Appendix G

Data Validation Reports
(Volume 2 of 2)

Former Gulf States Creosoting Site
Hattiesburg, Mississippi

ENVIRONMENTAL STANDARDS

Setting the Standards for Innovative Environmental Solutions

QUALITY ASSURANCE REVIEW OF SAMPLES COLLECTED FOR GULF STATES CREOSOTING

VOLUME II

December 3, 1998

Prepared for:

MICHAEL PISANI & ASSOCIATES
1430 Energy Center
1100 Poydras Street
New Orleans, LA 70163

Prepared by:

ENVIRONMENTAL STANDARDS MIDWEST, INC.
956 South 59th Street
Suite D
Belleville, IL 62223

ENVIRONMENTAL STANDARDS MIDWEST, INC.
BELLEVILLE, IL

1140 Valley Forge Road, P.O. Box 911, Valley Forge, PA 19482-0911 ▪ 610-935-5577 ▪ Internet OffNPL@EnvStd.com
1111 Kennedy Place, Suite 2, Davis, CA 95616 ▪ 916-758-1903 ▪ Internet ENVSTDWEST@AOL.com
Copper Bend Centre, 956 South 59th Street, Belleville, IL 62223 ▪ 618-257-3800 ▪ Internet MIDWEST@EnvStd.com
World Wide Web HTTP://www.EnvStd.com/

SECTION 3

ORGANIC DATA SUPPORT DOCUMENTATION

Organic Analyses Support Documentation

NOV 23 1998

Environmental Standards Project Name: Hm-Hattiesburg
Sample Collection Dates: 5/20-21, 6/4, 8, 18 /98
Job Number: 9807m088
Project Manager: K. Blaine
Laboratory: Lancaster

Reviewed By: K. Blaine
Approved By: GCS
Completion Date: 11/98

Applicable Sample No's.: [X] Refer to Table 1 in the Quality Assurance Review

Sample No.	Lab. Control No.

Deliverables:
- CLP [ ]
- Tier I [ ]
- Tier II [X]
- Limited [ ]
- Other ____

The following table indicates criteria which were examined, the identified problems, and support documentation attachments.

	Criteria Examined in Detail — Check (✓) If Yes or Footnote Letter for Comments Below				Problems Identified — Check (✓) If Yes or Footnote Number for Comments Below				Support Documentation Attachments — Check (✓) If Yes -- or Identify Attachment No.			
	VOA Method 8260B	BNA Method 8270C	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method 8270C	PEST / PCB Method	Other Method(s)	VOA Method 8260B	BNA Method 8270C	PEST / PCB Method	Other Method(s)
Holding Times	✓	✓				(1) ✓			✓	✓		
Blank Analysis Results: Target Compounds	✓	✓				(2) ✓			✓	✓		
Blank Analysis Results: TICs												
System Mntr. Cmpds. &/or Surrogate Spike Rslts.	✓	✓				(6) ✓			✓	✓		
Matrix Spike / Matrix Spike Duplicate Results	✓	✓			(7) ✓	(3) ✓			✓	✓		
Blank Spike Results	✓	✓				(5) ✓			✓	✓		
Duplicate Analysis Results [ ] Field [ ] Lab												
Qualitative Identification: Target Compounds	✓	✓										
Qualitative Identification: TICs												
DFTPP & BFB Mass Tuning	✓	✓							✓	✓		
GC Instrument Performance												
Initial Calibrations	✓	✓							✓	✓		
Continuing Calibrations	✓	✓				(4) ✓			✓	✓		
Quantitation of Results	✓	✓										
DDT / Endrin Breakdown												
Surrogate Retention Time Shifts												
Internal Standards Performance	✓	✓							✓	✓		
Resolution Check Standards												
Analytical Sequence	✓	✓							✓	✓		
Florisil Cartridge Check & GPC Calibration												
GC Column Agreement												
Others:												

Comments:
HMS01 { (1) C1T70RE + C1T09RE - ext. past HT, but data not used for reporting
(2) bis(2-ethylhexyl)phthalate and di-n-octylphthalate in field blank; butylbenzylphthalate + di-n-butylphthalate in MB.
(3) 2,4-dichlorophenol MSD rec ↓, RPD ↑ }
(4) 2,4-dinitrophenol and hexachlorocyclopentadiene - decrease in sensitivity
HMS02 - (5) LCS rec. benzo(a)pyrene ↑
(6) 2BW, 2ACW surr low but >10% in SD-12
(7) Bromoform ↑ for MS/MSD in SDG HMS03

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
S	Aq	EB	RB/6-8-88	Phenol	ug/L 2	10	
S	Aq	EB	RB/6-10-88	none			
S	S	MB	SBIKLBN66W	none	ug/kg		
S	Aq	MB	SBIKWAN73	di-n-butylphthalate	ug/L 3		30
				butylbenzylphthalate	10		100
S	S	MB	SBIKLAN44W	none	ug/kg		

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKLB166N	62	72	104	76	76	109		0
02	SBLKLA168N	89	100	114	95	101	120		0
03	166LBLCSN	74	88	98	88	89	124		0
04	168LALCSN	84	91	81	86	93	113		0
05	B20-1	90	96	105	94	102	120		0
06	B20-1DL	91	93	100	88	94	106		0
07	B20-1MS	92	97	87	92	99	117		0
08	B20-1MSD	95	102	88	96	102	124		0
09	315-6	66	70	104	84	84	112		0
10	320-1	70	77	111	86	83	85		0
11	322-3	70	75	110	90	92	118		0
12	325-6	66	72	107	86	85	111		0
13	032-3	69	77	112	90	91	110		0
14	035-6	66	71	108	89	88	104		0
15	102-3	50	54	73	62	62	72		0
16	105-6	66	67	99	85	86	87		0
17	162-3	74	80	107	88	90	111		0
18	165-6	70	70	103	88	91	93		0
19	172-3	72	75	105	87	91	97		0
20	175-6	70	74	105	88	89	101		0
21	182-3	70	76	103	84	88	100		0
22	185-6	75	84	110	92	94	107		0
23	G13-0	91	100	82	98	102	122		0
24	G13-0DL	90	94	93	89	90	104		0
25	G13-2	90	102	117	99	107	124		0
26	G13-5	90	98	124	92	99	118		0
27									
28									
29									
30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(31-126)
S2 (FBP) = 2-Fluorobiphenyl	(45-113)
S3 (TPH) = Terphenyl-d14	(37-130)
S4 (PHL) = Phenol-d6	(39-108)
S5 (2FP) = 2-Fluorophenol	(35-108)
S6 (TBP) = 2,4,6-Tribromophenol	(23-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

FORM II SV-2 1/87 Rev.

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKWA1678	79	72	84	39	54	92		0
02	167WALCS8	92	90	98	42	62	95		0
03	RB609	78	78	74	37	54	88		0
04	RB610	73	72	62	32	45	82		0
05									
06									
07									
08									
09									
10									
11									
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29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(47-114)
S2 (FBP)	= 2-Fluorobiphenyl	(51-106)
S3 (TPH)	= Terphenyl-d14	(37-119)
S4 (PHL)	= Phenol-d6	(7- 74)
S5 (2FP)	= 2-Fluorophenol	(25- 88)
S6 (TBP)	= 2,4,6-Tribromophenol	(34-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG118 Lab Sample ID:SBLKLB166

Date Extracted: 06/15/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/06/98 Time Analyzed: 10:01

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06756

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	166LBLCSN	166LBLCS	>NG119	07/06/98
02	315-6	2945135	>NG123	07/06/98
03	322-3	2945137	>NG124	07/06/98
04	325-6	2945138	>NG125	07/06/98
05	032-3	2945139	>NG126	07/06/98
06	035-6	2945140	>NG127	07/06/98
07	102-3	2945141	>NG128	07/06/98
08	105-6	2945142	>NG129	07/06/98
09	162-3	2945143	>NG130	07/06/98
10	165-6	2945144	>NG134	07/06/98
11	172-3	2945145	>NG135	07/06/98
12	175-6	2945146	>NG136	07/07/98
13	182-3	2945147	>NG137	07/07/98
14	185-6	2945148	>NG138	07/07/98
15	320-1	2945136	>NG139	07/07/98
16	19640	2945456	>NG167	07/07/98
17	19640MS	2945457	>NG168	07/07/98
18	19640MSD	2945458	>NG169	07/07/98
19	19637	2945452	>NG188	07/08/98
20	19638	2945454	>NG189	07/08/98
21	19639	2945455	>NG190	07/08/98
22	19641	2945459	>NG191	07/08/98
23	19638RE	2945454RE	>NG226	07/09/98
24	19639RE	2945455RE	>NG227	07/09/98
25	19641RE	2945459RE	>NG228	07/09/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB166N

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG118

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/06/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
110-86-1	Pyridine	67	U
62-75-9	N-Nitrosodimethylamine	67	U
108-95-2	Phenol	67	U
62-53-3	Aniline	33	U
111-44-4	bis(2-Chloroethyl)ether	33	U
95-57-8	2-Chlorophenol	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
100-51-6	Benzyl alcohol	170	U
95-50-1	1,2-Dichlorobenzene	33	U
95-48-7	2-Methylphenol	33	U
108-60-1	2,2'-oxybis(1-Chloropropane)	33	U
108-60-1	bis(2-Chloroisopropyl)ether	33	U
106-44-5	4-Methylphenol	67	U
621-64-7	N-Nitroso-di-n-propylamine	33	U
67-72-1	Hexachloroethane	33	U
98-95-3	Nitrobenzene	33	U
78-59-1	Isophorone	33	U
88-75-5	2-Nitrophenol	67	U
105-67-9	2,4-Dimethylphenol	67	U
65-85-0	Benzoic acid	170	U
111-91-1	bis(2-Chloroethoxy)methane	67	U
120-83-2	2,4-Dichlorophenol	67	U
120-82-1	1,2,4-Trichlorobenzene	33	U
91-20-3	Naphthalene	33	U
106-47-8	4-Chloroaniline	33	U
87-68-3	Hexachlorobutadiene	67	U
59-50-7	4-Chloro-3-methylphenol	67	U
91-57-6	2-Methylnaphthalene	33	U
77-47-4	Hexachlorocyclopentadiene	170	U
88-06-2	2,4,6-Trichlorophenol	67	U
95-95-4	2,4,5-Trichlorophenol	67	U
91-58-7	2-Chloronaphthalene	33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB166N

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG118

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/06/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
88-74-4--------	2-Nitroaniline	33	U
131-11-3-------	Dimethylphthalate	67	U
606-20-2-------	2,6-Dinitrotoluene	33	U
208-96-8-------	Acenaphthylene	33	U
99-09-2--------	3-Nitroaniline	67	U
83-32-9--------	Acenaphthene	33	U
51-28-5--------	2,4-Dinitrophenol	230	U
100-02-7-------	4-Nitrophenol	170	U
132-64-9-------	Dibenzofuran	33	U
121-14-2-------	2,4-Dinitrotoluene	67	U
84-66-2--------	Diethylphthalate	67	U
7005-72-3------	4-Chlorophenyl-phenylether	33	U
86-73-7--------	Fluorene	33	U
100-01-6-------	4-Nitroaniline	67	U
534-52-1-------	4,6-Dinitro-2-methylphenol	170	U
86-30-6--------	N-Nitrosodiphenylamine (1)	33	U
122-66-7-------	1,2-Diphenylhydrazine	33	U
101-55-3-------	4-Bromophenyl-phenylether	67	U
118-74-1-------	Hexachlorobenzene	33	U
87-86-5--------	Pentachlorophenol	170	U
85-01-8--------	Phenanthrene	33	U
120-12-7-------	Anthracene	33	U
86-74-8--------	Carbazole	67	U
84-74-2--------	Di-n-butylphthalate	67	U
206-44-0-------	Fluoranthene	33	U
92-87-5--------	Benzidine	830	U
129-00-0-------	Pyrene	33	U
85-68-7--------	Butylbenzylphthalate	67	U
91-94-1--------	3,3'-Dichlorobenzidine	67	U
56-55-3--------	Benzo(a)anthracene	33	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	67	U
218-01-9-------	Chrysene	33	U
117-84-0-------	Di-n-octylphthalate	67	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB166N

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG118

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/06/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
205-99-2	Benzo(b)fluoranthene		33	U
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >HG058 Lab Sample ID:SBLKWA167

Date Extracted: 06/16/98 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 07/03/98 Time Analyzed: 13:06

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP04629

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	167WALCS8	167WALCS	>HG059	07/03/98
02	19627	2945437	>HG060	07/03/98
03	19627MS	2945438	>HG061	07/03/98
04	19627MSD	2945439	>HG062	07/03/98
05	19615	2943964	>HG078	07/06/98
06	173LALCS8	173LALCS	>HG079	07/06/98
07	19612	2943963	>HG080	07/06/98
08	19631	2943962	>HG081	07/06/98
09	19614	2943965	>HG082	07/06/98
10	09632	2944448	>HG083	07/06/98
11	09633	2944449	>HG084	07/06/98
12	RB609	2945149	>HG085	07/06/98
13	RB610	2945150	>HG101	07/07/98
14	19624	2945434	>HG102	07/07/98
15	19625	2945435	>HG103	07/07/98
16	19626	2945436	>HG104	07/07/98
17	19628	2945440	>HG105	07/07/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA1678

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA167

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >HG058

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/16/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
108-95-2	Phenol		1	U
111-44-4	bis(2-Chloroethyl)ether		1	U
95-57-8	2-Chlorophenol		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
100-51-6	Benzyl alcohol		5	U
95-50-1	1,2-Dichlorobenzene		1	U
95-48-7	2-Methylphenol		1	U
108-60-1	2,2'-oxybis(1-Chloropropane)		1	U
106-44-5	4-Methylphenol		1	U
621-64-7	N-Nitroso-di-n-propylamine		3	U
67-72-1	Hexachloroethane		1	U
98-95-3	Nitrobenzene		1	U
78-59-1	Isophorone		1	U
88-75-5	2-Nitrophenol		1	U
105-67-9	2,4-Dimethylphenol		1	U
65-85-0	Benzoic acid		5	U
111-91-1	bis(2-Chloroethoxy)methane		1	U
120-83-2	2,4-Dichlorophenol		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
91-20-3	Naphthalene		1	U
106-47-8	4-Chloroaniline		1	U
87-68-3	Hexachlorobutadiene		2	U
59-50-7	4-Chloro-3-methylphenol		1	U
91-57-6	2-Methylnaphthalene		1	U
77-47-4	Hexachlorocyclopentadiene		5	U
88-06-2	2,4,6-Trichlorophenol		2	U
95-95-4	2,4,5-Trichlorophenol		2	U
91-58-7	2-Chloronaphthalene		1	U
88-74-4	2-Nitroaniline		2	U
131-11-3	Dimethylphthalate		2	U
606-20-2	2,6-Dinitrotoluene		2	U
208-96-8	Acenaphthylene		1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA1678

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA167

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >HG058

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/16/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
99-09-2	3-Nitroaniline		2	U
83-32-9	Acenaphthene		1	U
51-28-5	2,4-Dinitrophenol		15	U
100-02-7	4-Nitrophenol		10	U
132-64-9	Dibenzofuran		1	U
121-14-2	2,4-Dinitrotoluene		1	U
84-66-2	Diethylphthalate		2	U
7005-72-3	4-Chlorophenyl-phenylether		1	U
86-73-7	Fluorene		1	U
100-01-6	4-Nitroaniline		2	U
534-52-1	4,6-Dinitro-2-methylphenol		5	U
86-30-6	N-Nitrosodiphenylamine (1)		1	U
101-55-3	4-Bromophenyl-phenylether		2	U
118-74-1	Hexachlorobenzene		2	U
87-86-5	Pentachlorophenol		3	U
85-01-8	Phenanthrene		1	U
120-12-7	Anthracene		1	U
86-74-8	Carbazole		2	U
84-74-2	Di-n-butylphthalate		3	J
206-44-0	Fluoranthene		1	U
92-87-5	Benzidine		20	U
129-00-0	Pyrene		1	U
85-68-7	Butylbenzylphthalate		10	U
91-94-1	3,3'-Dichlorobenzidine		2	U
56-55-3	Benzo(a)anthracene		1	U
117-81-7	bis(2-Ethylhexyl)phthalate		2	U
218-01-9	Chrysene		1	U
117-84-0	Di-n-octylphthalate		2	U
205-99-2	Benzo(b)fluoranthene		1	U
207-08-9	Benzo(k)fluoranthene		1	U
50-32-8	Benzo(a)pyrene		1	U
193-39-5	Indeno(1,2,3-cd)pyrene		1	U
53-70-3	Dibenz(a,h)anthracene		1	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA1678

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA167

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >HG058

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/16/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
191-24-2-------	Benzo(g,h,i)perylene		i	U

(i) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG058 Lab Sample ID:SBLKLA168

Date Extracted: 06/17/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/02/98 Time Analyzed: 16:46

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06756

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	B2019	2945402	>NG060	07/02/98
02	B2029	2945403	>NG061	07/02/98
03	B2041	2945404	>NG062	07/02/98
04	B2054	2945405	>NG063	07/02/98
05	B2231	2945410	>NG064	07/02/98
06	B2253	2945411	>NG065	07/02/98
07	G13-2	2946083	>NG066	07/03/98
08	168LALCSN	168LALCS	>NG072	07/03/98
09	B20-1	2945401	>NG073	07/03/98
10	B2225	2945409	>NG077	07/03/98
11	B2221	2945408	>NG078	07/03/98
12	B22-0	2945407	>NG079	07/03/98
13	G13-0	2946082	>NG080	07/03/98
14	B20-1DL	2945401DL	>NG092	07/04/98
15	B20-1MS	2945401	>NG093	07/04/98
16	B20-1MSD	2945401	>NG094	07/04/98
17	G13-5	2946084	>NG095	07/04/98
18	B2221RE	2945408RE	>NG096	07/04/98
19	G13-0DL	2946082DL	>NG098	07/04/98
20	B2221DL	2945408DL	>NG120	07/06/98

COMMENTS: _____

FORM IV SV 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLA168N

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA168

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG058

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
110-86-1	Pyridine	67	U
62-75-9	N-Nitrosodimethylamine	67	U
108-95-2	Phenol	67	U
62-53-3	Aniline	33	U
111-44-4	bis(2-Chloroethyl)ether	33	U
95-57-8	2-Chlorophenol	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
100-51-6	Benzyl alcohol	170	U
95-50-1	1,2-Dichlorobenzene	33	U
95-48-7	2-Methylphenol	33	U
108-60-1	2,2'-oxybis(1-Chloropropane)	33	U
108-60-1	bis(2-Chloroisopropyl)ether	33	U
106-44-5	4-Methylphenol	67	U
621-64-7	N-Nitroso-di-n-propylamine	33	U
67-72-1	Hexachloroethane	33	U
98-95-3	Nitrobenzene	33	U
78-59-1	Isophorone	33	U
88-75-5	2-Nitrophenol	67	U
105-67-9	2,4-Dimethylphenol	67	U
65-85-0	Benzoic acid	170	U
111-91-1	bis(2-Chloroethoxy)methane	67	U
120-83-2	2,4-Dichlorophenol	67	U
120-82-1	1,2,4-Trichlorobenzene	33	U
91-20-3	Naphthalene	33	U
106-47-8	4-Chloroaniline	33	U
87-68-3	Hexachlorobutadiene	67	U
59-50-7	4-Chloro-3-methylphenol	67	U
91-57-6	2-Methylnaphthalene	33	U
77-47-4	Hexachlorocyclopentadiene	170	U
88-06-2	2,4,6-Trichlorophenol	67	U
95-95-4	2,4,5-Trichlorophenol	67	U
91-58-7	2-Chloronaphthalene	33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLA168N

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA168

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG058

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
88-74-4	2-Nitroaniline	33	U
131-11-3	Dimethylphthalate	67	U
606-20-2	2,6-Dinitrotoluene	33	U
208-96-8	Acenaphthylene	33	U
99-09-2	3-Nitroaniline	67	U
83-32-9	Acenaphthene	33	U
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
122-66-7	1,2-Diphenylhydrazine	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
92-87-5	Benzidine	830	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	67	U
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
SBLKLA168N

ab Name: LANCASTER LABS Contract: _____.
Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.
Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA168
Sample wt/vol: 30.0 (g/mL) G Lab File ID: >NG058
Level: (low/med) LOW Date Received:
% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98
Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98
GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
205-99-2	Benzo(b)fluoranthene		33	U
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(I) - Cannot be separated from Diphenylamine

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06756

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3704.UG/KG % MOISTURE 10. DILUTION: 1

US SAMPLE: B20-1 2945401 MS SAMPLE: B20-1MS 2945401 MSD SAMPLE: B20-1MSD 2945401

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
Pyridine	0.00	2345.51	2279.44	63	62	21.0- 96.0	YES	3.00	30.	YES
N-Nitrosodimethylamine	0.00	3405.79	3441.79	92	93	48.0-113.0	YES	-1.00	30.	YES
Phenol	0.00	3303.01	3564.06	89	96	29.0-112.0	YES	-8.00	30.	YES
Aniline	0.00	678.68	1975.85	18	53	1.0-260.0	YES	-98.00	30.	NO
bis(2-Chloroethyl)ether	0.00	3431.41	3475.29	93	94	12.0-158.0	YES	-1.00	30.	YES
2-Chlorophenol	0.00	3291.22	3415.68	89	92	36.0-124.0	YES	-4.00	30.	YES
1,3-Dichlorobenzene	0.00	3520.12	3634.50	95	98	31.0-123.0	YES	-3.00	30.	YES
1,4-Dichlorobenzene	0.00	3497.35	3609.24	94	97	20.0-124.0	YES	-3.00	30.	YES
Benzyl alcohol	0.00	3209.12	3321.88	87	90	9.0-146.0	YES	-3.00	30.	YES
1,2-Dichlorobenzene	0.00	3534.30	3658.04	95	99	44.0-113.0	YES	-3.00	30.	YES
2-Methylphenol	0.00	3243.07	3289.35	88	89	20.0-130.0	YES	-1.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	3617.06	3746.03	98	101	36.0-121.0	YES	-4.00	30.	YES
bis(2-Chloroisopropyl)ether	0.00	3617.06	3746.03	98	101	36.0-121.0	YES	-4.00	30.	YES
4-Methylphenol	0.00	3131.71	3266.41	84	88	22.0-138.0	YES	-4.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	3020.40	3209.42	82	87	38.0-140.0	YES	-6.00	30.	YES
Hexachloroethane	0.00	3412.41	3551.45	92	96	40.0-113.0	YES	-4.00	30.	YES
Nitrobenzene	0.00	3477.68	3664.94	94	99	40.0-125.0	YES	-5.00	30.	YES
Isophorone	0.00	3595.83	3705.28	97	100	46.0-127.0	YES	-3.00	30.	YES
2-Nitrophenol	0.00	3509.50	3574.54	95	96	40.0-125.0	YES	-2.00	30.	YES
? 4-Dimethylphenol	0.00	3369.13	3512.43	91	95	32.0-119.0	YES	-4.00	30.	YES
:oic acid	0.00	3133.38	3229.83	85	87	1.0-150.0	YES	-3.00	30.	YES
(2-Chloroethoxy)methane	0.00	3414.08	3550.82	92	96	40.0-121.0	YES	-4.00	30.	YES
4-Dichlorophenol	0.00	3480.19	3610.37	94	97	39.0-135.0	YES	-4.00	30.	YES
1,2,4-Trichlorobenzene	0.00	3731.64	3775.79	101	102	44.0-125.0	YES	-1.00	30.	YES
Naphthalene	672.74	4772.12	4109.31	111 J+	93	50.0-106.0	NO	15.00	30.	YES
4-Chloroaniline	0.00	2002.16	2043.79	54	55	1.0-123.0	YES	-2.00	30.	YES
Hexachlorobutadiene	0.00	4037.58	4131.36	109	112	35.0-116.0	YES	-2.00	30.	YES
4-Chloro-3-methylphenol	0.00	3243.07	3359.86	88	91	22.0-142.0	YES	-4.00	30.	YES
2-Methylnaphthalene	1272.05	6071.31	4677.49	130 J+	92	45.0-112.0	NO	26.00	30.	YES
Hexachlorocyclopentadiene	0.00	2616.35	3385.32	35	46	1.0-127.0	YES	-26.00	30.	YES
2,4,6-Trichlorophenol	0.00	3680.74	3878.85	99	105	37.0-127.0	YES	-5.00	30.	YES
2,4,5-Trichlorophenol	0.00	3537.90	3733.57	96	101	18.0-139.0	YES	-5.00	30.	YES
2-Chloronaphthalene	0.00	3568.15	3755.96	96	101	60.0-118.0	YES	-5.00	30.	YES
2-Nitroaniline	0.00	3028.95	3256.95	82	88	8.0-154.0	YES	-7.00	30.	YES
Dimethylphthalate	0.00	3376.74	3546.67	91	96	44.0-112.0	YES	-5.00	30.	YES
2,6-Dinitrotoluene	0.00	3464.23	3582.22	94	97	50.0-119.0	YES	-3.00	30.	YES
Acenaphthylene	460.22	3872.63	3865.71	92	92	42.0-119.0	YES	0.00	30.	YES
3-Nitroaniline	0.00	1989.89	2284.55	54	62	8.0-114.0	YES	-14.00	30.	YES
Acenaphthene	219.48	3596.16	3598.10	91	91	47.0-114.0	YES	0.00	30.	YES

MS not part of this SDG
- no qual for this pkg.

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

b Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06756

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3704.UG/KG % MOISTURE 10. DILUTION: 1

US SAMPLE: B20-1 2945401 MS SAMPLE: B20-1MS 2945401 MSD SAMPLE: B20-1MSD 2945401

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
2,4-Dinitrophenol	0.00	1953.75	1850.88	53	50	1.0-126.0	YES	5.00	30.	YES
4-Nitrophenol	0.00	3459.07	3542.14	93	96	5.0-132.0	YES	-2.00	30.	YES
Dibenzofuran	185.50	3817.38	3825.15	98	98	38.0-120.0	YES	0.00	30.	YES
2,4-Dinitrotoluene	0.00	3610.41	3746.82	97	101	39.0-136.0	YES	-4.00	30.	YES
Diethylphthalate	0.00	3328.90	3498.40	90	94	43.0-114.0	YES	-5.00	30.	YES
4-Chlorophenyl-phenylether	0.00	2967.44	3091.81	80	83	41.0-115.0	YES	-4.00	30.	YES
Fluorene	745.56	3761.36	3458.55	81	73	59.0-121.0	YES	8.00	30.	YES
4-Nitroaniline	0.00	2928.22	2984.90	79	80	1.0-170.0	YES	-2.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	2222.91	2027.01	60	55	5.0-128.0	YES	9.00	30.	YES
N-Nitrosodiphenylamine	0.00	3639.04	3701.96	98	100	28.0-144.0	YES	-2.00	30.	YES
1,2-Diphenylhydrazine	0.00	3667.38	3708.55	99	100	31.0-149.0	YES	-1.00	30.	YES
4-Bromophenyl-phenylether	0.00	3765.66	3709.70	102	100	53.0-125.0	YES	1.00	30.	YES
Hexachlorobenzene	0.00	4282.96	4286.04	116	116	31.0-135.0	YES	0.00	30.	YES
Pentachlorophenol	0.00	3652.42	3704.75	99	100	14.0-131.0	YES	-1.00	30.	YES
Phenanthrene	5689.61	13328.1	9340.61	206 J+	98	54.0-120.0	NO	35.00	30.	NO
Anthracene	566.86	4820.08	4427.38	115	104	42.0-119.0	YES	8.00	30.	YES
Carbazole	130.65	3717.77	3704.40	97	96	53.0-113.0	YES	0.00	30.	YES
Di-n-butylphthalate	0.00	4106.05	3947.35	111	106	35.0-118.0	YES	4.00	30.	YES
Fluoranthene	3970.57	10022.4	7799.78	163 J+	103	26.0-137.0	NO	25.00	30.	YES
[illegible]zidine	0.00	0.00	0.00	0	0	1.0- 70.0	NO	NC	30.	NO
[illegible]ene	5941.02	11593.4	8786.17	193 J+	77	52.0-115.0	NO	28.00	30.	YES
[illegible]ylbenzylphthalate	0.00	3146.36	3217.12	85	87	45.0-133.0	YES	-2.00	30.	YES
[illegible],3'-Dichlorobenzidine	0.00	987.42	1232.11	27	33	1.0-125.0	YES	-22.00	30.	YES
Benzo(a)anthracene	2035.19	6205.58	5555.55	113	95	33.0-135.0	YES	11.00	30.	YES
bis(2-Ethylhexyl)phthalate	339.79	3651.74	4071.18	89	101	8.0-158.0	YES	-11.00	30.	YES
Chrysene	2427.58	8008.85	7099.11	151	126	9.0-153.0	YES	12.00	30.	YES
Di-n-octylphthalate	0.00	3431.38	3531.81	93	95	41.0-146.0	YES	-3.00	30.	YES
Benzo(b)fluoranthene	1983.09	5390.43	4862.02	92	78	24.0-148.0	YES	10.00	30.	YES
Benzo(k)fluoranthene	845.47	4473.30	4178.51	98	90	41.0-126.0	YES	7.00	30.	YES
Benzo(a)pyrene	2013.57	7320.64	6466.28	143	120	21.0-139.0	NO	12.00	30.	YES
Indeno(1,2,3-cd)pyrene	2023.87	7492.91	6656.43	148	125	28.0-127.0	NO	12.00	30.	YES
Dibenz(a,h)anthracene	437.73	5482.56	5195.15	136	128	11.0-152.0	YES	5.00	30.	YES
Benzo(g,h,i)perylene	2049.23	7154.08	6178.44	138	111	12.0-133.0	NO	15.00	30.	YES

COMMENTS:

not target

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06756

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 166LBLCSN 166LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Pyridine	67.44	67	34.0- 92.0	YES
N-Nitrosodimethylamine	84.18	84	47.0- 109.0	YES
Phenol	92.55	92	49.0- 105.0	YES
Aniline	73.66	74	30.0- 97.0	YES
bis(2-Chloroethyl)ether	82.95	83	53.0- 109.0	YES
2-Chlorophenol	85.23	85	55.0- 107.0	YES
1,3-Dichlorobenzene	89.13	89	53.0- 103.0	YES
1,4-Dichlorobenzene	87.40	87	52.0- 103.0	YES
Benzyl alcohol	77.84	78	62.0- 115.0	YES
1,2-Dichlorobenzene	89.53	90	56.0- 107.0	YES
2-Methylphenol	84.58	84	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	90.92	91	38.0- 117.0	YES
bis(2-Chloroisopropyl)ether	90.92	91	38.0- 117.0	YES
4-Methylphenol	84.69	85	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	79.03	79	50.0- 124.0	YES
Hexachloroethane	85.04	85	52.0- 108.0	YES
Nitrobenzene	85.33	85	56.0- 110.0	YES
Isophorone	90.88	91	57.0- 114.0	YES
2-Nitrophenol	86.74	87	59.0- 107.0	YES
2,4-Dimethylphenol	83.72	84	39.0- 108.0	YES
zoic acid	85.50	86	29.0- 119.0	YES
(2-Chloroethoxy)methane	85.10	85	56.0- 103.0	YES
4-Dichlorophenol	91.59	92	59.0- 100.0	YES
1,2,4-Trichlorobenzene	91.51	92	57.0- 104.0	YES
Naphthalene	84.41	84	58.0- 99.0	YES
4-Chloroaniline	60.99	61	1.0- 102.0	YES
Hexachlorobutadiene	98.98	99	56.0- 115.0	YES
4-Chloro-3-methylphenol	87.92	88	56.0- 108.0	YES
2-Methylnaphthalene	85.11	85	60.0- 102.0	YES
Hexachlorocyclopentadiene	173.05	86	27.0- 113.0	YES
2,4,6-Trichlorophenol	103.14	103	62.0- 106.0	YES
2,4,5-Trichlorophenol	101.06	101	63.0- 107.0	YES
2-Chloronaphthalene	97.16	97	60.0- 106.0	YES
2-Nitroaniline	84.99	85	54.0- 111.0	YES
Dimethylphthalate	97.33	97	61.0- 104.0	YES
2,6-Dinitrotoluene	99.24	99	62.0- 111.0	YES
Acenaphthylene	89.92	90	62.0- 101.0	YES
3-Nitroaniline	64.79	65	9.0- 110.0	YES
Acenaphthene	89.00	89	61.0- 100.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

B NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06756

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 166LBLCSN 166LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREP REC %	RANGE LOWER-UPPER	IN SPEC
2,4-Dinitrophenol	73.36	73	29.0- 117.0	YES
4-Nitrophenol	88.27	88	44.0- 110.0	YES
Dibenzofuran	97.14	97	62.0- 102.0	YES
2,4-Dinitrotoluene	101.83	102	58.0- 113.0	YES
Diethylphthalate	96.08	96	59.0- 104.0	YES
4-Chlorophenyl-phenylether	80.94	81	52.0- 110.0	YES
Fluorene	80.88	81	59.0- 109.0	YES
4-Nitroaniline	87.54	88	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	78.91	79	42.0- 107.0	YES
N-Nitrosodiphenylamine	94.29	94	60.0- 106.0	YES
1,2-Diphenylhydrazine	99.17	99	52.0- 129.0	YES
4-Bromophenyl-phenylether	98.25	98	61.0- 110.0	YES
Hexachlorobenzene	113.11	113	52.0- 123.0	YES
Pentachlorophenol	88.39	88	42.0- 108.0	YES
Phenanthrene	97.74	98	62.0- 107.0	YES
Anthracene	99.19	99	62.0- 105.0	YES
Carbazole	96.35	96	57.0- 112.0	YES
Di-n-butylphthalate	99.22	99	59.0- 114.0	YES
Fluoranthene	99.46	99	58.0- 110.0	YES
Benzidine	184.72	37	1.0- 74.0	YES
Pyrene	99.41	99	52.0- 115.0	YES
ylbenzylphthalate	99.84	100	58.0- 119.0	YES
'-Dichlorobenzidine	55.39	55	15.0- 94.0	YES
zo(a)anthracene	99.59	100	63.0- 106.0	YES
Bis(2-Ethylhexyl)phthalate	97.85	98	8.0- 158.0	YES
Chrysene	131.34	131	60.0- 107.0	NO
Di-n-octylphthalate	94.46	94	54.0- 127.0	YES
Benzo(b)fluoranthene	74.87	75	59.0- 105.0	YES
Benzo(k)fluoranthene	84.72	85	63.0- 108.0	YES
Benzo(a)pyrene	96.53	96	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	105.78	106	55.0- 111.0	YES
Dibenz(a,h)anthracene	102.30	102	60.0- 117.0	YES
Benzo(g,h,i)perylene	103.66	104	52.0- 113.0	YES

Flag J all Assoc (+)

COMMENTS:

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP04629

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 167WALCS8 167WALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	49.39	49	5.0- 83.0	YES
bis(2-Chloroethyl)ether	89.28	89	66.0- 106.0	YES
2-Chlorophenol	89.56	90	62.0- 107.0	YES
1,3-Dichlorobenzene	74.19	74	45.0- 91.0	YES
1,4-Dichlorobenzene	74.54	74	45.0- 94.0	YES
Benzyl alcohol	100.59	100	59.0- 108.0	YES
1,2-Dichlorobenzene	82.41	82	52.0- 97.0	YES
2-Methylphenol	84.28	84	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	105.01	105	43.0- 118.0	YES
4-Methylphenol	82.74	83	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	92.88	93	62.0- 118.0	YES
Hexachloroethane	58.91	59	40.0- 84.0	YES
Nitrobenzene	92.03	92	61.0- 113.0	YES
Isophorone	97.28	97	66.0- 113.0	YES
2-Nitrophenol	93.80	94	67.0- 104.0	YES
2,4-Dimethylphenol	83.46	83	52.0- 99.0	YES
Benzoic acid	40.54	40	6.0- 62.0	YES
bis(2-Chloroethoxy)methane	90.42	90	64.0- 103.0	YES
2,4-Dichlorophenol	89.68	90	65.0- 98.0	YES
1,2,4-Trichlorobenzene	79.88	80	52.0- 93.0	YES
Naphthalene	85.11	85	60.0- 97.0	YES
4-Chloroaniline	84.40	84	34.0- 101.0	YES
Hexachlorobutadiene	52.27	52	24.0- 86.0	YES
4-Chloro-3-methylphenol	96.42	96	60.0- 111.0	YES
Methylnaphthalene	84.84	85	62.0- 98.0	YES
Hexachlorocyclopentadiene	115.14	58	17.0- 80.0	YES
2,4,6-Trichlorophenol	98.68	99	66.0- 105.0	YES
2,4,5-Trichlorophenol	101.42	101	67.0- 103.0	YES
2-Chloronaphthalene	89.96	90	61.0- 103.0	YES
2-Nitroaniline	96.29	96	58.0- 112.0	YES
Dimethylphthalate	35.42	35	1.0- 90.0	YES
2,6-Dinitrotoluene	98.65	99	66.0- 113.0	YES
Acenaphthylene	87.61	88	64.0- 100.0	YES
3-Nitroaniline	87.69	88	40.0- 108.0	YES
Acenaphthene	87.41	87	61.0- 100.0	YES
2,4-Dinitrophenol	116.98	117	25.0- 124.0	YES
4-Nitrophenol	51.26	51	3.0- 83.0	YES
Dibenzofuran	89.52	90	67.0- 99.0	YES
2,4-Dinitrotoluene	99.98	100	64.0- 112.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

B NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP04629

W846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 167WALCS8 167WALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Diethylphthalate	69.87	70	30.0- 99.0	YES
4-Chlorophenyl-phenylether	88.99	89	62.0- 104.0	YES
Fluorene	93.28	93	61.0- 108.0	YES
4-Nitroaniline	94.84	95	55.0- 116.0	YES
4,6-Dinitro-2-methylphenol	99.22	99	43.0- 120.0	YES
N-Nitrosodiphenylamine	89.64	90	64.0- 103.0	YES
4-Bromophenyl-phenylether	90.94	91	69.0- 102.0	YES
Hexachlorobenzene	95.05	95	62.0- 109.0	YES
Pentachlorophenol	97.90	98	46.0- 114.0	YES
Phenanthrene	90.14	90	68.0- 102.0	YES
Anthracene	88.82	89	66.0- 101.0	YES
Carbazole	91.53	92	66.0- 110.0	YES
Di-n-butylphthalate	87.03	87	61.0- 105.0	YES
Fluoranthene	91.80	92	66.0- 106.0	YES
Benzidine	321.06	64	1.0- 116.0	YES
Pyrene	108.16	108	58.0- 112.0	YES
Butylbenzylphthalate	78.75	79	48.0- 105.0	YES
3,3'-Dichlorobenzidine	73.53	74	37.0- 104.0	YES
Benzo(a)anthracene	91.58	92	69.0- 101.0	YES
bis(2-Ethylhexyl)phthalate	89.22	89	64.0- 113.0	YES
Chrysene	81.10	81	67.0- 101.0	YES
Di-n-octylphthalate	107.40	107	59.0- 118.0	YES
Benzo(b)fluoranthene	98.73	99	64.0- 101.0	YES
Benzo(k)fluoranthene	102.97	103	67.0- 105.0	YES
Benzo(a)pyrene	91.97	92	65.0- 101.0	YES
Indeno(1,2,3-cd)pyrene	80.91	81	59.0- 111.0	YES
Dibenz(a,h)anthracene	81.88	82	66.0- 117.0	YES
Benzo(g,h,i)perylene	83.44	83	55.0- 115.0	YES

COMMENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06756

[redacted]46 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 168LALCSN 168LALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Pyridine	68.55	68	34.0- 92.0	YES
N-Nitrosodimethylamine	83.16	83	47.0- 109.0	YES
Phenol	81.89	82	49.0- 105.0	YES
Aniline	80.94	81	30.0- 97.0	YES
bis(2-Chloroethyl)ether	81.97	82	53.0- 109.0	YES
2-Chlorophenol	83.86	84	55.0- 107.0	YES
1,3-Dichlorobenzene	78.46	78	53.0- 103.0	YES
1,4-Dichlorobenzene	79.35	79	52.0- 103.0	YES
Benzyl alcohol	67.62	68	62.0- 115.0	YES
1,2-Dichlorobenzene	83.30	83	56.0- 107.0	YES
2-Methylphenol	83.38	83	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	87.01	87	38.0- 117.0	YES
bis(2-Chloroisopropyl)ether	87.01	87	38.0- 117.0	YES
4-Methylphenol	78.26	78	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	76.60	77	50.0- 124.0	YES
Hexachloroethane	73.26	73	52.0- 108.0	YES
Nitrobenzene	86.41	86	56.0- 110.0	YES
Isophorone	89.64	90	57.0- 114.0	YES
2-Nitrophenol	87.66	88	59.0- 107.0	YES
2,4-Dimethylphenol	81.01	81	39.0- 108.0	YES
Benzoic acid	49.08	49	29.0- 119.0	YES
bis(2-Chloroethoxy)methane	83.55	84	56.0- 103.0	YES
[redacted]Dichlorophenol	87.25	87	59.0- 100.0	YES
[redacted]4-Trichlorobenzene	87.37	87	57.0- 104.0	YES
[redacted]thalene	82.99	83	58.0- 99.0	YES
4-Chloroaniline	83.92	84	1.0- 102.0	YES
Hexachlorobutadiene	88.42	88	56.0- 115.0	YES
4-Chloro-3-methylphenol	84.16	84	56.0- 108.0	YES
2-Methylnaphthalene	83.78	84	60.0- 102.0	YES
Hexachlorocyclopentadiene	133.71	67	27.0- 113.0	YES
2,4,6-Trichlorophenol	93.36	93	62.0- 106.0	YES
2,4,5-Trichlorophenol	93.98	94	63.0- 107.0	YES
2-Chloronaphthalene	93.15	93	60.0- 106.0	YES
2-Nitroaniline	82.35	82	54.0- 111.0	YES
Dimethylphthalate	89.85	90	61.0- 104.0	YES
2,6-Dinitrotoluene	90.61	91	62.0- 111.0	YES
Acenaphthylene	83.15	83	62.0- 101.0	YES
3-Nitroaniline	82.63	83	9.0- 110.0	YES
Acenaphthene	84.25	84	61.0- 100.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

B NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06756

W846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 168LALCSN 168LALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
2,4-Dinitrophenol	45.87	46	29.0- 117.0	YES
4-Nitrophenol	88.06	88	44.0- 110.0	YES
Dibenzofuran	89.73	90	62.0- 102.0	YES
2,4-Dinitrotoluene	92.81	93	58.0- 113.0	YES
Diethylphthalate	87.95	88	59.0- 104.0	YES
4-Chlorophenyl-phenylether	76.33	76	52.0- 110.0	YES
Fluorene	76.08	76	59.0- 109.0	YES
4-Nitroaniline	88.68	89	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	68.23	68	42.0- 107.0	YES
N-Nitrosodiphenylamine	84.01	84	60.0- 106.0	YES
1,2-Diphenylhydrazine	90.86	91	52.0- 129.0	YES
4-Bromophenyl-phenylether	89.64	90	61.0- 110.0	YES
Hexachlorobenzene	99.52	100	52.0- 123.0	YES
Pentachlorophenol	84.96	85	42.0- 108.0	YES
Phenanthrene	89.34	89	62.0- 107.0	YES
Anthracene	89.71	90	62.0- 105.0	YES
Carbazole	88.15	88	57.0- 112.0	YES
Di-n-butylphthalate	89.01	89	59.0- 114.0	YES
Fluoranthene	89.09	89	58.0- 110.0	YES
Benzidine	275.36	55	1.0- 74.0	YES
Pyrene	83.27	83	52.0- 115.0	YES
Butylbenzylphthalate	85.50	85	58.0- 119.0	YES
'-Dichlorobenzidine	82.26	82	15.0- 94.0	YES
zo(a)anthracene	85.21	85	63.0- 106.0	YES
s(2-Ethylhexyl)phthalate	75.96	76	8.0- 158.0	YES
Chrysene	102.17	102	60.0- 107.0	YES
Di-n-octylphthalate	75.95	76	54.0- 127.0	YES
Benzo(b)fluoranthene	62.64	63	59.0- 105.0	YES
Benzo(k)fluoranthene	74.68	75	63.0- 108.0	YES
Benzo(a)pyrene	81.47	81	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	90.10	90	55.0- 111.0	YES
Dibenz(a,h)anthracene	85.24	85	60.0- 117.0	YES
Benzo(g,h,i)perylene	90.57	90	52.0- 113.0	YES

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >HG000 DFTPP Injection Date: 07/01/98

Instrument ID: HP04629 DFTPP Injection Time: 17:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	50.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	65.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	48.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 1.00% of mass 198	2.52
441	Present, but less than mass 443	8.8
442	Greater than 40.0% of mass 198	55.8
443	17.0 - 23.0% of mass 442	10.5 (18.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1818	>HG00A	07/01/98	20:08
02	SSTD120	STD1818	>HG002	07/01/98	21:22
03	SSTD050	STD1818	>HG003	07/01/98	22:19
04	SSTD020	STD1818	>HG004	07/01/98	23:16
05	MDL01	STD1818	>HG005	07/02/98	00:13
06	SSTD005	STD1818	>HG006	07/02/98	01:10
07	SSTD160	STD1818	>HG007	07/02/98	02:07
08					
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22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date(s): 07/01/98 07/02/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >HG006 RRF20 = >HG004 RRF50 = >HG003
RRF80 = >HG00A RRF120= >HG002 RRF160= >HG007

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.495	1.505	1.476	1.495	1.453	1.455	1.480	1.5	AVG	
N-Nitrosodimethylamine	.847	.901	.898	.905	.921	.924	.899	3.1	AVG	
Phenol *	1.992	1.867	1.847	1.890	1.848	2.025	1.911	4.1	AVG	*
Aniline	2.235	2.356	2.223	2.316	2.261	2.301	2.282	2.2	AVG	
bis(2-Chloroethyl)ether	1.447	1.542	1.478	1.513	1.449	1.462	1.482	2.6	AVG	
2-Chlorophenol	1.481	1.457	1.421	1.471	1.394	1.392	1.436	2.7	AVG	
1,3-Dichlorobenzene	1.477	1.486	1.434	1.517	1.432	1.401	1.458	2.9	AVG	
1,4-Dichlorobenzene *	1.631	1.562	1.484	1.522	1.452	1.429	1.513	4.9	AVG	*
Benzyl alcohol	.662	.821	.851	.872	.854	.868	.821	9.8	AVG	
1,2-Dichlorobenzene	1.410	1.420	1.418	1.417	1.367	1.287	1.386	3.8	AVG	
2-Methylphenol	1.330	1.327	1.276	1.319	1.261	1.238	1.292	3.0	AVG	
2,2'-oxybis(1-Chloropropane)	1.999	2.043	1.953	2.033	1.983	1.960	1.995	1.9	AVG	
bis(2-Chloroisopropyl)ether	1.999	2.043	1.953	2.033	1.983	1.960	1.995	1.9	AVG	
4-Methylphenol	1.375	1.382	1.299	1.277	1.181	1.099	1.269	8.7	AVG	
3- and 4-Methylphenol	1.375	1.382	1.299	1.277	1.181	1.099	1.269	8.7	AVG	
Acetophenone	1.954	1.931	1.834	1.830	1.718	1.662	1.822	6.3	AVG	
N-Nitroso-di-n-propylamine #	1.130	1.094	1.058	1.055	1.018	.963	1.053	5.5	AVG	#
o-Toluidine	2.166	2.180	2.120	2.157	2.065	1.973	2.110	3.7	AVG	
Hexachloroethane	.658	.660	.659	.675	.652	.639	.657	1.8	AVG	
·robenzene	.452	.464	.457	.439	.468	.462	.457	2.3	AVG	
ophorone	.797	.865	.820	.796	.836	.835	.825	3.2	AVG	
-Nitrophenol *	.189	.220	.221	.220	.227	.227	.217	6.6	AVG	*
2,4-Dimethylphenol	.344	.373	.369	.346	.375	.386	.365	4.7	AVG	
Benzoic acid	.121	.211	.217	.238	.273	.276	.223	25.5	1STDEG	0.9989
bis(2-Chloroethoxy)methane	.501	.507	.481	.481	.495	.484	.491	2.3	AVG	
2,4-Dichlorophenol *	.261	.291	.278	.288	.303	.299	.287	5.4	AVG	*
1,2,4-Trichlorobenzene	.300	.328	.316	.306	.321	.307	.313	3.4	AVG	
Naphthalene	1.050	1.065	1.013	1.000	1.038	1.019	1.031	2.4	AVG	
4-Chloroaniline	.452	.469	.448	.457	.468	.443	.456	2.4	AVG	
Hexachlorobutadiene *	.185	.186	.176	.181	.189	.184	.184	2.5	AVG	*
4-Chloro-3-methylphenol *	.252	.299	.308	.310	.333	.335	.306	9.9	AVG	*
2-Methylnaphthalene	.531	.577	.546	.545	.562	.535	.549	3.2	AVG	
1-Methylnaphthalene	.609	.640	.613	.604	.620	.583	.611	3.1	AVG	
Hexachlorocyclopentadiene #	.027	.252	.319	.357	.365	.369	.282	46.9	1STDEG	# 0.9997
2,4,6-Trichlorophenol *	.332	.381	.396	.380	.388	.388	.377	6.1	AVG	*
2,4,5-Trichlorophenol	.302	.408	.402	.395	.405	.431	.391	11.5	AVG	
2-Chloronaphthalene	1.190	1.133	1.168	1.148	1.148	1.098	1.148	2.7	AVG	
2-Nitroaniline	.378	.448	.463	.459	.466	.483	.449	8.2	AVG	

R-J+

nearest blank
RB 609
RB 610

TCF-7/2/98

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date(s): 07/01/98 07/02/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >HG006 RRF20 = >HG004 RRF50 = >HG003
RRF80 = >HG00A RRF120= >HG002 RRF160= >HG007

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Dimethylphthalate	1.420	1.402	1.381	1.377	1.358	1.400	1.390	1.6	AVG	
2,6-Dinitrotoluene	.283	.339	.360	.362	.351	.361	.343	8.9	AVG	
Acenaphthylene	1.942	1.921	1.895	1.888	1.868	1.900	1.902	1.4	AVG	
3-Nitroaniline	.366	.415	.421	.421	.427	.435	.414	5.9	AVG	
Acenaphthene *	1.157	1.143	1.133	1.097	1.104	1.075	1.118	2.8	AVG	*
2,4-Dinitrophenol #	.025	.092	.113	.143	.165	.185	.121	47.7	1STDEG	#
4-Nitrophenol #	.149	.198	.242	.232	.241	.261	.221	18.4	AVG	#
Dibenzofuran	1.686	1.694	1.643	1.603	1.541	1.459	1.604	5.7	AVG	
2,4-Dinitrotoluene	.357	.455	.467	.467	.441	.421	.435	9.7	AVG	
1-Naphthylamine	1.030	1.087	1.102	1.138	1.099	1.063	1.086	3.4	AVG	
2-Naphthylamine	1.057	1.092	1.079	1.161	1.097	1.061	1.091	3.5	AVG	
Diethylphthalate	1.438	1.523	1.541	1.485	1.457	1.421	1.478	3.2	AVG	
4-Chlorophenyl-phenylether	.578	.566	.567	.554	.520	.492	.546	6.1	AVG	
Fluorene	1.201	1.268	1.231	1.219	1.174	1.092	1.197	5.1	AVG	
4-Nitroaniline	.375	.420	.420	.433	.426	.421	.416	4.9	AVG	
4,6-Dinitro-2-methylphenol	.046	.103	.115	.124	.149	.153	.115	33.9	1STDEG	
N-Nitrosodiphenylamine (1) *	.505	.513	.480	.478	.466	.450	.482	4.9	AVG	*
1,2-Diphenylhydrazine	.959	.988	.947	.938	.952	.916	.950	2.5	AVG	
4-Bromophenyl-phenylether	.191	.197	.196	.190	.196	.185	.193	2.3	AVG	
Hexachlorobenzene	.017	.014	.017	.014	.016	.015	.015	8.7	AVG	
Pentachlorophenol *	.084	.123	.120	.127	.146	.144	.124	18.1	1STDEG	*
Phenanthrene	.981	1.021	.978	.984	.979	.951	.982	2.3	AVG	
Anthracene	1.000	1.045	.997	.994	.985	.919	.990	4.1	AVG	
Carbazole	.936	1.017	.971	.997	.985	.907	.969	4.2	AVG	
Di-n-butylphthalate	1.372	1.504	1.465	1.478	1.464	1.376	1.443	3.8	AVG	
Fluoranthene *	1.014	1.067	1.004	1.016	1.016	.973	1.015	3.0	AVG	*
Benzidine	.972	.950	.836	.854	.841	.814	.878	7.5	AVG	
Pyrene	1.203	1.346	1.352	1.405	1.540	1.618	1.411	10.5	AVG	
Butylbenzylphthalate	.680	.792	.818	.885	.970	1.055	.867	15.4	1STDEG	
3,3'-Dichlorobenzidine	.410	.486	.512	.565	.604	.622	.533	14.9	AVG	
Benzo(a)anthracene	1.085	1.169	1.178	1.234	1.299	1.335	1.217	7.5	AVG	
bis(2-Ethylhexyl)phthalate	.967	1.011	.972	1.009	1.070	1.146	1.029	6.6	AVG	
Chrysene	.975	.973	.890	.904	.976	1.096	.969	7.5	AVG	
Di-n-octylphthalate *	1.920	2.141	2.183	2.053	2.146	2.230	2.112	5.3	AVG	*
Benzo(b)fluoranthene	1.349	1.423	1.525	1.484	1.505	1.469	1.459	4.4	AVG	
Benzo(k)fluoranthene	1.321	1.270	1.260	1.174	1.242	1.256	1.254	3.8	AVG	
Benzo(a)pyrene *	1.277	1.288	1.359	1.368	1.426	1.390	1.351	4.3	AVG	*
Indeno(1,2,3-cd)pyrene	1.202	1.276	1.392	1.393	1.477	1.430	1.362	7.5	AVG	

(1) Cannot be separated from Diphenylamine

0.5863 R-, JT

0.9969

R-, JT 0.9985

0.9961

R6609
R6610

TCF - 7/2/98

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date(s): 07/01/98 07/02/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

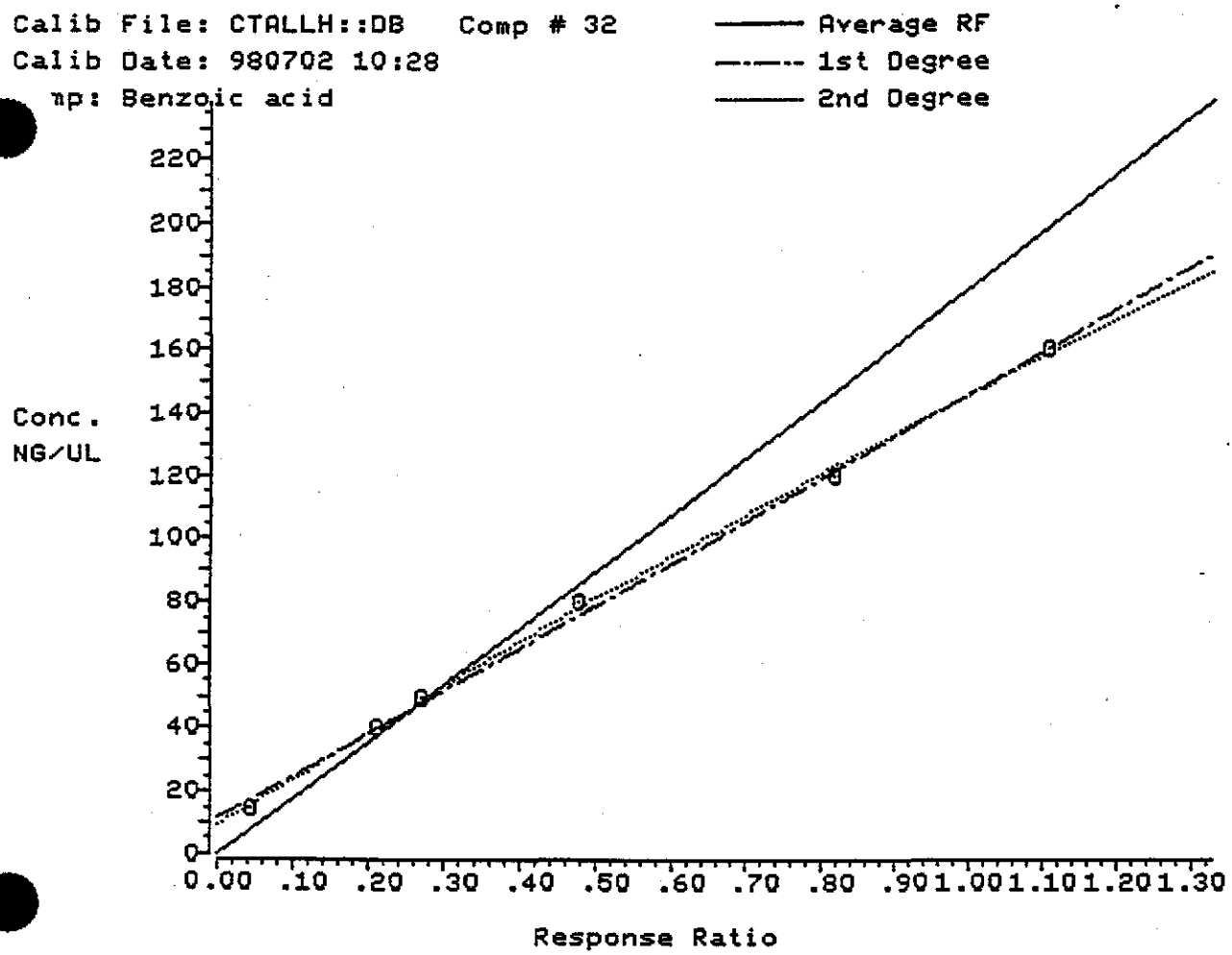
LAB FILE ID: RRF5 = >HG006 RRF20 = >HG004 RRF50 = >HG003
RRF80 = >HG00A RRF120= >HG002 RRF160= >HG007

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Dibenz(a,h)anthracene	1.147	1.171	1.131	1.059	1.084	1.122	1.119	3.7	AVG
Benzo(g,h,i)perylene	1.243	1.303	1.359	1.353	1.431	1.395	1.347	4.9	AVG
2-Fluorophenol	1.377	1.442	1.395	1.401	1.345	1.414	1.396	2.4	AVG
Phenol-d5	1.848	1.850	1.795	1.858	1.797	1.856	1.834	1.6	AVG
Phenol-d6	1.848	1.850	1.795	1.858	1.797	1.856	1.834	1.6	AVG
Nitrobenzene-d5	.435	.444	.432	.429	.444	.453	.440	2.0	AVG
2-Fluorobiphenyl	1.361	1.297	1.272	1.261	1.243	1.229	1.277	3.7	AVG
2,4,6-Tribromophenol	.200	.221	.231	.230	.226	.215	.220	5.3	AVG
Terphenyl-d14	.917	.964	.991	1.019	1.091	1.119	1.017	7.5	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

TCF-7/2/98

Calib File: CTALLH::DB Comp # 32
Calib Date: 980702 10:28
mp: Benzoic acid



Compound # 32 Calib File: CTALLH::DB

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.12116	.21085	.21666	.23843	.27294	.27644

Average of 6 Rfs: .22275 (25.51 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2972107 + 3.360603(x)
1st Degree Corr Coef: .9989055
2nd Degree Equation: y = .2269367 + 3.779646(x) + -.359547(x^2)
2nd Degree Corr Coef: .9993662

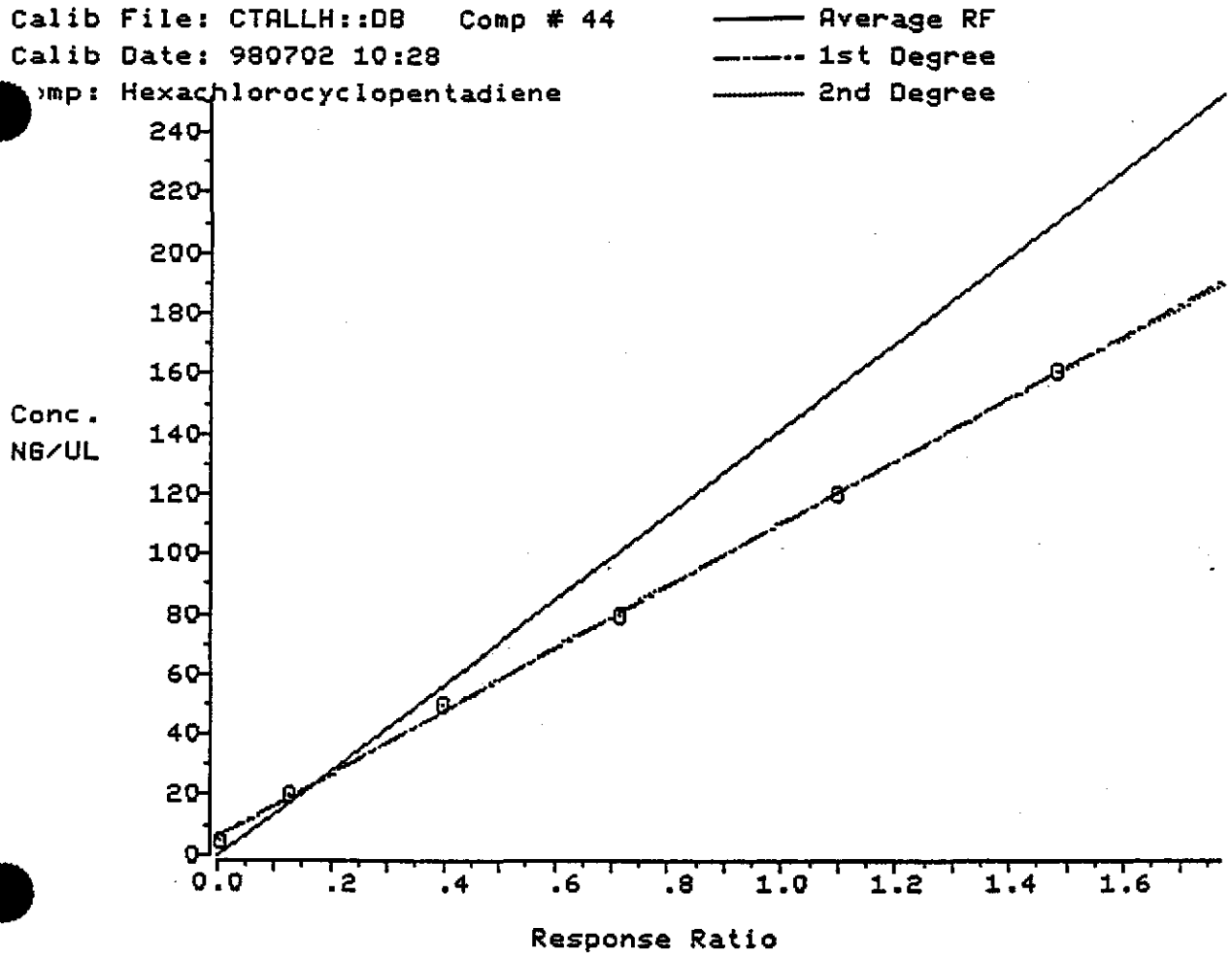
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree

TCF - 7/2/98



Compound # 44 Calib File: CTALLH::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.02746	.25246	.31947	.35686	.36532	.36934

Average of 6 Rfs: .28182 (46.87 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1577150 + 2.601842(x)
1st Degree Corr Coef: .9997722
2nd Degree Equation: y = .1459440 + 2.671571(x) + -.048043(x^2)
2nd Degree Corr Coef: .9998006

In the above equations:

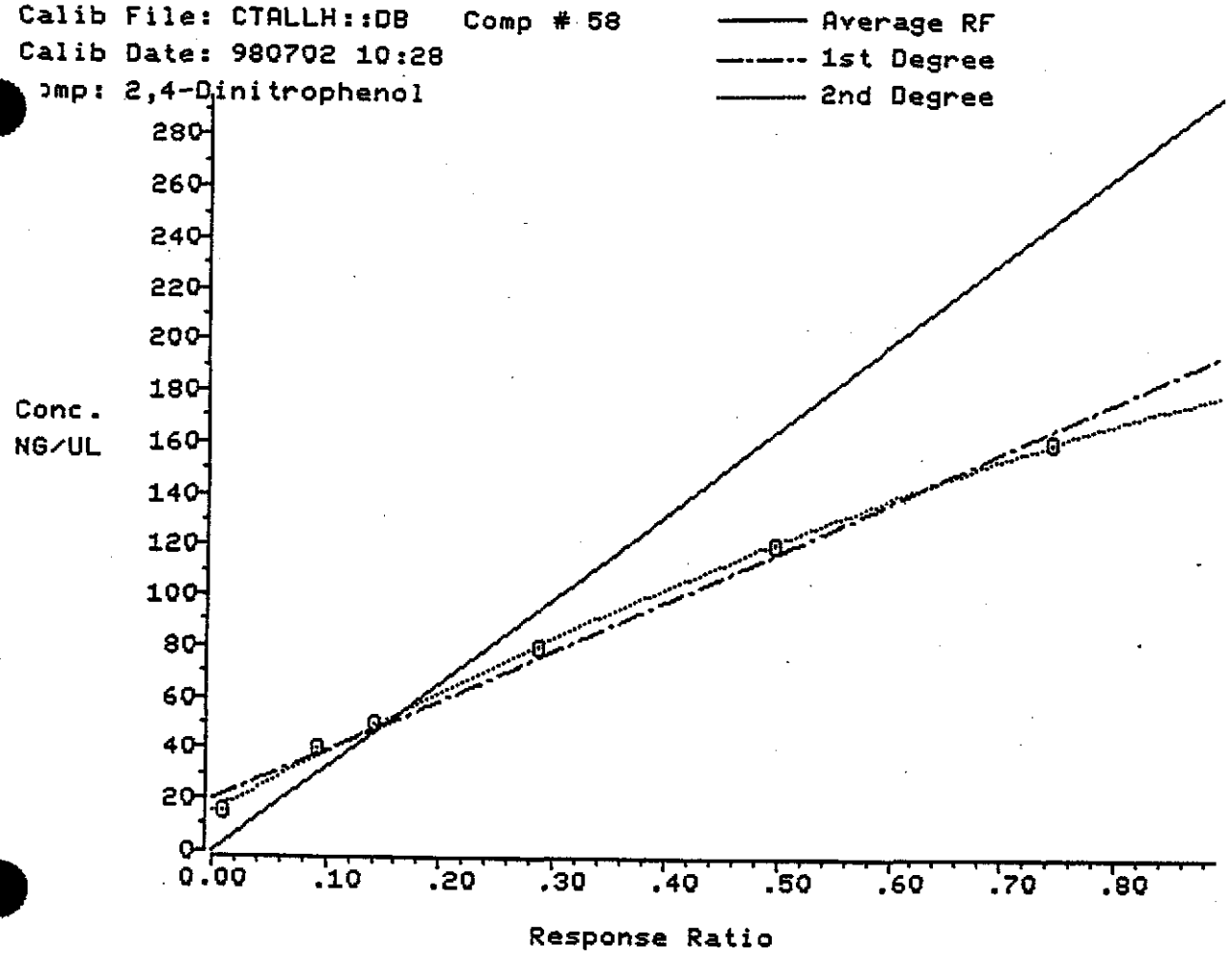
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree

TCF-7/2/98

Calib File: CTALLH::DB Comp # 58
Calib Date: 980702 10:28
Comp: 2,4-Dinitrophenol



Compound # 58 Calib File: CTALLH::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.02549	.09211	.11291	.14258	.16528	.18519

Average of 6 Rfs: .12060 (47.73 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .5075133 + 4.862268(x)
1st Degree Corr Coef: .9963433
2nd Degree Equation: y = .3715338 + 6.321443(x) + -1.94487(x^2)
2nd Degree Corr Coef: .9995109

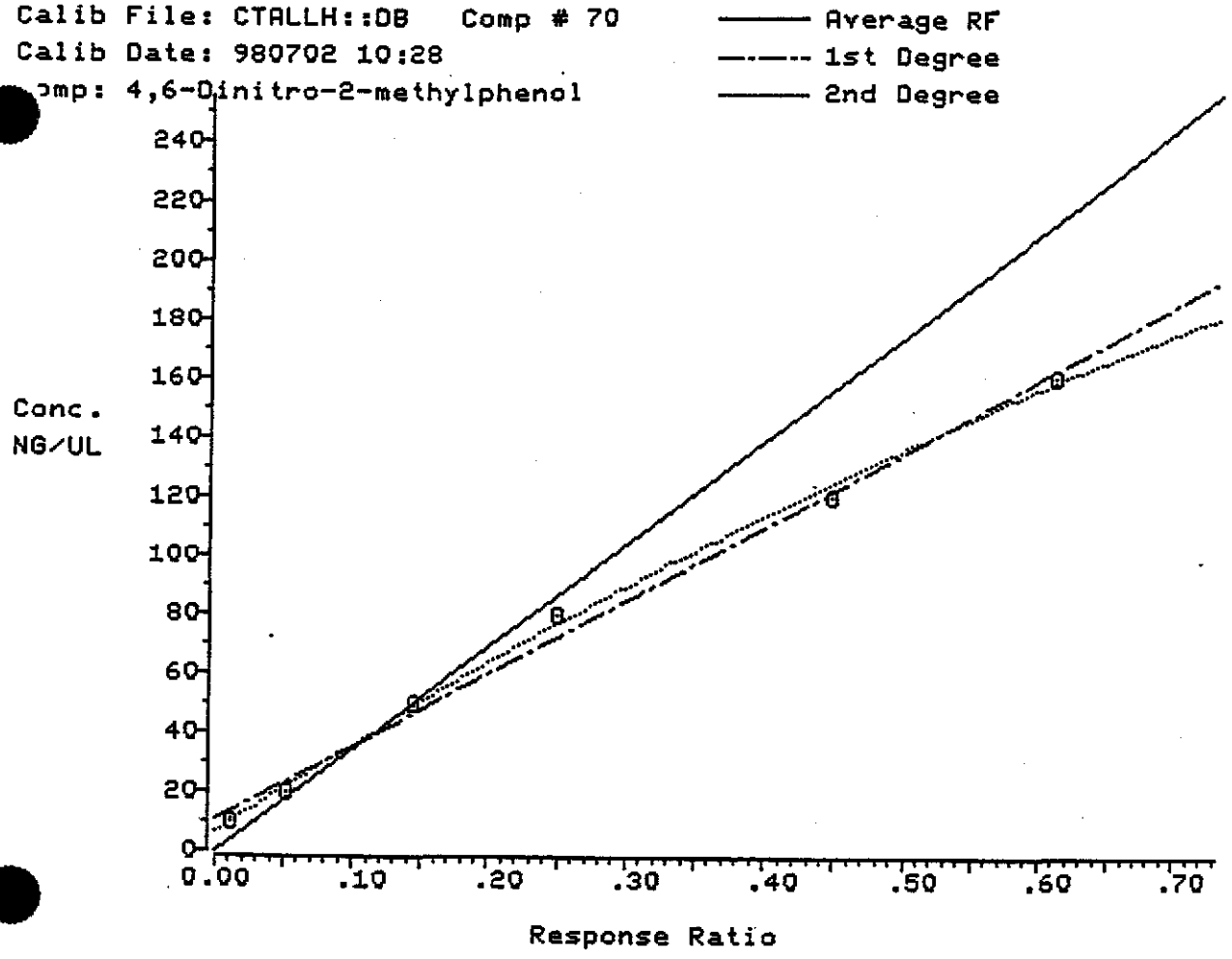
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree
TCF-7/2/98

Calib File: CTALLH::DB Comp # 70
Calib Date: 980702 10:28
Comp: 4,6-Dinitro-2-methylphenol



Compound # 70 Calib File: CTALLH::DB

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.04573	.10314	.11481	.12447	.14925	.15260

Average of 6 Rfs: .11500 (33.94 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2684273 + 6.203403(x)
1st Degree Corr Coef: .9969897
2nd Degree Equation: y = .1629231 + 7.642402(x) + -2.34657(x^2)
2nd Degree Corr Coef: .9987981

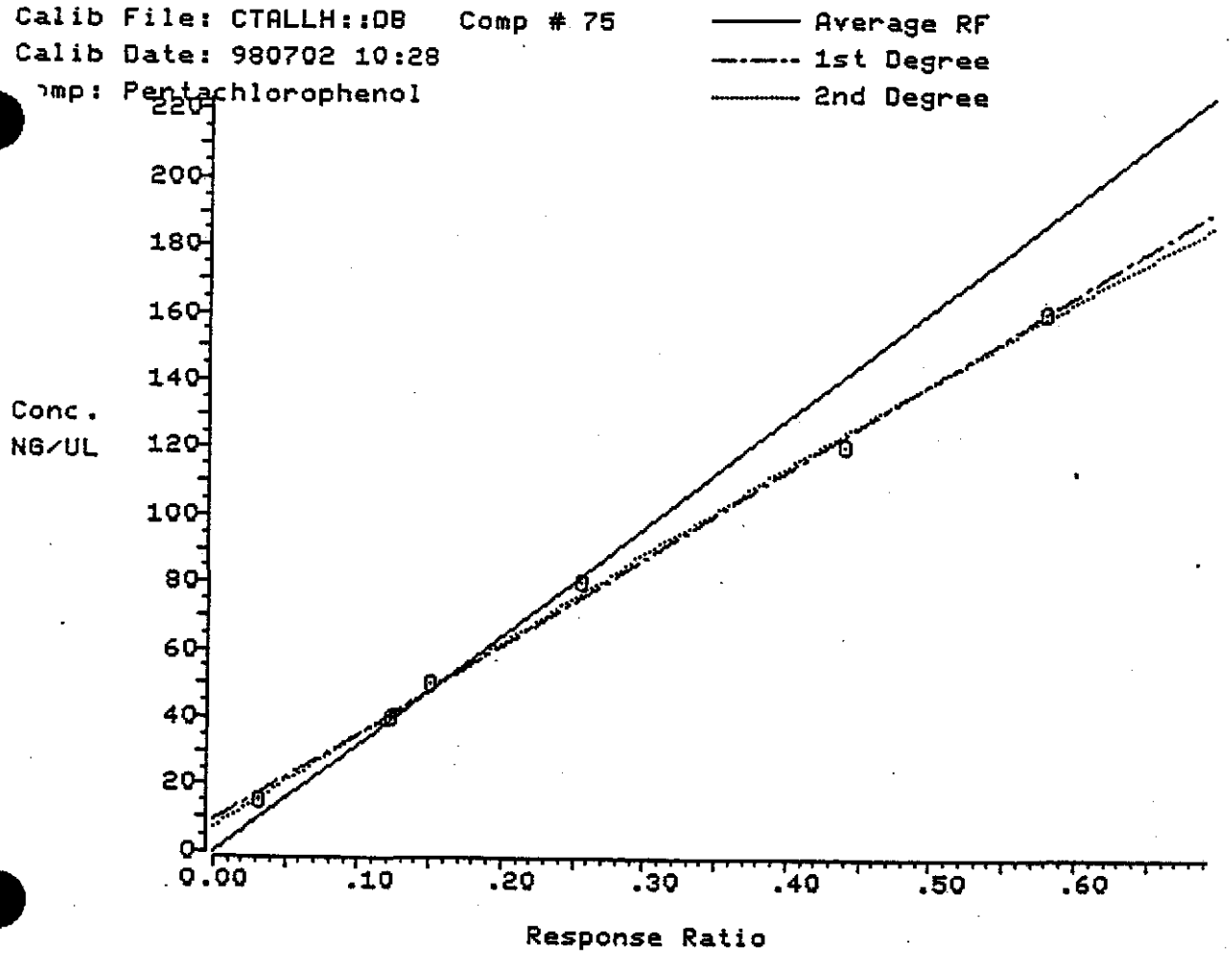
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree
TCF-7/2/98

Calib File: CTALLH::DB Comp # 75
Calib Date: 980702 10:28
Comp: Pentachlorophenol



Compound # 75 Calib File: CTALLH::DB

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.08428	.12253	.11977	.12714	.14616	.14417

Average of 6 Rfs: .12401 (18.05 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2280998 + 6.519176(x)
1st Degree Corr Coef: .9985273
2nd Degree Equation: y = .1702358 + 7.142162(x) + -1.00805(x^2)
2nd Degree Corr Coef: .9987764

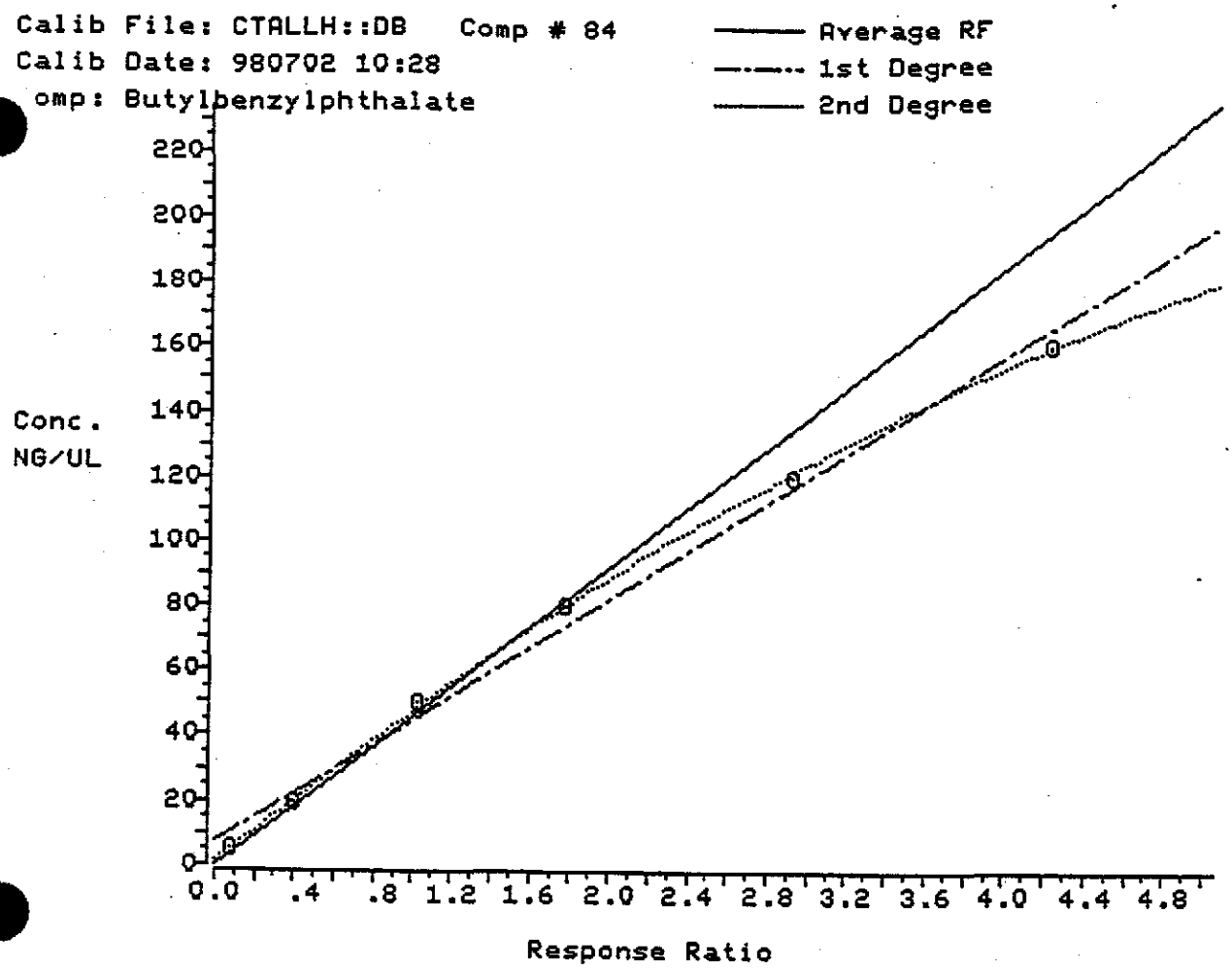
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree
TCF-7/2/98

Calib File: CTALLH::DB Comp # 84
Calib Date: 980702 10:28
omp: Butylbenzylphthalate



Compound # 84 Calib File: CTALLH::DB

Compound: Butylbenzylphthalate
Istd: Chrysene-d12

File:	>HG006	>HG004	>HG003	>HG00A	>HG002	>HG007
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.68017	.79165	.81837	.88517	.96983	1.0545

Average of 6 Rfs: .86662 (15.40 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1883425 + .9368547(x)
1st Degree Corr Coef: .9961667
2nd Degree Equation: y = .0308930 + 1.233340(x) + -.069906(x^2)
2nd Degree Corr Coef: .9999102

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree
TCF - 7/2/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >HG050 DFTPP Injection Date: 07/03/98

Instrument ID: HP04629 DFTPP Injection Time: 10:14

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	64.6
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	50.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	22.2
365	Greater than 1.00% of mass 198	3.04
441	Present, but less than mass 443	7.7
442	Greater than 40.0% of mass 198	49.5
443	17.0 - 23.0% of mass 442	9.3 (18.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1818	>HG051	07/03/98	10:53
02	SBLKWA1678	SBLKWA167	>HG058	07/03/98	13:06
03	167WALCS8	167WALCS	>HG059	07/03/98	14:03
04	19627	2945437	>HG060	07/03/98	15:00
05	19627MS	2945438	>HG061	07/03/98	15:57
06	19627MSD	2945439	>HG062	07/03/98	16:54
07					
08					
09					
10					
11					
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16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/03/98 Time: 10:53

Lab File ID: >HG051 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	Pyridine	1.480	1.228	66.39	80.0	17.0
	N-Nitrosodimethylamine	.899	.749	66.65	80.0	16.7
*	Phenol	1.911	2.098	87.81	80.0	-9.8*
	Aniline	2.282	2.332	81.75	80.0	-2.2
	bis(2-Chloroethyl)ether	1.482	1.540	83.11	80.0	-3.9
	2-Chlorophenol	1.436	1.461	81.37	80.0	-1.7
	1,3-Dichlorobenzene	1.458	1.462	80.22	80.0	-.3
*	1,4-Dichlorobenzene	1.513	1.531	80.96	80.0	-1.2*
	Benzyl alcohol	.821	.947	92.26	80.0	-15.3
	1,2-Dichlorobenzene	1.386	1.380	79.63	80.0	.5
	2-Methylphenol	1.292	1.323	81.95	80.0	-2.4
	2,2'-oxybis(1-Chloropropane)	1.995	2.077	83.29	80.0	-4.1
	bis(2-Chloroisopropyl)ether	1.995	2.077	83.29	80.0	-4.1
	4-Methylphenol	1.269	1.355	85.43	80.0	-6.8
	3- and 4-Methylphenol	1.269	1.355	85.43	80.0	-6.8
	Acetophenone	1.822	1.891	83.03	80.0	-3.8
#	N-Nitroso-di-n-propylamine	1.053	1.091	82.88	80.0	-3.6#
	o-Toluidine	2.110	2.186	82.90	80.0	-3.6
	Hexachloroethane	.657	.679	82.64	80.0	-3.3
	Nitrobenzene	.457	.447	78.24	80.0	2.2
	Isophorone	.825	.848	82.26	80.0	-2.8
*	2-Nitrophenol	.217	.227	83.52	80.0	-4.4*
	2,4-Dimethylphenol	.365	.367	80.35	80.0	-.4
	Benzoic acid	.223	.304	93.61	80.0	-17.0
	bis(2-Chloroethoxy)methane	.491	.485	78.92	80.0	1.4
*	2,4-Dichlorophenol	.287	.302	84.29	80.0	-5.4*
	1,2,4-Trichlorobenzene	.313	.306	78.11	80.0	2.4
	Naphthalene	1.031	1.018	78.99	80.0	1.3
	4-Chloroaniline	.456	.467	81.85	80.0	-2.3
*	Hexachlorobutadiene	.184	.180	78.21	80.0	2.2*
*	4-Chloro-3-methylphenol	.306	.320	83.63	80.0	-4.5*
	2-Methylnaphthalene	.549	.539	78.59	80.0	1.8
	1-Methylnaphthalene	.611	.614	80.33	80.0	-.4
#	Hexachlorocyclopentadiene	.282	.403	90.14	80.0	-12.7#
*	2,4,6-Trichlorophenol	.377	.397	84.25	80.0	-5.3*
	2,4,5-Trichlorophenol	.391	.435	89.16	80.0	-11.5
	2-Chloronaphthalene	1.148	1.150	80.15	80.0	-.2
	2-Nitroaniline	.449	.457	81.28	80.0	-1.6

FORM VII SV-1 1/87 Rev.

SBIKLWA1628
16DWALC58

TCF - 7/3/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/03/98 Time: 10:53

Lab File ID: >HG051 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate		1.390	1.356	78.08	80.0	2.4	
2,6-Dinitrotoluene		.343	.356	83.12	80.0	-3.9	
Acenaphthylene		1.902	1.913	80.44	80.0	-.5	
3-Nitroaniline		.414	.420	81.04	80.0	-1.3	
Acenaphthene	*	1.118	1.107	79.21	80.0	1.0*	
2,4-Dinitrophenol	#	.121	.233	111.06	80.0	-38.8#	J+, UJ-
4-Nitrophenol	#	.221	.238	86.31	80.0	-7.9#	
Dibenzofuran		1.604	1.601	79.82	80.0	.2	
2,4-Dinitrotoluene		.435	.447	82.29	80.0	-2.9	
1-Naphthylamine		1.086	1.084	79.82	80.0	.2	
2-Naphthylamine		1.091	1.061	77.79	80.0	2.8	
Diethylphthalate		1.478	1.481	80.18	80.0	-.2	
4-Chlorophenyl-phenylether		.546	.558	81.74	80.0	-2.2	
Fluorene		1.197	1.226	81.90	80.0	-2.4	
4-Nitroaniline		.416	.433	83.28	80.0	-4.1	
4,6-Dinitro-2-methylphenol		.115	.170	94.92	80.0	-18.6	
N-Nitrosodiphenylamine (1)	*	.482	.505	83.87	80.0	-4.8*	
1,2-Diphenylhydrazine		.950	.968	81.53	80.0	-1.9	
4-Bromophenyl-phenylether		.193	.198	82.25	80.0	-2.8	
Hexachlorobenzene		.015	.016	83.50	80.0	-4.4	
Pentachlorophenol	*	.124	.160	92.81	80.0	-16.0*	
Phenanthrene		.982	1.014	82.57	80.0	-3.2	
Anthracene		.990	1.006	81.27	80.0	-1.6	
Carbazole		.969	.998	82.41	80.0	-3.0	
Di-n-butylphthalate		1.443	1.464	81.15	80.0	-1.4	
Fluoranthene	*	1.015	.977	76.99	80.0	3.8*	
Benzidine		.878	1.032	376.34	320.0	-17.6	
Pyrene		1.411	1.810	102.66	80.0	-28.3	J+, UJ-
Butylbenzylphthalate		.867	.956	79.16	80.0	1.1	
3,3'-Dichlorobenzidine		.533	.533	80.05	80.0	-.1	
Benzo(a)anthracene		1.217	1.199	78.87	80.0	1.4	
bis(2-Ethylhexyl)phthalate		1.029	1.074	83.45	80.0	-4.3	
Chrysene		.969	.876	72.30	80.0	9.6	
Di-n-octylphthalate	*	2.112	2.437	92.30	80.0	-15.4*	
Benzo(b)fluoranthene		1.459	1.523	83.48	80.0	-4.4	
Benzo(k)fluoranthene		1.254	1.313	83.76	80.0	-4.7	
Benzo(a)pyrene	*	1.351	1.375	81.41	80.0	-1.8*	
Indeno(1,2,3-cd)pyrene		1.362	1.248	73.33	80.0	8.3	

(1) Cannot be separated from Diphenylamine

TCF-7/3/98

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/03/98 Time: 10:53

Lab File ID: >HG051 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dibenz(a,h)anthracene	1.119	1.065	76.17	80.0	4.8
Benzo(g,h,i)perylene	1.347	1.279	75.93	80.0	5.1
2-Fluorophenol	1.396	1.400	80.26	80.0	-.3
Phenol-d5	1.834	1.921	83.81	80.0	-4.8
Phenol-d6	1.834	1.921	83.81	80.0	-4.8
Nitrobenzene-d5	.440	.424	77.11	80.0	3.6
2-Fluorobiphenyl	1.277	1.285	80.45	80.0	-.6
2,4,6-Tribromophenol	.220	.240	87.00	80.0	-8.8
Terphenyl-d14	1.017	1.206	94.85	80.0	-18.6

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

TCF-7/3/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG051 Date Analyzed: 07/03/98

Instrument ID: HP04629 Time Analyzed: 10:53

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	164704	11.28	619523	15.03	310729	20.43
	UPPER LIMIT	329408		1239046		621458	
	LOWER LIMIT	82352		309762		155365	
	EPA SAMPLE NO.						
01	SBLKWA1678	147614	11.28	571272	15.03	300575	20.43
02	167WALCS8	148128	11.28	544211	15.04	272258	20.43
03	19627	152394	11.28	571302	15.03	300234	20.42
04	19627MS	146643	11.28	547614	15.04	284450	20.43
05	19627MSD	151713	11.28	548388	15.04	278700	20.43
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG051 Date Analyzed: 07/03/98

Instrument ID: HP04629 Time Analyzed: 10:53

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	518699-	25.02	272894-	31.80	161735-	35.99
	UPPER LIMIT	1037398		545788		323470	
	LOWER LIMIT	259350		136447		80868	
	EPA SAMPLE NO.						
01	SBLKWA1678	527566-	25.02	365651-	31.79	184126-	35.99
02	167WALCS8	468087	25.01	272435	31.80	167990	35.99
03	19627	527659	25.02	289330	31.79	192608	35.98
04	19627MS	475282	25.02	237233	31.81	156384	35.99
05	19627MSD	464160	25.01	246336	31.81	161844	36.00
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >HG070 DFTPP Injection Date: 07/06/98

Instrument ID: HP04629 DFTPP Injection Time: 07:41 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.5
68	Less than 2.0% of mass 69	.9 (1.6)1
69	Mass 69 relative abundance	57.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	45.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	20.5
365	Greater than 1.00% of mass 198	3.31
441	Present, but less than mass 443	6.9
442	Greater than 40.0% of mass 198	48.2
443	17.0 - 23.0% of mass 442	8.7 (18.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1818	>HG07B	07/06/98	11:36
02	19615	2943964	>HG078	07/06/98	12:54
03	19612	2943963	>HG080	07/06/98	14:41
04	19631	2943962	>HG081	07/06/98	15:39
05	19614	2943965	>HG082	07/06/98	16:31
06	09632	2944448	>HG083	07/06/98	17:23
07	09633	2944449	>HG084	07/06/98	18:15
08	RB609	2945149	>HG085	07/06/98	19:07 ✓
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/06/98 Time: 11:36

Lab File ID: >HG07B Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.480	1.248	67.46	80.0	15.7	
N-Nitrosodimethylamine		.899	.766	68.16	80.0	14.8	
Phenol	*	1.911	2.050	85.78	80.0	-7.2	*
Aniline		2.282	2.290	80.27	80.0	-.3	
bis(2-Chloroethyl)ether		1.482	1.467	79.19	80.0	1.0	
2-Chlorophenol		1.436	1.446	80.57	80.0	-.7	
1,3-Dichlorobenzene		1.458	1.429	78.42	80.0	2.0	
1,4-Dichlorobenzene	*	1.513	1.464	77.40	80.0	3.2	*
Benzyl alcohol		.821	.861	83.83	80.0	-4.8	
1,2-Dichlorobenzene		1.386	1.351	77.97	80.0	2.5	
2-Methylphenol		1.292	1.300	80.51	80.0	-.6	
2,2'-oxybis(1-Chloropropane)		1.995	2.064	82.77	80.0	-3.5	
bis(2-Chloroisopropyl)ether		1.995	2.064	82.77	80.0	-3.5	
4-Methylphenol		1.269	1.304	82.21	80.0	-2.8	
3- and 4-Methylphenol		1.269	1.304	82.21	80.0	-2.8	
Acetophenone		1.822	1.851	81.31	80.0	-1.6	
N-Nitroso-di-n-propylamine	#	1.053	1.080	82.03	80.0	-2.5	#
o-Toluidine		2.110	2.114	80.14	80.0	-.2	
Hexachloroethane		.657	.668	81.37	80.0	-1.7	
Nitrobenzene		.457	.455	79.65	80.0	.4	
Isophorone		.825	.831	80.61	80.0	-.8	
2-Nitrophenol	*	.217	.226	83.17	80.0	-4.0	*
2,4-Dimethylphenol		.365	.381	83.34	80.0	-4.2	
Benzoic acid		.223	.297	91.76	80.0	-14.7	
bis(2-Chloroethoxy)methane		.491	.496	80.77	80.0	-1.0	
2,4-Dichlorophenol	*	.287	.304	84.84	80.0	-6.0	*
1,2,4-Trichlorobenzene		.313	.313	79.88	80.0	.2	
Naphthalene		1.031	1.008	78.19	80.0	2.3	
4-Chloroaniline		.456	.468	82.04	80.0	-2.5	
Hexachlorobutadiene	*	.184	.181	79.01	80.0	1.2	*
4-Chloro-3-methylphenol	*	.306	.338	88.45	80.0	-10.6	*
2-Methylnaphthalene		.549	.561	81.76	80.0	-2.2	
1-Methylnaphthalene		.611	.623	81.50	80.0	-1.9	
Hexachlorocyclopentadiene	#	.282	.401	89.82	80.0	-12.3	#
2,4,6-Trichlorophenol	*	.377	.393	83.31	80.0	-4.1	*
2,4,5-Trichlorophenol		.391	.430	88.11	80.0	-10.1	
2-Chloronaphthalene		1.148	1.158	80.72	80.0	-.9	
2-Nitroaniline		.449	.466	83.02	80.0	-3.8	

RB80609

TCF- 7/6/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/06/98 Time: 11:36

Lab File ID: >HG07B Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate		1.390	1.387	79.87	80.0	.2	
2,6-Dinitrotoluene		.343	.348	81.12	80.0	-1.4	
Acenaphthylene		1.902	1.887	79.37	80.0	.8	
3-Nitroaniline		.414	.430	83.10	80.0	-3.9	
Acenaphthene	*	1.118	1.103	78.92	80.0	1.4*	
2,4-Dinitrophenol	#	.121	.243	114.88	80.0	-43.6#	JF, UJ
4-Nitrophenol	#	.221	.243	88.25	80.0	-10.3#	
Dibenzofuran		1.604	1.568	78.21	80.0	2.2	
2,4-Dinitrotoluene		.435	.437	80.48	80.0	-.6	
1-Naphthylamine		1.086	1.060	78.06	80.0	2.4	
2-Naphthylamine		1.091	1.045	76.63	80.0	4.2	
Diethylphthalate		1.478	1.471	79.63	80.0	.5	
4-Chlorophenyl-phenylether		.546	.549	80.35	80.0	-.4	
Fluorene		1.197	1.234	82.44	80.0	-3.1	
4-Nitroaniline		.416	.430	82.68	80.0	-3.4	
4,6-Dinitro-2-methylphenol		.115	.168	94.11	80.0	-17.6	
N-Nitrosodiphenylamine (1)	*	.482	.496	82.41	80.0	-3.0*	
1,2-Diphenylhydrazine		.950	.976	82.19	80.0	-2.7	
4-Bromophenyl-phenylether		.193	.193	80.10	80.0	-.1	
Hexachlorobenzene		.015	.017	85.86	80.0	-7.3	
Pentachlorophenol	*	.124	.156	90.33	80.0	-12.9*	
Phenanthrene		.982	.997	81.23	80.0	-1.5	
Anthracene		.990	1.005	81.19	80.0	-1.5	
Carbazole		.969	.991	81.85	80.0	-2.3	
Di-n-butylphthalate		1.443	1.508	83.61	80.0	-4.5	
Fluoranthene	*	1.015	1.013	79.86	80.0	.2*	
Benzidine		.878	.992	361.63	320.0	-13.0	
Pyrene		1.411	1.797	101.87	80.0	-27.3	JF, UJ
Butylbenzylphthalate		.867	.994	82.04	80.0	-2.5	
3,3'-Dichlorobenzidine		.533	.526	78.87	80.0	1.4	
Benzo(a)anthracene		1.217	1.202	79.04	80.0	1.2	
bis(2-Ethylhexyl)phthalate		1.029	1.014	78.79	80.0	1.5	
Chrysene		.969	.834	68.86	80.0	13.9	
Di-n-octylphthalate	*	2.112	2.459	93.14	80.0	-16.4*	
Benzo(b)fluoranthene		1.459	1.560	85.53	80.0	-6.9	
Benzo(k)fluoranthene		1.254	1.293	82.50	80.0	-3.1	
Benzo(a)pyrene	*	1.351	1.364	80.75	80.0	-.9*	
Indeno(1,2,3-cd)pyrene		1.362	1.158	68.04	80.0	14.9	

(1) Cannot be separated from Diphenylamine

RB609

TCF-7/16/98

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/06/98 Time: 11:36

Lab File ID: >HG07B Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dibenz(a,h)anthracene	1.119	1.013	72.39	80.0	9.5
Benzo(g,h,i)perylene	1.347	1.194	70.92	80.0	11.4
2-Fluorophenol	1.396	1.353	77.57	80.0	3.0
Phenol-d5	1.834	1.840	80.25	80.0	-.3
Phenol-d6	1.834	1.840	80.25	80.0	-.3
Nitrobenzene-d5	.440	.433	78.80	80.0	1.5
2-Fluorobiphenyl	1.277	1.275	79.84	80.0	.2
2,4,6-Tribromophenol	.220	.239	86.87	80.0	-8.6
Terphenyl-d14	1.017	1.223	96.23	80.0	-20.3

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

TCF-7/16/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG07B Date Analyzed: 07/06/98

Instrument ID: HP04629 Time Analyzed: 11:36

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	155226		11.23	570330		14.99	294340		20.38
	UPPER LIMIT	310452			1140660			588680		
	LOWER LIMIT	77613			285165			147170		
	EPA SAMPLE NO.									
01	19615	165290		11.23	618344		14.99	324499		20.37
02	19612	182801		11.22	675941		14.98	364163		20.37
03	19631	169701		11.23	633843		14.98	332464		20.37
04	19614	146784		11.22	550979		14.98	301287		20.37
05	09632	162188		11.23	601638		14.98	314849		20.37
06	09633	157541		11.23	586919		14.98	306346		20.37
07	RB609	167115		11.23	637094		14.98	327653		20.37
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG07B Date Analyzed: 07/06/98

Instrument ID: HP04629 Time Analyzed: 11:36

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	498920	✓	24.97	281056	✓	31.77	156881	✓	35.91
	UPPER LIMIT	997840			562112			313762		
	LOWER LIMIT	249460			140528			78441		
	EPA SAMPLE NO.									
01	19615	567874		24.95	397388		31.75	214699		35.90
02	19612	612987		24.96	464785		31.76	257889		35.91
03	19631	571367		24.96	439526		31.76	249960		35.90
04	19614	534730		24.95	421351		31.76	240113		35.90
05	09632	543224		24.96	407208		31.76	249127		35.91
06	09633	535270		24.95	407545		31.76	266590		35.90
07	RB609	574671	✓	24.96	435099	✓	31.76	290263	✓	35.91
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >HG090 DFTPP Injection Date: 07/07/98

Instrument ID: HP04629 DFTPP Injection Time: 07:31

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.2
68	Less than 2.0% of mass 69	1.2 (1.9)1
69	Mass 69 relative abundance	65.3
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	19.8
365	Greater than 1.00% of mass 198	2.42
441	Present, but less than mass 443	6.9
442	Greater than 40.0% of mass 198	41.0
443	17.0 - 23.0% of mass 442	8.4 (20.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1818	>HG091	07/07/98	08:08
02	SBLKWB1738	SBLKWB173	>HG098	07/07/98	09:14
03	173WBLCS8	173WBLCS	>HG099	07/07/98	10:06
04	173WBLCSD	173WBLCSD	>HG100	07/07/98	10:58
05	RB610	2945150	>HG101	07/07/98	11:50
06	19624	2945434	>HG102	07/07/98	12:41
07	19625	2945435	>HG103	07/07/98	13:33
08	19626	2945436	>HG104	07/07/98	14:54
09	19628	2945440	>HG105	07/07/98	15:47
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/07/98 Time: 08:08

Lab File ID: >HG091 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.480	1.356	73.29	80.0	8.4
N-Nitrosodimethylamine		.899	.835	74.26	80.0	7.2
Phenol	*	1.911	2.050	85.80	80.0	-7.2*
Aniline		2.282	2.314	81.11	80.0	-1.4
bis(2-Chloroethyl)ether		1.482	1.514	81.76	80.0	-2.2
2-Chlorophenol		1.436	1.450	80.77	80.0	-1.0
1,3-Dichlorobenzene		1.458	1.431	78.51	80.0	1.9
1,4-Dichlorobenzene	*	1.513	1.508	79.71	80.0	.4*
Benzyl alcohol		.821	.789	76.82	80.0	4.0
1,2-Dichlorobenzene		1.386	1.410	81.36	80.0	-1.7
2-Methylphenol		1.292	1.293	80.10	80.0	-.1
2,2'-oxybis(1-Chloropropane)		1.995	2.143	85.92	80.0	-7.4
bis(2-Chloroisopropyl)ether		1.995	2.143	85.92	80.0	-7.4
4-Methylphenol		1.269	1.319	83.15	80.0	-3.9
3- and 4-Methylphenol		1.269	1.319	83.15	80.0	-3.9
Acetophenone		1.822	1.882	82.66	80.0	-3.3
N-Nitroso-di-n-propylamine	#	1.053	1.111	84.40	80.0	-5.5#
o-Toluidine		2.110	2.172	82.35	80.0	-2.9
Hexachloroethane		.657	.689	83.88	80.0	-4.9
Nitrobenzene		.457	.440	77.06	80.0	3.7
Isophorone		.825	.828	80.29	80.0	-.4
2-Nitrophenol	*	.217	.222	81.87	80.0	-2.3*
2,4-Dimethylphenol		.365	.365	79.87	80.0	.2
Benzoic acid		.223	.287	89.15	80.0	-11.4
bis(2-Chloroethoxy)methane		.491	.488	79.48	80.0	.6
2,4-Dichlorophenol	*	.287	.298	83.26	80.0	-4.1*
1,2,4-Trichlorobenzene		.313	.313	79.92	80.0	.1
Naphthalene		1.031	1.010	78.40	80.0	2.0
4-Chloroaniline		.456	.450	78.98	80.0	1.3
Hexachlorobutadiene	*	.184	.181	78.81	80.0	1.5*
4-Chloro-3-methylphenol	*	.306	.326	85.19	80.0	-6.5*
2-Methylnaphthalene		.549	.551	80.32	80.0	-.4
1-Methylnaphthalene		.611	.608	79.50	80.0	.6
Hexachlorocyclopentadiene	#	.282	.396	88.76	80.0	-10.9#
2,4,6-Trichlorophenol	*	.377	.410	86.80	80.0	-8.5*
2,4,5-Trichlorophenol		.391	.423	86.64	80.0	-8.3
2-Chloronaphthalene		1.148	1.173	81.77	80.0	-2.2
2-Nitroaniline		.449	.483	86.04	80.0	-7.5

FORM VII SV-1 1/87 Rev.

RB610

TCF- 7/7/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/07/98 Time: 08:08

Lab File ID: >HG091 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate		1.390	1.396	80.38	80.0	-.5
2,6-Dinitrotoluene		.343	.352	82.04	80.0	-2.6
Acenaphthylene		1.902	1.961	82.47	80.0	-3.1
3-Nitroaniline		.414	.441	85.12	80.0	-6.4
Acenaphthene	*	1.118	1.111	79.46	80.0	.7*
2,4-Dinitrophenol	#	.121	.243	114.72	80.0	-43.4# J+, UJ-
4-Nitrophenol	#	.221	.255	92.55	80.0	-15.7#
Dibenzofuran		1.604	1.626	81.09	80.0	-1.4
2,4-Dinitrotoluene		.435	.467	86.00	80.0	-7.5
1-Naphthylamine		1.086	1.033	76.03	80.0	5.0
2-Naphthylamine		1.091	1.004	73.64	80.0	8.0
Diethylphthalate		1.478	1.509	81.69	80.0	-2.1
4-Chlorophenyl-phenylether		.546	.572	83.82	80.0	-4.8
Fluorene		1.197	1.252	83.66	80.0	-4.6
4-Nitroaniline		.416	.442	85.14	80.0	-6.4
4,6-Dinitro-2-methylphenol		.115	.173	96.47	80.0	-20.6 J+, UJ-
N-Nitrosodiphenylamine (1)	*	.482	.500	83.01	80.0	-3.8*
1,2-Diphenylhydrazine		.950	1.009	84.99	80.0	-6.2
4-Bromophenyl-phenylether		.193	.198	82.21	80.0	-2.8
Hexachlorobenzene		.015	J+ .014	72.74	80.0	9.1
Pentachlorophenol	*	.124	J+ .149	87.07	80.0	-8.8*
Phenanthrene		.982	.994	80.93	80.0	-1.2
Anthracene		.990	1.009	81.57	80.0	-2.0
Carbazole		.969	1.014	83.72	80.0	-4.7
Di-n-butylphthalate		1.443	1.514	83.92	80.0	-4.9
Fluoranthene	*	1.015	1.031	81.26	80.0	-1.6*
Benzidine		.878	.820	299.10	320.0	6.5
Pyrene		1.411	1.463	82.96	80.0	-3.7
Butylbenzylphthalate		.867	.868	72.61	80.0	9.2
3,3'-Dichlorobenzidine		.533	.520	78.07	80.0	2.4
Benzo(a)anthracene		1.217	1.163	76.45	80.0	4.4
bis(2-Ethylhexyl)phthalate		1.029	.963	74.87	80.0	6.4
Chrysene		.969	.808	66.73	80.0	16.6
Di-n-octylphthalate	*	2.112	2.284	86.53	80.0	-8.2*
Benzo(b)fluoranthene		1.459	1.485	81.42	80.0	-1.8
Benzo(k)fluoranthene		1.254	1.257	80.19	80.0	-.2
Benzo(a)pyrene	*	1.351	1.386	82.06	80.0	-2.6*
Indeno(1,2,3-cd)pyrene		1.362	1.345	78.99	80.0	1.3

(1) Cannot be separated from Diphenylamine

Previous qual - K

FORM VII SV-1 1/87 Rev.

RB6/10

JCF-7/7/98

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP04629 Calibration Date: 07/07/98 Time: 08:08

Lab File ID: >HG091 Init. Calib. Date(s): 07/01/98 07/02/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dibenz(a,h)anthracene	1.119	1.072	76.61	80.0	4.2
Benzo(g,h,i)perylene	1.347	1.323	78.55	80.0	1.8
2-Fluorophenol	1.396	1.374	78.79	80.0	1.5
Phenol-d5	1.834	1.921	83.77	80.0	-4.7
Phenol-d6	1.834	1.921	83.77	80.0	-4.7
Nitrobenzene-d5	.440	.429	78.02	80.0	2.5
2-Fluorobiphenyl	1.277	1.281	80.24	80.0	-.3
2,4,6-Tribromophenol	.220	.231	83.97	80.0	-5.0
Terphenyl-d14	1.017	1.013	79.66	80.0	.4

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

TCF-7/7/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG091 Date Analyzed: 07/07/98

Instrument ID: HP04629 Time Analyzed: 08:08

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	130662	11.20	493627	14.97	242113	20.35
	UPPER LIMIT	261324		987254		484226	
	LOWER LIMIT	65331		246814		121057	
	EPA SAMPLE NO.						
01	SBLKWB1738	120458	11.21	449867	14.96	238636	20.34
02	173WBLCS8	116420	11.21	430188	14.96	218786	20.35
03	173WBLCSD	110649	11.21	433459	14.96	212886	20.35
04	RB610	133048	11.20	498880	14.96	258966	20.35
05	19624	129885	11.20	519344	14.96	266258	20.34
06	19625	133245	11.20	506772	14.96	263426	20.34
07	19626	129236	11.21	493044	14.96	223145	20.35
08	19628	126882	11.20	495010	14.96	250319	20.35
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >HG091 Date Analyzed: 07/07/98

Instrument ID: HP04629 Time Analyzed: 08:08

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	414225	24.94	295898	31.75	184484	35.86
	UPPER LIMIT	828450		591796		368968	
	LOWER LIMIT	207113		147949		92242	
	EPA SAMPLE NO.						
01	SBLKWB1738	420098	24.93	372729	31.73	248046	35.87
02	173WBLCS8	363150	24.93	267759	31.75	173442	35.87
03	173WBLCSD	353315	24.93	259157	31.75	158817	35.87
04	RB610	470774	24.93	418555	31.74	281429	35.86
05	19624	461791	24.94	328996	31.74	225725	35.86
06	19625	462494	24.93	335006	31.74	232181	35.88
07	19626	376390	24.94	328635	31.74	240330	35.87
08	19628	459641	24.94	272179	31.74	203076	35.87
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NF73Z DFTPP Injection Date: 06/29/98

Instrument ID: HP06756 DFTPP Injection Time: 22:08

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	59.9
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	44.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 30.0% of mass 198	17.4
365	Greater than 1.00% of mass 198	2.76
441	Present, but less than mass 443	7.1
442	Greater than 40.0% of mass 198	45.2
443	17.0 - 23.0% of mass 442	9.2 (20.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>NF73A	06/29/98	22:35
02	SSTD160	STD1748	>NF73B	06/29/98	23:52
03	SSTD001	MDL1748	>NF733	06/30/98	00:46
04	SSTD120	STD1748	>NF734	06/30/98	01:41
05	SSTD005	STD1748	>NF735	06/30/98	02:36
06	SSTD050	STD1748	>NF736	06/30/98	03:30
07	SSTD020	STD1748	>NF737	06/30/98	04:25
08	B9B15	2941032	>NF738	06/30/98	05:19
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date(s): 06/29/98 06/30/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >NF735 RRF20 = >NF737 RRF50 = >NF736
RRF80 = >NF73A RRF120= >NF734 RRF160= >NF73B

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	___ RRF	% RSD	CAL. METHOD	
Pyridine	1.352	1.307	1.326	1.328	1.348	1.323	1.331	1.3	AVG	
N-Nitrosodimethylamine	.721	.748	.734	.714	.750	.688	.726	3.2	AVG	
2-Picoline	1.589	1.601	1.672	1.718	1.663	1.664	1.651	2.9	AVG	
Phenol *	2.125	2.107	2.207	2.338	2.367	2.440	2.264	6.1	AVG	*
Aniline	2.478	2.459	2.556	2.691	2.633	2.738	2.592	4.4	AVG	
bis(2-Chloroethyl)ether	1.572	1.568	1.621	1.698	1.690	1.723	1.645	4.1	AVG	
2-Chlorophenol	1.040	1.077	1.113	1.138	1.211	1.262	1.140	7.3	AVG	
1,3-Dichlorobenzene	1.358	1.357	1.425	1.449	1.496	1.595	1.447	6.2	AVG	
1,4-Dichlorobenzene *	1.402	1.444	1.503	1.519	1.590	1.690	1.525	6.8	AVG	*
Benzyl alcohol	.360	.790	.808	1.104	1.120	1.182	.894	34.7	1STDEG	0.9968
1,2-Dichlorobenzene	1.280	1.315	1.389	1.451	1.526	1.622	1.430	9.1	AVG	
2-Methylphenol	1.481	1.487	1.481	1.510	1.600	1.623	1.530	4.2	AVG	
2,2'-oxybis(1-Chloropropane)	1.958	1.848	1.917	2.019	1.887	1.976	1.934	3.2	AVG	
bis(2-Chloroisopropyl)ether	1.958	1.848	1.917	2.019	1.887	1.976	1.934	3.2	AVG	
4-Methylphenol	1.474	1.535	1.693	1.807	1.959	2.119	1.764	14.1	AVG	
- and 4-Methylphenol	1.474	1.535	1.693	1.807	1.959	2.119	1.764	14.1	AVG	
cetophenone	2.468	2.597	2.773	2.959	3.035	3.189	2.837	9.7	AVG	
-Nitroso-di-n-propylamine #	1.159	1.189	1.249	1.330	1.254	1.301	1.247	5.2	AVG	#
o-Toluidine	2.371	2.478	2.591	2.693	2.762	2.891	2.631	7.2	AVG	
Hexachloroethane	.831	.808	.837	.876	.869	.925	.858	4.8	AVG	
Nitrobenzene	.647	.654	.669	.727	.703	.725	.688	5.1	AVG	
Isophorone	1.169	1.198	1.236	1.350	1.295	1.354	1.267	6.2	AVG	
2-Nitrophenol *	.212	.219	.234	.247	.254	.270	.239	9.1	AVG	*
2,4-Dimethylphenol	.615	.628	.653	.703	.713	.742	.676	7.5	AVG	
Benzoic acid	.355	.426	.447	.473	.498	.503	.450	12.3	AVG	
bis(2-Chloroethoxy)methane	.680	.702	.713	.788	.784	.823	.748	7.7	AVG	
2,4-Dichlorophenol *	.385	.394	.411	.449	.462	.490	.432	9.6	AVG	*
1,2,4-Trichlorobenzene	.461	.470	.493	.533	.550	.587	.516	9.6	AVG	
Naphthalene	.953	.976	1.032	1.096	1.169	1.235	1.077	10.3	AVG	
4-Chloroaniline	.419	.449	.469	.495	.518	.553	.484	10.0	AVG	
Hexachlorobutadiene *	.280	.277	.290	.312	.316	.338	.302	7.9	AVG	*
4-Chloro-3-methylphenol *	.557	.562	.585	.631	.638	.673	.608	7.7	AVG	*
4-Chloro-3-methylphenol(mz10 *	.557	.562	.585	.631	.638	.673	.608	7.7	AVG	*
4-Chloro-3-methylphenol(mz14 *	.271	.283	.297	.320	.330	.353	.309	9.9	AVG	*
2-Methylnaphthalene	.685	.723	.765	.820	.869	.941	.800	11.9	AVG	
1-Methylnaphthalene	.657	.684	.719	.779	.815	.881	.756	11.2	AVG	
Hexachlorocyclopentadiene #	.051	.169	.238	.296	.334	.384	.245	49.4	1STDEG	# 0.9821
2,4,6-Trichlorophenol *	.381	.411	.426	.452	.465	.503	.440	9.8	AVG	*

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

) Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date(s): 06/29/98 06/30/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >NF735 RRF20 = >NF737 RRF50 = >NF736
RRF80 = >NF73A RRF120= >NF734 RRF160= >NF73B

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	___ RRF	% RSD	CAL. METHOD		
2,4,5-Trichlorophenol	.438	.447	.475	.510	.524	.558	.492	9.5	AVG		
2-Chloronaphthalene	1.105	1.136	1.190	1.254	1.314	1.392	1.232	8.9	AVG		
2-Nitroaniline	.465	.487	.492	.524	.501	.521	.498	4.5	AVG		
Dimethylphthalate	1.489	1.506	1.539	1.605	1.619	1.684	1.574	4.8	AVG		
2,6-Dinitrotoluene	.324	.361	.378	.391	.399	.414	.378	8.5	AVG		
Acenaphthylene	1.700	1.749	1.840	1.926	2.037	2.173	1.904	9.4	AVG		
3-Nitroaniline	.292	.312	.330	.336	.359	.368	.333	8.5	AVG		
Acenaphthene *	1.032	1.079	1.130	1.186	1.266	1.350	1.174	10.1	AVG	*	
2,4-Dinitrophenol #	.131	.205	.217	.236	.259	.272	.220	22.9	1STDEG	#	0.9990
4-Nitrophenol #	.418	.423	.430	.469	.453	.472	.444	5.4	AVG	#	
Dibenzofuran	1.659	1.736	1.798	1.898	2.090	2.244	1.904	11.7	AVG		
2,4-Dinitrotoluene	.484	.516	.538	.572	.621	.678	.568	12.6	AVG		
1-Naphthylamine	.762	.803	.842	.886	.903	.958	.859	8.3	AVG		
2-Naphthylamine	.839	.706	.754	.833	.830	.930	.815	9.5	AVG		
Diethylphthalate	1.549	1.600	1.635	1.700	1.734	1.842	1.677	6.3	AVG		
-Chlorophenyl-phenylether	.625	.648	.701	.778	.866	.960	.763	17.2	1STDEG		0.9914
iorene	1.202	1.303	1.422	1.538	1.702	1.867	1.506	16.6	1STDEG		0.9955
-Nitroaniline	.324	.357	.362	.372	.354	.359	.355	4.6	AVG		
4,6-Dinitro-2-methylphenol	.102	.129	.147	.157	.169	.179	.147	19.1	1STDEG		0.9985
1-Nitronaphthalene	.135	.142	.147	.155	.161	.168	.151	8.0	AVG		
N-Nitrosodiphenylamine (1) *	.437	.452	.478	.503	.539	.573	.497	10.5	AVG	*	
1,2-Diphenylhydrazine	.883	.900	.940	.982	.964	1.013	.947	5.2	AVG		
4-Bromophenyl-phenylether	.168	.174	.182	.194	.203	.220	.190	10.3	AVG		
Hexachlorobenzene	.190	.213	.231	.242	.254	.274	.234	12.7	AVG		
Pentachlorophenol *	.086	.107	.109	.124	.134	.146	.116	18.1	1STDEG	*	0.9976
Phenanthrene	.940	.941	1.001	1.069	1.138	1.225	1.052	10.9	AVG		
Anthracene	.939	.966	1.037	1.091	1.185	1.272	1.082	11.9	AVG		
Carbazole	.842	.901	.948	1.003	1.069	1.123	.981	10.7	AVG		
Di-n-butylphthalate	1.210	1.273	1.324	1.388	1.459	1.567	1.370	9.5	AVG		
Fluoranthene *	.927	.995	1.067	1.112	1.231	1.300	1.105	12.7	AVG	*	
Benzidine	1.220	1.066	.834	1.081	.903	.992	1.016	13.6	AVG		
Pyrene	1.282	1.244	1.245	1.475	1.318	1.409	1.329	7.1	AVG		
Butylbenzylphthalate	.726	.697	.690	.732	.673	.697	.702	3.2	AVG		
3,3'-Dichlorobenzidine	.413	.403	.408	.409	.431	.460	.421	5.2	AVG		
Benzo(a)anthracene	1.033	1.038	1.081	1.142	1.224	1.288	1.134	9.2	AVG		
bis(2-Ethylhexyl)phthalate	1.121	1.061	1.090	1.191	1.167	1.252	1.147	6.1	AVG		
Chrysene	.866	.878	.900	.872	.964	1.002	.914	6.2	AVG		
Di-n-octylphthalate *	2.299	2.338	2.520	2.745	2.900	3.272	2.679	13.9	AVG	*	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date(s): 06/29/98 06/30/98

___.

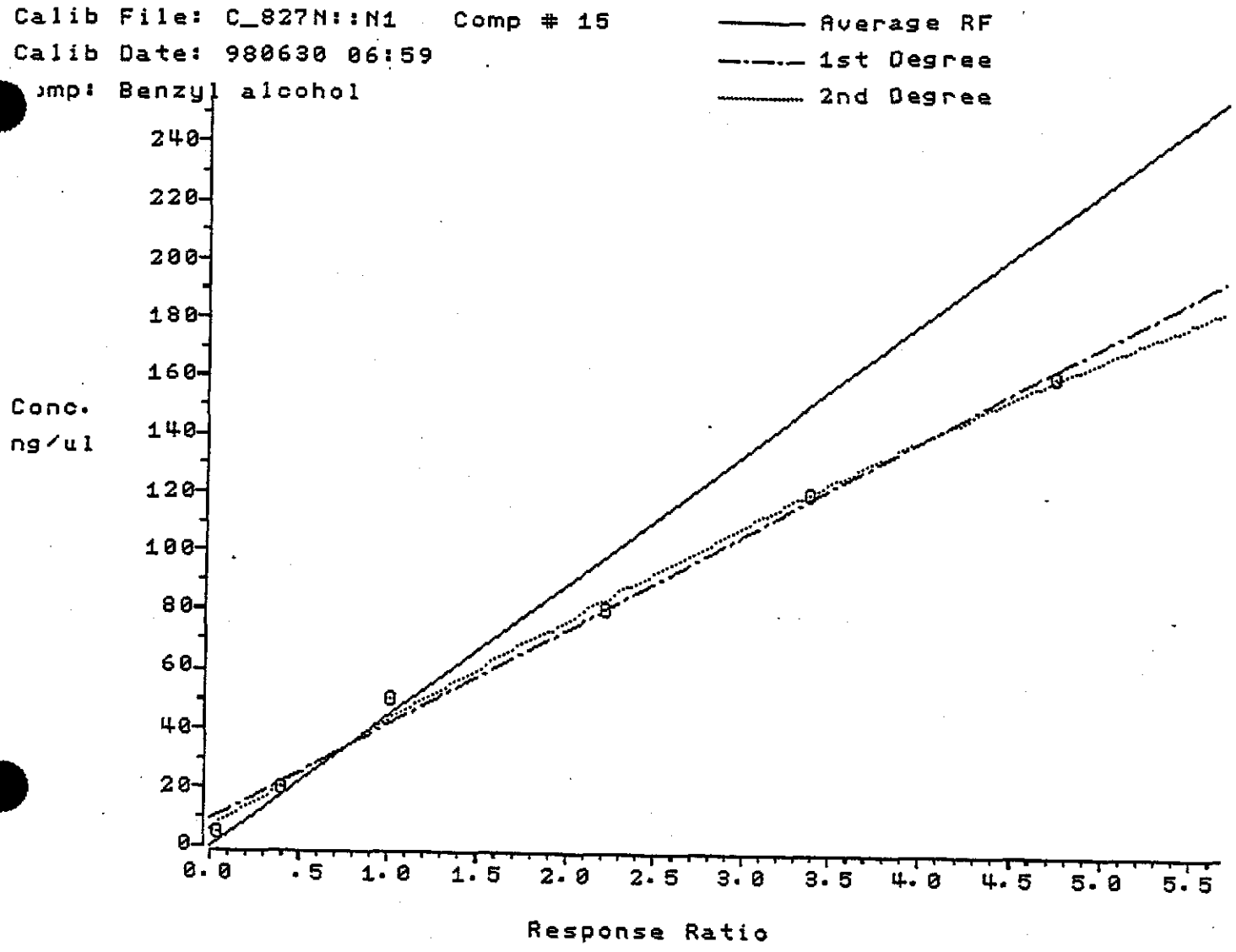
Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >NF735 RRF20 = >NF737 RRF50 = >NF736
RRF80 = >NF73A RRF120= >NF734 RRF160= >NF73B

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	%RSD	CAL. METHOD	
7,12-Dimethylbenz(a)anthrace	.352	.509	.672	.792	.860	.968	.692	33.2	1STDEG	0.9946
Benzo(b)fluoranthene	1.280	1.389	1.644	1.827	2.043	2.286	1.745	22.1	1STDEG	0.9940
Benzo(k)fluoranthene	1.218	1.260	1.388	1.586	1.682	1.877	1.502	17.2	1STDEG	0.9953
Benzo(a)pyrene *	1.153	1.183	1.309	1.406	1.508	1.667	1.371	14.4	AVG *	
Indeno(1,2,3-cd)pyrene	1.021	.995	1.107	1.248	1.249	1.330	1.158	11.8	AVG	
Dibenz(a,h)anthracene	.995	.987	1.098	1.250	1.290	1.414	1.172	14.8	AVG	
Benzo(g,h,i)perylene	1.022	1.054	1.138	1.246	1.243	1.324	1.171	10.2	AVG	
2-Fluorophenol	1.295	1.294	1.361	1.386	1.449	1.474	1.376	5.5	AVG	
Phenol-d5	2.036	2.063	2.197	2.282	2.255	2.334	2.195	5.5	AVG	
Phenol-d6	2.036	2.063	2.197	2.282	2.255	2.334	2.195	5.5	AVG	
2-Chlorophenol-d4	1.072	1.084	1.120	1.115	1.203	1.243	1.139	6.0	AVG	
1,2-Dichlorobenzene-d4	.890	.882	.940	.964	1.007	1.074	.960	7.6	AVG	
Nitrobenzene-d5	.658	.686	.702	.762	.729	.766	.717	6.0	AVG	
2-Fluorobiphenyl	1.275	1.323	1.384	1.475	1.522	1.633	1.435	9.3	AVG	
,6-Tribromophenol	.225	.252	.260	.285	.293	.318	.272	12.1	AVG	
rphenyl-d14	.835	.806	.817	.938	.867	.957	.870	7.3	AVG	

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.



