ALPHA
WOODS HOLE LABS

RIVER

ANALYTICAL REPORT

Prepared for:
NewFields Environmental Forensics Practice
100 Ledgewood Place, Suite 302
Rockland, MA 02370

Project:	Kerr McGee - Milwaukee
ETR:	0512096
Report Date:	January 19, 2006

Certifications and Accreditations
Massachusetts MA030
Connecticut PH-0141
New Hampshire 220602
Rhode Island 64
New Jersey MA015
Maine MA030
New York 11627
Louisiana 03090
Army Corps of Engineers
Department of the Navy
Florida E87814

Sample ID Cross Reference

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee

Lab Code: MA00030
ETR: 0512096

Lab Sample ID	Client Sample ID
0512096-01	MA9-SSRR-131A-9-21
0512096-02	MA9-SSRR-131D-0-5
0512096-03	MA9-SSRR-131C-0-5
0512096-04	MA9-SSRR-128A-18-24
0512096-05	MA9-SSRR-128E-0-6
0512096-06	MA9-SSRR-122C 0-4
0512096-07	MA9-SSRR-116A 18-24
0512096-08	MA9-SSRR-116A 18-24D
0512096-09	MA9-SSRR-125E 9-18

Certificate Program Summary

Method numbers assume the most recent EPA revisions. For a complete listing of analytes for the referenced methods please contact your Alpha Woods Hole Lab Project Manager or the Quality Assurance Manager.

Connecticut Department of Public Health Certificate No.: PH-0141 - *Wastewater* (General Chemistry: 120.1, 150.1, 160.1, 160.2, 180.1, 300.0, 310.1, 335.2, 365.2, 405.1, 413.1, COD HACH 8000; Metals: 200.7, 245.1; Organics: 608, 624, 625). *Solid Waste/Soil* (General Chemistry: 1010, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7471; Organics: 8081, 8082, 8260, 8270, ETPH).

Florida Department of Health Certificate No.: E87814 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, SM2320B, 335.2, 365.2, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry: 9010/9014, 9045, 9050, 9056, 9060, 9065; Metals: 6010, 6020, 7041, 7060, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Louisiana Department of Environmental Quality Certificate No.: 03090 - Primary NELAP Accrediting Authority for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, SM2540G, COD HACH 8000; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (General Chemistry:1010, 1311, 9010/9014, 9045, 9056, 9060; Metals: 6010, 6020, 7041, 7060, 7191, 7421, 7470, 7471, 7740, 7841; Organics: 8081, 8082, 8260, 8270).

Maine Department of Human Services Certificate No.: MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

Massachusetts Department of Environmental Protection Certificate No.: M-MA030 - *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 405.1, 413.1, 420.1, COD HACH 8000; Metals: 200.7, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624).

New Hampshire Department of Environmental Services Certificate No.: 220604 - Secondary NELAP Accreditation for *Wastewater* (General Chemistry: 120.1/2510B, 150.1, 160.1/SM2540C, 160.2/SM2540D, 180.1, 300.0, 310.1/SM2320B, 335.2, 365.2, 376.2, 405.1, 413.1, 420.1, COD HACH 8000, SM2540G; Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625).

New Jersey Department of Environmental Protection Certificate No.: MA015 - *Solid and Hazardous Waste* (General Chemistry: 1010, 1311, 3060, 7196, 9010/9014, 9045, 9056, 9060; Metals: 3010, 3015, 3020, 3050, 3051, 6010, 6020, 7041, 7060, 7131, 7191, 7211, 7421, 7470, 7471, 7520, 7740, 7761, 7841; Organics: 3510, 3545, 5030, 5035, 3620, 3630, 3640, 3660, 8081, 8082, 8100, 8260, 8270).

New York Department of Health Certificate No.: 11627 - Secondary NELAP Accreditation for *Wastewater* (Metals: 200.7, 204.2, 206.2, 239.2, 245.1, 270.2, 279.2; Organics: 608, 624, 625). *Solid and Hazardous Waste* (Metals: 6010, 7041, 7060, 7470, 7471, 7740; Organics: 8081, 8082, 8260, 8270).

Rhode Island Department of Health Certificate No.: 00064 - Chemistry: *Organic and Inorganic in Surface Water, Wastewater/Sewage and Soil* (Method numbers not specified with certificate.)

U.S. Army Corps of Engineers - General Chemistry: 9010/9014, 9071/418.1, 9060; Organics: 8081, 8082, 8260, 8270, 8270-SIM; Metals: 6010, 6020, 7000.

Department of the Navy - General Chemistry: 9010/9014, 9060; Organics: 8081, 8082, 8015-mod, 8260, 8270, 8270-SIM; Metals: 6010, 6020.

CASE NARRATIVE
Alpha Woods Hole Labs

ETR: 0512096
Project: Kerr McGee-Milwaukee

All analyses were performed according to Alpha Woods Hole Lab quality assurance program and documented Standard Operating Procedures (SOPs). The analytical results contained in this report meet all applicable agency and/or NELAC standards, were performed within holding time, and with appropriate quality control measures, except where noted. Blank correction of results is not performed in the laboratory for any parameter. Soil/sediment samples are reported on a dry weight basis unless otherwise noted. Tissue and sediment samples are not certifiable under the NELAC accreditation.

Alkylated Polynuclear Aromatic Hydrocarbons

Polynuclear aromatic hydrocarbons were analyzed following Alpha Woods Hole Lab SOP *Analysis of Parent and Alkylated Polynuclear Aromatic Hydrocarbons and Selected Heterocyclic Compounds by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring (Revision 2.0, 06/28/02).* Soil samples (approximately 10-30g) are spiked with surrogate compounds and extracted by *Shaker Table Extraction (Revision 0.0, 02/20/02).* Solvent extracts are dried over sodium sulfate and concentrated to an appropriate final volume based on oil content as determined by gravimetric weighing. A pre-determined volume of the extract was alumina cleaned (*Alumina Column Cleanup of Organic Extracts, Revision 0.0, 02/21/1999*) and again concentrated to a final effective volume determined by gravimetric weight. All extracts were treated with activated copper to remove sulfur interferences. Qualitative identifications are confirmed by analyzing standards under the same conditions used for samples, comparing mass spectra, GC retention times, and patterns generated from reference oils. Quantification is based on response factors derived from a multi-level initial calibration using internal standard techniques. Alkyl homologues are quantified using the response factor of the parent PAH compound.

1. The soil method blank SS122105B05 contained low-level target compounds, detected below the reporting limit. Associated field sample results are flagged with "B" qualifiers if the concentration of the analyte in the sample is less than 5X the concentration in the blank.

2. Samples MA9-SSRR-131A-9-21 (0512096-01), MA9-SSRR-131C-0-5 (0512096-03), and MA9-SSRR-128E-0-6 (0512096-05) required dilutions due to over-calibration concentration of target compounds. The diluted analyses are only quantified for the compounds that were out of range in the un-diluted analysis.

3. Sample MA9-SSRR-131D-0-5 (0512096-02) and its duplicate (0512096-02D) have most of the compounds above the 30% relative percent difference QC limit due to potential matrix in-homogeneity. The integrations in the native sample and the duplicate were reviewed and found to be appropriate. It was also noted that the gravimetric determination also exhibited a relative percent difference above 30%.

4. Concentrations for compounds flagged with "G" qualifiers may be biased high due to matrix interference included in the quantitation.

Total Petroleum Hydrocarbons by GC/FID

Soil samples were analyzed following the procedures in Alpha Woods Lab SOP *Total Petroleum Hydrocarbons by Gas Chromatography/Flame Ionization Detector (Revision 1.1)* Method 8100/8015mod and SOP *Addendum for Saturated Hydrocarbons, Rev. 1.0, 2004.* Samples were prepared as stated above for the PAH analysis. A portion of the final extract for solid samples was split for GC/FID analysis. Solid samples were analyzed by GC/FID (gas chromatography with flame

ionization detection). A multi-level initial calibration over the n-alkane range from C9-C40 was evaluated and quantified using internal standard techniques prior to sample analysis.

1. All quality control parameters met the specified criteria.

The enclosed results of analyses are representative of the samples as received by the laboratory. Alpha Woods Hole Lab makes no representations or certifications as to the method of sample collection, sample identification, or transporting/handling procedures used prior to the receipt of samples by Alpha Woods Hole Lab. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved by: Elizabeth Porta Title: QA mangur Date: 1/19/06
Elizabeth Porta
Quality Assurance Manager

Alkylated Polynuclear Aromatic Hydrocarbons By Selective Ion Monitoring

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131A-9-21
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-01
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	66.7	10.31	5	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	8.7	C1-Dibenzothiophenes	3800
C1-Decalins	23	C2-Dibenzothiophenes	7400
C2-Decalins	44	C3-Dibenzothiophenes	7700 G
C3-Decalins	52	C4-Dibenzothiophenes	3600
C4-Decalins	100	Benzo(b)fluorene	8600 E
Benzothiophene	4.6 J	Fluoranthene	110000 E
C1-Benzo(b)thiophenes	73	Pyrene	82000 E
C2-Benzo(b)thiophenes	150	C1-Fluoranthenes/Pyrenes	21000
C3-Benzo(b)thiophenes	610	C2-Fluoranthenes/Pyrenes	5300
C4-Benzo(b)thiophenes	920	C3-Fluoranthenes/Pyrenes	2700
Naphthalene	54	C4-Fluoranthenes/Pyrenes	1400
C1-Naphthalenes	77	Naphthobenzothiophenes	3800
C2-Naphthalenes	630	C1-Naphthobenzothiophenes	1400
C3-Naphthalenes	3000	C2-Naphthobenzothiophenes	1200
C4-Naphthalenes	4800	C3-Naphthobenzothiophenes	980
Biphenyl	52	C4-Naphthobenzothiophenes	600
Dibenzofuran	6200	Benz[a]anthracene	24000 E
Acenaphthylene	510	Chrysene/Triphenylene	23000 E
Acenaphthene	15000 E	C1-Chrysenes	5200
Fluorene	15000 E	C2-Chrysenes	2500
C1-Fluorenes	3800	C3-Chrysenes	2000
C2-Fluorenes	4200	C4-Chrysenes	730
C3-Fluorenes	4800	Benzo[b]fluoranthene	9600 E
Anthracene	8800 E	Benzo[k]fluoranthene	8100 E
Phenanthrene	23000 E	Benzo[a]fluoranthene	1300
C1-Phenanthrenes/Anthracenes	12000	Benzo[e]pyrene	5200
C2-Phenanthrenes/Anthracenes	12000	Benzo[a]pyrene	7300 E
C3-Phenanthrenes/Anthracenes	8200	Perylene	1800
C4-Phenanthrenes/Anthracenes	3300	Indeno[1,2,3-cd]pyrene	2800
Retene	1.0 U	Dibenz[a,h]anthracene	720
Dibenzothiophene	4500	Benzo[g,h,i]perylene	2200

62,364
187,084
338,584
18.4%
276,220
124,720
81.6%
465,338.3
All - 465.33 mg/Kg
Total PAHs - 456,673
parent + alkylated 456.67

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	95	50-130
Pyrene-d10	100	50-130
Benzo[b]fluoranthene-d12	82	50-130

N/A - Not Applicable
E - Estimated value, exceeds the upper limit of calibration.
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.
G - Matrix Interference

34

433,521
433.52

140,084
44.5
77,720
55.5

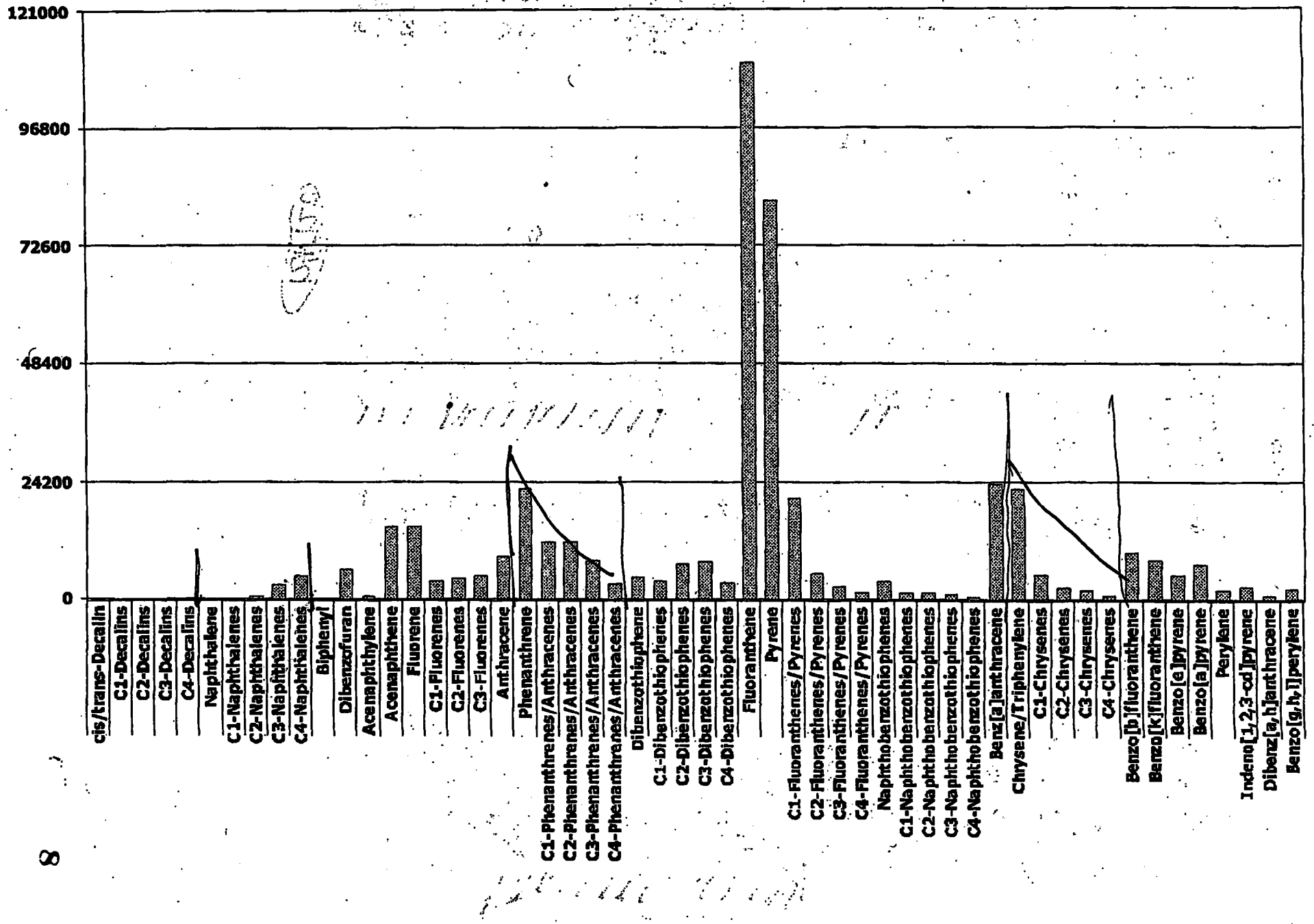
375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131A-9-21

Lab ID: 0512096-01

Concentration: µg/Kg



Quantitation Report (QT Reviewed)

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Acq On : 29 Dec 2005 2:28 am
Operator : AC
Sample : 0512096-01
Misc : 1X
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 05 11:44:22 2006
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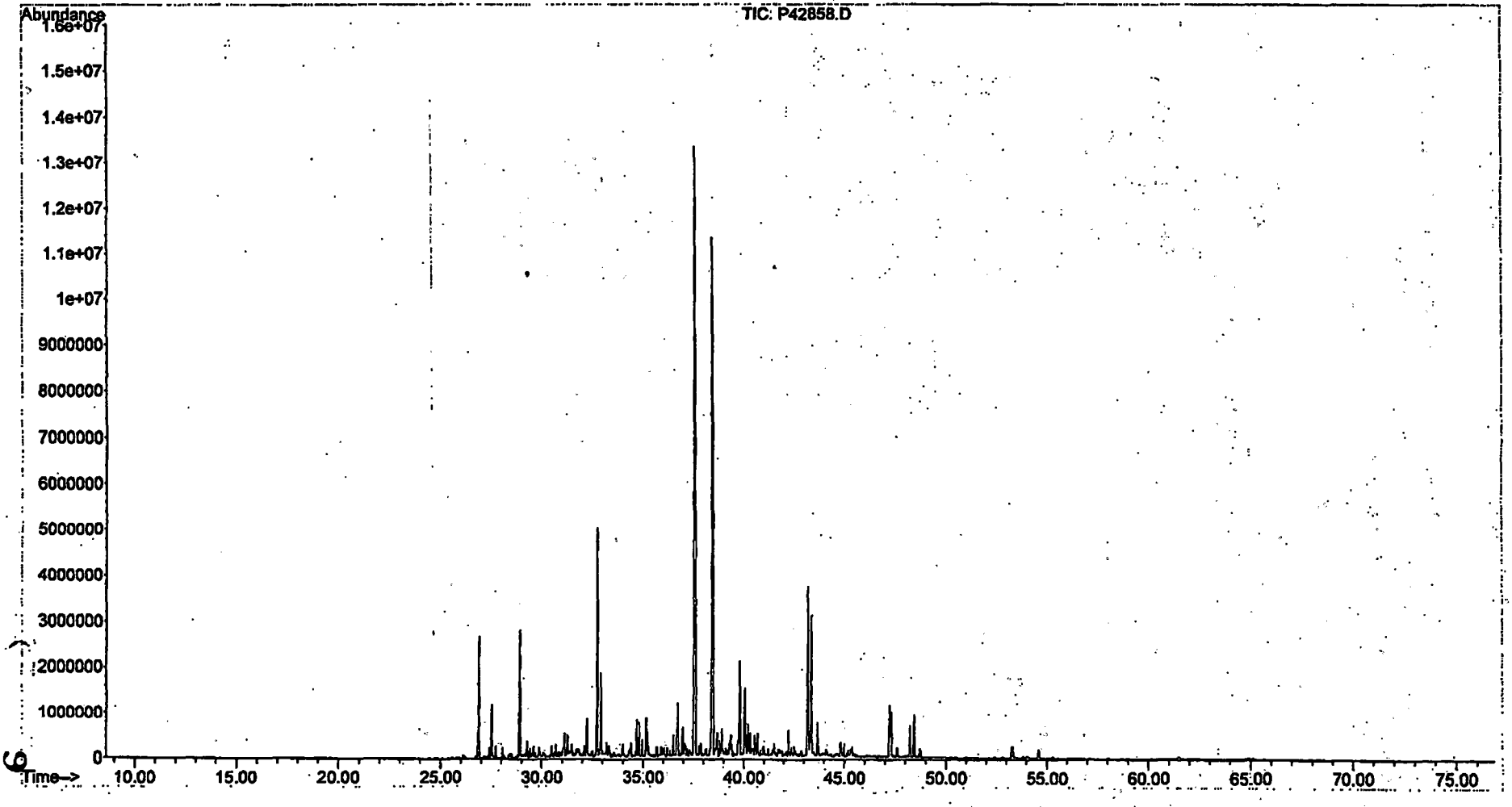
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131A-9-21
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-01E
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	01/04/06	66.7	10.31	5	20	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	39	U	C1-Dibenzothiophenes	16	U
C1-Decalins	39	U	C2-Dibenzothiophenes	16	U
C2-Decalins	39	U	C3-Dibenzothiophenes	16	U
C3-Decalins	39	U	C4-Dibenzothiophenes	16	U
C4-Decalins	39	U	Benzo(b)fluorene	6400	
Benzothiophene	19	U	Fluoranthene	72000	
C1-Benzo(b)thiophenes	19	U	Pyrene	49000	
C2-Benzo(b)thiophenes	19	U	C1-Fluoranthenes/Pyrenes	13	U
C3-Benzo(b)thiophenes	19	U	C2-Fluoranthenes/Pyrenes	13	U
C4-Benzo(b)thiophenes	19	U	C3-Fluoranthenes/Pyrenes	13	U
Naphthalene	24	U	C4-Fluoranthenes/Pyrenes	13	U
C1-Naphthalenes	24	U	Naphthobenzothiophenes	18	U
C2-Naphthalenes	24	U	C1-Naphthobenzothiophenes	18	U
C3-Naphthalenes	24	U	C2-Naphthobenzothiophenes	18	U
C4-Naphthalenes	24	U	C3-Naphthobenzothiophenes	18	U
Biphenyl	13	U	C4-Naphthobenzothiophenes	18	U
Dibenzofuran	17	U	Benz[a]anthracene	15000	
Acenaphthylene	26	U	Chrysene/Triphenylene	15000	
Acenaphthene	11000		C1-Chrysenes	16	U
Fluorene	11000		C2-Chrysenes	16	U
C1-Fluorenes	17	U	C3-Chrysenes	16	U
C2-Fluorenes	17	U	C4-Chrysenes	16	U
C3-Fluorenes	17	U	Benzo[b]fluoranthene	6600	
Anthracene	6300		Benzo[k]fluoranthene	5400	
Phenanthrene	17000		Benzo[a]fluoranthene	30	U
C1-Phenanthrenes/Anthracenes	21	U	Benzo[e]pyrene	20	U
C2-Phenanthrenes/Anthracenes	21	U	Benzo[a]pyrene	5100	
C3-Phenanthrenes/Anthracenes	21	U	Perylene	25	U
C4-Phenanthrenes/Anthracenes	21	U	Indeno[1,2,3-cd]pyrene	35	U
Retene	21	U	Dibenz[a,h]anthracene	28	U
Dibenzothiophene	16	U	Benzo[g,h,i]perylene	26	U

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	76	50-130
Pyrene-d10	62	50-130
Benzo[b]fluoranthene-d12	67	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.

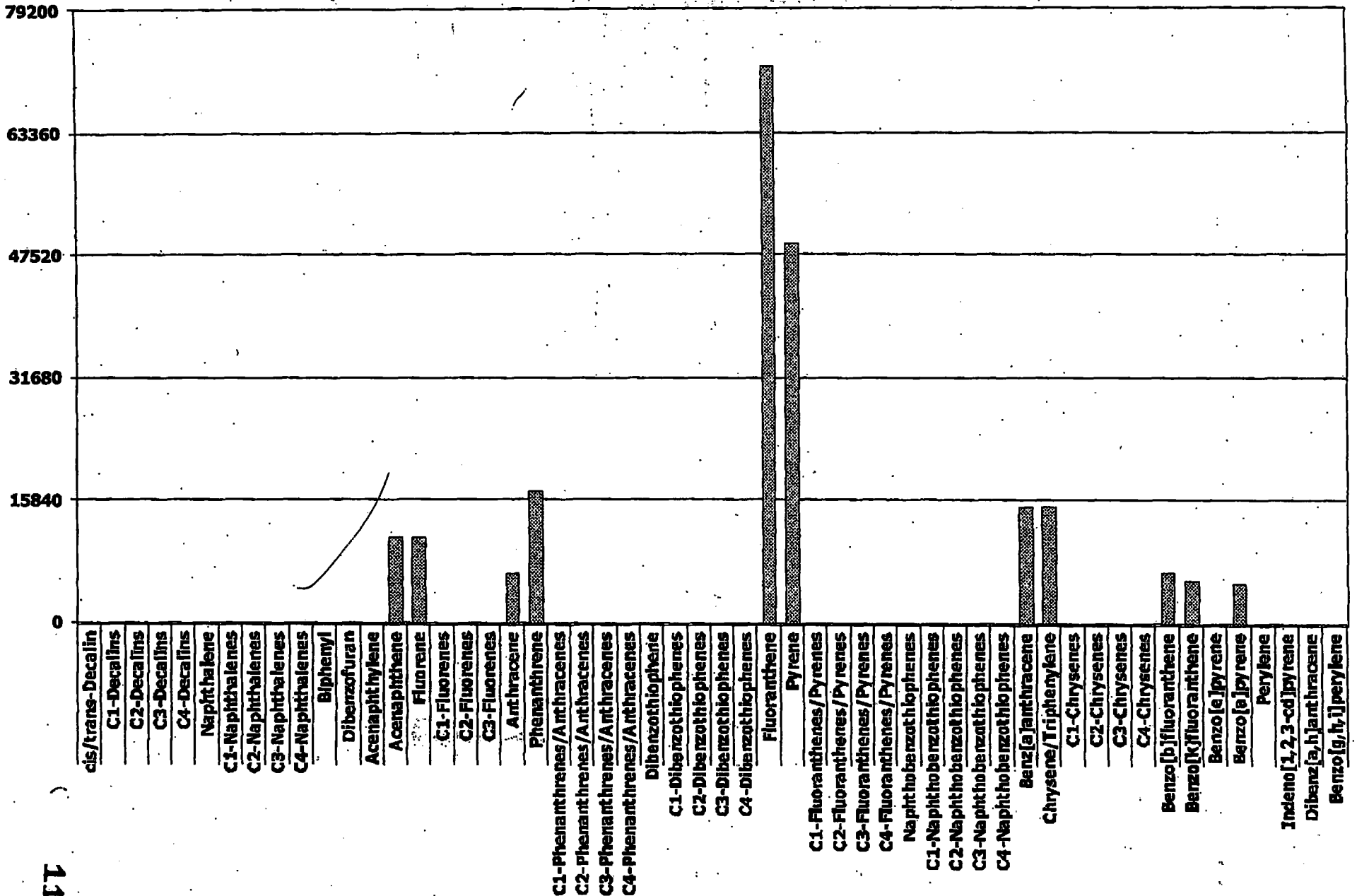
375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131A-9-21

Lab ID: 0512096-01

Concentration: µg/Kg



Quantitation Report (QT Reviewed)

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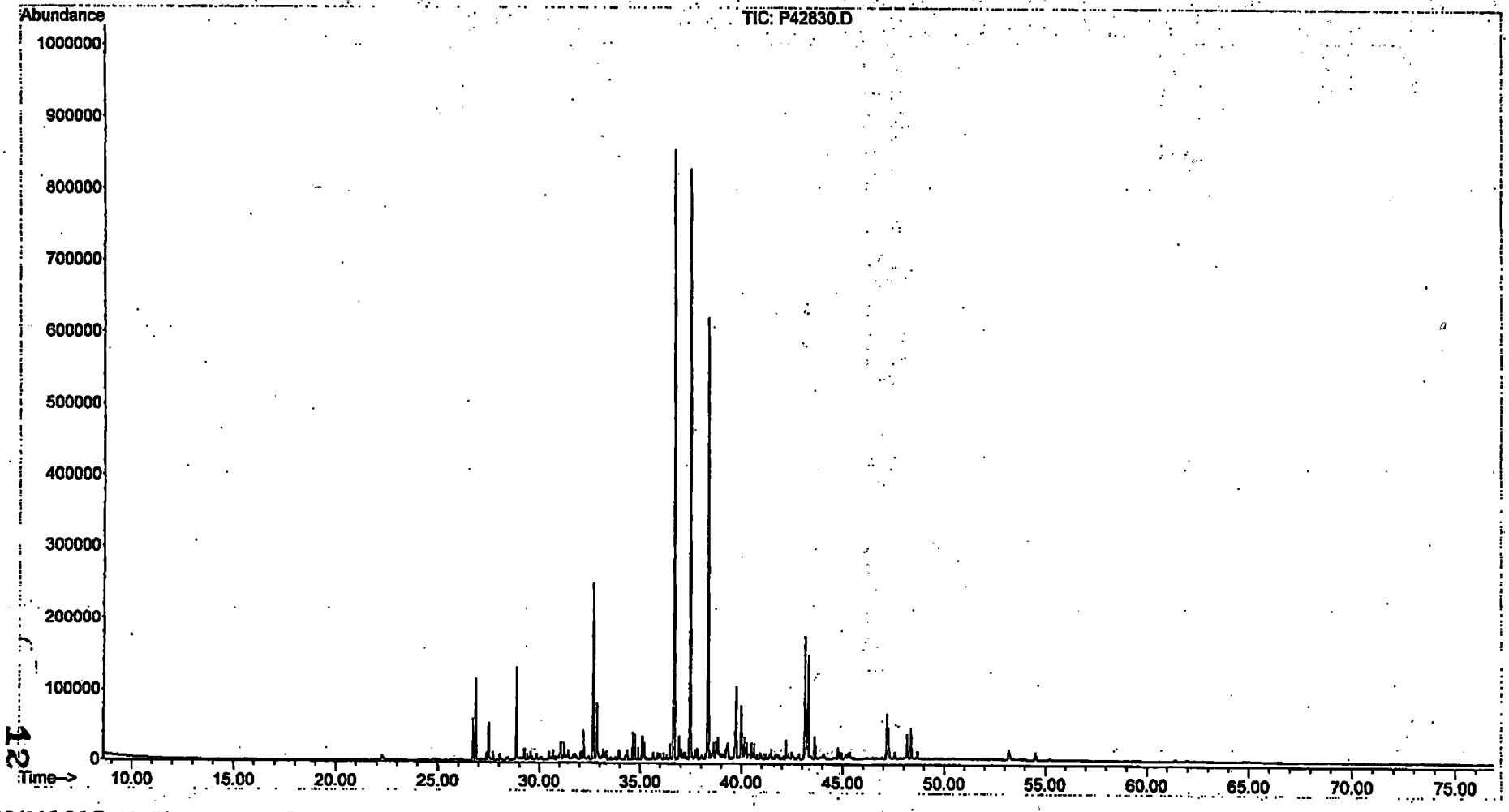
Sample : 0512096-01-RE
Misc : 20X
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jan 05 01:45:24 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 06:53:15 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131D-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-02
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	77.1	15.66	5	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	1.5 J	C1-Dibenzothiophenes	9.1
C1-Decalins	4.5	C2-Dibenzothiophenes	28
C2-Decalins	3.3 J	C3-Dibenzothiophenes	39
C3-Decalins	1.1 U	C4-Dibenzothiophenes	29
C4-Decalins	1.1 U	Benzo(b)fluorene	26
Benzothiophene	0.44 J	Fluoranthene	260
C1-Benzo(b)thiophenes	1.9 J	Pyrene	200
C2-Benzo(b)thiophenes	1.6 J	C1-Fluoranthenes/Pyrenes	92
C3-Benzo(b)thiophenes	2.1 J	C2-Fluoranthenes/Pyrenes	52
C4-Benzo(b)thiophenes	5.1	C3-Fluoranthenes/Pyrenes	43
Naphthalene	6.2	C4-Fluoranthenes/Pyrenes	24
C1-Naphthalenes	3.3 J	Naphthobenzothiophenes	19
C2-Naphthalenes	4.4	C1-Naphthobenzothiophenes	14
C3-Naphthalenes	11	C2-Naphthobenzothiophenes	16
C4-Naphthalenes	19	C3-Naphthobenzothiophenes	17
Biphenyl	2.7 J	C4-Naphthobenzothiophenes	12
Dibenzofuran	6.0	Benz[a]anthracene	85
Acenaphthylene	10	Chrysene/Triphenylene	100
Acenaphthene	42	C1-Chrysenes	41
Fluorene	12	C2-Chrysenes	36
C1-Fluorenes	8.6	C3-Chrysenes	48
C2-Fluorenes	15	C4-Chrysenes	28
C3-Fluorenes	25	Benzo[b]fluoranthene	76
Anthracene	20	Benzo[k]fluoranthene	62
Phenanthrene	30	Benzo[a]fluoranthene	12
C1-Phenanthrenes/Anthracenes	25	Benzo[e]pyrene	56
C2-Phenanthrenes/Anthracenes	41	Benzo[a]pyrene	62
C3-Phenanthrenes/Anthracenes	55	Perylene	51
C4-Phenanthrenes/Anthracenes	36	Indeno[1,2,3-cd]pyrene	51
Retene	0.60 U	Dibenz[a,h]anthracene	11
Dibenzothiophene	4.8	Benzo[g,h,i]perylene	50

617.2 120.2 497 1025 All 2046.54 ug/K
19.5 80.5 1145.2 89.5% 2.05 mg/Kg
10.5% Total PAHs
Parent + alkylated

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	71	50-130
Pyrene-d10	75	50-130
Benzo[b]fluoranthene-d12	70	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34 1633.5
1.63

19.5 497 80.5 617.2

01/05/06 13:18

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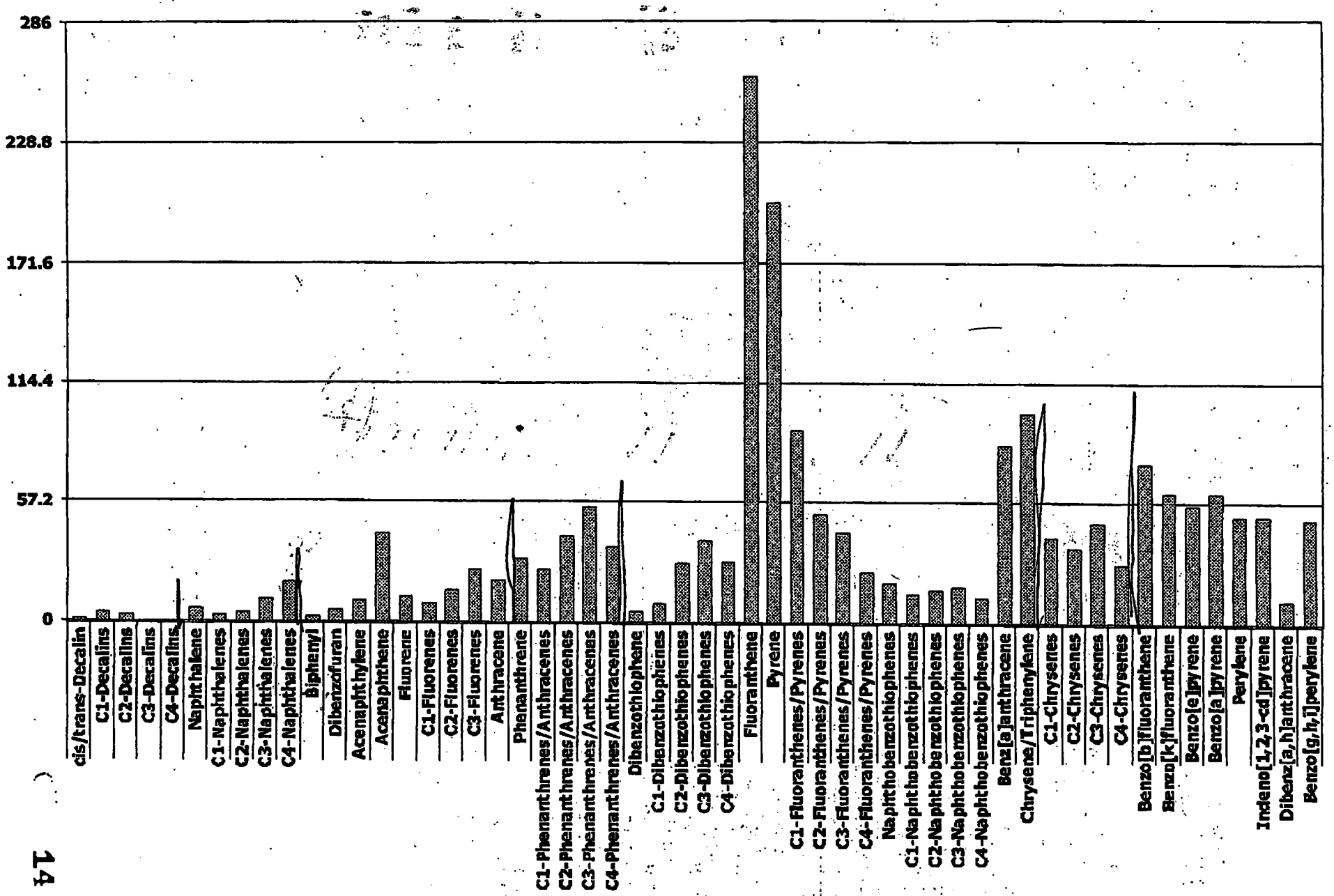
Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131D-0-5

Lab ID: 0512096-02

Concentration: µg/Kg



Quantitation Report (QT Rev

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Operator : AC
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Misc : 1X
ALS Vial : 23 Sample Multiplier: 1

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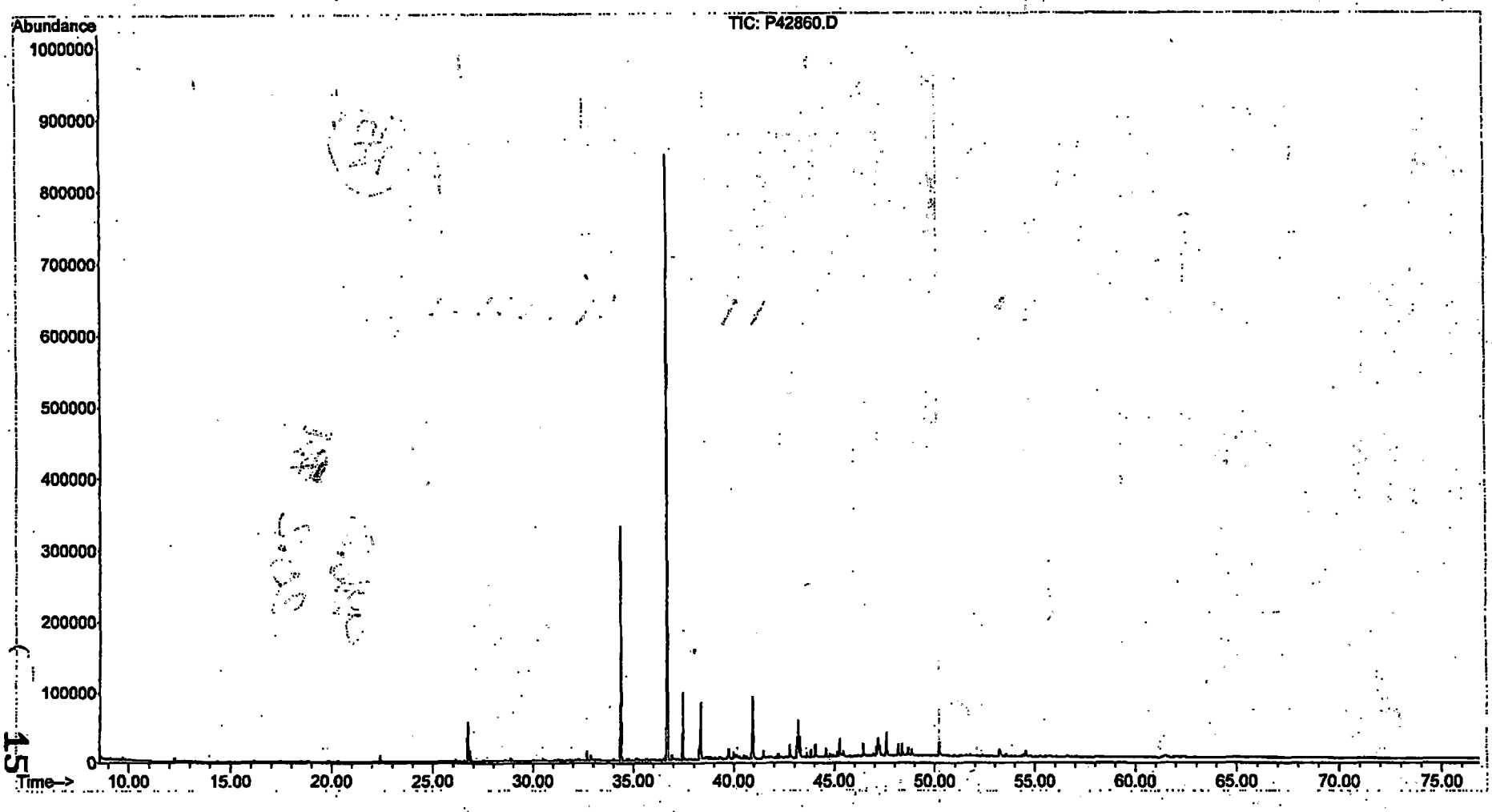
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131D-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-02 D
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	77.1	15.34	5	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	2.0	J	C1-Dibenzothiophenes	16	
C1-Decalins	6.1		C2-Dibenzothiophenes	48	
C2-Decalins	4.0	J	C3-Dibenzothiophenes	61	
C3-Decalins	1.1	U	C4-Dibenzothiophenes	41	
C4-Decalins	1.1	U	Benzo(b)fluorene	41	
Benzothiophene	0.49	J	Fluoranthene	450	
C1-Benzo(b)thiophenes	2.0	J	Pyrene	340	
C2-Benzo(b)thiophenes	2.0	J	C1-Fluoranthenes/Pyrenes	140	
C3-Benzo(b)thiophenes	2.8	J	C2-Fluoranthenes/Pyrenes	74	
C4-Benzo(b)thiophenes	8.2		C3-Fluoranthenes/Pyrenes	54	
Naphthalene	9.2		C4-Fluoranthenes/Pyrenes	31	
C1-Naphthalenes	4.5		Naphthobenzothiophenes	32	
C2-Naphthalenes	6.5		C1-Naphthobenzothiophenes	19	
C3-Naphthalenes	19		C2-Naphthobenzothiophenes	22	
C4-Naphthalenes	33		C3-Naphthobenzothiophenes	21	
Biphenyl	3.6	J	C4-Naphthobenzothiophenes	17	
Dibenzofuran	16		Benz[a]anthracene	140	
Acenaphthylene	13		Chrysene/Triphenylene	170	
Acenaphthene	65		C1-Chrysenes	62	
Fluorene	27		C2-Chrysenes	45	
C1-Fluorenes	14		C3-Chrysenes	65	
C2-Fluorenes	26		C4-Chrysenes	34	
C3-Fluorenes	42		Benzo[b]fluoranthene	120	
Anthracene	35		Benzo[k]fluoranthene	98	
Phenanthrene	52		Benzo[a]fluoranthene	ND	17
C1-Phenanthrenes/Anthracenes	47		Benzo[e]pyrene	87	
C2-Phenanthrenes/Anthracenes	75		Benzo[a]pyrene	96	
C3-Phenanthrenes/Anthracenes	84		Perylene	77	
C4-Phenanthrenes/Anthracenes	51		Indeno[1,2,3-cd]pyrene	76	
Retene	0.61	U	Dibenz[a,h]anthracene	15	
Dibenzothiophene	10		Benzo[g,h,i]perylene	80	

996.2 201.2 1689 795 all 3249.39
20.2 79.8 1890.2 10.6 89.4
3.25 mg/kg
Total PAHs Parent + alkylated 2966.8
2.97

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	74	50-130
Pyrene-d10	79	50-130
Benzo[b]fluoranthene-d12	78	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34 2698.2
2.70
20.2 795 79.8
996.2

01/05/06 13:19

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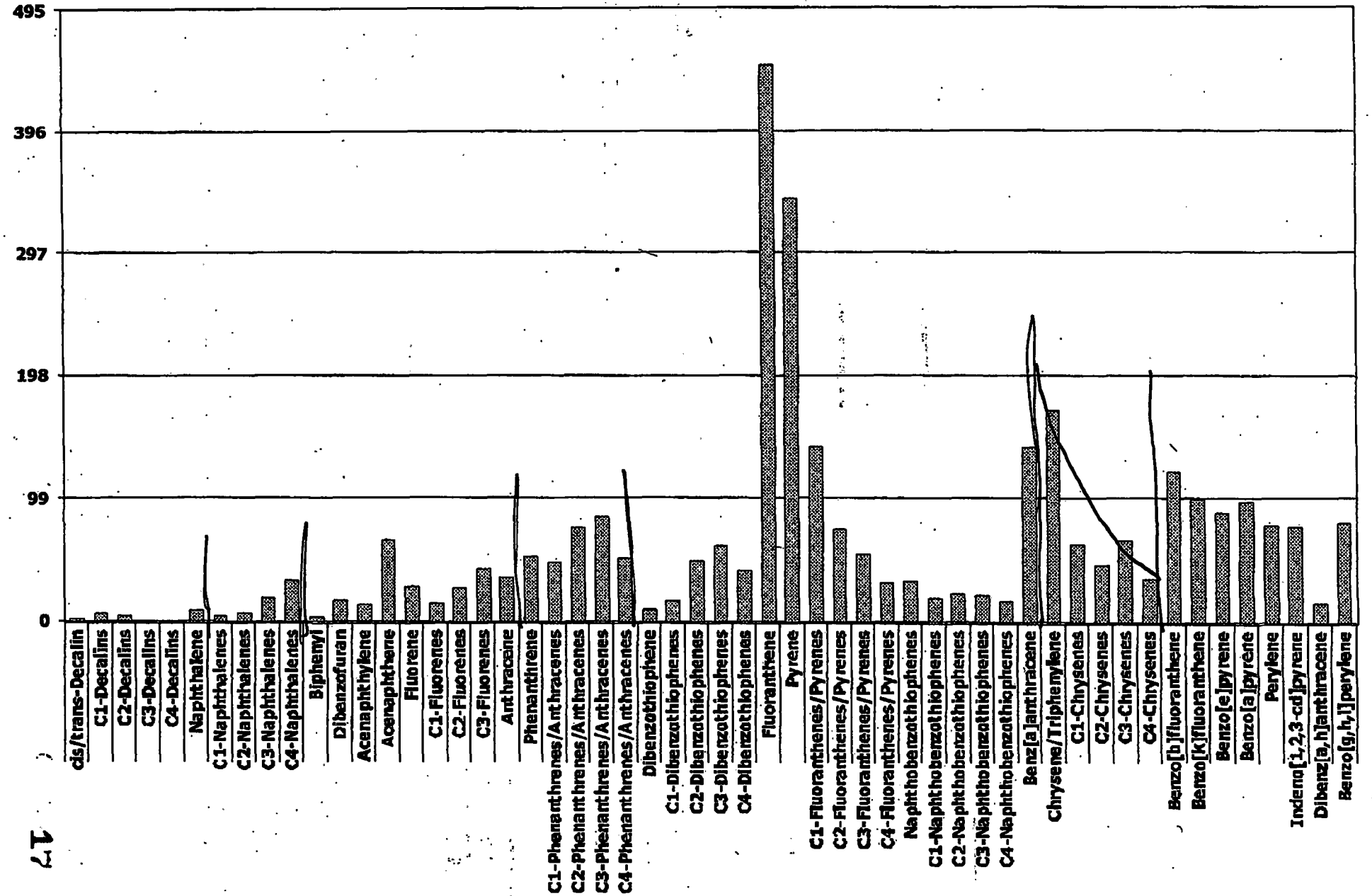
Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131D-0-5

Lab ID: 0512096-02 D

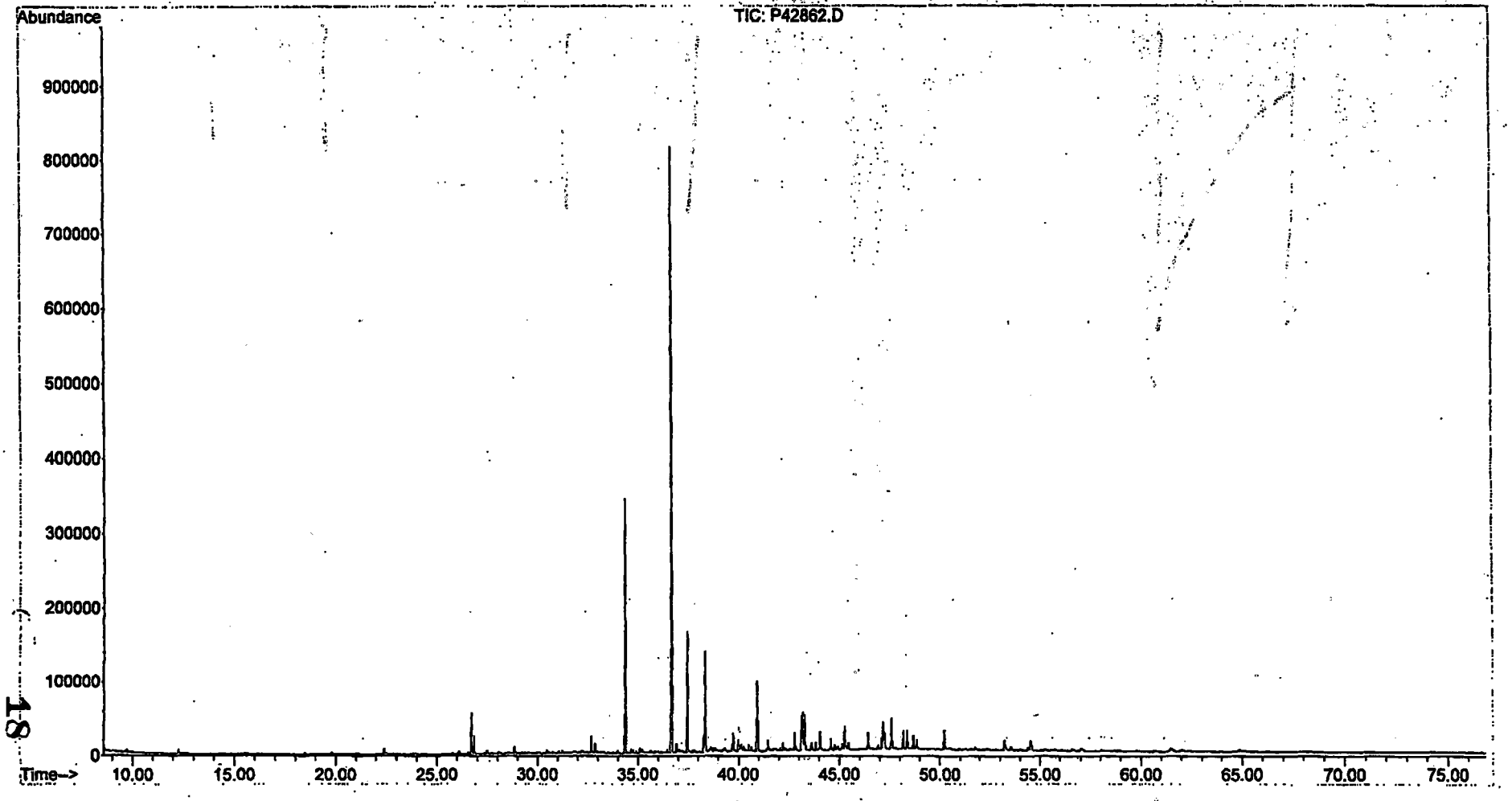
Concentration: µg/Kg



Quantitation Report (QT Reviewed)

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42862.D
Acq On : 29 Dec 2005 5:27 am
Operator : AC
Sample : 0512096-02D
Misc : 1X
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Jan 05 11:45:04 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131D-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-02
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
11/29/05	12/05/05	12/21/05	77.1	AC

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
cis/trans-Decalin	1.5 J	2.0 J	29	30
C1-Decalins	4.5	6.1	30	30
C2-Decalins	3.3 J	4.0 J	18	30
C3-Decalins	1.1 U	1.1 U	N/A	30
C4-Decalins	1.1 U	1.1 U	N/A	30
Benzothiophene	0.44 J	0.49 J	12	30
C1-Benzo(b)thiophenes	1.9 J	2.0 J	7	30
C2-Benzo(b)thiophenes	1.6 J	2.0 J	25	30
C3-Benzo(b)thiophenes	2.1 J	2.8 J	29	30
C4-Benzo(b)thiophenes	5.1	8.2	46[a]	30
Naphthalene	6.2	9.2	39[a]	30
C1-Naphthalenes	3.3 J	4.5	30	30
C2-Naphthalenes	4.4	6.5	38[a]	30
C3-Naphthalenes	11	19	49[a]	30
C4-Naphthalenes	19	33	53[a]	30
Biphenyl	2.7 J	3.6 J	29	30
Dibenzofuran	6.0	16	93[a]	30
Acenaphthylene	10	13	26	30
Acenaphthene	42	65	44[a]	30
Fluorene	12	27	81[a]	30
C1-Fluorenes	8.6	14	48[a]	30
C2-Fluorenes	15	26	54[a]	30
C3-Fluorenes	25	42	49[a]	30
Anthracene	20	35	53[a]	30
Phenanthrene	30	52	53[a]	30
C1-Phenanthrenes/Anthracenes	25	47	61[a]	30
C2-Phenanthrenes/Anthracenes	41	75	59[a]	30
C3-Phenanthrenes/Anthracenes	55	84	41[a]	30
C4-Phenanthrenes/Anthracenes	36	51	34[a]	30
Retene	0.60 U	0.61 U	N/A	30
Dibenzothiophene	4.8	10	71[a]	30
C1-Dibenzothiophenes	9.1	16	55[a]	30
C2-Dibenzothiophenes	28	48	52[a]	30
C3-Dibenzothiophenes	39	61	44[a]	30
C4-Dibenzothiophenes	29	41	35[a]	30

Σ=62

N/A - Not Applicable
[a] - Value outside of QC Limits.
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

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Duplicate
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131D-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-02
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
11/29/05	12/05/05	12/21/05	77.1	AC

Parameter	Sample Result	Duplicate Result	RPD	RPD Limit
Benzo(b)fluorene	26	41	45[a]	30
Fluoranthene	260	450	52[a]	30
Pyrene	200	340	53[a]	30
C1-Fluoranthenes/Pyrenes	92	140	45[a]	30
C2-Fluoranthenes/Pyrenes	52	74	35[a]	30
C3-Fluoranthenes/Pyrenes	43	54	23	30
C4-Fluoranthenes/Pyrenes	24	31	26	30
Naphthobenzothiophenes	19	32	48[a]	30
C1-Naphthobenzothiophenes	14	19	28	30
C2-Naphthobenzothiophenes	16	22	27	30
C3-Naphthobenzothiophenes	17	21	20	30
C4-Naphthobenzothiophenes	12	17	33[a]	30
Benz[a]anthracene	85	140	51[a]	30
Chrysene/Triphenylene	100	170	52[a]	30
C1-Chrysenes	41	62	42[a]	30
C2-Chrysenes	36	45	20	30
C3-Chrysenes	48	65	29	30
C4-Chrysenes	28	34	21	30
Benzo[b]fluoranthene	76	120	46[a]	30
Benzo[k]fluoranthene	62	98	45[a]	30
Benzo[a]fluoranthene	12	17	39[a]	30
Benzo[e]pyrene	56	87	44[a]	30
Benzo[a]pyrene	62	96	43[a]	30
Perylene	51	77	41[a]	30
Indeno[1,2,3-cd]pyrene	51	76	38[a]	30
Dibenz[a,h]anthracene	11	15	29	30
Benzo[g,h,i]perylene	50	80	45[a]	30

all - 3249.34 39 > 30 62

69% > RDD Limit

Surrogate	% Recovery		Acceptance Range (%)
2-Methylnaphthalene-d10	71	74	50-130
Pyrene-d10	75	79	50-130
Benzo[b]fluoranthene-d12	70	78	50-130

N/A - Not Applicable
[a] - Value outside of QC Limits.

