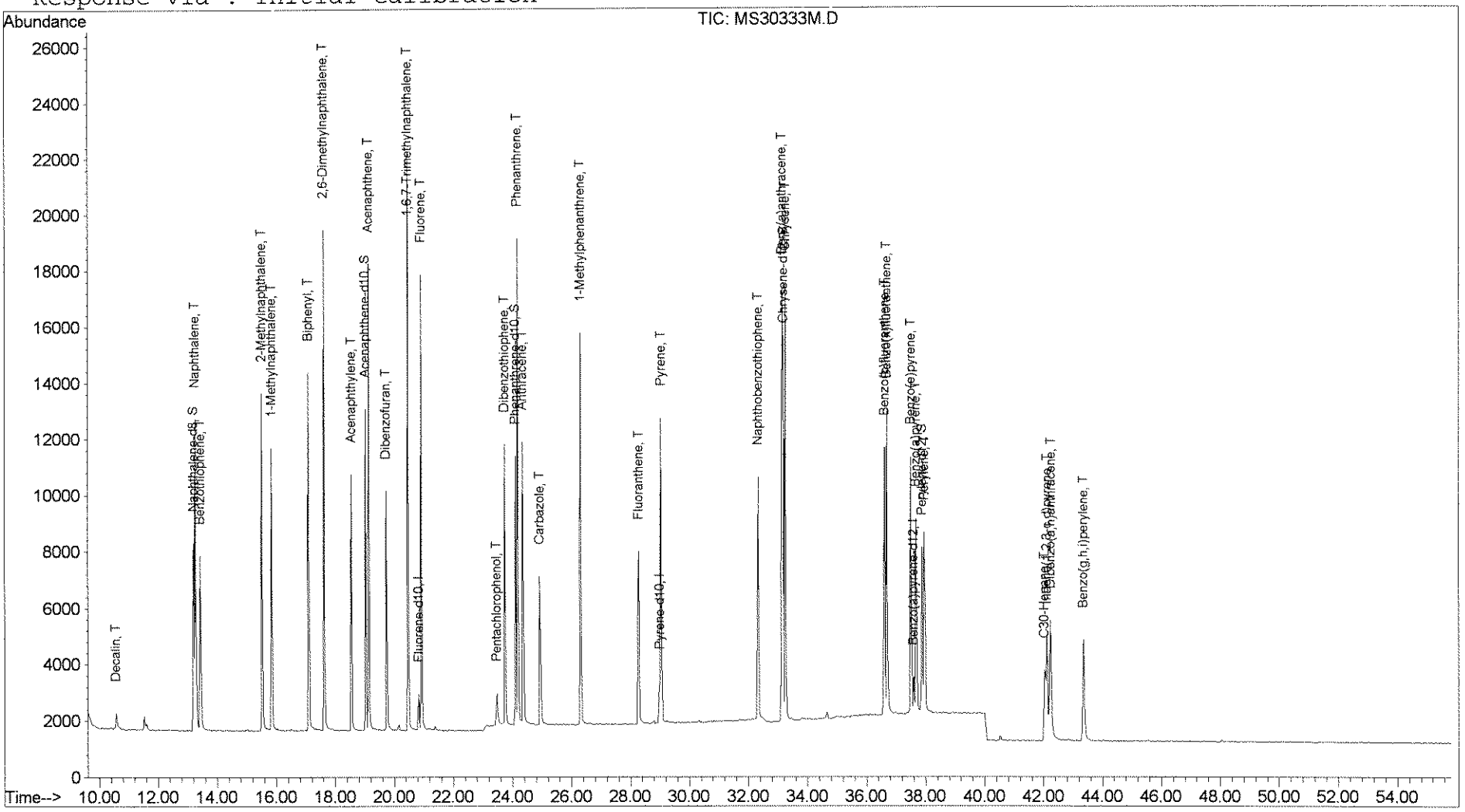
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333M.D
Acq On : 27 Nov 2006 2:44 am
Sample : AR-WKCC-250-022
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 7:44 2006

Vial: 36
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name	**MS30333B.D**	**Su Amt = 50**	MS30333B.D
Data File Path	**X:\1\DATA\MS30333**		SRM 1582
Operator	**TJM**		
Date Acquired	**11/25/20 -1:0:**		
Method File	**PAH-2002**		
Sample Name	**SRM 1582**		
Misc Info			
Instrument Name	**GC/MS Ins**		11/25/20 -1:0:
Vial Number	**2**		PAH-2002
Sample Multiplier	**0.588**		1.70
Sample Amount	**0**		

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	10.56	10433	520.69	554.22
4)	C1-Decalin	11.75	19192	957.83	1019.52
5)	C2-Decalin	12.93	34731	1733.34	1844.98
6)	C3-Decalin	15.26	21257	1060.88	1129.21
7)	C4-Decalin	17.51	3281	163.75	174.29
8)	Naphthalene	13.26	16868	144.36	153.65
9+10)	C1-Naphthalenes	15.68	69199	592.20	630.35
13)	C2-Naphthalenes	17.99	117004	1001.32	1065.81
14)	C3-Naphthalenes	19.90	108951	932.40	992.45
15)	C4-Naphthalenes	22.49	75475	645.91	687.51
16)	Benzothiophene	13.52	908	9.67	10.29
17)	C1-Benzothiophene	15.80	2000	21.29	22.66
18)	C2-Benzothiophene	18.02	7133	75.93	80.82
19)	C3-Benzothiophene	20.02	12956	137.92	146.80
21)	Biphenyl	17.09	2521	31.94	33.99
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	19.14	1289	19.73	21.00
24)	Dibenzofuran	19.73	1139	13.19	14.04
25)	Fluorene	20.92	2836	38.05	40.50
26)	C1-Fluorenes	22.91	9548	128.11	136.36
27)	C2-Fluorenes	24.55	18177	243.89	259.60
28)	C3-Fluorenes	26.24	18201	244.22	259.95
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	24.92	966	10.97	11.68
38)	Anthracene	24.42	271	2.84	3.03
37)	Phenanthrene	24.18	12658	110.94	118.09
40)	C1-Phenanthrene/Anthracene	25.86	36952	323.86	344.72
41)	C2-Phenanthrene/Anthracene	27.78	59784	523.97	557.72
42)	C3-Phenanthrene/Anthracene	30.41	54125	474.37	504.93
43)	C4-Phenanthrene/Anthracene	31.19	29571	259.17	275.86
33)	Dibenzothiophene	23.74	3541	35.87	38.18
34)	C1-Dibenzothiophene	25.26	13209	133.79	142.41
35)	C2-Dibenzothiophene	27.01	23365	236.66	251.90
36)	C3-Dibenzothiophene	28.86	22187	224.73	239.20
48)	Fluoranthene	28.29	1704	13.95	14.84
49)	Pyrene	29.03	1229	10.18	10.83
50)	C1-Fluoranthenes/Pyrenes	31.29	8289	67.84	72.21
51)	C2-Fluoranthenes/Pyrenes	31.73	13351	109.27	116.31
52)	C3-Fluoranthenes/Pyrenes	33.39	10208	83.55	88.93
44)	Naphthobenzothiophene	32.33	4365	35.61	37.90
45)	C1-Naphthobenzothiophene	34.06	7045	57.47	61.17
46)	C2-Naphthobenzothiophene	35.44	8819	71.94	76.57
47)	C3-Naphthobenzothiophene	36.53	5898	48.11	51.21
54)	Benz(a)anthracene	33.14	581	3.99	4.24
55)	Chrysene	33.24	2321	20.63	21.96
56)	C1-Chrysenes	34.48	7644	67.96	72.34
57)	C2-Chrysenes	36.82	14148	125.78	133.88
58)	C3-Chrysenes	37.31	8944	79.52	84.64
59)	C4-Chrysenes	0.00	0	0.00	0.00
64)	Benzo(b)fluoranthene	36.60	240	1.58	1.69
65)	Benzo(k)fluoranthene	36.67	134	1.03	1.09
66)	Benzo(e)pyrene	37.52	426	3.52	3.75
67)	Benzo(a)pyrene	37.70	399	3.51	3.74
75)	Perylene	37.98	3767	31.84	33.90
68)	Indeno(1,2,3-c,d)pyrene	42.10	281	3.27	3.48
69)	Dibenzo(a,h)anthracene	42.10	170	2.07	2.20
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.37	160	1.71	1.82
	Total PAH				12664
	Individual Isomers				
9)	2-Methylnaphthalene	15.51	42575	585.45	623.16
10)	1-Methylnaphthalene	15.85	26624	388.85	413.89
11)	2,6-Dimethylnaphthalene	17.62	32600	561.88	598.07
12)	1,6,7-Trimethylnaphthalene	20.47	7640	146.59	156.03
39)	1-Methylphenanthrene	26.30	6552	85.05	90.53
61)	C29-Hopane	40.08	10433	166.21	176.91
62)	18a-Oleanane	41.12	4022	64.07	68.20
63)	C30-Hopane	41.35	18603	296.36	315.45
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.21	2766	27.51	94
20)	Acenaphthene-d10	19.03	1337	27.67	94
30)	Phenanthrene-d10	24.11	2891	27.62	94
53)	Chrysene-d12	33.17	3420	27.62	94
74)	Perylene-d12	37.88	1827	27.51	94
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.83	1497	51.08	
29)	Pyrene-d10	29.00	2931	49.98	
60)	Benzo(a)pyrene-d12	37.59	2255	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\MS30333B.D
Acq On : 25 Nov 2006 10:37 am
Sample : SRM 1582
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:34 2006

Vial: 2
Operator: TJM
Inst : GC/MS Ins
Multiplr: 0.59
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1497m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	2931m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	2255m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	2766m	27.51		0.00
20) Acenaphthene-d10	19.03	164	1337m	27.67		0.00
30) Phenanthrene-d10	24.11	188	2891m	27.62		0.00
53) Chrysene-d12	33.17	240	3420m	27.62		0.00
74) Perylene-d12	37.88	264	1827m	27.51		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	10433	520.69	ng/ml	
4) C1-Decalin	11.75	152	19192	957.83	ng/ml	
5) C2-Decalin	12.93	166	34731	1733.34		
6) C3-Decalin	15.26	180	21257	1060.88		
7) C4-Decalin	17.51	194	3281	163.75		
8) Naphthalene	13.26	128	16868	144.36		
9) 2-Methylnaphthalene	15.51	142	42575	585.45		
10) 1-Methylnaphthalene	15.85	142	26624	388.85		
11) 2,6-Dimethylnaphthalene	17.62	156	32600	561.88		
12) 1,6,7-Trimethylnaphthalene	20.47	170	7640	146.59		
13) C2-Naphthalenes	17.99	156	117004	1001.32		
14) C3-Naphthalenes	19.90	170	108951	932.40		
15) C4-Naphthalenes	22.49	184	75475m	645.91		
16) Benzothiophene	13.52	134	908	9.67	ng/ml	
17) C1-Benzothiophene	15.80	148	2000	21.29	ng/ml	
18) C2-Benzothiophene	18.02	162	7133	75.93	ng/ml	
19) C3-Benzothiophene	20.02	176	12956	137.92	ng/ml	
21) Biphenyl	17.09	154	2521	31.94		
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	19.14	154	1289	19.73		
24) Dibenzofuran	19.73	168	1139	13.19	ng/ml	
25) Fluorene	20.92	166	2836	38.05		
26) C1-Fluorenes	22.91	180	9548	128.11		
27) C2-Fluorenes	24.55	194	18177m	243.89		
28) C3-Fluorenes	26.24	208	18201m	244.22		
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	24.92	167	966m	10.97	ng/ml	
33) Dibenzothiophene	23.74	184	3541m	35.87		
34) C1-Dibenzothiophene	25.26	198	13209m	133.79		
35) C2-Dibenzothiophene	27.01	212	23365m	236.66		
36) C3-Dibenzothiophene	28.86	226	22187m	224.73		
37) Phenanthrene	24.18	178	12658m	110.94		
38) Anthracene	24.42	178	271m	2.84		
39) 1-Methylphenanthrene	26.30	192	6552m	85.05		
40) C1-Phenanthrene/Anthracene	25.86	192	36952m	323.86		
41) C2-Phenanthrene/Anthracene	27.78	206	59784m	523.97		
42) C3-Phenanthrene/Anthracene	30.41	220	54125m	474.37		
43) C4-Phenanthrene/Anthracene	31.19	234	29571m	259.17		
44) Naphthobenzothiophene	32.33	234	4365m	35.61		
45) C1-Naphthobenzothiophene	34.06	248	7045m	57.47		
46) C2-Naphthobenzothiophene	35.44	262	8819m	71.94		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\MS30333B.D
Acq On : 25 Nov 2006 10:37 am
Sample : SRM 1582
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:34 2006

Vial: 2
Operator: TJM
Inst : GC/MS Ins
Multiplr: 0.59
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	C3-Naphthobenzothiophene	36.53	276	5898m	48.11		
48)	Fluoranthene	28.29	202	1704m	13.95		
49)	Pyrene	29.03	202	1229m	10.18		
50)	C1-Fluoranthenes/Pyrenes	31.29	216	8289m	67.84	ng/mL	
51)	C2-Fluoranthenes/Pyrenes	31.73	230	13351m	109.27	ng/mL	
52)	C3-Fluoranthenes/Pyrenes	33.39	244	10208m	83.55	ng/mL	
54)	Benz(a)anthracene	33.14	228	581m	3.99		
55)	Chrysene	33.24	228	2321m	20.63		
56)	C1-Chrysenes	34.48	242	7644m	67.96	ng/mL	
57)	C2-Chrysenes	36.82	256	14148m	125.78	ng/mL	
58)	C3-Chrysenes	37.31	270	8944m	79.52	ng/mL	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	40.08	191	10433m	166.21	ng/ml	
62)	18a-Oleanane	41.12	191	4022m	64.07	ng/ml	
63)	C30-Hopane	41.35	191	18603m	296.36	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	240m	1.58		
65)	Benzo(k)fluoranthene	36.67	252	134m	1.03		
66)	Benzo(e)pyrene	37.52	252	426m	3.52		
67)	Benzo(a)pyrene	37.70	252	399m	3.51		
68)	Indeno(1,2,3-c,d)pyrene	42.10	276	281m	3.27		
69)	Dibenzo(a,h)anthracene	42.10	278	170m	2.07		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	160m	1.71		
75)	Perylene	37.98	252	3767m	31.84		