Compound # 15 Calib File: C_827N::N1

Compound: Benzyl alcohol
Istd: 1,4-Dichlorobenzene-d4

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.36024	.79040	.80841	1.1042	1.1199	1.1821

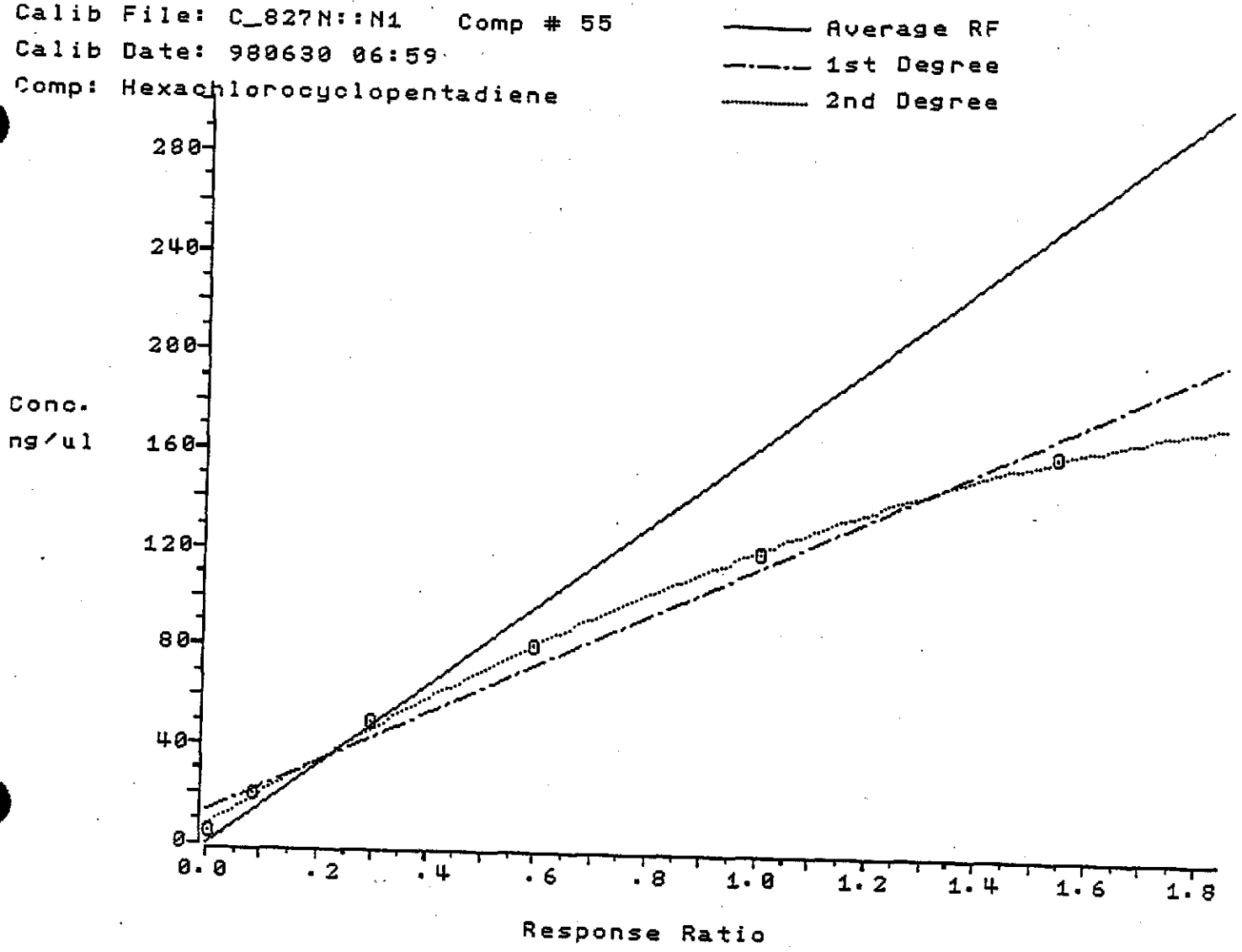
Average of 6 Rfs: .89421 (34.69 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .2201217 + .8133217(x)$
1st Degree Corr Coef: .9968835
2nd Degree Equation: $y = .1459510 + .9514874(x) + -.029673(x^2)$
2nd Degree Corr Coef: .9979665

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 55
Calib Date: 980630 06:59
Comp: Hexachlorocyclopentadiene



Compound # 55 Calib File: C_827N::N1

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.05077	.16940	.23776	.29577	.33377	.38411

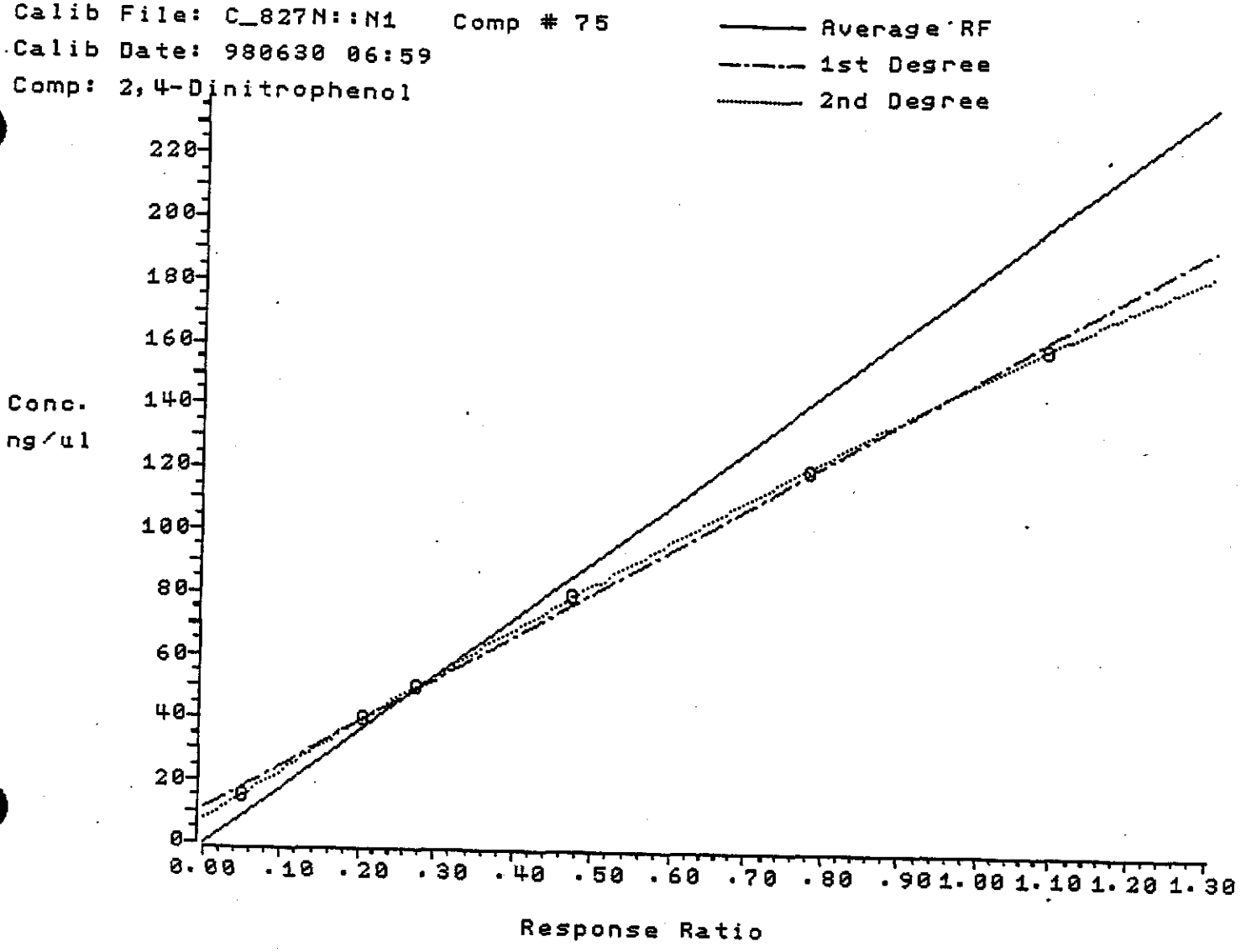
Average of 6 Rfs: .24527 (49.37 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3450077 + 2.503144(x)
1st Degree Corr Coef: .9921560
2nd Degree Equation: y = .1710484 + 3.557433(x) + -.699641(x^2)
2nd Degree Corr Coef: .9993296

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 75
Calib Date: 980630 06:59
Comp: 2,4-Dinitrophenol



Compound # 75 Calib File: C_827N::N1

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.13074	.20464	.21706	.23583	.25870	.27180

Average of 6 Rfs: .21979 (22.88 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .2840443 + 3.468869(x)$
1st Degree Corr Coef: .9990780
2nd Degree Equation: $y = .1870104 + 4.046746(x) + -.503836(x^2)$
2nd Degree Corr Coef: .9999424

In the above equations:

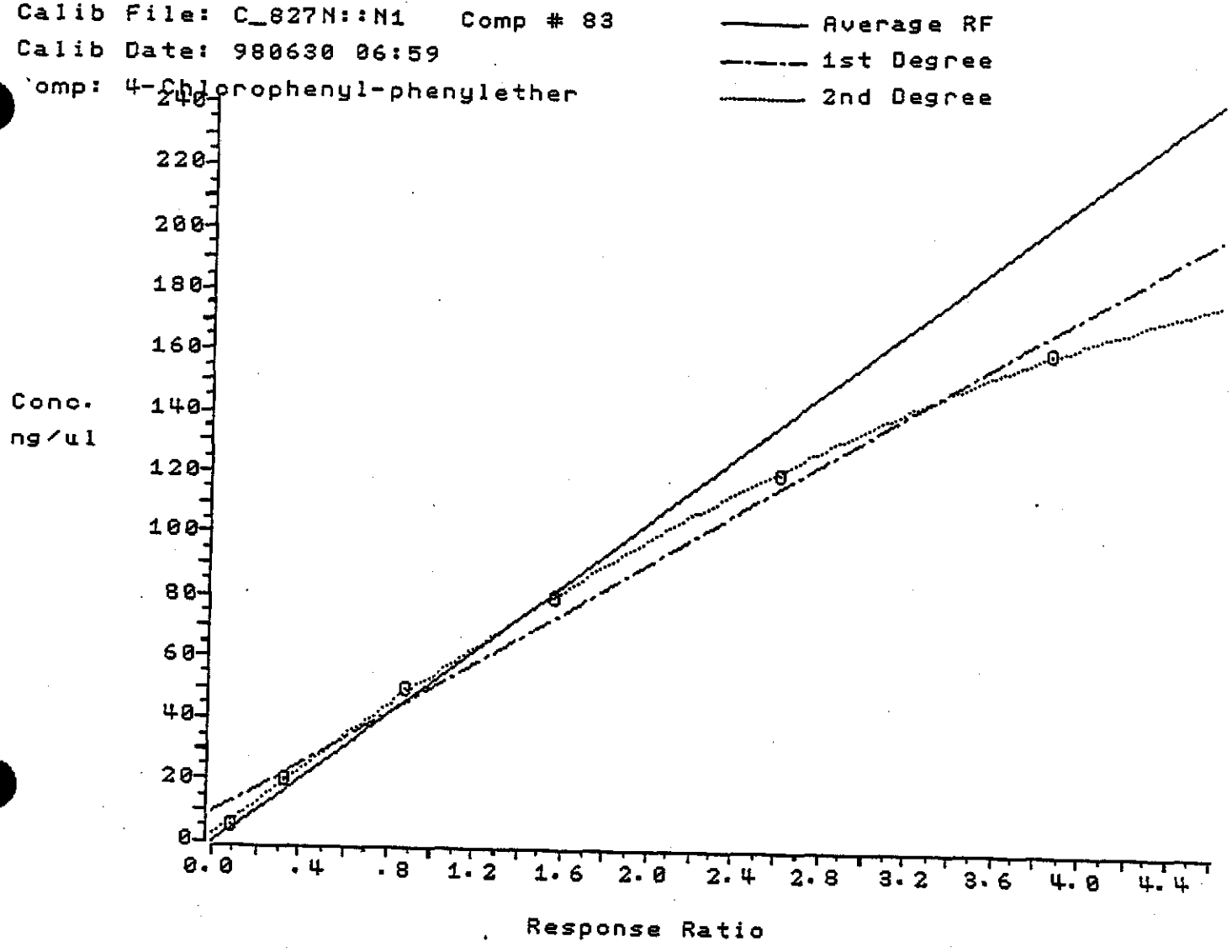
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 83

Calib Date: 980630 06:59

Comp: 4-Chlorophenyl-phenylether



Compound # 83 Calib File: C_827N::N1

Compound: 4-Chlorophenyl-phenylether
Istd: Acenaphthene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.62537	.64795	.70053	.77836	.86642	.96038

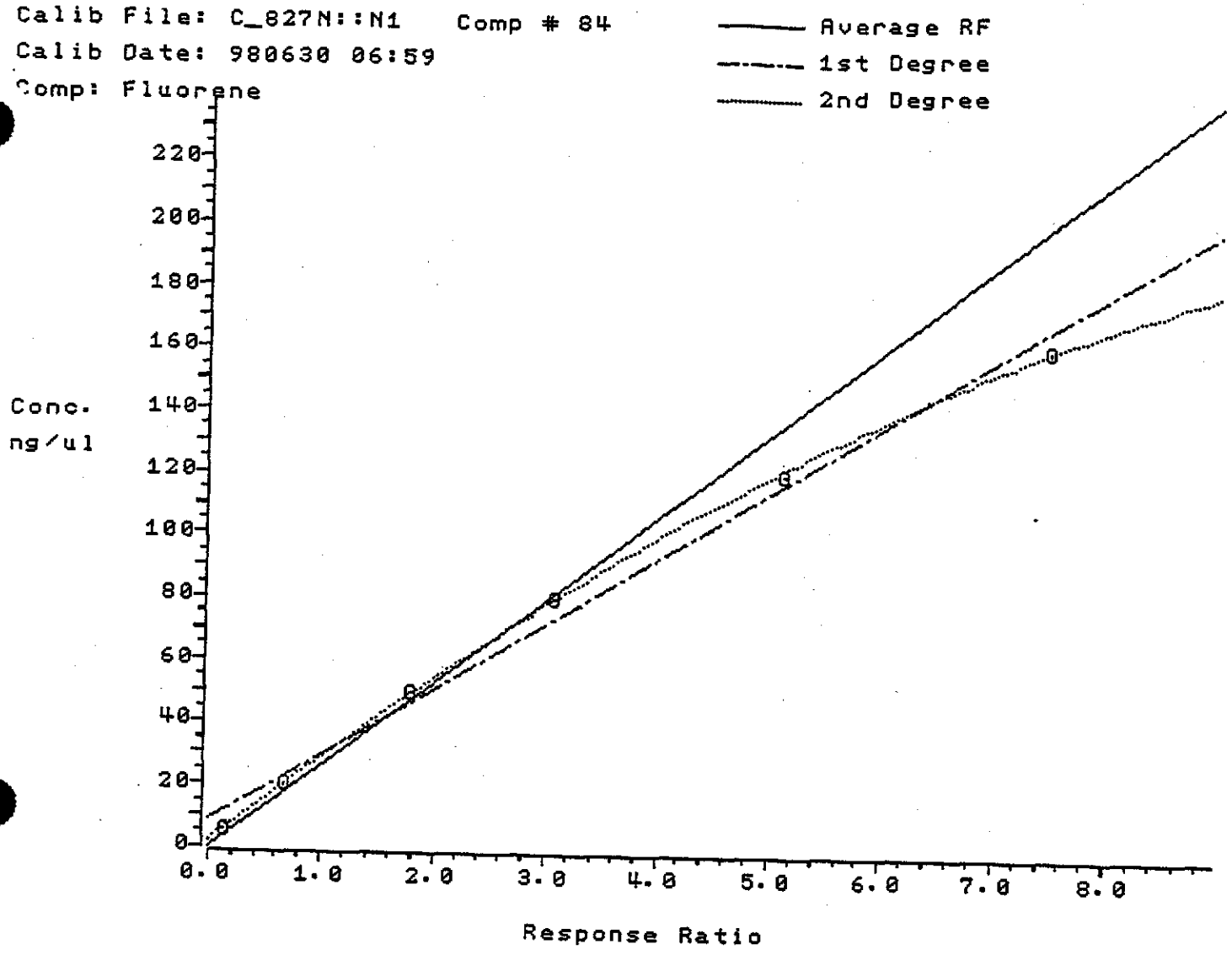
Average of 6 Rfs: .76317 (17.18 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .2288320 + 1.024442(x)$
1st Degree Corr Coef: .9944639
2nd Degree Equation: $y = .0458081 + 1.411696(x) + -.100495(x^2)$
2nd Degree Corr Coef: .9997962

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 84
Calib Date: 980630 06:59
Comp: Fluorene



Compound # 84 Calib File: C_827N::N1

Compound: Fluorene
Istd: Acenaphthene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.2017	1.3026	1.4222	1.5384	1.7020	1.8669

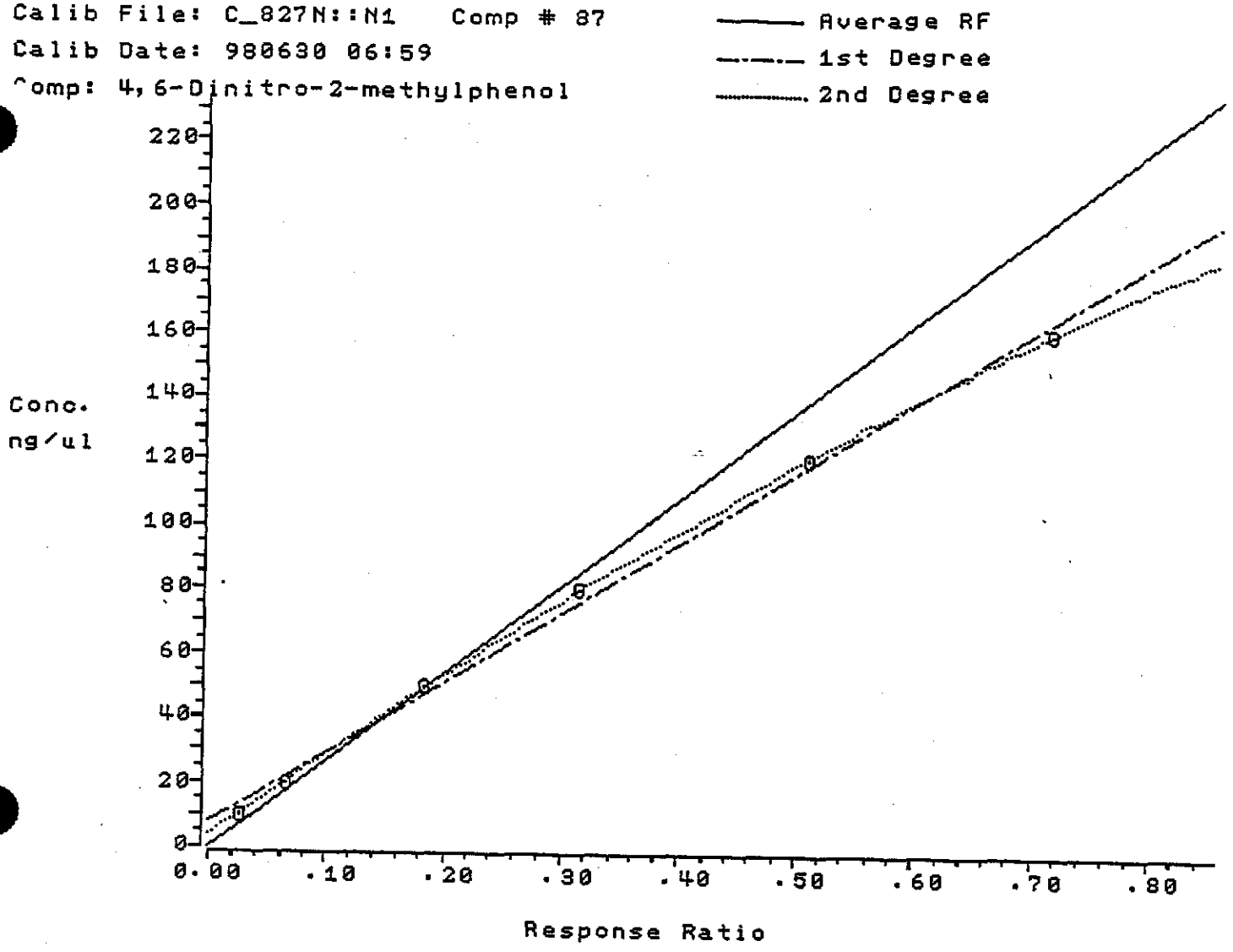
Average of 6 Rfs: 1.5056 (16.56 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2083675 + .5279719(x)
1st Degree Corr Coef: .9955033
2nd Degree Equation: y = .0408824 + .7085171(x) + -.024090(x^2)
2nd Degree Corr Coef: .9998962

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 87
Calib Date: 980630 06:59
Comp: 4,6-Dinitro-2-methylphenol



Compound # 87 Calib File: C_827N::N1

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.10166	.12945	.14696	.15671	.16940	.17868

Average of 6 Rfs: .14714 (19.13 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1897408 + 5.447897(x)
1st Degree Corr Coef: .9985654
2nd Degree Equation: y = .0889639 + 6.531274(x) + -1.49736(x^2)
2nd Degree Corr Coef: .9999614

In the above equations:

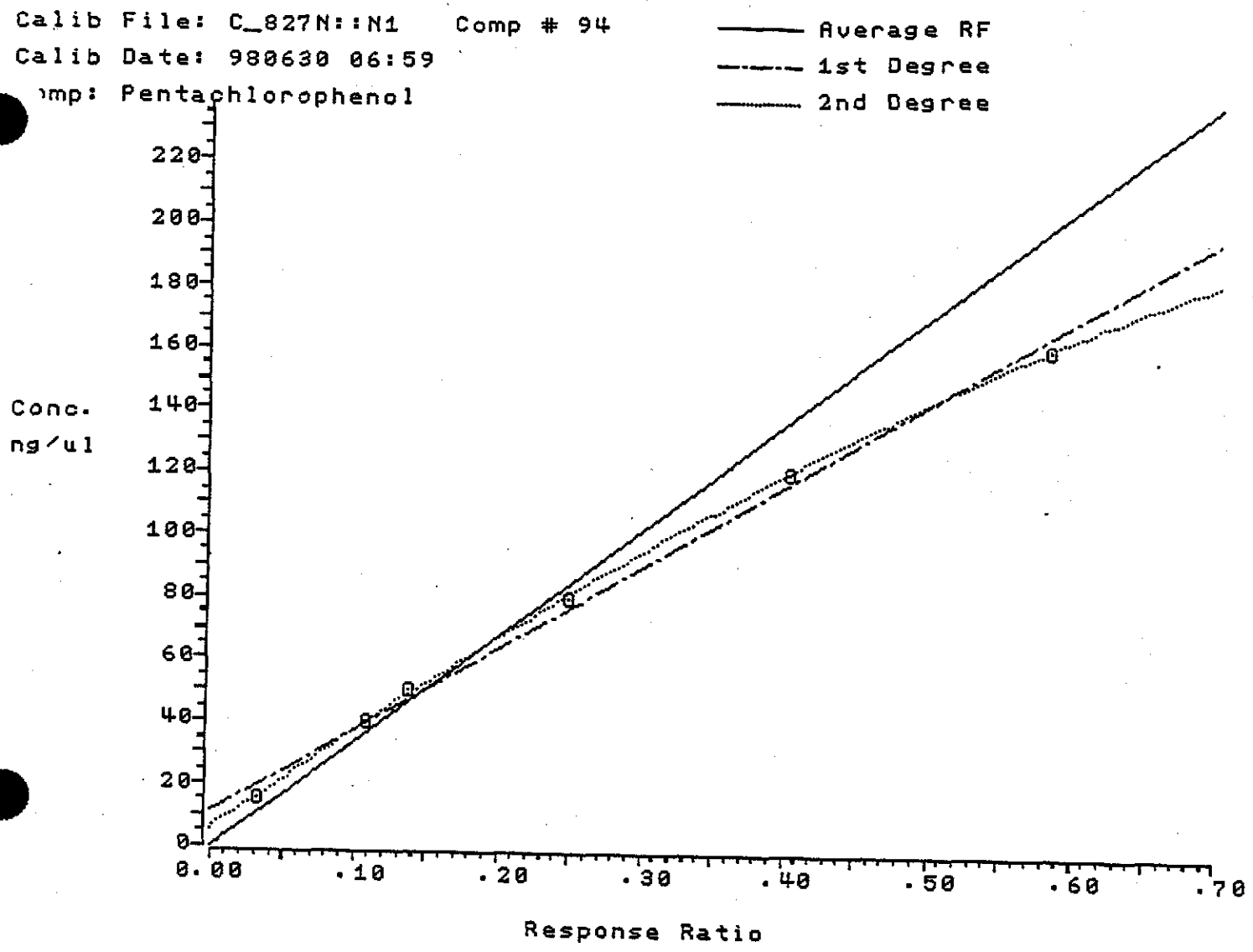
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp # 94

Calib Date: 980630 06:59

Comp: Pentachlorophenol



Compound # 94 Calib File: C_827N::N1

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.08638	.10698	.10929	.12440	.13421	.14563

Average of 6 Rfs: .11782 (18.06 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: $y = .2951707 + 6.526018(x)$

1st Degree Corr Coef: .9976393

2nd Degree Equation: $y = .1333767 + 8.298346(x) + -2.86848(x^2)$

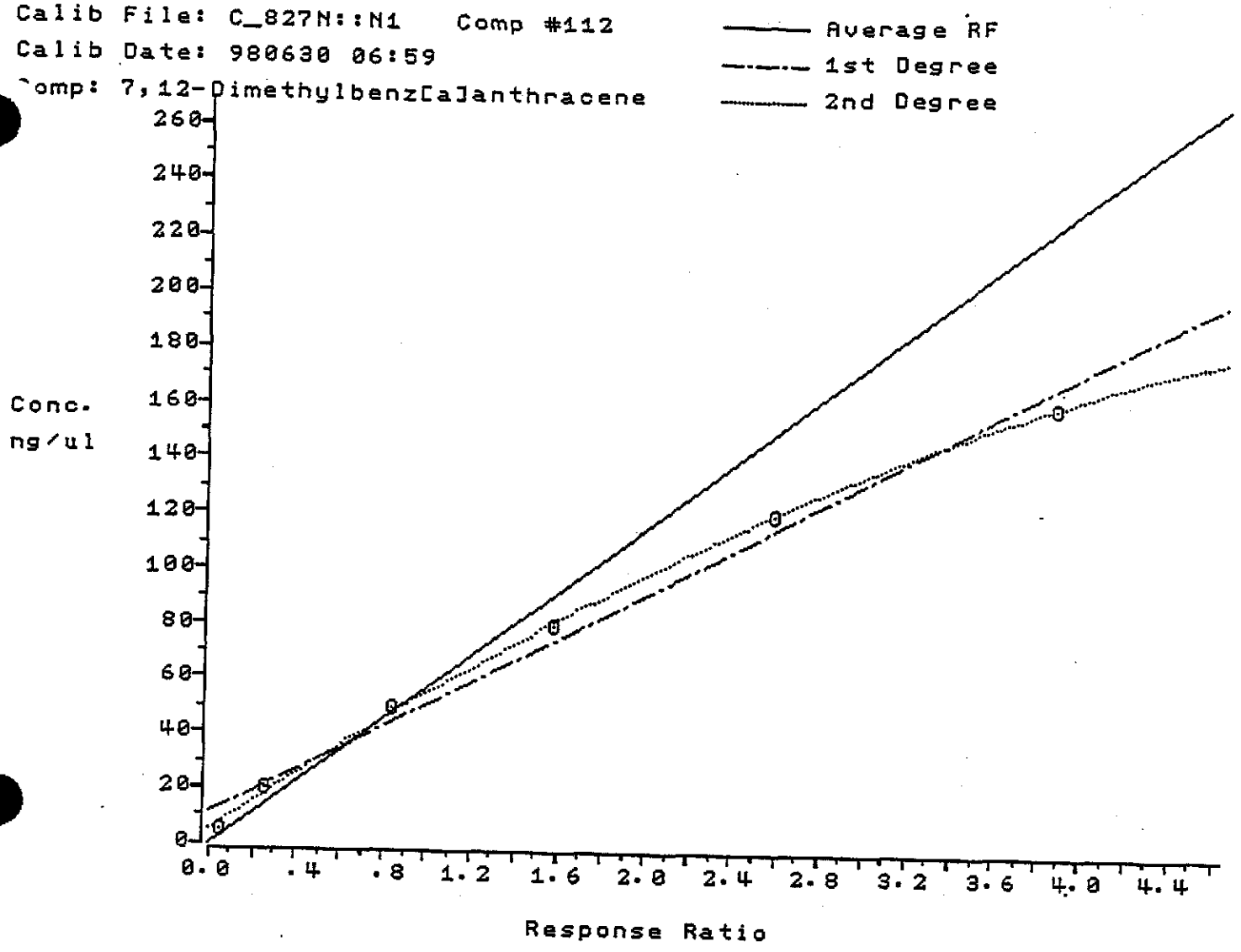
2nd Degree Corr Coef: .9998585

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp #112
Calib Date: 980630 06:59
Comp: 7,12-Dimethylbenz[a]anthracene



Compound #112 Calib File: C_827N::N1

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.35230	.50929	.67245	.79204	.86001	.96827

Average of 6 Rfs: .69239 (33.17 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2765928 + 1.004251(x)
1st Degree Corr Coef: .9946419
2nd Degree Equation: y = .1204191 + 1.356987(x) + -.092214(x^2)
2nd Degree Corr Coef: .9995883

In the above equations:

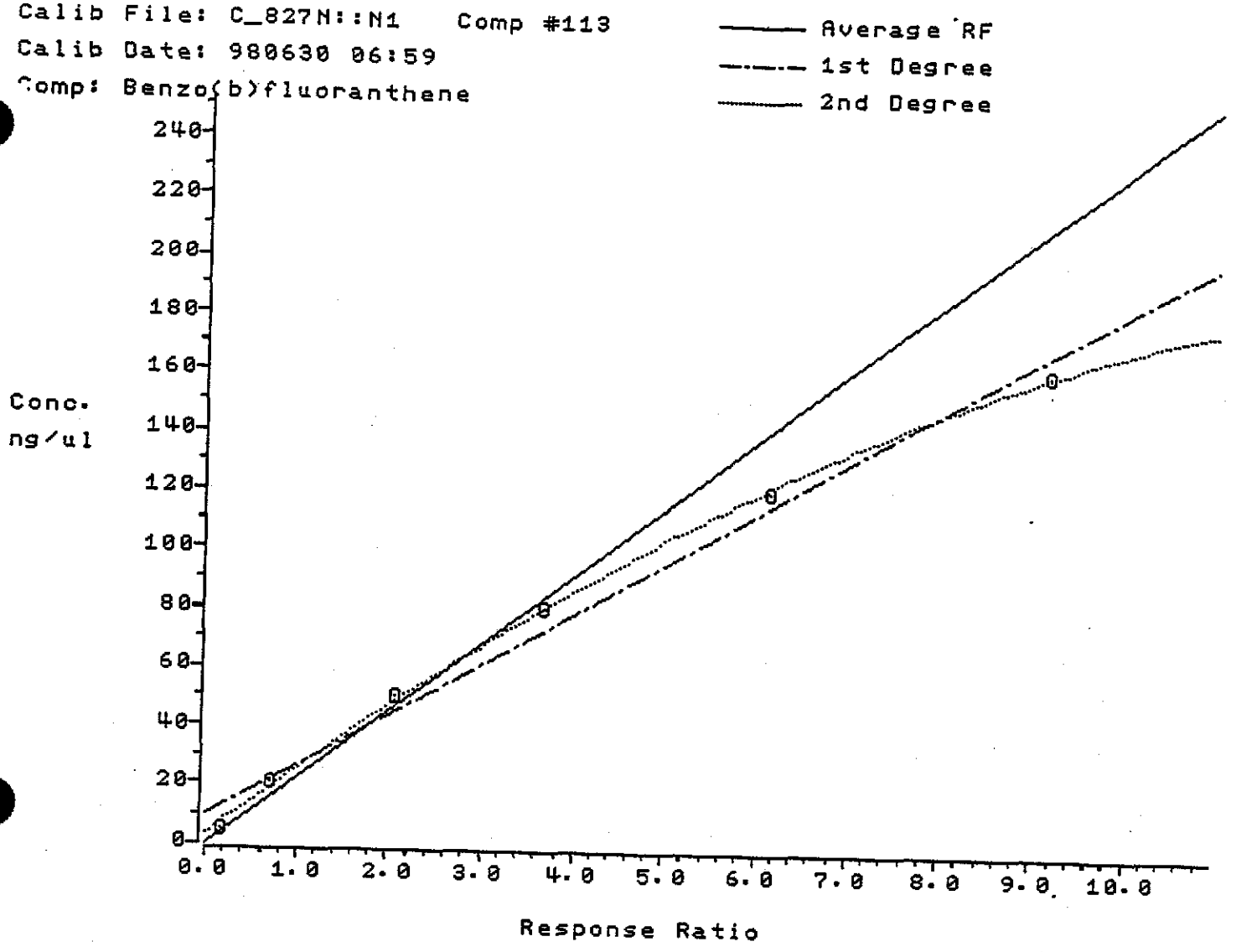
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp #113

Calib Date: 980630 06:59

Comp: Benzo(b)fluoranthene



Compound #113 Calib File: C_827N::N1

Compound: Benzo(b)fluoranthene
Istd: Perylene-d12

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.2804	1.3889	1.6443	1.8270	2.0427	2.2857

Average of 6 Rfs: 1.7448 (22.06 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: y = .2523191 + .4287214(x)

1st Degree Corr Coef: .9940736

2nd Degree Equation: y = .0704571 + .5945386(x) + -.018167(x^2)

2nd Degree Corr Coef: .9997936

In the above equations:

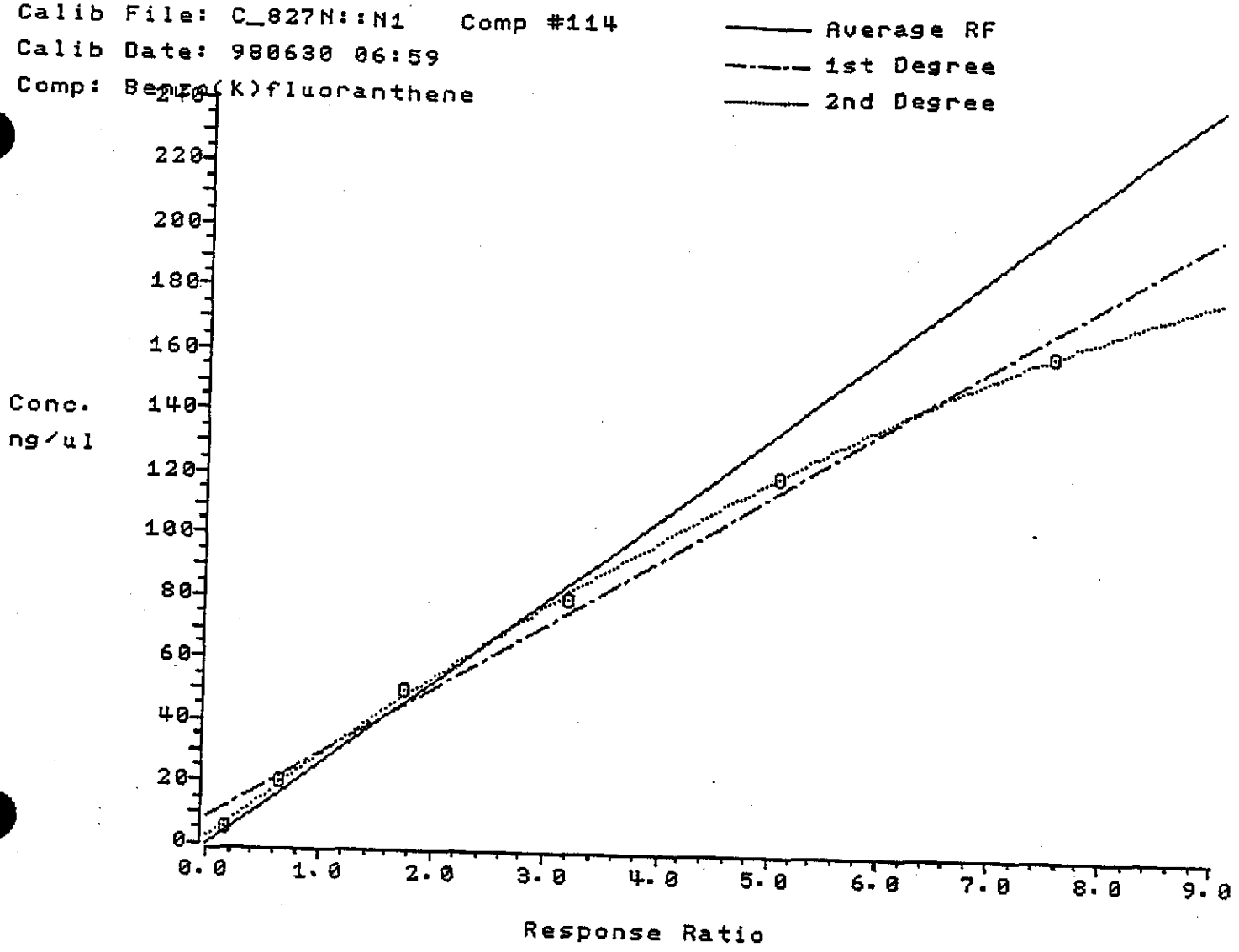
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

Calib File: C_827N::N1 Comp #114

Calib Date: 980630 06:59

Comp: Benzo(k)fluoranthene



Compound #114 Calib File: C_827N::N1

Compound: Benzo(k)fluoranthene
Istd: Perylene-d12

File:	>NF735	>NF737	>NF736	>NF73A	>NF734	>NF73B
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.2183	1.2604	1.3878	1.5856	1.6818	1.8773

Average of 6 Rfs: 1.5019 (17.16 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: y = .2143739 + .5256102(x)

1st Degree Corr Coef: .9953040

2nd Degree Equation: y = .0495400 + .7038118(x) + -.023727(x^2)

2nd Degree Corr Coef: .9997441

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG050 DFTPP Injection Date: 07/02/98

Instrument ID: HP06756 DFTPP Injection Time: 15:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	53.8
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 1.00% of mass 198	3.60
441	Present, but less than mass 443	9.0
442	Greater than 40.0% of mass 198	56.9
443	17.0 - 23.0% of mass 442	11.0 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>NG051	07/02/98	15:51
02	SBLKLA168N	SBLKLA168	>NG058	07/02/98	16:46
03	B2019	2945402	>NG060	07/02/98	18:34
04	B2029	2945403	>NG061	07/02/98	19:29
05	B2041	2945404	>NG062	07/02/98	20:24
06	B2054	2945405	>NG063	07/02/98	21:19
07	B2231	2945410	>NG064	07/02/98	22:14
08	B2253	2945411	>NG065	07/02/98	23:09
09	G13-2	2946083	>NG066	07/03/98	00:04
10					
11					
12					
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/02/98 Time: 15:51

Lab File ID: >NG051 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.331	1.266	76.10	80.0	4.9
N-Nitrosodimethylamine		.726	.700	77.20	80.0	3.5
2-Picoline		1.651	1.544	74.83	80.0	6.5
Phenol	*	2.264	2.131	75.29	80.0	5.9*
Aniline		2.592	2.460	75.92	80.0	5.1
bis(2-Chloroethyl)ether		1.645	1.571	76.38	80.0	4.5
2-Chlorophenol		1.140	1.094	76.76	80.0	4.0
1,3-Dichlorobenzene		1.447	1.413	78.17	80.0	2.3
1,4-Dichlorobenzene	*	1.525	1.491	78.22	80.0	2.2*
Benzyl alcohol		.894	1.024	75.41	80.0	5.7
1,2-Dichlorobenzene		1.430	1.399	78.23	80.0	2.2
2-Methylphenol		1.530	1.391	72.71	80.0	9.1
2,2'-oxybis(1-Chloropropane)		1.934	1.728	71.49	80.0	10.6
bis(2-Chloroisopropyl)ether		1.934	1.728	71.49	80.0	10.6
4-Methylphenol		1.764	1.786	80.98	80.0	-1.2
3- and 4-Methylphenol		1.764	1.786	80.98	80.0	-1.2
Acetophenone		2.837	2.828	79.75	80.0	.3
N-Nitroso-di-n-propylamine	#	1.247	1.154	74.03	80.0	7.5#
o-Toluidine		2.631	2.457	74.72	80.0	6.6
Hexachloroethane		.858	.839	78.26	80.0	2.2
Nitrobenzene		.688	.661	76.88	80.0	3.9
Isophorone		1.267	1.242	78.41	80.0	2.0
2-Nitrophenol	*	.239	.242	80.99	80.0	-1.2*
2,4-Dimethylphenol		.676	.663	78.47	80.0	1.9
Benzoic acid		.450	.456	80.95	80.0	-1.2
bis(2-Chloroethoxy)methane		.748	.739	78.98	80.0	1.3
2,4-Dichlorophenol	*	.432	.446	82.71	80.0	-3.4*
1,2,4-Trichlorobenzene		.516	.544	84.37	80.0	-5.5
Naphthalene		1.077	1.068	79.33	80.0	.8
4-Chloroaniline		.484	.468	77.35	80.0	3.3
Hexachlorobutadiene	*	.302	.331	87.61	80.0	-9.5*
4-Chloro-3-methylphenol	*	.608	.577	76.01	80.0	5.0*
4-Chloro-3-methylphenol(mz10	*	.608	.577	76.01	80.0	5.0*
4-Chloro-3-methylphenol(mz14	*	.309	.310	80.34	80.0	-.4*
2-Methylnaphthalene		.800	.797	79.64	80.0	.4
1-Methylnaphthalene		.756	.749	79.24	80.0	.9
Hexachlorocyclopentadiene	#	.245	.349	83.72	80.0	-4.7#
2,4,6-Trichlorophenol	*	.440	.475	86.35	80.0	-7.9*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/02/98 Time: 15:51

Lab File ID: >NG051 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.492	.510	83.00	80.0	-3.7
2-Chloronaphthalene		1.232	1.242	80.67	80.0	-.8
2-Nitroaniline		.498	.451	72.37	80.0	9.5
Dimethylphthalate		1.574	1.586	80.61	80.0	-.8
2,6-Dinitrotoluene		.378	.378	79.99	80.0	.0
Acenaphthylene		1.904	1.897	79.69	80.0	.4
3-Nitroaniline		.333	.313	75.17	80.0	6.0
Acenaphthene	*	1.174	1.143	77.88	80.0	2.7*
2,4-Dinitrophenol	#	.220	.240	77.91	80.0	2.6#
4-Nitrophenol	#	.444	.432	77.80	80.0	2.8#
Dibenzofuran		1.904	1.982	83.28	80.0	-4.1
2,4-Dinitrotoluene		.568	.583	82.08	80.0	-2.6
1-Naphthylamine		.859	.867	80.73	80.0	-.9
2-Naphthylamine		.815	.838	82.25	80.0	-2.8
Diethylphthalate		1.677	1.662	79.31	80.0	.9
4-Chlorophenyl-phenylether		.763	.761	71.48	80.0	10.6
Fluorene		1.506	1.481	70.91	80.0	11.4
4-Nitroaniline		.355	.345	77.75	80.0	2.8
4,6-Dinitro-2-methylphenol		.147	.168	80.94	80.0	-1.2
1-Nitronaphthalene		.151	.154	81.51	80.0	-1.9
N-Nitrosodiphenylamine (1)	*	.497	.515	82.93	80.0	-3.7*
1,2-Diphenylhydrazine		.947	.943	79.66	80.0	.4
4-Bromophenyl-phenylether		.190	.204	85.61	80.0	-7.0
Hexachlorobenzene		.234	.270	92.17	80.0	-15.2
Pentachlorophenol	*	.118	.142	86.03	80.0	-7.5*
Phenanthrene		1.052	1.090	82.84	80.0	-3.6
Anthracene		1.082	1.127	83.38	80.0	-4.2
Carbazole		.981	1.013	82.62	80.0	-3.3
Di-n-butylphthalate		1.370	1.421	82.93	80.0	-3.7
Fluoranthene	*	1.105	1.123	81.28	80.0	-1.6*
Benzidine		1.016	.993	312.95	320.0	2.2
Pyrene		1.329	1.335	80.35	80.0	-.4
Butylbenzylphthalate		.702	.708	80.59	80.0	-.7
3,3'-Dichlorobenzidine		.421	.437	83.07	80.0	-3.8
Benzo(a)anthracene		1.134	1.069	75.38	80.0	5.8
bis(2-Ethylhexyl)phthalate		1.147	1.037	72.30	80.0	9.6
Chrysene		.914	1.012	88.65	80.0	-10.8
Di-n-octylphthalate	*	2.679	2.629	78.51	80.0	1.9*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/02/98 Time: 15:51

Lab File ID: >NG051 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace		.692	.788	74.41	80.0	7.0
Benzo(b)fluoranthene		1.745	1.806	72.03	80.0	10.0
Benzo(k)fluoranthene		1.502	1.520	72.48	80.0	9.4
Benzo(a)pyrene	*	1.371	1.372	80.06	80.0	-.1*
Indeno(1,2,3-cd)pyrene		1.158	1.246	86.02	80.0	-7.5
Dibenz(a,h)anthracene		1.172	1.234	84.20	80.0	-5.3
Benzo(g,h,i)perylene		1.171	1.256	85.77	80.0	-7.2
2-Fluorophenol		1.376	1.333	77.46	80.0	3.2
Phenol-d5		2.195	2.080	75.81	80.0	5.2
Phenol-d6		2.195	2.080	75.81	80.0	5.2
2-Chlorophenol-d4		1.139	1.086	76.25	80.0	4.7
1,2-Dichlorobenzene-d4		.960	.965	80.42	80.0	-.5
Nitrobenzene-d5		.717	.692	77.23	80.0	3.5
2-Fluorobiphenyl		1.435	1.497	83.44	80.0	-4.3
2,4,6-Tribromophenol		.272	.325	95.58	80.0	-19.5
Terphenyl-d14		.870	.926	85.15	80.0	-6.4

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG051 Date Analyzed: 07/02/98

Instrument ID: HP06756 Time Analyzed: 15:51

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	194077	11.60	567239	15.30	426762	20.63
	UPPER LIMIT	388154		1134478		853524	
	LOWER LIMIT	97039		283620		213381	
01	SBLKLA168N	179537	11.60	543197	15.29	402336	20.62
02	B2019	185824	11.60	573704	15.29	426620	20.62
03	B2029	189626	11.60	580130	15.30	430962	20.62
04	B2041	196871	11.60	601103	15.29	451934	20.62
05	B2054	190569	11.60	578141	15.29	430263	20.62
06	B2231	196278	11.60	598107	15.30	437650	20.62
07	B2253	193059	11.60	584168	15.29	438251	20.62
08	G13-2	186588	11.60	567713	15.29	410637	20.62
09							
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG051 Date Analyzed: 07/02/98

Instrument ID: HP06756 Time Analyzed: 15:51

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	829218	25.18	741017	32.17	373091	36.45
	UPPER LIMIT	1658436		1482034		746182	
	LOWER LIMIT	414609		370509		186546	
	EPA SAMPLE NO.						
01	SBLKLA168N	803011	25.17	601599	32.16	377393	36.43
02	B2019	830145	25.17	621182	32.16	414471	36.44
03	B2029	857290	25.17	650544	32.16	360330	36.43
04	B2041	887856	25.17	642262	32.15	433662	36.43
05	B2054	820264	25.17	625462	32.16	336706	36.43
06	B2231	867801	25.17	618497	32.15	393517	36.43
07	B2253	849605	25.16	626251	32.15	424567	36.43
08	G13-2	809145	25.16	592087	32.15	392300	36.43
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21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG070 DFTPP Injection Date: 07/03/98

Instrument ID: HP06756 DFTPP Injection Time: 10:00

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.6
70	Less than 2.0% of mass 69	.4 (.7)1
127	40.0 - 60.0% of mass 198	43.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	18.0
365	Greater than 1.00% of mass 198	3.21
441	Present, but less than mass 443	8.2
442	Greater than 40.0% of mass 198	50.8
443	17.0 - 23.0% of mass 442	10.1 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>NG071	07/03/98	10:23
02	168LALCSN	168LALCS	>NG072	07/03/98	11:20
03	B20-1	2945401	>NG073	07/03/98	12:15
04	B2225	2945409	>NG077	07/03/98	16:09
05	B2221	2945408	>NG078	07/03/98	17:05
06	B22-0	2945407	>NG079	07/03/98	17:59
07	G13-0	2946082	>NG080	07/03/98	18:55
08					
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

.b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/03/98 Time: 10:23

Lab File ID: >NG071 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.331	1.353	81.32	80.0	-1.7
N-Nitrosodimethylamine		.726	.733	80.75	80.0	-.9
2-Picoline		1.651	1.602	77.64	80.0	3.0
Phenol	*	2.264	2.159	76.29	80.0	4.6*
Aniline		2.592	2.511	77.49	80.0	3.1
bis(2-Chloroethyl)ether		1.645	1.588	77.19	80.0	3.5
2-Chlorophenol		1.140	1.109	77.79	80.0	2.8
1,3-Dichlorobenzene		1.447	1.445	79.90	80.0	.1
1,4-Dichlorobenzene	*	1.525	1.519	79.71	80.0	.4*
Benzyl alcohol		.894	.933	69.54	80.0	13.1
1,2-Dichlorobenzene		1.430	1.429	79.92	80.0	.1
2-Methylphenol		1.530	1.450	75.78	80.0	5.3
2,2'-oxybis(1-Chloropropane)		1.934	1.714	70.90	80.0	11.4
bis(2-Chloroisopropyl)ether		1.934	1.714	70.90	80.0	11.4
4-Methylphenol		1.764	1.783	80.85	80.0	-1.1
3- and 4-Methylphenol		1.764	1.783	80.85	80.0	-1.1
Acetophenone		2.837	2.833	79.88	80.0	.1
N-Nitroso-di-n-propylamine	#	1.247	1.150	73.75	80.0	7.8#
o-Toluidine		2.631	2.497	75.94	80.0	5.1
Hexachloroethane		.858	.835	77.87	80.0	2.7
Nitrobenzene		.688	.667	77.66	80.0	2.9
Isophorone		1.267	1.243	78.46	80.0	1.9
2-Nitrophenol	*	.239	.241	80.51	80.0	-.6*
2,4-Dimethylphenol		.676	.663	78.48	80.0	1.9
Benzoic acid		.450	.453	80.51	80.0	-.6
bis(2-Chloroethoxy)methane		.748	.731	78.14	80.0	2.3
2,4-Dichlorophenol	*	.432	.450	83.45	80.0	-4.3*
1,2,4-Trichlorobenzene		.516	.534	82.81	80.0	-3.5
Naphthalene		1.077	1.077	80.00	80.0	.0
4-Chloroaniline		.484	.477	78.80	80.0	1.5
Hexachlorobutadiene	*	.302	.329	87.16	80.0	-8.9*
4-Chloro-3-methylphenol	*	.608	.594	78.14	80.0	2.3*
4-Chloro-3-methylphenol(mz10	*	.608	.594	78.14	80.0	2.3*
4-Chloro-3-methylphenol(mz14	*	.309	.314	81.21	80.0	-1.5*
2-Methylnaphthalene		.800	.801	80.09	80.0	-.1
1-Methylnaphthalene		.756	.751	79.51	80.0	.6
Hexachlorocyclopentadiene	#	.245	.354	84.66	80.0	-5.8#
2,4,6-Trichlorophenol	*	.440	.459	83.56	80.0	-4.4*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/03/98 Time: 10:23

Lab File ID: >NG071 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.492	.515	83.75	80.0	-4.7
2-Chloronaphthalene		1.232	1.245	80.84	80.0	-1.1
2-Nitroaniline		.498	.465	74.67	80.0	6.7
Dimethylphthalate		1.574	1.585	80.58	80.0	-.7
2,6-Dinitrotoluene		.378	.382	81.00	80.0	-1.2
Acenaphthylene		1.904	1.936	81.34	80.0	-1.7
3-Nitroaniline		.333	.323	77.53	80.0	3.1
Acenaphthene	*	1.174	1.161	79.12	80.0	1.1*
2,4-Dinitrophenol	#	.220	.249	80.46	80.0	-.6#
4-Nitrophenol	#	.444	.450	80.98	80.0	-1.2#
Dibenzofuran		1.904	2.024	85.05	80.0	-6.3
2,4-Dinitrotoluene		.568	.610	85.96	80.0	-7.5
1-Naphthylamine		.859	.855	79.62	80.0	.5
2-Naphthylamine		.815	.814	79.84	80.0	.2
Diethylphthalate		1.677	1.699	81.07	80.0	-1.3
4-Chlorophenyl-phenylether		.763	.763	71.65	80.0	10.4
Fluorene		1.506	1.489	71.23	80.0	11.0
4-Nitroaniline		.355	.361	81.33	80.0	-1.7
4,6-Dinitro-2-methylphenol		.147	.169	81.08	80.0	-1.3
1-Nitronaphthalene		.151	.152	80.48	80.0	-.6
N-Nitrosodiphenylamine (1)	*	.497	.502	80.74	80.0	-.9*
1,2-Diphenylhydrazine		.947	.915	77.31	80.0	3.4
4-Bromophenyl-phenylether		.190	.201	84.37	80.0	-5.5
Hexachlorobenzene		.234	.261	89.19	80.0	-11.5
Pentachlorophenol	*	.118	.133	81.12	80.0	-1.4*
Phenanthrene		1.052	1.092	83.03	80.0	-3.8
Anthracene		1.082	1.119	82.77	80.0	-3.5
Carbazole		.981	1.022	83.36	80.0	-4.2
Di-n-butylphthalate		1.370	1.399	81.65	80.0	-2.1
Fluoranthene	*	1.105	1.169	84.57	80.0	-5.7*
Benzidine		1.016	.889	280.23	320.0	12.4
Pyrene		1.329	1.238	74.54	80.0	6.8
Butylbenzylphthalate		.702	.665	75.72	80.0	5.4
3,3'-Dichlorobenzidine		.421	.463	88.10	80.0	-10.1
Benzo(a)anthracene		1.134	1.091	76.95	80.0	3.8
bis(2-Ethylhexyl)phthalate		1.147	1.044	72.83	80.0	9.0
Chrysene		.914	1.099	96.24	80.0	-20.3
Di-n-octylphthalate	*	2.679	2.369	70.74	80.0	11.6*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/03/98 Time: 10:23

Lab File ID: >NG071 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.692	.754	71.61	80.0	10.5
Benzo(b)fluoranthene	1.745	1.765	70.64	80.0	11.7
Benzo(k)fluoranthene	1.502	1.461	70.01	80.0	12.5
Benzo(a)pyrene *	1.371	1.341	78.22	80.0	2.2*
Indeno(1,2,3-cd)pyrene	1.158	1.246	86.03	80.0	-7.5
Dibenz(a,h)anthracene	1.172	1.245	84.94	80.0	-6.2
Benzo(g,h,i)perylene	1.171	1.273	86.99	80.0	-8.7
2-Fluorophenol	1.376	1.362	79.18	80.0	1.0
Phenol-d5	2.195	2.154	78.50	80.0	1.9
Phenol-d6	2.195	2.154	78.50	80.0	1.9
2-Chlorophenol-d4	1.139	1.110	77.95	80.0	2.6
1,2-Dichlorobenzene-d4	.960	.971	80.93	80.0	-1.2
Nitrobenzene-d5	.717	.698	77.83	80.0	2.7
2-Fluorobiphenyl	1.435	1.480	82.47	80.0	-3.1
2,4,6-Tribromophenol	.272	.316	92.92	80.0	-16.1
Terphenyl-d14	.870	.851	78.26	80.0	2.2

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG071 Date Analyzed: 07/03/98

Instrument ID: HP06756 Time Analyzed: 10:23

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	191493	11.53	562749	15.22	423409	20.53
	UPPER LIMIT	382986		1125498		846818	
	LOWER LIMIT	95747		281375		211705	
	EPA SAMPLE NO.						
01	168LALCSN	168631	11.53	488130	15.22	359942	20.53
02	B20-1	176908	11.52	521288	15.21	392536	20.53
03	B2225	229848	11.53	703679	15.22	525510	20.53
04	B2221	169834	11.52	553125	15.25	342412	20.53
05	B22-0	173627	11.53	536692	15.22	389223	20.54
06	G13-0	177677	11.53	532085	15.22	391343	20.54
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG071 Date Analyzed: 07/03/98

Instrument ID: HP06756 Time Analyzed: 10:23

	EPA SAMPLE NO.	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	857476	25.09	856140	32.08	518784	36.29
	UPPER LIMIT	1714952		1712280		1037568	
	LOWER LIMIT	428738		428070		259392	
01	168LALCSN	726919	25.08	679298	32.08	437604	36.28
02	B20-1	761070	25.09	590500	32.09	309538	36.31
03	B2225	1010326	25.08	560553	32.07	343460	36.29
04	B2221	690639	25.09	387879*	32.07	279760	36.29
05	B22-0	768590	25.08	523724	32.07	334169	36.29
06	G13-0	726674	25.08	737285	32.11	350662	36.36
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG09A DFTPP Injection Date: 07/04/98

Instrument ID: HP06756 DFTPP Injection Time: 09:52

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	59.0
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	17.3
365	Greater than 1.00% of mass 198	3.32
441	Present, but less than mass 443	7.6
442	Greater than 40.0% of mass 198	49.4
443	17.0 - 23.0% of mass 442	9.6 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>NG091	07/04/98	10:14
02	B20-1DL	2945401DL	>NG092	07/04/98	11:09
03	B20-1MS	2945401	>NG093	07/04/98	12:04
04	B20-1MSD	2945401	>NG094	07/04/98	13:01
05	G13-5	2946084	>NG095	07/04/98	13:56
06	B2221RE	2945408RE	>NG096	07/04/98	14:51
07	G13-0DL	2946082DL	>NG098	07/04/98	16:40
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/04/98 Time: 10:14

Lab File ID: >NG091 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.331	1.245	74.83	80.0	6.5
N-Nitrosodimethylamine	.726	.692	76.30	80.0	4.6
2-Picoline	1.651	1.536	74.42	80.0	7.0
Phenol *	2.264	2.122	74.98	80.0	6.3*
Aniline	2.592	2.436	75.18	80.0	6.0
bis(2-Chloroethyl)ether	1.645	1.583	76.96	80.0	3.8
2-Chlorophenol	1.140	1.088	76.35	80.0	4.6
1,3-Dichlorobenzene	1.447	1.429	79.04	80.0	1.2
1,4-Dichlorobenzene *	1.525	1.507	79.10	80.0	1.1*
Benzyl alcohol	.894	1.029	75.78	80.0	5.3
1,2-Dichlorobenzene	1.430	1.416	79.20	80.0	1.0
2-Methylphenol	1.530	1.382	72.22	80.0	9.7
2,2'-oxybis(1-Chloropropane)	1.934	1.753	72.52	80.0	9.4
bis(2-Chloroisopropyl)ether	1.934	1.753	72.52	80.0	9.4
4-Methylphenol	1.764	1.750	79.36	80.0	.8
3- and 4-Methylphenol	1.764	1.750	79.36	80.0	.8
Acetophenone	2.837	2.732	77.03	80.0	3.7
N-Nitroso-di-n-propylamine #	1.247	1.152	73.93	80.0	7.6#
o-Toluidine	2.631	2.436	74.07	80.0	7.4
Hexachloroethane	.858	.840	78.37	80.0	2.0
Nitrobenzene	.688	.682	79.38	80.0	.8
Isophorone	1.267	1.247	78.73	80.0	1.6
2-Nitrophenol *	.239	.243	81.14	80.0	-1.4*
2,4-Dimethylphenol	.676	.672	79.59	80.0	.5
Benzoic acid	.450	.477	84.76	80.0	-5.9
bis(2-Chloroethoxy)methane	.748	.767	82.02	80.0	-2.5
2,4-Dichlorophenol *	.432	.460	85.24	80.0	-6.6*
1,2,4-Trichlorobenzene	.516	.563	87.31	80.0	-9.1
Naphthalene	1.077	1.077	80.04	80.0	-.0
4-Chloroaniline	.484	.467	77.22	80.0	3.5
Hexachlorobutadiene *	.302	.338	89.40	80.0	-11.8*
4-Chloro-3-methylphenol *	.608	.587	77.34	80.0	3.3*
4-Chloro-3-methylphenol(mz10*	.608	.587	77.34	80.0	3.3*
4-Chloro-3-methylphenol(mz14*	.309	.314	81.22	80.0	-1.5*
2-Methylnaphthalene	.800	.803	80.26	80.0	-.3
1-Methylnaphthalene	.756	.753	79.76	80.0	.3
Hexachlorocyclopentadiene #	.245	.352	84.27	80.0	-5.3#
2,4,6-Trichlorophenol *	.440	.482	87.68	80.0	-9.6*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/04/98 Time: 10:14

Lab File ID: >NG091 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol	.492	.533	86.62	80.0	-8.3
2-Chloronaphthalene	1.232	1.262	81.96	80.0	-2.5
2-Nitroaniline	.498	.465	74.64	80.0	6.7
Dimethylphthalate	1.574	1.598	81.24	80.0	-1.6
2,6-Dinitrotoluene	.378	.382	80.90	80.0	-1.1
Acenaphthylene	1.904	1.916	80.49	80.0	-.6
3-Nitroaniline	.333	.307	73.75	80.0	7.8
Acenaphthene *	1.174	1.162	79.16	80.0	1.1*
2,4-Dinitrophenol #	.220	.245	79.28	80.0	.9#
4-Nitrophenol #	.444	.445	80.13	80.0	-.2#
Dibenzofuran	1.904	2.034	85.44	80.0	-6.8
2,4-Dinitrotoluene	.568	.597	84.13	80.0	-5.2
1-Naphthylamine	.859	.809	75.33	80.0	5.8
2-Naphthylamine	.815	.746	73.21	80.0	8.5
Diethylphthalate	1.677	1.699	81.04	80.0	-1.3
4-Chlorophenyl-phenylether	.763	.753	70.86	80.0	11.4
Fluorene	1.506	1.478	70.76	80.0	11.5
4-Nitroaniline	.355	.344	77.64	80.0	3.0
4,6-Dinitro-2-methylphenol	.147	.167	80.43	80.0	-.5
1-Nitronaphthalene	.151	.153	80.87	80.0	-1.1
N-Nitrosodiphenylamine (1) *	.497	.512	82.43	80.0	-3.0*
1,2-Diphenylhydrazine	.947	.947	80.00	80.0	-.0
4-Bromophenyl-phenylether	.190	.202	85.10	80.0	-6.4
Hexachlorobenzene	.234	.266	91.11	80.0	-13.9
Pentachlorophenol *	.118	.137	83.55	80.0	-4.4*
Phenanthrene	1.052	1.097	83.36	80.0	-4.2
Anthracene	1.082	1.128	83.41	80.0	-4.3
Carbazole	.981	1.003	81.77	80.0	-2.2
Di-n-butylphthalate	1.370	1.425	83.19	80.0	-4.0
Fluoranthene *	1.105	1.136	82.20	80.0	-2.8*
Benzidine	1.016	.929	292.73	320.0	8.5
Pyrene	1.329	1.338	80.53	80.0	-.7
Butylbenzylphthalate	.702	.724	82.41	80.0	-3.0
3,3'-Dichlorobenzidine	.421	.468	89.03	80.0	-11.3
Benzo(a)anthracene	1.134	1.131	79.80	80.0	.3
bis(2-Ethylhexyl)phthalate	1.147	1.183	82.50	80.0	-3.1
Chrysene	.914	1.192	104.38	80.0	-30.5 J, UJ-
Di-n-octylphthalate *	2.679	2.508	74.90	80.0	6.4*

(1) Cannot be separated from Diphenylamine

C13-5 ⇒ UJ
C13-Odc ⇒ J

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG091 Date Analyzed: 07/04/98

Instrument ID: HP06756 Time Analyzed: 10:14

	EPA SAMPLE NO.	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	179367	11.43	510510	15.12	378503	20.43
	UPPER LIMIT	358734		1021020		757006	
	LOWER LIMIT	89684		255255		189252	
01	B20-1DL	164659	11.42	479430	15.11	352839	20.42
02	B20-1MS	168589	11.43	480155	15.12	359878	20.43
03	B20-1MSD	166168	11.43	478434	15.12	353831	20.44
04	G13-5	168749	11.43	495968	15.11	356464	20.43
05	B2221RE	161023	11.43	513771	15.14	321228	20.43
06	G13-0DL	167581	11.43	495412	15.12	356147	20.43
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG091 Date Analyzed: 07/04/98

Instrument ID: HP06756 Time Analyzed: 10:14

	EPA SAMPLE NO.	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	747487	24.97	658574	31.99	389954	36.10
	UPPER LIMIT	1494974		1317148		779908	
	LOWER LIMIT	373744		329287		194977	
01	B20-1DL	656074	24.96	439630	31.98	271473	36.10
02	B20-1MS	647526	24.97	587097	32.00	282054	36.15
03	B20-1MSD	659069	24.98	583735	32.00	279351	36.14
04	G13-5	673469	24.96	414621	31.97	209065	36.10
05	B2221RE	639643	24.97	295059*	31.98	207829	36.10
06	G13-0DL	681217	24.97	511920	31.99	333813	36.11
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/04/98 Time: 10:14

Lab File ID: >NG091 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.692	.744	70.83	80.0	11.5
Benzo(b)fluoranthene	1.745	1.791	71.52	80.0	10.6
Benzo(k)fluoranthene	1.502	1.416	68.10	80.0	14.9
Benzo(a)pyrene *	1.371	1.318	76.91	80.0	3.9*
Indeno(1,2,3-cd)pyrene	1.158	1.205	83.24	80.0	-4.1
Dibenz(a,h)anthracene	1.172	1.202	82.02	80.0	-2.5
Benzo(g,h,i)perylene	1.171	1.254	85.67	80.0	-7.1
2-Fluorophenol	1.376	1.300	75.55	80.0	5.6
Phenol-d5	2.195	2.080	75.84	80.0	5.2
Phenol-d6	2.195	2.080	75.84	80.0	5.2
2-Chlorophenol-d4	1.139	1.073	75.33	80.0	5.8
1,2-Dichlorobenzene-d4	.960	.976	81.40	80.0	-1.8
Nitrobenzene-d5	.717	.710	79.15	80.0	1.1
2-Fluorobiphenyl	1.435	1.533	85.46	80.0	-6.8
2,4,6-Tribromophenol	.272	.325	95.50	80.0	-19.4
Terphenyl-d14	.870	.915	84.12	80.0	-5.1

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG110 DFTPP Injection Date: 07/06/98

Instrument ID: HP06756 DFTPP Injection Time: 08:36 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	52.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	40.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.9
365	Greater than 1.00% of mass 198	3.45
441	Present, but less than mass 443	9.4
442	Greater than 40.0% of mass 198	59.2
443	17.0 - 23.0% of mass 442	11.5 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>NG111	07/06/98	08:58
02	SBLKLB166N	SBLKLB166	>NG118	07/06/98	10:01
03	166LBLCSN	166LBLCS	>NG119	07/06/98	10:56
04	B2221DL	2945408DL	>NG120	07/06/98	11:51
05	315-6	2945135	>NG123	07/06/98	13:46
06	322-3	2945137	>NG124	07/06/98	14:41
07	325-6	2945138	>NG125	07/06/98	15:36
08	032-3	2945139	>NG126	07/06/98	16:31
09	035-6	2945140	>NG127	07/06/98	17:26
10	102-3	2945141	>NG128	07/06/98	18:21
11	105-6	2945142	>NG129	07/06/98	19:16
12	162-3	2945143	>NG130	07/06/98	20:11 ✓
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 08:58

Lab File ID: >NG111 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.331	1.287	77.37	80.0	3.3
N-Nitrosodimethylamine	.726	.693	76.41	80.0	4.5
2-Picoline	1.651	1.555	75.35	80.0	5.8
Phenol *	2.264	2.164	76.45	80.0	4.4*
Aniline	2.592	2.506	77.32	80.0	3.3
bis(2-Chloroethyl)ether	1.645	1.592	77.43	80.0	3.2
2-Chlorophenol	1.140	1.125	78.93	80.0	1.3
1,3-Dichlorobenzene	1.447	1.449	80.14	80.0	-.2
1,4-Dichlorobenzene *	1.525	1.533	80.43	80.0	-.5*
Benzyl alcohol	.894	1.045	76.82	80.0	4.0
1,2-Dichlorobenzene	1.430	1.433	80.15	80.0	-.2
2-Methylphenol	1.530	1.406	73.49	80.0	8.1
2,2'-oxybis(1-Chloropropane)	1.934	1.685	69.70	80.0	12.9
bis(2-Chloroisopropyl)ether	1.934	1.685	69.70	80.0	12.9
4-Methylphenol	1.764	1.782	80.81	80.0	-1.0
3- and 4-Methylphenol	1.764	1.782	80.81	80.0	-1.0
Acetophenone	2.837	2.746	77.42	80.0	3.2
N-Nitroso-di-n-propylamine #	1.247	1.123	72.01	80.0	10.0#
o-Toluidine	2.631	2.480	75.42	80.0	5.7
Hexachloroethane	.858	.838	78.20	80.0	2.2
Nitrobenzene	.688	.656	76.27	80.0	4.7
Isophorone	1.267	1.217	76.86	80.0	3.9
2-Nitrophenol *	.239	.242	81.00	80.0	-1.2*
2,4-Dimethylphenol	.676	.652	77.24	80.0	3.4
Benzoic acid	.450	.458	81.47	80.0	-1.8
bis(2-Chloroethoxy)methane	.748	.743	79.46	80.0	.7
2,4-Dichlorophenol *	.432	.458	84.82	80.0	-6.0*
1,2,4-Trichlorobenzene	.516	.546	84.77	80.0	-6.0
Naphthalene	1.077	1.097	81.49	80.0	-1.9
4-Chloroaniline	.484	.471	77.91	80.0	2.6
Hexachlorobutadiene *	.302	.335	88.65	80.0	-10.8*
4-Chloro-3-methylphenol *	.608	.579	76.26	80.0	4.7*
4-Chloro-3-methylphenol(mz10*	.608	.579	76.26	80.0	4.7*
4-Chloro-3-methylphenol(mz14*	.309	.312	80.72	80.0	-.9*
2-Methylnaphthalene	.800	.816	81.53	80.0	-1.9
1-Methylnaphthalene	.756	.767	81.16	80.0	-1.5
Hexachlorocyclopentadiene #	.245	.352	84.27	80.0	-5.3#
2,4,6-Trichlorophenol *	.440	.475	86.48	80.0	-8.1*

315-6 UJ
322-3 UJ
325-6 UJ
0323 UJ
035-6 UJ
102-3 UJ
105-6 UJ
162-3

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 08:58

Lab File ID: >NG111 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
2,4,5-Trichlorophenol		.492	.521	84.80	80.0	-6.0	
2-Chloronaphthalene		1.232	1.254	81.47	80.0	-1.8	
2-Nitroaniline		.498	.446	71.54	80.0	10.6	
Dimethylphthalate		1.574	1.572	79.90	80.0	.1	
2,6-Dinitrotoluene		.378	.370	78.44	80.0	1.9	
Acenaphthylene		1.904	1.919	80.60	80.0	-.8	
3-Nitroaniline		.333	.306	73.44	80.0	8.2	
Acenaphthene	*	1.174	1.156	78.77	80.0	1.5	*
2,4-Dinitrophenol	#	.220	.247	79.92	80.0	.1	#
4-Nitrophenol	#	.444	.419	75.41	80.0	5.7	#
Dibenzofuran		1.904	2.025	85.09	80.0	-6.4	
2,4-Dinitrotoluene		.568	.602	84.74	80.0	-5.9	
1-Naphthylamine		.859	.862	80.28	80.0	-.4	
2-Naphthylamine		.815	.864	84.79	80.0	-6.0	
Diethylphthalate		1.677	1.655	78.94	80.0	1.3	
4-Chlorophenyl-phenylether		.763	.752	70.78	80.0	11.5	
Fluorene		1.506	1.456	69.82	80.0	12.7	
4-Nitroaniline		.355	.306	69.01	80.0	13.7	
4,6-Dinitro-2-methylphenol		.147	.168	81.00	80.0	-1.2	
1-Nitronaphthalene		.151	.151	80.01	80.0	-.0	
N-Nitrosodiphenylamine (1)	*	.497	.506	81.46	80.0	-1.8	*
1,2-Diphenylhydrazine		.947	.915	77.30	80.0	3.4	
4-Bromophenyl-phenylether		.190	.202	84.84	80.0	-6.1	
Hexachlorobenzene		.234	.268	91.57	80.0	-14.5	
Pentachlorophenol	*	.118	.139	84.54	80.0	-5.7	*
Phenanthrene		1.052	1.095	83.24	80.0	-4.0	
Anthracene		1.082	1.123	83.04	80.0	-3.8	
Carbazole		.981	1.004	81.86	80.0	-2.3	
Di-n-butylphthalate		1.370	1.416	82.67	80.0	-3.3	
Fluoranthene	*	1.105	1.124	81.31	80.0	-1.6	*
Benzidine		1.016	.962	302.98	320.0	5.3	
Pyrene		1.329	1.338	80.57	80.0	-.7	
Butylbenzylphthalate		.702	.704	80.18	80.0	-.2	
3,3'-Dichlorobenzidine		.421	.478	90.95	80.0	-13.7	
Benzo(a)anthracene		1.134	1.134	80.02	80.0	-.0	
bis(2-Ethylhexyl)phthalate		1.147	1.184	82.58	80.0	-3.2	
Chrysene		.914	1.243	108.88	80.0	36.1	J+, UJ
Di-n-octylphthalate	*	2.679	2.597	77.56	80.0	3.1	*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 08:58

Lab File ID: >NG111 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.692	.790	74.54	80.0	6.8
Benzo(b)fluoranthene	1.745	1.863	74.00	80.0	7.5
Benzo(k)fluoranthene	1.502	1.462	70.03	80.0	12.5
Benzo(a)pyrene *	1.371	1.334	77.80	80.0	2.7*
Indeno(1,2,3-cd)pyrene	1.158	1.216	84.00	80.0	-5.0
Dibenz(a,h)anthracene	1.172	1.214	82.81	80.0	-3.5
Benzo(g,h,i)perylene	1.171	1.222	83.45	80.0	-4.3
2-Fluorophenol	1.376	1.353	78.63	80.0	1.7
Phenol-d5	2.195	2.120	77.29	80.0	3.4
Phenol-d6	2.195	2.120	77.29	80.0	3.4
2-Chlorophenol-d4	1.139	1.093	76.77	80.0	4.0
1,2-Dichlorobenzene-d4	.960	1.003	83.59	80.0	-4.5
Nitrobenzene-d5	.717	.687	76.63	80.0	4.2
2-Fluorobiphenyl	1.435	1.498	83.49	80.0	-4.4
2,4,6-Tribromophenol	.272	.330	96.83	80.0	-21.0
Terphenyl-d14	.870	.918	84.38	80.0	-5.5

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG111 Date Analyzed: 07/06/98

Instrument ID: HP06756 Time Analyzed: 08:58

	EPA SAMPLE NO.	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	248818	11.32	722666	15.01	549376	20.33
	UPPER LIMIT	497636		1445332		1098752	
	LOWER LIMIT	124409		361333		274688	
01	SBLKLB166N	217605	11.32	647522	15.00	489655	20.31
02	166LBLCSN	170096	11.32	507748	15.01	370871	20.32
03	B2221DL	168442	11.31	498251	15.00	366680	20.31
04	315-6	188953	11.32	565293	15.00	418301	20.32
05	322-3	196574	11.32	606884	15.00	445062	20.32
06	325-6	194267	11.32	590886	15.00	429078	20.31
07	032-3	189767	11.32	585232	15.00	433195	20.32
08	035-6	186710	11.32	574280	15.00	417691	20.32
09	102-3	183553	11.32	547858	15.00	400731	20.32
10	105-6	183380	11.32	567464	15.01	410138	20.31
11	162-3	179752	11.32	533965	15.01	390242	20.32
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG111 Date Analyzed: 07/06/98

Instrument ID: HP06756 Time Analyzed: 08:58

	EPA SAMPLE NO.	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	1080763	24.86	972304	31.90	553285	35.93
	UPPER LIMIT	2161526		1944608		1106570	
	LOWER LIMIT	540382		486152		276643	
01	SBLKLB166N	968882	24.84	760351	31.88	537159	35.92
02	166LBLCSN	735390	24.85	632273	31.89	383003	35.93
03	B2221DL	724065	24.84	560562	31.87	430652	35.92
04	315-6	839987	24.85	637050	31.88	462932	35.92
05	322-3	883438	24.85	673254	31.88	465910	35.91
06	325-6	849933	24.85	636137	31.87	427351	35.92
07	032-3	839456	24.85	626006	31.88	448126	35.91
08	035-6	822974	24.85	623460	31.88	447607	35.91
09	102-3	787366	24.85	619592	31.88	451057	35.92
10	105-6	796370	24.85	626391	31.88	451083	35.92
11	162-3	768537	24.85	591410	31.88	435742	35.92
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >NG132 DFTPP Injection Date: 07/06/98

Instrument ID: HP06756 DFTPP Injection Time: 21:23

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.4
70	Less than 2.0% of mass 69	.1 (.2)1
127	40.0 - 60.0% of mass 198	41.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.1
365	Greater than 1.00% of mass 198	3.42
441	Present, but less than mass 443	9.8
442	Greater than 40.0% of mass 198	63.4
443	17.0 - 23.0% of mass 442	12.3 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>NG133	07/06/98	21:46
02	165-6	2945144	>NG134	07/06/98	22:41
03	172-3	2945145	>NG135	07/06/98	23:36
04	175-6	2945146	>NG136	07/07/98	00:31
05	182-3	2945147	>NG137	07/07/98	01:26
06	185-6	2945148	>NG138	07/07/98	02:21
07	320-1	2945136	>NG139	07/07/98	03:16
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 21:46

Lab File ID: >NG133 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.331	1.246	74.91	80.0	6.4
N-Nitrosodimethylamine	.726	.668	73.63	80.0	8.0
2-Picoline	1.651	1.541	74.67	80.0	6.7
Phenol *	2.264	2.028	71.67	80.0	10.4*
Aniline	2.592	2.443	75.39	80.0	5.8
bis(2-Chloroethyl)ether	1.645	1.504	73.14	80.0	8.6
2-Chlorophenol	1.140	1.074	75.38	80.0	5.8
1,3-Dichlorobenzene	1.447	1.406	77.75	80.0	2.8
1,4-Dichlorobenzene *	1.525	1.477	77.50	80.0	3.1*
Benzyl alcohol	.894	.802	61.00	80.0	23.8 - not target
1,2-Dichlorobenzene	1.430	1.367	76.48	80.0	4.4
2-Methylphenol	1.530	1.391	72.70	80.0	9.1
2,2'-oxybis(1-Chloropropane)	1.934	1.631	67.47	80.0	15.7
bis(2-Chloroisopropyl)ether	1.934	1.631	67.47	80.0	15.7
4-Methylphenol	1.764	1.640	74.36	80.0	7.1
3- and 4-Methylphenol	1.764	1.640	74.36	80.0	7.1
Acetophenone	2.837	2.632	74.21	80.0	7.2
N-Nitroso-di-n-propylamine #	1.247	1.084	69.51	80.0	13.1#
o-Toluidine	2.631	2.402	73.02	80.0	8.7
Hexachloroethane	.858	.810	75.59	80.0	5.5
Nitrobenzene	.688	.638	74.26	80.0	7.2
Isophorone	1.267	1.191	75.17	80.0	6.0
2-Nitrophenol *	.239	.245	81.79	80.0	-2.2*
2,4-Dimethylphenol	.676	.640	75.81	80.0	5.2
Benzoic acid	.450	.333	59.12	80.0	26.1 not target
bis(2-Chloroethoxy)methane	.748	.721	77.11	80.0	3.6
2,4-Dichlorophenol *	.432	.442	81.88	80.0	-2.3*
1,2,4-Trichlorobenzene	.516	.528	81.88	80.0	-2.3
Naphthalene	1.077	1.063	78.98	80.0	1.3
4-Chloroaniline	.484	.464	76.65	80.0	4.2
Hexachlorobutadiene *	.302	.325	86.08	80.0	-7.6*
4-Chloro-3-methylphenol *	.608	.559	73.54	80.0	8.1*
4-Chloro-3-methylphenol (mz10*	.608	.559	73.54	80.0	8.1*
4-Chloro-3-methylphenol (mz14*	.309	.306	79.11	80.0	1.1*
2-Methylnaphthalene	.800	.783	78.25	80.0	2.2
1-Methylnaphthalene	.756	.746	78.92	80.0	1.4
Hexachlorocyclopentadiene #	.245	.295	72.97	80.0	8.8#
2,4,6-Trichlorophenol *	.440	.451	82.07	80.0	-2.6*

165-6 J
172-3 J
175-6 J
182-3 J
185-6 J
320-1 - chrysene = J

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 21:46

Lab File ID: >NG133 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
2,4,5-Trichlorophenol		.492	.512	83.24	80.0	-4.0	
2-Chloronaphthalene		1.232	1.236	80.28	80.0	-.4	
2-Nitroaniline		.498	.433	69.42	80.0	13.2	
Dimethylphthalate		1.574	1.571	79.84	80.0	.2	
2,6-Dinitrotoluene		.378	.373	78.90	80.0	1.4	
Acenaphthylene		1.904	1.872	78.63	80.0	1.7	
3-Nitroaniline		.333	.310	74.53	80.0	6.8	
Acenaphthene	*	1.174	1.139	77.64	80.0	2.9*	
2,4-Dinitrophenol	#	.220	.079	33.24	80.0	58.4#	J+, UJ-
4-Nitrophenol	#	.444	.396	71.34	80.0	10.8#	
Dibenzofuran		1.904	1.953	82.04	80.0	-2.5	
2,4-Dinitrotoluene		.568	.580	81.64	80.0	-2.1	
1-Naphthylamine		.859	.870	81.05	80.0	-1.3	
2-Naphthylamine		.815	.829	81.38	80.0	-1.7	
Diethylphthalate		1.677	1.674	79.86	80.0	.2	
4-Chlorophenyl-phenylether		.763	.711	67.45	80.0	15.7	
Fluorene		1.506	1.397	67.33	80.0	15.8	
4-Nitroaniline		.355	.313	70.64	80.0	11.7	
4,6-Dinitro-2-methylphenol		.147	.090	47.02	80.0	41.2	J+, UJ-
1-Nitronaphthalene		.151	.151	79.97	80.0	.0	
N-Nitrosodiphenylamine (1)	*	.497	.502	80.78	80.0	-1.0*	
1,2-Diphenylhydrazine		.947	.905	76.48	80.0	4.4	
4-Bromophenyl-phenylether		.190	.201	84.43	80.0	-5.5	
Hexachlorobenzene		.234	.269	92.14	80.0	-15.2	
Pentachlorophenol	*	.118	.125	76.93	80.0	3.8*	
Phenanthrene		1.052	1.064	80.85	80.0	-1.1	
Anthracene		1.082	1.097	81.14	80.0	-1.4	
Carbazole		.981	.990	80.72	80.0	-.9	
Di-n-butylphthalate		1.370	1.399	81.70	80.0	-2.1	
Fluoranthene	*	1.105	1.121	81.15	80.0	-1.4*	
Benzidine		1.016	.922	290.51	320.0	9.2	
Pyrene		1.329	1.296	77.99	80.0	2.5	
Butylbenzylphthalate		.702	.722	82.22	80.0	-2.8	
3,3'-Dichlorobenzidine		.421	.460	87.55	80.0	-9.4	
Benzo(a)anthracene		1.134	1.130	79.74	80.0	.3	
bis(2-Ethylhexyl)phthalate		1.147	1.176	82.00	80.0	-2.5	
Chrysene		.914	1.215	106.36	80.0	-32.9	J+, UJ-
Di-n-octylphthalate	*	2.679	2.442	72.91	80.0	8.9*	

(1) Cannot be separated from Diphenylamine

GB 7/7/98

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06756 Calibration Date: 07/06/98 Time: 21:46

Lab File ID: >NG133 Init. Calib. Date(s): 06/29/98 06/30/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.692	.722	69.10	80.0	13.6
Benzo(b)fluoranthene	1.745	1.749	70.09	80.0	12.4
Benzo(k)fluoranthene	1.502	1.399	67.39	80.0	15.8
Benzo(a)pyrene *	1.371	1.313	76.59	80.0	4.3*
Indeno(1,2,3-cd)pyrene	1.158	1.285	88.75	80.0	-10.9
Dibenz(a,h)anthracene	1.172	1.249	85.26	80.0	-6.6
Benzo(g,h,i)perylene	1.171	1.314	89.75	80.0	-12.2
2-Fluorophenol	1.376	1.315	76.41	80.0	4.5
Phenol-d5	2.195	2.058	75.03	80.0	6.2
Phenol-d6	2.195	2.058	75.03	80.0	6.2
2-Chlorophenol-d4	1.139	1.069	75.03	80.0	6.2
1,2-Dichlorobenzene-d4	.960	.950	79.19	80.0	1.0
Nitrobenzene-d5	.717	.669	74.62	80.0	6.7
2-Fluorobiphenyl	1.435	1.467	81.80	80.0	-2.2
2,4,6-Tribromophenol	.272	.306	90.04	80.0	-12.6
Terphenyl-d14	.870	.909	83.60	80.0	-4.5

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG133 Date Analyzed: 07/06/98

Instrument ID: HP06756 Time Analyzed: 21:46

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	189765	11.32	541569	15.01	404042	20.32
	UPPER LIMIT	379530		1083138		808084	
	LOWER LIMIT	94883		270785		202021	
01	165-6	173950	11.31	542825	15.00	394290	20.31
02	172-3	187889	11.32	565699	15.00	413342	20.32
03	175-6	177096	11.32	539969	15.00	392675	20.32
04	182-3	185758	11.32	556273	15.00	401700	20.31
05	185-6	184435	11.32	558891	15.01	397405	20.31
06	320-1	191321	11.32	576603	15.00	415818	20.32
07							
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09							
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21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >NG133 Date Analyzed: 07/06/98

Instrument ID: HP06756 Time Analyzed: 21:46

	EPA SAMPLE NO.	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	785120	24.85	694330	31.89	434845	35.92
	UPPER LIMIT	1570240		1388660		869690	
	LOWER LIMIT	392560		347165		217423	
01	165-6	789482	24.85	619653	31.87	454243	35.92
02	172-3	813170	24.85	623821	31.88	459158	35.91
03	175-6	763745	24.85	592134	31.88	454629	35.91
04	182-3	798139	24.85	616798	31.88	462049	35.91
05	185-6	785555	24.84	620201	31.87	468941	35.92
06	320-1	807066	24.85	605576	31.88	436179	35.92
07							
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20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified: QC 6/16/98
Start Date: 6-15-98
Start Time: 10:00pm
Tech 1: C. Medina 187
Tech 2:

BATCH NO. 98166SLB026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK8T	60 30	SS98159A	1.0	N/A	N/A	1.0	N/A	N/A	Naz Soy
LCS6	LCS3W	60 30	SS98159A	1.0	MS98141F	1.0	1.0			
2945457MS	19640MS	30	SS98159A	1.0	MS98141F	1.0	1.0			wet sand
2945458MSD	19640MSD	30	SS98159A	1.0	MS98141F	1.0	1.0			

C. Medina 6-16-98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2945135	315-6	30	SS98159A	1.0	1.0	N/A	N/A	orange clumpy sand	4688 4689	6/26/98	N
2	2945136	320-1	30	SS98159A	1.0	1.0			dark clumpy sand	4688 4689	6/26/98	N
3	2945137	322-3	30	SS98159A	1.0	1.0			orange clumpy sand	4688 4689	6/26/98	N
4	2945138	325-6	30	SS98159A	1.0	1.0			crumbly clay texture	4688 4689	6/26/98	N
5	2945139	032-3	30	SS98159A	1.0	1.0			powdery texture	4688 4689	6/26/98	N
6	2945140	035-6	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
7	2945141	102-3	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
8	2945142	105-6	30	SS98159A	1.0	1.0			chunks of clay texture	4688 4689	6/26/98	N
9	2945143	162-3	30	SS98159A	1.0	1.0			powdery texture	4688 4689	6/26/98	N
10	2945144	165-6	30	SS98159A	1.0	1.0			chunks of clay texture	4688 4689	6/26/98	N
11	2945145	172-3	30	SS98159A	1.0	1.0			orange sand texture	4688 4689	6/26/98	N
12	2945146	175-6	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
13	2945147	182-3	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
14	2945148	185-6	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
15	2945452	19637	30	SS98159A	1.0	1.0			tiny wet rocks	4688 4689	6/26/98	N
16	2945454	19638	30	SS98159A	1.0	1.0			wet sludge	4688 4689	6/26/98	N
17	2945455	19639	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
18	2945456 bkg	19640	30	SS98159A	1.0	1.0			wet sand	4688 4689	6/26/98	N
19	2945459	19641	30	SS98159A	1.0	1.0				4688 4689	6/26/98	N
20												

C. Medina 6-16-98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
Naz Soy	974089		
Acetone	BR334		
MeCl2	L44262		
Internal Standar		Balance #5340	
S-Evap/bath	— °C	S-Evap/bath 2	91 °C
N-Evap	— °C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 6/16/98
Start Time: 8:00
Tech 1: JF 391
Tech 2: LIKKI

BATCH NO. 98167WAA026

QC	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK90	1000	SS98159A	1.0			1.0	711	L2	
LCS6	LCS43	1000	SS98159A	"	MS98141F	1.0	"	"	"	
2945438MS	19627MS	1000	SS98159A	"	MS98141F	"	"	"		light green L2 Cont. 2x's
2945439MSD	19627MSD	1000	SS98159A	"	MS98141F	"	"	"		light green L2 Cont. 2x's

	Sample #	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2943962	19631	751	SS98159A	1.0	1.0	711	L2		4678 4679	6/24/98	N
2	2943963	19612	943	SS98159A	"	"	"	"		4678 4679	6/24/98	N
3	2943964	19615	963	SS98159A	"	"	"	"		4678 4679	6/24/98	N
4	2943965	19614	972	SS98159A	"	"	"	"		4678 4679	6/24/98	N
5	2944448	09632	917	SS98159A	"	"	"	"		4678 4679	6/25/98	N
6	2944449	09633	850	SS98159A	"	"	"	"		4678 4679	6/25/98	N
7	2945149.	RB609	940	SS98159A	"	"	"	"		4678 4679	6/26/98	N
	2945150.	RB610	921	SS98159A	"	"	"	"		4678 4679	6/26/98	N
9	2945434	19624	976	SS98159A	"	"	"	"	light green cont.1x	4678 4679	6/26/98	N
10	2945435	19625	925	SS98159A	"	"	"	"	light green cont.1x	4678 4679	6/26/98	N
11	2945436	19626	914	SS98159A	"	"	"	"	light green cont.1x	4678 4679	6/26/98	N
12	2945437 bkg	19627	1000	SS98159A	"	"	"	"	light green cont.1x	4678 4679	6/26/98	N
13	2945440	19628	1000	SS98159A	"	"	"	"	light green cont.1x	4678 4679	6/26/98	N
14												
15												
16												
17												
18												
19												
20												

JF 391 6/16/98

Additional Comment:

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	581603	Na2SO4	974239
		NaOH	977394
		H2SO4	149017
Internal Standar		Balance #	
S-Evap/bath	30 °C	S-Evap/bath	— °C
N-Evap	— °C		

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/17/98
Start Time: 0:45
Tech 1: DW482
Tech 2:

BATCH NO. 98168SLA026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK9O	60.0	SS98159A	1.0			1.0	—		Na_2SO_4
LCS6	LCS4R	60.0	SS98159A	1.0	~~MS98144F~~ *	1.0	1.0	—		"
2945401MS	B20-1MS	30.0	SS98159A	1.0	~~MS98144F~~ *	1.0	1.0	—		DARK-SANDY
2945401MSD	B20-1MSD	30.0	SS98159A	1.0	~~MS98144F~~ *	1.0	1.0	—		" "

DW482 6/17/98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2945401 bkg	B20-1	30.0	SS98159A	1.0	1.0	—		DARK-SANDY	4688 4689	6/25/98	P
2	2945402	B2019		SS98159A	1.0		—		REDDISH-SANDY	4688 4689	6/25/98	P
3	2945403	B2029		SS98159A	1.0		—		" "	4688 4689	6/25/98	P
4	2945404	B2041		SS98159A	1.0		—		~~WET~~ WET-REDDISH-CLAY	4688 4689	6/25/98	P
5	2945405	B2054		SS98159A	1.0		—		REDDISH-ROCKY	4688 4689	6/25/98	P
6	2945407	B22-0		SS98159A	1.0		—		REDDISH-GRANULAR	4688 4689	6/25/98	P
7	2945408	B2221		SS98159A	1.0		—		REDDISH-STRANGE ODOR	4688 4689	6/25/98	P
8	2945409	B2225		SS98159A	1.0		—		REDDISH-SANDY	4688 4689	6/25/98	P
9	2945410	B2231		SS98159A	1.0		—		" "	4688 4689	6/25/98	P
10	2945411	B2253		SS98159A	1.0		—		REDDISH-SANDY	4688 4689	6/25/98	P
11	2946082	G13-0		SS98159A	1.0		—		SANDY-ROCKY	4688 4689	6/29/98	N
12	2946083	G13-2		SS98159A	1.0		—		GREY-CLUMPY	4688 4689	6/29/98	N
13	2946084	G13-5		SS98159A	1.0		—		SANDY	4688 4689	6/29/98	N
14	2946533	B19-	↓	SS98159A	1.0	↓	—		DARK-GRANULAR	4688 4689	6/29/98	P
15												
16												
17												
18												
19												
20												

DW482 6/17/98

Additional Comment:

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	974089		
MeCl2	BP608		
ACETONE	BR334		
Internal Standar	—	Balance #	3782
S-Evap/bath	94 °C	S-Evap/bath	—°C
N-Evap	—°C		

Spike Solutions:

SS98159A BNA SURROGATE STANDARD @DW482 6/17/98
~~MS98144F~~ LCS SPIKE (100)
* MS98167B

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP04629 **HP #08**

*** Shift #1 Analyst: TCF *** Shift #2 Analyst: JCA *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = 1 or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>HF700	DFTPP	50NG/UL	06/30/98	09:25			Passed ✓
1	>HF701	SSTD80	STD1748	06/30/98	09:58			MR
8	>HF708	W3---	2940136	06/30/98	11:19	98158WAB		MR
9	>HF709	W2---	2940132	06/30/98	12:20	98158WAB		MR
10	>HF710	21W--	2940085	06/30/98	13:20	98158WAB		MR
11	>HF711	61193	2948086	06/30/98	14:45	98173SLA		MR
12	>HF712	61192	2948085	06/30/98	15:47	98173SLA		MR (NU)
13	>HF713	61195	2948088	06/30/98	16:48	98173SLA		MR
14	>HF714	WO-2-	2947955	06/30/98	18:01	98173SLA		MR
1	>HF720	DFTPP	50NG/UL	06/30/98	20:26			NU
1	>HF721	SSTD080	STD1748	06/30/98	20:48			NU
1	>HG000	DFTPP	50NG/UL	07/01/98	17:46			Passed ✓
1	>HG001	SSTD80	STD1748	07/01/98	18:38			(NU)
1	>HG00A	SSTD80	STD1818	07/01/98	20:08			MR
2	>HG002	SSTD120	STD1818	07/01/98	21:22			MR
3	>HG003	SSTD050	STD1818	07/01/98	22:19			MR
4	>HG004	SSTD020	STD1818	07/01/98	23:16			MR
5	>HG005	MDL01	STD1818	07/02/98	00:13			MR
6	>HG006	SSTD005	STD1818	07/02/98	01:10			MR
7	>HG007	SSTD160	STD1818	07/02/98	02:07			MR
1	>HG01Z	DFTPP	50NG/UL	07/02/98	06:57			

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP04629 **HP #08**

*** Shift #1 Analyst: TCF *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>HG050	DFTPP	50NG/UL	07/03/98	10:14			Passed ✓
1	>HG051	SSTD80	STD1818	07/03/98	10:53			Passed ✓
8	>HG058	SBLKWA1678	SBLKWA167	07/03/98	13:06	98167WAA		MR
9	>HG059	167WALCS8	SBLKWALCS	07/03/98	14:03	98167WAA		MR
10	>HG060	19627	2945437	07/03/98	15:00	98167WAA		MR
11	>HG061	19627MS	2945438	07/03/98	15:57	98167WAA		MR
12	>HG062	19627MSD	2945439	07/03/98	16:54	98167WAA		MR
13	>HG063	FO-X2RE	2947957RE	07/03/98	17:52	98173SLA		MR
14	>HG064	WO-1-RE	2947954RE	07/03/98	18:51	98173SLA		IC
15	>HG065	19631	2943962	07/03/98	20:07	98167WAA		IR
16	>HG066	19612	2943963	07/03/98	21:06	98167WAA		ISR
17	>HG067	19615	2943964	07/03/98	22:03	98167WAA		S
18	>HG068	INST BLANK		07/03/98	23:00	98167WAA		NU
18	>HG069	INST BLANK		07/03/98	23:57	98167WAA		NU
1	>HG070	DFTPP	50NG/UL	07/06/98	07:41			Passed ✓

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP04629 **HP #08**

*** Shift #1 Analyst: TCR *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>HG070	DFTPP	50NG/UL	07/06/98	07:41			Passed ✓
1	>HG071	SSTD80	STD1818	07/06/98	08:21			NU
1	>HG07A	SSTD80	STD1818	07/06/98	10:04			NU
1	>HG07B	SSTD80	STD1818	07/06/98	11:36			Passed ✓
8	>HG078	19615	2943964	07/06/98	12:54	98167WAA		nd
9	>HG079	173LALCS8	173LALCS	07/06/98	13:48	98173SLA		
10	>HG080	19612	2943963	07/06/98	14:41	98167WAA		
11	>HG081	19631	2943962	07/06/98	15:39	98167WAA		
12	>HG082	19614	2943965	07/06/98	16:31	98167WAA		
13	>HG083	09632	2944448	07/06/98	17:23	98167WAA		
14	>HG084	09633	2944449	07/06/98	18:15	98167WAA		
15	>HG085	RB609	2945149	07/06/98	19:07	98167WAA		↓
16	>HG086	RB610	2945150	07/06/98	19:58	98167WAA		T
1	>HG090	DFTPP	50NG/UL	07/07/98	07:31			Passed ✓

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP04629 **HP #08**

*** Shift #1 Analyst: TCF *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
S = Surrogate problem
NU = Not used
MR = Meets requirements
Cz = Confirms z, (z = 1 or X)
X = Sample sent to be reextracted
I = Internal Standard problem
F = Further dilution required
IUO = Internal use only
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>HG090	DFTPP	50NG/UL	07/07/98	07:31			Passed ✓
1	>HG091	SSTD80	STD1818	07/07/98	08:08			" "
8	>HG098	SBLKWB1738	SBLKWB173	07/07/98	09:14	98173WAB167WA		MR
9	>HG099	173WBLCS8	173WBLCS	07/07/98	10:06	98173WAB167WA		
10	>HG100	173WBLCSD	173WBLCSD	07/07/98	10:58	98173WAB167WA		
11	>HG101	RB610	2945150	07/07/98	11:50	98167WAA		
12	>HG102	19624	2945434	07/07/98	12:41	98167WAA		
13	>HG103	19625	2945435	07/07/98	13:33	98167WAA		
14	>HG104	19626	2945436	07/07/98	14:54	98167WAA		
15	>HG105	19628	2945440	07/07/98	15:47	98167WAA		
16	>HG106	DFTPP	50NG/UL	07/07/98	16:37			Passed ✓
16	>HG107	DFTPP	50NG/UL	07/07/98	16:55			NU
18	>HG108	SSTD080	STD1818	07/07/98	17:17			Passed ✓
18	>HG109	SSTD080	STD1818	07/07/98	18:08			NU
20	>HG110	001--	2947124	07/07/98	19:00	98173WAB167WA		MR
21	>HG111	MW8--	2949931	07/07/98	19:52	98173WAB167WA		
22	>HG112	FB618	2949936	07/07/98	20:43	98173WAB167WA		
23	>HG113	CHMD9	2949964	07/07/98	21:35	98173WAB167WA		
24	>HG114	CHM11	2949965	07/07/98	22:27	98173WAB167WA		
25	>HG115	CH-10	2949966	07/07/98	23:18	98173WAB167WA		S
26	>HG116	CH--9	2949967	07/08/98	00:10	98173WAB167WA		MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06756**HP #14**

*** Shift #1 Analyst: JMC *** Shift #2 Analyst:

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

*

*

*

*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>NF73Z::N4	DFTPP	50 ng/ul	06/29/98	22:08		1.0	
2	>NF73A::N4	SSTD080	STD1748	06/29/98	22:35		1.0	
3	>NF73B::N4	SSTD160	STD1748	06/29/98	23:52		1.0	
4	>NF733::N4	SSTD001	MDL1748	06/30/98	00:46		1.0	
6	>NF735::N4	SSTD005	STD1748	06/30/98	02:36		1.0	
7	>NF736::N4	SSTD050	STD1748	06/30/98	03:30		1.0	
8	>NF737::N4	SSTD020	STD1748	06/30/98	04:25		1.0	
9	>NF738::N4	B9815RE	2941032RE	06/30/98	05:19	98162SLA153SE	1.0	
5	>NF734::N4	SSTD120	STD1748	06/30/98	01:41		1.0	
1	>NF745::N4	DFTPP	50 ng/ul	06/30/98	07:09		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06756**HP #14**

*** Shift #1 Analyst: JVG *** Shift #2 Analyst:

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>NG050::N3	DFTPP	50 ng/ul	07/02/98	15:29		1.0	
2	>NG051::A2	SSTD080	STD1818	07/02/98	15:51		1.0	
11	>NG058::A2	SBLKLA168N	SBLKLA168	07/02/98	16:46	98168SLA	1.0	
12	>NG059::A2	168LALCSN	168LALCS	07/02/98	17:40	98168SLA	1.0	
13	>NG060::A2	B2019	2945402	07/02/98	18:34	98168SLA	1.0	
14	>NG061::A2	B2029	2945403	07/02/98	19:29	98168SLA	1.0	
15	>NG062::A2	B2041	2945404	07/02/98	20:24	98168SLA	1.0	
16	>NG063::A2	~~B2251~~	2945410	07/02/98	21:19	98168SLA	1.0	
17	>NG064::A2	~~B2253~~	2945411	07/02/98	22:14	98168SLA	1.0	
18	>NG065::A2	~~613-2~~	2946083	07/02/98	23:09	98168SLA	1.0	
19	>NG066::A2	~~613-5~~ 613-2	2946084	07/03/98	00:04	98168SLA	1.0	
11	>NG067::A2	SBLKLA168N	SBLKLA168	07/03/98	01:00	98168SLA	1.0	
11	>NG068::A2	SBLKLA168N	SBLKLA168	07/03/98	01:55	98168SLA	1.0	
1	>NG070::A2	DFTPP	50 ng/ul	07/03/98	10:00		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06756**HP #14**

*** Shift #1 Analyst: JMG *** Shift #2 Analyst: _____

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>NG070::A2	DFTPP	50 ng/ul	07/03/98	10:00		1.0	JMG
2	>NG071::A2	SSTD080	STD1818	07/03/98	10:23		1.0	JMG
11	>NG072::A2	168LALCSN	168LALCS	07/03/98	11:20	98168SLA	1.0	JMG
12	>NG073::A2	B20-1	2945401	07/03/98	12:15	98168SLA	1.0	JMG
13	>NG074::A2	B20-1MS	2945401	07/03/98	13:16	98168SLA	1.0	JMG, F, I
14	>NG075::A2	B20-1MSD	2945401	07/03/98	14:18	98168SLA	1.0	(NU)
15	>NG076::A2	G13-5	2946084	07/03/98	15:14	98168SLA	1.0	(NU)
16	>NG077::A2	B2225	2945409	07/03/98	16:09	98168SLA	1.0	(NU)
18	>NG079::A2	B22-0	2945407	07/03/98	17:59	98168SLA	1.0	JMG
19	>NG080::A2	G13-0	2946082	07/03/98	18:55	98168SLA	1.0	JMG
20	>NG081::A2	B19--	2946533	07/03/98	19:50	98168SLA	1.0	JMG
21	>NG082::A2	BLANK	INSBLNK	07/03/98	20:49	98168SLA	1.0	(NU)
21	>NG083::A2	BLANK	INSBLNK	07/03/98	21:44	98168SLA	1.0	↓
1	>NG09A::A2	DFTPP	50 ng/ul	07/04/98	09:52		1.0	JMG
17	>NG076::A2	13321	2945406	7/3/98	17:05	98168SLA		I,R (3) JMG 7-6-98

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06756**HP #14**

*** Shift #1 Analyst: JHG *** Shift #2 Analyst: *

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

*

*

*

*

ALS Bti #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>NG09A::A2	DFTPP	50 ng/ul	07/04/98	09:52		1.0	MJL
2	>NG091::A2	SSTD080	STD1818	07/04/98	10:14		1.0	MJL
12	>NG092::A2	B20-1DL	2945401DL	07/04/98	11:09	98168SLA	.2	MJL
13	>NG093::A2	B20-1MS	2945401	07/04/98	12:04	98168SLA	1.0	MJL
16	>NG096::A2	B2221	2945408	07/04/98	14:51	98168SLA	1.0	
17	>NG097::A2	G13-0DL	2946082DL	07/04/98	15:46	98168SLA	.1	
20	>NG100::A2	B19--DL	2946533DL	07/04/98	18:31	98168SLA	.1	
17	>NG078::N3	B2221	2945408	07/03/98	17:05	98168SLA	1.0	
14	>NG094::N3	B20-1MSD	2945401	07/04/98	13:01	98168SLA	1.0	MJL
15	>NG095::N3	G13-5RE	2946084RE	07/04/98	13:56	98168SLA	1.0	MJL
18	>NG098::N3	G13-0DL	2946082DL	07/04/98	16:40	98168SLA	.5	MJL
19	>NG099::N3	B19--DL	2946533DL	07/04/98	17:36	98168SLA	.1	MJL
19	>NG101::N3	B19--DL	2946533DL	07/04/98	19:26	98168SLA	.1	
1	>NG110::N3	DFTPP	50 ng/ul	07/06/98	08:36		1.0	MJL

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06756**HP #14**

*** Shift #1 Analyst: JM6 *** Shift #2 Analyst:

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>NG110::N3	DFTPP	50 ng/ul	07/06/98	08:36		1.0	MVL
2	>NG111::N3	SSTD080	STD1818	07/06/98	08:58		1.0	
11	>NG118::N3	SBLKLB166N	SBLKLB166	07/06/98	10:01	98166SLB	1.0	
12	>NG119::N3	166LBLCSN	166LBLCS	07/06/98	10:56	98166SLB	1.0	
13	>NG120::N3	B2221DL	2945408DL	07/06/98	11:51	98168SL	25.0	
14	>NG121::N3	B19--DL	29465330L	07/06/98	12:46	98168SLA	25.0	
16	>NG123::N3	315-6	2945135	07/06/98	13:46	98166SLB	1.0	
17	>NG124::N3	322-3	2945137	07/06/98	14:41	98166SLB	1.0	
18	>NG125::N3	325-6	2945138	07/06/98	15:36	98166SLB	1.0	
19	>NG126::N3	032-3	2945139	07/06/98	16:31	98166SLB	1.0	
20	>NG127::N3	035-6	2945140	07/06/98	17:26	98166SLB	1.0	
21	>NG128::N3	102-3	2945141	07/06/98	18:21	98166SLB	1.0	
22	>NG129::N3	105-6	2945142	07/06/98	19:16	98166SLB	1.0	
23	>NG130::N3	162-3	2945143	07/06/98	20:11	98166SLB	1.0	
1	>NG131::N3	DFTPP	50 ng/ul	07/06/98	21:03		1.0	NU
1	>NG132::N3	DFTPP	50 ng/ul	07/06/98	21:23		1.0	MVL
2	>NG133::N3	SSTD080	STD1818	07/06/98	21:46		1.0	MVL
24	>NG134::N3	165-6	2945144	07/06/98	22:41	98166SLB	1.0	
25	>NG135::N3	172-3	2945145	07/06/98	23:36	98166SLB	1.0	
26	>NG136::N3	175-6	2945146	07/07/98	00:31	98166SLB	1.0	
27	>NG137::N3	182-3	2945147	07/07/98	01:26	98166SLB	1.0	
28	>NG138::N3	185-6	2945148	07/07/98	02:21	98166SLB	1.0	
29	>NG139::N3	320-1	2945136	07/07/98	03:16	98166SLB	1.0	
23	>NG140::N3	162-3	2945143	07/07/98	04:11	98166SLB	1.0	NU

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

HMS04

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
S	S	MB	SBLKLE1602	none			
			SBLKLC1717	none			
			SBLKLB1303	none			

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKLE1627	79	90	89	72	75	122		0
02	SBLKLC1817	81	85	79	77	76	96		0
03	SBLKLB183L	87	82	81	82	77	93		0
04	162LELCS7	87	95	82	74	78	122		0
05	181LCLCS7	97	92	80	90	92	100		0
06	183LBLCSL	95	88	86	86	81	98		0
07	2056-	58	70	60	62	53	93		0
08	2056-DL	53	72	74	70	54	57		0
09	20910	67	86	76	73	69	118		0
10	20910DL	62	82	71	66	60	82		0
11	2101-	76	90	80	76	67	81		0
12	2101-DL	71	90	118	70	68	84		0
13	2123-	55	54	58	44	41	52		0
14	2123-DL	0 D	35 D	31 D	36 D	12 D	0 D		0
15	2156-	53	52	77	62	57	102		0
16	21910	57	51	84	64	60	101		0
17	2201-	67	74	68	63	64	91		0
18	2223-	57	71	67	64	59	102		0
19	2223-DL	52	61	67	67	58	69		0
20	2256-	29 *	26 *	37	31 *	30 *	47		4
21	2256-RE	62	54	82	78	65	97		0
22	2301-	62	71	80	69	60	79		0
23	2323-	65	65	80	72	67	80		0
24	2356-	62	54	93	78	69	88		0
25	2401-	0 *	0 *	0 *	0 *	0 *	0 *		6
26	2401-RE	94	85	81	85	81	91		0
27	2423-	61	59	89	71	64	85		0
28	2456-	149 *	160 *	183 *	149 *	145 *	192 *		6
29	2456-RE	95	87	82	88	83	89		0
30	2501-	74	74	88	76	73	86		0
31	2523-	75	76	91	78	75	92		0
32	2556-	79	78	94	81	78	77		0
33	2601-	74	75	90	76	74	88		0
34	3356-	71	73	83	68	70	112		0
35	3356-MS	78	88	77	69	74	111		0
36	3356-MSD	57	73	80	59	56	106		0

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(31-126)
S2 (FBP) = 2-Fluorobiphenyl	(45-113)
S3 (TPH) = Terphenyl-d14	(37-130)
S4 (PHL) = Phenol-d6	(39-108)
S5 (2FP) = 2-Fluorophenol	(35-108)
S6 (TBP) = 2,4,6-Tribromophenol	(23-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF652 Lab Sample ID: SBLKLE162

Date Extracted: 06/11/98 Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 06/29/98 Time Analyzed: 12:13

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: HP06777

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	162LELCS7	162LELCS	>GF653	06/29/98
02	3356-	2943357	>GF654	06/29/98
03	3356-MS	2943358	>GF655	06/29/98
04	3356-MSD	2943359	>GF656	06/29/98
05	20910	2943339	>GF659	06/29/98
06	2101-	2943340	>GF660	06/29/98
07	2056-	2943338	>GF681	06/29/98
08	20910DL	2943339DL	>GF682	06/30/98
09	2101-DL	2943340DL	>GF683	06/30/98
10	2123-	2943341	>GF684	06/30/98
11	2156-	2943342	>GF685	06/30/98
12	21910	2943343	>GF686	06/30/98
13	2201-	2943344	>GF687	06/30/98
14	2223-	2943345	>GF688	06/30/98
15	2256-	2943346	>GF689	06/30/98
16	2056-DL	2943338DL	>GG025	07/02/98
17	2123-DL	2943341DL	>GG026	07/02/98
18	2223-DL	2943345DL	>GG027	07/02/98
19	2301-	2943347	>GG029	07/02/98
20	2323-	2943348	>GG030	07/02/98
21	2356-	2943349	>GG031	07/02/98
22	2401-	2943350	>GG042	07/02/98
23	2423-	2943351	>GG043	07/02/98
24	2456-	2943352	>GG044	07/02/98
25	2501-	2943353	>GG045	07/02/98
26	2523-	2943354	>GG046	07/02/98
27	2601-	2943356	>GG048	07/02/98
28	2556-	2943355	>GG049	07/02/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLE1627

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLE162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GF652

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/10/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/29/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
62-75-9	N-Nitrosodimethylamine		67	U
108-95-2	Phenol		67	U
62-53-3	Aniline		33	U
111-44-4	bis(2-Chloroethyl)ether		33	U
95-57-8	2-Chlorophenol		33	U
541-73-1	1,3-Dichlorobenzene		33	U
106-46-7	1,4-Dichlorobenzene		33	U
100-51-6	Benzyl alcohol		33	U
95-50-1	1,2-Dichlorobenzene		170	U
95-48-7	2-Methylphenol		33	U
108-60-1	2,2'-oxybis(1-Chloropropane)		33	U
108-60-1	bis(2-Chloroisopropyl)ether		33	U
106-44-5	4-Methylphenol		33	U
621-64-7	N-Nitroso-di-n-propylamine		67	U
67-72-1	Hexachloroethane		33	U
98-95-3	Nitrobenzene		33	U
78-59-1	Isophorone		33	U
88-75-5	2-Nitrophenol		33	U
105-67-9	2,4-Dimethylphenol		67	U
65-85-0	Benzoic acid		67	U
111-91-1	bis(2-Chloroethoxy)methane		170	U
120-83-2	2,4-Dichlorophenol		67	U
120-82-1	1,2,4-Trichlorobenzene		67	U
91-20-3	Naphthalene		33	U
106-47-8	4-Chloroaniline		33	U
87-68-3	Hexachlorobutadiene		33	U
59-50-7	4-Chloro-3-methylphenol		67	U
91-57-6	2-Methylnaphthalene		67	U
77-47-4	Hexachlorocyclopentadiene		33	U
88-06-2	2,4,6-Trichlorophenol		170	U
95-95-4	2,4,5-Trichlorophenol		67	U
91-58-7	2-Chloronaphthalene		67	U
88-74-4	2-Nitroaniline		33	U
			33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLE1627

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLE162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GF652

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/10/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/29/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
131-11-3	Dimethylphthalate	67	U
606-20-2	2,6-Dinitrotoluene	33	U
208-96-8	Acenaphthylene	33	U
99-09-2	3-Nitroaniline	67	U
83-32-9	Acenaphthene	33	U
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
122-66-7	1,2-Diphenylhydrazine	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
92-87-5	Benzidine	830	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	67	U
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U
205-99-2	Benzo(b)fluoranthene	33	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLE1627

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLE162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GF652

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/10/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/29/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG05A Lab Sample ID:SBLKLC181

Date Extracted: 06/30/98 Extraction:(SepF/Cont/Sonc) SONC

Date Analyzed: 07/02/98 Time Analyzed: 21:30

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06777

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	181LCLCSD	181LCLCSD	>GG055	07/02/98
02	2256-RE	2943346RE	>GG08B	07/06/98
03	181LCLCS7	181LCLCS	>GG108	07/07/98
04	B11-1	2955393	>GG112	07/07/98
05	B11-5	2955394	>GG113	07/07/98
06	B11-9	2955395	>GG114	07/07/98
07	B11-1DL	2955393DL	>GG138	07/08/98
08	B11-1RE	2955393RE	>GG139	07/08/98
09	B11-9DL	2955395DL	>GG140	07/08/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLC1817

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLC181

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GG05A

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/30/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
62-75-9	N-Nitrosodimethylamine	67	U
108-95-2	Phenol	67	U
62-53-3	Aniline	33	U
111-44-4	bis(2-Chloroethyl)ether	33	U
95-57-8	2-Chlorophenol	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
100-51-6	Benzyl alcohol	33	U
95-50-1	1,2-Dichlorobenzene	170	U
95-48-7	2-Methylphenol	33	U
108-60-1	2,2'-oxybis(1-Chloropropane)	33	U
108-60-1	bis(2-Chloroisopropyl)ether	33	U
106-44-5	4-Methylphenol	33	U
621-64-7	N-Nitroso-di-n-propylamine	67	U
67-72-1	Hexachloroethane	33	U
98-95-3	Nitrobenzene	33	U
78-59-1	Isophorone	33	U
88-75-5	2-Nitrophenol	33	U
105-67-9	2,4-Dimethylphenol	67	U
65-85-0	Benzoic acid	67	U
111-91-1	bis(2-Chloroethoxy)methane	170	U
120-83-2	2,4-Dichlorophenol	67	U
120-82-1	1,2,4-Trichlorobenzene	67	U
91-20-3	Naphthalene	33	U
106-47-8	4-Chloroaniline	33	U
87-68-3	Hexachlorobutadiene	33	U
59-50-7	4-Chloro-3-methylphenol	67	U
91-57-6	2-Methylnaphthalene	67	U
77-47-4	Hexachlorocyclopentadiene	33	U
88-06-2	2,4,6-Trichlorophenol	170	U
95-95-4	2,4,5-Trichlorophenol	67	U
91-58-7	2-Chloronaphthalene	67	U
88-74-4	2-Nitroaniline	33	U
		33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLC1817

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLC181

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GG05A

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/30/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
131-11-3	Dimethylphthalate		67	U
606-20-2	2,6-Dinitrotoluene		33	U
208-96-8	Acenaphthylene		33	U
99-09-2	3-Nitroaniline		67	U
83-32-9	Acenaphthene		33	U
51-28-5	2,4-Dinitrophenol		230	U
100-02-7	4-Nitrophenol		170	U
132-64-9	Dibenzofuran		33	U
121-14-2	2,4-Dinitrotoluene		67	U
84-66-2	Diethylphthalate		67	U
7005-72-3	4-Chlorophenyl-phenylether		33	U
86-73-7	Fluorene		33	U
100-01-6	4-Nitroaniline		67	U
534-52-1	4,6-Dinitro-2-methylphenol		170	U
86-30-6	N-Nitrosodiphenylamine (1)		33	U
122-66-7	1,2-Diphenylhydrazine		33	U
101-55-3	4-Bromophenyl-phenylether		67	U
118-74-1	Hexachlorobenzene		33	U
87-86-5	Pentachlorophenol		170	U
85-01-8	Phenanthrene		33	U
120-12-7	Anthracene		33	U
86-74-8	Carbazole		67	U
84-74-2	Di-n-butylphthalate		67	U
206-44-0	Fluoranthene		33	U
92-87-5	Benzidine		830	U
129-00-0	Pyrene		33	U
85-68-7	Butylbenzylphthalate		67	U
91-94-1	3,3'-Dichlorobenzidine		67	U
56-55-3	Benzo(a)anthracene		33	U
117-81-7	bis(2-Ethylhexyl)phthalate		67	U
218-01-9	Chrysene		33	U
117-84-0	Di-n-octylphthalate		67	U
205-99-2	Benzo(b)fluoranthene		33	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLC1817

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLC181

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >GG05A

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/30/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/02/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LG257 Lab Sample ID:SBLKLB183

Date Extracted: 07/02/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/10/98 Time Analyzed: 11:58

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06754

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	183LBLCSL	183LBLCS	>LG258	07/10/98
02	183LBLCSD	183LBLCSD	>LG260	07/10/98
03	2401-RE	2943350RE	>LG263	07/10/98
04	2456-RE	2943352RE	>LG272	07/10/98
05	B1811	2956942	>LG273	07/10/98
06	B1821	2956943	>LG274	07/10/98
07	B1831	2956944	>LG275	07/10/98
08	B1852	2956945	>LG276	07/11/98
09	MW313	2956948	>LG277	07/11/98
10	B18-1	2956941	>LG278	07/11/98
11	MW3-3	2956947	>LG279	07/11/98
12	MW3-0	2956946	>LG280	07/11/98
13	MW3-3DL	2956947DL	>LG298	07/13/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB183L

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB183

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >LG257

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/02/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/10/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
108-95-2	Phenol		67	U
111-44-4	bis(2-Chloroethyl)ether		33	U
95-57-8	2-Chlorophenol		33	U
541-73-1	1,3-Dichlorobenzene		33	U
106-46-7	1,4-Dichlorobenzene		33	U
95-50-1	1,2-Dichlorobenzene		33	U
95-48-7	2-Methylphenol		33	U
108-60-1	2,2'-oxybis(1-Chloropropane)		33	U
106-44-5	4-Methylphenol		67	U
621-64-7	N-Nitroso-di-n-propylamine		33	U
67-72-1	Hexachloroethane		33	U
98-95-3	Nitrobenzene		33	U
78-59-1	Isophorone		33	U
88-75-5	2-Nitrophenol		67	U
105-67-9	2,4-Dimethylphenol		67	U
111-91-1	bis(2-Chloroethoxy)methane		67	U
120-83-2	2,4-Dichlorophenol		67	U
120-82-1	1,2,4-Trichlorobenzene		33	U
91-20-3	Naphthalene		33	U
106-47-8	4-Chloroaniline		33	U
87-68-3	Hexachlorobutadiene		67	U
59-50-7	4-Chloro-3-methylphenol		67	U
91-57-6	2-Methylnaphthalene		33	U
77-47-4	Hexachlorocyclopentadiene		170	U
88-06-2	2,4,6-Trichlorophenol		67	U
95-95-4	2,4,5-Trichlorophenol		67	U
91-58-7	2-Chloronaphthalene		33	U
88-74-4	2-Nitroaniline		33	U
131-11-3	Dimethylphthalate		67	U
606-20-2	2,6-Dinitrotoluene		33	U
208-96-8	Acenaphthylene		33	U
99-09-2	3-Nitroaniline		67	U
83-32-9	Acenaphthene		33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB183L

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB183

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >LG257

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/02/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/10/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
51-28-5	2,4-Dinitrophenol		230	U
100-02-7	4-Nitrophenol		170	U
132-64-9	Dibenzofuran		33	U
121-14-2	2,4-Dinitrotoluene		67	U
84-66-2	Diethylphthalate		67	U
7005-72-3	4-Chlorophenyl-phenylether		33	U
86-73-7	Fluorene		33	U
100-01-6	4-Nitroaniline		67	U
534-52-1	4,6-Dinitro-2-methylphenol		170	U
86-30-6	N-Nitrosodiphenylamine (1)		33	U
101-55-3	4-Bromophenyl-phenylether		67	U
118-74-1	Hexachlorobenzene		33	U
87-86-5	Pentachlorophenol		170	U
85-01-8	Phenanthrene		33	U
120-12-7	Anthracene		33	U
86-74-8	Carbazole		67	U
84-74-2	Di-n-butylphthalate		67	U
206-44-0	Fluoranthene		33	U
129-00-0	Pyrene		33	U
85-68-7	Butylbenzylphthalate		67	U
91-94-1	3,3'-Dichlorobenzidine		67	U
56-55-3	Benzo(a)anthracene		33	U
117-81-7	bis(2-Ethylhexyl)phthalate		67	U
218-01-9	Chrysene		33	U
117-84-0	Di-n-octylphthalate		67	U
205-99-2	Benzo(b)fluoranthene		33	U
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06777