Concentrations reported as calculated values, which includes rounding for significant figures. RPD values are reported based on the unrounded calculated result.

01/05/06 13:23

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Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131C-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-03
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	75.7	30.31	2	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	3.0	C1-Dibenzothiophenes	29
C1-Decalins	6.3	C2-Dibenzothiophenes	69
C2-Decalins	5.2	C3-Dibenzothiophenes	80
C3-Decalins	2.8	C4-Dibenzothiophenes	51
C4-Decalins	5.6	Benzo(b)fluorene	74
Benzothiophene	0.51 J	Fluoranthene	880 E
C1-Benzo(b)thiophenes	1.7	Pyrene	620
C2-Benzo(b)thiophenes	2.3	C1-Fluoranthenes/Pyrenes	240
C3-Benzo(b)thiophenes	5.5	C2-Fluoranthenes/Pyrenes	130
C4-Benzo(b)thiophenes	11	C3-Fluoranthenes/Pyrenes	84
Naphthalene	7.9	C4-Fluoranthenes/Pyrenes	52
C1-Naphthalenes	4.6	Naphthobenzothiophenes	55
C2-Naphthalenes	10	C1-Naphthobenzothiophenes	30
C3-Naphthalenes	29	C2-Naphthobenzothiophenes	33
C4-Naphthalenes	50	C3-Naphthobenzothiophenes	31
Biphenyl	2.9	C4-Naphthobenzothiophenes	23
Dibenzofuran	38	Benz[a]anthracene	280
Acenaphthylene	22	Chrysene/Triphenylene	370
Acenaphthene	110	C1-Chrysenes	120
Fluorene	74	C2-Chrysenes	90
C1-Fluorenes	30	C3-Chrysenes	100
C2-Fluorenes	44	C4-Chrysenes	49
C3-Fluorenes	71	Benzo[b]fluoranthene	300
Anthracene	77	Benzo[k]fluoranthene	230
Phenanthrene	180	Benzo[a]fluoranthene	37
C1-Phenanthrenes/Anthracenes	100	Benzo[e]pyrene	220
C2-Phenanthrenes/Anthracenes	140	Benzo[a]pyrene	240
C3-Phenanthrenes/Anthracenes	120	Perylene	86
C4-Phenanthrenes/Anthracenes	69	Indeno[1,2,3-cd]pyrene	200
Retene	0.13 U	Dibenz[a,h]anthracene	39
Dibenzothiophene	26	Benzo[g,h,i]perylene	180

470.9
2309.9
3866.4
12.2%
3296
1839
87.8%
All
6,271.31 ug/kg
6.27 mg/kg
Total PAHs 5,826.4
5.83 mg/kg
43

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	76	50-130
Pyrene-d10	69	50-130
Benzo[b]fluoranthene-d12	79	50-130

N/A - Not Applicable
E - Estimated value, exceeds the upper limit of calibration.
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

1839
20.4
2309.9
79.6
34
5,333.5
5.33
21

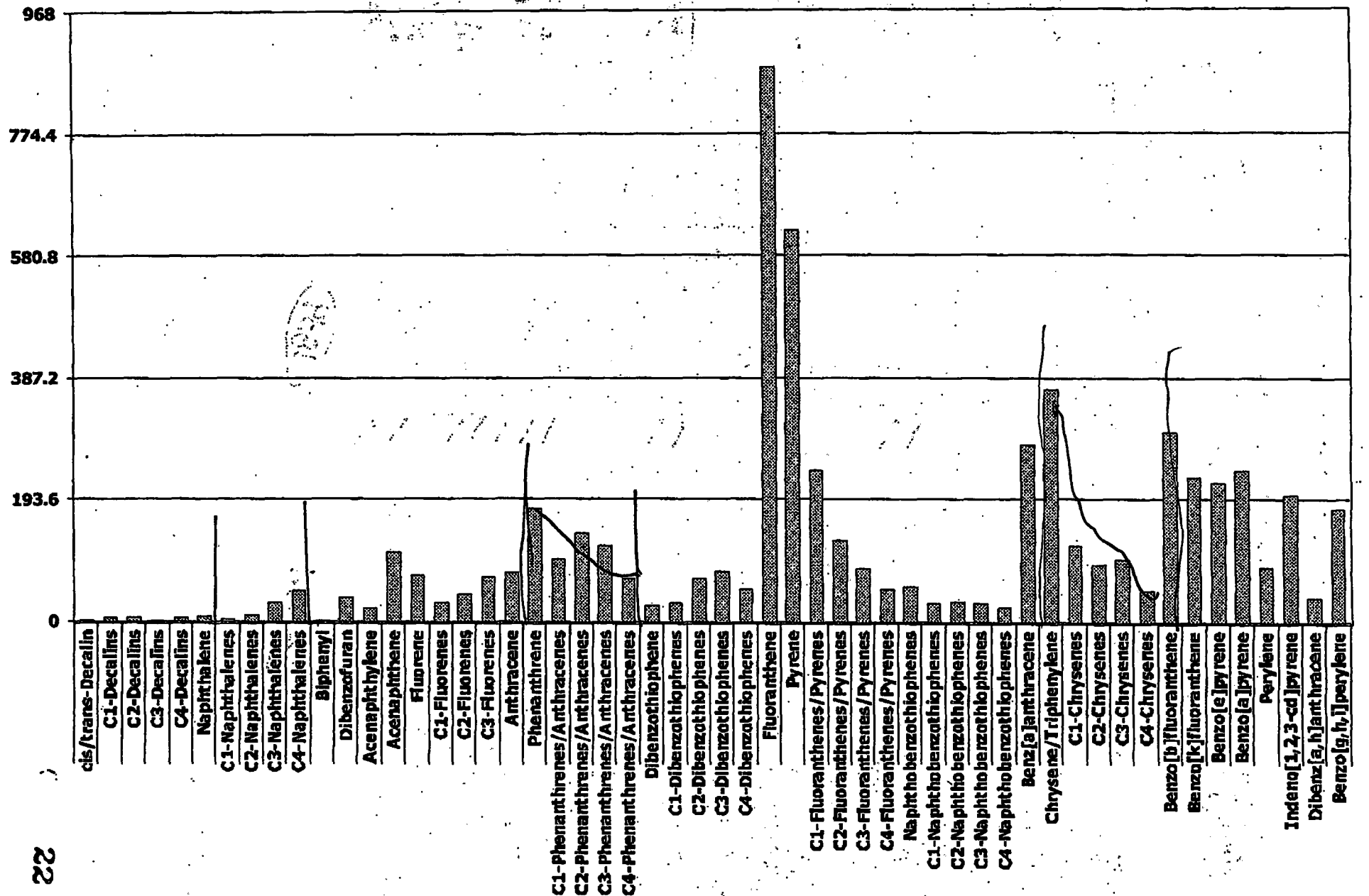
01/05/06 13:19

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131C-0-5

Lab ID: 0512096-03

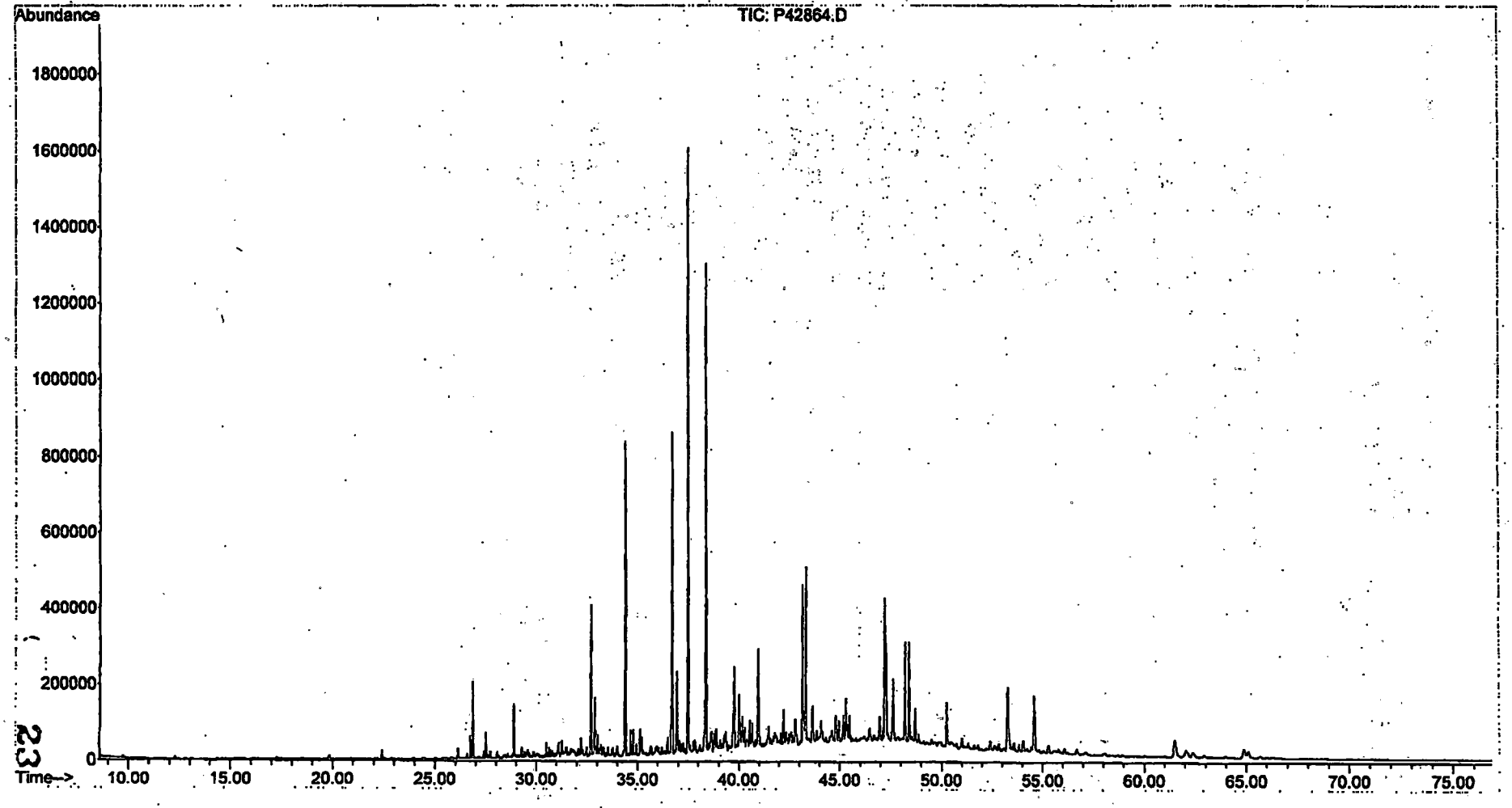
Concentration: µg/Kg



Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42864.D
Acq On : 29 Dec 2005 6:56 am
Operator : AC
Sample : 0512096-03
Misc : 1X
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Jan 05 11:45:22 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-131C-0-5
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-03E
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	01/01/06	75.7	30.31	2	2	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	0.47 U	C1-Dibenzothiophenes	0.19 U
C1-Decalins	0.47 U	C2-Dibenzothiophenes	0.19 U
C2-Decalins	0.47 U	C3-Dibenzothiophenes	0.19 U
C3-Decalins	0.47 U	C4-Dibenzothiophenes	0.19 U
C4-Decalins	0.47 U	Benzo(b)fluorene	0.18 U
Benzothiophene	0.23 U	Fluoranthene	800
C1-Benzo(b)thiophenes	0.23 U	Pyrene	0.16 U
C2-Benzo(b)thiophenes	0.23 U	C1-Fluoranthenes/Pyrenes	0.16 U
C3-Benzo(b)thiophenes	0.23 U	C2-Fluoranthenes/Pyrenes	0.16 U
C4-Benzo(b)thiophenes	0.23 U	C3-Fluoranthenes/Pyrenes	0.16 U
Naphthalene	0.29 U	C4-Fluoranthenes/Pyrenes	0.16 U
C1-Naphthalenes	0.29 U	Naphthobenzothiophenes	0.21 U
C2-Naphthalenes	0.29 U	C1-Naphthobenzothiophenes	0.21 U
C3-Naphthalenes	0.29 U	C2-Naphthobenzothiophenes	0.21 U
C4-Naphthalenes	0.29 U	C3-Naphthobenzothiophenes	0.21 U
Biphenyl	0.16 U	C4-Naphthobenzothiophenes	0.21 U
Dibenzofuran	0.21 U	Benz[a]anthracene	0.27 U
Acenaphthylene	0.32 U	Chrysene/Triphenylene	0.19 U
Acenaphthene	0.20 U	C1-Chrysenes	0.19 U
Fluorene	0.20 U	C2-Chrysenes	0.19 U
C1-Fluorenes	0.20 U	C3-Chrysenes	0.19 U
C2-Fluorenes	0.20 U	C4-Chrysenes	0.19 U
C3-Fluorenes	0.20 U	Benzo[b]fluoranthene	0.18 U
Anthracene	0.23 U	Benzo[k]fluoranthene	0.35 U
Phenanthrene	0.25 U	Benzo[a]fluoranthene	0.35 U
C1-Phenanthrenes/Anthracenes	0.25 U	Benzo[e]pyrene	0.24 U
C2-Phenanthrenes/Anthracenes	0.25 U	Benzo[a]pyrene	0.24 U
C3-Phenanthrenes/Anthracenes	0.25 U	Perylene	0.30 U
C4-Phenanthrenes/Anthracenes	0.25 U	Indeno[1,2,3-cd]pyrene	0.42 U
Retene	0.25 U	Dibenz[a,h]anthracene	0.33 U
Dibenzothiophene	0.19 U	Benzo[g,h,i]perylene	0.31 U

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	74	50-130
Pyrene-d10	64	50-130
Benzo[b]fluoranthene-d12	73	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.

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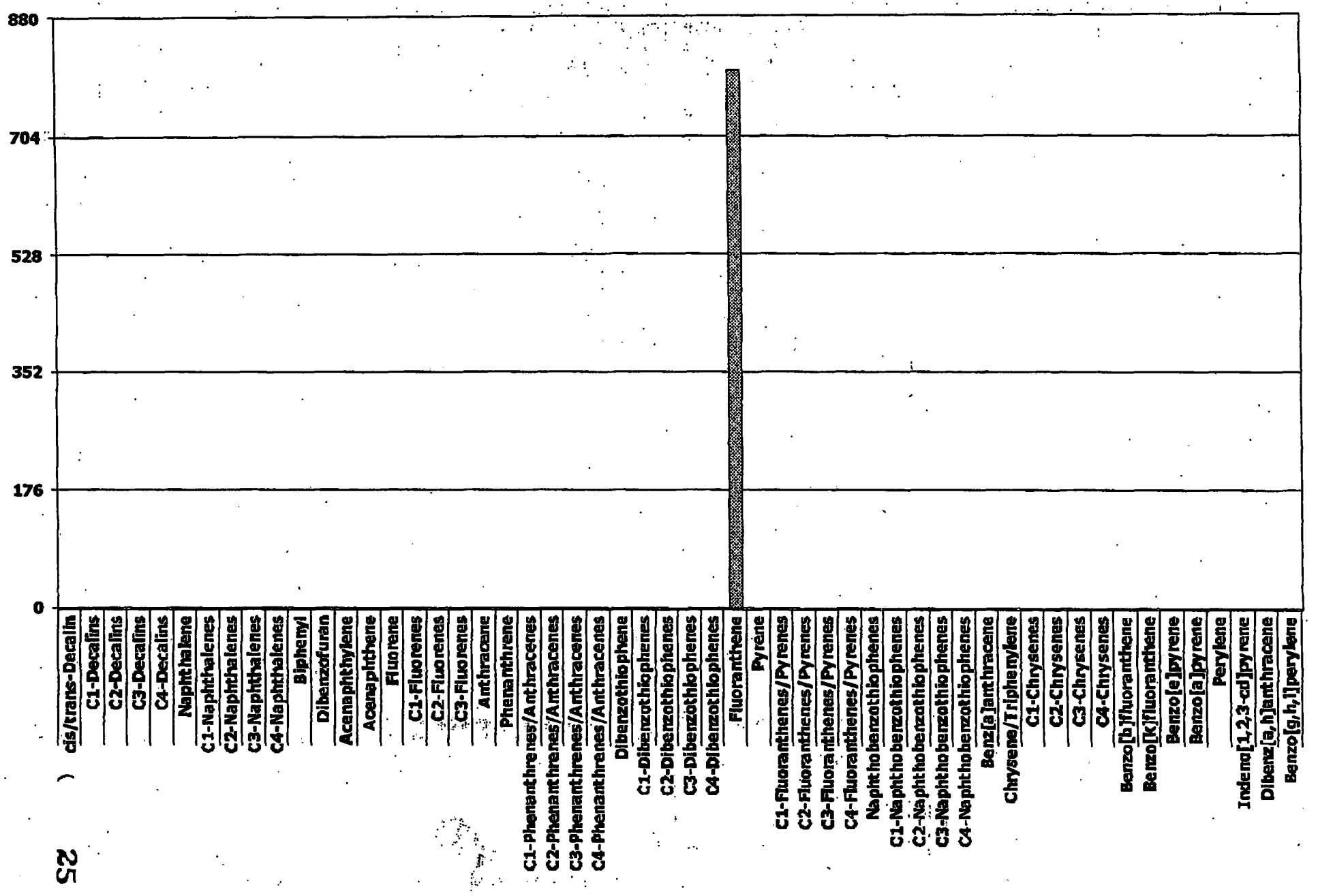
Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-131C-0-5

Lab ID: 0512096-03

Concentration: µg/Kg

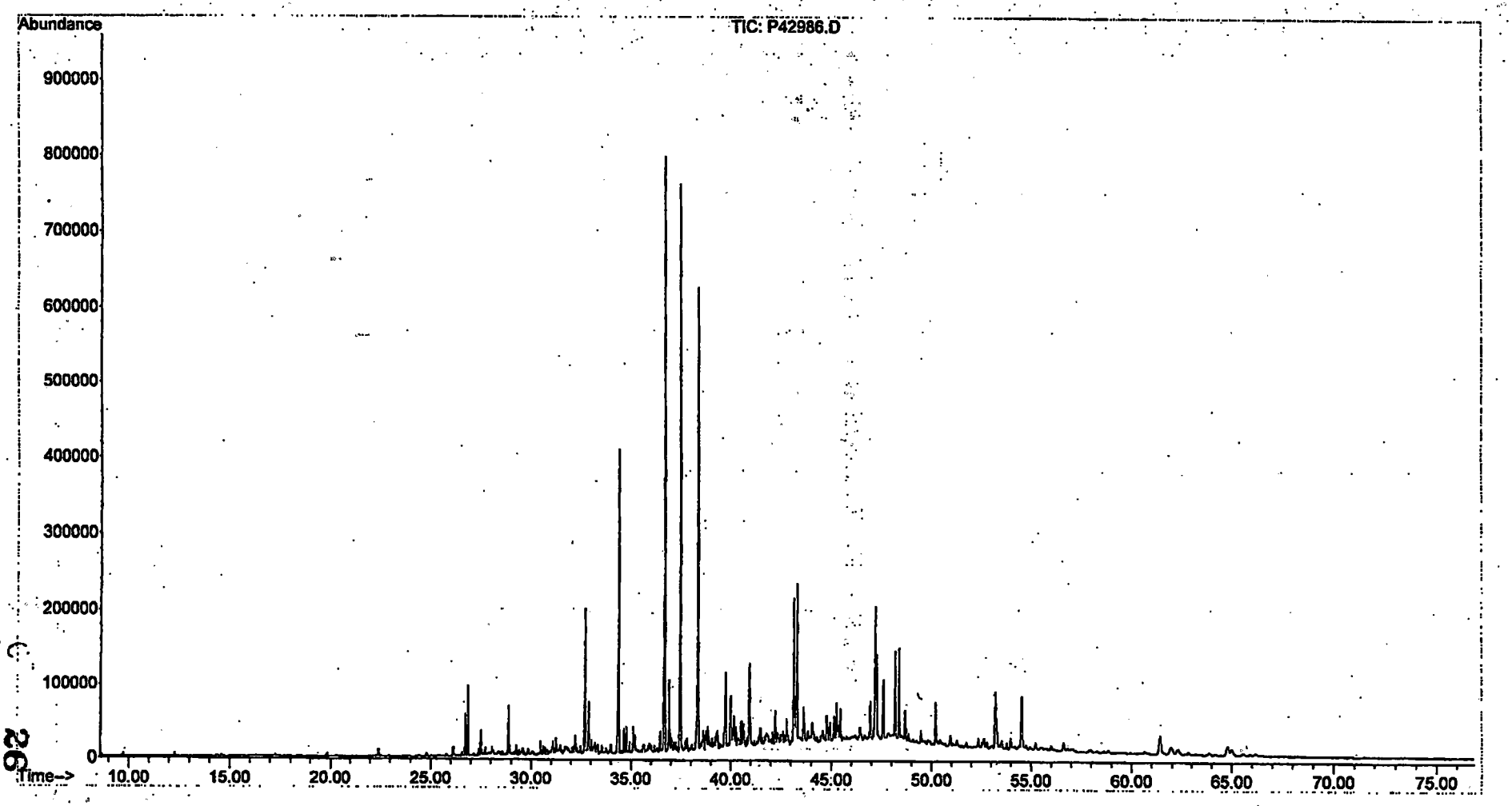


25

Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42986.D
Acq On : 1 Jan 2006 4:14 pm
Operator : AC
Sample : 0512096-03-RE
Misc : 2X
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jan 05 01:40:28 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-128A-18-24
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-04
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	74.7	30.08	2	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	0.11 J	C1-Dibenzothiophenes	8.4
C1-Decalins	0.46 J	C2-Dibenzothiophenes	28
C2-Decalins	0.24 U	C3-Dibenzothiophenes	31
C3-Decalins	0.24 U	C4-Dibenzothiophenes	17
C4-Decalins	0.24 U	Benzo(b)fluorene	42
Benzothiophene	0.16 J	Fluoranthene	440
C1-Benzo(b)thiophenes	0.60 J	Pyrene	320
C2-Benzo(b)thiophenes	0.43 J	C1-Fluoranthenes/Pyrenes	130
C3-Benzo(b)thiophenes	0.63 J	C2-Fluoranthenes/Pyrenes	62
C4-Benzo(b)thiophenes	3.3	C3-Fluoranthenes/Pyrenes	42
Naphthalene	2.4	C4-Fluoranthenes/Pyrenes	26
C1-Naphthalenes	1.7	Naphthobenzothiophenes	29
C2-Naphthalenes	2.9	C1-Naphthobenzothiophenes	14
C3-Naphthalenes	5.6	C2-Naphthobenzothiophenes	11
C4-Naphthalenes	13	C3-Naphthobenzothiophenes	12
Biphenyl	1.2	C4-Naphthobenzothiophenes	14
Dibenzofuran	3.4	Benz[a]anthracene	170
Acenaphthylene	23	Chrysene/Triphenylene	200
Acenaphthene	10	C1-Chrysenes	64
Fluorene	14	C2-Chrysenes	37
C1-Fluorenes	7.3	C3-Chrysenes	50
C2-Fluorenes	18	C4-Chrysenes	36
C3-Fluorenes	33	Benzo[b]fluoranthene	160
Anthracene	63	Benzo[k]fluoranthene	130
Phenanthrene	96	Benzo[a]fluoranthene	28
C1-Phenanthrenes/Anthracenes	40	Benzo[e]pyrene	120
C2-Phenanthrenes/Anthracenes	61	Benzo[a]pyrene	140
C3-Phenanthrenes/Anthracenes	57	Perylene	41
C4-Phenanthrenes/Anthracenes	28	Indeno[1,2,3-cd]pyrene	150
Retene	0.13 U	Dibenz[a,h]anthracene	28
Dibenzothiophene	7.3	Benzo[g,h,i]perylene	150

15.6 208.4 2036 All 3223.89
1336.4 9.3 2244.4 (1128) 90.7 Total PAHs 3.22
3,046.89
3.05

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	76	50-130
Pyrene-d10	70	50-130
Benzo[b]fluoranthene-d12	75	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34
2,828.9
2.83 mg/kg
27

1128
15.6 1336.4 84.4

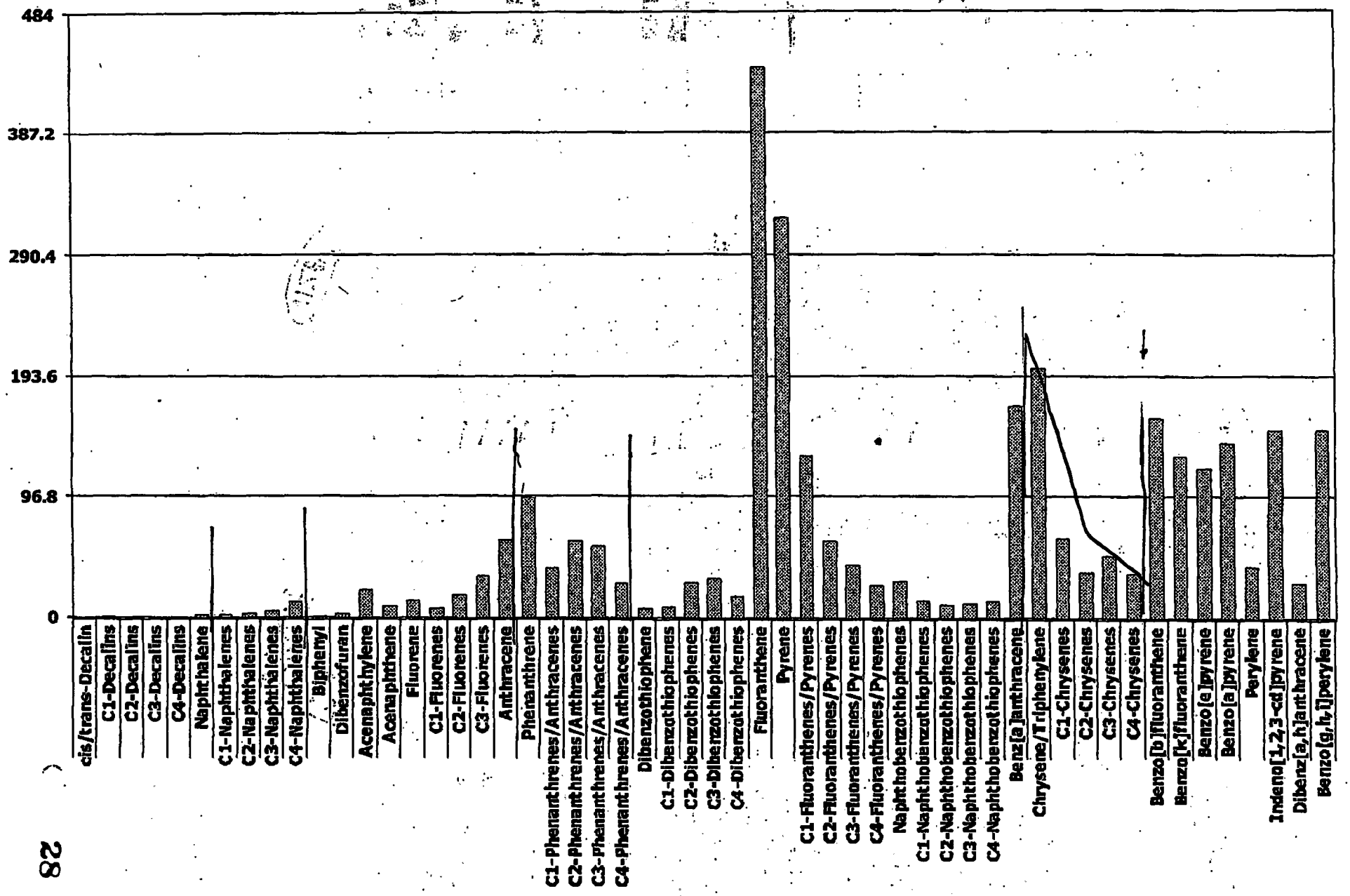
01/05/06 13:19

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-128A-18-24

Lab ID: 0512096-04

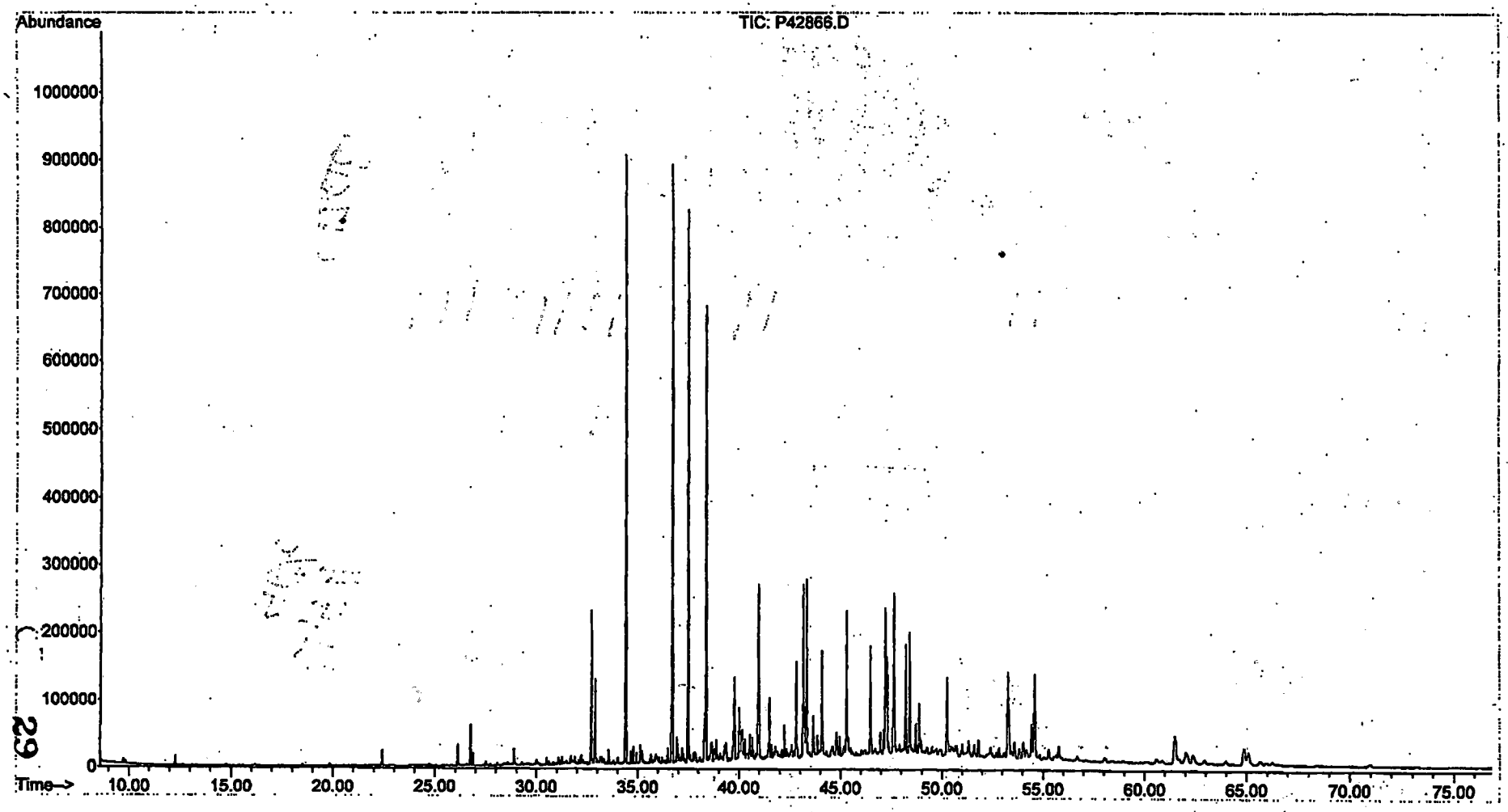
Concentration: µg/Kg



Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42866.D
Acq On : 29 Dec 2005 9:57 am
Operator : AC
Sample : 0512096-04
Misc : 1X
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Jan 05 11:45:49 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



29

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-128E-0-6
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-05
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	12/29/05	55.3	15.39	5	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	5.1 J	C1-Dibenzothiophenes	340
C1-Decalins	15	C2-Dibenzothiophenes	820
C2-Decalins	30	C3-Dibenzothiophenes	1100
C3-Decalins	33	C4-Dibenzothiophenes	660
C4-Decalins	63	Benzo(b)fluorene	1000
Benzothiophene	3.2 J	Fluoranthene	11000 E
C1-Benzo(b)thiophenes	19	Pyrene	7400 E
C2-Benzo(b)thiophenes	67	C1-Fluoranthenes/Pyrenes	2900
C3-Benzo(b)thiophenes	150	C2-Fluoranthenes/Pyrenes	1400
C4-Benzo(b)thiophenes	160	C3-Fluoranthenes/Pyrenes	950
Naphthalene	61	C4-Fluoranthenes/Pyrenes	540
C1-Naphthalenes	170	Naphthobenzothiophenes	570
C2-Naphthalenes	470	C1-Naphthobenzothiophenes	330
C3-Naphthalenes	650	C2-Naphthobenzothiophenes	350
C4-Naphthalenes	680	C3-Naphthobenzothiophenes	330
Biphenyl	30	C4-Naphthobenzothiophenes	240
Dibenzofuran	1800	Benz[a]anthracene	3300
Acenaphthylene	200	Chrysene/Triphenylene	3900
Acenaphthene	4600	C1-Chrysenes	1400
Fluorene	2600	C2-Chrysenes	920
C1-Fluorenes	510	C3-Chrysenes	1100
C2-Fluorenes	510	C4-Chrysenes	520
C3-Fluorenes	750	Benzo[b]fluoranthene	2900
Anthracene	1200	Benzo[k]fluoranthene	2200
Phenanthrene	5700	Benzo[a]fluoranthene	370
C1-Phenanthrenes/Anthracenes	1200	Benzo[e]pyrene	1800
C2-Phenanthrenes/Anthracenes	1200	Benzo[a]pyrene	2200
C3-Phenanthrenes/Anthracenes	1400	Perylene	620
C4-Phenanthrenes/Anthracenes	790	Indeno[1,2,3-cd]pyrene	1500
Retene	0.85 U	Dibenz[a,h]anthracene	310
Dibenzothiophene	490	Benzo[g,h,i]perylene	1300

14,361 38,180 All 79,826.3
31,471 52,541 17,610 79,83
46% 27.3% 72.7%
Total PAHs 70,751

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	84	50-130
Pyrene-d10	72	50-130
Benzo[b]fluoranthene-d12	78	50-130

N/A - Not Applicable
E - Estimated value, exceeds the upper limit of calibration. 70.75
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34 67,711
67.71 30

44.9 17,610 55.1
31,971

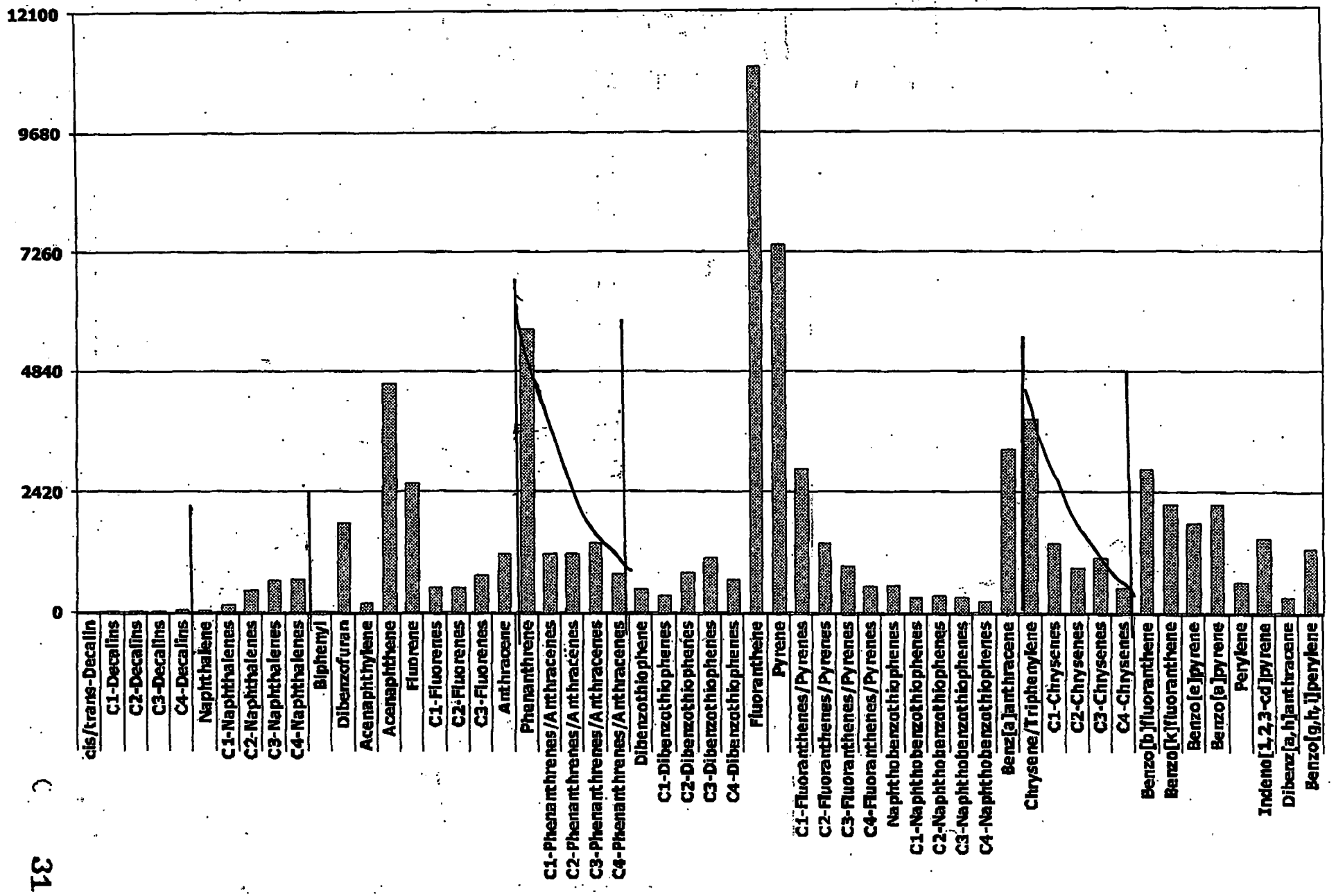
01/05/06 13:19

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-128E-0-6

Lab ID: 0512096-05

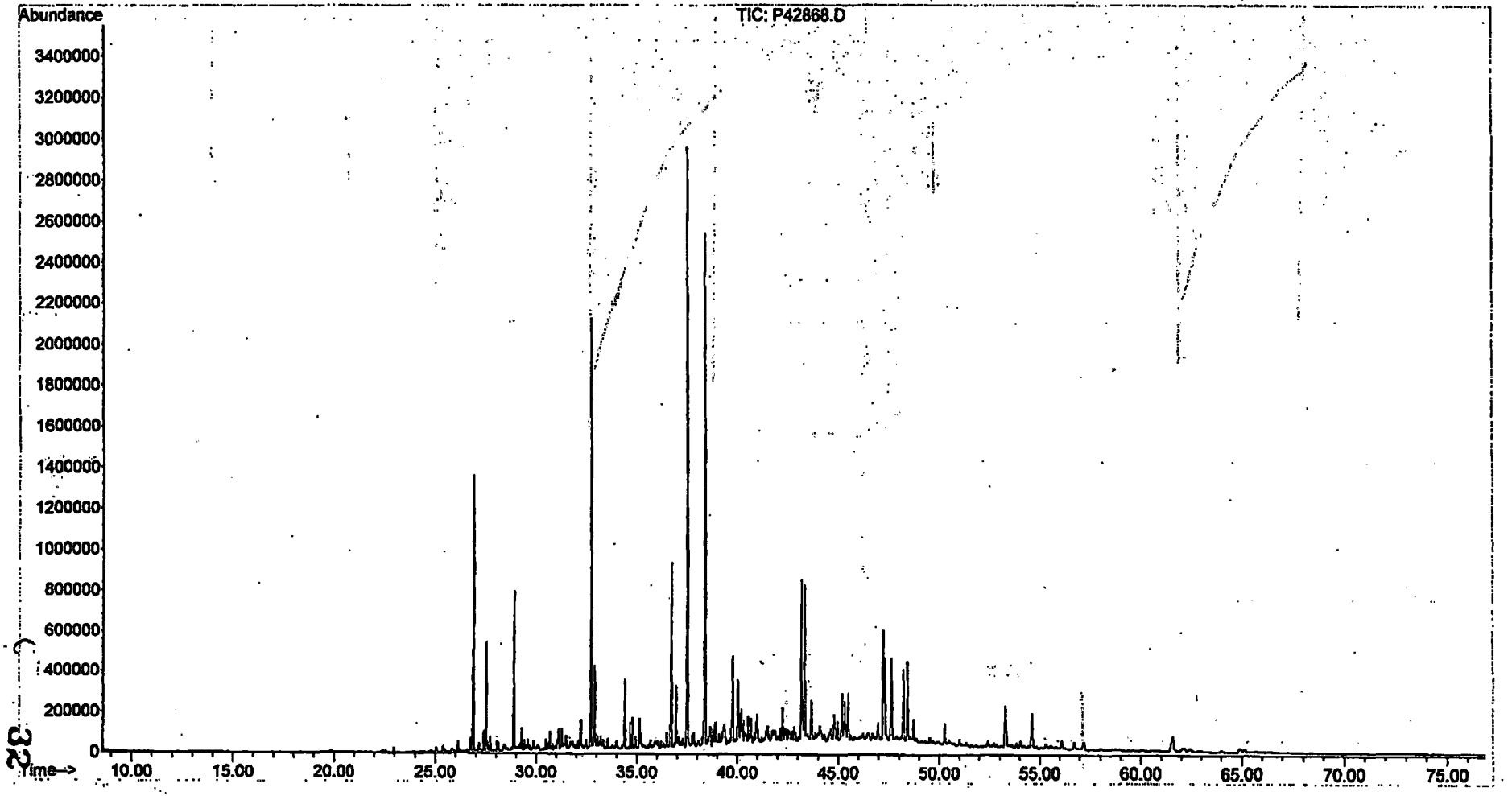
Concentration: µg/Kg



Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42868.D
Acq On : 29 Dec 2005 11:27 am
Operator : AC
Sample : 0512096-05
Misc : 1X
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Jan 05 11:46:06 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-128E-0-6
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-05E
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
11/29/05	12/05/05	12/21/05	01/01/06	55.3	15.39	5	5	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	7.9	U	C1-Dibenzothiophenes	3.3	U
C1-Decalins	7.9	U	C2-Dibenzothiophenes	3.3	U
C2-Decalins	7.9	U	C3-Dibenzothiophenes	3.3	U
C3-Decalins	7.9	U	C4-Dibenzothiophenes	3.3	U
C4-Decalins	7.9	U	Benzo(b)fluorene	3.0	U
Benzothiophene	3.8	U	Fluoranthene	9800	
C1-Benzo(b)thiophenes	3.8	U	Pyrene	6800	
C2-Benzo(b)thiophenes	3.8	U	C1-Fluoranthenes/Pyrenes	2.6	U
C3-Benzo(b)thiophenes	3.8	U	C2-Fluoranthenes/Pyrenes	2.6	U
C4-Benzo(b)thiophenes	3.8	U	C3-Fluoranthenes/Pyrenes	2.6	U
Naphthalene	4.8	U	C4-Fluoranthenes/Pyrenes	2.6	U
C1-Naphthalenes	4.8	U	Naphthobenzothiophenes	3.6	U
C2-Naphthalenes	4.8	U	C1-Naphthobenzothiophenes	3.6	U
C3-Naphthalenes	4.8	U	C2-Naphthobenzothiophenes	3.6	U
C4-Naphthalenes	4.8	U	C3-Naphthobenzothiophenes	3.6	U
Biphenyl	2.7	U	C4-Naphthobenzothiophenes	3.6	U
Dibenzofuran	3.5	U	Benz[a]anthracene	4.6	U
Acenaphthylene	5.3	U	Chrysene/Triphenylene	3.2	U
Acenaphthene	3.4	U	C1-Chrysenes	3.2	U
Fluorene	3.4	U	C2-Chrysenes	3.2	U
C1-Fluorenes	3.4	U	C3-Chrysenes	3.2	U
C2-Fluorenes	3.4	U	C4-Chrysenes	3.2	U
C3-Fluorenes	3.4	U	Benzo[b]fluoranthene	3.1	U
Anthracene	3.9	U	Benzo[k]fluoranthene	6.0	U
Phenanthrene	4.3	U	Benzo[a]fluoranthene	6.0	U
C1-Phenanthrenes/Anthracenes	4.3	U	Benzo[e]pyrene	4.0	U
C2-Phenanthrenes/Anthracenes	4.3	U	Benzo[a]pyrene	4.1	U
C3-Phenanthrenes/Anthracenes	4.3	U	Perylene	5.1	U
C4-Phenanthrenes/Anthracenes	4.3	U	Indeno[1,2,3-cd]pyrene	7.0	U
Retene	4.3	U	Dibenz[a,h]anthracene	5.6	U
Dibenzothiophene	3.3	U	Benzo[g,h,i]perylene	5.2	U

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	83	50-130
Pyrene-d10	69	50-130
Benzo[b]fluoranthene-d12	75	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.