(#) = qualifier out of range (m) = manual integration

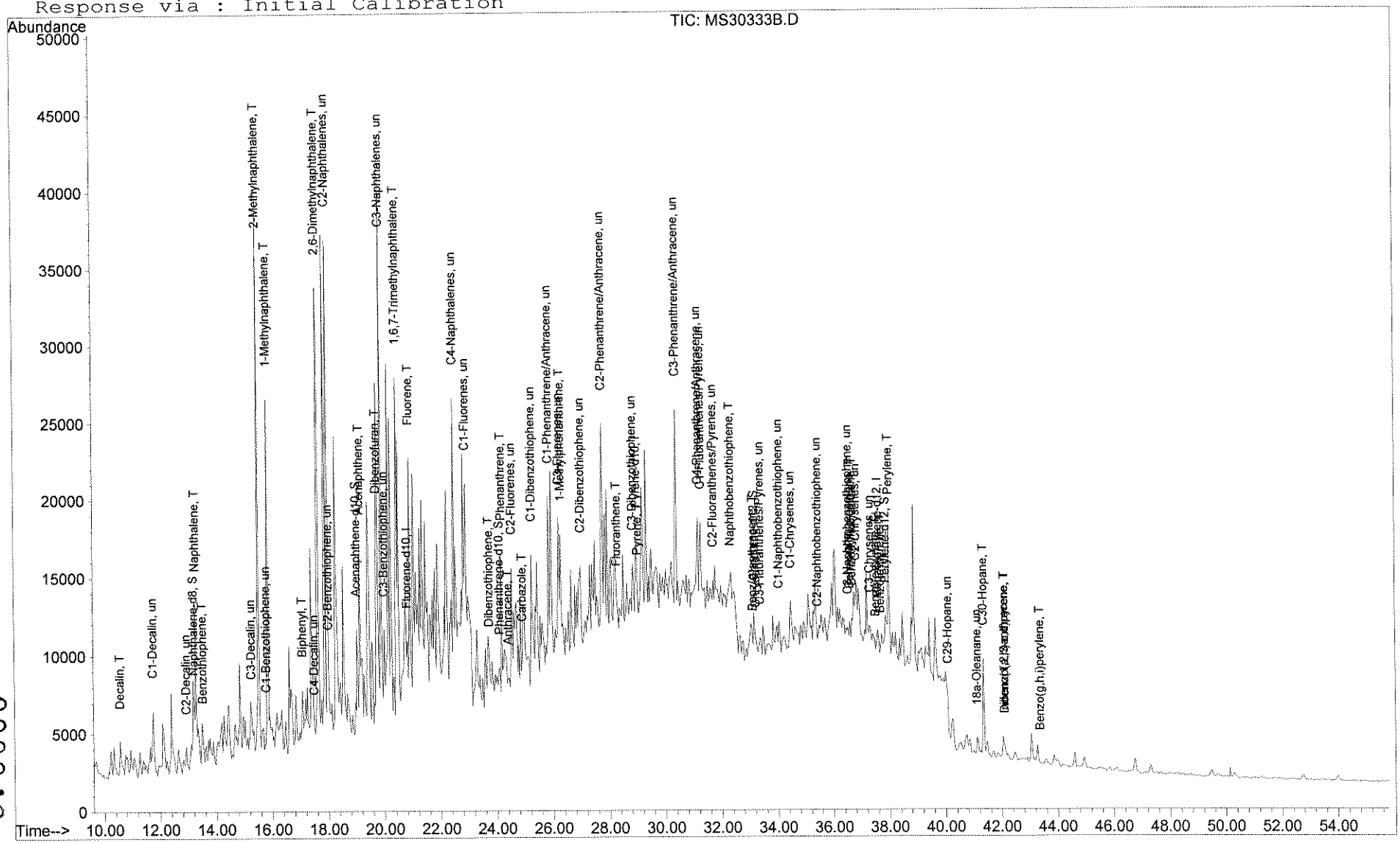
Quantitation Report

Data File : X:\1\DATA\MS30333\MS30333B.D
Acq On : 25 Nov 2006 10:37 am
Sample : SRM 1582
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:34 2006

Vial: 2
Operator: TJM
Inst : GC/MS Ins
Multiplr: 0.59

Quant Results File: 112606.RES

Method : X:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



000046

Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name **MS30333C.D** Su Amt = 50 MS30333C.D
Data File Path **X:\1\DATA\MS30333** IS/SU Mixture
Operator **TJM**
Date Acquired **11/25/20 -1:1:**
Method File **PAH-2002**
Sample Name **IS/SU Mixture**
Misc Info
Instrument Name **GC/MS Ins** 11/25/20 -1:1:
Vial Number **3** PAH-2002
Sample Multiplier **1** 1.00
Sample Amount **0**

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	0.00	0	0.00	0.00
9+10)	C1-Naphthalenes	0.00	0	#DIV/0!	#DIV/0!
13)	C2-Naphthalenes	0.00	0	0.00	0.00
14)	C3-Naphthalenes	0.00	0	0.00	0.00
15)	C4-Naphthalenes	0.00	0	0.00	0.00
16)	Benzothiophene	0.00	0	0.00	0.00
17)	C1-Benzothiophene	0.00	0	0.00	0.00
18)	C2-Benzothiophene	0.00	0	0.00	0.00
19)	C3-Benzothiophene	0.00	0	0.00	0.00
21)	Biphenyl	0.00	0	0.00	0.00
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	0.00	0	0.00	0.00
24)	Dibenzofuran	0.00	0	0.00	0.00
25)	Fluorene	0.00	0	0.00	0.00
26)	C1-Fluorenes	0.00	0	0.00	0.00
27)	C2-Fluorenes	0.00	0	0.00	0.00
28)	C3-Fluorenes	0.00	0	0.00	0.00
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	0.00	0	0.00	0.00
38)	Anthracene	0.00	0	0.00	0.00
37)	Phenanthrene	0.00	0	0.00	0.00
40)	C1-Phenanthrene/Anthracene	0.00	0	0.00	0.00
41)	C2-Phenanthrene/Anthracene	0.00	0	0.00	0.00
42)	C3-Phenanthrene/Anthracene	0.00	0	0.00	0.00
43)	C4-Phenanthrene/Anthracene	0.00	0	0.00	0.00
33)	Dibenzothiophene	0.00	0	0.00	0.00
34)	C1-Dibenzothiophene	0.00	0	0.00	0.00
35)	C2-Dibenzothiophene	0.00	0	0.00	0.00
36)	C3-Dibenzothiophene	0.00	0	0.00	0.00
48)	Fluoranthene	0.00	0	0.00	0.00
49)	Pyrene	0.00	0	0.00	0.00
50)	C1-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
51)	C2-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
52)	C3-Fluoranthenes/Pyrenes	0.00	0	0.00	0.00
44)	Naphthobenzothiophene	0.00	0	0.00	0.00
45)	C1-Naphthobenzothiophene	0.00	0	0.00	0.00
46)	C2-Naphthobenzothiophene	0.00	0	0.00	0.00
47)	C3-Naphthobenzothiophene	0.00	0	0.00	0.00
54)	Benz(a)anthracene	0.00	0	0.00	0.00
55)	Chrysene	0.00	0	0.00	0.00
56)	C1-Chrysenes	0.00	0	0.00	0.00
57)	C2-Chrysenes	0.00	0	0.00	0.00
58)	C3-Chrysenes	0.00	0	0.00	0.00
59)	C4-Chrysenes	0.00	0	0.00	0.00
64)	Benzo(b)fluoranthene	0.00	0	0.00	0.00
65)	Benzo(k)fluoranthene	0.00	0	0.00	0.00
66)	Benzo(e)pyrene	0.00	0	0.00	0.00
67)	Benzo(a)pyrene	0.00	0	0.00	0.00
75)	Perylene	0.00	0	0.00	0.00
68)	Indeno(1,2,3-c,d)pyrene	0.00	0	0.00	0.00
69)	Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	0.00	0	0.00	0.00
	Total PAH				#DIV/0!
	Individual Isomers				
9)	2-Methylnaphthalene	0.00	0	0.00	0.00
10)	1-Methylnaphthalene	0.00	0	0.00	0.00
11)	2,6-Dimethylnaphthalene	0.00	0	0.00	0.00
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.00	0.00
39)	1-Methylphenanthrene	0.00	0	0.00	0.00
61)	C29-Hopane	0.00	0	0.00	0.00
62)	18a-Oleanane	0.00	0	0.00	0.00
63)	C30-Hopane	0.00	0	0.00	0.00
	Surrogates *(AR-STSU-040-005)*				Su Recovery (%)
2)	Naphthalene-d8	13.20	2766	46.85	94
20)	Acenaphthene-d10	19.03	1401	49.38	99
30)	Phenanthrene-d10	24.11	3010	48.94	98
53)	Chrysene-d12	33.17	3286	45.17	90
74)	Perylene-d12	37.88	1207	49.72	99
	Internal Stds *(AR-WKIS-0500-007)*				
1)	Fluorene-d10	20.83	1495	51.08	
29)	Pyrene-d10	29.00	2929	49.98	
60)	Benzo(a)pyrene-d12	37.59	1402	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\MS30333C.D
Acq On : 25 Nov 2006 11:40 am
Sample : IS/SU Mixture
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 8:33 2006

Vial: 3
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1495m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	2929m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	1402m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	2766m	46.85		0.00
20) Acenaphthene-d10	19.03	164	1401m	49.38		0.00
30) Phenanthrene-d10	24.11	188	3010m	48.94		0.00
53) Chrysene-d12	33.17	240	3286m	45.17		0.00
74) Perylene-d12	37.88	264	1207m	49.72		0.00
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D. d		
4) C1-Decalin	0.00	152	0	N.D. d		
5) C2-Decalin	0.00	166	0	N.D. d		
6) C3-Decalin	0.00	180	0	N.D. d		
7) C4-Decalin	0.00	194	0	N.D. d		
8) Naphthalene	0.00	128	0	N.D. d		
9) 2-Methylnaphthalene	0.00	142	0	N.D.		
10) 1-Methylnaphthalene	0.00	142	0	N.D.		
11) 2,6-Dimethylnaphthalene	0.00	156	0	N.D. d		
12) 1,6,7-Trimethylnaphthalene	0.00	170	0	N.D.		
13) C2-Naphthalenes	0.00	156	0	N.D. d		
14) C3-Naphthalenes	0.00	170	0	N.D. d		
15) C4-Naphthalenes	0.00	184	0	N.D. d		
16) Benzothiophene	0.00	134	0	N.D. d		
17) C1-Benzothiophene	0.00	148	0	N.D. d		
18) C2-Benzothiophene	0.00	162	0	N.D. d		
19) C3-Benzothiophene	0.00	176	0	N.D. d		
21) Biphenyl	0.00	154	0	N.D. d		
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	0.00	154	0	N.D.		
24) Dibenzofuran	0.00	168	0	N.D.		
25) Fluorene	0.00	166	0	N.D.		
26) C1-Fluorenes	0.00	180	0	N.D. d		
27) C2-Fluorenes	0.00	194	0	N.D. d		
28) C3-Fluorenes	0.00	208	0	N.D. d		
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	0.00	167	0	N.D. d		
33) Dibenzothiophene	0.00	184	0	N.D.		
34) C1-Dibenzothiophene	0.00	198	0	N.D. d		
35) C2-Dibenzothiophene	0.00	212	0	N.D. d		
36) C3-Dibenzothiophene	0.00	226	0	N.D. d		
37) Phenanthrene	0.00	178	0	N.D.		
38) Anthracene	0.00	178	0	N.D.		
39) 1-Methylphenanthrene	0.00	192	0	N.D.		
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d		
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d		
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d		
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d		
44) Naphthobenzothiophene	0.00	234	0	N.D.		
45) C1-Naphthobenzothiophene	0.00	248	0	N.D. d		
46) C2-Naphthobenzothiophene	0.00	262	0	N.D. d		

(#) = qualifier out of range (m) = manual integration

000048

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\MS30333C.D
Acq On : 25 Nov 2006 11:40 am
Sample : IS/SU Mixture
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 8:33 2006

Vial: 3
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	0.00	202	0	N.D.		
49)	Pyrene	0.00	202	0	N.D.		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	0.00	228	0	N.D.		
55)	Chrysene	0.00	228	0	N.D.		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	0.00	191	0	N.D.		
64)	Benzo(b)fluoranthene	0.00	252	0	N.D.		
65)	Benzo(k)fluoranthene	0.00	252	0	N.D.		
66)	Benzo(e)pyrene	0.00	252	0	N.D.		
67)	Benzo(a)pyrene	0.00	252	0	N.D.		
68)	Indeno(1,2,3-c,d)pyrene	0.00	276	0	N.D.		
69)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	d	
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	0.00	276	0	N.D.		
75)	Perylene	0.00	252	0	N.D.		

(#) = qualifier out of range (m) = manual integration
MS30333C.D 112606.M Tue Nov 28 16:39:32 2006

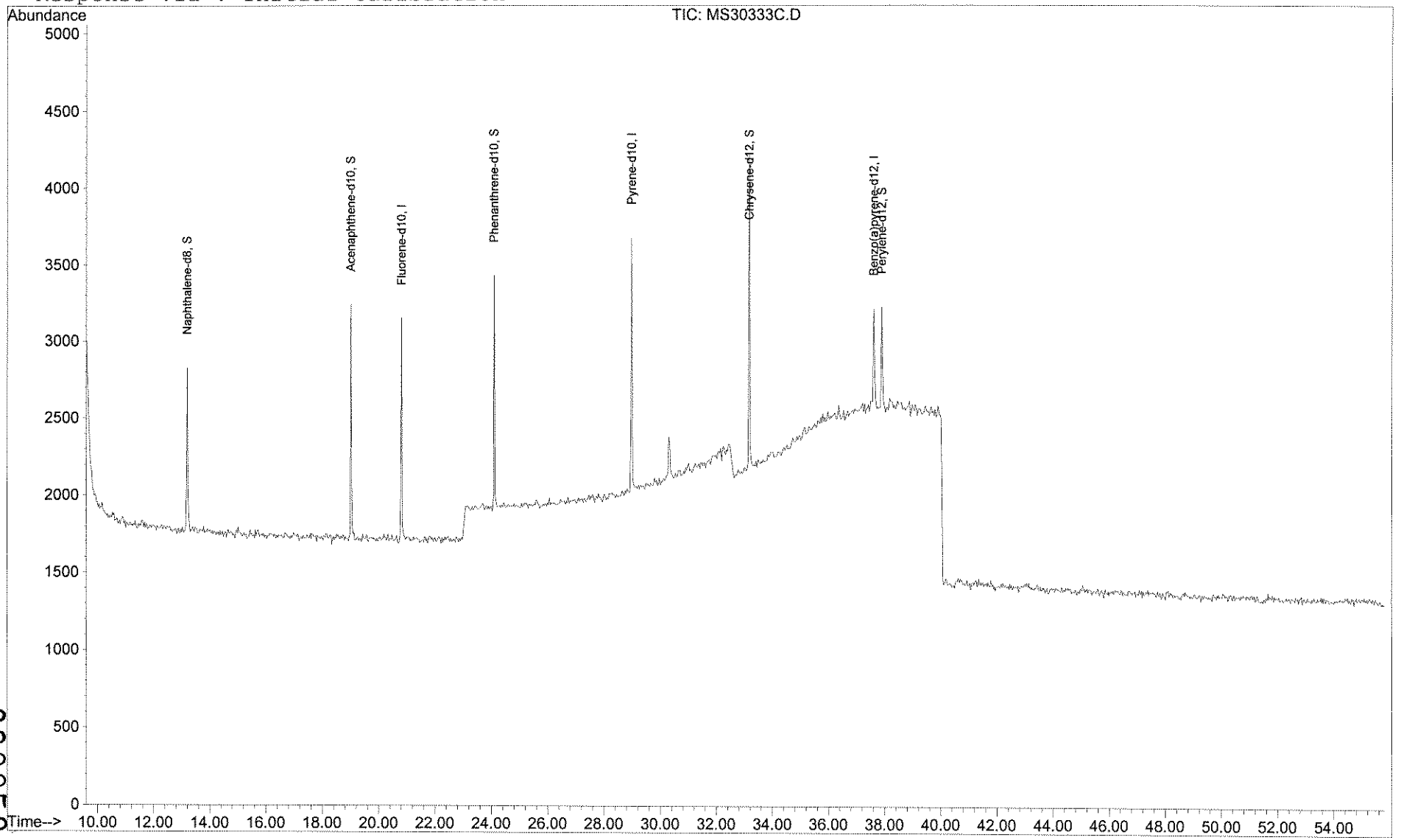
Quantitation Report

Data File : X:\1\DATA\MS30333\MS30333C.D
Acq On : 25 Nov 2006 11:40 am
Sample : IS/SU Mixture
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 8:33 2006

Vial: 3
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : X:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



000050

Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name **GEO0048.D** — **Su Amt = 50** — GEO0048.D
Data File Path **X:\1\DATA\MS30333** — Exhibit A
Operator **TJM**
Date Acquired **11/26/20 -1:1:**
Method File **PAH-2002**
Sample Name **Exhibit A**
Misc Info
Instrument Name **GC/MS Ins** — 11/26/20 -1:1:
Vial Number **33** — PAH-2002
Sample Multiplier **5.6356** — 0.18
Sample Amount **0**