46 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

AMPLE SPIKE LEVEL: 4115.UG/KG % MOISTURE 19. DILUTION: 1

US SAMPLE: 3356- 2943357 MS SAMPLE: 3356-MS 2943358 MSD SAMPLE: 3356-MSD 2943359

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
N-Nitrosodimethylamine	0.00	2497.62	2007.53	61	49	48.0-113.0	YES	22.00	30.	YES
Phenol	0.00	3052.27	2553.62	74	62	29.0-112.0	YES	18.00	30.	YES
Aniline	0.00	1608.18	1503.90	39	36	1.0-126.0	YES	7.00	30.	YES
bis(2-Chloroethyl)ether	0.00	2706.82	1954.15	66	47	12.0-158.0	YES	32.00	30.	NO
2-Chlorophenol	0.00	3185.93	2413.91	77	59	36.0-124.0	YES	28.00	30.	YES
1,3-Dichlorobenzene	0.00	2736.02	1215.13	66	30	31.0-123.0	NO	77.00	30.	NO
1,4-Dichlorobenzene	0.00	2788.50	1297.06	68	32	20.0-124.0	YES	73.00	30.	NO
Benzyl alcohol	0.00	3039.71	2582.57	74	63	9.0-146.0	YES	16.00	30.	YES
1,2-Dichlorobenzene	0.00	3040.97	1567.19	74	38	44.0-113.0	NO	64.00	30.	NO
2-Methylphenol	0.00	2990.70	2409.48	73	58	20.0-130.0	YES	22.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	2790.91	1874.44	68	46	36.0-121.0	YES	39.00	30.	NO
bis(2-Chloroisopropyl)ether	0.00	2790.91	1874.44	68	46	36.0-121.0	YES	39.00	30.	NO
4-Methylphenol	0.00	3055.26	2533.61	74	62	22.0-138.0	YES	19.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	3074.15	2423.63	75	59	38.0-140.0	YES	24.00	30.	YES
Hexachloroethane	0.00	2702.65	1195.55	66	29	40.0-113.0	NO	77.00	30.	NO
Nitrobenzene	0.00	3256.73	2419.94	79	59	40.0-125.0	YES	29.00	30.	YES
Isophorone	0.00	3261.55	2658.34	79	64	46.0-127.0	YES	20.00	30.	YES
2-Nitrophenol	0.00	3244.33	2472.09	79	60	40.0-125.0	YES	27.00	30.	YES
2,4-Dimethylphenol	0.00	2863.28	2438.01	70	59	32.0-119.0	YES	16.00	30.	YES
Benzoic acid	0.00	3365.23	2969.30	82	72	1.0-150.0	YES	13.00	30.	YES
bis(2-Chloroethoxy)methane	0.00	2946.61	2353.16	72	57	40.0-121.0	YES	22.00	30.	YES
2,4-Dichlorophenol	0.00	3440.65	2779.59	84	68	39.0-135.0	YES	21.00	30.	YES
1,2,4-Trichlorobenzene	0.00	3519.40	2281.12	86	55	44.0-125.0	YES	43.00	30.	NO
Naphthalene	0.00	3206.30	2230.50	78	54	50.0-106.0	YES	36.00	30.	NO
4-Chloroaniline	0.00	2215.66	1883.84	54	46	1.0-123.0	YES	16.00	30.	YES
Hexachlorobutadiene	0.00	3707.61	2128.76	90	52	35.0-116.0	YES	54.00	30.	NO
4-Chloro-3-methylphenol	0.00	3196.63	2858.67	78	69	22.0-142.0	YES	11.00	30.	YES
2-Methylnaphthalene	0.00	3410.30	2689.33	83	65	45.0-112.0	YES	24.00	30.	YES
Hexachlorocyclopentadiene	0.00	5807.75	4367.16	70	53	1.0-127.0	YES	28.00	30.	YES
2,4,6-Trichlorophenol	0.00	3782.30	3341.90	92	81	37.0-127.0	YES	12.00	30.	YES
2,4,5-Trichlorophenol	0.00	3631.14	3346.16	88	81	18.0-139.0	YES	8.00	30.	YES
2-Chloronaphthalene	0.00	3670.88	3168.63	89	77	60.0-118.0	YES	15.00	30.	YES
2-Nitroaniline	0.00	3214.72	2895.59	78	70	8.0-154.0	YES	10.00	30.	YES
Dimethylphthalate	0.00	3510.66	3091.82	85	75	44.0-112.0	YES	13.00	30.	YES
2,6-Dinitrotoluene	0.00	3656.21	3375.92	89	82	50.0-119.0	YES	8.00	30.	YES
Acenaphthylene	0.00	3450.39	3074.36	84	75	42.0-119.0	YES	12.00	30.	YES
3-Nitroaniline	0.00	2527.06	2290.38	61	56	8.0-114.0	YES	10.00	30.	YES
Acenaphthene	113.91	3618.55	3301.51	85	77	47.0-114.0	YES	9.00	30.	YES
2,4-Dinitrophenol	0.00	3112.02	2692.49	76	65	1.0-126.0	YES	14.00	30.	YES

Only qualify for RPD if compd. detected in unspiked sample

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943357
Collected: 6/ 9/98 at 13:09 by DCU

Submitted: 6/10/98 Reported: 7/14/98
Discard: 8/14/98

GEO-33/5-6' Unspiked Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
3356- SDG#: HMS04-20BKG

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS		METHOD DETECTION LIMIT
TCL Semivolatiles cont'd								
4697	3-nitroaniline	N.D.		67.	ug/kg	N.D.		83.
1191	acenaphthene	92.	J	33.	ug/kg	110.	J	41.
3750	2,4-dinitrophenol	N.D.		190.	ug/kg	N.D.		240.
1192	4-nitrophenol	N.D.		170.	ug/kg	N.D.		210.
4698	dibenzofuran	80.	J	33.	ug/kg	99.	J	41.
1193	2,4-dinitrotoluene	N.D.		67.	ug/kg	N.D.		83.
3767	2,6-dinitrotoluene	N.D.		33.	ug/kg	N.D.		41.
3770	diethyl phthalate	N.D.		67.	ug/kg	N.D.		83.
3769	4-chlorophenyl phenyl ether	N.D.		33.	ug/kg	N.D.		41.
3768	fluorene	130.	J	33.	ug/kg	170.	J	41.
4700	4-nitroaniline	N.D.		67.	ug/kg	N.D.		83.
3751	4,6-dinitro-2-methylphenol	N.D.		170.	ug/kg	N.D.		210.
3772	N-nitrosodiphenylamine	N.D.		33.	ug/kg	N.D.		41.
3773	4-bromophenyl phenyl ether	N.D.		67.	ug/kg	N.D.		83.
3774	hexachlorobenzene	N.D.		33.	ug/kg	N.D.		41.
1194	pentachlorophenol	N.D.		170.	ug/kg	N.D.		210.
3775	phenanthrene	620.		33.	ug/kg	760.		41.
3776	anthracene	180.	J	33.	ug/kg	220.	J	41.
4702	carbazole	N.D.		33.	ug/kg	N.D.		41.
3777	di-n-butyl phthalate	N.D.		67.	ug/kg	N.D.		83.
3778	fluoranthene	570.		33.	ug/kg	700.		41.
1195	pyrene	360.		33.	ug/kg	440.		41.
3780	butyl benzyl phthalate	N.D.		67.	ug/kg	N.D.		83.
3783	3,3'-dichlorobenzidine	N.D.		67.	ug/kg	N.D.		83.
3781	benzo (a) anthracene	130.	J	33.	ug/kg	160.	J	41.
3784	bis (2-ethylhexyl) phthalate	N.D.		67.	ug/kg	N.D.		83.
3782	chrysene	130.	J	33.	ug/kg	170.	J	41.
3785	di-n-octyl phthalate	N.D.		67.	ug/kg	N.D.		83.
3786	benzo (b) fluoranthene	110.	J	33.	ug/kg	140.	J	41.
3787	benzo (k) fluoranthene	40.	J	33.	ug/kg	50.	J	41.
3788	benzo (a) pyrene	72.	J	33.	ug/kg	89.	J	41.
3789	indeno (1,2,3-cd) pyrene	42.	J	33.	ug/kg	52.	J	41.
3790	dibenz (a,h) anthracene	N.D.		33.	ug/kg	N.D.		41.
3791	benzo (ghi) perylene	34.	J	33.	ug/kg	42.	J	41.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06777

846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 4115.UG/KG % MOISTURE 19. DILUTION: 1

US SAMPLE: 3356- 2943357 MS SAMPLE: 3356-MS 2943358 MSD SAMPLE: 3356-MSD 2943359

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
4-Nitrophenol	0.00	3699.74	3282.68	90	80	5.0-132.0	YES	12.00	30.	YES
Dibenzofuran	98.57	3776.98	3489.84	89	82	38.0-120.0	YES	8.00	30.	YES
2,4-Dinitrotoluene	0.00	3775.44	3653.99	92	89	39.0-136.0	YES	3.00	30.	YES
Diethylphthalate	0.00	3498.02	3243.44	85	79	43.0-114.0	YES	8.00	30.	YES
4-Chlorophenyl-phenylether	0.00	3636.61	3530.96	88	86	41.0-115.0	YES	3.00	30.	YES
Fluorene	164.42	3829.27	3619.10	89	84	59.0-121.0	YES	6.00	30.	YES
4-Nitroaniline	0.00	2973.54	2747.25	72	67	1.0-170.0	YES	8.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	3473.64	3213.15	84	78	5.0-128.0	YES	8.00	30.	YES
N-Nitrosodiphenylamine	0.00	3372.47	3289.46	82	80	28.0-144.0	YES	2.00	30.	YES
1,2-Diphenylhydrazine	0.00	3504.34	3416.97	85	83	31.0-149.0	YES	3.00	30.	YES
4-Bromophenyl-phenylether	0.00	3800.49	3758.74	92	91	53.0-125.0	YES	1.00	30.	YES
Hexachlorobenzene	0.00	4245.64	4236.38	103	103	31.0-135.0	YES	0.00	30.	YES
Pentachlorophenol	0.00	3618.32	3403.35	88	83	14.0-131.0	YES	6.00	30.	YES
Phenanthrene	761.71	4628.88	4201.99	94	84	54.0-120.0	YES	10.00	30.	YES
Anthracene	218.07	4281.30	3891.15	99	89	42.0-119.0	YES	10.00	30.	YES
Carbazole	0.00	3688.85	3471.06	90	84	53.0-113.0	YES	6.00	30.	YES
Di-n-butylphthalate	0.00	3510.23	3532.96	85	86	35.0-118.0	YES	-1.00	30.	YES
Fluoranthene	699.06	4739.89	4395.46	98	90	26.0-137.0	YES	8.00	30.	YES
Benzidine	0.00	3.49	30.14	0	0	1.0- 70.0	NO	-159.00	30.	NO
Pyrene	441.86	3759.98	3584.11	81	76	52.0-115.0	YES	5.00	30.	YES
Butylbenzylphthalate	0.00	2970.60	3090.89	72	75	45.0-133.0	YES	-4.00	30.	YES
3,3'-Dichlorobenzidine	0.00	2348.51	2462.10	57	60	1.0-125.0	YES	-5.00	30.	YES
Benzo(a)anthracene	162.71	3795.64	3830.19	88	89	33.0-135.0	YES	-1.00	30.	YES
bis(2-Ethylhexyl)phthalate	0.00	2976.32	3071.34	72	75	8.0-158.0	YES	-3.00	30.	YES
Chrysene	166.17	3679.87	3601.94	85	83	9.0-153.0	YES	2.00	30.	YES
di-n-octylphthalate	0.00	3396.44	3600.15	82	87	41.0-146.0	YES	-6.00	30.	YES
Benzo(b)fluoranthene	137.87	3745.18	3803.27	88	89	24.0-148.0	YES	-2.00	30.	YES
Benzo(k)fluoranthene	49.81	3654.64	3827.50	88	92	41.0-126.0	YES	-5.00	30.	YES
Benzo(a)pyrene	88.60	3715.67	3854.40	88	92	21.0-139.0	YES	-4.00	30.	YES
Indeno(1,2,3-cd)pyrene	51.84	3574.39	3662.75	86	88	28.0-127.0	YES	-2.00	30.	YES
Dibenz(a,h)anthracene	0.00	3659.23	3777.55	89	92	11.0-152.0	YES	-3.00	30.	YES
Benzo(g,h,i)perylene	41.90	3504.56	3605.68	84	86	12.0-133.0	YES	-3.00	30.	YES

COMMENTS: -not target

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943358
Collected: 6/ 9/98 at 13:09 by DCU

Submitted: 6/10/98 Reported: 7/14/98
Discard: 8/14/98

GEO-33/5-6' Matrix Spike Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
3356- SDG#: HMS04-20MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles						
1185	phenol	2,500.	67.	ug/kg	3,100.	83.
3753	bis (2-chloroethyl) ether	2,200.	33.	ug/kg	2,700.	41.
1186	2-chlorophenol	2,600.	33.	ug/kg	3,200.	41.
3754	1,3-dichlorobenzene	2,200.	33.	ug/kg	2,700.	41.
1187	1,4-dichlorobenzene	2,300.	33.	ug/kg	2,800.	41.
3755	1,2-dichlorobenzene	2,500.	33.	ug/kg	3,100.	41.
4690	2-methylphenol	2,400.	33.	ug/kg	3,000.	41.
4691	2,2'-oxybis (1-chloropropane)	2,300.	33.	ug/kg	2,800.	41.
4692	3- and 4-methylphenol	2,500.	67.	ug/kg	3,100.	83.
1188	N-nitrosodi-n-propylamine	2,500.	33.	ug/kg	3,100.	41.
3757	hexachloroethane	2,200.	33.	ug/kg	2,700.	41.
3758	nitrobenzene	2,600.	33.	ug/kg	3,300.	41.
3759	isophorone	2,600.	33.	ug/kg	3,300.	41.
746	2-nitrophenol	2,600.	67.	ug/kg	3,300.	83.
747	2,4-dimethylphenol	2,300.	67.	ug/kg	2,900.	83.
3760	bis (2-chloroethoxy) methane	2,400.	67.	ug/kg	3,000.	83.
3748	2,4-dichlorophenol	2,800.	67.	ug/kg	3,500.	83.
1189	1,2,4-trichlorobenzene	2,900.	33.	ug/kg	3,500.	41.
3761	naphthalene	2,600.	33.	ug/kg	3,200.	41.
4693	4-chloroaniline	1,800.	33.	ug/kg	2,200.	41.
3762	hexachlorobutadiene	3,000.	67.	ug/kg	3,700.	83.
1190	4-chloro-3-methylphenol	2,600.	67.	ug/kg	3,200.	83.
4694	2-methylnaphthalene	2,800.	33.	ug/kg	3,400.	41.
3763	hexachlorocyclopentadiene	4,700.	170.	ug/kg	5,800.	210.
3749	2,4,6-trichlorophenol	3,100.	67.	ug/kg	3,800.	83.
4695	2,4,5-trichlorophenol	2,900.	67.	ug/kg	3,600.	83.
3764	2-chloronaphthalene	3,000.	33.	ug/kg	3,700.	41.
4696	2-nitroaniline	2,600.	33.	ug/kg	3,200.	41.
3766	dimethyl phthalate	2,800.	67.	ug/kg	3,500.	83.
3765	acenaphthylene	2,800.	33.	ug/kg	3,500.	41.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943358
Collected: 6/ 9/98 at 13:09 by DCU

Submitted: 6/10/98 Reported: 7/14/98
Discard: 8/14/98

GEO-33/5-6' Matrix Spike Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
3356- SDG#: HMS04-20MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles cont'd						
4697	3-nitroaniline	2,000.	67.	ug/kg	2,500.	83.
1191	acenaphthene	2,900.	33.	ug/kg	3,600.	41.
3750	2,4-dinitrophenol	2,500.	190.	ug/kg	3,100.	240.
1192	4-nitrophenol	3,000.	170.	ug/kg	3,700.	210.
4698	dibenzofuran	3,100.	33.	ug/kg	3,800.	41.
1193	2,4-dinitrotoluene	3,100.	67.	ug/kg	3,800.	83.
3767	2,6-dinitrotoluene	3,000.	33.	ug/kg	3,700.	41.
3770	diethyl phthalate	2,800.	67.	ug/kg	3,500.	83.
3769	4-chlorophenyl phenyl ether	2,900.	33.	ug/kg	3,700.	41.
3768	fluorene	3,100.	33.	ug/kg	3,800.	41.
4700	4-nitroaniline	2,400.	67.	ug/kg	3,000.	83.
3751	4,6-dinitro-2-methylphenol	2,800.	170.	ug/kg	3,500.	210.
3772	N-nitrosodiphenylamine	2,700.	33.	ug/kg	3,400.	41.
3773	4-bromophenyl phenyl ether	3,100.	67.	ug/kg	3,800.	83.
3774	hexachlorobenzene	3,400.	33.	ug/kg	4,300.	41.
1194	pentachlorophenol	2,900.	170.	ug/kg	3,600.	210.
3775	phenanthrene	3,700.	33.	ug/kg	4,600.	41.
3776	anthracene	3,500.	33.	ug/kg	4,300.	41.
4702	carbazole	3,000.	33.	ug/kg	3,700.	41.
3777	di-n-butyl phthalate	2,800.	67.	ug/kg	3,500.	83.
3778	fluoranthene	3,800.	33.	ug/kg	4,800.	41.
1195	pyrene	3,000.	33.	ug/kg	3,800.	41.
3780	butyl benzyl phthalate	2,400.	67.	ug/kg	3,000.	83.
3783	3,3'-dichlorobenzidine	1,900.	67.	ug/kg	2,400.	83.
3781	benzo (a) anthracene	3,100.	33.	ug/kg	3,800.	41.
3784	bis (2-ethylhexyl) phthalate	2,400.	67.	ug/kg	3,000.	83.
3782	chrysene	3,000.	33.	ug/kg	3,700.	41.
3785	di-n-octyl phthalate	2,800.	67.	ug/kg	3,400.	83.
3786	benzo (b) fluoranthene	3,000.	33.	ug/kg	3,800.	41.
3787	benzo (k) fluoranthene	3,000.	33.	ug/kg	3,700.	41.
3788	benzo (a) pyrene	3,000.	33.	ug/kg	3,700.	41.
3789	indeno (1,2,3-cd) pyrene	2,900.	33.	ug/kg	3,600.	41.
3790	dibenz (a,h) anthracene	3,000.	33.	ug/kg	3,700.	41.
3791	benzo (ghi) perylene	2,800.	33.	ug/kg	3,500.	41.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

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Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943359
Collected: 6/ 9/98 at 13:09 by DCU

Submitted: 6/10/98 Reported: 7/14/98
Discard: 8/14/98

GEO-33/5-6' Matrix Spike Dup Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
3356- SDG#: HMS04-20MSD*

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles						
1185	phenol	2,100.	67.	ug/kg	2,600.	83.
3753	bis (2-chloroethyl) ether	1,600.	33.	ug/kg	2,000.	41.
1186	2-chlorophenol	2,000.	33.	ug/kg	2,400.	41.
3754	1,3-dichlorobenzene	980.	33.	ug/kg	1,200.	41.
1187	1,4-dichlorobenzene	1,100.	33.	ug/kg	1,300.	41.
3755	1,2-dichlorobenzene	1,300.	33.	ug/kg	1,600.	41.
4690	2-methylphenol	2,000.	33.	ug/kg	2,400.	41.
4691	2,2'-oxybis (1-chloropropane)	1,500.	33.	ug/kg	1,900.	41.
4692	3- and 4-methylphenol	2,100.	67.	ug/kg	2,500.	83.
1188	N-nitrosodi-n-propylamine	2,000.	33.	ug/kg	2,400.	41.
3757	hexachloroethane	970.	33.	ug/kg	1,200.	41.
3758	nitrobenzene	2,000.	33.	ug/kg	2,400.	41.
3759	isophorone	2,200.	33.	ug/kg	2,700.	41.
3746	2-nitrophenol	2,000.	67.	ug/kg	2,500.	83.
3747	2,4-dimethylphenol	2,000.	67.	ug/kg	2,400.	83.
3760	bis (2-chloroethoxy) methane	1,900.	67.	ug/kg	2,400.	83.
3748	2,4-dichlorophenol	2,300.	67.	ug/kg	2,800.	83.
1189	1,2,4-trichlorobenzene	1,800.	33.	ug/kg	2,300.	41.
3761	naphthalene	1,800.	33.	ug/kg	2,200.	41.
4693	4-chloroaniline	1,500.	33.	ug/kg	1,900.	41.
3762	hexachlorobutadiene	1,700.	67.	ug/kg	2,100.	83.
1190	4-chloro-3-methylphenol	2,300.	67.	ug/kg	2,900.	83.
4694	2-methylnaphthalene	2,200.	33.	ug/kg	2,700.	41.
3763	hexachlorocyclopentadiene	3,500.	170.	ug/kg	4,400.	210.
3749	2,4,6-trichlorophenol	2,700.	67.	ug/kg	3,400.	83.
4695	2,4,5-trichlorophenol	2,700.	67.	ug/kg	3,400.	83.
3764	2-chloronaphthalene	2,600.	33.	ug/kg	3,200.	41.
4696	2-nitroaniline	2,300.	33.	ug/kg	2,900.	41.
3766	dimethyl phthalate	2,500.	67.	ug/kg	3,100.	83.
3765	acenaphthylene	2,500.	33.	ug/kg	3,100.	41.

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Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

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LLI Sample No. SW 2943359
Collected: 6/ 9/98 at 13:09 by DCU

Submitted: 6/10/98 Reported: 7/14/98
Discard: 8/14/98

GEO-33/5-6' Matrix Spike Dup Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
3356- SDG#: HMS04-20MSD*

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel:

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles cont'd						
4697	3-nitroaniline	1,900.	67.	ug/kg	2,300.	83.
1191	acenaphthene	2,700.	33.	ug/kg	3,300.	41.
3750	2,4-dinitrophenol	2,200.	190.	ug/kg	2,700.	240.
1192	4-nitrophenol	2,700.	170.	ug/kg	3,300.	210.
4698	dibenzofuran	2,800.	33.	ug/kg	3,500.	41.
1193	2,4-dinitrotoluene	3,000.	67.	ug/kg	3,700.	83.
3767	2,6-dinitrotoluene	2,700.	33.	ug/kg	3,400.	41.
3770	diethyl phthalate	2,600.	67.	ug/kg	3,300.	83.
3769	4-chlorophenyl phenyl ether	2,900.	33.	ug/kg	3,500.	41.
3768	fluorene	2,900.	33.	ug/kg	3,600.	41.
4700	4-nitroaniline	2,200.	67.	ug/kg	2,800.	83.
3751	4,6-dinitro-2-methylphenol	2,600.	170.	ug/kg	3,200.	210.
3772	N-nitrosodiphenylamine	2,700.	33.	ug/kg	3,300.	41.
3773	4-bromophenyl phenyl ether	3,000.	67.	ug/kg	3,800.	83.
3774	hexachlorobenzene	3,400.	33.	ug/kg	4,300.	41.
1194	pentachlorophenol	2,800.	170.	ug/kg	3,400.	210.
3775	phenanthrene	3,400.	33.	ug/kg	4,200.	41.
3776	anthracene	3,200.	33.	ug/kg	3,900.	41.
4702	carbazole	2,800.	33.	ug/kg	3,500.	41.
3777	di-n-butyl phthalate	2,900.	67.	ug/kg	3,500.	83.
3778	fluoranthene	3,600.	33.	ug/kg	4,400.	41.
1195	pyrene	2,900.	33.	ug/kg	3,600.	41.
3780	butyl benzyl phthalate	2,500.	67.	ug/kg	3,100.	83.
3783	3,3'-dichlorobenzidine	2,000.	67.	ug/kg	2,500.	83.
3781	benzo (a) anthracene	3,100.	33.	ug/kg	3,800.	41.
3784	bis (2-ethylhexyl) phthalate	2,500.	67.	ug/kg	3,100.	83.
3782	chrysene	2,900.	33.	ug/kg	3,600.	41.
3785	di-n-octyl phthalate	2,900.	67.	ug/kg	3,600.	83.
3786	benzo (b) fluoranthene	3,100.	33.	ug/kg	3,800.	41.
3787	benzo (k) fluoranthene	3,100.	33.	ug/kg	3,800.	41.
3788	benzo (a) pyrene	3,100.	33.	ug/kg	3,900.	41.
3789	indeno (1,2,3-cd) pyrene	3,000.	33.	ug/kg	3,700.	41.
3790	dibenz (a,h) anthracene	3,100.	33.	ug/kg	3,800.	41.
3791	benzo (ghi) perylene	2,900.	33.	ug/kg	3,600.	41.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

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SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 162LELCS7 162LELCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
N-Nitrosodimethylamine	65.81	66	47.0- 109.0	YES
Phenol	79.39	79	49.0- 105.0	YES
Aniline	65.18	65	30.0- 97.0	YES
bis(2-Chloroethyl)ether	71.90	72	53.0- 109.0	YES
2-Chlorophenol	82.17	82	55.0- 107.0	YES
1,3-Dichlorobenzene	87.58	88	53.0- 103.0	YES
1,4-Dichlorobenzene	87.58	88	52.0- 103.0	YES
Benzyl alcohol	78.02	78	62.0- 115.0	YES
1,2-Dichlorobenzene	92.35	92	56.0- 107.0	YES
2-Methylphenol	77.11	77	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	75.62	76	38.0- 117.0	YES
bis(2-Chloroisopropyl)ether	75.62	76	38.0- 117.0	YES
4-Methylphenol	79.97	80	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	81.13	81	50.0- 124.0	YES
Hexachloroethane	87.32	87	52.0- 108.0	YES
Nitrobenzene	86.37	86	56.0- 110.0	YES
Isophorone	86.20	86	57.0- 114.0	YES
2-Nitrophenol	85.94	86	59.0- 107.0	YES
2,4-Dimethylphenol	82.07	82	39.0- 108.0	YES
Benzoic acid	80.16	80	29.0- 119.0	YES
bis(2-Chloroethoxy)methane	76.93	77	56.0- 103.0	YES
2,4-Dichlorophenol	89.75	90	59.0- 100.0	YES
1,2,4-Trichlorobenzene	97.14	97	57.0- 104.0	YES
Naphthalene	86.71	87	58.0- 99.0	YES
4-Chloroaniline	71.35	71	1.0- 102.0	YES
Hexachlorobutadiene	109.55	110	56.0- 115.0	YES
4-Chloro-3-methylphenol	85.00	85	56.0- 108.0	YES
2-Methylnaphthalene	89.30	89	60.0- 102.0	YES
Hexachlorocyclopentadiene	168.07	84	27.0- 113.0	YES
2,4,6-Trichlorophenol	96.93	97	62.0- 106.0	YES
2,4,5-Trichlorophenol	92.09	92	63.0- 107.0	YES
2-Chloronaphthalene	93.39	93	60.0- 106.0	YES
2-Nitroaniline	83.12	83	54.0- 111.0	YES
Dimethylphthalate	91.22	91	61.0- 104.0	YES
2,6-Dinitrotoluene	92.27	92	62.0- 111.0	YES
Acenaphthylene	86.23	86	62.0- 101.0	YES
3-Nitroaniline	63.61	64	9.0- 110.0	YES
Acenaphthene	88.50	88	61.0- 100.0	YES
2,4-Dinitrophenol	72.50	72	29.0- 117.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

16 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 162LELCS7 162LELCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Nitrophenol	97.39	97	44.0- 110.0	YES
Dibenzofuran	91.42	91	62.0- 102.0	YES
2,4-Dinitrotoluene	97.81	98	58.0- 113.0	YES
Diethylphthalate	91.05	91	59.0- 104.0	YES
4-Chlorophenyl-phenylether	91.98	92	52.0- 110.0	YES
Fluorene	91.04	91	59.0- 109.0	YES
4-Nitroaniline	77.96	78	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	83.84	84	42.0- 107.0	YES
N-Nitrosodiphenylamine	88.85	89	60.0- 106.0	YES
1,2-Diphenylhydrazine	88.79	89	52.0- 129.0	YES
4-Bromophenyl-phenylether	95.99	96	61.0- 110.0	YES
Hexachlorobenzene	107.23	107	52.0- 123.0	YES
Pentachlorophenol	93.40	93	42.0- 108.0	YES
Phenanthrene	96.20	96	62.0- 107.0	YES
Anthracene	95.84	96	62.0- 105.0	YES
Carbazole	92.31	92	57.0- 112.0	YES
Di-n-butylphthalate	92.48	92	59.0- 114.0	YES
Fluoranthene	100.41	100	58.0- 110.0	YES
Benzidine	164.29	33	1.0- 74.0	YES
Pyrene	82.17	82	52.0- 115.0	YES
Butylbenzylphthalate	75.96	76	58.0- 119.0	YES
3,3'-Dichlorobenzidine	56.05	56	15.0- 94.0	YES
Benzo(a)anthracene	92.61	93	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	75.38	75	8.0- 158.0	YES
Chrysene	88.31	88	60.0- 107.0	YES
[illegible]-octylphthalate	84.69	85	54.0- 127.0	YES
[illegible](b)fluoranthene	88.71	89	59.0- 105.0	YES
[illegible]zo(k)fluoranthene	96.58	96	63.0- 108.0	YES
Benzo(a)pyrene	95.15	95	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	94.30	94	55.0- 111.0	YES
Dibenz(a,h)anthracene	95.15	95	60.0- 117.0	YES
Benzo(g,h,i)perylene	93.62	94	52.0- 113.0	YES

COMMENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

B NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 181LCLCS7 181LCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
N-Nitrosodimethylamine	88.87	89	47.0- 109.0	YES
Phenol	91.26	91	49.0- 105.0	YES
Aniline	77.02	77	30.0- 97.0	YES
bis(2-Chloroethyl)ether	92.05	92	51.0- 109.0	YES
2-Chlorophenol	89.58	90	55.0- 107.0	YES
1,3-Dichlorobenzene	84.33	84	53.0- 103.0	YES
1,4-Dichlorobenzene	86.59	86	52.0- 103.0	YES
Benzyl alcohol	96.16	96	62.0- 115.0	YES
1,2-Dichlorobenzene	90.26	90	56.0- 107.0	YES
2-Methylphenol	89.77	90	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	103.63	104	38.0- 117.0	YES
bis(2-Chloroisopropyl)ether	103.63	104	38.0- 117.0	YES
4-Methylphenol	88.74	89	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	105.78	106	50.0- 124.0	YES
Hexachloroethane	90.21	90	52.0- 108.0	YES
Nitrobenzene	100.27	100	56.0- 110.0	YES
Isophorone	96.25	96	57.0- 114.0	YES
2-Nitrophenol	82.79	83	59.0- 107.0	YES
2,4-Dimethylphenol	90.91	91	39.0- 108.0	YES
Benzoic acid	68.77	69	29.0- 119.0	YES
bis(2-Chloroethoxy)methane	85.22	85	56.0- 103.0	YES
2,4-Dichlorophenol	83.20	83	59.0- 100.0	YES
1,2,4-Trichlorobenzene	84.16	84	57.0- 104.0	YES
[illegible]thalene	81.65	82	58.0- 99.0	YES
[illegible]loroaniline	69.09	69	1.0- 102.0	YES
[illegible]achlorobutadiene	94.08	94	56.0- 115.0	YES
4-Chloro-3-methylphenol	90.93	91	56.0- 108.0	YES
2-Methylnaphthalene	84.17	84	60.0- 102.0	YES
Hexachlorocyclopentadiene	165.82	83	27.0- 113.0	YES
2,4,6-Trichlorophenol	87.71	88	62.0- 106.0	YES
2,4,5-Trichlorophenol	91.13	91	63.0- 107.0	YES
2-Chloronaphthalene	93.17	93	60.0- 106.0	YES
2-Nitroaniline	104.42	104	54.0- 111.0	YES
Dimethylphthalate	90.51	90	61.0- 104.0	YES
2,6-Dinitrotoluene	90.86	91	62.0- 111.0	YES
Acenaphthylene	84.41	84	62.0- 101.0	YES
3-Nitroaniline	66.26	66	9.0- 110.0	YES
Acenaphthene	86.53	86	61.0- 100.0	YES
2,4-Dinitrophenol	63.20	63	29.0- 117.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

AB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 181LCLCS7 181LCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Nitrophenol	108.16	108	44.0- 110.0	YES
Dibenzofuran	87.41	87	62.0- 102.0	YES
2,4-Dinitrotoluene	90.25	90	58.0- 113.0	YES
Diethylphthalate	91.71	92	59.0- 104.0	YES
4-Chlorophenyl-phenylether	86.52	86	52.0- 110.0	YES
Fluorene	88.35	88	59.0- 109.0	YES
4-Nitroaniline	77.93	78	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	77.40	77	42.0- 107.0	YES
N-Nitrosodiphenylamine	91.10	91	60.0- 106.0	YES
1,2-Diphenylhydrazine	112.46	112	52.0- 129.0	YES
4-Bromophenyl-phenylether	91.70	92	61.0- 110.0	YES
Hexachlorobenzene	97.60	98	52.0- 123.0	YES
Pentachlorophenol	79.68	80	42.0- 108.0	YES
Phenanthrene	91.19	91	62.0- 107.0	YES
Anthracene	90.91	91	62.0- 105.0	YES
Carbazole	86.67	87	57.0- 112.0	YES
Di-n-butylphthalate	94.05	94	59.0- 114.0	YES
Fluoranthene	89.78	90	58.0- 110.0	YES
Benzidine	173.43	35	1.0- 74.0	YES
Pyrene	82.19	82	52.0- 115.0	YES
Butylbenzylphthalate	84.93	85	58.0- 119.0	YES
3,3'-Dichlorobenzidine	63.57	64	15.0- 94.0	YES
Benzo(a)anthracene	87.28	87	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	82.58	82	8.0- 158.0	YES
ysene	78.53	78	60.0- 107.0	YES
n-octylphthalate	105.74	106	54.0- 127.0	YES
enzo(b)fluoranthene	89.37	89	59.0- 105.0	YES
Benzo(k)fluoranthene	98.84	99	63.0- 108.0	YES
Benzo(a)pyrene	94.23	94	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	92.06	92	55.0- 111.0	YES
Dibenz(a,h)anthracene	91.61	92	60.0- 117.0	YES
Benzo(g,h,i)perylene	89.75	90	52.0- 113.0	YES

COMMENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

[redacted] NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06754

[redacted]846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 183LBLCSL 183LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	88.41	88	49.0- 105.0	YES
bis(2-Chloroethyl)ether	86.70	87	53.0- 109.0	YES
2-Chlorophenol	91.11	91	55.0- 107.0	YES
1,3-Dichlorobenzene	84.86	85	53.0- 103.0	YES
1,4-Dichlorobenzene	85.47	85	52.0- 103.0	YES
1,2-Dichlorobenzene	88.90	89	56.0- 107.0	YES
2-Methylphenol	90.75	91	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	103.08	103	38.0- 117.0	YES
4-Methylphenol	90.66	91	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	97.49	97	50.0- 124.0	YES
Hexachloroethane	83.91	84	52.0- 108.0	YES
Nitrobenzene	96.77	97	56.0- 110.0	YES
Isophorone	102.76	103	57.0- 114.0	YES
2-Nitrophenol	93.92	94	59.0- 107.0	YES
2,4-Dimethylphenol	92.17	92	39.0- 108.0	YES
bis(2-Chloroethoxy)methane	91.30	91	56.0- 103.0	YES
2,4-Dichlorophenol	91.93	92	59.0- 100.0	YES
1,2,4-Trichlorobenzene	91.03	91	57.0- 104.0	YES
Naphthalene	86.34	86	58.0- 99.0	YES
4-Chloroaniline	48.07	48	1.0- 102.0	YES
Hexachlorobutadiene	93.98	94	56.0- 115.0	YES
4-Chloro-3-methylphenol	103.20	103	56.0- 108.0	YES
2-Methylnaphthalene	89.21	89	60.0- 102.0	YES
Hexachlorocyclopentadiene	162.99	81	27.0- 113.0	YES
2,4,6-Trichlorophenol	95.77	96	62.0- 106.0	YES
[redacted].5-Trichlorophenol	97.50	97	63.0- 107.0	YES
[redacted]loronaphthalene	91.94	92	60.0- 106.0	YES
[redacted]itroaniline	105.63	106	54.0- 111.0	YES
Dimethylphthalate	94.30	94	61.0- 104.0	YES
2,6-Dinitrotoluene	100.92	101	62.0- 111.0	YES
Acenaphthylene	87.97	88	62.0- 101.0	YES
3-Nitroaniline	59.01	59	9.0- 110.0	YES
Acenaphthene	88.18	88	61.0- 100.0	YES
2,4-Dinitrophenol	71.92	72	29.0- 117.0	YES
4-Nitrophenol	105.81	106	44.0- 110.0	YES
Dibenzofuran	91.10	91	62.0- 102.0	YES
2,4-Dinitrotoluene	104.02	104	58.0- 113.0	YES
Diethylphthalate	92.98	93	59.0- 104.0	YES
4-Chlorophenyl-phenylether	87.77	88	52.0- 110.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06754

46 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 183LBLCSL 183LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Fluorene	90.56	90	59.0- 109.0	YES
4-Nitroaniline	93.73	94	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	77.60	78	42.0- 107.0	YES
N-Nitrosodiphenylamine	86.05	86	60.0- 106.0	YES
4-Bromophenyl-phenylether	87.04	87	61.0- 110.0	YES
Hexachlorobenzene	98.57	98	52.0- 123.0	YES
Pentachlorophenol	90.47	90	42.0- 108.0	YES
Phenanthrene	86.52	86	62.0- 107.0	YES
Anthracene	87.49	87	62.0- 105.0	YES
Carbazole	90.12	90	57.0- 112.0	YES
Di-n-butylphthalate	88.22	88	59.0- 114.0	YES
Fluoranthene	91.56	92	58.0- 110.0	YES
Pyrene	93.55	94	52.0- 115.0	YES
Butylbenzylphthalate	90.79	91	58.0- 119.0	YES
3,3'-Dichlorobenzidine	49.51	50	15.0- 94.0	YES
Benzo(a)anthracene	91.76	92	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	89.04	89	8.0- 158.0	YES
Chrysene	89.42	89	60.0- 107.0	YES
Di-n-octylphthalate	94.33	94	54.0- 127.0	YES
Benzo(b)fluoranthene	90.31	90	59.0- 105.0	YES
Benzo(k)fluoranthene	94.49	94	63.0- 108.0	YES
Benzo(a)pyrene	94.72	95	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	91.74	92	55.0- 111.0	YES
Dibenz(a,h)anthracene	90.48	90	60.0- 117.0	YES
Benzo(g,h,i)perylene	90.09	90	52.0- 113.0	YES

MENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF52Z DFTPP Injection Date: 06/24/98

Instrument ID: HP06777 DFTPP Injection Time: 23:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.1
70	Less than 2.0% of mass 69	.4 (.7)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.25
441	Present, but less than mass 443	11.4
442	Greater than 40.0% of mass 198	71.6
443	17.0 - 23.0% of mass 442	13.8 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1668	>GF52A	06/25/98	00:29
02	SSTD160	STD1668	>GF522	06/25/98	01:38
03	SSTD005	STD1668	>GF523	06/25/98	02:34
04	SSTD120	STD1668	>GF524	06/25/98	03:30
05	SSTD020	STD1668	>GF525	06/25/98	04:26
06	SSTD050	STD1668	>GF526	06/25/98	05:22
07	SSTD001	MDL1668	>GF527	06/25/98	06:22
08					
09					
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11					
12					
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16					
17					
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19					
20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.330	1.347	1.320	1.264	1.227	1.203	1.282	4.6	AVG	
N-Nitrosodimethylamine	.757	.780	.775	.765	.740	.747	.761	2.0	AVG	
Phenol	1.643	1.643	1.568	1.504	1.419	1.367	1.524	7.5	AVG	*
Aniline	1.943	1.970	1.883	1.849	1.762	1.728	1.856	5.2	AVG	
bis(2-Chloroethyl)ether	1.275	1.235	1.208	1.161	1.097	1.057	1.172	7.1	AVG	
2-Chlorophenol	1.421	1.402	1.351	1.316	1.274	1.246	1.335	5.2	AVG	
1,3-Dichlorobenzene	1.551	1.530	1.489	1.449	1.404	1.375	1.466	4.7	AVG	
1,4-Dichlorobenzene	1.604	1.582	1.524	1.485	1.446	1.425	1.511	4.8	AVG	*
Benzyl alcohol	.863	.848	.828	.801	.772	.762	.812	5.1	AVG	
1,2-Dichlorobenzene	1.463	1.450	1.402	1.367	1.314	1.309	1.384	4.8	AVG	
2-Methylphenol	1.167	1.176	1.130	1.106	1.056	1.027	1.110	5.4	AVG	
2,2'-oxybis(1-Chloropropane)	1.754	1.699	1.658	1.609	1.577	1.504	1.633	5.5	AVG	
bis(2-Chloroisopropyl)ether	1.754	1.699	1.658	1.609	1.577	1.504	1.633	5.5	AVG	
4-Methylphenol	1.256	1.242	1.177	1.124	1.067	1.033	1.150	7.9	AVG	
3- and 4-Methylphenol	1.256	1.242	1.177	1.124	1.067	1.033	1.150	7.9	AVG	
Acetophenone	1.868	1.840	1.726	1.647	1.576	1.530	1.698	8.1	AVG	
N-Nitroso-di-n-propylamine	.872	.878	.833	.799	.768	.746	.816	6.7	AVG	#
o-Toluidine	1.986	1.938	1.863	1.791	1.709	1.672	1.826	6.8	AVG	
[illegible]chloroethane	.651	.660	.648	.638	.613	.587	.633	4.4	AVG	
[illegible]robenzene	.375	.381	.380	.368	.363	.354	.370	2.9	AVG	
[illegible]ophorone	.711	.715	.697	.697	.667	.665	.692	3.1	AVG	
2-Nitrophenol	.199	.212	.216	.212	.214	.210	.211	2.9	AVG	*
2,4-Dimethylphenol	.382	.384	.374	.369	.361	.357	.371	3.0	AVG	
Benzoic acid	.233	.273	.282	.286	.292	.302	.278	8.7	AVG	
bis(2-Chloroethoxy)methane	.442	.439	.425	.410	.383	.378	.413	6.7	AVG	
2,4-Dichlorophenol	.310	.315	.317	.313	.311	.313	.313	.8	AVG	*
1,2,4-Trichlorobenzene	.365	.364	.361	.356	.358	.365	.362	1.1	AVG	
Naphthalene	1.078	1.051	1.008	.981	.948	.948	1.002	5.4	AVG	
4-Chloroaniline	.460	.467	.452	.443	.426	.423	.445	4.0	AVG	
Hexachlorobutadiene	.236	.242	.245	.242	.247	.253	.244	2.3	AVG	*
4-Chloro-3-methylphenol	.323	.334	.327	.329	.317	.314	.324	2.3	AVG	*
2-Methylnaphthalene	.698	.692	.671	.657	.645	.644	.668	3.5	AVG	
1-Methylnaphthalene	.660	.646	.635	.620	.605	.604	.628	3.6	AVG	
Hexachlorocyclopentadiene	.082	.255	.370	.401	.439	.476	.337	43.4	1STDEG	#
2,4,6-Trichlorophenol	.421	.441	.451	.449	.447	.457	.444	2.8	AVG	*
2,4,5-Trichlorophenol	.444	.488	.501	.487	.490	.502	.485	4.4	AVG	
2-Chloronaphthalene	1.247	1.236	1.207	1.189	1.152	1.171	1.200	3.1	AVG	
2-Nitroaniline	.375	.413	.411	.406	.396	.400	.400	3.5	AVG	

0.9993

RE 6/25/98

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

[redacted]ame: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Dimethylphthalate	1.530	1.533	1.514	1.506	1.473	1.458	1.502	2.0	AVG	
2,6-Dinitrotoluene	.302	.352	.361	.354	.354	.356	.347	6.4	AVG	
Acenaphthylene	1.978	1.996	1.948	1.923	1.867	1.877	1.932	2.7	AVG	
3-Nitroaniline	.373	.400	.412	.406	.397	.397	.398	3.3	AVG	
Acenaphthene *	1.220	1.186	1.160	1.139	1.124	1.127	1.159	3.3	AVG	*
2,4-Dinitrophenol #	.143	.208	.225	.221	.242	.242	.213	17.3	1STDEG	# 0.9954
4-Nitrophenol #	.239	.258	.276	.273	.275	.277	.266	5.7	AVG	#
Dibenzofuran	1.819	1.795	1.763	1.704	1.680	1.711	1.745	3.2	AVG	
2,4-Dinitrotoluene	.446	.499	.505	.492	.492	.502	.489	4.4	AVG	
1-Naphthylamine	1.057	1.094	1.015	1.041	1.006	.975	1.031	4.1	AVG	
2-Naphthylamine	1.150	1.072	.974	1.031	.994	.970	1.032	6.7	AVG	
Diethylphthalate	1.612	1.651	1.626	1.613	1.573	1.558	1.606	2.1	AVG	
4-Chlorophenyl-phenylether	.686	.700	.696	.706	.741	.751	.713	3.7	AVG	
Fluorene	1.354	1.324	1.284	1.295	1.323	1.362	1.324	2.3	AVG	
4-Nitroaniline	.409	.422	.426	.429	.422	.423	.422	1.6	AVG	
4,6-Dinitro-2-methylphenol	.117	.145	.162	.163	.168	.172	.154	13.2	AVG	
N-Nitrosodiphenylamine (1) *	.488	.482	.474	.470	.461	.474	.475	2.0	AVG	*
[redacted]iphenylhydrazine	.729	.731	.695	.680	.649	.638	.687	5.7	AVG	
[redacted]omophenyl-phenylether	.230	.241	.245	.247	.255	.260	.246	4.3	AVG	
[redacted]achlorobenzene	.290	.300	.304	.309	.319	.329	.308	4.5	AVG	
Pentachlorophenol *	.132	.168	.173	.167	.187	.190	.169	12.1	AVG	*
Phenanthrene	1.009	.998	.966	.953	.964	.981	.979	2.2	AVG	
Anthracene	1.022	1.013	1.001	.991	.994	1.019	1.007	1.3	AVG	
Carbazole	.970	.966	.947	.936	.939	.957	.952	1.4	AVG	
Di-n-butylphthalate	1.335	1.400	1.359	1.356	1.322	1.317	1.348	2.3	AVG	
Fluoranthene *	1.149	1.172	1.154	1.165	1.166	1.187	1.166	1.2	AVG	*
Benzidine	.867	.778	.639	.714	.695	.689	.730	11.0	AVG	
Pyrene	1.176	1.178	1.149	1.196	1.158	1.185	1.174	1.5	AVG	
Butylbenzylphthalate	.625	.619	.595	.600	.584	.575	.600	3.2	AVG	
3,3'-Dichlorobenzidine	.464	.488	.497	.512	.536	.542	.507	5.8	AVG	
Benzo(a)anthracene	1.089	1.091	1.073	1.099	1.126	1.145	1.104	2.4	AVG	
bis(2-Ethylhexyl)phthalate	.863	.841	.806	.816	.799	.795	.820	3.3	AVG	
Chrysene	1.006	1.031	1.023	1.038	1.049	1.054	1.034	1.7	AVG	
Di-n-octylphthalate *	1.673	1.674	1.621	1.685	1.629	1.603	1.648	2.1	AVG	*
7,12-Dimethylbenz[a]anthrace	.440	.526	.569	.607	.627	.636	.568	13.1	AVG	
Benzo(b)fluoranthene	1.352	1.367	1.354	1.392	1.452	1.501	1.403	4.3	AVG	
Benzo(k)fluoranthene	1.222	1.233	1.266	1.273	1.284	1.279	1.259	2.0	AVG	
Benzo(a)pyrene *	1.156	1.180	1.202	1.223	1.233	1.244	1.206	2.8	AVG	*

(1) Cannot be separated from Diphenylamine

RE 6/25/98

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Indeno(1,2,3-cd)pyrene	1.123	1.141	1.185	1.209	1.209	1.255	1.187	4.1	AVG
Dibenz(a,h)anthracene	1.102	1.107	1.179	1.216	1.216	1.248	1.178	5.2	AVG
Benzo(g,h,i)perylene	1.161	1.196	1.227	1.236	1.234	1.270	1.221	3.1	AVG
2-Fluorophenol	1.326	1.332	1.317	1.303	1.237	1.210	1.288	4.0	AVG
Phenol-d5	1.635	1.638	1.609	1.573	1.497	1.450	1.567	5.0	AVG
Phenol-d6	1.635	1.638	1.609	1.573	1.497	1.450	1.567	5.0	AVG
Nitrobenzene-d5	.372	.381	.379	.371	.368	.363	.372	1.8	AVG
2-Fluorobiphenyl	1.401	1.398	1.371	1.331	1.324	1.349	1.362	2.4	AVG
2,4,6-Tribromophenol	.279	.321	.349	.348	.369	.375	.340	10.3	AVG
Terphenyl-d14	.872	.901	.893	.959	.961	.970	.926	4.6	AVG

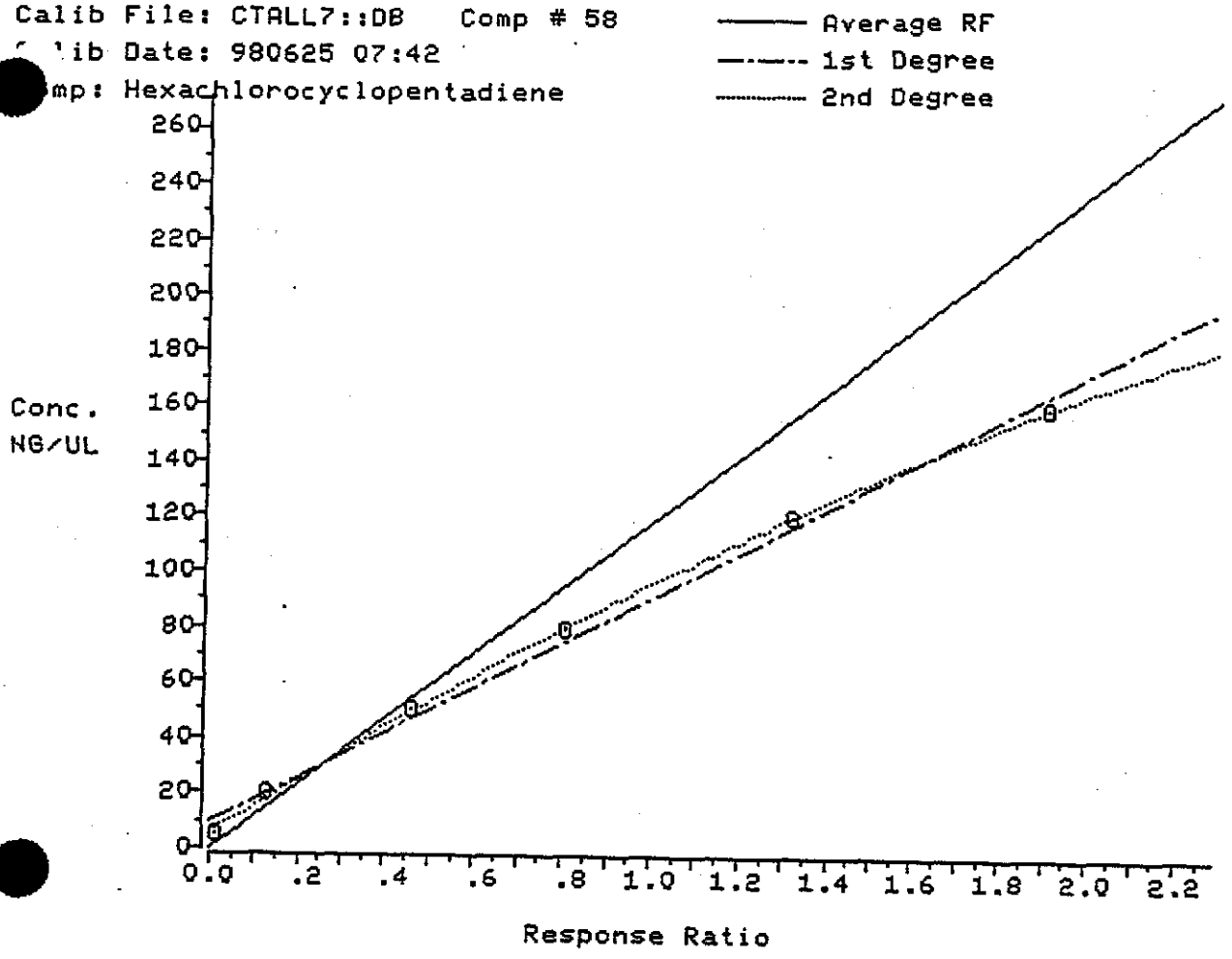
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

6/25/98

Calib File: CTALL7::DB Comp # 58

Calib Date: 980625 07:42

Comp: Hexachlorocyclopentadiene



Compound # 58 Calib File: CTALL7::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>GF523	>GF525	>GF526	>GF52A	>GF524	>GF522
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.08176	.25506	.37023	.40135	.43919	.47620

Average of 6 Rfs: .33730 (43.36 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: $Y = .2444529 + 2.033954(x)$

1st Degree Corr Coef: .9973547

2nd Degree Equation: $Y = .1365031 + 2.534246(x) + -.267098(x^2)$

2nd Degree Corr Coef: .9998397

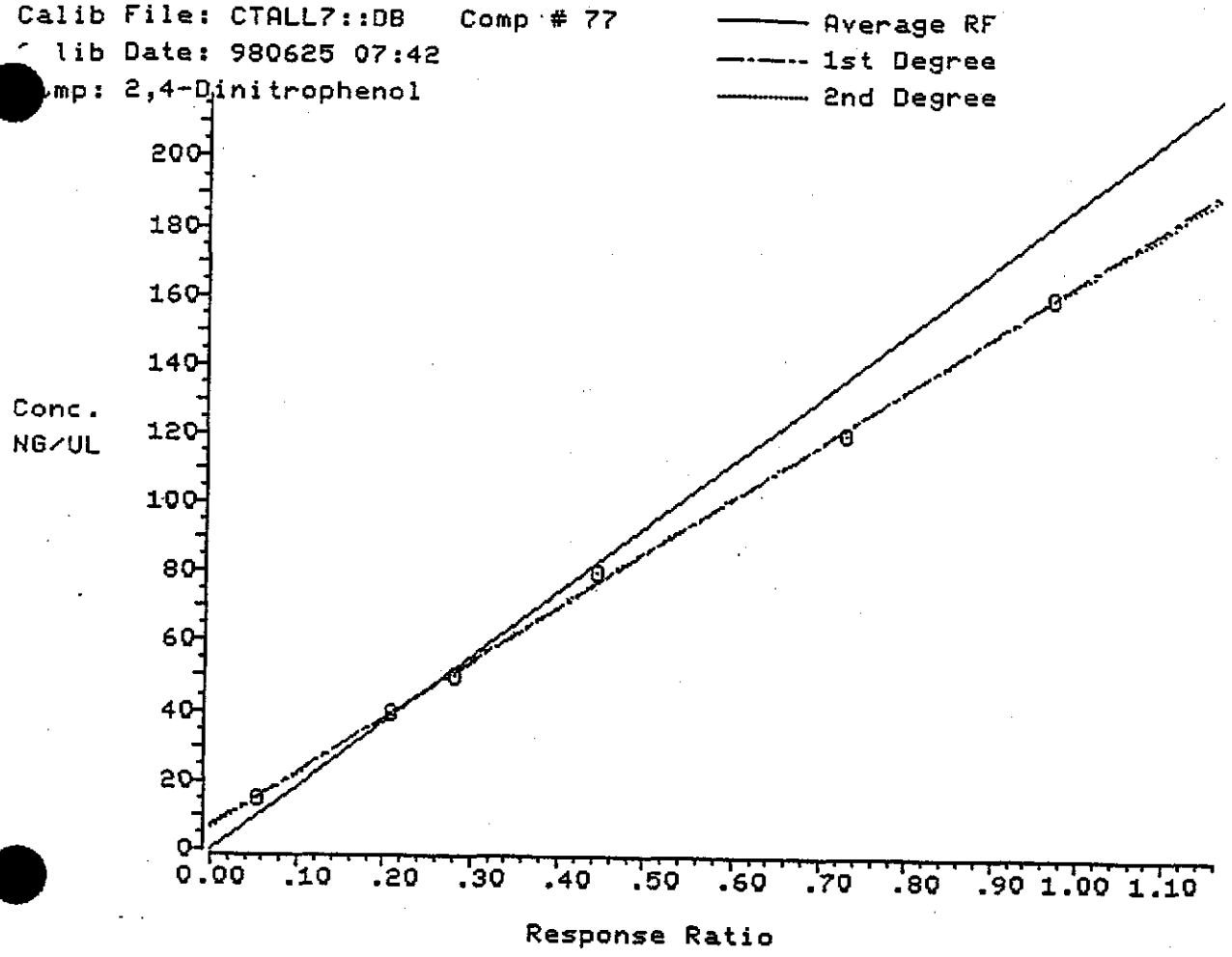
In the above equations:

$$Y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree
ORE 6/25/98

Calib File: CTALL7::DB Comp # 77
Calib Date: 980625 07:42
Comp: 2,4-Dinitrophenol



Compound # 77 Calib File: CTALL7::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>GF523	>GF525	>GF526	>GF52A	>GF524	>GF522
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.14289	.20823	.22455	.22114	.24207	.24166

Average of 6 Rfs: .21342 (17.28 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1742574 + 3.951048(x)
1st Degree Corr Coef: .9994929
2nd Degree Equation: y = .1563571 + 4.063260(x) + -.108315(x^2)
2nd Degree Corr Coef: .9995170

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree
file 6/25/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF64Z DFTPP Injection Date: 06/29/98

Instrument ID: HP06777 DFTPP Injection Time: 07:58 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	48.1
70	Less than 2.0% of mass 69	.3 (.6)1
127	40.0 - 60.0% of mass 198	43.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	23.9
365	Greater than 1.00% of mass 198	2.82
441	Present, but less than mass 443	14.2
442	Greater than 40.0% of mass 198	84.5
443	17.0 - 23.0% of mass 442	16.5 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GF642	06/29/98	08:31
02	20645DL	2946722DL	>GF649	06/29/98	10:14
03	20647DL	2946724DL	>GF650	06/29/98	11:04
04	SBLKLE1627	SBLKLE162	>GF652	06/29/98	12:13
05	162LELCS7	162LELCS	>GF653	06/29/98	13:03
06	3356-	2943357	>GF654	06/29/98	13:53
07	3356-MS	2943358	>GF655	06/29/98	14:43
08	3356-MSD	2943359	>GF656	06/29/98	15:33
09	GW19-DL	2946088DL	>GF657	06/29/98	16:34
10	20910	2943339	>GF659	06/29/98	18:21
11	2101-	2943340	>GF660	06/29/98	19:21 ✓
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.282	1.101	68.73	80.0	14.1	
N-Nitrosodimethylamine		.761	.616	64.80	80.0	19.0	
Phenol	*	1.524	1.409	73.94	80.0	7.6	*
Aniline		1.856	1.606	69.24	80.0	13.5	
bis(2-Chloroethyl)ether		1.172	.972	66.35	80.0	17.1	
2-Chlorophenol		1.335	1.267	75.95	80.0	5.1	
1,3-Dichlorobenzene		1.466	1.487	81.11	80.0	-1.4	
1,4-Dichlorobenzene	*	1.511	1.544	81.75	80.0	-2.2	*
Benzyl alcohol		.812	.721	70.98	80.0	11.3	
1,2-Dichlorobenzene		1.384	1.412	81.64	80.0	-2.0	
2-Methylphenol		1.110	.977	70.37	80.0	12.0	
2,2'-oxybis(1-Chloropropane)		1.633	1.237	60.58	80.0	24.3	J1, UJ- not target
bis(2-Chloroisopropyl)ether		1.633	1.237	60.57	80.0	24.3	
4-Methylphenol		1.150	1.129	78.54	80.0	1.8	
3- and 4-Methylphenol		1.150	1.135	78.93	80.0	1.3	
Acetophenone		1.698	1.639	77.20	80.0	3.5	
N-Nitroso-di-n-propylamine	#	.816	.762	74.72	80.0	6.6	#
o-Toluidine		1.826	1.632	71.49	80.0	10.6	
Hexachloroethane		.633	.649	82.06	80.0	-2.6	
Nitrobenzene		.370	.360	77.75	80.0	2.8	
Isophorone		.692	.643	74.34	80.0	7.1	
2-Nitrophenol	*	.211	.207	78.48	80.0	1.9	*
2,4-Dimethylphenol		.371	.362	77.97	80.0	2.5	
Benzoic acid		.278	.249	71.66	80.0	10.4	
bis(2-Chloroethoxy)methane		.413	.368	71.23	80.0	11.0	
2,4-Dichlorophenol	*	.313	.332	84.90	80.0	-6.1	*
1,2,4-Trichlorobenzene		.362	.401	88.75	80.0	-10.9	
Naphthalene		1.002	1.003	80.07	80.0	-.1	
4-Chloroaniline		.445	.435	78.19	80.0	2.3	
Hexachlorobutadiene	*	.244	.290	94.92	80.0	-18.6	*
4-Chloro-3-methylphenol	*	.324	.303	74.79	80.0	6.5	*
2-Methylnaphthalene		.668	.684	81.88	80.0	-2.4	
1-Methylnaphthalene		.628	.641	81.62	80.0	-2.0	
Hexachlorocyclopentadiene	#	.337	.404	75.52	80.0	5.6	#
2,4,6-Trichlorophenol	*	.444	.477	85.98	80.0	-7.5	*
2,4,5-Trichlorophenol		.485	.506	83.39	80.0	-4.2	
2-Chloronaphthalene		1.200	1.218	81.14	80.0	-1.4	
2-Nitroaniline		.400	.375	74.88	80.0	6.4	

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3356
3356ms/msd
20910
2101

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate		1.502	1.543	82.15	80.0	-2.7
2,6-Dinitrotoluene		.347	.352	81.18	80.0	-1.5
Acenaphthylene		1.932	1.977	81.87	80.0	-2.3
3-Nitroaniline		.398	.373	74.96	80.0	6.3
Acenaphthene	*	1.159	1.192	82.28	80.0	-2.9*
2,4-Dinitrophenol	#	.213	.215	75.03	80.0	6.2#
4-Nitrophenol	#	.266	.289	86.81	80.0	-8.5#
Dibenzofuran		1.745	1.830	83.87	80.0	-4.8
2,4-Dinitrotoluene		.489	.502	82.03	80.0	-2.5
1-Naphthylamine		1.031	.998	77.39	80.0	3.3
2-Naphthylamine		1.032	.979	75.93	80.0	5.1
Diethylphthalate		1.605	1.617	80.58	80.0	-.7
4-Chlorophenyl-phenylether		.713	.743	83.31	80.0	-4.1
Fluorene		1.324	1.364	82.45	80.0	-3.1
4-Nitroaniline		.422	.398	75.38	80.0	5.8
4,6-Dinitro-2-methylphenol		.154	.162	83.67	80.0	-4.6
N-Nitrosodiphenylamine (1)	*	.475	.482	81.29	80.0	-1.6*
1,2-Diphenylhydrazine		.687	.644	75.02	80.0	6.2
4-Bromophenyl-phenylether		.246	.266	86.52	80.0	-8.2
Hexachlorobenzene		.308	.354	91.86	80.0	-14.8
Pentachlorophenol	*	.169	.189	89.12	80.0	-11.4*
Phenanthrene		.979	1.031	84.26	80.0	-5.3
Anthracene		1.007	1.055	83.85	80.0	-4.8
Carbazole		.952	.973	81.71	80.0	-2.1
Di-n-butylphthalate		1.348	1.355	80.43	80.0	-.5
Fluoranthene	*	1.166	1.250	85.78	80.0	-7.2*
Benzidine		.730	.661	289.80	320.0	9.4
Pyrene		1.174	1.054	71.85	80.0	10.2
Butylbenzylphthalate		.600	.504	67.25	80.0	15.9
3,3'-Dichlorobenzidine		.507	.508	80.25	80.0	-.3
Benzo(a)anthracene		1.104	1.133	82.14	80.0	-2.7
bis(2-Ethylhexyl)phthalate		.820	.689	67.26	80.0	15.9
Chrysene		1.034	.984	76.18	80.0	4.8
Di-n-octylphthalate	*	1.648	1.512	73.42	80.0	8.2*
7,12-Dimethylbenz[a]anthrace		.568	.671	94.53	80.0	-18.2
Benzo(b)fluoranthene		1.403	1.570	89.52	80.0	-11.9
Benzo(k)fluoranthene		1.259	1.339	85.03	80.0	-6.3
Benzo(a)pyrene	*	1.206	1.243	82.43	80.0	-3.0*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.187	1.241	83.62	80.0	-4.5
Dibenz(a,h)anthracene	1.178	1.239	84.13	80.0	-5.2
Benzo(g,h,i)perylene	1.221	1.261	82.67	80.0	-3.3
2-Fluorophenol	1.287	1.159	72.02	80.0	10.0
Phenol-d5	1.567	1.336	68.19	80.0	14.8
Phenol-d6	1.567	1.329	67.87	80.0	15.2
Nitrobenzene-d5	.372	.367	78.97	80.0	1.3
2-Fluorobiphenyl	1.362	1.456	85.51	80.0	-6.9
2,4,6-Tribromophenol	.340	.426	100.20	80.0	-25.3
Terphenyl-d14	.926	.845	73.02	80.0	8.7

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF642 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 08:31

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	625762	10.47	2143715	14.12	1188409	19.38
	UPPER LIMIT	1251524		4287430		2376818	
	LOWER LIMIT	312881		1071858		594205	
01	20645DL	692637	10.46	2349666	14.10	1297527	19.36
02	20647DL	559743	10.46	1914325	14.10	1075420	19.37
03	SBLKLE1627	568445	10.47	1920105	14.11	1052682	19.37
04	162LELCS7	540555	10.47	1848963	14.11	1046412	19.38
05	3356-	552014	10.47	1885085	14.11	1036865	19.37
06	3356-MS	616414	10.47	2135308	14.12	1164330	19.38
07	3356-MSD	587546	10.47	2026645	14.12	1118410	19.38
08	GW19-DL	638829	10.48	2189158	14.12	1185330	19.38
09	20910	614381	10.48	2317787	14.20	1190302	19.41
10	2101-	625379	10.48	2160608	14.12	1170171	19.38
11							
12							
13							
14							
15							
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17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF642 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 08:31

		IS4 (PHN) AREA	#	RT	IS5 (CRY) AREA	#	RT	IS6 (PRY) AREA	#	RT
	12 HOUR STD	2342637	-	23.85	2917947	-	30.77	2252172	-	34.11
	UPPER LIMIT	4685274			5835894			4504344		
	LOWER LIMIT	1171319			1458974			1126086		
	EPA SAMPLE NO.									
01	20645DL	2581728		23.84	2964059		30.76	2548865		34.10
02	20647DL	2172740		23.84	2509997		30.76	2158189		34.10
03	SBLKLE1627	2143405	-	23.85	2486767	-	30.76	2123379	-	34.10
04	162LELCS7	2065007	-	23.85	2607327	-	30.78	2090533	-	34.12
05	3356-	2083475	-	23.85	2378688	-	30.76	1997713	-	34.10
06	3356-MS	2290633	-	23.85	2787636	-	30.78	2191869	-	34.12
07	3356-MSD	2204326	-	23.85	2624653	-	30.78	2004393	-	34.12
08	GW19-DL	2321670		23.85	2640493		30.76	2212625		34.10
09	20910	2371763	-	23.99	2824107	-	30.84	1909677	-	34.16
10	2101-	2255318	-	23.86	2582704	-	30.79	2020883	-	34.14
11										
12										
13										
14										
15										
16										
17										
18										
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20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF670 DFTPP Injection Date: 06/29/98

Instrument ID: HP06777 DFTPP Injection Time: 20:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	64.1
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	51.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	20.6
365	Greater than 1.00% of mass 198	1.94
441	Present, but less than mass 443	8.2
442	Greater than 40.0% of mass 198	48.4
443	17.0 - 23.0% of mass 442	9.4 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GF671	06/29/98	21:38
02	2056-	2943338	>GF681	06/29/98	23:00
03	20910DL	2943339DL	>GF682	06/30/98	00:58
04	2101-DL	2943340DL	>GF683	06/30/98	01:48
05	2123-	2943341	>GF684	06/30/98	02:38
06	2156-	2943342	>GF685	06/30/98	03:29
07	21910	2943343	>GF686	06/30/98	04:20
08	2201-	2943344	>GF687	06/30/98	05:10
09	2223-	2943345	>GF688	06/30/98	06:03
10	2256-	2943346	>GF689	06/30/98	07:10
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 21:38

Lab File ID: >GF671 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine	1.282	1.072	66.89	80.0	16.4	
N-Nitrosodimethylamine	.761	.607	63.83	80.0	20.2	not target
Phenol *	1.524	1.494	78.44	80.0	1.9	*
Aniline	1.856	1.684	72.60	80.0	9.3	
bis(2-Chloroethyl)ether	1.172	1.005	68.62	80.0	14.2	
2-Chlorophenol	1.335	1.294	77.52	80.0	3.1	
1,3-Dichlorobenzene	1.466	1.507	82.24	80.0	-2.8	
1,4-Dichlorobenzene *	1.511	1.566	82.92	80.0	-3.6	*
Benzyl alcohol	.812	.772	75.98	80.0	5.0	
1,2-Dichlorobenzene	1.384	1.450	83.84	80.0	-4.8	
2-Methylphenol	1.110	1.020	73.51	80.0	8.1	
2,2'-oxybis(1-Chloropropane)	1.633	1.301	63.72	80.0	20.4	J+, UJ-
bis(2-Chloroisopropyl)ether	1.633	1.301	63.72	80.0	20.4	
4-Methylphenol	1.150	1.199	83.42	80.0	-4.3	not target
3- and 4-Methylphenol	1.150	1.199	83.42	80.0	-4.3	
Acetophenone	1.698	1.700	80.09	80.0	-.1	
N-Nitroso-di-n-propylamine #	.816	.786	77.06	80.0	3.7	#
o-Toluidine	1.826	1.676	73.39	80.0	8.3	
Hexachloroethane	.633	.649	82.02	80.0	-2.5	
Nitrobenzene	.370	.373	80.68	80.0	-.9	
Isophorone	.692	.668	77.16	80.0	3.5	
2-Nitrophenol *	.211	.220	83.40	80.0	-4.2	*
2,4-Dimethylphenol	.371	.373	80.31	80.0	-.4	
Benzoic acid	.278	.284	81.83	80.0	-2.3	
bis(2-Chloroethoxy)methane	.413	.384	74.39	80.0	7.0	
2,4-Dichlorophenol *	.313	.344	87.84	80.0	-9.8	*
1,2,4-Trichlorobenzene	.362	.409	90.36	80.0	-12.9	
Naphthalene	1.002	1.029	82.16	80.0	-2.7	
4-Chloroaniline	.445	.443	79.54	80.0	.6	
Hexachlorobutadiene *	.244	.288	94.18	80.0	-17.7	*
4-Chloro-3-methylphenol *	.324	.316	78.00	80.0	2.5	*
2-Methylnaphthalene	.668	.699	83.65	80.0	-4.6	
1-Methylnaphthalene	.628	.654	83.33	80.0	-4.2	
Hexachlorocyclopentadiene #	.337	.411	76.67	80.0	4.2	#
2,4,6-Trichlorophenol *	.444	.475	85.60	80.0	-7.0	*
2,4,5-Trichlorophenol	.485	.514	84.72	80.0	-5.9	
2-Chloronaphthalene	1.200	1.258	83.81	80.0	-4.8	
2-Nitroaniline	.400	.386	77.14	80.0	3.6	

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2101 DL
2123
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6/21/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ıb Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 21:38

Lab File ID: >GF671 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.502	1.535	81.73	80.0	-2.2
2,6-Dinitrotoluene	.347	.361	83.26	80.0	-4.1
Acenaphthylene	1.932	1.979	81.97	80.0	-2.5
3-Nitroaniline	.398	.378	76.14	80.0	4.8
Acenaphthene *	1.159	1.192	82.28	80.0	-2.9*
2,4-Dinitrophenol #	.213	.242	83.40	80.0	-4.3#
4-Nitrophenol #	.266	.295	88.63	80.0	-10.8#
Dibenzofuran	1.745	1.848	84.68	80.0	-5.9
2,4-Dinitrotoluene	.489	.512	83.67	80.0	-4.6
1-Naphthylamine	1.031	.954	74.04	80.0	7.5
2-Naphthylamine	1.032	.892	69.16	80.0	13.5
Diethylphthalate	1.605	1.616	80.51	80.0	-.6
4-Chlorophenyl-phenylether	.713	.727	81.52	80.0	-1.9
Fluorene	1.324	1.361	82.26	80.0	-2.8
4-Nitroaniline	.422	.408	77.32	80.0	3.4
4,6-Dinitro-2-methylphenol	.154	.170	88.02	80.0	-10.0
N-Nitrosodiphenylamine (1) *	.475	.484	81.56	80.0	-2.0*
1,2-Diphenylhydrazine	.687	.643	74.90	80.0	6.4
4-Bromophenyl-phenylether	.246	.259	83.97	80.0	-5.0
Hexachlorobenzene	.308	.348	90.14	80.0	-12.7
Pentachlorophenol *	.169	.202	95.23	80.0	-19.0*
Phenanthrene	.979	1.046	85.55	80.0	-6.9
Anthracene	1.007	1.065	84.62	80.0	-5.8
Carbazole	.952	.992	83.28	80.0	-4.1
Di-n-butylphthalate	1.348	1.361	80.73	80.0	-.9
Fluoranthene *	1.166	1.271	87.25	80.0	-9.1*
Benzidine	.730	.619	271.29	320.0	15.2
Pyrene	1.174	1.040	70.86	80.0	11.4
Butylbenzylphthalate	.600	.510	68.09	80.0	14.9
3,3'-Dichlorobenzidine	.507	.526	83.12	80.0	-3.9
Benzo(a)anthracene	1.104	1.139	82.58	80.0	-3.2
bis(2-Ethylhexyl)phthalate	.820	.708	69.08	80.0	13.7
Chrysene	1.034	.994	76.95	80.0	3.8
Di-n-octylphthalate *	1.648	1.558	75.64	80.0	5.5*
7,12-Dimethylbenz[a]anthrace	.568	.679	95.66	80.0	-19.6
Benzo(b)fluoranthene	1.403	1.578	90.01	80.0	-12.5
Benzo(k)fluoranthene	1.259	1.321	83.93	80.0	-4.9
Benzo(a)pyrene *	1.206	1.235	81.93	80.0	-2.4*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ıb Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 21:38

Lab File ID: >GF671 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.187	1.231	82.95	80.0	-3.7
Dibenz(a,h)anthracene	1.178	1.251	84.97	80.0	-6.2
Benzo(g,h,i)perylene	1.221	1.261	82.62	80.0	-3.3
2-Fluorophenol	1.287	1.183	73.51	80.0	8.1
Phenol-d5	1.567	1.384	70.65	80.0	11.7
Phenol-d6	1.567	1.384	70.65	80.0	11.7
Nitrobenzene-d5	.372	.378	81.28	80.0	-1.6
2-Fluorobiphenyl	1.362	1.448	85.04	80.0	-6.3
2,4,6-Tribromophenol	.340	.423	99.56	80.0	-24.5
Terphenyl-d14	.926	.839	72.51	80.0	9.4

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF671 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 21:38

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	692940		10.44	2376895		14.08	1343476		19.34
	UPPER LIMIT	1385880			4753790			2686952		
	LOWER LIMIT	346470			1188448			671738		
	EPA SAMPLE NO.									
01	2056-	566759		10.44	2089100		14.10	1177197		19.34
02	20910DL	634768		10.44	2171050		14.08	1195548		19.32
03	2101-DL	567414		10.43	1982173		14.08	1095459		19.33
04	2123-	565886		10.44	2101539		14.11	1155930		19.35
05	2156-	649651		10.43	2253059		14.08	1234308		19.33
06	21910	573678		10.44	1994802		14.08	1086337		19.33
07	2201-	622065		10.44	2164674		14.08	1178224		19.34
08	2223-	679562		10.45	2374032		14.09	1271458		19.34
09	2256-	670721		10.45	2306567		14.08	1245524		19.33
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF671 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 21:38

	EPA SAMPLE NO.	IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	2643871	23.82	3276341	30.75	2534895	34.07
	UPPER LIMIT	5287742		6552682		5069790	
	LOWER LIMIT	1321936		1638171		1267448	
01	2056-	2346391	23.87	3006789	30.76	2169413	34.08
02	20910DL	2313698	23.80	2671449	30.73	2272004	34.06
03	2101-DL	2083125	23.81	2509498	30.74	2140014	34.07
04	2123-	2150635	23.85	2995513	30.76	2194088	34.09
05	2156-	2407160	23.82	2692854	30.74	2232502	34.07
06	21910	2141609	23.82	2369344	30.74	2036984	34.06
07	2201-	2213678	23.81	2272077	30.75	1973408	34.10
08	2223-	2413814	23.83	2793437	30.77	2296104	34.15
09	2256-	2464097	23.82	2406149	30.74	1948013	34.07
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG00Z DFTPP Injection Date: 07/01/98

Instrument ID: HP06777 DFTPP Injection Time: 09:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	51.6
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	45.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	19.2
365	Greater than 1.00% of mass 198	1.99
441	Present, but less than mass 443	9.0
442	Greater than 40.0% of mass 198	54.7
443	17.0 - 23.0% of mass 442	10.5 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1748	>GG001	07/01/98	10:27
02	SSTD120	STD1748	>GG002	07/01/98	11:17
03	SSTD001	MDL1748	>GG003	07/01/98	12:06
04	SSTD050	STD1748	>GG004	07/01/98	12:55
05	SSTD020	STD1748	>GG005	07/01/98	13:44
06	SSTD005	STD1748	>GG006	07/01/98	14:35
07	SSTD080	STD1748	>GG007	07/01/98	15:24
08	SBLKWC1778	SBLKWC177	>GG008	07/01/98	16:12
09	177WCLCS8	177WCLCS	>GG009	07/01/98	17:02
10	177WCLCSD	177WCLCSD	>GG010	07/01/98	17:51
11	CW-P-	2953145	>GG014	07/01/98	18:40
12	177WCUS	177WCUS	>GG016	07/01/98	19:28
13	177WCMS	177WCMS	>GG017	07/01/98	20:17
14	177WCMSD	177WCMSD	>GG018	07/01/98	21:05
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____ SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 07/01/98 07/01/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GG006 RRF20 = >GG005 RRF50 = >GG004
RRF80 = >GG007 RRF120= >GG002 RRF160= >GG001

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.319	1.342	1.329	1.317	1.216	1.143	1.278	6.3	AVG	
N-Nitrosodimethylamine	.796	.809	.790	.786	.745	.690	.769	5.8	AVG	
Phenol *	1.793	1.715	1.620	1.578	1.553	1.475	1.623	7.1	AVG	*
Aniline	2.008	1.940	1.792	1.741	1.639	1.615	1.789	8.9	AVG	
bis(2-Chloroethyl)ether	1.325	1.271	1.203	1.113	1.069	1.020	1.167	10.2	AVG	
2-Chlorophenol	1.372	1.347	1.326	1.304	1.271	1.244	1.311	3.6	AVG	
1,3-Dichlorobenzene	1.509	1.488	1.492	1.420	1.392	1.373	1.446	4.0	AVG	
1,4-Dichlorobenzene *	1.553	1.524	1.352	1.470	1.431	1.422	1.458	5.0	AVG	*
Benzyl alcohol	.808	.812	.776	.742	.740	.718	.766	5.1	AVG	
1,2-Dichlorobenzene	1.466	1.408	1.352	1.316	1.301	1.295	1.356	5.0	AVG	
2-Methylphenol	1.169	1.157	1.138	1.107	1.088	1.055	1.119	3.9	AVG	
2,2'-oxybis(1-Chloropropane)	1.897	1.857	1.831	1.756	1.717	1.606	1.777	6.0	AVG	
bis(2-Chloroisopropyl)ether	1.897	1.857	1.831	1.756	1.717	1.606	1.777	6.0	AVG	
4-Methylphenol	1.342	1.296	1.205	1.137	1.138	1.103	1.203	8.0	AVG	
3- and 4-Methylphenol	1.342	1.296	1.205	1.137	1.138	1.103	1.203	8.0	AVG	
Acetophenone	1.884	1.843	1.793	1.740	1.707	1.645	1.768	5.0	AVG	
N-Nitroso-di-n-propylamine #	.942	.928	.863	.796	.776	.639	.824	13.7	AVG	#
o-Toluidine	1.985	1.881	1.782	1.669	1.639	1.732	1.782	7.4	AVG	
Hexachloroethane	.687	.687	.672	.650	.642	.626	.661	3.8	AVG	
robenzene	.428	.430	.409	.404	.394	.383	.408	4.6	AVG	
phorone	.780	.792	.769	.757	.747	.737	.763	2.7	AVG	
Nitrophenol *	.225	.238	.235	.235	.232	.234	.233	1.9	AVG	*
2,4-Dimethylphenol	.368	.379	.370	.368	.363	.363	.369	1.6	AVG	
Benzoic acid	.237	.280	.289	.312	.317	.316	.292	10.5	AVG	
bis(2-Chloroethoxy)methane	.493	.478	.465	.455	.447	.438	.463	4.4	AVG	
2,4-Dichlorophenol *	.322	.327	.327	.326	.324	.329	.326	.8	AVG	*
1,2,4-Trichlorobenzene	.367	.375	.369	.372	.362	.378	.370	1.6	AVG	
Naphthalene	1.086	1.062	1.018	1.004	.977	.984	1.022	4.3	AVG	
4-Chloroaniline	.470	.480	.473	.470	.463	.458	.469	1.7	AVG	
Hexachlorobutadiene *	.203	.207	.211	.215	.210	.223	.212	3.3	AVG	*
4-Chloro-3-methylphenol *	.318	.328	.320	.318	.315	.310	.318	1.9	AVG	*
2-Methylnaphthalene	.678	.675	.660	.652	.647	.655	.661	1.9	AVG	
1-Methylnaphthalene	.641	.636	.628	.627	.612	.622	.628	1.6	AVG	
Hexachlorocyclopentadiene #	.148	.251	.321	.379	.393	.432	.321	32.9	LSTDEG #	0.9919
2,4,6-Trichlorophenol *	.429	.433	.442	.456	.460	.477	.450	4.1	AVG	*
2,4,5-Trichlorophenol	.449	.462	.479	.474	.470	.487	.470	2.9	AVG	
2-Chloronaphthalene	1.225	1.201	1.204	1.206	1.190	1.223	1.208	1.1	AVG	
2-Nitroaniline	.408	.430	.429	.424	.416	.410	.419	2.3	AVG	

Jenson 7/11/98

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 07/01/98 07/01/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GG006 RRF20 = >GG005 RRF50 = >GG004
RRF80 = >GG007 RRF120= >GG002 RRF160= >GG001

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Dimethylphthalate	1.487	1.458	1.457	1.472	1.453	1.425	1.459	1.4	AVG	
2,6-Dinitrotoluene	.336	.358	.366	.370	.360	.363	.359	3.4	AVG	
Acenaphthylene	1.937	1.987	1.949	1.947	1.938	1.958	1.953	.9	AVG	
3-Nitroaniline	.402	.417	.420	.421	.416	.409	.414	1.8	AVG	
Acenaphthene *	1.180	1.180	1.177	1.168	1.161	1.179	1.174	.7	AVG	*
2,4-Dinitrophenol #	.178	.224	.240	.258	.267	.270	.239	14.5	AVG	#
4-Nitrophenol #	.235	.238	.244	.261	.260	.254	.249	4.5	AVG	#
Dibenzofuran	1.767	1.733	1.737	1.726	1.705	1.738	1.734	1.2	AVG	
2,4-Dinitrotoluene	.489	.496	.496	.505	.490	.494	.495	1.2	AVG	
1-Naphthylamine	.782	.905	.874	.919	.892	.937	.885	6.2	AVG	
2-Naphthylamine	.946	.794	.775	.805	.803	.877	.833	7.8	AVG	
Diethylphthalate	1.614	1.576	1.556	1.537	1.520	1.533	1.556	2.2	AVG	
4-Chlorophenyl-phenylether	.617	.602	.610	.616	.612	.633	.615	1.7	AVG	
Fluorene	1.262	1.249	1.250	1.252	1.249	1.280	1.257	1.0	AVG	
4-Nitroaniline	.415	.419	.413	.437	.412	.414	.418	2.3	AVG	
4,6-Dinitro-2-methylphenol	.138	.154	.165	.169	.173	.178	.163	9.1	AVG	
N-Nitrosodiphenylamine (1) *	.483	.487	.498	.490	.491	.509	.493	1.9	AVG	*
1,2-Diphenylhydrazine	.831	.833	.817	.738	.762	.758	.790	5.3	AVG	
4-Bromophenyl-phenylether	.204	.209	.213	.214	.215	.226	.213	3.4	AVG	
Hexachlorobenzene	.275	.279	.283	.288	.291	.308	.287	4.0	AVG	
Pentachlorophenol *	.143	.164	.164	.177	.184	.195	.171	10.6	AVG	*
Phenanthrene	1.006	.985	.972	.979	.984	1.016	.990	1.7	AVG	
Anthracene	1.006	1.011	1.010	1.001	1.003	1.034	1.011	1.2	AVG	
Carbazole	.993	.981	.980	.960	.967	.999	.980	1.5	AVG	
Di-n-butylphthalate	1.397	1.443	1.435	1.403	1.393	1.431	1.417	1.5	AVG	
Fluoranthene *	1.042	1.043	1.039	1.045	1.039	1.070	1.046	1.1	AVG	*
Benzidine	.902	.809	.642	.683	.700	.720	.742	12.9	AVG	
Pyrene	1.257	1.250	1.243	1.223	1.257	1.300	1.255	2.0	AVG	
Butylbenzylphthalate	.698	.723	.717	.714	.724	.725	.717	1.4	AVG	
3,3'-Dichlorobenzidine	.459	.482	.495	.487	.477	.461	.477	3.0	AVG	
Benzo(a)anthracene	1.109	1.093	1.080	1.076	1.051	1.052	1.077	2.1	AVG	
bis(2-Ethylhexyl)phthalate	.937	.968	.972	.965	.990	1.006	.973	2.4	AVG	
Chrysene	1.030	1.011	1.012	.993	1.033	1.044	1.021	1.8	AVG	
Di-n-octylphthalate *	1.831	1.974	2.035	1.987	2.014	2.023	1.977	3.8	AVG	*
7,12-Dimethylbenz[a]anthrace	.218	.455	.541	.595	.600	.603	.502	29.9	AVG	
Benzo(b)fluoranthene	1.267	1.403	1.437	1.505	1.471	1.593	1.446	7.6	AVG	
Benzo(k)fluoranthene	1.245	1.169	1.198	1.117	1.159	1.053	1.157	5.7	AVG	
Benzo(a)pyrene *	1.132	1.162	1.192	1.193	1.196	1.221	1.183	2.7	AVG	*

(1) Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 07/01/98 07/01/98

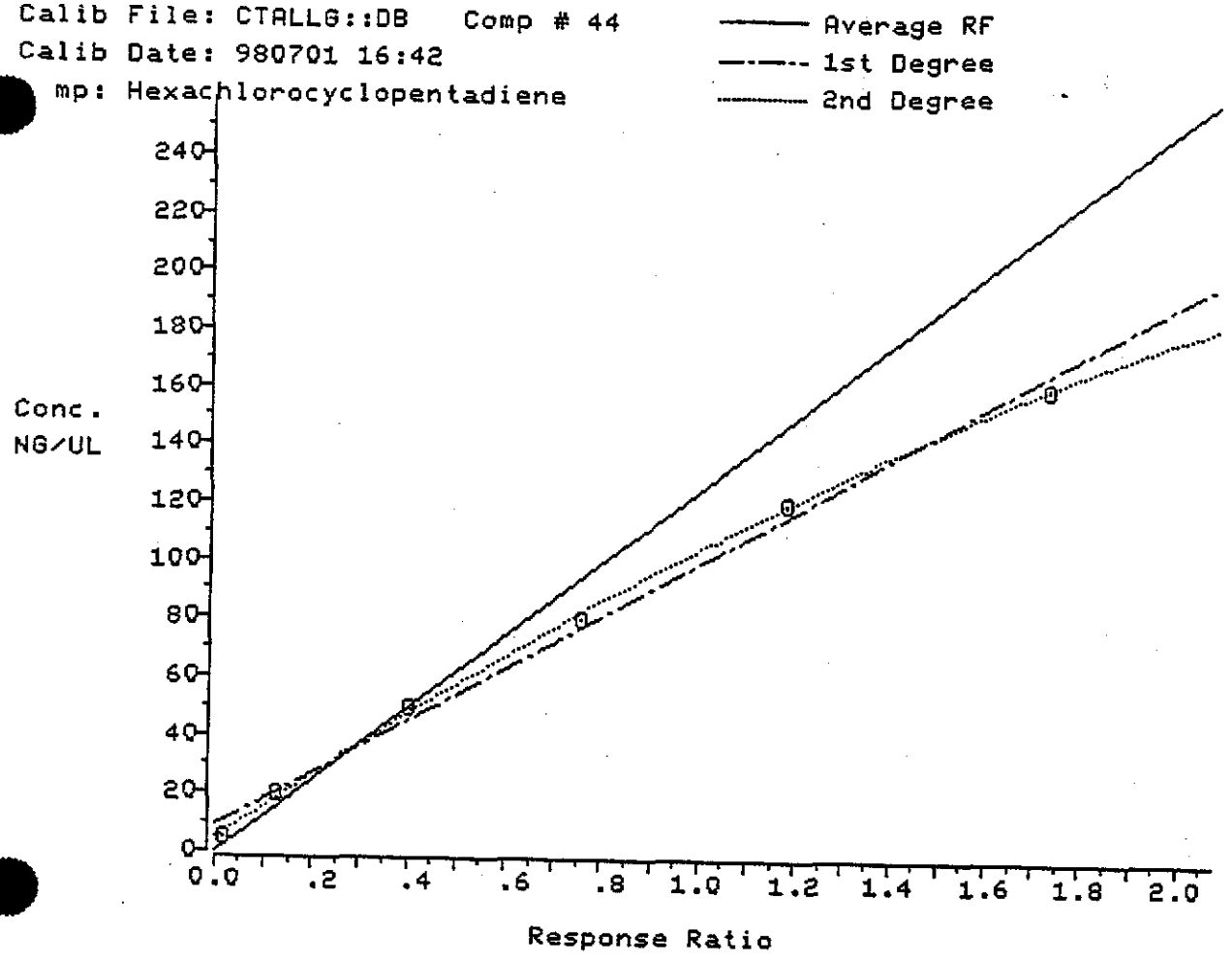
Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GG006 RRF20 = >GG005 RRF50 = >GG004
RRF80 = >GG007 RRF120= >GG002 RRF160= >GG001

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Indeno(1,2,3-cd)pyrene	1.060	1.065	1.155	1.186	1.174	1.219	1.143	5.8	AVG
Dibenz(a,h)anthracene	1.002	1.069	1.115	1.145	1.144	1.183	1.109	5.8	AVG
Benzo(g,h,i)perylene	1.094	1.125	1.170	1.190	1.186	1.209	1.162	3.8	AVG
2-Fluorophenol	1.284	1.305	1.277	1.274	1.237	1.194	1.262	3.2	AVG
Phenol-d5	1.659	1.641	1.561	1.499	1.462	1.383	1.534	7.0	AVG
Phenol-d6	1.659	1.641	1.561	1.499	1.462	1.383	1.534	7.0	AVG
Nitrobenzene-d5	.418	.424	.411	.410	.401	.399	.410	2.4	AVG
2-Fluorobiphenyl	1.337	1.325	1.327	1.326	1.321	1.372	1.335	1.4	AVG
2,4,6-Tribromophenol	.272	.292	.305	.325	.326	.341	.310	8.2	AVG
Terphenyl-d14	.840	.856	.856	.870	.896	.913	.872	3.2	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: CTALLG::DB Comp # 44
Calib Date: 980701 16:42
mp: Hexachlorocyclopentadiene



Compound # 44 Calib File: CTALLG::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>GG006	>GG005	>GG004	>GG007	>GG002	>GG001
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.14845	.25055	.32131	.37946	.39259	.43210

Average of 6 Rfs: .32074 (32.88 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: Y = .2300472 + 2.254981(x)
1st Degree Corr Coef: .9969589
2nd Degree Equation: Y = .1170720 + 2.819396(x) + -.331262(x^2)
2nd Degree Corr Coef: .9995084

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

~~Use 2° fit.~~ 6/11/98
Use 1° fit

6/11/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG020 DFTPP Injection Date: 07/01/98

Instrument ID: HP06777 DFTPP Injection Time: 21:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	58.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	47.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.0
365	Greater than 1.00% of mass 198	1.79
441	Present, but less than mass 443	7.8
442	Greater than 40.0% of mass 198	47.9
443	17.0 - 23.0% of mass 442	9.5 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GG021	07/01/98	22:16
02	W93--	2951745	>GG022	07/01/98	23:36
03	22FD-	2951747	>GG023	07/02/98	00:26
04	22EB-	2951749	>GG024	07/02/98	01:15
05	2056-DL	2943338DL	>GG025	07/02/98	02:04
06	2123-DL	2943341DL	>GG026	07/02/98	02:53
07	2223-DL	2943345DL	>GG027	07/02/98	03:43
08	2301-	2943347	>GG029	07/02/98	05:21
09	2323-	2943348	>GG030	07/02/98	06:10
10	2356-	2943349	>GG031	07/02/98	06:59
11					
12					
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20					
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/01/98 Time: 22:16

Lab File ID: >GG021 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.278	1.221	76.44	80.0	4.5
N-Nitrosodimethylamine		.769	.727	75.62	80.0	5.5
Phenol	*	1.623	1.533	75.61	80.0	5.5*
Aniline		1.789	1.697	75.86	80.0	5.2
bis(2-Chloroethyl)ether		1.167	1.099	75.34	80.0	5.8
2-Chlorophenol		1.311	1.289	78.70	80.0	1.6
1,3-Dichlorobenzene		1.446	1.424	78.82	80.0	1.5
1,4-Dichlorobenzene	*	1.458	1.473	80.81	80.0	-1.0*
Benzyl alcohol		.766	.735	76.77	80.0	4.0
1,2-Dichlorobenzene		1.356	1.326	78.21	80.0	2.2
2-Methylphenol		1.119	1.080	77.22	80.0	3.5
2,2'-oxybis(1-Chloropropane)		1.777	1.706	76.78	80.0	4.0
bis(2-Chloroisopropyl)ether		1.777	1.706	76.78	80.0	4.0
4-Methylphenol		1.203	1.129	75.08	80.0	6.1
3- and 4-Methylphenol		1.203	1.129	75.08	80.0	6.1
Acetophenone		1.769	1.721	77.83	80.0	2.7
N-Nitroso-di-n-propylamine	#	.824	.797	77.39	80.0	3.3#
o-Toluidine		1.782	1.699	76.27	80.0	4.7
Hexachloroethane		.661	.658	79.63	80.0	.5
Nitrobenzene		.408	.399	78.32	80.0	2.1
Isophorone		.763	.736	77.15	80.0	3.6
2-Nitrophenol	*	.233	.234	80.25	80.0	-.3*
2,4-Dimethylphenol		.369	.359	77.88	80.0	2.7
Benzoic acid		.292	.302	82.85	80.0	-3.6
bis(2-Chloroethoxy)methane		.463	.443	76.59	80.0	4.3
2,4-Dichlorophenol	*	.326	.325	79.70	80.0	.4*
1,2,4-Trichlorobenzene		.370	.371	80.18	80.0	-.2
Naphthalene		1.022	.992	77.65	80.0	2.9
4-Chloroaniline		.469	.461	78.55	80.0	1.8
Hexachlorobutadiene	*	.212	.213	80.54	80.0	-.7*
4-Chloro-3-methylphenol	*	.318	.311	78.26	80.0	2.2*
2-Methylnaphthalene		.661	.646	78.18	80.0	2.3
1-Methylnaphthalene		.628	.608	77.53	80.0	3.1
Hexachlorocyclopentadiene	#	.321	.365	75.07	80.0	6.2#
2,4,6-Trichlorophenol	*	.450	.460	81.85	80.0	-2.3*
2,4,5-Trichlorophenol		.470	.477	81.12	80.0	-1.4
2-Chloronaphthalene		1.208	1.193	79.00	80.0	1.2
2-Nitroaniline		.419	.412	78.54	80.0	1.8

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JM(SS) 9/1/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/01/98 Time: 22:16

Lab File ID: >GG021 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate		1.459	1.449	79.46	80.0	.7	
2,6-Dinitrotoluene		.359	.365	81.35	80.0	-1.7	
Acenaphthylene		1.953	1.935	79.28	80.0	.9	
3-Nitroaniline		.414	.411	79.40	80.0	.7	
Acenaphthene	*	1.174	1.167	79.50	80.0	.6	*
2,4-Dinitrophenol	#	.239	.256	85.43	80.0	-6.8	#
4-Nitrophenol	#	.249	.258	83.04	80.0	-3.8	#
Dibenzofuran		1.734	1.713	79.02	80.0	1.2	
2,4-Dinitrotoluene		.495	.499	80.73	80.0	-.9	
1-Naphthylamine		.885	.920	83.20	80.0	-4.0	
2-Naphthylamine		.833	.824	79.10	80.0	1.1	
Diethylphthalate		1.556	1.529	78.60	80.0	1.8	
4-Chlorophenyl-phenylether		.615	.618	80.43	80.0	-.5	
Fluorene		1.257	1.239	78.86	80.0	1.4	
4-Nitroaniline		.418	.428	81.94	80.0	-2.4	
4,6-Dinitro-2-methylphenol		.163	.171	83.91	80.0	-4.9	
N-Nitrosodiphenylamine (1)	*	.493	.495	80.40	80.0	-.5	*
1,2-Diphenylhydrazine		.790	.761	77.10	80.0	3.6	
4-Bromophenyl-phenylether		.213	.215	80.77	80.0	-1.0	
Hexachlorobenzene		.287	.293	81.64	80.0	-2.1	
Pentachlorophenol	*	.171	.178	82.93	80.0	-3.7	*
Phenanthrene		.990	.971	78.42	80.0	2.0	
Anthracene		1.011	.999	79.09	80.0	1.1	
Carbazole		.980	.981	80.06	80.0	-.1	
Di-n-butylphthalate		1.417	1.418	80.04	80.0	-.0	
Fluoranthene	*	1.046	1.056	80.71	80.0	-.9	*
Benzidine		.742	.676	291.22	320.0	9.0	
Pyrene		1.255	1.216	77.51	80.0	3.1	
Butylbenzylphthalate		.717	.693	77.33	80.0	3.3	
3,3'-Dichlorobenzidine		.477	.488	81.92	80.0	-2.4	
Benzo(a)anthracene		1.077	1.079	80.14	80.0	-.2	
bis(2-Ethylhexyl)phthalate		.973	.939	77.22	80.0	3.5	
Chrysene		1.021	.998	78.21	80.0	2.2	
Di-n-octylphthalate	*	1.977	1.934	78.26	80.0	2.2	*
7,12-Dimethylbenz[a]anthrace		.502	.597	84.21	80.0	-5.3	
Benzo(b)fluoranthene		1.446	1.405	77.74	80.0	2.8	
Benzo(k)fluoranthene		1.157	1.257	86.92	80.0	-8.6	
Benzo(a)pyrene	*	1.183	1.208	81.70	80.0	-2.1	*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/01/98 Time: 22:16

Lab File ID: >GG021 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.143	1.164	81.47	80.0	-1.8
Dibenz(a,h)anthracene	1.109	1.150	82.94	80.0	-3.7
Benzo(g,h,i)perylene	1.162	1.196	82.30	80.0	-2.9
2-Fluorophenol	1.262	1.221	77.37	80.0	3.3
Phenol-d5	1.534	1.457	75.95	80.0	5.1
Phenol-d6	1.534	1.457	75.95	80.0	5.1
Nitrobenzene-d5	.410	.402	78.43	80.0	2.0
2-Fluorobiphenyl	1.335	1.311	78.57	80.0	1.8
2,4,6-Tribromophenol	.310	.332	85.53	80.0	-6.9
Terphenyl-d14	.872	.860	78.88	80.0	1.4

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG021 Date Analyzed: 07/01/98

Instrument ID: HP06777 Time Analyzed: 22:16

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	215599		9.82	726892		13.45	389065		18.67
	UPPER LIMIT	431198			1453784			778130		
	LOWER LIMIT	107800			363446			194533		
	EPA SAMPLE NO.									
01	W93--	175610		9.82	599372		13.44	320134		18.66
02	22FD-	171681		9.82	574810		13.44	305998		18.65
03	22EB-	179785		9.81	602063		13.43	325203		18.66
04	2056-DL	183407		9.81	616727		13.43	339363		18.66
05	2123-DL	185843		9.81	637539		13.44	349492		18.65
06	2223-DL	190123		9.81	638461		13.43	346429		18.66
07	2301-	196746		9.81	666286		13.43	353792		18.65
08	2323-	190408		9.81	648489		13.43	346584		18.66
09	2356-	207673		9.81	704340		13.43	372671		18.65
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG021 Date Analyzed: 07/01/98

Instrument ID: HP06777 Time Analyzed: 22:16

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	706089	23.11	645328	30.17	518976	33.22
	UPPER LIMIT	1412178		1290656		1037952	
	LOWER LIMIT	353045		322664		259488	
	EPA SAMPLE NO.						
01	W93--	602747	23.10	558446	30.16	464191	33.21
02	22FD-	579969	23.10	540698	30.15	448464	33.21
03	22EB-	607245	23.09	572312	30.15	479629	33.20
04	2056-DL	635736	23.11	579955	30.15	482330	33.21
05	2123-DL	650769	23.10	583585	30.16	484560	33.21
06	2223-DL	634789	23.11	549698	30.16	460100	33.22
07	2301-	637695	23.10	509070	30.16	420359	33.22
08	2323-	620171	23.09	494441	30.16	385976	33.21
09	2356-	672784	23.09	531737	30.15	409776	33.21
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG040 DFTPP Injection Date: 07/02/98

Instrument ID: HP06777 DFTPP Injection Time: 08:48 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	56.4
70	Less than 2.0% of mass 69	.4 (.6)1
127	40.0 - 60.0% of mass 198	45.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.7
365	Greater than 1.00% of mass 198	2.21
441	Present, but less than mass 443	9.6
442	Greater than 40.0% of mass 198	59.5
443	17.0 - 23.0% of mass 442	11.6 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GG041	07/02/98	09:15
02	2401-	2943350	>GG042	07/02/98	10:38
03	2423-	2943351	>GG043	07/02/98	11:27
04	2456-	2943352	>GG044	07/02/98	12:16
05	2501-	2943353	>GG045	07/02/98	13:06
06	2523-	2943354	>GG046	07/02/98	13:55
07	2601-	2943356	>GG048	07/02/98	15:35
08	2556-	2943355	>GG049	07/02/98	16:24 ✓
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 09:15

Lab File ID: >GG041 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.278	1.168	73.11	80.0	8.6	
N-Nitrosodimethylamine		.769	.704	73.17	80.0	8.5	
Phenol	*	1.623	1.490	73.48	80.0	8.2	*
Aniline		1.789	1.638	73.22	80.0	8.5	
bis(2-Chloroethyl)ether		1.167	1.092	74.90	80.0	6.4	
2-Chlorophenol		1.311	1.249	76.21	80.0	4.7	
1,3-Dichlorobenzene		1.446	1.408	77.91	80.0	2.6	
1,4-Dichlorobenzene	*	1.458	1.458	79.97	80.0	.0	*
Benzyl alcohol		.766	.708	73.94	80.0	7.6	
1,2-Dichlorobenzene		1.356	1.295	76.40	80.0	4.5	
2-Methylphenol		1.119	1.050	75.08	80.0	6.1	
2,2'-oxybis(1-Chloropropane)		1.777	1.654	74.44	80.0	7.0	
bis(2-Chloroisopropyl)ether		1.777	1.654	74.44	80.0	7.0	
4-Methylphenol		1.203	1.085	72.14	80.0	9.8	
3- and 4-Methylphenol		1.203	1.085	72.14	80.0	9.8	
Acetophenone		1.769	1.630	73.72	80.0	7.8	
N-Nitroso-di-n-propylamine	#	.824	.762	73.97	80.0	7.5	#
o-Toluidine		1.782	1.615	72.51	80.0	9.4	
Hexachloroethane		.661	.644	77.97	80.0	2.5	
Nitrobenzene		.408	.407	79.76	80.0	.3	
Isophorone		.763	.718	75.22	80.0	6.0	
2-Nitrophenol	*	.233	.234	80.17	80.0	-.2	*
2,4-Dimethylphenol		.369	.357	77.43	80.0	3.2	
Benzoic acid		.292	.287	78.55	80.0	1.8	
bis(2-Chloroethoxy)methane		.463	.439	75.93	80.0	5.1	
2,4-Dichlorophenol	*	.326	.325	79.76	80.0	.3	*
1,2,4-Trichlorobenzene		.370	.376	81.22	80.0	-1.5	
Naphthalene		1.022	1.003	78.52	80.0	1.8	
4-Chloroaniline		.469	.448	76.28	80.0	4.6	
Hexachlorobutadiene	*	.212	.223	84.18	80.0	-5.2	*
4-Chloro-3-methylphenol	*	.318	.305	76.62	80.0	4.2	*
2-Methylnaphthalene		.661	.638	77.23	80.0	3.5	
1-Methylnaphthalene		.628	.603	76.82	80.0	4.0	
Hexachlorocyclopentadiene	#	.321	.396	80.59	80.0	-.7	#
2,4,6-Trichlorophenol	*	.450	.442	78.56	80.0	1.8	*
2,4,5-Trichlorophenol		.470	.480	81.66	80.0	-2.1	
2-Chloronaphthalene		1.208	1.215	80.48	80.0	-.6	
2-Nitroaniline		.419	.407	77.64	80.0	3.0	

BBS 7/27/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 09:15

Lab File ID: >GG041 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate		1.459	1.410	77.35	80.0	3.3	
2,6-Dinitrotoluene		.359	.356	79.35	80.0	.8	
Acenaphthylene		1.953	1.932	79.15	80.0	1.1	
3-Nitroaniline		.414	.400	77.26	80.0	3.4	
Acenaphthene	*	1.174	1.141	77.74	80.0	2.8*	
2,4-Dinitrophenol	#	.239	.236	78.69	80.0	1.6#	
4-Nitrophenol	#	.249	.245	79.00	80.0	1.3#	
Dibenzofuran		1.734	1.693	78.09	80.0	2.4	
2,4-Dinitrotoluene		.495	.477	77.08	80.0	3.7	
1-Naphthylamine		.885	1.034	93.48	80.0	-16.9	
2-Naphthylamine		.833	1.038	99.63	80.0	-24.5	not target
Diethylphthalate		1.556	1.509	77.56	80.0	3.0	
4-Chlorophenyl-phenylether		.615	.601	78.21	80.0	2.2	
Fluorene		1.257	1.215	77.36	80.0	3.3	
4-Nitroaniline		.418	.393	75.17	80.0	6.0	
4,6-Dinitro-2-methylphenol		.163	.167	81.88	80.0	-2.3	
N-Nitrosodiphenylamine (1)	*	.493	.488	79.17	80.0	1.0*	
1,2-Diphenylhydrazine		.790	.784	79.44	80.0	.7	
4-Bromophenyl-phenylether		.213	.217	81.42	80.0	-1.8	
Hexachlorobenzene		.287	.292	81.45	80.0	-1.8	
Pentachlorophenol	*	.171	.173	80.82	80.0	-1.0*	
Phenanthrene		.990	.962	77.72	80.0	2.9	
Anthracene		1.011	.998	79.03	80.0	1.2	
Carbazole		.980	.958	78.22	80.0	2.2	
Di-n-butylphthalate		1.417	1.404	79.26	80.0	.9	
Fluoranthene	*	1.046	1.032	78.93	80.0	1.3*	
Benzidine		.742	.733	315.94	320.0	1.3	
Pyrene		1.255	1.209	77.09	80.0	3.6	
Butylbenzylphthalate		.717	.693	77.32	80.0	3.4	
3,3'-Dichlorobenzidine		.477	.491	82.35	80.0	-2.9	
Benzo(a)anthracene		1.077	1.053	78.23	80.0	2.2	
bis(2-Ethylhexyl)phthalate		.973	.949	78.05	80.0	2.4	
Chrysene		1.021	.992	77.75	80.0	2.8	
Di-n-octylphthalate	*	1.977	1.996	80.73	80.0	-.9*	
7,12-Dimethylbenz[a]anthrace		.502	.587	82.78	80.0	-3.5	
Benzo(b)fluoranthene		1.446	1.415	78.31	80.0	2.1	
Benzo(k)fluoranthene		1.157	1.191	82.34	80.0	-2.9	
Benzo(a)pyrene	*	1.183	1.183	80.02	80.0	-.0*	

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 09:15

Lab File ID: >GG041 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.143	1.184	82.87	80.0	-3.6
Dibenz(a,h)anthracene	1.109	1.161	83.73	80.0	-4.7
Benzo(g,h,i)perylene	1.162	1.212	83.39	80.0	-4.2
2-Fluorophenol	1.262	1.155	73.22	80.0	8.5
Phenol-d5	1.534	1.386	72.25	80.0	9.7
Phenol-d6	1.534	1.386	72.25	80.0	9.7
Nitrobenzene-d5	.410	.412	80.29	80.0	-.4
2-Fluorobiphenyl	1.335	1.352	81.04	80.0	-1.3
2,4,6-Tribromophenol	.310	.319	82.42	80.0	-3.0
Terphenyl-d14	.872	.850	77.95	80.0	2.6

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG041 Date Analyzed: 07/02/98

Instrument ID: HP06777 Time Analyzed: 09:15

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	202845	9.76	645983	13.38	332992	18.59
	UPPER LIMIT	405690		1291966		665984	
	LOWER LIMIT	101423		322992		166496	
01	2401-	201917	9.75	670813	13.37	342460	18.59
02	2423-	195862	9.75	644483	13.36	322655	18.59
03	2456-	191495	9.76	636389	13.37	319076	18.59
04	2501-	199818	9.75	663151	13.37	332989	18.59
05	2523-	178366	9.76	587649	13.37	295002	18.59
06	2601-	205580	9.75	684115	13.37	343751	18.59
07	2556-	168237	9.75	562322	13.37	279562	18.59
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG041 Date Analyzed: 07/02/98

Instrument ID: HP06777 Time Analyzed: 09:15

	EPA SAMPLE NO.	IS4 (PHN) AREA	#	RT	IS5 (CRY) AREA	#	RT	IS6 (PRY) AREA	#	RT
	12 HOUR STD	581822		23.04	519552		30.12	413437		33.14
	UPPER LIMIT	1163644			1039104			826874		
	LOWER LIMIT	290911			259776			206719		
01	2401-	577754		23.03	479666		30.09	382119		33.13
02	2423-	539725		23.03	455738		30.10	373826		33.13
03	2456-	548201		23.03	457770		30.09	368301		33.13
04	2501-	556615		23.03	466454		30.09	383352		33.13
05	2523-	502637		23.03	421997		30.09	348509		33.13
06	2601-	582361		23.03	486987		30.09	395117		33.12
07	2556-	479335		23.03	401233		30.09	332954		33.13
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG05Z DFTPP Injection Date: 07/02/98

Instrument ID: HP06777 DFTPP Injection Time: 18:11

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	58.4
70	Less than 2.0% of mass 69	.3 (.6)1
127	40.0 - 60.0% of mass 198	46.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	17.8
365	Greater than 1.00% of mass 198	2.00
441	Present, but less than mass 443	7.7
442	Greater than 40.0% of mass 198	48.3
443	17.0 - 23.0% of mass 442	9.6 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>GG051	07/02/98	18:37
02	SBLKLC1817	SBLKLC181	>GG05A	07/02/98	21:30
03	181LCLCSD	181LCLCSD	>GG055	07/02/98	22:20
04	SBLKLB1807	SBLKLB180	>GG056	07/02/98	23:10
05	180LBLCS7	180LBLCS	>GG057	07/03/98	00:00
06	SD-3-RE	2941248RE	>GG058	07/03/98	00:50
07	182LCLCS7	182LCLCS	>GG060	07/03/98	02:31
08	108--RE	2941262RE	>GG061	07/03/98	03:21
09	SB4--	2949213	>GG062	07/03/98	04:11
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7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 18:37

Lab File ID: >GG051 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.278	1.148	71.91	80.0	10.1	
N-Nitrosodimethylamine		.769	.678	70.46	80.0	11.9	
Phenol	*	1.623	1.530	75.44	80.0	5.7	*
Aniline		1.789	1.610	72.00	80.0	10.0	
bis(2-Chloroethyl)ether		1.167	1.079	73.99	80.0	7.5	
2-Chlorophenol		1.311	1.262	77.01	80.0	3.7	
1,3-Dichlorobenzene		1.446	1.419	78.53	80.0	1.8	
1,4-Dichlorobenzene	*	1.458	1.459	80.02	80.0	-.0	*
Benzyl alcohol		.766	.672	70.18	80.0	12.3	
1,2-Dichlorobenzene		1.356	1.313	77.44	80.0	3.2	
2-Methylphenol		1.119	1.080	77.21	80.0	3.5	
2,2'-oxybis(1-Chloropropane)		1.777	1.638	73.74	80.0	7.8	
bis(2-Chloroisopropyl)ether		1.777	1.638	73.74	80.0	7.8	
4-Methylphenol		1.203	1.145	76.15	80.0	4.8	
3- and 4-Methylphenol		1.203	1.145	76.15	80.0	4.8	
Acetophenone		1.769	1.682	76.10	80.0	4.9	
N-Nitroso-di-n-propylamine	#	.824	.774	75.13	80.0	6.1	#
o-Toluidine		1.782	1.641	73.70	80.0	7.9	
Hexachloroethane		.661	.658	79.66	80.0	.4	
Nitrobenzene		.408	.401	78.65	80.0	1.7	
Isophorone		.763	.710	74.44	80.0	7.0	
2-Nitrophenol	*	.233	.232	79.52	80.0	.6	*
2,4-Dimethylphenol		.369	.357	77.49	80.0	3.1	
Benzoic acid		.292	.296	81.18	80.0	-1.5	
bis(2-Chloroethoxy)methane		.463	.433	74.81	80.0	6.5	
2,4-Dichlorophenol	*	.326	.323	79.37	80.0	.8	*
1,2,4-Trichlorobenzene		.370	.365	78.91	80.0	1.4	
Naphthalene		1.022	.995	77.91	80.0	2.6	
4-Chloroaniline		.469	.452	77.02	80.0	3.7	
Hexachlorobutadiene	*	.212	.221	83.37	80.0	-4.2	*
4-Chloro-3-methylphenol	*	.318	.311	78.09	80.0	2.4	*
2-Methylnaphthalene		.661	.647	78.34	80.0	2.1	
1-Methylnaphthalene		.628	.609	77.57	80.0	3.0	
Hexachlorocyclopentadiene	#	.321	.397	80.79	80.0	-1.0	#
2,4,6-Trichlorophenol	*	.450	.433	77.07	80.0	3.7	*
2,4,5-Trichlorophenol		.470	.487	82.83	80.0	-3.5	
2-Chloronaphthalene		1.208	1.189	78.75	80.0	1.6	
2-Nitroaniline		.419	.405	77.30	80.0	3.4	

FORM VII SV-1 1/87 Rev.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 18:37

Lab File ID: >GG051 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate		1.459	1.432	78.55	80.0	1.8	
2,6-Dinitrotoluene		.359	.359	79.99	80.0	.0	
Acenaphthylene		1.953	1.893	77.55	80.0	3.1	
3-Nitroaniline		.414	.405	78.24	80.0	2.2	
Acenaphthene	*	1.174	1.150	78.34	80.0	2.1	*
2,4-Dinitrophenol	#	.239	.250	83.48	80.0	-4.4	#
4-Nitrophenol	#	.249	.269	86.44	80.0	-8.0	#
Dibenzofuran		1.734	1.673	77.18	80.0	3.5	
2,4-Dinitrotoluene		.495	.491	79.40	80.0	.7	
1-Naphthylamine		.885	1.020	92.25	80.0	-15.3	
2-Naphthylamine		.833	1.005	96.45	80.0	-20.6	
Diethylphthalate		1.556	1.528	78.57	80.0	1.8	
4-Chlorophenyl-phenylether		.615	.602	78.31	80.0	2.1	
Fluorene		1.257	1.223	77.85	80.0	2.7	
4-Nitroaniline		.418	.412	78.76	80.0	1.5	
4,6-Dinitro-2-methylphenol		.163	.174	85.43	80.0	-6.8	
N-Nitrosodiphenylamine (1)	*	.493	.491	79.63	80.0	.5	*
1,2-Diphenylhydrazine		.790	.770	78.04	80.0	2.5	
4-Bromophenyl-phenylether		.213	.220	82.57	80.0	-3.2	
Hexachlorobenzene		.287	.301	83.85	80.0	-4.8	
Pentachlorophenol	*	.171	.188	87.57	80.0	-9.5	*
Phenanthrene		.990	.991	80.06	80.0	-.1	
Anthracene		1.011	1.023	80.97	80.0	-1.2	
Carbazole		.980	.992	80.99	80.0	-1.2	
Di-n-butylphthalate		1.417	1.440	81.30	80.0	-1.6	
Fluoranthene	*	1.046	1.083	82.85	80.0	-3.6	*
Benzidine		.742	.715	308.26	320.0	3.7	
Pyrene		1.255	1.174	74.82	80.0	6.5	
Butylbenzylphthalate		.717	.676	75.45	80.0	5.7	
3,3'-Dichlorobenzidine		.477	.488	81.90	80.0	-2.4	
Benzo(a)anthracene		1.077	1.045	77.67	80.0	2.9	
bis(2-Ethylhexyl)phthalate		.973	.916	75.30	80.0	5.9	
Chrysene		1.021	.989	77.54	80.0	3.1	
Di-n-octylphthalate	*	1.977	1.938	78.39	80.0	2.0	*
7,12-Dimethylbenz[a]anthrace		.502	.589	83.05	80.0	-3.8	
Benzo(b)fluoranthene		1.446	1.529	84.60	80.0	-5.8	
Benzo(k)fluoranthene		1.157	1.092	75.53	80.0	5.6	
Benzo(a)pyrene	*	1.183	1.197	80.98	80.0	-1.2	*

not used

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/02/98 Time: 18:37

Lab File ID: >GG051 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.143	1.187	83.07	80.0	-3.8
Dibenz(a,h)anthracene	1.109	1.171	84.41	80.0	-5.5
Benzo(g,h,i)perylene	1.162	1.222	84.09	80.0	-5.1
2-Fluorophenol	1.262	1.180	74.79	80.0	6.5
Phenol-d5	1.534	1.416	73.85	80.0	7.7
Phenol-d6	1.534	1.416	73.85	80.0	7.7
Nitrobenzene-d5	.410	.405	78.93	80.0	1.3
2-Fluorobiphenyl	1.335	1.319	79.08	80.0	1.2
2,4,6-Tribromophenol	.310	.334	86.29	80.0	-7.9
Terphenyl-d14	.872	.825	75.67	80.0	5.4

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

- Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG051 Date Analyzed: 07/02/98

Instrument ID: HP06777 Time Analyzed: 18:37

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	194442		9.67	651283		13.29	349687		18.50
	UPPER LIMIT	388884			1302566			699374		
	LOWER LIMIT	97221			325642			174844		
	EPA SAMPLE NO.									
01	SBLKLC1817	179812		9.67	600548		13.28	315093		18.50
02	181LCLCSD	177825		9.67	598447		13.29	318412		18.51
03	SBLKLB1807	205015		9.67	680920		13.28	368840		18.50
04	180LBLCS7	198316		9.67	666443		13.28	357353		18.50
05	SD-3-RE	194613		9.67	650386		13.29	349703		18.50
06	182LCLCS7	187742		9.67	634341		13.29	333503		18.50
07	108--RE	183039		9.67	617908		13.28	327956		18.49
08	SB4--	188370		9.67	633299		13.28	336516		18.50
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG051 Date Analyzed: 07/02/98

Instrument ID: HP06777 Time Analyzed: 18:37

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	617335		22.94	601706		30.04	484110		33.03
	UPPER LIMIT	1234670			1203412			968220		
	LOWER LIMIT	308668			300853			242055		
	EPA SAMPLE NO.									
01	SBLKLC1817	582803		22.93	538838		30.02	452821		33.02
02	181LCLCSD	578804		22.94	556169		30.04	450144		33.04
03	SBLKLB1807	686957		22.93	622014		30.02	519374		33.02
04	180LBLCS7	664073		22.93	631610		30.03	519910		33.03
05	SD-3-RE	635797		22.94	556533		30.03	459364		33.04
06	182LCLCS7	605925		22.94	550326		30.04	432693		33.03
07	108--RE	595492		22.93	513430		30.02	410904		33.02
08	SB4--	611448		22.93	517420		30.02	426003		33.02
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG07Z DFTPP Injection Date: 07/06/98

Instrument ID: HP06777 DFTPP Injection Time: 09:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	58.0
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	46.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.64
441	Present, but less than mass 443	10.9
442	Greater than 40.0% of mass 198	70.5
443	17.0 - 23.0% of mass 442	14.0 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>GG071	07/06/98	10:22
02	TP1-1	2954108	>GG079	07/06/98	12:34
03	TP1-1MS	2954108	>GG080	07/06/98	13:32
04	TP1-1MSD	2954108	>GG08A	07/06/98	14:47
05	2256-RE	2943346RE	>GG08B	07/06/98	15:52
06	SBLKLC1827	SBLKLC182	>GG083	07/06/98	16:41
07	6024-	2953833	>GG084	07/06/98	17:31
08	6046-	2953834	>GG085	07/06/98	18:27
09	TP1-2	2954109	>GG086	07/06/98	19:16
10	TP1-3	2954110	>GG087	07/06/98	20:11
11	TP1-4	2954111	>GG088	07/06/98	21:03
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/06/98 Time: 10:22

Lab File ID: >GG071 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.278	1.335	83.61	80.0	-4.5
N-Nitrosodimethylamine	.769	.768	79.82	80.0	.2
Phenol *	1.623	1.640	80.85	80.0	-1.1*
Aniline	1.789	1.819	81.33	80.0	-1.7
bis(2-Chloroethyl)ether	1.167	1.146	78.60	80.0	1.7
2-Chlorophenol	1.311	1.306	79.73	80.0	.3
1,3-Dichlorobenzene	1.446	1.443	79.88	80.0	.2
1,4-Dichlorobenzene *	1.458	1.498	82.16	80.0	-2.7*
Benzyl alcohol	.766	.744	77.67	80.0	2.9
1,2-Dichlorobenzene	1.356	1.403	82.75	80.0	-3.4
2-Methylphenol	1.119	1.149	82.14	80.0	-2.7
2,2'-oxybis(1-Chloropropane)	1.777	1.717	77.29	80.0	3.4
bis(2-Chloroisopropyl)ether	1.777	1.717	77.28	80.0	3.4
4-Methylphenol	1.203	1.318	87.61	80.0	-9.5
3- and 4-Methylphenol	1.203	1.318	87.61	80.0	-9.5
Acetophenone	1.769	1.755	79.39	80.0	.8
N-Nitroso-di-n-propylamine #	.824	.910	88.30	80.0	-10.4#
o-Toluidine	1.782	1.860	83.54	80.0	-4.4
Hexachloroethane	.661	.690	83.62	80.0	-4.5
Nitrobenzene	.408	.428	84.04	80.0	-5.0
Isophorone	.763	.754	79.03	80.0	1.2
2-Nitrophenol *	.233	.217	74.50	80.0	6.9*
2,4-Dimethylphenol	.369	.379	82.32	80.0	-2.9
Benzoic acid	.292	.280	76.67	80.0	4.2
bis(2-Chloroethoxy)methane	.463	.440	76.07	80.0	4.9
2,4-Dichlorophenol *	.326	.330	81.11	80.0	-1.4*
1,2,4-Trichlorobenzene	.370	.368	79.58	80.0	.5
Naphthalene	1.022	.995	77.90	80.0	2.6
4-Chloroaniline	.469	.454	77.43	80.0	3.2
Hexachlorobutadiene *	.212	.231	87.21	80.0	-9.0*
4-Chloro-3-methylphenol *	.318	.325	81.66	80.0	-2.1*
2-Methylnaphthalene	.661	.661	80.05	80.0	-.1
1-Methylnaphthalene	.628	.621	79.11	80.0	1.1
Hexachlorocyclopentadiene #	.321	.402	81.81	80.0	-2.3#
2,4,6-Trichlorophenol *	.450	.448	79.76	80.0	.3*
2,4,5-Trichlorophenol	.470	.497	84.67	80.0	-5.8
2-Chloronaphthalene	1.208	1.220	80.80	80.0	-1.0
2-Nitroaniline	.419	.436	83.23	80.0	-4.0

pre 7/6/98

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/06/98 Time: 10:22

Lab File ID: >GG071 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate		1.459	1.475	80.92	80.0	-1.1
2,6-Dinitrotoluene		.359	.357	79.59	80.0	.5
Acenaphthylene		1.953	1.987	81.41	80.0	-1.8
3-Nitroaniline		.414	.395	76.28	80.0	4.7
Acenaphthene	*	1.174	1.190	81.10	80.0	-1.4*
2,4-Dinitrophenol	#	.239	.232	77.48	80.0	3.1#
4-Nitrophenol	#	.249	.288	92.70	80.0	-15.9#
Dibenzofuran		1.734	1.789	82.54	80.0	-3.2
2,4-Dinitrotoluene		.495	.488	78.93	80.0	1.3
1-Naphthylamine		.885	1.010	91.31	80.0	-14.1
2-Naphthylamine		.833	.980	94.11	80.0	-17.6
Diethylphthalate		1.556	1.596	82.06	80.0	-2.6
4-Chlorophenyl-phenylether		.615	.639	83.16	80.0	-3.9
Fluorene		1.257	1.315	83.70	80.0	-4.6
4-Nitroaniline		.418	.398	76.16	80.0	4.8
4,6-Dinitro-2-methylphenol		.163	.170	83.63	80.0	-4.5
N-Nitrosodiphenylamine (1)	*	.493	.512	83.04	80.0	-3.8*
1,2-Diphenylhydrazine		.790	.828	83.86	80.0	-4.8
4-Bromophenyl-phenylether		.213	.231	86.62	80.0	-8.3
Hexachlorobenzene		.287	.318	88.56	80.0	-10.7
Pentachlorophenol	*	.171	.186	86.71	80.0	-8.4*
Phenanthrene		.990	1.035	83.62	80.0	-4.5
Anthracene		1.011	1.074	85.05	80.0	-6.3
Carbazole		.980	1.006	82.11	80.0	-2.6
Di-n-butylphthalate		1.417	1.479	83.48	80.0	-4.4
Fluoranthene	*	1.046	1.090	83.33	80.0	-4.2*
Benzidine		.742	.725	312.30	320.0	2.4
Pyrene		1.255	1.122	71.55	80.0	10.6
Butylbenzylphthalate		.717	.641	71.54	80.0	10.6
3,3'-Dichlorobenzidine		.477	.505	84.79	80.0	-6.0
Benzo(a)anthracene		1.077	1.043	77.52	80.0	3.1
bis(2-Ethylhexyl)phthalate		.973	.868	71.38	80.0	10.8
Chrysene		1.021	.947	74.20	80.0	7.3
Di-n-octylphthalate	*	1.977	1.956	79.13	80.0	1.1*
7,12-Dimethylbenz[a]anthrace		.502	.653	92.04	80.0	-15.0
Benzo(b)fluoranthene		1.446	1.539	85.14	80.0	-6.4
Benzo(k)fluoranthene		1.157	1.285	88.86	80.0	-11.1
Benzo(a)pyrene	*	1.183	1.245	84.21	80.0	-5.3*

(1) Cannot be separated from Diphenylamine

7/6/98

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/06/98 Time: 10:22

Lab File ID: >GG071 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.143	1.215	85.02	80.0	-6.3
Dibenz(a,h)anthracene	1.109	1.200	86.53	80.0	-8.2
Benzo(g,h,i)perylene	1.162	1.241	85.39	80.0	-6.7
2-Fluorophenol	1.262	1.246	78.95	80.0	1.3
Phenol-d5	1.534	1.502	78.31	80.0	2.1
Phenol-d6	1.534	1.502	78.31	80.0	2.1
Nitrobenzene-d5	.410	.409	79.82	80.0	.2
2-Fluorobiphenyl	1.335	1.389	83.28	80.0	-4.1
2,4,6-Tribromophenol	.310	.344	88.87	80.0	-11.1
Terphenyl-d14	.872	.826	75.74	80.0	5.3

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

JMS 7/6/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG071 Date Analyzed: 07/06/98

Instrument ID: HP06777 Time Analyzed: 10:22

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	237425	9.64	815847	13.26	435941	18.46
	UPPER LIMIT	474850		1631694		871882	
	LOWER LIMIT	118713		407924		217971	
01	TP1-1	158476	9.64	630338	13.27	371916	18.54
02	TP1-1MS	214235	9.65	816527	13.28	441302	18.55
03	TP1-1MSD	222464	9.65	932560	13.28	505433	18.54
04	2256-RE	140258	9.64	515265	13.26	293295	18.46
05	SBLKLC1827	149520	9.64	545428	13.25	283049	18.46
06	6024-	204112	9.64	711278	13.26	400480	18.50
07	6046-	270819	9.64	932319	13.26	472890	18.46
08	TP1-2	245511	9.65	948450	13.28	504248	18.51
09	TP1-3	292099	9.64	1026242	13.26	525227	18.47
10	TP1-4	279309	9.64	967879	13.26	487527	18.47
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG071 Date Analyzed: 07/06/98

Instrument ID: HP06777 Time Analyzed: 10:22

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	785320	22.90	807923	30.00	604976	32.98
	UPPER LIMIT	1570640		1615846		1209952	
	LOWER LIMIT	392660		403962		302488	
	EPA SAMPLE NO.						
01	TP1-1	762032	23.01	206393*	30.26	278899*	33.31
02	TP1-1MS	896836	23.00	280306*	30.24	331447	33.31
03	TP1-1MSD	1055556	23.01	447045	30.21	369341	33.26
04	2256-RE	523987	22.90	544408	29.99	397916	32.98
05	SBLKLC1827	496438	22.89	454164	29.98	316403	32.98
06	6024-	773625	22.97	902600	30.06	589638	33.10
07	6046-	813040	22.90	752831	29.99	518222	32.99
08	TP1-2	954273	22.96	945711	30.08	618483	33.13
09	TP1-3	898566	22.91	1106888	30.03	734781	33.05
10	TP1-4	835333	22.91	956365	30.02	632677	33.03
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GG100 DFTPP Injection Date: 07/07/98

Instrument ID: HP06777 DFTPP Injection Time: 07:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	71.5
70	Less than 2.0% of mass 69	.4 (.5)1
127	40.0 - 60.0% of mass 198	52.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	18.9
365	Greater than 1.00% of mass 198	2.34
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	48.3
443	17.0 - 23.0% of mass 442	9.6 (20.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>GG101	07/07/98	08:58
02	181LCLCS7	181LCLCS	>GG108	07/07/98	10:36
03	TP1-1DL	2954108DL	>GG109	07/07/98	11:25
04	TP1-2DL	2954109DL	>GG110	07/07/98	12:31
05	TP1-6	2954113	>GG111	07/07/98	13:22
06	B11-1	2955393	>GG112	07/07/98	14:45
07	TP1-7	2954114	>GG115	07/07/98	17:28
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/07/98 Time: 08:58

Lab File ID: >GG101 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.278	1.395	87.34	80.0	-9.2	
N-Nitrosodimethylamine		.769	.833	86.59	80.0	-8.2	
Phenol	*	1.623	1.733	85.43	80.0	-6.8*	
Aniline		1.789	1.878	83.96	80.0	-4.9	
bis(2-Chloroethyl)ether		1.167	1.221	83.75	80.0	-4.7	
2-Chlorophenol		1.311	1.352	82.52	80.0	-3.2	
1,3-Dichlorobenzene		1.446	1.457	80.61	80.0	-.8	
1,4-Dichlorobenzene	*	1.458	1.510	82.82	80.0	-3.5*	
Benzyl alcohol		.766	.795	83.01	80.0	-3.8	
1,2-Dichlorobenzene		1.356	1.403	82.78	80.0	-3.5	
2-Methylphenol		1.119	1.147	81.99	80.0	-2.5	
2,2'-oxybis(1-Chloropropane)		1.777	1.868	84.07	80.0	-5.1	
bis(2-Chloroisopropyl)ether		1.777	1.868	84.07	80.0	-5.1	
4-Methylphenol		1.203	1.339	89.01	80.0	-11.3	
3- and 4-Methylphenol		1.203	1.341	89.15	80.0	-11.4	
Acetophenone		1.769	1.824	82.52	80.0	-3.1	
N-Nitroso-di-n-propylamine	#	.824	.989	95.96	80.0	-19.9#	
o-Toluidine		1.782	1.876	84.22	80.0	-5.3	
Hexachloroethane		.661	.723	87.54	80.0	-9.4	
Nitrobenzene		.408	.466	91.49	80.0	-14.4	
Isophorone		.763	.803	84.18	80.0	-5.2	
2-Nitrophenol	*	.233	.231	79.17	80.0	1.0*	
2,4-Dimethylphenol		.369	.402	87.25	80.0	-9.1	
Benzoic acid		.292	.297	81.34	80.0	-1.7	
bis(2-Chloroethoxy)methane		.463	.471	81.47	80.0	-1.8	
2,4-Dichlorophenol	*	.326	.327	80.37	80.0	-.5*	
1,2,4-Trichlorobenzene		.370	.363	78.42	80.0	2.0	
Naphthalene		1.022	1.022	80.03	80.0	-.0	
4-Chloroaniline		.469	.464	79.04	80.0	1.2	
Hexachlorobutadiene	*	.212	.225	85.21	80.0	-6.5*	
4-Chloro-3-methylphenol	*	.318	.342	85.86	80.0	-7.3*	
2-Methylnaphthalene		.661	.671	81.22	80.0	-1.5	
1-Methylnaphthalene		.628	.631	80.42	80.0	-.5	
Hexachlorocyclopentadiene	#	.321	.402	81.71	80.0	-2.1#	
2,4,6-Trichlorophenol	*	.450	.449	79.93	80.0	.1*	
2,4,5-Trichlorophenol		.470	.478	81.44	80.0	-1.8	
2-Chloronaphthalene		1.208	1.259	83.36	80.0	-4.2	
2-Nitroaniline		.419	.507	96.66	80.0	20.8	J+, UJ-

FORM VII SV-1 1/87 Rev.