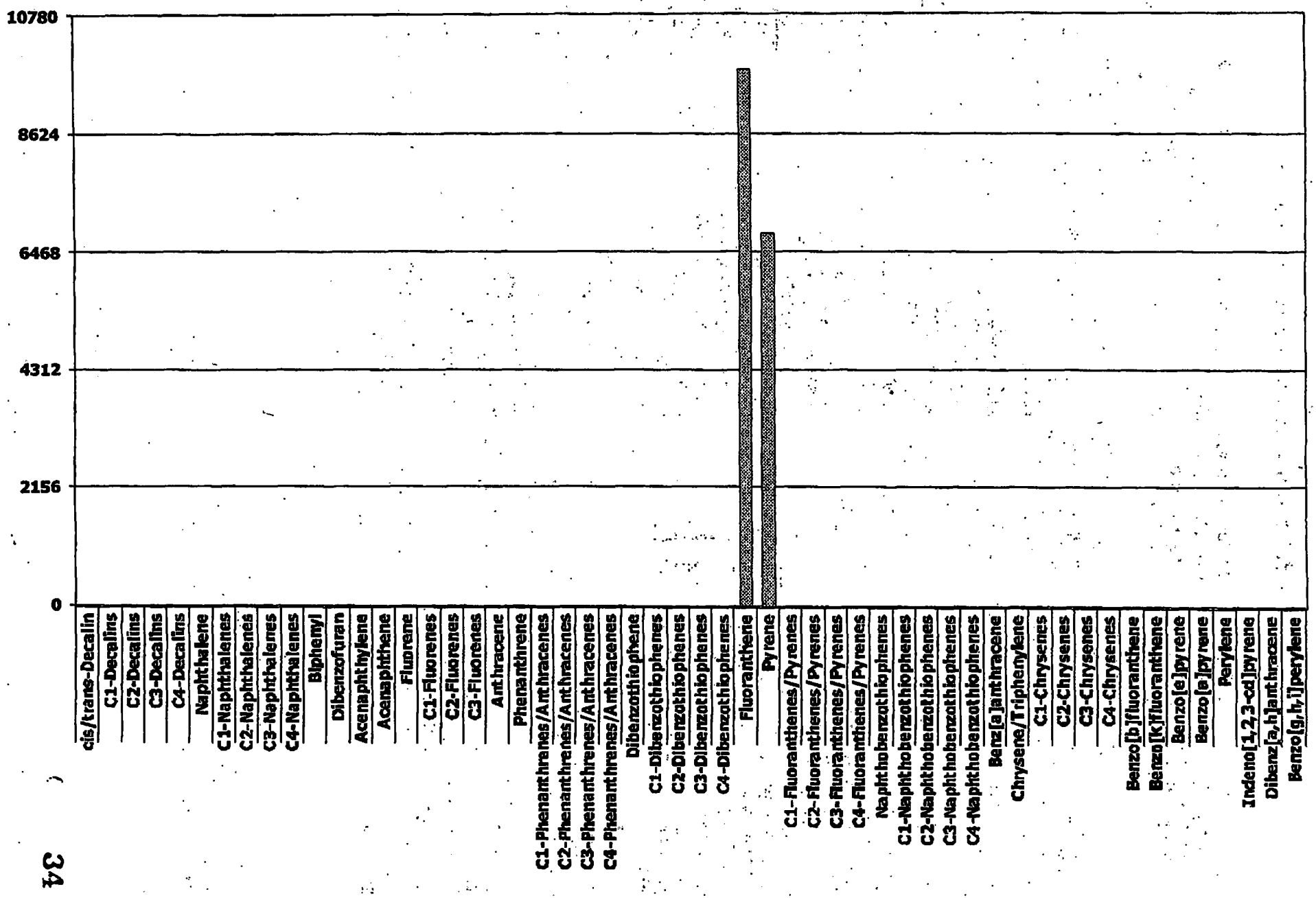
375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-128E-0-6

Lab ID: 0512096-05

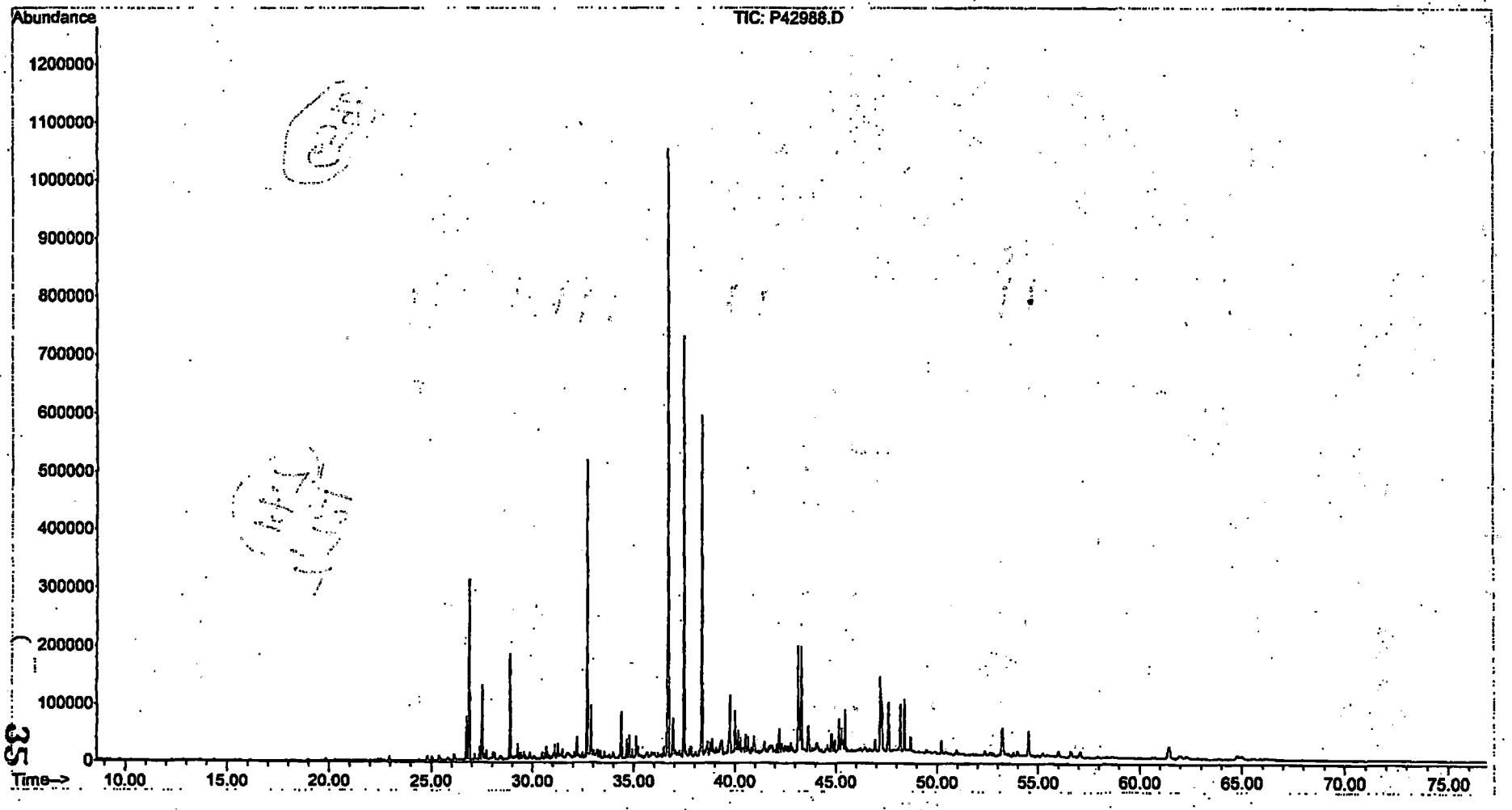
Concentration: µg/Kg



Quantitation Report (QT Re

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42988.D
Acq On : 1 Jan 2006 5:43 pm
Operator : AC
Sample : 0512096-05-RE
Misc : 5X
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jan 05 01:42:00 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-122C 0-4
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-06
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
12/02/05	12/12/05	12/21/05	12/29/05	77.0	30.14	8	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	1.5 J	C1-Dibenzothiophenes	31
C1-Decalins	5.7	C2-Dibenzothiophenes	110
C2-Decalins	8.1	C3-Dibenzothiophenes	170
C3-Decalins	7.8	C4-Dibenzothiophenes	110
C4-Decalins	14	Benzo(b)fluorene	260
Benzothiophene	0.72 J	Fluoranthene	2300
C1-Benzo(b)thiophenes	2.8 J	Pyrene	1800
C2-Benzo(b)thiophenes	3.7	C1-Fluoranthenes/Pyrenes	810
C3-Benzo(b)thiophenes	3.9	C2-Fluoranthenes/Pyrenes	370
C4-Benzo(b)thiophenes	17	C3-Fluoranthenes/Pyrenes	220
Naphthalene	10	C4-Fluoranthenes/Pyrenes	140
C1-Naphthalenes	12	Naphthobenzothiophenes	190
C2-Naphthalenes	24	C1-Naphthobenzothiophenes	99
C3-Naphthalenes	34	C2-Naphthobenzothiophenes	110
C4-Naphthalenes	43	C3-Naphthobenzothiophenes	130
Biphenyl	5.2	C4-Naphthobenzothiophenes	120
Dibenzofuran	27	Benz[a]anthracene	1100
Acenaphthylene	76	Chrysene/Triphenylene	1300
Acenaphthene	75	C1-Chrysenes	410
Fluorene	80	C2-Chrysenes	230
C1-Fluorenes	42	C3-Chrysenes	300
C2-Fluorenes	63	C4-Chrysenes	140
C3-Fluorenes	150	Benzo[b]fluoranthene	990
Anthracene	280	Benzo[k]fluoranthene	850
Phenanthrene	610	Benzo[a]fluoranthene	160
C1-Phenanthrenes/Anthracenes	230	Benzo[e]pyrene	710
C2-Phenanthrenes/Anthracenes	170	Benzo[a]pyrene	930
C3-Phenanthrenes/Anthracenes	200	Perylene	250
C4-Phenanthrenes/Anthracenes	120	Indeno[1,2,3-cd]pyrene	690
Retene	0.50 U	Dibenz[a,h]anthracene	150
Dibenzothiophene	39	Benzo[g,h,i]perylene	580

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	90	50-130
Pyrene-d10	77	50-130
Benzo[b]fluoranthene-d12	82	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

All 18,115.42
18.12
Total PAHs

16,940.2
16.94

34 15,669.0
15.67

01/05/06 13:20

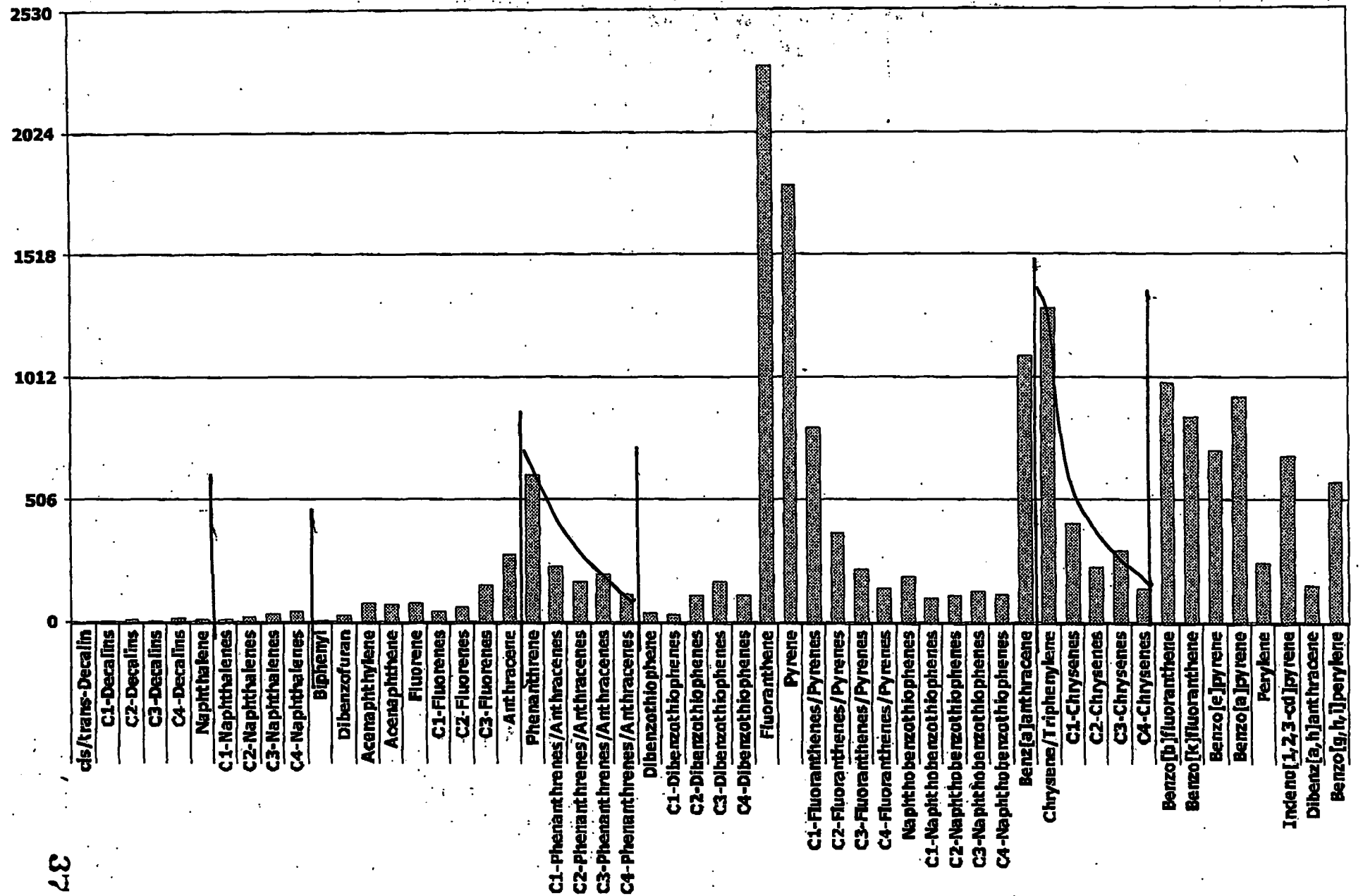
375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-122C 0-4

Lab ID: 0512096-06

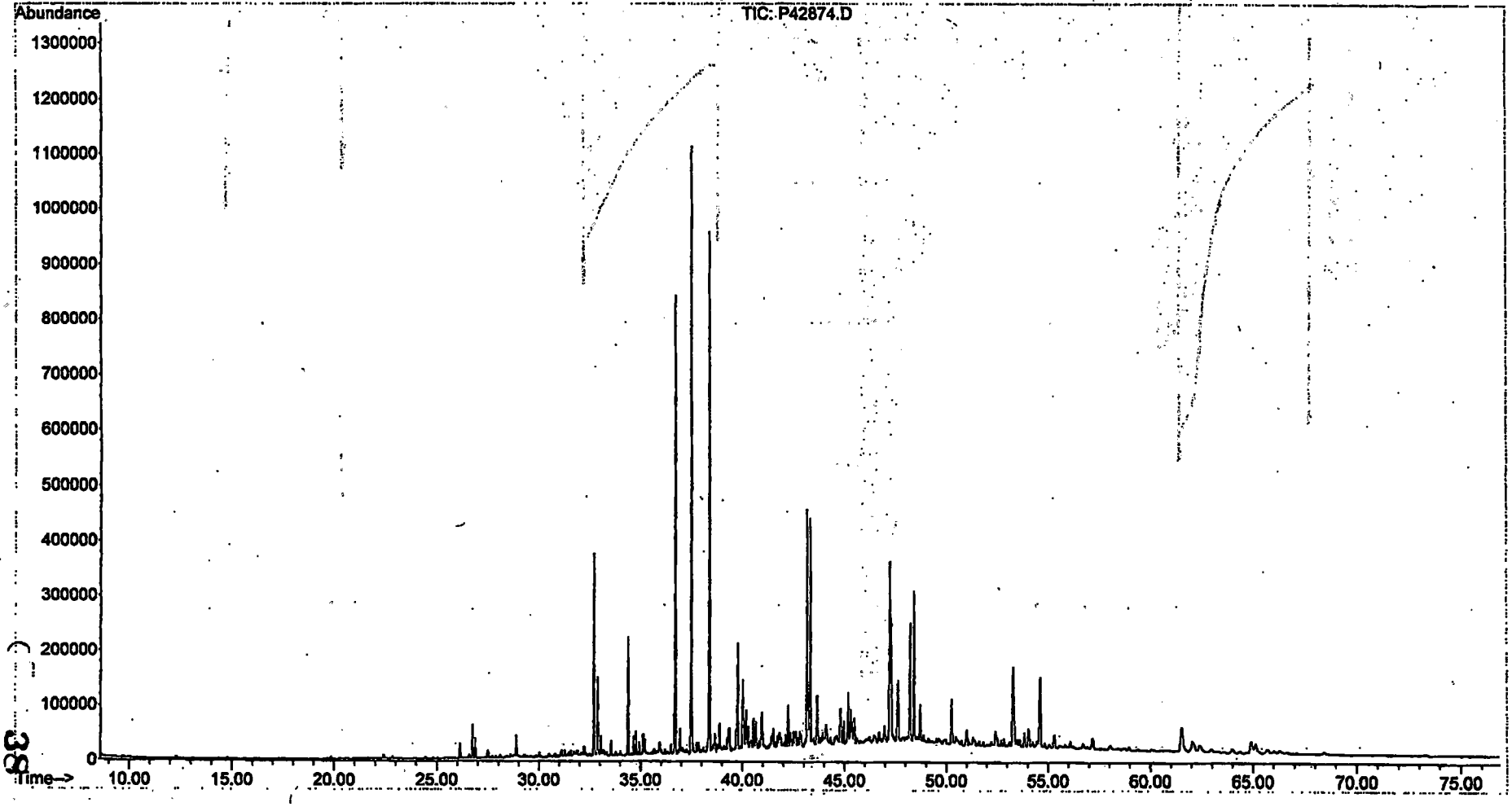
Concentration: µg/Kg



Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42874.D
Acq On : 29 Dec 2005 12:58 pm
Operator : AC
Sample : 0512096-06
Misc : 1X
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jan 05 11:46:27 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-116A 18-24
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-07
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
12/02/05	12/12/05	12/21/05	12/29/05	66.8	30.05	2	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	0.33	J	C1-Dibenzothiophenes	6.8	
C1-Decalins	0.65	J	C2-Dibenzothiophenes	8.9	
C2-Decalins	0.27	U	C3-Dibenzothiophenes	7.5	
C3-Decalins	0.27	U	C4-Dibenzothiophenes	4.5	
C4-Decalins	0.27	U	Benzo(b)fluorene	28	
Benzothiophene	0.38	J	Fluoranthene	260	
C1-Benzo(b)thiophenes	1.1		Pyrene	210	
C2-Benzo(b)thiophenes	1.1		C1-Fluoranthenes/Pyrenes	110	
C3-Benzo(b)thiophenes	1.0		C2-Fluoranthenes/Pyrenes	67	
C4-Benzo(b)thiophenes	1.3		C3-Fluoranthenes/Pyrenes	35	
Naphthalene	8.7		C4-Fluoranthenes/Pyrenes	28	
C1-Naphthalenes	6.4		Naphthobenzothiophenes	23	
C2-Naphthalenes	10		C1-Naphthobenzothiophenes	13	
C3-Naphthalenes	12		C2-Naphthobenzothiophenes	8.9	
C4-Naphthalenes	9.3		C3-Naphthobenzothiophenes	12	
Biphenyl	2.0		C4-Naphthobenzothiophenes	10	
Dibenzofuran	5.7		Benz[a]anthracene	150	
Acenaphthylene	56		Chrysene/Triphenylene	180	
Acenaphthene	11		C1-Chrysenes	71	
Fluorene	17		C2-Chrysenes	33	
C1-Fluorenes	8.8		C3-Chrysenes	68	
C2-Fluorenes	14		C4-Chrysenes	44	
C3-Fluorenes	32		Benzo[b]fluoranthene	170	
Anthracene	120		Benzo[k]fluoranthene	130	
Phenanthrene	120		Benzo[a]fluoranthene	43	
C1-Phenanthrenes/Anthracenes	64		Benzo[e]pyrene	180	
C2-Phenanthrenes/Anthracenes	35		Benzo[a]pyrene	160	
C3-Phenanthrenes/Anthracenes	20		Perylene	51	
C4-Phenanthrenes/Anthracenes	11		Indeno[1,2,3-cd]pyrene	210	
Retene	1.7		Dibenz[a,h]anthracene	40	
Dibenzothiophene	6.1		Benzo[g,h,i]perylene	270	

1643.7 — 332.7 1793 All 3210.16
20.2 15.7% 2125.7 84.3 1310 3.210
Total PAHs 3126.6
3.13

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	80	50-130
Pyrene-d10	73	50-130
Benzo[b]fluoranthene-d12	78	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34 2932.0
2.93

20.3 1310 79.7
1642.7

39

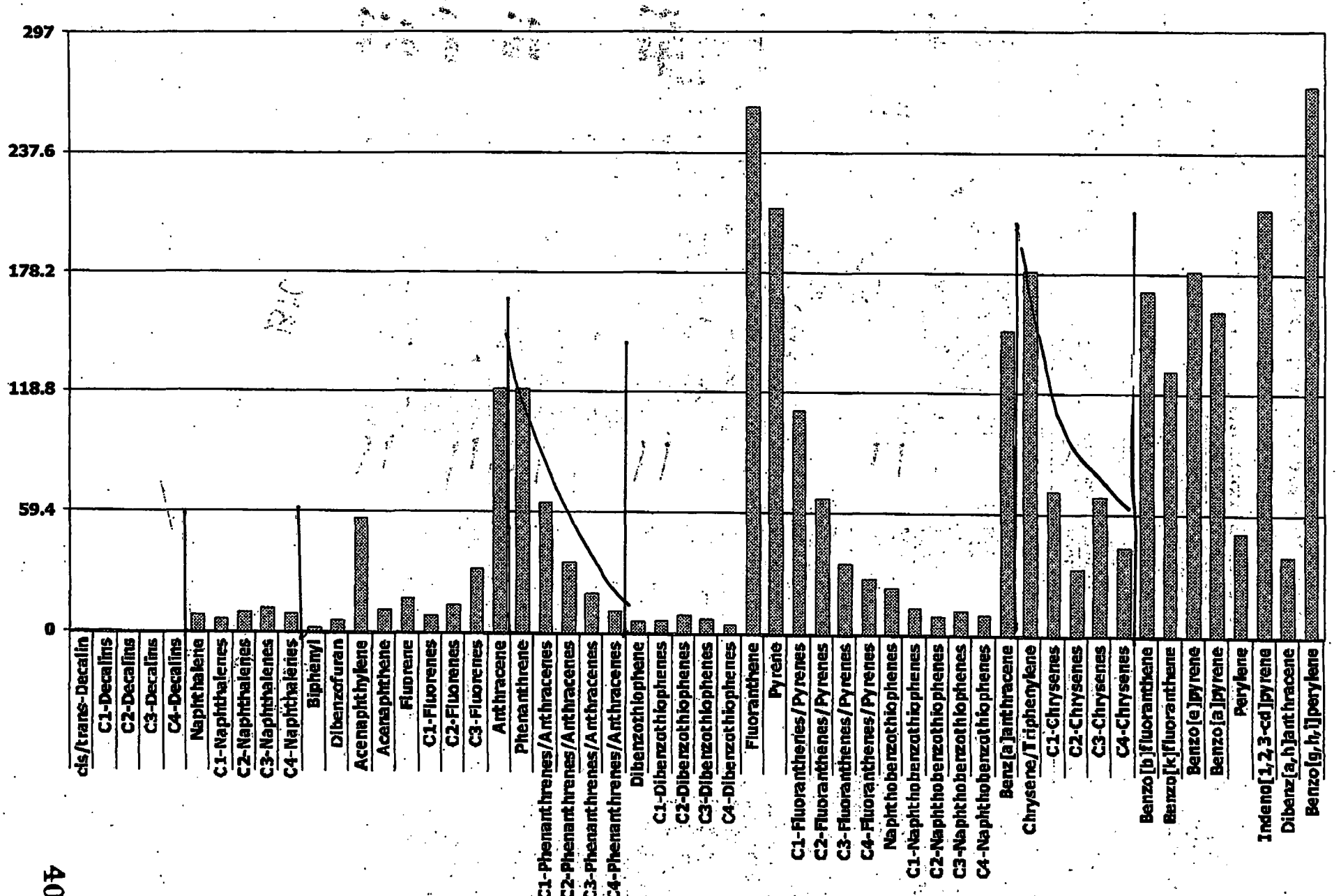
01/05/06 13:20

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-116A 18-24

Lab ID: 0512096-07

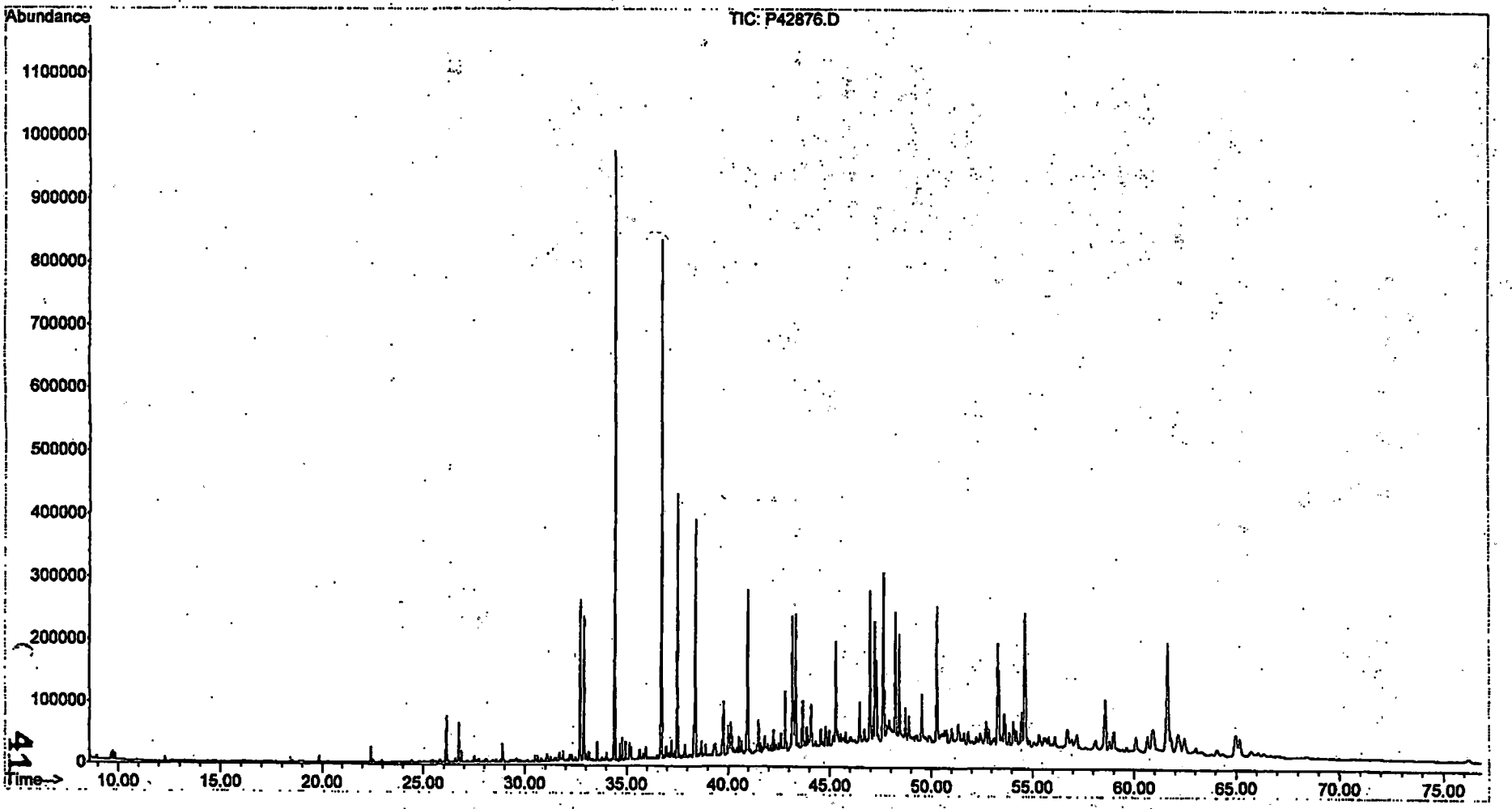
Concentration: µg/Kg



Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42876.D
Acq On : 29 Dec 2005 2:28 pm
Operator : AC
Sample : 0512096-07
Misc : 1X
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jan 05 11:46:46 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-116A 18-24D
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-08
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
12/02/05	12/12/05	12/21/05	12/29/05	67.4	30.03	2	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	0.25 J	C1-Dibenzothiophenes	5.4
C1-Decalins	0.46 J	C2-Dibenzothiophenes	6.1
C2-Decalins	0.26 U	C3-Dibenzothiophenes	6.2
C3-Decalins	0.26 U	C4-Dibenzothiophenes	4.1
C4-Decalins	0.26 U	Benzo(b)fluorene	23
Benzothiophene	0.25 J	Fluoranthene	220
C1-Benzo(b)thiophenes	1.0	Pyrene	180
C2-Benzo(b)thiophenes	0.95 J	C1-Fluoranthenes/Pyrenes	85
C3-Benzo(b)thiophenes	0.82 J	C2-Fluoranthenes/Pyrenes	53
C4-Benzo(b)thiophenes	1.0	C3-Fluoranthenes/Pyrenes	28
Naphthalene	6.2	C4-Fluoranthenes/Pyrenes	23
C1-Naphthalenes	4.8	Naphthobenzothiophenes	20
C2-Naphthalenes	7.6	C1-Naphthobenzothiophenes	11
C3-Naphthalenes	9.0	C2-Naphthobenzothiophenes	7.4
C4-Naphthalenes	6.6	C3-Naphthobenzothiophenes	8.5
Biphenyl	1.6	C4-Naphthobenzothiophenes	7.4
Dibenzofuran	4.6	Benz[a]anthracene	130
Acenaphthylene	35	Chrysene/Triphenylene	150
Acenaphthene	10	C1-Chrysenes	55
Fluorene	13	C2-Chrysenes	24
C1-Fluorenes	6.9	C3-Chrysenes	51
C2-Fluorenes	9.8	C4-Chrysenes	30
C3-Fluorenes	26	Benzo[b]fluoranthene	140
Anthracene	76	Benzo[k]fluoranthene	110
Phenanthrene	100	Benzo[a]fluoranthene	32
C1-Phenanthrenes/Anthracenes	48	Benzo[e]pyrene	140
C2-Phenanthrenes/Anthracenes	26	Benzo[a]pyrene	130
C3-Phenanthrenes/Anthracenes	15	Perylene	40
C4-Phenanthrenes/Anthracenes	9.2	Indeno[1,2,3-cd]pyrene	150
Retene	1.5	Dibenz[a,h]anthracene	30
Dibenzothiophene	5.1	Benzo[g,h,i]perylene	180

25073

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	79	50-130
Pyrene-d10	71	50-130
Benzo[b]fluoranthene-d12	75	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

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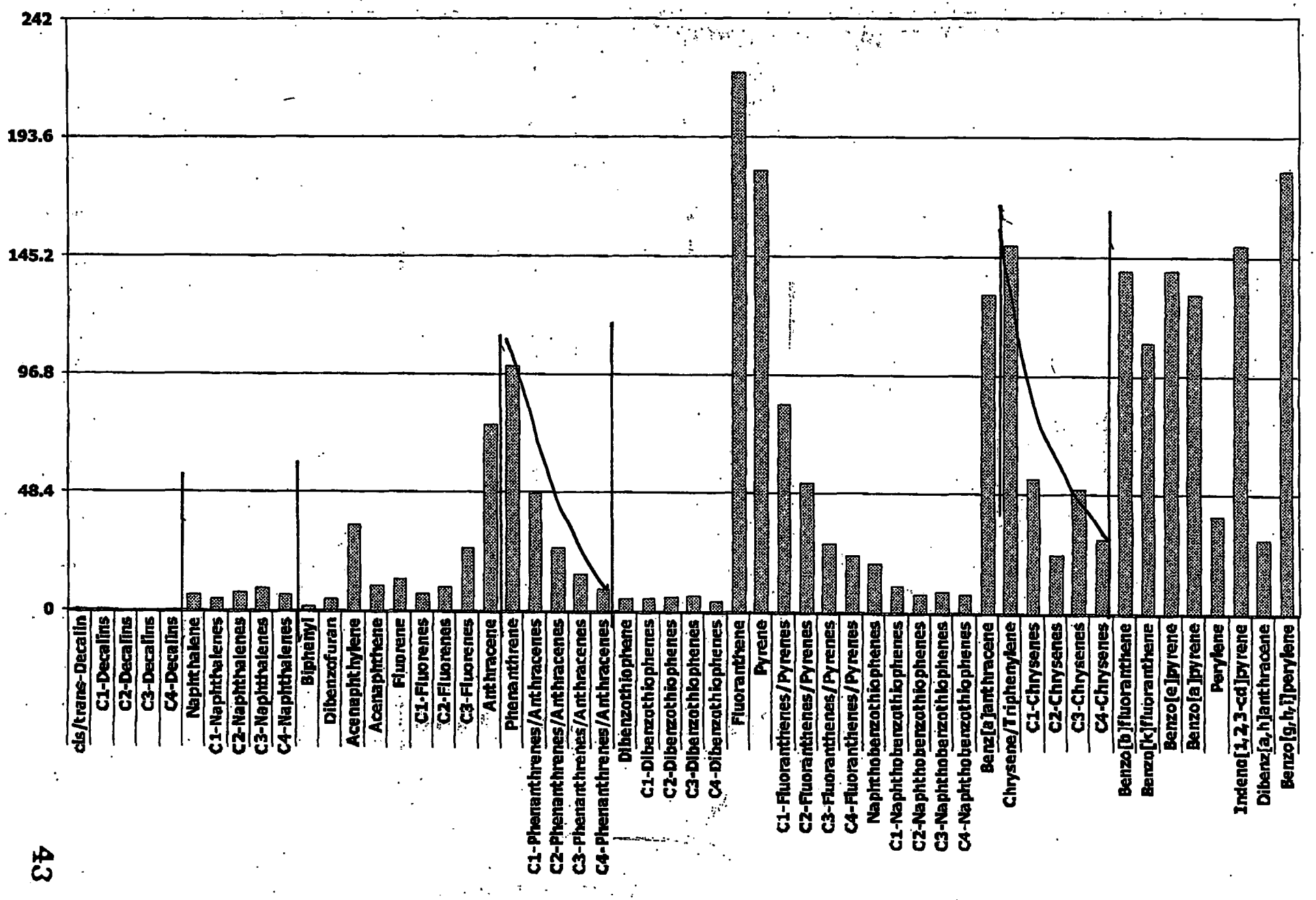
Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-116A 18-24D

Lab ID: 0512096-08

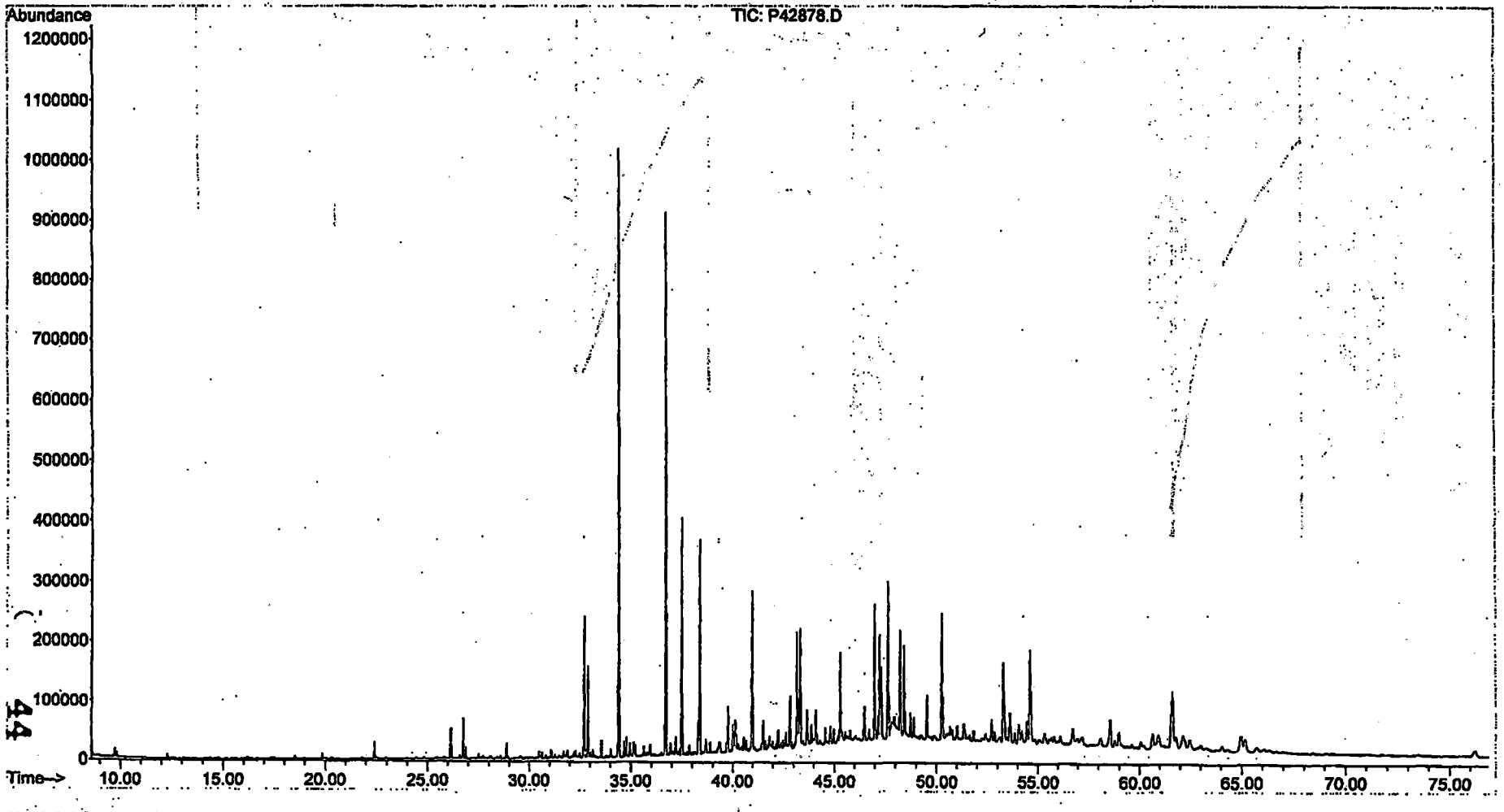
Concentration: µg/Kg



Quantitation Report (QT Reviewed)

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42878.D
Acq On : 29 Dec 2005 3:59 pm
Operator : AC
Sample : 0512096-08
Misc : 1X
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jan 05 11:47:04 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: MA9-SSRR-125E 9-18
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: 0512096-09
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
12/02/05	12/12/05	12/21/05	12/29/05	68.3	30.45	2	1	AC

Parameter	Result	Parameter	Result
cis/trans-Decalin	0.26 U	C1-Dibenzothiophenes	1.4
C1-Decalins	0.26 U	C2-Dibenzothiophenes	2.1
C2-Decalins	0.26 U	C3-Dibenzothiophenes	2.2
C3-Decalins	0.26 U	C4-Dibenzothiophenes	0.11 U
C4-Decalins	0.26 U	Benzo(b)fluorene	3.5
Benzothiophene	0.23 J	Fluoranthene	38
C1-Benzo(b)thiophenes	0.91 J	Pyrene	30
C2-Benzo(b)thiophenes	1.0	C1-Fluoranthenes/Pyrenes	14
C3-Benzo(b)thiophenes	0.13 U	C2-Fluoranthenes/Pyrenes	8.9
C4-Benzo(b)thiophenes	0.13 U	C3-Fluoranthenes/Pyrenes	5.1
Naphthalene	2.6	C4-Fluoranthenes/Pyrenes	4.3
C1-Naphthalenes	1.8	Naphthobenzothiophenes	3.8
C2-Naphthalenes	2.4	C1-Naphthobenzothiophenes	2.6
C3-Naphthalenes	3.1	C2-Naphthobenzothiophenes	2.1
C4-Naphthalenes	2.3	C3-Naphthobenzothiophenes	2.2
Biphenyl	2.0	C4-Naphthobenzothiophenes	1.7
Dibenzofuran	0.92 J	Benz[a]anthracene	19
Acenaphthylene	4.3	Chrysene/Triphenylene	26
Acenaphthene	1.4	C1-Chrysenes	9.1
Fluorene	2.0	C2-Chrysenes	3.9
C1-Fluorenes	1.4	C3-Chrysenes	7.8
C2-Fluorenes	2.0	C4-Chrysenes	5.8
C3-Fluorenes	4.9	Benzo[b]fluoranthene	24
Anthracene	6.3	Benzo[k]fluoranthene	19
Phenanthrene	15	Benzo[a]fluoranthene	4.6
C1-Phenanthrenes/Anthracenes	7.0	Benzo[e]pyrene	18
C2-Phenanthrenes/Anthracenes	4.4	Benzo[a]pyrene	20
C3-Phenanthrenes/Anthracenes	2.7	Perylene	15
C4-Phenanthrenes/Anthracenes	5.5	Indeno[1,2,3-cd]pyrene	20
Retene	0.50 J	Dibenz[a,h]anthracene	4.0
Dibenzothiophene	1.0	Benzo[g,h,i]perylene	19

31.6 241.6 (151) 273.2 182.6 (17.3) 11.6% 88.4%

All 412.74
0.41
Total PAHs 391.5
0.39

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	79	50-130
Pyrene-d10	73	50-130
Benzo[b]fluoranthene-d12	75	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

34 363.5
0.36
45

151 17.3 182.6 82.7

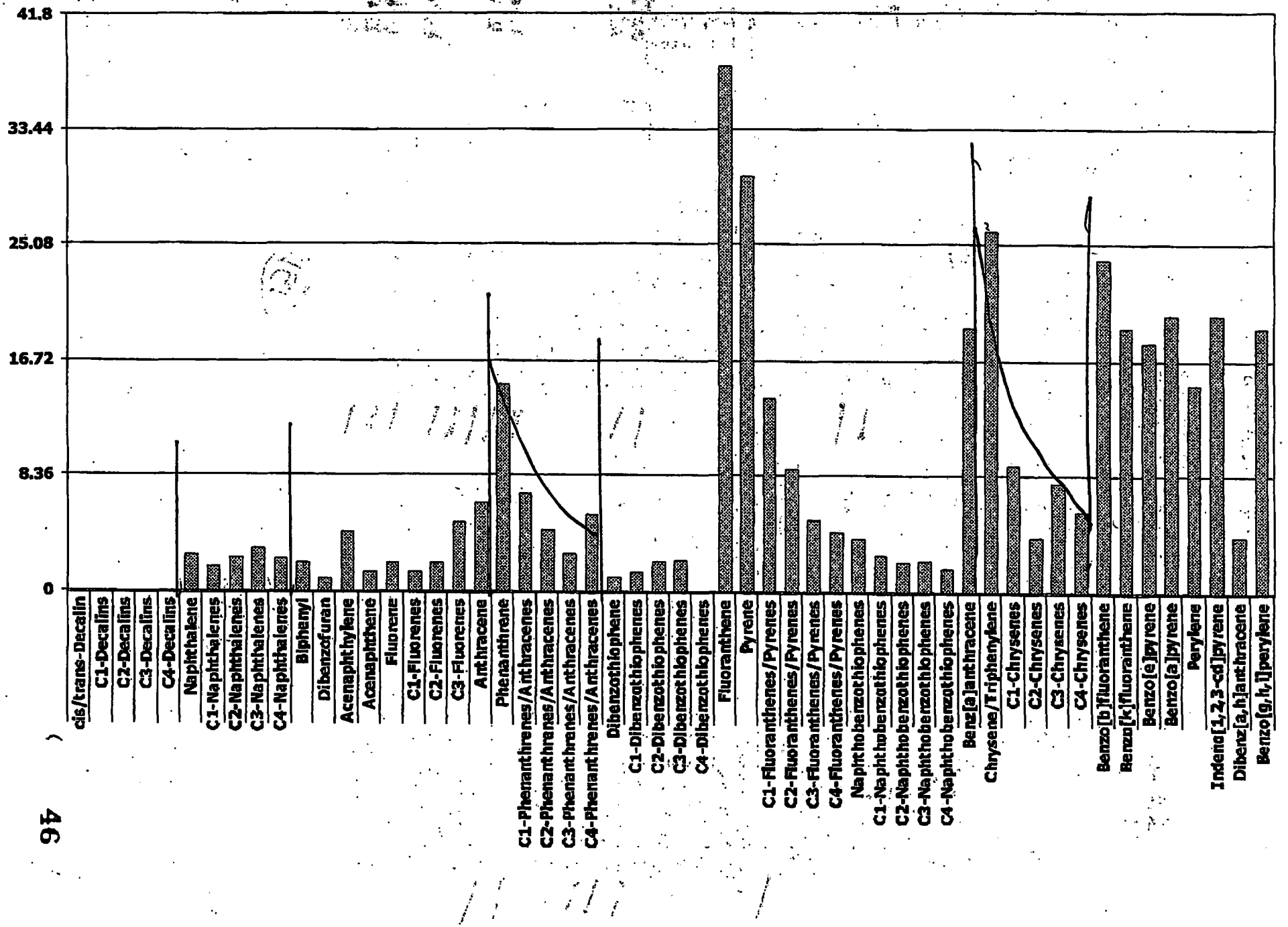
01/05/06 13:21

Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: MA9-SSRR-125E 9-18

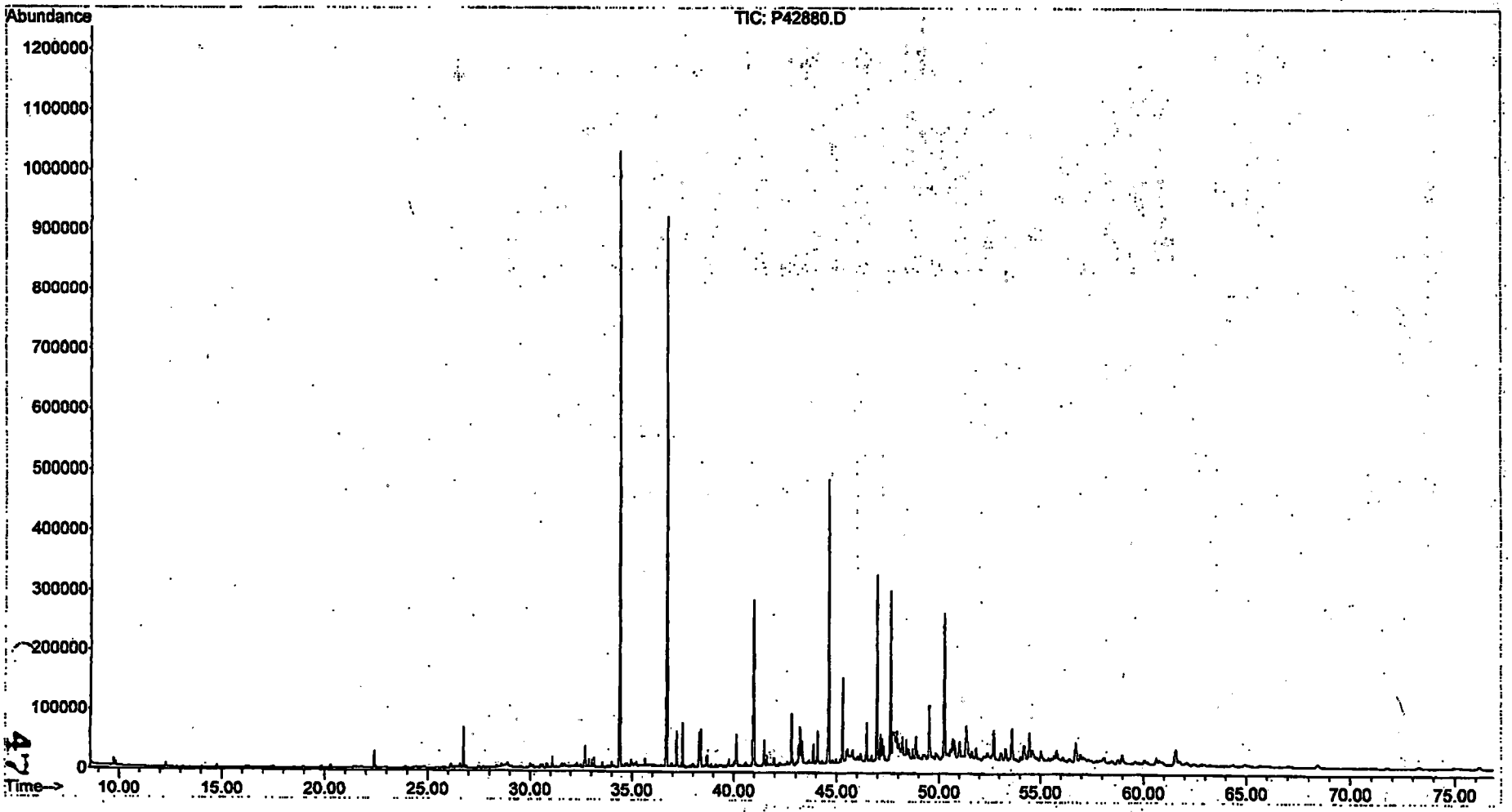
Lab ID: 0512096-09

Concentration: µg/Kg



: O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
: P42880.D
: 29 Dec 2005 5:30 pm
.or : AC
.le : 0512096-09
.c : 1X
.S Vial : 33 Sample Multiplier: 1

Quant Time: Jan 05 11:47:23 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Blank
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS122105B05
Associated Blank: N/A
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	12/21/05	12/28/05	100	30.00	2	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	0.18	U	C1-Dibenzothiophenes	0.074	U
C1-Decalins	0.18	U	C2-Dibenzothiophenes	0.074	U
C2-Decalins	0.18	U	C3-Dibenzothiophenes	0.074	U
C3-Decalins	0.18	U	C4-Dibenzothiophenes	0.074	U
C4-Decalins	0.18	U	Benzo(b)fluorene	0.067	U
Benzothiophene	0.087	U	Fluoranthene	0.078	J
C1-Benzo(b)thiophenes	0.087	U	Pyrene	0.10	J
C2-Benzo(b)thiophenes	0.087	U	C1-Fluoranthenes/Pyrenes	0.059	U
C3-Benzo(b)thiophenes	0.087	U	C2-Fluoranthenes/Pyrenes	0.059	U
C4-Benzo(b)thiophenes	0.087	U	C3-Fluoranthenes/Pyrenes	0.059	U
Naphthalene	0.28	J	C4-Fluoranthenes/Pyrenes	0.059	U
C1-Naphthalenes	0.31	J	Naphthobenzothiophenes	0.081	U
C2-Naphthalenes	0.38	J	C1-Naphthobenzothiophenes	0.081	U
C3-Naphthalenes	0.27	J	C2-Naphthobenzothiophenes	0.081	U
C4-Naphthalenes	0.11	U	C3-Naphthobenzothiophenes	0.081	U
Biphenyl	0.13	J	C4-Naphthobenzothiophenes	0.081	U
Dibenzofuran	0.045	J	Benz[a]anthracene	0.057	J
Acenaphthylene	0.21	J	Chrysene/Triphenylene	0.077	J
Acenaphthene	0.089	J	C1-Chrysenes	0.072	U
Fluorene	0.11	J	C2-Chrysenes	0.072	U
C1-Fluorenes	0.077	U	C3-Chrysenes	0.072	U
C2-Fluorenes	0.077	U	C4-Chrysenes	0.072	U
C3-Fluorenes	0.077	U	Benzo[b]fluoranthene	0.057	J
Anthracene	0.089	U	Benzo[k]fluoranthene	0.045	J
Phenanthrene	0.23	J	Benzo[a]fluoranthene	0.14	U
C1-Phenanthrenes/Anthracenes	0.097	U	Benzo[e]pyrene	0.091	U
C2-Phenanthrenes/Anthracenes	0.097	U	Benzo[a]pyrene	0.093	U
C3-Phenanthrenes/Anthracenes	0.097	U	Perylene	0.12	U
C4-Phenanthrenes/Anthracenes	0.097	U	Indeno[1,2,3-cd]pyrene	0.13	J
Retene	0.097	U	Dibenz[a,h]anthracene	0.12	J
Dibenzothiophene	0.074	U	Benzo[g,h,i]perylene	0.11	J