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	0.00	0	0.00	0.00
9+10)	C1-Naphthalenes	0.00	0	0.00	0.00
13)	C2-Naphthalenes	0.00	0	0.00	0.00
14)	C3-Naphthalenes	0.00	0	0.00	0.00
15)	C4-Naphthalenes	0.00	0	0.00	0.00
16)	Benzothiophene	0.00	0	0.00	0.00
17)	C1-Benzothiophene	0.00	0	0.00	0.00
18)	C2-Benzothiophene	0.00	0	0.00	0.00
19)	C3-Benzothiophene	0.00	0	0.00	0.00
21)	Biphenyl	0.00	0	0.00	0.00
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	0.00	0	0.00	0.00
24)	Dibenzofuran	0.00	0	0.00	0.00
25)	Fluorene	0.00	0	0.00	0.00
26)	C1-Fluorenes	0.00	0	0.00	0.00
27)	C2-Fluorenes	0.00	0	0.00	0.00
28)	C3-Fluorenes	0.00	0	0.00	0.00
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	0.00	0	0.00	0.00
38)	Anthracene	24.35	30	0.25	0.25
37)	Phenanthrene	24.18	89	0.62	0.63
40)	C1-Phenanthrene/Anthracene	26.24	544	3.77	3.85
41)	C2-Phenanthrene/Anthracene	27.75	2098	14.54	14.86
42)	C3-Phenanthrene/Anthracene	29.33	3375	23.39	23.91
43)	C4-Phenanthrene/Anthracene	31.19	2945	20.41	20.86
33)	Dibenzothiophene	0.00	0	0.00	0.00
34)	C1-Dibenzothiophene	25.26	534	4.28	4.37
35)	C2-Dibenzothiophene	26.67	2288	18.32	18.73
36)	C3-Dibenzothiophene	28.86	3798	30.42	31.09
48)	Fluoranthene	28.29	176	1.14	1.16
49)	Pyrene	29.03	366	2.40	2.45
50)	C1-Fluoranthenes/Pyrenes	30.85	1613	10.44	10.67
51)	C2-Fluoranthenes/Pyrenes	32.68	2790	18.06	18.46
52)	C3-Fluoranthenes/Pyrenes	34.16	3161	20.46	20.91
44)	Naphthobenzothiophene	32.33	1360	8.77	8.97
45)	C1-Naphthobenzothiophene	34.06	7461	48.13	49.19
46)	C2-Naphthobenzothiophene	35.44	13182	85.03	86.92
47)	C3-Naphthobenzothiophene	36.53	9114	58.79	60.09
54)	Benz(a)anthracene	33.14	543	2.95	3.01
55)	Chrysene	33.21	1366	9.60	9.82
56)	C1-Chrysenes	34.48	3681	25.88	26.45
57)	C2-Chrysenes	35.93	7228	50.81	51.94
58)	C3-Chrysenes	37.31	4149	29.17	29.82
59)	C4-Chrysenes	41.01	2491	17.51	17.90
64)	Benzo(b)fluoranthene	36.60	715	3.63	3.72
65)	Benzo(k)fluoranthene	36.67	163	0.96	0.98
66)	Benzo(e)pyrene	37.49	1150	7.33	7.49
67)	Benzo(a)pyrene	37.66	371	2.52	2.57
75)	Perylene	37.95	278	1.81	1.85
68)	Indeno(1,2,3-c,d)pyrene	42.10	190	1.70	1.74
69)	Dibenzo(a,h)anthracene	42.18	103	0.97	0.99
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.34	379	3.12	3.18
	Total PAH				539
	Individual Isomers				
9)	2-Methylnaphthalene	0.00	0	0.00	0.00
10)	1-Methylnaphthalene	0.00	0	0.00	0.00
11)	2,6-Dimethylnaphthalene	0.00	0	0.00	0.00
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.00	0.00
39)	1-Methylphenanthrene	26.30	99	1.02	1.04
61)	C29-Hopane	40.08	4166	51.14	52.27
62)	18a-Oleanane	0.00	0	0.00	0.00
63)	C30-Hopane	41.32	9443	115.91	118.48
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.20	41112	274.52	97
20)	Acenaphthene-d10	19.03	20210	280.81	100
30)	Phenanthrene-d10	24.11	36488	275.66	98
53)	Chrysene-d12	33.17	43783	279.62	99
74)	Perylene-d12	37.88	23886	277.17	98
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.83	21372	51.08	
29)	Pyrene-d10	29.00	35526	49.98	
60)	Benzo(a)pyrene-d12	37.59	28050	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0048.D
Acq On : 26 Nov 2006 11:34 pm
Sample : Exhibit A
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2006

Vial: 33
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.64

Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	21372m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	35526m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	28050m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	41112m	274.52		0.00
20) Acenaphthene-d10	19.03	164	20210m	280.81		0.00
30) Phenanthrene-d10	24.11	188	36488m	275.66		0.00
53) Chrysene-d12	33.17	240	43783m	279.62		0.00
74) Perylene-d12	37.88	264	23886m	277.17		0.00
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D.	d	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	0.00	128	0	N.D.	d	
9) 2-Methylnaphthalene	0.00	142	0	N.D.		
10) 1-Methylnaphthalene	0.00	142	0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.00	156	0	N.D.	d	
12) 1,6,7-Trimethylnaphthalene	0.00	170	0	N.D.		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	0.00	134	0	N.D.		
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	0.00	154	0	N.D.	d	
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	0.00	154	0	N.D.		
24) Dibenzofuran	0.00	168	0	N.D.		
25) Fluorene	0.00	166	0	N.D.		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	0.00	167	0	N.D.		
33) Dibenzothiophene	0.00	184	0	N.D.	d	
34) C1-Dibenzothiophene	25.26	198	534m	4.28		
35) C2-Dibenzothiophene	26.67	212	2288m	18.32		
36) C3-Dibenzothiophene	28.86	226	3798m	30.42		
37) Phenanthrene	24.18	178	89m	0.62		
38) Anthracene	24.35	178	30m	0.25		
39) 1-Methylphenanthrene	26.30	192	99m	1.02		
40) C1-Phenanthrene/Anthracene	26.24	192	544m	3.77		
41) C2-Phenanthrene/Anthracene	27.75	206	2098m	14.54		
42) C3-Phenanthrene/Anthracene	29.33	220	3375m	23.39		
43) C4-Phenanthrene/Anthracene	31.19	234	2945m	20.41		
44) Naphthobenzothiophene	32.33	234	1360m	8.77		
45) C1-Naphthobenzothiophene	34.06	248	7461m	48.13		
46) C2-Naphthobenzothiophene	35.44	262	13182m	85.03		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0048.D
Acq On : 26 Nov 2006 11:34 pm
Sample : Exhibit A
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2006

Vial: 33
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.64

Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	C3-Naphthobenzothiophene	36.53	276	9114m	58.79		
48)	Fluoranthene	28.29	202	176m	1.14		
49)	Pyrene	29.03	202	366m	2.40		
50)	C1-Fluoranthenes/Pyrenes	30.85	216	1613m	10.44	ng/mL	
51)	C2-Fluoranthenes/Pyrenes	32.68	230	2790m	18.06	ng/mL	
52)	C3-Fluoranthenes/Pyrenes	34.16	244	3161m	20.46	ng/mL	
54)	Benz(a)anthracene	33.14	228	543m	2.95		
55)	Chrysene	33.21	228	1366m	9.60		
56)	C1-Chrysenes	34.48	242	3681m	25.88	ng/mL	
57)	C2-Chrysenes	35.93	256	7228m	50.81	ng/mL	
58)	C3-Chrysenes	37.31	270	4149m	29.17	ng/mL	
59)	C4-Chrysenes	41.01	284	2491m	17.51	ng/mL	
61)	C29-Hopane	40.08	191	4166m	51.14	ng/ml	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	41.32	191	9443m	115.91	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	715m	3.63		
65)	Benzo(k)fluoranthene	36.67	252	163m	0.96		
66)	Benzo(e)pyrene	37.49	252	1150m	7.33		
67)	Benzo(a)pyrene	37.66	252	371m	2.52		
68)	Indeno(1,2,3-c,d)pyrene	42.10	276	190m	1.70		
69)	Dibenzo(a,h)anthracene	42.18	278	103m	0.97		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.34	276	379m	3.12		
75)	Perylene	37.95	252	278m	1.81		

(#) = qualifier out of range (m) = manual integration

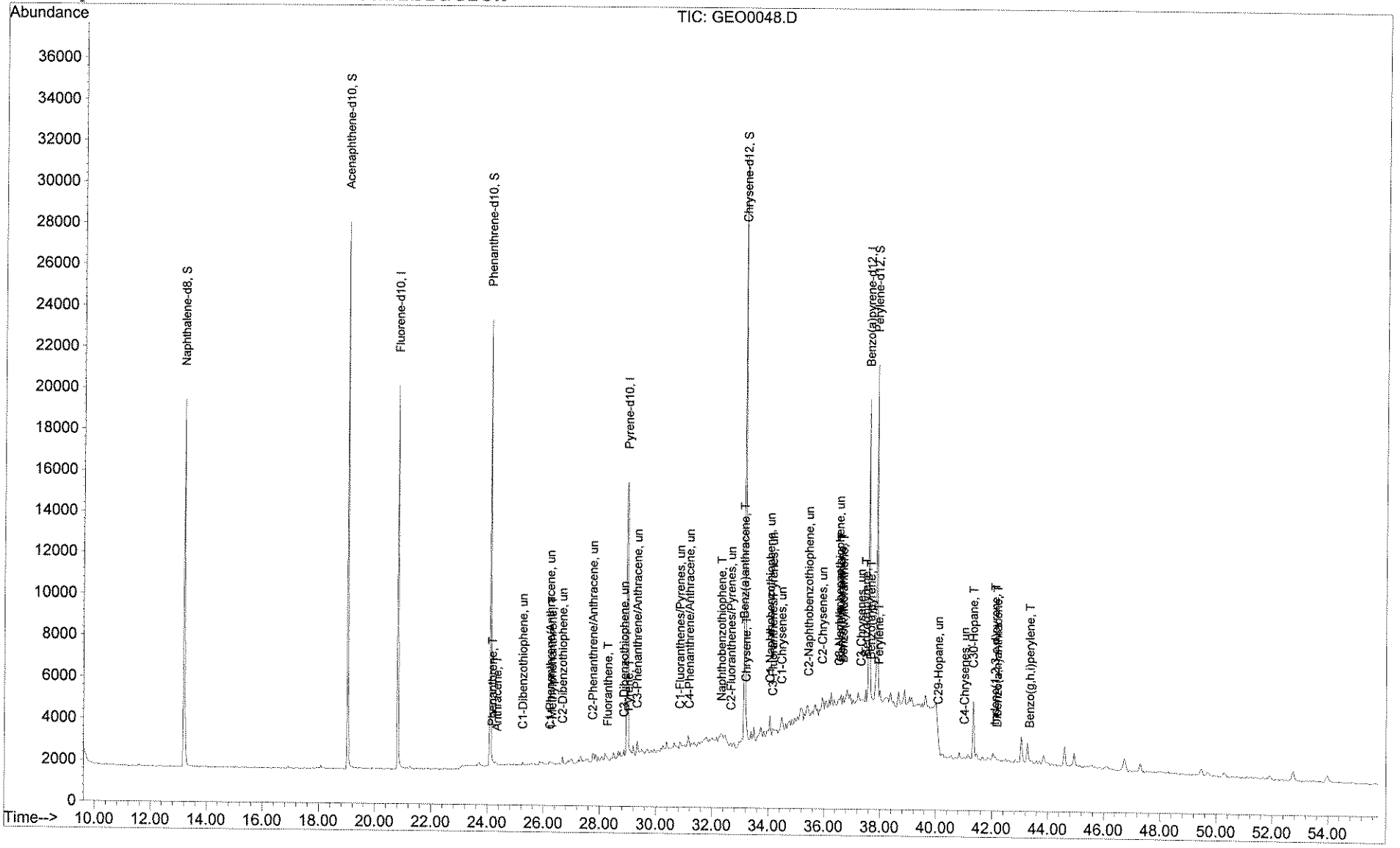
Quantitation Report

Data File : X:\1\DATA\MS30333\GEO0048.D
Acq On : 26 Nov 2006 11:34 pm
Sample : Exhibit A
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:37 2006

Vial: 33
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.64

Quant Results File: 112606.RES

Method : X:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



GEO0048.D 112606.M Tue Nov 28 16:42:33 2006

000054

Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name **GEO0049.D** — **Su Amt = 50** — GEO0049.D
Data File Path **X:\1\DATA\MS30333** — Exhibit B
Operator **TJM**
Date Acquired **11/27/20 -1:2:** — 11/27/20 -1:2:
Method File **PAH-2002** — PAH-2002
Sample Name **Exhibit B**
Misc Info
Instrument Name **GC/MS Ins**
Vial Number **34**
Sample Multiplier **5.6615** — 0.18
Sample Amount **0**

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	13.26	474	3.52	3.58
9+10)	C1-Naphthalenes	15.68	299	2.22	2.26
13)	C2-Naphthalenes	17.90	751	5.57	5.68
14)	C3-Naphthalenes	20.83	4587	34.03	34.67
15)	C4-Naphthalenes	22.23	4737	35.15	35.81
16)	Benzothiophene	0.00	0	0.00	0.00
17)	C1-Benzothiophene	0.00	0	0.00	0.00
18)	C2-Benzothiophene	0.00	0	0.00	0.00
19)	C3-Benzothiophene	0.00	0	0.00	0.00
21)	Biphenyl	0.00	0	0.00	0.00
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	19.14	402	5.33	5.43
24)	Dibenzofuran	19.73	354	3.55	3.62
25)	Fluorene	20.91	660	7.68	7.82
26)	C1-Fluorenes	22.91	439	5.11	5.20
27)	C2-Fluorenes	24.72	3268	38.02	38.73
28)	C3-Fluorenes	26.67	9364	108.93	110.98
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	24.92	770	8.82	8.99
38)	Anthracene	24.35	1215	12.85	13.09
37)	Phenanthrene	24.18	6029	53.29	54.29
40)	C1-Phenanthrene/Anthracene	25.86	4647	41.07	41.85
41)	C2-Phenanthrene/Anthracene	27.75	23976	211.91	215.90
42)	C3-Phenanthrene/Anthracene	29.33	49549	437.94	446.19
43)	C4-Phenanthrene/Anthracene	31.19	41678	368.37	375.31
33)	Dibenzothiophene	23.74	319	3.26	3.32
34)	C1-Dibenzothiophene	25.26	1872	19.12	19.48
35)	C2-Dibenzothiophene	26.67	11523	117.70	119.92
36)	C3-Dibenzothiophene	28.86	29838	304.78	310.52
48)	Fluoranthene	28.29	5704	47.08	47.97
49)	Pyrene	29.03	12603	105.27	107.25
50)	C1-Fluoranthenes/Pyrenes	30.85	34572	285.35	290.73
51)	C2-Fluoranthenes/Pyrenes	32.30	58562	483.37	492.47
52)	C3-Fluoranthenes/Pyrenes	33.49	50137	413.83	421.62
44)	Naphthobenzothiophene	32.33	4031	33.16	33.78
45)	C1-Naphthobenzothiophene	34.06	14977	123.21	125.53
46)	C2-Naphthobenzothiophene	35.40	28711	236.19	240.63
47)	C3-Naphthobenzothiophene	36.53	18138	149.21	152.02
54)	Benz(a)anthracene	33.14	4848	33.56	34.19
55)	Chrysene	33.21	8153	73.10	74.47
56)	C1-Chrysenes	34.52	30539	273.80	278.96
57)	C2-Chrysenes	35.68	43005	385.57	392.83
58)	C3-Chrysenes	37.31	19706	176.68	180.00
59)	C4-Chrysenes	41.01	2992	26.83	27.33
64)	Benzo(b)fluoranthene	36.60	4584	28.36	28.90
65)	Benzo(k)fluoranthene	36.67	1549	11.12	11.33
66)	Benzo(e)pyrene	37.49	6732	52.20	53.18
67)	Benzo(a)pyrene	37.66	5010	41.35	42.13
75)	Perylene	37.98	2505	19.86	20.23
68)	Indeno(1,2,3-c,d)pyrene	42.13	1883	20.53	20.91
69)	Dibenzo(a,h)anthracene	42.20	779	8.89	9.06
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.37	3906	39.07	39.81
	Total PAH				4988
	Individual Isomers				
9)	2-Methylnaphthalene	15.51	159	1.90	1.93
10)	1-Methylnaphthalene	15.85	140	1.77	1.81
11)	2,6-Dimethylnaphthalene	17.62	133	1.99	2.02
12)	1,6,7-Trimethylnaphthalene	20.46	111	1.85	1.88
39)	1-Methylphenanthrene	26.30	889	11.64	11.86
61)	C29-Hopane	40.08	11952	178.55	181.91
62)	18a-Oleanane	41.12	3317	49.55	50.48
63)	C30-Hopane	41.35	22183	331.39	337.63
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.20	32410	279.48	99
20)	Acenaphthene-d10	19.03	15737	282.39	100
30)	Phenanthrene-d10	24.11	28837	277.84	98
53)	Chrysene-d12	33.17	33986	276.81	98
74)	Perylene-d12	37.88	19977	282.12	100
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.83	16625	51.08	
29)	Pyrene-d10	29.00	27984	49.98	
60)	Benzo(a)pyrene-d12	37.59	23154	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0049.D
Acq On : 27 Nov 2006 12:37 am
Sample : Exhibit B
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:40 2006