UJ may not be needed since ↑ in sensitivity

18 12cLCS7

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/07/98 Time: 08:58

Lab File ID: >GG101 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Dimethylphthalate	1.459	1.515	83.06	80.0	-3.8	
2,6-Dinitrotoluene	.359	.361	80.59	80.0	-.7	
Acenaphthylene	1.953	2.023	82.87	80.0	-3.6	
3-Nitroaniline	.414	.410	79.13	80.0	1.1	
Acenaphthene *	1.174	1.223	83.33	80.0	-4.2*	
2,4-Dinitrophenol #	.239	.216	72.02	80.0	10.0#	
4-Nitrophenol #	.249	.324	104.14	80.0	-30.2#	J, UJ
Dibenzofuran	1.734	1.778	82.00	80.0	-2.5	
2,4-Dinitrotoluene	.495	.499	80.62	80.0	-.8	
1-Naphthylamine	.885	1.060	95.86	80.0	-19.8	
2-Naphthylamine	.833	1.041	99.97	80.0	-25.0	not target
Diethylphthalate	1.556	1.684	86.58	80.0	-8.2	
4-Chlorophenyl-phenylether	.615	.593	77.12	80.0	3.6	
Fluorene	1.257	1.289	82.01	80.0	-2.5	
4-Nitroaniline	.418	.409	78.13	80.0	2.3	
4,6-Dinitro-2-methylphenol	.163	.166	81.57	80.0	-2.0	
N-Nitrosodiphenylamine (1) *	.493	.518	84.12	80.0	-5.2*	
1,2-Diphenylhydrazine	.790	.938	95.01	80.0	-18.8	
4-Bromophenyl-phenylether	.213	.224	84.04	80.0	-5.0	
Hexachlorobenzene	.287	.305	84.90	80.0	-6.1	
Pentachlorophenol *	.171	.168	78.60	80.0	1.7*	
Phenanthrene	.990	1.021	82.47	80.0	-3.1	
Anthracene	1.011	1.063	84.17	80.0	-5.2	
Carbazole	.980	.992	80.99	80.0	-1.2	
Di-n-butylphthalate	1.417	1.541	87.02	80.0	-8.8	
Fluoranthene *	1.046	1.061	81.16	80.0	-1.5*	
Benzidine	.742	.750	323.22	320.0	-1.0	
Pyrene	1.255	1.123	71.57	80.0	10.5	
Butylbenzylphthalate	.717	.679	75.78	80.0	5.3	
3,3'-Dichlorobenzidine	.477	.516	86.55	80.0	-8.2	
Benzo(a)anthracene	1.077	1.052	78.12	80.0	2.4	
bis(2-Ethylhexyl)phthalate	.973	.913	75.08	80.0	6.1	
Chrysene	1.021	.893	69.97	80.0	12.5	
Di-n-octylphthalate *	1.977	2.271	91.88	80.0	-14.9*	
7,12-Dimethylbenz[a]anthrace	.502	.688	97.01	80.0	-21.3	not target
Benzo(b)fluoranthene	1.446	1.674	92.59	80.0	-15.7	
Benzo(k)fluoranthene	1.157	1.239	85.69	80.0	-7.1	
Benzo(a)pyrene *	1.183	1.241	83.91	80.0	-4.9*	

(1) Cannot be separated from Diphenylamine

FORM VII SV-1 1/87 Rev.

18/2 ccs 7

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 07/07/98 Time: 08:58

Lab File ID: >GG101 Init. Calib. Date(s): 07/01/98 07/01/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.143	1.166	81.60	80.0	-2.0
Dibenz(a,h)anthracene	1.109	1.167	84.17	80.0	-5.2
Benzo(g,h,i)perylene	1.162	1.198	82.42	80.0	-3.0
2-Fluorophenol	1.262	1.331	84.39	80.0	-5.5
Phenol-d5	1.534	1.581	82.44	80.0	-3.1
Phenol-d6	1.534	1.581	82.44	80.0	-3.1
Nitrobenzene-d5	.410	.462	90.12	80.0	-12.7
2-Fluorobiphenyl	1.335	1.392	83.44	80.0	-4.3
2,4,6-Tribromophenol	.310	.331	85.30	80.0	-6.6
Terphenyl-d14	.872	.802	73.61	80.0	8.0

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG101 Date Analyzed: 07/07/98

Instrument ID: HP06777 Time Analyzed: 08:58

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	181413	9.51	609169	13.13	312109	18.33
	UPPER LIMIT	362826		1218338		624218	
	LOWER LIMIT	90707		304585		156055	
01	181LCLCS7	180777	9.51	624197	13.13	318778	18.33
02	TP1-1DL	134372	9.52	464782	13.14	236281	18.37
03	TP1-2DL.	150941	9.51	505981	13.13	253773	18.33
04	TP1-6	182585	9.51	616320	13.12	306048	18.33
05	B11-1	158763	9.52	531607	13.14	269421	18.35
06	TP1-7	168370	9.54	738411	13.20	283349	18.39
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GG101 Date Analyzed: 07/07/98

Instrument ID: HP06777 Time Analyzed: 08:58

		IS4 (PHN) AREA	#	RT	IS5 (CRY) AREA	#	RT	IS6 (PRY) AREA	#	RT
	12 HOUR STD	541288		22.76	534183		29.88	358323		32.84
	UPPER LIMIT	1082576			1068366			716646		
	LOWER LIMIT	270644			267092			179162		
	EPA SAMPLE NO.									
01	181LCLCS7	547614		22.76	513299		29.88	344437		32.83
02	TP1-1DL	432852		22.80	281126		30.02	303238		33.08
03	TP1-2DL	416825		22.77	394670		29.88	335082		32.85
04	TP1-6	519075		22.76	496166		29.89	426626		32.87
05	B11-1	503329		22.92	196832	*	30.07	471866		33.14
06	TP1-7	467077		22.79	520284		29.92	437378		32.90
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LG200 DFTPP Injection Date: 07/08/98

Instrument ID: HP06754 DFTPP Injection Time: 18:42 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	32.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	42.5
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	44.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	21.4
365	Greater than 1.00% of mass 198	2.00
441	Present, but less than mass 443	13.0
442	Greater than 40.0% of mass 198	88.3
443	17.0 - 23.0% of mass 442	15.7 (17.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1818	>LG201	07/08/98	19:08
02	SSTD001	MDL1818	>LG202	07/08/98	20:09
03	SSTD120	STD1818	>LG203	07/08/98	21:07
04	SSTD005	STD1818	>LG204	07/08/98	22:05
05	SSTD020	STD1818	>LG205	07/08/98	23:02
06	SSTD050	STD1818	>LG206	07/09/98	00:00
07	SSTD080	STD1818	>LG207	07/09/98	00:58 ✓
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 07/08/98 07/09/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >LG204 RRF20 = >LG205 RRF50 = >LG206
RRF80 = >LG207 RRF120= >LG203 RRF160= >LG201

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.580	1.593	1.558	1.579	1.615	1.629	1.592	1.6	AVG	
N-Nitrosodimethylamine	.902	.964	.971	.982	1.020	1.051	.982	5.2	AVG	
2-Picoline	1.492	1.484	1.450	1.448	1.479	1.504	1.476	1.6	AVG	
Phenol *	1.790	1.692	1.618	1.607	1.640	1.637	1.664	4.1	AVG	*
Aniline	2.048	1.979	1.881	1.872	1.928	1.919	1.938	3.4	AVG	
bis(2-Chloroethyl)ether	1.408	1.377	1.322	1.286	1.308	1.314	1.336	3.5	AVG	
2-Chlorophenol	1.395	1.369	1.323	1.315	1.325	1.310	1.339	2.6	AVG	
1,3-Dichlorobenzene	1.560	1.499	1.424	1.418	1.394	1.366	1.443	5.0	AVG	
1,4-Dichlorobenzene *	1.555	1.536	1.473	1.466	1.458	1.418	1.484	3.5	AVG	*
Benzyl alcohol	.807	.799	.785	.767	.788	.800	.791	1.8	AVG	
1,2-Dichlorobenzene	1.432	1.394	1.338	1.330	1.320	1.282	1.349	4.0	AVG	
2-Methylphenol	1.140	1.110	1.058	1.051	1.079	1.068	1.084	3.1	AVG	
2,2'-oxybis(1-Chloropropane)	1.873	1.752	1.679	1.643	1.732	1.802	1.747	4.8	AVG	
bis(2-Chloroisopropyl)ether	1.873	1.752	1.679	1.643	1.732	1.802	1.747	4.8	AVG	
4-Methylphenol	1.237	1.166	1.133	1.106	1.138	1.125	1.151	4.0	AVG	
3- and 4-Methylphenol	1.237	1.166	1.133	1.106	1.138	1.125	1.151	4.0	AVG	
Acetophenone	1.602	1.564	1.491	1.435	1.458	1.451	1.500	4.5	AVG	
N-Nitroso-di-n-propylamine #	.906	.861	.812	.773	.814	.832	.833	5.5	AVG	#
o-Toluidine	1.885	1.781	1.703	1.668	1.696	1.702	1.739	4.6	AVG	
Hexachloroethane	.569	.561	.537	.530	.534	.536	.545	3.0	AVG	
Nitrobenzene	.396	.385	.367	.365	.376	.385	.379	3.2	AVG	
Isophorone	.786	.775	.734	.738	.764	.771	.761	2.7	AVG	
2-Nitrophenol *	.232	.236	.239	.243	.240	.239	.238	1.6	AVG	*
2,4-Dimethylphenol	.337	.341	.330	.328	.330	.336	.334	1.5	AVG	
Benzoic acid	.027	.128	.190	.229	.233	.256	.177	48.8	1STDEG	0.9998 - not target
bis(2-Chloroethoxy)methane	.461	.474	.454	.447	.452	.458	.458	2.0	AVG	
2,4-Dichlorophenol *	.315	.315	.309	.309	.303	.301	.309	1.9	AVG	*
1,2,4-Trichlorobenzene	.323	.326	.310	.314	.306	.298	.313	3.4	AVG	
Naphthalene	1.043	1.017	.970	.972	.958	.956	.986	3.6	AVG	
4-Chloroaniline	.449	.458	.434	.440	.435	.433	.442	2.3	AVG	
Hexachlorobutadiene *	.163	.163	.158	.158	.151	.148	.157	3.8	AVG	*
4-Chloro-3-methylphenol *	.284	.286	.278	.278	.280	.280	.281	1.2	AVG	*
2-Methylnaphthalene	.700	.690	.664	.664	.663	.651	.672	2.8	AVG	
1-Methylnaphthalene	.655	.641	.611	.618	.618	.609	.625	3.0	AVG	
Hexachlorocyclopentadiene #	.240	.336	.364	.369	.372	.366	.341	15.1	1STDEG	# 0.9998
2,4,6-Trichlorophenol *	.379	.386	.375	.379	.378	.380	.379	.9	AVG	*
2,4,5-Trichlorophenol	.410	.420	.405	.411	.410	.413	.411	1.2	AVG	
2-Chloronaphthalene	1.273	1.243	1.190	1.192	1.176	1.195	1.212	3.1	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 07/08/98 07/09/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >LG204 RRF20 = >LG205 RRF50 = >LG206
RRF80 = >LG207 RRF120= >LG203 RRF160= >LG201

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.329	.342	.342	.341	.357	.376	.348	4.7	AVG	
Dimethylphthalate	1.434	1.390	1.367	1.377	1.360	1.369	1.383	2.0	AVG	
2,6-Dinitrotoluene	.340	.352	.361	.369	.365	.363	.358	2.9	AVG	
Acenaphthylene	2.091	2.048	1.979	1.977	1.981	2.005	2.014	2.3	AVG	
3-Nitroaniline	.408	.422	.427	.431	.450	.450	.431	3.8	AVG	
Acenaphthene *	1.226	1.200	1.167	1.155	1.185	1.183	1.186	2.1	AVG	*
2,4-Dinitrophenol #	.104	.158	.178	.203	.199	.211	.175	22.7	1STDEG	# 0.9992
4-Nitrophenol #	.161	.152	.159	.164	.170	.181	.165	6.1	AVG	#
Dibenzofuran	1.699	1.631	1.576	1.574	1.577	1.572	1.605	3.2	AVG	
2,4-Dinitrotoluene	.433	.454	.467	.478	.478	.479	.465	4.0	AVG	
1-Naphthylamine	.760	.946	.933	.961	.941	.908	.908	8.2	AVG	
2-Naphthylamine	.968	.845	.836	.878	.856	.851	.872	5.6	AVG	
Diethylphthalate	1.506	1.495	1.446	1.443	1.462	1.457	1.468	1.8	AVG	
4-Chlorophenyl-phenylether	.562	.546	.523	.519	.510	.507	.528	4.1	AVG	
Fluorene	1.275	1.225	1.156	1.169	1.183	1.203	1.202	3.6	AVG	
4-Nitroaniline	.427	.422	.425	.439	.452	.458	.437	3.4	AVG	
4,6-Dinitro-2-methylphenol	.103	.133	.154	.168	.163	.174	.149	18.0	1STDEG	0.9991
1-Nitronaphthalene	.164	.182	.171	.174	.173	.178	.174	3.5	AVG	
N-Nitrosodiphenylamine (1) *	.579	.587	.560	.564	.555	.579	.571	2.3	AVG	*
[illegible]-Diphenylhydrazine	.913	.888	.828	.817	.839	.900	.864	4.7	AVG	
[illegible]omophenyl-phenylether	.229	.230	.221	.223	.215	.213	.222	3.2	AVG	
[illegible]achlorobenzene	.263	.165	.276	.273	.271	.272	.253	17.2	1STDEG	0.9988
Pentachlorophenol *	.101	.133	.142	.161	.162	.173	.145	18.0	1STDEG	* 0.5991
Phenanthrene	1.123	1.078	1.039	1.035	1.012	1.029	1.052	3.9	AVG	
Anthracene	1.122	1.121	1.064	1.056	1.043	1.057	1.077	3.2	AVG	
Carbazole	1.121	1.095	1.061	1.056	1.051	1.074	1.076	2.5	AVG	
Di-n-butylphthalate	1.663	1.665	1.594	1.581	1.579	1.617	1.616	2.4	AVG	
Fluoranthene *	1.112	1.080	1.039	1.023	1.014	1.004	1.045	4.0	AVG	*
Benzidine	.931	.828	.693	.707	.715	.729	.767	12.2	AVG	
Pyrene	1.211	1.217	1.188	1.178	1.181	1.195	1.195	1.3	AVG	
Butylbenzylphthalate	.785	.817	.789	.785	.808	.829	.802	2.3	AVG	
3,3'-Dichlorobenzidine	.516	.530	.521	.527	.525	.501	.520	2.0	AVG	
Benzo(a)anthracene	1.132	1.121	1.088	1.083	1.084	1.061	1.095	2.4	AVG	
bis(2-Ethylhexyl)phthalate	1.085	1.085	1.055	1.036	1.073	1.110	1.074	2.4	AVG	
Chrysene	1.081	1.053	1.029	1.022	1.017	.995	1.033	2.9	AVG	
Di-n-octylphthalate *	2.046	2.089	2.075	2.079	2.161	2.253	2.117	3.6	AVG	*
7,12-Dimethylbenz[a]anthrace	.195	.473	.566	.594	.623	.628	.513	32.3	1STDEG	0.9998
Benzo(b)fluoranthene	1.334	1.342	1.322	1.329	1.354	1.382	1.344	1.6	AVG	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 07/08/98 07/09/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

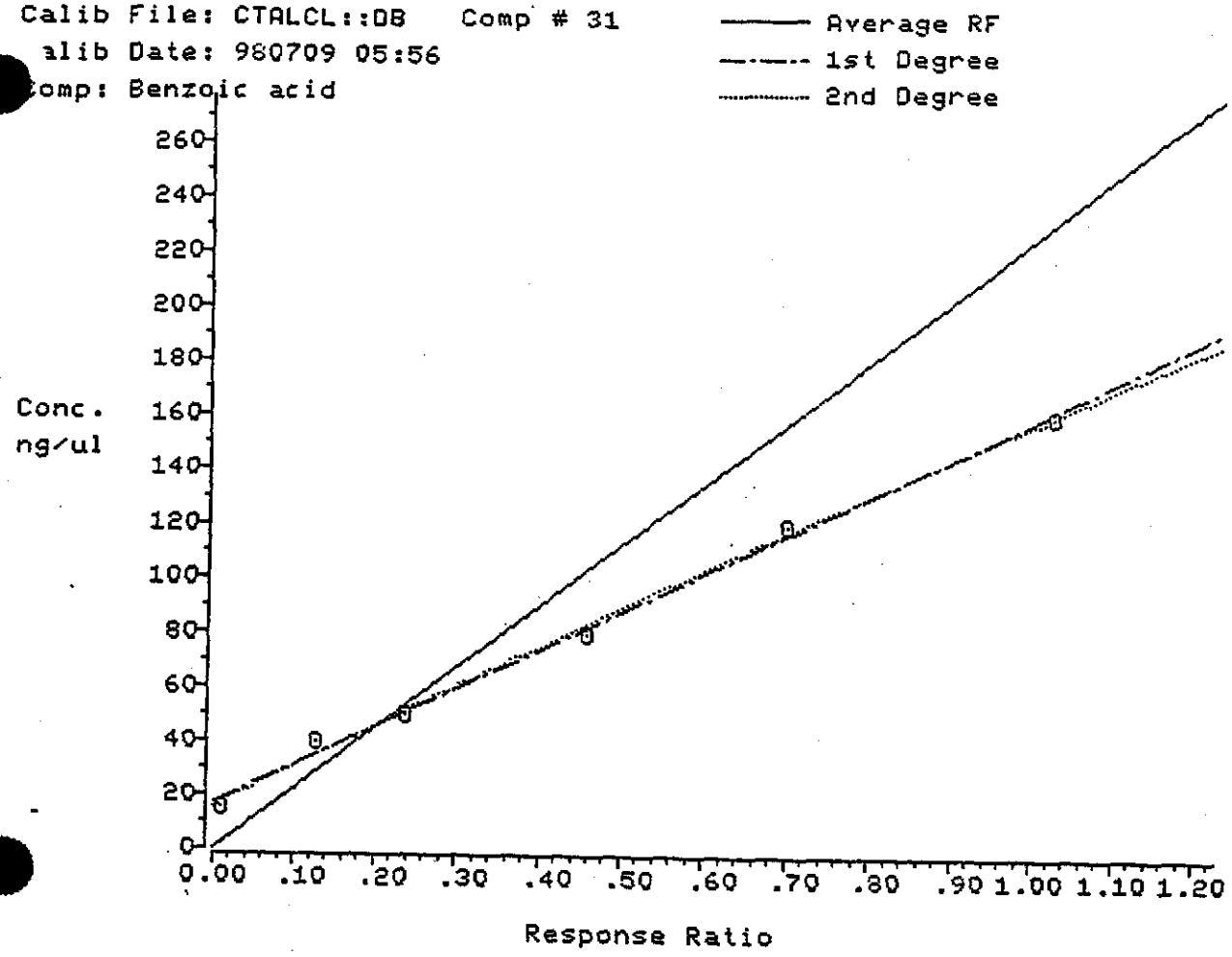
LAB FILE ID: RRF5 = >LG204 RRF20 = >LG205 RRF50 = >LG206
RRF80 = >LG207 RRF120= >LG203 RRF160= >LG201

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(k)fluoranthene	1.294	1.278	1.230	1.239	1.235	1.224	1.250	2.3	AVG
Benzo(a)pyrene *	1.173	1.176	1.160	1.170	1.183	1.195	1.176	1.0	AVG
Indeno(1,2,3-cd)pyrene	1.025	1.043	1.058	1.081	1.100	1.159	1.078	4.4	AVG
Dibenz(a,h)anthracene	.996	1.047	1.048	1.061	1.068	1.083	1.051	2.8	AVG
Benzo(g,h,i)perylene	1.035	1.066	1.061	1.079	1.099	1.132	1.079	3.1	AVG
2-Fluorophenol	1.333	1.303	1.282	1.267	1.281	1.272	1.289	1.9	AVG
Phenol-d5	1.717	1.670	1.611	1.613	1.647	1.650	1.651	2.4	AVG
Phenol-d6	1.717	1.670	1.611	1.613	1.647	1.650	1.651	2.4	AVG
Nitrobenzene-d5	.392	.387	.374	.382	.385	.397	.386	2.0	AVG
2-Fluorobiphenyl	1.330	1.330	1.279	1.266	1.268	1.259	1.289	2.5	AVG
2,4,6-Tribromophenol	.217	.229	.228	.233	.226	.218	.225	2.8	AVG
Terphenyl-d14	.991	.973	.951	.930	.920	.897	.944	3.7	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
enzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: CTALCL::DB Comp # 31
alib Date: 980709 05:56
omp: Benzoic acid



Compound # 31 Calib File: CTALCL::DB

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.02657	.12760	.19040	.22889	.23274	.25574

Average of 6 Rfs: .17699 (48.76 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .4297135 + 3.541467(x)
1st Degree Corr Coef: .9979564
2nd Degree Equation: y = .3911860 + 3.835383(x) + -.286068(x^2)
2nd Degree Corr Coef: .9982272

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
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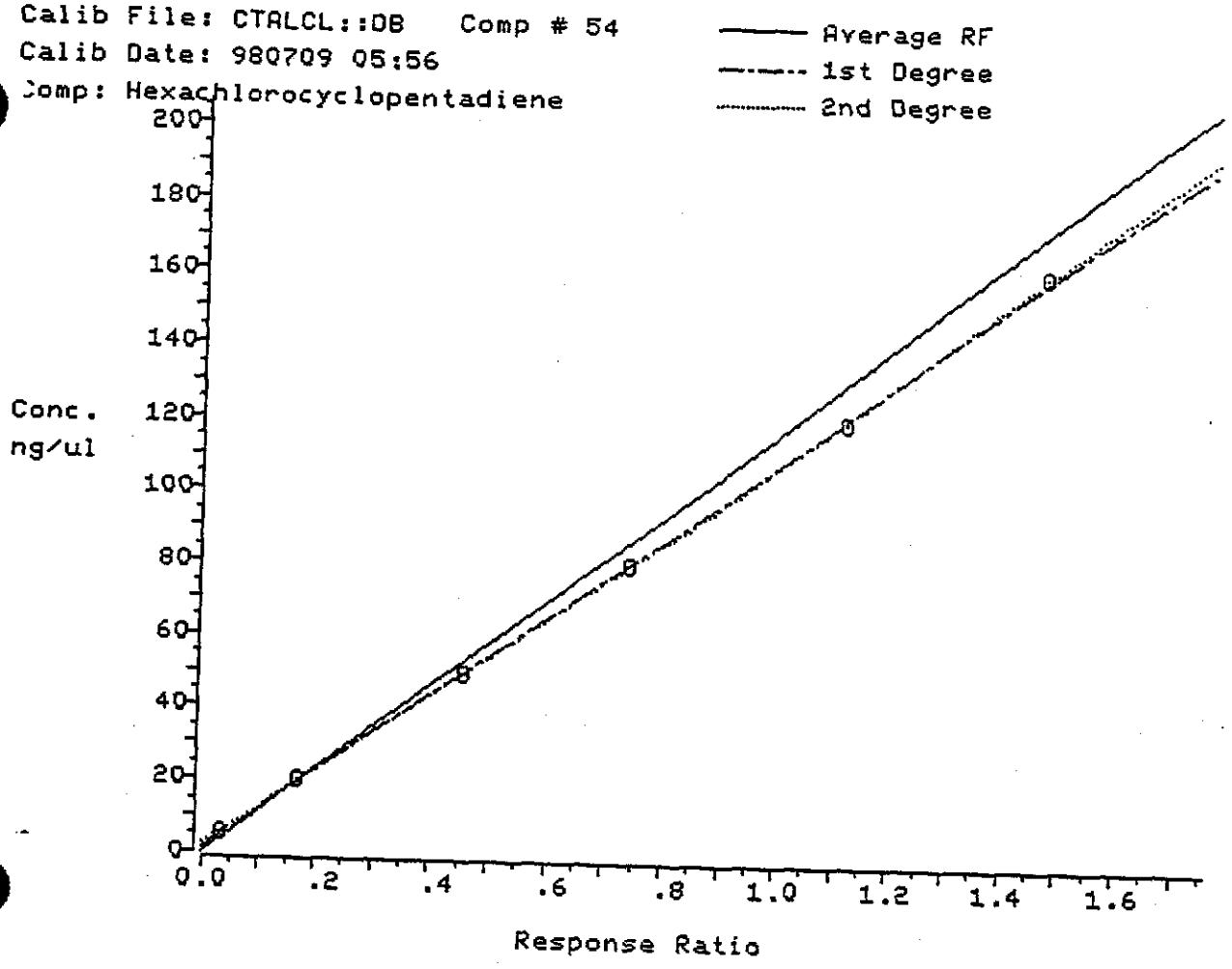
7/9/98

Calib File: CTALCL::DB Comp # 54
Calib Date: 980709 05:56
Comp: Hexachlorocyclopentadiene



Compound # 54 Calib File: CTALCL::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.23978	.33577	.36442	.36924	.37198	.36645

Average of 6 Rfs: .34127 (15.07 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .0357610 + 2.682823(x)$
1st Degree Corr Coef: .9998873
2nd Degree Equation: $y = .0592587 + 2.559130(x) + .0839406(x^2)$
2nd Degree Corr Coef: .9999663

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

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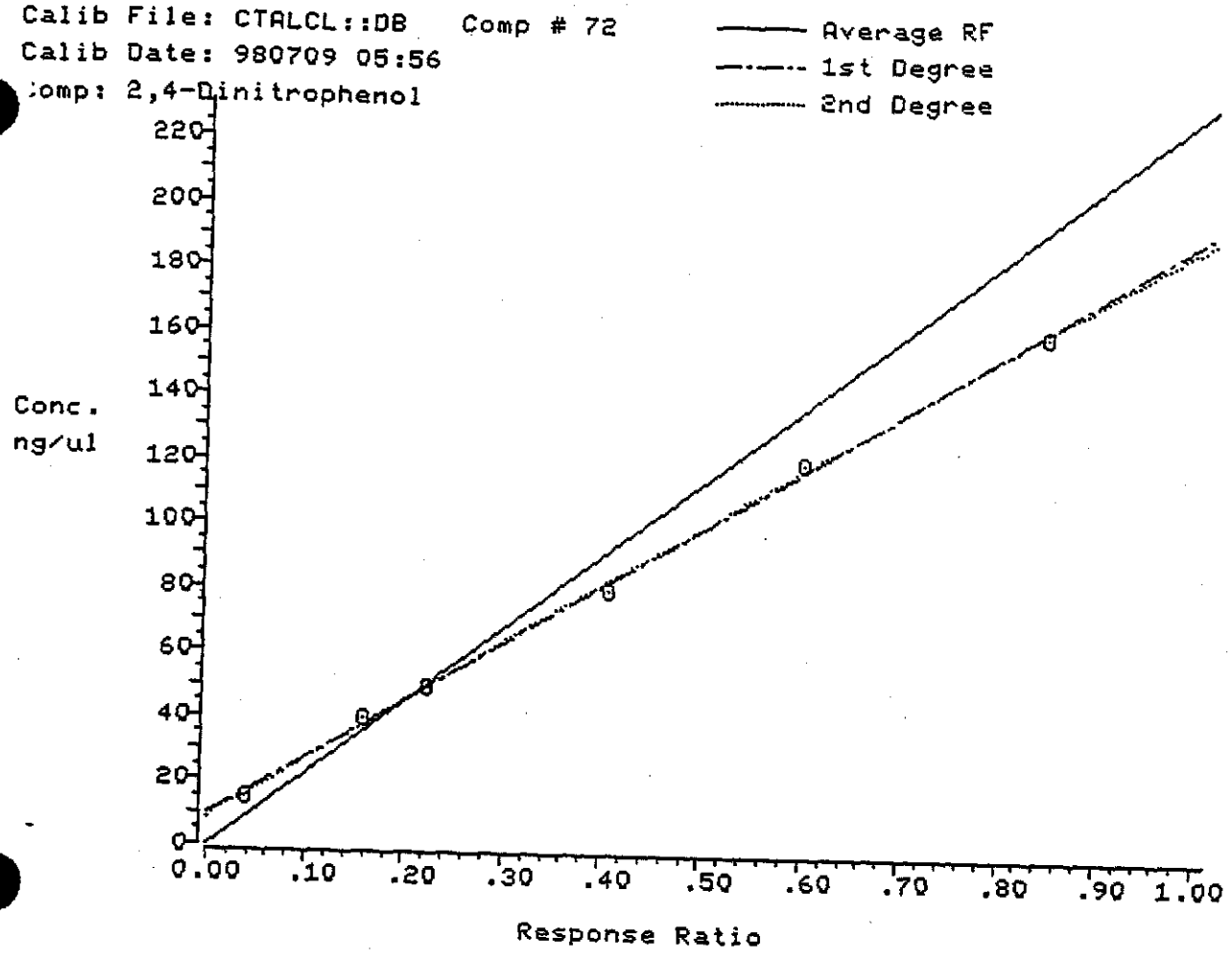
mn/96
7/9/98

Calib File: CTALCL::DB Comp # 72
Calib Date: 980709 05:56
Comp: 2,4-Dinitrophenol



Compound # 72 Calib File: CTALCL::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.10448	.15808	.17756	.20279	.19922	.21084

Average of 6 Rfs: .17549 (22.66 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2390569 + 4.497597(x)
1st Degree Corr Coef: .9992027
2nd Degree Equation: y = .2126514 + 4.699112(x) + -.227826(x^2)
2nd Degree Corr Coef: .9992696

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

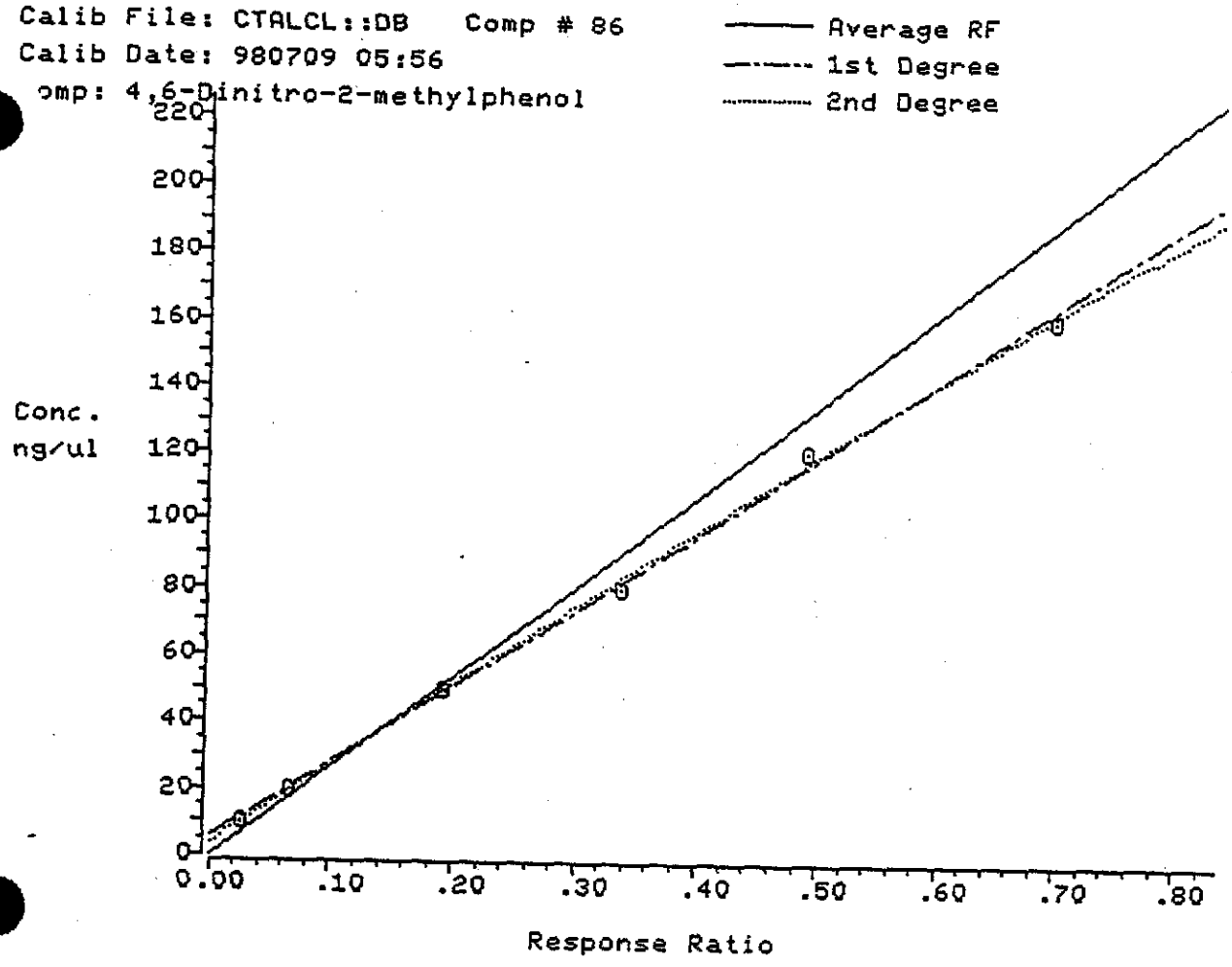
1ST DEGREE

4/7/1998
7/9/98

Calib File: CTALCL::DB Comp # 86

Calib Date: 980709 05:56

Comp: 4,6-Dinitro-2-methylphenol



Compound # 86 Calib File: CTALCL::DB

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.10306	.13253	.15354	.16783	.16278	.17406

Average of 6 Rfs: .14897 (17.95 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: y = .1353894 + 5.646681(x)

1st Degree Corr Coef: .9991182

2nd Degree Equation: y = .0877733 + 6.163322(x) + -.736440(x^2)

2nd Degree Corr Coef: .9994349

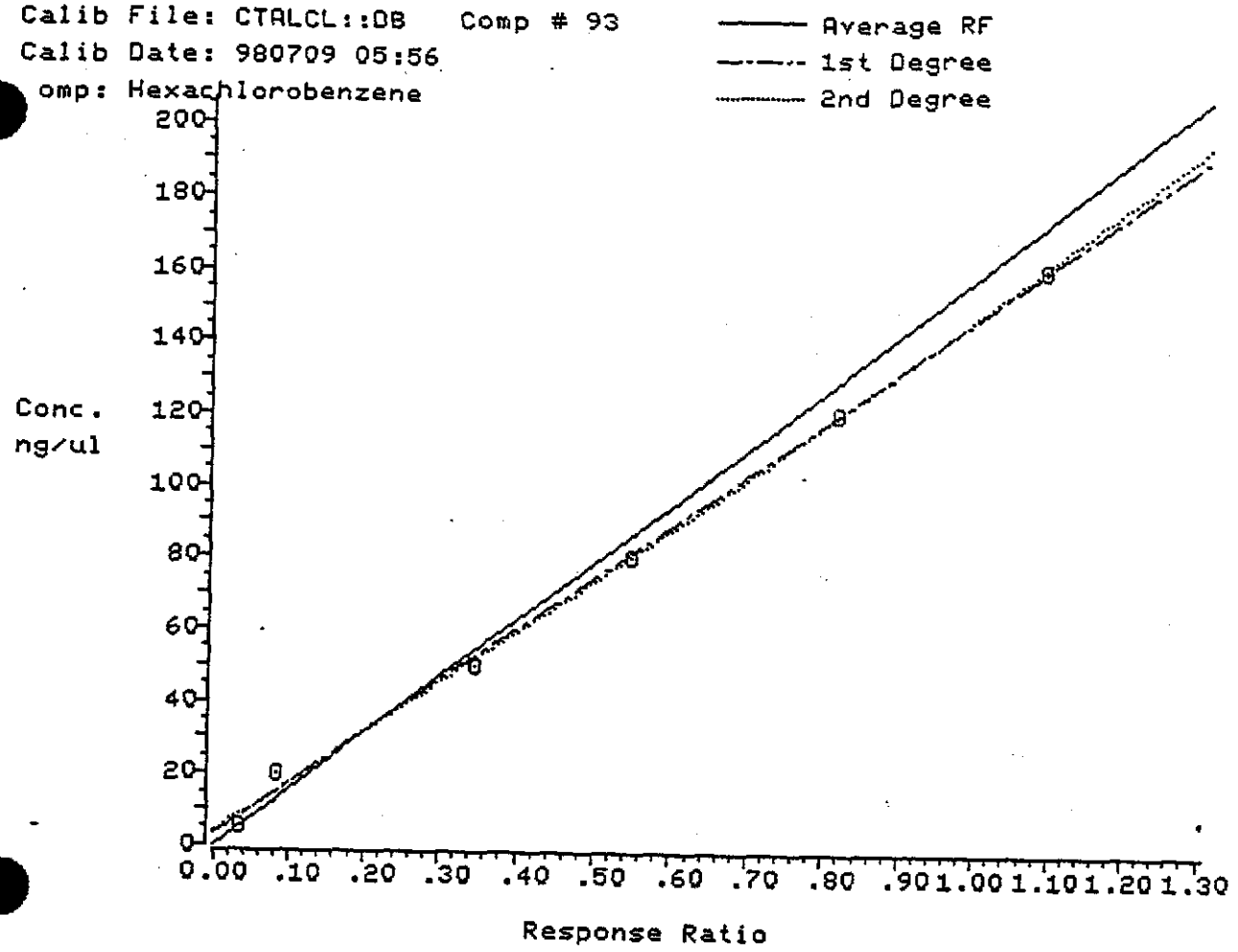
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Review
mm 1956
7/9/98

Calib File: CTALCL::DB Comp # 93
Calib Date: 980709 05:56
omp: Hexachlorobenzene



Compound # 93 Calib File: CTALCL::DB

Compound: Hexachlorobenzene
Istd: Phenanthrene-d10

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.26282	.16489	.27614	.27264	.27139	.27245

Average of 6 Rfs: .25339 (17.20 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .0748009 + 3.583235(x)
1st Degree Corr Coef: .9988075
2nd Degree Equation: y = .1009868 + 3.388599(x) + .1798878(x^2)
2nd Degree Corr Coef: .9989222

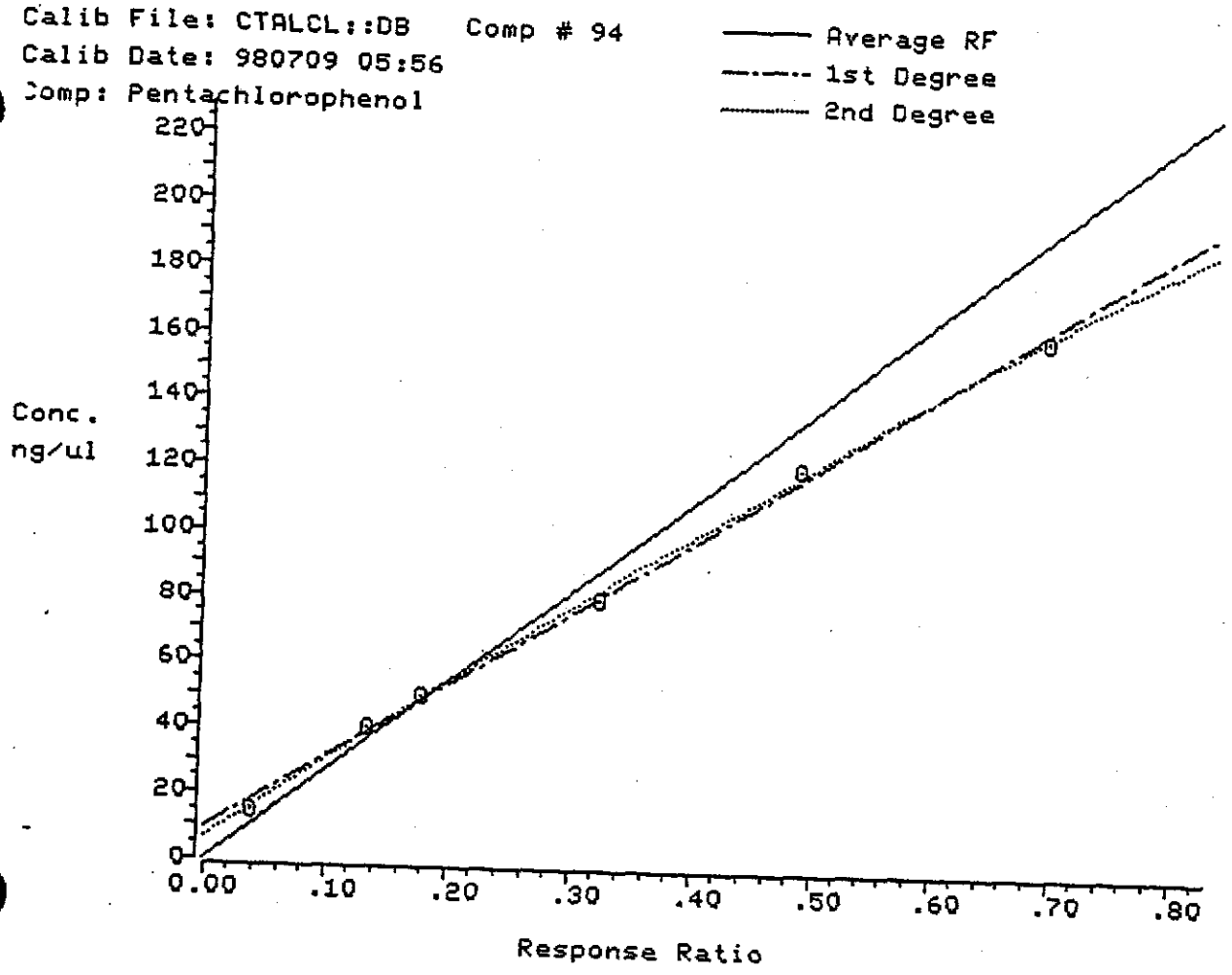
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

For Degree
4m/98
7/9/98

Calib File: CTALCL::DB Comp # 94
Calib Date: 980709 05:56
Comp: Pentachlorophenol



Compound # 94 Calib File: CTALCL::DB

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.10079	.13346	.14189	.16064	.16201	.17286

Average of 6 Rfs: .14528 (17.97 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2342577 + 5.531857(x)
1st Degree Corr Coef: .9991167
2nd Degree Equation: y = .1563199 + 6.238768(x) + -.965516(x^2)
2nd Degree Corr Coef: .9996343

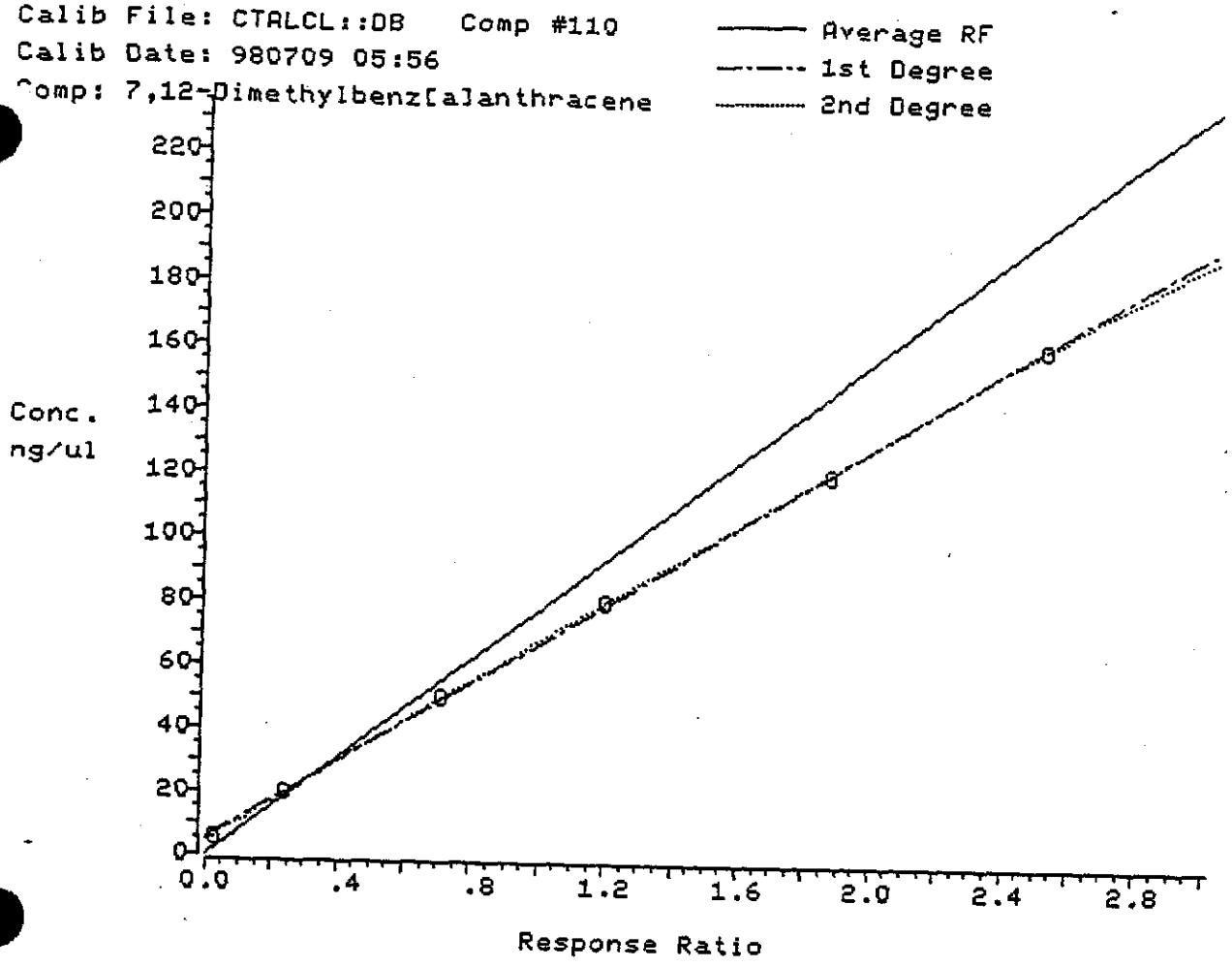
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

ISPD6092
4/17/98
7/9/98

Calib File: CTALCL::DB Comp #110
Calib Date: 980709 05:56
Comp: 7,12-Dimethylbenz[a]anthracene



Compound #110 Calib File: CTALCL::DB

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File:	>LG204	>LG205	>LG206	>LG207	>LG203	>LG201
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.19516	.47330	.56570	.59376	.62260	.62827

Average of 6 Rfs: .51313 (32.28 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1283269 + 1.545924(x)
1st Degree Corr Coef: .9998090
2nd Degree Equation: y = .1031577 + 1.628887(x) + -.033241(x^2)
2nd Degree Corr Coef: .9999204

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
Lmn/9sb
7/9/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LG25A DFTPP Injection Date: 07/10/98

Instrument ID: HP06754 DFTPP Injection Time: 10:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	30.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	39.9
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	42.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	24.0
365	Greater than 1.00% of mass 198	2.30
441	Present, but less than mass 443	15.8
442	Greater than 40.0% of mass 198	99.7
443	17.0 - 23.0% of mass 442	19.6 (19.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>LG256	07/10/98	10:49
02	SBLKLB183L	SBLKLB183	>LG257	07/10/98	11:58
03	183LBLCSL	183LBLCS	>LG258	07/10/98	12:57
04	183LBLCSD	183LBLCSD	>LG260	07/10/98	13:56
05	06262	2955253	>LG261	07/10/98	14:55
06	06273	2955254	>LG262	07/10/98	15:56
07	2401-RE	2943350RE	>LG263	07/10/98	16:55
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 10:49

Lab File ID: >LG256 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.592	1.635	82.14	80.0	-2.7	
N-Nitrosodimethylamine		.982	1.012	82.48	80.0	-3.1	
2-Picoline		1.476	1.484	80.41	80.0	-.5	
Phenol	*	1.664	1.703	81.89	80.0	-2.4	*
Aniline		1.938	2.018	83.31	80.0	-4.1	
bis(2-Chloroethyl)ether		1.336	1.335	79.95	80.0	.1	
2-Chlorophenol		1.339	1.355	80.94	80.0	-1.2	
1,3-Dichlorobenzene		1.443	1.401	77.66	80.0	2.9	
1,4-Dichlorobenzene	*	1.484	1.440	77.58	80.0	3.0	*
Benzyl alcohol		.791	.848	85.82	80.0	-7.3	
1,2-Dichlorobenzene		1.349	1.309	77.60	80.0	3.0	
2-Methylphenol		1.084	1.110	81.87	80.0	-2.3	
2,2'-oxybis(1-Chloropropane)		1.747	1.825	83.58	80.0	-4.5	
bis(2-Chloroisopropyl)ether		1.747	1.825	83.58	80.0	-4.5	
4-Methylphenol		1.151	1.203	83.64	80.0	-4.5	
3- and 4-Methylphenol		1.151	1.203	83.64	80.0	-4.5	
Acetophenone		1.500	1.557	83.02	80.0	-3.8	
N-Nitroso-di-n-propylamine	#	.833	.907	87.05	80.0	-8.8	#
o-Toluidine		1.739	1.772	81.52	80.0	-1.9	
Hexachloroethane		.545	.543	79.82	80.0	.2	
Nitrobenzene		.379	.400	84.35	80.0	-5.4	
Isophorone		.761	.815	85.59	80.0	-7.0	
2-Nitrophenol	*	.238	.252	84.69	80.0	-5.9	*
2,4-Dimethylphenol		.334	.355	85.05	80.0	-6.3	
Benzoic acid		.177	.265	92.26	80.0	-15.3	
bis(2-Chloroethoxy)methane		.458	.472	82.59	80.0	-3.2	
2,4-Dichlorophenol	*	.309	.318	82.49	80.0	-3.1	*
1,2,4-Trichlorobenzene		.313	.315	80.61	80.0	-.8	
Naphthalene		.986	.973	78.99	80.0	1.3	
4-Chloroaniline		.442	.468	84.87	80.0	-6.1	
Hexachlorobutadiene	*	.157	.156	79.81	80.0	.2	*
4-Chloro-3-methylphenol	*	.281	.311	88.62	80.0	-10.8	*
2-Methylnaphthalene		.672	.669	79.63	80.0	.5	
1-Methylnaphthalene		.625	.640	81.83	80.0	-2.3	
Hexachlorocyclopentadiene	#	.341	.347	75.83	80.0	5.2	#
2,4,6-Trichlorophenol	*	.379	.397	83.71	80.0	-4.6	*
2,4,5-Trichlorophenol		.411	.432	84.02	80.0	-5.0	
2-Chloronaphthalene		1.212	1.216	80.31	80.0	-.4	

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 10:49

Lab File ID: >LG256 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
2-Nitroaniline	.348	.411	94.52	80.0	-18.1	
Dimethylphthalate	1.383	1.433	82.88	80.0	-3.6	
2,6-Dinitrotoluene	.358	.380	84.89	80.0	-6.1	
Acenaphthylene	2.014	2.031	80.70	80.0	-.9	
3-Nitroaniline	.431	.471	87.40	80.0	-9.3	
Acenaphthene *	1.186	1.195	80.63	80.0	-.8	*
2,4-Dinitrophenol #	.175	.210	85.22	80.0	-6.5	#
4-Nitrophenol #	.165	.195	94.52	80.0	-18.1	#
Dibenzofuran	1.605	1.612	80.37	80.0	-.5	
2,4-Dinitrotoluene	.465	.510	87.79	80.0	-9.7	
1-Naphthylamine	.908	1.108	97.58	80.0	-22.0	
2-Naphthylamine	.872	1.095	100.43	80.0	-25.5	Inot targets
Diethylphthalate	1.468	1.491	81.23	80.0	-1.5	
4-Chlorophenyl-phenylether	.528	.513	77.69	80.0	2.9	
Fluorene	1.202	1.183	78.78	80.0	1.5	
4-Nitroaniline	.437	.478	87.45	80.0	-9.3	
4,6-Dinitro-2-methylphenol	.149	.172	83.29	80.0	-4.1	
1-Nitronaphthalene	.174	.176	80.88	80.0	-1.1	
N-Nitrosodiphenylamine (1) *	.571	.561	78.58	80.0	1.8	*
1,2-Diphenylhydrazine	.864	.847	78.39	80.0	2.0	
4-Bromophenyl-phenylether	.222	.218	78.76	80.0	1.5	
Hexachlorobenzene	.253	.280	83.28	80.0	-4.1	
Pentachlorophenol *	.145	.170	84.47	80.0	-5.6	*
Phenanthrene	1.052	1.020	77.55	80.0	3.1	
Anthracene	1.077	1.026	76.22	80.0	4.7	
Carbazole	1.076	1.080	80.25	80.0	-.3	
Di-n-butylphthalate	1.616	1.583	78.33	80.0	2.1	
Fluoranthene *	1.045	1.031	78.92	80.0	1.3	*
Benzidine	.767	.756	315.17	320.0	1.5	
Pyrene	1.195	1.176	78.77	80.0	1.5	
Butylbenzylphthalate	.802	.787	78.53	80.0	1.8	
3,3'-Dichlorobenzidine	.520	.550	84.54	80.0	-5.7	
Benzo(a)anthracene	1.095	1.075	78.53	80.0	1.8	
bis(2-Ethylhexyl)phthalate	1.074	1.065	79.38	80.0	.8	
Chrysene	1.033	1.005	77.85	80.0	2.7	
Di-n-octylphthalate *	2.117	2.113	79.83	80.0	.2	*
7,12-Dimethylbenz[a]anthrace	.513	.595	78.70	80.0	1.6	
Benzo(b)fluoranthene	1.344	1.334	79.42	80.0	.7	

(1) Cannot be separated from Diphenylamine

FORM VII SV-1 1/87 Rev.

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 10:49

Lab File ID: >LG256 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.250	1.266	81.05	80.0	-1.3
Benzo(a)pyrene *	1.176	1.192	81.06	80.0	-1.3*
Indeno(1,2,3-cd)pyrene	1.078	1.064	78.94	80.0	1.3
Dibenz(a,h)anthracene	1.051	1.045	79.56	80.0	.5
Benzo(g,h,i)perylene	1.079	1.063	78.84	80.0	1.5
2-Fluorophenol	1.289	1.290	80.05	80.0	-.1
Phenol-d5	1.651	1.710	82.84	80.0	-3.5
Phenol-d6	1.651	1.710	82.84	80.0	-3.5
Nitrobenzene-d5	.386	.415	86.04	80.0	-7.6
2-Fluorobiphenyl	1.289	1.286	79.84	80.0	.2
2,4,6-Tribromophenol	.225	.246	87.62	80.0	-9.5
Terphenyl-d14	.944	.915	77.61	80.0	3.0

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LG256 Date Analyzed: 07/10/98

Instrument ID: HP06754 Time Analyzed: 10:49

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	145102	12.69	480732	16.39	249460	21.70
	UPPER LIMIT	290204		961464		498920	
	LOWER LIMIT	72551		240366		124730	
01	SBLKLB183L	144433	12.69	502120	16.38	263574	21.70
02	183LBLCSL	151580	12.69	501986	16.39	267990	21.70
03	183LBLCSD	145540	12.69	501088	16.39	263411	21.70
04	06262	131365	12.69	451485	16.38	236050	21.69
05	06273	138061	12.69	474997	16.38	246957	21.69
06	2401-RE	143745	12.69	491297	16.39	258065	21.69
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LG256 Date Analyzed: 07/10/98

Instrument ID: HP06754 Time Analyzed: 10:49

	IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD		26.22	357743	-	32.83	298248	-	37.82
	UPPER LIMIT			715486			596496		
	LOWER LIMIT			178872			149124		
	EPA SAMPLE NO.								
01	SBLKLB183L	421813	-	389952	-	32.83	305077	-	37.80
02	183LBLCSL	434602	-	372999	-	32.84	309104	-	37.82
03	183LBLCSD	427974	-	361325	-	32.84	290485	-	37.82
04	06262	376696		329880		32.82	257530		37.80
05	06273	396114		348061		32.82	266944		37.81
06	2401-RE	410681	-	369583	-	32.82	288532	-	37.80
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LG270 DFTPP Injection Date: 07/10/98

Instrument ID: HP06754 DFTPP Injection Time: 19:23

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.4
70	Less than 2.0% of mass 69	.2 (.5)1
127	40.0 - 60.0% of mass 198	46.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 30.0% of mass 198	20.9
365	Greater than 1.00% of mass 198	1.93
441	Present, but less than mass 443	11.7
442	Greater than 40.0% of mass 198	75.6
443	17.0 - 23.0% of mass 442	14.7 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>LG271	07/10/98	19:52
02	2456-RE	2943352RE	>LG272	07/10/98	20:51
03	B1811	2956942	>LG273	07/10/98	21:50
04	B1821	2956943	>LG274	07/10/98	22:48
05	B1831	2956944	>LG275	07/10/98	23:47
06	B1852	2956945	>LG276	07/11/98	00:45
07	MW313	2956948	>LG277	07/11/98	01:44
08	B18-1	2956941	>LG278	07/11/98	02:42
09	MW3-3	2956947	>LG279	07/11/98	03:41
10	MW3-0	2956946	>LG280	07/11/98	04:40
11	CP6--	2950341	>LG281	07/11/98	05:39
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 19:52

Lab File ID: >LG271 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.592	1.732	86.99	80.0	-8.7
N-Nitrosodimethylamine	.982	1.114	90.76	80.0	-13.5
2-Picoline	1.476	1.555	84.27	80.0	-5.3
Phenol *	1.664	1.778	85.47	80.0	-6.8*
Aniline	1.938	2.054	84.78	80.0	-6.0
bis(2-Chloroethyl)ether	1.336	1.400	83.87	80.0	-4.8
2-Chlorophenol	1.339	1.381	82.49	80.0	-3.1
1,3-Dichlorobenzene	1.443	1.394	77.26	80.0	3.4
1,4-Dichlorobenzene *	1.484	1.434	77.27	80.0	3.4*
Benzyl alcohol	.791	.829	83.89	80.0	-4.9
1,2-Dichlorobenzene	1.349	1.317	78.06	80.0	2.4
2-Methylphenol	1.084	1.132	83.51	80.0	-4.4
2,2'-oxybis(1-Chloropropane)	1.747	1.935	88.63	80.0	-10.8
bis(2-Chloroisopropyl)ether	1.747	1.935	88.63	80.0	-10.8
4-Methylphenol	1.151	1.224	85.09	80.0	-6.4
3- and 4-Methylphenol	1.151	1.224	85.09	80.0	-6.4
Acetophenone	1.500	1.604	85.53	80.0	-6.9
N-Nitroso-di-n-propylamine #	.833	.945	90.69	80.0	-13.4#
o-Toluidine	1.739	1.841	84.69	80.0	-5.9
Hexachloroethane	.545	.543	79.83	80.0	.2
Nitrobenzene	.379	.419	88.38	80.0	-10.5
Isophorone	.761	.829	87.09	80.0	-8.9
2-Nitrophenol *	.238	.249	83.77	80.0	-4.7*
2,4-Dimethylphenol	.334	.359	86.05	80.0	-7.6
Benzoic acid	.177	.249	87.65	80.0	-9.6
bis(2-Chloroethoxy)methane	.458	.480	83.92	80.0	-4.9
2,4-Dichlorophenol *	.309	.312	81.01	80.0	-1.3*
1,2,4-Trichlorobenzene	.313	.311	79.43	80.0	.7
Naphthalene	.986	.970	78.69	80.0	1.6
4-Chloroaniline	.442	.466	84.46	80.0	-5.6
Hexachlorobutadiene *	.157	.151	77.19	80.0	3.5*
4-Chloro-3-methylphenol *	.281	.316	90.08	80.0	-12.6*
2-Methylnaphthalene	.672	.661	78.73	80.0	1.6
1-Methylnaphthalene	.625	.619	79.13	80.0	1.1
Hexachlorocyclopentadiene #	.341	.331	72.49	80.0	9.4#
2,4,6-Trichlorophenol *	.379	.392	82.71	80.0	-3.4*
2,4,5-Trichlorophenol	.411	.438	85.16	80.0	-6.5
2-Chloronaphthalene	1.212	1.212	80.02	80.0	-.0

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 19:52

Lab File ID: >LG271 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.348	.422	97.16	80.0	-21.5
Dimethylphthalate		1.383	1.432	82.83	80.0	-3.5
2,6-Dinitrotoluene		.358	.384	85.82	80.0	-7.3
Acenaphthylene		2.014	2.019	80.23	80.0	-.3
3-Nitroaniline		.431	.475	88.12	80.0	-10.1
Acenaphthene	*	1.186	1.204	81.20	80.0	-1.5*
2,4-Dinitrophenol	#	.175	.160	67.25	80.0	15.9#
4-Nitrophenol	#	.165	.195	95.20	80.0	-19.0#
Dibenzofuran		1.605	1.626	81.05	80.0	-1.3
2,4-Dinitrotoluene		.465	.505	87.00	80.0	-8.7
1-Naphthylamine		.908	1.101	96.98	80.0	-21.2
2-Naphthylamine		.872	1.039	95.32	80.0	-19.1
Diethylphthalate		1.468	1.474	80.32	80.0	-.4
4-Chlorophenyl-phenylether		.528	.500	75.72	80.0	5.4
Fluorene		1.202	1.196	79.60	80.0	.5
4-Nitroaniline		.437	.484	88.65	80.0	-10.8
4,6-Dinitro-2-methylphenol		.149	.151	73.58	80.0	8.0
1-Nitronaphthalene		.174	.176	81.05	80.0	-1.3
N-Nitrosodiphenylamine (1)	*	.571	.557	78.05	80.0	2.4*
1,2-Diphenylhydrazine		.864	.889	82.32	80.0	-2.9
4-Bromophenyl-phenylether		.222	.209	75.45	80.0	5.7
Hexachlorobenzene		.253	.273	81.24	80.0	-1.6
Pentachlorophenol	*	.145	.159	79.72	80.0	.3*
Phenanthrene		1.052	1.009	76.70	80.0	4.1
Anthracene		1.077	1.011	75.10	80.0	6.1
Carbazole		1.076	1.076	79.97	80.0	.0
Di-n-butylphthalate		1.616	1.579	78.13	80.0	2.3
Fluoranthene	*	1.045	1.043	79.82	80.0	.2*
Benzidine		.767	.758	316.25	320.0	1.2
Pyrene		1.195	1.200	80.36	80.0	-.4
Butylbenzylphthalate		.802	.807	80.48	80.0	-.6
3,3'-Dichlorobenzidine		.520	.546	84.01	80.0	-5.0
Benzo(a)anthracene		1.095	1.058	77.33	80.0	3.3
bis(2-Ethylhexyl)phthalate		1.074	1.076	80.17	80.0	-.2
Chrysene		1.033	1.010	78.25	80.0	2.2
Di-n-octylphthalate	*	2.117	2.157	81.51	80.0	-1.9*
7,12-Dimethylbenz[a]anthrace		.513	.596	78.90	80.0	1.4
Benzo(b)fluoranthene		1.344	1.381	82.17	80.0	-2.7

(1) Cannot be separated from Diphenylamine

not target

2456-RE

2-nitroaniline not reported from this analysis ⇒ no qual of data

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 07/10/98 Time: 19:52

Lab File ID: >LG271 Init. Calib. Date(s): 07/08/98 07/09/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene		1.250	1.257	80.43	80.0	-.5
Benzo(a)pyrene	*	1.176	1.196	81.35	80.0	-1.7*
Indeno(1,2,3-cd)pyrene		1.078	1.078	80.00	80.0	-.0
Dibenz(a,h)anthracene		1.051	1.018	77.54	80.0	3.1
Benzo(g,h,i)perylene		1.079	1.054	78.18	80.0	2.3
2-Fluorophenol		1.289	1.321	81.96	80.0	-2.4
Phenol-d5		1.651	1.766	85.57	80.0	-7.0
Phenol-d6		1.651	1.766	85.57	80.0	-7.0
Nitrobenzene-d5		.386	.424	87.86	80.0	-9.8
2-Fluorobiphenyl		1.289	1.288	79.93	80.0	.1
2,4,6-Tribromophenol		.225	.235	83.40	80.0	-4.3
Terphenyl-d14		.944	.907	76.93	80.0	3.8

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LG271 Date Analyzed: 07/10/98

Instrument ID: HP06754 Time Analyzed: 19:52

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	144558	-	12.68	487255	-	16.39	247802	-	21.69
	UPPER LIMIT	289116			974510			495604		
	LOWER LIMIT	72279			243628			123901		
	EPA SAMPLE NO.									
01	2456-RE	147111	-	12.68	510775	-	16.38	263361	-	21.69
02	B1811	142305		12.68	488201		16.38	252847		21.69
03	B1821	144842		12.68	493160		16.37	254815		21.69
04	B1831	146197		12.68	505485		16.37	259234		21.69
05	B1852	144748		12.68	500973		16.37	254728		21.69
06	MW313	135062		12.68	467856		16.37	236395		21.68
07	B18-1	149865		12.68	512796		16.38	247791		21.69
08	MW3-3	161702		12.68	550462		16.38	261213		21.69
09	MW3-0	127862		12.68	433490		16.38	219648		21.68
10	CP6--	153688		12.68	540041		16.38	261730		21.69
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LG271 Date Analyzed: 07/10/98

Instrument ID: HP06754 Time Analyzed: 19:52

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	402045	-	26.22	358591	-	32.84	293860	-	37.81
	UPPER LIMIT	804090			717182			587720		
	LOWER LIMIT	201023			179296			146930		
	EPA SAMPLE NO.									
01	2456-RE	428087	-	26.21	377335	-	32.81	283747	-	37.80
02	B1811	414558		26.21	370265		32.82	285279		37.80
03	B1821	415865		26.21	373884		32.81	291661		37.80
04	B1831	421268		26.21	376261		32.82	287746		37.79
05	B1852	406722		26.21	365933		32.81	285208		37.79
06	MW313	384784		26.21	330213		32.81	256668		37.79
07	B18-1	378491		26.21	335384		32.82	262471		37.80
08	MW3-3	392517		26.22	292066		32.88	269971		37.91
09	MW3-0	341371		26.21	275965		32.83	230066		37.85
10	CP6--	396759		26.21	334898		32.82	271640		37.82
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

HT = 1-2 days on

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction

Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:

Start Date: 6/11/98

Start Time: 1415

Tech 1: JMR 438

Tech 2:

BATCH NO. 98162SLE026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK6R	60.0	SS98159A	1.0			1.0			IS
LCS6	LCS1U	60.0	SS98159A		MS98141F	1.0				20
2943358MS	3356-MS	30.0	SS98159A		MS98141F					Rocky
2943359MSD	3356-	30.0	SS98159A		MS98141F					Rocky

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2943338	2056-	30.0	SS98159A	1.0	1.0			Granular	4688 4689 IS	6/24/98	N
2	2943339	20910		SS98159A		1.0			Granular	4688 4689 20	6/24/98	N
3	2943340	2101-		SS98159A		5.0			Moist & Granular	4688 4689	6/24/98	N
4	2943341	2123-		SS98159A		2.0			Pasty & Tar like!	4688 4689	6/24/98	N
5	2943342	2156-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
6	2943343	21910		SS98159A		1.0			Rocky	4688 4689	6/24/98	N
7	2943344	2201-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
8	2943345	2223-		SS98159A		1.0			Pasty	4688 4689	6/24/98	N
9	2943346	2256-		SS98159A		1.0			Rocky	4688 4689	6/24/98	N
10	2943347	2301-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
11	2943348	2323-		SS98159A		1.0			Moist & Clumpy	4688 4689	6/24/98	N
12	2943349	2356-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
13	2943350	2401-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
14	2943351	2423-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
15	2943352	2456-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
16	2943353	2501-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
17	2943354	2523-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
18	2943355	2556-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
19	2943356	2601-		SS98159A		1.0			Granular	4688 4689	6/24/98	N
20	2943357 bkg	3356-		SS98159A		1.0			Rocky 19	4688 4689	6/24/98	N

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	974089		
Acetone	H451HXAT		
MeCl	148986		
Internal Standar		Balance #	5340
S-Evap/bath	45 °C	S-Evap/bath	°C
		N-Evap	°C

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD

MS98141F LCS SPIKE (100)

LA74727 IS 6/24/98

21 day HT 7,03 Dual date repeated from water and ⇒ no qual of date

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/30/98
Start Time: 1310
Tech 1: JmB 438
Tech 2:

BATCH NO. 98181SLC026177SC

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANKC	PBLKGD	60.0	SS98166B	1.0			1.0			
LCSC	LCSBI	60.0	SS98166B		MS98167B	1.0				
LCSDC	LCSD79	60.0	SS98166B		MS98167B	1.0				

JmB 438 6/30/98

	Sample #		Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2943346	R	2256-	30.0	SS98166B	1.0	1.0			Rocky	4688 4689	6/24/98	N
2	2955393		B11-1	30.0	SS98166B		50			Granular	4688 4689	7/14/98	P
3	2955394		B11-5	30.0	SS98166B		1.0			Rocky	4688 4689	7/14/98	P
4	2955395		B11-9	30.0	SS98166B		1.0			Black & Thick	4688 4689	7/14/98	P
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

JmB 438 6/30/98

Additional Comment:

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	~~AF~~ 984784		
Acetone	BR334		
$MeCl_2$	BP608		
Internal Standar		Balance #	5312
S-Evap/bath	96 °C	S-Evap/bath	°C
N-Evap	°C		

Spike Solutions:
SS98166B BNA SURROGATE STANDARD
MS98167B LCS SPIKE (100)

23 day HT J, W Dud results repeated from ended and 3 s48322 7-3 → no qual of date

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 7-2-98
Start Time: 1817
Tech 1: [signature] 489
Tech 2:

BATCH NO. 98183SLC026175SC

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANKC	PBLKHP	60.0	SS98166B	1.0			1.0	N/A	Na_2SO_4	
LCSC	LCSCV	60.0	SS98166B	↓	MS98167B	1.0	↓	↓	↓	
LCSDC	LCSD87	60.0	SS98166B	↓	MS98167B	↓	↓	↓	↓	

[signature] 489 7-3-98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2956941	B18-1	30.0	SS98166B	1.0	1.0	N/A	N/A	reddish, stoney soil	4688 4689	7/16/98	P
2	2956942	B1811	30.0	SS98166B	|	|	|	|	reddish sandy soil	4688 4689	7/16/98	P
3	2956943	B1821	30.0	SS98166B	|	|	|	|	moist reddish sand	4688 4689	7/16/98	P
4	2956944	B1831	30.0	SS98166B	|	|	|	|	reddish ~~stoney clay~~ sand	4688 4689	7/16/98	P
5	2956945	B1852	30.0	SS98166B	|	|	|	|	reddish stoney clay	4688 4689	7/16/98	P
6	2956946	MW3-0	30.0	SS98166B	|	|	|	|	black soil w/charcoal chips	4688 4689	7/16/98	P
7	2956947	MW3-3	30.0	SS98166B	|	|	|	|	moist stoney soil	4688 4689	7/16/98	P
8	2956948	MW313	30.0	SS98166B	|	|	|	|	black, stoney muddy	4688 4689	7/16/98	P
9	2943350R	2401-	30.0	SS98166B	|	|	|	|	moist, yellow sand			
10	2943352R	2456-	30.0	SS98166B	↓	↓	↓	↓	↓			
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

[signature] 489 7-3-98 (left margin)

[signature] 489 7-3-98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
$MeCl_2$	BP608		
Acetone	BR 334		
Na_2SO_4	984784		
Internal Standard		Balance #	5312
S-Evap/bath 92.8 °C	S-Evap/bath — °C	N-Evap	— °C

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98166B BNA SURROGATE STANDARD
MS98167B LCS SPIKE (100)

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCP

Comment Code:

R =	Reinjection necessary	X =	Sample sent to be reextracted
S =	Surrogate problem	I =	Internal Standard problem
NU =	Not used	F =	Further dilution required
MR =	Meets requirements	IUO =	Internal use only
Cz =	Confirms z, (z = I or X)	T =	Injected outside valid tune period

Other problems or comments are as follows:

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*

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*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF520::G4	DFTPP	50 NG/UL	06/24/98	21:48		1.0	NU
2	>GF521::G4	SSTD080	STD1668	06/24/98	22:21		1.0	NU
1	>GF52Z::G4	DFTPP	50 NG/UL	06/24/98	23:59		1.0	MR
2	>GF52A::G4	SSTD080	STD1668	06/25/98	00:29		1.0	MR
3	>GF522::G4	SSTD160	STD1668	06/25/98	01:38		1.0	MR
4	>GF523::G4	SSTD005	STD1668	06/25/98	02:34		1.0	MR
5	>GF524::G4	SSTD120	STD1668	06/25/98	03:30		1.0	MR
6	>GF525::G4	SSTD020	STD1668	06/25/98	04:26		1.0	MR
7	>GF526::G4	SSTD050	STD1668	06/25/98	05:22		1.0	MR
8	>GF527::G4	SSTD001	MDL1668	06/25/98	06:22		1.0	MR
1	>GF530::G4	DFTPP	50 NG/UL	06/25/98	07:35		1.0	MR

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:

R =	Reinjection necessary	X =	Sample sent to be reextracted
S =	Surrogate problem	I =	Internal Standard problem
NU =	Not used	F =	Further dilution required
MR =	Meets requirements	IUO =	Internal use only
Cz =	Confirms z, (z = I or X)	T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF64Z::G3	DFTPP	50 NG/UL	06/29/98	07:58		1.0	passed
2	>GF642::G3	SSTD080	STD1748	06/29/98	08:31		1.0	passed
9	>GF649::G3	20645DL	2946722DL	06/29/98	10:14	98168WAB	200.0	MR
10	>GF650::G3	20647DL	2946724DL	06/29/98	11:04	98168WAB (	125.0	MR
12	>GF652::G3	SBLKLE1627	SBLKLE162	06/29/98	12:13	9816162SLE (	1.0	MR
13	>GF653::G3	162LELCS7	162LELCS	06/29/98	13:03	9816162SLE (	1.0	
14	>GF654::G3	3356-	2943357	06/29/98	13:53	9816162SLE (	1.0	
15	>GF655::G3	3356-MS	2943358	06/29/98	14:43	9816162SLE (	1.0	
16	>GF656::G3	3356-MSD	2943359	06/29/98	15:33	9816162SLE (	1.0	
17	>GF657::G3	GW19- DL	2946088 DL	06/29/98	16:34	98168WAB B gic	20.0	MR
18	>GF658::G3	2056-	2943338	06/29/98	17:24	98162SLE B 6/30/98	1.0	(NU)
19	>GF659::G3	20910	2943339	06/29/98	18:21	98162SLE	1.0	F50
20	>GF660::G3	2101-	2943340	06/29/98	19:21	98162SLE BL	25.0	F2
1	>GF670::G3	DFTPP	50 NG/UL	06/29/98	20:51		1.0	

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: Phillip Estevanado *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF670::G3	DFTPP	50 NG/UL	06/29/98	20:51		1.0	MR
2	>GF671::G3	SSTD080	STD1748	06/29/98	21:38		1.0	MR
12	>GF681::G3	2056-	2943338	06/29/98	23:00	98162SLE B	5.0	MR
13	>GF682::G3	2056-DL	2943338DL	06/30/98	00:00	98162SLE B	5.0	MR
14	>GF682::G3	20910DL	2943339DL	06/30/98	00:58	98162SLE	50.0	MR
15	>GF683::G3	2101-DL	2943340DL	06/30/98	01:48	98162SLE B	50.0	MR
16	>GF684::G3	2123-	2943341	06/30/98	02:38	98162SLE B	25.0	MR
17	>GF685::G3	2156-	2943342	06/30/98	03:29	98162SLE B	1.0	MR
18	>GF686::G3	21910	2943343	06/30/98	04:20	98162SLE B	1.0	MR
19	>GF687::G3	2201-	2943344	06/30/98	05:10	98162SLE B	1.0	MR
20	>GF688::G3	2223-	2943345	06/30/98	06:03	98162SLE B	1.0	MR
21	>GF689::G3	2256-	2943346	06/30/98	07:10	98162SLE B	1.0	MR
1	>GF700::G3	DFTPP	50 NG/UL	06/30/98	09:23		1.0	MR

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG00Z::G2	DFTPP	50 NG/UL	07/01/98	09:59		1.0	passed DFTPP
2	>GG001::G2	SSTD160	STD1748	07/01/98	10:27		1.0	FCAL
3	>GG002::G2	SSTD120	STD1748	07/01/98	11:17		1.0	
4	>GG003::G2	SSTD001	MDL1748	07/01/98	12:06		1.0	
5	>GG004::G2	SSTD050	STD1748	07/01/98	12:55		1.0	
6	>GG005::G2	SSTD020	STD1748	07/01/98	13:44		1.0	
7	>GG006::G2	SSTD005	STD1748	07/01/98	14:36		1.0	
8	>GG007::G2	SSTD080	STD1748	07/01/98	15:24		1.0	
9	>GG008::G2	SBLKWC1778	SBLKWC177	07/01/98	16:12	98177WAC	1.0	MR
10	>GG009::G2	177WCLCS8	177WCLCS	07/01/98	17:02	98177WAC	1.0	
11	>GG010::G2	177WCLCSD	177WCLCSD	07/01/98	17:51	98177WAC	1.0	
12	>GG014::G2	CN-P-	2953145	07/01/98	18:40	98177WAC	1.0	
14	>GG016::G2	177WCUS	177WCUS	07/01/98	19:28	98177WAC	1.0	
15	>GG017::G2	177WCMS	177WCMS	07/01/98	20:17	98177WAC	1.0	
16	>GG018::G2	177WCMSD	177WCMSD	07/01/98	21:05	98177WAC	1.0	
1	>GG020::G2	DFTPP	50 NG/UL	07/01/98	21:53		1.0	passed DFTPP

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: Phillip Eberhard *** Shift #2 Analyst: JCA

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG020::G2	DFTPP	50 NG/UL	07/01/98	21:53		1.0	MR
2	>GG021::G2	SSTD080	STD1748	07/01/98	22:16		1.0	MR
3	>GG022::G2	W93--	2951745	07/01/98	23:36	98177WAC	1.0	MR
4	>GG023::G2	22FD-	2951747	07/02/98	00:26	98177WAC	1.0	MR
5	>GG024::G2	22EB-	2951749	07/02/98	01:15	98177WAC	1.0	MR
6	>GG025::G2	2056-DL	2943338DL	07/02/98	02:04	98162SLE B	50.0	MR
7	>GG026::G2	2123-DL	2943341DL	07/02/98	02:53	98162SLE B	250.0	MR
8	>GG027::G2	2223-DL	2943345DL	07/02/98	03:43	98162SLE B	5.0	MR
9	>GG028::G2	2256-	2943346	07/02/98	04:32	98162SLE B	1.0	NU
10	>GG029::G2	2301-	2943347	07/02/98	05:21	98162SLE B	1.0	MR
11	>GG030::G2	2323-	2943348	07/02/98	06:10	98162SLE B	1.0	MR
12	>GG031::G2	2356-	2943349	07/02/98	06:59	98162SLE B	1.0	MR
1	>GG040::G2	DFTPP	50 NG/UL	07/02/98	08:48		1.0	MR

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: IRE *** Shift #2 Analyst: JCA

Comment Code: R = Reinjection necessary X = Sample sent to be reextracted

S = Surrogate problem I = Internal Standard problem

NU = Not used P = Further dilution required

MR = Meets requirements IUO = Internal use only

Cz = Confirms z, (z = I or X) T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG040::G2	DFTPP	50 NG/UL	07/02/98	08:48		1.0	passed
2	>GG041::G2	SSTD080	STD1748	07/02/98	09:15		1.0	passed
3	>GG042::G2	2401-	2943350	07/02/98	10:38	98162SLE B	1.0	SX
4	>GG043::G2	2423-	2943351	07/02/98	11:27	98162SLE B	1.0	MR
5	>GG044::G2	2456-	2943352	07/02/98	12:16	98162SLE B	1.0	SX
6	>GG045::G2	2501-	2943353	07/02/98	13:06	98162SLE B	1.0	MR
7	>GG046::G2	2523-	2943354	07/02/98	13:55	98162SLE B	1.0	MR
8	>GG047::G2	2556-	2943355	07/02/98	14:45	98162SLE B	1.0	(WU)
9	>GG048::G2	2601-	2943356	07/02/98	15:35	98162SLE B	1.0	MR
8	>GG049::G2	2556-	2943355	07/02/98	16:24	98162SLE B	1.0	MR
1	>GG050::G2	DFTPP	50 NG/UL	07/02/98	17:28		1.0	(WU)
1	>GG05Z::G2	DFTPP	50 NG/UL	07/02/98	18:11		1.0	passed

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG05Z::G2	DFTPP	50 NG/UL	07/02/98	18:11		1.0	PASSED DFTPP
2	>GG051::G2	SSTD080	STD1818	07/02/98	18:37		1.0	passed
3	>GG052::G2	SBLKLC1817	SBLKLC181	07/02/98	19:30		1.0	(NU)
4	>GG053::G2	181LCLCS7	181LCLCS	07/02/98	20:20		1.0	(NU)
4	>GG05A::G2	SBLKLC1817	SBLKLC181	07/02/98	21:30	98181SLC B	1.0	(NU)
6	>GG055::G2	181LCLCSD	181LCLCSD	07/02/98	22:20	98181SLC B	1.0	MR
7	>GG056::G2	2256-RE	2943346RE	07/02/98	23:10	98181SLC B	1.0	
8	>GG057::G2	SBLKLB1807	SBLKLB180	07/03/98	00:00	98180SLB B	1.0	
9	>GG058::G2	180LBLCS7	180LBLCS	07/03/98	00:50	98180SLB B	1.0	
10	>GG059::G2	SD-3-RE	2941248RE	07/03/98	01:41	98180SLB B	1.0	(NU)
11	>GG060::G2	SBLKLC1827	SBLKLC182	07/03/98	02:31	98182SLC B	1.0	MR
12	>GG061::G2	182LCLCS7	182LCLCS	07/03/98	03:21	98182SLC B	1.0	MR
13	>GG062::G2	108--RE	2941262RE	07/03/98	04:11	98182SLC B	1.0	MR
14	>GG063::G2	SB4--RE	2949213RE	07/03/98	05:01	98182SLC B	1.0	(NU)
1	>GG070::G2	DFTPP	50 NG/UL	07/06/98	09:15		1.0	(NU)
1	>GG07Z::G2	DFTPP	50 NG/UL	07/06/98	09:53		1.0	passed

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: Phillip Esterline *** Shift #2 Analyst: TCF

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG07Z::G2	DFTPP	50 NG/UL	07/06/98	09:53		1.0	MR
2	>GG071::G2	SSTD080	STD1818	07/06/98	10:22		1.0	MR
9	>GG078::G2	SBLKLC1827	SBLKLC182	07/06/98	11:43	98182SLC177SE	1.0	NU
10	>GG079::G2	TP1-1	2954108	07/06/98	12:34	98180SLB B 71696 SDL	1.0	MR IR
11	>GG080::G2	TP1-1MS	2954108	07/06/98	13:32	98180SLB B	1.0	IC
12	>GG08A::G2	TP1-1MSD	2954108	07/06/98	14:47	98180SLB B	1.0	MR
13	>GG08B::G2	2256-RE	2943346RE	07/06/98	15:52	98181SLC177SC	1.0	MR
14	>GG083::G2	SBLKLC1827	SBLKLC182	07/06/98	16:41	98182SLC177SE	1.0	MR
15	>GG084::G2	6024-	2953833	07/06/98	17:31	98180SLB B	1.0	MR
16	>GG085::G2	6046-	2953834	07/06/98	18:27	98180SLB B	1.0	MR
17	>GG086::G2	TP1-2	2954109	07/06/98	19:16	98180SLB B	1.0	MR
18	>GG087::G2	TP1-3	2954110	07/06/98	20:11	98180SLB B	1.0	MR F10
19	>GG088::G2	TP1-4	2954111	07/06/98	21:03	98180SLB B	1.0	MR
20	>GG089::G2	TP1-5	2954112	07/06/98	21:54	98180SLB B	1.0	MR
23	>GG092::G2	DFTPP	50NG/UL	07/07/98	00:32		1.0	T
								MR

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst:

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GG100::G1	DFTPP	50 NG/UL	07/07/98	07:59		1.0	Passed
2	>GG101::G1	SSTD080	STD1818	07/07/98	08:58		1.0	Passed ✓
9	>GG108::G1	181LCLCS7	181LCLCS	07/07/98	10:36	98180SLB BL	2.0	MR
10	>GG109::G1	TP1-1DL	2954108DL	07/07/98	11:25	98181SLC177SC	1.0	MR
11	>GG110::G1	TP1-2DL	2954109DL	07/07/98	12:31	98180SLB B	10.0	MR
12	>GG111::G1	TP1-6	2954113	07/07/98	13:22	98180SLB B	1.0	MR
13	>GG112::G1	B11-1	2955393	07/07/98	14:45	98181SLC177SC	1.0	MR
14	>GG113::G1	B11-5	2955394	07/07/98	15:40	98181SLC177SC	1.0	MR
15	>GG114::G1	B11-9	2955395	07/07/98	16:29	98181SLC177SC	1.0	MR
16	>GG115::G1	TP1-7	2954114	07/07/98	17:28	98180SLB B	1.0	MR
17	>GG117::G1	APPIXSPK	MS98159F	07/07/98	19:22	98180SLB B	1.0	MR
18	>GG118::G1	DFTPP	50NG/UL	07/07/98	20:07		1.0	IUO
19	>GG119::G1	SSTD080	STD1818	07/07/98	20:29		1.0	(ND)
20	>GG120::G1	INST. BLAN	K	07/07/98	21:18	98182SLC B	1.0	(ND)
1	>GG130::G1	DFTPP	50 NG/UL	07/08/98	10:01		1.0	(ND)
							1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Gruen

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

*_____

*_____

*_____

*_____

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LG200::L2	DFTPP	50NG/UL	07/08/98	18:42		1.0	SIC
3	>LG201::L2	SSTD160	STD1818	07/08/98	19:08		1.0	"
4	>LG202::L2	SSTD001	MDL1818	07/08/98	20:09		1.0	"
5	>LG203::L2	SSTD120	STD1818	07/08/98	21:07		1.0	"
6	>LG204::L2	SSTD005	STD1818	07/08/98	22:05		1.0	"
7	>LG205::L2	SSTD020	STD1818	07/08/98	23:02		1.0	"
8	>LG206::L2	SSTD050	STD1818	07/09/98	00:00		1.0	"
2	>LG207::L2	SSTD080	STD1818	07/09/98	00:58		1.0	"
1	>LG210::L2	DFTPP	50NG/UL	07/09/98	01:52		1.0	IAU
2	>LG211::L2	SSTD080	STD1818	07/09/98	02:19		1.0	"
1	>LG21A::L2	DFTPP	50NG/UL	07/09/98	05:59		1.0	"
1	>LG21B::L2	DFTPP	50NG/UL	07/09/98	07:03		1.0	"

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst: [illegible] *** Shift #2 Analyst: _____

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

(1) 9870C

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LG25A::A1	DFTPP	50NG/UL	07/10/98	10:18		1.0	MR
2	>LG256::A1	SSTD080	STD1818	07/10/98	10:49		1.0	MR
6	>LG257::A1	SBLKLB183L	SBLKLB183	07/10/98	11:58	98183SLB	1.0	MR
7	>LG258::A1	183LBLCSL	183LBLCS	07/10/98	12:57	98183SLB	1.0	MR
8	>LG260::A1	183LBLCSD	183LBLCSD	07/10/98	13:56	98183SLB	1.0	MR
21	>LG261::A1	06262	2955253	07/10/98	14:55	98181SLB	1.0	MR
22	>LG262::A1	06273	2955254	07/10/98	15:56	98181SLB	1.0	MR
9	>LG263::A1	2401-RE	294335ORE	07/10/98	16:55	98183SLB	1.0	MR
1	>LG270::A1	DFTPP	50NG/UL	07/10/98	19:23		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst: J Hartenstine *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

(V) 8270C

Other problems or comments are as follows:

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*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LG270::A1	DFTPP	50NG/UL	07/10/98	19:23		1.0	MR
2	>LG271::A1	SSTD080	STD1818	07/10/98	19:52		1.0	MR
10	>LG272::A1	2456-RE	2943352RE	07/10/98	20:51	98183SLB175SC	1.0	MR
11	>LG273::A1	B1811	2956942	07/10/98	21:50	98183SLB175SC	1.0	MR
12	>LG274::A1	B1821	2956943	07/10/98	22:48	98183SLB175SC	1.0	MR
13	>LG275::A1	B1831	2956944	07/10/98	23:47	98183SLB175SC	1.0	MR
14	>LG276::A1	B1852	2956945	07/11/98	00:45	98183SLB175SC	1.0	MR
15	>LG277::A1	MW313	2956948	07/11/98	01:44	98183SLB175SC	1.0	MR
16	>LG278::A1	B18-1	2956941	07/11/98	02:42	98183SLB175SC	1.0	MR
17	>LG279::A1	MW3-3	2956947	07/11/98	03:41	98183SLB175SC	1.0	MR
18	>LG280::A1	MW3-0	2956946	07/11/98	04:40	98183SLB175SC	10.0	MR
19	>LG281::A1	CP6--	2950341	07/11/98	05:39	98174SLE	1.0	MR
1	>LG290::A1	DFTPP	50NG/UL	07/11/98	10:26		1.0	MR

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

HMS05

Fraction (1)	Matrix (Aq.. S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit	
						5x	10x
S	S	MB	SBIK4F1602	none			
S	S	MB	SBIKLA1602M	bis (2-ethylhexyl) phthalate	82		820
S	S	MB	SBIKLB1602M	none			

- not detected in any of the samples in the SDG

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKLF1622	74	77	73	69	71	86		0
02	SBLKLA166M	91	92	87	79	81	99		0
03	SBLKLB196M	79	83	89	76	77	88		0
04	162LFLCS2	83	85	82	77	79	100		0
05	166LALCSM	93	91	86	79	80	107		0
06	196LBLCSM	81	85	90	75	76	94		0
07	2623-	45	46	49	45	45	53		0
08	2656-	66	66	76	69	67	81		0
09	2723-	80	88	83	79	80	97		0
10	2756-	75	73	79	78	75	90		0
11	3301-	76	86	85	83	81	83		0
12	3301-DL	57	85	88	73	78	31		0
13	3323-	83	85	78	81	78	96		0
14	3323-DL	81	95	91	91	85	90		0
15	340-1	110	103	89	107	110 D	89		0
16	340-1MS	81	83	73	74	74	78		0
17	340-1MSD	104	98	82	100	103	84		0
18	342-3	92	91	89	78	78	86		0
19	345-6	90	91	91	77	79	92		0
20	280-1	52	46	30 *	58	59	49		1
21	280-1RE	78	82	90	77	76	86		0
22	282-3	88	89	92	76	78	95		0
23	285-6	87	89	90	75	78	94		0
24	290-1	96	97	86	93	94	85		0
25	292-3	88	92	86	76	79	101		0
26	295-6	89	92	88	76	79	104		0
27	300-1	93	94	89	77	81	107		0
28	300-1DL	86	88	78	77	78	76		0
29	302-3	90	90	86	75	79	100		0
30	305-6	88	89	86	76	79	104		0
31	310-1	91	94	91	77	80	110		0
32	312-3	89	93	90	76	78	100		0
33									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(31-126)
S2 (FBP)	= 2-Fluorobiphenyl	(45-113)
S3 (TPH)	= Terphenyl-d14	(37-130)
S4 (PHL)	= Phenol-d6	(39-108)
S5 (2FP)	= 2-Fluorophenol	(35-108)
S6 (TBP)	= 2,4,6-Tribromophenol	(23-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF557 Lab Sample ID: SBLKLF162

Date Extracted: 06/11/98 Extraction: (SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 06/26/98 Time Analyzed: 13:56

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: HP06588

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	162LFLCS2	162LFLCS	>BF558	06/26/98
02	2701-	2943293	>BF559	06/26/98
03	2701-MS	2943294	>BF560	06/26/98
04	2701-MSD	2943295	>BF561	06/26/98
05	0656-	2943287	>BF562	06/26/98
06	1956-	2943290	>BF572	06/26/98
07	2023-	2943292	>BF574	06/26/98
08	2623-	2943380	>BF575	06/26/98
09	2723-	2943382	>BF576	06/27/98
10	1901-	2943288	>BF585	06/29/98
11	1923-	2943289	>BF586	06/29/98
12	2656-	2943381	>BF587	06/29/98
13	2756-	2943383	>BF588	06/29/98
14	3323-	2943385	>BF590	06/29/98
15	1956-DL	2943290DL	>BF602	06/30/98
16	2001-	2943291	>BF603	06/30/98
17	0202-	2943286	>BF604	06/30/98
18	1901-DL	2943288DL	>BF605	06/30/98
19	1901-DL	2943288DL	>BF606	06/30/98
20	1923-DL	2943289DL	>BF607	06/30/98
21	3301-	2943384	>BF608	06/30/98
22	3323-DL	2943385DL	>BF609	06/30/98
23	3301-DL	2943384DL	>BG004	07/01/98
24	0202-DL	2943286DL	>BG005	07/01/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLF1622

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLF162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF557

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/11/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/26/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
108-95-2	Phenol	67	U
111-44-4	bis(2-Chloroethyl)ether	33	U
95-57-8	2-Chlorophenol	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
95-50-1	1,2-Dichlorobenzene	33	U
95-48-7	2-Methylphenol	33	U
108-60-1	2,2'-oxybis(1-Chloropropane)	33	U
106-44-5	4-Methylphenol	67	U
621-64-7	N-Nitroso-di-n-propylamine	33	U
67-72-1	Hexachloroethane	33	U
98-95-3	Nitrobenzene	33	U
78-59-1	Isophorone	33	U
88-75-5	2-Nitrophenol	67	U
105-67-9	2,4-Dimethylphenol	67	U
111-91-1	bis(2-Chloroethoxy)methane	67	U
120-83-2	2,4-Dichlorophenol	67	U
120-82-1	1,2,4-Trichlorobenzene	33	U
91-20-3	Naphthalene	33	U
106-47-8	4-Chloroaniline	33	U
87-68-3	Hexachlorobutadiene	67	U
59-50-7	4-Chloro-3-methylphenol	67	U
91-57-6	2-Methylnaphthalene	33	U
77-47-4	Hexachlorocyclopentadiene	170	U
88-06-2	2,4,6-Trichlorophenol	67	U
95-95-4	2,4,5-Trichlorophenol	67	U
91-58-7	2-Chloronaphthalene	33	U
88-74-4	2-Nitroaniline	33	U
131-11-3	Dimethylphthalate	67	U
606-20-2	2,6-Dinitrotoluene	33	U
208-96-8	Acenaphthylene	33	U
99-09-2	3-Nitroaniline	67	U
83-32-9	Acenaphthene	33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLF1622

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLF162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF557

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/11/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/26/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
51-28-5	2,4-Dinitrophenol		230	U
100-02-7	4-Nitrophenol		170	U
132-64-9	Dibenzofuran		33	U
121-14-2	2,4-Dinitrotoluene		67	U
84-66-2	Diethylphthalate		67	U
7005-72-3	4-Chlorophenyl-phenylether		33	U
86-73-7	Fluorene		33	U
100-01-6	4-Nitroaniline		67	U
534-52-1	4,6-Dinitro-2-methylphenol		170	U
86-30-6	N-Nitrosodiphenylamine (1)		33	U
101-55-3	4-Bromophenyl-phenylether		67	U
118-74-1	Hexachlorobenzene		33	U
87-86-5	Pentachlorophenol		170	U
85-01-8	Phenanthrene		33	U
120-12-7	Anthracene		33	U
86-74-8	Carbazole		67	U
84-74-2	Di-n-butylphthalate		67	U
206-44-0	Fluoranthene		33	U
129-00-0	Pyrene		33	U
85-68-7	Butylbenzylphthalate		67	U
91-94-1	3,3'-Dichlorobenzidine		67	U
56-55-3	Benzo(a)anthracene		33	U
117-81-7	bis(2-Ethylhexyl)phthalate		67	U
218-01-9	Chrysene		33	U
117-84-0	Di-n-octylphthalate		67	U
205-99-2	Benzo(b)fluoranthene		33	U
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG222 Lab Sample ID: SBLKLA166

Date Extracted: 06/15/98 Extraction: (SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/13/98 Time Analyzed: 11:54

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: HP06755

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	166LALCSM	166LALCS	>MG223	07/13/98
02	340-1	2945101	>MG224	07/13/98
03	340-1MS	2945101	>MG225	07/13/98
04	340-1MSD	2945101	>MG226	07/13/98
05	342-3	2945102	>MG227	07/13/98
06	345-6	2945103	>MG228	07/13/98
07	282-3	2945105	>MG230	07/13/98
08	285-6	2945106	>MG231	07/13/98
09	290-1	2945107	>MG232	07/13/98
10	292-3	2945108	>MG252	07/14/98
11	295-6	2945109	>MG253	07/14/98
12	300-1	2945110	>MG254	07/14/98
13	302-3	2945111	>MG255	07/14/98
14	305-6	2945112	>MG256	07/14/98
15	310-1	2945113	>MG257	07/14/98
16	312-3	2945114	>MG258	07/14/98
17	B17-0	2944005	>MG259	07/14/98
18	B1718	2944006	>MG260	07/14/98
19	B1725	2944007	>MG261	07/14/98
20	B1741	2944008	>MG262	07/14/98
21	B1753	2944009	>MG353	07/18/98
22	300-1DL	2945110DL	>MG354	07/18/98
23	B17-0DL	2944005DL	>MG355	07/18/98
24	280-1	2945104	>MG356	07/18/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLA166M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG222

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/13/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
62-75-9	N-Nitrosodimethylamine		67	U
108-95-2	Phenol		67	U
62-53-3	Aniline		33	U
111-44-4	bis(2-Chloroethyl)ether		33	U
95-57-8	2-Chlorophenol		33	U
541-73-1	1,3-Dichlorobenzene		33	U
106-46-7	1,4-Dichlorobenzene		33	U
100-51-6	Benzyl alcohol		170	U
95-50-1	1,2-Dichlorobenzene		33	U
95-48-7	2-Methylphenol		33	U
108-60-1	2,2'-oxybis(1-Chloropropane)		33	U
108-60-1	bis(2-Chloroisopropyl)ether		33	U
106-44-5	4-Methylphenol		67	U
621-64-7	N-Nitroso-di-n-propylamine		33	U
67-72-1	Hexachloroethane		33	U
98-95-3	Nitrobenzene		33	U
78-59-1	Isophorone		33	U
88-75-5	2-Nitrophenol		67	U
105-67-9	2,4-Dimethylphenol		67	U
65-85-0	Benzoic acid		170	U
111-91-1	bis(2-Chloroethoxy)methane		67	U
120-83-2	2,4-Dichlorophenol		67	U
120-82-1	1,2,4-Trichlorobenzene		33	U
91-20-3	Naphthalene		33	U
106-47-8	4-Chloroaniline		33	U
87-68-3	Hexachlorobutadiene		67	U
59-50-7	4-Chloro-3-methylphenol		67	U
91-57-6	2-Methylnaphthalene		33	U
77-47-4	Hexachlorocyclopentadiene		170	U
88-06-2	2,4,6-Trichlorophenol		67	U
95-95-4	2,4,5-Trichlorophenol		67	U
91-58-7	2-Chloronaphthalene		33	U
88-74-4	2-Nitroaniline		33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLA166M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG222

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/13/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
131-11-3	Dimethylphthalate		67	U
606-20-2	2,6-Dinitrotoluene		33	U
208-96-8	Acenaphthylene		33	U
99-09-2	3-Nitroaniline		67	U
83-32-9	Acenaphthene		33	U
51-28-5	2,4-Dinitrophenol		230	U
100-02-7	4-Nitrophenol		170	U
132-64-9	Dibenzofuran		33	U
121-14-2	2,4-Dinitrotoluene		67	U
84-66-2	Diethylphthalate		67	U
7005-72-3	4-Chlorophenyl-phenylether		33	U
86-73-7	Fluorene		33	U
100-01-6	4-Nitroaniline		67	U
534-52-1	4,6-Dinitro-2-methylphenol		170	U
86-30-6	N-Nitrosodiphenylamine (1)		33	U
122-66-7	1,2-Diphenylhydrazine		33	U
101-55-3	4-Bromophenyl-phenylether		67	U
118-74-1	Hexachlorobenzene		33	U
87-86-5	Pentachlorophenol		170	U
85-01-8	Phenanthrene		33	U
120-12-7	Anthracene		33	U
86-74-8	Carbazole		67	U
84-74-2	Di-n-butylphthalate		67	U
206-44-0	Fluoranthene		33	U
92-87-5	Benzidine		830	U
129-00-0	Pyrene		33	U
85-68-7	Butylbenzylphthalate		67	U
91-94-1	3,3'-Dichlorobenzidine		67	U
56-55-3	Benzo(a)anthracene		33	U
117-81-7	bis(2-Ethylhexyl)phthalate		82	J
218-01-9	Chrysene		33	U
117-84-0	Di-n-octylphthalate		67	U
205-99-2	Benzo(b)fluoranthene		33	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
SBLKLA166M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLA166

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG222

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/13/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG407 Lab Sample ID:SBLKLB196

Date Extracted: 07/15/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/20/98 Time Analyzed: 20:44

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06755

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	196LBLCSM	196LBLCS	>MG408	07/20/98
02	3-1--	2962953	>MG409	07/20/98
03	3-1--MS	2962953	>MG410	07/20/98
04	3-1--MSD	2962953	>MG411	07/21/98
05	280-1RE	2945104RE	>MG412	07/21/98
06	B26-0	2962128	>MG413	07/21/98
07	B26-3	2962129	>MG414	07/21/98
08	B26-7	2962130	>MG415	07/21/98
09	3-2--	2962954	>MG416	07/21/98
10	3-3--	2962955	>MG417	07/21/98
11	4-3--	2962956	>MG418	07/21/98
12	4-2--	2962957	>MG422	07/21/98
13	4-1--	2962958	>MG423	07/21/98
14	2-1--	2962959	>MG424	07/21/98
15	2-2--	2962960	>MG425	07/21/98
16	2-3--	2962961	>MG426	07/21/98
17	1-1--	2962962	>MG427	07/21/98
18	1-2--	2962963	>MG428	07/21/98
19	1-3--	2962964	>MG429	07/21/98
20	B26-0DL	2962128DL	>MG430	07/21/98
21	B26-3DL	2962129DL	>MG431	07/21/98
22	B26-7DL	2962130DL	>MG458	07/22/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB196M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB196

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG407

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/20/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
62-75-9--------	N-Nitrosodimethylamine	67	U
108-95-2-------	Phenol	67	U
62-53-3--------	Aniline	33	U
111-44-4-------	bis(2-Chloroethyl)ether	33	U
95-57-8--------	2-Chlorophenol	33	U
541-73-1-------	1,3-Dichlorobenzene	33	U
106-46-7-------	1,4-Dichlorobenzene	33	U
100-51-6-------	Benzyl alcohol	170	U
95-50-1--------	1,2-Dichlorobenzene	33	U
95-48-7--------	2-Methylphenol	33	U
108-60-1-------	2,2'-oxybis(1-Chloropropane)	33	U
108-60-1-------	bis(2-Chloroisopropyl)ether	33	U
106-44-5-------	4-Methylphenol	67	U
621-64-7-------	N-Nitroso-di-n-propylamine	33	U
67-72-1--------	Hexachloroethane	33	U
98-95-3--------	Nitrobenzene	33	U
78-59-1--------	Isophorone	33	U
88-75-5--------	2-Nitrophenol	67	U
105-67-9-------	2,4-Dimethylphenol	67	U
65-85-0--------	Benzoic acid	170	U
111-91-1-------	bis(2-Chloroethoxy)methane	67	U
120-83-2-------	2,4-Dichlorophenol	67	U
120-82-1-------	1,2,4-Trichlorobenzene	33	U
91-20-3--------	Naphthalene	33	U
106-47-8-------	4-Chloroaniline	33	U
87-68-3--------	Hexachlorobutadiene	67	U
59-50-7--------	4-Chloro-3-methylphenol	67	U
91-57-6--------	2-Methylnaphthalene	33	U
77-47-4--------	Hexachlorocyclopentadiene	170	U
88-06-2--------	2,4,6-Trichlorophenol	67	U
95-95-4--------	2,4,5-Trichlorophenol	67	U
91-58-7--------	2-Chloronaphthalene	33	U
88-74-4--------	2-Nitroaniline	33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB196M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB196

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG407

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/20/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
131-11-3	Dimethylphthalate	67	U
606-20-2	2,6-Dinitrotoluene	33	U
208-96-8	Acenaphthylene	33	U
99-09-2	3-Nitroaniline	67	U
83-32-9	Acenaphthene	33	U
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
122-66-7	1,2-Diphenylhydrazine	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
92-87-5	Benzidine	830	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	67	U
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U
205-99-2	Benzo(b)fluoranthene	33	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB196M

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB196

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >MG407

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/15/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/20/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
207-08-9	Benzo(k)fluoranthene		33	U
50-32-8	Benzo(a)pyrene		33	U
193-39-5	Indeno(1,2,3-cd)pyrene		33	U
53-70-3	Dibenz(a,h)anthracene		33	U
191-24-2	Benzo(g,h,i)perylene		33	U

(1) - Cannot be separated from Diphenylamine

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06755

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3663.UG/KG % MOISTURE % DILUTION: 5

US SAMPLE: 340-1 2945101 MS SAMPLE: 340-1MS 2945101 MSD SAMPLE: 340-1MSD 2945101

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC	
N-Nitrosodimethylamine	0.00	2641.35	3932.84	72	107	48.0-113.0	YES	-39.00	30.	NO	J+
Phenol	381.85	3125.76	4309.42	75	107	29.0-112.0	YES	-32.00	30.	NO	J+
Aniline	0.00	1372.36	1925.54	37	52	1.0-260.0	YES	-34.00	30.	NO	J+
bis(2-Chloroethyl)ether	0.00	2910.79	3917.97	79	107	12.0-158.0	YES	-29.00	30.	YES	
2-Chlorophenol	0.00	2933.01	3819.49	80	104	36.0-124.0	YES	-26.00	30.	YES	
1,3-Dichlorobenzene	0.00	3226.25	3532.80	88	96	31.0-123.0	YES	-9.00	30.	YES	
1,4-Dichlorobenzene	0.00	3180.49	3475.32	87	95	20.0-124.0	YES	-9.00	30.	YES	
Benzyl alcohol	0.00	2545.86	3777.98	70	103	9.0-146.0	YES	-39.00	30.	NO	J+
1,2-Dichlorobenzene	0.00	3351.11	3668.03	91	100	44.0-113.0	YES	-9.00	30.	YES	
2-Methylphenol	0.00	2994.81	4007.86	82	109	20.0-130.0	YES	-29.00	30.	YES	
2,2'-oxybis(1-Chloropropane)	0.00	3117.57	4037.03	85	110	36.0-121.0	YES	-26.00	30.	YES	
bis(2-Chloroisopropyl)ether	0.00	3117.57	4037.03	85	110	36.0-121.0	YES	-26.00	30.	YES	
4-Methylphenol	0.00	2963.22	3992.93	81	109	22.0-138.0	YES	-30.00	30.	YES	
N-Nitroso-di-n-propylamine	0.00	3095.36	4170.87	84	114	38.0-140.0	YES	-30.00	30.	YES	
Hexachloroethane	0.00	3266.44	3385.38	89	92	40.0-113.0	YES	-4.00	30.	YES	
Nitrobenzene	0.00	3173.08	4035.21	87	110	40.0-125.0	YES	-24.00	30.	YES	
Isophorone	0.00	3219.54	4108.83	88	112	46.0-127.0	YES	-24.00	30.	YES	
2-Nitrophenol	0.00	2903.40	3723.09	79	102	40.0-125.0	YES	-25.00	30.	YES	
-Dimethylphenol	0.00	3022.18	3924.10	82	107	32.0-119.0	YES	-26.00	30.	YES	
zoic acid	0.00	1789.29	3705.52	49	101	1.0-150.0	YES	-70.00	30.	NO	J+
bis(2-Chloroethoxy)methane	0.00	2865.86	3956.37	78	108	40.0-121.0	YES	-32.00	30.	NO	J+
2,4-Dichlorophenol	0.00	2853.85	3539.39	78	97	39.0-135.0	YES	-21.00	30.	YES	
1,2,4-Trichlorobenzene	0.00	3295.23	3376.38	90	92	44.0-125.0	YES	-2.00	30.	YES	
Naphthalene	339.69	3382.03	3884.73	83	97	50.0-106.0	YES	-14.00	30.	YES	
4-Chloroaniline	0.00	1760.86	2551.55	48	70	1.0-123.0	YES	-37.00	30.	NO	J+
Hexachlorobutadiene	0.00	3417.52	3472.42	93	95	35.0-116.0	YES	-2.00	30.	YES	
4-Chloro-3-methylphenol	0.00	3100.81	3999.00	85	109	22.0-142.0	YES	-25.00	30.	YES	
2-Methylnaphthalene	708.46	3725.56	4072.69	82	92	45.0-112.0	YES	-9.00	30.	YES	
Hexachlorocyclopentadiene	0.00	1331.78	1331.19	18	18	1.0-127.0	YES	0.00	30.	YES	
2,4,6-Trichlorophenol	0.00	2952.32	3494.74	80	95	37.0-127.0	YES	-17.00	30.	YES	
2,4,5-Trichlorophenol	0.00	3106.78	3391.34	85	92	18.0-139.0	YES	-9.00	30.	YES	
2-Chloronaphthalene	0.00	3310.58	3582.51	90	98	60.0-118.0	YES	-8.00	30.	YES	
2-Nitroaniline	0.00	3052.89	4198.61	83	115	8.0-154.0	YES	-32.00	30.	NO	J+
Dimethylphthalate	0.00	2817.68	3956.71	77	108	44.0-112.0	YES	-34.00	30.	NO	J+
2,6-Dinitrotoluene	0.00	2957.18	3947.84	81	108	50.0-119.0	YES	-29.00	30.	YES	
Acenaphthylene	393.12	3420.71	3760.87	83	92	42.0-119.0	YES	-9.00	30.	YES	
3-Nitroaniline	0.00	2386.34	3448.82	65	94	8.0-114.0	YES	-36.00	30.	NO	J+
Acenaphthene	0.00	3328.22	3442.29	91	94	47.0-114.0	YES	-3.00	30.	YES	
2,4-Dinitrophenol	0.00	3342.11	3452.42	91	94	1.0-126.0	YES	-3.00	30.	YES	

all ✱ compds ~15 RPD except phenol are ND in unspiked sample ⇒ no qual of data except phenol.