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	85	50-130
Pyrene-d10	83	50-130
Benzo[b]fluoranthene-d12	85	50-130

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

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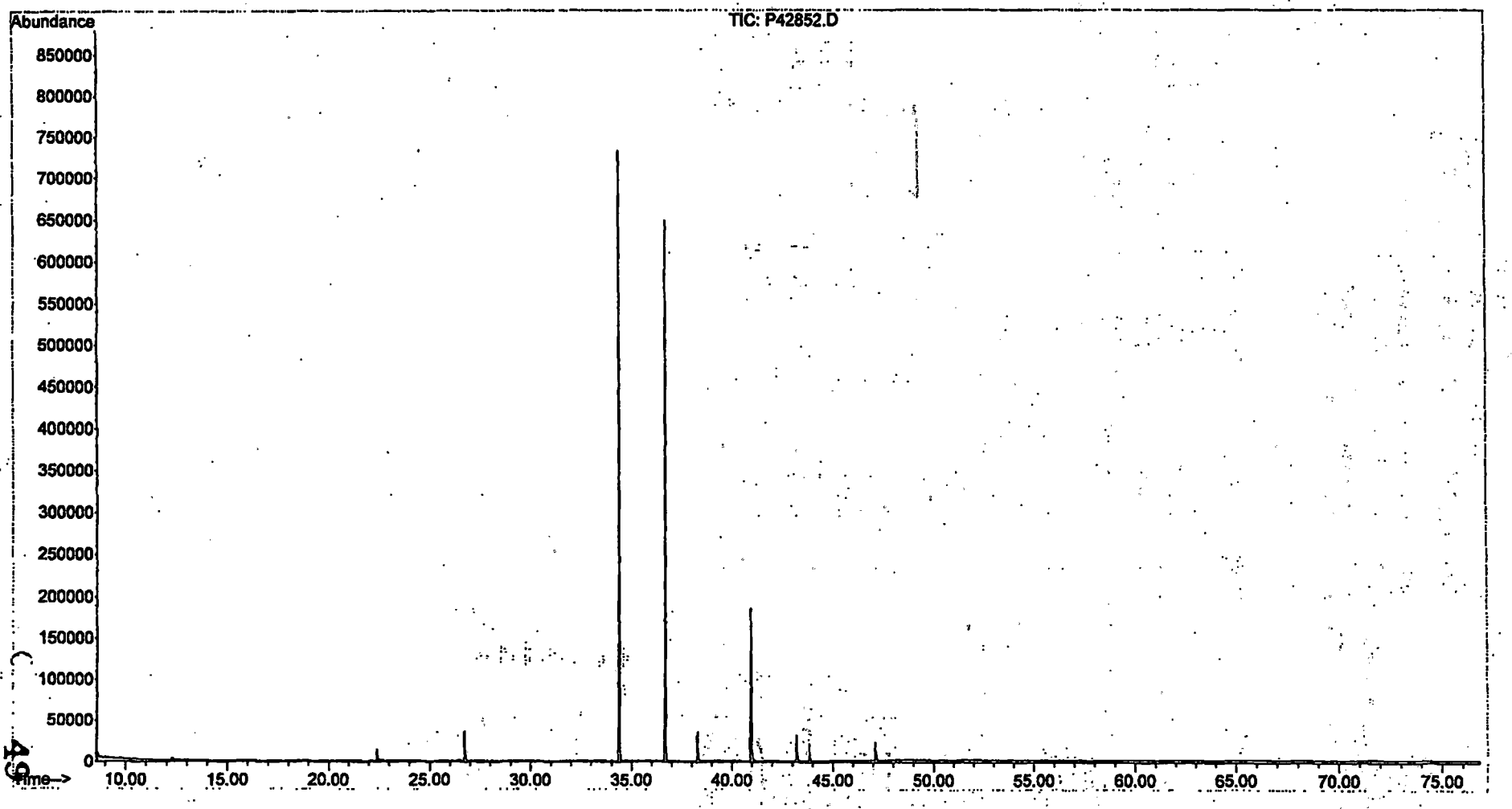
Quantitation Report (QT Reviewed)

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42852.D
Acq On : 28 Dec 2005 10:01 pm
Operator : AC
Sample : SS122105B05
Misc : 1X ETR0512096
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jan 05 11:25:30 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Laboratory Control Sample
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: See Below
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	12/21/05	100	AC

Lab ID: SS122105B05 SS122105LCS03 SS122105LCSD03

Parameter	Blank Conc.	LCS Conc.	LCS % Recovery	LCSD Conc.	LCSD % Recovery	% RPD	RPD Limit	% Recovery Limits
Naphthalene	0.28	38	113	35	106	6	30	50-130
Acenaphthylene	0.21	26	77	25	75	3	30	50-130
Acenaphthene	0.089	30	89	28	85	5	30	50-130
Fluorene	0.11	29	88	28	84	5	30	50-130
Anthracene	0.089 U	25	75	24	70	6	30	50-130
Phenanthrene	0.23	27	80	25	75	6	30	50-130
Fluoranthene	0.078	28	86	27	80	6	30	50-130
Pyrene	0.10	30	89	28	84	6	30	50-130
Benz[a]anthracene	0.057	31	92	29	88	5	30	50-130
Chrysene/Triphenylene	0.077	31	94	30	89	5	30	50-130
Benzo[b]fluoranthene	0.057	28	85	27	80	6	30	50-130
Benzo[k]fluoranthene	0.045	27	82	26	78	5	30	50-130
Benzo[a]pyrene	0.093 U	27	81	25	76	7	30	50-130
Indeno[1,2,3-cd]pyrene	0.13	28	82	26	78	6	30	50-130
Dibenz[a,h]anthracene	0.12	28	84	25	76	10	30	50-130
Benzo[g,h,i]perylene	0.11	32	95	28	83	14	30	50-130

Surrogate	% Recovery		Acceptance Range (%)
2-Methylnaphthalene-d10	101	95	50-130
Pyrene-d10	88	85	50-130
Benzo[b]fluoranthene-d12	77	76	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Laboratory Control Sample
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS122105LCS03
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	12/21/05	12/28/05	100	30.00	2	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	0.18	U	C1-Dibenzothiophenes	0.074	U
C1-Decalins	0.18	U	C2-Dibenzothiophenes	0.074	U
C2-Decalins	0.18	U	C3-Dibenzothiophenes	0.074	U
C3-Decalins	0.18	U	C4-Dibenzothiophenes	0.074	U
C4-Decalins	0.18	U	Benzo(b)fluorene	0.067	U
Benzothiophene	0.087	U	Fluoranthene	28	S
C1-Benzo(b)thiophenes	0.087	U	Pyrene	30	S
C2-Benzo(b)thiophenes	0.087	U	C1-Fluoranthenes/Pyrenes	0.059	U
C3-Benzo(b)thiophenes	0.087	U	C2-Fluoranthenes/Pyrenes	0.059	U
C4-Benzo(b)thiophenes	0.087	U	C3-Fluoranthenes/Pyrenes	0.059	U
Naphthalene	38	S	C4-Fluoranthenes/Pyrenes	0.059	U
C1-Naphthalenes	0.11	U	Naphthobenzothiophenes	0.081	U
C2-Naphthalenes	0.11	U	C1-Naphthobenzothiophenes	0.081	U
C3-Naphthalenes	0.11	U	C2-Naphthobenzothiophenes	0.081	U
C4-Naphthalenes	0.11	U	C3-Naphthobenzothiophenes	0.081	U
Biphenyl	0.061	U	C4-Naphthobenzothiophenes	0.081	U
Dibenzofuran	0.079	U	Benz[a]anthracene	31	S
Acenaphthylene	26	S	Chrysene/Triphenylene	31	S
Acenaphthene	30	S	C1-Chrysenes	0.072	U
Fluorene	29	S	C2-Chrysenes	0.072	U
C1-Fluorenes	0.077	U	C3-Chrysenes	0.072	U
C2-Fluorenes	0.077	U	C4-Chrysenes	0.072	U
C3-Fluorenes	0.077	U	Benzo[b]fluoranthene	28	S
Anthracene	25	S	Benzo[k]fluoranthene	27	S
Phenanthrene	27	S	Benzo[a]fluoranthene	0.14	U
C1-Phenanthrenes/Anthracenes	0.097	U	Benzo[e]pyrene	0.091	U
C2-Phenanthrenes/Anthracenes	0.097	U	Benzo[a]pyrene	27	S
C3-Phenanthrenes/Anthracenes	0.097	U	Perylene	0.12	U
C4-Phenanthrenes/Anthracenes	0.097	U	Indeno[1,2,3-cd]pyrene	28	S
Retene	0.097	U	Dibenz[a,h]anthracene	28	S
Dibenzothiophene	0.074	U	Benzo[g,h,i]perylene	32	S

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	101	50-130
Pyrene-d10	88	50-130
Benzo[b]fluoranthene-d12	77	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.
S - Spike compound.

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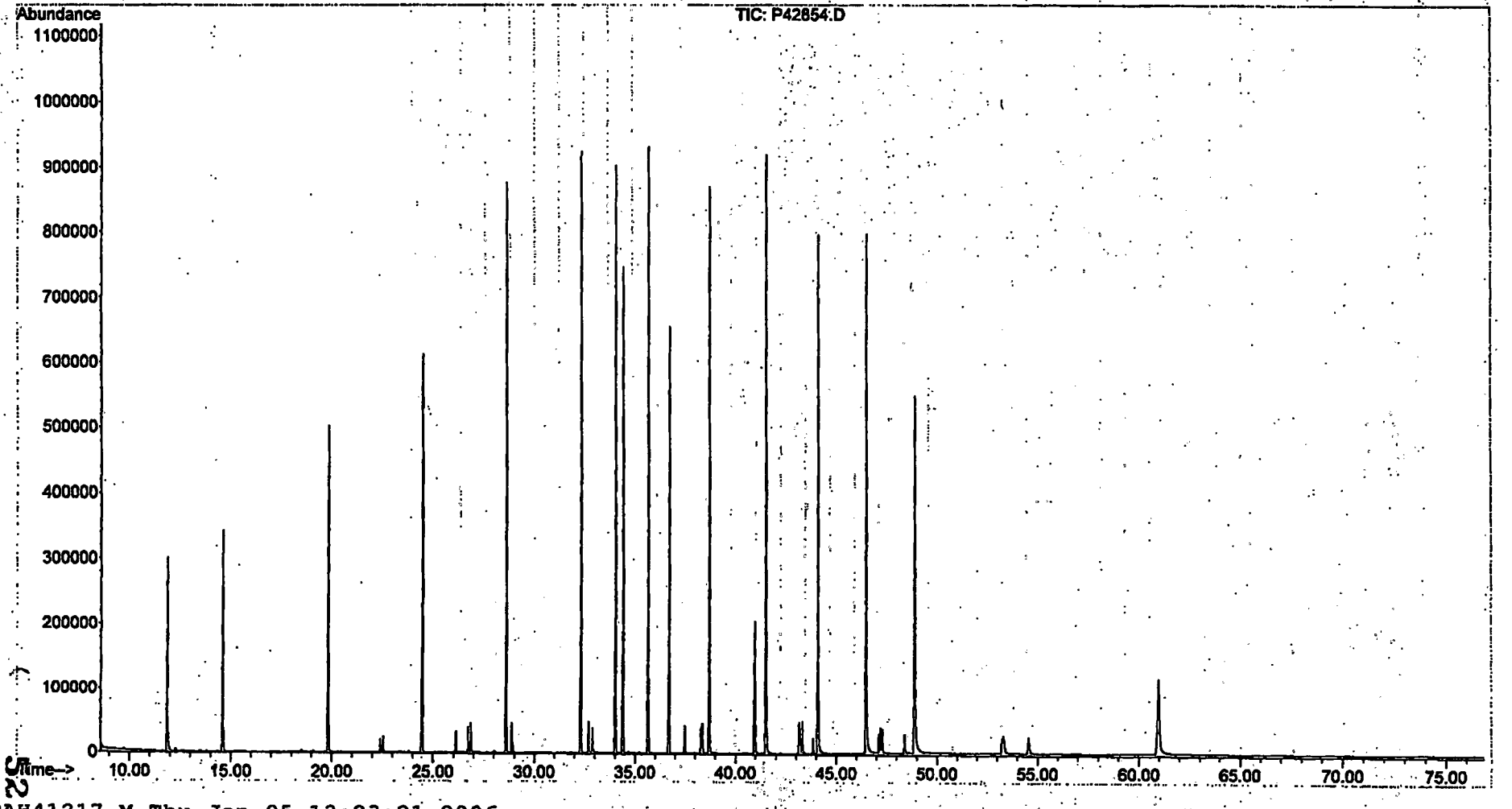
Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42854.D
Acq On : 28 Dec 2005 11:29 pm
Operator : AC
Sample : SS122105LCS03
Misc : 1X ETR0512096
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jan 05 11:43:39 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form I
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Laboratory Control Sample Dup
Case: N/A SDG: N/A
Matrix: Soil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS122105LCSD03
Associated Blank: SS122105B05
Concentration Units: µg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	12/21/05	12/29/05	100	30.00	2	1	AC

Parameter	Result		Parameter	Result	
cis/trans-Decalin	0.18	U	C1-Dibenzothiophenes	0.074	U
C1-Decalins	0.18	U	C2-Dibenzothiophenes	0.074	U
C2-Decalins	0.18	U	C3-Dibenzothiophenes	0.074	U
C3-Decalins	0.18	U	C4-Dibenzothiophenes	0.074	U
C4-Decalins	0.18	U	Benzo(b)fluorene	0.067	U
Benzothiophene	0.087	U	Fluoranthene	27	S
C1-Benzo(b)thiophenes	0.087	U	Pyrene	28	S
C2-Benzo(b)thiophenes	0.087	U	C1-Fluoranthenes/Pyrenes	0.059	U
C3-Benzo(b)thiophenes	0.087	U	C2-Fluoranthenes/Pyrenes	0.059	U
C4-Benzo(b)thiophenes	0.087	U	C3-Fluoranthenes/Pyrenes	0.059	U
Naphthalene	35	S	C4-Fluoranthenes/Pyrenes	0.059	U
C1-Naphthalenes	0.11	U	Naphthobenzothiophenes	0.081	U
C2-Naphthalenes	0.11	U	C1-Naphthobenzothiophenes	0.081	U
C3-Naphthalenes	0.11	U	C2-Naphthobenzothiophenes	0.081	U
C4-Naphthalenes	0.11	U	C3-Naphthobenzothiophenes	0.081	U
Biphenyl	0.061	U	C4-Naphthobenzothiophenes	0.081	U
Dibenzofuran	0.079	U	Benz[a]anthracene	29	S
Acenaphthylene	25	S	Chrysene/Triphenylene	30	S
Acenaphthene	28	S	C1-Chrysenes	0.072	U
Fluorene	28	S	C2-Chrysenes	0.072	U
C1-Fluorenes	0.077	U	C3-Chrysenes	0.072	U
C2-Fluorenes	0.077	U	C4-Chrysenes	0.072	U
C3-Fluorenes	0.077	U	Benzo[b]fluoranthene	27	S
Anthracene	24	S	Benzo[k]fluoranthene	26	S
Phenanthrene	25	S	Benzo[a]fluoranthene	0.14	U
C1-Phenanthrenes/Anthracenes	0.097	U	Benzo[e]pyrene	0.091	U
C2-Phenanthrenes/Anthracenes	0.097	U	Benzo[a]pyrene	25	S
C3-Phenanthrenes/Anthracenes	0.097	U	Perylene	0.12	U
C4-Phenanthrenes/Anthracenes	0.097	U	Indeno[1,2,3-cd]pyrene	26	S
Retene	0.097	U	Dibenz[a,h]anthracene	25	S
Dibenzothiophene	0.074	U	Benzo[g,h,i]perylene	28	S

Surrogate	% Recovery	Acceptance Range (%)
2-Methylnaphthalene-d10	95	50-130
Pyrene-d10	85	50-130
Benzo[b]fluoranthene-d12	76	50-130

N/A - Not Applicable
U - The analyte was analyzed for but not detected at the sample specific level reported.
S - Spike compound.

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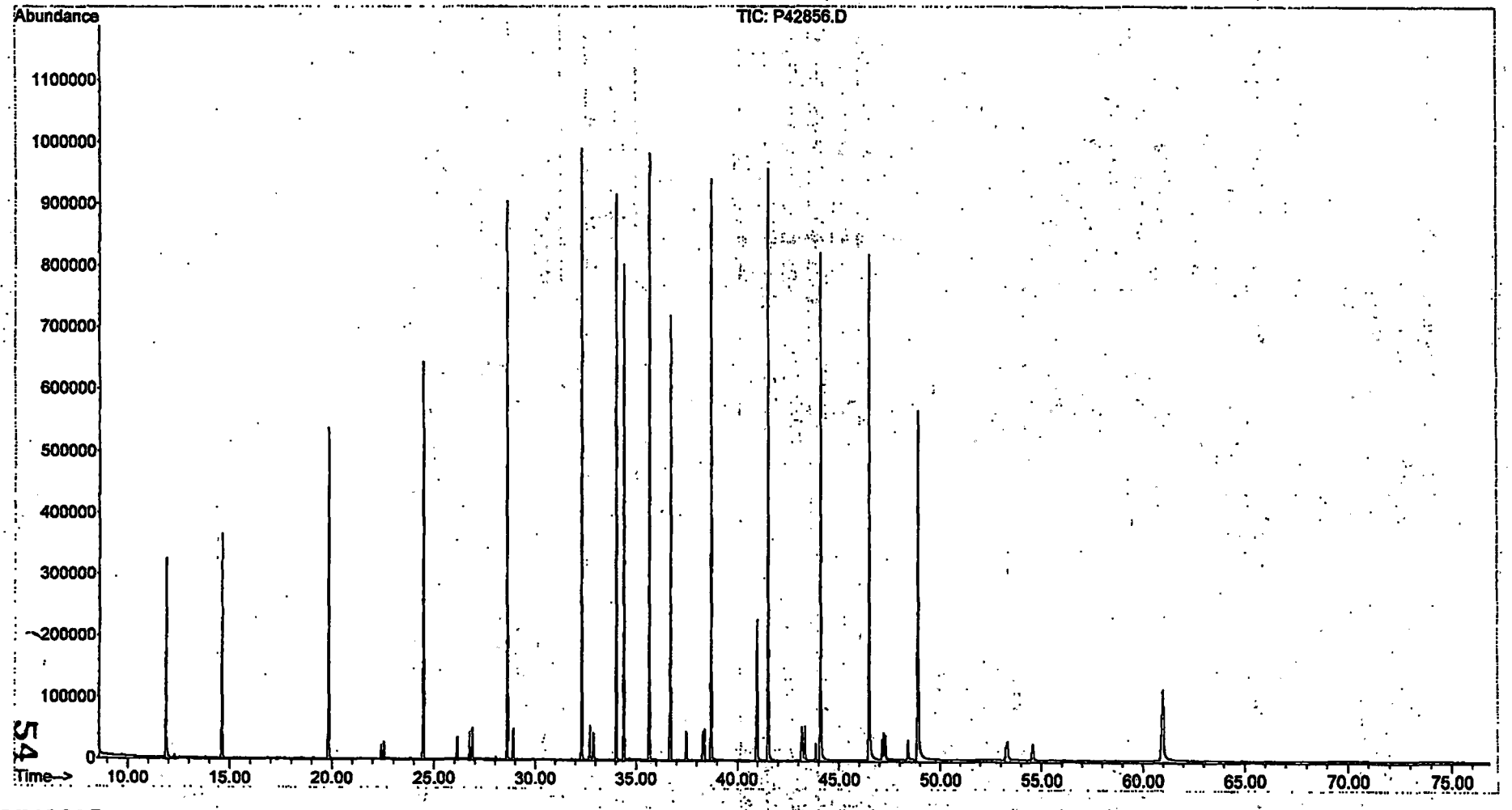
Quantitation Report (QT Rev

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42856.D
Acq On : 29 Dec 2005 12:59 am
Operator : AC
Sample : SS122105LCSD03
Misc : 1X ETR0512096
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jan 05 11:43:57 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 15:41:51 2006
Response via : Initial Calibration



Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Alaska North Slope Crude
Case: N/A SDG: N/A
Matrix: Oil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS010406AWS01
Associated Blank: N/A
Concentration Units: mg/Kg

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	NLJr

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
C1-Decalins	903.62	840	93	65-135
C2-Decalins	869.2	780	90	65-135
C3-Decalins	444.65	420	96	65-135
C4-Decalins	443.92	410	93	65-135
Naphthalene	714.43	910	127	65-135
C1-Naphthalenes	1534.53	1800	120	65-135
C2-Naphthalenes	1897.27	2200	115	65-135
C3-Naphthalenes	1436.53	1600	110	65-135
C4-Naphthalenes	773.42	900	116	65-135
Biphenyl	216.49	260	119	65-135
Acenaphthene	15.55	20	126	65-135
Fluorene	87.56	84	96	65-135
C1-Fluorenes	219.89	230	106	65-135
C2-Fluorenes	341.2	340	100	65-135
C3-Fluorenes	299.61	310	105	65-135
Phenanthrene	272.58	240	89	65-135
C1-Phenanthrenes/Anthracenes	564.81	500	89	65-135
C2-Phenanthrenes/Anthracenes	660.43	580	88	65-135
C3-Phenanthrenes/Anthracenes	448.76	410	90	65-135
C4-Phenanthrenes/Anthracenes	175.88	160	91	65-135
Dibenzothiophene	218.8	210	96	65-135
C1-Dibenzothiophenes	434.54	390	90	65-135
C2-Dibenzothiophenes	551.44	520	94	65-135
C3-Dibenzothiophenes	460.96	450	97	65-135
C4-Dibenzothiophenes	236.77	240	103	65-135
Fluoranthene	4.26	3.5	81	65-135
Pyrene	15.56	12	78	65-135
C1-Fluoranthenes/Pyrenes	78.43	76	97	65-135
C2-Fluoranthenes/Pyrenes	132.93	110	85	65-135
C3-Fluoranthenes/Pyrenes	111.33	120	110	65-135
Chrysene/Triphenylene	50.99	47	92	65-135
C1-Chrysenes	81.69	84	103	65-135
C2-Chrysenes	95.93	100	106	65-135

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Form III
Spike Recovery Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Alaska North Slope Crude
Case: N/A SDG: N/A
Matrix: Oil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS010406AWS01
Associated Blank: N/A
Concentration Units: mg/Kg

Date Collected	Date Received	Date Extracted	Percent Solid	Analyst
N/A	N/A	N/A	100	NLJr

Parameter	True Conc.	Conc.	% Recovery	% Recovery Limits
C3-Chrysenes	89.87	120	130	65-135
C4-Chrysenes	51.86	64	124	65-135
Benzo[b]fluoranthene	6.54	6.5	99	65-135
Benzo[e]pyrene	12.88	12	91	65-135
Dibenz[a,h]anthracene	1.02	0.93	91	65-135
Benzo[g,h,i]perylene	3.35	3.6	106	65-135
Hopane	118.8	140	117	65-135

N/A - Not Applicable

Concentrations reported as calculated values, which includes rounding for significant figures. Percent recoveries and RPD values are calculated from the unrounded result.

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Form I
Alaska North Slope Crude
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Client ID: Alaska North Slope Crude
Case: N/A SDG: N/A
Matrix: Oil

Lab Code: MA00030
ETR: 0512096
Lab ID: SS010406AWS01
Associated Blank: N/A
Concentration Units: mg/Kg

Date Collected	Date Received	Date Extracted	Date Analyzed	Percent Solid	Sample Amount (g)	Final Volume (ml)	Dilution Factor	Analyst
N/A	N/A	N/A	12/18/05	100	0.051	10	1	NLJr

Parameter	Result	Parameter	Result
cis/trans-Decalin	500	C1-Dibenzothiophenes	390
C1-Decalins	840	C2-Dibenzothiophenes	520
C2-Decalins	780	C3-Dibenzothiophenes	450
C3-Decalins	420	C4-Dibenzothiophenes	240
C4-Decalins	410	Benzo(b)fluorene	0.20 U
Benzothiophene	7.8	Fluoranthene	3.5
C1-Benzo(b)thiophenes	44	Pyrene	12
C2-Benzo(b)thiophenes	69	C1-Fluoranthenes/Pyrenes	76
C3-Benzo(b)thiophenes	140	C2-Fluoranthenes/Pyrenes	110
C4-Benzo(b)thiophenes	130	C3-Fluoranthenes/Pyrenes	120
Naphthalene	910	C4-Fluoranthenes/Pyrenes	98
C1-Naphthalenes	1800	Naphthobenzothiophenes	46
C2-Naphthalenes	2200	C1-Naphthobenzothiophenes	130
C3-Naphthalenes	1600	C2-Naphthobenzothiophenes	160
C4-Naphthalenes	900	C3-Naphthobenzothiophenes	120
Biphenyl	260	C4-Naphthobenzothiophenes	84
Dibenzofuran	76	Benz[a]anthracene	1.6 J
Acenaphthylene	7.4	Chrysene/Triphenylene	47
Acenaphthene	20	C1-Chrysenes	84
Fluorene	84	C2-Chrysenes	100
C1-Fluorenes	230	C3-Chrysenes	120
C2-Fluorenes	340	C4-Chrysenes	64
C3-Fluorenes	310	Benzo[b]fluoranthene	6.5
Anthracene	0.26 U	Benzo[k]fluoranthene	0.40 U
Phenanthrene	240	Benzo[a]fluoranthene	0.40 U
C1-Phenanthrenes/Anthracenes	500	Benzo[e]pyrene	12
C2-Phenanthrenes/Anthracenes	580	Benzo[a]pyrene	1.7 J
C3-Phenanthrenes/Anthracenes	410	Perylene	1.4 J
C4-Phenanthrenes/Anthracenes	160	Indeno[1,2,3-cd]pyrene	1.2 J
Retene	0.28 U	Dibenz[a,h]anthracene	0.93 J
Dibenzothiophene	210	Benzo[g,h,i]perylene	3.6

Dibenzothiophene 1310 11,486 mg/kg

All 18,000.63

10%

N/A - Not Applicable
J - Estimated value, below quantitation limit.
U - The analyte was analyzed for but not detected at the sample specific level reported.

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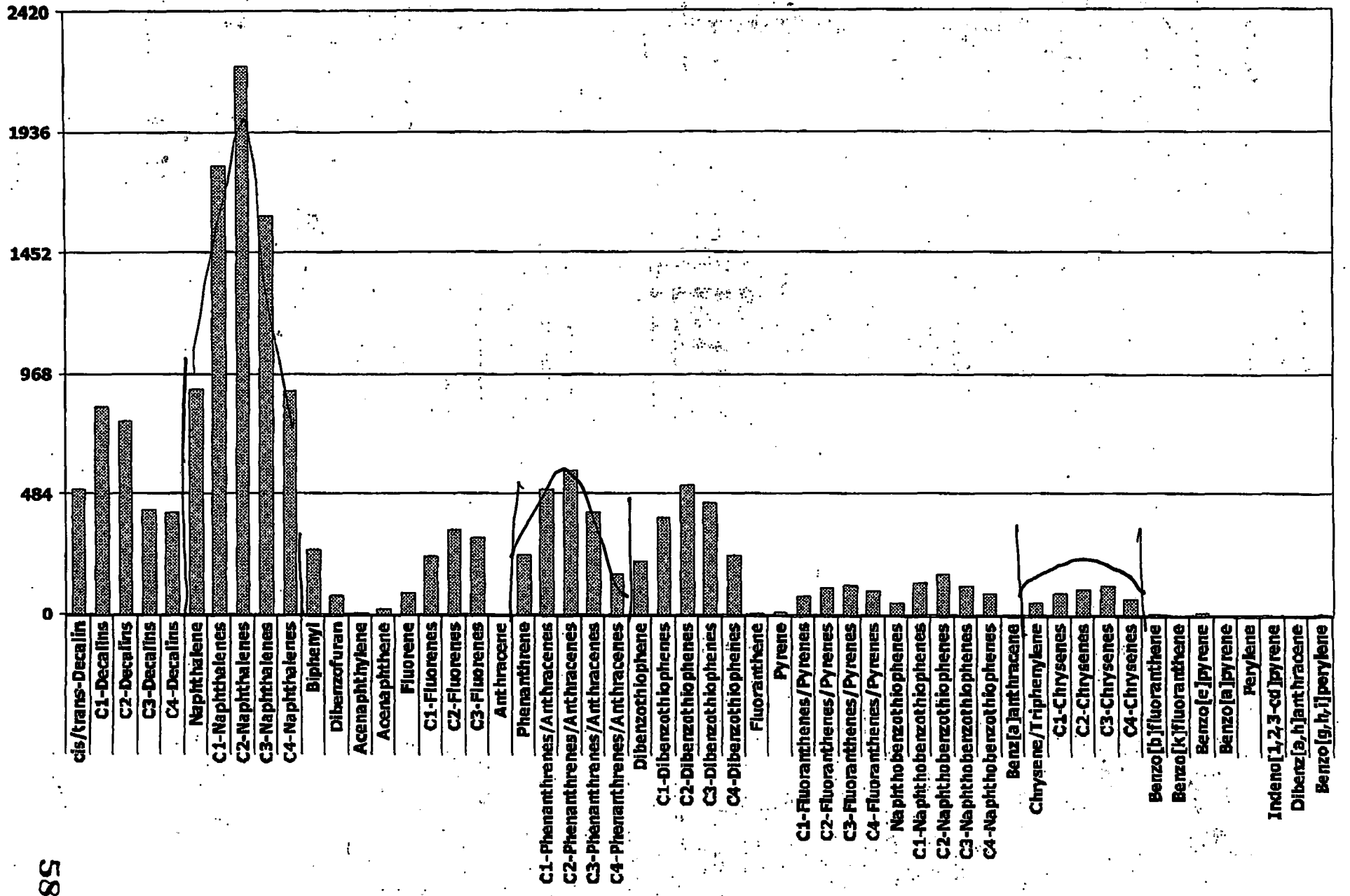
Alkylated Polynuclear Aromatic Hydrocarbons Distributions

Client ID: Alaska North Slope Crude

Lab ID: SS010406AWS01

Concentration: mg/Kg



Quantitation Report (QT Reviewed)

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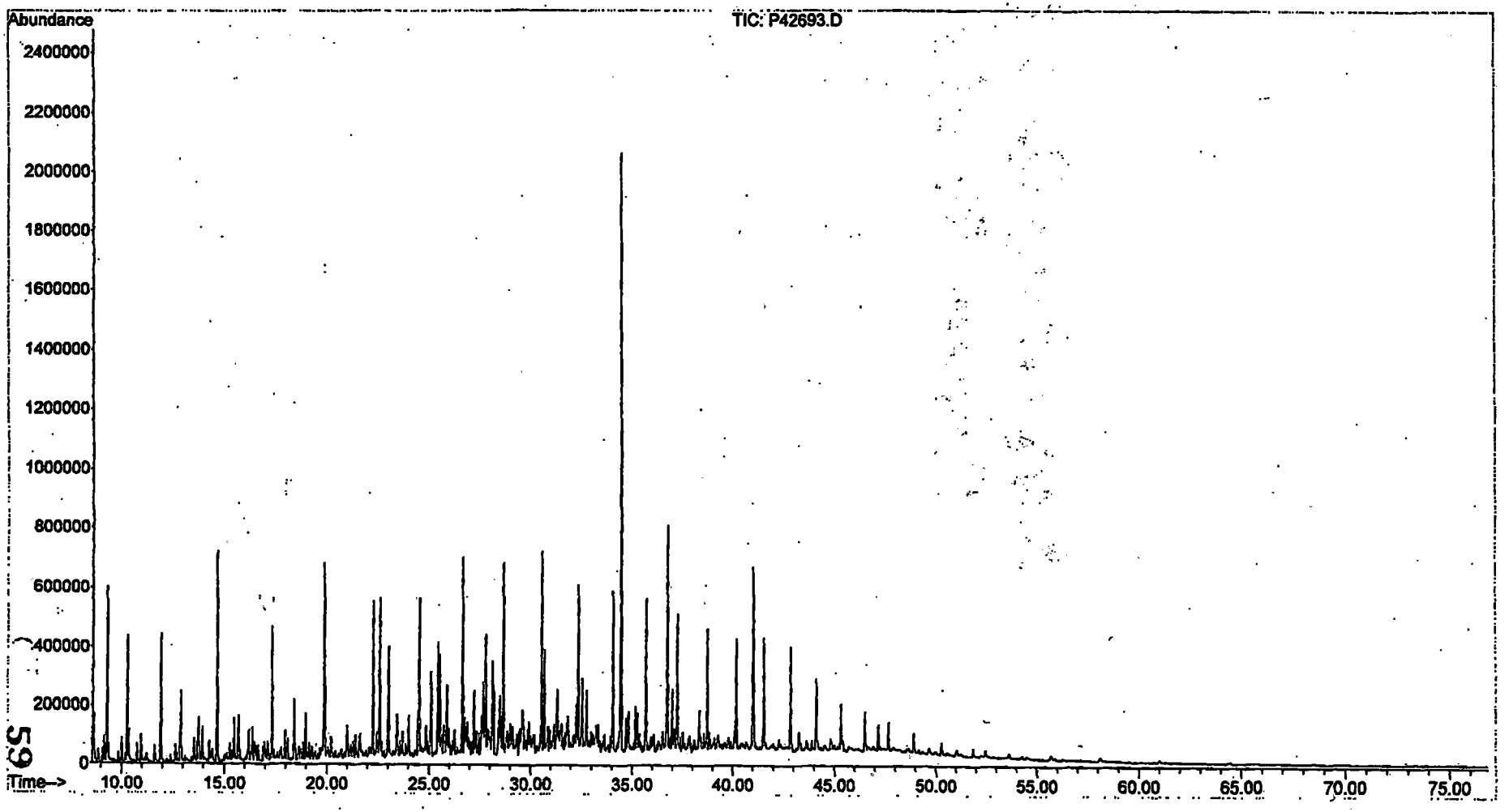
Data File : P42693.D
Acq On : 18 Dec 2005 4:16 am
Operator : NLJr
Sample : SS010406AWS01
Misc : ANS4121701
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jan 04 08:56:40 2006
Quant Method : C:\MSDCHEM\1\DATA\2005\PAH #4\METHODS-SEQ\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Mon Dec 26 20:20:22 2005
Response via : Initial Calibration



59

60-100

Supporting Quality Control Results

Form IV
Method Blank Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: SS122105B05
Date Analyzed: 12/28/05 22:01

Client ID	Lab ID	Date/Time Analyzed
LCS	SS122105LCS03	12/28/05 23:29
LCSD	SS122105LCSD03	12/29/05 00:59
MA9-SSRR-131A-9-21	0512096-01	12/29/05 02:28
MA9-SSRR-131D-0-5	0512096-02	12/29/05 03:57
MA9-SSRR-131D-0-5	0512096-02 D	12/29/05 05:27
MA9-SSRR-131C-0-5	0512096-03	12/29/05 06:56
MA9-SSRR-128A-18-24	0512096-04	12/29/05 09:57
MA9-SSRR-128E-0-6	0512096-05	12/29/05 11:27
MA9-SSRR-122C 0-4	0512096-06	12/29/05 12:58
MA9-SSRR-116A 18-24	0512096-07	12/29/05 14:28
MA9-SSRR-116A 18-24D	0512096-08	12/29/05 15:59
MA9-SSRR-125E 9-18	0512096-09	12/29/05 17:30
MA9-SSRR-131C-0-5	0512096-03E	01/01/06 16:14
MA9-SSRR-128E-0-6	0512096-05E	01/01/06 17:43
MA9-SSRR-131A-9-21	0512096-01E	01/04/06 09:42

N/A - Not Applicable

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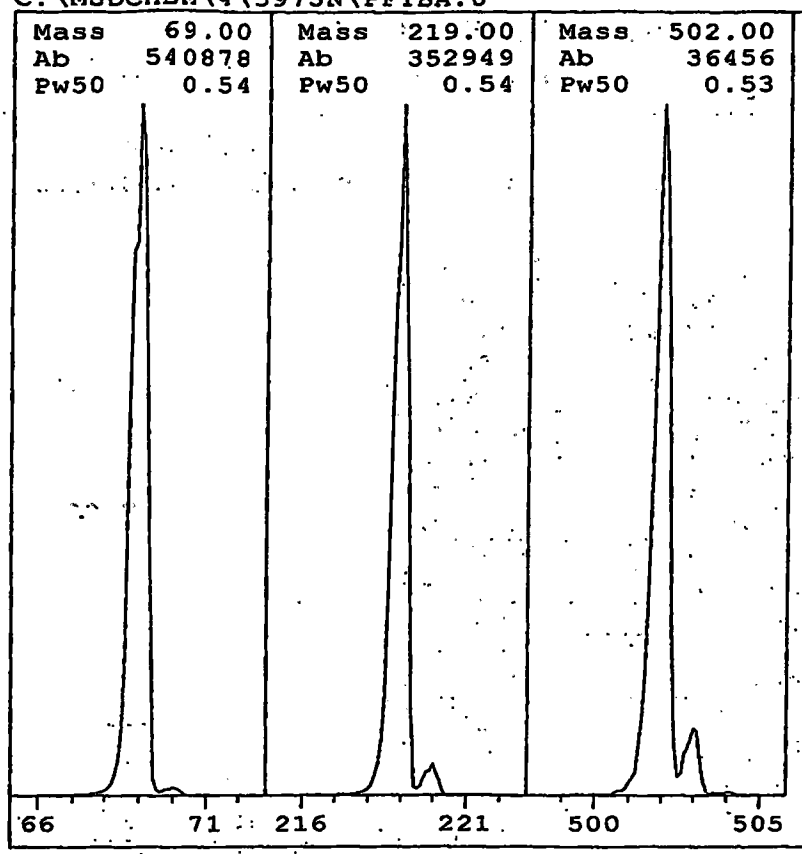
5973

12/17/05.

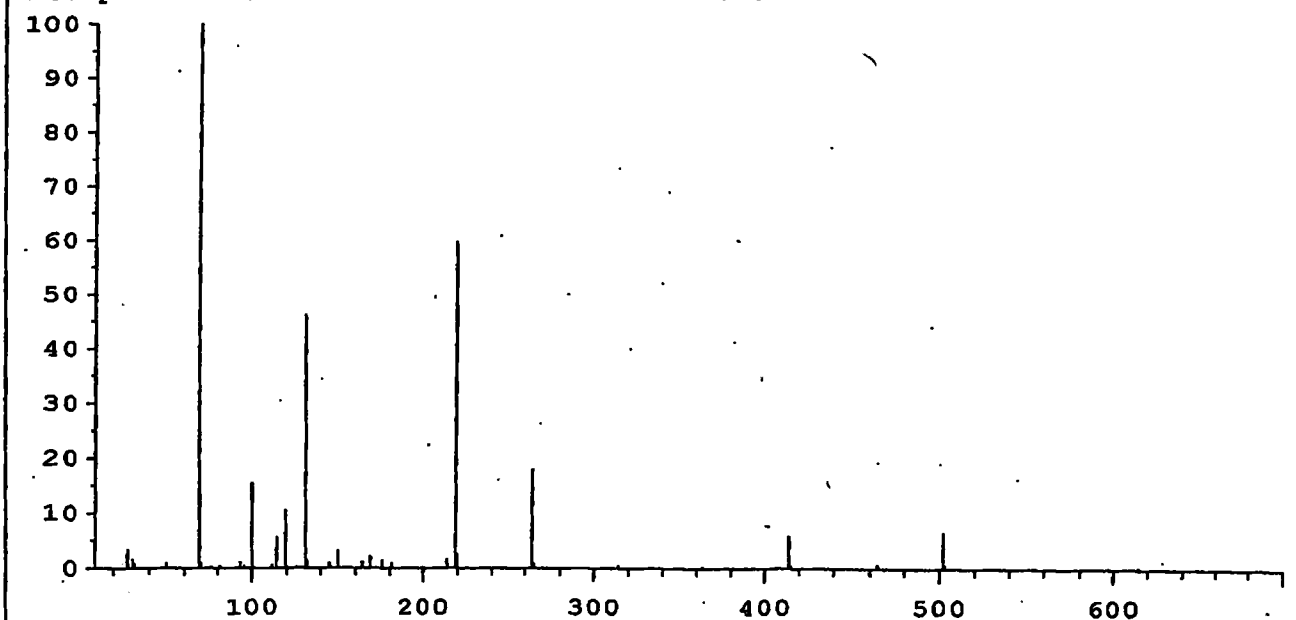
Sat Dec 17 11:56:06 2005
C:\MSDCHEM\4\5973N\PFTBA.U

Instrument: PAH-4



Ion Pol	POS	MassGain	211
		MassOffs	-12
Emission	34.6	AmuGain	2382
ElEnrgy	69.9	AmuOffs	132
Filament	1	Wid219	-0.018
		DC Pol	POS
Repeller	34.81		
IonFcus	90.2	HEDEnab	ON
EntLens	0.0	EMVolts	2106
EntOffs	VAR		
		Samples	8
PFTBA	OPEN	Averages	3
		Stepsize	0.10
Zones:			
MS Source	230	TurboSpd	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
110 peaks Base: 69.00 Abundance: 474688



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	474688	100.00	70.00	5050	1.06
219.00	283456	59.71	220.00	12070	4.26
502.00	31064	6.54	503.00	3318	10.68

TARGET MASS:	50	69	131	219	414	502
DYNAMIC ENT OFFSET:	17.1	21.3	19.8	20.3	20.8	22.6
TARGET ABUND(%):	1.0	100.0	45.0	55.0	5.0	6.0
ACTUAL TUNE ABUND(%):	1.0	100.0	46.3	59.7	5.8	6.5

Response Factor Report PAH-4

Method Path : O:\FORENSICS\METHODS\PAH4\DEC05\
Method File : PAH41217.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Dec 20 10:14:11 2005
Response Via : Initial Calibration

10,000=P42687

12/21/05

12/22/05

Calibration Files
10 =P42675.D 25 =P42677.D 100 =P42679.D
500 =P42681.D 1250=P42683.D 5000=P42685.D

		Compound	10	25	100	500	1250	5000	Avg	%RSD
1)	i	Acenaphthene-d10	ISTD							
2)	t	Decalin	0.494	0.505	0.452	0.410	0.422	0.422	0.446	8.92
3)	A1	trans-Decalin	0.532	0.564	0.486	0.459	0.475	0.478	0.494	7.80
4)	t	cis-Decalin	0.453	0.407	0.373	0.355	0.364	0.365	0.382	9.38
5)	A2	C1-Decalins	0.532	0.564	0.486	0.459	0.475	0.478	0.494	7.80
6)	A2	C2-Decalins	0.532	0.564	0.486	0.459	0.475	0.478	0.494	7.80
7)	A2	C3-Decalins	0.532	0.564	0.486	0.459	0.475	0.478	0.494	7.80
8)	A2	C4-Decalins	0.532	0.564	0.486	0.459	0.475	0.478	0.494	7.80
9)	A1	Naphthalene	1.662	1.648	1.772	1.978	2.128	2.204	1.942	12.71
10)	A2	C1-Naphthalenes	1.662	1.648	1.772	1.978	2.128	2.204	1.942	12.71
11)	A2	C2-Naphthalenes	1.662	1.648	1.772	1.978	2.128	2.204	1.942	12.71
12)	A2	C3-Naphthalenes	1.662	1.648	1.772	1.978	2.128	2.204	1.942	12.71
13)	A2	C4-Naphthalenes	1.662	1.648	1.772	1.978	2.128	2.204	1.942	12.71
14)	s	2-Methylnaphthale	0.699	0.704	0.837	1.017	1.082	1.159	0.949	21.01
15)	t	2-Methylnaphthale	0.891	0.938	1.090	1.315	1.435	1.498	1.237	21.12
16)	t	1-Methylnaphthale	1.071	1.095	1.147	1.261	1.352	1.402	1.246	11.43
17)	A1	Benzothiophene	1.377	1.402	1.543	1.666	1.824	1.884	1.653	13.14
18)	A2	C1-Benzo(b)thioph	1.377	1.402	1.543	1.666	1.824	1.884	1.653	13.14
19)	A2	C2-Benzo(b)thioph	1.377	1.402	1.543	1.666	1.824	1.884	1.653	13.14
20)	A2	C3-Benzo(b)thioph	1.377	1.402	1.543	1.666	1.824	1.884	1.653	13.14
21)	A2	C4-Benzo(b)thioph	1.377	1.402	1.543	1.666	1.824	1.884	1.653	13.14
22)	t	Biphenyl	1.039	1.093	1.271	1.599	1.744	1.811	1.482	22.95
23)	t	2,6-Dimethylnapht	0.860	0.797	0.905	1.116	1.224	1.300	1.073	20.17
24)	t	Dibenzofuran	1.248	1.458	1.596	1.839	1.955	2.019	1.734	17.55
25)	t	Acenaphthylene	2.428	2.118	1.891	2.015	2.172	2.288	2.173	8.44
26)	t	Acenaphthene	1.339	1.252	1.255	1.295	1.363	1.406	1.331	4.96
27)	t	2,3,5-Trimethylna	0.984	1.064	0.983	1.075	1.147	1.214	1.098	8.91
28)	A1	Fluorene	1.252	1.306	1.254	1.439	1.529	1.594	1.426	10.97
29)	A2	C1-Fluorenes	1.252	1.306	1.254	1.439	1.529	1.594	1.426	10.97
30)	A2	C2-Fluorenes	1.252	1.306	1.254	1.439	1.529	1.594	1.426	10.97
31)	A2	C3-Fluorenes	1.252	1.306	1.254	1.439	1.529	1.594	1.426	10.97
32)	A1	Dibenzothiophene	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
33)	A2	4-Methyldibenzoth	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
34)	A2	2/3-Methyldibenzo	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
35)	A2	1-Methyldibenzoth	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
36)	A2	OTP	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
37)	A2	C1-Dibenzothiophe	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
38)	A2	C2-Dibenzothiophe	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
39)	A2	C3-Dibenzothiophe	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
40)	A2	C4-Dibenzothiophe	1.894	2.008	2.004	2.098	2.197	2.281	2.114	7.44
41)	A1	Phenanthrene	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
42)	A2	3-Methylphenanthr	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
43)	A2	2/4-Methylphenant	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
44)	A2	2-Methylanthracen	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
45)	A2	9-Methylphenanthr	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
46)	A2	1-Methylphenanthr	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
47)	A2	C1-Phenanthrenes/	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
48)	A2	C2-Phenanthrenes/	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
49)	A2	5AA IS BKGD	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
50)	A2	C3-Phenanthrenes/	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
51)	A2	C4-Phenanthrenes/	2.798	2.460	2.094	2.189	2.298	2.389	2.378	9.52
52)	t	Retene	0.592	0.585	0.561	0.571	0.606	0.666	0.610	7.81
53)	t	Anthracene	2.246	2.109	1.929	2.061	2.195	2.309	2.172	6.84
54)	t	Carbazole	1.444	1.256	1.496	1.750	1.927	2.063	1.721	19.23
55)	t	1-Methylphenanthr	1.473	1.460	1.409	1.506	1.616	1.741	1.570	9.29
56)	A1	Fluoranthene	2.430	2.382	2.207	2.334	2.493	2.631	2.452	6.81
57)	t	Benzo(b)fluorene	1.279	1.255	1.261	1.387	1.524	1.653	1.436	13.09

Response Factor Report PAH-4

Method Path : O:\FORENSICS\METHODS\PAH4\DEC05\
Method File : PAH41217.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Dec 20 10:14:11 2005
Response Via : Initial Calibration

Calibration Files
10 =P42675.D 25 =P42677.D 100 =P42679.D
500 =P42681.D 1250=P42683.D 5000=P42685.D

		Compound	10	25	100	500	1250	5000	Avg	%RSD
58)	s	Pyrene-d10	2.242	2.215	2.199	2.309	2.373	2.549	2.358	7.07
59)	A1	Pyrene	2.563	2.500	2.355	2.464	2.568	2.658	2.543	4.57
60)	A2	C1-Fluoranthenes/	2.563	2.500	2.355	2.464	2.568	2.658	2.543	4.57
61)	A2	C2-Fluoranthenes/	2.563	2.500	2.355	2.464	2.568	2.658	2.543	4.57
62)	A2	C3-Fluoranthenes/	2.563	2.500	2.355	2.464	2.568	2.658	2.543	4.57
63)	A2	C4-Fluoranthenes/	2.563	2.500	2.355	2.464	2.568	2.658	2.543	4.57
64)	A1	Naphthobenzothiop	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
65)	A2	Naphthobenzothiop	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
66)	A2	Naphthobenzothiop	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
67)	A2	Naphthobenzothiop	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
68)	A2	C1-Naphthobenzoth	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
69)	A2	C2-Naphthobenzoth	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
70)	A2	C3-Naphthobenzoth	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
71)	A2	C4-Naphthobenzoth	2.176	2.152	2.163	2.209	2.363	2.530	2.312	8.03
72)	i	Chrysene-d12	----------	----------	----------	ISTD	----------	----------	----------	----------
73)	t	Benz[a]anthracene	1.045	1.083	1.126	1.151	1.235	1.333	1.189	10.10
74)	A1	Chrysene	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
75)	A2	Chrysene/Tripheny	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
76)	A2	C1-Chrysenes	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
77)	A2	C2-Chrysenes	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
78)	A2	BBF-d12 Surr BKGD	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
79)	A2	C3-Chrysenes	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
80)	A2	C4-Chrysenes	1.147	1.119	1.130	1.206	1.253	1.297	1.207	6.36
81)	s	Benzo[b]fluoranth	0.940	0.956	0.998	1.044	1.059	1.159	1.047	8.83
82)	t	Benzo[b]fluoranth	1.047	1.021	1.105	1.261	1.327	1.423	1.236	14.63
83)	A1	Benzo[k]fluoranth	1.300	1.299	1.314	1.366	1.451	1.524	1.394	7.02
84)	A2	Benzo[a]fluoranth	1.300	1.299	1.314	1.366	1.451	1.524	1.394	7.02
85)	t	Benzo[e]pyrene	1.235	1.139	1.176	1.218	1.270	1.335	1.246	6.20
86)	t	Benzo[a]pyrene	1.039	1.032	1.077	1.221	1.282	1.369	1.201	12.67
87)	t	Perylene	1.068	1.087	1.093	1.182	1.239	1.324	1.189	9.42
88)	t	Indeno[1,2,3-cd]p	1.075	1.010	1.005	1.047	1.126	1.236	1.115	10.42
89)	t	Dibenz[a,h]anthra	0.929	0.978	1.020	1.181	1.259	1.346	1.152	15.32
90)	t	Benzo[g,h,i]peryl	1.360	1.145	1.174	1.239	1.294	1.342	1.271	6.77
91)	A1	17a(H),21B(H)-hop	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
92)	A2	Hopane (T19)	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
93)	A2	C23 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
94)	A2	C24 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
95)	A2	C25 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
96)	A2	C24 Tetracyclic T	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
97)	A2	C26 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
98)	A2	C26 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
99)	A2	C28 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
100)	A2	C28 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
101)	A2	C29 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
102)	A2	C29 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
103)	A2	18a-22,29,30-Tris	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
104)	A2	C30 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
105)	A2	C30 Tricyclic Ter	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
106)	A2	17a(H)-22,29,30-T	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
107)	A2	17a/b,21b/a 28,30	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
108)	A2	17a(H),21b(H)-25-	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
109)	A2	30-Norhopane (T15	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
110)	A2	18a(H)-30-Norneoh	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
111)	A2	17a(H)-Diahopane	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
112)	A2	30-Normoretane (T	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
113)	A2	18a(H)&18b(H)-Ole	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
114)	A2	Moretane (T20)	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81