Vial: 34
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.66
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	16625m	51.08 ng/ml	0.00
29) Pyrene-d10	29.00	212	27984m	49.98	0.00
60) Benzo(a)pyrene-d12	37.59	264	23154m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.20	136	32410m	279.48	0.00
20) Acenaphthene-d10	19.03	164	15737	282.39	0.00
30) Phenanthrene-d10	24.11	188	28837m	277.84	0.00
53) Chrysene-d12	33.17	240	33986m	276.81	0.00
74) Perylene-d12	37.88	264	19977	282.12	0.00
Target Compounds					Qvalue
3) Decalin	0.00	138	0	N.D. d	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.26	128	474	3.52	
9) 2-Methylnaphthalene	15.51	142	159	1.90	
10) 1-Methylnaphthalene	15.85	142	140	1.77	
11) 2,6-Dimethylnaphthalene	17.62	156	133	1.99	
12) 1,6,7-Trimethylnaphthalene	20.46	170	111	1.85	
13) C2-Naphthalenes	17.90	156	751	5.57	
14) C3-Naphthalenes	20.83	170	4587	34.03	
15) C4-Naphthalenes	22.23	184	4737	35.15	
16) Benzothiophene	0.00	134	0	N.D. d	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	0.00	154	0	N.D. d	
22) Acenaphthylene	0.00	152	0	N.D.	
23) Acenaphthene	19.14	154	402m	5.33	
24) Dibenzofuran	19.73	168	354m	3.55 ng/ml	
25) Fluorene	20.91	166	660m	7.68	
26) C1-Fluorenes	22.91	180	439m	5.11	
27) C2-Fluorenes	24.72	194	3268m	38.02	
28) C3-Fluorenes	26.67	208	9364m	108.93	
31) Pentachlorophenol	0.00	266	0	N.D.	
32) Carbazole	24.92	167	770m	8.82 ng/ml	
33) Dibenzothiophene	23.74	184	319m	3.26	
34) C1-Dibenzothiophene	25.26	198	1872m	19.12	
35) C2-Dibenzothiophene	26.67	212	11523m	117.70	
36) C3-Dibenzothiophene	28.86	226	29838m	304.78	
37) Phenanthrene	24.18	178	6029m	53.29	
38) Anthracene	24.35	178	1215m	12.85	
39) 1-Methylphenanthrene	26.30	192	889m	11.64	
40) C1-Phenanthrene/Anthracene	25.86	192	4647m	41.07	
41) C2-Phenanthrene/Anthracene	27.75	206	23976m	211.91	
42) C3-Phenanthrene/Anthracene	29.33	220	49549m	437.94	
43) C4-Phenanthrene/Anthracene	31.19	234	41678m	368.37	
44) Naphthobenzothiophene	32.33	234	4031m	33.16	
45) C1-Naphthobenzothiophene	34.06	248	14977m	123.21	
46) C2-Naphthobenzothiophene	35.40	262	28711m	236.19	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0049.D
Acq On : 27 Nov 2006 12:37 am
Sample : Exhibit B
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:40 2006

Vial: 34
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.66

Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	C3-Naphthobenzothiophene	36.53	276	18138m	149.21		
48)	Fluoranthene	28.29	202	5704m	47.08		
49)	Pyrene	29.03	202	12603m	105.27		
50)	C1-Fluoranthenes/Pyrenes	30.85	216	34572m	285.35	ng/mL	
51)	C2-Fluoranthenes/Pyrenes	32.30	230	58562m	483.37	ng/mL	
52)	C3-Fluoranthenes/Pyrenes	33.49	244	50137m	413.83	ng/mL	
54)	Benz(a)anthracene	33.14	228	4848m	33.56		
55)	Chrysene	33.21	228	8153m	73.10		
56)	C1-Chrysenes	34.52	242	30539m	273.80	ng/mL	
57)	C2-Chrysenes	35.68	256	43005m	385.57	ng/mL	
58)	C3-Chrysenes	37.31	270	19706m	176.68	ng/mL	
59)	C4-Chrysenes	41.01	284	2992m	26.83	ng/mL	
61)	C29-Hopane	40.08	191	11952	178.55	ng/ml	
62)	18a-Oleanane	41.12	191	3317	49.55	ng/ml	
63)	C30-Hopane	41.35	191	22183	331.39	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	4584	28.36		
65)	Benzo(k)fluoranthene	36.67	252	1549	11.12		
66)	Benzo(e)pyrene	37.49	252	6732	52.20		
67)	Benzo(a)pyrene	37.66	252	5010	41.35		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	1883	20.53		
69)	Dibenzo(a,h)anthracene	42.20	278	779	8.89		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	3906	39.07		
75)	Perylene	37.98	252	2505m	19.86		

(#) = qualifier out of range (m) = manual integration

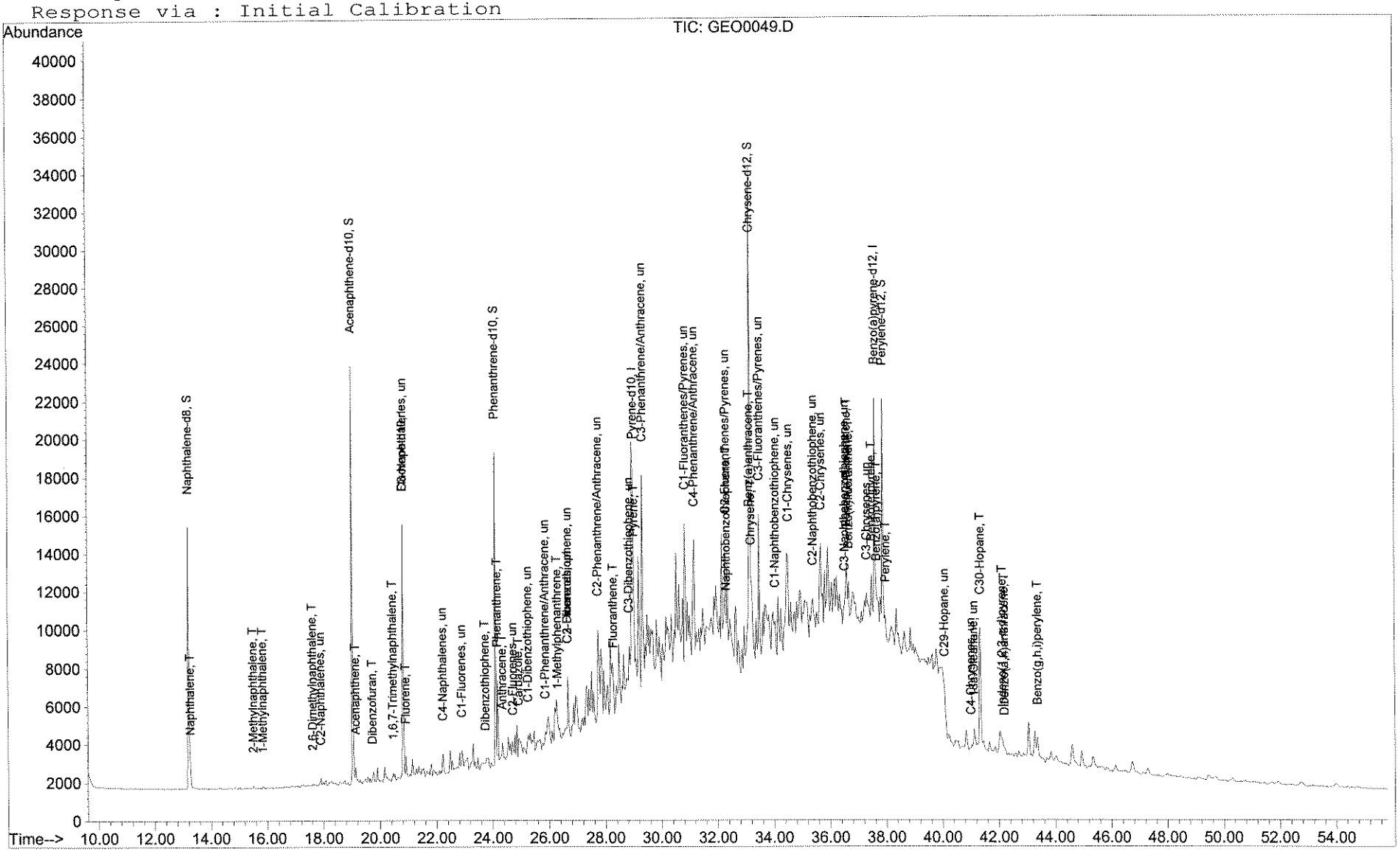
Quantitation Report

Data File : X:\1\DATA\MS30333\GEO0049.D
Acq On : 27 Nov 2006 12:37 am
Sample : Exhibit B
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:40 2006

Vial: 34
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.66

Quant Results File: 112606.RES

Method : X:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



Tissue, Sediment, and Water Sample Report (Use d-10 Phenanthrene only for Surrogate Corrections)

Data File Name **GEO0050.D** **Su Amt = 50** GEO0050.D
Data File Path **X:\1\DATA\MS30333** Exhibit 31
Operator **TJM**
Date Acquired **11/27/20 -1:1:** 11/27/20 -1:1:
Method File **PAH-2002** PAH-2002
Sample Name **Exhibit 31**
Misc Info
Instrument Name **GC/MS Ins**
Vial Number **35** 0.19
Sample Multiplier **5.1757**
Sample Amount **0**

Peak #	Compound	Ret Time (min)	Target Response (Area)	Conc. (ng/g or ng/L)	Su. Corrected Conc. (ng/g or ng/L)
3)	Decalin	0.00	0	0.00	0.00
4)	C1-Decalin	0.00	0	0.00	0.00
5)	C2-Decalin	0.00	0	0.00	0.00
6)	C3-Decalin	0.00	0	0.00	0.00
7)	C4-Decalin	0.00	0	0.00	0.00
8)	Naphthalene	0.00	0	0.00	0.00
9+10)	C1-Naphthalenes	0.00	0	0.00	0.00
13)	C2-Naphthalenes	0.00	0	0.00	0.00
14)	C3-Naphthalenes	0.00	0	0.00	0.00
15)	C4-Naphthalenes	0.00	0	0.00	0.00
16)	Benzothiophene	0.00	0	0.00	0.00
17)	C1-Benzothiophene	0.00	0	0.00	0.00
18)	C2-Benzothiophene	0.00	0	0.00	0.00
19)	C3-Benzothiophene	0.00	0	0.00	0.00
21)	Biphenyl	0.00	0	0.00	0.00
22)	Acenaphthylene	0.00	0	0.00	0.00
23)	Acenaphthene	0.00	0	0.00	0.00
24)	Dibenzofuran	0.00	0	0.00	0.00
25)	Fluorene	0.00	0	0.00	0.00
26)	C1-Fluorenes	0.00	0	0.00	0.00
27)	C2-Fluorenes	0.00	0	0.00	0.00
28)	C3-Fluorenes	0.00	0	0.00	0.00
31)	Pentachlorophenol	0.00	0	0.00	0.00
32)	Carbazole	0.00	0	0.00	0.00
38)	Anthracene	0.00	0	0.00	0.00
37)	Phenanthrene	24.18	129	1.22	1.23
40)	C1-Phenanthrene/Anthracene	26.23	398	3.76	3.81
41)	C2-Phenanthrene/Anthracene	27.78	1473	13.93	14.08
42)	C3-Phenanthrene/Anthracene	29.33	1805	17.07	17.26
43)	C4-Phenanthrene/Anthracene	31.19	1730	16.36	16.54
33)	Dibenzothiophene	0.00	0	0.00	0.00
34)	C1-Dibenzothiophene	25.26	271	2.96	2.99
35)	C2-Dibenzothiophene	26.67	903	9.87	9.98
36)	C3-Dibenzothiophene	28.86	1437	15.71	15.88
48)	Fluoranthene	28.29	170	1.50	1.52
49)	Pyrene	29.03	319	2.85	2.88
50)	C1-Fluoranthenes/Pyrenes	30.85	859	7.59	7.67
51)	C2-Fluoranthenes/Pyrenes	32.30	1241	10.96	11.08
52)	C3-Fluoranthenes/Pyrenes	33.49	1269	11.21	11.33
44)	Naphthobenzothiophene	32.33	490	4.31	4.36
45)	C1-Naphthobenzothiophene	34.06	2295	20.20	20.42
46)	C2-Naphthobenzothiophene	35.15	4190	36.88	37.28
47)	C3-Naphthobenzothiophene	36.53	2185	19.23	19.44
54)	Benz(a)anthracene	33.14	257	1.90	1.92
55)	Chrysene	33.21	607	5.82	5.89
56)	C1-Chrysenes	34.48	1614	15.48	15.65
57)	C2-Chrysenes	35.68	3142	30.14	30.47
58)	C3-Chrysenes	37.31	1025	9.83	9.94
59)	C4-Chrysenes	0.00	0	0.00	0.00
64)	Benzo(b)fluoranthene	36.60	276	2.13	2.15
65)	Benzo(k)fluoranthene	36.64	40	0.36	0.36
66)	Benzo(e)pyrene	37.49	501	4.84	4.89
67)	Benzo(a)pyrene	37.66	163	1.68	1.69
75)	Perylene	0.00	0	0.00	0.00
68)	Indeno(1,2,3-c,d)pyrene	42.13	47	0.64	0.65
69)	Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
70)	C1-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
71)	C2-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
72)	C3-Dibenzo(a,h)anthracene	0.00	0	0.00	0.00
73)	Benzo(g,h,i)perylene	43.34	235	2.93	2.96
	Total PAH				274
	Individual Isomers				
9)	2-Methylnaphthalene	0.00	0	0.00	0.00
10)	1-Methylnaphthalene	0.00	0	0.00	0.00
11)	2,6-Dimethylnaphthalene	0.00	0	0.00	0.00
12)	1,6,7-Trimethylnaphthalene	0.00	0	0.00	0.00
39)	1-Methylphenanthrene	26.30	87	1.22	1.23
61)	C29-Hopane	40.08	1462	27.21	27.50
62)	18a-Oleanane	0.00	0	0.00	0.00
63)	C30-Hopane	41.32	3524	65.58	66.29
	Surrogates				**Su Recovery (%)**
	(AR-STSU-040-005)				
2)	Naphthalene-d8	13.20	27320	256.16	99
20)	Acenaphthene-d10	19.03	13142	256.42	99
30)	Phenanthrene-d10	24.11	24830	256.01	99
53)	Chrysene-d12	33.17	27700	241.43	93
74)	Perylene-d12	37.88	14574	256.39	99
	Internal Stds				
	(AR-WKIS-0500-007)				
1)	Fluorene-d10	20.83	13978	51.08	
29)	Pyrene-d10	29.00	23907	49.98	
60)	Benzo(a)pyrene-d12	37.59	16992	45.61	

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0050.D
Acq On : 27 Nov 2006 1:41 am
Sample : Exhibit 31
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:43 2006