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP0675S

8246 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3663.UG/KG % MOISTURE 9. DILUTION: 5

US SAMPLE: 340-1 2945101 MS SAMPLE: 340-1MS 2945101 MSD SAMPLE: 340-1MSD 2945101

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC	
4-Nitrophenol	0.00	3039.05	4088.74	83	112	5.0-132.0	YES	-29.00	30.	YES	
Dibenzofuran	0.00	3245.66	3631.69	89	99	38.0-120.0	YES	-11.00	30.	YES	
2,4-Dinitrotoluene	0.00	3089.35	3856.10	84	105	39.0-136.0	YES	-22.00	30.	YES	
Diethylphthalate	0.00	2868.61	3928.78	78	107	43.0-114.0	YES	-31.00	30.	NO	J+
4-Chlorophenyl-phenylether	0.00	3086.89	3482.46	84	95	41.0-115.0	YES	-12.00	30.	YES	
Fluorene	0.00	3433.88	3620.86	94	99	59.0-121.0	YES	-5.00	30.	YES	
4-Nitroaniline	0.00	2595.74	3773.02	71	103	1.0-170.0	YES	-37.00	30.	NO	J+
4,6-Dinitro-2-methylphenol	0.00	2756.88	2846.99	75	78	5.0-128.0	YES	-3.00	30.	YES	
N-Nitrosodiphenylamine	0.00	3009.27	3868.27	82	106	28.0-144.0	YES	-25.00	30.	YES	
1,2-Diphenylhydrazine	0.00	3544.33	4091.76	97	112	31.0-149.0	YES	-14.00	30.	YES	
4-Bromophenyl-phenylether	0.00	2940.35	3352.01	80	92	53.0-125.0	YES	-13.00	30.	YES	
Hexachlorobenzene	0.00	1158.57	1140.01	32	31	31.0-135.0	YES	2.00	30.	YES	
Pentachlorophenol	0.00	3356.01	3421.59	92	93	14.0-131.0	YES	-2.00	30.	YES	
Phenanthrene	421.05	3461.21	3946.12	83	96	54.0-120.0	YES	-13.00	30.	YES	
Anthracene	481.58	3569.68	3911.05	84	94	42.0-119.0	YES	-9.00	30.	YES	
Carbazole	0.00	3110.31	3913.15	85	107	53.0-113.0	YES	-23.00	30.	YES	
Di-n-butylphthalate	0.00	3000.90	3979.99	82	109	35.0-118.0	YES	-28.00	30.	YES	
Fluoranthene	894.95	4102.49	3876.79	88	81	26.0-137.0	YES	6.00	30.	YES	
Benzidine	0.00	0.00	0.00	0	0	1.0- 70.0	NO	~~3276.70~~ NC ✓ 9/22/98	30.	NO	
Pyrene	912.51	3926.28	3749.34	82	77	52.0-115.0	YES	5.00	30.	YES	
Butylbenzylphthalate	0.00	2775.76	3917.01	76	107	45.0-133.0	YES	-34.00	30.	NO	J+
3,3'-Dichlorobenzidine	0.00	1756.25	2617.66	48	71	1.0-125.0	YES	-39.00	30.	NO	J+
Benzo(a)anthracene	606.96	3823.98	3701.52	88	84	33.0-135.0	YES	3.00	30.	YES	
Bis(2-Ethylhexyl)phthalate	0.00	2900.11	3660.01	79	100	8.0-158.0	YES	-23.00	30.	YES	
Chrysene	905.30	3944.72	3724.89	83	77	9.0-153.0	YES	6.00	30.	YES	
Di-n-octylphthalate	0.00	3213.45	3821.34	88	104	41.0-146.0	YES	-17.00	30.	YES	
Benzo(b)fluoranthene	1382.16	4373.83	3996.31	82	71	24.0-148.0	YES	9.00	30.	YES	
Benzo(k)fluoranthene	444.35	3707.22	3653.80	89	88	41.0-126.0	YES	1.00	30.	YES	
Benzo(a)pyrene	748.95	3830.68	3559.76	84	77	21.0-139.0	YES	7.00	30.	YES	
Indeno(1,2,3-cd)pyrene	694.56	2491.02	2405.28	49	47	28.0-127.0	YES	4.00	30.	YES	
Dibenz(a,h)anthracene	231.35	2309.41	2247.04	57	55	11.0-152.0	YES	3.00	30.	YES	
Benzo(g,h,i)perylene	568.06	2309.36	2031.88	48	40	12.0-133.0	YES	13.00	30.	YES	

COMMENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 166LALCSM 166LALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
N-Nitrosodimethylamine	83.81	84	47.0- 109.0	YES
Phenol	84.04	84	49.0- 105.0	YES
Aniline	66.38	66	30.0- 97.0	YES
bis(2-Chloroethyl)ether	85.74	86	53.0- 109.0	YES
2-Chlorophenol	93.27	93	55.0- 107.0	YES
1,3-Dichlorobenzene	91.41	91	53.0- 103.0	YES
1,4-Dichlorobenzene	91.11	91	52.0- 103.0	YES
Benzyl alcohol	90.49	90	62.0- 115.0	YES
1,2-Dichlorobenzene	95.22	95	56.0- 107.0	YES
2-Methylphenol	91.70	92	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	92.43	92	38.0- 117.0	YES
bis(2-Chloroisopropyl)ether	92.43	92	38.0- 117.0	YES
4-Methylphenol	91.11	91	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	95.74	96	50.0- 124.0	YES
Hexachloroethane	89.56	90	52.0- 108.0	YES
Nitrobenzene	95.86	96	56.0- 110.0	YES
Isophorone	94.40	94	57.0- 114.0	YES
2-Nitrophenol	97.06	97	59.0- 107.0	YES
2,4-Dimethylphenol	91.72	92	39.0- 108.0	YES
Benzoic acid	88.83	89	29.0- 119.0	YES
bis(2-Chloroethoxy)methane	88.50	88	56.0- 103.0	YES
2,4-Dichlorophenol	93.02	93	59.0- 100.0	YES
4-Trichlorobenzene	96.22	96	57.0- 104.0	YES
thalene	88.96	89	58.0- 99.0	YES
hloroaniline	50.28	50	1.0- 102.0	YES
Hexachlorobutadiene	103.64	104	56.0- 115.0	YES
4-Chloro-3-methylphenol	96.70	97	56.0- 108.0	YES
2-Methylnaphthalene	91.76	92	60.0- 102.0	YES
Hexachlorocyclopentadiene	171.07	86	27.0- 113.0	YES
2,4,6-Trichlorophenol	96.59	96	62.0- 106.0	YES
2,4,5-Trichlorophenol	98.07	98	63.0- 107.0	YES
2-Chloronaphthalene	94.64	95	60.0- 106.0	YES
2-Nitroaniline	96.70	97	54.0- 111.0	YES
Dimethylphthalate	95.79	96	61.0- 104.0	YES
2,6-Dinitrotoluene	104.44	104	62.0- 111.0	YES
Acenaphthylene	90.26	90	62.0- 101.0	YES
3-Nitroaniline	58.74	59	9.0- 110.0	YES
Acenaphthene	90.99	91	61.0- 100.0	YES
2,4-Dinitrophenol	88.59	88	29.0- 117.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

[redacted]46 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 166LALCSM 166LALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Nitrophenol	109.16	109	44.0- 110.0	YES
Dibenzofuran	92.17	92	62.0- 102.0	YES
2,4-Dinitrotoluene	106.31	106	58.0- 113.0	YES
Diethylphthalate	94.90	95	59.0- 104.0	YES
4-Chlorophenyl-phenylether	93.48	93	52.0- 110.0	YES
Fluorene	92.60	92	59.0- 109.0	YES
4-Nitroaniline	89.29	89	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	88.23	88	42.0- 107.0	YES
N-Nitrosodiphenylamine	90.14	90	60.0- 106.0	YES
1,2-Diphenylhydrazine	91.86	92	52.0- 129.0	YES
4-Bromophenyl-phenylether	95.09	95	61.0- 110.0	YES
Hexachlorobenzene	80.28	80	52.0- 123.0	YES
Pentachlorophenol	90.05	90	42.0- 108.0	YES
Phenanthrene	93.20	93	62.0- 107.0	YES
Anthracene	96.16	96	62.0- 105.0	YES
Carbazole	93.23	93	57.0- 112.0	YES
Di-n-butylphthalate	93.54	94	59.0- 114.0	YES
Fluoranthene	96.47	96	58.0- 110.0	YES
Benzidine	94.55	19	1.0- 74.0	YES
Pyrene	92.17	92	52.0- 115.0	YES
Butylbenzylphthalate	90.24	90	58.0- 119.0	YES
3,3'-Dichlorobenzidine	49.61	50	15.0- 94.0	YES
Benzo(a)anthracene	94.62	95	63.0- 106.0	YES
[redacted]2-Ethylhexyl)phthalate	87.62	88	8.0- 158.0	YES
[redacted]ysene	93.97	94	60.0- 107.0	YES
[redacted]-n-octylphthalate	92.34	92	54.0- 127.0	YES
Benzo(b)fluoranthene	89.63	90	59.0- 105.0	YES
Benzo(k)fluoranthene	96.78	97	63.0- 108.0	YES
Benzo(a)pyrene	97.24	97	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	96.30	96	55.0- 111.0	YES
Dibenz(a,h)anthracene	96.51	96	60.0- 117.0	YES
Benzo(g,h,i)perylene	95.53	96	52.0- 113.0	YES

COMMENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

[redacted]IE: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

4846 METHOD 8270 SPIKE LEVEL: 100 UG/L

CS SAMPLE NO: 196LBLCSM 196LBLCS

OMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
-Nitrosodimethylamine	73.89	74	47.0- 109.0	YES
henol	77.77	78	49.0- 105.0	YES
niline	64.85	65	30.0- 97.0	YES
is(2-Chloroethyl)ether	78.91	79	53.0- 109.0	YES
-Chlorophenol	80.82	81	55.0- 107.0	YES
,3-Dichlorobenzene	81.63	82	53.0- 103.0	YES
,4-Dichlorobenzene	81.68	82	52.0- 103.0	YES
enzyl alcohol	82.25	82	62.0- 115.0	YES
,2-Dichlorobenzene	85.07	85	56.0- 107.0	YES
-Methylphenol	80.23	80	57.0- 101.0	YES
,2'-oxybis(1-Chloropropane)	88.32	88	38.0- 117.0	YES
is(2-Chloroisopropyl)ether	88.32	88	38.0- 117.0	YES
-Methylphenol	82.72	83	48.0- 116.0	YES
-Nitroso-di-n-propylamine	85.40	85	50.0- 124.0	YES
exachloroethane	82.40	82	52.0- 108.0	YES
itrobenzene	84.38	84	56.0- 110.0	YES
sophorone	88.50	88	57.0- 114.0	YES
-Nitrophenol	80.96	81	59.0- 107.0	YES
,4-Dimethylphenol	81.85	82	39.0- 108.0	YES
[redacted] c acid	71.76	72	29.0- 119.0	YES
[redacted]-Chloroethoxy)methane	79.89	80	56.0- 103.0	YES
[redacted]Dichlorophenol	81.86	82	59.0- 100.0	YES
,2,4-Trichlorobenzene	84.42	84	57.0- 104.0	YES
aphthalene	79.36	79	58.0- 99.0	YES
-Chloroaniline	63.34	63	1.0- 102.0	YES
exachlorobutadiene	88.66	89	56.0- 115.0	YES
-Chloro-3-methylphenol	86.40	86	56.0- 108.0	YES
-Methylnaphthalene	82.29	82	60.0- 102.0	YES
exachlorocyclopentadiene	122.15	61	27.0- 113.0	YES
,4,6-Trichlorophenol	87.00	87	62.0- 106.0	YES
,4,5-Trichlorophenol	88.96	89	63.0- 107.0	YES
-Chloronaphthalene	88.21	88	60.0- 106.0	YES
-Nitroaniline	88.70	89	54.0- 111.0	YES
imethylphthalate	89.31	89	61.0- 104.0	YES
,6-Dinitrotoluene	94.22	94	62.0- 111.0	YES
cenaphthylene	82.30	82	62.0- 101.0	YES
-Nitroaniline	69.89	70	9.0- 110.0	YES
cenaphthene	83.66	84	61.0- 100.0	YES
,4-Dinitrophenol	80.49	80	29.0- 117.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

[redacted]6 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 196LBLCSM 196LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Nitrophenol	92.37	92	44.0- 110.0	YES
Dibenzofuran	85.77	86	62.0- 102.0	YES
2,4-Dinitrotoluene	94.85	95	58.0- 113.0	YES
Diethylphthalate	89.97	90	59.0- 104.0	YES
4-Chlorophenyl-phenylether	90.08	90	52.0- 110.0	YES
Fluorene	88.51	88	59.0- 109.0	YES
4-Nitroaniline	84.22	84	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	80.49	80	42.0- 107.0	YES
N-Nitrosodiphenylamine	87.11	87	60.0- 106.0	YES
1,2-Diphenylhydrazine	95.86	96	52.0- 129.0	YES
4-Bromophenyl-phenylether	88.89	89	61.0- 110.0	YES
Hexachlorobenzene	96.80	97	52.0- 123.0	YES
Pentachlorophenol	74.82	75	42.0- 108.0	YES
Phenanthrene	88.69	89	62.0- 107.0	YES
Anthracene	92.11	92	62.0- 105.0	YES
Carbazole	88.28	88	57.0- 112.0	YES
Di-n-butylphthalate	91.18	91	59.0- 114.0	YES
Fluoranthene	91.46	91	58.0- 110.0	YES
Benzidine	117.88	24	1.0- 74.0	YES
Pyrene	92.21	92	52.0- 115.0	YES
B[redacted]benzylphthalate	92.39	92	58.0- 119.0	YES
[redacted]Dichlorobenzidine	61.05	61	15.0- 94.0	YES
[redacted]o(a)anthracene	91.51	92	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	89.28	89	8.0- 158.0	YES
Chrysene	90.60	91	60.0- 107.0	YES
Di-n-octylphthalate	96.98	97	54.0- 127.0	YES
Benzo(b)fluoranthene	86.13	86	59.0- 105.0	YES
Benzo(k)fluoranthene	95.19	95	63.0- 108.0	YES
Benzo(a)pyrene	93.18	93	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	91.67	92	55.0- 111.0	YES
Dibenz(a,h)anthracene	92.01	92	60.0- 117.0	YES
Benzo(g,h,i)perylene	91.42	91	52.0- 113.0	YES

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF50B DFTPP Injection Date: 06/24/98

Instrument ID: HP06588 DFTPP Injection Time: 09:02

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.2
68	Less than 2.0% of mass 69	.2 (.4)1
69	Mass 69 relative abundance	49.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	46.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	22.3
365	Greater than 1.00% of mass 198	3.33
441	Present, but less than mass 443	14.7
442	Greater than 40.0% of mass 198	93.2
443	17.0 - 23.0% of mass 442	17.2 (18.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF502	06/24/98	11:11
02	SSTD160	STD1748	>BF503	06/24/98	12:07
03	SSTD001	MDL1748	>BF504	06/24/98	13:02
04	SSTD120	STD1748	>BF505	06/24/98	13:58
05	SSTD005	STD1748	>BF506	06/24/98	14:54
06	SSTD020	STD1748	>BF507	06/24/98	15:49
07	SSTD050	STD1748	>BF508	06/24/98	16:45
08					
09					
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FORM V SV 1/87 Rev.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.217	1.193	1.232	1.271	1.181	1.203	1.216	2.6	AVG	
N-Nitrosodimethylamine	.647	.676	.726	.741	.693	.691	.696	4.9	AVG	
2-Picoline	1.143	1.205	1.238	1.246	1.189	1.200	1.203	3.1	AVG	
Phenol *	1.482	1.498	1.528	1.520	1.465	1.447	1.490	2.1	AVG	*
Aniline	1.838	1.852	1.871	1.891	1.810	1.839	1.850	1.5	AVG	
bis(2-Chloroethyl)ether	1.233	1.164	1.216	1.253	1.180	1.194	1.207	2.8	AVG	
2-Chlorophenol	1.332	1.327	1.371	1.389	1.306	1.322	1.341	2.4	AVG	
1,3-Dichlorobenzene	1.423	1.485	1.510	1.527	1.459	1.458	1.477	2.6	AVG	
1,4-Dichlorobenzene *	1.542	1.556	1.531	1.595	1.497	1.522	1.540	2.2	AVG	*
Benzyl alcohol	.723	.745	.809	.838	.783	.788	.781	5.4	AVG	
1,2-Dichlorobenzene	1.387	1.387	1.408	1.444	1.381	1.387	1.399	1.7	AVG	
2-Methylphenol	1.093	1.083	1.101	1.104	1.077	1.064	1.087	1.4	AVG	
2,2'-oxybis(1-Chloropropane)	1.470	1.481	1.464	1.515	1.434	1.446	1.468	1.9	AVG	
bis(2-Chloroisopropyl)ether	1.470	1.481	1.464	1.515	1.434	1.446	1.468	1.9	AVG	
4-Methylphenol	1.164	1.161	1.145	1.162	1.123	1.123	1.146	1.7	AVG	
3- and 4-Methylphenol	1.164	1.161	1.145	1.162	1.123	1.123	1.146	1.7	AVG	
Acetophenone	1.601	1.593	1.626	1.620	1.553	1.557	1.592	1.9	AVG	
N-Nitroso-di-n-propylamine #	.891	.936	.941	.957	.916	.912	.925	2.6	AVG	#
o-Toluidine	1.761	1.827	1.809	1.819	1.765	1.782	1.794	1.6	AVG	
Hexachloroethane	.631	.637	.673	.683	.657	.664	.658	3.1	AVG	
Nitrobenzene	.400	.414	.430	.449	.426	.435	.426	4.0	AVG	
Isophorone	.733	.734	.755	.757	.738	.749	.744	1.5	AVG	
2-Nitrophenol *	.165	.183	.205	.212	.212	.214	.198	10.0	AVG	*
2,4-Dimethylphenol	.359	.359	.368	.370	.359	.361	.363	1.3	AVG	
Benzoic acid	.175	.210	.229	.260	.255	.271	.233	15.6	1STDEG	0.9990
bis(2-Chloroethoxy)methane	.414	.411	.414	.430	.412	.415	.416	1.7	AVG	
2,4-Dichlorophenol *	.281	.285	.293	.296	.294	.294	.290	2.1	AVG	*
1,2,4-Trichlorobenzene	.319	.326	.330	.337	.326	.332	.328	1.9	AVG	
Naphthalene	1.031	1.030	1.028	1.048	1.020	1.027	1.031	.9	AVG	
4-Chloroaniline	.439	.435	.443	.451	.438	.444	.442	1.3	AVG	
Hexachlorobutadiene *	.203	.201	.206	.202	.205	.206	.204	1.1	AVG	*
4-Chloro-3-methylphenol *	.279	.299	.305	.306	.298	.302	.298	3.4	AVG	*
2-Methylnaphthalene	.623	.628	.636	.652	.631	.643	.636	1.7	AVG	
1-Methylnaphthalene	.579	.600	.592	.615	.595	.593	.596	2.0	AVG	
Hexachlorocyclopentadiene #	.213	.299	.357	.368	.420	.423	.347	23.0	1STDEG	# 0.9981
2,4,6-Trichlorophenol *	.361	.409	.406	.401	.415	.410	.401	5.0	AVG	*
2,4,5-Trichlorophenol	.384	.429	.445	.436	.444	.451	.432	5.7	AVG	
2-Chloronaphthalene	1.214	1.228	1.239	1.226	1.266	1.237	1.235	1.4	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD		
2-Nitroaniline	.347	.385	.425	.442	.451	.447	.416	10.0	AVG		
Dimethylphthalate	1.322	1.379	1.358	1.376	1.421	1.376	1.372	2.3	AVG		
2,6-Dinitrotoluene	.183	.257	.293	.308	.329	.324	.283	19.5	1STDEG		0.9995
Acenaphthylene	1.968	1.966	1.962	2.013	2.026	2.008	1.990	1.4	AVG		
3-Nitroaniline	.259	.346	.372	.387	.407	.404	.363	15.3	1STDEG		0.9996
Acenaphthene *	1.152	1.148	1.175	1.170	1.185	1.163	1.166	1.2	AVG	*	
2,4-Dinitrophenol #	.060	.108	.130	.154	.178	.193	.137	35.7	1STDEG	#	0.9970
4-Nitrophenol #	.206	.229	.255	.268	.273	.281	.252	11.6	AVG	#	
Dibenzofuran	1.590	1.660	1.654	1.658	1.687	1.664	1.652	2.0	AVG		
2,4-Dinitrotoluene	.283	.361	.413	.425	.454	.454	.398	16.6	1STDEG		0.9995
1-Naphthylamine	1.081	1.125	1.072	1.113	1.188	1.136	1.119	3.8	AVG		
2-Naphthylamine	1.087	1.115	1.040	1.084	1.194	1.147	1.111	4.9	AVG		
Diethylphthalate	1.441	1.495	1.492	1.464	1.541	1.502	1.489	2.3	AVG		
4-Chlorophenyl-phenylether	.617	.588	.594	.588	.611	.601	.600	2.0	AVG		
Fluorene	1.226	1.263	1.261	1.231	1.281	1.256	1.253	1.7	AVG		
4-Nitroaniline	.305	.366	.401	.415	.431	.431	.392	12.4	AVG		
4,6-Dinitro-2-methylphenol	.056	.088	.116	.133	.141	.147	.114	31.0	1STDEG		0.9992
N-Nitrosodiphenylamine (1) *	.504	.527	.527	.535	.514	.526	.522	2.1	AVG	*	
1,2-Diphenylhydrazine	.852	.862	.882	.923	.860	.889	.878	3.0	AVG		
4-Bromophenyl-phenylether	.198	.209	.214	.214	.214	.219	.211	3.4	AVG		
Hexachlorobenzene	.240	.242	.246	.255	.246	.251	.246	2.2	AVG		
Pentachlorophenol *	.101	.135	.134	.150	.152	.160	.139	15.0	AVG	*	
Phenanthrene	1.048	1.026	1.019	1.060	1.022	1.035	1.035	1.5	AVG		
Anthracene	1.025	1.058	1.072	1.083	1.054	1.060	1.059	1.8	AVG		
Carbazole	1.003	1.010	1.031	1.039	1.003	1.026	1.019	1.5	AVG		
Di-n-butylphthalate	1.384	1.398	1.429	1.480	1.433	1.444	1.428	2.4	AVG		
Fluoranthene *	1.087	1.101	1.113	1.150	1.105	1.132	1.115	2.0	AVG	*	
Benzidine	.919	.865	.723	.735	.756	.765	.794	10.0	AVG		
Pyrene	1.183	1.198	1.189	1.220	1.199	1.212	1.200	1.1	AVG		
Butylbenzylphthalate	.666	.682	.684	.713	.699	.705	.691	2.5	AVG		
3,3'-Dichlorobenzidine	.444	.456	.475	.478	.486	.498	.473	4.2	AVG		
Benzo(a)anthracene	1.081	1.092	1.105	1.088	1.097	1.116	1.097	1.1	AVG		
bis(2-Ethylhexyl)phthalate	.933	.941	.955	.982	.961	.980	.959	2.1	AVG		
Chrysene	1.076	1.039	1.057	1.049	1.049	1.058	1.055	1.2	AVG		
Di-n-octylphthalate *	1.893	1.855	1.868	2.033	1.974	2.017	1.940	4.0	AVG	*	
7,12-Dimethylbenz[a]anthrace	.555	.575	.610	.630	.637	.640	.608	5.8	AVG		
Benzo(b)fluoranthene	1.424	1.402	1.403	1.412	1.441	1.449	1.422	1.4	AVG		
Benzo(k)fluoranthene	1.265	1.263	1.311	1.351	1.365	1.356	1.318	3.5	AVG		

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

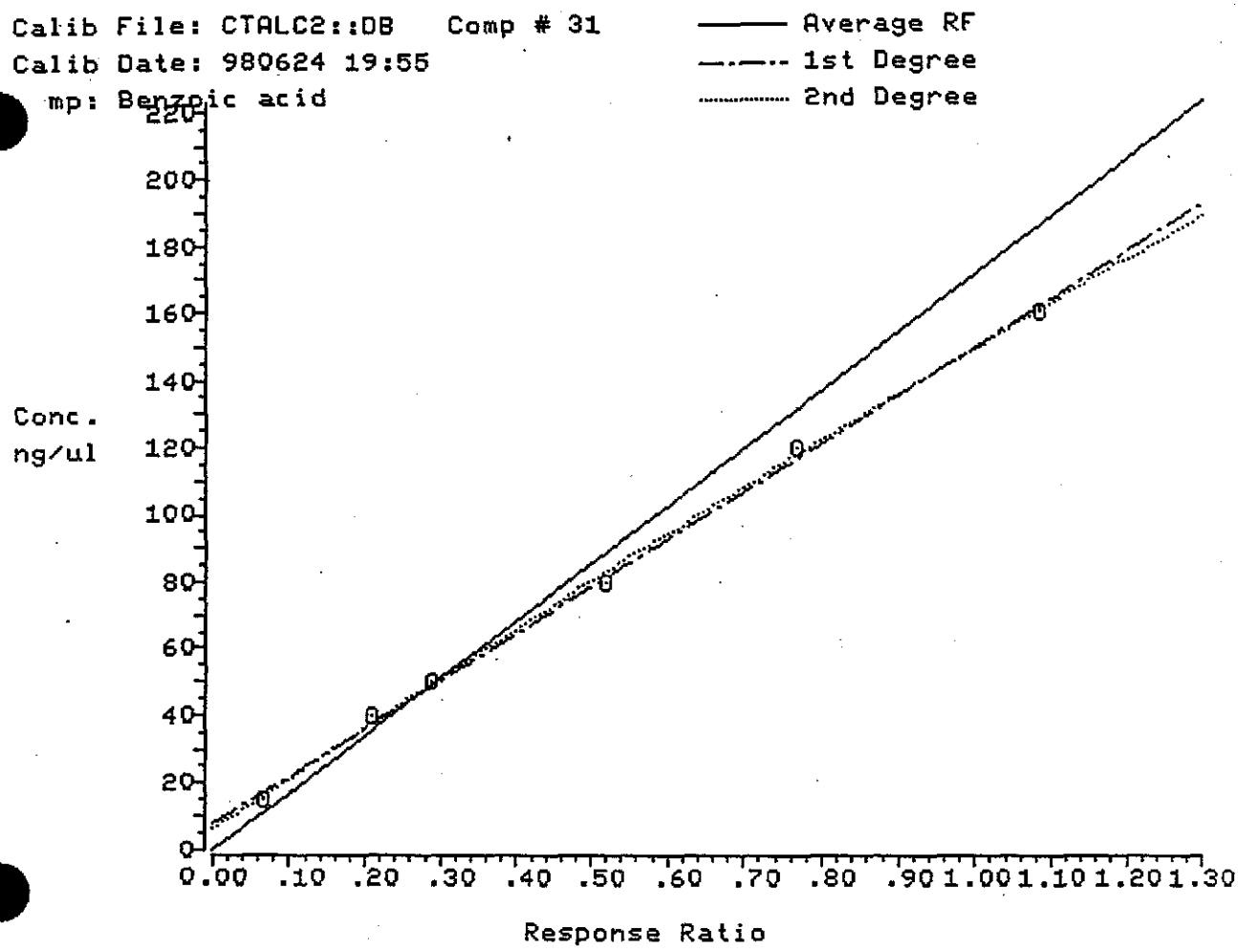
Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(a)pyrene *	1.213	1.186	1.229	1.252	1.251	1.258	1.231	2.3	AVG *
Indeno(1,2,3-cd)pyrene	1.136	1.159	1.135	1.224	1.195	1.218	1.178	3.4	AVG
Dibenz(a,h)anthracene	1.093	1.120	1.145	1.194	1.176	1.202	1.155	3.8	AVG
Benzo(g,h,i)perylene	1.171	1.174	1.185	1.219	1.214	1.240	1.200	2.3	AVG
2-Fluorophenol	1.116	1.149	1.182	1.194	1.150	1.142	1.155	2.4	AVG
Phenol-d5	1.467	1.496	1.518	1.551	1.492	1.500	1.504	1.9	AVG
Phenol-d6	1.467	1.496	1.518	1.551	1.492	1.500	1.504	1.9	AVG
Nitrobenzene-d5	.374	.403	.410	.434	.423	.430	.413	5.4	AVG
2-Fluorobiphenyl	1.254	1.320	1.303	1.284	1.341	1.309	1.302	2.3	AVG
2,4,6-Tribromophenol	.208	.214	.235	.231	.251	.246	.231	7.4	AVG
Terphenyl-d14	.888	.885	.914	.916	.914	.926	.907	1.8	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.



Compound # 31 Calib File: CTALC2::DB

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.17483	.20971	.22910	.25987	.25547	.27062

Average of 6 Rfs: .23327 (15.55 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2055056 + 3.546437(x)
1st Degree Corr Coef: .9990419
2nd Degree Equation: y = .1519684 + 3.851967(x) + -.265824(x^2)
2nd Degree Corr Coef: .9992733

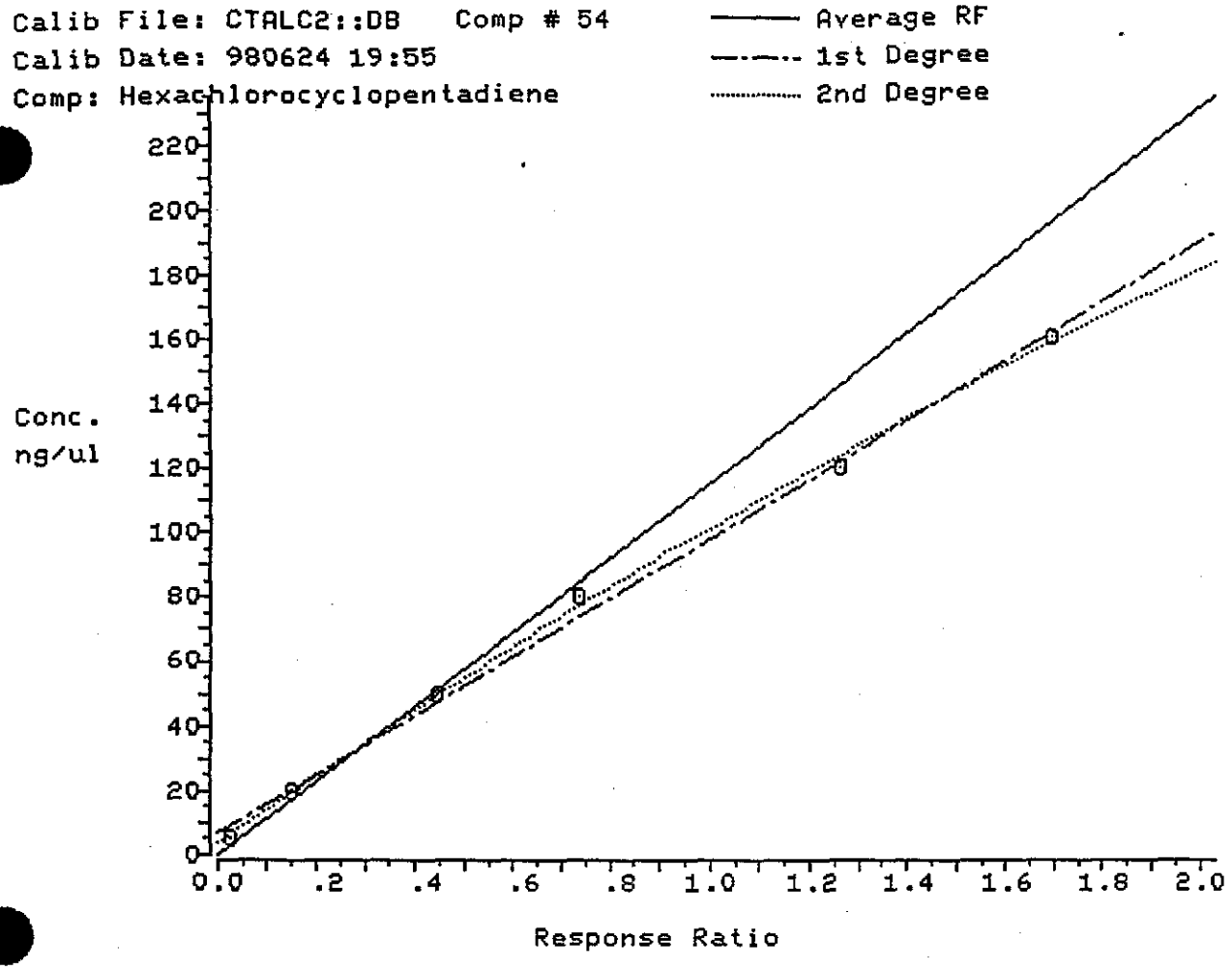
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st DEGREE
205/526
6/24/98

Calib File: CTALC2::DB Comp # 54
Calib Date: 980624 19:55
Comp: Hexachlorocyclopentadiene



Compound # 54 Calib File: CTALC2::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.21333	.29880	.35739	.36803	.41997	.42330

Average of 6 Rfs: .34680 (23.03 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1697320 + 2.285871(x)
1st Degree Corr Coef: .9981681
2nd Degree Equation: y = .0878263 + 2.683878(x) + -.234689(x^2)
2nd Degree Corr Coef: .9992517

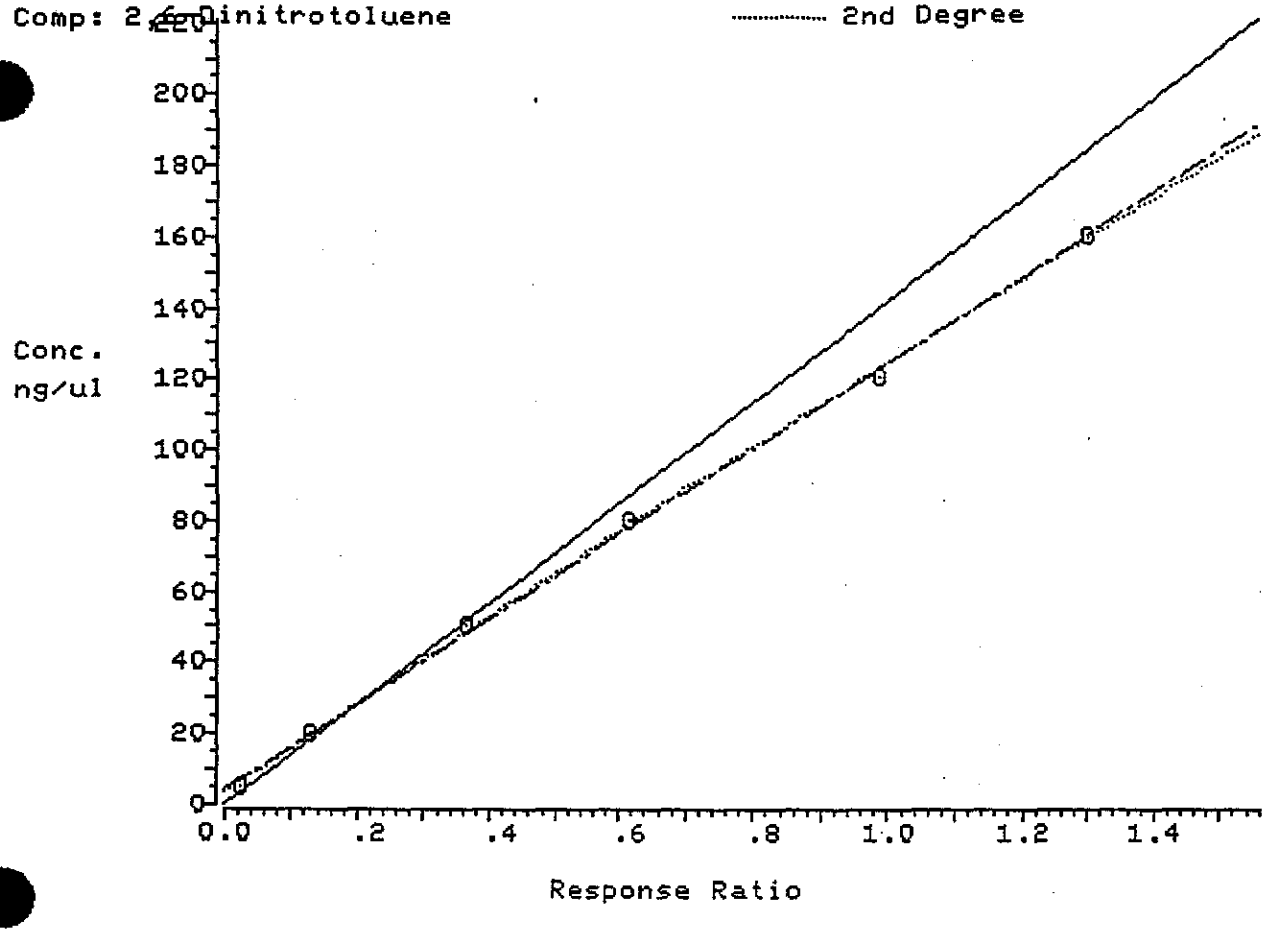
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree
DRE/526
6/24/98

Calib File: CTALC2::DB Comp # 67
Calib Date: 980624 19:55
Comp: 2,6-Dinitrotoluene



Compound # 67 Calib File: CTALC2::DB

Compound: 2,6-Dinitrotoluene
Istd: Acenaphthene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.18333	.25748	.29295	.30841	.32874	.32443

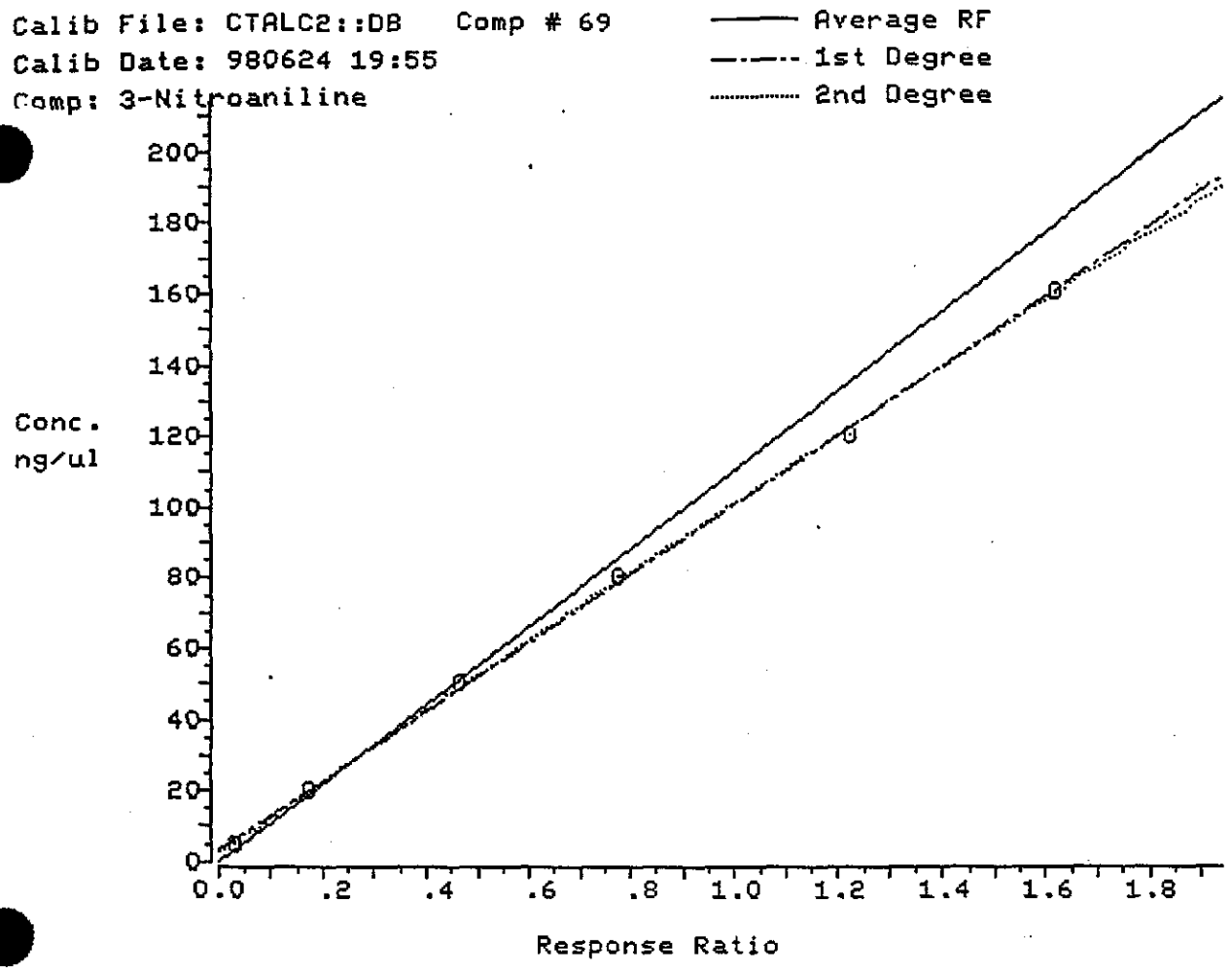
Average of 6 Rfs: .28256 (19.47 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1076675 + 2.992156(x)
1st Degree Corr Coef: .9995252
2nd Degree Equation: y = .0839155 + 3.139390(x) + -.113169(x^2)
2nd Degree Corr Coef: .9996122

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st REGR
DRS/SK
6/24/98



Compound # 69 Calib File: CTALC2::DB

Compound: 3-Nitroaniline
Istd: Acenaphthene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.25903	.34648	.37164	.38691	.40732	.40373

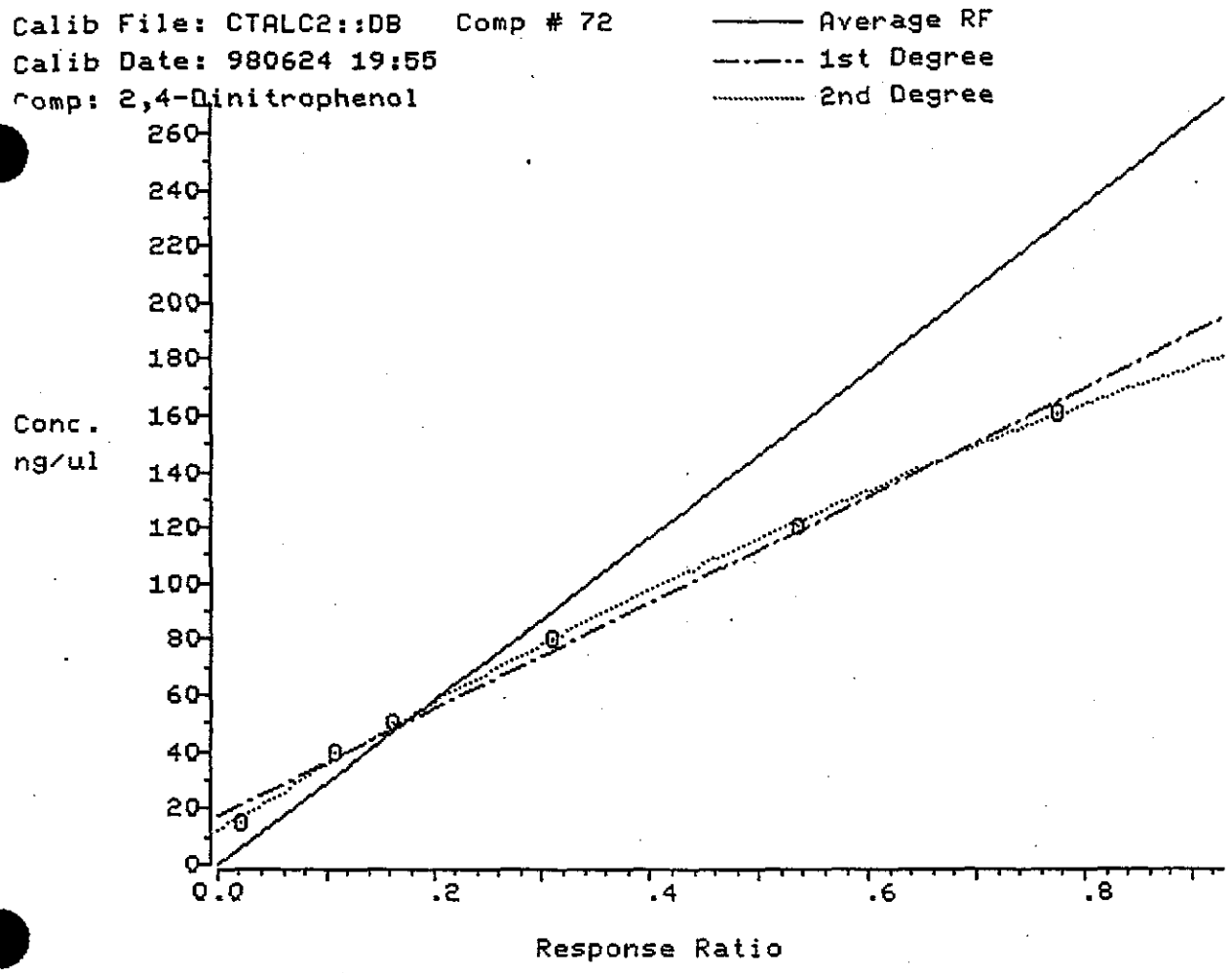
Average of 6 Rfs: .36252 (15.28 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .0837737 + 2.422953(x)
1st Degree Corr Coef: .9996964
2nd Degree Equation: y = .0610327 + 2.533254(x) + -.067870(x^2)
2nd Degree Corr Coef: .9997710

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st reject
005/526
6/24/98



Compound # 72 Calib File: CTALC2::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.05991	.10808	.12985	.15391	.17811	.19338

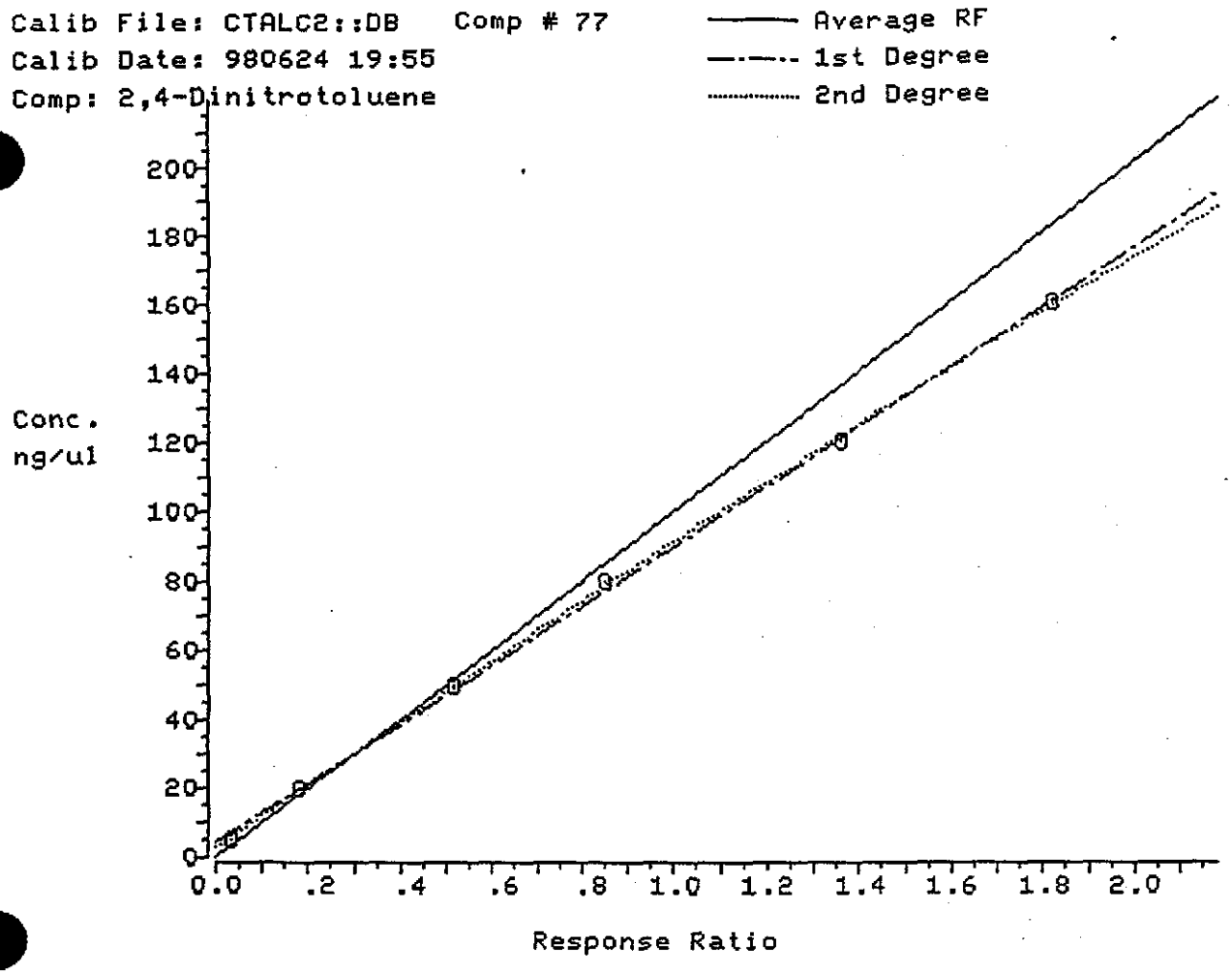
Average of 6 Rfs: .13721 (35.68 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .4369655 + 4.717394(x)
1st Degree Corr Coef: .9970125
2nd Degree Equation: y = .3024688 + 5.995539(x) + -1.60492(x^2)
2nd Degree Corr Coef: .9993783

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st DEGREE
07/5/26
6/24/98



Compound # 77 Calib File: CTALC2::DB

Compound: 2,4-Dinitrotoluene
Istd: Acenaphthene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.28298	.36052	.41349	.42546	.45383	.45447

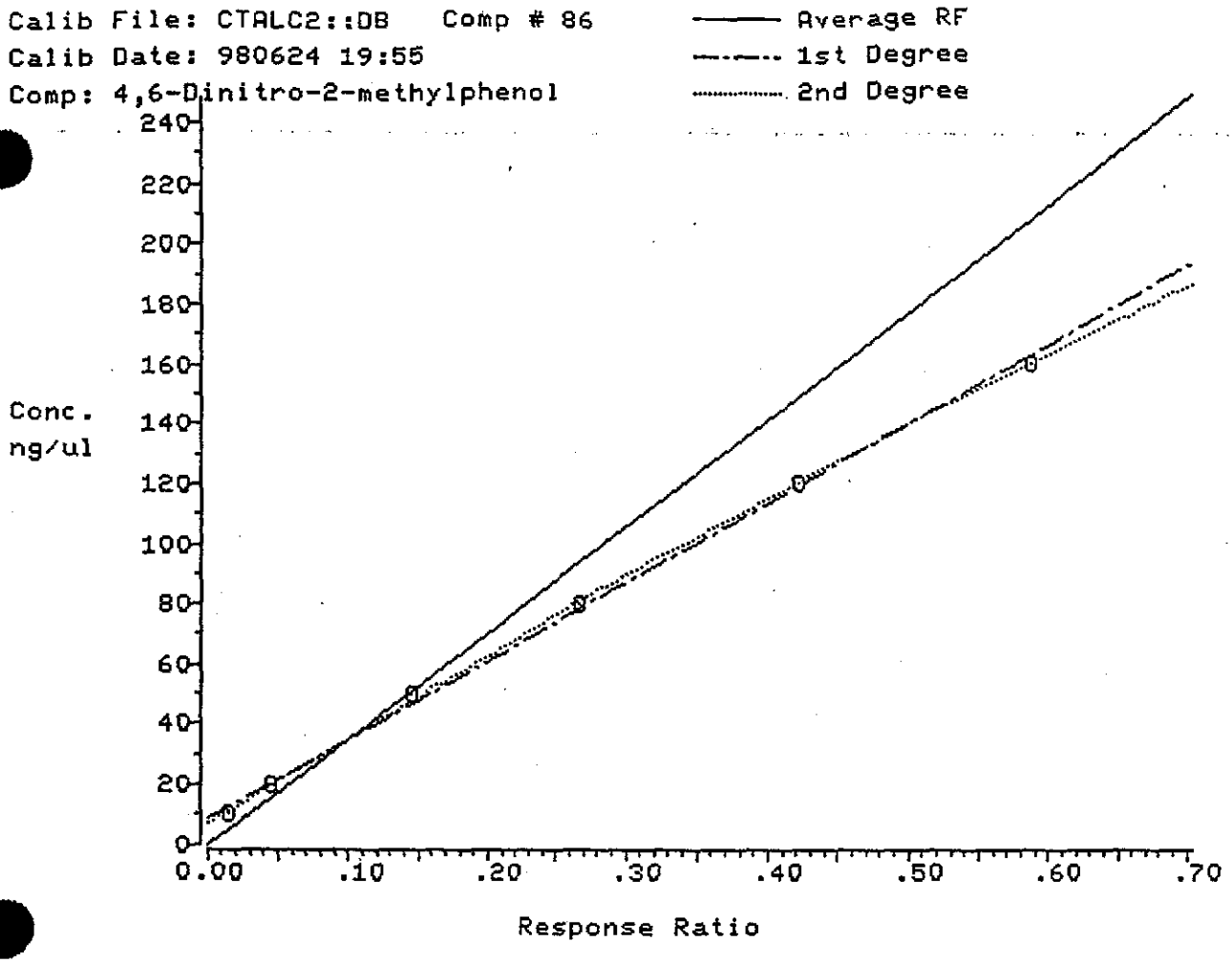
Average of 6 Rfs: .39846 (16.62 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1057336 + 2.150134(x)
1st Degree Corr Coef: .9995573
2nd Degree Equation: y = .0678109 + 2.315814(x) + -.090820(x^2)
2nd Degree Corr Coef: .9997746

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st Degree
005326.
6/4/98



Compound # 86 Calib File: CTALC2::DB

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>BF506	>BF507	>BF508	>BF502	>BF505	>BF503
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.05582	.08849	.11598	.13348	.14062	.14662

Average of 6 Rfs: .11350 (31.00 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2283310 + 6.513472(x)
1st Degree Corr Coef: .9992977
2nd Degree Equation: y = .1736543 + 7.290406(x) + -1.33139(x^2)
2nd Degree Corr Coef: .9998239

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st DEGREE
BE/GB
6/24/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF550 DFTPP Injection Date: 06/26/98

Instrument ID: HP06588 DFTPP Injection Time: 07:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	71.9
70	Less than 2.0% of mass 69	.5 (.6)1
127	40.0 - 60.0% of mass 198	53.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.2
365	Greater than 1.00% of mass 198	1.56
441	Present, but less than mass 443	7.2
442	Greater than 40.0% of mass 198	41.8
443	17.0 - 23.0% of mass 442	9.2 (22.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF551	06/26/98	07:52
02	SBLKLC176L	SBLKLC176	>BF552	06/26/98	09:23
03	176LCLCS2	176LCLCS	>BF553	06/26/98	10:17
04	176LCLCSD	176LCLCSD	>BF554	06/26/98	11:12
05	GP192RE	2940081RE	>BF555	06/26/98	12:06
06	JUNSQ	2952567	>BF556	06/26/98	13:01
-07	SBLKLF1622	SBLKLF162	>BF557	06/26/98	13:56
-08	162LFLCS2	162LFLCS	>BF558	06/26/98	14:50
09	2701-	2943293	>BF559	06/26/98	15:44
10	2701-MS	2943294	>BF560	06/26/98	16:38
11	2701-MSD	2943295	>BF561	06/26/98	17:32
12	0656-	2943287	>BF562	06/26/98	18:26
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.216	1.224	80.52	80.0	-.6
N-Nitrosodimethylamine		.696	.694	79.83	80.0	.2
2-Picoline		1.203	1.217	80.88	80.0	-1.1
Phenol	*	1.490	1.510	81.10	80.0	-1.4*
Aniline		1.850	1.790	77.38	80.0	3.3
bis(2-Chloroethyl)ether		1.207	1.175	77.87	80.0	2.7
2-Chlorophenol		1.341	1.344	80.18	80.0	-.2
1,3-Dichlorobenzene		1.477	1.439	77.95	80.0	2.6
1,4-Dichlorobenzene	*	1.540	1.529	79.38	80.0	.8*
Benzyl alcohol		.781	.799	81.82	80.0	-2.3
1,2-Dichlorobenzene		1.399	1.381	78.97	80.0	1.3
2-Methylphenol		1.087	1.110	81.69	80.0	-2.1
2,2'-oxybis(1-Chloropropane)		1.468	1.417	77.21	80.0	3.5
bis(2-Chloroisopropyl)ether		1.468	1.417	77.21	80.0	3.5
4-Methylphenol		1.146	1.142	79.67	80.0	.4
3- and 4-Methylphenol		1.146	1.142	79.67	80.0	.4
Acetophenone		1.592	1.612	81.00	80.0	-1.2
N-Nitroso-di-n-propylamine	#	.925	.944	81.65	80.0	-2.1#
o-Toluidine		1.794	1.803	80.42	80.0	-.5
Hexachloroethane		.658	.669	81.43	80.0	-1.8
Nitrobenzene		.426	.435	81.71	80.0	-2.1
Isophorone		.744	.741	79.61	80.0	.5
2-Nitrophenol	*	.198	.209	84.39	80.0	-5.5*
2,4-Dimethylphenol		.363	.367	80.91	80.0	-1.1
Benzoic acid		.233	.249	78.97	80.0	1.3
bis(2-Chloroethoxy)methane		.416	.403	77.51	80.0	3.1
2,4-Dichlorophenol	*	.290	.299	82.41	80.0	-3.0*
1,2,4-Trichlorobenzene		.328	.329	80.24	80.0	-.3
Naphthalene		1.031	1.000	77.62	80.0	3.0
4-Chloroaniline		.442	.451	81.72	80.0	-2.2
Hexachlorobutadiene	*	.204	.207	81.42	80.0	-1.8*
4-Chloro-3-methylphenol	*	.298	.300	80.58	80.0	-.7*
2-Methylnaphthalene		.636	.629	79.19	80.0	1.0
1-Methylnaphthalene		.596	.574	77.13	80.0	3.6
Hexachlorocyclopentadiene	#	.347	.312	63.93	80.0	20.1#
2,4,6-Trichlorophenol	*	.401	.419	83.69	80.0	-4.6*
2,4,5-Trichlorophenol		.432	.455	84.30	80.0	-5.4
2-Chloronaphthalene		1.235	1.241	80.40	80.0	-.5

FORM VII SV-1 1/87 Rev.

SB112 LF1622
1622 LFLCS2

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.453	87.17	80.0	-9.0
Dimethylphthalate		1.372	1.390	81.02	80.0	-1.3
2,6-Dinitrotoluene		.283	.313	79.19	80.0	1.0
Acenaphthylene		1.990	1.991	80.01	80.0	-.0
3-Nitroaniline		.363	.403	81.37	80.0	-1.7
Acenaphthene	*	1.166	1.175	80.67	80.0	-.8*
2,4-Dinitrophenol	#	.137	.138	69.40	80.0	13.3#
4-Nitrophenol	#	.252	.291	92.36	80.0	-15.4#
Dibenzofuran		1.652	1.705	82.57	80.0	-3.2
2,4-Dinitrotoluene		.398	.449	81.46	80.0	-1.8
1-Naphthylamine		1.119	1.058	75.59	80.0	5.5
2-Naphthylamine		1.111	1.016	73.15	80.0	8.6
Diethylphthalate		1.489	1.514	81.32	80.0	-1.6
4-Chlorophenyl-phenylether		.600	.611	81.48	80.0	-1.9
Fluorene		1.253	1.269	80.99	80.0	-1.2
4-Nitroaniline		.392	.422	86.30	80.0	-7.9
4,6-Dinitro-2-methylphenol		.113	.118	70.43	80.0	12.0
N-Nitrosodiphenylamine (1)	*	.522	.506	77.52	80.0	3.1*
1,2-Diphenylhydrazine		.878	.881	80.27	80.0	-.3
4-Bromophenyl-phenylether		.211	.213	80.58	80.0	-.7
Hexachlorobenzene		.246	.251	81.45	80.0	-1.8
Pentachlorophenol	*	.139	.148	85.63	80.0	-7.0*
Phenanthrene		1.035	1.020	78.81	80.0	1.5
Anthracene		1.059	1.047	79.08	80.0	1.1
Carbazole		1.019	1.023	80.34	80.0	-.4
Di-n-butylphthalate		1.428	1.394	78.07	80.0	2.4
Fluoranthene	*	1.115	1.124	80.64	80.0	-.8*
Benzidine		.794	.681	274.57	320.0	14.2
Pyrene		1.200	1.157	77.10	80.0	3.6
Butylbenzylphthalate		.691	.662	76.57	80.0	4.3
3,3'-Dichlorobenzidine		.473	.486	82.21	80.0	-2.8
Benzo(a)anthracene		1.097	1.125	82.08	80.0	-2.6
bis(2-Ethylhexyl)phthalate		.959	.912	76.08	80.0	4.9
Chrysene		1.055	1.074	81.47	80.0	-1.8
Di-n-octylphthalate	*	1.940	1.767	72.88	80.0	8.9*
7,12-Dimethylbenz[a]anthrace		.608	.598	78.73	80.0	1.6
Benzo(b)fluoranthene		1.422	1.414	79.53	80.0	.6
Benzo(k)fluoranthene		1.318	1.311	79.53	80.0	.6

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.245	80.87	80.0	-1.1*
Indeno(1,2,3-cd)pyrene		1.178	1.163	78.98	80.0	1.3
Dibenz(a,h)anthracene		1.155	1.174	81.32	80.0	-1.6
Benzo(g,h,i)perylene		1.200	1.174	78.22	80.0	2.2
2-Fluorophenol		1.155	1.134	78.50	80.0	1.9
Phenol-d5		1.504	1.501	79.84	80.0	.2
Phenol-d6		1.504	1.501	79.84	80.0	.2
Nitrobenzene-d5		.413	.422	81.83	80.0	-2.3
2-Fluorobiphenyl		1.302	1.327	81.54	80.0	-1.9
2,4,6-Tribromophenol		.231	.253	87.79	80.0	-9.7
Terphenyl-d14		.907	.873	77.02	80.0	3.7

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF551 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 07:52

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	162219	12.11	555238	15.95	266793	21.30
	UPPER LIMIT	324438		1110476		533586	
	LOWER LIMIT	81110		277619		133397	
	EPA SAMPLE NO.						
01	SBLKLC176L	158574	12.11	551236	15.95	254431	21.30
02	176LCLCS2	125056	12.10	443281	15.94	208859	21.28
03	176LCLCSD	129512	12.09	437596	15.93	214616	21.28
04	GP192RE	124911	12.09	409694	15.93	195875	21.28
05	JUNSQ	130356	12.09	437485	15.93	223932	21.28
06	SBLKLF1622	159401	12.09	533538	15.93	262135	21.28
07	162LFLCS2	139525	12.09	466098	15.94	224919	21.28
08	2701-	165578	12.10	561839	15.94	266369	21.29
09	2701-MS	183811	12.10	622934	15.94	305138	21.29
10	2701-MSD	199503	12.11	680560	15.95	329295	21.29
11	0656-	144652	12.10	486911	15.95	235331	21.30
12							
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19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF551 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 07:52

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	484125		25.82	495928		32.45	418849		37.11
	UPPER LIMIT	968250			991856			837698		
	LOWER LIMIT	242063			247964			209425		
	EPA SAMPLE NO.									
01	SBLKLC176L	469844		25.82	495681		32.44	419809		37.11
02	176LCLCS2	374530		25.82	383090		32.44	325460		37.09
03	176LCLCSD	380730		25.81	397377		32.44	325457		37.09
04	GP192RE	347534		25.81	366479		32.43	305627		37.09
05	JUNSQ	394823		25.81	401113		32.43	331405		37.09
06	SBLKLF1622	470364		25.81	493709		32.43	403603		37.09
07	162LFLCS2	404185		25.82	420963		32.44	348017		37.10
08	2701-	484745		25.81	510413		32.44	418870		37.10
09	2701-MS	546389		25.82	567143		32.45	467875		37.11
10	2701-MSD	604861		25.82	626805		32.45	512971		37.11
11	0656-	419116		25.82	435765		32.44	359402		37.11
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22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF570 DFTPP Injection Date: 06/26/98

Instrument ID: HP06588 DFTPP Injection Time: 19:17 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	55.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	2.07
441	Present, but less than mass 443	8.3
442	Greater than 40.0% of mass 198	53.8
443	17.0 - 23.0% of mass 442	10.2 (18.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF571	06/26/98	19:45
02	1956-	2943290	>BF572	06/26/98	20:39
03	2023-	2943292	>BF574	06/26/98	22:29
04	2623-	2943380	>BF575	06/26/98	23:23
05	2723-	2943382	>BF576	06/27/98	00:17 ✓
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lument ID: HP06588 Calibration Date: 06/26/98 Time: 19:45

b File ID: >BF571 Init. Calib. Date(s): 06/24/98 06/24/98

n RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.216	1.257	82.69	80.0	-3.4	
N-Nitrosodimethylamine		.696	.695	79.88	80.0	.2	
2-Picoline		1.203	1.211	80.53	80.0	-.7	
Phenol	*	1.490	1.471	78.99	80.0	1.3	*
Aniline		1.850	1.813	78.38	80.0	2.0	
bis(2-Chloroethyl)ether		1.207	1.145	75.89	80.0	5.1	
2-Chlorophenol		1.341	1.345	80.22	80.0	-.3	
1,3-Dichlorobenzene		1.477	1.451	78.58	80.0	1.8	
1,4-Dichlorobenzene	*	1.540	1.522	79.04	80.0	1.2	*
Benzyl alcohol		.781	.792	81.14	80.0	-1.4	
1,2-Dichlorobenzene		1.399	1.382	79.02	80.0	1.2	
2-Methylphenol		1.087	1.075	79.13	80.0	1.1	
2,2'-oxybis(1-Chloropropane)		1.468	1.376	74.97	80.0	6.3	
bis(2-Chloroisopropyl)ether		1.468	1.376	74.97	80.0	6.3	
4-Methylphenol		1.146	1.143	79.74	80.0	.3	
3- and 4-Methylphenol		1.146	1.143	79.74	80.0	.3	
Acetophenone		1.592	1.595	80.14	80.0	-.2	
N-Nitroso-di-n-propylamine	#	.925	.928	80.18	80.0	-.2	#
o-Toluidine		1.794	1.790	79.81	80.0	.2	
Hexachloroethane		.658	.668	81.25	80.0	-1.6	
Nitrobenzene		.426	.440	82.71	80.0	-3.4	
Isophorone		.744	.760	81.71	80.0	-2.1	
2-Nitrophenol	*	.198	.207	83.74	80.0	-4.7	*
2,4-Dimethylphenol		.363	.375	82.63	80.0	-3.3	
Benzoic acid		.233	.256	80.80	80.0	-1.0	
bis(2-Chloroethoxy)methane		.416	.407	78.25	80.0	2.2	
2,4-Dichlorophenol	*	.290	.303	83.48	80.0	-4.3	*
1,2,4-Trichlorobenzene		.328	.336	81.85	80.0	-2.3	
Naphthalene		1.031	1.009	78.32	80.0	2.1	
4-Chloroaniline		.442	.446	80.77	80.0	-1.0	
Hexachlorobutadiene	*	.204	.207	81.26	80.0	-1.6	*
4-Chloro-3-methylphenol	*	.298	.303	81.27	80.0	-1.6	*
2-Methylnaphthalene		.636	.620	78.03	80.0	2.5	
1-Methylnaphthalene		.596	.593	79.64	80.0	.5	
Hexachlorocyclopentadiene	#	.347	.358	72.17	80.0	9.8	#
2,4,6-Trichlorophenol	*	.401	.426	85.06	80.0	-6.3	*
2,4,5-Trichlorophenol		.432	.455	84.27	80.0	-5.3	
2-Chloronaphthalene		1.235	1.227	79.47	80.0	.7	

FORM VII SV-1 1/87 Rev.

2nd page of cont. cal summary data evaluated from raw, all ok.

2623
2723

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 19:45

Lab File ID: >BF571 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.249	81.16	80.0	-1.5*
Indeno(1,2,3-cd)pyrene		1.178	1.199	81.43	80.0	-1.8
Dibenz(a,h)anthracene		1.155	1.152	79.81	80.0	.2
Benzo(g,h,i)perylene		1.200	1.186	79.05	80.0	1.2
2-Fluorophenol		1.155	1.168	80.87	80.0	-1.1
Phenol-d5		1.504	1.478	78.60	80.0	1.7
Phenol-d6		1.504	1.478	78.60	80.0	1.7
Nitrobenzene-d5		.413	.422	81.76	80.0	-2.2
2-Fluorobiphenyl		1.302	1.349	82.89	80.0	-3.6
2,4,6-Tribromophenol		.231	.252	87.45	80.0	-9.3
Terphenyl-d14		.907	.868	76.54	80.0	4.3

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF571 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 19:45

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	166312	12.11	561165	15.95	273080	21.30
	UPPER LIMIT	332624		1122330		546160	
	LOWER LIMIT	83156		280583		136540	
	EPA SAMPLE NO.						
01	1956-	178274	12.11	615555	15.95	290195	21.30
02	2023-	154216	12.11	526553	15.95	255589	21.30
03	2623-	190357	12.11	635351	15.95	310712	21.30
04	2723-	167157	12.11	570389	15.95	269233	21.30
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF571 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 19:45

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	488915		25.82	510030		32.45	418696		37.12
	UPPER LIMIT	977830			1020060			837392		
	LOWER LIMIT	244458			255015			209348		
	EPA SAMPLE NO.									
01	1956-	525813		25.82	537452		32.45	454660		37.12
02	2023-	471249		25.82	467372		32.45	395082		37.12
03	2623-	555672		25.82	556547		32.45	457251		37.11
04	2723-	498279		25.82	519221		32.45	420540		37.12
05										
06										
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22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF58A DFTPP Injection Date: 06/29/98

Instrument ID: HP06588 DFTPP Injection Time: 07:10

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	33.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.8
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	44.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	5.5
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 1.00% of mass 198	3.25
441	Present, but less than mass 443	14.0
442	Greater than 40.0% of mass 198	84.2
443	17.0 - 23.0% of mass 442	15.6 (18.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF581	06/29/98	07:43
02	1901-	2943288	>BF585	06/29/98	10:14
03	2656-	2943381	>BF587	06/29/98	12:21
04	1923-	2943289	>BF586	06/29/98	11:25
05	GF003DL	2933383DL	>BF599	06/29/98	13:17
06	2756-	2943383	>BF588	06/29/98	14:34
07	3323-	2943385	>BF590	06/29/98	16:47
08	SBLKLB1742	SBLKLB174	>BF591	06/29/98	17:54
09	174LBLCS2	174LBLCS	>BF592	06/29/98	18:47
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

nstrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.216	1.298	85.42	80.0	-6.8	
N-Nitrosodimethylamine		.696	.746	85.81	80.0	-7.3	
2-Picoline		1.203	1.263	83.96	80.0	-5.0	
Phenol	*	1.490	1.391	74.68	80.0	6.7	*
Aniline		1.850	1.711	73.98	80.0	7.5	
bis(2-Chloroethyl)ether		1.207	1.093	72.46	80.0	9.4	
2-Chlorophenol		1.341	1.290	76.93	80.0	3.8	
1,3-Dichlorobenzene		1.477	1.441	78.07	80.0	2.4	
1,4-Dichlorobenzene	*	1.540	1.505	78.14	80.0	2.3	*
Benzyl alcohol		.781	.655	67.07	80.0	16.2	
1,2-Dichlorobenzene		1.399	1.393	79.63	80.0	.5	
2-Methylphenol		1.087	1.025	75.46	80.0	5.7	
2,2'-oxybis(1-Chloropropane)		1.468	1.328	72.37	80.0	9.5	
bis(2-Chloroisopropyl)ether		1.468	1.328	72.37	80.0	9.5	
4-Methylphenol		1.146	1.094	76.38	80.0	4.5	
3- and 4-Methylphenol		1.146	1.094	76.38	80.0	4.5	
Acetophenone		1.592	1.534	77.11	80.0	3.6	
N-Nitroso-di-n-propylamine	#	.925	.871	75.25	80.0	5.9	#
o-Toluidine		1.794	1.687	75.24	80.0	5.9	
Hexachloroethane		.658	.636	77.38	80.0	3.3	
Nitrobenzene		.426	.418	78.53	80.0	1.8	
Isophorone		.744	.733	78.74	80.0	1.6	
2-Nitrophenol	*	.198	.211	85.09	80.0	-6.4	*
2,4-Dimethylphenol		.363	.353	77.96	80.0	2.6	
Benzoic acid		.233	.242	76.88	80.0	3.9	
bis(2-Chloroethoxy)methane		.416	.400	76.83	80.0	4.0	
2,4-Dichlorophenol	*	.290	.303	83.55	80.0	-4.4	*
1,2,4-Trichlorobenzene		.328	.351	85.60	80.0	-7.0	
Naphthalene		1.031	1.011	78.47	80.0	1.9	
4-Chloroaniline		.442	.428	77.58	80.0	3.0	
Hexachlorobutadiene	*	.204	.233	91.56	80.0	-14.4	*
4-Chloro-3-methylphenol	*	.298	.293	78.50	80.0	1.9	*
2-Methylnaphthalene		.636	.632	79.58	80.0	.5	
1-Methylnaphthalene		.596	.576	77.30	80.0	3.4	
Hexachlorocyclopentadiene	#	.347	.460	90.83	80.0	-13.5	#
2,4,6-Trichlorophenol	*	.401	.416	83.09	80.0	-3.9	*
2,4,5-Trichlorophenol		.432	.460	85.28	80.0	-6.6	
2-Chloronaphthalene		1.235	1.205	78.05	80.0	2.4	

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2654
2756
3323

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.423	81.42	80.0	-1.8
Dimethylphthalate		1.372	1.385	80.77	80.0	-1.0
2,6-Dinitrotoluene		.283	.313	79.27	80.0	.9
Acenaphthylene		1.990	1.979	79.56	80.0	.6
3-Nitroaniline		.363	.372	75.45	80.0	5.7
Acenaphthene	*	1.166	1.163	79.79	80.0	.3*
2,4-Dinitrophenol	#	.137	.147	72.88	80.0	8.9#
4-Nitrophenol	#	.252	.265	84.18	80.0	-5.2#
Dibenzofuran		1.652	1.666	80.69	80.0	-.9
2,4-Dinitrotoluene		.398	.434	78.80	80.0	1.5
1-Naphthylamine		1.119	1.051	75.15	80.0	6.1
2-Naphthylamine		1.111	.967	69.65	80.0	12.9
Diethylphthalate		1.489	1.506	80.91	80.0	-1.1
4-Chlorophenyl-phenylether		.600	.625	83.38	80.0	-4.2
Fluorene		1.253	1.258	80.29	80.0	-.4
4-Nitroaniline		.392	.409	83.58	80.0	-4.5
4,6-Dinitro-2-methylphenol		.113	.128	75.62	80.0	5.5
N-Nitrosodiphenylamine (1)	*	.522	.514	78.77	80.0	1.5*
1,2-Diphenylhydrazine		.878	.835	76.10	80.0	4.9
4-Bromophenyl-phenylether		.211	.222	83.97	80.0	-5.0
Hexachlorobenzene		.246	.262	85.02	80.0	-6.3
Pentachlorophenol	*	.139	.137	78.82	80.0	1.5*
Phenanthrene		1.035	1.034	79.92	80.0	.1
Anthracene		1.059	1.054	79.64	80.0	.5
Carbazole		1.019	1.020	80.10	80.0	-.1
Di-n-butylphthalate		1.428	1.420	79.53	80.0	.6
Fluoranthene	*	1.115	1.150	82.51	80.0	-3.1*
Benzidine		.794	.644	259.43	320.0	18.9
Pyrene		1.200	1.166	77.72	80.0	2.9
Butylbenzylphthalate		.691	.680	78.69	80.0	1.6
3,3'-Dichlorobenzidine		.473	.473	80.07	80.0	-.1
Benzo(a)anthracene		1.097	1.125	82.06	80.0	-2.6
bis(2-Ethylhexyl)phthalate		.959	.935	78.00	80.0	2.5
Chrysene		1.055	1.062	80.52	80.0	-.6
Di-n-octylphthalate	*	1.940	1.828	75.40	80.0	5.7*
7,12-Dimethylbenz[a]anthrace		.608	.608	80.01	80.0	-.0
Benzo(b)fluoranthene		1.422	1.419	79.85	80.0	.2
Benzo(k)fluoranthene		1.318	1.313	79.70	80.0	.4

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Benzo(a)pyrene	*	1.231	1.246	80.98	80.0	-1.2	*
Indeno(1,2,3-cd)pyrene		1.178	1.213	82.39	80.0	-3.0	
Dibenz(a,h)anthracene		1.155	1.195	82.77	80.0	-3.5	
Benzo(g,h,i)perylene		1.200	1.266	84.41	80.0	-5.5	
2-Fluorophenol		1.155	1.166	80.76	80.0	-1.0	
Phenol-d5		1.504	1.413	75.19	80.0	6.0	
Phenol-d6		1.504	1.413	75.19	80.0	6.0	
Nitrobenzene-d5		.413	.415	80.47	80.0	-.6	
2-Fluorobiphenyl		1.302	1.344	82.56	80.0	-3.2	
2,4,6-Tribromophenol		.231	.255	88.39	80.0	-10.5	
Terphenyl-d14		.907	.894	78.87	80.0	1.4	

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF581 Date Analyzed: 06/29/98

Instrument ID: HP06588 Time Analyzed: 07:43

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	135692	12.11	436849	15.96	210992	21.30
	UPPER LIMIT	271384		873698		421984	
	LOWER LIMIT	67846		218425		105496	
	EPA SAMPLE NO.						
01	1901-	159509	12.11	545810	15.96	285525	21.30
02	2656-	214569	12.11	734024	15.95	353427	21.30
03	1923-	145062	12.11	488924	15.96	246119	21.30
04	GF003DL	147864	12.11	484067	15.95	249376	21.31
05	2756-	183217	12.11	634338	15.96	311063	21.31
06	3323-	144566	12.12	507681	15.96	250311	21.31
07	SBLKLB1742	166403	12.11	566806	15.95	279699	21.31
08	174LBLCS2	155198	12.11	542844	15.95	270537	21.29
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF581 Date Analyzed: 06/29/98

Instrument ID: HP06588 Time Analyzed: 07:43

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	374415	25.83	387243	32.45	327652	37.11
	UPPER LIMIT	748830		774486		655304	
	LOWER LIMIT	187208		193622		163826	
	EPA SAMPLE NO.						
01	1901-	496247	25.83	722590	32.56	476668	37.35
02	2656-	629891	25.83	618133	32.46	522573	37.13
03	1923-	432508	25.83	453167	32.46	371664	37.14
04	GF003DL	435930	25.84	469618	32.47	380042	37.16
05	2756-	542863	25.84	540593	32.45	289624	37.14
06	3323-	433276	25.85	481867	32.47	377790	37.16
07	SBLKLB1742	510565	25.83	497007	32.45	411315	37.13
08	174LBLCS2	486963	25.83	493051	32.45	399002	37.12
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF60Z DFTPP Injection Date: 06/30/98

Instrument ID: HP06588 DFTPP Injection Time: 07:34

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	57.6
70	Less than 2.0% of mass 69	.5 (.9)1
127	40.0 - 60.0% of mass 198	50.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 30.0% of mass 198	21.2
365	Greater than 1.00% of mass 198	2.79
441	Present, but less than mass 443	10.7
442	Greater than 40.0% of mass 198	62.3
443	17.0 - 23.0% of mass 442	11.8 (19.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF601	06/30/98	08:02
02	1956-DL	2943290DL	>BF602	06/30/98	08:56
03	2001-	2943291	>BF603	06/30/98	09:49
04	0202-	2943286	>BF604	06/30/98	10:42
05	1901-DL	2943288DL	>BF605	06/30/98	11:46
06	1901-DL	2943288DL	>BF606	06/30/98	12:52
07	1923-DL	2943289DL	>BF607	06/30/98	13:56
08	JUNSQDL	2952567DL	>BF60A	06/30/98	14:50
09	3301-	2943384	>BF608	06/30/98	15:44
10	3323-DL	2943385DL	>BF609	06/30/98	16:43
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.155	76.01	80.0	5.0
N-Nitrosodimethylamine	.696	.671	77.18	80.0	3.5
2-Picoline	1.203	1.146	76.19	80.0	4.8
Phenol *	1.490	1.495	80.26	80.0	-.3*
Aniline	1.850	1.792	77.50	80.0	3.1
bis(2-Chloroethyl)ether	1.207	1.175	77.90	80.0	2.6
2-Chlorophenol	1.341	1.324	78.97	80.0	1.3
1,3-Dichlorobenzene	1.477	1.487	80.55	80.0	-.7
1,4-Dichlorobenzene *	1.540	1.546	80.28	80.0	-.4*
Benzyl alcohol	.781	.812	83.15	80.0	-3.9
1,2-Dichlorobenzene	1.399	1.418	81.06	80.0	-1.3
2-Methylphenol	1.087	1.093	80.42	80.0	-.5
2,2'-oxybis(1-Chloropropane)	1.468	1.448	78.90	80.0	1.4
bis(2-Chloroisopropyl)ether	1.468	1.448	78.90	80.0	1.4
4-Methylphenol	1.146	1.132	79.03	80.0	1.2
3- and 4-Methylphenol	1.146	1.132	79.03	80.0	1.2
Acetophenone	1.592	1.595	80.15	80.0	-.2
N-Nitroso-di-n-propylamine #	.925	.930	80.36	80.0	-.4#
o-Toluidine	1.794	1.767	78.80	80.0	1.5
Hexachloroethane	.658	.680	82.72	80.0	-3.4
Nitrobenzene	.426	.447	83.97	80.0	-5.0
Isophorone	.744	.759	81.59	80.0	-2.0
2-Nitrophenol *	.198	.211	85.25	80.0	-6.6*
2,4-Dimethylphenol	.363	.375	82.81	80.0	-3.5
Benzoic acid	.233	.255	80.67	80.0	-.8
bis(2-Chloroethoxy)methane	.416	.425	81.75	80.0	-2.2
2,4-Dichlorophenol *	.290	.303	83.38	80.0	-4.2*
1,2,4-Trichlorobenzene	.328	.340	82.78	80.0	-3.5
Naphthalene	1.031	1.058	82.12	80.0	-2.7
4-Chloroaniline	.442	.450	81.41	80.0	-1.8
Hexachlorobutadiene *	.204	.213	83.51	80.0	-4.4*
4-Chloro-3-methylphenol *	.298	.312	83.72	80.0	-4.6*
2-Methylnaphthalene	.636	.645	81.19	80.0	-1.5
1-Methylnaphthalene	.596	.610	81.98	80.0	-2.5
Hexachlorocyclopentadiene #	.347	.369	74.24	80.0	7.2#
2,4,6-Trichlorophenol *	.401	.403	80.46	80.0	-.6*
2,4,5-Trichlorophenol	.432	.439	81.42	80.0	-1.8
2-Chloronaphthalene	1.235	1.217	78.82	80.0	1.5

3301
3323DL

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.438	84.12	80.0	-5.1
Dimethylphthalate		1.372	1.382	80.61	80.0	-.8
2,6-Dinitrotoluene		.283	.310	78.53	80.0	1.8
Acenaphthylene		1.990	1.957	78.67	80.0	1.7
3-Nitroaniline		.363	.381	77.29	80.0	3.4
Acenaphthene	*	1.166	1.122	77.01	80.0	3.7*
2,4-Dinitrophenol	#	.137	.160	77.68	80.0	2.9#
4-Nitrophenol	#	.252	.264	83.88	80.0	-4.8#
Dibenzofuran		1.652	1.657	80.22	80.0	-.3
2,4-Dinitrotoluene		.398	.442	80.18	80.0	-.2
1-Naphthylamine		1.119	1.011	72.30	80.0	9.6
2-Naphthylamine		1.111	.943	67.88	80.0	15.2
Diethylphthalate		1.489	1.479	79.43	80.0	.7
4-Chlorophenyl-phenylether		.600	.585	77.98	80.0	2.5
Fluorene		1.253	1.231	78.63	80.0	1.7
4-Nitroaniline		.392	.406	82.90	80.0	-3.6
4,6-Dinitro-2-methylphenol		.113	.133	78.31	80.0	2.1
N-Nitrosodiphenylamine (1)	*	.522	.521	79.80	80.0	.3*
1,2-Diphenylhydrazine		.878	.881	80.30	80.0	-.4
4-Bromophenyl-phenylether		.211	.211	80.03	80.0	-.0
Hexachlorobenzene		.246	.252	81.71	80.0	-2.1
Pentachlorophenol	*	.139	.148	85.27	80.0	-6.6*
Phenanthrene		1.035	1.035	79.97	80.0	.0
Anthracene		1.059	1.068	80.69	80.0	-.9
Carbazole		1.019	1.032	81.03	80.0	-1.3
Di-n-butylphthalate		1.428	1.458	81.67	80.0	-2.1
Fluoranthene	*	1.115	1.162	83.41	80.0	-4.3*
Benzidine		.794	.686	276.67	320.0	13.5
Pyrene		1.200	1.216	81.05	80.0	-1.3
Butylbenzylphthalate		.691	.709	82.03	80.0	-2.5
3,3'-Dichlorobenzidine		.473	.488	82.45	80.0	-3.1
Benzo(a)anthracene		1.097	1.116	81.42	80.0	-1.8
bis(2-Ethylhexyl)phthalate		.959	.967	80.73	80.0	-.9
Chrysene		1.055	1.043	79.06	80.0	1.2
Di-n-octylphthalate	*	1.940	1.996	82.33	80.0	-2.9*
7,12-Dimethylbenz[a]anthrace		.608	.625	82.27	80.0	-2.8
Benzo(b)fluoranthene		1.422	1.439	80.99	80.0	-1.2
Benzo(k)fluoranthene		1.318	1.358	82.37	80.0	-3.0

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.247	81.05	80.0	-1.3*
Indeno(1,2,3-cd)pyrene		1.178	1.174	79.73	80.0	.3
Dibenz(a,h)anthracene		1.155	1.151	79.74	80.0	.3
Benzo(g,h,i)perylene		1.200	1.211	80.72	80.0	-.9
2-Fluorophenol		1.155	1.160	80.29	80.0	-.4
Phenol-d5		1.504	1.535	81.67	80.0	-2.1
Phenol-d6		1.504	1.535	81.67	80.0	-2.1
Nitrobenzene-d5		.413	.438	84.97	80.0	-6.2
2-Fluorobiphenyl		1.302	1.280	78.63	80.0	1.7
2,4,6-Tribromophenol		.231	.240	83.08	80.0	-3.9
Terphenyl-d14		.907	.915	80.68	80.0	-.9

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.:_____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF601 Date Analyzed: 06/30/98

Instrument ID: HP06588 Time Analyzed: 08:02

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	149428		12.00	497310		15.85	250625		21.19
	UPPER LIMIT	298856			994620			501250		
	LOWER LIMIT	74714			248655			125313		
	EPA SAMPLE NO.									
01	1956-DL	171537		12.00	602128		15.84	292377		21.18
02	2001-	159158		12.00	550293		15.84	271171		21.19
03	0202-	170736		12.00	582357		15.85	309133		21.20
04	1901-DL	146362		12.01	499360		15.86	255305		21.20
05	1901-DL	137223		12.01	486011		15.85	235888		21.20
06	1923-DL	137407		12.01	468132		15.85	236639		21.19
07	JUNSQDL	144795		12.01	495267		15.84	244700		21.19
08	3301-	149871		12.01	525627		15.84	249839		21.20
09	3323-DL	143711		12.01	501659		15.85	245265		21.20
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF601 Date Analyzed: 06/30/98

Instrument ID: HP06588 Time Analyzed: 08:02

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	432323	25.71	427050	32.35	332699	36.92
	UPPER LIMIT	864646		854100		665398	
	LOWER LIMIT	216162		213525		166350	
	EPA SAMPLE NO.						
01	1956-DL	514243	25.72	510729	32.34	408567	36.91
02	2001-	487551	25.71	471093	32.34	379830	36.92
03	0202-	766467	25.75	734012	32.44	450278	37.06
04	1901-DL	435086	25.72	454236	32.36	379049	36.96
05	1901-DL	422401	25.72	412002	32.35	337591	36.94
06	1923-DL	402934	25.72	402494	32.35	328797	36.93
07	JUNSQDL	438292	25.71	432117	32.34	350135	36.92
08	3301-	435740	25.72	466051	32.36	372800	36.94
09	3323-DL	436067	25.71	434098	32.35	349948	36.92
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BG000 DFTPP Injection Date: 07/01/98

Instrument ID: HP06588 DFTPP Injection Time: 06:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	61.9
70	Less than 2.0% of mass 69	.7 (1.1)1
127	40.0 - 60.0% of mass 198	54.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	7.5
275	10.0 - 30.0% of mass 198	19.8
365	Greater than 1.00% of mass 198	2.31
441	Present, but less than mass 443	8.8
442	Greater than 40.0% of mass 198	54.0
443	17.0 - 23.0% of mass 442	10.0 (18.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BG001	07/01/98	07:11
02	ESL4-	2948677	>BG002	07/01/98	08:04
03	ESL4-MS	2948679MS	>BG003	07/01/98	08:59
04	3301-DL	2943384DL	>BG004	07/01/98	11:00
05	0202-DL	2943286DL	>BG005	07/01/98	11:53
06	ESL4-MSD	2948680MSD	>BG006	07/01/98	12:46
07	ESL1-	2948674	>BG007	07/01/98	13:42
08	ESL2-	2948675	>BG008	07/01/98	14:45
09	ESL3-	2948676	>BG009	07/01/98	15:42
10	ESL5-	2948681	>BG010	07/01/98	16:37
11	ESL6-	2948682	>BG011	07/01/98	17:32
12	ESL7-	2948683	>BG012	07/01/98	18:32
13					
14					
15					
16					
17					
18					
19					
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21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/01/98 Time: 07:11

Lab File ID: >BG001 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.216	1.208	79.50	80.0	.6
N-Nitrosodimethylamine		.696	.694	79.81	80.0	.2
2-Picoline		1.203	1.187	78.91	80.0	1.4
Phenol	*	1.490	1.477	79.28	80.0	.9*
Aniline		1.850	1.798	77.73	80.0	2.8
bis(2-Chloroethyl)ether		1.207	1.205	79.90	80.0	.1
2-Chlorophenol		1.341	1.324	78.95	80.0	1.3
1,3-Dichlorobenzene		1.477	1.483	80.34	80.0	-.4
1,4-Dichlorobenzene	*	1.540	1.546	80.30	80.0	-.4*
Benzyl alcohol		.781	.807	82.62	80.0	-3.3
1,2-Dichlorobenzene		1.399	1.401	80.09	80.0	-.1
2-Methylphenol		1.087	1.081	79.53	80.0	.6
2,2'-oxybis(1-Chloropropane)		1.468	1.447	78.84	80.0	1.5
bis(2-Chloroisopropyl)ether		1.468	1.447	78.84	80.0	1.5
4-Methylphenol		1.146	1.156	80.66	80.0	-.8
3- and 4-Methylphenol		1.146	1.156	80.66	80.0	-.8
Acetophenone		1.592	1.568	78.81	80.0	1.5
N-Nitroso-di-n-propylamine	#	.925	.925	79.99	80.0	.0#
o-Toluidine		1.794	1.756	78.32	80.0	2.1
Hexachloroethane		.658	.680	82.75	80.0	-3.4
Nitrobenzene		.426	.453	85.20	80.0	-6.5
Isophorone		.744	.766	82.27	80.0	-2.8
2-Nitrophenol	*	.198	.218	87.88	80.0	-9.8*
2,4-Dimethylphenol		.363	.378	83.40	80.0	-4.3
Benzoic acid		.233	.262	82.65	80.0	-3.3
bis(2-Chloroethoxy)methane		.416	.428	82.21	80.0	-2.8
2,4-Dichlorophenol	*	.290	.308	84.83	80.0	-6.0*
1,2,4-Trichlorobenzene		.328	.350	85.23	80.0	-6.5
Naphthalene		1.031	1.050	81.48	80.0	-1.9
4-Chloroaniline		.442	.450	81.42	80.0	-1.8
Hexachlorobutadiene	*	.204	.213	83.77	80.0	-4.7*
4-Chloro-3-methylphenol	*	.298	.313	84.04	80.0	-5.0*
2-Methylnaphthalene		.636	.659	82.96	80.0	-3.7
1-Methylnaphthalene		.596	.616	82.67	80.0	-3.3
Hexachlorocyclopentadiene	#	.347	.358	72.28	80.0	9.6#
2,4,6-Trichlorophenol	*	.401	.414	82.65	80.0	-3.3*
2,4,5-Trichlorophenol		.432	.448	82.96	80.0	-3.7
2-Chloronaphthalene		1.235	1.260	81.64	80.0	-2.1

FORM VII SV-1 1/87 Rev.

3rd page of cont. cal missing from data package. Compd. info evaluated from raw data, all ok.

330102

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/01/98 Time: 07:11

Lab File ID: >BG001 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.451	86.69	80.0	-8.4
Dimethylphthalate		1.372	1.400	81.61	80.0	-2.0
2,6-Dinitrotoluene		.283	.320	81.01	80.0	-1.3
Acenaphthylene		1.990	2.015	81.00	80.0	-1.3
3-Nitroaniline		.363	.394	79.72	80.0	.4
Acenaphthene	*	1.166	1.188	81.54	80.0	-1.9*
2,4-Dinitrophenol	#	.137	.166	80.18	80.0	-.2#
4-Nitrophenol	#	.252	.272	86.31	80.0	-7.9#
Dibenzofuran		1.652	1.656	80.19	80.0	-.2
2,4-Dinitrotoluene		.398	.445	80.77	80.0	-1.0
1-Naphthylamine		1.119	1.024	73.21	80.0	8.5
2-Naphthylamine		1.111	.979	70.46	80.0	11.9
Diethylphthalate		1.489	1.539	82.66	80.0	-3.3
4-Chlorophenyl-phenylether		.600	.611	81.45	80.0	-1.8
Fluorene		1.253	1.273	81.28	80.0	-1.6
4-Nitroaniline		.392	.423	86.34	80.0	-7.9
4,6-Dinitro-2-methylphenol		.113	.136	79.97	80.0	.0
N-Nitrosodiphenylamine (1)	*	.522	.529	81.10	80.0	-1.4*
1,2-Diphenylhydrazine		.878	.902	82.16	80.0	-2.7
4-Bromophenyl-phenylether		.211	.220	83.28	80.0	-4.1
Hexachlorobenzene		.246	.257	83.28	80.0	-4.1
Pentachlorophenol	*	.139	.154	88.77	80.0	-11.0*
Phenanthrene		1.035	1.053	81.41	80.0	-1.8
Anthracene		1.059	1.094	82.67	80.0	-3.3
Carbazole		1.019	1.033	81.15	80.0	-1.4
Di-n-butylphthalate		1.428	1.479	82.87	80.0	-3.6
Fluoranthene	*	1.115	1.158	83.10	80.0	-3.9*
Benzidine		.794	.688	277.49	320.0	13.3
Pyrene		1.200	1.229	81.93	80.0	-2.4
Butylbenzylphthalate		.691	.698	80.74	80.0	-.9
3,3'-Dichlorobenzidine		.473	.484	81.89	80.0	-2.4
Benzo(a)anthracene		1.097	1.100	80.25	80.0	-.3
bis(2-Ethylhexyl)phthalate		.959	.961	80.20	80.0	-.3
Chrysene		1.055	1.062	80.56	80.0	-.7
Di-n-octylphthalate	*	1.940	2.010	82.89	80.0	-3.6*
7,12-Dimethylbenz[a]anthrace		.608	.636	83.65	80.0	-4.6
Benzo(b)fluoranthene		1.422	1.456	81.93	80.0	-2.4
Benzo(k)fluoranthene		1.318	1.360	82.52	80.0	-3.1

(1) Cannot be separated from Diphenylamine

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG001 Date Analyzed: 07/01/98

Instrument ID: HP06588 Time Analyzed: 07:11

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	161561		12.00	530899		15.84	263126		21.19
	UPPER LIMIT	323122			1061798			526252		
	LOWER LIMIT	80781			265450			131563		
	EPA SAMPLE NO.									
01	ESL4-	153216		12.00	539015		15.84	262478		21.18
02	ESL4-MS	166303		12.00	575560		15.84	281805		21.18
03	3301-DL	148387		12.01	522865		15.85	253518		21.19
04	0202-DL	137414		12.00	475893		15.85	230693		21.19
05	ESL4-MSD	170313		12.00	588518		15.84	285574		21.18
06	ESL1-	148155		12.01	515335		15.84	246728		21.19
07	ESL2-	157533		12.00	551608		15.84	263974		21.18
08	ESL3-	169020		12.00	591609		15.84	287342		21.18
09	ESL5-	166356		12.00	576053		15.84	273616		21.19
10	ESL6-	156421		12.00	543769		15.84	263663		21.19
11	ESL7-	170376		12.00	606028		15.85	290374		21.18
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG001 Date Analyzed: 07/01/98

Instrument ID: HP06588 Time Analyzed: 07:11

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	451953		25.71	452511		32.34	352162		36.92
	UPPER LIMIT	903906			905022			704324		
	LOWER LIMIT	225977			226256			176081		
	EPA SAMPLE NO.									
01	ESL4-	465823		25.70	451074		32.34	375171		36.92
02	ESL4-MS	488802		25.71	485662		32.35	395712		36.92
03	3301-DL	446437		25.72	423579		32.35	340294		36.93
04	0202-DL	403794		25.70	389462		32.34	322765		36.91
05	ESL4-MSD	511423		25.71	500628		32.34	419051		36.92
06	ESL1-	427630		25.71	431319		32.34	363455		36.92
07	ESL2-	473761		25.70	462095		32.34	377332		36.92
08	ESL3-	510910		25.71	485512		32.34	416338		36.91
09	ESL5-	488240		25.71	468986		32.34	408200		36.91
10	ESL6-	473118		25.71	468691		32.34	395744		36.93
11	ESL7-	513357		25.72	514116		32.34	435036		36.93
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG19Y DFTPP Injection Date: 07/11/98

Instrument ID: HP06755 DFTPP Injection Time: 11:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	50.0
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	47.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	19.3
365	Greater than 1.00% of mass 198	2.21
441	Present, but less than mass 443	7.0
442	Greater than 40.0% of mass 198	44.8
443	17.0 - 23.0% of mass 442	8.7 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1898	>MG19A	07/11/98	12:06
02	SSTD160	STD1898	>MG203	07/11/98	13:17
03	SSTD001	STD1898	>MG204	07/11/98	14:14
04	SSTD120	STD1898	>MG205	07/11/98	15:11
05	SSTD005	STD1898	>MG206	07/11/98	16:08
06	SSTD020	STD1898	>MG207	07/11/98	17:06
07	SSTD050	STD1898	>MG208	07/11/98	I8:03
08					
09					
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/11/98 07/11/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MG206 RRF20 = >MG207 RRF50 = >MG208
RRF80 = >MG19A RRF120= >MG205 RRF160= >MG203

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.727	1.683	1.649	1.689	1.558	1.546	1.642	4.5	AVG	
N-Nitrosodimethylamine	1.025	1.019	.987	1.035	.953	.966	.998	3.4	AVG	
2-Picoline	1.680	1.647	1.583	1.628	1.545	1.538	1.603	3.6	AVG	
Phenol	1.956	1.892	1.771	1.756	1.598	1.523	1.749	9.5	AVG	*
Aniline	2.401	2.260	2.156	2.124	1.996	1.943	2.147	7.9	AVG	
bis(2-Chloroethyl)ether	1.583	1.531	1.442	1.430	1.306	1.257	1.425	8.8	AVG	
2-Chlorophenol	1.639	1.601	1.560	1.536	1.472	1.404	1.535	5.6	AVG	
1,3-Dichlorobenzene	1.651	1.590	1.541	1.505	1.433	1.372	1.515	6.7	AVG	
1,4-Dichlorobenzene	1.688	1.659	1.598	1.557	1.484	1.416	1.567	6.6	AVG	*
Benzyl alcohol	.996	.987	.949	.956	.894	.884	.944	4.9	AVG	
1,2-Dichlorobenzene	1.596	1.504	1.482	1.446	1.377	1.306	1.452	7.0	AVG	
2-Methylphenol	1.456	1.372	1.334	1.292	1.221	1.185	1.310	7.6	AVG	
2,2'-oxybis(1-Chloropropane)	2.389	2.278	2.194	2.229	2.094	2.047	2.205	5.6	AVG	
bis(2-Chloroisopropyl)ether	2.389	2.278	2.194	2.229	2.094	2.047	2.205	5.6	AVG	
4-Methylphenol	1.482	1.469	1.396	1.368	1.276	1.210	1.367	7.8	AVG	
3- and 4-Methylphenol	1.482	1.469	1.396	1.368	1.276	1.210	1.367	7.8	AVG	
Acetophenone	2.154	2.070	1.946	1.826	1.706	1.596	1.883	11.4	AVG	
itroso-di-n-propylamine	1.076	1.011	.940	.893	.805	.765	.915	13.0	AVG	#
oluidine	2.339	2.197	2.074	2.026	1.864	1.763	2.044	10.3	AVG	
Hexachloroethane	.755	.738	.723	.702	.675	.647	.707	5.7	AVG	
Nitrobenzene	.399	.395	.383	.382	.366	.348	.379	5.0	AVG	
Isophorone	.807	.770	.735	.728	.692	.668	.733	6.9	AVG	
2-Nitrophenol	.202	.221	.226	.220	.228	.218	.219	4.2	AVG	*
2,4-Dimethylphenol	.399	.390	.383	.374	.366	.349	.377	4.8	AVG	
Benzoic acid	.150	.249	.273	.293	.311	.316	.265	23.2	1STDEG	0.9999
bis(2-Chloroethoxy)methane	.509	.495	.465	.461	.436	.399	.461	8.6	AVG	
2,4-Dichlorophenol	.296	.301	.297	.298	.295	.284	.295	1.9	AVG	*
1,2,4-Trichlorobenzene	.315	.311	.307	.305	.301	.285	.304	3.4	AVG	
Naphthalene	1.123	1.084	1.035	.998	.965	.894	1.017	8.1	AVG	
4-Chloroaniline	.508	.500	.483	.474	.458	.432	.476	5.8	AVG	
Hexachlorobutadiene	.180	.180	.181	.177	.183	.173	.179	1.9	AVG	*
4-Chloro-3-methylphenol	.332	.333	.329	.319	.313	.294	.320	4.7	AVG	*
4-Chloro-3-methylphenol(mz10	.332	.333	.329	.319	.313	.294	.320	4.7	AVG	*
4-Chloro-3-methylphenol(mz14	.276	.270	.267	.265	.261	.249	.265	3.5	AVG	*
2-Methylnaphthalene	.660	.643	.626	.610	.589	.553	.614	6.3	AVG	
1-Methylnaphthalene	.621	.613	.593	.578	.563	.526	.582	6.0	AVG	
Hexachlorocyclopentadiene	.195	.294	.354	.412	.418	.418	.348	25.7	1STDEG	# 0.9992
2,4,6-Trichlorophenol	.409	.420	.421	.431	.431	.418	.422	2.0	AVG	*

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/11/98 07/11/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MG206 RRF20 = >MG207 RRF50 = >MG208
RRF80 = >MG19A RRF120= >MG205 RRF160= >MG203

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
2,4,5-Trichlorophenol	.447	.462	.459	.463	.471	.460	.460	1.7	AVG	
2-Chloronaphthalene	1.257	1.242	1.213	1.211	1.184	1.126	1.205	3.9	AVG	
2-Nitroaniline	.444	.456	.451	.455	.455	.434	.449	1.9	AVG	
Dimethylphthalate	1.516	1.494	1.481	1.484	1.469	1.390	1.472	2.9	AVG	
2,6-Dinitrotoluene	.307	.339	.354	.349	.364	.351	.344	5.8	AVG	
Acenaphthylene	2.083	2.059	2.006	1.988	1.928	1.797	1.977	5.2	AVG	
3-Nitroaniline	.426	.453	.461	.468	.471	.462	.457	3.6	AVG	
Acenaphthene *	1.257	1.228	1.197	1.160	1.119	1.059	1.170	6.2	AVG	*
2,4-Dinitrophenol #	.095	.161	.180	.190	.220	.226	.179	26.8	1STDEG	# 0.9986
4-Nitrophenol #	.247	.249	.263	.264	.276	.266	.261	4.2	AVG	#
Dibenzofuran	1.768	1.725	1.669	1.638	1.616	1.531	1.658	5.1	AVG	
2,4-Dinitrotoluene	.419	.472	.483	.473	.493	.478	.470	5.5	AVG	
1-Naphthylamine	.931	1.023	1.054	1.080	1.071	1.008	1.028	5.4	AVG	
2-Naphthylamine	1.195	1.070	1.036	1.067	1.044	1.003	1.069	6.2	AVG	
Diethylphthalate	1.744	1.712	1.685	1.663	1.667	1.582	1.676	3.3	AVG	
4-Chlorophenyl-phenylether	.598	.592	.579	.569	.553	.515	.568	5.4	AVG	
Fluorene	1.338	1.272	1.220	1.193	1.136	1.045	1.201	8.6	AVG	
itroaniline	.472	.477	.472	.477	.484	.475	.476	.9	AVG	
-Dinitro-2-methylphenol	.090	.126	.149	.158	.167	.168	.143	21.1	1STDEG	0.9992
Nitronaphthalene	.162	.165	.164	.168	.165	.160	.164	1.7	AVG	
N-Nitrosodiphenylamine (1) *	.555	.553	.544	.547	.531	.510	.540	3.1	AVG	*
1,2-Diphenylhydrazine	1.000	.978	.919	.924	.864	.804	.915	7.9	AVG	
4-Bromophenyl-phenylether	.205	.203	.208	.210	.212	.207	.207	1.5	AVG	
Hexachlorobenzene	.006	.229	.191	.256	.250	.253	.197	49.0	1STDEG	0.9975 L-, J+
Pentachlorophenol *	.109	.136	.144	.157	.165	.169	.147	15.4	1STDEG	* 0.9996
Phenanthrene	1.071	1.036	1.003	1.004	.973	.917	1.001	5.3	AVG	
Anthracene	1.059	1.045	1.023	1.025	.991	.933	1.013	4.5	AVG	
Carbazole	1.059	1.046	1.015	1.013	.988	.937	1.010	4.3	AVG	
Di-n-butylphthalate	1.645	1.659	1.620	1.596	1.541	1.438	1.583	5.2	AVG	
Fluoranthene *	1.051	1.031	1.016	.994	.973	.910	.996	5.1	AVG	*
Benzidine	1.118	.951	.838	.797	.725	.658	.848	19.6	2NDDEG	0.9993
Pyrene	1.411	1.395	1.364	1.340	1.295	1.234	1.340	5.0	AVG	
Butylbenzylphthalate	.947	.922	.921	.918	.881	.851	.907	3.8	AVG	
3,3'-Dichlorobenzidine	.497	.496	.512	.515	.531	.523	.512	2.7	AVG	
Benzo(a)anthracene	1.153	1.099	1.112	1.109	1.111	1.071	1.109	2.4	AVG	
bis(2-Ethylhexyl)phthalate	1.275	1.264	1.253	1.252	1.212	1.154	1.235	3.7	AVG	
Chrysene	1.069	1.057	1.052	1.057	1.052	1.020	1.051	1.6	AVG	
Di-n-octylphthalate *	2.855	2.831	2.893	2.893	2.842	2.794	2.851	1.3	AVG	*

(1) Cannot be separated from Diphenylamine

272-3 ✓ 300-10
275-6 ✓ 280-1
300-1 ✓ 280-1R
302-3 ✓
305-6 ✓
310-1 ✓
312-3 ✓

340-1 ✓
342-3 ✓
345-6 ✓
282-3 ✓
285-6 ✓
290-1 ✓

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/11/98 07/11/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

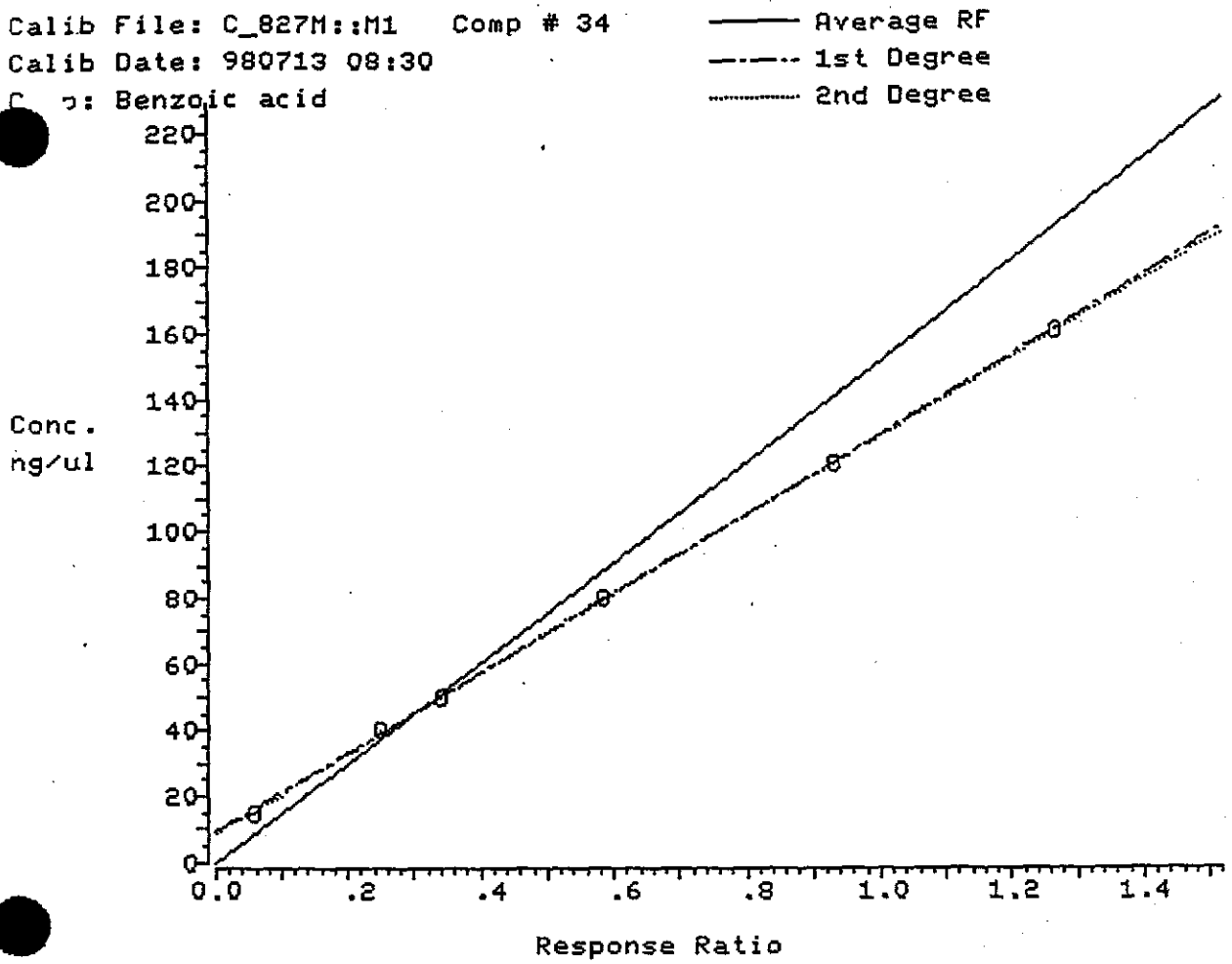
LAB FILE ID: RRF5 = >MG206 RRF20 = >MG207 RRF50 = >MG208
RRF80 = >MG19A RRF120= >MG205 RRF160= >MG203

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
7,12-Dimethylbenz[a]anthrace	.242	.407	.540	.625	.656	.663	.522	32.1	1STDEG
Benzo(b)fluoranthene	1.401	1.419	1.468	1.519	1.553	1.576	1.489	4.8	AVG
Benzo(k)fluoranthene	1.339	1.326	1.391	1.380	1.409	1.364	1.368	2.3	AVG
Benzo(a)pyrene *	1.221	1.242	1.279	1.288	1.316	1.307	1.276	2.9	AVG *
Indeno(1,2,3-cd)pyrene	1.076	1.101	1.139	1.144	1.186	1.207	1.142	4.3	AVG
Dibenz(a,h)anthracene	1.050	1.070	1.155	1.168	1.215	1.229	1.148	6.4	AVG
Benzo(g,h,i)perylene	1.125	1.125	1.188	1.193	1.221	1.224	1.179	3.8	AVG
2-Fluorophenol	1.608	1.565	1.508	1.516	1.427	1.390	1.502	5.5	AVG
Phenol-d5	1.961	1.913	1.841	1.811	1.694	1.647	1.811	6.7	AVG
Phenol-d6	1.961	1.913	1.841	1.811	1.694	1.647	1.811	6.7	AVG
2-Chlorophenol-d4	1.664	1.619	1.574	1.550	1.509	1.463	1.563	4.7	AVG
1,2-Dichlorobenzene-d4	.973	.929	.911	.892	.860	.825	.898	5.8	AVG
Nitrobenzene-d5	.387	.388	.383	.383	.373	.359	.379	2.9	AVG
2-Fluorobiphenyl	1.385	1.355	1.330	1.322	1.296	1.221	1.318	4.3	AVG
2,4,6-Tribromophenol	.212	.233	.254	.261	.280	.277	.253	10.4	AVG
Terphenyl-d14	.940	.908	.920	.923	.902	.857	.908	3.1	AVG

0.9990

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: C_827M::M1 Comp # 34
Calib Date: 980713 08:30
C p: Benzoic acid



Compound # 34 Calib File: C_827M::M1

Compound: Benzoic acid
    Istd: Naphthalene-d8

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.15027	.24947	.27275	.29309	.31065	.31638

Average of 6 Rfs: .26543 (23.21 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2341841 + 2.979212(x)
1st Degree Corr Coef: .9999044
2nd Degree Equation: y = .2152474 + 3.074959(x) + -.071722(x^2)
2nd Degree Corr Coef: .9999369

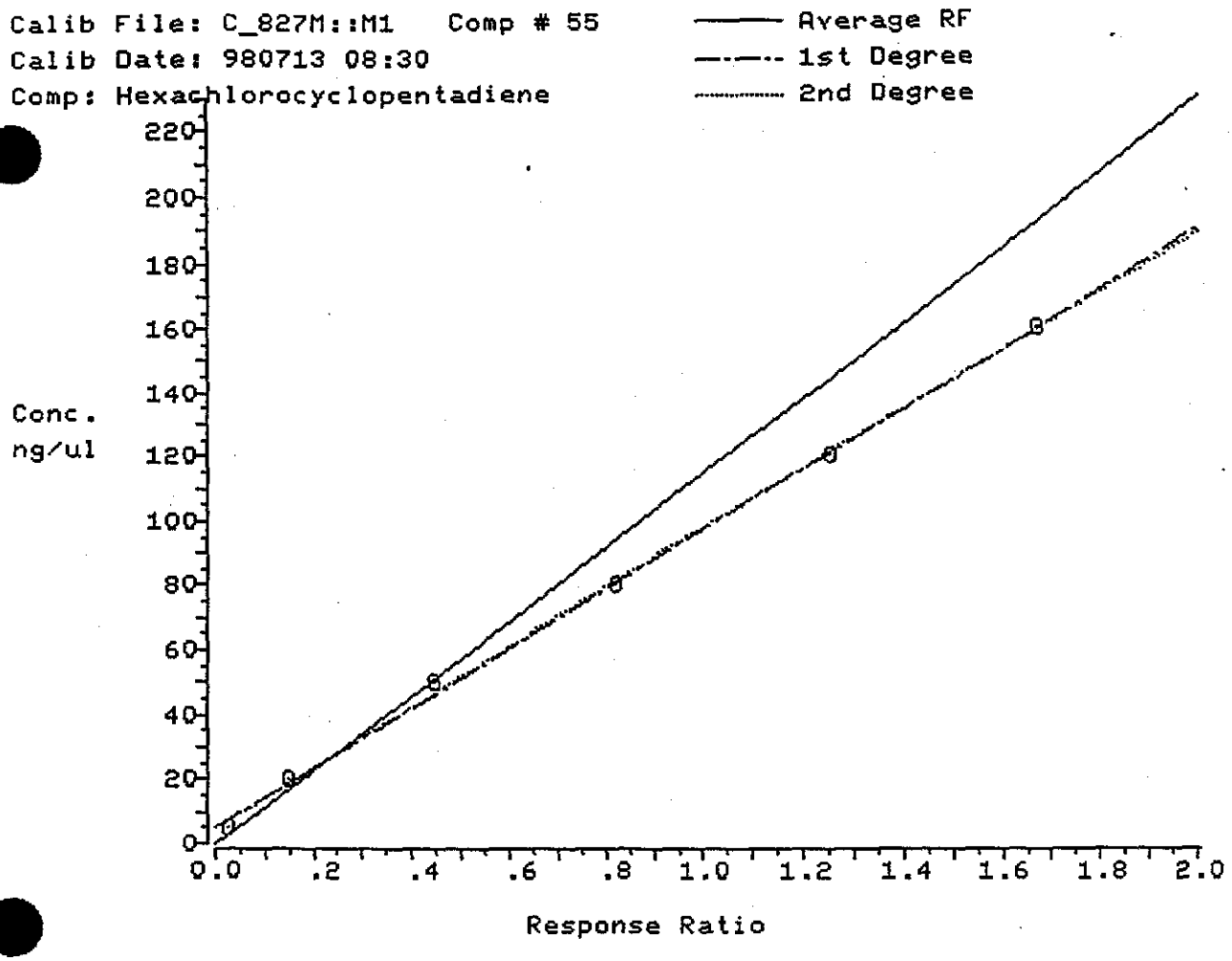
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00 1ST DEGREE

RJ/mw
7/13/98

Calib File: C_827M::M1 Comp # 55
Calib Date: 980713 08:30
Comp: Hexachlorocyclopentadiene



Compound # 55 Calib File: C_827M::M1

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.19489	.29404	.35408	.41169	.41840	.41754

Average of 6 Rfs: .34844 (25.75 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1362457 + 2.305328(x)
1st Degree Corr Coef: .9992737
2nd Degree Equation: y = .1253091 + 2.360664(x) + -.033414(x^2)
2nd Degree Corr Coef: .9992948

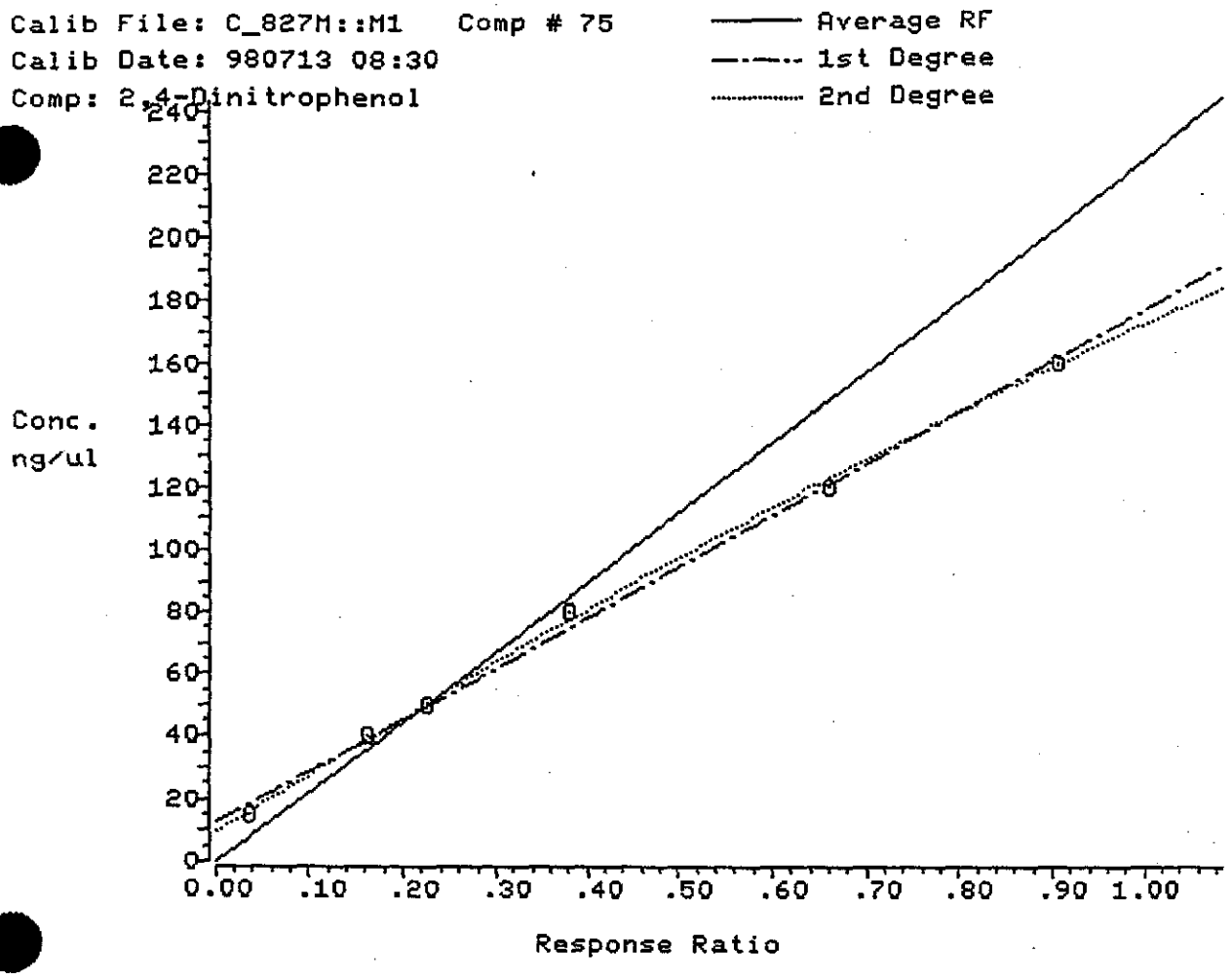
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00 1ST DEGREE

RJM 9/13/98

Calib File: C_827M::M1 Comp # 75
Calib Date: 980713 08:30
Comp: 2,4-Dinitrophenol



Compound # 75 Calib File: C_827M::M1

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.09480	.16051	.17970	.19042	.21993	.22610

Average of 6 Rfs: .17858 (26.80 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3185228 + 4.106049(x)
1st Degree Corr Coef: .9986787
2nd Degree Equation: y = .2307945 + 4.754146(x) + -.682235(x^2)
2nd Degree Corr Coef:. .9994342

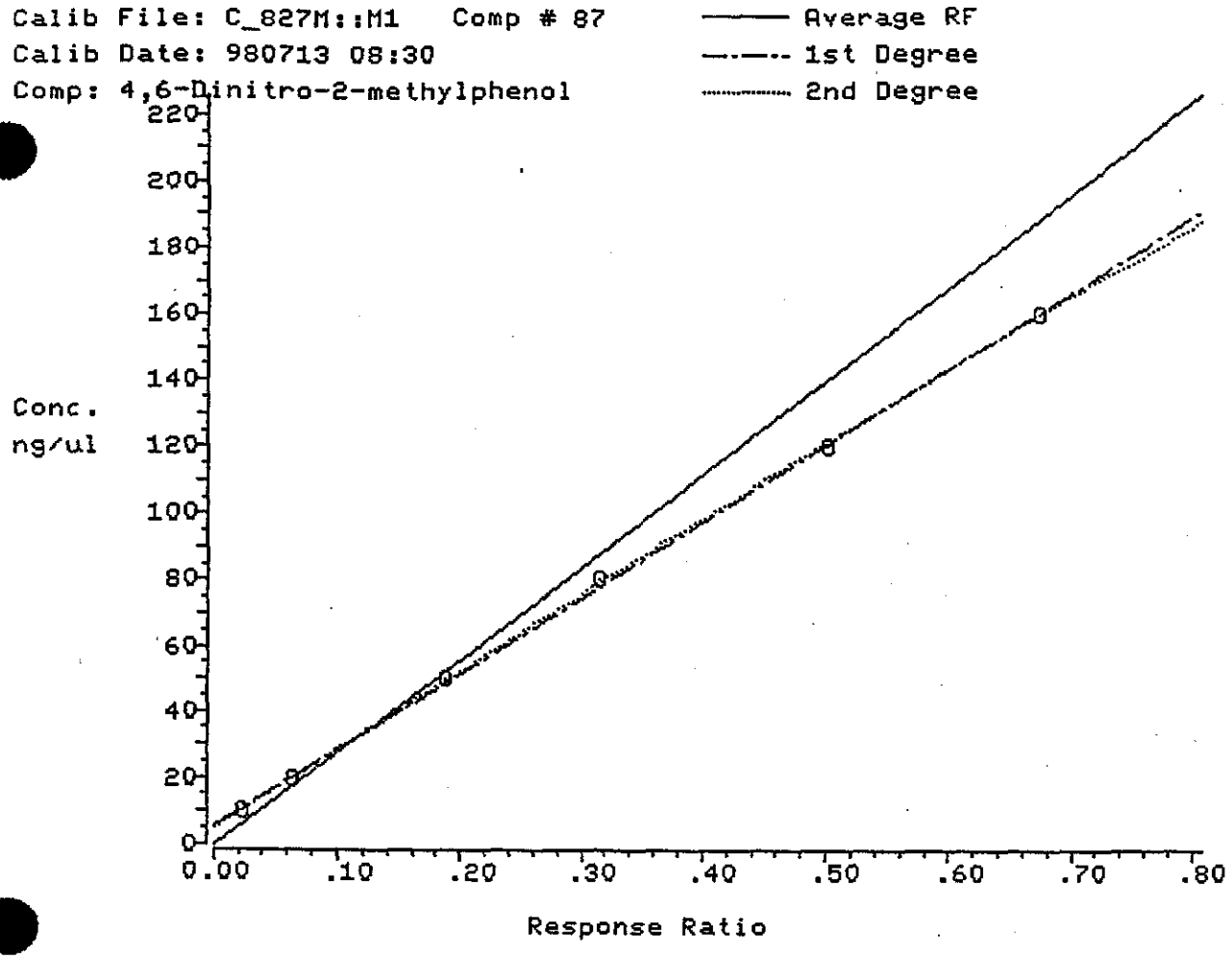
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
RGM
7/17/98