Response Factor Report PAH-4

Method Path : O:\FORENSICS\METHODS\PAH4\DEC05\
Method File : PAH41217.M
Title : Decalins & Alkylated PAH's
Last Update : Tue Dec 20 10:14:11 2005
Response Via : Initial Calibration

Calibration Files
10 =P42675.D 25 =P42677.D 100 =P42679.D
500 =P42681.D 1250=P42683.D 5000=P42685.D

		Compound	10	25	100	500	1250	5000	Avg	%RSD
115)	A2	30-Homohopane-22S	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
116)	A2	30-Homohopane-22R	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
117)	A2	30,31-Bishomohopa	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
118)	A2	30,31-Bishomohopa	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
119)	A2	30,31-Trishomohop	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
120)	A2	30,31-Trishomohop	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
121)	A2	Tetrakishomohopan	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
122)	A2	Tetrakishomohopan	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
123)	A2	Pentakishomohopan	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
124)	A2	Pentakishomohopan	0.565	0.477	0.478	0.491	0.480	0.447	0.481	8.81
125)	SA1	5B(H)Cholane - Su	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
126)	A2	13b(H),17a(H)-20S	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
127)	A2	13b(H),17a(H)-20R	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
128)	A2	13b,17a-20S-Methy	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
129)	A2	14a(H),17a(H)-20S	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
130)	A2	14a(H),17a(H)-20R	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
131)	A2	13b,17a-20R-Ethyl	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
132)	A2	13a,17b-20S-Ethyl	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
133)	A2	14a,17a-20S-Methy	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
134)	A2	14a,17a-20R-Methy	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
135)	A2	14a(H),17a(H)-20S	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
136)	A2	14a(H),17a(H)-20R	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
137)	A2	14b(H),17b(H)-20R	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
138)	A2	14b(H),17b(H)-20S	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
139)	A2	14b,17b-20R-Methy	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
140)	A2	14b,17b-20S-Methy	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
141)	A2	14b(H),17b(H)-20R	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00
142)	A2	14b(H),17b(H)-20S	0.216	0.216	0.218	0.217	0.228	0.246	0.226	6.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC16\
Data File : P42691.D
Acq On : 18 Dec 2005 2:48 am
Operator : NLJr
Sample : Q4121701
Misc : ICC
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 20 10:22:32 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 10:14:11 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	93	0.00
2	t	Decalin	0.446	0.000#	100.0#	0#	-16.48#
3	A1	trans-Decalin	0.494	0.000#	100.0#	0#	-16.48#
4	t	cis-Decalin	0.382	0.000#	100.0#	0#	-17.70#
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.56#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.89#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.37#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.76#
9	A1	Naphthalene	1.942	1.797	7.5	84	0.00
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.78#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.62#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.96#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.73#
14	s	2-Methylnaphthalene-d10	0.949	1.031	-8.6	94	0.00
15	t	2-Methylnaphthalene	1.237	1.223	1.1	86	0.00
16	t	1-Methylnaphthalene	1.246	1.251	-0.4	92	0.00
17	A1	Benzothiophene	1.653	0.000#	100.0#	0#	-20.11#
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.32#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.82#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.79#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.54#
22	t	Biphenyl	1.482	1.569	-5.9	91	0.00
23	t	2,6-Dimethylnaphthalene	1.073	1.099	-2.4	91	0.00
24	t	Dibenzofuran	1.734	1.817	-4.8	92	0.00
25	t	Acenaphthylene	2.173	1.878	13.6	87	0.00
26	t	Acenaphthene	1.331	1.250	6.1	90	0.00
27	t	2,3,5-Trimethylnaphthalene	1.098	1.109	-1.0	96	0.00
28	A1	Fluorene	1.426	1.337	6.2	86	0.00
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.51#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.71#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.54#
32	A1	Dibenzothiophene	2.114	0.000#	100.0#	0#	-32.26#
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.25#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.59#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-35.02#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.62#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.25#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.94#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.74#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-39.42#
41	A1	Phenanthrene	2.378	1.994	16.1	85	0.00
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-35.26#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-35.06#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.18#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.39#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.49#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.39#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.20#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.91#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-39.04#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC16\
Data File : P42691.D
Acq On : 18 Dec 2005 2:48 am
Operator : NLJr
Sample : Q4121701
Misc : ICC
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 20 10:22:32 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 10:14:11 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.22#
52	t	Retene	0.610	0.000#	100.0#	0#	-39.75#
53	t	Anthracene	2.172	1.848	14.9	83	0.00
54	t	Carbazole	1.721	0.000#	100.0#	0#	-33.60#
55	t	1-Methylphenanthrene	1.570	1.559	0.7	96	0.00
56	A1	Fluoranthene	2.452	2.175	11.3	87	0.00
57	t	Benzo(b)fluorene	1.436	0.000#	100.0#	0#	-40.05#
58	s	Pyrene-d10	2.358	2.268	3.8	91	0.00
59	A1	Pyrene	2.543	2.364	7.0	89	0.00
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-40.06#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.86#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.87#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-45.21#
64	A1	Naphthobenzothiophene	2.312	0.000#	100.0#	0#	-42.27#
65	A2	Naphthobenzothiophene-2,1-D	2.312	0.000#	100.0#	0#	-42.27#
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.87#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-43.20#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.92#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.96#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.53#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.61#
72	i	Chrysene-d12	1.000	1.000	0.0	92	0.00
73	t	Benz[a]anthracene	1.189	1.175	1.2	94	0.00
74	A1	Chrysene	1.207	1.176	2.6	90	0.00
75	A2	Chrysene/Triphenylene	1.207	1.177	2.5	90	0.00
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-45.08#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.81#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.45#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-48.56#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-50.05#
81	s	Benzo[b]fluoranthene-d12	1.047	1.071	-2.3	94	0.00
82	t	Benzo[b]fluoranthene	1.236	1.128	8.7	82	0.00
83	A1	Benzo[k]fluoranthene	1.394	1.279	8.2	86	0.00
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-48.25#
85	t	Benzo[e]pyrene	1.246	1.208	3.0	91	0.00
86	t	Benzo[a]pyrene	1.201	1.082	9.9	81	0.00
87	t	Perylene	1.189	1.182	0.6	92	0.00
88	t	Indeno[1,2,3-cd]pyrene	1.115	0.952	14.6	84	0.00
89	t	Dibenz[a,h]anthracene	1.152	1.084	5.9	84	0.00
90	t	Benzo[g,h,i]perylene	1.271	1.140	10.3	84	0.00
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.000#	100.0#	0#	-52.46#
92	A2	Hopane (T19)	0.481	0.000#	100.0#	0#	-52.46#
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-41.07#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.79#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.27#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.61#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.33#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.42#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.71#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC16\
Data File : P42691.D
Acq On : 18 Dec 2005 2:48 am
Operator : NLJr
Sample : Q4121701
Misc : ICC
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 20 10:22:32 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 10:14:11 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.87#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.41#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.60#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.78#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.85#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-49.11#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.35#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.57#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.33#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.26#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.37#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.50#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-52.06#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.50#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.39#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.54#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.78#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-56.15#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.55#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.37#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-59.01#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-61.11#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-62.04#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.39#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.74#
125	SA1	5B(H)Cholane - Surr	0.226	0.213	5.8	90	0.00
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.55#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.96#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.66#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.55#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-48.09#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.36#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.63#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.55#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.89#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.84#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.65#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.72#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.98#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-49.06#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.15#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.19#

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

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42848.D
Acq On : 28 Dec 2005 7:02 pm
Operator : AC
Sample : C4122704
Misc : PAH STD
ALS Vial : 17 Sample Multiplier: 1

12/29/05

Quant Time: Dec 29 08:07:35 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	119	-0.05
2	t	Decalin	0.446	0.424	4.9	123	-0.05
3	A1	trans-Decalin	0.494	0.469	5.1	121	-0.05
4	t	cis-Decalin	0.382	0.361	5.5	121	-0.05
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	2.075	-6.8	125	-0.05
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.068	-12.5	125	-0.05
15	t	2-Methylnaphthalene	1.237	1.377	-11.3	124	-0.05
16	t	1-Methylnaphthalene	1.246	1.298	-4.2	122	-0.05
17	A1	Benzothiophene	1.653	1.671	-1.1	119	-0.05
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.684	-13.6	125	-0.05
23	t	2,6-Dimethylnaphthalene	1.073	1.175	-9.5	125	-0.05
24	t	Dibenzofuran	1.734	1.827	-5.4	118	-0.05
25	t	Acenaphthylene	2.173	1.919	11.7	113	-0.05
26	t	Acenaphthene	1.331	1.278	4.0	117	-0.05
27	t	2,3,5-Trimethylnaphthalene	1.098	1.078	1.8	119	-0.05
28	A1	Fluorene	1.426	1.390	2.5	115	-0.05
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	1.974	6.6	112	-0.05
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	2.122	10.8	115	-0.05
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42848.D
Acq On : 28 Dec 2005 7:02 pm
Operator : AC
Sample : C4122704
Misc : PAH STD
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 29 08:07:35 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.556	8.9	116	-0.05
53	t	Anthracene	2.172	1.802	17.0	104	-0.05
54	t	Carbazole	1.721	1.490	13.4	101	-0.05
55	t	1-Methylphenanthrene	1.570	1.508	3.9	119	-0.05
56	A1	Fluoranthene	2.452	2.338	4.6	119	-0.05
57	t	Benzo(b)fluorene	1.436	1.103	23.2	94	-0.05
58	s	Pyrene-d10	2.358	2.297	2.6	118	-0.05
59	A1	Pyrene	2.543	2.429	4.5	117	-0.05
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.129	7.9	114	-0.05
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.129	7.9	114	-0.05
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	114	-0.05
73	t	Benz[a]anthracene	1.189	1.139	4.2	113	-0.04
74	A1	Chrysene	1.207	1.222	-1.2	116	-0.05
75	A2	Chrysene/Triphenylene	1.207	1.222	-1.2	116	-0.05
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	1.007	3.8	110	-0.05
82	t	Benzo[b]fluoranthene	1.236	1.235	0.1	112	-0.05
83	A1	Benzo[k]fluoranthene	1.394	1.284	7.9	108	-0.05
84	A2	Benzo[a]fluoranthene	1.394	0.001#	~~99.9#~~	0#	0.20
85	t	Benzo[e]pyrene	1.246	1.190	4.5	112	-0.05
86	t	Benzo[a]pyrene	1.201	1.070	10.9	100	-0.05
87	t	Perylene	1.189	1.058	11.0	102	-0.05
88	t	Indeno[1,2,3-cd]pyrene	1.115	0.963	13.6	105	-0.07
89	t	Dibenz[a,h]anthracene	1.152	0.867	24.7	84	-0.06
90	t	Benzo[g,h,i]perylene	1.271	1.089	14.3	101	-0.06
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.456	5.2	106	-0.06
92	A2	Hopane (T19)	0.481	0.456	5.2	106	-0.06
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

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Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42848.D
Acq On : 28 Dec 2005 7:02 pm
Operator : AC
Sample : C4122704
Misc : PAH STD
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 29 08:07:35 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.212	6.2	112	-0.04
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC27\
Data File : P42864B.D
Acq On : 29 Dec 2005 8:26 am
Operator : AC
Sample : C4122705
Misc : PAH STD
ALS Vial : 100 Sample Multiplier: 1

12/29/05.

Quant Time: Dec 29 09:52:57 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	114	-0.05
2	t	Decalin	0.446	0.410	8.1	114	-0.05
3	A1	trans-Decalin	0.494	0.450	8.9	112	-0.05
4	t	cis-Decalin	0.382	0.346	9.4	111	-0.05
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	1.982	-2.1	114	-0.05
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.034	-9.0	116	-0.05
15	t	2-Methylnaphthalene	1.237	1.326	-7.2	115	-0.05
16	t	1-Methylnaphthalene	1.246	1.257	-0.9	114	-0.05
17	A1	Benzothiophene	1.653	1.656	-0.2	113	-0.05
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.619	-9.2	115	-0.05
23	t	2,6-Dimethylnaphthalene	1.073	1.146	-6.8	117	-0.05
24	t	Dibenzofuran	1.734	1.805	-4.1	112	-0.05
25	t	Acenaphthylene	2.173	2.060	5.2	117	-0.05
26	t	Acenaphthene	1.331	1.273	4.4	112	-0.05
27	t	2,3,5-Trimethylnaphthalene	1.098	1.090	0.7	116	-0.05
28	A1	Fluorene	1.426	1.424	0.1	113	-0.05
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	1.981	6.3	108	-0.05
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	2.091	12.1	109	-0.05
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC27\
Data File : P42864B.D
Acq On : 29 Dec 2005 8:26 am
Operator : AC
Sample : C4122705
Misc : PAH STD
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Dec 29 09:52:57 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.601	1.5	120	-0.05
53	t	Anthracene	2.172	1.896	12.7	105	-0.05
54	t	Carbazole	1.721	1.651	4.1	108	-0.05
55	t	1-Methylphenanthrene	1.570	1.524	2.9	115	-0.05
56	A1	Fluoranthene	2.452	2.374	3.2	116	-0.05
57	t	Benzo(b)fluorene	1.436	1.457	-1.5	120	-0.05
58	s	Pyrene-d10	2.358	2.317	1.7	114	-0.05
59	A1	Pyrene	2.543	2.395	5.8	111	-0.05
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.230	3.5	115	-0.05
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.230	3.5	115	-0.05
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	111	-0.05
73	t	Benz[a]anthracene	1.189	1.230	-3.4	119	-0.05
74	A1	Chrysene	1.207	1.212	-0.4	111	-0.05
75	A2	Chrysene/Triphenylene	1.207	1.212	-0.4	111	-0.05
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	0.960	8.3	102	-0.05
82	t	Benzo[b]fluoranthene	1.236	1.196	3.2	105	-0.05
83	A1	Benzo[k]fluoranthene	1.394	1.212	13.1	98	-0.05
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.66#
85	t	Benzo[e]pyrene	1.246	1.113	10.7	101	-0.05
86	t	Benzo[a]pyrene	1.201	1.123	6.5	102	-0.05
87	t	Perylene	1.189	1.082	9.0	102	-0.05
88	t	Indeno[1,2,3-cd]pyrene	1.115	1.042	6.5	110	-0.06
89	t	Dibenz[a,h]anthracene	1.152	1.053	8.6	99	-0.06
90	t	Benzo[g,h,i]perylene	1.271	1.112	12.5	100	-0.06
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.432	10.2	98	-0.05
92	A2	Hopane (T19)	0.481	0.432	10.2	98	-0.05
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\DECEMBER\DEC27\
Data File : P42864B.D
Acq On : 29 Dec 2005 8:26 am
Operator : AC
Sample : C4122705
Misc : PAH STD
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Dec 29 09:52:57 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.228	-0.9	117	-0.04
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42882.D
Acq On : 29 Dec 2005 7:00 pm
Operator : AC
Sample : C4122706
Misc : 1X
ALS Vial : 34 Sample Multiplier: 1

12/30/05.

Quant Time: Dec 30 07:56:39 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	124	-0.05
2	t	Decalin	0.446	0.400	10.3	121	-0.05
3	A1	trans-Decalin	0.494	0.446	9.7	120	-0.05
4	t	cis-Decalin	0.382	0.347	9.2	121	-0.05
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	1.988	-2.4	124	-0.05
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.049	-10.5	127	-0.05
15	t	2-Methylnaphthalene	1.237	1.344	-8.6	126	-0.05
16	t	1-Methylnaphthalene	1.246	1.273	-2.2	125	-0.05
17	A1	Benzothiophene	1.653	1.666	-0.8	123	-0.05
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.652	-11.5	128	-0.05
23	t	2,6-Dimethylnaphthalene	1.073	1.180	-10.0	131	-0.05
24	t	Dibenzofuran	1.734	1.821	-5.0	122	-0.05
25	t	Acenaphthylene	2.173	2.089	3.9	128	-0.05
26	t	Acenaphthene	1.331	1.277	4.1	122	-0.05
27	t	2,3,5-Trimethylnaphthalene	1.098	1.102	-0.4	127	-0.05
28	A1	Fluorene	1.426	1.455	-2.0	125	-0.05
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	1.982	6.2	117	-0.05
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	2.121	10.8	120	-0.05
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42882.D
Acq On : 29 Dec 2005 7:00 pm
Operator : AC
Sample : C4122706
Misc : 1X
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Dec 30 07:56:39 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.584	4.3	126	-0.04
53	t	Anthracene	2.172	1.979	8.9	119	-0.05
54	t	Carbazole	1.721	1.740	-1.1	123	-0.05
55	t	1-Methylphenanthrene	1.570	1.531	2.5	126	-0.05
56	A1	Fluoranthene	2.452	2.279	7.1	121	-0.04
57	t	Benzo(b)fluorene	1.436	1.442	-0.4	128	-0.05
58	s	Pyrene-d10	2.358	2.232	5.3	119	-0.05
59	A1	Pyrene	2.543	2.295	9.8	115	-0.05
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.107	8.9	118	-0.04
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.107	8.9	118	-0.04
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	110	-0.04
73	t	Benz[a]anthracene	1.189	1.272	-7.0	122	-0.03
74	A1	Chrysene	1.207	1.204	0.2	110	-0.04
75	A2	Chrysene/Triphenylene	1.207	1.204	0.2	110	-0.04
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	0.928	11.4	98	-0.04
82	t	Benzo[b]fluoranthene	1.236	1.177	4.8	103	-0.04
83	A1	Benzo[k]fluoranthene	1.394	1.195	14.3	96	-0.04
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.66#
85	t	Benzo[e]pyrene	1.246	1.089	12.6	99	-0.03
86	t	Benzo[a]pyrene	1.201	1.126	6.2	102	-0.04
87	t	Perylene	1.189	1.078	9.3	100	-0.03
88	t	Indeno[1,2,3-cd]pyrene	1.115	1.006	9.8	106	-0.05
89	t	Dibenz[a,h]anthracene	1.152	1.090	5.4	102	-0.04
90	t	Benzo[g,h,i]perylene	1.271	1.102	13.3	98	-0.04
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.423	12.1	95	-0.04
92	A2	Hopane (T19)	0.481	0.423	12.1	95	-0.04
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC27\
Data File : P42882.D
Acq On : 29 Dec 2005 7:00 pm
Operator : AC
Sample : C4122706
Misc : 1X
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Dec 30 07:56:39 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.230	-1.8	117	-0.04
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42976.D
Acq On : 1 Jan 2006 8:48 am
Operator : AC
Sample : C4123004
Misc : PAH STD
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jan 03 10:44:38 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

JMG 1-3-06

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	116	-0.05
2	t	Decalin	0.446	0.394	11.7	111	-0.05
3	A1	trans-Decalin	0.494	0.441	10.7	111	-0.05
4	t	cis-Decalin	0.382	0.343	10.2	112	-0.05
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	2.030	-4.5	119	-0.05
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.064	-12.1	121	-0.05
15	t	2-Methylnaphthalene	1.237	1.374	-11.1	121	-0.05
16	t	1-Methylnaphthalene	1.246	1.297	-4.1	119	-0.05
17	A1	Benzothiophene	1.653	1.710	-3.4	119	-0.05
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.669	-12.6	121	-0.05
23	t	2,6-Dimethylnaphthalene	1.073	1.185	-10.4	123	-0.05
24	t	Dibenzofuran	1.734	1.842	-6.2	116	-0.05
25	t	Acenaphthylene	2.173	2.234	-2.8	128	-0.05
26	t	Acenaphthene	1.331	1.301	2.3	116	-0.05
27	t	2,3,5-Trimethylnaphthalene	1.098	1.084	1.3	117	-0.05
28	A1	Fluorene	1.426	1.437	-0.8	115	-0.05
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	1.985	6.1	109	-0.05
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	2.021	15.0	107	-0.05
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42976.D
Acq On : 1 Jan 2006 8:48 am
Operator : AC
Sample : C4123004
Misc : PAH STD
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jan 03 10:44:38 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.586	3.9	119	-0.05
53	t	Anthracene	2.172	2.019	7.0	113	-0.05
54	t	Carbazole	1.721	1.866	-8.4	123	-0.05
55	t	1-Methylphenanthrene	1.570	1.504	4.2	115	-0.05
56	A1	Fluoranthene	2.452	2.310	5.8	114	-0.05
57	t	Benzo(b)fluorene	1.436	1.491	-3.8	124	-0.06
58	s	Pyrene-d10	2.358	2.264	4.0	113	-0.05
59	A1	Pyrene	2.543	2.323	8.7	109	-0.06
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.049	11.4	107	-0.06
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.049	11.4	107	-0.06
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	95	-0.06
73	t	Benz[a]anthracene	1.189	1.298	-9.2	107	-0.05
74	A1	Chrysene	1.207	1.211	-0.3	95	-0.06
75	A2	Chrysene/Triphenylene	1.207	1.211	-0.3	95	-0.06
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	0.798	23.8	73	-0.06
82	t	Benzo[b]fluoranthene	1.236	1.044	15.5	79	-0.06
83	A1	Benzo[k]fluoranthene	1.394	1.055	24.3	73	-0.06
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.66#
85	t	Benzo[e]pyrene	1.246	0.953	23.5	74	-0.07
86	t	Benzo[a]pyrene	1.201	0.979	18.5	76	-0.07
87	t	Perylene	1.189	0.953	19.8	77	-0.07
88	t	Indeno[1,2,3-cd]pyrene	1.115	0.984	11.7	89	-0.10
89	t	Dibenz[a,h]anthracene	1.152	0.992	13.9	80	-0.10
90	t	Benzo[g,h,i]perylene	1.271	0.974	23.4	75	-0.10
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.372	22.7	72	-0.11
92	A2	Hopane (T19)	0.481	0.372	22.7	72	-0.11
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42976.D
Acq On : 1 Jan 2006 8:48 am
Operator : AC
Sample : C4123004
Misc : PAH STD
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jan 03 10:44:38 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.217	4.0	95	-0.06
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42990.D
Acq On : 1 Jan 2006 7:12 pm
Operator : AC
Sample : C4123005
Misc : PAH STD
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jan 03 10:49:18 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	109	-0.06
2	t	Decalin	0.446	0.395	11.4	105	-0.05
3	A1	trans-Decalin	0.494	0.444	10.1	105	-0.05
4	t	cis-Decalin	0.382	0.345	9.7	105	-0.05
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	2.045	-5.3	112	-0.05
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.064	-12.1	114	-0.05
15	t	2-Methylnaphthalene	1.237	1.371	-10.8	113	-0.05
16	t	1-Methylnaphthalene	1.246	1.294	-3.9	111	-0.05
17	A1	Benzothiophene	1.653	1.717	-3.9	112	-0.05
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.676	-13.1	114	-0.05
23	t	2,6-Dimethylnaphthalene	1.073	1.185	-10.4	115	-0.05
24	t	Dibenzofuran	1.734	1.834	-5.8	108	-0.06
25	t	Acenaphthylene	2.173	2.139	1.6	115	-0.05
26	t	Acenaphthene	1.331	1.290	3.1	108	-0.06
27	t	2,3,5-Trimethylnaphthalene	1.098	1.078	1.8	109	-0.05
28	A1	Fluorene	1.426	1.424	0.1	107	-0.05
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	1.961	7.2	101	-0.06
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	1.996	16.1	99	-0.05
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42990.D
Acq On : 1 Jan 2006 7:12 pm
Operator : AC
Sample : C4123005
Misc : PAH STD
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jan 03 10:49:18 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.593	2.8	113	-0.06
53	t	Anthracene	2.172	2.039	6.1	107	-0.05
54	t	Carbazole	1.721	1.815	-5.5	113	-0.05
55	t	1-Methylphenanthrene	1.570	1.488	5.2	107	-0.05
56	A1	Fluoranthene	2.452	2.291	6.6	107	-0.06
57	t	Benzo(b)fluorene	1.436	1.497	-4.2	117	-0.06
58	s	Pyrene-d10	2.358	2.272	3.6	107	-0.06
59	A1	Pyrene	2.543	2.351	7.6	104	-0.06
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.241	3.1	110	-0.06
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.241	3.1	110	-0.06
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	106	-0.07
73	t	Benz[a]anthracene	1.189	1.229	-3.4	113	-0.06
74	A1	Chrysene	1.207	1.195	1.0	105	-0.07
75	A2	Chrysene/Triphenylene	1.207	1.195	1.0	105	-0.07
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	1.005	4.0	102	-0.07
82	t	Benzo[b]fluoranthene	1.236	1.240	-0.3	104	-0.07
83	A1	Benzo[k]fluoranthene	1.394	1.297	7.0	101	-0.07
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.66#
85	t	Benzo[e]pyrene	1.246	1.164	6.6	101	-0.07
86	t	Benzo[a]pyrene	1.201	1.191	0.8	103	-0.08
87	t	Perylene	1.189	1.145	3.7	103	-0.07
88	t	Indeno[1,2,3-cd]pyrene	1.115	1.106	0.8	112	-0.11
89	t	Dibenz[a,h]anthracene	1.152	1.131	1.8	102	-0.11
90	t	Benzo[g,h,i]perylene	1.271	1.134	10.8	97	-0.11
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.440	8.5	95	-0.11
92	A2	Hopane (T19)	0.481	0.440	8.5	95	-0.11
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

Evaluate Continuing Calibration Report

Data Path : O:\FORENSICS\DATA\PAH4\DECEMBER\DEC30\
Data File : P42990.D
Acq On : 1 Jan 2006 7:12 pm
Operator : AC
Sample : C4123005
Misc : PAH STD
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jan 03 10:49:18 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.224	0.9	110	-0.06
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42818.D
Acq On : 3 Jan 2006 4:01 pm
Operator : AC
Sample : C4010302
Misc : PAH STD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 04 06:42:39 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

MS 1.4.06

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	109	-0.07
2	t	Decalin	0.446	0.389	12.8	103	-0.07
3	A1	trans-Decalin	0.494	0.446	9.7	106	-0.07
4	t	cis-Decalin	0.382	0.339	11.3	104	-0.07
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.41#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.74#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.21#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.61#
9	A1	Naphthalene	1.942	2.082	-7.2	114	-0.07
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.59#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.44#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.78#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.55#
14	s	2-Methylnaphthalene-d10	0.949	1.050	-10.6	112	-0.07
15	t	2-Methylnaphthalene	1.237	1.374	-11.1	114	-0.07
16	t	1-Methylnaphthalene	1.246	1.294	-3.9	111	-0.07
17	A1	Benzothiophene	1.653	1.703	-3.0	111	-0.07
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.16#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.64#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.62#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.36#
22	t	Biphenyl	1.482	1.680	-13.4	114	-0.07
23	t	2,6-Dimethylnaphthalene	1.073	1.177	-9.7	115	-0.07
24	t	Dibenzofuran	1.734	1.841	-6.2	109	-0.07
25	t	Acenaphthylene	2.173	2.057	5.3	111	-0.07
26	t	Acenaphthene	1.331	1.269	4.7	107	-0.07
27	t	2,3,5-Trimethylnaphthalene	1.098	1.092	0.5	110	-0.07
28	A1	Fluorene	1.426	1.465	-2.7	111	-0.07
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.31#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.51#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.34#
32	A1	Dibenzothiophene	2.114	2.038	3.6	106	-0.07
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-34.04#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.39#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.81#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.47#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-34.04#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.73#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.54#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.43#
41	A1	Phenanthrene	2.378	2.194	7.7	109	-0.06
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.72#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.84#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-35.00#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.18#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.28#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.18#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-37.00#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.76#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.84#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42818.D
Acq On : 3 Jan 2006 4:01 pm
Operator : AC
Sample : C4010302
Misc : PAH STD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 04 06:42:39 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-41.01#
52	t	Retene	0.610	0.601	1.5	114	-0.06
53	t	Anthracene	2.172	2.075	4.5	109	-0.06
54	t	Carbazole	1.721	1.877	-9.1	117	-0.06
55	t	1-Methylphenanthrene	1.570	1.575	-0.3	114	-0.06
56	A1	Fluoranthene	2.452	2.346	4.3	109	-0.06
57	t	Benzo(b)fluorene	1.436	1.498	-4.3	117	-0.06
58	s	Pyrene-d10	2.358	2.297	2.6	108	-0.06
59	A1	Pyrene	2.543	2.365	7.0	104	-0.06
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.81#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.62#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.64#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.99#
64	A1	Naphthobenzothiophene	2.312	2.239	3.2	110	-0.06
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.239	3.2	110	-0.06
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.62#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.91#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.67#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.72#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.27#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.36#
72	i	Chrysene-d12	1.000	1.000	0.0	106	-0.06
73	t	Benz[a]anthracene	1.189	1.240	-4.3	114	-0.05
74	A1	Chrysene	1.207	1.203	0.3	105	-0.06
75	A2	Chrysene/Triphenylene	1.207	1.203	0.3	105	-0.06
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.83#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.91#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.16#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.64#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.24#
81	s	Benzo[b]fluoranthene-d12	1.047	0.991	5.3	100	-0.06
82	t	Benzo[b]fluoranthene	1.236	1.231	0.4	103	-0.06
83	A1	Benzo[k]fluoranthene	1.394	1.273	8.7	98	-0.06
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.66#
85	t	Benzo[e]pyrene	1.246	1.148	7.9	100	-0.06
86	t	Benzo[a]pyrene	1.201	1.158	3.6	100	-0.07
87	t	Perylene	1.189	1.116	6.1	100	-0.06
88	t	Indeno[1,2,3-cd]pyrene	1.115	1.045	6.3	105	-0.09
89	t	Dibenz[a,h]anthracene	1.152	1.136	1.4	102	-0.09
90	t	Benzo[g,h,i]perylene	1.271	1.138	10.5	97	-0.09
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.435	9.6	93	-0.09
92	A2	Hopane (T19)	0.481	0.435	9.6	93	-0.09
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.92#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.65#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.14#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.46#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.20#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.29#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.58#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42818.D
Acq On : 3 Jan 2006 4:01 pm
Operator : AC
Sample : C4010302
Misc : PAH STD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 04 06:42:39 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Tue Dec 20 12:05:59 2005
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.74#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.26#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.47#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.61#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.70#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.95#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.17#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.38#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.16#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.07#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.17#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.30#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.87#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.28#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.17#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.31#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.53#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.90#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.30#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-58.10#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.74#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.82#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.74#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-64.04#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.38#
125	SA1	5B(H)Cholane - Surr	0.226	0.224	0.9	109	-0.06
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.41#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.84#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.53#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.40#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.93#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.22#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.49#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.65#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.37#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.73#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.66#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.50#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.58#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.82#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.90#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.98#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-50.03#

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

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42831.D
Acq On : 4 Jan 2006 11:10 am
Operator : AC
Sample : C4010303
Misc : PAH STD
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 04 13:02:32 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 06:53:15 2006
Response via : Initial Calibration

1/4/06

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	i	Acenaphthene-d10	1.000	1.000	0.0	103	0.00
2	t	Decalin	0.446	0.394	11.7	99	0.00
3	A1	trans-Decalin	0.494	0.444	10.1	99	0.00
4	t	cis-Decalin	0.382	0.346	9.4	100	0.00
5	A2	C1-Decalins	0.494	0.000#	100.0#	0#	-18.35#
6	A2	C2-Decalins	0.494	0.000#	100.0#	0#	-19.68#
7	A2	C3-Decalins	0.494	0.000#	100.0#	0#	-22.15#
8	A2	C4-Decalins	0.494	0.000#	100.0#	0#	-25.55#
9	A1	Naphthalene	1.942	2.038	-4.9	106	0.00
10	A2	C1-Naphthalenes	1.942	0.000#	100.0#	0#	-22.54#
11	A2	C2-Naphthalenes	1.942	0.000#	100.0#	0#	-25.38#
12	A2	C3-Naphthalenes	1.942	0.000#	100.0#	0#	-27.72#
13	A2	C4-Naphthalenes	1.942	0.000#	100.0#	0#	-30.49#
14	s	2-Methylnaphthalene-d10	0.949	1.058	-11.5	107	0.00
15	t	2-Methylnaphthalene	1.237	1.368	-10.6	107	0.00
16	t	1-Methylnaphthalene	1.246	1.294	-3.9	105	0.00
17	A1	Benzothiophene	1.653	1.697	-2.7	104	0.00
18	A2	C1-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-22.10#
19	A2	C2-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-25.58#
20	A2	C3-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-27.56#
21	A2	C4-Benzo(b)thiophenes	1.653	0.000#	100.0#	0#	-29.30#
22	t	Biphenyl	1.482	1.672	-12.8	107	0.00
23	t	2,6-Dimethylnaphthalene	1.073	1.172	-9.2	108	0.00
24	t	Dibenzofuran	1.734	1.831	-5.6	102	0.00
25	t	Acenaphthylene	2.173	2.067	4.9	105	0.00
26	t	Acenaphthene	1.331	1.274	4.3	101	0.00
27	t	2,3,5-Trimethylnaphthalene	1.098	1.087	1.0	104	0.00
28	A1	Fluorene	1.426	1.447	-1.5	103	0.00
29	A2	C1-Fluorenes	1.426	0.000#	100.0#	0#	-31.25#
30	A2	C2-Fluorenes	1.426	0.000#	100.0#	0#	-33.45#
31	A2	C3-Fluorenes	1.426	0.000#	100.0#	0#	-35.29#
32	A1	Dibenzothiophene	2.114	2.058	2.6	101	0.00
33	A2	4-Methyldibenzothiophene(4M	2.114	0.000#	100.0#	0#	-33.98#
34	A2	2/3-Methyldibenzothiophene(	2.114	0.000#	100.0#	0#	-34.33#
35	A2	1-Methyldibenzothiophene(1M	2.114	0.000#	100.0#	0#	-34.75#
36	A2	OTP	2.114	0.000#	100.0#	0#	-34.42#
37	A2	C1-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-33.98#
38	A2	C2-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-35.67#
39	A2	C3-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-37.48#
40	A2	C4-Dibenzothiophenes	2.114	0.000#	100.0#	0#	-38.37#
41	A1	Phenanthrene	2.378	2.176	8.5	102	0.00
42	A2	3-Methylphenanthrene(3MP)	2.378	0.000#	100.0#	0#	-34.67#
43	A2	2/4-Methylphenanthrene(2MP)	2.378	0.000#	100.0#	0#	-34.78#
44	A2	2-Methylanthracene(2MA)	2.378	0.000#	100.0#	0#	-34.94#
45	A2	9-Methylphenanthrene(9MP)	2.378	0.000#	100.0#	0#	-35.12#
46	A2	1-Methylphenanthrene(1MP)	2.378	0.000#	100.0#	0#	-35.21#
47	A2	C1-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-35.12#
48	A2	C2-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-36.95#
49	A2	5AA IS BKGD	2.378	0.000#	100.0#	0#	-36.72#
50	A2	C3-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-38.78#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42831.D
Acq On : 4 Jan 2006 11:10 am
Operator : AC
Sample : C4010303
Misc : PAH STD
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 04 13:02:32 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 06:53:15 2006
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	A2	C4-Phenanthrenes/Anthracene	2.378	0.000#	100.0#	0#	-40.97#
52	t	Retene	0.610	0.616	-1.0	111	0.00
53	t	Anthracene	2.172	2.025	6.8	101	0.00
54	t	Carbazole	1.721	1.816	-5.5	106	0.00
55	t	1-Methylphenanthrene	1.570	1.558	0.8	106	0.00
56	A1	Fluoranthene	2.452	2.358	3.8	104	0.00
57	t	Benzo(b)fluorene	1.436	1.476	-2.8	109	0.00
58	s	Pyrene-d10	2.358	2.313	1.9	103	0.00
59	A1	Pyrene	2.543	2.386	6.2	99	0.00
60	A2	C1-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-39.76#
61	A2	C2-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-41.57#
62	A2	C3-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-43.58#
63	A2	C4-Fluoranthenes/Pyrenes	2.543	0.000#	100.0#	0#	-44.94#
64	A1	Naphthobenzothiophene	2.312	2.238	3.2	104	0.00
65	A2	Naphthobenzothiophene-2,1-D	2.312	2.238	3.2	104	0.00
66	A2	Naphthobenzothiophene-1,2-D	2.312	0.000#	100.0#	0#	-42.56#
67	A2	Naphthobenzothiophene-2,3-D	2.312	0.000#	100.0#	0#	-42.86#
68	A2	C1-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-43.62#
69	A2	C2-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-45.63#
70	A2	C3-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-47.22#
71	A2	C4-Naphthobenzothiophenes	2.312	0.000#	100.0#	0#	-48.32#
72	i	Chrysene-d12	1.000	1.000	0.0	101	0.00
73	t	Benz[a]anthracene	1.189	1.227	-3.2	107	0.00
74	A1	Chrysene	1.207	1.191	1.3	99	0.00
75	A2	Chrysene/Triphenylene	1.207	1.191	1.3	99	0.00
76	A2	C1-Chrysenes	1.207	0.000#	100.0#	0#	-44.79#
77	A2	C2-Chrysenes	1.207	0.000#	100.0#	0#	-46.87#
78	A2	BBF-d12 Surr BKGD	1.207	0.000#	100.0#	0#	-47.12#
79	A2	C3-Chrysenes	1.207	0.000#	100.0#	0#	-49.59#
80	A2	C4-Chrysenes	1.207	0.000#	100.0#	0#	-49.19#
81	s	Benzo[b]fluoranthene-d12	1.047	1.042	0.5	100	0.00
82	t	Benzo[b]fluoranthene	1.236	1.301	-5.3	104	0.00
83	A1	Benzo[k]fluoranthene	1.394	1.323	5.1	97	0.00
84	A2	Benzo[a]fluoranthene	1.394	0.000#	100.0#	0#	-47.63#
85	t	Benzo[e]pyrene	1.246	1.209	3.0	100	0.00
86	t	Benzo[a]pyrene	1.201	1.232	-2.6	101	0.00
87	t	Perylene	1.189	1.196	-0.6	102	0.00
88	t	Indeno[1,2,3-cd]pyrene	1.115	1.141	-2.3	110	0.00
89	t	Dibenz[a,h]anthracene	1.152	1.180	-2.4	100	0.00
90	t	Benzo[g,h,i]perylene	1.271	1.216	4.3	99	0.00
91	A1	17a(H),21B(H)-hopane - C30H	0.481	0.467	2.9	96	0.00
92	A2	Hopane (T19)	0.481	0.467	2.9	96	0.00
93	A2	C23 Tricyclic Terpane (T4)	0.481	0.000#	100.0#	0#	-40.87#
94	A2	C24 Tricyclic Terpane (T5)	0.481	0.000#	100.0#	0#	-41.60#
95	A2	C25 Tricyclic Terpane (T6)	0.481	0.000#	100.0#	0#	-43.08#
96	A2	C24 Tetracyclic Terpane (T6	0.481	0.000#	100.0#	0#	-44.41#
97	A2	C26 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-44.14#
98	A2	C26 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-44.24#
99	A2	C28 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-46.53#

Evaluate Continuing Calibration Report

Data Path : O:\Forensics\Data\PAH4\JANUARY\JAN03\
Data File : P42831.D
Acq On : 4 Jan 2006 11:10 am
Operator : AC
Sample : C4010303
Misc : PAH STD
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jan 04 13:02:32 2006
Quant Method : O:\FORENSICS\METHODS\PAH4\DEC05\PAH41217.M
Quant Title : Decalins & Alkylated PAH's
QLast Update : Wed Jan 04 06:53:15 2006
Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 10% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
100	A2	C28 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-46.69#
101	A2	C29 Tricyclic Terpane-22S (	0.481	0.000#	100.0#	0#	-47.22#
102	A2	C29 Tricyclic Terpane-22R (	0.481	0.000#	100.0#	0#	-47.41#
103	A2	18a-22,29,30-Trisnorneohopa	0.481	0.000#	100.0#	0#	-48.55#
104	A2	C30 Tricyclic Terpane-22S	0.481	0.000#	100.0#	0#	-48.65#
105	A2	C30 Tricyclic Terpane-22R	0.481	0.000#	100.0#	0#	-48.89#
106	A2	17a(H)-22,29,30-Trisnorhopa	0.481	0.000#	100.0#	0#	-49.11#
107	A2	17a/b,21b/a 28,30-Bisnorhop	0.481	0.000#	100.0#	0#	-50.33#
108	A2	17a(H),21b(H)-25-Norhopane	0.481	0.000#	100.0#	0#	-50.11#
109	A2	30-Norhopane (T15)	0.481	0.000#	100.0#	0#	-51.00#
110	A2	18a(H)-30-Norneohopane-C29T	0.481	0.000#	100.0#	0#	-51.10#
111	A2	17a(H)-Diahopane (X)	0.481	0.000#	100.0#	0#	-51.22#
112	A2	30-Normoretane (T17)	0.481	0.000#	100.0#	0#	-51.79#
113	A2	18a(H)&18b(H)-Oleananes (T1	0.481	0.000#	100.0#	0#	-52.19#
114	A2	Moretane (T20)	0.481	0.000#	100.0#	0#	-53.10#
115	A2	30-Homohopane-22S (T21)	0.481	0.000#	100.0#	0#	-54.22#
116	A2	30-Homohopane-22R (T22)	0.481	0.000#	100.0#	0#	-54.45#
117	A2	30,31-Bishomohopane-22S (T2	0.481	0.000#	100.0#	0#	-55.80#
118	A2	30,31-Bishomohopane-22R (T2	0.481	0.000#	100.0#	0#	-56.20#
119	A2	30,31-Trishomohopane-22S (T	0.481	0.000#	100.0#	0#	-57.99#
120	A2	30,31-Trishomohopane-22R (T	0.481	0.000#	100.0#	0#	-58.63#
121	A2	Tetrakishomohopane-22S (T32	0.481	0.000#	100.0#	0#	-60.70#
122	A2	Tetrakishomohopane-22R (T33	0.481	0.000#	100.0#	0#	-61.61#
123	A2	Pentakishomohopane-22S (T34	0.481	0.000#	100.0#	0#	-63.91#
124	A2	Pentakishomohopane-22R (T35	0.481	0.000#	100.0#	0#	-65.25#
125	SA1	5B(H)Cholane - Surr	0.226	0.224	0.9	104	0.00
126	A2	13b(H),17a(H)-20S-Diacholes	0.226	0.000#	100.0#	0#	-45.36#
127	A2	13b(H),17a(H)-20R-Diacholes	0.226	0.000#	100.0#	0#	-45.78#
128	A2	13b,17a-20S-Methyldiacholes	0.226	0.000#	100.0#	0#	-46.49#
129	A2	14a(H),17a(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.35#
130	A2	14a(H),17a(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.88#
131	A2	13b,17a-20R-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.16#
132	A2	13a,17b-20S-Ethyldiacholest	0.226	0.000#	100.0#	0#	-48.43#
133	A2	14a,17a-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.58#
134	A2	14a,17a-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-49.31#
135	A2	14a(H),17a(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.66#
136	A2	14a(H),17a(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-50.60#
137	A2	14b(H),17b(H)-20R-Cholestan	0.226	0.000#	100.0#	0#	-47.44#
138	A2	14b(H),17b(H)-20S-Cholestan	0.226	0.000#	100.0#	0#	-47.53#
139	A2	14b,17b-20R-Methylcholestan	0.226	0.000#	100.0#	0#	-48.76#
140	A2	14b,17b-20S-Methylcholestan	0.226	0.000#	100.0#	0#	-48.85#
141	A2	14b(H),17b(H)-20R-Ethylchol	0.226	0.000#	100.0#	0#	-49.92#
142	A2	14b(H),17b(H)-20S-Ethylchol	0.226	0.000#	100.0#	0#	-49.97#

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

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4122704

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		123612	43.21	68717	26.75
Upper Limit:		247224	43.71	137434	27.25
Lower Limit:		61806	42.71	34358	26.25
Client ID	**Lab ID**				
Blank	SS122105B05	63710	43.21	41097	26.75
LCS	SS122105LCS03	75871	43.21	44040	26.75
LCSD	SS122105LCSD03	87323	43.21	51149	26.75
MA9-SSRR-131A-9-21	0512096-01	79795	43.24	54143	26.75
MA9-SSRR-131D-0-5	0512096-02	99558	43.21	63604	26.75
MA9-SSRR-131D-0-5	0512096-02 D	95821	43.21	63891	26.75
MA9-SSRR-131C-0-5	0512096-03	84727	43.22	64360	26.75
CCV	C4122705	119916	43.21	65981	26.75

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

01/05/06 13:23

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Lab Code: MA00030
ETR: 0512096
Lab ID: C4122705
Case: N/A SDG: N/A

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		119916	43.21	65981	26.75
Upper Limit:		239832	43.71	131962	27.25
Lower Limit:		59958	42.71	32990	26.25
Client ID	**Lab ID**				
MA9-SSRR-128A-18-24	0512096-04	91802	43.21	67980	26.75
MA9-SSRR-128E-0-6	0512096-05	93003	43.23	70036	26.75
MA9-SSRR-122C 0-4	0512096-06	87412	43.22	65602	26.75
MA9-SSRR-116A 18-24	0512096-07	91378	43.23	68771	26.75
MA9-SSRR-116A 18-24D	0512096-08	99924	43.23	74099	26.75
MA9-SSRR-125E 9-18	0512096-09	101241	43.22	74031	26.75
CCV	C4122706	119006	43.22	71504	26.75

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4123004

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		102590	43.20	66901	26.75
Upper Limit:		205180	43.70	133802	27.25
Lower Limit:		51295	42.70	33450	26.25
Client ID	Lab ID				
MA9-SSRR-131C-0-5	0512096-03E	85525	43.20	68712	26.74
MA9-SSRR-128E-0-6	0512096-05E	114964	43.20	90635	26.74
CCV	C4123005	114588	43.19	62801	26.74

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Form VIII
Internal Standard Summary
Alkylated Polynuclear Aromatic Hydrocarbons

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4010302

		Chrysene-d12		Acenaphthene-d10	
		Area	RT	Area	RT
Standard:		114120	43.20	62904	26.73
Upper Limit:		228240	43.70	125808	27.23
Lower Limit:		57060	42.70	31452	26.23
Client ID	**Lab ID**				
MA9-SSRR-131A-9-21	0512096-01E	110951	43.19	67662	26.72
CCV	C4010303	108686	43.19	59387	26.72

N/A - Not Applicable

Area Upper Limit = +100% of internal standard.
Area Lower Limit = -50% of internal standard.
RT = Retention Time.
RT Upper Limit = +0.5 minutes of internal standard RT.
RT Lower Limit = -0.5 minutes of internal standard RT.