Vial: 35
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.18
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	13978m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	23907m	49.98		0.00
60) Benzo(a)pyrene-d12	37.59	264	16992m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	27320m	256.16		0.00
20) Acenaphthene-d10	19.03	164	13142m	256.42		0.00
30) Phenanthrene-d10	24.11	188	24830m	256.01		0.00
53) Chrysene-d12	33.17	240	27700m	241.43		0.00
74) Perylene-d12	37.88	264	14574m	256.39		0.00
Target Compounds						Qvalue
3) Decalin	0.00	138	0	N.D.	d	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	0.00	128	0	N.D.	d	
9) 2-Methylnaphthalene	0.00	142	0	N.D.	d	
10) 1-Methylnaphthalene	0.00	142	0	N.D.	d	
11) 2,6-Dimethylnaphthalene	0.00	156	0	N.D.	d	
12) 1,6,7-Trimethylnaphthalene	0.00	170	0	N.D.	d	
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	0.00	134	0	N.D.	d	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	0.00	154	0	N.D.	d	
22) Acenaphthylene	0.00	152	0	N.D.		
23) Acenaphthene	0.00	154	0	N.D.		
24) Dibenzofuran	0.00	168	0	N.D.		
25) Fluorene	0.00	166	0	N.D.		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	0.00	266	0	N.D.		
32) Carbazole	0.00	167	0	N.D.	d	
33) Dibenzothiophene	0.00	184	0	N.D.	d	
34) C1-Dibenzothiophene	25.26	198	271m	2.96		
35) C2-Dibenzothiophene	26.67	212	903m	9.87		
36) C3-Dibenzothiophene	28.86	226	1437m	15.71		
37) Phenanthrene	24.18	178	129m	1.22		
38) Anthracene	0.00	178	0	N.D.	d	
39) 1-Methylphenanthrene	26.30	192	87m	1.22		
40) C1-Phenanthrene/Anthracene	26.23	192	398m	3.76		
41) C2-Phenanthrene/Anthracene	27.78	206	1473m	13.93		
42) C3-Phenanthrene/Anthracene	29.33	220	1805m	17.07		
43) C4-Phenanthrene/Anthracene	31.19	234	1730m	16.36		
44) Naphthobenzothiophene	32.33	234	490m	4.31		
45) C1-Naphthobenzothiophene	34.06	248	2295m	20.20		
46) C2-Naphthobenzothiophene	35.15	262	4190m	36.88		

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : X:\1\DATA\MS30333\GEO0050.D Vial: 35
Acq On : 27 Nov 2006 1:41 am Operator: TJM
Sample : Exhibit 31 Inst : GC/MS Ins
Misc : Multiplr: 5.18
MS Integration Params: rteint.p
Quant Time: Nov 28 16:43 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	C3-Naphthobenzothiophene	36.53	276	2185m	19.23		
48)	Fluoranthene	28.29	202	170m	1.50		
49)	Pyrene	29.03	202	319m	2.85		
50)	C1-Fluoranthenes/Pyrenes	30.85	216	859m	7.59	ng/mL	
51)	C2-Fluoranthenes/Pyrenes	32.30	230	1241m	10.96	ng/mL	
52)	C3-Fluoranthenes/Pyrenes	33.49	244	1269m	11.21	ng/mL	
54)	Benz(a)anthracene	33.14	228	257m	1.90		
55)	Chrysene	33.21	228	607m	5.82		
56)	C1-Chrysenes	34.48	242	1614m	15.48	ng/mL	
57)	C2-Chrysenes	35.68	256	3142m	30.14	ng/mL	
58)	C3-Chrysenes	37.31	270	1025m	9.83	ng/mL	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	40.08	191	1462m	27.21	ng/ml	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	41.32	191	3524m	65.58	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	276m	2.13		
65)	Benzo(k)fluoranthene	36.64	252	40m	0.36		
66)	Benzo(e)pyrene	37.49	252	501m	4.84		
67)	Benzo(a)pyrene	37.66	252	163m	1.68		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	47m	0.64		
69)	Dibenzo(a,h)anthracene	0.00	278	0	N.D.	d	
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.34	276	235m	2.93		
75)	Perylene	0.00	252	0	N.D.		

(#) = qualifier out of range (m) = manual integration

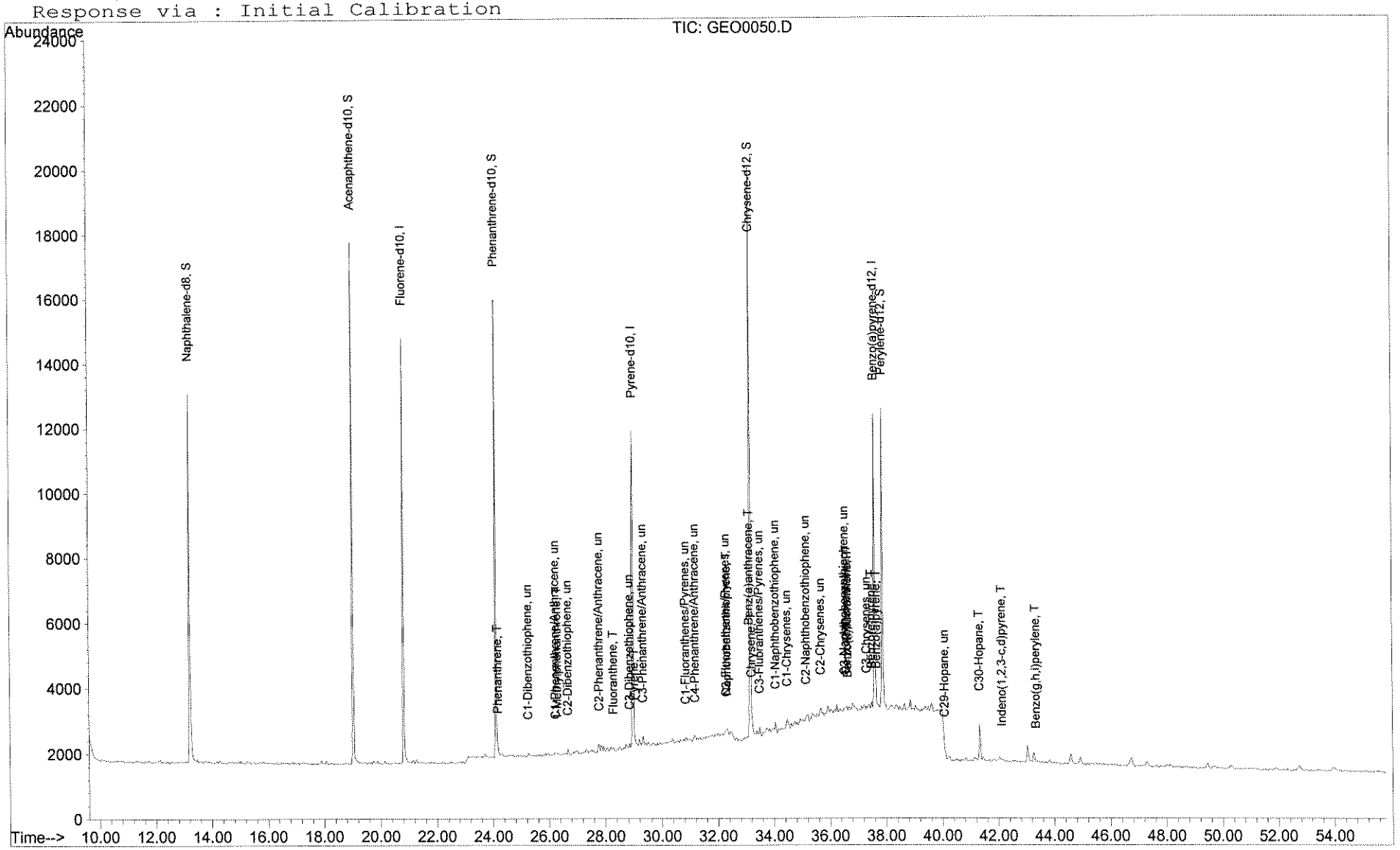
Quantitation Report

Data File : X:\1\DATA\MS30333\GEO0050.D
Acq On : 27 Nov 2006 1:41 am
Sample : Exhibit 31
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 28 16:43 2006

Vial: 35
Operator: TJM
Inst : GC/MS Ins
Multiplr: 5.18

Quant Results File: 112606.RES

Method : X:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



290000

Polycyclic Aromatic Hydrocarbon
Initial Calibration Data

PAH ICAL
112606.M

GC/MS 3
(PAH 2002)

Response Factor Report GC/MS Ins

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration

Calibration Files
1 =MS30333D.D 2 =MS30333E.D 3 =MS30333F.D
4 =MS30333G.D 5 =MS30333H.D

		Compound	1	2	3	4	5	Avg	%RSD
1)	I	Fluorene-d10	ISTD						
2)	S	Naphthalene-d8	1.825	2.077	1.957	2.157	2.071	2.017	6.39
3)	T	Decalin	0.431	0.358	0.394	0.437	0.389	0.402	8.12
4)	un	C1-Decalin	0.431	0.358	0.394	0.437	0.389	0.402	8.12
5)	un	C2-Decalin	0.431	0.358	0.394	0.437	0.389	0.402	8.12
6)	un	C3-Decalin	0.431	0.358	0.394	0.437	0.389	0.402	8.12
7)	un	C4-Decalin	0.431	0.358	0.394	0.437	0.389	0.402	8.12
8)	T	Naphthalene	2.060	2.472	2.280	2.585	2.325	2.344	8.52
9)	T	2-Methylnaphthalene	1.306	1.520	1.375	1.635	1.459	1.459	8.75
10)	T	1-Methylnaphthalene	1.176	1.408	1.371	1.504	1.409	1.374	8.79
11)	T	2,6-Dimethylnaphthale	1.002	1.296	1.092	1.321	1.109	1.164	11.89
12)	T	1,6,7-Trimethylnaphth	0.927	1.093	1.039	1.128	1.042	1.046	7.28
13)	un	C2-Naphthalenes	2.060	2.472	2.280	2.585	2.325	2.344	8.52
14)	un	C3-Naphthalenes	2.060	2.472	2.280	2.585	2.325	2.344	8.52
15)	un	C4-Naphthalenes	2.060	2.472	2.280	2.585	2.325	2.344	8.52
16)	T	Benzothiophene	1.758	1.852	1.852	2.028	1.935	1.885	5.40
17)	un	C1-Benzothiophene	1.758	1.852	1.852	2.028	1.935	1.885	5.40
18)	un	C2-Benzothiophene	1.758	1.852	1.852	2.028	1.935	1.885	5.40
19)	un	C3-Benzothiophene	1.758	1.852	1.852	2.028	1.935	1.885	5.40
20)	S	Acenaphthene-d10	0.869	1.087	0.896	1.046	0.949	0.969	9.72
21)	T	Biphenyl	1.433	1.671	1.497	1.706	1.612	1.584	7.31
22)	T	Acenaphthylene	2.005	2.204	2.202	2.387	2.280	2.216	6.31
23)	T	Acenaphthene	1.124	1.378	1.316	1.425	1.311	1.311	8.73
24)	T	Dibenzofuran	1.460	1.858	1.668	1.947	1.731	1.733	10.81
25)	T	Fluorene	1.185	1.638	1.459	1.725	1.469	1.495	13.84
26)	un	C1-Fluorenes	1.185	1.638	1.459	1.725	1.469	1.495	13.84
27)	un	C2-Fluorenes	1.185	1.638	1.459	1.725	1.469	1.495	13.84
28)	un	C3-Fluorenes	1.185	1.638	1.459	1.725	1.469	1.495	13.84
29)	I	Pyrene-d10	ISTD						
30)	S	Phenanthrene-d10	0.908	1.010	1.122	1.170	1.037	1.049	9.68
31)	T	Pentachlorophenol	0.060	0.070	0.062	0.071	0.069	0.066	7.16
32)	T	Carbazole	0.844	0.849	0.912	0.951	0.857	0.883	5.30
33)	T	Dibenzothiophene	0.872	0.948	1.050	1.132	0.949	0.990	10.23
34)	un	C1-Dibenzothiophene	0.872	0.948	1.050	1.132	0.949	0.990	10.23
35)	un	C2-Dibenzothiophene	0.872	0.948	1.050	1.132	0.949	0.990	10.23
36)	un	C3-Dibenzothiophene	0.872	0.948	1.050	1.132	0.949	0.990	10.23
37)	T	Phenanthrene	1.011	1.068	1.245	1.319	1.078	1.144	11.44
38)	T	Anthracene	0.828	0.950	1.006	1.037	0.958	0.956	8.36
39)	T	1-Methylphenanthrene	0.734	0.768	0.797	0.848	0.715	0.772	6.86
40)	un	C1-Phenanthrene/Anthr	1.011	1.068	1.245	1.319	1.078	1.144	11.44
41)	un	C2-Phenanthrene/Anthr	1.011	1.068	1.245	1.319	1.078	1.144	11.44
42)	un	C3-Phenanthrene/Anthr	1.011	1.068	1.245	1.319	1.078	1.144	11.44

(#) = Out of Range

Response Factor Report GC/MS Ins

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration

Calibration Files
1 =MS30333D.D 2 =MS30333E.D 3 =MS30333F.D
4 =MS30333G.D 5 =MS30333H.D

		Compound	1	2	3	4	5	Avg	%RSD
43)	un	C4-Phenanthrene/Anthr	1.011	1.068	1.245	1.319	1.078	1.144	11.44
44)	T	Naphthobenzothiophene	1.025	1.177	1.294	1.370	1.279	1.229	10.83
45)	un	C1-Naphthobenzothioph	1.025	1.177	1.294	1.370	1.279	1.229	10.83
46)	un	C2-Naphthobenzothioph	1.025	1.177	1.294	1.370	1.279	1.229	10.83
47)	un	C3-Naphthobenzothioph	1.025	1.177	1.294	1.370	1.279	1.229	10.83
48)	T	Fluoranthene	1.104	1.198	1.295	1.295	1.233	1.225	6.50
49)	T	Pyrene	1.161	1.183	1.217	1.344	1.148	1.211	6.54
50)	un	C1-Fluoranthenes/Pyre	1.104	1.198	1.295	1.295	1.233	1.225	6.50
51)	un	C2-Fluoranthenes/Pyre	1.104	1.198	1.295	1.295	1.233	1.225	6.50
52)	un	C3-Fluoranthenes/Pyre	1.104	1.198	1.295	1.295	1.233	1.225	6.50
53)	S	Chrysene-d12	0.983	1.167	1.301	1.437	1.319	1.241	13.99
54)	T	Benz(a)anthracene	1.171	1.416	1.533	1.663	1.522	1.461	12.59
55)	T	Chrysene	0.965	1.153	1.176	1.225	1.121	1.128	8.74
56)	un	C1-Chrysenes	0.965	1.153	1.176	1.225	1.121	1.128	8.74
57)	un	C2-Chrysenes	0.965	1.153	1.176	1.225	1.121	1.128	8.74
58)	un	C3-Chrysenes	0.965	1.153	1.176	1.225	1.121	1.128	8.74
59)	un	C4-Chrysenes	0.965	1.153	1.176	1.225	1.121	1.128	8.74
60)	I	Benzo(a)pyrene-d12	----------ISTD----------						
61)	un	C29-Hopane	0.739	0.781	0.758	0.710	0.744	0.747	3.51
62)	un	18a-Oleanane	0.739	0.781	0.758	0.710	0.744	0.747	3.51
63)	T	C30-Hopane	0.739	0.781	0.758	0.710	0.744	0.747	3.51
64)	T	Benzo(b)fluoranthene	1.540	1.855	1.824	1.873	1.920	1.803	8.37
65)	T	Benzo(k)fluoranthene	1.372	1.608	1.608	1.538	1.643	1.554	6.98
66)	T	Benzo(e)pyrene	1.244	1.442	1.457	1.479	1.568	1.438	8.28
67)	T	Benzo(a)pyrene	1.202	1.363	1.365	1.372	1.453	1.351	6.75
68)	T	Indeno(1,2,3-c,d)pyre	0.874	1.013	1.037	1.053	1.138	1.023	9.36
69)	T	Dibenzo(a,h)anthracen	0.843	0.972	0.993	0.994	1.085	0.977	8.88
70)	un	C1-Dibenzo(a,h)anthra	0.843	0.972	0.993	0.994	1.085	0.977	8.88
71)	un	C2-Dibenzo(a,h)anthra	0.843	0.972	0.993	0.994	1.085	0.977	8.88
72)	un	C3-Dibenzo(a,h)anthra	0.843	0.972	0.993	0.994	1.085	0.977	8.88
73)	T	Benzo(g,h,i)perylene	0.953	1.118	1.128	1.156	1.219	1.115	8.85
74)	S	Perylene-d12	0.685	0.774	0.823	0.802	0.864	0.790	8.48
75)	T	Perylene	1.218	1.406	1.420	1.443	1.548	1.407	8.50