Calib File: C_827M::M1 Comp # 87
Calib Date: 980713 08:30
Comp: 4,6-Dinitro-2-methylphenol



Compound # 87 Calib File: C_827M::M1

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.09033	.12623	.14919	.15751	.16740	.16837

Average of 6 Rfs: .14317 (21.05 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1506426 + 5.727045(x)
1st Degree Corr Coef: .9997735
2nd Degree Equation: y = .1237866 + 6.035571(x) + -.453349(x^2)
2nd Degree Corr Coef: .9998740

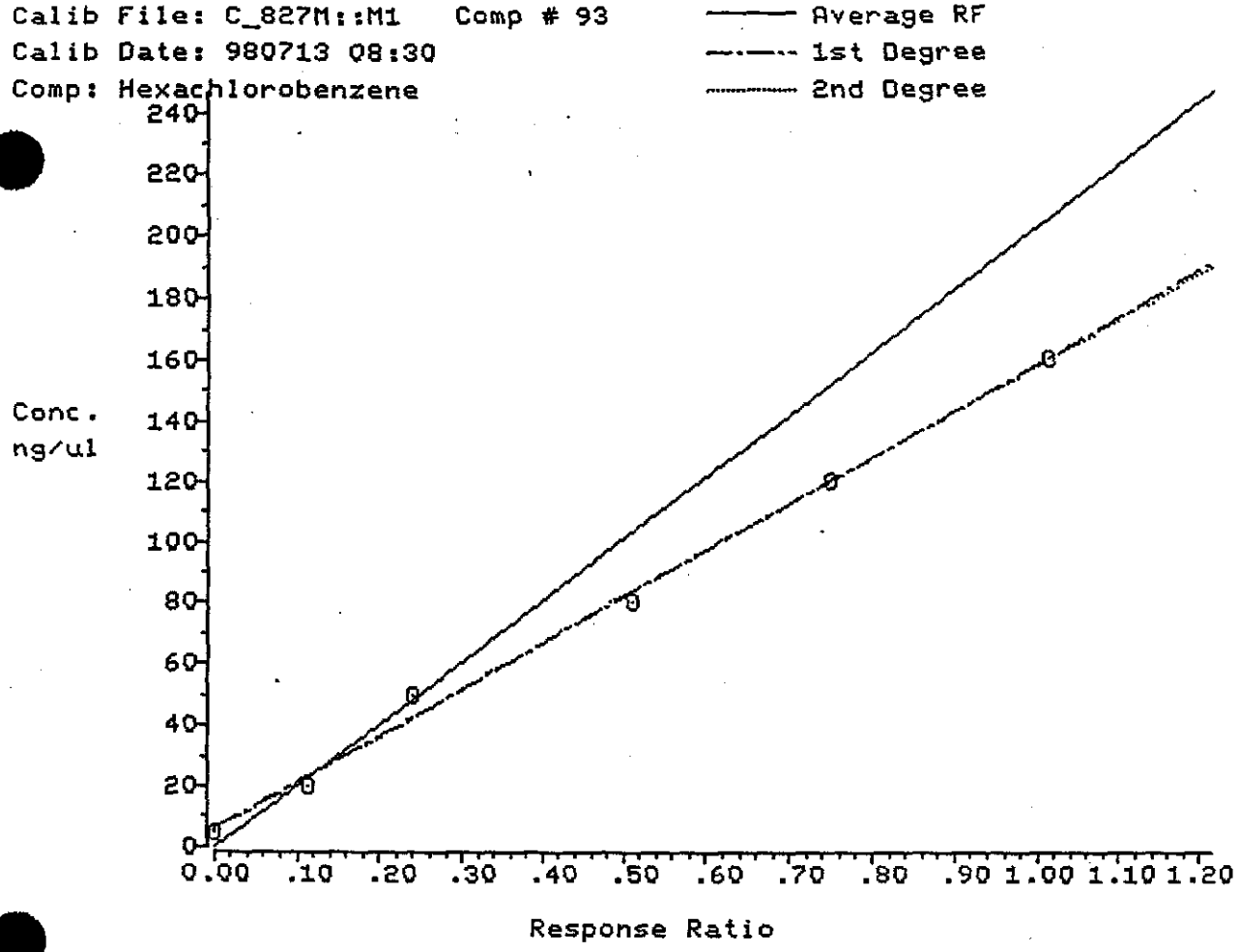
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
Rfnw
7.13.98

Calib File: C_827M::M1 Comp # 93
Calib Date: 980713 08:30
Comp: Hexachlorobenzene



Compound # 93 Calib File: C_827M::M1

Compound: Hexachlorobenzene
Istd: Phenanthrene-d10

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.00622	.22856	.19119	.25565	.24965	.25301

Average of 6 Rfs: .19738 (49.00 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1501957 + 3.797612(x)
1st Degree Corr Coef: .9975978
2nd Degree Equation: y = .1410902 + 3.874791(x) + -.077246(x^2)
2nd Degree Corr Coef: .9976132

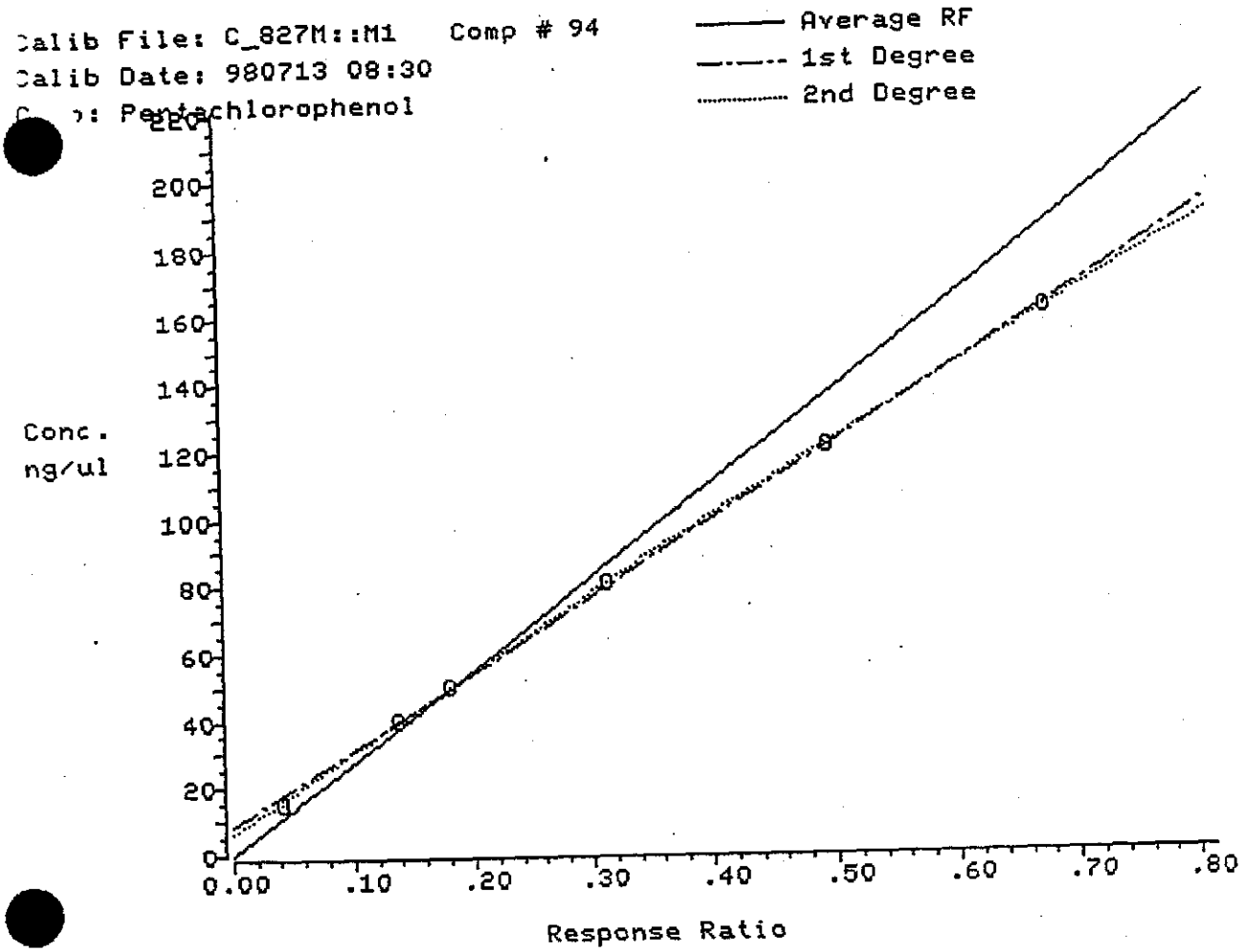
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
7/13/98

Calib File: C_827M::M1 Comp # 94
Calib Date: 980713 08:30
C): Pentachlorophenol



Compound # 94 Calib File: C_827M::M1

Compound: Pentachlorophenol
    Istd: Phenanthrene-d10

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.10858	.13610	.14366	.15738	.16546	.16909

Average of 6 Rfs: .14671 (15.37 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2051643 + 5.636994(x)
1st Degree Corr Coef: .9996659
2nd Degree Equation: y = .1561122 + 6.083585(x) + -.618635(x^2)
2nd Degree Corr Coef: .9998492

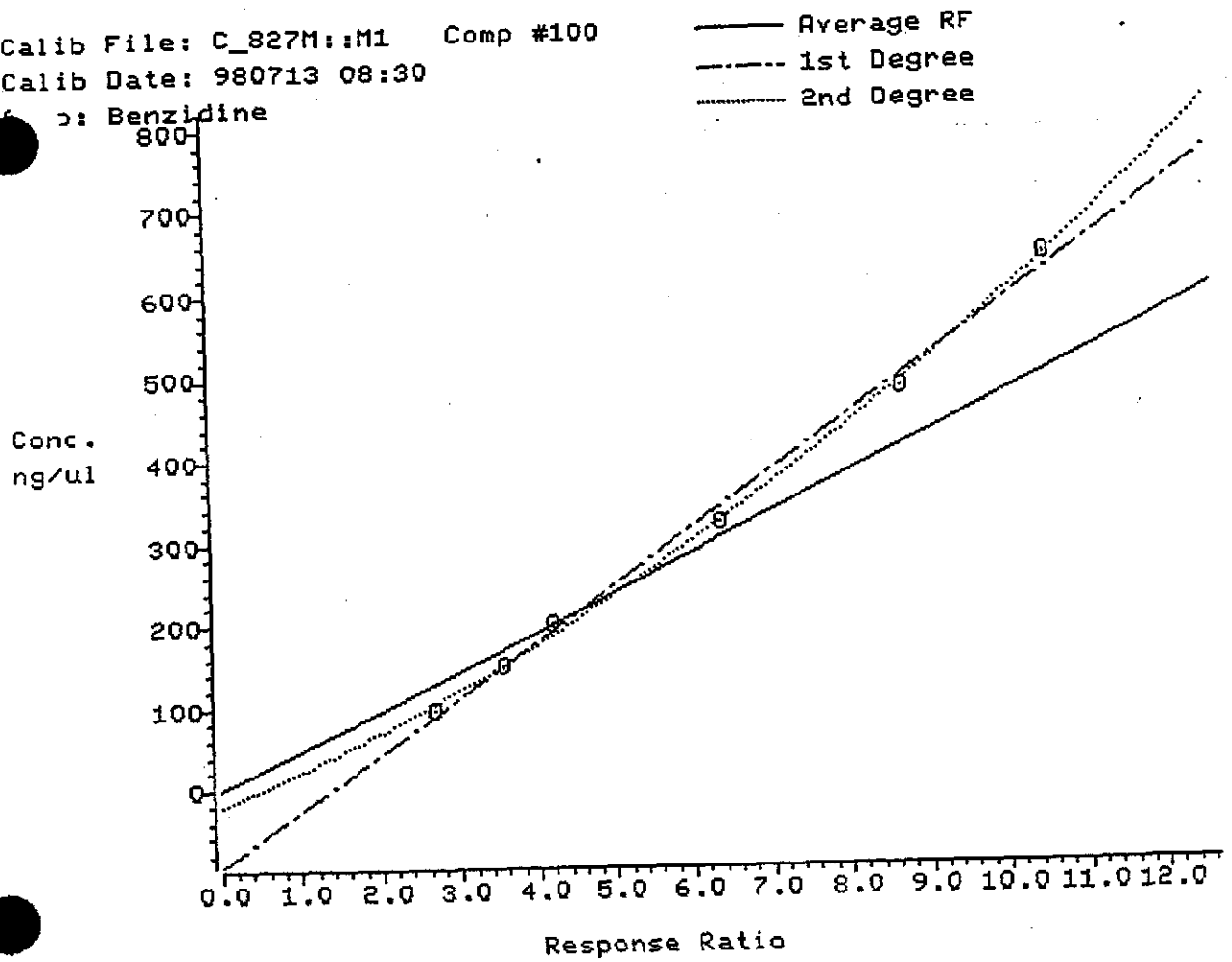
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
Reline
7/13/98

Calib File: C_827M::M1 Comp #100
Calib Date: 980713 08:30
Compound: Benzidine



Compound #100 Calib File: C_827M::M1

Compound: Benzidine
Istd: Chrysene-d12

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	95.00	150.00	200.00	320.00	480.00	640.00
Rf:	1.1180	.95100	.83751	.79664	.72502	.65766

Average of 6 Rfs: .84763 (19.57 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = -2.28523 + 1.689669(x)$
1st Degree Corr Coef: .9973418
2nd Degree Equation: $y = -.496007 + 1.013126(x) + .0515380(x^2)$
2nd Degree Corr Coef: .9991924

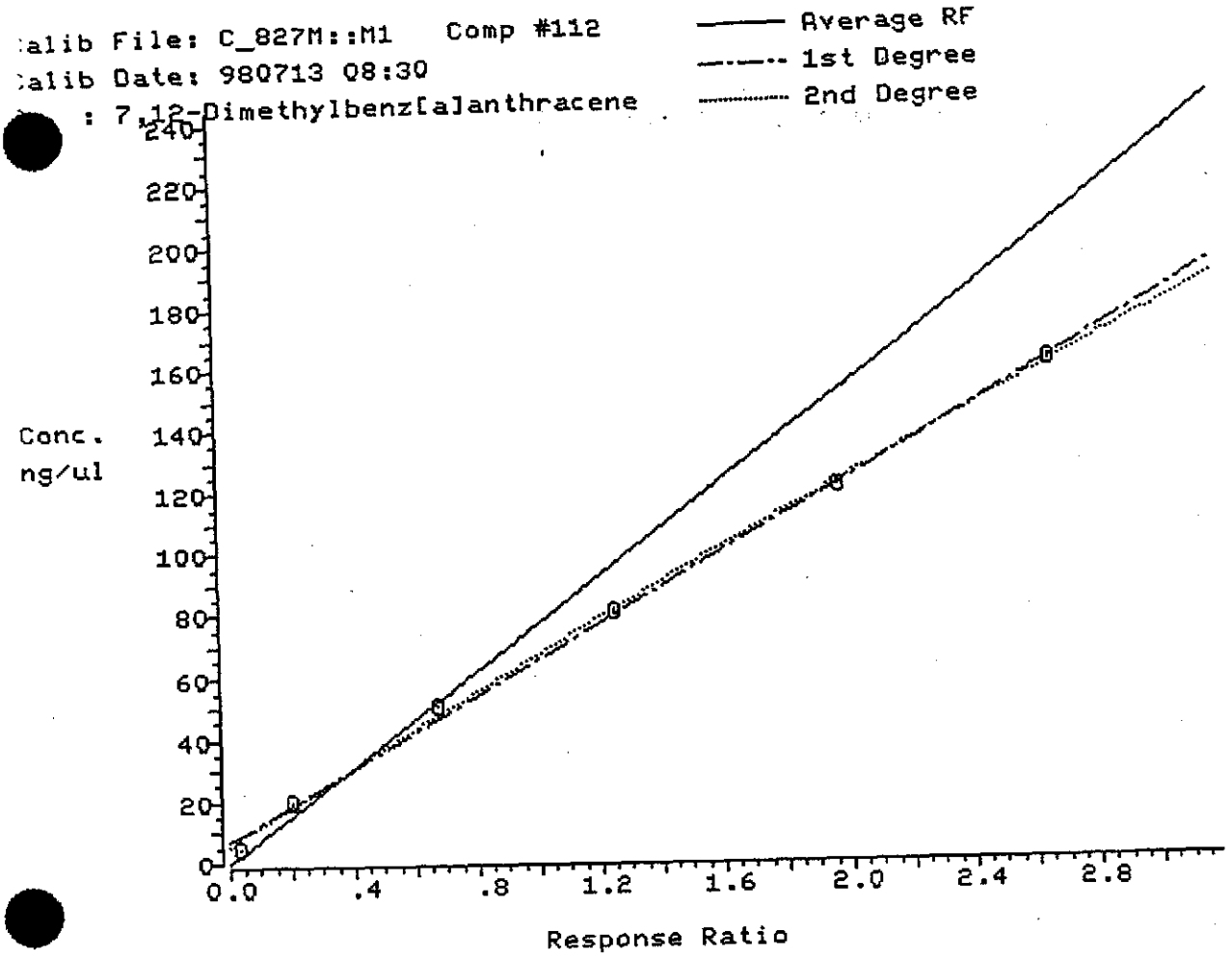
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

2ND DEGREE
7/31/98

Calib File: C_827M::M1 Comp #112
Calib Date: 980713 08:30
: 7,12-Dimethylbenz[a]anthracene



Compound #112 Calib File: C_827M::M1

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File:	>MG206	>MG207	>MG208	>MG19A	>MG205	>MG203
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.24232	.40715	.54006	.62508	.65575	.66312

Average of 6 Rfs: .52225 (32.06 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1789167 + 1.445897(x)
1st Degree Corr Coef: .9990904
2nd Degree Equation: y = .1425958 + 1.565264(x) + -.045597(x^2)
2nd Degree Corr Coef: .9993460

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
Rejected
7/31/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG220 DFTPP Injection Date: 07/13/98

Instrument ID: HP06755 DFTPP Injection Time: 10:36

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	50.1
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	47.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	20.2
365	Greater than 1.00% of mass 198	2.45
441	Present, but less than mass 443	8.2
442	Greater than 40.0% of mass 198	51.1
443	17.0 - 23.0% of mass 442	10.3 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1898	>MG221	07/13/98	10:57
02	SBLKLA166M	SBLKLA166	>MG222	07/13/98	11:54
03	166LALCSM	166LALCS	>MG223	07/13/98	12:51
04	340-1	2945101	>MG224	07/13/98	13:49
05	340-1MS	2945101	>MG225	07/13/98	14:46
06	340-1MSD	2945101	>MG226	07/13/98	15:58
07	342-3	2945102	>MG227	07/13/98	17:07
08	345-6	2945103	>MG228	07/13/98	18:04
09	282-3	2945105	>MG230	07/13/98	19:58
10	285-6	2945106	>MG231	07/13/98	20:55
11	290-1	2945107	>MG232	07/13/98	21:52
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/13/98 Time: 10:57

Lab File ID: >MG221 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.642	1.635	79.65	80.0	.4
N-Nitrosodimethylamine	.998	1.026	82.30	80.0	-2.9
2-Picoline	1.603	1.609	80.29	80.0	-.4
Phenol *	1.749	1.660	75.91	80.0	5.1*
Aniline	2.147	2.044	76.18	80.0	4.8
bis(2-Chloroethyl)ether	1.425	1.335	74.95	80.0	6.3
2-Chlorophenol	1.535	1.509	78.65	80.0	1.7
1,3-Dichlorobenzene	1.515	1.462	77.18	80.0	3.5
1,4-Dichlorobenzene *	1.567	1.518	77.49	80.0	3.1*
Benzyl alcohol	.944	.924	78.29	80.0	2.1
1,2-Dichlorobenzene	1.452	1.397	77.00	80.0	3.7
2-Methylphenol	1.310	1.277	77.96	80.0	2.6
2,2'-oxybis(1-Chloropropane)	2.205	2.047	74.25	80.0	7.2
bis(2-Chloroisopropyl)ether	2.205	2.047	74.25	80.0	7.2
4-Methylphenol	1.367	1.333	78.06	80.0	2.4
3- and 4-Methylphenol	1.367	1.333	78.06	80.0	2.4
Acetophenone	1.883	1.772	75.29	80.0	5.9
N-Nitroso-di-n-propylamine #	.915	.833	72.81	80.0	9.0#
o-Toluidine	2.044	1.935	75.73	80.0	5.3
Hexachloroethane	.707	.686	77.66	80.0	2.9
Nitrobenzene	.379	.383	80.80	80.0	-1.0
Isophorone	.733	.721	78.66	80.0	1.7
2-Nitrophenol *	.219	.234	85.41	80.0	-6.8*
2,4-Dimethylphenol	.377	.379	80.49	80.0	-.6
Benzoic acid	.265	.296	79.89	80.0	.1
bis(2-Chloroethoxy)methane	.461	.442	76.66	80.0	4.2
2,4-Dichlorophenol *	.295	.303	82.19	80.0	-2.7*
1,2,4-Trichlorobenzene	.304	.306	80.41	80.0	-.5
Naphthalene	1.017	.974	76.64	80.0	4.2
4-Chloroaniline	.476	.477	80.25	80.0	-.3
Hexachlorobutadiene *	.179	.185	82.77	80.0	-3.5*
4-Chloro-3-methylphenol *	.320	.330	82.61	80.0	-3.3*
4-Chloro-3-methylphenol(mz10*	.320	.330	82.61	80.0	-3.3*
4-Chloro-3-methylphenol(mz14*	.265	.270	81.56	80.0	-2.0*
2-Methylnaphthalene	.614	.601	78.32	80.0	2.1
1-Methylnaphthalene	.582	.575	79.00	80.0	1.2
Hexachlorocyclopentadiene #	.348	.402	79.61	80.0	.5#
2,4,6-Trichlorophenol *	.422	.428	81.13	80.0	-1.4*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/13/98 Time: 10:57

Lab File ID: >MG221 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.460	.467	81.07	80.0	-1.3
2-Chloronaphthalene		1.205	1.179	78.25	80.0	2.2
2-Nitroaniline		.449	.473	84.25	80.0	-5.3
Dimethylphthalate		1.472	1.487	80.81	80.0	-1.0
2,6-Dinitrotoluene		.344	.368	85.61	80.0	-7.0
Acenaphthylene		1.977	1.928	78.01	80.0	2.5
3-Nitroaniline		.457	.487	85.25	80.0	-6.6
Acenaphthene	*	1.170	1.132	77.38	80.0	3.3*
2,4-Dinitrophenol	#	.179	.233	89.39	80.0	-11.7#
4-Nitrophenol	#	.261	.301	92.21	80.0	-15.3#
Dibenzofuran		1.658	1.631	78.69	80.0	1.6
2,4-Dinitrotoluene		.470	.516	87.85	80.0	-9.8
1-Naphthylamine		1.028	1.025	79.77	80.0	.3
2-Naphthylamine		1.069	.985	73.66	80.0	7.9
Diethylphthalate		1.676	1.686	80.50	80.0	-.6
4-Chlorophenyl-phenylether		.568	.559	78.73	80.0	1.6
Fluorene		1.201	1.169	77.86	80.0	2.7
4-Nitroaniline		.476	.510	85.68	80.0	-7.1
4,6-Dinitro-2-methylphenol		.143	.173	85.45	80.0	-6.8
1-Nitronaphthalene		.164	.163	79.60	80.0	.5
N-Nitrosodiphenylamine (1)	*	.540	.528	78.20	80.0	2.3*
1,2-Diphenylhydrazine		.915	.836	73.11	80.0	8.6
4-Bromophenyl-phenylether		.207	.211	81.44	80.0	-1.8
Hexachlorobenzene		.197	.197	65.71	80.0	17.9
Pentachlorophenol	*	.147	.161	80.76	80.0	-.9*
Phenanthrene		1.001	.968	77.42	80.0	3.2
Anthracene		1.013	.988	78.08	80.0	2.4
Carbazole		1.010	1.004	79.56	80.0	.5
Di-n-butylphthalate		1.583	1.539	77.76	80.0	2.8
Fluoranthene	*	.996	1.001	80.40	80.0	-.5*
Benzidine		.848	.714	278.65	320.0	12.9
Pyrene		1.340	1.256	74.98	80.0	6.3
Butylbenzylphthalate		.907	.849	74.95	80.0	6.3
3,3'-Dichlorobenzidine		.512	.527	82.32	80.0	-2.9
Benzo(a)anthracene		1.109	1.095	78.97	80.0	1.3
bis(2-Ethylhexyl)phthalate		1.235	1.150	74.50	80.0	6.9
Chrysene		1.051	1.025	77.99	80.0	2.5
Di-n-octylphthalate	*	2.851	2.672	74.98	80.0	6.3*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/13/98 Time: 10:57

Lab File ID: >MG221 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.522	.609	77.58	80.0	3.0
Benzo(b)fluoranthene	1.489	1.505	80.82	80.0	-1.0
Benzo(k)fluoranthene	1.368	1.353	79.13	80.0	1.1
Benzo(a)pyrene *	1.276	1.280	80.30	80.0	-.4*
Indeno(1,2,3-cd)pyrene	1.142	1.145	80.19	80.0	-.2
Dibenz(a,h)anthracene	1.148	1.157	80.63	80.0	-.8
Benzo(g,h,i)perylene	1.179	1.180	80.04	80.0	-.0
2-Fluorophenol	1.502	1.468	78.14	80.0	2.3
Phenol-d5	1.811	1.769	78.11	80.0	2.4
Phenol-d6	1.811	1.769	78.11	80.0	2.4
2-Chlorophenol-d4	1.563	1.549	79.28	80.0	.9
1,2-Dichlorobenzene-d4	.898	.874	77.79	80.0	2.8
Nitrobenzene-d5	.379	.391	82.56	80.0	-3.2
2-Fluorobiphenyl	1.318	1.278	77.53	80.0	3.1
2,4,6-Tribromophenol	.253	.289	91.26	80.0	-14.1
Terphenyl-d14	.908	.876	77.19	80.0	3.5

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG221 Date Analyzed: 07/13/98

Instrument ID: HP06755 Time Analyzed: 10:57

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	251144	12.44	928057	16.18	442912	21.56
	UPPER LIMIT	502288		1856114		885824	
	LOWER LIMIT	125572		464029		221456	
	EPA SAMPLE NO.						
01	SBLKLA166M	186493	12.44	704118	16.16	328892	21.55
02	166LALCSM	190075	12.44	711513	16.17	338229	21.56
03	340-1	173884	12.44	654253	16.17	302151	21.55
04	340-1MS	172961	12.44	651027	16.17	300984	21.55
05	340-1MSD	176765	12.44	664145	16.18	306288	21.56
06	342-3	187552	12.44	711486	16.17	328361	21.56
07	345-6	185890	12.44	704988	16.18	333975	21.55
08	282-3	177299	12.44	674083	16.17	314221	21.55
09	285-6	179976	12.44	678604	16.16	318867	21.55
10	290-1	168012	12.44	648766	16.16	300821	21.55
11							
12							
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG221 Date Analyzed: 07/13/98

Instrument ID: HP06755 Time Analyzed: 10:57

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	774626	26.12	648016	33.00	477059	38.64
	UPPER LIMIT	1549252		1296032		954118	
	LOWER LIMIT	387313		324008		238530	
	EPA SAMPLE NO.						
01	SBLKLA166M	576838	26.11	470334	32.97	335599	38.61
02	166LALCSM	590891	26.12	476265	33.00	354822	38.63
03	340-1	521908	26.12	405427	32.99	318218	38.64
04	340-1MS	510677	26.11	412992	32.99	291153	38.66
05	340-1MSD	506953	26.12	389717	32.99	283935	38.65
06	342-3	545613	26.12	387445	32.99	300774	38.63
07	345-6	572285	26.12	397940	32.99	310748	38.62
08	282-3	544009	26.11	384795	32.98	300484	38.62
09	285-6	540886	26.11	399023	32.98	309867	38.60
10	290-1	515308	26.11	402313	32.99	309538	38.63
11							
12							
13							
14							
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16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG250 DFTPP Injection Date: 07/14/98

Instrument ID: HP06755 DFTPP Injection Time: 10:08

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	50.6
70	Less than 2.0% of mass 69	.2 (.5)1
127	40.0 - 60.0% of mass 198	48.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	20.9
365	Greater than 1.00% of mass 198	2.91
441	Present, but less than mass 443	10.7
442	Greater than 40.0% of mass 198	67.4
443	17.0 - 23.0% of mass 442	13.0 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1898	>MG251	07/14/98	10:30
02	292-3	2945108	>MG252	07/14/98	11:27
03	295-6	2945109	>MG253	07/14/98	12:25
04	300-1	2945110	>MG254	07/14/98	13:22
05	302-3	2945111	>MG255	07/14/98	14:31
06	305-6	2945112	>MG256	07/14/98	15:28
07	310-1	2945113	>MG257	07/14/98	16:26
08	312-3	2945114	>MG258	07/14/98	17:24
09	B17-0	2944005	>MG259	07/14/98	18:21
10	B1718	2944006	>MG260	07/14/98	19:19
11	B1725	2944007	>MG261	07/14/98	20:16
12	B1741	2944008	>MG262	07/14/98	21:13
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/14/98 Time: 10:30

Lab File ID: >MG251 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.642	1.589	77.45	80.0	3.2
N-Nitrosodimethylamine		.998	.950	76.21	80.0	4.7
2-Picoline		1.603	1.560	77.81	80.0	2.7
Phenol	*	1.749	1.620	74.11	80.0	7.4*
Aniline		2.147	2.025	75.46	80.0	5.7
bis(2-Chloroethyl)ether		1.425	1.330	74.63	80.0	6.7
2-Chlorophenol		1.535	1.502	78.24	80.0	2.2
1,3-Dichlorobenzene		1.515	1.481	78.21	80.0	2.2
1,4-Dichlorobenzene	*	1.567	1.530	78.11	80.0	2.4*
Benzyl alcohol		.944	.936	79.31	80.0	.9
1,2-Dichlorobenzene		1.452	1.414	77.93	80.0	2.6
2-Methylphenol		1.310	1.268	77.44	80.0	3.2
2,2'-oxybis(1-Chloropropane)		2.205	1.935	70.20	80.0	12.2
bis(2-Chloroisopropyl)ether		2.205	1.935	70.20	80.0	12.2
4-Methylphenol		1.367	1.297	75.94	80.0	5.1
3- and 4-Methylphenol		1.367	1.297	75.94	80.0	5.1
Acetophenone		1.883	1.788	75.95	80.0	5.1
N-Nitroso-di-n-propylamine	#	.915	.819	71.58	80.0	10.5#
o-Toluidine		2.044	1.915	74.94	80.0	6.3
Hexachloroethane		.707	.711	80.52	80.0	-.7
Nitrobenzene		.379	.376	79.42	80.0	.7
Isophorone		.733	.697	76.00	80.0	5.0
2-Nitrophenol	*	.219	.228	83.23	80.0	-4.0*
2,4-Dimethylphenol		.377	.374	79.45	80.0	.7
Benzoic acid		.265	.288	78.03	80.0	2.5
bis(2-Chloroethoxy)methane		.461	.428	74.26	80.0	7.2
2,4-Dichlorophenol	*	.295	.298	80.83	80.0	-1.0*
1,2,4-Trichlorobenzene		.304	.303	79.65	80.0	.4
Naphthalene		1.017	.980	77.09	80.0	3.6
4-Chloroaniline		.476	.467	78.59	80.0	1.8
Hexachlorobutadiene	*	.179	.191	85.43	80.0	-6.8*
4-Chloro-3-methylphenol	*	.320	.323	80.71	80.0	-.9*
4-Chloro-3-methylphenol(mz10	*	.320	.323	80.71	80.0	-.9*
4-Chloro-3-methylphenol(mz14	*	.265	.262	79.30	80.0	.9*
2-Methylnaphthalene		.614	.598	77.91	80.0	2.6
1-Methylnaphthalene		.582	.571	78.46	80.0	1.9
Hexachlorocyclopentadiene	#	.348	.381	75.63	80.0	5.5#
2,4,6-Trichlorophenol	*	.422	.429	81.44	80.0	-1.8*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/14/98 Time: 10:30

Lab File ID: >MG251 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.460	.466	81.03	80.0	-1.3
2-Chloronaphthalene		1.205	1.177	78.16	80.0	2.3
2-Nitroaniline		.449	.464	82.72	80.0	-3.4
Dimethylphthalate		1.472	1.499	81.45	80.0	-1.8
2,6-Dinitrotoluene		.344	.365	84.75	80.0	-5.9
Acenaphthylene		1.977	1.945	78.71	80.0	1.6
3-Nitroaniline		.457	.477	83.52	80.0	-4.4
Acenaphthene	*	1.170	1.141	78.00	80.0	2.5*
2,4-Dinitrophenol	#	.179	.189	74.72	80.0	6.6#
4-Nitrophenol	#	.261	.301	92.27	80.0	-15.3#
Dibenzofuran		1.658	1.632	78.77	80.0	1.5
2,4-Dinitrotoluene		.470	.509	86.64	80.0	-8.3
1-Naphthylamine		1.028	1.036	80.67	80.0	-.8
2-Naphthylamine		1.069	.986	73.79	80.0	7.8
Diethylphthalate		1.676	1.702	81.28	80.0	-1.6
4-Chlorophenyl-phenylether		.568	.581	81.83	80.0	-2.3
Fluorene		1.201	1.194	79.58	80.0	.5
4-Nitroaniline		.476	.504	84.69	80.0	-5.9
4,6-Dinitro-2-methylphenol		.143	.162	80.27	80.0	-.3
1-Nitronaphthalene		.164	.163	79.59	80.0	.5
N-Nitrosodiphenylamine (1)	*	.540	.530	78.44	80.0	1.9*
1,2-Diphenylhydrazine		.915	.842	73.65	80.0	7.9
4-Bromophenyl-phenylether		.207	.213	82.32	80.0	-2.9
Hexachlorobenzene		.197	.147	50.60	80.0	36.7
Pentachlorophenol	*	.147	.145	73.70	80.0	7.9*
Phenanthrene		1.001	.986	78.81	80.0	1.5
Anthracene		1.013	1.008	79.65	80.0	.4
Carbazole		1.010	1.002	79.40	80.0	.8
Di-n-butylphthalate		1.583	1.571	79.38	80.0	.8
Fluoranthene	*	.996	1.024	82.27	80.0	-2.8*
Benzidine		.848	.735	289.61	320.0	9.5
Pyrene		1.340	1.247	74.45	80.0	6.9
Butylbenzylphthalate		.907	.856	75.57	80.0	5.5
3,3'-Dichlorobenzidine		.512	.521	81.40	80.0	-1.7
Benzo(a)anthracene		1.109	1.092	78.73	80.0	1.6
bis(2-Ethylhexyl)phthalate		1.235	1.151	74.55	80.0	6.8
Chrysene		1.051	1.035	78.77	80.0	1.5
Di-n-octylphthalate	*	2.851	2.560	71.84	80.0	10.2*

(1) Cannot be separated from Diphenylamine

Pres. pu... R fac... ca... J+, UJ-

FORM VII SV-1 1/87 Rev.

292-3
276-4
300-1
302-3
305-6
310-1
312-3

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/14/98 Time: 10:30

Lab File ID: >MG251 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace		.522	.610	77.72	80.0	2.9
Benzo(b)fluoranthene		1.489	1.467	78.78	80.0	1.5
Benzo(k)fluoranthene		1.368	1.360	79.52	80.0	.6
Benzo(a)pyrene	*	1.276	1.273	79.84	80.0	.2*
Indeno(1,2,3-cd)pyrene		1.142	1.172	82.05	80.0	-2.6
Dibenz(a,h)anthracene		1.148	1.164	81.14	80.0	-1.4
Benzo(g,h,i)perylene		1.179	1.204	81.70	80.0	-2.1
2-Fluorophenol		1.502	1.461	77.78	80.0	2.8
Phenol-d5		1.811	1.737	76.73	80.0	4.1
Phenol-d6		1.811	1.737	76.73	80.0	4.1
2-Chlorophenol-d4		1.563	1.544	79.04	80.0	1.2
1,2-Dichlorobenzene-d4		.898	.884	78.76	80.0	1.5
Nitrobenzene-d5		.379	.384	81.14	80.0	-1.4
2-Fluorobiphenyl		1.318	1.306	79.26	80.0	.9
2,4,6-Tribromophenol		.253	.294	92.90	80.0	-16.1
Terphenyl-d14		.908	.875	77.05	80.0	3.7

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG251 Date Analyzed: 07/14/98

Instrument ID: HP06755 Time Analyzed: 10:30

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	216294	12.39	806916	16.12	373383	21.51
	UPPER LIMIT	432588		1613832		746766	
	LOWER LIMIT	108147		403458		186692	
	EPA SAMPLE NO.						
01	292-3	167550	12.39	633231	16.12	287528	21.49
02	295-6	162799	12.39	609343	16.12	284247	21.49
03	300-1	162169	12.40	599994	16.12	281530	21.50
04	302-3	164168	12.40	612337	16.12	284274	21.50
05	305-6	171731	12.39	643798	16.12	302068	21.49
06	310-1	163870	12.39	612000	16.12	288182	21.50
07	312-3	157913	12.40	594434	16.12	280303	21.49
08	B17-0	162746	12.39	621738	16.12	300496	21.49
09	B1718	160385	12.39	600578	16.11	281151	21.49
10	B1725	159110	12.39	588208	16.11	277814	21.49
11	B1741	162128	12.39	600856	16.11	286401	21.49
12							
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG251 Date Analyzed: 07/14/98

Instrument ID: HP06755 Time Analyzed: 10:30

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	649859	26.07	545823	32.95	414061	38.53
	UPPER LIMIT	1299718		1091646		828122	
	LOWER LIMIT	324930		272912		207031	
	EPA SAMPLE NO.						
01	292-3	498296	26.07	403497	32.92	304467	38.51
02	295-6	490502	26.07	389998	32.92	296969	38.51
03	300-1	474222	26.08	373445	33.00	326399	38.67
04	302-3	484515	26.07	375072	32.93	283745	38.52
05	305-6	527232	26.07	408427	32.92	308453	38.51
06	310-1	500111	26.07	394912	32.93	293213	38.51
07	312-3	492195	26.07	389763	32.92	287402	38.51
08	B17-0	512836	26.08	436413	32.97	354308	38.60
09	B1718	480269	26.06	371953	32.92	285733	38.51
10	B1725	477419	26.06	383706	32.92	287708	38.51
11	B1741	492608	26.06	394701	32.92	299064	38.51
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG345 DFTPP Injection Date: 07/17/98

Instrument ID: HP06755 DFTPP Injection Time: 19:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	52.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	21.1
365	Greater than 1.00% of mass 198	2.92
441	Present, but less than mass 443	10.8
442	Greater than 40.0% of mass 198	67.9
443	17.0 - 23.0% of mass 442	13.1 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	AAQ1848	>MG346	07/17/98	20:16
02	SSTD080	STD1978	>MG347	07/17/98	21:02
03	SBLKWB176M	SBLKWB176	>MG348	07/17/98	21:57
04	176WBLCSM	176WBLCS	>MG349	07/17/98	22:52
05	176WBLCSDM	176WBLCSD	>MG350	07/17/98	23:47
06	61998	2952635	>MG351	07/18/98	00:42
07	62298	2952636	>MG352	07/18/98	01:36
08	B1753	2944009	>MG353	07/18/98	02:31
09	300-1DL	2945110DL	>MG354	07/18/98	03:26
10	B17-0DL	2944005DL	>MG355	07/18/98	04:21
11	280-1	2945104	>MG356	07/18/98	05:15
12	2-8--	2949840	>MG357	07/18/98	06:10
13					
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21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/17/98 Time: 21:02

Lab File ID: >MG347 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.642	1.257	61.23	80.0	23.5 J+, UJ-
N-Nitrosodimethylamine	.998	.747	59.88	80.0	25.2 J+, UJ-
2-Picoline	1.603	1.350	67.35	80.0	15.8
Phenol *	1.749	1.484	67.89	80.0	15.1*
Aniline	2.147	1.843	68.67	80.0	14.2
bis(2-Chloroethyl)ether	1.425	1.199	67.30	80.0	15.9
2-Chlorophenol	1.535	1.448	75.43	80.0	5.7
1,3-Dichlorobenzene	1.515	1.485	78.43	80.0	2.0
1,4-Dichlorobenzene *	1.567	1.530	78.09	80.0	2.4*
Benzyl alcohol	.944	.854	72.35	80.0	9.6
1,2-Dichlorobenzene	1.452	1.425	78.51	80.0	1.9
2-Methylphenol	1.310	1.169	71.39	80.0	10.8
2,2'-oxybis(1-Chloropropane)	2.205	1.574	57.11	80.0	28.6 J+, UJ-
bis(2-Chloroisopropyl)ether	2.205	1.574	57.11	80.0	28.6 J+, UJ-
4-Methylphenol	1.367	1.213	71.01	80.0	11.2
3- and 4-Methylphenol	1.367	1.213	71.01	80.0	11.2
Acetophenone	1.883	1.737	73.79	80.0	7.8
N-Nitroso-di-n-propylamine #	.915	.788	68.91	80.0	13.9#
o-Toluidine	2.044	3.893	152.39	80.0	90.5 J+, R-
Hexachloroethane	.707	.723	81.85	80.0	-2.3
Nitrobenzene	.379	.363	76.71	80.0	4.1
Isophorone	.733	.674	73.49	80.0	8.1
2-Nitrophenol *	.219	.233	84.95	80.0	-6.2*
2,4-Dimethylphenol	.377	.392	83.29	80.0	-4.1
Benzoic acid	.265	.170	49.85	80.0	37.7 J+, UJ-
bis(2-Chloroethoxy)methane	.461	.419	72.71	80.0	9.1
2,4-Dichlorophenol *	.295	.308	83.56	80.0	-4.5*
1,2,4-Trichlorobenzene	.304	.322	84.69	80.0	-5.9
Naphthalene	1.017	1.003	78.89	80.0	1.4
4-Chloroaniline	.476	.483	81.19	80.0	-1.5
Hexachlorobutadiene *	.179	.212	94.68	80.0	-18.3*
4-Chloro-3-methylphenol *	.320	.341	85.28	80.0	-6.6*
4-Chloro-3-methylphenol(mz10*	.320	.341	85.28	80.0	-6.6*
4-Chloro-3-methylphenol(mz14*	.265	.265	80.01	80.0	-.0*
2-Methylnaphthalene	.614	.632	82.44	80.0	-3.0
1-Methylnaphthalene	.582	.606	83.22	80.0	-4.0
Hexachlorocyclopentadiene #	.348	.341	68.40	80.0	14.5#
2,4,6-Trichlorophenol *	.422	.429	81.42	80.0	-1.8*

not target

not target

not target

not target

Compds in quantn or std cont. cal. not used for reporting in sample 300-1DL, or qualify 280-1

300-1DL
280-1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/17/98 Time: 21:02

Lab File ID: >MG347 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.460	.461	80.18	80.0	-.2
2-Chloronaphthalene		1.205	1.202	79.76	80.0	.3
2-Nitroaniline		.449	.436	77.73	80.0	2.8
Dimethylphthalate		1.472	1.544	83.91	80.0	-4.9
2,6-Dinitrotoluene		.344	.380	88.37	80.0	-10.5
Acenaphthylene		1.977	1.935	78.32	80.0	2.1
3-Nitroaniline		.457	.462	80.92	80.0	-1.2
Acenaphthene	*	1.170	1.173	80.19	80.0	-.2*
2,4-Dinitrophenol	#	.179	.150	62.15	80.0	22.3# JH, WJ-
4-Nitrophenol	#	.261	.296	90.54	80.0	-13.2#
Dibenzofuran		1.658	1.628	78.55	80.0	1.8
2,4-Dinitrotoluene		.470	.528	89.92	80.0	-12.4
1-Naphthylamine		1.028	1.095	85.23	80.0	-6.5
2-Naphthylamine		1.069	1.053	78.75	80.0	1.6
Diethylphthalate		1.676	1.757	83.89	80.0	-4.9
4-Chlorophenyl-phenylether		.568	.596	84.01	80.0	-5.0
Fluorene		1.201	1.177	78.40	80.0	2.0
4-Nitroaniline		.476	.480	80.54	80.0	-.7
4,6-Dinitro-2-methylphenol		.143	.162	80.05	80.0	-.1
1-Nitronaphthalene		.164	.163	79.40	80.0	.8
N-Nitrosodiphenylamine (1)	*	.540	.522	77.26	80.0	3.4*
1,2-Diphenylhydrazine		.915	.783	68.49	80.0	14.4
4-Bromophenyl-phenylether		.207	.219	84.41	80.0	-5.5
Hexachlorobenzene		.197	.288	93.39	80.0	-16.7
Pentachlorophenol	*	.147	.131	67.07	80.0	16.2*
Phenanthrene		1.001	.999	79.84	80.0	.2
Anthracene		1.013	1.015	80.18	80.0	-.2
Carbazole		1.010	.992	78.57	80.0	1.8
Di-n-butylphthalate		1.583	1.606	81.17	80.0	-1.5
Fluoranthene	*	.996	1.043	83.77	80.0	-4.7*
Benzidine		.848	.754	299.86	320.0	6.3
Pyrene		1.340	1.235	73.75	80.0	7.8
Butylbenzylphthalate		.907	.847	74.74	80.0	6.6
3,3'-Dichlorobenzidine		.512	.524	81.85	80.0	-2.3
Benzo(a)anthracene		1.109	1.097	79.10	80.0	1.1
bis(2-Ethylhexyl)phthalate		1.235	1.143	74.07	80.0	7.4
Chrysene		1.051	1.042	79.30	80.0	.9
Di-n-octylphthalate	*	2.851	2.423	68.00	80.0	15.0*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/17/98 Time: 21:02

Lab File ID: >MG347 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.522	.612	77.90	80.0	2.6
Benzo(b)fluoranthene	1.489	1.415	76.02	80.0	5.0
Benzo(k)fluoranthene	1.368	1.299	75.95	80.0	5.1
Benzo(a)pyrene *	1.276	1.216	76.25	80.0	4.7*
Indeno(1,2,3-cd)pyrene	1.142	1.145	80.16	80.0	-.2
Dibenz(a,h)anthracene	1.148	1.156	80.59	80.0	-.7
Benzo(g,h,i)perylene	1.179	1.194	80.99	80.0	-1.2
2-Fluorophenol	1.502	1.322	70.41	80.0	12.0
Phenol-d5	1.811	1.545	68.22	80.0	14.7
Phenol-d6	1.811	1.545	68.22	80.0	14.7
2-Chlorophenol-d4	1.563	1.502	76.88	80.0	3.9
1,2-Dichlorobenzene-d4	.898	.885	78.77	80.0	1.5
Nitrobenzene-d5	.379	.375	79.18	80.0	1.0
2-Fluorobiphenyl	1.318	1.318	79.99	80.0	.0
2,4,6-Tribromophenol	.253	.299	94.50	80.0	-18.1
Terphenyl-d14	.908	.907	79.89	80.0	.1

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG347 Date Analyzed: 07/17/98

Instrument ID: HP06755 Time Analyzed: 21:02

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	144172	12.28	517427	16.01	256420	21.38
	UPPER LIMIT	288344		1034854		512840	
	LOWER LIMIT	72086		258714		128210	
	EPA SAMPLE NO.						
01	SBLKWB176M	159338	12.28	567542	16.00	281023	21.37
02	176WBLCSM	165617	12.28	598256	16.01	296429	21.38
03	176WBLCSDM	170821	12.28	616507	16.00	303457	21.37
04	61998	172213	12.28	612548	16.00	301321	21.37
05	62298	167816	12.27	597570	16.00	298369	21.37
06	B1753	146717	12.27	524173	15.99	257453	21.36
07	300-1DL	163692	12.27	589010	15.99	293748	21.36
08	B17-0DL	150665	12.27	539976	15.99	267059	21.36
09	280-1	134566	12.28	532751	15.99	254176	21.36
10	2-8--	149237	12.27	532062	15.99	261646	21.36
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG347 Date Analyzed: 07/17/98

Instrument ID: HP06755 Time Analyzed: 21:02

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	447964	25.95	397468	32.81	315333	38.26
	UPPER LIMIT	895928		794936		630666	
	LOWER LIMIT	223982		198734		157667	
	EPA SAMPLE NO.						
01	SBLKWB176M	496334	25.94	444226	32.79	352477	38.25
02	176WBLCSM	514915	25.95	452681	32.81	345221	38.26
03	176WBLCSDM	521743	25.95	459431	32.81	348235	38.26
04	61998	532839	25.94	471495	32.79	376817	38.25
05	62298	522273	25.94	462430	32.80	359575	38.24
06	B1753	455693	25.94	393899	32.79	315610	38.24
07	300-1DL	503854	25.94	430781	32.80	330759	38.25
08	B17-0DL	461286	25.94	380260	32.80	293068	38.26
09	280-1	417290	25.94	260047	32.79	165685	38.24
10	2-8--	443548	25.94	351236	32.79	255623	38.24
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20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG390 DFTPP Injection Date: 07/20/98

Instrument ID: HP06755 DFTPP Injection Time: 08:09

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	62.0
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	55.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.9
365	Greater than 1.00% of mass 198	2.69
441	Present, but less than mass 443	8.9
442	Greater than 40.0% of mass 198	56.5
443	17.0 - 23.0% of mass 442	11.3 (20.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	AAQ1848	>MG391	07/20/98	08:31
02	SSTD080	STD1978	>MG392	07/20/98	09:16
03	SSTD160	STD1978	>MG393	07/20/98	10:19
04	SSTD001	MDL1978	>MG394	07/20/98	11:14
05	SSTD005	STD1978	>MG395	07/20/98	12:10
06	SSTD120	STD1978	>MG396	07/20/98	13:05
07	SSTD020	STD1978	>MG397	07/20/98	14:00
08	SSTD050	STD1978	>MG398	07/20/98	14:54
09	EB710	2962772	>MG399	07/20/98	15:49
10	1129-	2962774	>MG400	07/20/98	16:44
11	0101A	2962776	>MG401	07/20/98	17:40
12	0282-	2962778	>MG402	07/20/98	18:35
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22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/20/98 07/20/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MG395 RRF20 = >MG397 RRF50 = >MG398
RRF80 = >MG392 RRF120= >MG396 RRF160= >MG393

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.245	1.215	1.136	1.264	1.156	1.210	1.204	4.1	AVG	
N-Nitrosodimethylamine	.706	.723	.669	.744	.686	.721	.708	3.8	AVG	
2-Picoline	1.358	1.326	1.269	1.334	1.298	1.331	1.319	2.4	AVG	
Phenol *	1.625	1.571	1.474	1.470	1.391	1.328	1.476	7.4	AVG	*
Aniline	1.940	1.874	1.768	1.801	1.707	1.679	1.795	5.5	AVG	
bis(2-Chloroethyl)ether	1.283	1.244	1.172	1.190	1.120	1.089	1.183	6.2	AVG	
2-Chlorophenol	1.479	1.477	1.443	1.436	1.394	1.352	1.430	3.4	AVG	
1,3-Dichlorobenzene	1.607	1.542	1.497	1.491	1.465	1.441	1.507	3.9	AVG	
1,4-Dichlorobenzene *	1.633	1.577	1.557	1.545	1.518	1.486	1.553	3.3	AVG	*
Benzyl alcohol	.872	.854	.821	.838	.803	.785	.829	3.9	AVG	
1,2-Dichlorobenzene	1.498	1.480	1.430	1.426	1.410	1.368	1.435	3.3	AVG	
2-Methylphenol	1.215	1.194	1.149	1.151	1.108	1.068	1.148	4.7	AVG	
2,2'-oxybis(1-Chloropropane)	1.603	1.528	1.460	1.559	1.452	1.474	1.513	4.0	AVG	
bis(2-Chloroisopropyl)ether	1.603	1.528	1.460	1.559	1.452	1.474	1.513	4.0	AVG	
4-Methylphenol	1.277	1.269	1.205	1.191	1.124	1.072	1.190	6.7	AVG	
3- and 4-Methylphenol	1.277	1.269	1.205	1.191	1.124	1.072	1.190	6.7	AVG	
Acetophenone	1.911	1.871	1.760	1.701	1.640	1.575	1.743	7.5	AVG	
N-Nitroso-di-n-propylamine #	.900	.849	.790	.776	.757	.737	.802	7.7	AVG	#
Toluidine	4.441	4.088	3.744	3.741	3.725	3.565	3.884	8.3	AVG	
achloroethane	.729	.768	.742	.739	.720	.706	.734	2.9	AVG	
trobenzene	.384	.388	.379	.375	.365	.362	.375	2.7	AVG	
Isophorone	.721	.711	.676	.679	.662	.657	.684	3.8	AVG	
2-Nitrophenol *	.224	.233	.236	.231	.233	.228	.231	1.8	AVG	*
2,4-Dimethylphenol	.391	.413	.398	.396	.398	.383	.396	2.5	AVG	
Benzoic acid	.093	.169	.189	.222	.232	.250	.192	29.6	1STDEG	0.9989
bis(2-Chloroethoxy)methane	.439	.438	.422	.412	.402	.393	.418	4.5	AVG	
2,4-Dichlorophenol *	.297	.317	.318	.310	.317	.305	.311	2.7	AVG	*
1,2,4-Trichlorobenzene	.328	.329	.329	.322	.334	.324	.328	1.3	AVG	
Naphthalene	1.086	1.074	1.024	1.004	.997	.970	1.026	4.4	AVG	
4-Chloroaniline	.483	.497	.480	.470	.465	.453	.475	3.3	AVG	
Hexachlorobutadiene *	.218	.225	.227	.220	.232	.222	.224	2.3	AVG	*
4-Chloro-3-methylphenol *	.328	.347	.339	.331	.333	.323	.333	2.5	AVG	*
4-Chloro-3-methylphenol(mz10*	.328	.347	.339	.331	.333	.323	.333	2.5	AVG	*
4-Chloro-3-methylphenol(mz14*	.258	.266	.264	.259	.261	.253	.260	1.8	AVG	*
2-Methylnaphthalene	.664	.659	.644	.630	.635	.620	.642	2.7	AVG	
1-Methylnaphthalene	.632	.627	.616	.600	.605	.586	.611	2.8	AVG	
Hexachlorocyclopentadiene #	.081	.222	.311	.332	.394	.404	.291	42.0	1STDEG	# 0.9969
2,4,6-Trichlorophenol *	.394	.430	.436	.433	.442	.443	.429	4.2	AVG	*

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/20/98 07/20/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MG395 RRF20 = >MG397 RRF50 = >MG398
RRF80 = >MG392 RRF120= >MG396 RRF160= >MG393

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
2,4,5-Trichlorophenol	.422	.461	.468	.462	.480	.485	.463	4.8	AVG	
2-Chloronaphthalene	1.236	1.265	1.248	1.241	1.238	1.218	1.241	1.2	AVG	
2-Nitroaniline	.423	.420	.429	.429	.427	.425	.425	.8	AVG	
Dimethylphthalate	1.548	1.575	1.566	1.526	1.542	1.534	1.548	1.2	AVG	
2,6-Dinitrotoluene	.338	.369	.380	.371	.374	.375	.368	4.1	AVG	
Acenaphthylene	1.993	1.986	1.959	1.947	1.949	1.924	1.960	1.3	AVG	
3-Nitroaniline	.431	.445	.448	.448	.446	.458	.446	1.9	AVG	
Acenaphthene *	1.218	1.191	1.180	1.163	1.174	1.169	1.183	1.7	AVG	*
2,4-Dinitrophenol #	.066	.140	.154	.147	.185	.186	.146	30.0	1STDEG	# 0.9966
4-Nitrophenol #	.261	.284	.300	.295	.302	.305	.291	5.7	AVG	#
Dibenzofuran	1.715	1.701	1.658	1.642	1.633	1.592	1.657	2.7	AVG	
2,4-Dinitrotoluene	.486	.513	.517	.514	.514	.508	.509	2.3	AVG	
1-Naphthylamine	1.032	1.055	1.008	.973	.980	.957	1.001	3.8	AVG	
2-Naphthylamine	1.111	.995	.933	.886	.915	.893	.956	8.9	AVG	
Diethylphthalate	1.774	1.785	1.778	1.733	1.728	1.693	1.748	2.1	AVG	
4-Chlorophenyl-phenylether	.600	.605	.615	.609	.606	.580	.603	2.0	AVG	
Fluorene	1.258	1.240	1.216	1.203	1.204	1.145	1.211	3.2	AVG	
itroaniline	.444	.451	.459	.463	.453	.452	.454	1.5	AVG	
-Dinitro-2-methylphenol	.099	.136	.160	.159	.172	.171	.149	18.6	1STDEG	0.9995
Nitronaphthalene	.173	.171	.168	.169	.170	.166	.169	1.5	AVG	
N-Nitrosodiphenylamine (1) *	.532	.543	.546	.541	.551	.536	.541	1.3	AVG	*
1,2-Diphenylhydrazine	.851	.857	.829	.814	.792	.762	.817	4.4	AVG	
4-Bromophenyl-phenylether	.217	.222	.228	.222	.237	.229	.226	3.0	AVG	
Hexachlorobenzene	.279	.295	.297	.297	.315	.301	.297	3.8	AVG	
Pentachlorophenol *	.077	.114	.121	.133	.153	.155	.125	23.0	1STDEG	* 0.9985
Phenanthrene	1.060	1.031	1.030	1.012	1.038	.996	1.028	2.1	AVG	
Anthracene	1.032	1.051	1.038	1.033	1.061	1.021	1.039	1.4	AVG	
Carbazole	1.019	1.012	1.001	.992	.999	.970	.999	1.7	AVG	
Di-n-butylphthalate	1.623	1.675	1.671	1.606	1.620	1.560	1.626	2.6	AVG	
Fluoranthene *	1.016	1.014	1.041	1.012	1.057	1.022	1.027	1.8	AVG	*
Benzidine	1.026	.938	.813	.800	.760	.625	.827	17.0	2NDDEG	0.9981
Pyrene	1.325	1.320	1.281	1.307	1.276	1.266	1.296	1.9	AVG	
Butylbenzylphthalate	.882	.895	.867	.872	.836	.835	.864	2.8	AVG	
3,3'-Dichlorobenzidine	.491	.503	.512	.525	.540	.492	.510	3.8	AVG	
Benzo(a)anthracene	1.126	1.094	1.098	1.108	1.119	1.114	1.110	1.1	AVG	
bis(2-Ethylhexyl)phthalate	1.180	1.189	1.165	1.160	1.134	1.127	1.159	2.1	AVG	
Chrysene	1.054	1.048	1.043	1.042	1.057	1.042	1.048	.6	AVG	
Di-n-octylphthalate *	2.412	2.412	2.426	2.544	2.436	2.488	2.453	2.2	AVG	*

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lode: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 07/20/98 07/20/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

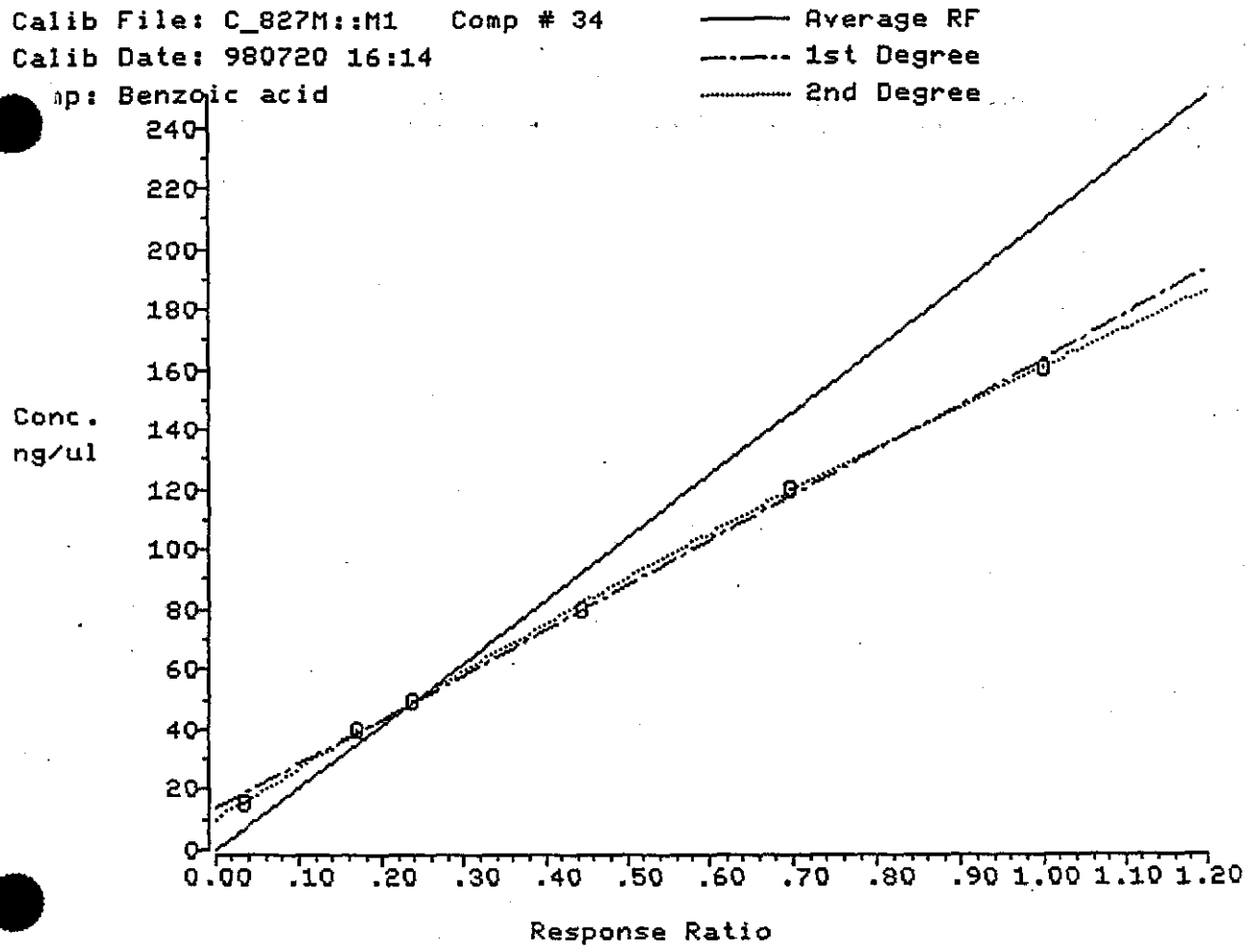
LAB FILE ID: RRF5 = >MG395 RRF20 = >MG397 RRF50 = >MG398
RRF80 = >MG392 RRF120= >MG396 RRF160= >MG393

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
7,12-Dimethylbenz[a]anthrace	.373	.494	.569	.606	.648	.663	.559	19.6	1STDEG
Benzo(b)fluoranthene	1.314	1.355	1.393	1.438	1.504	1.567	1.428	6.6	AVG
Benzo(k)fluoranthene	1.266	1.243	1.308	1.318	1.332	1.306	1.296	2.6	AVG
Benzo(a)pyrene *	1.167	1.177	1.213	1.231	1.263	1.287	1.223	3.9	AVG *
Indeno(1,2,3-cd)pyrene	1.102	1.126	1.163	1.180	1.232	1.243	1.174	4.8	AVG
Dibenz(a,h)anthracene	1.066	1.119	1.167	1.199	1.247	1.282	1.180	6.8	AVG
Benzo(g,h,i)perylene	1.154	1.170	1.204	1.225	1.273	1.291	1.219	4.5	AVG
2-Fluorophenol	1.322	1.326	1.286	1.299	1.257	1.240	1.288	2.7	AVG
Phenol-d5	1.637	1.609	1.512	1.540	1.463	1.415	1.529	5.5	AVG
Phenol-d6	1.637	1.609	1.512	1.540	1.463	1.415	1.529	5.5	AVG
2-Chlorophenol-d4	1.525	1.547	1.506	1.509	1.464	1.440	1.499	2.6	AVG
1,2-Dichlorobenzene-d4	.942	.924	.899	.895	.885	.865	.902	3.1	AVG
Nitrobenzene-d5	.388	.401	.387	.386	.385	.381	.388	1.8	AVG
2-Fluorobiphenyl	1.385	1.391	1.349	1.343	1.361	1.335	1.361	1.7	AVG
2,4,6-Tribromophenol	.243	.278	.301	.303	.317	.317	.293	9.7	AVG
Terphenyl-d14	.910	.926	.921	.936	.945	.920	.926	1.3	AVG

0.9991

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: C_827M::M1 Comp # 34
Calib Date: 980720 16:14
Comp: Benzoic acid



Compound # 34 Calib File: C_827M::M1

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.09260	.16917	.18883	.22207	.23179	.24993

Average of 6 Rfs: .19240 (29.64 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3325385 + 3.733678(x)
1st Degree Corr Coef: .9989327
2nd Degree Equation: y = .2504327 + 4.294851(x) + -.540683(x^2)
2nd Degree Corr Coef: .9996976

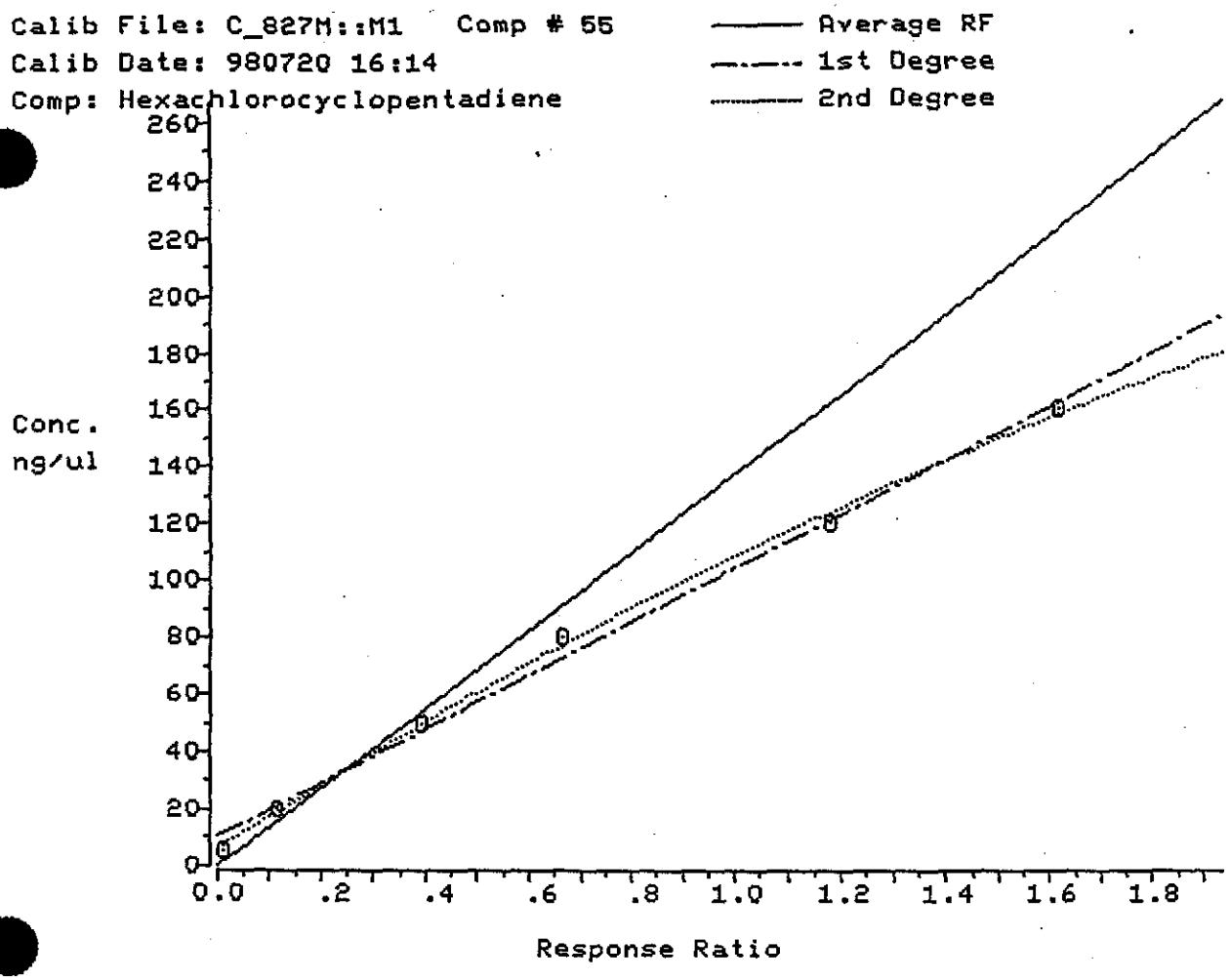
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
RGL
7/24/98

Calib File: C_827M::M1 Comp # 55
Calib Date: 980720 16:14
Comp: Hexachlorocyclopentadiene



Compound # 55 Calib File: C_827M::M1

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.08097	.22179	.31126	.33168	.39393	.40392

Average of 6 Rfs: .29059 (41.95 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2502442 + 2.360568(x)
1st Degree Corr Coef: .9969140
2nd Degree Equation: y = .1497749 + 2.915830(x) + -.347461(x^2)
2nd Degree Corr Coef: .9989508

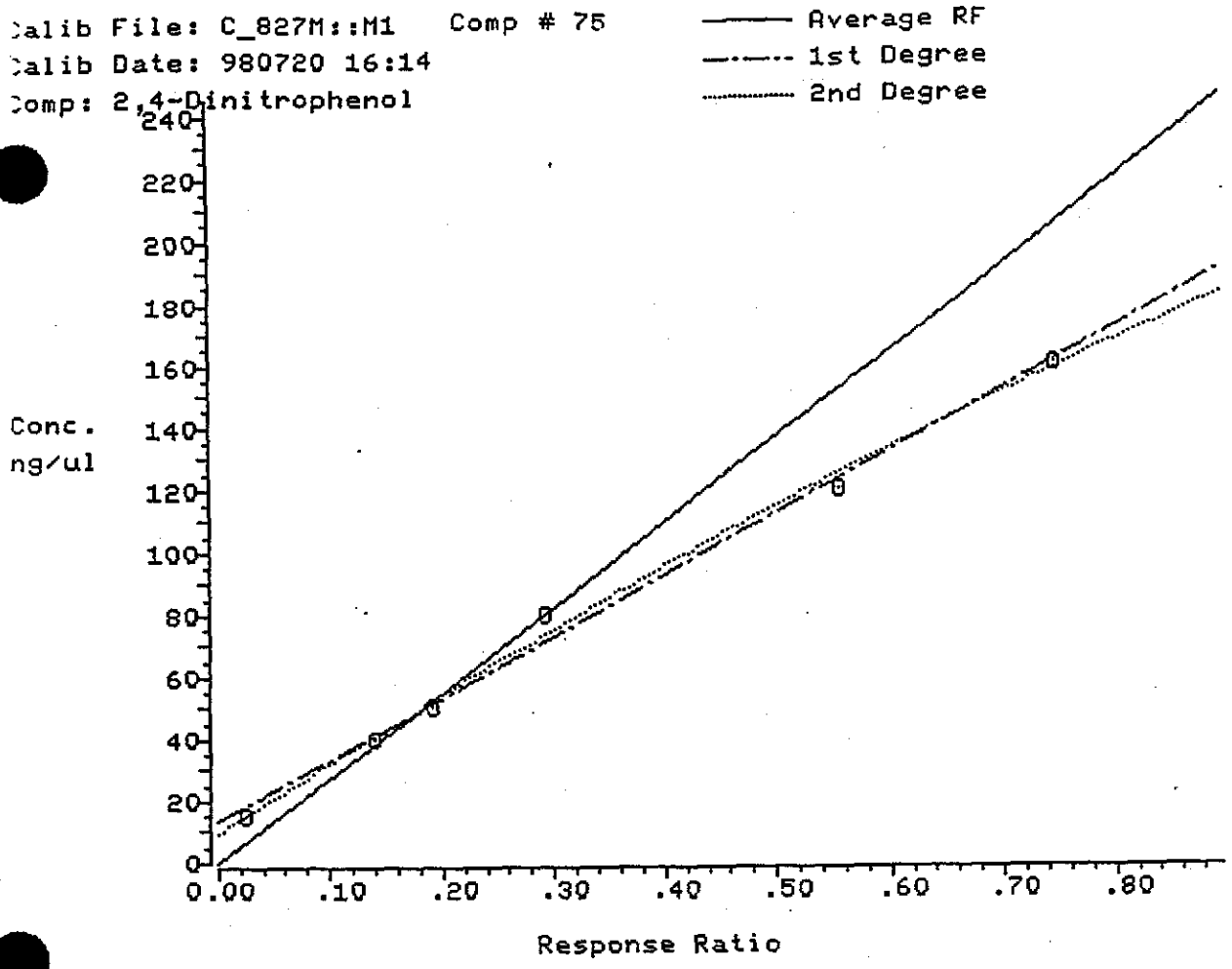
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
RY/mo
7/20/98

Calib File: C_827M::M1 Comp # 75
Calib Date: 980720 16:14
Comp: 2,4-Dinitrophenol



Compound # 75 Calib File: C_827M::M1

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.06593	.14032	.15407	.14670	.18487	.18645

Average of 6 Rfs: .14639 (30.02 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3285545 + 4.946973(x)
1st Degree Corr Coef: .9966620
2nd Degree Equation: y = .2325312 + 5.806283(x) + -1.09279(x^2)
2nd Degree Corr Coef: .9975539

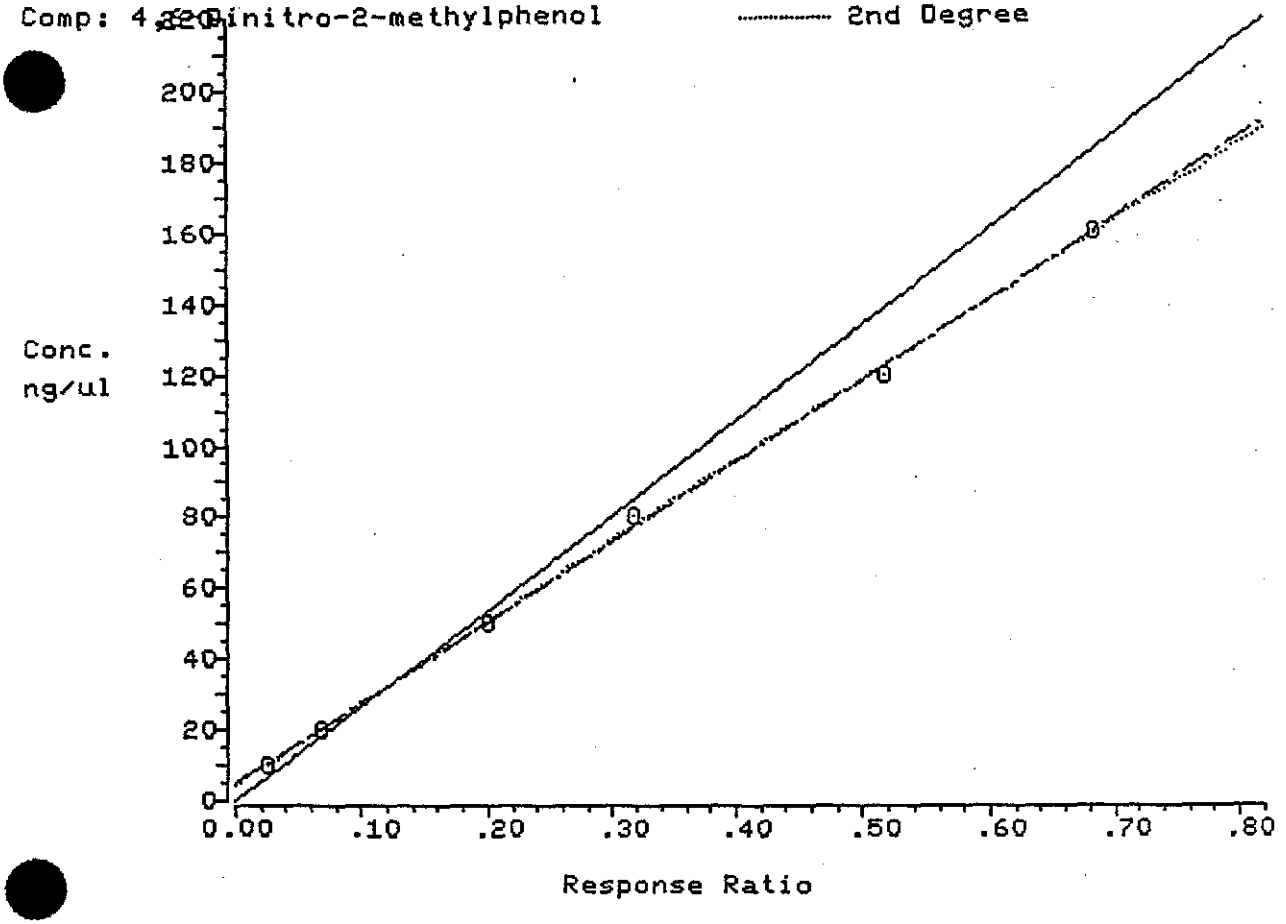
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
RD/mo
7/20/98 ✓

Calib File: C_827M::M1 Comp # 87
Calib Date: 980720 16:14
Comp: 4,6-Dinitro-2-methylphenol



Compound # 87 Calib File: C_827M::M1

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.09945	.13553	.15956	.15888	.17232	.17090

Average of 6 Rfs: .14944 (18.61 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1262247 + 5.657790(x)
1st Degree Corr Coef: .9995883
2nd Degree Equation: y = .1072502 + 5.867360(x) + -.301597(x^2)
2nd Degree Corr Coef: .9996350

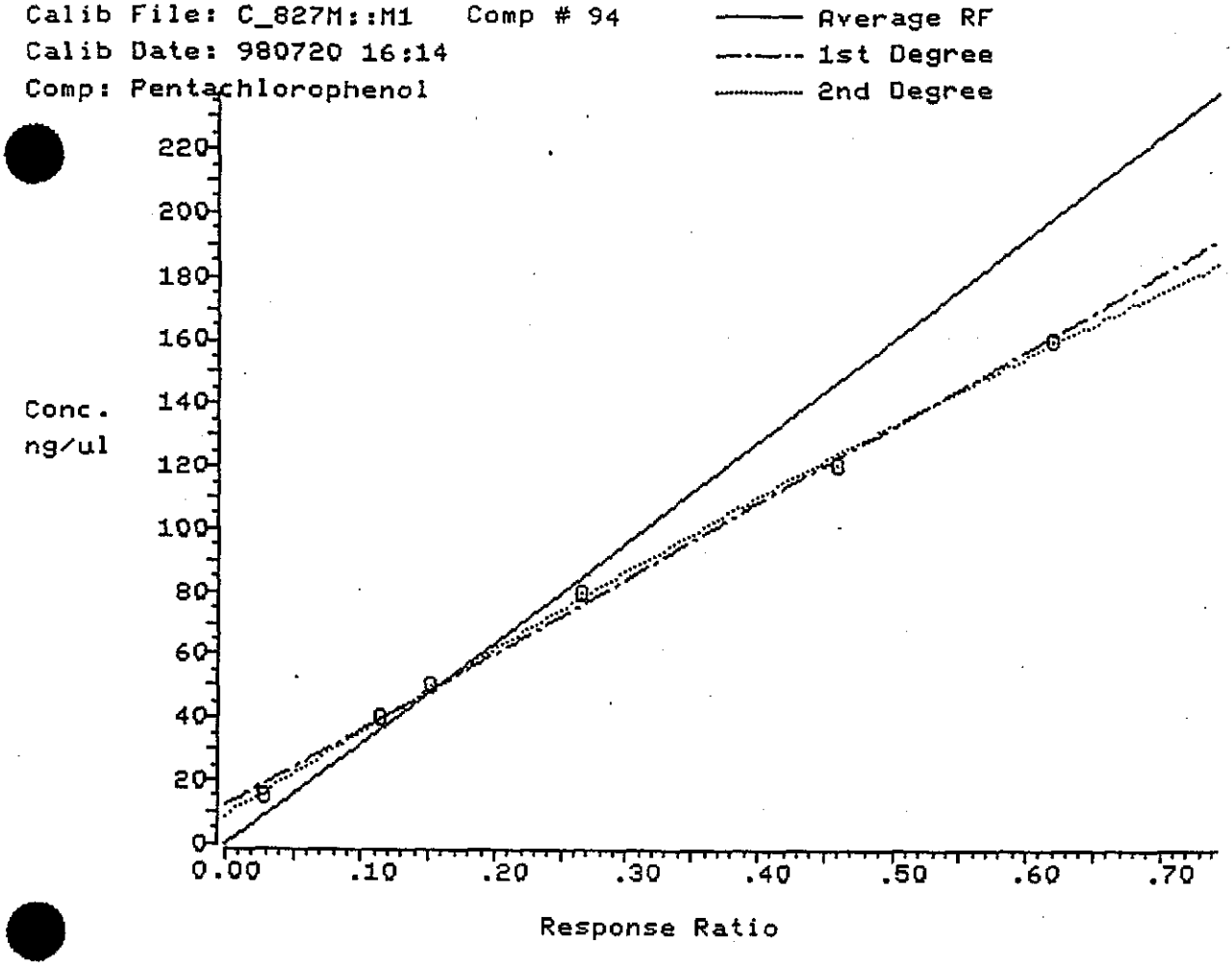
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
Ry(-0
7/20(SV

Calib File: C_827M::M1 Comp # 94
Calib Date: 980720 16:14
Comp: Pentachlorophenol



Compound # 94 Calib File: C_827M::M1

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.07728	.11367	.12093	.13266	.15303	.15490

Average of 6 Rfs: .12541 (23.00 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3008515 + 5.995595(x)
1st Degree Corr Coef: .9985323
2nd Degree Equation: y = .2155050 + 6.899891(x) + -1.38095(x^2)
2nd Degree Corr Coef: .9991794

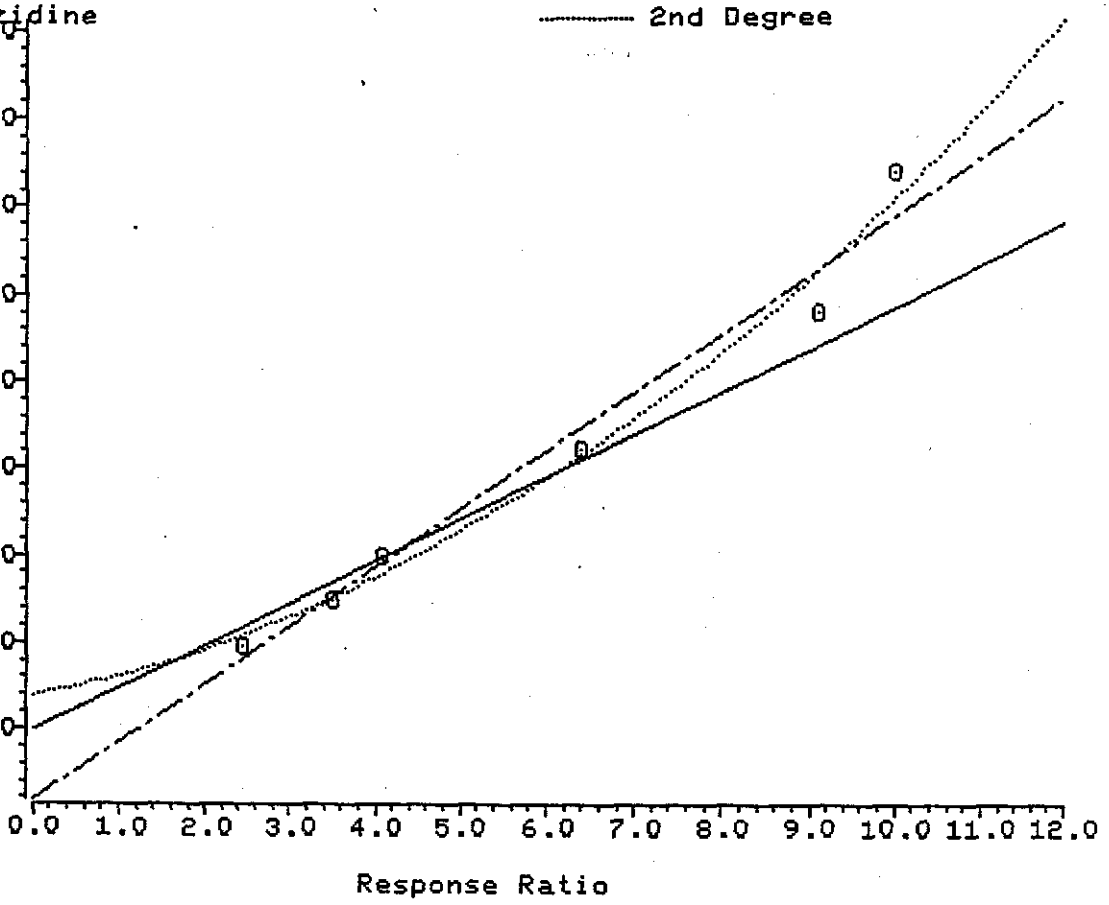
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE
RGF
7/20/98

Calib File: C_827M::M1 Comp #100
Calib Date: 980720 16:14
Comp: Benzidine



Compound #100 Calib File: C_827M::M1

Compound: Benzidine
Istd: Chrysene-d12

File: >MG395 >MG397 >MG398 >MG392 >MG396 >MG393
Conc: 95.00 150.00 200.00 320.00 480.00 640.00
Rf: 1.0261 .93762 .81306 .80005 .75955 .62473

Average of 6 Rfs: .82684 (16.95 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = -2.02663 + 1.668637(x)
1st Degree Corr Coef: .9861200
2nd Degree Equation: y = .9868803 + .4652635(x) + .0953450(x^2)
2nd Degree Corr Coef: .9911829

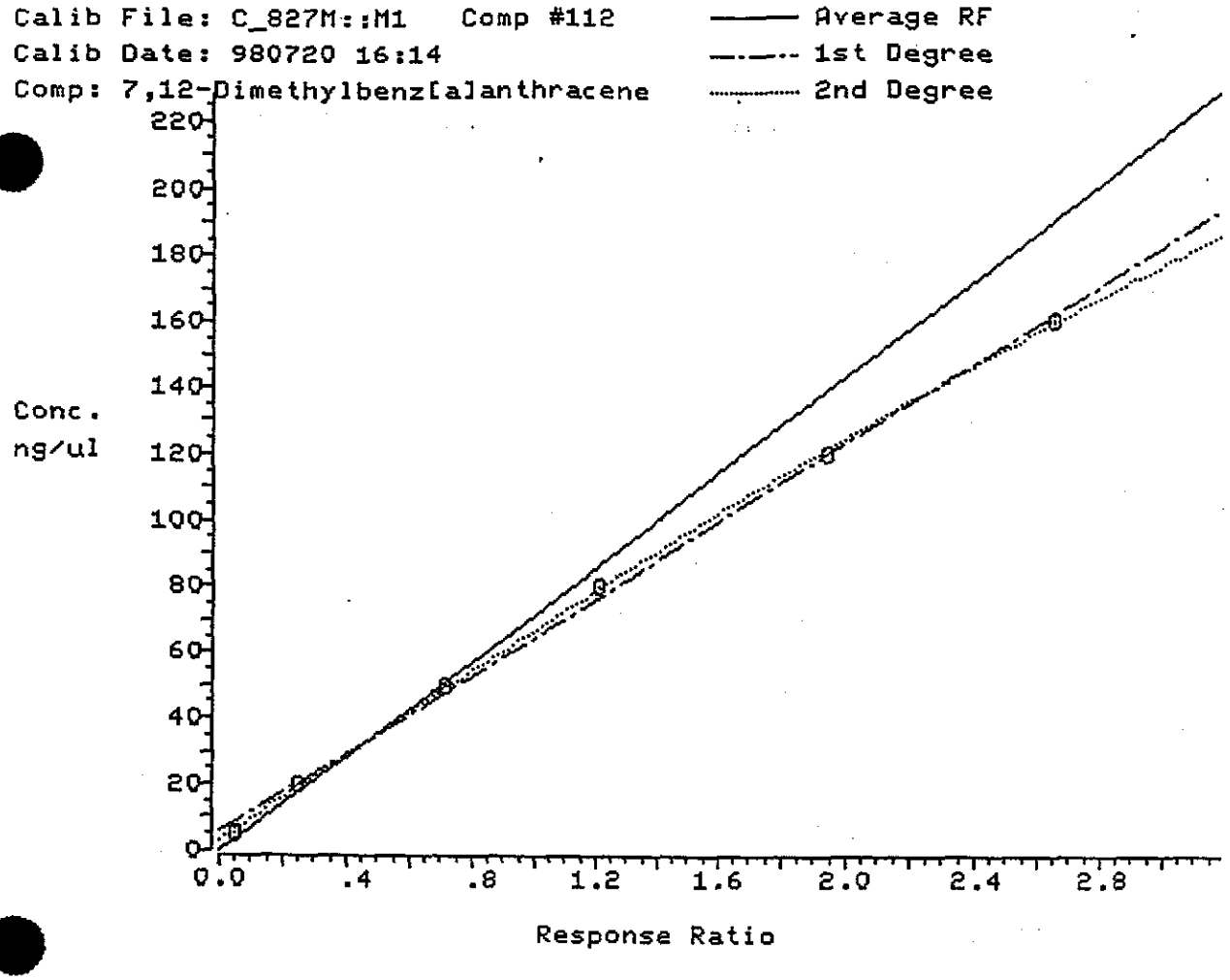
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

2ND DEGREE
Rejected

Calib File: C_827M::M1 Comp #112
Calib Date: 980720 16:14
Comp: 7,12-Dimethylbenz[a]anthracene



Compound #112 Calib File: C_827M::M1

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File:	>MG395	>MG397	>MG398	>MG392	>MG396	>MG393
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.37262	.49359	.56925	.60616	.64772	.66347

Average of 6 Rfs: .55880 (19.62 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1402216 + 1.472447(x)
1st Degree Corr Coef: .9991556
2nd Degree Equation: y = .0747669 + 1.671960(x) + -.075191(x^2)
2nd Degree Corr Coef: .9998393

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1ST DEGREE

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MG405 DFTPP Injection Date: 07/20/98

Instrument ID: HP06755 DFTPP Injection Time: 19:27

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	34.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.1
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	22.3
365	Greater than 1.00% of mass 198	3.23
441	Present, but less than mass 443	9.8
442	Greater than 40.0% of mass 198	62.9
443	17.0 - 23.0% of mass 442	12.5 (19.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1978	>MG406	07/20/98	19:49
02	SBLKLB196M	SBLKLB196	>MG407	07/20/98	20:44
03	196LBLCSM	196LBLCS	>MG408	07/20/98	21:38
04	3-1--	2962953	>MG409	07/20/98	22:33
05	3-1--MS	2962953	>MG410	07/20/98	23:28
06	3-1--MSD	2962953	>MG411	07/21/98	00:23
07	280-1RE	2945104RE	>MG412	07/21/98	01:18
08	B26-0	2962128	>MG413	07/21/98	02:13
09	B26-3	2962129	>MG414	07/21/98	03:15
10	B26-7	2962130	>MG415	07/21/98	04:13
11	3-2--	2962954	>MG416	07/21/98	05:14
12	3-3--	2962955	>MG417	07/21/98	06:09
13	4-3--	2962956	>MG418	07/21/98	07:03
14					
15					
16					
17					
18					
19					
20					
21					
22					

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/20/98 Time: 19:49

Lab File ID: >MG406 Init. Calib. Date(s): 07/20/98 07/20/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.204	1.170	77.70	80.0	2.9
N-Nitrosodimethylamine	.708	.677	76.51	80.0	4.4
2-Picoline	1.319	1.287	78.06	80.0	2.4
Phenol *	1.476	1.405	76.13	80.0	4.8*
Aniline	1.795	1.729	77.06	80.0	3.7
bis(2-Chloroethyl)ether	1.183	1.142	77.25	80.0	3.4
2-Chlorophenol	1.430	1.404	78.55	80.0	1.8
1,3-Dichlorobenzene	1.507	1.508	80.02	80.0	-.0
1,4-Dichlorobenzene *	1.553	1.540	79.35	80.0	.8*
Benzyl alcohol	.829	.804	77.61	80.0	3.0
1,2-Dichlorobenzene	1.435	1.430	79.69	80.0	.4
2-Methylphenol	1.148	1.122	78.21	80.0	2.2
2,2'-oxybis(1-Chloropropane)	1.513	1.441	76.19	80.0	4.8
bis(2-Chloroisopropyl)ether	1.513	1.441	76.19	80.0	4.8
4-Methylphenol	1.190	1.163	78.21	80.0	2.2
3- and 4-Methylphenol	1.190	1.163	78.21	80.0	2.2
Acetophenone	1.743	1.697	77.90	80.0	2.6
N-Nitroso-di-n-propylamine #	.802	.765	76.36	80.0	4.5#
o-Toluidine	3.884	3.672	75.63	80.0	5.5
Hexachloroethane	.734	.740	80.62	80.0	-.8
Nitrobenzene	.375	.368	78.41	80.0	2.0
Isophorone	.684	.664	77.59	80.0	3.0
2-Nitrophenol *	.231	.231	80.14	80.0	-.2*
2,4-Dimethylphenol	.396	.397	80.21	80.0	-.3
Benzoic acid	.192	.193	71.05	80.0	11.2
bis(2-Chloroethoxy)methane	.418	.407	77.91	80.0	2.6
2,4-Dichlorophenol *	.311	.312	80.40	80.0	-.5*
1,2,4-Trichlorobenzene	.328	.326	79.55	80.0	.6
Naphthalene	1.026	1.013	79.01	80.0	1.2
4-Chloroaniline	.475	.474	79.93	80.0	.1
Hexachlorobutadiene *	.224	.232	82.95	80.0	-3.7*
4-Chloro-3-methylphenol *	.333	.334	80.16	80.0	-.2*
4-Chloro-3-methylphenol(mz10*	.333	.334	80.16	80.0	-.2*
4-Chloro-3-methylphenol(mz14*	.260	.259	79.70	80.0	.4*
2-Methylnaphthalene	.642	.642	79.97	80.0	.0
1-Methylnaphthalene	.611	.604	79.10	80.0	1.1
Hexachlorocyclopentadiene #	.291	.344	74.91	80.0	6.4#
2,4,6-Trichlorophenol *	.429	.424	78.97	80.0	1.3*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/20/98 Time: 19:49

Lab File ID: >MG406 Init. Calib. Date(s): 07/20/98 07/20/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.463	.460	79.53	80.0	.6
2-Chloronaphthalene		1.241	1.230	79.32	80.0	.9
2-Nitroaniline		.425	.428	80.50	80.0	-.6
Dimethylphthalate		1.548	1.539	79.53	80.0	.6
2,6-Dinitrotoluene		.368	.371	80.78	80.0	-1.0
Acenaphthylene		1.960	1.939	79.14	80.0	1.1
3-Nitroaniline		.446	.440	78.99	80.0	1.3
Acenaphthene	*	1.183	1.165	78.78	80.0	1.5*
2,4-Dinitrophenol	#	.146	.174	82.10	80.0	-2.6#
4-Nitrophenol	#	.291	.302	83.00	80.0	-3.7#
Dibenzofuran		1.657	1.635	78.96	80.0	1.3
2,4-Dinitrotoluene		.509	.516	81.05	80.0	-1.3
1-Naphthylamine		1.001	.949	75.87	80.0	5.2
2-Naphthylamine		.956	.873	73.06	80.0	8.7
Diethylphthalate		1.748	1.735	79.40	80.0	.7
4-Chlorophenyl-phenylether		.603	.614	81.55	80.0	-1.9
Fluorene		1.211	1.216	80.33	80.0	-.4
4-Nitroaniline		.454	.458	80.68	80.0	-.9
4,6-Dinitro-2-methylphenol		.149	.164	79.25	80.0	.9
1-Nitronaphthalene		.169	.166	78.32	80.0	2.1
N-Nitrosodiphenylamine (1)	*	.541	.537	79.38	80.0	.8*
1,2-Diphenylhydrazine		.817	.799	78.22	80.0	2.2
4-Bromophenyl-phenylether		.226	.229	81.12	80.0	-1.4
Hexachlorobenzene		.297	.301	81.10	80.0	-1.4
Pentachlorophenol	*	.125	.129	74.01	80.0	7.5*
Phenanthrene		1.028	1.018	79.20	80.0	1.0
Anthracene		1.039	1.035	79.64	80.0	.4
Carbazole		.999	.993	79.55	80.0	.6
Di-n-butylphthalate		1.626	1.623	79.86	80.0	.2
Fluoranthene	*	1.027	1.038	80.87	80.0	-1.1*
Benzidine		.827	.776	301.93	320.0	5.6
Pyrene		1.296	1.272	78.52	80.0	1.8
Butylbenzylphthalate		.864	.853	78.91	80.0	1.4
3,3'-Dichlorobenzidine		.510	.531	83.30	80.0	-4.1
Benzo(a)anthracene		1.110	1.105	79.64	80.0	.5
bis(2-Ethylhexyl)phthalate		1.159	1.149	79.35	80.0	.8
Chrysene		1.048	1.049	80.13	80.0	-.2
Di-n-octylphthalate	*	2.453	2.399	78.24	80.0	2.2*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 07/20/98 Time: 19:49

Lab File ID: >MG406 Init. Calib. Date(s): 07/20/98 07/20/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.559	.600	76.26	80.0	4.7
Benzo(b)fluoranthene	1.428	1.437	80.49	80.0	-.6
Benzo(k)fluoranthene	1.296	1.301	80.31	80.0	-.4
Benzo(a)pyrene *	1.223	1.239	81.02	80.0	-1.3*
Indeno(1,2,3-cd)pyrene	1.174	1.187	80.88	80.0	-1.1
Dibenz(a,h)anthracene	1.180	1.200	81.36	80.0	-1.7
Benzo(g,h,i)perylene	1.219	1.248	81.89	80.0	-2.4
2-Fluorophenol	1.288	1.266	78.64	80.0	1.7
Phenol-d5	1.529	1.465	76.65	80.0	4.2
Phenol-d6	1.529	1.465	76.65	80.0	4.2
2-Chlorophenol-d4	1.499	1.464	78.17	80.0	2.3
1,2-Dichlorobenzene-d4	.902	.889	78.89	80.0	1.4
Nitrobenzene-d5	.388	.383	79.00	80.0	1.2
2-Fluorobiphenyl	1.361	1.352	79.45	80.0	.7
2,4,6-Tribromophenol	.293	.306	83.61	80.0	-4.5
Terphenyl-d14	.926	.933	80.54	80.0	-.7

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG406 Date Analyzed: 07/20/98

Instrument ID: HP06755 Time Analyzed: 19:49

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	143114		12.20	497100		15.92	244457		21.29
	UPPER LIMIT	286228			994200			488914		
	LOWER LIMIT	71557			248550			122229		
	EPA SAMPLE NO.									
01	SBLKLB196M	128297		12.19	455420		15.91	227136		21.28
02	196LBLCSM	128963		12.19	456559		15.92	221954		21.29
03	3-1--	124924		12.18	431604		15.91	203500		21.28
04	3-1--MS	126152		12.19	438040		15.92	208877		21.28
05	3-1--MSD	129492		12.18	439152		15.91	217806		21.28
06	280-1RE	121080		12.18	420945		15.91	198833		21.27
07	B26-0	122673		12.18	433015		15.91	210945		21.28
08	B26-3	120793		12.18	428357		15.91	203027		21.28
09	B26-7	130356		12.19	272011		15.98	242541		21.34
10	3-2--	118944		12.18	422118		15.91	199107		21.28
11	3-3--	133384		12.18	468039		15.91	224163		21.28
12	4-3--	114325		12.18	399914		15.91	190584		21.27
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MG406 Date Analyzed: 07/20/98

Instrument ID: HP06755 Time Analyzed: 19:49

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	409171		25.85	350314		32.72	275789		38.07
	UPPER LIMIT	818342			700628			551578		
	LOWER LIMIT	204586			175157			137895		
	EPA SAMPLE NO.									
01	SBLKLB196M	390195		25.85	312420		32.70	228917		38.05
02	196LBLCSM	369169		25.85	301908		32.71	225831		38.05
03	3-1--	329958		25.84	255269		32.70	217091		38.05
04	3-1--MS	335031		25.85	267988		32.71	222969		38.06
05	3-1--MSD	350713		25.84	262133		32.70	215474		38.05
06	280-1RE	320724		25.84	259350		32.71	227075		38.07
07	B26-0	333190		25.89	278393		32.83	228171		38.26
08	B26-3	328245		25.86	259739		32.81	225099		38.25
09	B26-7	311215		25.94	305880		32.82	237880		38.23
10	3-2--	331822		25.85	246085		32.70	203523		38.04
11	3-3--	364299		25.84	282940		32.70	240449		38.05
12	4-3--	310279		25.84	246689		32.70	206338		38.04
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

HT = 1-2 days
DC

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/11/98
Start Time: 10:20 PM
Tech 1: C. Medina 187
Tech 2:

BATCH NO. 98162SLF026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK79	30	SS98159A	1.0	N/A	N/A	1.0	N/A	N/A	Na_2SO_4
LCS6	LCS2C	30	SS98159A	1.0	MS98141F	1.0	1.0	↓	↓	↓
2943294MS	2701-MS	30	SS98159A	1.0	MS98141F	1.0	1.0	↓	↓	orange sand with rocks
2943295MSD	2701-	30	SS98159A	1.0	MS98141F	1.0	1.0	↓	↓	↓
										C Medina 6-12-98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2943286	0202-	30	SS98159A	1.0	1.0	N/A	N/A	dirt with rocks	4688 4689	6/24/98	N
2	2943287	0656-	30	SS98159A	1.0	1.0	↓	↓	orange sand texture	4688 4689	6/24/98	N
3	2943288	1901-	30	SS98159A	1.0	1.0	↓	↓	dirt rocks twigs	4688 4689	6/24/98	N
4	2943289	1923-	30	SS98159A	1.0	1.0	↓	↓	brown sand texture	4688 4689	6/24/98	N
5	2943290	1956-	30	SS98159A	1.0	1.0	↓	↓	↓	4688 4689	6/24/98	N
6	2943291	2001-	30	SS98159A	1.0	1.0	↓	↓	brown clay chunk texture	4688 4689	6/24/98	N
7	2943292	2023-	30	SS98159A	1.0	1.0	↓	↓	clay texture	4688 4689	6/24/98	N
8	2943293 bkg	2701-	30	SS98159A	1.0	1.0	↓	↓	orange dirt with rocks	4688 4689	6/24/98	N
	2943380	2623-	30	SS98159A	1.0	1.0	↓	↓	orange sand texture	4688 4689	6/24/98	N
10	2943381	2656-	30	SS98159A	1.0	1.0	↓	↓	orange clay chunk texture	4688 4689	6/24/98	N
11	2943382	2723-	30	SS98159A	1.0	1.0	↓	↓	orange sand texture	4688 4689	6/24/98	N
12	2943383	2756-	30	SS98159A	1.0	1.0	↓	↓	↓	4688 4689	6/24/98	N
13	2943384	3301-	30	SS98159A	1.0	1.0	↓	↓	dirt with rocks	4688 4689	6/24/98	N
14	2943385	3323-	30	SS98159A	1.0	1.0	↓	↓	brownish black clay texture	4688 4689	6/24/98	N
15												
16												
17												
18												
19												
20									C. Medina 6-12-98			

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	974089		
Acetone	B1C334		
MeCl2	B1P6C8		
Internal Standar		Balance # 5340	
S-Evap/bath	97 °C	S-Evap/bath	— °C
N-Evap	— °C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

HT 5-0078 dN

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/15/98
Start Time: 00:30
Tech 1: DW482
Tech 2:

BATCH NO. 98166SLA026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK84	60.0	SS98159A	1.0			1.0			Na_2SO_4
LCS6	LCS37	60.0	SS98159A	1.0	MS98141F	1.0	1.0			"
2945101MS	340-1MS	30.0	SS98159A	1.0	MS98141F	1.0	1.0			GRANULAR - ROCKY
2945101MSD	340-1MSD	30.0	SS98159A	1.0	MS98141F	1.0	1.0			" "

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
13.4	1 2944005	B17-0	30.0	SS98159A	1.0	1.0			DARK-GRANULAR-ROCKY	4688 4689	6/24/98	P
15.3	2 2944006	B1718		SS98159A	1.0				REDDISH - SANDY	4688 4689	6/24/98	P
14.3	3 2944007	B1725		SS98159A	1.0				" "	4688 4689	6/24/98	P
15.2	4 2944008	B1741		SS98159A	1.0				REDDISH - SANDY	4688 4689	6/24/98	P
11.2	5 2944009	B1753		SS98159A	1.0				ROCKY - REDDISH	4688 4689	6/24/98	P
8.3	6 2945101 bkg	340-1		SS98159A	1.0				GRANULAR - ROCKY	4688 4689	6/26/98	N
	7 2945102	342-3		SS98159A	1.0				SANDY	4688 4689	6/26/98	N
	8 2945103	345-6		SS98159A	1.0				ORANGE - SANDY	4688 4689	6/26/98	N
	9 2945104	280-1		SS98159A	1.0				GRANULAR	4688 4689	6/26/98	N
	10 2945105	282-3		SS98159A	1.0				CLUMPY	4688 4689	6/26/98	N
	11 2945106	285-6		SS98159A	1.0				GRANULAR-ROCKY	4688 4689	6/26/98	N
	12 2945107	290-1		SS98159A	1.0				" "	4688 4689	6/26/98	N
	13 2945108	292-3		SS98159A	1.0				GRANULAR	4688 4689	6/26/98	N
	14 2945109	295-6		SS98159A	1.0				"	4688 4689	6/26/98	N
	15 2945110	300-1		SS98159A	1.0				DARK-GRANULAR	4688 4689	6/26/98	N
	16 2945111	302-3		SS98159A	1.0				CLUMPY	4688 4689	6/26/98	N
	17 2945112	305-6		SS98159A	1.0				GRANULAR	4688 4689	6/26/98	N
	18 2945113	310-1		SS98159A	1.0				SANDY	4688 4689	6/26/98	N
	19 2945114	312-3	↓	SS98159A	1.0	↓			ORANGE - SANDY	4688 4689	6/26/98	N
	20											

DW482 6/15/98

Additional Comment:

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	974089		
$MeCl_2$	BP608		
ACETONE	BR334		
Internal Standar	—	Balance #	5340
S-Evap/bath	96 °C	S-Evap/bath	—°C
N-Evap	—°C		

HT = 35 days
but results are reported for the analysis

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 7/13/98
Start Time: 10:00am
Tech 1: C. Medina 187
Tech 2:

BATCH NO. 98196SLB026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLKN3	30	SS98184A	1.0	N/A	N/A	1.0	N/A	N/A	Na_2SO_4
LCS6	LCSIE	30	SS98184A	1.0	MS98190A	1.0	1.0	↓	↓	↓
2962953MS	SP1-MS	30	SS98184A	1.0	MS98190A	1.0	1.0			Red rocks
2962953MSD	SP1-MSD	30	SS98184A	1.0	MS98190A	1.0	1.0	↓	↓	Top of myers soil blew off w/sample

C. Medina 7/16/98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri	
1	2945104 R	280-1	30	SS98184A	1.0	1.0	N/A	N/A	Soil with rocks	4688 4689	6/26/98	N	
2	2962128	B26-0	30	SS98184A	1.0	1.0			Soil with rocks	4688 4689	7/27/98	P	6.2
3	2962129	B26-3	30	SS98184A	1.0	1.0			↓	4688 4689	7/27/98	P	20.
4	2962130	B26-7	30	SS98184A	1.0	1.0			Oily rocks, odor	4688 4689	7/27/98	P	15.3
5	2962953 bkg	SP1- 3-1--	30	SS98184A	1.0	1.0			Red rocks	4688 4689	7/28/98	P	3
6	2962954	SP2- 3-2--	30	SS98184A	1.0	1.0			wet tinged rocks	4688 4689	7/28/98	P	
7	2962955	SP3- 3-3--	30	SS98184A	1.0	1.0			↓	4688 4689	7/28/98	P	
8	2962956	SP4- 3-4--	30	SS98184A	1.0	1.0			Red clay	4688 4689	7/28/98	P	
9	2962957	SP5- 4-2--	30	SS98184A	1.0	1.0			brown clay	4688 4689	7/28/98	P	
10	2962958	SP6- 4-1--	30	SS98184A	1.0	1.0			wet red clay w/rocks	4688 4689	7/28/98	P	
11	2962959	SP7- 4-1--	30	SS98184A	1.0	1.0			Brown tiny wet rocks	4688 4689	7/28/98	P	
12	2962960	SP8- 2-2--	30	SS98184A	1.0	1.0			↓	4688 4689	7/28/98	P	
13	2962961	SP9- 2-3--	30	SS98184A	1.0	1.0			↓	4688 4689	7/28/98	P	
14	2962962	SP10- 1-1--	30	SS98184A	1.0	1.0			Red clay with rocks	4688 4689	7/28/98	P	
15	2962963	SP11-1-2--	30	SS98184A	1.0	1.0			Crumbled clay with rocks	4688 4689	7/28/98	P	
16	2962964	SP12-1-3--	30	SS98184A	1.0	1.0	↓	↓	↓	4688 4689	7/28/98	P	
17													
18													
19													
20													

C. Medina 7/16/98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	984784	—	—
Acetone	BR334	—	—
$MeCl_2$	BP460	—	—
Internal Standar	—	Balance # 3782	—
S-Evap/bath	90 °C	S-Evap/bath	—. °C	N-Evap	— °C

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98184A BNA SURROGATE STANDARD
MS98190A LCS SPIKE (100)

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Evans

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF508::B1	DFTPP	50NG/UL	06/24/98	09:02		1.0	
2	>BF501::B1	SSTD80	STD1748	06/24/98	09:34		1.0	
2	>BF502::B1	SSTD80	STD1748	06/24/98	11:11		1.0	
3	>BF503::B1	SSTD160	STD1748	06/24/98	12:07		1.0	
4	>BF504::B1	SSTD001	MDL1748	06/24/98	13:02		1.0	
5	>BF505::B1	SSTD120	STD1748	06/24/98	13:58		1.0	
6	>BF506::B1	SSTD005	STD1748	06/24/98	14:54		1.0	
7	>BF507::B1	SSTD020	STD1748	06/24/98	15:49		1.0	
8	>BF508::B1	SSTD050	STD1748	06/24/98	16:45		1.0	
1	>BF509::B1	DFTPP	50NG/UL	06/24/98	17:38		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Ellen Hostetter *** Shift #2 Analyst:

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF550::A2	DFTPP	50NG/UL	06/26/98	07:25		1.0	mr
2	>BF551::A2	SSTD80	STD1748	06/26/98	07:52		1.0	
6	>BF552::A2	SBLKLC176L	SBLKLC176	06/26/98	09:23	98176SLC170SA	1.0	
7	>BF553::A2	176LCLCSL	176LCLCS	06/26/98	10:17	98176SLC170SA	1.0	
8	>BF554::A2	176LCLCSD	176LCLCSD	06/26/98	11:12	98176SLC170SA	1.0	
9	>BF555::A2	GP192RE	2940081RE	06/26/98	12:06	98176SLC170SA	1.0	
10	>BF556::A2	JUNSQ	2952567	06/26/98	13:01	98176SLC170SA	1.0	3XFLD
11	>BF557::A2	SBLKLF1622	SBLKLF162	06/26/98	13:56	98162SLF	1.0	mr
12	>BF558::A2	162LFLCS2	162LFLCS	06/26/98	14:50	98162SLF	1.0	
13	>BF559::A2	2701-	2943293	06/26/98	15:44	98162SLF	1.0	
14	>BF560::A2	2701-MS	2943294	06/26/98	16:38	98162SLF	1.0	
15	>BF561::A2	2701-MSD	2943295	06/26/98	17:32	98162SLF	1.0	
16	>BF562::A2	0656-	2943287	06/26/98	18:26	98162SLF	1.0	
1	>BF570::A2	DFTPP	50NG/UL	06/26/98	19:17		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hartnett *** Shift #2 Analyst: *

Comment Code:

R =	Reinjection necessary	X =	Sample sent to be reextracted
S =	Surrogate problem	I =	Internal Standard problem
NU =	Not used	F =	Further dilution required
MR =	Meets requirements	IUO =	Internal use only
Cz =	Confirms z, (z = I or X)	T =	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF570::A2	DFTPP	50NG/UL	06/26/98	19:17		1.0	ML
2	>BF571::A2	SSTD80	STD1748	06/26/98	19:45		1.0	"
17	>BF572::A2	1956-	2943290	06/26/98	20:39	98162SLF	1.0	" F2
18	>BF573::A2	2001-	2943291	06/26/98	21:33	98162SLF	1.0	(M) I
19	>BF574::A2	2023-	2943292	06/26/98	22:29	98162SLF	1.0	ML
20	>BF575::A2	2623-	2943380	06/26/98	23:23	98162SLF	1.0	"
21	>BF576::A3	2723-	2943382	06/27/98	00:17	98162SLF	1.0	"
22	>BF577::A3	2756-	2943383	06/27/98	01:11	98162SLF	1.0	"
1	>BF560::A3	DFTPP	50NG/UL	06/29/98	05:35		1.0	I, R (M)
1	>BF580::A3	DFTPP	50NG/UL	06/29/98	06:04		1.0	
1	>BF58A::A3	DFTPP	50NG/UL	06/29/98	07:10		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Newlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Tricia Hostetter *** Shift #2 Analyst: *

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF58A::A3	DFTPP	50NG/UL	06/29/98	07:10		1.0	MC
2	>BF581::A3	SSTD80	STD1748	06/29/98	07:43		1.0	I
5	>BF584::A3	0202-	2943286	06/29/98	09:07	98162SLF B	1.0	I, F2C (NU)
6	>BF585::A3	1901-	2943288	06/29/98	10:14	98162SLF B	1.0	ok, F
8	>BF587::A3	2656-	2943381	06/29/98	12:21	98162SLF B	1.0	ok, F2
7	>BF586::A3	1923-	2943289	06/29/98	11:25	98162SLF B	1.0	ok
12	>BF599::A3	GF003DL	2933383DL	06/29/98	13:17	98169SLB B	1.0	ok
9	>BF588::A3	2756-	2943383	06/29/98	14:34	98162SLF B	1.0	ok
10	>BF589::A3	3301-	2943384	06/29/98	15:31	98162SLF B	1.0	(NU) IS Dip
11	>BF590::A3	3323-	2943385	06/29/98	16:47	98162SLF B	1.0	ok, F2c
12	>BF591::A3	SBLKLB1742	SBLKLB174	06/29/98	17:54	98174SLB B	1.0	ok
13	>BF592::A3	174LBLCS2	174LBLCS	06/29/98	18:47	98174SLB B	1.0	ok
1	>BF600::A3	DFTPP	50NG/UL	06/30/98	06:41		1.0	(NU)
1	>BF60Z::A3	DFTPP	50NG/UL	06/30/98	07:34		1.0	ok

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hostetter *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF60Z::A3	DFTPP	50NG/UL	06/30/98	07:34		1.0	MC
2	>BF601::A3	SSTD80	STD1748	06/30/98	08:02		1.0	
3	>BF602::A3	1956-DL	2943290DL	06/30/98	08:56	98162SLF B	2.0	
4	>BF603::A3	2001-	2943291	06/30/98	09:49	98162SLF B	5.0	
5	>BF604::A3	0202-RE	2943286RE	06/30/98	10:42	98162SLF B	1.0	
6	>BF605::A3	1901-DL	2943288DL	06/30/98	11:46	98162SLF B	10.0	
7	>BF606::A3	1901-DL	2943288DL	06/30/98	12:52	98162SLF B	30.0	
8	>BF607::A3	1923-DL	2943289DL	06/30/98	13:56	98162SLF B	2.0	
9	>BF60A::A4	JUNSQDL	2952567DL	06/30/98	14:50	98176SLC170SA	20.0	
10	>BF608::A4	3301-	2943384	06/30/98	15:44	98162SLF B	10.0	d, EZO
11	>BF609::A4	3323-DL	2943385DL	06/30/98	16:43	98162SLF B	20.0	MC
12	>BF610::A4	0202-DL	2943286DL	06/30/98	17:36	98162SLF B	20.0	F4 (NU)
1	>BF620::A4	DFTPP	50NG/UL	06/30/98	18:28		1.0	(NU)
1	>BG000::A4	DFTPP	50NG/UL	07/01/98	06:49		1.0	MC

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hoffer *** Shift #2 Analyst:

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BG000::A4	DFTPP	50NG/UL	07/01/98	06:49		1.0	MC
2	>BG001::A4	SSTD80	STD1748	07/01/98	07:11		1.0	
14	>BG002::A4	ESL4-	2948677	07/01/98	08:04	98174SLB B	1.0	
15	>BG003::A4	ESL4-MS	2948679MS	07/01/98	08:59	98174SLB B	1.0	
3	>BG004::A4	3301-DL	2943384DL	07/01/98	11:00	98162SLF B	200.0	
4	>BG005::A4	0202-DL	2943286DL	07/01/98	11:53	98162SLF B	80.0	
16	>BG006::A4	ESL4-MSD	2948680MSD	07/01/98	12:46	98174SLB B	1.0	
17	>BG007::A4	ESL1-	2948674	07/01/98	13:42	98174SLB B	1.0	
18	>BG008::A4	ESL2-	2948675	07/01/98	14:45	98174SLB B	1.0	
19	>BG009::A4	ESL3-	2948676	07/01/98	15:42	98174SLB B	1.0	
20	>BG010::A4	ESL5-	2948681	07/01/98	16:37	98174SLB B	1.0	
21	>BG011::A4	ESL6-	2948682	07/01/98	17:32	98174SLB B	1.0	
22	>BG012::X1	ESL7-	2948683	07/01/98	18:32	98174SLB B	1.0	
1	>BG020::X1	DFTPP	50NG/UL	07/01/98	20:00		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: JWA 8/4 *** Shift #2 Analyst: _____ *

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG19Y::M2	DFTPP	50 ng/ul	07/11/98	11:38		1.0	MR
3	>MG19A::M2	SSTD080	STD1898	07/11/98	12:06		1.0	
4	>MG203::M2	SSTD160	STD1898	07/11/98	13:17		1.0	
5	>MG204::M2	SSTD001	STD1898	07/11/98	14:14		1.0	
6	>MG205::M2	SSTD120	STD1898	07/11/98	15:11		1.0	
7	>MG206::M2	SSTD005	STD1898	07/11/98	16:08		1.0	
8	>MG207::M2	SSTD020	STD1898	07/11/98	17:06		1.0	
9	>MG208::M2	SSTD050	STD1898	07/11/98	18:03		1.0	
1	>MG20A::M2	DFTPP	50 ng/ul	07/11/98	18:57		1.0	NU
3	>MG20B::M2	SSTD080	STD1898	07/11/98	19:18		1.0	
57	>MG209::M2	SBLKLA166M	SBLKLA166	07/11/98	20:16	98166SLA	1.0	
58	>MG210::M2	166LALCSM	166LALCS	07/11/98	21:13	98166SLA	1.0	
59	>MG211::M2	340-1	2945101	07/11/98	22:10	98166SLA	1.0	
60	>MG212::M2	340-1MS	2945101	07/11/98	23:11	98166SLA	1.0	
62	>MG214::M2	342-3	2945102	07/12/98	01:08	98166SLA	1.0	
65	>MG217::M2	282-3	2945105	07/12/98	04:00	98166SLA	1.0	
1	>MG220::M4	DFTPP	50 ng/ul	07/13/98	10:36		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: RWASH *** Shift #2 Analyst:

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

* MG229 DID NOT AUTO TRANSFER

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG220::M4	DFTPP	50 ng/ul	07/13/98	10:36		1.0	MR
3	>MG221::M4	SSTD080	STD1898	07/13/98	10:57		1.0	
57	>MG222::M4	SBLKLA166M	SBLKLA166	07/13/98	11:54	98166SLA	1.0	
58	>MG223::M4	166LALCSM	166LALCS	07/13/98	12:51	98166SLA	1.0	
59	>MG224::M4	340-1	2945101	07/13/98	13:49	98166SLA	5.0	
60	>MG225::M4	340-1MS	2945101	07/13/98	14:46	98166SLA	5.0	
61	>MG226::M4	340-1MSD	2945101	07/13/98	15:58	98166SLA	5.0	
62	>MG227::M4	342-3	2945102	07/13/98	17:07	98166SLA	1.0	
63	>MG228::M4	345-6	2945103	07/13/98	18:04	98166SLA	1.0	
65	>MG230::M4	282-3	2945105	07/13/98	19:58	98166SLA	1.0	
66	>MG231::M4	285-6	2945106	07/13/98	20:55	98166SLA	1.0	
67	>MG232::M4	290-1	2945107	07/13/98	21:52	98166SLA	5.0	
1	>MG235::M4	DFTPP	50 ng/ul	07/13/98	22:46		1.0	NU
3	>MG236::M4	SSTD080	STD1898	07/13/98	23:07		1.0	
68	>MG237::M4	292-3	2945108	07/14/98	00:04	98166SLA	1.0	
69	>MG238::M4	295-6	2945109	07/14/98	01:01	98166SLA	1.0	
70	>MG239::M4	300-1	2945110	07/14/98	01:58	98166SLA	1.0	
71	>MG240::M4	302-3	2945111	07/14/98	02:57	98166SLA	1.0	
72	>MG241::M4	305-6	2945112	07/14/98	03:54	98166SLA	1.0	
73	>MG242::M4	310-1	2945113	07/14/98	04:50	98166SLA	1.0	
74	>MG243::M4	312-3	2945114	07/14/98	05:47	98166SLA	1.0	
75	>MG244::M4	B17-0	2944005	07/14/98	06:44	98166SLA	1.0	
76	>MG245::M4	B1718	2944006	07/14/98	08:14	98166SLA	1.0	
64	>MG229::M4	280-1	2945104	07/13/98	19:01	98166SLA	1.0	Reanalyze IRSX
1	>MG250::M4	DFTPP	50 ng/ul	07/14/98	10:08		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: RJ ASL *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

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*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG250::M4	DFTPP	50 ng/ul	07/14/98	10:08		1.0	MR
3	>MG251::M4	SSTD080	STD1898	07/14/98	10:30		1.0	MR
68	>MG252::M4	292-3	2945108	07/14/98	11:27	98166SLA	1.0	MR
69	>MG253::M4	295-6	2945109	07/14/98	12:25	98166SLA	1.0	MR
70	>MG254::M4	300-1	2945110	07/14/98	13:22	98166SLA	1.0	MRF
71	>MG255::M4	302-3	2945111	07/14/98	14:31	98166SLA	1.0	MR
72	>MG256::M4	305-6	2945112	07/14/98	15:28	98166SLA	1.0	MR
73	>MG257::M4	310-1	2945113	07/14/98	16:26	98166SLA	1.0	MR
74	>MG258::M4	312-3	2945114	07/14/98	17:24	98166SLA	1.0	MR
75	>MG259::M4	B17-0	2944005	07/14/98	18:21	98166SLA	10.0	MRF
76	>MG260::M4	B1718	2944006	07/14/98	19:19	98166SLA	1.0	MR
77	>MG261::M4	B1725	2944007	07/14/98	20:16	98166SLA	1.0	MR
78	>MG262::M4	B1741	2944008	07/14/98	21:13	98166SLA	1.0	MR
1	>MG265::M4	DFTPP	50 ng/ul	07/14/98	22:08		1.0	NU
3	>MG266::M4	SSTD080	STD1898	07/14/98	22:30		1.0	
79	>MG267::M4	B1753	2944009	07/14/98	23:27	98166SLA	1.0	
80	>MG268::M4	300-1DL	2945110DL	07/15/98	00:24	98166SLA	10.0	
81	>MG269::M4	B17-0DL	2944005DL	07/15/98	01:21	98166SLA	100.0	
82	>MG270::M4	280-1RE	2945104RE	07/15/98	02:19	98166SLA	1.0	
1	>MG275::M4	DFTPP	50 ng/ul	07/15/98	08:50		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: RLW ASIC *** Shift #2 Analyst: *