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Alpha Woods Hole Lab
Batch Prep Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	QC Type	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount	Final Volume	Solvent Ex	Conc. Analyst	Conc. Date	Conc. Method	Transfer Volume	Vialed By	Vialed Date	Cell Number
0512096-01	SAM	Shaker	KLA	12/21/05	12/28/05		10.31	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-02	D	Shaker	KLA	12/21/05	12/28/05		15.34	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-02	SAM	Shaker	KLA	12/21/05	12/28/05		15.66	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-03	SAM	Shaker	KLA	12/21/05	12/28/05		30.31	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-04	SAM	Shaker	KLA	12/21/05	12/28/05		30.08	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-05	SAM	Shaker	KLA	12/21/05	12/28/05		15.39	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-06	SAM	Shaker	KLA	12/21/05	12/28/05		30.14	8	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-07	SAM	Shaker	KLA	12/21/05	12/28/05		30.05	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-08	SAM	Shaker	KLA	12/21/05	12/28/05		30.03	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-09	SAM	Shaker	KLA	12/21/05	12/28/05		30.45	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105B05	B	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105LCS03	LCS	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105LCSD03	LCSD	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	

Alpha Woods Hole Lab
Batch Prep Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	Notes
0512096-01	1st Prep
0512096-02	1st Prep
0512096-02	1st Prep
0512096-03	1st Prep
0512096-04	1st Prep
0512096-05	1st Prep
0512096-06	1st Prep
0512096-07	1st Prep
0512096-08	1st Prep
0512096-09	1st Prep
SS122105B05	1st Prep
SS122105LCS03	1st Prep
SS122105LCSD03	1st Prep

Alpha Woods Hole Lab
Batch Weight Report
12/21/2005

Lab ID	QC Type	0512096ST - Sample
0512096-01	SAM	10.31
0512096-02	D	15.34
0512096-02	SAM	15.66
0512096-03	SAM	30.31
0512096-04	SAM	30.08
0512096-05	SAM	15.39
0512096-06	SAM	30.14
0512096-07	SAM	30.05
0512096-08	SAM	30.03
0512096-09	SAM	30.45
SS122105B05	B	30
SS122105LCS03LCSOP NEWFIE		30
SS122105LCS03LCSOP SHC		30
SS122105LCSD03LCSD NEWFIE		30
SS122105LCSD03LCSD SHC		30

METHYLENE CHLORIDE: B44E66(tank) B32E08(bottle)
HEXANE: B45E60(tank) B36E18(bottle)
ACETONE: B27E38
SULFURIC ACID: 3104070
GLASS WOOL: +H1084303302$
SODIUM SULFATE: B26593
COPPER: A49597
ALUMINA: 183
PENTANE: B11E31
SILICA(923): 0617MC

Alpha Woods Hole Lab
Batch Prep Spike Report

12/21/2005 0512096ST - OP NEWFIE Analyst: DMP Witness: NLJr

Lab ID	QC Type	OP NEWFIE - surr	Vol OP NEWFIE - surr	Units OP NEWFIE - surr	OP NEWFIE - spk 1	Vol OP NEWFIE - spk 1	Units OP NEWFIE - spk 1	OP NEWFIE - spk 2	Vol OP NEWFIE - spk 2	Units OP NEWFIE - spk 2
0512096-01	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-02	D	WHAB63	100	µl				WHAB15	200	µl
0512096-02	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-03	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-04	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-05	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-06	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-07	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-08	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-09	SAM	WHAB63	100	µl				WHAB15	200	µl
SS122105B05	B	WHAB63	100	µl				WHAB15	200	µl
SS122105LCS03	LCS	WHAB63	100	µl	WHAB85	100	µl	WHAB15	200	µl
SS122105LCSD03	LCSD	WHAB63	100	µl	WHAB85	100	µl	WHAB15	200	µl
TS010306AWS01	AWS	-99	-99	-99	-99	-99	-99	-99	-99	-99

Test: ALK-PAH/SHC
Standard Type: Surrogate / LCS / MS-MSD
LFB / Other
ID#: WHAB63
Conc. 10ug/ml 500ug/ml

Test: PAH/SHC
Standard Type: Surrogate / LCS / MS-MSD
LFB / Other
ID# WHAB85
Conc. 10ug/ml 500ug/ml

Test: Biomarker Low
Standard Type: *Surrogate / LCS / MS-MSD*
LFB / Other Low
ID# WHAB15
Conc. 10ug/ml

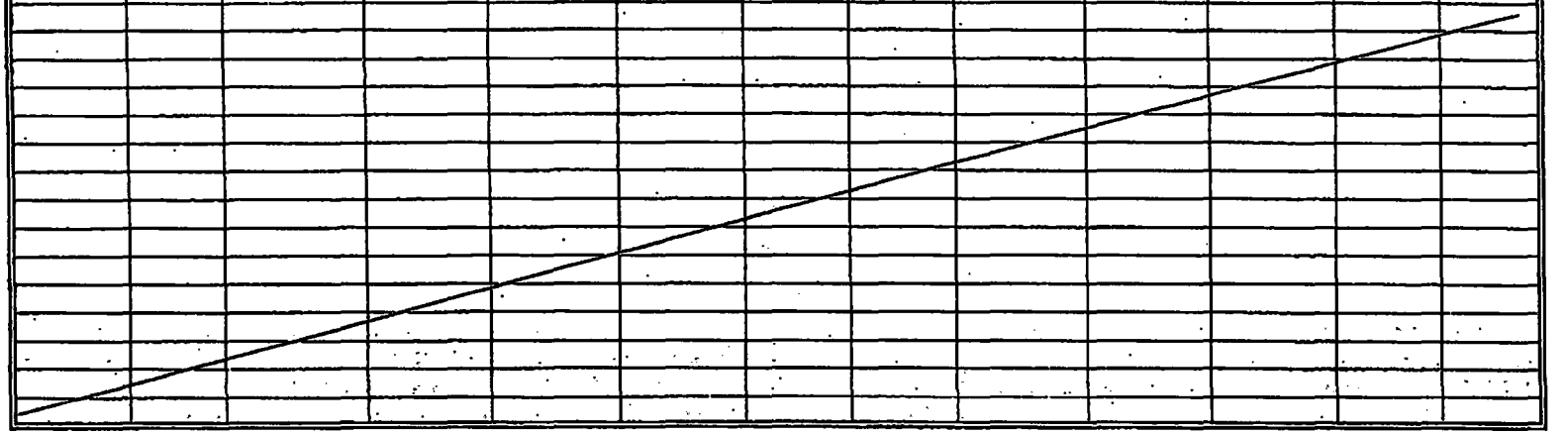
Gravimetric Determination for Column

Analyst: RPR
Date: 12/27/05

BATCH: 0512096ST

Entered by: RPR
Verified by: RPR

		LCS	10000	50	NA	0.230	NA	46.00	NA	NA	NA	92%
0512096	01		5000	50	NA	0.389	NA	38.90	1000	7.78	5.00	
0512096	02	D	5000	50	NA	0.068	NA	6.80	1000	1.36	5.00	37%
0512096	02		5000	50	NA	0.047	NA	4.70	1000	0.94	5.00	
0512096	03		5000	50	NA	0.121	NA	12.10	2500	6.05	2.00	
0512096	04		5000	50	NA	0.063	NA	6.30	2500	3.15	2.00	
0512096	05		5000	50	NA	0.333	NA	33.30	1000	6.66	5.00	
0512096	06		10000	50	NA	0.328	NA	65.60	1250	8.20	8.00	
0512096	07		5000	50	NA	0.099	NA	9.90	2500	4.95	2.00	
0512096	08		5000	50	NA	0.077	NA	7.70	2500	3.85	2.00	
0512096	09		5000	50	NA	0.063	NA	6.30	2500	3.15	2.00	



Total Extract Oil Weight (mg) = (Final Volume of Extract / Aliquot Removed) * Aliquot Weight
Sample Weight (mg/mL) = 20 * Aliquot Weight (mg)
LCS TV = 5 mg/mL

Oil to Column = Total Extract Oil Weight (mg) / Dilution Factor
Dilution Factor = Final Volumne of Extract (ul) / Volume Removed For Column (ul)

TEMPLATE: GravimetricT.XLT
Duplicates should agree within +/- 10%.

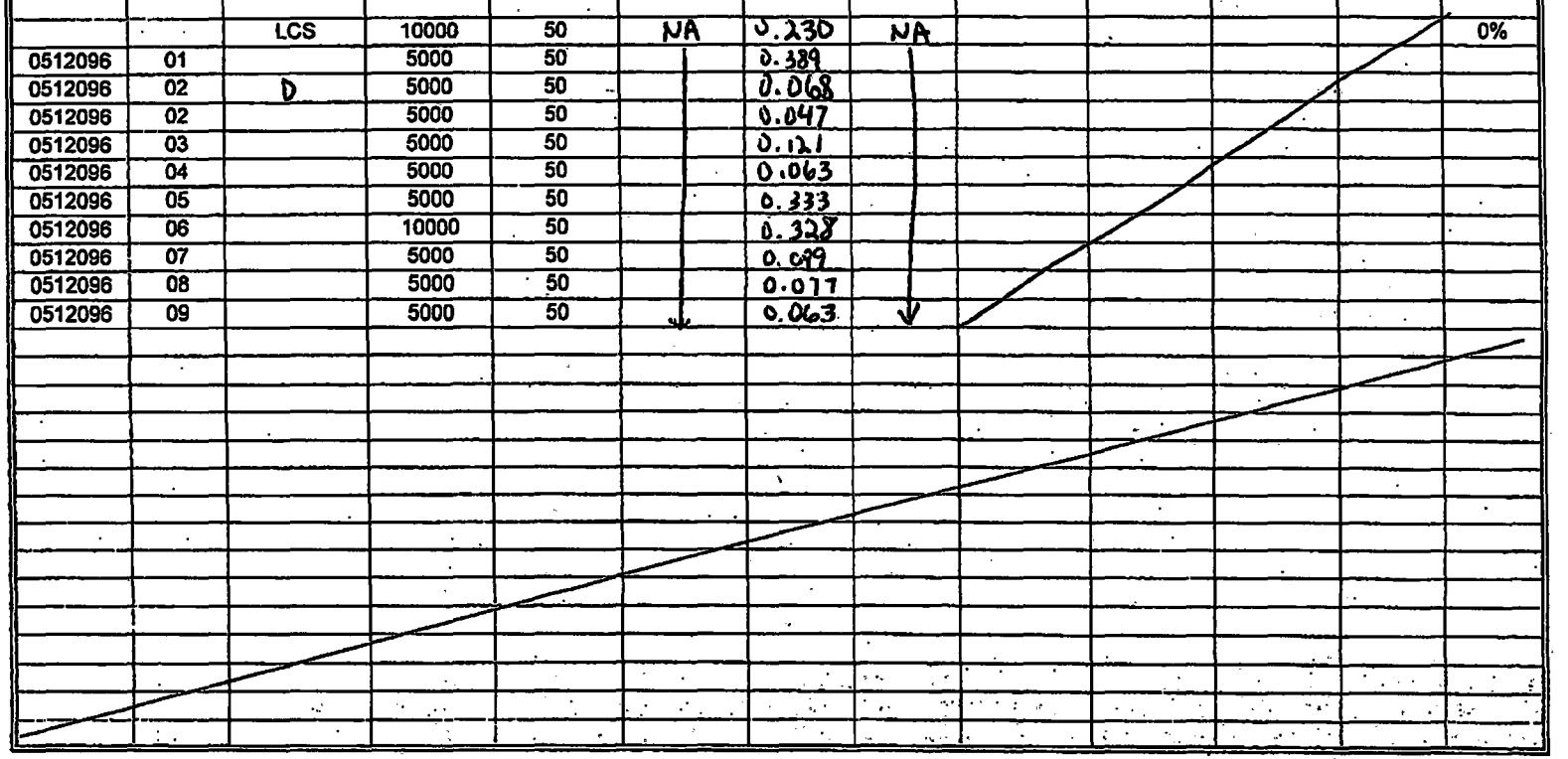
Gravimetric Determination for Column

Analyst: RPR
Date: 12/27/05

BATCH: 0512096ST

Entered by: RPR
Verified by: —

		LCS	10000	50	NA	0.230	NA					0%
0512096	01		5000	50		0.389						
0512096	02	D	5000	50		0.068						
0512096	02		5000	50		0.047						
0512096	03		5000	50		0.121						
0512096	04		5000	50		0.063						
0512096	05		5000	50		0.333						
0512096	06		10000	50		0.328						
0512096	07		5000	50		0.099						
0512096	08		5000	50		0.077						
0512096	09		5000	50		0.063						



Total Extract Oil Weight (mg) = (Final Volume of Extract / Aliquot Removed) * Aliquot Weight
Sample Weight (mg/mL) = 20 * Aliquot Weight (mg)
LCS TV = 5 mg/mL

Oil to Column = Total Extract Oil Weight (mg) / Dilution Factor
Dilution Factor = Final Volumne of Extract (ul) / Volume Removed For Column (ul)

TEMPLATE: GravimetricT.XLT
Duplicates should agree within +/- 10%.

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Prefraction Volume	Fractionation Amount	Fractionation Factor	Transfer Volume
0512096-01	SAM	3660B	DMP	12/28/05										0.15
0512096-02	D	3660B	DMP	12/28/05										0.15
0512096-02	SAM	3660B	DMP	12/28/05										0.15
0512096-03	SAM	3660B	DMP	12/28/05										0.15
0512096-04	SAM	3660B	DMP	12/28/05										0.15
0512096-05	SAM	3660B	DMP	12/28/05										0.15
0512096-06	SAM	3660B	DMP	12/28/05										0.15
0512096-07	SAM	3660B	DMP	12/28/05										0.15
0512096-08	SAM	3660B	DMP	12/28/05										0.15
0512096-09	SAM	3660B	DMP	12/28/05										0.15
SS122105B05	B	3660B	DMP	12/28/05										0.15
SS122105LCS03	LCS	3660B	DMP	12/28/05										0.15
SS122105LCSD03	LCSD	3660B	DMP	12/28/05										0.15

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Prefraction Volume	Fractionation Amount	Fractionation Factor	Transfer Volume
0512096-01	SAM	3660B	DMP	12/28/05										0.15
0512096-02	D	3660B	DMP	12/28/05										0.15
0512096-02	SAM	3660B	DMP	12/28/05										0.15
0512096-03	SAM	3660B	DMP	12/28/05										0.15
0512096-04	SAM	3660B	DMP	12/28/05										0.15
0512096-05	SAM	3660B	DMP	12/28/05										0.15
0512096-06	SAM	3660B	DMP	12/28/05										0.15
0512096-07	SAM	3660B	DMP	12/28/05										0.15
0512096-08	SAM	3660B	DMP	12/28/05										0.15
0512096-09	SAM	3660B	DMP	12/28/05										0.15
SS122105B05	B	3660B	DMP	12/28/05										0.15
SS122105LCS03	LCS	3660B	DMP	12/28/05										0.15
SS122105LCSD03	LCSD	3660B	DMP	12/28/05										0.15

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	Notes
0512096-01	
0512096-02	
0512096-02	
0512096-03	
0512096-04	
0512096-05	
0512096-06	
0512096-07	
0512096-08	
0512096-09	
SS122105B05	
SS122105LCS03	
SS122105LCSD03	

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Prefraction Volume	Fractionation Amount	Fractionation Factor	Transfer Volume
0512096-01	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-02	D	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-02	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-03	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-04	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-05	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-06	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	10	1.25	0	0.15
0512096-07	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-08	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-09	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
SS122105B05	B	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15
SS122105LCS03	LCS	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15
SS122105LCSD03	LCSD	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP NEWFIE

Lab ID	Notes
0512096-01	
0512096-02	
0512096-02	
0512096-03	
0512096-04	
0512096-05	
0512096-06	
0512096-07	
0512096-08	
0512096-09	
SS122105B05	
SS122105LCS03	
SS122105LCSD03	

Alpha Woods Hole Labs Internal Std Tracking Form

Project Name:KERR-MCGEE-MILWUAKEE
ETR: 0512096

0512096-01	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-02D	900	WHAB38#5	100	1000	6	DMP	150	150	12/28/05
0512096-02	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-04	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-05	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-06	900	WHAB38#5	100	1000	8	DMP	150	150	12/28/05
0512096-07	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-08	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-09	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105B05	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105LCS03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105LCSD03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05

[1] Includes Internal Std

Forensic Preparation Checklist

ETR: 0512096 Client: Newfie Project: Kerr-McGee - Milwaukee

Workplan Present	NA

Workplan Reviewed With Project Manager	NA

Test Requested	
ALK-PAH	X
CHROMATOGRAM	
DENSITY	
HOMOLOG	
Pb	
SHC	X
TPH	
WHOLE OIL	
BIOMARKER	
PHENOL	
OTHER	

Required Cleanup	
No Cleanup Required	
Copper	X
Conc. Sulfuric Acid	
GPC	
Silica Gel 923 Grade Glass Column	
Alumina (Super I) Glass Column	✓
Alumina (F20) Glass Column	

Sample Observations			
Normal Weight/Volume Extracted		Lesser Amount Used - Sheen Present On Sample	X
Lesser Amount Used - Low Sample Volume Provided*	X	Lesser Amount Used - Suspected High Target Analytes	
Lesser Amount Used - ~~Strong~~ Hydrocarbon Odor	X	Sediment At Bottom Of Water Sample Jar	
Project Specific Weight Used		No Observations	

Other: (all) clay-like samples
- 1 sheen, wet clay
- 1, 5 slight odor

* used less -2
low sample amount
rocks - 2, 3, 6
tricolored - 4
3, 4, 6, 7, 8, 9 okay

Extraction Notes	
Emulsions During Shake	
Samples Extracted Outside Of Hold Time	
No Observations	X

Other:

Identify Matrix - Circle One
(Soil) / Sediment / Water / Sheen / NAPL / Solid / Tissue / Product

	Date	Initials
1st Extraction	12/28/05	DMP 12/29/05
2nd Extraction	12/29/05	↓
3rd Extraction	↓	↓

Concentration Notes			
Greater Final Volume - High Viscosity		Greater Final Volume - Inability To Concentrate Further	
Precipitate Formed During Concentration		No Observations	X

Other:

Batch Completed
Analyst: DMP
Date: 12/28/05

Forensic Dilution Sheet

Client Name:	NewFields					PAH4				
Project	Kerr Mcgee Milwaukee					12/21/2005				
ETR # :	0512096									
Matrix :	Soil									
Analysis Type :	GC/MS									
Relinquished By:	AC			Received By:	AMR					
Date:	12/30/05 8:45 AM			Date:	12-30-05					

Sample ID	Init. Sample Vol (uL)	Init. Sample Vol (uL)	Aliquot removed from Initial	Final Volume for GC Analysis	Diluted Sample ID	Dilution Spiked With:	Date/ Initials	Dilution of Conc.	Total Dilution of Amount
	Measured	*Adjusted*	Sample Volume	(ul)		STD ID/ul AMT			
0512096-01	700	700	100	1000	0512096-01-RE	WHAB38 90UL	1/3/05 RR	10	10
0512096-03	↓	↓	500	1000	0512096-03-RE	WHAB38 50UL	↓	2	2
0512096-05			200	1000	0512096-05-RE	WHAB38 80UL		5	5
0512096-01	540	600	50	1000	0512096-01-RE	WHAB38954	1/3/05 RR	20	20

Dilution Calculations Validated by: [signature] 1-3-06

Date:

Sequence Name: C:\MSDChem\4\sequence\S4121602.S
Comment:
Operator: NLJr
Data Path: C:\MSDCHEM\4\DATA\DECEMBER\DEC16\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

Line					
1)	DualTwr				
2)	SepGC1				
3)	RearSamp	51	P42650	FRNC4B	PRIMER-AFID
4)	Sample	1	P42651	FRNC4B	
5)	RearSamp	51	P42652	FRNC4B	C4121601-AFID
6)	Sample	1	P42653	FRNC4B	
7)	RearSamp	52	P42654	FRNC4B	DCM-AFID
8)	Sample	1	P42655	FRNC4B	
9)	RearSamp	53	P42656	FRNC4B	ANS4121601-AFID
10)	Sample	1	P42657	FRNC4B	
11)	RearSamp	54	P42658	FRNC4B	LA4121601-AFID
12)	Sample	1	P42659	FRNC4B	
13)	RearSamp	55	P42660	FRNC4B	SSFSW4121601-AFID
14)	Sample	1	P42661	FRNC4B	
15)	RearSamp	56	P42662	FRNC4B	SSFCO4121601-AFID
16)	Sample	1	P42663	FRNC4B	
17)	RearSamp	57	P42664	FRNC4B	SACO4121601-AFID
18)	Sample	1	P42665	FRNC4B	
19)	RearSamp	58	P42666	FRNC4B	SSFN4121601-AFID
20)	Sample	1	P42667	FRNC4B	
21)	RearSamp	59	P42668	FRNC4B	SSFS4121601-AFID
22)	Sample	1	P42669	FRNC4B	
23)	RearSamp	18	P42670	FRNC4B	AG4121601-AFID
24)	Sample	1	P42671	FRNC4B	DCM
25)	RearSamp	54	P42672	FRNC4B	C4121602-AFID
26)	Sample	2	P42673	FRNC4B	DCM
27)	RearSamp	55	P42674	FRNC4B	DCM-AFID
28)	Sample	3	P42675	FRNC4B	I4121701
29)	RearSamp	56	P42676	FRNC4B	
30)	Sample	4	P42677	FRNC4B	I4121702
31)	RearSamp	57	P42678	FRNC4B	
32)	Sample	5	P42679	FRNC4B	I4121703
33)	RearSamp	58	P42680	FRNC4B	
34)	Sample	6	P42681	FRNC4B	I4121704
35)	RearSamp	56	P42682	FRNC4B	
36)	Sample	7	P42683	FRNC4B	I4121705
37)	RearSamp	57	P42684	FRNC4B	
38)	Sample	8	P42685	FRNC4B	I4121706
39)	RearSamp	58	P42686	FRNC4B	
40)	Sample	9	P42687	FRNC4B	I4121707
41)	RearSamp	56	P42688	FRNC4B	
42)	Sample	10	P42689	FRNC4B	DCM
43)	RearSamp	57	P42690	FRNC4B	

ICAL PAH41217.M

CMS 12/28/05

Last Modified: Sat Dec 17 11:31:19 2005 Page: 1

Sequence Name: C:\MSDChem\4\sequence\S4121602.S

	Line	Type	Vial	DataFile	Method	Sample Name	
44)	Sample		11	P42691	FRNC4B	Q4121701	ICAL41217
45)	RearSamp		58	P42692	FRNC4B		
46)	Sample		12	P42693	FRNC4B	ANS4121701	SS010406AWS01
47)	RearSamp		56	P42694	FRNC4B		
48)	Sample		13	P42695	FRNC4B	LA4121701	
49)	RearSamp		57	P42696	FRNC4B		
50)	Sample		14	P42697	FRNC4B	SFFSW4121701	
51)	RearSamp		58	P42698	FRNC4B		
52)	Sample		15	P42699	FRNC4B	SFFCO4121701	
53)	RearSamp		56	P42700	FRNC4B		
54)	Sample		16	P42701	FRNC4B	SACO4121701	
55)	RearSamp		57	P42702	FRNC4B		
56)	Sample		17	P42703	FRNC4B	SFFN4121701	
57)	RearSamp		58	P42704	FRNC4B		
58)	Sample		18	P42705	FRNC4B	AG4121701	
59)	RearSamp		56	P42706	FRNC4B		
60)	Sample		19	P42707	FRNC4B	SFFS4121701	
61)	RearSamp		57	P42708	FRNC4B		
62)	Sample		20	P42709	FRNC4B	DCM	
63)	RearSamp		58	P42710	FRNC4B		
64)	Sample		21	P42711	FRNC4B	C4121701	
65)	RearSamp		56	P42712	FRNC4B		

MJS 12/28/05

Sequence Name: C:\MSDChem\4\sequence\S4122701.S
Comment:
Operator: AC
Data Path: C:\MSDCHEM\4\DATA\DECEMBER\DEC27\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

12/30/05

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

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

Line		Sample Name/Misc Info			
1)	Debug				
2)	DualTwr				
3)	SepGC1				
4)	RearSamp	51	P42813	FRNC4B	ALK STD
5)	Sample	1	P42814	FRNC4B	PAH STD
6)	RearSamp	52	P42815	FRNC4B	C4122701-AFID PASS
7)	Sample	2	P42816	FRNC4B	C4122701 PASS
8)	RearSamp	53	P42817	FRNC4B	ANS4122701-AFID
9)	Sample	3	P42818	FRNC4B	ANS4122701
10)	RearSamp	54	P42819	FRNC4B	DCM-AFID
11)	Sample	4	P42820	FRNC4B	DCM
12)	RearSamp	55	P42821	FRNC4B	DCM-AFID
13)	Sample	5	P42822	FRNC4B	DCM
14)	RearSamp	56	P42823	FRNC4B	SO122105B15-AFID
15)	Sample	6	P42824	FRNC4B	SO122105B15
16)	RearSamp	57	P42825	FRNC4B	SO122105LCS12-AFID
17)	Sample	7	P42826	FRNC4B	SO122105LCS12
18)	RearSamp	58	P42827	FRNC4B	SO122105LCSD12-AFID
19)	Sample	8	P42828	FRNC4B	SO122105LCSD12
20)	RearSamp	59	P42829	FRNC4B	0512104-01-AFID *
21)	Sample	9	P42830	FRNC4B	0512104-01 *
22)	RearSamp	60	P42831	FRNC4B	0512104-01D-AFID *
23)	Sample	10	P42832	FRNC4B	0512104-01D *
24)	RearSamp	61	P42833	FRNC4B	C4122702-AFID } NOT LOADED.
25)	Sample	11	P42834	FRNC4B	C4122702
26)	RearSamp	62	P42835	FRNC4B	DCM-AFID
27)	Sample	12	P42836	FRNC4B	DCM
28)	RearSamp	61	P42837	FRNC4B	C4122703-AFID PASS
29)	Sample	11	P42838	FRNC4B	C4122703 PASS
30)	RearSamp	63	P42839	FRNC4B	DCM-AFID
31)	Sample	13	P42840	FRNC4B	DCM
32)	RearSamp	64	P42841	FRNC4B	DCM-AFID
33)	Sample	14	P42842	FRNC4B	DCM
34)	RearSamp	65	P42843	FRNC4B	0512104-01-RE-AFID *
35)	Sample	15	P42844	FRNC4B	0512104-01 *
36)	RearSamp	66	P42845	FRNC4B	0512104-01D-RE-AFID *
37)	Sample	16	P42846	FRNC4B	0512104-01 *
38)	RearSamp	67	P42847	FRNC4B	C4122704-AFID PASS
39)	Sample	17	P42848	FRNC4B	C4122704 PASS
40)	RearSamp	68	P42849	FRNC4B	DCM-AFID
41)	Sample	18	P42850	FRNC4B	DCM
42)	RearSamp	69	P42851	FRNC4B	SS122105B05-AFID
43)	Sample	19	P42852	FRNC4B	SS122105B05

* NOT NEEDED. NEW FILES CAN LOAD.

rerun used

PAH #4 Sequence Information

SHC Continuing Calibration: WHAC10 Conc.: 50ug/mL
PAH Continuing Calibration: WHAB56 Conc.: 500ng/mL

Alaska North Slope Crude Standard: WHAB79 Conc.: 5.096mg/mL

FID Process Method: HC40908.M PAH Process Method: PAH41217.M

mg
1-4-06

Last Modified: Sat Dec 17 11:31:19 2005 Page: 1

Sequence Name: C:\MSDChem\4\sequence\S4122701.S

	Line	Type	Vial	DataFile	Method	Sample Name
44)		RearSamp	70	P42853	FRNC4B	SS122105LCS03-AFID
45)		Sample	20	P42854	FRNC4B	SS122105LCS03 ✓
46)		RearSamp	71	P42855	FRNC4B	SS122105LCSD03-AFID
47)		Sample	21	P42856	FRNC4B	SS122105LCSD03 ✓
48)		RearSamp	72	P42857	FRNC4B	0512096-01-AFID
49)		Sample	22	P42858	FRNC4B	0512096-01 ✓ needs 20X
50)		RearSamp	73	P42859	FRNC4B	0512096-02-AFID
51)		Sample	23	P42860	FRNC4B	0512096-02 ✓
52)		RearSamp	74	P42861	FRNC4B	0512096-02D-AFID
53)		Sample	24	P42862	FRNC4B	0512096-02D ✓
54)		RearSamp	75	P42863	FRNC4B	0512096-03-AFID
55)		Sample	25	P42864	FRNC4B	0512096-03 ✓ needs 2X
56)		RearSamp	99	P42864A	FRNC4B	C4122705-AFID pass
57)		Sample	100	P42864B	FRNC4B	C4122705 pass.
58)		RearSamp	76	P42865	FRNC4B	0512096-04-AFID
59)		Sample	26	P42866	FRNC4B	0512096-04 ✓
60)		RearSamp	77	P42867	FRNC4B	0512096-05-AFID
61)		Sample	27	P42868	FRNC4B	0512096-05 ✓ needs 5X
62)		RearSamp	80	P42873	FRNC4B	0512096-06-AFID
63)		Sample	30	P42874	FRNC4B	0512096-06 ✓
64)		RearSamp	81	P42875	FRNC4B	0512096-07-AFID
65)		Sample	31	P42876	FRNC4B	0512096-07 ✓
66)		RearSamp	82	P42877	FRNC4B	0512096-08-AFID
67)		Sample	32	P42878	FRNC4B	0512096-08 ✓
68)		Pause				
69)		RearSamp	83	P42879	FRNC4B	0512096-09-AFID
70)		Sample	33	P42880	FRNC4B	0512096-09 ✓
71)		RearSamp	84	P42881	FRNC4B	C4122706-AFID pass
72)		Sample	34	P42882	FRNC4B	C4122706 pass
73)		RearSamp	85	P42883	FRNC4B	DCM-AFID
74)		Sample	35	P42884	FRNC4B	DCM
75)		RearSamp	86	P42885	FRNC4B	SS122105B10-AFID
76)		Sample	36	P42886	FRNC4B	SS122105B10
77)		RearSamp	87	P42887	FRNC4B	SS122105LCS07-AFID
78)		Sample	37	P42888	FRNC4B	SS122105LCS07
79)		RearSamp	88	P42889	FRNC4B	SS122105LCSD07-AFID
80)		Sample	38	P42890	FRNC4B	SS122105LCSD07
81)		RearSamp	89	P42891	FRNC4B	0512101-01-AFID
82)		Sample	39	P42892	FRNC4B	0512101-01
83)		RearSamp	90	P42893	FRNC4B	0512101-02-AFID
84)		Sample	40	P42894	FRNC4B	0512101-02
85)		RearSamp	91	P42895	FRNC4B	C4122707-AFID pass
86)		Sample	41	P42896	FRNC4B	C4122707 pass
87)		RearSamp	92	P42897	FRNC4B	DCM-AFID
88)		Sample	42	P42898	FRNC4B	DCM
89)		RearSamp	1	P42898A	FRNC4B	DCM-AFID
90)		Sample	2	P42898B	FRNC4B	DCM — END OF SEQUENCE - contaminated.
91)		RearSamp	93	P42899	FRNC4B	SS122105B14-AFID
92)		Sample	43	P42900	FRNC4B	SS122105B14
93)		RearSamp	94	P42901	FRNC4B	SS122105LCS11-AFID
94)		Sample	44	P42902	FRNC4B	SS122105LCS11
95)		RearSamp	95	P42903	FRNC4B	SS122105LCSD11-AFID
96)		Sample	45	P42904	FRNC4B	SS122105LCSD11

✓ run used

MS 12/06

Sequence Name: C:\MSDChem\4\sequence\S4123001.S
Comment:
Operator: AC
Data Path: C:\MSDCHEM\4\DATA\DECEMBER\DEC30\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

Line					Sample Name/Misc Info
1)	Debug				
2)	DualTwr				
3)	SepGC1				
4)	RearSamp	51	P42915	FRNC4B	ALK STD
5)	Sample	1	P42916	FRNC4B	PAH STD
6)	Pause				
7)	RearSamp	51	P42917	FRNC4B	C4123001-AFID
8)	Sample	1	P42918	FRNC4B	C4123001 PASS
9)	RearSamp	52	P42919	FRNC4B	ANS4123001-AFID
10)	Sample	2	P42920	FRNC4B	ANS4123001
11)	RearSamp	53	P42921	FRNC4B	DCM-AFID
12)	Sample	3	P42922	FRNC4B	DCM
13)	RearSamp	54	P42923	FRNC4B	SS122105B14-AFID
14)	Sample	4	P42924	FRNC4B	SS122105B14 ✓
15)	RearSamp	55	P42925	FRNC4B	SS122105LCS11-AFID
16)	Sample	5	P42926	FRNC4B	SS122105LCS11 ✓
17)	RearSamp	56	P42927	FRNC4B	SS122105LCSD11-AFID
18)	Sample	6	P42928	FRNC4B	SS122105LCSD11 ✓
19)	RearSamp	57	P42929	FRNC4B	0512105-01-AFID
20)	Sample	7	P42930	FRNC4B	0512105-01 ✓ needs 50X
21)	RearSamp	58	P42931	FRNC4B	0512105-02-AFID
22)	Sample	8	P42932	FRNC4B	0512105-02 ✓ needs 50X
23)	RearSamp	59	P42933	FRNC4B	0512105-03-AFID
24)	Sample	9	P42934	FRNC4B	0512105-03 ✓ needs 50X
25)	RearSamp	60	P42935	FRNC4B	0512105-04-AFID
26)	Sample	10	P42936	FRNC4B	0512105-04 do 1/10 & 1/100
27)	RearSamp	61	P42937	FRNC4B	0512105-05-AFID
28)	Sample	11	P42938	FRNC4B	0512105-05 ✓
29)	RearSamp	62	P42939	FRNC4B	C4123002-AFID
30)	Sample	12	P42940	FRNC4B	C4123002 PASS
31)	RearSamp	63	P42941	FRNC4B	DCM
32)	Sample	13	P42942	FRNC4B	DCM
33)	RearSamp	64	P42943	FRNC4B	0512105-06-AFID
34)	Sample	14	P42944	FRNC4B	0512105-06 ✓
35)	RearSamp	65	P42945	FRNC4B	0512105-07-AFID
36)	Sample	15	P42946	FRNC4B	0512105-07 ✓ needs 100X
37)	RearSamp	66	P42947	FRNC4B	0512105-08-AFID
38)	Sample	16	P42948	FRNC4B	0512105-08 ✓
39)	RearSamp	67	P42949	FRNC4B	0512105-08D-AFID
40)	Sample	17	P42950	FRNC4B	0512105-08D ✓
41)	RearSamp	68	P42951	FRNC4B	C4123003-AFID
42)	Sample	18	P42952	FRNC4B	C4123003 PASS
43)	RearSamp	69	P42953	FRNC4B	DCM

✓ Rerun

PAH 41217.M CW 1/19/06

MS 1-30-06

Last Modified: Sat Dec 17 11:31:19 2005

Sequence Name: C:\MSDChem\4\sequence\S4123001.S

	Line Type	Vial	DataFile	Method	Sample Name
44)	Sample	19	P42954	FRNC4B	DCM
45)	RearSamp	70	P42955	FRNC4B	SS122105B13-AFID
46)	Sample	20	P42956	FRNC4B	SS122105B13 ✓
47)	RearSamp	71	P42957	FRNC4B	SS122105LCS10-AFID
48)	Sample	21	P42958	FRNC4B	SS122105LCS10 ✓
49)	RearSamp	72	P42959	FRNC4B	SS122105LCSD10-AFID
50)	Sample	22	P42960	FRNC4B	SS122105LCSD10 ✓
51)	RearSamp	73	P42961	FRNC4B	0512106-01-AFID
52)	Sample	23	P42962	FRNC4B	0512106-01 ✓ needs 5X
53)	RearSamp	74	P42963	FRNC4B	0512106-02-AFID
54)	Sample	24	P42964	FRNC4B	0512106-02 ✓
55)	RearSamp	75	P42965	FRNC4B	0512106-03-AFID
56)	Sample	25	P42966	FRNC4B	0512106-03 ✓
57)	RearSamp	76	P42967	FRNC4B	0512106-04-AFID
58)	Sample	26	P42968	FRNC4B	0512106-04 ✓ needs 50X
59)	RearSamp	77	P42969	FRNC4B	0512106-05-AFID
60)	Sample	27	P42970	FRNC4B	0512106-05 ✓
61)	RearSamp	78	P42971	FRNC4B	0512106-06-AFID
62)	Sample	28	P42972	FRNC4B	0512106-06 ✓ needs 2X
63)	RearSamp	79	P42973	FRNC4B	0512106-07-AFID
64)	Sample	29	P42974	FRNC4B	0512106-07 ✓ needs 2X
65)	RearSamp	80	P42975	FRNC4B	C4123004-AFID
66)	Sample	30	P42976	FRNC4B	C4123004 PASS
67)	RearSamp	81	P42977	FRNC4B	DCM-AFID
68)	Sample	31	P42978	FRNC4B	DCM
69)	RearSamp	81	P42979	FRNC4B	
70)	Sample	32	P42980	FRNC4B	0512101-01-RE ✓
71)	RearSamp	81	P42981	FRNC4B	
72)	Sample	33	P42982	FRNC4B	0512101-02-RE ✓
73)	RearSamp	81	P42983	FRNC4B	
74)	Sample	34	P42984	FRNC4B	0512096-01-RE DONT USE-needs 20X
75)	RearSamp	81	P42985	FRNC4B	
76)	Sample	35	P42986	FRNC4B	0512096-03-RE ✓
77)	RearSamp	81	P42987	FRNC4B	
78)	Sample	36	P42988	FRNC4B	0512096-05-RE ✓
79)	RearSamp	81	P42989	FRNC4B	
80)	Sample	37	P42990	FRNC4B	C4123005 PASS

✓ run used

MS 1-3-06

Sequence Name: C:\MSDChem\4\sequence\S4010301.S
Comment:
Operator: AC
Data Path: C:\MSDCHEM\4\DATA\JANUARY06\JAN03\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

Line			Sample Name/Misc Info	
1)	Debug			
2)	RearSamp	51	P42813	FRNC4B	alk std
3)	Sample	1	P42814	FRNC4B	pah std
4)	RearSamp	51	P42815	FRNC4B	C4010301-AFID
5)	Sample	1	P42816	FRNC4B	C4010301
6)	Sample	2	P42817	FRNC4B	DCM
7)	Sample	3	P42818	FRNC4B	C4010302 PASS
8)	Pause				
9)	Sample	4	P42819	FRNC4B	ANS4010301
10)	Sample	5	P42820	FRNC4B	DCM
11)	Sample	6	P42821	FRNC4B	0512110-03-RE ✓
12)	Sample	7	P42822	FRNC4B	0512110-04-RE ✓
13)	Sample	8	P42823	FRNC4B	0512110-05-RE ✓
14)	Sample	9	P42824	FRNC4B	0512110-07-RE ✓
15)	Sample	10	P42825	FRNC4B	0512110-08-RE ✓
16)	Sample	11	P42826	FRNC4B	0512110-09-RE ✓
17)	Sample	12	P42827	FRNC4B	0512110-10-RE ✓
18)	Sample	13	P42828	FRNC4B	0512110-11-RE ✓
19)	Sample	15	P42829	FRNC4B	0512110-11D-RE ✓
20)	Sample	22	P42830	FRNC4B	0512096-01-RE ✓
21)	Sample	14	P42831	FRNC4B	C4010303 PASS
22)	Sample	16	P42832	FRNC4B	0512110-12-RE ✓
23)	Sample	17	P43000	FRNC4B	0512110-13-RE ✓
24)	Sample	18	P43001	FRNC4B	0512110-14-RE ✓
25)	Sample	19	P43002	FRNC4B	0512110-10-RE ✓
26)	Pause				
27)	Debug				
28)	DualTwr				
29)	SepGC1				
30)	RearSamp	51	P43003	FRNC4B	DCM-AFID
31)	Sample	20	P43004	FRNC4B	0512110-13-RE ✓
32)	RearSamp	52	P43005	FRNC4B	DCM-AFID
33)	Sample	21	P43006	FRNC4B	0512110-14-RE ✓
34)	RearSamp	53	P43007	FRNC4B	C4010401-AFID
35)	Sample	23	P43008	FRNC4B	C4010304 PASS
36)	RearSamp	54	P43009	FRNC4B	ANS4010401-AFID
37)	Sample	24	P43010	FRNC4B	DCM
38)	RearSamp	55	P43011	FRNC4B	DCM-AFID
39)	Sample	25	P43012	FRNC4B	SS122105B16
40)	RearSamp	56	P43013	FRNC4B	DCM-AFID
41)	Sample	26	P43014	FRNC4B	SS122105LCS13
42)	RearSamp	57	P43015	FRNC4B	SS122105B14-AFID
43)	Sample	27	P43016	FRNC4B	SS122105LCSD14

Fwd used

PAH 41217.M 1/19/06

See next sequence

AMS 1-5-06

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Last Modified: Fri Dec 23 14:35:18 2005 Page: 1

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QUALITY CONTROL RESULTS

Form IV
Method Blank Summary
Total Saturated Hydrocarbons by GC/FID

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: SS122105B05
Date Analyzed: 12/28/05 22:01

Client ID	Lab ID	Date/Time Analyzed
LCS	SS122105LCS03	12/28/05 23:29
LCSD	SS122105LCSD03	12/29/05 00:59
MA9-SSRR-131A-9-21	0512096-01	12/29/05 02:28
MA9-SSRR-131D-0-5	0512096-02	12/29/05 03:57
MA9-SSRR-131D-0-5	0512096-02 D	12/29/05 05:27
MA9-SSRR-131C-0-5	0512096-03	12/29/05 06:56
MA9-SSRR-128A-18-24	0512096-04	12/29/05 09:57
MA9-SSRR-128E-0-6	0512096-05	12/29/05 11:27
MA9-SSRR-122C 0-4	0512096-06	12/29/05 12:58
MA9-SSRR-116A 18-24	0512096-07	12/29/05 14:28
MA9-SSRR-116A 18-24D	0512096-08	12/29/05 15:59
MA9-SSRR-125E 9-18	0512096-09	12/29/05 17:30

N/A - Not Applicable

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

Response Factor Report PAH-4

Method Path : O:\FORENSICS\METHODS\PAH4\SEPT05\
Method File : HC40908.M
Title : FID Forensics
Last Update : Thu Sep 15 16:25:16 2005
Response Via : Initial Calibration

Calibration Files
1 =P40809.D 10 =P40811.D 50 =P40813.D
100 =P40815.D 200 =P40817.D

		Compound	1	10	50	100	200	Avg	%RSD
1)	I	5-alpha-androstane	----------ISTD----------						
2)	t	n-Octane (C8)	0.700	0.807	0.812	0.820	0.824	0.793	6.59
3)	t	n-Nonane (C9)	0.925	0.880	0.882	0.880	0.888	0.891	2.15
4)	t	n-Decane (C10)	0.947	0.912	0.908	0.907	0.915	0.918	1.83
5)	t	n-Undecane (C11)	0.852	0.912	0.920	0.920	0.925	0.906	3.33
6)	t	n-Dodecane (C12)	0.933	0.933	0.939	0.942	0.944	0.938	0.54
7)	t	n-Tridecane (C13)	0.969	0.944	0.946	0.951	0.953	0.953	1.05
8)	t	1380	1.006	0.959	0.957	0.962	0.963	0.969	2.15
9)	t	n-Tetradecane (C14)	1.006	0.959	0.957	0.962	0.963	0.969	2.15
10)	t	1470	1.003	0.972	0.964	0.967	0.967	0.975	1.66
11)	t	n-Pentadecane (C15)	1.003	0.972	0.964	0.967	0.967	0.975	1.66
12)	t	n-Hexadecane (C16)	1.006	0.981	0.970	0.973	0.971	0.980	1.54
13)	t	1650	1.030	0.987	0.977	0.980	0.980	0.991	2.24
14)	t	n-Heptadecane (C17)	1.030	0.987	0.977	0.980	0.980	0.991	2.24
15)	t	Pristane	1.001	0.953	0.936	0.939	0.934	0.952	2.94
16)	t	n-Octadecane (C18)	1.041	0.995	0.981	0.984	0.981	0.997	2.56
17)	t	Phytane	1.038	0.987	0.971	0.975	0.971	0.989	2.90
18)	t	n-Nonadecane (C19)	1.022	0.989	0.974	0.977	0.973	0.987	2.07
19)	s	ortho-terphenyl	1.161	1.054	1.041	1.041	1.042	1.068	4.90
20)	t	n-Eicosane (C20)	1.008	0.985	0.970	0.972	0.969	0.981	1.71
21)	t	n-Heneicosane (C21)	1.042	1.017	1.001	1.004	1.000	1.013	1.77
22)	t	n-Docosane (C22)	1.104	1.006	0.987	0.990	0.985	1.015	5.01
23)	t	n-Tricosane (C23)	1.092	1.012	0.994	0.997	0.993	1.018	4.18
24)	s	d50-Tetracosane	1.297	0.882	0.866	0.863	0.860	0.954	20.15
25)	t	n-Tetracosane (C24)	1.104	1.021	1.001	1.005	1.000	1.026	4.31
26)	t	n-Pentacosane (C25)	1.198	1.026	0.999	1.001	0.995	1.044	8.34
27)	t	n-Hexacosane (C26)	1.036	1.005	0.988	0.992	0.986	1.001	2.06
28)	t	n-Heptacosane (C27)	1.033	1.002	0.985	0.989	0.983	0.999	2.08
29)	t	n-Octacosane (C28)	1.064	1.017	0.998	1.001	0.995	1.015	2.82
30)	t	n-Nonacosane (C29)	1.092	1.040	1.021	1.024	1.018	1.039	2.97
31)	t	n-Triacontane (C30)	1.068	1.022	1.004	1.007	1.001	1.020	2.72
32)	t	n-Hentriacontane (C31	1.029	0.990	0.973	0.975	0.969	0.987	2.47
33)	t	n-Dotriacontane (C32)	1.058	0.999	0.980	0.983	0.976	0.999	3.39
34)	t	n-Tritriacontane (C33	1.017	1.014	0.994	0.997	0.990	1.002	1.20
35)	t	n-tetratriacontane (C	1.095	1.023	1.006	1.008	1.003	1.027	3.79
36)	t	n-Pentatriacontane (C	1.027	0.980	0.965	0.966	0.960	0.980	2.80
37)	t	n-Hexatriacontane (C3	1.034	1.002	0.986	0.987	0.982	0.998	2.13
38)	t	n-Heptatriacontane (C	1.097	1.065	1.050	1.051	1.045	1.062	1.98
39)	t	n-Octatriacontane (C3	1.019	1.008	0.992	0.992	0.986	0.999	1.36
40)	t	n-Nonatriacontane (C3	0.979	0.979	0.969	0.968	0.959	0.971	0.87
41)	t	n-Tetracontane (C40)	0.979	0.979	0.969	0.968	0.959	0.971	0.87
42)	h	C9-C40 Total Petroleu	1.029	0.988	0.975	0.978	0.974	0.989	2.35
43)	h	C10-C28 DRO	1.029	0.988	0.975	0.978	0.974	0.989	2.35
44)	h	Total Resolved Hydroc	1.029	0.988	0.975	0.978	0.974	0.989	2.35

(#) = Out of Range

Response Factor Report PAH-4

Method Path : O:\FORENSICS\METHODS\PAH4\SEPT05\
Method File : HC40908.M
Title : FID Forensics
Last Update : Thu Sep 15 16:25:16 2005
Response Via : Initial Calibration

Calibration Files
1 =P40809.D 10 =P40811.D 50 =P40813.D
100 =P40815.D 200 =P40817.D

		Compound	1	10	50	100	200	Avg	%RSD
1)	I	5-alpha-androstane	ISTD						
2)	t	n-Octane (C8)	0.700	0.807	0.812	0.820	0.824	0.793	6.59
3)	t	n-Nonane (C9)	0.925	0.880	0.882	0.880	0.888	0.891	2.15
4)	t	n-Decane (C10)	0.947	0.912	0.908	0.907	0.915	0.918	1.83
5)	t	n-Undecane (C11)	0.852	0.912	0.920	0.920	0.925	0.906	3.33
6)	t	n-Dodecane (C12)	0.933	0.933	0.939	0.942	0.944	0.938	0.54
7)	t	n-Tridecane (C13)	0.969	0.944	0.946	0.951	0.953	0.953	1.05
8)	t	1380	1.006	0.959	0.957	0.962	0.963	0.969	2.15
9)	t	n-Tetradecane (C14)	1.006	0.959	0.957	0.962	0.963	0.969	2.15
10)	t	1470	1.003	0.972	0.964	0.967	0.967	0.975	1.66
11)	t	n-Pentadecane (C15)	1.003	0.972	0.964	0.967	0.967	0.975	1.66
12)	t	n-Hexadecane (C16)	1.006	0.981	0.970	0.973	0.971	0.980	1.54
13)	t	1650	1.030	0.987	0.977	0.980	0.980	0.991	2.24
14)	t	n-Heptadecane (C17)	1.030	0.987	0.977	0.980	0.980	0.991	2.24
15)	t	Pristane	1.001	0.953	0.936	0.939	0.934	0.952	2.94
16)	t	n-Octadecane (C18)	1.041	0.995	0.981	0.984	0.981	0.997	2.56
17)	t	Phytane	1.038	0.987	0.971	0.975	0.971	0.989	2.90
18)	t	n-Nonadecane (C19)	1.022	0.989	0.974	0.977	0.973	0.987	2.07
19)	s	ortho-terphenyl	1.161	1.054	1.041	1.041	1.042	1.068	4.90
20)	t	n-Eicosane (C20)	1.008	0.985	0.970	0.972	0.969	0.981	1.71
21)	t	n-Heneicosane (C21)	1.042	1.017	1.001	1.004	1.000	1.013	1.77
22)	t	n-Docosane (C22)	1.104	1.006	0.987	0.990	0.985	1.015	5.01
23)	t	n-Tricosane (C23)	1.092	1.012	0.994	0.997	0.993	1.018	4.18
24)	s	d50-Tetracosane	1.297	0.882	0.866	0.863	0.860	0.954	20.15
25)	t	n-Tetracosane (C24)	1.104	1.021	1.001	1.005	1.000	1.026	4.31
26)	t	n-Pentacosane (C25)	1.198	1.026	0.999	1.001	0.995	1.044	8.34
27)	t	n-Hexacosane (C26)	1.036	1.005	0.988	0.992	0.986	1.001	2.06
28)	t	n-Heptacosane (C27)	1.033	1.002	0.985	0.989	0.983	0.999	2.08
29)	t	n-Octacosane (C28)	1.064	1.017	0.998	1.001	0.995	1.015	2.82
30)	t	n-Nonacosane (C29)	1.092	1.040	1.021	1.024	1.018	1.039	2.97
31)	t	n-Triacontane (C30)	1.068	1.022	1.004	1.007	1.001	1.020	2.72
32)	t	n-Hentriacontane (C31	1.029	0.990	0.973	0.975	0.969	0.987	2.47
33)	t	n-Dotriacontane (C32)	1.058	0.999	0.980	0.983	0.976	0.999	3.39
34)	t	n-Tritriacontane (C33	1.017	1.014	0.994	0.997	0.990	1.002	1.20
35)	t	n-tetratriacontane (C	1.095	1.023	1.006	1.008	1.003	1.027	3.79
36)	t	n-Pentatriacontane (C	1.027	0.980	0.965	0.966	0.960	0.980	2.80
37)	t	n-Hexatriacontane (C3	1.034	1.002	0.986	0.987	0.982	0.998	2.13
38)	t	n-Heptatriacontane (C	1.097	1.065	1.050	1.051	1.045	1.062	1.98
39)	t	n-Octatriacontane (C3	1.019	1.008	0.992	0.992	0.986	0.999	1.36
40)	t	n-Nonatriacontane (C3	0.979	0.979	0.969	0.968	0.959	0.971	0.87
41)	t	n-Tetracontane (C40)	0.979	0.979	0.969	0.968	0.959	0.971	0.87
42)	h	C9-C40 Total Petroleu	1.029	0.988	0.975	0.978	0.974	0.989	2.35
43)	h	C10-C28 DRO	1.029	0.988	0.975	0.978	0.974	0.989	2.35
44)	h	Total Resolved Hydroc	1.029	0.988	0.975	0.978	0.974	0.989	2.35