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333D.D
Acq On : 25 Nov 2006 12:44 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1804m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	3436m	49.98		0.03
60) Benzo(a)pyrene-d12	37.59	264	1920m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.20	136	1289m	17.21		0.00
20) Acenaphthene-d10	19.03	164	614m	16.08		0.00
30) Phenanthrene-d10	24.11	188	1249	18.52		0.00
53) Chrysene-d12	33.17	240	1351	17.60		0.00
74) Perylene-d12	37.88	264	577m	18.34		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	305m	19.46	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	1458m	16.65		
9) 2-Methylnaphthalene	15.51	142	925m	16.10		
10) 1-Methylnaphthalene	15.85	142	832m	16.94		
11) 2,6-Dimethylnaphthalene	17.62	156	709m	15.25		
12) 1,6,7-Trimethylnaphthalene	20.49	170	656m	15.50		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	1244m	17.30	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.11	154	1014m	16.42		
22) Acenaphthylene	18.55	152	1419m	18.34		
23) Acenaphthene	19.14	154	795m	16.60		
24) Dibenzofuran	19.76	168	1033m	14.79	ng/ml	
25) Fluorene	20.91	166	839m	14.49		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	83m	9.27	ng/ml	
32) Carbazole	24.95	167	1162	15.87	ng/ml	
33) Dibenzothiophene	23.74	184	1201	12.60		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30333\MS30333D.D
Acq On : 25 Nov 2006 12:44 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00
Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D. d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D. d	
37)	Phenanthrene	24.18	178	1393	13.84	
38)	Anthracene	24.38	178	1140	13.89	
39)	1-Methylphenanthrene	26.30	192	1011	13.78	
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44)	Naphthobenzothiophene	32.33	234	1411	17.88	
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48)	Fluoranthene	28.29	202	1522	18.11	
49)	Pyrene	29.03	202	1599	13.89	
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54)	Benz(a)anthracene	33.14	228	1614	17.44	
55)	Chrysene	33.24	228	1330	12.50	
56)	C1-Chrysenes	0.00	242	0	N.D. d	
57)	C2-Chrysenes	0.00	256	0	N.D. d	
58)	C3-Chrysenes	0.00	270	0	N.D. d	
59)	C4-Chrysenes	0.00	284	0	N.D. d	
61)	C29-Hopane	0.00	191	0	N.D. d	
62)	18a-Oleanane	0.00	191	0	N.D. d	
63)	C30-Hopane	42.05	191	622m	22.32 ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	1298m	21.76	
65)	Benzo(k)fluoranthene	36.67	252	1158m	17.78	
66)	Benzo(e)pyrene	37.49	252	1050m	16.47	
67)	Benzo(a)pyrene	37.70	252	1014m	18.59	
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	737m	18.15	
69)	Dibenzo(a,h)anthracene	42.23	278	711m	18.98	
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73)	Benzo(g,h,i)perylene	43.37	276	804m	17.78	
75)	Perylene	37.98	252	1027m	18.76	

(#) = qualifier out of range (m) = manual integration

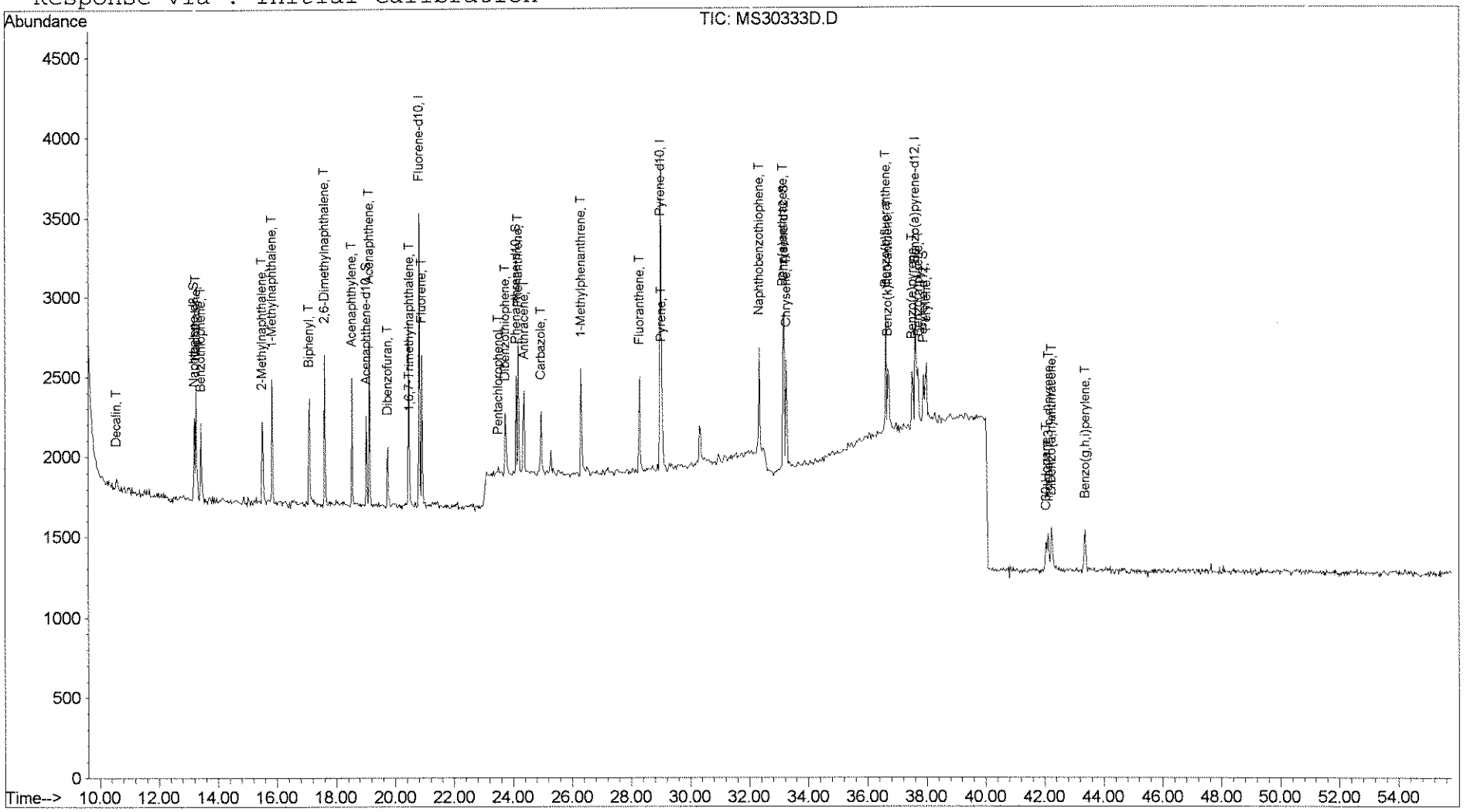
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333D.D
Acq On : 25 Nov 2006 12:44 pm
Sample : Cal Level 1
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006

Vial: 41
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



690000

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333E.D Vial: 42
Acq On : 25 Nov 2006 1:47 pm Operator: TJM
Sample : Cal Level 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorene-d10	20.83	176	1541m	51.08 ng/ml	0.00
29) Pyrene-d10	29.00	212	3143m	49.98	0.03
60) Benzo(a)pyrene-d12	37.59	264	1841m	45.61	0.00
System Monitoring Compounds					
2) Naphthalene-d8	13.21	136	6266m	97.97	0.00
20) Acenaphthene-d10	19.03	164	3279m	100.55	0.00
30) Phenanthrene-d10	24.11	188	6353m	102.98	0.00
53) Chrysene-d12	33.17	240	7336m	104.46	0.00
74) Perylene-d12	37.88	264	3125m	103.56	0.00
Target Compounds					Qvalue
3) Decalin	10.57	138	1082m	80.80 ng/ml	
4) C1-Decalin	0.00	152	0	N.D. d	
5) C2-Decalin	0.00	166	0	N.D. d	
6) C3-Decalin	0.00	180	0	N.D. d	
7) C4-Decalin	0.00	194	0	N.D. d	
8) Naphthalene	13.27	128	7473m	99.90	
9) 2-Methylnaphthalene	15.52	142	4597m	93.67	
10) 1-Methylnaphthalene	15.85	142	4255m	101.41	
11) 2,6-Dimethylnaphthalene	17.63	156	3919m	98.68	
12) 1,6,7-Trimethylnaphthalene	20.47	170	3303m	91.37	
13) C2-Naphthalenes	0.00	156	0	N.D. d	
14) C3-Naphthalenes	0.00	170	0	N.D. d	
15) C4-Naphthalenes	0.00	184	0	N.D. d	
16) Benzothiophene	13.43	134	5597m	91.12 ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D. d	
18) C2-Benzothiophene	0.00	162	0	N.D. d	
19) C3-Benzothiophene	0.00	176	0	N.D. d	
21) Biphenyl	17.09	154	5049m	95.73	
22) Acenaphthylene	18.55	152	6663m	100.83	
23) Acenaphthene	19.14	154	4162m	101.73	
24) Dibenzofuran	19.73	168	5615m	94.10 ng/ml	
25) Fluorene	20.92	166	4953m	100.15	
26) C1-Fluorenes	0.00	180	0	N.D. d	
27) C2-Fluorenes	0.00	194	0	N.D. d	
28) C3-Fluorenes	0.00	208	0	N.D. d	
31) Pentachlorophenol	23.51	266	441m	53.83 ng/ml	
32) Carbazole	24.95	167	5348m	79.87 ng/ml	
33) Dibenzothiophene	23.74	184	5969m	68.44	
34) C1-Dibenzothiophene	0.00	198	0	N.D. d	

(#) = qualifier out of range (m) = manual integration

Data File : Z:\1\DATA\MS30333\MS30333E.D Vial: 42
Acq On : 25 Nov 2006 1:47 pm Operator: TJM
Sample : Cal Level 2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.18	178	6731m	73.10		
38)	Anthracene	24.38	178	5983m	79.68		
39)	1-Methylphenanthrene	26.30	192	4841m	72.15		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	7408m	102.62		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	7550m	98.23		
49)	Pyrene	29.03	202	7458m	70.84		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	8925m	105.44		
55)	Chrysene	33.24	228	7266m	74.67		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.05	191	3154m	118.04	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	7496m	131.09		
65)	Benzo(k)fluoranthene	36.67	252	6506m	104.21		
66)	Benzo(e)pyrene	37.49	252	5836m	95.47		
67)	Benzo(a)pyrene	37.70	252	5512m	105.41		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	4099m	105.30		
69)	Dibenzo(a,h)anthracene	42.23	278	3931m	109.42		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	4521m	104.25		
75)	Perylene	37.98	252	5685m	108.30		

(#) = qualifier out of range (m) = manual integration

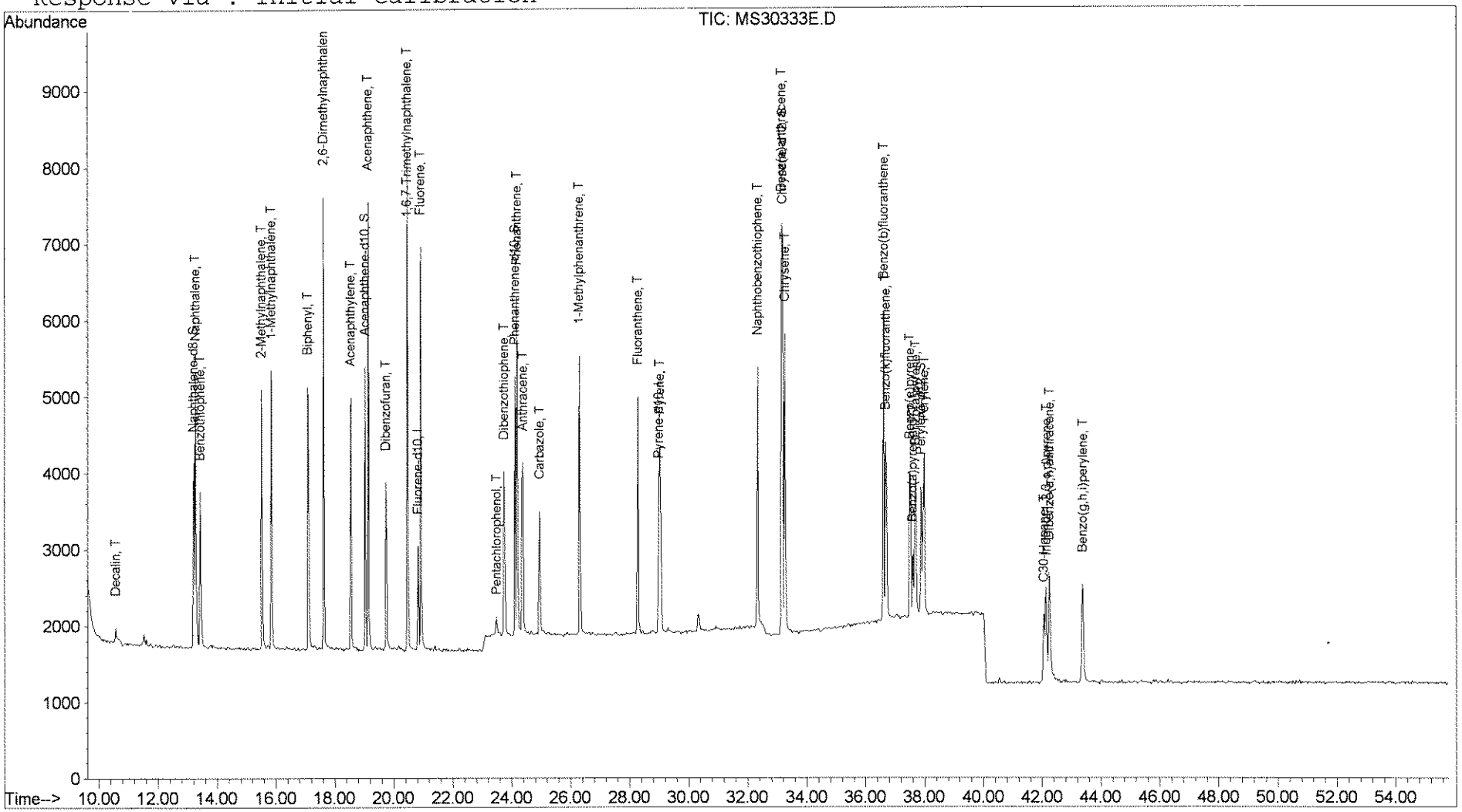
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333E.D
Acq On : 25 Nov 2006 1:47 pm
Sample : Cal Level 2
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:56 2006