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG345::M3	DFTPP	50 ng/ul	07/17/98	19:53		1.0	mr
2	>MG346::M3	SSTD080	AAQ1848	07/17/98	20:16		1.0	
3	>MG347::M3	SSTD080	STD1978	07/17/98	21:02		1.0	
40	>MG348::M3	SBLKWB176M	SBLKWB176	07/17/98	21:57	98176WAB173WA	1.0	
41	>MG349::M3	176WBLCSM	176WBLCS	07/17/98	22:52	98176WAB173WA	1.0	
42	>MG350::M3	176WBLCSDM	176WBLCSD	07/17/98	23:47	98176WAB173WA	1.0	
43	>MG351::M3	61998	2952635	07/18/98	00:42	98176WAB173WA	1.0	
44	>MG352::M3	62298	2952636	07/18/98	01:36	98176WAB173WA	1.0	
79	>MG353::M3	B1753	2944009	07/18/98	02:31	98166SLA	1.0	
80	>MG354::M3	300-1DL	29451100L	07/18/98	03:26	98166SLA	10.0	
81	>MG355::M3	B17-0DL	2944005DL	07/18/98	04:21	98166SLA	50.0	
82	>MG356::M3	280-1	2945104	07/18/98	05:15	98166SLA	1.0	
83	>MG357::M3	2-8--	2949840	07/18/98	06:10	98174SLD	2.0	
1	>MG360::M3	DFTPP	50 ng/ul	07/18/98	09:09		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: JWA 8L *** Shift #2 Analyst: _____ *

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

*

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*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG390::M3	DFTPP	50 ng/ul	07/20/98	08:09		1.0	MR
2	>MG391::M3	SSTD080	AAQ1848	07/20/98	08:31		1.0	
3	>MG392::M3	SSTD080	STD1978	07/20/98	09:16		1.0	
4	>MG393::M3	SSTD160	STD1978	07/20/98	10:19		1.0	
5	>MG394::M3	SSTD001	MDL1978	07/20/98	11:14		1.0	
6	>MG395::M3	SSTD005	STD1978	07/20/98	12:10		1.0	
7	>MG396::M3	SSTD120	STD1978	07/20/98	13:05		1.0	
8	>MG397::M3	SSTD020	STD1978	07/20/98	14:00		1.0	
9	>MG398::M3	SSTD050	STD1978	07/20/98	14:54		1.0	
21	>MG399::M3	EB710	2962772	07/20/98	15:49	98195WAD	1.0	
22	>MG400::M3	1129-	2962774	07/20/98	16:44	98195WAD	1.0	
23	>MG401::M3	0101A	2962776	07/20/98	17:40	98195WAD	1.0	
24	>MG402::M3	0282-	2962778	07/20/98	18:35	98195WAD	1.0	
1	>MG405::M3	DFTPP	50 ng/ul	07/20/98	19:27		1.0	
3	>MG406::M3	SSTD080	STD1978	07/20/98	19:49		1.0	
25	>MG407::M3	SBLKLB196M	SBLKLB196	07/20/98	20:44	98196SLB	1.0	
26	>MG408::M3	196LBLCSM	196LBLCS	07/20/98	21:38	98196SLB	1.0	
27	>MG409::M3	SP1--	2962953	07/20/98	22:33	98196SLB	1.0	
28	>MG410::M3	SP1--MS	2962953	07/20/98	23:28	98196SLB	1.0	
29	>MG411::M3	SP1--MSD	2962953	07/21/98	00:23	98196SLB	1.0	S
30	>MG412::M3	280-1RE	2945104RE	07/21/98	01:18	98196SLB	1.0	MR
31	>MG413::M3	B26-0	2962128	07/21/98	02:13	98196SLB	5.0	MRF
32	>MG414::M3	B26-3	2962129	07/21/98	03:15	98196SLB	5.0	MRF
33	>MG415::M3	B26-7	2962130	07/21/98	04:13	98196SLB	5.0	MRF
34	>MG416::M3	SP2--	2962954	07/21/98	05:14	98196SLB	1.0	MR
35	>MG417::M3	SP3--	2962955	07/21/98	06:09	98196SLB	1.0	MR
36	>MG418::M3	SP4--	2962956	07/21/98	07:03	98196SLB	1.0	MR
1	>MG420::M3	DFTPP	50 ng/ul	07/21/98	09:02		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: TWASH *** Shift #2 Analyst: _____ *

Comment Code: R = Reinjection necessary X = Sample sent to be reextracted

S = Surrogate problem I = Internal Standard problem

NU = Not used F = Further dilution required

MR = Meets requirements IUO = Internal use only

Cz = Confirms z, (z = I or X) T = Injected outside valid tune period

Other problems or comments are as follows:

_____

_____

_____

_____

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MG390::M3	DFTPP	50 ng/ul	07/20/98	08:09		1.0	MR
2	>MG391::M3	SSTD080	AAQ1848	07/20/98	08:31		1.0	
3	>MG392::M3	SSTD080	STD1978	07/20/98	09:16		1.0	
4	>MG393::M3	SSTD160	STD1978	07/20/98	10:19		1.0	
5	>MG394::M3	SSTD001	MDL1978	07/20/98	11:14		1.0	
6	>MG395::M3	SSTD005	STD1978	07/20/98	12:10		1.0	
7	>MG396::M3	SSTD120	STD1978	07/20/98	13:05		1.0	
8	>MG397::M3	SSTD020	STD1978	07/20/98	14:00		1.0	
9	>MG398::M3	SSTD050	STD1978	07/20/98	14:54		1.0	
21	>MG399::M3	EB710	2962772	07/20/98	15:49	98195WAD	1.0	
22	>MG400::M3	1129-	2962774	07/20/98	16:44	98195WAD	1.0	
23	>MG401::M3	0101A	2962776	07/20/98	17:40	98195WAD	1.0	
24	>MG402::M3	0282-	2962778	07/20/98	18:35	98195WAD	1.0	
1	>MG405::M3	DFTPP	50 ng/ul	07/20/98	19:27		1.0	
3	>MG406::M3	SSTD080	STD1978	07/20/98	19:49		1.0	
25	>MG407::M3	SBLKLB196M	SBLKLB196	07/20/98	20:44	98196SLB	1.0	
26	>MG408::M3	196LBLCSM	196LBLCS	07/20/98	21:38	98196SLB	1.0	
27	>MG409::M3	SP1--	2962953	07/20/98	22:33	98196SLB	1.0	
28	>MG410::M3	SP1--MS	2962953	07/20/98	23:28	98196SLB	1.0	
29	>MG411::M3	SP1--MSD	2962953	07/21/98	00:23	98196SLB	1.0	S
30	>MG412::M3	280-1RE	2945104RE	07/21/98	01:18	98196SLB	1.0	MR
31	>MG413::M3	B26-0	2962128	07/21/98	02:13	98196SLB	5.0	MRF
32	>MG414::M3	B26-3	2962129	07/21/98	03:15	98196SLB	5.0	MRF
33	>MG415::M3	B26-7	2962130	07/21/98	04:13	98196SLB	5.0	MRF
34	>MG416::M3	SP2--	2962954	07/21/98	05:14	98196SLB	1.0	MR
35	>MG417::M3	SP3--	2962955	07/21/98	06:09	98196SLB	1.0	MR
36	>MG418::M3	SP4--	2962956	07/21/98	07:03	98196SLB	1.0	MR
1	>MG420::M3	DFTPP	50 ng/ul	07/21/98	09:02		1.0	MR

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

SDG HMS01

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
S	Aq	EB	EB-01-5158	Bis (2-ethylhexyl) phthalate	6		60
				di-n-octylphthalate	3		30
S	Aq	MB	SBIKWE146.2	none			
S	Aq	MB	SBIKWD156m	none			

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
01	SBLKWE146L	95	85	79	42	61	83		0
02	SBLKWD156M	94	92	93	42	63	102		0
03	146WELCSL	94	85	80	44	62	85		0
04	156WDLCSM	92	94	93	44	66	104		0
05	CPT07	136 *	86	68	41	57	86		1
06	CPT07DL	94	106	82	43	69	70		0
07	CPT07RE	81	98	73	36	61	107		0
08	CPT08	91	85	60	38	50	74		0
09	CPT09	136 *	83	59	37	52	80		1
10	CPT09DL	90	96	72	41	55	77		0
11	CPT09RE	82	102	72	38	62	107		0
12	CPT11	79	73	49	35	39	48		0
13	CPT12	78	74	55	33	47	71		0
14	CPT12DL	80	82	57	36	51	76		0
15	CPT13	90	82	72	40	56	81		0
16	CPT13MS	96	88	77	40	56	83		0
17	CPT13MSD	91	82	70	42	58	80		0
18	CPT10	83	77	68	37	52	76		0
19	CPT18	88	80	70	36	49	68		0
20	CPT21	86	78	64	36	49	69		0
21	CPT22	82	74	57	33	47	68		0
22	CPTRB	84	76	69	36	52	74		0
23									
24									
25									
26									
27									
28									
29									
30									

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(47-114)
S2 (FBP)	= 2-Fluorobiphenyl	(51-106)
S3 (TPH)	= Terphenyl-d14	(37-119)
S4 (PHL)	= Phenol-d6	(7- 74)
S5 (2FP)	= 2-Fluorophenol	(25- 88)
S6 (TBP)	= 2,4,6-Tribromophenol	(34-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

FORM II SV-1 1/87 Rev.

no qual of data for 1 surr. out of limits

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LF055 Lab Sample ID: SBLKWE146

Date Extracted: 05/26/98 Extraction: (SepF/Cont/Sonc/Sox) SEPF

Date Analyzed: 06/03/98 Time Analyzed: 15:38

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: HP06754

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	146WELCSL	146WELCS	>LF056	06/03/98
02	146WELCSD	146WELCSD	>LF057	06/03/98
03	CPT13	2932454	>LF058	06/03/98
04	CPT13MS	2932455MS	>LF059	06/03/98
05	CPT13MSD	2932456MS	>LF060	06/03/98
06	FLEFF	2932350	>LF067	06/03/98
07	CPT07	2932449	>LF068	06/03/98
08	CPT08	2932450	>LF069	06/03/98
09	CPT11	2932452	>LF071	06/04/98
10	CPT12	2932453	>LF072	06/04/98
11	CPT10	2934151	>LF073	06/04/98
12	CPT18	2934152	>LF074	06/04/98
13	CPT21	2934153	>LF075	06/04/98
14	CPT22	2934154	>LF076	06/04/98
15	CPTRB	2934155	>LF077	06/04/98
16	32708	2932708	>LF078	06/04/98
17	CPT09	2932451	>LF079	06/04/98
18	CPT07DL	2932449DL	>LF084	06/04/98
19	CPT12DL	2932453DL	>LF086	06/04/98
20	32708DL	2932708DL	>LF087	06/04/98
21	CPT09DL	2932451DL	>LF090	06/04/98
22	32708DL2	2932708DL2	>LF091	06/04/98

COMMENTS: _____

FORM IV SV 1/87 Rev.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWE146L

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWE146

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >LF055

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 05/26/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
108-95-2	Phenol		1	U
111-44-4	bis(2-Chloroethyl)ether		1	U
95-57-8	2-Chlorophenol		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
95-48-7	2-Methylphenol		1	U
108-60-1	2,2'-oxybis(1-Chloropropane)		2	U
106-44-5	4-Methylphenol		3	U
621-64-7	N-Nitroso-di-n-propylamine		1	U
67-72-1	Hexachloroethane		1	U
98-95-3	Nitrobenzene		1	U
78-59-1	Isophorone		1	U
88-75-5	2-Nitrophenol		1	U
105-67-9	2,4-Dimethylphenol		1	U
111-91-1	bis(2-Chloroethoxy)methane		1	U
120-83-2	2,4-Dichlorophenol		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
91-20-3	Naphthalene		1	U
106-47-8	4-Chloroaniline		1	U
87-68-3	Hexachlorobutadiene		1	U
59-50-7	4-Chloro-3-methylphenol		1	U
91-57-6	2-Methylnaphthalene		1	U
77-47-4	Hexachlorocyclopentadiene		2	U
88-06-2	2,4,6-Trichlorophenol		2	U
95-95-4	2,4,5-Trichlorophenol		1	U
91-58-7	2-Chloronaphthalene		1	U
88-74-4	2-Nitroaniline		2	U
131-11-3	Dimethylphthalate		1	U
606-20-2	2,6-Dinitrotoluene		2	U
208-96-8	Acenaphthylene		2	U
99-09-2	3-Nitroaniline		2	U
83-32-9	Acenaphthene		1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWE146L

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWE146

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >LF055

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 05/26/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
51-28-5	2,4-Dinitrophenol		5	U
100-02-7	4-Nitrophenol		5	U
132-64-9	Dibenzofuran		1	U
121-14-2	2,4-Dinitrotoluene		1	U
84-66-2	Diethylphthalate		2	U
7005-72-3	4-Chlorophenyl-phenylether		1	U
86-73-7	Fluorene		1	U
100-01-6	4-Nitroaniline		2	U
534-52-1	4,6-Dinitro-2-methylphenol		5	U
86-30-6	N-Nitrosodiphenylamine (1)		1	U
101-55-3	4-Bromophenyl-phenylether		2	U
118-74-1	Hexachlorobenzene		1	U
87-86-5	Pentachlorophenol		1	U
85-01-8	Phenanthrene		2	U
120-12-7	Anthracene		1	U
86-74-8	Carbazole		1	U
84-74-2	Di-n-butylphthalate		2	U
206-44-0	Fluoranthene		1	U
129-00-0	Pyrene		1	U
85-68-7	Butylbenzylphthalate		1	U
91-94-1	3,3'-Dichlorobenzidine		1	U
56-55-3	Benzo(a)anthracene		1	U
117-81-7	bis(2-Ethylhexyl)phthalate		1	U
218-01-9	Chrysene		1	U
117-84-0	Di-n-octylphthalate		1	U
205-99-2	Benzo(b)fluoranthene		2	U
207-08-9	Benzo(k)fluoranthene		1	U
50-32-8	Benzo(a)pyrene		1	U
193-39-5	Indeno(1,2,3-cd)pyrene		1	U
53-70-3	Dibenz(a,h)anthracene		2	U
191-24-2	Benzo(g,h,i)perylene		1	U

(1) - Cannot be separated from Diphenylamine

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MF353 Lab Sample ID:SBLKWD156

Date Extracted: 06/05/98 Extraction:(SepF/Cont/Sonc/Sox) SEPF

Date Analyzed: 06/19/98 Time Analyzed: 18:46

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP06755

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	CPT07RE	2932449RE	>MF306	06/17/98
02	CPT09RE	2932454RE	>MF307	06/17/98
03	156WDLCSM	156WDLCS	>MF354	06/19/98
04	156WDUSM	156WDUS	>MF355	06/19/98
05	156WDMSM	156WDMS	>MF356	06/19/98
06	156WDMSDM	156WDMSD	>MF357	06/19/98
07	P211R	2938349	>MF358	06/19/98
08	P211RDL	2938349DL	>MF387	06/23/98

COMMENTS: _____

_____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWD156M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWD156

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >MF353

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/05/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/19/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
110-86-1	Pyridine		2	U
62-75-9	N-Nitrosodimethylamine		2	U
108-95-2	Phenol		1	U
62-53-3	Aniline		1	U
111-44-4	bis(2-Chloroethyl)ether		1	U
95-57-8	2-Chlorophenol		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
100-51-6	Benzyl alcohol		5	U
95-50-1	1,2-Dichlorobenzene		1	U
95-48-7	2-Methylphenol		1	U
108-60-1	2,2'-oxybis(1-Chloropropane)		1	U
108-60-1	bis(2-Chloroisopropyl)ether		1	U
106-44-5	4-Methylphenol		3	U
621-64-7	N-Nitroso-di-n-propylamine		1	U
67-72-1	Hexachloroethane		1	U
98-95-3	Nitrobenzene		1	U
78-59-1	Isophorone		1	U
88-75-5	2-Nitrophenol		1	U
105-67-9	2,4-Dimethylphenol		1	U
65-85-0	Benzoic acid		5	U
111-91-1	bis(2-Chloroethoxy)methane		1	U
120-83-2	2,4-Dichlorophenol		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
91-20-3	Naphthalene		1	U
106-47-8	4-Chloroaniline		1	U
87-68-3	Hexachlorobutadiene		2	U
59-50-7	4-Chloro-3-methylphenol		1	U
91-57-6	2-Methylnaphthalene		1	U
77-47-4	Hexachlorocyclopentadiene		5	U
88-06-2	2,4,6-Trichlorophenol		2	U
95-95-4	2,4,5-Trichlorophenol		2	U
91-58-7	2-Chloronaphthalene		1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWD156M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWD156

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >MF353

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/05/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/19/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/L	Q
88-74-4--------	2-Nitroaniline	2	U
131-11-3-------	Dimethylphthalate	2	U
606-20-2-------	2,6-Dinitrotoluene	2	U
208-96-8-------	Acenaphthylene	1	U
99-09-2--------	3-Nitroaniline	2	U
83-32-9--------	Acenaphthene	1	U
51-28-5--------	2,4-Dinitrophenol	15	U
100-02-7-------	4-Nitrophenol	10	U
132-64-9-------	Dibenzofuran	1	U
121-14-2-------	2,4-Dinitrotoluene	1	U
84-66-2--------	Diethylphthalate	2	U
7005-72-3------	4-Chlorophenyl-phenylether	1	U
86-73-7--------	Fluorene	1	U
100-01-6-------	4-Nitroaniline	2	U
534-52-1-------	4,6-Dinitro-2-methylphenol	5	U
86-30-6--------	N-Nitrosodiphenylamine (1)	1	U
122-66-7-------	1,2-Diphenylhydrazine	1	U
101-55-3-------	4-Bromophenyl-phenylether	2	U
118-74-1-------	Hexachlorobenzene	2	U
87-86-5--------	Pentachlorophenol	3	U
85-01-8--------	Phenanthrene	1	U
120-12-7-------	Anthracene	1	U
86-74-8--------	Carbazole	2	U
84-74-2--------	Di-n-butylphthalate	2	U
206-44-0-------	Fluoranthene	1	U
92-87-5--------	Benzidine	20	U
129-00-0-------	Pyrene	1	U
85-68-7--------	Butylbenzylphthalate	2	U
91-94-1--------	3,3'-Dichlorobenzidine	2	U
56-55-3--------	Benzo(a)anthracene	1	U
117-81-7-------	bis(2-Ethylhexyl)phthalate	2	U
218-01-9-------	Chrysene	1	U
117-79-3-------	2-Aminoanthraquinone	1	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWD156M

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWD156

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >MF353

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/05/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/19/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
117-84-0-------	Di-n-octylphthalate		2	U
205-99-2-------	Benzo(b)fluoranthene		1	U
207-08-9-------	Benzo(k)fluoranthene		1	U
50-32-8--------	Benzo(a)pyrene		1	U
193-39-5-------	Indeno(1,2,3-cd)pyrene		1	U
53-70-3--------	Dibenz(a,h)anthracene		1	U
191-24-2-------	Benzo(g,h,i)perylene		1	U

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06754

METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: CPT13 2932454 MS SAMPLE: CPT13MS 2932455MS MSD SAMPLE: CPT13MSD 2932456MS

COMPOUND NAME	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
Phenol	1.15	45.73	47.15	44	46	5.0-112.0	YES	-3.00	30.	YES
bis(2-Chloroethyl)ether	0.00	90.51	88.24	90	88	40.0-128.0	YES	3.00	30.	YES
2-Chlorophenol	0.00	88.03	87.75	88	88	56.0-112.0	YES	0.00	30.	YES
1,3-Dichlorobenzene	0.00	83.50	79.87	84	80	44.0- 99.0	YES	4.00	30.	YES
1,4-Dichlorobenzene	0.00	84.47	81.10	84	81	34.0-108.0	YES	4.00	30.	YES
1,2-Dichlorobenzene	0.00	88.85	85.26	89	85	32.0-121.0	YES	4.00	30.	YES
2-Methylphenol	0.00	83.08	83.94	83	84	25.0-122.0	YES	-1.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	103.20	99.67	103	100	38.0-118.0	YES	3.00	30.	YES
4-Methylphenol	0.00	71.21	73.76	71	74	15.0-130.0	YES	-4.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	92.88	88.49	93	88	58.0-120.0	YES	5.00	30.	YES
Hexachloroethane	0.00	80.48	78.03	80	78	40.0-113.0	YES	3.00	30.	YES
Nitrobenzene	0.00	92.94	89.49	93	89	43.0-127.0	YES	4.00	30.	YES
Isophorone	0.00	98.19	95.26	98	95	42.0-134.0	YES	3.00	30.	YES
2-Nitrophenol	0.00	91.73	89.53	92	90	64.0-108.0	YES	2.00	30.	YES
2,4-Dimethylphenol	0.00	72.55	74.33	72	74	33.0-107.0	YES	-2.00	30.	YES
bis(2-Chloroethoxy)methane	0.00	90.85	88.15	91	88	57.0-108.0	YES	3.00	30.	YES
2,4-Dichlorophenol	0.00	86.86	54.68	87	55	61.0-101.0	NO	45.00	30.	NO
1,2,4-Trichlorobenzene	0.00	87.29	83.99	87	84	50.0- 98.0	YES	4.00	30.	YES
Naphthalene	8.57	98.01	104.46	89	96	41.0-115.0	YES	-6.00	30.	YES
4-Chloroaniline	0.00	78.45	68.86	78	69	9.0-119.0	YES	13.00	30.	YES
Hexachlorobutadiene	0.00	81.89	78.87	82	79	24.0- 98.0	YES	4.00	30.	YES
[illegible]ro-3-methylphenol	0.00	89.09	88.44	89	88	54.0-115.0	YES	1.00	30.	YES
[illegible]ylnaphthalene	1.75	88.51	86.02	87	84	57.0-103.0	YES	3.00	30.	YES
[illegible]achlorocyclopentadiene	0.00	115.46	105.81	58	53	15.0- 83.0	YES	9.00	30.	YES
2,4,6-Trichlorophenol	0.00	88.16	85.78	88	86	43.0-121.0	YES	3.00	30.	YES
2,4,5-Trichlorophenol	0.00	92.28	88.64	92	89	40.0-122.0	YES	4.00	30.	YES
2-Chloronaphthalene	0.00	89.07	84.39	89	84	60.0-106.0	YES	5.00	30.	YES
2-Nitroaniline	0.00	98.92	96.93	99	97	60.0-111.0	YES	2.00	30.	YES
Dimethylphthalate	0.00	51.88	44.64	52	45	11.0-107.0	YES	15.00	30.	YES
2,6-Dinitrotoluene	0.00	101.10	98.55	101	98	62.0-118.0	YES	3.00	30.	YES
Acenaphthylene	0.00	86.35	82.79	86	83	61.0-103.0	YES	4.00	30.	YES
3-Nitroaniline	0.00	85.09	83.67	85	84	43.0-105.0	YES	2.00	30.	YES
Acenaphthene	2.01	87.12	84.92	85	83	60.0-101.0	YES	3.00	30.	YES
2,4-Dinitrophenol	0.00	64.49	65.62	64	66	6.0-120.0	YES	-2.00	30.	YES
4-Nitrophenol	0.00	44.83	46.70	45	47	1.0- 93.0	YES	-4.00	30.	YES
Dibenzofuran	2.50	89.17	87.26	87	85	64.0-100.0	YES	2.00	30.	YES
2,4-Dinitrotoluene	0.00	93.01	89.61	93	90	45.0-128.0	YES	4.00	30.	YES
Diethylphthalate	0.00	78.20	72.69	78	73	46.0-106.0	YES	7.00	30.	YES
4-Chlorophenyl-phenylether	0.00	82.98	79.71	83	80	58.0-106.0	YES	4.00	30.	YES

J+ for 2,4-dichlorophenol based on RPD

J+, UJ- for 2,4-DCP MSD %R

Unspiked sample is ND for DCP ⇒ UJ

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06754

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: CPT13 2932454 MS SAMPLE: CPT13MS 2932455MS MSD SAMPLE: CPT13MSD 2932456MS

COMPOUND NAME	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
Fluorene	2.99	94.09	91.70	91	89	59.0-110.0	YES	3.00	30.	YES
4-Nitroaniline	0.00	98.31	90.30	98	90	55.0-116.0	YES	8.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	73.22	71.96	73	72	38.0-116.0	YES	2.00	30.	YES
N-Nitrosodiphenylamine	0.00	83.10	80.58	83	80	44.0-124.0	YES	3.00	30.	YES
4-Bromophenyl-phenylether	0.00	83.01	80.81	83	81	63.0-106.0	YES	3.00	30.	YES
Hexachlorobenzene	0.00	84.25	82.48	84	82	48.0-118.0	YES	2.00	30.	YES
Pentachlorophenol	0.00	66.34	67.80	66	68	14.0-130.0	YES	-2.00	30.	YES
Phenanthrene	4.14	89.49	89.81	85	86	64.0-105.0	YES	0.00	30.	YES
Anthracene	0.00	86.97	84.11	87	84	62.0-103.0	YES	3.00	30.	YES
Carbazole	4.92	95.58	94.15	91	89	65.0-107.0	YES	2.00	30.	YES
Di-n-butylphthalate	0.00	87.83	85.40	88	85	60.0-110.0	YES	3.00	30.	YES
Fluoranthene	0.00	85.48	82.08	85	82	61.0-109.0	YES	4.00	30.	YES
Pyrene	0.00	88.68	87.59	89	88	55.0-114.0	YES	1.00	30.	YES
Butylbenzylphthalate	0.00	88.57	84.09	88	84	53.0-110.0	YES	5.00	30.	YES
3,3'-Dichlorobenzidine	0.00	69.67	70.84	70	71	37.0-106.0	YES	-2.00	30.	YES
Benzo(a)anthracene	0.00	87.35	84.12	87	84	64.0-103.0	YES	4.00	30.	YES
bis(2-Ethylhexyl)phthalate	2.00	86.14	81.23	84	79	39.0-131.0	YES	6.00	30.	YES
Chrysene	0.00	80.24	77.66	80	78	63.0-104.0	YES	3.00	30.	YES
Di-n-octylphthalate	0.00	99.67	94.07	100	94	52.0-121.0	YES	6.00	30.	YES
Ben[illegible]o(b)fluoranthene	0.00	88.37	87.22	88	87	54.0-108.0	YES	1.00	30.	YES
[illegible]:k)fluoranthene	0.00	86.15	83.51	86	84	59.0-112.0	YES	3.00	30.	YES
[illegible]o(a)pyrene	0.00	90.14	87.85	90	88	60.0-102.0	YES	3.00	30.	YES
Indeno(1,2,3-cd)pyrene	0.00	86.20	85.70	86	86	55.0-114.0	YES	1.00	30.	YES
Dibenz(a,h)anthracene	0.00	85.86	83.80	86	84	57.0-124.0	YES	2.00	30.	YES
Benzo(g,h,i)perylene	0.00	83.82	80.81	84	81	49.0-121.0	YES	4.00	30.	YES

COMMENTS:

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2932455
Collected: 5/20/98 at 14:00 by RZ

Submitted: 5/21/98 Reported: 6/18/98
Discard: 7/19/98

CPT-13-GW Matrix Spike Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
CPT13 SDG#: HMS01-06MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles				
3925	phenol	46.	1.	ug/l
3936	bis (2-chloroethyl) ether	91.	1.	ug/l
3924	2-chlorophenol	88.	1.	ug/l
3937	1,3-dichlorobenzene	84.	1.	ug/l
3938	1,4-dichlorobenzene	84.	1.	ug/l
3939	1,2-dichlorobenzene	89.	1.	ug/l
4680	2-methylphenol	83.	1.	ug/l
4681	2,2'oxybis (1-chloropropane)	100.	2.	ug/l
4682	4-methylphenol	71.	3.	ug/l
3942	N-nitrosodi-n-propylamine	93.	1.	ug/l
3941	hexachloroethane	80.	1.	ug/l
3943	nitrobenzene	93.	1.	ug/l
3944	isophorone	98.	1.	ug/l
3926	2-nitrophenol	92.	1.	ug/l
3927	2,4-dimethylphenol	73.	1.	ug/l
3945	bis (2-chloroethoxy) methane	91.	1.	ug/l
3928	2,4-dichlorophenol	87.	1.	ug/l
3946	1,2,4-trichlorobenzene	87.	1.	ug/l
3947	naphthalene	98.	1.	ug/l
3871	4-chloroaniline	78.	1.	ug/l
3948	hexachlorobutadiene	82.	2.	ug/l
3929	4-chloro-3-methylphenol	89.	1.	ug/l
3905	2-methylnaphthalene	89.	1.	ug/l
3949	hexachlorocyclopentadiene	120.	5.	ug/l
3930	2,4,6-trichlorophenol	88.	2.	ug/l
3922	2,4,5-trichlorophenol	92.	2.	ug/l
3950	2-chloronaphthalene	89.	1.	ug/l
3907	2-nitroaniline	99.	2.	ug/l
3952	dimethyl phthalate	52.	2.	ug/l
3951	acenaphthylene	86.	2.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2932455
Collected: 5/20/98 at 14:00 by RZ

Submitted: 5/21/98 Reported: 6/18/98
Discard: 7/19/98

CPT-13-GW Matrix Spike Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
CPT13 SDG#: HMS01-06MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles cont'd					
3908	3-nitroaniline	85.		2.	ug/l
3954	acenaphthene	87.		1.	ug/l
3931	2,4-dinitrophenol	64.		15.	ug/l
3932	4-nitrophenol	45.	J	10.	ug/l
3879	dibenzofuran	89.		1.	ug/l
3955	2,4-dinitrotoluene	93.		1.	ug/l
3953	2,6-dinitrotoluene	100.		2.	ug/l
3958	diethyl phthalate	78.		2.	ug/l
3957	4-chlorophenyl phenyl ether	83.		1.	ug/l
3956	fluorene	94.		1.	ug/l
3909	4-nitroaniline	98.		2.	ug/l
3933	4,6-dinitro-2-methylphenol	73.		5.	ug/l
3960	N-nitrosodiphenylamine	83.		1.	ug/l
1	4-bromophenyl phenyl ether	83.		2.	ug/l
62	hexachlorobenzene	84.		2.	ug/l
3934	pentachlorophenol	66.		3.	ug/l
3963	phenanthrene	89.		1.	ug/l
3964	anthracene	87.		1.	ug/l
4684	carbazole	96.		1.	ug/l
3965	di-n-butyl phthalate	88.		2.	ug/l
3966	fluoranthene	85.		1.	ug/l
3967	pyrene	89.		1.	ug/l
3969	butyl benzyl phthalate	89.		2.	ug/l
3972	3,3'-dichlorobenzidine	70.		5.	ug/l
3970	benzo (a) anthracene	87.		1.	ug/l
3973	bis (2-ethylhexyl) phthalate	86.		2.	ug/l
3971	chrysene	80.		1.	ug/l
3974	di-n-octyl phthalate	100.		2.	ug/l
3975	benzo (b) fluoranthene	88.		1.	ug/l
3976	benzo (k) fluoranthene	86.		1.	ug/l
3977	benzo (a) pyrene	90.		1.	ug/l
3978	indeno (1,2,3-cd) pyrene	86.		1.	ug/l
3979	dibenz (a,h) anthracene	86.		1.	ug/l
3980	benzo (ghi) perylene	84.		1.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations.

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2932456
Collected: 5/20/98 at 14:00 by RZ

Submitted: 5/21/98 Reported: 6/18/98
Discard: 7/19/98

CPT-13-GW Matrix Spike Dup. Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
CPT13 SDG#: HMS01-06MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles				
3925	phenol	47.	1.	ug/l
3936	bis (2-chloroethyl) ether	88.	1.	ug/l
3924	2-chlorophenol	88.	1.	ug/l
3937	1,3-dichlorobenzene	80.	1.	ug/l
3938	1,4-dichlorobenzene	81.	1.	ug/l
3939	1,2-dichlorobenzene	85.	1.	ug/l
4680	2-methylphenol	84.	1.	ug/l
4681	2,2'oxybis (1-chloropropane)	100.	2.	ug/l
4682	4-methylphenol	74.	3.	ug/l
3942	N-nitrosodi-n-propylamine	88.	1.	ug/l
3941	hexachloroethane	78.	1.	ug/l
3943	nitrobenzene	89.	1.	ug/l
44	isophorone	95.	1.	ug/l
926	2-nitrophenol	90.	1.	ug/l
3927	2,4-dimethylphenol	74.	1.	ug/l
3945	bis (2-chloroethoxy) methane	88.	1.	ug/l
3928	2,4-dichlorophenol	55.	1.	ug/l
3946	1,2,4-trichlorobenzene	84.	1.	ug/l
3947	naphthalene	100.	1.	ug/l
3871	4-chloroaniline	69.	1.	ug/l
3948	hexachlorobutadiene	79.	2.	ug/l
3929	4-chloro-3-methylphenol	88.	1.	ug/l
3905	2-methylnaphthalene	86.	1.	ug/l
3949	hexachlorocyclopentadiene	110.	5.	ug/l
3930	2,4,6-trichlorophenol	86.	2.	ug/l
3922	2,4,5-trichlorophenol	89.	2.	ug/l
3950	2-chloronaphthalene	84.	1.	ug/l
3907	2-nitroaniline	97.	2.	ug/l
3952	dimethyl phthalate	45.	2.	ug/l
3951	acenaphthylene	83.	2.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2932456
Collected: 5/20/98 at 14:00 by RZ

Submitted: 5/21/98 Reported: 6/18/98
Discard: 7/19/98

CPT-13-GW Matrix Spike Dup. Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
CPT13 SDG#: HMS01-06MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles cont'd					
3908	3-nitroaniline	84.		2.	ug/l
3954	acenaphthene	85.		1.	ug/l
3931	2,4-dinitrophenol	66.		15.	ug/l
3932	4-nitrophenol	47.	J	10.	ug/l
3879	dibenzofuran	87.		1.	ug/l
3955	2,4-dinitrotoluene	90.		1.	ug/l
3953	2,6-dinitrotoluene	99.		2.	ug/l
3958	diethyl phthalate	73.		2.	ug/l
3957	4-chlorophenyl phenyl ether	80.		1.	ug/l
3956	fluorene	92.		1.	ug/l
3909	4-nitroaniline	90.		2.	ug/l
[illegible]033	4,6-dinitro-2-methylphenol	72.		5.	ug/l
[illegible]0	N-nitrosodiphenylamine	81.		1.	ug/l
[illegible]61	4-bromophenyl phenyl ether	81.		2.	ug/l
3962	hexachlorobenzene	82.		2.	ug/l
3934	pentachlorophenol	68.		3.	ug/l
3963	phenanthrene	90.		1.	ug/l
3964	anthracene	84.		1.	ug/l
4684	carbazole	94.		1.	ug/l
3965	di-n-butyl phthalate	85.		2.	ug/l
3966	fluoranthene	82.		1.	ug/l
3967	pyrene	88.		1.	ug/l
3969	butyl benzyl phthalate	84.		2.	ug/l
3972	3,3'-dichlorobenzidine	71.		5.	ug/l
3970	benzo (a) anthracene	84.		1.	ug/l
3973	bis (2-ethylhexyl) phthalate	81.		2.	ug/l
3971	chrysene	78.		1.	ug/l
3974	di-n-octyl phthalate	94.		2.	ug/l
3975	benzo (b) fluoranthene	87.		1.	ug/l
3976	benzo (k) fluoranthene	84.		1.	ug/l
3977	benzo (a) pyrene	88.		1.	ug/l
3978	indeno (1,2,3-cd) pyrene	86.		1.	ug/l
3979	dibenz (a,h) anthracene	84.		1.	ug/l
3980	benzo (ghi) perylene	81.		1.	ug/l

Questions? Contact your Client Services Representative
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Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

[redacted]AME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06754

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 146WELCSL 146WELCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	44.99	45	5.0- 83.0	YES
bis(2-Chloroethyl)ether	82.05	82	66.0- 106.0	YES
2-Chlorophenol	90.94	91	62.0- 107.0	YES
1,3-Dichlorobenzene	66.50	66	45.0- 91.0	YES
1,4-Dichlorobenzene	67.31	67	45.0- 94.0	YES
1,2-Dichlorobenzene	73.20	73	52.0- 97.0	YES
2-Methylphenol	85.10	85	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	92.05	92	43.0- 118.0	YES
4-Methylphenol	76.98	77	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	85.77	86	62.0- 118.0	YES
Hexachloroethane	59.92	60	40.0- 84.0	YES
Nitrobenzene	85.83	86	61.0- 113.0	YES
Isophorone	93.51	94	66.0- 113.0	YES
2-Nitrophenol	92.73	93	67.0- 104.0	YES
2,4-Dimethylphenol	75.19	75	52.0- 99.0	YES
bis(2-Chloroethoxy)methane	85.25	85	64.0- 103.0	YES
2,4-Dichlorophenol	89.53	90	65.0- 98.0	YES
1,2,4-Trichlorobenzene	72.72	73	52.0- 93.0	YES
Naphthalene	76.19	76	60.0- 97.0	YES
4-Chloroaniline	74.45	74	34.0- 101.0	YES
Hexachlorobutadiene	59.66	60	24.0- 86.0	YES
[redacted]oro-3-methylphenol	93.26	93	60.0- 111.0	YES
[redacted]thylnaphthalene	76.49	76	62.0- 98.0	YES
Hexachlorocyclopentadiene	85.16	42	17.0- 80.0	YES
2,4,6-Trichlorophenol	89.67	90	66.0- 105.0	YES
2,4,5-Trichlorophenol	91.42	91	67.0- 103.0	YES
2-Chloronaphthalene	79.46	79	61.0- 103.0	YES
2-Nitroaniline	92.98	93	58.0- 112.0	YES
Dimethylphthalate	20.09	20	1.0- 90.0	YES
2,6-Dinitrotoluene	93.91	94	66.0- 113.0	YES
Acenaphthylene	79.78	80	64.0- 100.0	YES
3-Nitroaniline	78.28	78	40.0- 108.0	YES
Acenaphthene	78.07	78	61.0- 100.0	YES
2,4-Dinitrophenol	57.87	58	25.0- 124.0	YES
4-Nitrophenol	45.78	46	3.0- 83.0	YES
Dibenzofuran	79.88	80	67.0- 99.0	YES
2,4-Dinitrotoluene	89.33	89	64.0- 112.0	YES
Diethylphthalate	56.40	56	30.0- 99.0	YES
4-Chlorophenyl-phenylether	77.66	78	62.0- 104.0	YES

all ok

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06754

[redacted] METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 146WELCSL 146WELCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
luorene	85.83	86	61.0- 108.0	YES
-Nitroaniline	90.99	91	55.0- 116.0	YES
,6-Dinitro-2-methylphenol	71.07	71	43.0- 120.0	YES
-Nitrosodiphenylamine	78.29	78	64.0- 103.0	YES
-Bromophenyl-phenylether	80.26	80	69.0- 102.0	YES
exachlorobenzene	81.56	82	62.0- 109.0	YES
entachlorophenol	68.40	68	46.0- 114.0	YES
henanthrene	82.34	82	68.0- 102.0	YES
nthracene	82.60	83	66.0- 101.0	YES
arbazole	84.49	84	66.0- 110.0	YES
i-n-butylphthalate	79.17	79	61.0- 105.0	YES
luoranthene	82.10	82	66.0- 106.0	YES
yrene	85.04	85	58.0- 112.0	YES
utylbenzylphthalate	79.15	79	48.0- 105.0	YES
,3'-Dichlorobenzidine	56.63	57	37.0- 104.0	YES
enzo(a)anthracene	85.20	85	69.0- 101.0	YES
is(2-Ethylhexyl)phthalate	84.51	84	64.0- 113.0	YES
hrysene	76.96	77	67.0- 101.0	YES
i-n-octylphthalate	98.84	99	59.0- 118.0	YES
enzo(b)fluoranthene	84.08	84	64.0- 101.0	YES
enzo(k)fluoranthene	85.46	85	67.0- 105.0	YES
enzo(a)pyrene	87.27	87	65.0- 101.0	YES
n (1,2,3-cd)pyrene	83.79	84	59.0- 111.0	YES
[redacted](a,h)anthracene	83.27	83	66.0- 117.0	YES
[redacted]g,h,i)perylene	79.88	80	55.0- 115.0	YES

all ok

COMMENTS:

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

L' 'AME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

[redacted]6 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 156WDLCSM 156WDLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Pyridine	59.29	59	38.0- 82.0	YES
N-Nitrosodimethylamine	68.97	69	46.0- 81.0	YES
Phenol	44.48	44	5.0- 83.0	YES
Aniline	72.03	72	53.0- 99.0	YES
bis(2-Chloroethyl)ether	87.74	88	66.0- 106.0	YES
2-Chlorophenol	87.86	88	62.0- 107.0	YES
1,3-Dichlorobenzene	66.24	66	45.0- 91.0	YES
1,4-Dichlorobenzene	66.97	67	45.0- 94.0	YES
Benzyl alcohol	94.04	94	59.0- 108.0	YES
1,2-Dichlorobenzene	73.71	74	52.0- 97.0	YES
2-Methylphenol	83.13	83	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	101.56	102	43.0- 118.0	YES
bis(2-Chloroisopropyl)ether	101.56	102	43.0- 118.0	YES
4-Methylphenol	77.08	77	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	85.63	86	62.0- 118.0	YES
Hexachloroethane	50.43	50	40.0- 84.0	YES
Nitrobenzene	87.55	88	61.0- 113.0	YES
Isophorone	90.97	91	66.0- 113.0	YES
2-Nitrophenol	87.64	88	67.0- 104.0	YES
2,4-Dimethylphenol	84.37	84	52.0- 99.0	YES
Benzoic acid	46.77	47	6.0- 62.0	YES
bis(2-Chloroethoxy)methane	85.82	86	64.0- 103.0	YES
2 [illegible]ichlorophenol	83.30	83	65.0- 98.0	YES
[illegible]-Trichlorobenzene	71.03	71	52.0- 93.0	YES
[illegible]thalene	79.37	79	60.0- 97.0	YES
4-Chloroaniline	65.37	65	34.0- 101.0	YES
Hexachlorobutadiene	42.97	43	24.0- 86.0	YES
4-Chloro-3-methylphenol	86.95	87	60.0- 111.0	YES
2-Methylnaphthalene	77.45	77	62.0- 98.0	YES
Hexachlorocyclopentadiene	83.29	42	17.0- 80.0	YES
2,4,6-Trichlorophenol	96.66	97	66.0- 105.0	YES
2,4,5-Trichlorophenol	93.88	94	67.0- 103.0	YES
2-Chloronaphthalene	86.72	87	61.0- 103.0	YES
2-Nitroaniline	71.02	71	58.0- 112.0	YES
Dimethylphthalate	6.92	7	1.0- 90.0	YES
2,6-Dinitrotoluene	97.24	97	66.0- 113.0	YES
Acenaphthylene	84.71	85	64.0- 100.0	YES
3-Nitroaniline	63.35	63	40.0- 108.0	YES
Acenaphthene	82.46	82	61.0- 100.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

[redacted]ME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06755

[redacted]6 METHOD 8270 SPIKE LEVEL: 100 UG/L

CS SAMPLE NO: 156WDLCSM 156WDLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
2,4-Dinitrophenol	78.31	78	25.0- 124.0	YES
4-Nitrophenol	48.95	49	3.0- 83.0	YES
Dibenzofuran	82.26	82	67.0- 99.0	YES
2,4-Dinitrotoluene	89.02	89	64.0- 112.0	YES
Diethylphthalate	42.44	42	30.0- 99.0	YES
4-Chlorophenyl-phenylether	88.64	89	62.0- 104.0	YES
Fluorene	89.67	90	61.0- 108.0	YES
4-Nitroaniline	87.83	88	55.0- 116.0	YES
4,6-Dinitro-2-methylphenol	81.11	81	43.0- 120.0	YES
N-Nitrosodiphenylamine	89.98	90	64.0- 103.0	YES
1,2-Diphenylhydrazine	95.39	95	57.0- 123.0	YES
4-Bromophenyl-phenylether	88.35	88	69.0- 102.0	YES
Hexachlorobenzene	95.79	96	62.0- 109.0	YES
Pentachlorophenol	85.10	85	46.0- 114.0	YES
Phenanthrene	87.91	88	68.0- 102.0	YES
Anthracene	88.76	89	66.0- 101.0	YES
Carbazole	91.38	91	66.0- 110.0	YES
Di-n-butylphthalate	75.44	75	61.0- 105.0	YES
Fluoranthene	91.29	91	66.0- 106.0	YES
Benzidine	141.05	28	1.0- 116.0	YES
Pyrene	89.47	89	58.0- 112.0	YES
Butylbenzylphthalate	62.12	62	48.0- 105.0	YES
3,3'-Dichlorobenzidine	62.25	62	37.0- 104.0	YES
[redacted],(a)anthracene	90.04	90	69.0- 101.0	YES
[redacted]2-Ethylhexyl)phthalate	87.30	87	64.0- 113.0	YES
Chrysene	89.21	89	67.0- 101.0	YES
2-Aminoanthraquinone	105.25	105	1.0- 200.0	YES
Di-n-octylphthalate	99.62	100	59.0- 118.0	YES
Benzo(b)fluoranthene	85.38	85	64.0- 101.0	YES
Benzo(k)fluoranthene	92.37	92	67.0- 105.0	YES
Benzo(a)pyrene	90.59	90	65.0- 101.0	YES
Indeno(1,2,3-cd)pyrene	92.83	93	59.0- 111.0	YES
Dibenz(a,h)anthracene	93.80	94	66.0- 117.0	YES
Benzo(g,h,i)perylene	93.38	93	55.0- 115.0	YES

all ok

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

ab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID: >LE430 DFTPP Injection Date: 05/21/98

nstrument ID: HP06754 DFTPP Injection Time: 09:42

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.0
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	46.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	1.47
441	Present, but less than mass 443	6.1
442	Greater than 40.0% of mass 198	42.2
443	17.0 - 23.0% of mass 442	8.1 (19.2)2

1-Value is % mass 69 2-Value is % mass 442

HIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1408	>LE431	05/21/98	10:09
02	SSTD001	MDL1408	>LE432	05/21/98	11:12
03	SSTD120	STD1408	>LE433	05/21/98	12:14
04	SSTD005	STD1408	>LE434	05/21/98	13:16
05	SSTD020	STD1408	>LE435	05/21/98	14:19
06	SSTD050	STD1408	>LE436	05/21/98	15:21
07	SSTD080	STD1408	>LE437	05/21/98	16:24
08					
09					
10					
11					
12					
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16					
17					
18					
19					
20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 05/21/98 05/21/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >LE434 RRF20 = >LE435 RRF50 = >LE436
RRF80 = >LE437 RRF120= >LE433 RRF160= >LE431

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.684	1.734	1.681	1.656	1.609	1.601	1.661	3.0	AVG	
N-Nitrosodimethylamine	.934	.991	.967	.949	.941	.927	.951	2.5	AVG	
2-Picoline	1.807	1.775	1.727	1.713	1.687	1.663	1.728	3.1	AVG	
Phenol	* 1.907	1.929	1.846	1.832	1.762	1.723	1.833	4.4	AVG	*
Aniline	2.445	2.453	2.332	2.316	2.261	2.230	2.339	4.0	AVG	
bis(2-Chloroethyl)ether	1.509	1.494	1.423	1.399	1.355	1.343	1.420	4.9	AVG	
2-Chlorophenol	1.640	1.658	1.615	1.584	1.536	1.507	1.590	3.7	AVG	
1,3-Dichlorobenzene	1.652	1.635	1.576	1.553	1.494	1.467	1.563	4.7	AVG	
1,4-Dichlorobenzene	* 1.667	1.670	1.614	1.589	1.531	1.493	1.594	4.5	AVG	*
Benzyl alcohol	.987	1.029	1.011	1.000	.987	.962	.996	2.3	AVG	
1,2-Dichlorobenzene	1.587	1.513	1.466	1.437	1.405	1.363	1.462	5.4	AVG	
2-Methylphenol	1.441	1.438	1.392	1.374	1.348	1.310	1.384	3.7	AVG	
2,2'-oxybis(1-Chloropropane)	1.991	1.990	1.926	1.904	1.859	1.844	1.919	3.3	AVG	
bis(2-Chloroisopropyl)ether	1.991	1.990	1.926	1.904	1.859	1.844	1.919	3.3	AVG	
4-Methylphenol	1.475	1.540	1.487	1.458	1.440	1.390	1.465	3.4	AVG	
3- and 4-Methylphenol	1.475	1.540	1.487	1.458	1.440	1.390	1.465	3.4	AVG	
[illegible]phenone	2.027	2.053	1.969	1.928	1.856	1.831	1.944	4.6	AVG	
[illegible]roso-di-n-propylamine	# .913	.953	.924	.920	.878	.869	.909	3.4	AVG	#
[illegible]oluidine	2.456	2.415	2.341	2.308	2.214	2.177	2.319	4.7	AVG	
Hexachloroethane	.652	.691	.674	.659	.657	.642	.663	2.6	AVG	
Nitrobenzene	.338	.352	.349	.340	.336	.331	.341	2.3	AVG	
Isophorone	.640	.662	.648	.639	.631	.624	.641	2.1	AVG	
2-Nitrophenol	* .184	.219	.222	.218	.217	.214	.212	6.7	AVG	*
2,4-Dimethylphenol	.339	.344	.335	.328	.322	.320	.331	2.9	AVG	
Benzoic acid	.178	.254	.268	.273	.298	.296	.261	16.9	1STDEG	
bis(2-Chloroethoxy)methane	.420	.418	.409	.399	.389	.383	.403	3.8	AVG	
2,4-Dichlorophenol	* .229	.247	.245	.242	.236	.234	.239	3.0	AVG	*
1,2,4-Trichlorobenzene	.270	.278	.271	.260	.255	.249	.264	4.2	AVG	
Naphthalene	1.066	1.081	1.038	1.008	.979	.961	1.022	4.7	AVG	
4-Chloroaniline	.449	.459	.451	.439	.431	.426	.443	2.9	AVG	
Hexachlorobutadiene	* .122	.127	.123	.120	.118	.115	.121	3.4	AVG	*
4-Chloro-3-methylphenol	* .273	.285	.286	.284	.282	.275	.281	2.0	AVG	*
2-Methylnaphthalene	.651	.654	.633	.617	.593	.586	.622	4.6	AVG	
1-Methylnaphthalene	.652	.646	.617	.610	.585	.579	.615	4.9	AVG	
Hexachlorocyclopentadiene	# .252	.325	.345	.341	.343	.336	.323	11.1	AVG	#
2,4,6-Trichlorophenol	* .420	.453	.456	.447	.435	.428	.440	3.2	AVG	*
2,4,5-Trichlorophenol	.452	.486	.497	.485	.461	.460	.473	3.8	AVG	
2-Chloronaphthalene	1.185	1.214	1.192	1.159	1.112	1.089	1.159	4.2	AVG	

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 05/21/98 05/21/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >LE434 RRF20 = >LE435 RRF50 = >LE436
RRF80 = >LE437 RRF120= >LE433 RRF160= >LE431

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.358	.411	.425	.423	.413	.412	.407	6.1	AVG	
Dimethylphthalate	1.357	1.388	1.360	1.326	1.286	1.276	1.332	3.3	AVG	
2,6-Dinitrotoluene	.265	.328	.341	.340	.331	.332	.323	8.9	AVG	
Acenaphthylene	2.019	2.087	2.024	1.997	1.889	1.881	1.983	4.1	AVG	
3-Nitroaniline	.393	.465	.482	.476	.480	.483	.463	7.6	AVG	
Acenaphthene *	1.204	1.202	1.180	1.155	1.099	1.087	1.154	4.4	AVG	*
2,4-Dinitrophenol #	.141	.222	.237	.242	.248	.247	.223	18.4	1STDEG	#
4-Nitrophenol #	.187	.198	.206	.211	.204	.208	.202	4.3	AVG	#
Dibenzofuran	1.658	1.666	1.609	1.570	1.486	1.471	1.577	5.3	AVG	
2,4-Dinitrotoluene	.397	.445	.455	.455	.443	.444	.440	4.9	AVG	
1-Naphthylamine	1.406	1.402	1.352	1.325	1.293	1.294	1.345	3.8	AVG	
2-Naphthylamine	1.450	1.427	1.354	1.317	1.320	1.335	1.367	4.2	AVG	
Diethylphthalate	1.463	1.499	1.487	1.469	1.397	1.397	1.452	3.1	AVG	
4-Chlorophenyl-phenylether	.651	.654	.642	.621	.600	.596	.627	4.1	AVG	
Fluorene	1.262	1.237	1.189	1.160	1.089	1.080	1.169	6.4	AVG	
4-Nitroaniline	.427	.478	.471	.475	.463	.467	.464	4.0	AVG	
Dinitro-2-methylphenol	.130	.168	.181	.179	.186	.185	.171	12.6	AVG	
tronaphthalene	.140	.154	.154	.148	.147	.147	.149	3.5	AVG	
itrosodiphenylamine (1) *	.510	.503	.488	.475	.469	.466	.485	3.7	AVG	*
1,2-Diphenylhydrazine	.868	.873	.862	.829	.813	.808	.842	3.4	AVG	
4-Bromophenyl-phenylether	.182	.181	.179	.171	.169	.166	.175	3.8	AVG	
Hexachlorobenzene	.210	.212	.206	.199	.198	.196	.204	3.3	AVG	
Pentachlorophenol *	.119	.144	.146	.144	.147	.146	.141	7.6	AVG	*
Phenanthrene	1.032	1.008	.972	.934	.900	.892	.957	6.0	AVG	
Anthracene	1.034	1.041	1.008	.971	.935	.923	.985	5.1	AVG	
Carbazole	.933	.928	.904	.868	.847	.837	.886	4.7	AVG	
Di-n-butylphthalate	1.359	1.444	1.412	1.359	1.334	1.314	1.370	3.6	AVG	
Fluoranthene *	1.091	1.085	1.048	1.022	.980	.987	1.036	4.6	AVG	*
Benzidine	1.219	1.083	.909	.877	.838	.804	.955	16.9	1STDEG	
Pyrene	1.542	1.540	1.505	1.472	1.437	1.383	1.480	4.2	AVG	
Butylbenzylphthalate	.816	.860	.860	.856	.839	.813	.841	2.6	AVG	
3,3'-Dichlorobenzidine	.466	.507	.492	.487	.480	.466	.483	3.3	AVG	
Benzo(a)anthracene	1.127	1.120	1.088	1.081	1.056	1.024	1.083	3.6	AVG	
bis(2-Ethylhexyl)phthalate	1.026	1.162	1.158	1.135	1.122	1.086	1.115	4.6	AVG	
Chrysene	1.074	1.083	1.050	1.030	1.010	.985	1.039	3.6	AVG	
Di-n-octylphthalate *	1.716	2.001	2.059	2.058	2.036	1.991	1.977	6.6	AVG	*
7,12-Dimethylbenz[a]anthrace	.555	.572	.587	.596	.584	.577	.578	2.4	AVG	
Benzo(b)fluoranthene	1.236	1.222	1.194	1.191	1.179	1.158	1.197	2.4	AVG	

(1) Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date(s): 05/21/98 05/21/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >LE434 RRF20 = >LE435 RRF50 = >LE436
RRF80 = >LE437 RRF120= >LE433 RRF160= >LE431

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Benzo(k)fluoranthene	1.145	1.170	1.145	1.151	1.092	1.074	1.130	3.3	AVG
Benzo(a)pyrene *	1.002	1.064	1.056	1.057	1.031	1.024	1.039	2.3	AVG *
Indeno(1,2,3-cd)pyrene	.901	.956	.970	.964	.970	.974	.956	2.9	AVG
Dibenz(a,h)anthracene	.877	.940	.943	.943	.941	.937	.930	2.8	AVG
Benzo(g,h,i)perylene	.944	.990	.984	1.006	.994	.994	.986	2.2	AVG
2-Fluorophenol	1.667	1.689	1.647	1.622	1.587	1.560	1.629	3.0	AVG
Phenol-d5	1.938	1.991	1.913	1.891	1.843	1.818	1.899	3.3	AVG
Phenol-d6	1.938	1.991	1.913	1.891	1.843	1.818	1.899	3.3	AVG
Nitrobenzene-d5	.330	.343	.342	.333	.334	.330	.335	1.8	AVG
2-Fluorobiphenyl	1.385	1.385	1.342	1.323	1.254	1.227	1.319	5.0	AVG
2,4,6-Tribromophenol	.151	.172	.177	.178	.170	.169	.170	5.8	AVG
Terphenyl-d14	1.013	1.020	.994	.965	.911	.879	.964	6.0	AVG

,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LF045 DFTPP Injection Date: 06/03/98

Instrument ID: HP06754 DFTPP Injection Time: 08:21

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	31.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	38.2
70	Less than 2.0% of mass 69	.2 (.5)1
127	40.0 - 60.0% of mass 198	43.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	20.0
365	Greater than 1.00% of mass 198	1.93
441	Present, but less than mass 443	7.2
442	Greater than 40.0% of mass 198	50.5
443	17.0 - 23.0% of mass 442	9.2 (18.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1408	>LF046	06/03/98	08:45
02	SBLKWF147L	SBLKWF147	>LF048	06/03/98	09:36
03	147WFLCSL	147WFLCS	>LF049	06/03/98	10:28
04	SPERE	2932934	>LF050	06/03/98	11:20
05	SPEREMS	2932934	>LF051	06/03/98	12:12
06	SPEREMSD	2932934	>LF052	06/03/98	13:03
07	NVCRU	2934233	>LF053	06/03/98	13:55
08	NVCRUMS	2934233	>LF054	06/03/98	14:46
→09	SBLKWE146L	SBLKWE146	>LF055	06/03/98	15:38
→10	146WELCSL	146WELCS	>LF056	06/03/98	16:30
→11	146WELCSD	146WELCSD	>LF057	06/03/98	17:21
→12	CPT13	2932454	>LF058	06/03/98	18:13
→13	CPT13MS	2932455MS	>LF059	06/03/98	19:04
→14	CPT13MSD	2932456MS	>LF060	06/03/98	19:56
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/03/98 Time: 08:45

Lab File ID: >LF046 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
	Pyridine	1.661	1.677	80.77	80.0	-1.0	
	N-Nitrosodimethylamine	.951	.939	78.99	80.0	1.3	
	2-Picoline	1.728	1.796	83.14	80.0	-3.9	
*	Phenol	1.833	1.888	82.40	80.0	-3.0	*
	Aniline	2.339	2.406	82.28	80.0	-2.8	
	bis(2-Chloroethyl)ether	1.420	1.427	80.35	80.0	-.4	
	2-Chlorophenol	1.590	1.686	84.81	80.0	-6.0	
	1,3-Dichlorobenzene	1.563	1.570	80.39	80.0	-.5	
*	1,4-Dichlorobenzene	1.594	1.604	80.51	80.0	-.6	*
	Benzyl alcohol	.996	.944	75.84	80.0	5.2	
	1,2-Dichlorobenzene	1.462	1.476	80.76	80.0	-.9	
	2-Methylphenol	1.384	1.500	86.69	80.0	-8.4	
	2,2'-oxybis(1-Chloropropane)	1.919	1.980	82.54	80.0	-3.2	
	bis(2-Chloroisopropyl)ether	1.919	1.980	82.54	80.0	-3.2	
	4-Methylphenol	1.465	1.431	78.14	80.0	2.3	
	3- and 4-Methylphenol	1.465	1.431	78.14	80.0	2.3	
	Acetophenone	1.944	2.050	84.38	80.0	-5.5	
#	N-Nitroso-di-n-propylamine	.909	.941	82.78	80.0	-3.5	#
	o-Toluidine	2.319	2.387	82.35	80.0	-2.9	
	Hexachloroethane	.663	.695	83.89	80.0	-4.9	
	Nitrobenzene	.341	.347	81.36	80.0	-1.7	
	Isophorone	.641	.670	83.68	80.0	-4.6	
*	2-Nitrophenol	.212	.225	84.68	80.0	-5.9	*
	2,4-Dimethylphenol	.331	.339	81.95	80.0	-2.4	
	Benzoic acid	.261	.206	60.37	80.0	24.5	- not target compd.
	bis(2-Chloroethoxy)methane	.403	.409	81.16	80.0	-1.5	
*	2,4-Dichlorophenol	.239	.249	83.25	80.0	-4.1	*
	1,2,4-Trichlorobenzene	.264	.263	79.81	80.0	.2	
	Naphthalene	1.022	1.015	79.46	80.0	.7	
	4-Chloroaniline	.443	.466	84.17	80.0	-5.2	
*	Hexachlorobutadiene	.121	.121	80.15	80.0	-.2	*
*	4-Chloro-3-methylphenol	.281	.300	85.41	80.0	-6.8	*
	2-Methylnaphthalene	.622	.609	78.32	80.0	2.1	
	1-Methylnaphthalene	.615	.610	79.42	80.0	.7	
#	Hexachlorocyclopentadiene	.323	.224	55.28	80.0	30.9	# - decrease response
*	2,4,6-Trichlorophenol	.440	.441	80.21	80.0	-.3	*
	2,4,5-Trichlorophenol	.473	.488	82.43	80.0	-3.0	
	2-Chloronaphthalene	1.159	1.122	77.50	80.0	3.1	

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CPT13 VJ-, J+ for headlo...

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/03/98 Time: 08:45

Lab File ID: >LF046 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
2-Nitroaniline	.407	.448	87.96	80.0	-9.9	
Dimethylphthalate	1.332	1.369	82.23	80.0	-2.8	
2,6-Dinitrotoluene	.323	.347	85.86	80.0	-7.3	
Acenaphthylene	1.983	2.004	80.86	80.0	-1.1	
3-Nitroaniline	.463	.518	89.40	80.0	-11.7	
Acenaphthene	1.154	1.133	78.52	80.0	1.9*	
2,4-Dinitrophenol #	.223	.175	59.63	80.0	25.5#	- decrease sensitivity J+, UJ-
4-Nitrophenol #	.202	.215	85.04	80.0	-6.3#	
Dibenzofuran	1.577	1.559	79.12	80.0	1.1	
2,4-Dinitrotoluene	.440	.447	81.38	80.0	-1.7	
1-Naphthylamine	1.345	1.323	78.65	80.0	1.7	
2-Naphthylamine	1.367	1.275	74.64	80.0	6.7	
Diethylphthalate	1.452	1.483	81.71	80.0	-2.1	
4-Chlorophenyl-phenylether	.627	.602	76.70	80.0	4.1	
Fluorene	1.169	1.216	83.18	80.0	-4.0	
4-Nitroaniline	.464	.505	87.13	80.0	-8.9	
4,6-Dinitro-2-methylphenol	.171	.147	68.76	80.0	14.1	
1-Nitronaphthalene	.149	.150	80.64	80.0	-.8	
N-Nitrosodiphenylamine (1) *	.485	.465	76.71	80.0	4.1*	
1,2-Diphenylhydrazine	.842	.821	77.97	80.0	2.5	
4-Bromophenyl-phenylether	.175	.167	76.71	80.0	4.1	
Hexachlorobenzene	.204	.190	74.54	80.0	6.8	
Pentachlorophenol *	.141	.117	66.33	80.0	17.1*	
Phenanthrene	.957	.928	77.62	80.0	3.0	
Anthracene	.985	.961	78.05	80.0	2.4	
Carbazole	.886	.890	80.37	80.0	-.5	
Di-n-butylphthalate	1.370	1.366	79.75	80.0	.3	
Fluoranthene *	1.036	1.006	77.71	80.0	2.9*	
Benzidine	.955	.539	173.61	320.0	45.7	- not target compd
Pyrene	1.480	1.453	78.56	80.0	1.8	
Butylbenzylphthalate	.841	.877	83.47	80.0	-4.3	
3,3'-Dichlorobenzidine	.483	.486	80.41	80.0	-.5	
Benzo(a)anthracene	1.083	1.058	78.18	80.0	2.3	
bis(2-Ethylhexyl)phthalate	1.115	1.143	82.02	80.0	-2.5	
Chrysene	1.039	.948	73.05	80.0	8.7	
Di-n-octylphthalate *	1.977	2.224	89.99	80.0	-12.5*	
7,12-Dimethylbenz[a]anthrace	.578	.575	79.52	80.0	.6	
Benzo(b)fluoranthene	1.197	1.187	79.38	80.0	.8	

(1) Cannot be separated from Diphenylamine

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CPT 13

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/03/98 Time: 08:45

Lab File ID: >LF046 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.130	1.127	79.83	80.0	.2
Benzo(a)pyrene *	1.039	1.062	81.74	80.0	-2.2*
Indeno(1,2,3-cd)pyrene	.956	.926	77.52	80.0	3.1
Dibenz(a,h)anthracene	.930	.889	76.51	80.0	4.4
Benzo(g,h,i)perylene	.986	.914	74.18	80.0	7.3
2-Fluorophenol	1.629	1.658	81.42	80.0	-1.8
Phenol-d5	1.899	2.048	86.27	80.0	-7.8
Phenol-d6	1.899	2.048	86.27	80.0	-7.8
Nitrobenzene-d5	.335	.352	83.89	80.0	-4.9
2-Fluorobiphenyl	1.319	1.263	76.59	80.0	4.3
2,4,6-Tribromophenol	.169	.176	83.13	80.0	-3.9
Terphenyl-d14	.964	.934	77.52	80.0	3.1

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

ab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID (Standard): >LF046 Date Analyzed: 06/03/98

nstrument ID: HP06754 Time Analyzed: 08:45

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	149491	11.37	644027	15.01	275052	20.24
	UPPER LIMIT	298982		1288054		550104	
	LOWER LIMIT	74746		322014		137526	
	EPA SAMPLE NO.						
01	SBLKWF147L	147867	11.36	627806	15.01	273033	20.24
02	147WFLCSL	148616	11.37	636093	15.01	267536	20.24
03	SPERE	116777	11.36	482526	15.01	204625	20.24
04	SPEREMS	139229	11.37	595547	15.02	252371	20.25
05	SPEREMSD	157009	11.37	662621	15.01	279245	20.25
06	NVCRU	149584	11.36	651125	15.00	284505	20.24
07	NVCRUMS	149545	11.36	641185	15.01	272781	20.24
08	SBLKWE146L	141765	11.36	606661	15.01	266063	20.24
09	146WELCSL	146410	11.37	625330	15.01	268955	20.25
10	146WELCSD	146544	11.37	625095	15.01	266720	20.25
11	CPT13	150803	11.36	648541	15.00	276345	20.24
12	CPT13MS	140269	11.36	599209	15.01	253745	20.24
13	CPT13MSD	145317	11.36	622872	15.01	264584	20.25
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

a' Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID (Standard): >LF046 Date Analyzed: 06/03/98

nstrument ID: HP06754 Time Analyzed: 08:45

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	525494		24.72	369579		31.50	332583		35.30
	UPPER LIMIT	1050988			739158			665166		
	LOWER LIMIT	262747			184790			166292		
	EPA SAMPLE NO.									
01	SBLKWF147L	512706		24.71	364686		31.48	322030		35.28
02	147WFLCSL	504021		24.72	337847		31.50	309826		35.30
03	SPERE	399076		24.71	307232		31.48	257557		35.29
04	SPEREMS	468117		24.72	294756		31.50	239595		35.31
05	SPEREMSD	515337		24.72	314395		31.50	254126		35.31
06	NVCRU	528136		24.71	366868		31.48	318047		35.29
07	NVCRUMS	516904		24.71	340384		31.50	315206		35.30
08	SBLKWE146L	492810		24.72	353888		31.48	310839		35.29
09	146WELCSL	506814		24.72	344929		31.50	309502		35.29
10	146WELCSD	494559		24.72	338988		31.50	308524		35.29
11	CPT13	523415		24.71	364624		31.48	321531		35.29
12	CPT13MS	482405		24.72	328046		31.49	295870		35.29
13	CPT13MSD	495572		24.72	332649		31.49	296614		35.29
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID: >LF065 DFTPP Injection Date: 06/03/98

nstrument ID: HP06754 DFTPP Injection Time: 20:43

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	48.3
70	Less than 2.0% of mass 69	.1 (.2)1
127	40.0 - 60.0% of mass 198	46.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.0
365	Greater than 1.00% of mass 198	1.66
441	Present, but less than mass 443	6.6
442	Greater than 40.0% of mass 198	45.0
443	17.0 - 23.0% of mass 442	8.4 (18.6)2

1-Value is % mass 69 2-Value is % mass 442

HIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1488	>LF066	06/03/98	21:07
02	FLEFF	2932350	>LF067	06/03/98	21:58
03	CPT07	2932449	>LF068	06/03/98	22:50
04	CPT08	2932450	>LF069	06/03/98	23:42
05	CPT11	2932452	>LF071	06/04/98	01:28
06	CPT12	2932453	>LF072	06/04/98	02:19
07	CPT10	2934151	>LF073	06/04/98	03:10
08	CPT18	2934152	>LF074	06/04/98	04:02
09	CPT21	2934153	>LF075	06/04/98	04:53
10	CPT22	2934154	>LF076	06/04/98	05:45
11	CPTRB	2934155	>LF077	06/04/98	06:36
12	32708	2932708	>LF078	06/04/98	07:28
13	CPT09	2932451	>LF079	06/04/98	08:20
14					
15					
16					
17					
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19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/03/98 Time: 21:07

Lab File ID: >LF066 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.661	1.640	79.01	80.0	1.2
N-Nitrosodimethylamine		.951	.940	79.07	80.0	1.2
2-Picoline		1.728	1.740	80.55	80.0	-.7
Phenol	*	1.833	2.015	87.92	80.0	-9.9*
Aniline		2.339	2.360	80.70	80.0	-.9
bis(2-Chloroethyl)ether		1.420	1.447	81.52	80.0	-1.9
2-Chlorophenol		1.590	1.670	84.05	80.0	-5.1
1,3-Dichlorobenzene		1.563	1.563	80.02	80.0	-.0
1,4-Dichlorobenzene	*	1.594	1.594	80.02	80.0	-.0*
Benzyl alcohol		.996	.919	73.84	80.0	7.7
1,2-Dichlorobenzene		1.462	1.457	79.72	80.0	.3
2-Methylphenol		1.384	1.502	86.81	80.0	-8.5
2,2'-oxybis(1-Chloropropane)		1.919	1.961	81.77	80.0	-2.2
bis(2-Chloroisopropyl)ether		1.919	1.961	81.77	80.0	-2.2
4-Methylphenol		1.465	1.407	76.86	80.0	3.9
3- and 4-Methylphenol		1.465	1.407	76.86	80.0	3.9
Acetophenone		1.944	2.019	83.10	80.0	-3.9
N-Nitroso-di-n-propylamine	#	.909	.919	80.86	80.0	-1.1#
o-Toluidine		2.319	2.374	81.93	80.0	-2.4
Hexachloroethane		.663	.695	83.87	80.0	-4.8
Nitrobenzene		.341	.340	79.85	80.0	.2
Isophorone		.641	.667	83.24	80.0	-4.0
2-Nitrophenol	*	.212	.226	85.19	80.0	-6.5*
2,4-Dimethylphenol		.331	.341	82.43	80.0	-3.0
Benzoic acid		.261	.243	69.81	80.0	12.7
bis(2-Chloroethoxy)methane		.403	.414	82.24	80.0	-2.8
2,4-Dichlorophenol	*	.239	.249	83.27	80.0	-4.1*
1,2,4-Trichlorobenzene		.264	.267	80.91	80.0	-1.1
Naphthalene		1.022	1.013	79.32	80.0	.9
4-Chloroaniline		.443	.466	84.15	80.0	-5.2
Hexachlorobutadiene	*	.121	.119	78.86	80.0	1.4*
4-Chloro-3-methylphenol	*	.281	.297	84.69	80.0	-5.9*
2-Methylnaphthalene		.622	.619	79.61	80.0	.5
1-Methylnaphthalene		.615	.609	79.25	80.0	.9
Hexachlorocyclopentadiene	#	.323	.261	64.63	80.0	19.2#
2,4,6-Trichlorophenol	*	.440	.434	78.94	80.0	1.3*
2,4,5-Trichlorophenol		.473	.493	83.37	80.0	-4.2
2-Chloronaphthalene		1.159	1.128	77.86	80.0	2.7

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/03/98 Time: 21:07

Lab File ID: >LF066 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.407	.441	86.66	80.0	-8.3
Dimethylphthalate		1.332	1.329	79.83	80.0	.2
2,6-Dinitrotoluene		.323	.337	83.44	80.0	-4.3
Acenaphthylene		1.983	1.978	79.82	80.0	.2
3-Nitroaniline		.463	.504	86.96	80.0	-8.7
Acenaphthene	*	1.154	1.115	77.26	80.0	3.4*
2,4-Dinitrophenol	#	.223	.180	61.15	80.0	-23.6#
4-Nitrophenol	#	.202	.208	82.10	80.0	-2.6#
Dibenzofuran		1.577	1.534	77.85	80.0	2.7
2,4-Dinitrotoluene		.440	.434	79.01	80.0	1.2
1-Naphthylamine		1.345	1.262	75.04	80.0	6.2
2-Naphthylamine		1.367	1.220	71.39	80.0	10.8
Diethylphthalate		1.452	1.459	80.37	80.0	-.5
4-Chlorophenyl-phenylether		.627	.595	75.91	80.0	5.1
Fluorene		1.169	1.190	81.40	80.0	-1.7
4-Nitroaniline		.464	.486	83.82	80.0	-4.8
4,6-Dinitro-2-methylphenol		.171	.152	71.02	80.0	11.2
1-Nitronaphthalene		.149	.149	80.41	80.0	-.5
N-Nitrosodiphenylamine (1)	*	.485	.464	76.51	80.0	4.4*
1,2-Diphenylhydrazine		.842	.823	78.22	80.0	2.2
4-Bromophenyl-phenylether		.175	.168	77.15	80.0	3.6
Hexachlorobenzene		.204	.189	74.23	80.0	7.2
Pentachlorophenol	*	.141	.113	64.37	80.0	19.5*
Phenanthrene		.957	.926	77.46	80.0	3.2
Anthracene		.985	.960	77.97	80.0	2.5
Carbazole		.886	.867	78.25	80.0	2.2
Di-n-butylphthalate		1.370	1.326	77.43	80.0	3.2
Fluoranthene	*	1.036	.981	75.76	80.0	5.3*
Benzidine		.955	.817	293.90	320.0	8.2
Pyrene		1.480	1.465	79.19	80.0	1.0
Butylbenzylphthalate		.841	.887	84.39	80.0	-5.5
3,3'-Dichlorobenzidine		.483	.486	80.44	80.0	-.6
Benzo(a)anthracene		1.083	1.066	78.74	80.0	1.6
bis(2-Ethylhexyl)phthalate		1.115	1.142	81.94	80.0	-2.4
Chrysene		1.039	.955	73.55	80.0	8.1
Di-n-octylphthalate	*	1.977	2.223	89.95	80.0	-12.4*
7,12-Dimethylbenz[a]anthrace		.578	.567	78.36	80.0	2.1
Benzo(b)fluoranthene		1.197	1.191	79.59	80.0	.5

(1) Cannot be separated from Diphenylamine

decrease in resp. ~~VF~~, J+ OR <25%

CPT07 08 11 12 10 15 21 22 CPTR6 09

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

nstrument ID: HP06754 Calibration Date: 06/03/98 Time: 21:07

ab File ID: >LF066 Init. Calib. Date(s): 05/21/98 05/21/98

in RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene		1.130	1.086	76.89	80.0	3.9
Benzo(a)pyrene	*	1.039	1.050	80.84	80.0	-1.0*
Indeno(1,2,3-cd)pyrene		.956	.969	81.11	80.0	-1.4
Dibenz(a,h)anthracene		.930	.907	78.03	80.0	2.5
Benzo(g,h,i)perylene		.986	.936	75.94	80.0	5.1
2-Fluorophenol		1.629	1.661	81.57	80.0	-2.0
Phenol-d5		1.899	2.035	85.71	80.0	-7.1
Phenol-d6		1.899	2.035	85.71	80.0	-7.1
Nitrobenzene-d5		.335	.354	84.51	80.0	-5.6
2-Fluorobiphenyl		1.319	1.272	77.15	80.0	3.6
2,4,6-Tribromophenol		.169	.170	80.43	80.0	-.5
Terphenyl-d14		.964	.944	78.34	80.0	2.1

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LF066 Date Analyzed: 06/03/98

Instrument ID: HP06754 Time Analyzed: 21:07

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	154393	11.37	654798	15.01	278148	20.24
	UPPER LIMIT	308786		1309596		556296	
	LOWER LIMIT	77197		327399		139074	
	EPA SAMPLE NO.						
01	FLEFF	131180	11.36	559219	15.00	239435	20.24
02	CPT07	149481	11.37	434034	15.12	270620	20.24
03	CPT08	142578	11.36	606255	15.00	255100	20.24
04	CPT11	156631	11.36	651429	15.00	272192	20.24
05	CPT12	156139	11.36	650062	15.01	273023	20.24
06	CPT10	156947	11.36	651698	15.00	276021	20.23
07	CPT18	153122	11.36	643475	15.00	272632	20.23
08	CPT21	151733	11.36	637233	14.99	269421	20.24
09	CPT22	159562	11.36	664874	15.00	280964	20.23
10	CPTRB	154377	11.35	657077	15.00	279161	20.23
11	32708	147218	11.36	523836	15.04	244947	20.24
12	CPT09	146941	11.36	412298	15.11	265715	20.24
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LF066 Date Analyzed: 06/03/98

Instrument ID: HP06754 Time Analyzed: 21:07

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	517529		24.71	350812		31.49	321053		35.29
	UPPER LIMIT	1035058			701624			642106		
	LOWER LIMIT	258765			175406			160527		
	EPA SAMPLE NO.									
01	FLEFF	463059		24.71	358380		31.47	322433		35.28
02	CPT07	501521		24.72	362625		31.48	314936		35.28
03	CPT08	455165		24.72	271719		31.51	262730		35.34
04	CPT11	499618		24.71	337699		31.47	261779		35.27
05	CPT12	496709		24.71	346057		31.48	302849		35.28
06	CPT10	514556		24.71	356703		31.48	312447		35.27
07	CPT18	499495		24.70	346061		31.47	302515		35.28
08	CPT21	495193		24.70	337465		31.48	295504		35.27
09	CPT22	524773		24.71	360840		31.47	317486		35.28
10	CPTRB	523235		24.70	365828		31.47	319996		35.27
11	32708	461619		24.71	320797		31.47	276772		35.28
12	CPT09	487132		24.71	344354		31.47	303342		35.28
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >LF080 DFTPP Injection Date: 06/04/98

Instrument ID: HP06754 DFTPP Injection Time: 09:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	30.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	36.4
70	Less than 2.0% of mass 69	.2 (.6)1
127	40.0 - 60.0% of mass 198	43.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	20.5
365	Greater than 1.00% of mass 198	1.88
441	Present, but less than mass 443	7.3
442	Greater than 40.0% of mass 198	49.0
443	17.0 - 23.0% of mass 442	9.6 (19.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1488	>LF081	06/04/98	10:20
02	SBLKLD153L	SBLKLD153	>LF082	06/04/98	11:27
03	153LDLCSL	153LDLCS	>LF083	06/04/98	12:20
04	CPT07DL	2932449DL	>LF084	06/04/98	13:12
05	CPT12DL	2932453DL	>LF086	06/04/98	14:56
06	32708DL	2932708DL	>LF087	06/04/98	15:48
07	0800-	2933690	>LF089	06/04/98	17:32
08	CPT09DL	2932451DL	>LF090	06/04/98	18:31
09	32708DL2	2932708DL2	>LF091	06/04/98	19:23
10					
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

strument ID: HP06754 Calibration Date: 06/04/98 Time: 10:20

b File ID: >LF081 Init. Calib. Date(s): 05/21/98 05/21/98

n RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.661	1.548	74.56	80.0	6.8
N-Nitrosodimethylamine		.951	.885	74.46	80.0	6.9
2-Picoline		1.728	1.698	78.57	80.0	1.8
Phenol	*	1.833	1.997	87.17	80.0	-9.0*
Aniline		2.339	2.283	78.06	80.0	2.4
bis(2-Chloroethyl)ether		1.420	1.398	78.73	80.0	1.6
2-Chlorophenol		1.590	1.651	83.07	80.0	-3.8
1,3-Dichlorobenzene		1.563	1.523	77.97	80.0	2.5
1,4-Dichlorobenzene	*	1.594	1.560	78.32	80.0	2.1*
Benzyl alcohol		.996	1.002	80.49	80.0	-.6
1,2-Dichlorobenzene		1.462	1.435	78.51	80.0	1.9
2-Methylphenol		1.384	1.421	82.14	80.0	-2.7
2,2'-oxybis(1-Chloropropane)		1.919	1.812	75.55	80.0	5.6
bis(2-Chloroisopropyl)ether		1.919	1.812	75.55	80.0	5.6
4-Methylphenol		1.465	1.403	76.62	80.0	4.2
3- and 4-Methylphenol		1.465	1.403	76.62	80.0	4.2
Acetophenone		1.944	1.995	82.10	80.0	-2.6
N-Nitroso-di-n-propylamine	#	.909	.887	78.06	80.0	2.4#
o-Toluidine		2.319	2.291	79.06	80.0	1.2
Hexachloroethane		.663	.685	82.66	80.0	-3.3
Nitrobenzene		.341	.333	78.12	80.0	2.4
Isophorone		.641	.646	80.61	80.0	-.8
2-Nitrophenol	*	.212	.225	84.75	80.0	-5.9*
2,4-Dimethylphenol		.331	.336	81.18	80.0	-1.5
Benzoic acid		.261	.286	80.81	80.0	-1.0
bis(2-Chloroethoxy)methane		.403	.403	79.99	80.0	.0
2,4-Dichlorophenol	*	.239	.250	83.55	80.0	-4.4*
1,2,4-Trichlorobenzene		.264	.266	80.67	80.0	-.8
Naphthalene		1.022	1.011	79.18	80.0	1.0
4-Chloroaniline		.443	.469	84.85	80.0	-6.1
Hexachlorobutadiene	*	.121	.120	79.67	80.0	.4*
4-Chloro-3-methylphenol	*	.281	.296	84.27	80.0	-5.3*
2-Methylnaphthalene		.622	.615	79.00	80.0	1.3
1-Methylnaphthalene		.615	.598	77.79	80.0	2.8
Hexachlorocyclopentadiene	#	.323	.285	70.49	80.0	11.9#
2,4,6-Trichlorophenol	*	.440	.450	81.77	80.0	-2.2*
2,4,5-Trichlorophenol		.473	.493	83.34	80.0	-4.2
2-Chloronaphthalene		1.159	1.128	77.92	80.0	2.6

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ame: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

strument ID: HP06754 Calibration Date: 06/04/98 Time: 10:20

b File ID: >LF081 Init. Calib. Date(s): 05/21/98 05/21/98

n RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.407	.438	86.11	80.0	-7.6
Dimethylphthalate		1.332	1.342	80.60	80.0	-.8
2,6-Dinitrotoluene		.323	.345	85.49	80.0	-6.9
Acenaphthylene		1.983	1.998	80.61	80.0	-.8
3-Nitroaniline		.463	.515	88.99	80.0	-11.2
Acenaphthene	*	1.154	1.129	78.26	80.0	2.2*
2,4-Dinitrophenol	#	.223	.242	80.62	80.0	-.8#
4-Nitrophenol	#	.202	.228	90.01	80.0	-12.5#
Dibenzofuran		1.577	1.553	78.82	80.0	1.5
2,4-Dinitrotoluene		.440	.444	80.74	80.0	-.9
1-Naphthylamine		1.345	1.244	73.95	80.0	7.6
2-Naphthylamine		1.367	1.193	69.83	80.0	12.7
Diethylphthalate		1.452	1.479	81.50	80.0	-1.9
4-Chlorophenyl-phenylether		.627	.599	76.37	80.0	4.5
Fluorene		1.169	1.200	82.11	80.0	-2.6
4-Nitroaniline		.464	.519	89.58	80.0	-12.0
4,6-Dinitro-2-methylphenol		.171	.171	79.83	80.0	.2
1-Nitronaphthalene		.149	.151	81.19	80.0	-1.5
N-Nitrosodiphenylamine (1)	*	.485	.458	75.58	80.0	5.5*
1,2-Diphenylhydrazine		.842	.795	75.49	80.0	5.6
4-Bromophenyl-phenylether		.175	.166	75.92	80.0	5.1
Hexachlorobenzene		.204	.188	73.89	80.0	7.6
Pentachlorophenol	*	.141	.127	72.08	80.0	9.9*
Phenanthrene		.957	.938	78.41	80.0	2.0
Anthracene		.985	.963	78.19	80.0	2.3
Carbazole		.886	.890	80.31	80.0	-.4
Di-n-butylphthalate		1.370	1.343	78.42	80.0	2.0
Fluoranthene	*	1.036	.996	76.93	80.0	3.8*
Benzidine		.955	.837	302.91	320.0	5.3
Pyrene		1.480	1.431	77.37	80.0	3.3
Butylbenzylphthalate		.841	.859	81.70	80.0	-2.1
3,3'-Dichlorobenzidine		.483	.502	83.13	80.0	-3.9
Benzo(a)anthracene		1.083	1.048	77.45	80.0	3.2
bis(2-Ethylhexyl)phthalate		1.115	1.092	78.39	80.0	2.0
Chrysene		1.039	.951	73.26	80.0	8.4
Di-n-octylphthalate	*	1.977	2.069	83.74	80.0	-4.7*
7,12-Dimethylbenz[a]anthrace		.578	.558	77.15	80.0	3.6
Benzo(b)fluoranthene		1.197	1.214	81.18	80.0	-1.5

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06754 Calibration Date: 06/04/98 Time: 10:20

Lab File ID: >LF081 Init. Calib. Date(s): 05/21/98 05/21/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.130	1.062	75.24	80.0	6.0
Benzo(a)pyrene *	1.039	1.052	80.96	80.0	-1.2*
Indeno(1,2,3-cd)pyrene	.956	.945	79.11	80.0	1.1
Dibenz(a,h)anthracene	.930	.901	77.51	80.0	3.1
Benzo(g,h,i)perylene	.986	.937	76.07	80.0	4.9
2-Fluorophenol	1.629	1.633	80.20	80.0	-.2
Phenol-d5	1.899	1.968	82.89	80.0	-3.6
Phenol-d6	1.899	1.968	82.89	80.0	-3.6
Nitrobenzene-d5	.335	.348	83.05	80.0	-3.8
2-Fluorobiphenyl	1.319	1.274	77.27	80.0	3.4
2,4,6-Tribromophenol	.169	.172	81.40	80.0	-1.8
Terphenyl-d14	.964	.907	75.27	80.0	5.9

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

* Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

ame: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

b File ID (Standard): >LF081 Date Analyzed: 06/04/98

strument ID: HP06754 Time Analyzed: 10:20

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	139282	11.17	582072	14.81	246790	20.04
	UPPER LIMIT	278564		1164144		493580	
	LOWER LIMIT	69641		291036		123395	
	EPA SAMPLE NO.						
01	SBLKLD153L	132850	11.17	550962	14.80	232489	20.04
02	153LDLCSL	133210	11.17	561071	14.80	236425	20.04
03	CPT07DL	130753	11.16	551230	14.81	233161	20.04
04	CPT12DL	139873	11.17	586355	14.81	246220	20.05
05	32708DL	136878	11.17	569933	14.81	250249	20.04
06	0800-	133788	11.17	552428	14.81	232206	20.04
07	CPT09DL	129394	11.18	553537	14.81	237861	20.04
08	32708DL2	127806	11.17	552306	14.81	235735	20.04
09							
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11							
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20							
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >LF081 Date Analyzed: 06/04/98

Instrument ID: HP06754 Time Analyzed: 10:20

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	469845	24.51	339627	31.33	322937	35.01
	UPPER LIMIT	939690		679254		645874	
	LOWER LIMIT	234923		169814		161469	
	EPA SAMPLE NO.						
01	SBLKLD153L	447304	24.50	330224	31.32	291159	34.99
02	153LDLCSL	452130	24.51	312586	31.32	299447	35.00
03	CPT07DL	444611	24.51	338201	31.31	318194	35.00
04	CPT12DL	468025	24.51	346824	31.31	328627	35.00
05	32708DL	465967	24.51	351615	31.31	325164	35.00
06	0800-	414077	24.51	253929	31.35	247213	35.09
07	CPT09DL	451451	24.51	294699	31.32	263447	35.00
08	32708DL2	447502	24.51	304341	31.31	259302	35.00
09							
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20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MF12Y DFTPP Injection Date: 06/08/98

Instrument ID: HP06755 DFTPP Injection Time: 09:06

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	65.6
70	Less than 2.0% of mass 69	.3 (.5)1
127	40.0 - 60.0% of mass 198	43.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.4
365	Greater than 1.00% of mass 198	2.89
441	Present, but less than mass 443	6.9
442	Greater than 40.0% of mass 198	46.3
443	17.0 - 23.0% of mass 442	9.0 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1558	>MF12B	06/08/98	11:27
02	SSTD160	STD1558	>MF122	06/08/98	12:35
03	SSTD001	MDL1558	>MF123	06/08/98	13:32
04	SSTD120	STD1558	>MF124	06/08/98	14:30
05	SSTD005	STD1558	>MF125	06/08/98	15:27
06	SSTD020	STD1558	>MF126	06/08/98	16:25
07	SSTD050	STD1558	>MF127	06/08/98	17:21
08					
09					
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22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/08/98 06/08/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF125 RRF20 = >MF126 RRF50 = >MF127
RRF80 = >MF128 RRF120= >MF124 RRF160= >MF122

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	%RSD	CAL. METHOD	
Pyridine	1.351	1.446	1.416	1.348	1.384	1.361	1.384	2.8	AVG	
N-Nitrosodimethylamine	.779	.803	.818	.784	.797	.787	.795	1.8	AVG	
2-Picoline	1.349	1.366	1.363	1.339	1.374	1.331	1.354	1.2	AVG	
Phenol *	1.540	1.566	1.546	1.527	1.533	1.496	1.535	1.5	AVG	*
Aniline	2.028	2.000	1.927	1.976	1.952	1.939	1.970	2.0	AVG	
bis(2-Chloroethyl)ether	1.241	1.238	1.237	1.186	1.207	1.185	1.216	2.2	AVG	
2-Chlorophenol	1.233	1.220	1.216	1.207	1.233	1.227	1.223	.8	AVG	
1,3-Dichlorobenzene	1.405	1.391	1.401	1.399	1.432	1.425	1.409	1.1	AVG	
1,4-Dichlorobenzene *	1.447	1.435	1.440	1.461	1.511	1.473	1.461	1.9	AVG	*
Benzyl alcohol	.684	.719	.767	.715	.764	.728	.730	4.3	AVG	
1,2-Dichlorobenzene	1.334	1.322	1.321	1.327	1.364	1.343	1.335	1.2	AVG	
2-Methylphenol	1.117	1.108	1.082	1.046	1.078	1.045	1.079	2.8	AVG	
2,2'-oxybis(1-Chloropropane)	2.596	2.566	2.472	2.402	2.432	2.345	2.469	3.9	AVG	
bis(2-Chloroisopropyl)ether	2.596	2.566	2.472	2.402	2.432	2.345	2.469	3.9	AVG	
4-Methylphenol	1.151	1.162	1.173	1.129	1.177	1.153	1.158	1.5	AVG	
3- and 4-Methylphenol	1.151	1.162	1.173	1.129	1.177	1.153	1.158	1.5	AVG	
Acetophenone	1.944	1.905	1.883	1.866	1.900	1.831	1.888	2.0	AVG	
N-Nitroso-di-n-propylamine #	1.205	1.161	1.128	1.092	1.103	1.063	1.125	4.6	AVG	#
[illegible]uidine	1.870	1.810	1.765	1.736	1.747	1.703	1.772	3.4	AVG	
[illegible]achloroethane	.686	.688	.693	.698	.701	.680	.691	1.2	AVG	
Nitrobenzene	.523	.526	.528	.529	.528	.531	.528	.5	AVG	
Isophorone	.854	.856	.877	.873	.883	.879	.870	1.4	AVG	
2-Nitrophenol *	.198	.206	.217	.221	.224	.227	.215	5.2	AVG	*
2,4-Dimethylphenol	.397	.412	.407	.414	.415	.422	.411	2.1	AVG	
Benzoic acid	.300	.315	.327	.334	.340	.357	.329	6.1	AVG	
bis(2-Chloroethoxy)methane	.458	.467	.477	.471	.472	.481	.471	1.7	AVG	
2,4-Dichlorophenol *	.310	.315	.333	.350	.357	.359	.337	6.3	AVG	*
1,2,4-Trichlorobenzene	.362	.371	.381	.397	.403	.410	.387	4.8	AVG	
Naphthalene	.947	.939	.955	.970	.997	1.007	.969	2.8	AVG	
4-Chloroaniline	.422	.432	.432	.442	.445	.453	.438	2.6	AVG	
Hexachlorobutadiene *	.218	.228	.230	.248	.243	.247	.236	5.1	AVG	*
4-Chloro-3-methylphenol *	.346	.358	.365	.364	.374	.368	.362	2.6	AVG	*
4-Chloro-3-methylphenol(mz10*	.346	.358	.365	.364	.374	.368	.362	2.6	AVG	*
4-Chloro-3-methylphenol(mz14*	.254	.262	.266	.281	.283	.286	.272	4.8	AVG	*
2-Methylnaphthalene	.604	.611	.637	.663	.684	.697	.649	5.9	AVG	
1-Methylnaphthalene	.614	.607	.619	.647	.666	.666	.636	4.2	AVG	
Hexachlorocyclopentadiene #	.311	.410	.436	.508	.502	.529	.449	18.2	1STDEG	#
2,4,6-Trichlorophenol *	.407	.444	.446	.471	.488	.496	.459	7.2	AVG	*

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/08/98 06/08/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF125 RRF20 = >MF126 RRF50 = >MF127
RRF80 = >MF128 RRF120= >MF124 RRF160= >MF122

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
2,4,5-Trichlorophenol	.432	.459	.480	.497	.527	.548	.490	8.7	AVG	
2-Chloronaphthalene	1.125	1.143	1.157	1.203	1.256	1.263	1.191	5.0	AVG	
2-Nitroaniline	.550	.589	.600	.577	.598	.601	.586	3.3	AVG	
Dimethylphthalate	1.441	1.490	1.502	1.542	1.563	1.599	1.523	3.7	AVG	
2,6-Dinitrotoluene	.324	.357	.362	.373	.391	.395	.367	7.1	AVG	
Acenaphthylene	1.791	1.882	1.893	1.957	2.015	2.052	1.932	5.0	AVG	
3-Nitroaniline	.343	.380	.378	.379	.393	.406	.380	5.6	AVG	
Acenaphthene *	1.027	1.065	1.081	1.103	1.154	1.175	1.101	5.0	AVG	*
2,4-Dinitrophenol #	.178	.220	.237	.250	.262	.267	.236	14.0	AVG	#
4-Nitrophenol #	.364	.378	.386	.405	.404	.411	.391	4.7	AVG	#
Dibenzofuran	1.621	1.664	1.629	1.738	1.796	1.802	1.708	4.8	AVG	
2,4-Dinitrotoluene	.470	.495	.499	.510	.524	.535	.505	4.6	AVG	
1-Naphthylamine	.817	1.105	.933	1.089	.956	1.105	1.001	11.8	AVG	
2-Naphthylamine	.938	1.085	.876	1.108	.895	1.111	1.002	11.1	AVG	
Diethylphthalate	1.513	1.591	1.577	1.609	1.623	1.659	1.595	3.1	AVG	
4-Chlorophenyl-phenylether	.620	.636	.653	.698	.726	.730	.677	7.0	AVG	
[illegible]rene	1.185	1.254	1.288	1.350	1.437	1.466	1.330	8.2	AVG	
[illegible]troaniline	.353	.392	.394	.402	.400	.405	.391	4.9	AVG	
[illegible]-Dinitro-2-methylphenol	.138	.145	.166	.173	.173	.182	.163	10.8	AVG	
1-Nitronaphthalene	.154	.157	.158	.165	.165	.170	.162	3.7	AVG	
N-Nitrosodiphenylamine (1) *	.460	.467	.478	.487	.495	.510	.483	3.8	AVG	*
1,2-Diphenylhydrazine	1.024	1.031	1.023	.978	.971	.996	1.004	2.6	AVG	
4-Bromophenyl-phenylether	.208	.205	.208	.224	.221	.228	.216	4.5	AVG	
Hexachlorobenzene	.242	.239	.245	.265	.263	.269	.254	5.2	AVG	
Pentachlorophenol *	.158	.166	.170	.187	.190	.193	.177	8.1	AVG	*
Phenanthrene	.932	.940	.974	1.010	1.024	1.054	.989	4.9	AVG	
Anthracene	.931	.927	.958	.983	.997	1.030	.971	4.1	AVG	
Carbazole	.855	.876	.901	.910	.924	.956	.904	3.9	AVG	
Di-n-butylphthalate	1.331	1.368	1.429	1.429	1.460	1.482	1.417	4.0	AVG	
Fluoranthene *	.973	1.001	1.043	1.071	1.073	1.109	1.045	4.8	AVG	*
Benzidine	1.174	1.175	.917	1.036	.963	1.029	1.049	10.2	AVG	
Pyrene	1.351	1.383	1.373	1.447	1.413	1.435	1.401	2.7	AVG	
Butylbenzylphthalate	.792	.832	.845	.811	.820	.836	.823	2.3	AVG	
3,3'-Dichlorobenzidine	.459	.480	.495	.510	.522	.534	.500	5.6	AVG	
Benzo(a)anthracene	1.067	1.051	1.052	1.067	1.074	1.084	1.066	1.2	AVG	
bis(2-Ethylhexyl)phthalate	.977	1.055	1.055	1.037	1.073	1.102	1.050	4.0	AVG	
Chrysene	.924	.984	.986	1.026	1.037	1.050	1.001	4.6	AVG	
Di-n-octylphthalate *	2.053	2.071	2.178	2.044	2.205	2.239	2.132	4.0	AVG	*

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/08/98 06/08/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF125 RRF20 = >MF126 RRF50 = >MF127
RRF80 = >MF128 RRF120= >MF124 RRF160= >MF122

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
7,12-Dimethylbenz[a]anthrace	.294	.564	.560	.618	.647	.673	.559	24.5	1STDEG
Benzo(b)fluoranthene	1.208	1.248	1.298	1.312	1.403	1.401	1.312	6.0	AVG
Benzo(k)fluoranthene	1.171	1.147	1.178	1.145	1.200	1.250	1.182	3.3	AVG
Benzo(a)pyrene *	1.100	1.125	1.157	1.128	1.175	1.181	1.144	2.8	AVG *
Indeno(1,2,3-cd)pyrene	.995	.982	.994	.994	1.009	1.019	.999	1.3	AVG
Dibenz(a,h)anthracene	.934	.926	.953	.964	.977	1.007	.960	3.1	AVG
Benzo(g,h,i)perylene	.989	1.030	1.033	1.031	1.035	1.060	1.030	2.2	AVG
2-Fluorophenol	1.207	1.189	1.238	1.212	1.235	1.218	1.217	1.5	AVG
Phenol-d5	1.514	1.557	1.544	1.544	1.553	1.528	1.540	1.1	AVG
Phenol-d6	1.514	1.557	1.544	1.544	1.553	1.528	1.540	1.1	AVG
2-Chlorophenol-d4	1.330	1.260	1.302	1.289	1.318	1.299	1.300	1.9	AVG
1,2-Dichlorobenzene-d4	.909	.883	.886	.906	.910	.898	.899	1.3	AVG
Nitrobenzene-d5	.496	.520	.527	.526	.520	.528	.520	2.3	AVG
2-Fluorobiphenyl	1.326	1.336	1.347	1.402	1.462	1.489	1.394	5.0	AVG
2,4,6-Tribromophenol	.240	.248	.250	.284	.291	.292	.268	9.0	AVG
Terphenyl-d14	.953	.986	1.014	1.051	1.018	1.059	1.014	3.9	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/17/98 Time: 09:28

Lab File ID: >MF30D Init. Calib. Date(s): 06/08/98 06/08/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.384	1.246	72.00	80.0	10.0
N-Nitrosodimethylamine		.795	.724	72.89	80.0	8.9
2-Picoline		1.353	1.250	73.88	80.0	7.7
Phenol	*	1.535	1.418	73.89	80.0	7.6*
Aniline		1.970	1.727	70.14	80.0	12.3
bis(2-Chloroethyl)ether		1.216	1.104	72.64	80.0	9.2
2-Chlorophenol		1.223	1.172	76.63	80.0	4.2
1,3-Dichlorobenzene		1.409	1.437	81.62	80.0	-2.0
1,4-Dichlorobenzene	*	1.461	1.494	81.80	80.0	-2.2*
Benzyl alcohol		.730	.668	73.20	80.0	8.5
1,2-Dichlorobenzene		1.335	1.338	80.17	80.0	-.2
2-Methylphenol		1.079	.958	71.02	80.0	11.2
2,2'-oxybis(1-Chloropropane)		2.469	2.096	67.94	80.0	15.1
bis(2-Chloroisopropyl)ether		2.469	2.096	67.94	80.0	15.1
4-Methylphenol		1.158	1.069	73.85	80.0	7.7
3- and 4-Methylphenol		1.158	1.069	73.85	80.0	7.7
Acetophenone		1.888	1.761	74.60	80.0	6.7
N-Nitroso-di-n-propylamine	#	1.125	1.023	72.75	80.0	9.1#
o-Toluidine		1.772	1.544	69.73	80.0	12.8
Hexachloroethane		.691	.669	77.43	80.0	3.2
Nitrobenzene		.528	.532	80.75	80.0	-.9
Isophorone		.870	.842	77.39	80.0	3.3
2-Nitrophenol	*	.215	.226	84.04	80.0	-5.0*
2,4-Dimethylphenol		.411	.408	79.45	80.0	.7
Benzoic acid		.329	.301	73.17	80.0	8.5
bis(2-Chloroethoxy)methane		.471	.452	76.75	80.0	4.1
2,4-Dichlorophenol	*	.337	.365	86.66	80.0	-8.3*
1,2,4-Trichlorobenzene		.387	.429	88.63	80.0	-10.8
Naphthalene		.969	.958	79.05	80.0	1.2
4-Chloroaniline		.438	.423	77.24	80.0	3.4
Hexachlorobutadiene	*	.236	.269	91.33	80.0	-14.2*
4-Chloro-3-methylphenol	*	.362	.364	80.37	80.0	-.5*
4-Chloro-3-methylphenol(mz10	*	.362	.364	80.37	80.0	-.5*
4-Chloro-3-methylphenol(mz14	*	.272	.282	82.77	80.0	-3.5*
2-Methylnaphthalene		.649	.664	81.89	80.0	-2.4
1-Methylnaphthalene		.636	.636	79.97	80.0	.0
Hexachlorocyclopentadiene	#	.449	.514	81.76	80.0	-2.2#
2,4,6-Trichlorophenol	*	.459	.512	89.33	80.0	-11.7*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/17/98 Time: 09:28

Lab File ID: >MF30D Init. Calib. Date(s): 06/08/98 06/08/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2,4,5-Trichlorophenol		.490	.547	89.28	80.0	-11.6
2-Chloronaphthalene		1.191	1.237	83.10	80.0	-3.9
2-Nitroaniline		.586	.603	82.32	80.0	-2.9
Dimethylphthalate		1.523	1.599	83.98	80.0	-5.0
2,6-Dinitrotoluene		.367	.394	86.02	80.0	-7.5
Acenaphthylene		1.932	1.972	81.66	80.0	-2.1
3-Nitroaniline		.380	.382	80.46	80.0	-.6
Acenaphthene	*	1.101	1.096	79.67	80.0	.4*
2,4-Dinitrophenol	#	.236	.239	81.24	80.0	-1.5#
4-Nitrophenol	#	.391	.428	87.50	80.0	-9.4#
Dibenzofuran		1.708	1.774	83.11	80.0	-3.9
2,4-Dinitrotoluene		.505	.548	86.66	80.0	-8.3
1-Naphthylamine		1.001	.934	74.70	80.0	6.6
2-Naphthylamine		1.002	.862	68.79	80.0	14.0
Diethylphthalate		1.595	1.608	80.64	80.0	-.8
4-Chlorophenyl-phenylether		.677	.733	86.59	80.0	-8.2
Fluorene		1.330	1.395	83.94	80.0	-4.9
4-Nitroaniline		.391	.371	75.99	80.0	5.0
4,6-Dinitro-2-methylphenol		.163	.168	82.74	80.0	-3.4
1-Nitronaphthalene		.162	.164	81.22	80.0	-1.5
N-Nitrosodiphenylamine (1)	*	.483	.463	76.80	80.0	4.0*
1,2-Diphenylhydrazine		1.004	.903	71.99	80.0	10.0
4-Bromophenyl-phenylether		.216	.229	84.84	80.0	-6.0
Hexachlorobenzene		.254	.270	84.93	80.0	-6.2
Pentachlorophenol	*	.177	.167	75.47	80.0	5.7*
Phenanthrene		.989	.985	79.68	80.0	.4
Anthracene		.971	.935	77.02	80.0	3.7
Carbazole		.904	.871	77.09	80.0	3.6
Di-n-butylphthalate		1.417	1.350	76.24	80.0	4.7
Fluoranthene	*	1.045	1.086	83.14	80.0	-3.9*
Benzidine		1.049	.919	280.44	320.0	12.4
Pyrene		1.401	1.363	77.87	80.0	2.7
Butylbenzylphthalate		.823	.776	75.42	80.0	5.7
3,3'-Dichlorobenzidine		.500	.532	85.10	80.0	-6.4
Benzo(a)anthracene		1.066	1.066	80.00	80.0	.0
bis(2-Ethylhexyl)phthalate		1.050	.970	73.91	80.0	7.6
Chrysene		1.001	1.010	80.69	80.0	-.9
Di-n-octylphthalate	*	2.132	1.930	72.43	80.0	9.5*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/17/98 Time: 09:28

Lab File ID: >MF30D Init. Calib. Date(s): 06/08/98 06/08/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.559	.639	80.03	80.0	-.0
Benzo(b)fluoranthene	1.312	1.361	83.02	80.0	-3.8
Benzo(k)fluoranthene	1.182	1.161	78.59	80.0	1.8
Benzo(a)pyrene *	1.144	1.178	82.33	80.0	-2.9*
Indeno(1,2,3-cd)pyrene	.999	1.037	83.09	80.0	-3.9
Dibenz(a,h)anthracene	.960	.958	79.77	80.0	.3
Benzo(g,h,i)perylene	1.030	1.086	84.38	80.0	-5.5
2-Fluorophenol	1.217	1.190	78.26	80.0	2.2
Phenol-d5	1.540	1.426	74.08	80.0	7.4
Phenol-d6	1.540	1.426	74.08	80.0	7.4
2-Chlorophenol-d4	1.300	1.276	78.54	80.0	1.8
1,2-Dichlorobenzene-d4	.899	.902	80.32	80.0	-.4
Nitrobenzene-d5	.520	.519	79.93	80.0	.1
2-Fluorobiphenyl	1.394	1.472	84.50	80.0	-5.6
2,4,6-Tribromophenol	.268	.298	89.19	80.0	-11.5
Terphenyl-d14	1.014	1.017	80.27	80.0	-.3

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID (Standard): >MF30D Date Analyzed: 06/17/98

nstrument ID: HP06755 Time Analyzed: 09:28

	EPA SAMPLE NO.	IS1 (DCB) AREA #	RT	IS2 (NPT) AREA #	RT	IS3 (ANT) AREA #	RT
	12 HOUR STD	140252	12.23	435621	15.94	241110	21.30
	UPPER LIMIT	280504		871242		482220	
	LOWER LIMIT	70126		217811		120555	
01	GC-GP	85930	12.25	449953	15.97	146027	21.30
02	NACTT	110576	12.22	332281	15.94	164780	21.30
03	GC-GPDL	112970	12.22	354495	15.94	215078	21.30
04	NACTM	98770	12.24	344337	15.94	192639	21.30
05	CPT07RE	113583	12.23	436532	16.07	173437	21.30
06	CPT09RE	106672	12.23	416339	16.09	165733	21.30
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID (Standard): >MF30D Date Analyzed: 06/17/98

istrument ID: HP06755 Time Analyzed: 09:28

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	467168	25.86	355926	32.68	282599	38.01
	UPPER LIMIT	934336		711852		565198	
	LOWER LIMIT	233584		177963		141300	
	EPA SAMPLE NO.						
01	GC-GP	268376	25.85	236021	32.67	181447	37.99
02	NACTT	286353	25.85	250870	32.67	194089	37.99
03	GC-GPDL	417065	25.85	323250	32.67	224764	37.99
04	NACTM	345735	25.85	270846	32.68	186561	38.00
05	CPT07RE	315007	25.87	276448	32.68	218505	38.01
06	CPT09RE	304874	25.86	250215	32.67	207888	37.99
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21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MF31H DFTPP Injection Date: 06/18/98

Instrument ID: HP06755 DFTPP Injection Time: 06:37

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.1
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	68.3
70	Less than 2.0% of mass 69	.2 (.3)1
127	40.0 - 60.0% of mass 198	43.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.9
365	Greater than 1.00% of mass 198	4.06
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	53.1
443	17.0 - 23.0% of mass 442	11.0 (20.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1588	>MF31I	06/18/98	06:58
02	SSTD160	STD1668	>MF31J	06/18/98	08:05
03	SSTD001	MDL1668	>MF31K	06/18/98	09:00
04	SSTD005	STD1668	>MF31L	06/18/98	09:55
05	SSTD120	STD1668	>MF31M	06/18/98	10:50
06	SSTD020	STD1668	>MF31N	06/18/98	11:46
07	SSTD050	STD1668	>MF31O	06/18/98	12:42
08	SBLKLB163M	SBLKLB163	>MF31Z	06/18/98	13:49
09	163LBLCSM	163LBLCS	>MF313	06/18/98	14:44
10	163LBLCSDM	163LBLCSD	>MF314	06/18/98	15:40
11	-SB2-	2938552	>MF315	06/18/98	16:36
12					
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20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/18/98 06/18/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF31L RRF20 = >MF31N RRF50 = >MF310
RRF80 = >MF31I RRF120= >MF31M RRF160= >MF31J

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.433	1.447	1.455	1.454	1.485	1.427	1.450	1.4	AVG	
N-Nitrosodimethylamine	.797	.837	.841	.844	.892	.856	.844	3.6	AVG	
2-Picoline	1.385	1.459	1.493	1.520	1.478	1.488	1.471	3.1	AVG	
Phenol *	1.784	1.729	1.715	1.628	1.736	1.790	1.730	3.4	AVG	*
Aniline	2.063	2.076	2.044	2.031	2.075	2.073	2.060	.9	AVG	
bis(2-Chloroethyl)ether	1.365	1.316	1.289	1.277	1.298	1.300	1.308	2.3	AVG	
2-Chlorophenol	1.248	1.240	1.236	1.220	1.283	1.330	1.260	3.2	AVG	
1,3-Dichlorobenzene	1.474	1.466	1.410	1.421	1.466	1.552	1.465	3.4	AVG	
1,4-Dichlorobenzene *	1.585	1.527	1.517	1.472	1.550	1.649	1.550	3.9	AVG	*
Benzyl alcohol	.714	.830	.852	.844	.860	.882	.830	7.2	AVG	
1,2-Dichlorobenzene	1.382	1.363	1.367	1.342	1.399	1.483	1.389	3.6	AVG	
2-Methylphenol	1.144	1.229	1.218	1.177	1.258	1.261	1.215	3.8	AVG	
2,2'-oxybis(1-Chloropropane)	2.069	1.878	1.872	1.829	1.913	1.871	1.905	4.4	AVG	
bis(2-Chloroisopropyl)ether	2.069	1.878	1.872	1.829	1.913	1.871	1.905	4.4	AVG	
4-Methylphenol	1.308	1.289	1.300	1.269	1.359	1.438	1.327	4.7	AVG	
3- and 4-Methylphenol	1.308	1.289	1.300	1.269	1.359	1.438	1.327	4.7	AVG	
Acetophenone	2.323	2.269	2.247	2.321	2.329	2.420	2.318	2.6	AVG	
[illegible]troso-di-n-propylamine #	1.315	1.270	1.242	1.235	1.302	1.316	1.280	2.8	AVG	#
[illegible]luidine	2.111	1.950	1.907	1.921	1.954	1.936	1.963	3.8	AVG	
[illegible]achloroethane	.937	.967	.953	.886	.964	.973	.947	3.4	AVG	
Nitrobenzene	.735	.755	.750	.712	.734	.772	.743	2.8	AVG	
Isophorone	1.151	1.184	1.180	1.118	1.180	1.213	1.171	2.8	AVG	
2-Nitrophenol *	.214	.246	.246	.237	.248	.260	.242	6.5	AVG	*
2,4-Dimethylphenol	.559	.630	.611	.595	.622	.646	.610	5.0	AVG	
Benzoic acid	.309	.384	.397	.418	.432	.468	.402	13.4	AVG	
bis(2-Chloroethoxy)methane	.548	.571	.565	.544	.575	.596	.567	3.4	AVG	
2,4-Dichlorophenol *	.370	.404	.401	.389	.420	.446	.405	6.5	AVG	*
1,2,4-Trichlorobenzene	.468	.510	.505	.491	.536	.579	.515	7.6	AVG	
Naphthalene	1.134	1.116	1.098	1.038	1.127	1.209	1.120	4.9	AVG	
4-Chloroaniline	.474	.496	.494	.479	.497	.515	.492	3.0	AVG	
Hexachlorobutadiene *	.455	.498	.487	.453	.511	.534	.490	6.5	AVG	*
4-Chloro-3-methylphenol *	.512	.548	.547	.527	.569	.590	.549	5.1	AVG	*
4-Chloro-3-methylphenol(mz10*	.512	.548	.547	.527	.569	.590	.549	5.1	AVG	*
4-Chloro-3-methylphenol(mz14*	.250	.302	.304	.295	.316	.336	.300	9.5	AVG	*
2-Methylnaphthalene	.700	.739	.734	.698	.772	.834	.746	6.8	AVG	
1-Methylnaphthalene	.635	.677	.664	.676	.693	.742	.681	5.2	AVG	
Hexachlorocyclopentadiene #	.417	.588	.701	.699	.804	.865	.679	23.5	1STDEG	#
2,4,6-Trichlorophenol *	.482	.535	.558	.553	.608	.647	.564	10.2	AVG	*

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF557 Lab Sample ID:SBLKLF162

Date Extracted: 06/11/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 06/26/98 Time Analyzed: 13:56

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06588

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	162LFLCS2	162LFLCS	>BF558	06/26/98
02	2701-	2943293	>BF559	06/26/98
03	2701-MS	2943294	>BF560	06/26/98
04	2701-MSD	2943295	>BF561	06/26/98
05	0656-	2943287	>BF562	06/26/98
06	1956-	2943290	>BF572	06/26/98
07	2023-	2943292	>BF574	06/26/98
08	2623-	2943380	>BF575	06/26/98
09	2723-	2943382	>BF576	06/27/98
10	1901-	2943288	>BF585	06/29/98
11	1923-	2943289	>BF586	06/29/98
12	2656-	2943381	>BF587	06/29/98
13	2756-	2943383	>BF588	06/29/98
14	3323-	2943385	>BF590	06/29/98
15	1956-DL	2943290DL	>BF602	06/30/98
16	2001-	2943291	>BF603	06/30/98
17	0202-	2943286	>BF604	06/30/98
18	1901-DL	2943288DL	>BF605	06/30/98
19	1901-DL	2943288DL	>BF606	06/30/98
20	1923-DL	2943289DL	>BF607	06/30/98
21	3301-	2943384	>BF608	06/30/98
22	3323-DL	2943385DL	>BF609	06/30/98
23	3301-DL	2943384DL	>BG004	07/01/98
24	0202-DL	2943286DL	>BG005	07/01/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLF1622

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLF162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF557

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/11/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/26/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
108-95-2	Phenol		67	U
111-44-4	bis(2-Chloroethyl)ether		33	U
95-57-8	2-Chlorophenol		33	U
541-73-1	1,3-Dichlorobenzene		33	U
106-46-7	1,4-Dichlorobenzene		33	U
95-50-1	1,2-Dichlorobenzene		33	U
95-48-7	2-Methylphenol		33	U
108-60-1	2,2'-oxybis(1-Chloropropane)		33	U
106-44-5	4-Methylphenol		67	U
621-64-7	N-Nitroso-di-n-propylamine		33	U
67-72-1	Hexachloroethane		33	U
98-95-3	Nitrobenzene		33	U
78-59-1	Isophorone		33	U
88-75-5	2-Nitrophenol		67	U
105-67-9	2,4-Dimethylphenol		67	U
111-91-1	bis(2-Chloroethoxy)methane		67	U
120-83-2	2,4-Dichlorophenol		67	U
120-82-1	1,2,4-Trichlorobenzene		33	U
91-20-3	Naphthalene		33	U
106-47-8	4-Chloroaniline		33	U
87-68-3	Hexachlorobutadiene		67	U
59-50-7	4-Chloro-3-methylphenol		67	U
91-57-6	2-Methylnaphthalene		33	U
77-47-4	Hexachlorocyclopentadiene		170	U
88-06-2	2,4,6-Trichlorophenol		67	U
95-95-4	2,4,5-Trichlorophenol		67	U
91-58-7	2-Chloronaphthalene		33	U
88-74-4	2-Nitroaniline		33	U
131-11-3	Dimethylphthalate		67	U
606-20-2	2,6-Dinitrotoluene		33	U
208-96-8	Acenaphthylene		33	U
99-09-2	3-Nitroaniline		67	U
83-32-9	Acenaphthene		33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLF1622

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLF162

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF557

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/11/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/26/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	67	U
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U
205-99-2	Benzo(b)fluoranthene	33	U
207-08-9	Benzo(k)fluoranthene	33	U
50-32-8	Benzo(a)pyrene	33	U
193-39-5	Indeno(1,2,3-cd)pyrene	33	U
53-70-3	Dibenz(a,h)anthracene	33	U
191-24-2	Benzo(g,h,i)perylene	33	U

(1) - Cannot be separated from Diphenylamine

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF492 Lab Sample ID:SBLKLB169

Date Extracted: 06/18/98 Extraction:(SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 06/24/98 Time Analyzed: 01:38

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: HP06588

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	169LBLCS2	169LBLCS	>BF493	06/24/98
02	SD1--	2941671	>BF511	06/24/98
03	SD1--MS	2941671	>BF512	06/24/98
04	SD1--MSD	2941671	>BF513	06/24/98
05	GF003	2933383	>BF514	06/24/98
06	GF009	2933388	>BF515	06/24/98
07	GF012	2933391	>BF516	06/25/98
08	GF014	2933393	>BF517	06/25/98
09	UST63	2941361	>BF518	06/25/98
10	SD3--	2941673	>BF519	06/25/98
11	SD2--	2941672	>BF527	06/25/98
12	SD5--	2941675	>BF528	06/25/98
13	SD6--	2941676	>BF529	06/25/98
14	SD7--	2941677	>BF530	06/25/98
15	SD8--	2941678	>BF531	06/25/98
16	SD9--	2941679	>BF532	06/25/98
17	SD10-	2941680	>BF533	06/25/98
18	SD11-	2941681	>BF534	06/25/98
19	SD12-	2941682	>BF535	06/25/98
20	UST63DL	2941361DL	>BF542	06/26/98
21	SD4--DL	2941674DL	>BF543	06/26/98
22	SD3--DL	2941673DL	>BF545	06/26/98
23	SD4--	2941674	>BF546	06/26/98
24	SD2--DL	2941672DL	>BF547	06/26/98
25	GF003DL	2933383DL	>BF599	06/29/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB1692

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB169

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF492

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/18/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/24/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
108-95-2	Phenol	67	U
111-44-4	bis(2-Chloroethyl)ether	33	U
95-57-8	2-Chlorophenol	33	U
541-73-1	1,3-Dichlorobenzene	33	U
106-46-7	1,4-Dichlorobenzene	33	U
95-50-1	1,2-Dichlorobenzene	33	U
95-48-7	2-Methylphenol	33	U
108-60-1	2,2'-oxybis(1-Chloropropane)	33	U
106-44-5	4-Methylphenol	67	U
621-64-7	N-Nitroso-di-n-propylamine	33	U
67-72-1	Hexachloroethane	33	U
98-95-3	Nitrobenzene	33	U
78-59-1	Isophorone	33	U
88-75-5	2-Nitrophenol	67	U
105-67-9	2,4-Dimethylphenol	67	U
111-91-1	bis(2-Chloroethoxy)methane	67	U
120-83-2	2,4-Dichlorophenol	67	U
120-82-1	1,2,4-Trichlorobenzene	33	U
91-20-3	Naphthalene	33	U
106-47-8	4-Chloroaniline	33	U
87-68-3	Hexachlorobutadiene	67	U
59-50-7	4-Chloro-3-methylphenol	67	U
91-57-6	2-Methylnaphthalene	33	U
77-47-4	Hexachlorocyclopentadiene	170	U
88-06-2	2,4,6-Trichlorophenol	67	U
95-95-4	2,4,5-Trichlorophenol	67	U
91-58-7	2-Chloronaphthalene	33	U
88-74-4	2-Nitroaniline	33	U
131-11-3	Dimethylphthalate	67	U
606-20-2	2,6-Dinitrotoluene	33	U
208-96-8	Acenaphthylene	33	U
99-09-2	3-Nitroaniline	67	U
83-32-9	Acenaphthene	33	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLB1692

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLB169

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BF492

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/18/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 06/24/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	67	U
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U
205-99-2	Benzo(b)fluoranthene	33	U
207-08-9	Benzo(k)fluoranthene	33	U
50-32-8	Benzo(a)pyrene	33	U
193-39-5	Indeno(1,2,3-cd)pyrene	33	U
53-70-3	Dibenz(a,h)anthracene	33	U
191-24-2	Benzo(g,h,i)perylene	33	U

(1) - Cannot be separated from Diphenylamine

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BG067 Lab Sample ID: SBLKLC177

Date Extracted: 06/26/98 Extraction: (SepF/Cont/Sonc/Sox) SONC

Date Analyzed: 07/03/98 Time Analyzed: 01:42

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: HP06588

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	177LCLCS2	177LCLCS	>BG068	07/03/98
02	GG333	2946755	>BG069	07/03/98
03	GG333MS	2946755MS	>BG070	07/03/98
04	GG333MSD	2946755MSD	>BG071	07/03/98
05	SD12-RE	2941682RE	>BG072	07/03/98
06	GG334	2946757	>BG073	07/03/98
07	SD12-DLRE	2941682DL	>BG087	07/03/98
08	GG354	2946759	>BG090	07/03/98
09	GG312	2946765	>BG091	07/03/98
10	GG313	2946767	>BG092	07/03/98
11	GG314	2946769	>BG093	07/04/98
12	GG315	2946771	>BG094	07/04/98
13	G3155	2946773	>BG095	07/04/98
14	GG321	2946775	>BG096	07/04/98
15	GG322	2946777	>BG097	07/04/98
16	GG341	2946779	>BG098	07/04/98
17	GG342	2946781	>BG099	07/04/98
18	GG362	2946783	>BG100	07/04/98
19	GG351	2949425	>BG127	07/06/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLC1772

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLC177

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BG067

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/26/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/KG	Q
108-95-2	Phenol		67	U
62-53-3	Aniline		33	U
111-44-4	bis(2-Chloroethyl)ether		33	U
95-57-8	2-Chlorophenol		33	U
541-73-1	1,3-Dichlorobenzene		33	U
106-46-7	1,4-Dichlorobenzene		33	U
95-50-1	1,2-Dichlorobenzene		33	U
95-48-7	2-Methylphenol		33	U
108-60-1	2,2'-oxybis(1-Chloropropane)		67	U
106-44-5	4-Methylphenol		33	U
621-64-7	N-Nitroso-di-n-propylamine		33	U
67-72-1	Hexachloroethane		33	U
98-95-3	Nitrobenzene		33	U
78-59-1	Isophorone		67	U
88-75-5	2-Nitrophenol		67	U
105-67-9	2,4-Dimethylphenol		67	U
111-91-1	bis(2-Chloroethoxy)methane		67	U
120-83-2	2,4-Dichlorophenol		33	U
120-82-1	1,2,4-Trichlorobenzene		33	U
91-20-3	Naphthalene		33	U
106-47-8	4-Chloroaniline		67	U
87-68-3	Hexachlorobutadiene		67	U
59-50-7	4-Chloro-3-methylphenol		33	U
91-57-6	2-Methylnaphthalene		170	U
77-47-4	Hexachlorocyclopentadiene		67	U
88-06-2	2,4,6-Trichlorophenol		67	U
95-95-4	2,4,5-Trichlorophenol		33	U
91-58-7	2-Chloronaphthalene		33	U
88-74-4	2-Nitroaniline		67	U
131-11-3	Dimethylphthalate		33	U
606-20-2	2,6-Dinitrotoluene		33	U
208-96-8	Acenaphthylene		67	U
99-09-2	3-Nitroaniline			

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKLC1772

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) SOIL Lab Sample ID: SBLKLC177

Sample wt/vol: 30.0 (g/mL) G Lab File ID: >BG067

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/26/98

Extraction: (SepF/Cont/Sonc/Sox) SONC Date Analyzed: 07/03/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/KG	Q
83-32-9	Acenaphthene	33	U
51-28-5	2,4-Dinitrophenol	230	U
100-02-7	4-Nitrophenol	170	U
132-64-9	Dibenzofuran	33	U
121-14-2	2,4-Dinitrotoluene	67	U
84-66-2	Diethylphthalate	67	U
7005-72-3	4-Chlorophenyl-phenylether	33	U
86-73-7	Fluorene	33	U
100-01-6	4-Nitroaniline	67	U
534-52-1	4,6-Dinitro-2-methylphenol	170	U
86-30-6	N-Nitrosodiphenylamine (1)	33	U
101-55-3	4-Bromophenyl-phenylether	67	U
118-74-1	Hexachlorobenzene	33	U
87-86-5	Pentachlorophenol	170	U
85-01-8	Phenanthrene	33	U
120-12-7	Anthracene	33	U
86-74-8	Carbazole	67	U
84-74-2	Di-n-butylphthalate	67	U
206-44-0	Fluoranthene	33	U
129-00-0	Pyrene	33	U
85-68-7	Butylbenzylphthalate	67	U
91-94-1	3,3'-Dichlorobenzidine	67	U
56-55-3	Benzo(a)anthracene	33	U
117-81-7	bis(2-Ethylhexyl)phthalate	74	J
218-01-9	Chrysene	33	U
117-84-0	Di-n-octylphthalate	67	U
205-99-2	Benzo(b)fluoranthene	33	U
207-08-9	Benzo(k)fluoranthene	33	U
50-32-8	Benzo(a)pyrene	33	U
193-39-5	Indeno(1,2,3-cd)pyrene	33	U
53-70-3	Dibenz(a,h)anthracene	33	U
191-24-2	Benzo(g,h,i)perylene	33	U

(1) - Cannot be separated from Diphenylamine

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06588

.846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3663.UG/KG % MOISTURE 9. DILUTION: 1

US SAMPLE: 2701- 2943293 MS SAMPLE: 2701-MS 2943294 MSD SAMPLE: 2701-MSD 2943295

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
Phenol	0.00	2892.09	2524.91	79	69	29.0-112.0	YES	14.00	30.	YES
bis(2-Chloroethyl)ether	0.00	2686.04	2436.43	73	66	12.0-158.0	YES	10.00	30.	YES
2-Chlorophenol	0.00	2880.43	2552.71	79	70	36.0-124.0	YES	12.00	30.	YES
1,3-Dichlorobenzene	0.00	2748.60	2445.12	75	67	31.0-123.0	YES	12.00	30.	YES
1,4-Dichlorobenzene	0.00	2738.57	2422.92	75	66	20.0-124.0	YES	12.00	30.	YES
1,2-Dichlorobenzene	0.00	2859.65	2525.28	78	69	44.0-113.0	YES	12.00	30.	YES
2-Methylphenol	0.00	2872.77	2569.07	78	70	20.0-130.0	YES	11.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	2976.88	2661.40	81	73	36.0-121.0	YES	11.00	30.	YES
4-Methylphenol	0.00	2865.06	2580.75	78	70	22.0-138.0	YES	10.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	2887.86	2562.23	79	70	38.0-140.0	YES	12.00	30.	YES
Hexachloroethane	0.00	2793.23	2442.87	76	67	40.0-113.0	YES	13.00	30.	YES
Nitrobenzene	0.00	2981.61	2646.86	81	72	40.0-125.0	YES	12.00	30.	YES
Isophorone	0.00	3123.27	2712.04	85	74	46.0-127.0	YES	14.00	30.	YES
2-Nitrophenol	0.00	3023.81	2612.68	82	71	40.0-125.0	YES	15.00	30.	YES
2,4-Dimethylphenol	0.00	2896.39	2513.30	79	69	32.0-119.0	YES	14.00	30.	YES
bis(2-Chloroethoxy)methane	0.00	2779.18	2457.15	76	67	40.0-121.0	YES	12.00	30.	YES
2,4-Dichlorophenol	0.00	2992.58	2601.84	82	71	39.0-135.0	YES	14.00	30.	YES
1,2,4-Trichlorobenzene	0.00	2922.13	2572.85	80	70	44.0-125.0	YES	13.00	30.	YES
Naphthalene	0.00	2752.60	2398.01	75	65	50.0-106.0	YES	14.00	30.	YES
4-Chloroaniline	0.00	2300.60	2164.09	63	59	1.0-123.0	YES	6.00	30.	YES
Hexachlorobutadiene	0.00	3035.06	2614.67	83	71	35.0-116.0	YES	15.00	30.	YES
4-Chloro-3-methylphenol	0.00	3129.25	2697.01	85	74	22.0-142.0	YES	15.00	30.	YES
2-Methylnaphthalene	0.00	2846.18	2518.41	78	69	45.0-112.0	YES	12.00	30.	YES
Hexachlorocyclopentadiene	0.00	5216.43	4601.24	71	63	1.0-127.0	YES	13.00	30.	YES
2,4,6-Trichlorophenol	0.00	3139.99	2828.23	86	77	37.0-127.0	YES	10.00	30.	YES
2,4,5-Trichlorophenol	0.00	3294.56	2880.24	90	79	18.0-139.0	YES	13.00	30.	YES
2-Chloronaphthalene	0.00	2984.83	2659.47	81	73	60.0-118.0	YES	12.00	30.	YES
2-Nitroaniline	0.00	3192.71	2751.92	87	75	8.0-154.0	YES	15.00	30.	YES
Dimethylphthalate	0.00	2988.81	2638.19	82	72	44.0-112.0	YES	12.00	30.	YES
2,6-Dinitrotoluene	0.00	3013.16	2713.57	82	74	50.0-119.0	YES	10.00	30.	YES
Acenaphthylene	0.00	2864.82	2513.07	78	69	42.0-119.0	YES	13.00	30.	YES
3-Nitroaniline	0.00	2790.83	2557.06	76	70	8.0-114.0	YES	9.00	30.	YES
Acenaphthene	0.00	2920.94	2622.35	80	72	47.0-114.0	YES	11.00	30.	YES
2,4-Dinitrophenol	0.00	2446.50	2308.66	67	63	1.0-126.0	YES	6.00	30.	YES
4-Nitrophenol	0.00	3408.88	3078.81	93	84	5.0-132.0	YES	10.00	30.	YES
Dibenzofuran	0.00	3008.55	2684.86	82	73	38.0-120.0	YES	11.00	30.	YES
2,4-Dinitrotoluene	0.00	3051.05	2721.07	83	74	39.0-136.0	YES	11.00	30.	YES
Diethylphthalate	0.00	2995.51	2642.41	82	72	43.0-114.0	YES	13.00	30.	YES
4-Chlorophenyl-phenylether	0.00	3086.32	2696.37	84	74	41.0-115.0	YES	13.00	30.	YES

all ok

SOIL SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06588

1846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 30.0

SAMPLE SPIKE LEVEL: 3663.UG/KG % MOISTURE 9. DILUTION: 1

US SAMPLE: 2701- 2943293 MS SAMPLE: 2701-MS 2943294 MSD SAMPLE: 2701-MSD 2943295

COMPOUND NAME	US CONC UG/KG	MS CONC UG/KG	MSD CONC UG/KG	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
Fluorene	0.00	3096.24	2708.35	84	74	59.0-121.0	YES	13.00	30.	YES
4-Nitroaniline	0.00	3233.89	2798.49	88	76	1.0-170.0	YES	14.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	2713.27	2382.37	74	65	5.0-128.0	YES	13.00	30.	YES
N-Nitrosodiphenylamine	0.00	2879.22	2478.94	79	68	28.0-144.0	YES	15.00	30.	YES
4-Bromophenyl-phenylether	0.00	3049.34	2590.61	83	71	53.0-125.0	YES	16.00	30.	YES
Hexachlorobenzene	0.00	3219.03	2789.41	88	76	31.0-135.0	YES	14.00	30.	YES
Pentachlorophenol	0.00	3254.63	2769.38	89	76	14.0-131.0	YES	16.00	30.	YES
Phenanthrene	0.00	3000.78	2627.20	82	72	54.0-120.0	YES	13.00	30.	YES
Anthracene	0.00	3023.36	2579.13	82	70	42.0-119.0	YES	16.00	30.	YES
Carbazole	0.00	3061.66	2663.18	84	73	53.0-113.0	YES	14.00	30.	YES
Di-n-butylphthalate	0.00	2940.00	2612.13	80	71	35.0-118.0	YES	12.00	30.	YES
Fluoranthene	0.00	3082.70	2676.12	84	73	26.0-137.0	YES	14.00	30.	YES
Pyrene	0.00	2841.00	2444.95	78	67	52.0-115.0	YES	15.00	30.	YES
Butylbenzylphthalate	0.00	2813.88	2476.08	77	68	45.0-133.0	YES	13.00	30.	YES
3,3'-Dichlorobenzidine	0.00	2446.03	2266.47	67	62	1.0-125.0	YES	8.00	30.	YES
Benzo(a)anthracene	0.00	3120.23	2720.28	85	74	33.0-135.0	YES	14.00	30.	YES
bis(2-Ethylhexyl)phthalate	0.00	2776.77	2424.79	76	66	8.0-158.0	YES	14.00	30.	YES
Chrysene	0.00	2992.16	2631.49	82	72	9.0-153.0	YES	13.00	30.	YES
Di-n-octylphthalate	0.00	2970.22	2546.17	81	70	41.0-146.0	YES	15.00	30.	YES
Benzo(b)fluoranthene	0.00	2880.69	2516.39	79	69	24.0-148.0	YES	13.00	30.	YES
Benzo(k)fluoranthene	0.00	3090.28	2644.66	84	72	41.0-126.0	YES	16.00	30.	YES
Benzo(a)pyrene	0.00	3150.88	2704.08	86	74	21.0-139.0	YES	15.00	30.	YES
Indeno(1,2,3-cd)pyrene	0.00	3115.35	2657.62	85	72	28.0-127.0	YES	16.00	30.	YES
Dibenz(a,h)anthracene	0.00	3092.79	2611.39	84	71	11.0-152.0	YES	17.00	30.	YES
Benzo(g,h,i)perylene	0.00	3082.54	2605.02	84	71	12.0-133.0	YES	17.00	30.	YES

COMMENTS:

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943294
Collected: 6/ 9/98 at 16:25 by DCU

Submitted: 6/10/98 Reported: 7/ 6/98
Discard: 8/ 6/98

GEO-27/0-1' Matrix Spike Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
2701- SDG#: HMS02-20MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles						
1185	phenol	2,600.	67.	ug/kg	2,900.	73.
3753	bis (2-chloroethyl) ether	2,400.	33.	ug/kg	2,700.	37.
1186	2-chlorophenol	2,600.	33.	ug/kg	2,900.	37.
3754	1,3-dichlorobenzene	2,500.	33.	ug/kg	2,700.	37.
1187	1,4-dichlorobenzene	2,500.	33.	ug/kg	2,700.	37.
3755	1,2-dichlorobenzene	2,600.	33.	ug/kg	2,900.	37.
4690	2-methylphenol	2,600.	33.	ug/kg	2,900.	37.
4691	2,2'-oxybis (1-chloropropane)	2,700.	33.	ug/kg	3,000.	37.
4692	3- and 4-methylphenol	2,600.	67.	ug/kg	2,900.	73.
1188	N-nitrosodi-n-propylamine	2,600.	33.	ug/kg	2,900.	37.
3757	hexachloroethane	2,500.	33.	ug/kg	2,800.	37.
3758	nitrobenzene	2,700.	33.	ug/kg	3,000.	37.
3759	isophorone	2,800.	33.	ug/kg	3,100.	37.
3746	2-nitrophenol	2,800.	67.	ug/kg	3,000.	73.
3747	2,4-dimethylphenol	2,600.	67.	ug/kg	2,900.	73.
3760	bis (2-chloroethoxy) methane	2,500.	67.	ug/kg	2,800.	73.
3748	2,4-dichlorophenol	2,700.	67.	ug/kg	3,000.	73.
1189	1,2,4-trichlorobenzene	2,700.	33.	ug/kg	2,900.	37.
3761	naphthalene	2,500.	33.	ug/kg	2,700.	37.
4693	4-chloroaniline	2,100.	33.	ug/kg	2,300.	37.
3762	hexachlorobutadiene	2,800.	67.	ug/kg	3,000.	73.
1190	4-chloro-3-methylphenol	2,800.	67.	ug/kg	3,100.	73.
4694	2-methylnaphthalene	2,600.	33.	ug/kg	2,800.	37.
3763	hexachlorocyclopentadiene	4,700.	170.	ug/kg	5,200.	180.
3749	2,4,6-trichlorophenol	2,900.	67.	ug/kg	3,100.	73.
4695	2,4,5-trichlorophenol	3,000.	67.	ug/kg	3,300.	73.
3764	2-chloronaphthalene	2,700.	33.	ug/kg	3,000.	37.
4696	2-nitroaniline	2,900.	33.	ug/kg	3,200.	37.
3766	dimethyl phthalate	2,700.	67.	ug/kg	3,000.	73.
3765	acenaphthylene	2,600.	33.	ug/kg	2,900.	37.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

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Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

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LLI Sample No. SW 2943294
Collected: 6/ 9/98 at 16:25 by DCU

Submitted: 6/10/98 Reported: 7/ 6/98
Discard: 8/ 6/98

GEO-27/0-1' Matrix Spike Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
2701. SDG#: HMS02-20MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles cont'd						
4697	3-nitroaniline	2,500.	67.	ug/kg	2,800.	73.
1191	acenaphthene	2,700.	33.	ug/kg	2,900.	37.
3750	2,4-dinitrophenol	2,200.	190.	ug/kg	2,400.	210.
1192	4-nitrophenol	3,100.	170.	ug/kg	3,400.	180.
4698	dibenzofuran	2,700.	33.	ug/kg	3,000.	37.
1193	2,4-dinitrotoluene	2,800.	67.	ug/kg	3,000.	73.
3767	2,6-dinitrotoluene	2,700.	33.	ug/kg	3,000.	37.
3770	diethyl phthalate	2,700.	67.	ug/kg	3,000.	73.
3769	4-chlorophenyl phenyl ether	2,800.	33.	ug/kg	3,100.	37.
3768	fluorene	2,800.	33.	ug/kg	3,100.	37.
4700	4-nitroaniline	2,900.	67.	ug/kg	3,200.	73.
3751	4,6-dinitro-2-methylphenol	2,500.	170.	ug/kg	2,700.	180.
3772	N-nitrosodiphenylamine	2,600.	33.	ug/kg	2,900.	37.
3773	4-bromophenyl phenyl ether	2,800.	67.	ug/kg	3,000.	73.
3774	hexachlorobenzene	2,900.	33.	ug/kg	3,200.	37.
1194	pentachlorophenol	3,000.	170.	ug/kg	3,200.	180.
3775	phenanthrene	2,700.	33.	ug/kg	3,000.	37.
3776	anthracene	2,800.	33.	ug/kg	3,000.	37.
4702	carbazole	2,800.	33.	ug/kg	3,100.	37.
3777	di-n-butyl phthalate	2,700.	67.	ug/kg	2,900.	73.
3778	fluoranthene	2,800.	33.	ug/kg	3,100.	37.
1195	pyrene	2,600.	33.	ug/kg	2,800.	37.
3780	butyl benzyl phthalate	2,600.	67.	ug/kg	2,800.	73.
3783	3,3'-dichlorobenzidine	2,200.	67.	ug/kg	2,400.	73.
3781	benzo (a) anthracene	2,800.	33.	ug/kg	3,100.	37.
3784	bis (2-ethylhexyl) phthalate	2,500.	67.	ug/kg	2,800.	73.
3782	chrysene	2,700.	33.	ug/kg	3,000.	37.
3785	di-n-octyl phthalate	2,700.	67.	ug/kg	3,000.	73.
3786	benzo (b) fluoranthene	2,600.	33.	ug/kg	2,900.	37.
3787	benzo (k) fluoranthene	2,800.	33.	ug/kg	3,100.	37.
3788	benzo (a) pyrene	2,900.	33.	ug/kg	3,100.	37.
3789	indeno (1,2,3-cd) pyrene	2,800.	33.	ug/kg	3,100.	37.
3790	dibenz (a,h) anthracene	2,800.	33.	ug/kg	3,100.	37.
3791	benzo (ghi) perylene	2,800.	33.	ug/kg	3,100.	37.