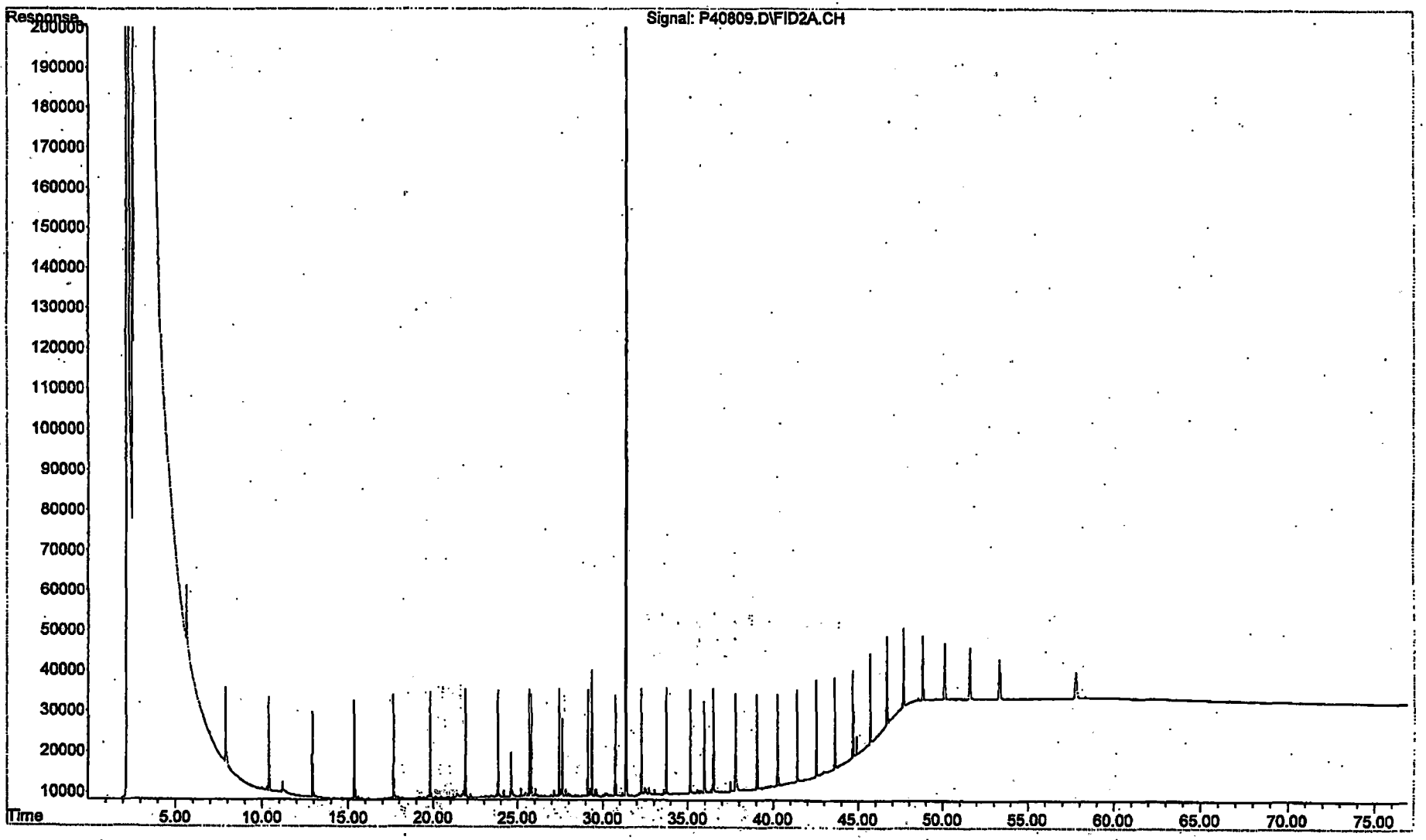
(#) = Out of Range

FID TPH RF CALULATION

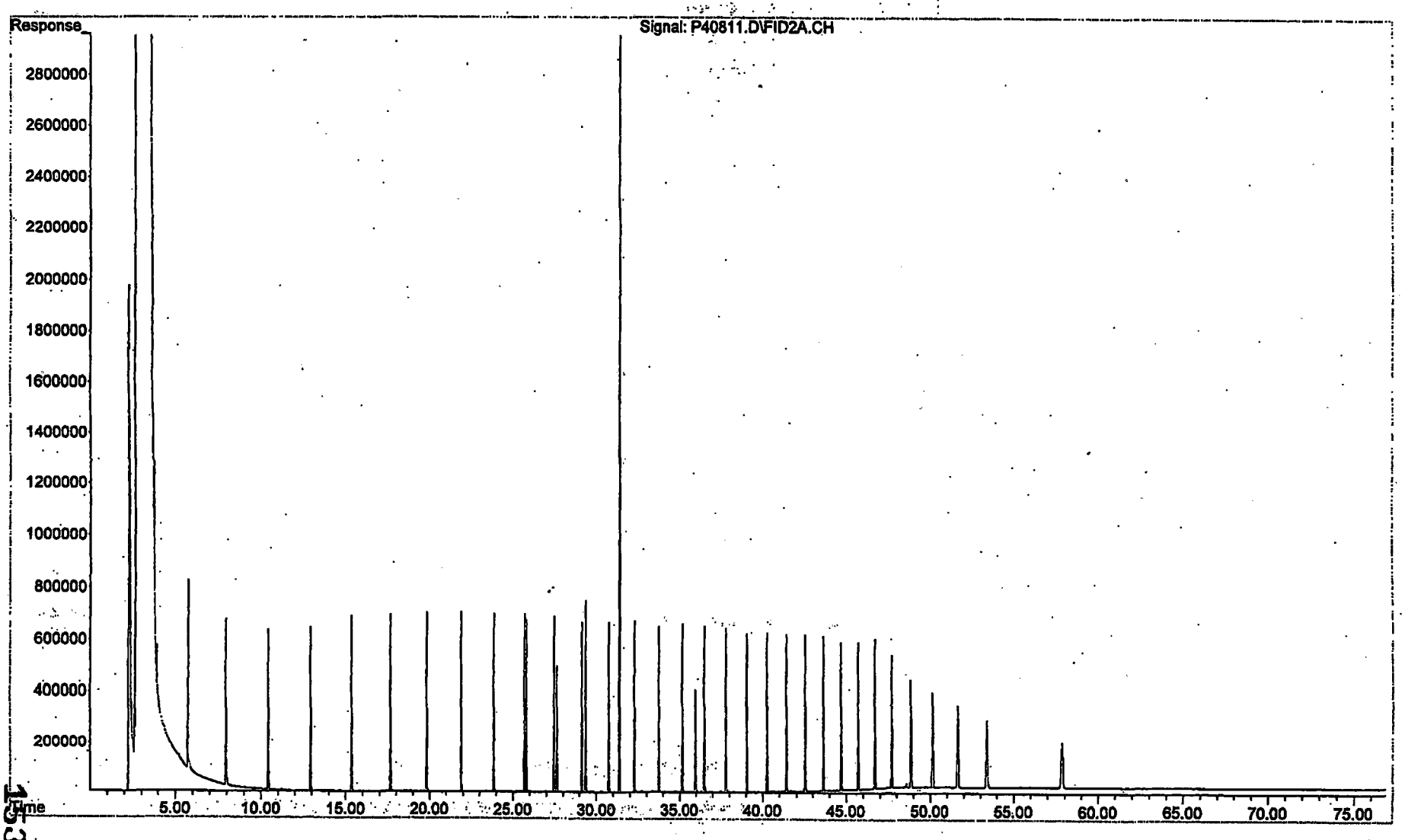
Method ID	L5 FRNC4B .M	L4 FRNC4B .M	L3 FRNC4B .M	L2 FRNC4B .M	L1 FRNC4B .M
Date	Wed Sep 14 16:49:05 2005	Wed Sep 14 15:53:53 2005	Wed Sep 14 16:00:26 2005	Wed Sep 14 16:31:17 2005	Wed Sep 14 16:31:17 2005
File ID	P40817.D	P40815.D	P40813.D	P40811.D	P40809.D
n-Octane (C8)	222302428	110509584	53955550	10811485	350886
n-Nonane (C9)	239581090	118729834	58570109	11577053	463786
n-Decane (C10)	246861351	122262705	60308525	11990361	474996
n-Undecane (C11)	249542555	124035236	61069095	11995833	427422
n-Dodecane (C12)	254809997	127023880	62342689	12274133	467751
n-Tridecane (C13)	257059670	128271974	62826885	12417809	486154
n-Tetradecane (C14)	259774094	129711867	63569535	12604012	504617
n-Pentadecane (C15)	260935160	130449709	63992323	12776567	502934
n-Hexadecane (C16)	261988130	131243352	64389197	12898130	504435
n-Heptadecane (C17)	264370700	132212410	64903286	12982734	516604
Pristane	251915965	126810530	62163881	12528628	501866
n-Octadecane (C18)	264680586	132731571	65177179	13088521	521971
Phytane	261977327	131432782	64518945	12983873	520701
n-Nonadecane (C19)	262656578	131726276	64712268	13010121	512484
n-Eicosane (C20)	261363352	131090455	64398264	12954438	505640
n-Heneicosane (C21)	269710357	135366850	66459222	13377122	522545
n-Docosane (C22)	265896556	133526036	65576072	13222042	553840
n-Tricosane (C23)	267805516	134432583	66006979	13312947	547822
n-Tetracosane (C24)	269768482	135503060	66498969	13422423	553462
n-Pentacosane (C25)	268595661	134964270	66325653	13494810	600783
n-Hexacosane (C26)	266007312	133704621	65618351	13220073	519275
n-Heptacosane (C27)	265287116	133355169	65438337	13180210	518093
n-Octacosane (C28)	268365035	134991313	66257354	13372328	533392
n-Nonacosane (C29)	274801155	138102142	67798435	13669538	547582
n-Triacontane (C30)	270058226	135763402	66672157	13439802	535400
n-Hentriacontane (C31)	261586383	131524764	64612037	13018937	515807
n-Dotriacontane (C32)	263394645	132567793	65081153	13137391	530470
n-Tritriacontene (C33)	267164767	134506782	66017569	13333643	509726
n-tetratriacontane (C34)	270504142	135923216	66811351	13452289	549182
n-Pentatriacontane (C35)	259130957	130273337	64085056	12889275	514919
n-Hexatriacontane (C36)	264983440	133081900	65484821	13178934	518368
n-Heptatriacontene (C37)	282054341	141729941	69737571	13999415	550006
n-Octatriacontane (C38)	265917873	133785778	65893433	13252316	510857
n-Tetracontane (C40)	258744678	130526953	64339456	12866899	491113

	L5	L4	L3	L2	L1
C9-C40 Total Petroleum Hydrocarbons	262942157	131853403	64777459	12997658	516182
C10-C28 DRO	262942157	131853403	64777459	12997658	516182
Total Resolved Hydrocarbons	262942157	131853403	64777459	12997658	516182

File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40809.D
Operator : AC
Acquired : 08 Sep 2005 7:14 pm using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: I4090801-AFID
Misc Info : WHAB29 1UG/ML
Vial Number: 53

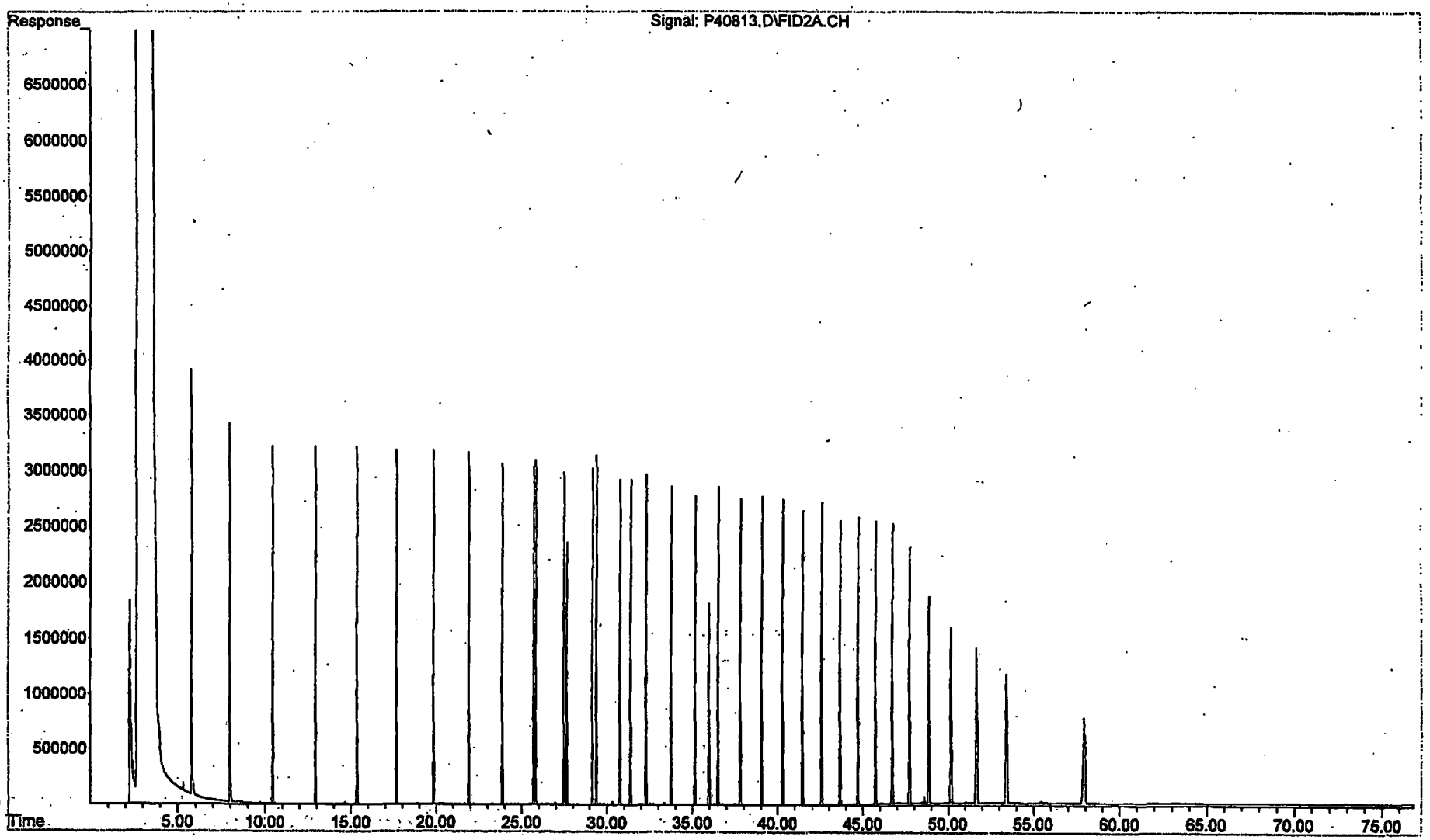


File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40811.D
Operator : AC
Acquired : 08 Sep 2005 8:43 pm using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: I4090802-AFID
Misc Info : WHAB30 10UG/ML
Vial Number: 54

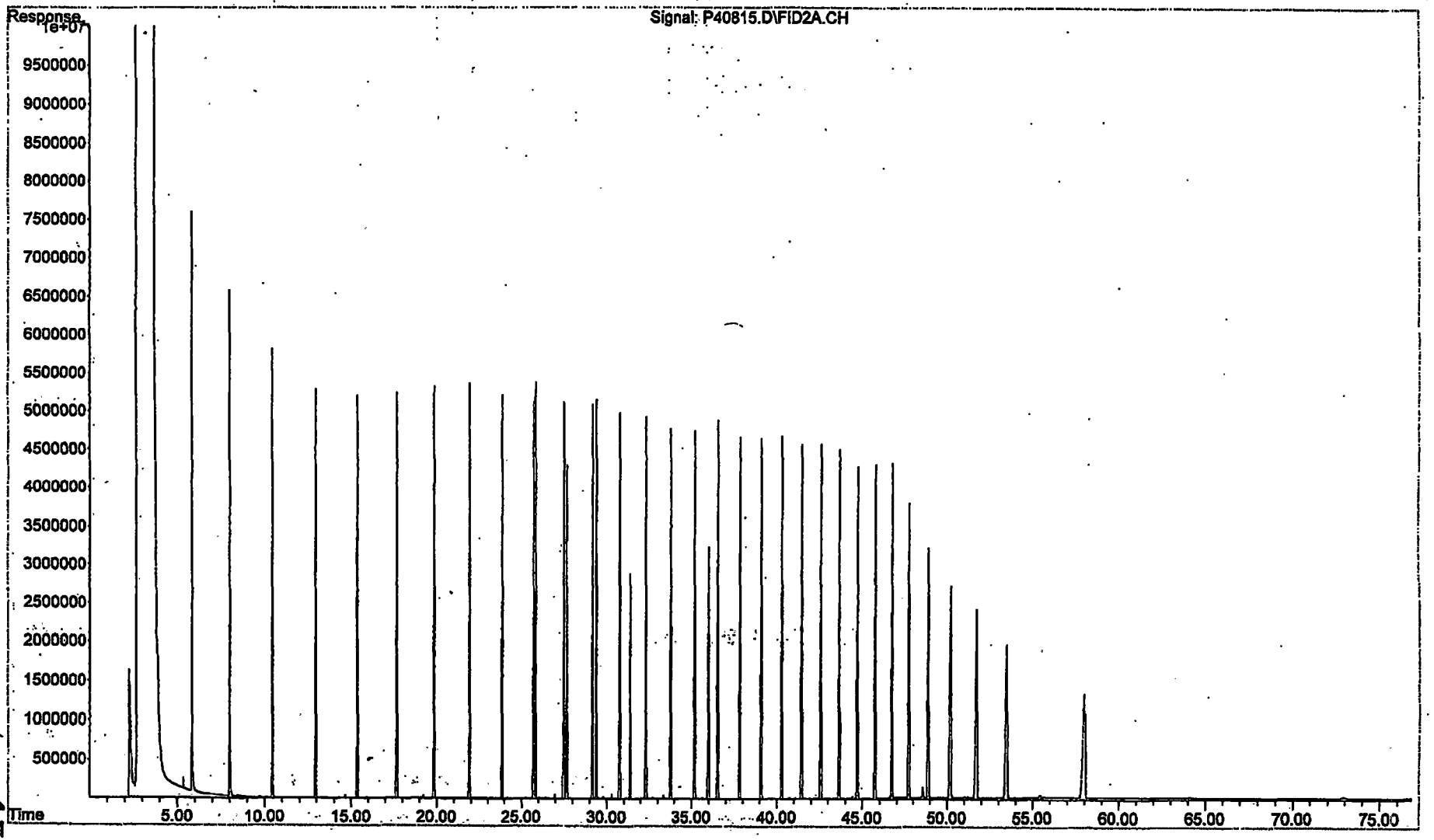


FC3

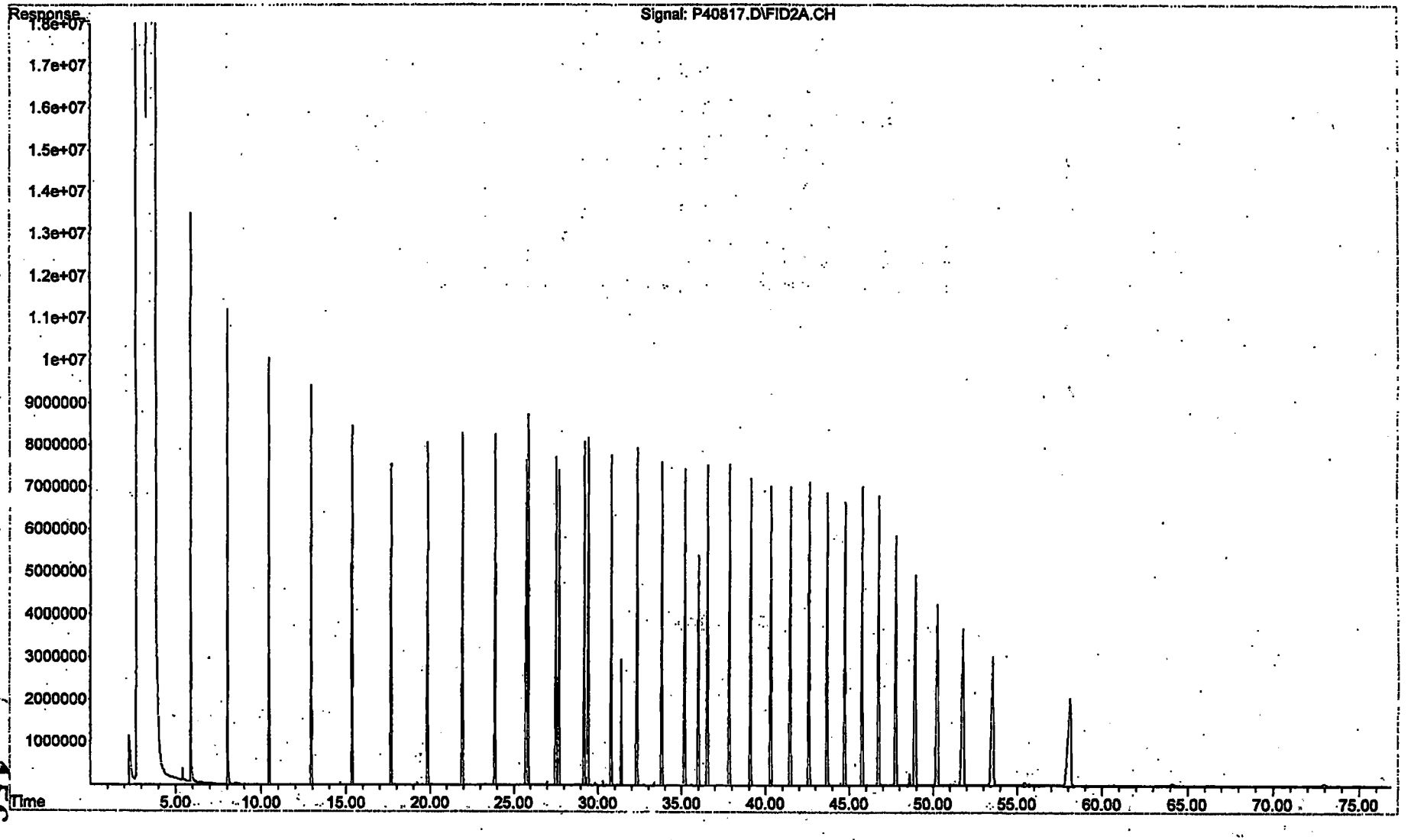
File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40813.D
Operator : AC
Acquired : 08 Sep 2005 10:13 pm using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: I4090803-AFID
Misc Info : WHAB31 50UG/ML
Vial Number: 55



File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40815.D
Operator : AC
Acquired : 08 Sep 2005 11:41 pm using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: I4090804-AFID
Misc Info : WHAB32 100UG/ML
Vial Number: 56



File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40817.D
Operator : AC
Acquired : 09 Sep 2005 1:10 am using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: I4090805-AFID
Misc Info : WHAB33 200UG/ML
Vial Number: 57



Quantitation Report (QT Reviewed)

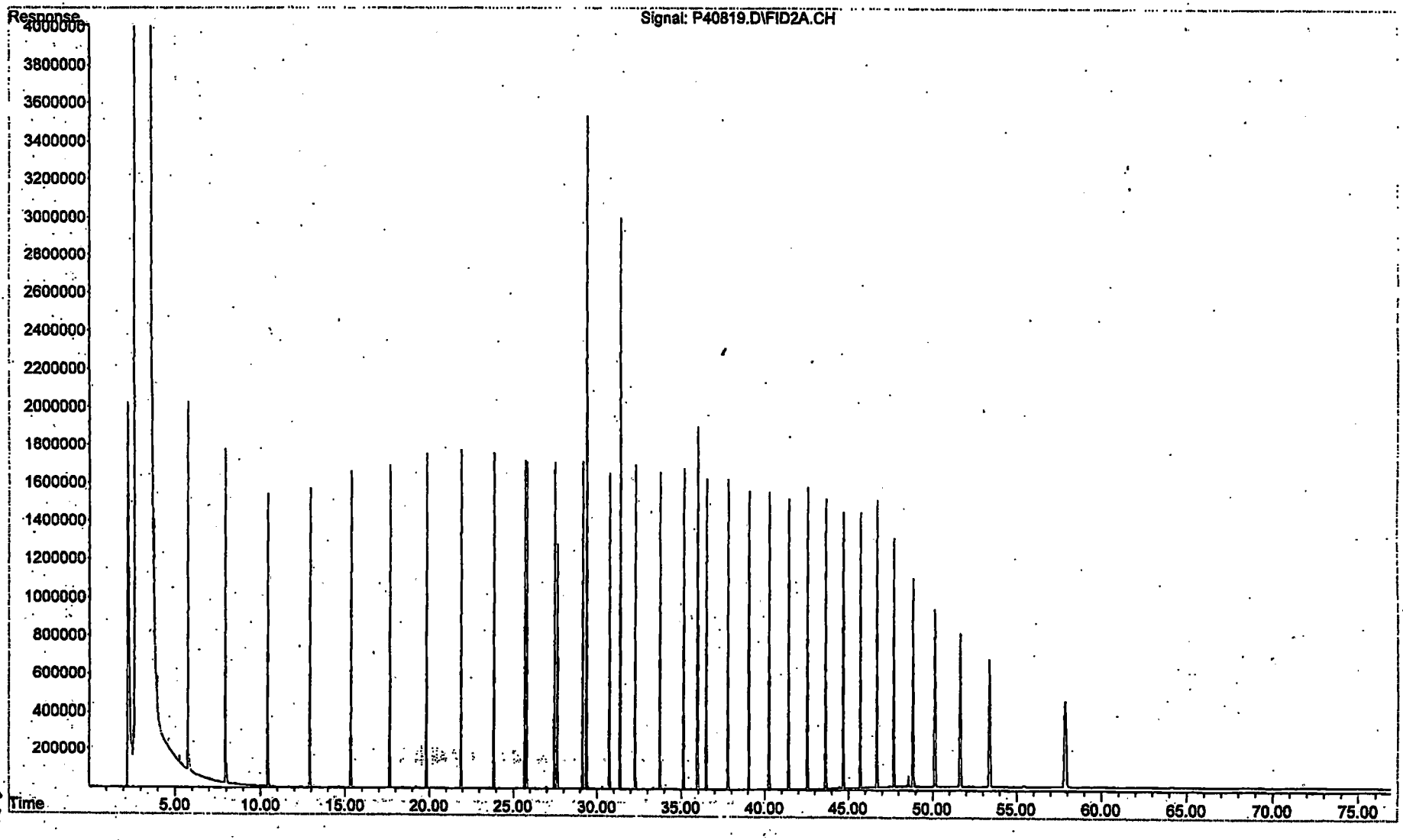
Data Path : R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\
Data File : P40819.D
Signal(s) : FID2A.CH
Acq On : 09 Sep 2005 2:38 am
Operator : AC
Sample : Q4090801-AFID
Misc : WHAB34 500UG/ML
ALS Vial : 58 Sample Multiplier: 1

Integration File: SHCINT1.E
Quant Time: Sep 19 23:20:39 2005
Quant Method : O:\FORENSICS\METHODS\PAH4\SEPT05\HC40908.M
Quant Title : FID Forensics
QLast Update : Mon Sep 19 21:27:46 2005
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

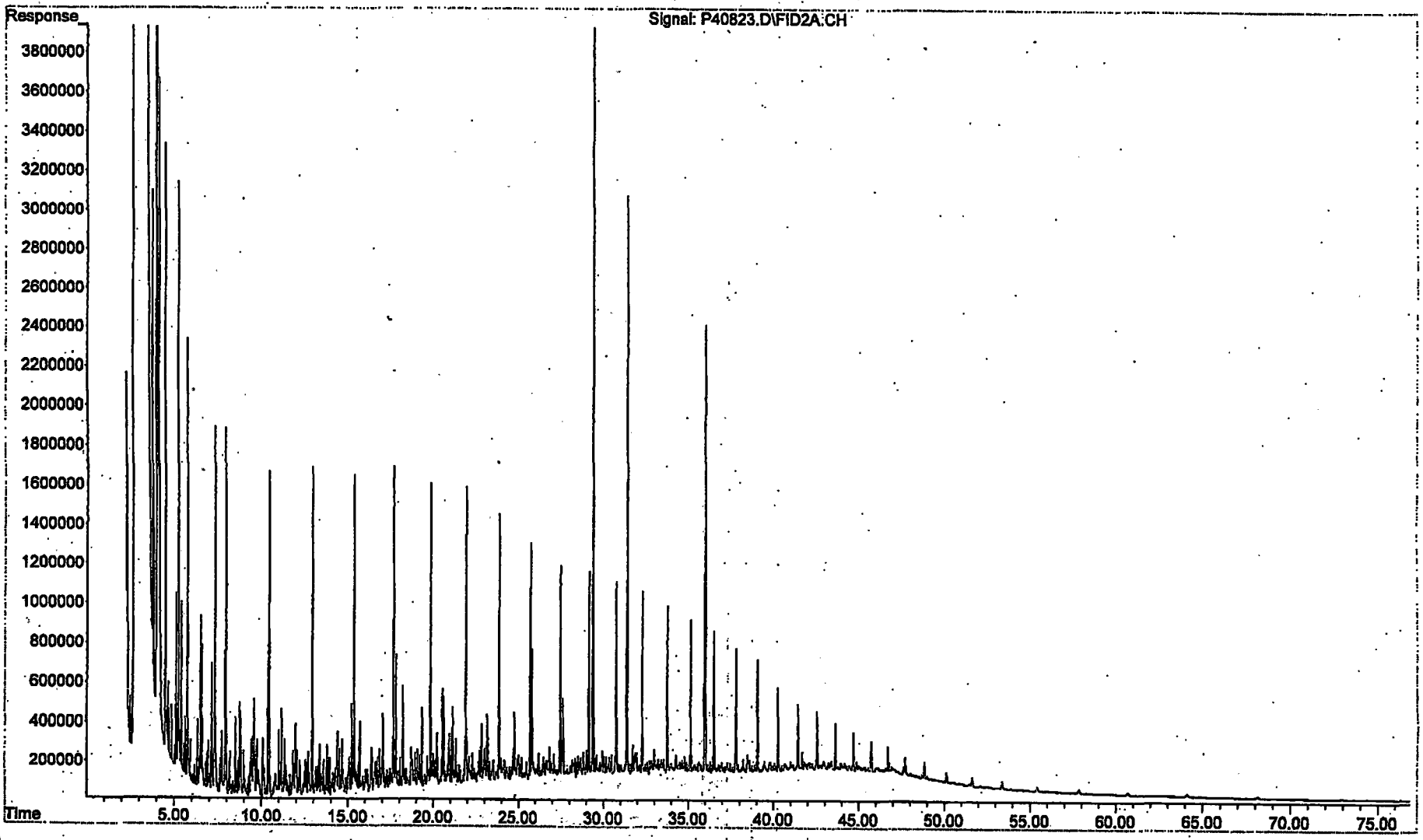
Volume Inj. : 1.0
Signal Phase : Rtx-5
Signal Info : 0.25mm

	Compound	R.T.	Response	Conc Units
	Internal Standards			
1) I	5-alpha-androstane	31.40	68662591	50.000 ug/mLm
	System Monitoring Compounds			
19) s	ortho-terphenyl	29.40	80085019	54.618 ug/mL
Spiked Amount	50.000 Range.	50 - 130	Recovery =	109.24%
24) s	d50-Tetracosane	35.99	59828529	45.672 ug/mL
Spiked Amount	50.000 Range	50 - 130	Recovery =	91.34%
	Target Compounds			
2) t	n-Octane (C8)	5.77	27519207	25.286 ug/mL
3) t	n-Nonane (C9)	7.96	30043316	24.551 ug/mLm
4) t	n-Decane (C10)	10.44	31103573	24.679 ug/mL
5) t	n-Undecane (C11)	12.94	31556820	25.370 ug/mL 101.59
6) t	n-Dodecane (C12)	15.36	32337537	25.098 ug/mL
7) t	n-Tridecane (C13)	17.66	32587289	24.907 ug/mL
9) t	n-Tetradecane (C14)	19.84	33018875	24.805 ug/mL
11) t	n-Pentadecane (C15)	21.91	33318667	24.897 ug/mL
12) t	n-Hexadecane (C16)	23.86	33539295	24.919 ug/mLm
14) t	n-Heptadecane (C17)	25.71	33782898	24.824 ug/mL
15) t	Pristane	25.82	32416100	24.784 ug/mL
16) t	n-Octadecane (C18)	27.48	33988809	24.835 ug/mL
17) t	Phytane	27.64	33648862	24.786 ug/mL
18) t	n-Nonadecane (C19)	29.16	33750317	24.895 ug/mL
20) t	n-Eicosane (C20)	30.76	33602224	24.948 ug/mL
21) t	n-Heneicosane (C21)	32.29	34682130	24.939 ug/mL
22) t	n-Docosane (C22)	33.76	34246119	24.579 ug/mL
23) t	n-Tricosane (C23)	35.17	34475911	24.670 ug/mL
25) t	n-Tetracosane (C24)	36.52	34739128	24.654 ug/mL
26) t	n-Pentacosane (C25)	37.82	34694768	24.203 ug/mL
27) t	n-Hexacosane (C26)	39.07	34291168	24.939 ug/mL 96.79
28) t	n-Heptacosane (C27)	40.28	34194144	24.935 ug/mL
29) t	n-Octacosane (C28)	41.44	34640524	24.857 ug/mL
30) t	n-Nonacosane (C29)	42.57	35415524	24.825 ug/mL
31) t	n-Triacontane (C30)	43.66	34840877	24.867 ug/mL
32) t	n-Hentriacontane (C31)	44.71	33777493	24.914 ug/mL
33) t	n-Dotriacontane (C32)	45.74	34044290	24.810 ug/mL
34) t	n-Tritriacontane (C33)	46.73	34587080	25.125 ug/mL
35) t	n-tetratriacontane (C34)	47.74	34996431	24.816 ug/mL
36) t	n-Pentatriacontane (C35)	48.88	33548303	24.936 ug/mL
37) t	n-Hexatriacontane (C36)	50.18	34215885	24.961 ug/mLm
38) t	n-Heptatriacontane (C37)	51.68	36209787	24.838 ug/mL
39) t	n-Octatriacontane (C38)	53.43	34432082	25.091 ug/mL
41) t	n-Tetracontane (C40)	57.91	33560835	25.176 ug/mLm

File :R:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40819.D
Operator : AC
Acquired : 09 Sep 2005 2:38 am using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: Q4090801-AFID
Misc Info : WHAB34 500UG/ML
Vial Number: 58



File :O:\Forensics\Data\PAH4\SEPTEMBER\SEP08.SEC\P40823.D
Operator : AC
Acquired : 09 Sep 2005 5:36 am using AcqMethod FRNC4B .M
Instrument : PAH-4
Sample Name: ANS4090801-AFID
Misc Info : WHAB40
Vial Number: 60



Form VII
Calibration Verification
Total Saturated Hydrocarbons by GC/FID

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4122704

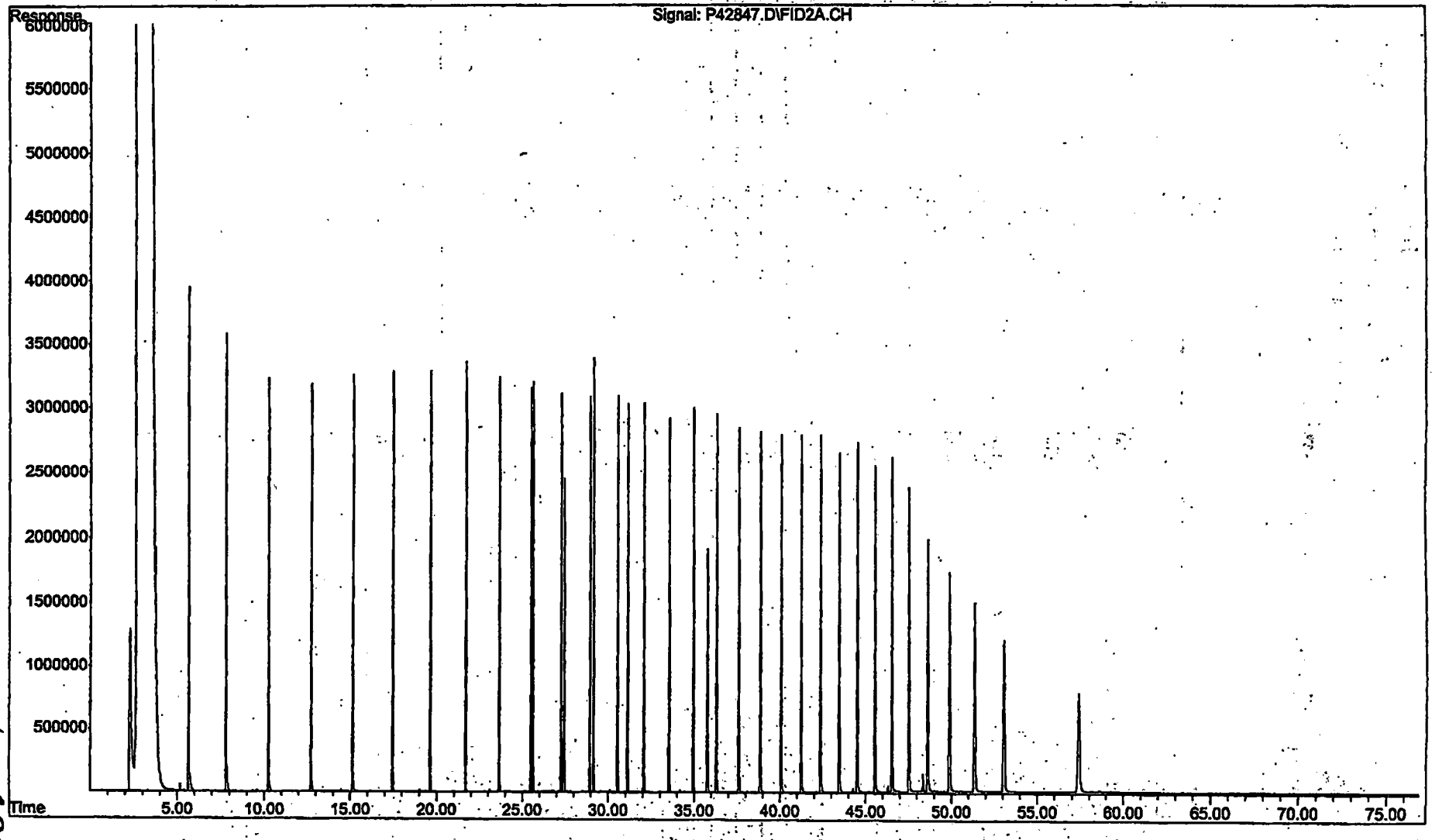
Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
n-Nonane (C9)	50.00	49.35	1.3	25
n-Decane (C10)	50.00	49.44	1.1	25
n-Undecane (C11)	50.00	50.73	1.5	25
n-Dodecane (C12)	50.00	50.10	0.2	25
n-Tridecane (C13)	50.00	49.64	0.7	25
n-Tetradecane (C14)	50.00	49.44	1.1	25
n-Pentadecane (C15)	50.00	49.44	1.1	25
n-Hexadecane (C16)	50.00	49.34	1.3	25
n-Heptadecane (C17)	50.00	49.33	1.3	25
Pristane	50.00	49.42	1.2	25
n-Octadecane (C18)	50.00	49.27	1.5	25
Phytane	50.00	49.64	0.7	25
n-Nonadecane (C19)	50.00	49.52	1.0	25
n-Eicosane (C20)	50.00	50.01	0.0	25
n-Heneicosane (C21)	50.00	49.52	1.0	25
n-Docosane (C22)	50.00	47.31	5.4	25
n-Tricosane (C23)	50.00	49.09	1.8	25
n-Tetracosane (C24)	50.00	48.48	3.0	25
n-Pentacosane (C25)	50.00	47.94	4.1	25
n-Hexacosane (C26)	50.00	50.33	0.7	25
n-Heptacosane (C27)	50.00	49.83	0.3	25
n-Octacosane (C28)	50.00	49.67	0.7	25
n-Nonacosane (C29)	50.00	49.54	0.9	25
n-Triacontane (C30)	50.00	49.56	0.9	25
n-Hentriacontane (C31)	50.00	51.79	3.6	25
n-Dotriacontane (C32)	50.00	49.12	1.8	25
n-Tritriacontane (C33)	50.00	49.90	0.2	25
n-Tetratriacontane (C34)	50.00	49.15	1.7	25
n-Pentatriacontane (C35)	50.00	49.53	0.9	25
n-Hexatriacontane (C36)	50.00	49.19	1.6	25
n-Heptatriacontane (C37)	50.00	47.21	5.6	25
n-Octatriacontane (C38)	50.00	48.75	2.5	25
n-Tetracontane (C40)	50.00	48.24	3.5	25
ortho-Terphenyl	50.00	49.44	1.1	25
d50-Tetracosane	50.00	46.05	7.9	25

Area Response Ratio C30 to C20	Ratio
(Area C30/Area C20)	1.03

N/A - Not Applicable

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

File :O:\Forensics\Data\PAH4\DECEMBER\DEC27.SEC\P42847.D
Operator : AC
Acquired : 28 Dec 2005 7:02 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: C4122704-AFID
Misc Info : ALK STD
Vial Number: 67



Form VII
Calibration Verification
Total Saturated Hydrocarbons by GC/FID

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4122705

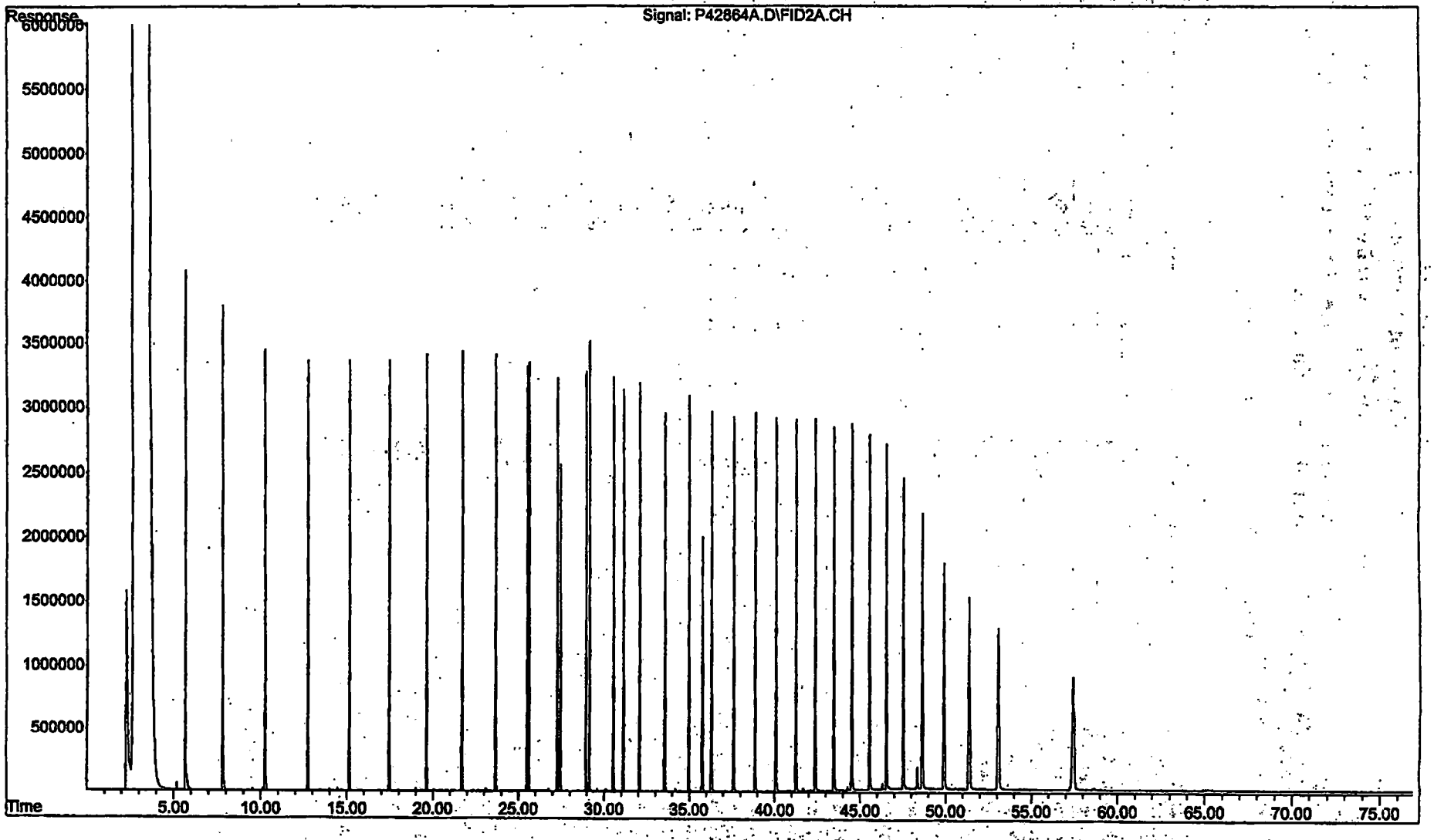
Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
n-Nonane (C9)	50.00	50.50	1.0	25
n-Decane (C10)	50.00	50.30	0.6	25
n-Undecane (C11)	50.00	50.85	1.7	25
n-Dodecane (C12)	50.00	50.06	0.1	25
n-Tridecane (C13)	50.00	49.53	0.9	25
n-Tetradecane (C14)	50.00	49.36	1.3	25
n-Pentadecane (C15)	50.00	49.33	1.3	25
n-Hexadecane (C16)	50.00	49.31	1.4	25
n-Heptadecane (C17)	50.00	49.36	1.3	25
Pristane	50.00	49.41	1.2	25
n-Octadecane (C18)	50.00	49.29	1.4	25
Phytane	50.00	49.66	0.7	25
n-Nonadecane (C19)	50.00	49.53	0.9	25
n-Eicosane (C20)	50.00	50.04	0.1	25
n-Heneicosane (C21)	50.00	49.60	0.8	25
n-Docosane (C22)	50.00	47.39	5.2	25
n-Tricosane (C23)	50.00	49.19	1.6	25
n-Tetracosane (C24)	50.00	48.66	2.7	25
n-Pentacosane (C25)	50.00	48.11	3.8	25
n-Hexacosane (C26)	50.00	50.48	1.0	25
n-Heptacosane (C27)	50.00	50.00	0.0	25
n-Octacosane (C28)	50.00	49.82	0.4	25
n-Nonacosane (C29)	50.00	49.81	0.4	25
n-Triacontane (C30)	50.00	49.56	0.9	25
n-Hentriacontane (C31)	50.00	51.98	4.0	25
n-Dotriacontane (C32)	50.00	49.39	1.2	25
n-Tritriacontane (C33)	50.00	50.21	0.4	25
n-Tetratriacontane (C34)	50.00	49.35	1.3	25
n-Pentatriacontane (C35)	50.00	50.19	0.4	25
n-Hexatriacontane (C36)	50.00	49.94	0.1	25
n-Heptatriacontane (C37)	50.00	48.12	3.8	25
n-Octatriacontane (C38)	50.00	50.00	0.0	25
n-Tetracontane (C40)	50.00	51.02	2.0	25
ortho-Terphenyl	50.00	49.44	1.1	25
d50-Tetracosane	50.00	46.13	7.7	25

Area Response Ratio C30 to C20	Ratio
(Area C30/Area C20)	1.03

N/A - Not Applicable

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

File :O:\Forensics\Data\PAH4\DECEMBER\DEC27.SEC\P42864A.D
Operator : AC
Acquired : 29 Dec 2005 8:26 am using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: C4122705-AFID
Misc Info : ALK STD
Vial Number: 99



Form VII
Calibration Verification
Total Saturated Hydrocarbons by GC/FID

ALPHA WOODS HOLE LABS

Client: NewFields Environmental Forensics Practice
Project: Kerr McGee - Milwaukee
Case: N/A SDG: N/A

Lab Code: MA00030
ETR: 0512096
Lab ID: C4122706

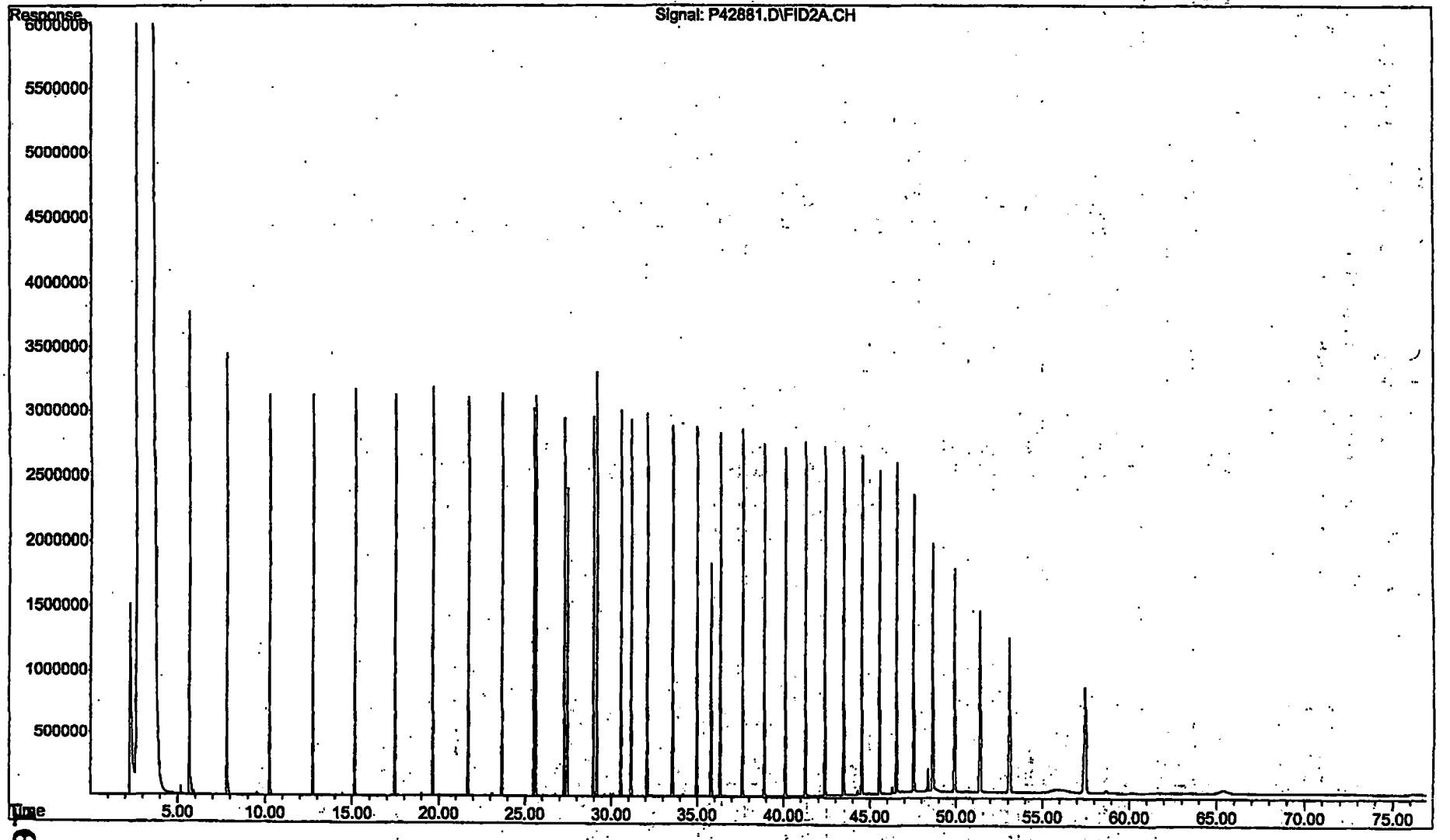
Parameter	Ave. RF	CCV RF	Percent Deviation	Deviation Limit
n-Nonane (C9)	50.00	49.99	0.0	25
n-Decane (C10)	50.00	49.52	1.0	25
n-Undecane (C11)	50.00	50.31	0.6	25
n-Dodecane (C12)	50.00	49.64	0.7	25
n-Tridecane (C13)	50.00	49.24	1.5	25
n-Tetradecane (C14)	50.00	49.15	1.7	25
n-Pentadecane (C15)	50.00	49.18	1.6	25
n-Hexadecane (C16)	50.00	49.16	1.7	25
n-Heptadecane (C17)	50.00	49.23	1.5	25
Pristane	50.00	49.26	1.5	25
n-Octadecane (C18)	50.00	49.16	1.7	25
Phytane	50.00	49.49	1.0	25
n-Nonadecane (C19)	50.00	49.47	1.1	25
n-Eicosane (C20)	50.00	49.97	0.1	25
n-Heneicosane (C21)	50.00	49.53	0.9	25
n-Docosane (C22)	50.00	47.37	5.3	25
n-Tricosane (C23)	50.00	49.20	1.6	25
n-Tetracosane (C24)	50.00	48.59	2.8	25
n-Pentacosane (C25)	50.00	48.07	3.9	25
n-Hexacosane (C26)	50.00	50.49	1.0	25
n-Heptacosane (C27)	50.00	49.98	0.0	25
n-Octacosane (C28)	50.00	49.93	0.1	25
n-Nonacosane (C29)	50.00	49.74	0.5	25
n-Triacontane (C30)	50.00	49.75	0.5	25
n-Hentriacontane (C31)	50.00	51.90	3.8	25
n-Dotriacontane (C32)	50.00	49.40	1.2	25
n-Tritriacontane (C33)	50.00	49.90	0.2	25
n-Tetratriacontane (C34)	50.00	49.59	0.8	25
n-Pentatriacontane (C35)	50.00	51.84	3.7	25
n-Hexatriacontane (C36)	50.00	50.49	1.0	25
n-Heptatriacontane (C37)	50.00	48.63	2.7	25
n-Octatriacontane (C38)	50.00	50.38	0.8	25
n-Tetracontane (C40)	50.00	51.99	4.0	25
ortho-Terphenyl	50.00	49.41	1.2	25
d50-Tetracosane	50.00	46.18	7.6	25