Vial: 42
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



000072

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333F.D Vial: 43
Acq On : 25 Nov 2006 2:50 pm Operator: TJM
Sample : Cal Level 3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:57 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1696m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	3002m	49.98		0.03
60) Benzo(a)pyrene-d12	37.59	264	1890m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	16243m	230.74		0.00
20) Acenaphthene-d10	19.03	164	7437m	207.21		0.00
30) Phenanthrene-d10	24.11	188	16850m	285.97		0.00
53) Chrysene-d12	33.17	240	19542m	291.33		0.00
74) Perylene-d12	37.88	264	8526m	275.23		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	3276m	222.27	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	18967m	230.37		
9) 2-Methylnaphthalene	15.51	142	11448m	211.95		
10) 1-Methylnaphthalene	15.85	142	11400m	246.88		
11) 2,6-Dimethylnaphthalene	17.62	156	9084m	207.83		
12) 1,6,7-Trimethylnaphthalene	20.49	170	8636m	217.05		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	15400m	227.79	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.12	154	12447m	214.44		
22) Acenaphthylene	18.55	152	18321m	251.90		
23) Acenaphthene	19.14	154	10935m	242.86		
24) Dibenzofuran	19.76	168	13867m	211.15	ng/ml	
25) Fluorene	20.91	166	12134m	222.92		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.51	266	938m	119.88	ng/ml	
32) Carbazole	24.95	167	13713m	214.41	ng/ml	
33) Dibenzothiophene	23.74	184	15783m	189.46		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333F.D Vial: 43
Acq On : 25 Nov 2006 2:50 pm Operator: TJM
Sample : Cal Level 3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:57 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35) C2-Dibenzothiophene	0.00	212	0	N.D. d	
36) C3-Dibenzothiophene	0.00	226	0	N.D. d	
37) Phenanthrene	24.18	178	18732m	212.99	
38) Anthracene	24.38	178	15134m	211.00	
39) 1-Methylphenanthrene	26.30	192	11991m	187.12	
40) C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41) C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42) C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43) C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44) Naphthobenzothiophene	32.33	234	19406m	281.44	
45) C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46) C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47) C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48) Fluoranthene	28.29	202	19501m	265.65	
49) Pyrene	29.03	202	18318m	182.16	
50) C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51) C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52) C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54) Benz(a)anthracene	33.14	228	23063m	285.26	
55) Chrysene	33.24	228	17699m	190.42	
56) C1-Chrysenes	0.00	242	0	N.D. d	
57) C2-Chrysenes	0.00	256	0	N.D. d	
58) C3-Chrysenes	0.00	270	0	N.D. d	
59) C4-Chrysenes	0.00	284	0	N.D. d	
61) C29-Hopane	0.00	191	0	N.D. d	
62) 18a-Oleanane	0.00	191	0	N.D. d	
63) C30-Hopane	42.05	191	7857m	286.43 ng/ml	
64) Benzo(b)fluoranthene	36.60	252	18920m	322.29	
65) Benzo(k)fluoranthene	36.67	252	16699m	260.54	
66) Benzo(e)pyrene	37.49	252	15138m	241.21	
67) Benzo(a)pyrene	37.70	252	14164m	263.84	
68) Indeno(1,2,3-c,d)pyrene	42.13	276	10767m	269.44	
69) Dibenzo(a,h)anthracene	42.23	278	10301m	279.30	
70) C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71) C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72) C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73) Benzo(g,h,i)perylene	43.37	276	11709m	262.99	
75) Perylene	37.98	252	14737m	273.45	

(#) = qualifier out of range (m) = manual integration

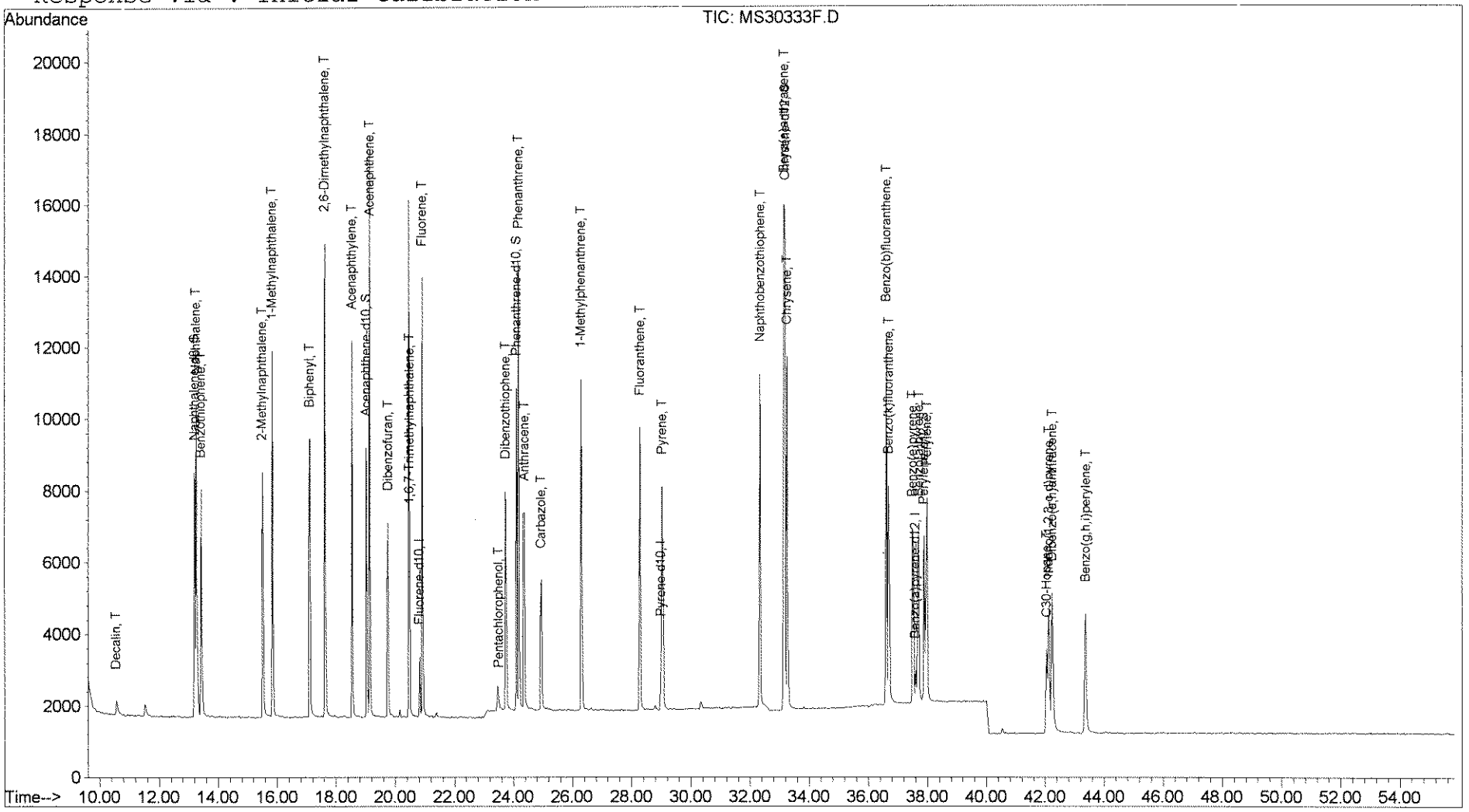
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333F.D
Acq On : 25 Nov 2006 2:50 pm
Sample : Cal Level 3
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:57 2006

Vial: 43
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



000075

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333G.D Vial: 44
Acq On : 25 Nov 2006 3:54 pm Operator: TJM
Sample : Cal Level 4 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1539m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	2931m	49.98		0.03
60) Benzo(a)pyrene-d12	37.59	264	2056m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	32490m	508.63		0.00
20) Acenaphthene-d10	19.03	164	15755m	483.74		0.00
30) Phenanthrene-d10	24.11	188	34295m	596.13		0.00
53) Chrysene-d12	33.17	240	42146m	643.54		0.00
74) Perylene-d12	37.88	264	18070m	536.22		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	6599m	493.41	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.27	128	39024m	522.33		
9) 2-Methylnaphthalene	15.52	142	24705m	504.05		
10) 1-Methylnaphthalene	15.85	142	22683m	541.33		
11) 2,6-Dimethylnaphthalene	17.62	156	19942m	502.80		
12) 1,6,7-Trimethylnaphthalene	20.47	170	17026m	471.57		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	30613m	499.01	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.09	154	25751m	488.90		
22) Acenaphthylene	18.55	152	36035m	546.00		
23) Acenaphthene	19.14	154	21487m	525.90		
24) Dibenzofuran	19.73	168	29382m	493.03	ng/ml	
25) Fluorene	20.92	166	26046m	527.32		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	2072m	271.22	ng/ml	
32) Carbazole	24.92	167	27919m	447.11	ng/ml	
33) Dibenzothiophene	23.74	184	33231m	408.57		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333G.D Vial: 44
Acq On : 25 Nov 2006 3:54 pm Operator: TJM
Sample : Cal Level 4 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D. d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D. d	
37)	Phenanthrene	24.18	178	38759m	451.39	
38)	Anthracene	24.35	178	30447m	434.79	
39)	1-Methylphenanthrene	26.30	192	24927m	398.40	
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D. d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D. d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D. d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D. d	
44)	Naphthobenzothiophene	32.33	234	40218m	597.41	
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D. d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D. d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D. d	
48)	Fluoranthene	28.29	202	38080m	531.30	
49)	Pyrene	29.03	202	39490m	402.22	
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D. d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D. d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D. d	
54)	Benz(a)anthracene	33.14	228	48857m	618.93	
55)	Chrysene	33.24	228	35998m	396.67	
56)	C1-Chrysenes	0.00	242	0	N.D. d	
57)	C2-Chrysenes	0.00	256	0	N.D. d	
58)	C3-Chrysenes	0.00	270	0	N.D. d	
59)	C4-Chrysenes	0.00	284	0	N.D. d	
61)	C29-Hopane	0.00	191	0	N.D. d	
62)	18a-Oleanane	0.00	191	0	N.D. d	
63)	C30-Hopane	42.05	191	16006m	536.39 ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	42272m	661.93	
65)	Benzo(k)fluoranthene	36.67	252	34754m	498.45	
66)	Benzo(e)pyrene	37.52	252	33427m	489.62	
67)	Benzo(a)pyrene	37.70	252	30963m	530.19	
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	23788m	547.21	
69)	Dibenzo(a,h)anthracene	42.23	278	22431m	559.09	
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D. d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D. d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D. d	
73)	Benzo(g,h,i)perylene	43.37	276	26108m	539.05	
75)	Perylene	37.98	252	32594m	555.97	

(#) = qualifier out of range (m) = manual integration

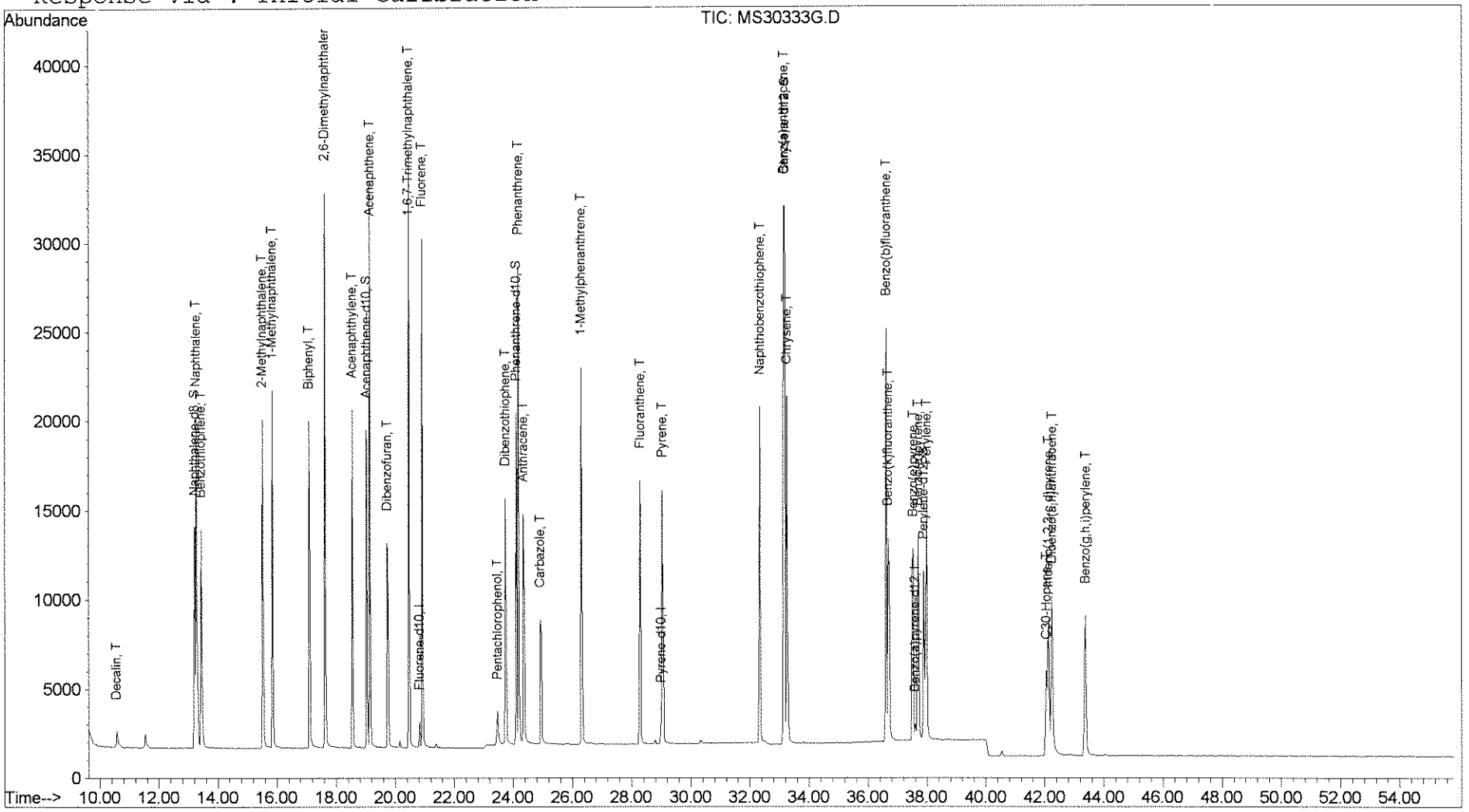
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333G.D
Acq On : 25 Nov 2006 3:54 pm
Sample : Cal Level 4
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006

Vial: 44
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



84009

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333H.D Vial: 45
Acq On : 25 Nov 2006 4:57 pm Operator: TJM
Sample : Cal Level 5 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorene-d10	20.83	176	1657m	51.08	ng/ml	0.00
29) Pyrene-d10	29.00	212	3286m	49.98		0.03
60) Benzo(a)pyrene-d12	37.59	264	2077m	45.61		0.00
System Monitoring Compounds						
2) Naphthalene-d8	13.21	136	67166m	976.60		0.00
20) Acenaphthene-d10	19.03	164	30783m	877.86		0.00
30) Phenanthrene-d10	24.11	188	68173m	1056.99		0.00
53) Chrysene-d12	33.17	240	86744m	1181.42		0.00
74) Perylene-d12	37.88	264	39357m	1156.10		0.00
Target Compounds						Qvalue
3) Decalin	10.56	138	12642m	877.94	ng/ml	
4) C1-Decalin	0.00	152	0	N.D.	d	
5) C2-Decalin	0.00	166	0	N.D.	d	
6) C3-Decalin	0.00	180	0	N.D.	d	
7) C4-Decalin	0.00	194	0	N.D.	d	
8) Naphthalene	13.26	128	75585m	939.65		
9) 2-Methylnaphthalene	15.51	142	47467m	899.48		
10) 1-Methylnaphthalene	15.85	142	45770m	1014.51		
11) 2,6-Dimethylnaphthalene	17.62	156	36060m	844.43		
12) 1,6,7-Trimethylnaphthalene	20.49	170	33850m	870.79		
13) C2-Naphthalenes	0.00	156	0	N.D.	d	
14) C3-Naphthalenes	0.00	170	0	N.D.	d	
15) C4-Naphthalenes	0.00	184	0	N.D.	d	
16) Benzothiophene	13.43	134	62901m	952.32	ng/ml	
17) C1-Benzothiophene	0.00	148	0	N.D.	d	
18) C2-Benzothiophene	0.00	162	0	N.D.	d	
19) C3-Benzothiophene	0.00	176	0	N.D.	d	
21) Biphenyl	17.11	154	52383m	923.71		
22) Acenaphthylene	18.55	152	74113m	1042.99		
23) Acenaphthene	19.14	154	42573m	967.78		
24) Dibenzofuran	19.76	168	56233m	876.40	ng/ml	
25) Fluorene	20.91	166	47769m	898.24		
26) C1-Fluorenes	0.00	180	0	N.D.	d	
27) C2-Fluorenes	0.00	194	0	N.D.	d	
28) C3-Fluorenes	0.00	208	0	N.D.	d	
31) Pentachlorophenol	23.47	266	4538m	529.84	ng/ml	
32) Carbazole	24.95	167	56438m	806.18	ng/ml	
33) Dibenzothiophene	23.74	184	62457m	684.94		
34) C1-Dibenzothiophene	0.00	198	0	N.D.	d	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : Z:\1\DATA\MS30333\MS30333H.D Vial: 45
Acq On : 25 Nov 2006 4:57 pm Operator: TJM
Sample : Cal Level 5 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006 Quant Results File: 112606.RES