Area Response Ratio C30 to C20	Ratio
(Area C30/Area C20)	1.04

N/A - Not Applicable

375 Paramount Drive, Suite 2, Raynham, Massachusetts 02767, (508) 822-9300, Fax (508) 822-3288

File :O:\Forensics\Data\PAH4\DECEMBER\DEC27.SEC\P42881.D
Operator : AC
Acquired : 29 Dec 2005 7:00 pm using AcqMethod FRNC4B.M
Instrument : PAH-4
Sample Name: C4122706-AFID
Misc Info : 1X
Vial Number: 84



Alpha Woods Hole Lab
Batch Prep Report

12/21/2005 0512096ST - OP SHC

Lab ID	QC Type	Prep Method	Analyst	Prep Start Date	Prep Completed	TCLP Date	Initial Amount	Final Volume	Solvent Ex	Conc. Analyst	Conc. Date	Conc. Method	Transfer Volume	Vialed By	Vialed Date	Cell Number
0512096-01	SAM	Shaker	KLA	12/21/05	12/28/05		10.31	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-02	D	Shaker	KLA	12/21/05	12/28/05		15.34	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-02	SAM	Shaker	KLA	12/21/05	12/28/05		15.66	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-03	SAM	Shaker	KLA	12/21/05	12/28/05		30.31	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-04	SAM	Shaker	KLA	12/21/05	12/28/05		30.08	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-05	SAM	Shaker	KLA	12/21/05	12/28/05		15.39	5	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-06	SAM	Shaker	KLA	12/21/05	12/28/05		30.14	8	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-07	SAM	Shaker	KLA	12/21/05	12/28/05		30.05	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-08	SAM	Shaker	KLA	12/21/05	12/28/05		30.03	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
0512096-09	SAM	Shaker	KLA	12/21/05	12/28/05		30.45	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105B05	B	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105LCS03	LCS	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	
SS122105LCSD03	LCSD	Shaker	KLA	12/21/05	12/28/05		30	2	False	KLA	12/23/05	KD Flask	0.15	DMP	12/28/05	

Alpha Woods Hole Lab
Batch Prep Report
12/21/2005 0512096ST - OP SHC

Lab ID	Notes
0512096-01	1st Prep
0512096-02	1st Prep
0512096-02	1st Prep
0512096-03	1st Prep
0512096-04	1st Prep
0512096-05	1st Prep
0512096-06	1st Prep
0512096-07	1st Prep
0512096-08	1st Prep
0512096-09	1st Prep
SS122105B05	1st Prep
SS122105LCS03	1st Prep
SS122105LCSD03	1st Prep

Alpha Woods Hole Lab
Batch Weight Report
12/21/2005

Lab ID	QC Type	0512096ST - Sample
0512096-01	SAM	10.31
0512096-02	D	15.34
0512096-02	SAM	15.66
0512096-03	SAM	30.31
0512096-04	SAM	30.08
0512096-05	SAM	15.39
0512096-06	SAM	30.14
0512096-07	SAM	30.05
0512096-08	SAM	30.03
0512096-09	SAM	30.45
SS122105B05	B	30
SS122105LCS03LCSOP NEWFIE		30
SS122105LCS03LCSOP SHC		30
SS122105LCSD03LCSD NEWFIE		30
SS122105LCSD03LCSD SHC		30

METHYLENE CHLORIDE: B44E66(tank) B32E08(bottle)
HEXANE: B45E60(tank) B36E18(bottle)
ACETONE: B27E38 COPPER: A49597
SULFURIC ACID: 3104070 ALUMINA: 183
GLASS WOOL: +H1084303302$ PENTANE: B11E31
SODIUM SULFATE: B26593 SILICA(923): 0617MC

Alpha Woods Hole Lab
Batch Prep Spike Report

12/21/2005 0512096ST - OP NEWFIE Analyst: DMP Witness: NLJr

Lab ID	QC Type	OP NEWFIE - surr	Vol OP NEWFIE - surr	Units OP NEWFIE - surr	OP NEWFIE - spk 1	Vol OP NEWFIE - spk 1	Units OP NEWFIE - spk 1	OP NEWFIE - spk 2	Vol OP NEWFIE - spk 2	Units OP NEWFIE - spk 2
0512096-01	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-02	D	WHAB63	100	µl				WHAB15	200	µl
0512096-02	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-03	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-04	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-05	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-06	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-07	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-08	SAM	WHAB63	100	µl				WHAB15	200	µl
0512096-09	SAM	WHAB63	100	µl				WHAB15	200	µl
SS122105B05	B	WHAB63	100	µl				WHAB15	200	µl
SS122105LCS03	LCS	WHAB63	100	µl	WHAB85	100	µl	WHAB15	200	µl
SS122105LCSD03	LCSD	WHAB63	100	µl	WHAB85	100	µl	WHAB15	200	µl
TS010306AWS01	AWS	-99	-99	-99	-99	-99	-99	-99	-99	-99

Test: ALK-PAH/SHC
Standard Type: Surrogate / LCS / MS-MSD
LFB / Other
ID#: WHAB63
Conc. 10ug/ml 500ug/ml

Test: PAH/SHC
Standard Type: Surrogate / LCS / MS-MSD
LFB / Other
ID# WHAB85
Conc. 10ug/ml 500ug/ml

Test: Biomarker Low
Standard Type: *Surrogate / LCS / MS-MSD*
LFB / Other Low
ID# WHAB15
Conc. 10ug/ml

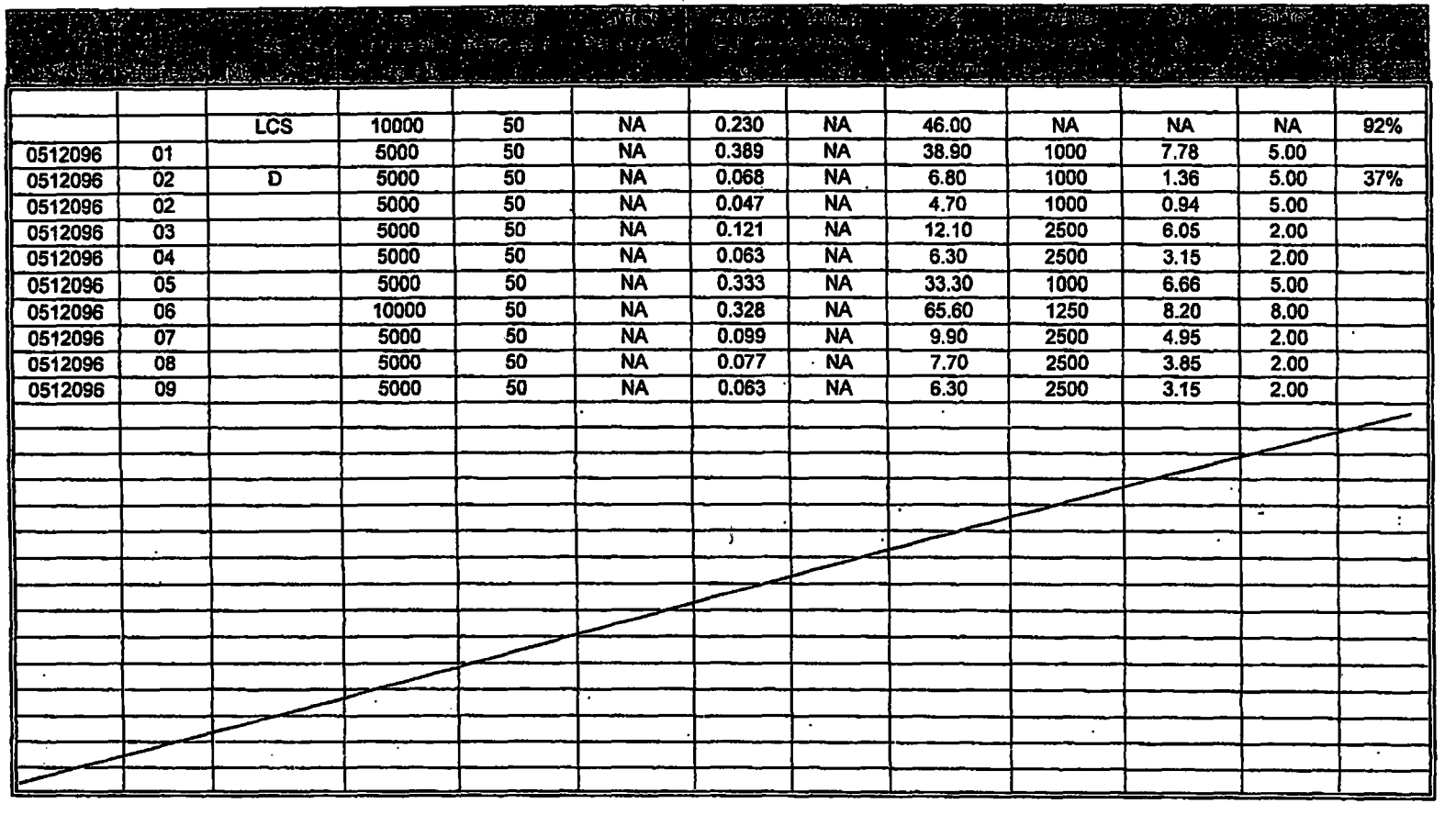
Gravimetric Determination for Column

Analyst: RPR
Date: 12/27/05

BATCH: 0512096ST

Entered by: RPR
Verified by: RPR

		LCS	10000	50	NA	0.230	NA	46.00	NA	NA	NA	92%
0512096	01		5000	50	NA	0.389	NA	38.90	1000	7.78	5.00	
0512096	02	D	5000	50	NA	0.068	NA	6.80	1000	1.36	5.00	37%
0512096	02		5000	50	NA	0.047	NA	4.70	1000	0.94	5.00	
0512096	03		5000	50	NA	0.121	NA	12.10	2500	6.05	2.00	
0512096	04		5000	50	NA	0.063	NA	6.30	2500	3.15	2.00	
0512096	05		5000	50	NA	0.333	NA	33.30	1000	6.66	5.00	
0512096	06		10000	50	NA	0.328	NA	65.60	1250	8.20	8.00	
0512096	07		5000	50	NA	0.099	NA	9.90	2500	4.95	2.00	
0512096	08		5000	50	NA	0.077	NA	7.70	2500	3.85	2.00	
0512096	09		5000	50	NA	0.063	NA	6.30	2500	3.15	2.00	



Total Extract Oil Weight (mg) = (Final Volume of Extract / Aliquot Removed) * Aliquot Weight
Sample Weight (mg/mL) = 20 * Aliquot Weight (mg)
LCS TV = 5 mg/mL

Oil to Column = Total Extract Oil Weight (mg) / Dilution Factor
Dilution Factor = Final Volumne of Extract (ul) / Volume Removed For Column (ul)

TEMPLATE: GravimetricT.XLT
Duplicates should agree within +/- 10%.

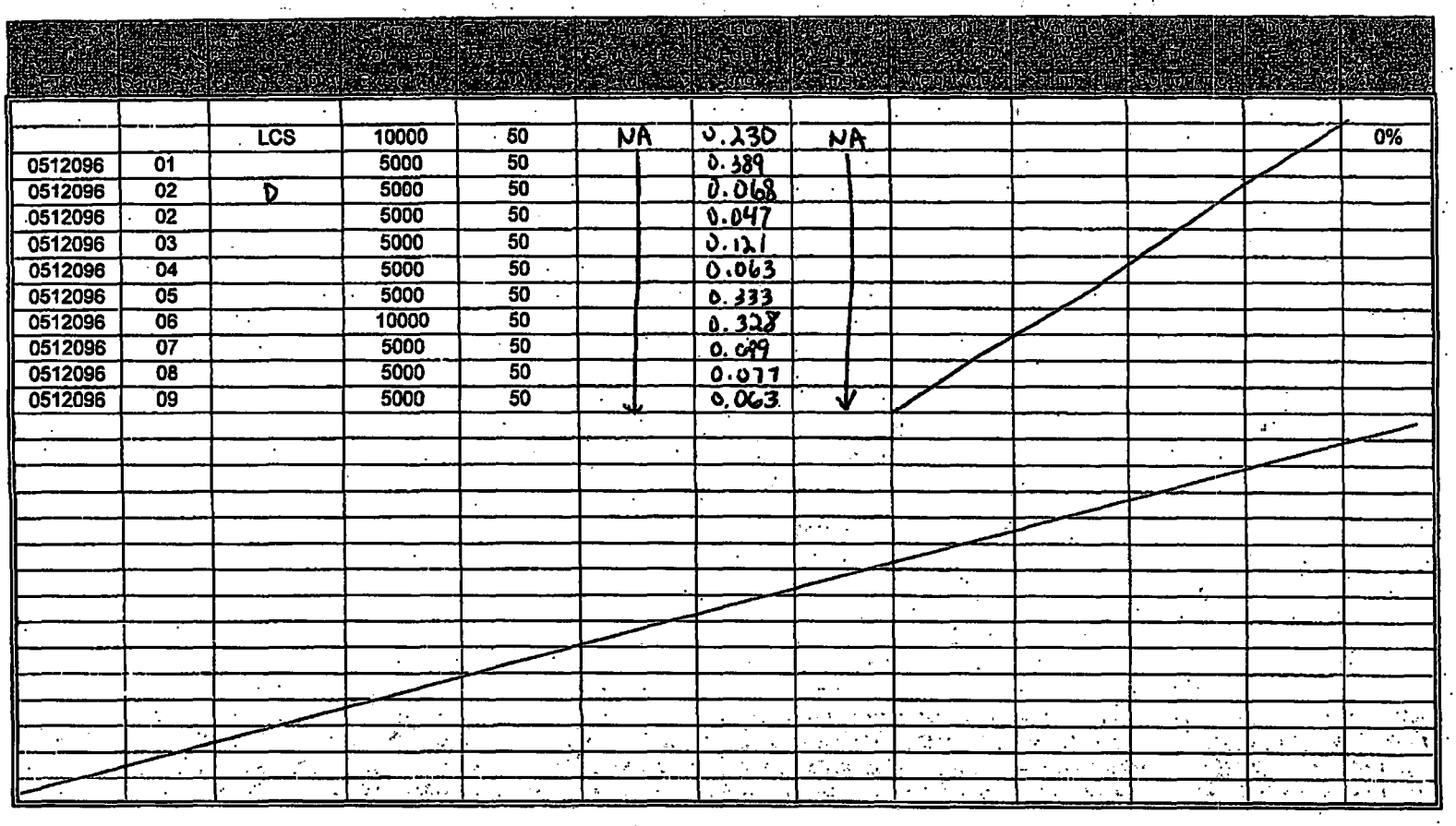
Gravimetric Determination for Column

Analyst: RPR
Date: 12/27/05

BATCH: 0512096ST

Entered by: RPR
Verified by: —

		LCS	10000	50	NA	0.230	NA						0%
0512096	01		5000	50		0.389							
0512096	02	D	5000	50		0.068							
0512096	02		5000	50		0.047							
0512096	03		5000	50		0.121							
0512096	04		5000	50		0.063							
0512096	05		5000	50		0.333							
0512096	06		10000	50		0.328							
0512096	07		5000	50		0.089							
0512096	08		5000	50		0.077							
0512096	09		5000	50		0.063							



Total Extract Oil Weight (mg) = (Final Volume of Extract / Aliquot Removed) * Aliquot Weight
Sample Weight (mg/mL) = 20 * Aliquot Weight (mg)
LCS TV = 5 mg/mL

Oil to Column = Total Extract Oil Weight (mg) / Dilution Factor
Dilution Factor = Final Volumne of Extract (ul) / Volume Removed For Column (ul)

TEMPLATE: GravimetricT.XLT
Duplicates should agree within +/- 10%.

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP SHC

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Prefraction Volume	Fractionation Amount	Fractionation Factor	Transfer Volume
0512096-01	SAM	3660B	DMP	12/28/05										0.15
0512096-02	D	3660B	DMP	12/28/05										0.15
0512096-02	SAM	3660B	DMP	12/28/05										0.15
0512096-03	SAM	3660B	DMP	12/28/05										0.15
0512096-04	SAM	3660B	DMP	12/28/05										0.15
0512096-05	SAM	3660B	DMP	12/28/05										0.15
0512096-06	SAM	3660B	DMP	12/28/05										0.15
0512096-07	SAM	3660B	DMP	12/28/05										0.15
0512096-08	SAM	3660B	DMP	12/28/05										0.15
0512096-09	SAM	3660B	DMP	12/28/05										0.15
SS122105B05	B	3660B	DMP	12/28/05										0.15
SS122105LCS03	LCS	3660B	DMP	12/28/05										0.15
SS122105LCSD03	LCSD	3660B	DMP	12/28/05										0.15

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP SHC

Lab ID	Notes
0512096-01	
0512096-02	
0512096-02	
0512096-03	
0512096-04	
0512096-05	
0512096-06	
0512096-07	
0512096-08	
0512096-09	
SS122105B05	
SS122105LCS03	
SS122105LCSD03	

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP SHC

Lab ID	QC Type	Clean Up Method	Analyst	Clean Up Date	Flow Rate	Coll. Start	Coll. End	Concentration Analyst	Conc. Date	Solvent Ex.	Prefraction Volume	Fractionation Amount	Fractionation Factor	Transfer Volume
0512096-01	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-02	D	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-02	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-03	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-04	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-05	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	1	0	0.15
0512096-06	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	10	1.25	0	0.15
0512096-07	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-08	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
0512096-09	SAM	3610	DMP	12/29/05				DMP	12/29/05	False	5	2.5	0	0.15
SS122105B05	B	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15
SS122105LCS03	LCS	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15
SS122105LCSD03	LCSD	3610	DMP	12/29/05				DMP	12/29/05	False	2	1	0	0.15
TS010306AWS01	AWS	3610	DMP	12/29/05				DMP	12/29/05	False				

Alpha Woods Hole Lab
Batch Clean Up Report
12/21/2005 0512096ST - OP SHC

Lab ID	Notes
0512096-01	
0512096-02	
0512096-02	
0512096-03	
0512096-04	
0512096-05	
0512096-06	
0512096-07	
0512096-08	
0512096-09	
SS122105B05	
SS122105LCS03	
SS122105LCSD03	

Alpha Woods Hole Labs Internal Std Tracking Form

Project Name:KERR-MCGEE-MILWUAKEE
ETR: 0512096

0512096-01	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-02D	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-02	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-04	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-05	900	WHAB38#5	100	1000	5	DMP	150	150	12/28/05
0512096-06	900	WHAB38#5	100	1000	8	DMP	150	150	12/28/05
0512096-07	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-08	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
0512096-09	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105B05	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105LCS03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05
SS122105LCSD03	900	WHAB38#5	100	1000	2	DMP	150	150	12/28/05

* Includes Internal Std

Forensic Preparation Checklist

ETR: 0512096 Client: Newfie Project: Kerr-McGee - Milwaukee

Workplan Present	NA

Workplan Reviewed With Project Manager	NA

Test Requested	
ALK-PAH	X
CHROMATOGRAM	
DENSITY	
HOMOLOG	
Pb	
SHC	X
TPH	
WHOLE OIL	
BIOMARKER	
PHENOL	
OTHER	

Clean Required (if any)	
No Cleanup Required	
Copper	X
Conc. Sulfuric Acid	
GPC	
Silica Gel 923 Grade Glass Column	
Alumina (Super I) Glass Column	✓
Alumina (F20) Glass Column	

Sample Observations			
Normal Weight/Volume Extracted		Lesser Amount Used - Sheen Present On Sample	X
Lesser Amount Used - Low Sample Volume Provided	X	Lesser Amount Used - Suspected High Target Analytes	
Lesser Amount Used - ~~Strong~~ Slight Hydrocarbon Odor	X	Sediment At Bottom Of Water Sample Jar	
Project Specific Weight Used		No Observations	

Other: all clay-like samples
- 1 sheen, wet clay
- 1, 5 slight odor

* used less -2
low sample amount
rocks -2, 3, 6
tricolored - 4
3, 4, 6, 7, 8, 9 okay

Extraction Notes	
Emulsions During Shake	
Samples Extracted Outside Of Hold Time	
No Observations	X

Other:

Identify Matrix - Circle One
Soil / Sediment / Water / Sheen / NAPL / Solid / Tissue / Product

	Date	Initials
1st Extraction	~~12/28/05~~ 12/29/05	DMP
2nd Extraction	12/29/05	↓
3rd Extraction	↓	↓

Concentration Notes			
Greater Final Volume - High Viscosity		Greater Final Volume - Inability To Concentrate Further	
Precipitate Formed During Concentration		No Observations	X

Other:

Batch Completed
Analyst: DMP
Date: 12/28/05

Sequence Name: C:\MSDChem\4\sequence\S4090801.S
Comment:
Operator: AC
Data Path: C:\MSDCHEM\4\DATA\SEPTEMBER\SEP08\

Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

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

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

9/9/05
FID ICAL GOOD
PID - FAILED

Line					Sample Name/Misc Info
1)	DualTwr				
2)	SepGC1				
3)	RearSamp	51	P40803	FRNC4B	ALKANE STD
4)	Sample	1	P40804	FRNC4B	PAH STD
5)	RearSamp	51	P40805	FRNC4B	ALKANE STD
6)	Sample	1	P40806	FRNC4B	PAH STD
7)	RearSamp	52	P40807	FRNC4B	DCM
8)	Sample	2	P40808	FRNC4B	PRIME
9)	RearSamp	53	P40809	FRNC4B	I4090801-AFID
10)	Sample	2	P40810	FRNC4B	PRIME
11)	RearSamp	54	P40811	FRNC4B	I4090802-AFID
12)	Sample	2	P40812	FRNC4B	PRIME
13)	RearSamp	55	P40813	FRNC4B	I4090803-AFID
14)	Sample	3	P40814	FRNC4B	DCM
15)	RearSamp	56	P40815	FRNC4B	I4090804-AFID
16)	Sample	4	P40816	FRNC4B	I4090801
17)	RearSamp	57	P40817	FRNC4B	I4090805-AFID
18)	Sample	5	P40818	FRNC4B	I4090802
19)	RearSamp	58	P40819	FRNC4B	Q4090801-AFID
20)	Sample	6	P40820	FRNC4B	I4090803
21)	RearSamp	59	P40821	FRNC4B	DCM-AFID I8409080501
22)	Sample	7	P40822	FRNC4B	I4090804
23)	RearSamp	60	P40823	FRNC4B	ANS4090801-AFID
24)	Sample	8	P40824	FRNC4B	I4090805
25)	RearSamp	61	P40825	FRNC4B	LA4090801
26)	Sample	9	P40826	FRNC4B	I4090806
27)	RearSamp	62	P40827	FRNC4B	SFFSW4090801
28)	Sample	10	P40828	FRNC4B	I4090807
29)	RearSamp	63	P40829	FRNC4B	SFFCO4090801 TW 100705 SSFC001
30)	Sample	11	P40830	FRNC4B	Q4090801
31)	RearSamp	64	P40831	FRNC4B	SA4090801
32)	Sample	12	P40832	FRNC4B	Q4090802
33)	RearSamp	65	P40833	FRNC4B	SFFN4090801
34)	Sample	13	P40834	FRNC4B	ANS4090801
35)	RearSamp	66	P40835	FRNC4B	SFFS4090801
36)	Sample	14	P40836	FRNC4B	DCM
37)	RearSamp	67	P40837	FRNC4B	DCM-AFID
38)	Sample	15	P40838	FRNC4B	C4090801

HC 40908-H 9/20/05

Sequence Name: C:\MSDChem\4\sequence\S4122701.S
Comment:
Operator: AC
Data Path: C:\MSDCHEM\4\DATA\DECEMBER\DEC27\
Top Pre-Seq Cmd:
Instrument Control Pre-Seq Cmd:
Data Analysis Pre-Seq Cmd:

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

12/30/05.

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

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

Line					Sample Name/Misc Info
1)	Debug				
2)	DualTwr				
3)	SepGC1				
4)	RearSamp	51	P42813	FRNC4B	ALK STD
5)	Sample	1	P42814	FRNC4B	PAH STD
6)	RearSamp	52	P42815	FRNC4B	C4122701-AFID pass
7)	Sample	2	P42816	FRNC4B	C4122701 pass
8)	RearSamp	53	P42817	FRNC4B	ANS4122701-AFID TSO10306AWSO1
9)	Sample	3	P42818	FRNC4B	ANS4122701
10)	RearSamp	54	P42819	FRNC4B	DCM-AFID
11)	Sample	4	P42820	FRNC4B	DCM
12)	RearSamp	55	P42821	FRNC4B	DCM-AFID
13)	Sample	5	P42822	FRNC4B	DCM
14)	RearSamp	56	P42823	FRNC4B	SO122105B15-AFID
15)	Sample	6	P42824	FRNC4B	SO122105B15
16)	RearSamp	57	P42825	FRNC4B	SO122105LCS12-AFID
17)	Sample	7	P42826	FRNC4B	SO122105LCS12
18)	RearSamp	58	P42827	FRNC4B	SO122105LCSD12-AFID
19)	Sample	8	P42828	FRNC4B	SO122105LCSD12
[illegible]	RearSamp	59	P42829	FRNC4B	0512104-01-AFID *
[illegible]	Sample	9	P42830	FRNC4B	0512104-01 *
22)	RearSamp	60	P42831	FRNC4B	0512104-01D-AFID *
23)	Sample	10	P42832	FRNC4B	0512104-01D *
24)	RearSamp	61	P42833	FRNC4B	C4122702-AFID } NOT NEEDED.
25)	Sample	11	P42834	FRNC4B	C4122702
26)	RearSamp	62	P42835	FRNC4B	DCM-AFID
27)	Sample	12	P42836	FRNC4B	DCM
28)	RearSamp	61	P42837	FRNC4B	C4122703-AFID pass
29)	Sample	11	P42838	FRNC4B	C4122703 pass
30)	RearSamp	63	P42839	FRNC4B	DCM-AFID [illegible]
31)	Sample	13	P42840	FRNC4B	DCM
32)	RearSamp	64	P42841	FRNC4B	DCM-AFID
33)	Sample	14	P42842	FRNC4B	DCM
34)	RearSamp	65	P42843	FRNC4B	0512104-01-RE-AFID *
35)	Sample	15	P42844	FRNC4B	0512104-01 *
36)	RearSamp	66	P42845	FRNC4B	0512104-01D-RE-AFID *
37)	Sample	16	P42846	FRNC4B	0512104-01 *
38)	RearSamp	67	P42847	FRNC4B	C4122704-AFID pass
39)	Sample	17	P42848	FRNC4B	C4122704 pass
40)	RearSamp	68	P42849	FRNC4B	DCM-AFID
41)	Sample	18	P42850	FRNC4B	DCM
42)	RearSamp	69	P42851	FRNC4B	SS122105B05-AFID
43)	Sample	19	P42852	FRNC4B	SS122105B05

* NOT NEEDED. NEW FILES CANCELED.

PAH #4 Sequence Information

SHC Continuing Calibration: WHAC10 Conc.: 50ug/mL
PAH Continuing Calibration: WHAB56 Conc.: 500ng/mL

Alaska North Slope Crude Standard: WHAB79 Conc.: 5.096mg/mL

FID Process Method: HC40908.M PAH Process Method: PAH41217.M

Last Modified: Sat Dec 17 11:31:19 2005

Sequence Name: C:\MSDChem\4\sequence\S4122701.S

	Line	Type	Vial	DataFile	Method	Sample Name
44)		RearSamp	70	P42853	FRNC4B	SS122105LCS03-AFID
45)		Sample	20	P42854	FRNC4B	SS122105LCS03
46)		RearSamp	71	P42855	FRNC4B	SS122105LCSD03-AFID
47)		Sample	21	P42856	FRNC4B	SS122105LCSD03
48)		RearSamp	72	P42857	FRNC4B	0512096-01-AFID
49)		Sample	22	P42858	FRNC4B	0512096-01
50)		RearSamp	73	P42859	FRNC4B	0512096-02-AFID
51)		Sample	23	P42860	FRNC4B	0512096-02
52)		RearSamp	74	P42861	FRNC4B	0512096-02D-AFID
53)		Sample	24	P42862	FRNC4B	0512096-02D
54)		RearSamp	75	P42863	FRNC4B	0512096-03-AFID
55)		Sample	25	P42864	FRNC4B	0512096-03
56)		RearSamp	99	P42864A	FRNC4B	C4122705-AFID pass
57)		Sample	100	P42864B	FRNC4B	C4122705 pass.
58)		RearSamp	76	P42865	FRNC4B	0512096-04-AFID
59)		Sample	26	P42866	FRNC4B	0512096-04
60)		RearSamp	77	P42867	FRNC4B	0512096-05-AFID
61)		Sample	27	P42868	FRNC4B	0512096-05
62)		RearSamp	80	P42873	FRNC4B	0512096-06-AFID
63)		Sample	30	P42874	FRNC4B	0512096-06
64)		RearSamp	81	P42875	FRNC4B	0512096-07-AFID
65)		Sample	31	P42876	FRNC4B	0512096-07
66)		RearSamp	82	P42877	FRNC4B	0512096-08-AFID
67)		Sample	32	P42878	FRNC4B	0512096-08
68)		Pause				
69)		RearSamp	83	P42879	FRNC4B	0512096-09-AFID
70)		Sample	33	P42880	FRNC4B	0512096-09
71)		RearSamp	84	P42881	FRNC4B	C4122706-AFID pass
72)		Sample	34	P42882	FRNC4B	C4122706 pass
73)		RearSamp	85	P42883	FRNC4B	DCM-AFID
74)		Sample	35	P42884	FRNC4B	DCM
75)		RearSamp	86	P42885	FRNC4B	SS122105B10-AFID
76)		Sample	36	P42886	FRNC4B	SS122105B10
77)		RearSamp	87	P42887	FRNC4B	SS122105LCS07-AFID
78)		Sample	37	P42888	FRNC4B	SS122105LCS07
79)		RearSamp	88	P42889	FRNC4B	SS122105LCSD07-AFID
80)		Sample	38	P42890	FRNC4B	SS122105LCSD07
81)		RearSamp	89	P42891	FRNC4B	0512101-01-AFID
82)		Sample	39	P42892	FRNC4B	0512101-01
83)		RearSamp	90	P42893	FRNC4B	0512101-02-AFID
84)		Sample	40	P42894	FRNC4B	0512101-02
85)		RearSamp	91	P42895	FRNC4B	C4122707-AFID pass
86)		Sample	41	P42896	FRNC4B	C4122707 pass
87)		RearSamp	92	P42897	FRNC4B	DCM-AFID
88)		Sample	42	P42898	FRNC4B	DCM
89)		RearSamp	1	P42898A	FRNC4B	DCM-AFID
90)		Sample	2	P42898B	FRNC4B	DCM — END OF SEQUENCE - continued.
91)		RearSamp	93	P42899	FRNC4B	SS122105B14-AFID
92)		Sample	43	P42900	FRNC4B	SS122105B14
93)		RearSamp	94	P42901	FRNC4B	SS122105LCS11-AFID
94)		Sample	44	P42902	FRNC4B	SS122105LCS11
95)		RearSamp	95	P42903	FRNC4B	SS122105LCSD11-AFID
96)		Sample	45	P42904	FRNC4B	SS122105LCSD11

CW 1/19/06

CHAIN OF CUSTODY RECORDS

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #_______ Group#_______ Sample #_______

COC # 0101393

0512096

Please print. Instructions on reverse side correspond with circled numbers.

(1)
Client: Newfields   Acct. #: ________
Project Name/#: Moss American   PWSID #: ________
Project Manager: Scott Stout (781-681-5040, ext. 105)   P.O.#: ________
Sampler: Kelly Duddy (312-424-3313)   Quote #: ________
Name of state where samples were collected: WI

For Lab Use Only
FSC: ________
SCR #: ________

(2) (3) (4) (5) Modified 8270 PAHs (6) Remarks

	Sample	Date	Time								Modified 8270 PAHs	Remarks
-1	MA9-SSRR-131A-9-21	11-29-05	11:00			✓					✓	
-2	MA9-SSRR-131D-0-5	11-29-05	11:00			✓					✓	
-3	MA9-SSRR-131C-0-5	11-29-05	11:00			✓					✓	
-4	MA9-SSRR-128A-18-24	11-29-05	11:00			✓					✓	
-5	MA9-SSRR-128E-0-6	11-29-05	11:00			✓					✓	

(7) **Turnaround Time Requested (TAT)** (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: ________
Rush results requested by (please circle): Phone Fax E-mail
Phone #: ________ Fax #: ________
E-mail address: ________

(8) **Data Package Options** (please circle if required)
QC Summary   Type VI (Raw Data)
Type I (Tier I)   GLP
Type II (Tier II)   Other
Type III (NJ Red. Del.)
Type IV (CLP)

SDG Complete? Yes No
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12-02-05	2:15PM	FED EX		
FED EX	12/5/05	0845	[signature]	12/5/05	0845

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102 Rev. 10/27/02

Sample Receipt Checklist

Client:	~~ROXIES~~ NEWFIE	**Receipt Date:**	12/5/05
Project:	Kerr McGee - Milwaukee	**Log-in Date:**	12/16/05
ETR #:	051209 6	**Inspection by:**	**Login by:** EMP

ALL SECTIONS BELOW MUST BE COMPLETED

Comments / Notes

Were samples shipped? (Yes, FedEx) / UPS / Other:_____
No, WHG Courier pick-up / Hand delivered

Is bill of lading retained? (Yes) Tracking #: attached
No, Unavailable / NA

Number of coolers received for this project delivery: 1

Indicate cooler temperature upon opening (if multiple coolers, record all temps):

Note: If all coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note all samples received *above* 6°C.

Cooler 1:
Temperature(s) taken from: 11° IR Gun, 10° Temp. Blank, / NA

Were samples received on ice? Yes / No melted

Chain-of-Custody present? (Yes) / No

Complete? (Yes) / No

Custody seals present on Cooler? (Yes) / No

on Bottles? Yes / (No)

Intact? (Yes) / No / NA

Note: Affix custody seals to back of this page.

Were sample containers intact? (Yes) / No If No, list samples: →

Did VOA/VPH waters contain headspace (>5mm)? Yes / No / (NA) If Yes, list samples: →

Were 5035 VOA soils, or VPH soils, *covered* with MeOH? Yes / No / (NA)
If No, list samples: →

Was a sufficient amount of sample received for each test indicated on the COC?
(Yes) / No If No, list samples: →

If chemical preservation is appropriate -
Were samples field preserved? Yes / No / (NA)

☐C=HCl ☐ M=MeOH ☐ S=H_2SO_4
☐H=NaOH ☐ N=HNO_3 ☐ Other:_____ ☐ U= Unknown

Preservation (pH) verified at lab for *EVERY* bottle? (Not: VOA / VPH / Sulfide)
YES: <2 or >12 (CN) or NO (NA)
If No, why?:

Were samples received within hold time? (Yes) / No If No, list samples: →

Discrepancy between samples rec'd & COC ? Yes / (No) If Yes, list samples: →

Was the Project Manager notified of any other problems? Yes / No / (NA)

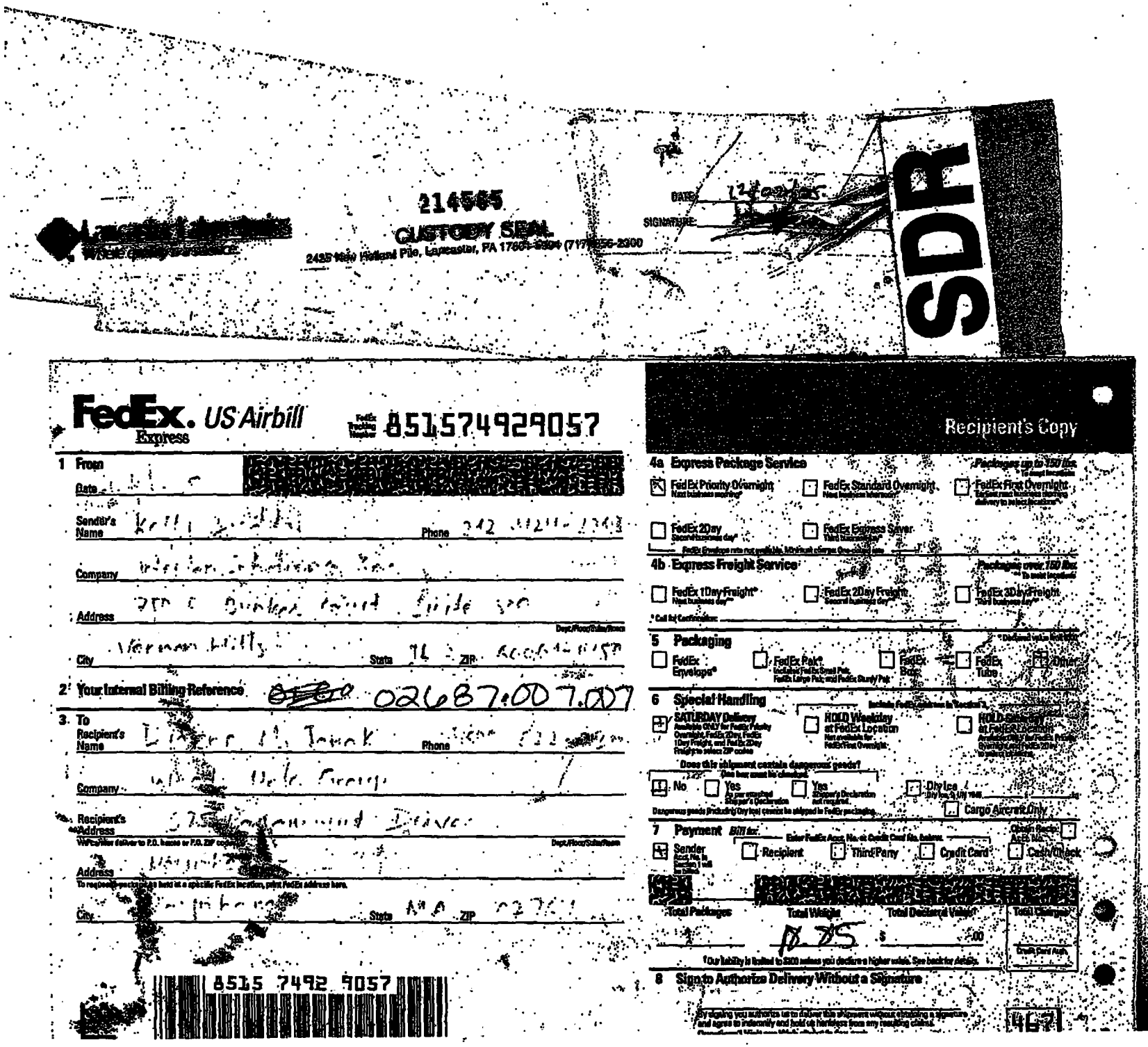
Project Manager Acknowledgement: EMP Date: 12/16/05

Chemical preservation OK for ALL samples?
Yes / No / (N/A)

If No, list samples below:

Please use back for any additional notes!

Woods Hole Group Environmental Laboratories
Raynham, Massachusetts



214565
CUSTODY SEAL
DATE
SIGNATURE
SDR
FedEx. US Airbill
Express
851574929057
Recipient's Copy
1 From
Date
Sender's Name
Phone
Company
Address
City
State
ZIP
2 Your Internal Billing Reference
02687.007.007
3 To
Recipient's Name
Phone
Company
Recipient's Address
Address
City
State MA
ZIP
4a Express Package Service
Packages up to 150 lbs.
FedEx Priority Overnight
FedEx Standard Overnight
FedEx First Overnight
FedEx 2Day
FedEx Express Saver
4b Express Freight Service
Packages over 150 lbs.
FedEx 1Day Freight
FedEx 2Day Freight
FedEx 3Day Freight
5 Packaging
FedEx Envelope
FedEx Pak
FedEx Box
FedEx Tube
Other
6 Special Handling
SATURDAY Delivery
HOLD Weekday at FedEx Location
Does this shipment contain dangerous goods?
No
Yes
Dry Ice
Cargo Aircraft Only
7 Payment
Bill to:
Sender
Recipient
Third Party
Credit Card
Cash/Check
Total Packages
Total Weight
Total Declared Value
Total Charges
8 Sign to Authorize Delivery Without a Signature
8515 7492 9057
184

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: _____ Group#: _____ Sample # _____

COC # 0050348

0512096

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: Newfields Acct. #: _____
Project Name/#: Moss American PWSID #: _____
Project Manager: Scott Stout (781-681-5040, ext. 105) P.O.#: _____
Sampler: Kelly Dudley (312-424-2313) Quote #: _____
Name of state where samples were collected: WI

For Lab Use Only
FSC: _____
SCR #: _____

(6)

(2) Sample Identification	Date Collected	Time Collected	(3) Matrix	(4) # of Containers	(5) Modified 8270 PAHs	Remarks
MA9-SSRR-122C 04	12/02/05	1:00		✓	✓	
MA9-SSRR-116A 18-24	12/02/05	1:00		✓	✓	
MA9-SSRR-116A 18-24 D	12/02/05	1:00		✓	✓	
MA9-SSRR-125E 9-18	12/02/05	1:00		✓	✓	

(7) **Turnaround Time Requested (TAT) (please circle):** (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please circle): Phone Fax E-mail
Phone #: _____ Fax #: _____
E-mail address: _____

(8) **Data Package Options** (please circle if required)
QC Summary — Type VI (Raw Data)
Type I (Tier I) — GLP
Type II (Tier II) — Other
Type III (NJ Red. Del.)
Type IV (CLP)
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No
SDG Complete? Yes No

Relinquished by:	Date	Time	Received by:	Date	Time
Fedex	12/09/05	12:00	Fed Ex		
Fed Ex	12/12/05	0845		12/13/05	0845

(9)

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client

2102 Rev. 10/27/02

Sample Receipt Checklist

Client:	NEXFE	**Receipt Date:**	12/12/05 0845
Project:	Kerr McGee - Milwaukee	**Log-in Date:**	12/16/05
ETR #:	05120916	**Inspection by:**	LR **Login by:** EMP

ALL SECTIONS BELOW MUST BE COMPLETED

Were samples shipped? (Yes, FedEx) / UPS / Other:_____
No, WHG Courier pick-up / Hand delivered

Is bill of lading retained? Yes, Tracking #: attached
No, Unavailable / NA

Number of coolers received for this project delivery: 1

Indicate cooler temperature upon opening (if multiple coolers, record all temps):

Note: If all coolers are 2-6°C, use one checklist, if NOT, use separate checklists and note all samples received *above* 6°C.

Cooler 1:
Temperature(s) taken from: 6° IR Gun, 4.5° Temp. Blank / NA

Were samples received on ice? (Yes) / No

Chain-of-Custody present? (Yes) / No

Complete? (Yes) / No

Custody seals present on Cooler? (Yes) / No

on Bottles? Yes / (No)

Intact? (Yes) / No / NA

Note: Affix custody seals to back of this page.

Were sample containers intact? (Yes) / No If No, list samples: →

Did VOA/VPH waters contain headspace (>5mm)? Yes / No / (NA) If Yes, list samples: →

Were 5035 VOA soils, or VPH soils, *covered* with MeOH? Yes / No / (NA)
If No, list samples: →

Was a sufficient amount of sample received for each test indicated on the COC?
(Yes) / No If No, list samples: →

If chemical preservation is appropriate -
Were samples field preserved? Yes / No / (NA)

☐ C=HCl ☐ M=MeOH ☐ S=H_2SO4
☐ H=NaOH ☐ N=HNO_3 ☐ Other:_____ ☐ U= Unknown

Preservation (pH) verified at lab for *EVERY* bottle? (Not: VOA / VPH / Sulfide)
YES: <2 or >12 (CN) or NO (NA)
If No, why?:

Were samples received within hold time? (Yes) / No If No, list samples: →

Discrepancy between samples rec'd & COC ? Yes / (No) If Yes, list samples: →

Was the Project Manager notified of any other problems? Yes / No / (NA)

Project Manager Acknowledgement: EMP **Date:** 12/16/05

Comments / Notes

Sample storage refrigerator #:_____

Sample storage freezer #: 12

12/12/05 per EMP

Cooler 2:_____ Cooler 3:_____

Cooler 4:_____ Cooler 5:_____

Cooler 6:_____ Cooler 7:_____

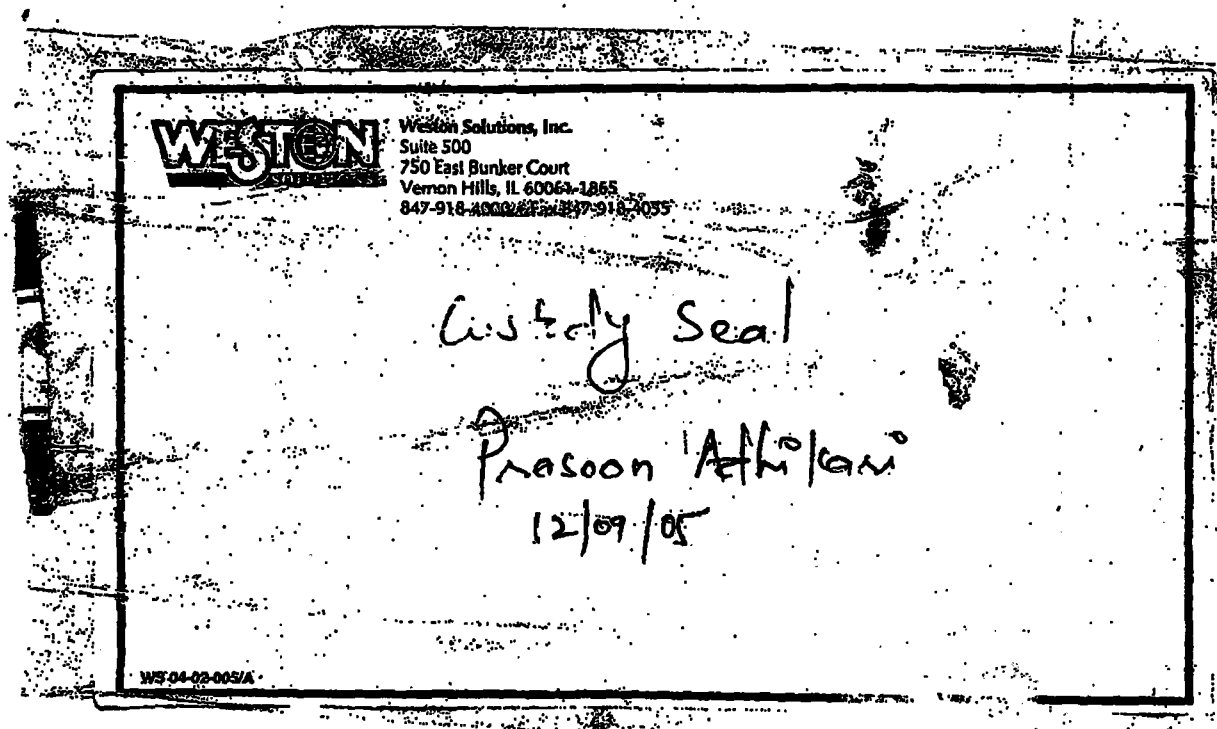
More:_____

Chemical preservation OK for ALL samples?

Yes / No / (N/A)

If No, list samples below:

Please use back for any additional notes!


Weston Solutions, Inc.
Suite 500
750 East Bunker Court
Vernon Hills, IL 60061-1865
847-918-4000
847-918-4035
Custody Seal
Prasoon Athiyani
12/09/05
WS-04-02-005/A

FedEx Express. US Airbill

8530 1304 9382

0200 Form ID No.

FedEx Retrieval Copy

1 From

Date 12/09/05 Sender's FedEx Account Number 2913107 02

Sender's Name Kelly Dudley Phone 312-421-3313

Company Weston Solutions, Inc.

Address Suite 500, 750 E. Bunker Court

Dept/Floor/Suite/Room

City Vernon Hills State IL ZIP 60061

2 Your Internal Billing Reference

3 To

Recipient's Name Dianne M. Jannk Phone 508-822-9300

Company Woods Hole Group

Recipient's Address 375 Paramount Drive

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Raynham State MA ZIP 02767

8530 1304 9382

L

4a Express Package Service — Packages up to 150 lbs. * To most locations

1 [X] FedEx Priority Overnight — Next business morning* | 5 [ ] FedEx Standard Overnight — Next business afternoon* | 6 [ ] FedEx First Overnight — Earliest next business morning delivery to select locations*

3 [ ] FedEx 2Day — Second business day* | 20 [ ] FedEx Express Saver — Third business day*

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — Packages over 150 lbs. * To most locations

7 [ ] FedEx 1Day Freight* — Next business day** | 8 [ ] FedEx 2Day Freight — Second business day** | 83 [ ] FedEx 3Day Freight — Third business day**

* Call for Confirmation:

5 Packaging — * Declared value limit $500

6 [ ] FedEx Envelope* | 2 [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak | 3 [ ] FedEx Box | 4 [ ] FedEx Tube | 1 [X] Other

6 Special Handling — Include FedEx address in Section 3.

3 [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight, FedEx 2Day, FedEx 1Day Freight, and FedEx 2Day Freight to select ZIP codes

1 [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight

31 [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

[X] No | 4 [ ] Yes — As per attached Shipper's Declaration | [ ] Yes — Shipper's Declaration not required | 6 [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including Dry Ice) cannot be shipped in FedEx packaging. [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below. Obtain Recip. Acct. No. [ ]

1 [X] Sender — Acct. No. in Section 1 will be billed. | 2 [ ] Recipient | 3 [ ] Third Party | 4 [ ] Credit Card | 5 [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Charges
1		Credit Card Auth.

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

8 Sign to Authorize Delivery Without a Signature

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

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