Quant Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Fri Nov 24 07:58:46 2006
Response via : Initial Calibration
DataAcq Meth : PAH-2002

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	C2-Dibenzothiophene	0.00	212	0	N.D.	d	
36)	C3-Dibenzothiophene	0.00	226	0	N.D.	d	
37)	Phenanthrene	24.18	178	71037m	737.92		
38)	Anthracene	24.38	178	63094m	803.65		
39)	1-Methylphenanthrene	26.30	192	47072m	671.06		
40)	C1-Phenanthrene/Anthracene	0.00	192	0	N.D.	d	
41)	C2-Phenanthrene/Anthracene	0.00	206	0	N.D.	d	
42)	C3-Phenanthrene/Anthracene	0.00	220	0	N.D.	d	
43)	C4-Phenanthrene/Anthracene	0.00	234	0	N.D.	d	
44)	Naphthobenzothiophene	32.33	234	84100m	1114.28		
45)	C1-Naphthobenzothiophene	0.00	248	0	N.D.	d	
46)	C2-Naphthobenzothiophene	0.00	262	0	N.D.	d	
47)	C3-Naphthobenzothiophene	0.00	276	0	N.D.	d	
48)	Fluoranthene	28.29	202	81242m	1011.05		
49)	Pyrene	29.03	202	75605m	686.87		
50)	C1-Fluoranthenes/Pyrenes	0.00	216	0	N.D.	d	
51)	C2-Fluoranthenes/Pyrenes	0.00	230	0	N.D.	d	
52)	C3-Fluoranthenes/Pyrenes	0.00	244	0	N.D.	d	
54)	Benz(a)anthracene	33.14	228	100256m	1132.85		
55)	Chrysene	33.24	228	73899m	726.34		
56)	C1-Chrysenes	0.00	242	0	N.D.	d	
57)	C2-Chrysenes	0.00	256	0	N.D.	d	
58)	C3-Chrysenes	0.00	270	0	N.D.	d	
59)	C4-Chrysenes	0.00	284	0	N.D.	d	
61)	C29-Hopane	0.00	191	0	N.D.	d	
62)	18a-Oleanane	0.00	191	0	N.D.	d	
63)	C30-Hopane	42.05	191	33877m	1123.80	ng/ml	
64)	Benzo(b)fluoranthene	36.60	252	87556m	1357.16		
65)	Benzo(k)fluoranthene	36.67	252	74977m	1064.46		
66)	Benzo(e)pyrene	37.52	252	71606m	1038.24		
67)	Benzo(a)pyrene	37.70	252	66286m	1123.56		
68)	Indeno(1,2,3-c,d)pyrene	42.13	276	51915m	1182.17		
69)	Dibenzo(a,h)anthracene	42.23	278	49483m	1220.89		
70)	C1-Dibenzo(a,h)anthracene	0.00	292	0	N.D.	d	
71)	C2-Dibenzo(a,h)anthracene	0.00	306	0	N.D.	d	
72)	C3-Dibenzo(a,h)anthracene	0.00	320	0	N.D.	d	
73)	Benzo(g,h,i)perylene	43.37	276	55630m	1136.97		
75)	Perylene	37.98	252	70619m	1192.39		

(#) = qualifier out of range (m) = manual integration

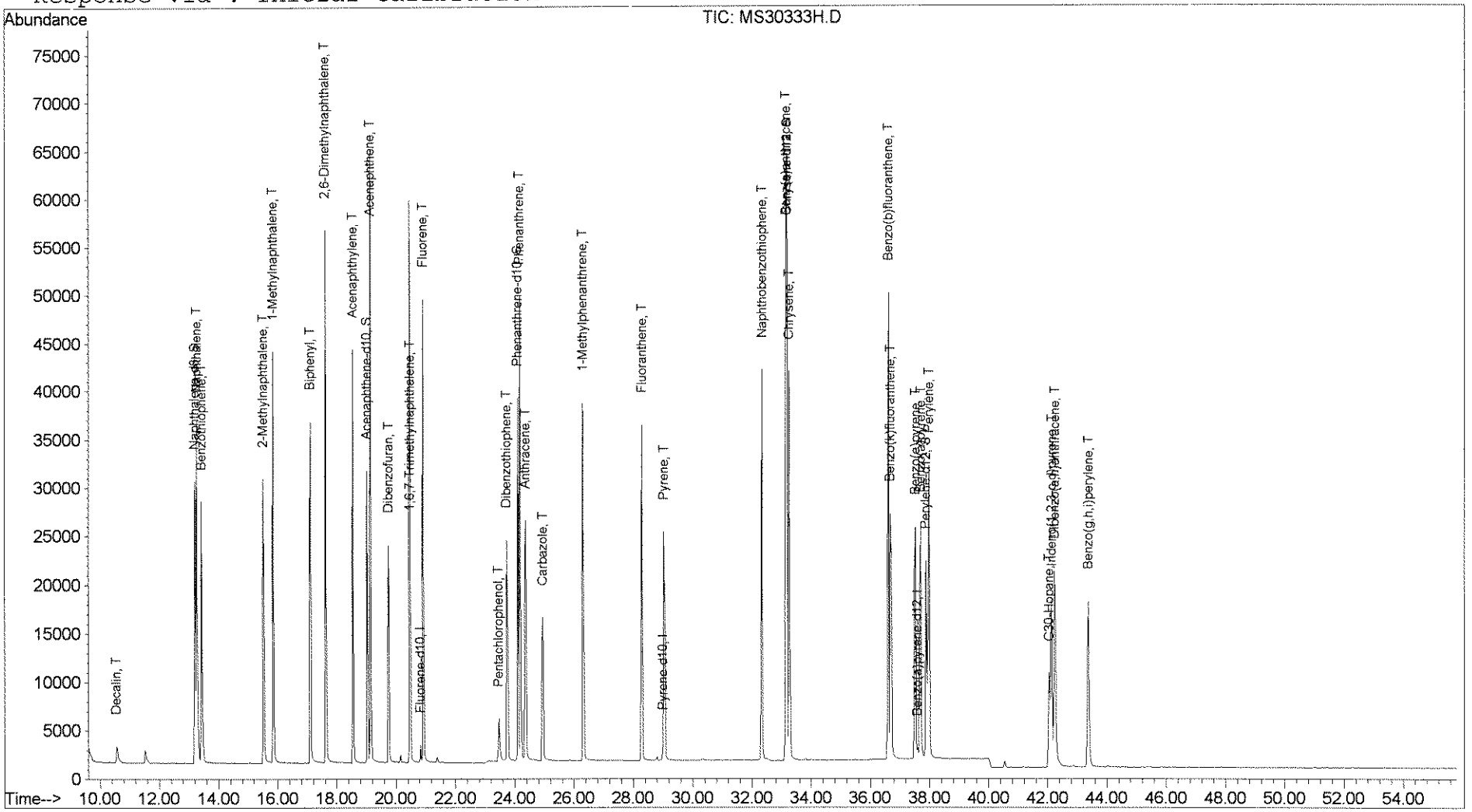
Quantitation Report

Data File : Z:\1\DATA\MS30333\MS30333H.D
Acq On : 25 Nov 2006 4:57 pm
Sample : Cal Level 5
Misc :
MS Integration Params: rteint.p
Quant Time: Nov 27 6:58 2006

Vial: 45
Operator: TJM
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 112606.RES

Method : Z:\1\METHODS\112606.M (RTE Integrator)
Title : PAH Calibration Table (2002)
Last Update : Mon Nov 27 07:02:15 2006
Response via : Initial Calibration



Supporting Documents

Shipping, Sample Receiving, and Project Initiation Documents

B&B LABORATORIES RECEIVING/INTEGRITY REPORT

Job: J04406 Date Received: 11/14/06 SDG#: 061114O1

Sender: GeoInsight - Kevin Trauger

1. Number of Shipping Containers: 1

Comments:

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

Airbill Number: 798041506516 Comments:

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

4. Chain of Custody Records?
No (Yes) Comments

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

Temperature/Comments: 15.4°C

6. List of Broken Containers:

7. Number of Samples Expected: ? Number of Samples Received: 3 tar balls

8. Problems/Discrepancies:

9. Resolutions:

10. Checked in by: [signature] Date: 11/14/06

From: Origin ID: (978)692-1114
Irena Hristov
GEOINSIGHT
5 Lan Drive
Suite 200
Westford, MA 01886

FedEx Express

CLS100306/19/23

Ship Date: 13NOV06
ActWgt: 10 LB
System#: 3590926/INET2500
Account#: S *********

15.4 kg
wet ice

REF: 3871-002-06KDT

Delivery Address Bar Code

SHIP TO: (979)693-3446 **BILL SENDER**

TDI Brooks International
1902 Pinon

College Station, TX 77845

STANDARD OVERNIGHT

TUE
Deliver By:
14NOV06

TRK# 7980 4190 6516 FORM 0201

IAH AA

77845 -TX-US

XH CLLA

Shipping Label: Your shipment is complete

1. Use the 'Print' feature from your browser to send this page to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $500, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

000085

CHAIN OF CUSTODY

ACCUTEST

~~405 TECHNOLOGY CENTER WEST • BUILDING ONE~~
~~MARLBOROUGH, MA 01752~~
~~TEL: 508-481-6200 • FAX: 508-481-7753~~

ACCUTEST JOB #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

GeoInsight, Inc.
NAME
5 Lan Drive, Suite 200
ADDRESS
Westford MA 01886
CITY, STATE, ZIP
Attn; Kevin Trainer
SEND REPORT TO:
PHONE # 978-692-1114

FACILITY INFORMATION

Bouchard B120 Spill
PROJECT NAME
Buzzards Bay, Massachusetts
LOCATION
3871-002-06
PROJECT NO.
FAX # 978-692-1115

ANALYTICAL INFORMATION

Petroleum Fingerprint

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	Ice	LAB USE ONLY
	Exhibit A	10/25/06		KT	Twp							✓	
	Exhibit B	10/25/06		KT								✓	
	Exhibit 31	10/25/06		KT	↓							✓	- B1
	Called Kevin Trainer - id should be Exhibit ~~31~~ 31 11/15/06 4												

DATA TURNAROUND INFORMATION

☐ 14 DAYS STANDARD
☐ 7 DAYS *RUSH*
☐ 48 HOUR EMERGENCY
☐ OTHER _____

APPROVED BY: _____

14 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

☐ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY) _____

COMMENTS/REMARKS

Please e-mail results to:
kdtrainer@geoinc.com

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1.	11/13/06 2/10 PM	1. Jewell Frank 11/14/06	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE _____ C

Environmental Sample Inventory

Log #	JOB#	CLIENT NAME	FILENAME	CLIENT ID	COL. DATE	RECVD	ANALYSIS	MATRIX	COMMENTS	B&B SDG	Client Project #
41449	J04406	GeoInsight, Inc.	GEO0048	Exhibit A	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002
41450	J04406	GeoInsight, Inc.	GEO0049	Exhibit B	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002
41451	J04406	GeoInsight, Inc.	GEO0050	Exhibit 31	10/25/06	11/14/06	PAH	OTHER	Tar ball	06111401	3871-002

B&B LABORATORIES SAMPLE INITIATION FORM-ENV

Job #: J04406

SDG: 0611401

Client: GeoInsight

Initiation Date: 11/15/06

Number of Samples: 3

Matrix: tar balls

Due Date: _____

Comments: _____

Analyses

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

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

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

SEE BACK FOR SPECIFIC STANDARDS TO USE

Surrogate(s): P4H Volume(s): 100µl

Spike Standard(s): _____ Volume(s): ~~10~~ TM

Internal Standard(s): P4H Volume(s): 100µl

Final Extract Volume (ml): 1-4ml Final Solvent: DCM

Comments:

Sample Custodian Signature: Russell Foland Date: 11/15/06

Project Administrator Signature: T. McDaniel Date: 11-23-06

cc: COC Book
Extraction Lab

Extraction Standard Inventory

Organophosphates (OPs)

- ☐ OP-WKSU-0050-006 (Surrogate)
- ☐ OP-WKSK-TPT-006 (Surrogate)
- ☐ OP-WKIS-0100-006 (Int STD)

Aliphatic Hydrocarbons (ALI/TPH)

- ☐ AL-WKSU-20-009 (Surrogate)
- ☐ AL-WKSK-100-010 (Spike)
- ☐ AL-WKIS-200-007 (Int STD)
- ☐ AL-STSU-200-007 **(High Surrogate)**
- ☐ AL-STIS-2000-008 **(High Int STD)**

Polycyclic Aromatic Hydrocarbons (PAHs)

- ☑ AR-WKSU-0500-016 (Surrogate)
- ☐ AR-WKSK-1000-013 (Spike)
- ☑ AR-WKIS-0500-011 (Int STD)
- ☐ AR-STSU-5000-009 **(High Surrogate)**
- ☐ AR-STIS-5000-008 **(High Int STD)**

Organochlorine Pesticides/PCBs (OCs/PCBs)

- ☐ OC-WKSU-1000-010 (Surrogate)
- ☐ OC-WKSK-0400-008 (Spike)
- ☐ PEST-WKSU-1000-003 (Surrogate)*(Epsilon-HCH)*
- ☐ OC-WKIS-1000-008 (Int STD)

Polychlorinated Biphenyls (PCBs by GC/MS)

- ☐ PCB-WKSU-008-008 (Surrogate)
- ☐ PCB-WKSK-300-003 (Spike)
- ☐ PCB-WKIS-010-007 (Int STD)

Polybrominated Diphenyl Ether (PBDEs) and Polybrominated Biphenyls (PBBs)

- ☐ PBDE-WKSU-1.0-005 (Surrogate)
- ☐ PBDE-WKSK-1-006 (Spike)
- ☐ PBDE-WKIS-0.5-005 (Int STD)
- ☐ PBB-WKSU-5.0-004 (Surrogate)
- ☐ PBB-WKSK-2500-001 (Spike)
- ☐ PBB-WKIS-5.0-004 (Int STD)

Linear Alkylbenzenes (LABs)

- ☐ LAB-WKSK-2500-002 (Spike)

Laboratory Bench Sheet Logs

B&B LABORATORIES EOM LOGBOOK

MATRIX
X OTHER
SEDIMENT
WATER
Tarball

Job #: J04406 SDG #: 0611401

Client: GeoInsight, Inc

General comments: For PAH w/ High IS, SA

	Lab Manager	Transferred by Date/Int:	Date/Int: Bal. Cal.	Date/Int:	
	Date/Int: 11/21/06 YM	From ENV Pg: — From DRY Pg: —	11/21/06 YM	11/21/06 YM	

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Wt. of 100 µl EOM Wt. (mg)	EOM (Wet Wt. Basis)	EOM (Dry Wt. Basis)	Comments
1	GEO0048	Exhibit A				14.638		1	PAH:
2						14.727	BVL:	14.787	60µl ⇒ 1000µl
3						14.997			
4	GEO0049	Exhibit B				22.230			PAH:
5						22.112	BVL:	22.079	40µl ⇒ 1000µl
6						21.894			
7	GEO0050	Exhibit 31				19.421			PAH.
8						19.257	BVL:	19.321	50µl ⇒ 1000µl
9						19.285			
10									
11									
12									
13									
14									
15									
16									

2
3

000091

EOM 218

B&B LABORATORIES EOM LOGBOOK

	Sample Name	Client ID	Smpl Wt./Vol (g/L) Wet Wt. Dry Wt.	Dry Wt. (%)	Final Extract Vol (mL)	Wt. of 100 µl EOM Wt. (mg)	EOM (Wet Wt. Basis)	EOM (Dry Wt. Basis)	Comments
17									
18									
19									
20									
21									
22									
23									
24									

11/21/06 MM

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

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

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

Date/Int:	RPD

Sample: _____

Duplicate: _____

260092

EOM Logs

EOM 218

Last Page