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

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MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. SW 2943295
Collected: 6/ 9/98 at 16:25 by DCU

Submitted: 6/10/98 Reported: 7/ 6/98
Discard: 8/ 6/98

GEO-27/0-1' Matrix Spike Dup Grab Soil Sample

Gulf States Creosoting Site: Hattiesburg, MS
2701- SDG#: HMS02-20MSD*

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O.
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles						
1185	phenol	2,300.	67.	ug/kg	2,500.	73.
3753	bis (2-chloroethyl) ether	2,200.	33.	ug/kg	2,400.	37.
1186	2-chlorophenol	2,300.	33.	ug/kg	2,500.	37.
3754	1,3-dichlorobenzene	2,200.	33.	ug/kg	2,400.	37.
1187	1,4-dichlorobenzene	2,200.	33.	ug/kg	2,400.	37.
3755	1,2-dichlorobenzene	2,300.	33.	ug/kg	2,500.	37.
4690	2-methylphenol	2,300.	33.	ug/kg	2,600.	37.
4691	2,2'-oxybis (1-chloropropane)	2,400.	33.	ug/kg	2,700.	37.
4692	3- and 4-methylphenol	2,300.	67.	ug/kg	2,600.	73.
1188	N-nitrosodi-n-propylamine	2,300.	33.	ug/kg	2,600.	37.
3757	hexachloroethane	2,200.	33.	ug/kg	2,400.	37.
3758	nitrobenzene	2,400.	33.	ug/kg	2,600.	37.
3759	isophorone	2,500.	33.	ug/kg	2,700.	37.
3746	2-nitrophenol	2,400.	67.	ug/kg	2,600.	73.
3747	2,4-dimethylphenol	2,300.	67.	ug/kg	2,500.	73.
3760	bis (2-chloroethoxy) methane	2,200.	67.	ug/kg	2,500.	73.
3748	2,4-dichlorophenol	2,400.	67.	ug/kg	2,600.	73.
1189	1,2,4-trichlorobenzene	2,300.	33.	ug/kg	2,600.	37.
3761	naphthalene	2,200.	33.	ug/kg	2,400.	37.
4693	4-chloroaniline	2,000.	33.	ug/kg	2,200.	37.
3762	hexachlorobutadiene	2,400.	67.	ug/kg	2,600.	73.
1190	4-chloro-3-methylphenol	2,500.	67.	ug/kg	2,700.	73.
4694	2-methylnaphthalene	2,300.	33.	ug/kg	2,500.	37.
3763	hexachlorocyclopentadiene	4,200.	170.	ug/kg	4,600.	180.
3749	2,4,6-trichlorophenol	2,600.	67.	ug/kg	2,800.	73.
4695	2,4,5-trichlorophenol	2,600.	67.	ug/kg	2,900.	73.
3764	2-chloronaphthalene	2,400.	33.	ug/kg	2,700.	37.
4696	2-nitroaniline	2,500.	33.	ug/kg	2,700.	37.
3766	dimethyl phthalate	2,400.	67.	ug/kg	2,600.	73.
3765	acenaphthylene	2,300.	33.	ug/kg	2,500.	37.

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Respectfully Submitted
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GEO-27/0-1' Matrix Spike Dup Grab Soil Sample

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CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS	DRY WEIGHT RESULTS	METHOD DETECTION LIMIT
TCL Semivolatiles cont'd						
4697	3-nitroaniline	2,300.	67.	ug/kg	2,600.	73.
1191	acenaphthene	2,400.	33.	ug/kg	2,600.	37.
3750	2,4-dinitrophenol	2,100.	190.	ug/kg	2,300.	210.
1192	4-nitrophenol	2,800.	170.	ug/kg	3,100.	180.
4698	dibenzofuran	2,400.	33.	ug/kg	2,700.	37.
1193	2,4-dinitrotoluene	2,500.	67.	ug/kg	2,700.	73.
3767	2,6-dinitrotoluene	2,500.	33.	ug/kg	2,700.	37.
3770	diethyl phthalate	2,400.	67.	ug/kg	2,600.	73.
3769	4-chlorophenyl phenyl ether	2,500.	33.	ug/kg	2,700.	37.
3768	fluorene	2,500.	33.	ug/kg	2,700.	37.
4700	4-nitroaniline	2,500.	67.	ug/kg	2,800.	73.
3751	4,6-dinitro-2-methylphenol	2,200.	170.	ug/kg	2,400.	180.
3772	N-nitrosodiphenylamine	2,300.	33.	ug/kg	2,500.	37.
3773	4-bromophenyl phenyl ether	2,400.	67.	ug/kg	2,600.	73.
3774	hexachlorobenzene	2,500.	33.	ug/kg	2,800.	37.
1194	pentachlorophenol	2,500.	170.	ug/kg	2,800.	180.
3775	phenanthrene	2,400.	33.	ug/kg	2,600.	37.
3776	anthracene	2,300.	33.	ug/kg	2,600.	37.
4702	carbazole	2,400.	33.	ug/kg	2,700.	37.
3777	di-n-butyl phthalate	2,400.	67.	ug/kg	2,600.	73.
3778	fluoranthene	2,400.	33.	ug/kg	2,700.	37.
1195	pyrene	2,200.	33.	ug/kg	2,400.	37.
3780	butyl benzyl phthalate	2,300.	67.	ug/kg	2,500.	73.
3783	3,3'-dichlorobenzidine	2,100.	67.	ug/kg	2,300.	73.
3781	benzo (a) anthracene	2,500.	33.	ug/kg	2,700.	37.
3784	bis (2-ethylhexyl) phthalate	2,200.	67.	ug/kg	2,400.	73.
3782	chrysene	2,400.	33.	ug/kg	2,600.	37.
3785	di-n-octyl phthalate	2,300.	67.	ug/kg	2,500.	73.
3786	benzo (b) fluoranthene	2,300.	33.	ug/kg	2,500.	37.
3787	benzo (k) fluoranthene	2,400.	33.	ug/kg	2,600.	37.
3788	benzo (a) pyrene	2,500.	33.	ug/kg	2,700.	37.
3789	indeno (1,2,3-cd) pyrene	2,400.	33.	ug/kg	2,700.	37.
3790	dibenz (a,h) anthracene	2,400.	33.	ug/kg	2,600.	37.
3791	benzo (ghi) perylene	2,400.	33.	ug/kg	2,600.	37.

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Respectfully Submitted
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Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/18/98 06/18/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF31L RRF20 = >MF31N RRF50 = >MF31O
RRF80 = >MF31I RRF120= >MF31M RRF160= >MF31J

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2,4,5-Trichlorophenol	.519	.583	.584	.606	.659	.710	.610	10.9	AVG	
2-Chloronaphthalene	1.103	1.166	1.163	1.141	1.229	1.333	1.189	6.9	AVG	
2-Nitroaniline	.920	.981	.981	.742	1.041	1.053	.953	11.9	AVG	
Dimethylphthalate	1.642	1.777	1.777	1.757	1.856	1.911	1.787	5.2	AVG	
2,6-Dinitrotoluene	.329	.381	.397	.385	.410	.429	.389	8.7	AVG	
Acenaphthylene	1.632	1.827	1.873	1.823	1.956	2.097	1.868	8.3	AVG	
3-Nitroaniline	.333	.343	.359	.354	.361	.380	.355	4.5	AVG	
* Acenaphthene	1.046	1.033	1.061	1.039	1.124	1.222	1.088	6.8	AVG	*
# 2,4-Dinitrophenol	.140	.215	.231	.249	.269	.289	.232	22.5	1STDEG	#
# 4-Nitrophenol	.669	.682	.738	.741	.781	.813	.737	7.5	AVG	#
Dibenzofuran	1.714	1.727	1.748	1.745	1.939	2.178	1.842	10.0	AVG	
2,4-Dinitrotoluene	.513	.560	.560	.551	.593	.649	.571	8.1	AVG	
1-Naphthylamine	.762	.797	.817	.831	.902	.863	.829	6.0	AVG	
2-Naphthylamine	.799	.756	.764	.778	.881	.811	.798	5.7	AVG	
Diethylphthalate	1.817	1.824	1.821	1.743	1.860	1.943	1.834	3.6	AVG	
4-Chlorophenyl-phenylether	.820	.813	.851	.899	1.031	1.202	.936	16.3	2NDDEG	
[illegible]rene	1.213	1.283	1.357	1.428	1.681	1.940	1.484	18.6	2NDDEG	
[illegible]troaniline	.343	.365	.382	.370	.387	.395	.374	5.0	AVG	
[illegible]-Dinitro-2-methylphenol	.114	.138	.154	.163	.178	.188	.156	17.2	1STDEG	
1-Nitronaphthalene	.122	.129	.133	.145	.144	.153	.138	8.5	AVG	
* N-Nitrosodiphenylamine (1)	.413	.427	.434	.443	.467	.497	.447	6.8	AVG	*
1,2-Diphenylhydrazine	.918	.958	.978	1.024	1.007	1.043	.988	4.7	AVG	
4-Bromophenyl-phenylether	.227	.240	.249	.254	.279	.300	.258	10.4	AVG	
Hexachlorobenzene	.304	.321	.330	.333	.377	.397	.344	10.4	AVG	
* Pentachlorophenol	.148	.189	.199	.212	.239	.260	.208	18.8	1STDEG	*
Phenanthrene	.874	.896	.905	.944	1.032	1.119	.962	9.9	AVG	
Anthracene	.829	.866	.890	.898	.982	1.076	.923	9.8	AVG	
Carbazole	.765	.766	.775	.794	.862	.917	.813	7.7	AVG	
Di-n-butylphthalate	1.193	1.251	1.263	1.314	1.393	1.473	1.315	7.8	AVG	
* Fluoranthene	1.080	1.109	1.171	1.185	1.333	1.420	1.216	10.9	AVG	*
Benzidine	.979	.999	.839	.935	1.077	1.165	.999	11.3	AVG	
Pyrene	1.247	1.333	1.347	1.300	1.427	1.487	1.357	6.4	AVG	
Butylbenzylphthalate	.639	.725	.709	.697	.715	.742	.705	5.0	AVG	
3,3'-Dichlorobenzidine	.525	.565	.569	.554	.624	.667	.584	8.9	AVG	
Benzo(a)anthracene	1.132	1.084	1.111	1.091	1.210	1.288	1.153	7.0	AVG	
bis(2-Ethylhexyl)phthalate	.892	.934	.940	.935	.971	1.044	.952	5.4	AVG	
Chrysene	.978	1.002	1.019	1.005	1.139	1.211	1.059	8.8	AVG	
* Di-n-octylphthalate	1.796	1.913	1.935	1.851	2.070	2.213	1.963	7.8	AVG	*

1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date(s): 06/18/98 06/18/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >MF31L RRF20 = >MF31N RRF50 = >MF31O
RRF80 = >MF31I RRF120= >MF31M RRF160= >MF31J

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
7,12-Dimethylbenz[a]anthrace	.432	.548	.641	.629	.735	.769	.626	19.8	1STDEG
Benzo(b)fluoranthene	1.484	1.423	1.478	1.383	1.624	1.800	1.532	10.1	AVG
Benzo(k)fluoranthene	1.288	1.246	1.268	1.158	1.376	1.411	1.291	7.1	AVG
Benzo(a)pyrene *	1.280	1.275	1.304	1.149	1.368	1.405	1.297	6.9	AVG *
Indeno(1,2,3-cd)pyrene	1.180	1.149	1.159	.985	1.164	1.174	1.135	6.5	AVG
Dibenz(a,h)anthracene	1.059	1.038	1.026	.940	1.104	1.146	1.052	6.7	AVG
Benzo(g,h,i)perylene	1.239	1.195	1.213	1.021	1.204	1.214	1.181	6.7	AVG
2-Fluorophenol	1.322	1.299	1.346	1.387	1.391	1.442	1.365	3.8	AVG
Phenol-d5	1.659	1.671	1.705	1.763	1.769	1.828	1.732	3.8	AVG
Phenol-d6	1.659	1.671	1.705	1.763	1.769	1.828	1.732	3.8	AVG
2-Chlorophenol-d4	1.236	1.285	1.252	1.243	1.266	1.311	1.266	2.2	AVG
1,2-Dichlorobenzene-d4	.862	.933	.937	.908	.913	.980	.922	4.2	AVG
Nitrobenzene-d5	.685	.730	.720	.727	.725	.759	.724	3.3	AVG
2-Fluorobiphenyl	1.323	1.452	1.441	1.493	1.568	1.689	1.494	8.3	AVG
2,4,6-Tribromophenol	.373	.417	.434	.414	.459	.486	.430	9.1	AVG
Terphenyl-d14	.950	1.015	1.026	1.044	1.152	1.235	1.070	9.7	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >MF345 DFTPP Injection Date: 06/19/98

Instrument ID: HP06755 DFTPP Injection Time: 12:36 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.7
70	Less than 2.0% of mass 69	.2 (.2)1
127	40.0 - 60.0% of mass 198	43.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.9
365	Greater than 1.00% of mass 198	3.98
441	Present, but less than mass 443	8.5
442	Greater than 40.0% of mass 198	54.7
443	17.0 - 23.0% of mass 442	11.0 (20.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	AAQ1338	>MF346	06/19/98	12:59
02	SSTD005	AAQ1338	>MF347	06/19/98	13:47
03	SSTD120	AAQ1338	>MF348	06/19/98	14:36
04	SSTD020	AAQ1338	>MF349	06/19/98	15:25
05	SSTD050	AAQ1338	>MF350	06/19/98	16:13
06	SSTD080	AAQ1338	>MF351	06/19/98	17:02
07	SSTD080	STD1668	>MF352	06/19/98	17:50
08	SBLKWD156M	SBLKWD156	>MF353	06/19/98	18:46
09	156WDLCSM	156WDLCS	>MF354	06/19/98	19:41
10	156WDUSM	156WDUS	>MF355	06/19/98	20:37
11	156WDMSM	156WDMS	>MF356	06/19/98	21:32
12	156WDMSDM	156WDMSD	>MF357	06/19/98	22:28
13	P211R	2938349	>MF358	06/19/98	23:23 ✓
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/19/98 Time: 17:50

Lab File ID: >MF352 Init. Calib. Date(s): 06/18/98 06/18/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.450	1.488	82.08	80.0	-2.6
N-Nitrosodimethylamine	.844	.891	84.37	80.0	-5.5
2-Picoline	1.471	1.519	82.62	80.0	-3.3
Phenol *	1.730	1.758	81.28	80.0	-1.6*
Aniline	2.060	2.089	81.11	80.0	-1.4
bis(2-Chloroethyl)ether	1.308	1.358	83.07	80.0	-3.8
2-Chlorophenol	1.260	1.304	82.81	80.0	-3.5
1,3-Dichlorobenzene	1.465	1.512	82.61	80.0	-3.3
1,4-Dichlorobenzene *	1.550	1.564	80.73	80.0	-.9*
Benzyl alcohol	.830	.848	81.75	80.0	-2.2
1,2-Dichlorobenzene	1.389	1.416	81.52	80.0	-1.9
2-Methylphenol	1.215	1.226	80.72	80.0	-.9
2,2'-oxybis(1-Chloropropane)	1.905	1.954	82.06	80.0	-2.6
bis(2-Chloroisopropyl)ether	1.905	1.954	82.06	80.0	-2.6
4-Methylphenol	1.327	1.354	81.58	80.0	-2.0
3- and 4-Methylphenol	1.327	1.354	81.58	80.0	-2.0
Acetophenone	2.318	2.344	80.87	80.0	-1.1
N-Nitroso-di-n-propylamine #	1.280	1.298	81.15	80.0	-1.4#
o-Toluidine	1.963	1.961	79.89	80.0	.1
Hexachloroethane	.947	.985	83.26	80.0	-4.1
Nitrobenzene	.743	.750	80.77	80.0	-1.0
Isophorone	1.171	1.192	81.43	80.0	-1.8
2-Nitrophenol *	.242	.250	82.80	80.0	-3.5*
2,4-Dimethylphenol	.610	.620	81.20	80.0	-1.5
Benzoic acid	.402	.385	76.69	80.0	4.1
bis(2-Chloroethoxy)methane	.567	.579	81.73	80.0	-2.2
2,4-Dichlorophenol *	.405	.416	82.21	80.0	-2.8*
1,2,4-Trichlorobenzene	.515	.528	82.00	80.0	-2.5
Naphthalene	1.120	1.125	80.37	80.0	-.5
4-Chloroaniline	.492	.503	81.75	80.0	-2.2
Hexachlorobutadiene *	.490	.503	82.15	80.0	-2.7*
4-Chloro-3-methylphenol *	.549	.557	81.10	80.0	-1.4*
4-Chloro-3-methylphenol(mz10 *	.549	.557	81.10	80.0	-1.4*
4-Chloro-3-methylphenol(mz14 *	.300	.315	83.80	80.0	-4.8*
2-Methylnaphthalene	.746	.749	80.33	80.0	-.4
1-Methylnaphthalene	.681	.693	81.46	80.0	-1.8
Hexachlorocyclopentadiene #	.679	.694	71.22	80.0	11.0#
2,4,6-Trichlorophenol *	.564	.590	83.75	80.0	-4.7*

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/19/98 Time: 17:50

Lab File ID: >MF352 Init. Calib. Date(s): 06/18/98 06/18/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	2,4,5-Trichlorophenol	.610	.641	84.09	80.0	-5.1
	2-Chloronaphthalene	1.189	1.229	82.69	80.0	-3.4
	2-Nitroaniline	.953	1.007	84.52	80.0	-5.7
	Dimethylphthalate	1.787	1.802	80.68	80.0	-.8
	2,6-Dinitrotoluene	.389	.403	82.93	80.0	-3.7
	Acenaphthylene	1.868	1.929	82.59	80.0	-3.2
	3-Nitroaniline	.355	.370	83.32	80.0	-4.2
*	Acenaphthene	1.088	1.093	80.38	80.0	-.5*
#	2,4-Dinitrophenol	.232	.244	75.50	80.0	5.6#
#	4-Nitrophenol	.737	.750	81.39	80.0	-1.7#
	Dibenzofuran	1.842	1.862	80.90	80.0	-1.1
	2,4-Dinitrotoluene	.571	.584	81.81	80.0	-2.3
	1-Naphthylamine	.829	.845	81.59	80.0	-2.0
	2-Naphthylamine	.798	.796	79.75	80.0	.3
	Diethylphthalate	1.834	1.849	80.65	80.0	-.8
	4-Chlorophenyl-phenylether	.936	.945	82.32	80.0	-2.9
	Fluorene	1.484	1.511	81.89	80.0	-2.4
	4-Nitroaniline	.374	.385	82.34	80.0	-2.9
	4,6-Dinitro-2-methylphenol	.156	.162	74.76	80.0	6.5
	1-Nitronaphthalene	.138	.138	80.29	80.0	-.4
*	N-Nitrosodiphenylamine (1)	.447	.449	80.36	80.0	-.4*
	1,2-Diphenylhydrazine	.988	.980	79.42	80.0	.7
	4-Bromophenyl-phenylether	.258	.264	81.79	80.0	-2.2
	Hexachlorobenzene	.344	.352	81.82	80.0	-2.3
*	Pentachlorophenol	.208	.210	73.74	80.0	7.8*
	Phenanthrene	.962	.955	79.48	80.0	.6
	Anthracene	.923	.926	80.20	80.0	-.2
	Carbazole	.813	.812	79.94	80.0	.1
	Di-n-butylphthalate	1.315	1.311	79.76	80.0	.3
*	Fluoranthene	1.216	1.198	78.79	80.0	1.5*
	Benzidine	.999	1.004	321.44	320.0	-.5
	Pyrene	1.357	1.451	85.53	80.0	-6.9
	Butylbenzylphthalate	.705	.752	85.36	80.0	-6.7
	3,3'-Dichlorobenzidine	.584	.596	81.67	80.0	-2.1
	Benzo(a)anthracene	1.153	1.166	80.93	80.0	-1.2
	bis(2-Ethylhexyl)phthalate	.952	.986	82.80	80.0	-3.5
	Chrysene	1.059	1.106	83.57	80.0	-4.5
*	Di-n-octylphthalate	1.963	2.120	86.38	80.0	-8.0*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06755 Calibration Date: 06/19/98 Time: 17:50

Lab File ID: >MF352 Init. Calib. Date(s): 06/18/98 06/18/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
7,12-Dimethylbenz[a]anthrace	.626	.692	77.88	80.0	2.7
Benzo(b)fluoranthene	1.532	1.533	80.04	80.0	-.0
Benzo(k)fluoranthene	1.291	1.360	84.24	80.0	-5.3
Benzo(a)pyrene *	1.297	1.329	81.99	80.0	-2.5*
Indeno(1,2,3-cd)pyrene	1.135	1.181	83.25	80.0	-4.1
Dibenz(a,h)anthracene	1.052	1.100	83.66	80.0	-4.6
Benzo(g,h,i)perylene	1.181	1.240	83.97	80.0	-5.0
2-Fluorophenol	1.365	1.397	81.88	80.0	-2.3
Phenol-d5	1.732	1.797	83.00	80.0	-3.8
Phenol-d6	1.732	1.797	83.00	80.0	-3.8
2-Chlorophenol-d4	1.266	1.298	82.02	80.0	-2.5
1,2-Dichlorobenzene-d4	.922	.946	82.05	80.0	-2.6
Nitrobenzene-d5	.724	.743	82.05	80.0	-2.6
2-Fluorobiphenyl	1.494	1.518	81.30	80.0	-1.6
2,4,6-Tribromophenol	.430	.444	82.57	80.0	-3.2
Terphenyl-d14	1.070	1.143	85.44	80.0	-6.8

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

ab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

ab File ID (Standard): >MF352 Date Analyzed: 06/19/98

nstrument ID: HP06755 Time Analyzed: 17:50

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	71366	12.15	219389	15.88	146611	21.23
	UPPER LIMIT	142732		438778		293222	
	LOWER LIMIT	35683		109695		73306	
	EPA SAMPLE NO.						
01	SBLKWD156M	76125	12.16	234707	15.87	158245	21.22
02	156WDLCSM	73485	12.15	228297	15.87	150806	21.23
03	156WDUSM	83291	12.15	251067	15.86	172647	21.22
04	156WDMSM	73220	12.15	225027	15.87	148731	21.22
05	156WDMSDM	78736	12.15	233276	15.87	151642	21.23
06	P211R	77684	12.15	247448	15.87	173917	21.22
07							
08							
09							
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20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >MF352 Date Analyzed: 06/19/98

Instrument ID: HP06755 Time Analyzed: 17:50

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	321531		25.78	253366		32.60	191070		37.84
	UPPER LIMIT	643062			506732			382140		
	LOWER LIMIT	160766			126683			95535		
	EPA SAMPLE NO.									
01	SBLKWD156M	341635		25.77	289217		32.58	209508		37.83
02	156WDLCSM	321240		25.78	267846		32.60	194257		37.84
03	156WDUSM	378104		25.77	330029		32.58	228343		37.83
04	156WDMSM	300393		25.78	270596		32.60	194134		37.83
05	156WDMSDM	324389		25.78	267052		32.60	192432		37.84
06	P211R	384663		25.77	332177		32.58	236316		37.83
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 5/26/98
Start Time: 2/1/10
Tech 1: LM 796
Tech 2: 7:57K

BATCH NO. 98146WAE026

above 11 below 2

QC	Sample Code	Amt (µl)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	P8LKYA	1000	SS98131C	1.0			1.0			
LCS6	LCST4	1000	SS98131C	1.0	MS98119B	1.0	1.0			
LCSD6	LCSDXB	1000	SS98131C	1.0	MS98119B	1.0	1.0			
2932455MS	CPT13MS	1000	SS98131C	1.0	MS98119B	1.0	1.0			
2932456MSD	CPT13MSD	1000	SS98131C SS98141B ③LM796 5/26/98	1.0	MS98119B MS98141F	1.0	1.0			light gray, very dense; light brown, dense CONT 3X
										LM796 5/26/98

above 11 below 2

	Sample #	Sample Code	Amt (µl)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2932350	FLEFF	1060	SS98131C	1.0	1.0				4678 4679	6/5/98	N
2	2932449	CPT07	1052	SS98131C	1.0	1.0			both RUN, very dense	4678 4679 CONT 2X	6/5/98	N
3	2932450	CPT08	1048	SS98131C	1.0	1.0			brown color, heavy sed, dense	4678 4679 CONT 3X	6/5/98	N
4	2932451	CPT09	1053	SS98131C	1.0	1.0			light brown, dense, more fine color	4678 4679 CONT 3X	6/5/98	N
5	2932452	CPT11	950	SS98131C	1.0	1.0			light gray, very dense, see	4678 4679 CONT 6X	6/5/98	N
6	2932453	CPT12	1055	SS98131C	1.0	1.0			light gray, very dense	4678 4679	6/5/98	N
7	2932454 bkg	CPT13	1000	SS98131C	1.0	1.0			dense, light brown	4678 4679 CONT 3X	6/5/98	N
8	2932708	MBLOES	100	SS98131C	1.0	100.0			black with oil	4678 4679 CONT 4X	6/4/98	P
9	2934151	CPT10	1010	SS98131C	1.0	1.0			oily odor & dense	4678 4679 CONT 5X	6/9/98	N
10	2934152	CPT18	1000	SS98131C	1.0	1.0			black brown heavy sed	4678 4679 CONT 6X	6/9/98	N
11	2934153	CPT21	1010	SS98131C	1.0	1.0			light gray heavy sed	4678 4679 CONT 6X	6/9/98	N
12	2934154	CPT22	1055	SS98131C	1.0	1.0				4678 4679 CONT 6X	6/9/98	N
13	2934155	CPTRB	1054	SS98131C SS98141B ③LM796 5/26/98	1.0	1.0				4678 4679	6/9/98	N
14												
15	Sample #2932452 was like wet cement, it would not liquidize so it had to be classified 6X and even then you had to scoop it out & even & sonicate.											
16												
17	Sample #2932708 was black with heavy oil residue, would not let me											
18												
19	pipette even after 3X. TW helped with this sample & told me											
20	to run it at 1:6 after checking it. Let what the sample was like.											
②	LM796 5/26/98 When the acid hit, it turned into a rainbow of colors,											

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	134985C	MgSO4	M02649
NaOH	977894		
H2SO4	L31038		
Internal Standar		Balance #	
S-Evap/bath 3	84 °C	S-Evap/bath 6	85 °C	N-Evap	°C

DF = Dilution Factor FV = Final Volume

Spike Solutions:

~~SS98131C~~ BNA SURROGATE STANDARD SS98141B
~~MS98119B~~ LCS SPIKE (100) MS98141F
③LM796 5/26/98

16 day HT. 5-1, 05 - Last date reported prep exted ext. 2nd qual of date

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 6/5/98
Start Time: 20:00
Tech 1: Jm 1096
Tech 2:

BATCH NO. 98156WAD026

2-AMINOANTHRAQUI Above 1 Below 2

QC	Sample Code	Amt (M)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 1	pH 2	Comments
BG	PBLK3R	1000	SS98141B	1.0			1.0			
BLANK6	PBLK3Q	"	SS98141B	1.0			1.0			
LCS6	LCSYR	"	SS98141B	1.0	MS98141F MS98069E	1.0 1.0	1.0			
MS	LCSYS	"	SS98141B	1.0	MS98141F MS98069E	1.0 1.0	1.0			
MSD	LCSD08	"	SS98141B	1.0	MS98141F MS98069E	1.0 1.0	1.0	"	"	

Jm 796 6/5/98

Above 1 Below 2

	Sample #		Sample Code	Amt (M)	SS Sol.	Amt (mL)	FV (mL)	pH 1	pH 2	Comments	Analyses	Due Date	Pri
1	2932449	R	CPT07	1055	SS98141B	1.0	1.0			YELLOW-BRN, CLOUDY, LIGHT BROWN, DENSE, SEDI CM	4678 4679	6/5/98	N
2	2932451	R	CPT09	1056	SS98141B	1.0	1.0				4678 4679	6/5/98	N
3	2938349		P211R	1055	SS98141B	1.0	1.0				4678 4679 5724	6/23/98	P
4													
5													
6													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Jm 796 6/5/98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	144946	Na2SO4	974084
MeOH	976631A		
H2SO4	131038		
Internal Standar		Balance #	
S-Evap/bath 3	87 °C	S-Evap/bath 1	86 °C
N-Evap	°C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98141B BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)
MS98069E 2-AMINOANTHRAQUINONE (100)

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Grimm

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LE410::A2	DFTPP	50NG/UL	05/20/98	21:59		1.0	QC CHECKS
2	>LE411::A2	SSTD080	STD1338	05/20/98	22:27		1.0	
3	>LE412::A2	SSTD005	STD1338	05/20/98	23:29		1.0	
4	>LE413::A2	ASE SURR	DAVE 5PPM	05/21/98	00:32		1.0	
4	>LE414::A2	ASE SURR	DAVE 5PPM	05/21/98	01:34		1.0	
4	>LE415::A2	ASE SURR	DAVE 5PPM	05/21/98	02:36		1.0	
5	>LE416::A2	ASE SURR	MIKE 5PPM	05/21/98	03:38		1.0	
5	>LE417::A2	ASE SURR	MIKE 5PPM	05/21/98	04:39		1.0	
5	>LE418::A2	ASE SURR	MIKE 5PPM	05/21/98	05:41		1.0	
6	>LE419::A2	ASE SURR	ST98092C	05/21/98	06:42		1.0	
6	>LE420::A2	ASE SURR	ST98092C	05/21/98	07:44		1.0	
6	>LE421::A2	ASE SURR	ST98092C	05/21/98	08:45		1.0	
1	>LE430::A2	DFTPP	50NG/UL	05/21/98	09:42		1.0	DL
11	>LE431::A2	SSTD160	STD1408	05/21/98	10:09		1.0	
12	>LE432::A2	SSTD001	MDL1408	05/21/98	11:12		1.0	
13	>LE433::A2	SSTD120	STD1408	05/21/98	12:14		1.0	
14	>LE434::A2	SSTD005	STD1408	05/21/98	13:16		1.0	
15	>LE435::A2	SSTD020	STD1408	05/21/98	14:19		1.0	
16	>LE436::A2	SSTD050	STD1408	05/21/98	15:21		1.0	
17	>LE437::A2	SSTD080	STD1408	05/21/98	16:24		1.0	
3	>LE438::A2	1-NITRO	5 PPM PES	05/21/98	17:26		1.0	QC CHECK
1	>LE440::A2	DFTPP	50NG/UL	05/21/98	18:23		1.0	DL

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Straw *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
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MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

_____
_____
_____
_____

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LF045::L1	DFTPP	50NG/UL	06/03/98	08:21		1.0	DFTPP
2	>LF046::L1	SSTD080	STD1408	06/03/98	08:45		1.0	/
19	>LF048::L1	SBLKWF147L	SBLKWF147	06/03/98	09:36	98147WAF	1.0	/
20	>LF049::L1	147WFLCSL	147WFLCS	06/03/98	10:28	98147WAF	1.0	/
21	>LF050::L1	SPERE	2932934	06/03/98	11:20	98147WAF	1.0	/
22	>LF051::L1	SPEREMS	2932934	06/03/98	12:12	98147WAF	1.0	/
23	>LF052::L1	SPEREMSD	2932934	06/03/98	13:03	98147WAF	1.0	/
24	>LF053::L1	NVCRU	2934233	06/03/98	13:55	98147WAF	1.0	/
25	>LF054::L1	NVCRUMS	2934233	06/03/98	14:46	98147WAF	1.0	✓
6	>LF055::L1	SBLKWE146L	SBLKWE146	06/03/98	15:38	98146WAE	1.0	5
7	>LF056::L1	146WELCSL	146WELCS	06/03/98	16:30	98146WAE	1.0	OK
8	>LF057::L1	146WELCSD	146WELCSD	06/03/98	17:21	98146WAE	1.0	/
9	>LF058::L1	CPT13	2932454	06/03/98	18:13	98146WAE	1.0	/
10	>LF059::L1	CPT13MS	2932455MS	06/03/98	19:04	98146WAE	1.0	/
11	>LF060::L1	CPT13MSD	2932456MS	06/03/98	19:56	98146WAE	1.0	✓
1	>LF065::L1	DFTPP	50NG/UL	06/03/98	20:43		1.0	DFTPP

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst: Hartenstine *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
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Cz = Confirms z, (z = I or X)
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Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LF065::L1	DFTPP	50NG/UL	06/03/98	20:43		1.0	MR
2	>LF066::L1	SSTD080	STD1488	06/03/98	21:07		1.0	MR
12	>LF067::L1	FLEFF	2932350	06/03/98	21:58	98146WAE	1.0	MR
13	>LF068::L1	CPT07	2932449	06/03/98	22:50	98146WAE	1.0	S
14	>LF069::L1	CPT08	2932450	06/03/98	23:42	98146WAE	1.0	MR
15	>LF070::L2	CPT09	2932451	06/04/98	00:36	98146WAE	1.0	(NU)
16	>LF071::L2	CPT11	2932452	06/04/98	01:28	98146WAE	1.0	MR
17	>LF072::L2	CPT12	2932453	06/04/98	02:19	98146WAE	1.0	MR F
18	>LF073::L2	CPT10	2934151	06/04/98	03:10	98146WAE	1.0	MR
19	>LF074::L2	CPT18	2934152	06/04/98	04:02	98146WAE	1.0	MR
20	>LF075::L2	CPT21	2934153	06/04/98	04:53	98146WAE	1.0	MR
21	>LF076::L2	CPT22	2934154	06/04/98	05:45	98146WAE	1.0	MR
22	>LF077::L2	CPTRB	2934155	06/04/98	06:36	98146WAE	1.0	MR
23	>LF078::L2	32708	2932708	06/04/98	07:28	98146WAE	10.0	SF SF (NU)
15	>LF079::L2	CPT09RE	2932451RE	06/04/98	08:20	98146WAE	1.0	SF
1	>LF080::L2	DFTPP	50NG/UL	06/04/98	09:56		1.0	MR

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06754**HP #12**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Evans

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>LF080::L2	DFTPP	50NG/UL	06/04/98	09:56		1.0	OK
2	>LF081::L2	SSTD080	STD1488	06/04/98	10:20		1.0	OK
6	>LF082::L2	SBLKLD153L	SBLKLD153	06/04/98	11:27	98153SLD	1.0	OK
7	>LF083::L2	153LDLCSL	153LDLCS	06/04/98	12:20	98153SLD	1.0	OK
8	>LF084::L2	CPT07DL	2932449DL	06/04/98	13:12	98146WAE	100.0	OK
9	>LF085::L2	CPT09DL	2932451DL	06/04/98	14:04	98146WAE	50.0	OK VZ (NU)
10	>LF086::L2	CPT12DL	2932453DL	06/04/98	14:56	98146WAE	5.0	OK
11	>LF087::L2	32708DL	2932708DL	06/04/98	15:48	98146WAE	200.0	OK VZ (400)
12	>LF088::L2	CPT07RE	2932449RE	06/04/98	16:40	98146WAE	1.0	S (NU)
13	>LF089::L2	0800-	2933690	06/04/98	17:32	98153SLD	1.0	OK
9	>LF090::L2	CPT09DL	2932451DL	06/04/98	18:31	98146WAE	100.0	OK
11	>LF091::L2	32708DL2	2932708DL2	06/04/98	19:23	98146WAE	4000.0	OK
1	>LF095::L2	DFTPP	50NG/UL	06/04/98	20:10		1.0	(NU)

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: TCWA MC *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
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Cz = Confirms z, (z = I or X)
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Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MF12Y::M4	DFTPP	50 ng/ul	06/08/98	09:06		1.0	MR
2	>MF121::M4	SSTD080	STD1488	06/08/98	09:28		1.0	NU
2	>MF12A::M4	SSTD080	STD1488	06/08/98	10:26		1.0	NU
2	>MF12B::M4	SSTD080	STD1488	06/08/98	11:27		1.0	MR
3	>MF122::M4	SSTD160	STD1558	06/08/98	12:35		1.0	
4	>MF123::M4	SSTD001	MDL1558	06/08/98	13:32		1.0	
5	>MF124::M4	SSTD120	STD1558	06/08/98	14:30		1.0	
6	>MF125::M4	SSTD005	STD1558	06/08/98	15:27		1.0	
7	>MF126::M4	SSTD020	STD1558	06/08/98	16:25		1.0	
8	>MF127::M4	SSTD050	STD1558	06/08/98	17:21		1.0	
1	>MF133::M4	DFTPP	50 ng/ul	06/08/98	18:16		1.0	
1	>MF134::M4	DFTPP	50 ng/ul	06/08/98	18:35		1.0	NU
2	>MF135::M4	SSTD080	STD1488	06/08/98	18:56		1.0	
11	>MF136::M4	SBLKLD154M	SBLKLD154	06/08/98	19:54	98154SLD153SE	1.0	
12	>MF137::M4	154LDLCSM	154LDLCS	06/08/98	20:51	98154SLD153SE	1.0	
13	>MF138::M4	154LDLCSDM	154LDLCSD	06/08/98	21:48	98154SLD153SE	1.0	
15	>MF139::M4	SS7A1RE	2934110RE	06/08/98	22:45	98154SLD153SE	1.0	
16	>MF140::M4	SS8-2RE	2934115RE	06/08/98	23:42	98154SLD153SE	1.0	
18	>MF141::M4	AC4ST	2938277	06/09/98	00:39	98154SLD153SE	1.0	
19	>MF142::M4	38278	2938278	06/09/98	01:40	98154SLD153SE	1.0	
38	>MF143::M4	W2521DL	2932899DL	06/09/98	02:52	98146WAC	20.0	
1	>MF145::M4	DFTPP	50 ng/ul	06/09/98	08:57		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: R.WASIL *** Shift #2 Analyst: _____

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
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Cz = Confirms z, (z = I or X)
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Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MF30C::M3	DFTPP	50 ng/ul	06/17/98	09:06		1.0	MR
2	>MF30D::M3	SSTD080	STD1588	06/17/98	09:28		1.0	
16	>MF302::M3	GC-GP	2943775	06/17/98	10:25	98163WAB	1.0	
17	>MF303::M3	NACTT	2938526	06/17/98	11:22	98163WAB	1.0	
16	>MF304::M3	GC-GPDL	2943775DL	06/17/98	12:20	98163WAB	50.0	
18	>MF305::M3	NACTM	2938529	06/17/98	13:17	98163WAB	1.0	
11	>MF306::M3	CPT07RE	2932449RE	06/17/98	14:15	98156WAD	1.0	C
12	>MF307::M3	CPT09RE	2932454RE	06/17/98	15:13	98156WAD	1.0	C
1	>MF310::M3	DFTPP	50 ng/ul	06/17/98	16:26		1.0	MV
1	>MF31A::M3	DFTPP	50 ng/ul	06/17/98	17:16		1.0	
1	>MF31B::M3	DFTPP	50 ng/ul	06/17/98	18:11		1.0	
1	>MF31C::M3	DFTPP	50 ng/ul	06/17/98	19:36		1.0	
1	>MF31D::M3	DFTPP	50 ng/ul	06/17/98	20:13		1.0	
1	>MF31E::M3	DFTPP	50 ng/ul	06/17/98	20:58		1.0	
1	>MF31F::M3	DFTPP	50 ng/ul	06/17/98	21:49		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: RWASH *** Shift #2 Analyst: _____

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
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T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MF31F::M3	DFTPP	50 ng/ul	06/17/98	21:49		1.0	NU
2	>MF31G::M3	SSTD080	STD1588	06/17/98	22:28		1.0	NU
1	>MF31H::M3	DFTPP	50 ng/ul	06/18/98	06:37		1.0	MR
2	>MF31I::M3	SSTD080	STD1588	06/18/98	06:58		1.0	
3	>MF31J::M3	SSTD160	STD1588	06/18/98	08:05		1.0	
4	>MF31K::M3	SSTD001	MDL1668	06/18/98	09:00		1.0	
5	>MF31L::M3	SSTD005	STD1668	06/18/98	09:55		1.0	
6	>MF31M::M3	SSTD120	STD1668	06/18/98	10:50		1.0	
7	>MF31N::M3	SSTD020	STD1668	06/18/98	11:46		1.0	
8	>MF31O::M3	SSTD050	STD1668	06/18/98	12:42		1.0	
11	>MF31Z::M3	SBLKLB163M	SBLKLB163	06/18/98	13:49	98163SLB161SB	1.0	
12	>MF313::M3	163LBLCSM	163LBLCS	06/18/98	14:44	98163SLB161SB	1.0	
13	>MF314::M3	163LBLCSDM	163LBLCSD	06/18/98	15:40	98163SLB161SB	1.0	
14	>MF315::M3	-SB2-RE	2938S52RE	06/18/98	16:36	98163SLB161SB	1.0	
1	>MF320::M3	DFTPP	50 ng/ul	06/18/98	17:28		1.0	MR
2	>MF321::M3	SSTD080	STD1668	06/18/98	17:50		1.0	
19	>MF322::M3	154WBLCSM	154WBLCS	06/18/98	18:46	98154WAB	1.0	
20	>MF323::M3	154WBMSM	154WBMS	06/18/98	19:42	98154WAB	1.0	
21	>MF324::M3	MW4--DL	2936649DL	06/18/98	20:37	98154WAB	2.0	
22	>MF325::M3	MW15-DL	2936651DL	06/18/98	21:33	98154WAB	4.0	
23	>MF326::M3	BAN4-	2936993	06/18/98	22:28	98154WAB	1.0	
24	>MF327::M3	BAN5-	2936994	06/18/98	23:23	98154WAB	1.0	
25	>MF328::M3	BAN6-	2936995	06/19/98	00:19	98154WAB	1.0	
26	>MF329::M3	BOTT3DL	2942390DL	06/19/98	01:14	98161SLB	5.0	
1	>MF330::M3	DFTPP	50 ng/ul	06/19/98	02:06		1.0	
2	>MF331::M3	SSTD080	STD1668	06/19/98	02:28		1.0	
27	>MF332::M3	0720-	2939286	06/19/98	03:23	98156WAC	1.0	
28	>MF333::M3	1000-	2939287	06/19/98	04:19	98156WAC	1.0	
29	>MF334::M3	1040-	2939288	06/19/98	05:14	98156WAC	1.0	
30	>MF335::M3	1220-	2939289	06/19/98	06:09	98156WAC	1.0	
31	>MF336::M3	1335-	2939290	06/19/98	07:04	98156WAC	1.0	
32	>MF337::M3	1520-	2939291	06/19/98	08:00	98156WAC	1.0	
33	>MF338::M3	1240-	2939295	06/19/98	08:55	98156WAC	1.0	
34	>MF339::M3	DUP1-	2939296	06/19/98	09:50	98156WAC	1.0	
35	>MF340::M3	0830-	2939297	06/19/98	10:46	98156WAC	1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06755**HP #13**

*** Shift #1 Analyst: RWASH *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>MF345::M3	DFTPP	50 ng/ul	06/19/98	12:36		1.0	MR
3	>MF346::M3	SSTD160	AAQ1338	06/19/98	12:59		1.0	
4	>MF347::M3	SSTD005	AAQ1338	06/19/98	13:47		1.0	
5	>MF348::M3	SSTD120	AAQ1338	06/19/98	14:36		1.0	
6	>MF349::M3	SSTD020	AAQ1338	06/19/98	15:25		1.0	
7	>MF350::M3	SSTD050	AAQ1338	06/19/98	16:13		1.0	
8	>MF351::M3	SSTD080	AAQ1338	06/19/98	17:02		1.0	
2	>MF352::M3	SSTD080	STD1668	06/19/98	17:50		1.0	
37	>MF353::M3	SBLKWD156M	SBLKWD156	06/19/98	18:46	98156WAD	1.0	
38	>MF354::M3	156WDLCSM	156WDLCS	06/19/98	19:41	98156WAD	1.0	
39	>MF355::M3	156WDUSM	156WDUS	06/19/98	20:37	98156WAD	1.0	
40	>MF356::M3	156WDMSM	156WDMS	06/19/98	21:32	98156WAD	1.0	
41	>MF357::M3	156WDMSDM	156WDMSD	06/19/98	22:28	98156WAD	1.0	
42	>MF358::M3	P211R	2938349	06/19/98	23:23	98156WAD	1.0	
43	>MF359::M3	0900-DL	2939299DL	06/20/98	00:18	98156WAC	50.0	MRF
36	>MF360::M3	0900-RE	2939299RE	06/20/98	01:14	98156WAC	1.0	F
1	>MF365::M3	DFTPP	50 ng/ul	06/22/98	09:10		1.0	MR

Sample Reference List for SDG # HMS01
with a Package Type of I

Lab Sample Number	Sample Code	Client Sample Description
2932449	CPT07	CPT-07-GW Grab Water Sample
2932450	CPT08	CPT-08-GW Grab Water Sample
2932451	CPT09	CPT-09-GW Grab Water Sample
2932452	CPT11	CPT-11-GW Grab Water Sample
2932453	CPT12	CPT-12-GW Grab Water Sample
2932454	CPT13	CPT-13-GW Unspiked Grab Water Sample
2932455	CPT13	CPT-13-GW Matrix Spike Grab Water Sample
2932456	CPT13	CPT-13-GW Matrix Spike Dup. Grab Water Sample
2934151	CPT10	CPT-10-GW Grab Water Sample
2934152	CPT18	CPT-18-GW Grab Water Sample
2934153	CPT21	CPT-21-GW Grab Water Sample
2934154	CPT22	CPT-22-GW Grab Water Sample
2934155	CPTRB	RB-01-5/98 Rinseate Blank Grab Water Sample

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

HMS02

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit	
						5x	10x
S	S	MB	SBIKLF1692	none	ug/kg		
S	S	MB	SBIKLB1692	none			
S	S	MB	SBIKLC1792	bis (2-ethylhexyl) phthalate	24		240

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

\+ = Contaminant observed on one column only.

Notes: _____

2D

SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT
		BN	BN	BN	A	A	A		
01	SBLKLF1622	74	77	73	69	71	86		0
02	SBLKLB1692	85	82	85	82	80	75		0
03	SBLKLC1772	47	54	85	57	53	72		0
04	162LFLCS2	83	85	82	77	79	100		0
05	169LBLCS2	90	88	91	87	84	88		0
06	177LCLCS2	87	93	82	79	78	98		0
07	SD1--	93	92	88	88	91	95		0
08	SD2--	56	46	56	55	52	46		0
09	SD2--DL	40	51	68	43	36	0 D		0
10	SD3--	96	84	76	90	88	88		0
11	SD3--DL	82	85	78	83	82	77		0
12	SD4--	88	93	92	86	88	91		0
13	SD4--DL	96	74	95	84	85	0 D		0
14	SD5--	91	86	82	86	85	92		0
15	SD6--	91	89	89	89	87	87		0
16	SD7--	74	76	73	73	72	82		0
17	SD8--	86	88	86	85	84	93		0
18	SD9--	87	85	83	80	81	94		0
19	SD10-	86	83	76	82	83	86		0
20	SD11-	92	94	89	89	87	97		0
21	SD12-	31	32 *	29 *	30 *	30 *	33		4
22	SD12-RE	68	70	85	82	80	94		0
23	SD12-DLRE	64	69	84	82	78	86		0
24	0202-	84	80	60	81	79	91		0
25	0202-DL	77	97	102	98	93	74		0
26	0656-	75	76	74	75	76	86		0
27	1901-	93	85	68	84	83	95		0
28	1901-DL	99	101	101	98	96	96		0
29	1901-DL	89	100	105	96	96	86		0
30	1923-	94	88	82	86	85	98		0
31	1923-DL	93	93	89	91	91	96		0
32	1956-	74	80	74	73	73	87		0
33	1956-DL	84	86	85	84	82	93		0
34	2001-	77	85	80	81	78	82		0
35	2023-	68	72	71	70	69	80		0
36	2701-	78	84	75	76	76	91		0
37	2701-MS	76	79	74	74	75	91		0
38	2701-MSD	68	70	67	68	66	82		0

Est. outside HT J+, UJ-

J, UJ

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(31-126)
S2 (FBP)	= 2-Fluorobiphenyl	(45-113)
S3 (TPH)	= Terphenyl-d14	(37-130)
S4 (PHL)	= Phenol-d6	(39-108)
S5 (2FP)	= 2-Fluorophenol	(35-108)
S6 (TBP)	= 2,4,6-Tribromophenol	(23-125)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

'xlc reported for SD12 initial and data qualified for this sc.

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FORM II SV-2 1/87 Rev.

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

6 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 162LFLCS2 162LFLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	80.92	81	49.0- 105.0	YES
bis(2-Chloroethyl)ether	79.08	79	53.0- 109.0	YES
2-Chlorophenol	83.94	84	55.0- 107.0	YES
1,3-Dichlorobenzene	82.55	82	53.0- 103.0	YES
1,4-Dichlorobenzene	81.91	82	52.0- 103.0	YES
1,2-Dichlorobenzene	85.28	85	56.0- 107.0	YES
2-Methylphenol	84.27	84	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	86.53	86	38.0- 117.0	YES
4-Methylphenol	83.94	84	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	82.64	83	50.0- 124.0	YES
Hexachloroethane	84.31	84	52.0- 108.0	YES
Nitrobenzene	89.13	89	56.0- 110.0	YES
Isophorone	92.36	92	57.0- 114.0	YES
2-Nitrophenol	85.98	86	59.0- 107.0	YES
2,4-Dimethylphenol	86.26	86	39.0- 108.0	YES
bis(2-Chloroethoxy)methane	81.66	82	56.0- 103.0	YES
2,4-Dichlorophenol	85.64	86	59.0- 100.0	YES
1,2,4-Trichlorobenzene	87.41	87	57.0- 104.0	YES
Naphthalene	79.46	79	58.0- 99.0	YES
4-Chloroaniline	63.60	64	1.0- 102.0	YES
Hexachlorobutadiene	89.24	89	56.0- 115.0	YES
4-Chloro-3-methylphenol	90.25	90	56.0- 108.0	YES
2-Methylnaphthalene	82.99	83	60.0- 102.0	YES
Hexachlorocyclopentadiene	147.88	74	27.0- 113.0	YES
2,4,6-Trichlorophenol	94.19	94	62.0- 106.0	YES
2,4,5-Trichlorophenol	96.23	96	63.0- 107.0	YES
[illegible]oronaphthalene	87.43	87	60.0- 106.0	YES
[illegible]roaniline	93.84	94	54.0- 111.0	YES
[illegible]ethylphthalate	90.21	90	61.0- 104.0	YES
2,6-Dinitrotoluene	91.13	91	62.0- 111.0	YES
Acenaphthylene	84.23	84	62.0- 101.0	YES
3-Nitroaniline	79.72	80	9.0- 110.0	YES
Acenaphthene	87.62	88	61.0- 100.0	YES
2,4-Dinitrophenol	63.09	63	29.0- 117.0	YES
4-Nitrophenol	100.47	100	44.0- 110.0	YES
Dibenzofuran	88.00	88	62.0- 102.0	YES
2,4-Dinitrotoluene	90.00	90	58.0- 113.0	YES
Diethylphthalate	87.92	88	59.0- 104.0	YES
4-Chlorophenyl-phenylether	88.58	88	52.0- 110.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

[illegible]46 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 162LFLCS2 162LFLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Fluorene	90.46	90	59.0- 109.0	YES
4-Nitroaniline	91.83	92	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	72.74	73	42.0- 107.0	YES
N-Nitrosodiphenylamine	85.68	86	60.0- 106.0	YES
4-Bromophenyl-phenylether	88.99	89	61.0- 110.0	YES
Hexachlorobenzene	95.21	95	52.0- 123.0	YES
Pentachlorophenol	97.31	97	42.0- 108.0	YES
Phenanthrene	88.30	88	62.0- 107.0	YES
Anthracene	90.93	91	62.0- 105.0	YES
Carbazole	90.91	91	57.0- 112.0	YES
Di-n-butylphthalate	87.25	87	59.0- 114.0	YES
Fluoranthene	90.94	91	58.0- 110.0	YES
Pyrene	83.27	83	52.0- 115.0	YES
Butylbenzylphthalate	85.35	85	58.0- 119.0	YES
3,3'-Dichlorobenzidine	52.60	53	15.0- 94.0	YES
Benzo(a)anthracene	90.95	91	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	81.63	82	8.0- 158.0	YES
Chrysene	88.48	88	60.0- 107.0	YES
Di-n-octylphthalate	86.47	86	54.0- 127.0	YES
Benzo(b)fluoranthene	85.30	85	59.0- 105.0	YES
Benzo(k)fluoranthene	89.64	90	63.0- 108.0	YES
Benzo(a)pyrene	92.86	93	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	90.78	91	55.0- 111.0	YES
Dibenz(a,h)anthracene	90.00	90	60.0- 117.0	YES
Benzo(g,h,i)perylene	90.47	90	52.0- 113.0	YES

[illegible]ENTS:

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 169LBLCS2 169LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	88.45	88	49.0- 105.0	YES
bis(2-Chloroethyl)ether	87.98	88	53.0- 109.0	YES
2-Chlorophenol	88.51	88	55.0- 107.0	YES
1,3-Dichlorobenzene	82.12	82	53.0- 103.0	YES
1,4-Dichlorobenzene	83.17	83	52.0- 103.0	YES
1,2-Dichlorobenzene	86.95	87	56.0- 107.0	YES
2-Methylphenol	92.07	92	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	96.50	96	38.0- 117.0	YES
4-Methylphenol	92.49	92	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	89.43	89	50.0- 124.0	YES
Hexachloroethane	83.83	84	52.0- 108.0	YES
Nitrobenzene	96.59	96	56.0- 110.0	YES
Isophorone	100.43	100	57.0- 114.0	YES
2-Nitrophenol	91.38	91	59.0- 107.0	YES
2,4-Dimethylphenol	90.32	90	39.0- 108.0	YES
bis(2-Chloroethoxy)methane	92.99	93	56.0- 103.0	YES
2,4-Dichlorophenol	90.92	91	59.0- 100.0	YES
1,2,4-Trichlorobenzene	91.37	91	57.0- 104.0	YES
Naphthalene	89.16	89	58.0- 99.0	YES
4-Chloroaniline	86.32	86	1.0- 102.0	YES
Hexachlorobutadiene	88.98	89	56.0- 115.0	YES
4-Chloro-3-methylphenol	96.91	97	56.0- 108.0	YES
2-Methylnaphthalene	93.42	93	60.0- 102.0	YES
Hexachlorocyclopentadiene	163.80	82	27.0- 113.0	YES
,6-Trichlorophenol	94.65	95	62.0- 106.0	YES
,5-Trichlorophenol	96.79	97	63.0- 107.0	YES
-Chloronaphthalene	96.56	96	60.0- 106.0	YES
2-Nitroaniline	101.86	102	54.0- 111.0	YES
Dimethylphthalate	97.12	97	61.0- 104.0	YES
2,6-Dinitrotoluene	105.77	106	62.0- 111.0	YES
Acenaphthylene	91.44	91	62.0- 101.0	YES
3-Nitroaniline	100.09	100	9.0- 110.0	YES
Acenaphthene	89.38	89	61.0- 100.0	YES
2,4-Dinitrophenol	91.94	92	29.0- 117.0	YES
4-Nitrophenol	101.21	101	44.0- 110.0	YES
Dibenzofuran	90.79	91	62.0- 102.0	YES
2,4-Dinitrotoluene	109.58	110	58.0- 113.0	YES
Diethylphthalate	95.96	96	59.0- 104.0	YES
4-Chlorophenyl-phenylether	92.38	92	52.0- 110.0	YES

all ok

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 169LBLCS2 169LBLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Fluorene	92.17	92	59.0- 109.0	YES
4-Nitroaniline	103.42	103	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	88.15	88	42.0- 107.0	YES
N-Nitrosodiphenylamine	91.77	92	60.0- 106.0	YES
4-Bromophenyl-phenylether	88.83	89	61.0- 110.0	YES
Hexachlorobenzene	93.28	93	52.0- 123.0	YES
Pentachlorophenol	80.89	81	42.0- 108.0	YES
Phenanthrene	93.63	94	62.0- 107.0	YES
Anthracene	95.63	96	62.0- 105.0	YES
Carbazole	93.76	94	57.0- 112.0	YES
Di-n-butylphthalate	95.47	95	59.0- 114.0	YES
Fluoranthene	95.07	95	58.0- 110.0	YES
Pyrene	102.22	102	52.0- 115.0	YES
Butylbenzylphthalate	103.46	103	58.0- 119.0	YES
3,3'-Dichlorobenzidine	90.13	90	15.0- 94.0	YES
Benzo(a)anthracene	99.41	99	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	104.31	104	8.0- 158.0	YES
Chrysene	95.58	96	60.0- 107.0	YES
Di-n-octylphthalate	122.14	122	54.0- 127.0	YES
Benzo(b)fluoranthene	101.27	101	59.0- 105.0	YES
Benzo(k)fluoranthene	107.72	108	63.0- 108.0	YES
Benzo(a)pyrene	109.24	109	61.0- 107.0	NO
Indeno(1,2,3-cd)pyrene	111.35	111	55.0- 111.0	YES
Dibenz(a,h)anthracene	111.59	112	60.0- 117.0	YES
Benzo(g,h,i)perylene	109.70	110	52.0- 113.0	YES

COMMENTS: OK Chuck. 6/26/08

ok except large (2) Xylene ⇒ J+

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

[redacted] NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 177LCLCS2 177LCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	79.25	79	49.0- 105.0	YES
Aniline	44.95	45	30.0- 97.0	YES
bis(2-Chloroethyl)ether	77.17	77	53.0- 109.0	YES
2-Chlorophenol	82.63	83	55.0- 107.0	YES
1,3-Dichlorobenzene	81.33	81	53.0- 103.0	YES
1,4-Dichlorobenzene	80.63	81	52.0- 103.0	YES
1,2-Dichlorobenzene	85.45	85	56.0- 107.0	YES
2-Methylphenol	82.50	82	57.0- 101.0	YES
2,2'-oxybis(1-Chloropropane)	89.44	89	38.0- 117.0	YES
4-Methylphenol	80.51	80	48.0- 116.0	YES
N-Nitroso-di-n-propylamine	82.57	82	50.0- 124.0	YES
Hexachloroethane	82.98	83	52.0- 108.0	YES
Nitrobenzene	87.33	87	56.0- 110.0	YES
Isophorone	89.31	89	57.0- 114.0	YES
2-Nitrophenol	87.38	87	59.0- 107.0	YES
2,4-Dimethylphenol	84.17	84	39.0- 108.0	YES
bis(2-Chloroethoxy)methane	81.51	82	56.0- 103.0	YES
2,4-Dichlorophenol	86.42	86	59.0- 100.0	YES
1,2,4-Trichlorobenzene	88.98	89	57.0- 104.0	YES
Naphthalene	82.14	82	58.0- 99.0	YES
4-Chloroaniline	55.24	55	1.0- 102.0	YES
Hexachlorobutadiene	92.22	92	56.0- 115.0	YES
4-Chloro-3-methylphenol	86.70	87	56.0- 108.0	YES
[illegible]thylnaphthalene	83.21	83	60.0- 102.0	YES
[illegible]hlorocyclopentadiene	153.58	77	27.0- 113.0	YES
[illegible]4,6-Trichlorophenol	94.24	94	62.0- 106.0	YES
2,4,5-Trichlorophenol	94.32	94	63.0- 107.0	YES
2-Chloronaphthalene	93.19	93	60.0- 106.0	YES
2-Nitroaniline	88.71	89	54.0- 111.0	YES
Dimethylphthalate	88.61	89	61.0- 104.0	YES
2,6-Dinitrotoluene	86.98	87	62.0- 111.0	YES
Acenaphthylene	85.87	86	62.0- 101.0	YES
3-Nitroaniline	74.92	75	9.0- 110.0	YES
Acenaphthene	87.86	88	61.0- 100.0	YES
2,4-Dinitrophenol	60.47	60	29.0- 117.0	YES
4-Nitrophenol	93.18	93	44.0- 110.0	YES
Dibenzofuran	90.00	90	62.0- 102.0	YES
2,4-Dinitrotoluene	88.78	89	58.0- 113.0	YES
Diethylphthalate	88.77	89	59.0- 104.0	YES

SOIL SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06588

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 177LCLCS2 177LCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Chlorophenyl-phenylether	88.99	89	52.0- 110.0	YES
Fluorene	89.79	90	59.0- 109.0	YES
4-Nitroaniline	86.22	86	37.0- 120.0	YES
4,6-Dinitro-2-methylphenol	68.73	69	42.0- 107.0	YES
N-Nitrosodiphenylamine	83.25	83	60.0- 106.0	YES
4-Bromophenyl-phenylether	88.49	88	61.0- 110.0	YES
Hexachlorobenzene	91.03	91	52.0- 123.0	YES
Pentachlorophenol	83.55	84	42.0- 108.0	YES
Phenanthrene	85.90	86	62.0- 107.0	YES
Anthracene	86.97	87	62.0- 105.0	YES
Carbazole	86.98	87	57.0- 112.0	YES
Di-n-butylphthalate	86.40	86	59.0- 114.0	YES
Fluoranthene	87.74	88	58.0- 110.0	YES
Pyrene	85.11	85	52.0- 115.0	YES
Butylbenzylphthalate	85.90	86	58.0- 119.0	YES
3,3'-Dichlorobenzidine	47.35	47	15.0- 94.0	YES
Benzo(a)anthracene	88.70	89	63.0- 106.0	YES
bis(2-Ethylhexyl)phthalate	80.53	80	8.0- 158.0	YES
Chrysene	85.77	86	60.0- 107.0	YES
Di-n-octylphthalate	88.09	88	54.0- 127.0	YES
Benzo(b)fluoranthene	85.00	85	59.0- 105.0	YES
Benzo(k)fluoranthene	88.46	88	63.0- 108.0	YES
Benzo(a)pyrene	90.45	90	61.0- 107.0	YES
Indeno(1,2,3-cd)pyrene	88.66	89	55.0- 111.0	YES
nz(a,h)anthracene	88.41	88	60.0- 117.0	YES
.o(g,h,i)perylene	89.65	90	52.0- 113.0	YES

all ok

COMMENTS:

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF31B DFTPP Injection Date: 06/16/98

Instrument ID: HP06588 DFTPP Injection Time: 07:06

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	54.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	77.8
70	Less than 2.0% of mass 69	.9 (1.2)1
127	40.0 - 60.0% of mass 198	57.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	17.6
365	Greater than 1.00% of mass 198	1.91
441	Present, but less than mass 443	7.0
442	Greater than 40.0% of mass 198	43.8
443	17.0 - 23.0% of mass 442	9.1 (20.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1558	>BF31Y	06/16/98	10:58
02	SSTD01	MDL1558	>BF31X	06/16/98	11:54
03	SSTD120	STD1558	>BF313	06/16/98	12:51
04	SSTD05	STD1558	>BF314	06/16/98	13:48
05	SSTD20	STD1558	>BF315	06/16/98	14:45
06	SSTD50	STD1558	>BF316	06/16/98	15:42
07	SSTD80	STD1558	>BF317	06/16/98	16:39
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lame: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/16/98 06/16/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF314 RRF20 = >BF315 RRF50 = >BF316
RRF80 = >BF317 RRF120= >BF313 RRF160= >BF31Y

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.287	1.321	1.305	1.301	1.307	1.322	1.307	1.0	AVG	
N-Nitrosodimethylamine	.728	.706	.742	.738	.730	.749	.732	2.0	AVG	
2-Picoline	1.361	1.272	1.277	1.268	1.247	1.268	1.282	3.1	AVG	
Phenol	1.632	1.475	1.489	1.459	1.440	1.442	1.490	4.9	AVG	*
Aniline	1.967	1.930	1.837	1.815	1.853	1.849	1.875	3.2	AVG	
bis(2-Chloroethyl)ether	1.263	1.158	1.163	1.126	1.139	1.135	1.164	4.3	AVG	
2-Chlorophenol	1.324	1.327	1.328	1.292	1.292	1.269	1.305	1.9	AVG	
1,3-Dichlorobenzene	1.484	1.398	1.389	1.367	1.364	1.370	1.395	3.3	AVG	
1,4-Dichlorobenzene	1.501	1.456	1.443	1.406	1.413	1.408	1.438	2.6	AVG	*
Benzyl alcohol	.788	.754	.782	.761	.764	.763	.769	1.7	AVG	
1,2-Dichlorobenzene	1.411	1.303	1.345	1.301	1.292	1.303	1.326	3.5	AVG	
2-Methylphenol	1.121	1.053	1.060	1.038	1.038	1.034	1.057	3.1	AVG	
2,2'-oxybis(1-Chloropropane)	1.844	1.482	1.439	1.397	1.392	1.390	1.491	11.9	AVG	
bis(2-Chloroisopropyl)ether	1.844	1.482	1.439	1.397	1.392	1.390	1.491	11.9	AVG	
4-Methylphenol	1.167	1.140	1.123	1.098	1.105	1.095	1.121	2.5	AVG	
3- and 4-Methylphenol	1.167	1.140	1.123	1.098	1.105	1.095	1.121	2.5	AVG	
Acetophenone	1.799	1.620	1.626	1.580	1.566	1.530	1.620	5.8	AVG	
N-Nitroso-di-n-propylamine	.983	.919	.896	.890	.882	.878	.908	4.3	AVG	#
o-Toluidine	1.929	1.816	1.805	1.747	1.760	1.751	1.801	3.8	AVG	
Hexachloroethane	.643	.602	.623	.610	.614	.619	.618	2.3	AVG	
Nitrobenzene	.412	.407	.407	.405	.399	.395	.404	1.5	AVG	
Isophorone	.716	.709	.715	.702	.707	.693	.707	1.2	AVG	
2-Nitrophenol	.174	.185	.199	.199	.202	.202	.193	6.0	AVG	*
2,4-Dimethylphenol	.342	.353	.348	.346	.345	.344	.346	1.1	AVG	
Benzoic acid	.196	.226	.251	.269	.270	.277	.248	12.7	AVG	
bis(2-Chloroethoxy)methane	.410	.395	.394	.391	.393	.386	.395	2.1	AVG	
2,4-Dichlorophenol	.281	.281	.285	.283	.281	.277	.281	1.0	AVG	*
1,2,4-Trichlorobenzene	.301	.313	.305	.299	.307	.300	.304	1.8	AVG	
Naphthalene	1.014	.987	.970	.959	.960	.951	.974	2.4	AVG	
4-Chloroaniline	.438	.448	.439	.434	.437	.424	.437	1.8	AVG	
Hexachlorobutadiene	.183	.192	.192	.190	.194	.194	.191	2.2	AVG	*
4-Chloro-3-methylphenol	.285	.289	.291	.292	.287	.284	.288	1.1	AVG	*
2-Methylnaphthalene	.597	.609	.612	.599	.597	.587	.600	1.5	AVG	
1-Methylnaphthalene	.600	.604	.606	.584	.585	.564	.591	2.7	AVG	
Hexachlorocyclopentadiene	.286	.366	.391	.410	.433	.440	.388	14.6	AVG	#
2,4,6-Trichlorophenol	.381	.399	.404	.406	.396	.401	.398	2.3	AVG	*
2,4,5-Trichlorophenol	.409	.419	.445	.443	.429	.434	.430	3.2	AVG	
2-Chloronaphthalene	1.177	1.186	1.180	1.187	1.159	1.155	1.174	1.2	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

ame: LANCASTER LABS Contract: _____.

o Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/16/98 06/16/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF314 RRF20 = >BF315 RRF50 = >BF316
RRF80 = >BF317 RRF120= >BF313 RRF160= >BF31Y

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.379	.388	.420	.416	.418	.425	.408	4.7	AVG	
Dimethylphthalate	1.347	1.331	1.339	1.323	1.305	1.316	1.327	1.2	AVG	
2,6-Dinitrotoluene	.246	.261	.295	.305	.303	.315	.288	9.6	AVG	
Acenaphthylene	1.860	1.892	1.937	1.898	1.851	1.895	1.889	1.6	AVG	
3-Nitroaniline	.321	.347	.373	.377	.376	.391	.364	7.0	AVG	
Acenaphthene *	1.130	1.154	1.161	1.147	1.124	1.129	1.141	1.3	AVG	*
2,4-Dinitrophenol #	.086	.113	.140	.163	.168	.176	.141	25.1	1STDEG	# = 0.9988
4-Nitrophenol #	.238	.232	.253	.255	.265	.264	.251	5.4	AVG	#
Dibenzofuran	1.658	1.625	1.624	1.601	1.594	1.577	1.613	1.8	AVG	
2,4-Dinitrotoluene	.313	.369	.410	.419	.429	.438	.396	11.9	AVG	
1-Naphthylamine	.866	1.182	1.005	.955	1.098	1.119	1.037	11.3	AVG	
2-Naphthylamine	1.058	1.210	.911	.836	1.094	1.139	1.041	13.6	AVG	
Diethylphthalate	1.503	1.444	1.468	1.445	1.422	1.440	1.454	1.9	AVG	
4-Chlorophenyl-phenylether	.615	.591	.597	.594	.583	.587	.595	1.9	AVG	
Fluorene	1.264	1.249	1.242	1.224	1.195	1.226	1.234	1.9	AVG	
4-Nitroaniline	.340	.359	.400	.403	.396	.415	.385	7.6	AVG	
4,6-Dinitro-2-methylphenol	.080	.093	.126	.136	.141	.147	.121	22.7	1STDEG	= 0.9985
N-Nitrosodiphenylamine (1) *	.524	.514	.516	.526	.518	.518	.519	1.0	AVG	*
1,2-Diphenylhydrazine	.934	.900	.911	.914	.888	.908	.909	1.7	AVG	
4-Bromophenyl-phenylether	.225	.220	.223	.223	.223	.225	.223	.8	AVG	
Hexachlorobenzene	.253	.247	.253	.259	.256	.255	.254	1.6	AVG	
Pentachlorophenol *	.149	.163	.169	.174	.173	.178	.168	6.1	AVG	*
Phenanthrene	1.062	1.032	1.030	1.026	1.023	1.016	1.031	1.6	AVG	
Anthracene	1.067	1.050	1.054	1.054	1.044	1.047	1.053	.8	AVG	
Carbazole	1.038	1.017	1.007	1.029	1.006	1.006	1.017	1.3	AVG	
Di-n-butylphthalate	1.447	1.424	1.430	1.434	1.426	1.442	1.434	.6	AVG	
Fluoranthene *	1.146	1.111	1.103	1.109	1.109	1.120	1.116	1.4	AVG	*
Benzidine	.871	.813	.631	.628	.685	.699	.721	13.8	AVG	
Pyrene	1.128	1.102	1.084	1.097	1.089	1.105	1.101	1.4	AVG	
Butylbenzylphthalate	.655	.635	.637	.645	.639	.641	.642	1.2	AVG	
3,3'-Dichlorobenzidine	.441	.433	.452	.458	.465	.476	.454	3.5	AVG	
Benzo(a)anthracene	1.069	1.029	1.048	1.044	1.045	1.067	1.050	1.4	AVG	
bis(2-Ethylhexyl)phthalate	.847	.837	.866	.855	.868	.864	.856	1.4	AVG	
Chrysene	1.037	.998	1.010	.991	1.015	1.011	1.010	1.6	AVG	
Di-n-octylphthalate *	1.455	1.544	1.617	1.644	1.641	1.679	1.597	5.2	AVG	*
7,12-Dimethylbenz[a]anthrace	.252	.504	.506	.560	.582	.599	.500	25.6	1STDEG	= 0.9992
Benzo(b)fluoranthene	1.234	1.261	1.259	1.263	1.281	1.290	1.265	1.6	AVG	
Benzo(k)fluoranthene	1.179	1.176	1.197	1.200	1.184	1.203	1.190	1.0	AVG	

(1) Cannot be separated from Diphenylamine

6C Cont.
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

ame: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/16/98 06/16/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF314 RRF20 = >BF315 RRF50 = >BF316
RRF80 = >BF317 RRF120= >BF313 RRF160= >BF31Y

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(a)pyrene *	1.023	1.069	1.101	1.114	1.105	1.124	1.089	3.5	AVG *
Indeno(1,2,3-cd)pyrene	.938	.969	1.004	1.026	1.021	1.026	.997	3.7	AVG
Dibenz(a,h)anthracene	.956	.952	.997	1.021	1.014	1.034	.996	3.5	AVG
Benzo(g,h,i)perylene	1.018	1.014	1.039	1.059	1.057	1.069	1.043	2.2	AVG
2-Fluorophenol	1.202	1.188	1.178	1.161	1.148	1.159	1.173	1.7	AVG
Phenol-d5	1.616	1.512	1.520	1.498	1.495	1.497	1.523	3.1	AVG
Phenol-d6	1.616	1.512	1.520	1.498	1.495	1.497	1.523	3.1	AVG
Nitrobenzene-d5	.412	.405	.407	.407	.408	.407	.408	.6	AVG
2-Fluorobiphenyl	1.312	1.337	1.329	1.334	1.290	1.297	1.317	1.5	AVG
2,4,6-Tribromophenol	.218	.242	.255	.258	.254	.262	.248	6.6	AVG
Terphenyl-d14	.923	.909	.907	.912	.903	.912	.911	.7	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
enzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF49A DFTPP Injection Date: 06/23/98

Instrument ID: HP06588 DFTPP Injection Time: 23:58 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	32.6
68	Less than 2.0% of mass 69	.9 (1.9)1
69	Mass 69 relative abundance	48.2
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	44.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	23.1
365	Greater than 1.00% of mass 198	3.16
441	Present, but less than mass 443	15.2
442	Greater than 40.0% of mass 198	93.2
443	17.0 - 23.0% of mass 442	17.2 (18.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1558	>BF491	06/24/98	00:24
02	SBLKLB1692	SBLKLB169	>BF492	06/24/98	01:38
03	169LBLCS2	169LBLCS	>BF493	06/24/98	02:33 ✓
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FORM V SV 1/87 Rev.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 00:24

Lab File ID: >BF491 Init. Calib. Date(s): 06/16/98 06/16/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.307	1.286	78.70	80.0	1.6	
N-Nitrosodimethylamine		.732	.724	79.10	80.0	1.1	
2-Picoline		1.282	1.265	78.90	80.0	1.4	
Phenol	*	1.490	1.481	79.56	80.0	.5	*
Aniline		1.875	1.879	80.15	80.0	-.2	
bis(2-Chloroethyl)ether		1.164	1.226	84.28	80.0	-5.4	
2-Chlorophenol		1.305	1.335	81.81	80.0	-2.3	
1,3-Dichlorobenzene		1.395	1.436	82.31	80.0	-2.9	
1,4-Dichlorobenzene	*	1.438	1.507	83.85	80.0	-4.8	*
Benzyl alcohol		.769	.821	85.40	80.0	-6.8	
1,2-Dichlorobenzene		1.326	1.381	83.31	80.0	-4.1	
2-Methylphenol		1.057	1.067	80.69	80.0	-.9	
2,2'-oxybis(1-Chloropropane)		1.491	1.520	81.57	80.0	-2.0	
bis(2-Chloroisopropyl)ether		1.491	1.520	81.57	80.0	-2.0	
4-Methylphenol		1.121	1.141	81.44	80.0	-1.8	
3- and 4-Methylphenol		1.121	1.141	81.44	80.0	-1.8	
Acetophenone		1.620	1.649	81.42	80.0	-1.8	
N-Nitroso-di-n-propylamine	#	.908	.931	82.04	80.0	-2.6	#
o-Toluidine		1.801	1.838	81.66	80.0	-2.1	
Hexachloroethane		.618	.667	86.28	80.0	-7.9	
Nitrobenzene		.404	.444	87.92	80.0	-9.9	
Isophorone		.707	.749	84.77	80.0	-6.0	
2-Nitrophenol	*	.193	.210	87.05	80.0	-8.8	*
2,4-Dimethylphenol		.346	.359	82.91	80.0	-3.6	
Benzoic acid		.248	.261	84.21	80.0	-5.3	
bis(2-Chloroethoxy)methane		.395	.419	84.92	80.0	-6.2	
2,4-Dichlorophenol	*	.281	.291	82.70	80.0	-3.4	*
1,2,4-Trichlorobenzene		.304	.321	84.44	80.0	-5.6	
Naphthalene		.974	1.002	82.35	80.0	-2.9	
4-Chloroaniline		.437	.438	80.18	80.0	-.2	
Hexachlorobutadiene	*	.191	.195	81.84	80.0	-2.3	*
4-Chloro-3-methylphenol	*	.288	.299	82.94	80.0	-3.7	*
2-Methylnaphthalene		.600	.627	83.50	80.0	-4.4	
1-Methylnaphthalene		.591	.615	83.34	80.0	-4.2	
Hexachlorocyclopentadiene	#	.388	.396	81.80	80.0	-2.3	#
2,4,6-Trichlorophenol	*	.398	.400	80.41	80.0	-.5	*
2,4,5-Trichlorophenol		.430	.426	79.39	80.0	.8	
2-Chloronaphthalene		1.174	1.213	82.64	80.0	-3.3	

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 00:24

Lab File ID: >BF491 Init. Calib. Date(s): 06/16/98 06/16/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.408	.451	88.44	80.0	-10.5
Dimethylphthalate		1.327	1.343	80.99	80.0	-1.2
2,6-Dinitrotoluene		.288	.316	87.85	80.0	-9.8
Acenaphthylene		1.889	1.931	81.80	80.0	-2.2
3-Nitroaniline		.364	.391	85.97	80.0	-7.5
Acenaphthene	*	1.141	1.117	78.35	80.0	2.1*
2,4-Dinitrophenol	#	.141	.189	91.83	80.0	-14.8#
4-Nitrophenol	#	.251	.271	86.26	80.0	-7.8#
Dibenzofuran		1.613	1.585	78.61	80.0	1.7
2,4-Dinitrotoluene		.396	.437	88.18	80.0	-10.2
1-Naphthylamine		1.037	.950	73.25	80.0	8.4
2-Naphthylamine		1.041	.849	65.23	80.0	18.5
Diethylphthalate		1.454	1.439	79.18	80.0	1.0
4-Chlorophenyl-phenylether		.595	.573	77.17	80.0	3.5
Fluorene		1.234	1.191	77.24	80.0	3.4
4-Nitroaniline		.385	.419	86.93	80.0	-8.7
4,6-Dinitro-2-methylphenol		.121	.153	87.64	80.0	-9.6
N-Nitrosodiphenylamine (1)	*	.519	.540	83.23	80.0	-4.0*
1,2-Diphenylhydrazine		.909	.973	85.67	80.0	-7.1
4-Bromophenyl-phenylether		.223	.218	78.30	80.0	2.1
Hexachlorobenzene		.254	.250	78.91	80.0	1.4
Pentachlorophenol	*	.168	.161	76.65	80.0	4.2*
Phenanthrene		1.031	1.042	80.84	80.0	-1.1
Anthracene		1.053	1.081	82.17	80.0	-2.7
Carbazole		1.017	1.035	81.41	80.0	-1.8
Di-n-butylphthalate		1.434	1.503	83.90	80.0	-4.9
Fluoranthene	*	1.116	1.146	82.11	80.0	-2.6*
Benzidine		.721	.653	289.84	320.0	9.4
Pyrene		1.101	1.139	82.81	80.0	-3.5
Butylbenzylphthalate		.642	.674	84.01	80.0	-5.0
3,3'-Dichlorobenzidine		.454	.471	82.93	80.0	-3.7
Benzo(a)anthracene		1.050	1.057	80.48	80.0	-.6
bis(2-Ethylhexyl)phthalate		.856	.928	86.75	80.0	-8.4
Chrysene		1.010	1.014	80.31	80.0	-.4
Di-n-octylphthalate	*	1.597	1.811	90.72	80.0	-13.4*
7,12-Dimethylbenz[a]anthrace		.500	.579	80.96	80.0	-1.2
Benzo(b)fluoranthene		1.265	1.271	80.43	80.0	-.5
Benzo(k)fluoranthene		1.190	1.203	80.91	80.0	-1.1

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 00:24

Lab File ID: >BF491 Init. Calib. Date(s): 06/16/98 06/16/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80 ✓	ACTUAL CONC	TRUE CONC	% DRIFT ✓
Benzo(a)pyrene	*	1.089	1.122	82.40	80.0	-3.0*
Indeno(1,2,3-cd)pyrene		.997	1.077	86.36	80.0	-8.0
Dibenz(a,h)anthracene		.996	1.055	84.75	80.0	-5.9
Benzo(g,h,i)perylene		1.043	1.082	83.01	80.0	-3.8
2-Fluorophenol		1.173	1.182	80.61	80.0	-.8
Phenol-d5		1.523	1.572	82.56	80.0	-3.2
Phenol-d6		1.523	1.572	82.56	80.0	-3.2
Nitrobenzene-d5		.408	.444	87.20	80.0	-9.0
2-Fluorobiphenyl		1.317	1.292	78.53	80.0	1.8
2,4,6-Tribromophenol		.248	.231	74.31	80.0	7.1
Terphenyl-d14		.911	.897	78.78	80.0	1.5

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF491 Date Analyzed: 06/24/98

Instrument ID: HP06588 Time Analyzed: 00:24

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	190829	12.55	647227	16.39	318043	21.76
	UPPER LIMIT	381658		1294454		636086	
	LOWER LIMIT	95415		323614		159022	
	EPA SAMPLE NO.						
01	SBLKLB1692	119812	12.56	418564	16.40	203594	21.76
02	169LBLCS2	117630	12.56	401457	16.40	194843	21.76
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF491 Date Analyzed: 06/24/98

Instrument ID: HP06588 Time Analyzed: 00:24

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	520935	✓	26.28	544512	✓	32.90	461557	✓	37.97
	UPPER LIMIT	1041870			1089024			923114		
	LOWER LIMIT	260468			272256			230779		
	EPA SAMPLE NO.									
01	SBLKLB1692	342851	✓	26.28	330427	✓	32.90	257947	✓	37.97
02	169LBLCS2	337209	✓	26.28	327192	✓	32.90	258376	✓	37.97
03										
04										
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF50B DFTPP Injection Date: 06/24/98

Instrument ID: HP06588 DFTPP Injection Time: 09:02 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.2
68	Less than 2.0% of mass 69	.2 (.4)1
69	Mass 69 relative abundance	49.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	46.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	22.3
365	Greater than 1.00% of mass 198	3.33
441	Present, but less than mass 443	14.7
442	Greater than 40.0% of mass 198	93.2
443	17.0 - 23.0% of mass 442	17.2 (18.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF502	06/24/98	11:11
02	SSTD160	STD1748	>BF503	06/24/98	12:07
03	SSTD001	MDL1748	>BF504	06/24/98	13:02
04	SSTD120	STD1748	>BF505	06/24/98	13:58
05	SSTD005	STD1748	>BF506	06/24/98	14:54
06	SSTD020	STD1748	>BF507	06/24/98	15:49
07	SSTD050	STD1748	>BF508	06/24/98	16:45 ✓
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.217	1.193	1.232	1.271	1.181	1.203	1.216	2.6	AVG	
N-Nitrosodimethylamine	.647	.676	.726	.741	.693	.691	.696	4.9	AVG	
2-Picoline	1.143	1.205	1.238	1.246	1.189	1.200	1.203	3.1	AVG	
Phenol *	1.482	1.498	1.528	1.520	1.465	1.447	1.490	2.1	AVG	*
Aniline	1.838	1.852	1.871	1.891	1.810	1.839	1.850	1.5	AVG	
bis(2-Chloroethyl)ether	1.233	1.164	1.216	1.253	1.180	1.194	1.207	2.8	AVG	
2-Chlorophenol	1.332	1.327	1.371	1.389	1.306	1.322	1.341	2.4	AVG	
1,3-Dichlorobenzene	1.423	1.485	1.510	1.527	1.459	1.458	1.477	2.6	AVG	
1,4-Dichlorobenzene *	1.542	1.556	1.531	1.595	1.497	1.522	1.540	2.2	AVG	*
Benzyl alcohol	.723	.745	.809	.838	.783	.788	.781	5.4	AVG	
1,2-Dichlorobenzene	1.387	1.387	1.408	1.444	1.381	1.387	1.399	1.7	AVG	
2-Methylphenol	1.093	1.083	1.101	1.104	1.077	1.064	1.087	1.4	AVG	
2,2'-oxybis(1-Chloropropane)	1.470	1.481	1.464	1.515	1.434	1.446	1.468	1.9	AVG	
bis(2-Chloroisopropyl)ether	1.470	1.481	1.464	1.515	1.434	1.446	1.468	1.9	AVG	
4-Methylphenol	1.164	1.161	1.145	1.162	1.123	1.123	1.146	1.7	AVG	
3- and 4-Methylphenol	1.164	1.161	1.145	1.162	1.123	1.123	1.146	1.7	AVG	
Acetophenone	1.601	1.593	1.626	1.620	1.553	1.557	1.592	1.9	AVG	
N-Nitroso-di-n-propylamine #	.891	.936	.941	.957	.916	.912	.925	2.6	AVG	#
oluidine	1.761	1.827	1.809	1.819	1.765	1.782	1.794	1.6	AVG	
achloroethane	.631	.637	.673	.683	.657	.664	.658	3.1	AVG	
trobenzene	.400	.414	.430	.449	.426	.435	.426	4.0	AVG	
Isophorone	.733	.734	.755	.757	.738	.749	.744	1.5	AVG	
2-Nitrophenol *	.165	.183	.205	.212	.212	.214	.198	10.0	AVG	*
2,4-Dimethylphenol	.359	.359	.368	.370	.359	.361	.363	1.3	AVG	
Benzoic acid	.175	.210	.229	.260	.255	.271	.233	15.6	1STDEG	= 0.9990
bis(2-Chloroethoxy)methane	.414	.411	.414	.430	.412	.415	.416	1.7	AVG	
2,4-Dichlorophenol *	.281	.285	.293	.296	.294	.294	.290	2.1	AVG	*
1,2,4-Trichlorobenzene	.319	.326	.330	.337	.326	.332	.328	1.9	AVG	
Naphthalene	1.031	1.030	1.028	1.048	1.020	1.027	1.031	.9	AVG	
4-Chloroaniline	.439	.435	.443	.451	.438	.444	.442	1.3	AVG	
Hexachlorobutadiene *	.203	.201	.206	.202	.205	.206	.204	1.1	AVG	*
4-Chloro-3-methylphenol *	.279	.299	.305	.306	.298	.302	.298	3.4	AVG	*
2-Methylnaphthalene	.623	.628	.636	.652	.631	.643	.636	1.7	AVG	
1-Methylnaphthalene	.579	.600	.592	.615	.595	.593	.596	2.0	AVG	
Hexachlorocyclopentadiene #	.213	.299	.357	.368	.420	.423	.347	23.0	1STDEG	# = 0.9981
2,4,6-Trichlorophenol *	.361	.409	.406	.401	.415	.410	.401	5.0	AVG	*
2,4,5-Trichlorophenol	.384	.429	.445	.436	.444	.451	.432	5.7	AVG	
2-Chloronaphthalene	1.214	1.228	1.239	1.226	1.266	1.237	1.235	1.4	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.347	.385	.425	.442	.451	.447	.416	10.0	AVG	
Dimethylphthalate	1.322	1.379	1.358	1.376	1.421	1.376	1.372	2.3	AVG	
2,6-Dinitrotoluene	.183	.257	.293	.308	.329	.324	.283	19.5	1STDEG	= 0.9985
Acenaphthylene	1.968	1.966	1.962	2.013	2.026	2.008	1.990	1.4	AVG	
3-Nitroaniline	.259	.346	.372	.387	.407	.404	.363	15.3	1STDEG	= 0.9996
Acenaphthene *	1.152	1.148	1.175	1.170	1.185	1.163	1.166	1.2	AVG	*
2,4-Dinitrophenol #	.060	.108	.130	.154	.178	.193	.137	35.7	1STDEG	# ~~=~~ = 0.9970
4-Nitrophenol #	.206	.229	.255	.268	.273	.281	.252	11.6	AVG	#
Dibenzofuran	1.590	1.660	1.654	1.658	1.687	1.664	1.652	2.0	AVG	
2,4-Dinitrotoluene	.283	.361	.413	.425	.454	.454	.398	16.6	1STDEG	= 0.9985
1-Naphthylamine	1.081	1.125	1.072	1.113	1.188	1.136	1.119	3.8	AVG	
2-Naphthylamine	1.087	1.115	1.040	1.084	1.194	1.147	1.111	4.9	AVG	
Diethylphthalate	1.441	1.495	1.492	1.464	1.541	1.502	1.489	2.3	AVG	
4-Chlorophenyl-phenylether	.617	.588	.594	.588	.611	.601	.600	2.0	AVG	
Fluorene	1.226	1.263	1.261	1.231	1.281	1.256	1.253	1.7	AVG	
4-Nitroaniline	.305	.366	.401	.415	.431	.431	.392	12.4	AVG	
4,6-Dinitro-2-methylphenol	.056	.088	.116	.133	.141	.147	.114	31.0	1STDEG	~~=~~ = 0.9992
N-Nitrosodiphenylamine (1) *	.504	.527	.527	.535	.514	.526	.522	2.1	AVG	*
1,2-Diphenylhydrazine	.852	.862	.882	.923	.860	.889	.878	3.0	AVG	
4-Bromophenyl-phenylether	.198	.209	.214	.214	.214	.219	.211	3.4	AVG	
Hexachlorobenzene	.240	.242	.246	.255	.246	.251	.246	2.2	AVG	
Pentachlorophenol *	.101	.135	.134	.150	.152	.160	.139	15.0	AVG	*
Phenanthrene	1.048	1.026	1.019	1.060	1.022	1.035	1.035	1.5	AVG	
Anthracene	1.025	1.058	1.072	1.083	1.054	1.060	1.059	1.8	AVG	
Carbazole	1.003	1.010	1.031	1.039	1.003	1.026	1.019	1.5	AVG	
Di-n-butylphthalate	1.384	1.398	1.429	1.480	1.433	1.444	1.428	2.4	AVG	
Fluoranthene *	1.087	1.101	1.113	1.150	1.105	1.132	1.115	2.0	AVG	*
Benzidine	.919	.865	.723	.735	.756	.765	.794	10.0	AVG	
Pyrene	1.183	1.198	1.189	1.220	1.199	1.212	1.200	1.1	AVG	
Butylbenzylphthalate	.666	.682	.684	.713	.699	.705	.691	2.5	AVG	
3,3'-Dichlorobenzidine	.444	.456	.475	.478	.486	.498	.473	4.2	AVG	
Benzo(a)anthracene	1.081	1.092	1.105	1.088	1.097	1.116	1.097	1.1	AVG	
bis(2-Ethylhexyl)phthalate	.933	.941	.955	.982	.961	.980	.959	2.1	AVG	
Chrysene	1.076	1.039	1.057	1.049	1.049	1.058	1.055	1.2	AVG	
Di-n-octylphthalate *	1.893	1.855	1.868	2.033	1.974	2.017	1.940	4.0	AVG	*
7,12-Dimethylbenz[a]anthrace	.555	.575	.610	.630	.637	.640	.608	5.8	AVG	
Benzo(b)fluoranthene	1.424	1.402	1.403	1.412	1.441	1.449	1.422	1.4	AVG	
Benzo(k)fluoranthene	1.265	1.263	1.311	1.351	1.365	1.356	1.318	3.5	AVG	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

lame: LANCASTER LABS Contract: _____.

ab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date(s): 06/24/98 06/24/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >BF506 RRF20 = >BF507 RRF50 = >BF508
RRF80 = >BF502 RRF120= >BF505 RRF160= >BF503

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(a)pyrene *	1.213	1.186	1.229	1.252	1.251	1.258	1.231	2.3	AVG *
Indeno(1,2,3-cd)pyrene	1.136	1.159	1.135	1.224	1.195	1.218	1.178	3.4	AVG
Dibenz(a,h)anthracene	1.093	1.120	1.145	1.194	1.176	1.202	1.155	3.8	AVG
Benzo(g,h,i)perylene	1.171	1.174	1.185	1.219	1.214	1.240	1.200	2.3	AVG
2-Fluorophenol	1.116	1.149	1.182	1.194	1.150	1.142	1.155	2.4	AVG
Phenol-d5	1.467	1.496	1.518	1.551	1.492	1.500	1.504	1.9	AVG
Phenol-d6	1.467	1.496	1.518	1.551	1.492	1.500	1.504	1.9	AVG
Nitrobenzene-d5	.374	.403	.410	.434	.423	.430	.413	5.4	AVG
2-Fluorobiphenyl	1.254	1.320	1.303	1.284	1.341	1.309	1.302	2.3	AVG
2,4,6-Tribromophenol	.208	.214	.235	.231	.251	.246	.231	7.4	AVG
Terphenyl-d14	.888	.885	.914	.916	.914	.926	.907	1.8	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
enzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF509 DFTPP Injection Date: 06/24/98

Instrument ID: HP06588 DFTPP Injection Time: 17:38

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	56.9
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	47.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	19.9
365	Greater than 1.00% of mass 198	2.65
441	Present, but less than mass 443	9.5
442	Greater than 40.0% of mass 198	59.5
443	17.0 - 23.0% of mass 442	11.6 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF510	06/24/98	18:02
02	SD1--	2941671	>BF511	06/24/98	18:58
03	SD1--MS	2941671	>BF512	06/24/98	19:54
04	SD1--MSD	2941671	>BF513	06/24/98	20:50
05	GF003RE	2933383RE	>BF514	06/24/98	21:45
06	GF009RE	2933388RE	>BF515	06/24/98	23:17
07	GF012RE	2933391RE	>BF516	06/25/98	00:41
08	GF014RE	2933393RE	>BF517	06/25/98	02:02
09	UST63	2941361	>BF518	06/25/98	03:25
10	SD3--	2941673	>BF519	06/25/98	04:35
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 18:02

Lab File ID: >BF510 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.237	81.37	80.0	-1.7
N-Nitrosodimethylamine	.696	.727	83.57	80.0	-4.5
2-Picoline	1.203	1.217	80.91	80.0	-1.1
Phenol *	1.490	1.498	80.41	80.0	-.5*
Aniline	1.850	1.830	79.12	80.0	1.1
bis(2-Chloroethyl)ether	1.207	1.196	79.33	80.0	.8
2-Chlorophenol	1.341	1.344	80.14	80.0	-.2
1,3-Dichlorobenzene	1.477	1.462	79.19	80.0	1.0
1,4-Dichlorobenzene *	1.540	1.527	79.32	80.0	.8*
Benzyl alcohol	.781	.782	80.07	80.0	-.1
1,2-Dichlorobenzene	1.399	1.383	79.10	80.0	1.1
2-Methylphenol	1.087	1.087	79.99	80.0	.0
2,2'-oxybis(1-Chloropropane)	1.468	1.437	78.31	80.0	2.1
bis(2-Chloroisopropyl)ether	1.468	1.437	78.31	80.0	2.1
4-Methylphenol	1.146	1.153	80.47	80.0	-.6
3- and 4-Methylphenol	1.146	1.153	80.47	80.0	-.6
Acetophenone	1.592	1.593	80.09	80.0	-.1
N-Nitroso-di-n-propylamine #	.925	.946	81.78	80.0	-2.2#
o-Toluidine	1.794	1.783	79.50	80.0	.6
Hexachloroethane	.658	.658	80.09	80.0	-.1
Nitrobenzene	.426	.436	81.99	80.0	-2.5
Isophorone	.744	.756	81.20	80.0	-1.5
2-Nitrophenol *	.198	.213	85.84	80.0	-7.3*
2,4-Dimethylphenol	.363	.370	81.72	80.0	-2.1
Benzoic acid	.233	.246	78.09	80.0	2.4
bis(2-Chloroethoxy)methane	.416	.416	79.97	80.0	.0
2,4-Dichlorophenol *	.290	.295	81.34	80.0	-1.7*
1,2,4-Trichlorobenzene	.328	.331	80.55	80.0	-.7
Naphthalene	1.031	1.035	80.33	80.0	-.4
4-Chloroaniline	.442	.454	82.24	80.0	-2.8
Hexachlorobutadiene *	.204	.207	81.40	80.0	-1.8*
4-Chloro-3-methylphenol *	.298	.306	82.23	80.0	-2.8*
2-Methylnaphthalene	.636	.638	80.32	80.0	-.4
1-Methylnaphthalene	.596	.598	80.37	80.0	-.5
Hexachlorocyclopentadiene #	.347	.390	78.10	80.0	2.4#
2,4,6-Trichlorophenol *	.401	.407	81.29	80.0	-1.6*
2,4,5-Trichlorophenol	.432	.457	84.67	80.0	-5.8
2-Chloronaphthalene	1.235	1.220	79.01	80.0	1.2

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 18:02

Lab File ID: >BF510 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.429	82.45	80.0	-3.1
Dimethylphthalate		1.372	1.369	79.84	80.0	.2
2,6-Dinitrotoluene		.283	.313	79.30	80.0	.9
Acenaphthylene		1.990	1.978	79.50	80.0	.6
3-Nitroaniline		.363	.392	79.36	80.0	.8
Acenaphthene	*	1.166	1.161	79.70	80.0	.4*
2,4-Dinitrophenol	#	.137	.159	77.39	80.0	3.3#
4-Nitrophenol	#	.252	.263	83.41	80.0	-4.3#
Dibenzofuran		1.652	1.670	80.84	80.0	-1.1
2,4-Dinitrotoluene		.398	.430	78.19	80.0	2.3
1-Naphthylamine		1.119	1.062	75.88	80.0	5.1
2-Naphthylamine		1.111	1.030	74.14	80.0	7.3
Diethylphthalate		1.489	1.486	79.82	80.0	.2
4-Chlorophenyl-phenylether		.600	.605	80.72	80.0	-.9
Fluorene		1.253	1.273	81.27	80.0	-1.6
4-Nitroaniline		.392	.416	85.03	80.0	-6.3
4,6-Dinitro-2-methylphenol		.113	.131	77.63	80.0	3.0
N-Nitrosodiphenylamine (1)	*	.522	.522	79.98	80.0	.0*
1,2-Diphenylhydrazine		.878	.872	79.40	80.0	.7
4-Bromophenyl-phenylether		.211	.214	80.91	80.0	-1.1
Hexachlorobenzene		.246	.249	80.76	80.0	-.9
Pentachlorophenol	*	.139	.148	85.66	80.0	-7.1*
Phenanthrene		1.035	1.040	80.41	80.0	-.5
Anthracene		1.059	1.060	80.10	80.0	-.1
Carbazole		1.019	1.013	79.53	80.0	.6
Di-n-butylphthalate		1.428	1.421	79.61	80.0	.5
Fluoranthene	*	1.115	1.121	80.45	80.0	-.6*
Benzidine		.794	.726	292.55	320.0	8.6
Pyrene		1.200	1.191	79.39	80.0	.8
Butylbenzylphthalate		.691	.684	79.17	80.0	1.0
3,3'-Dichlorobenzidine		.473	.477	80.72	80.0	-.9
Benzo(a)anthracene		1.097	1.094	79.81	80.0	.2
bis(2-Ethylhexyl)phthalate		.959	.952	79.41	80.0	.7
Chrysene		1.055	1.062	80.53	80.0	-.7
Di-n-octylphthalate	*	1.940	1.910	78.78	80.0	1.5*
7,12-Dimethylbenz[a]anthrace		.608	.622	81.87	80.0	-2.3
Benzo(b)fluoranthene		1.422	1.420	79.92	80.0	.1
Benzo(k)fluoranthene		1.318	1.342	81.40	80.0	-1.8

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/24/98 Time: 18:02

Lab File ID: >BF510 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Benzo(a)pyrene	*	1.231	1.247	81.03	80.0	-1.3	*
Indeno(1,2,3-cd)pyrene		1.178	1.196	81.27	80.0	-1.6	
Dibenz(a,h)anthracene		1.155	1.162	80.48	80.0	-.6	
Benzo(g,h,i)perylene		1.200	1.203	80.16	80.0	-.2	
2-Fluorophenol		1.155	1.171	81.08	80.0	-1.4	
Phenol-d5		1.504	1.516	80.65	80.0	-.8	
Phenol-d6		1.504	1.516	80.65	80.0	-.8	
Nitrobenzene-d5		.413	.424	82.24	80.0	-2.8	
2-Fluorobiphenyl		1.302	1.317	80.93	80.0	-1.2	
2,4,6-Tribromophenol		.231	.241	83.63	80.0	-4.5	
Terphenyl-d14		.907	.912	80.45	80.0	-.6	

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF510 Date Analyzed: 06/24/98

Instrument ID: HP06588 Time Analyzed: 18:02

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	142684	12.32	479215	16.16	235865	21.52
	UPPER LIMIT	285368		958430		471730	
	LOWER LIMIT	71342		239608		117933	
01	SD1--	134258	12.33	454251	16.17	221315	21.52
02	SD1--MS	121874	12.33	421674	16.17	206123	21.52
03	SD1--MSD	146861	12.33	504767	16.17	242410	21.53
04	GF003RE	120629	12.33	388595	16.18	217033	21.54
05	GF009RE	126945	12.34	448286	16.19	227448	21.55
06	GF012RE	129862	12.35	457193	16.18	233786	21.54
07	GF014RE	108527	12.35	377170	16.19	201880	21.55
08	UST63	120833	12.36	429602	16.20	259964	21.55
09	SD3--	109473	12.34	380312	16.19	199348	21.55
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF510 Date Analyzed: 06/24/98

Instrument ID: HP06588 Time Analyzed: 18:02

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	414465	26.05	403507	32.67	324567	37.52
	UPPER LIMIT	828930		807014		649134	
	LOWER LIMIT	207233		201754		162284	
	EPA SAMPLE NO.						
01	SD1--	384002	26.05	371532	32.66	298792	37.53
02	SD1--MS	359153	26.05	345127	32.67	270681	37.53
03	SD1--MSD	424448	26.06	420145	32.67	333250	37.54
04	GF003RE	342595	26.08	387148	32.70	312812	37.61
05	GF009RE	394534	26.07	404704	32.69	343946	37.61
06	GF012RE	396396	26.08	411856	32.71	336007	37.61
07	GF014RE	327165	26.11	389066	32.74	294526	37.69
08	UST63	375469	26.09	383010	32.71	316695	37.62
09	SD3--	329987	26.07	365548	32.72	299436	37.68
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF52B DFTPP Injection Date: 06/25/98

Instrument ID: HP06588 DFTPP Injection Time: 08:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	53.1
68	Less than 2.0% of mass 69	1.1 (1.5)1
69	Mass 69 relative abundance	74.4
70	Less than 2.0% of mass 69	.2 (.3)1
127	40.0 - 60.0% of mass 198	57.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	20.3
365	Greater than 1.00% of mass 198	2.08
441	Present, but less than mass 443	9.2
442	Greater than 40.0% of mass 198	56.0
443	17.0 - 23.0% of mass 442	10.8 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF526	06/25/98	09:18
02	SD2--	2941672	>BF527	06/25/98	12:04
03	SD5--	2941675	>BF528	06/25/98	13:11
04	SD6--	2941676	>BF529	06/25/98	14:13
05	SD7--	2941677	>BF530	06/25/98	15:09
06	SD8--	2941678	>BF531	06/25/98	16:05
07	SD9--	2941679	>BF532	06/25/98	17:01
08	SD10-	2941680	>BF533	06/25/98	17:57
09	SD11-	2941681	>BF534	06/25/98	19:00
10	SD12-	2941682	>BF535	06/25/98	19:56
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 09:18

Lab File ID: >BF526 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.200	78.97	80.0	1.3
N-Nitrosodimethylamine	.696	.710	81.60	80.0	-2.0
2-Picoline	1.203	1.201	79.87	80.0	.2
Phenol *	1.490	1.517	81.43	80.0	-1.8*
Aniline	1.850	1.845	79.80	80.0	.3
bis(2-Chloroethyl)ether	1.207	1.246	82.63	80.0	-3.3
2-Chlorophenol	1.341	1.379	82.22	80.0	-2.8
1,3-Dichlorobenzene	1.477	1.495	80.97	80.0	-1.2
1,4-Dichlorobenzene *	1.540	1.571	81.59	80.0	-2.0*
Benzyl alcohol	.781	.830	85.00	80.0	-6.3
1,2-Dichlorobenzene	1.399	1.422	81.32	80.0	-1.7
2-Methylphenol	1.087	1.104	81.27	80.0	-1.6
2,2'-oxybis(1-Chloropropane)	1.468	1.542	84.03	80.0	-5.0
bis(2-Chloroisopropyl)ether	1.468	1.542	84.03	80.0	-5.0
4-Methylphenol	1.146	1.183	82.55	80.0	-3.2
3- and 4-Methylphenol	1.146	1.183	82.55	80.0	-3.2
Acetophenone	1.592	1.647	82.80	80.0	-3.5
N-Nitroso-di-n-propylamine #	.925	.986	85.20	80.0	-6.5#
o-Toluidine	1.794	1.820	81.16	80.0	-1.5
Hexachloroethane	.658	.702	85.41	80.0	-6.8
Nitrobenzene	.426	.473	88.88	80.0	-11.1
Isophorone	.744	.796	85.59	80.0	-7.0
2-Nitrophenol *	.198	.214	86.27	80.0	-7.8*
2,4-Dimethylphenol	.363	.375	82.70	80.0	-3.4
Benzoic acid	.233	.262	82.41	80.0	-3.0
bis(2-Chloroethoxy)methane	.416	.436	83.81	80.0	-4.8
2,4-Dichlorophenol *	.290	.303	83.45	80.0	-4.3*
1,2,4-Trichlorobenzene	.328	.340	82.85	80.0	-3.6
Naphthalene	1.031	1.058	82.07	80.0	-2.6
4-Chloroaniline	.442	.450	81.50	80.0	-1.9
Hexachlorobutadiene *	.204	.203	79.60	80.0	.5*
4-Chloro-3-methylphenol *	.298	.312	83.80	80.0	-4.7*
2-Methylnaphthalene	.636	.659	82.98	80.0	-3.7
1-Methylnaphthalene	.596	.609	81.74	80.0	-2.2
Hexachlorocyclopentadiene #	.347	.330	67.21	80.0	16.0#
2,4,6-Trichlorophenol *	.401	.406	81.08	80.0	-1.4*
2,4,5-Trichlorophenol	.432	.440	81.50	80.0	-1.9
2-Chloronaphthalene	1.235	1.226	79.41	80.0	.7

FORM VII SV-1 1/87 Rev.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 09:18

Lab File ID: >BF526 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.475	91.41	80.0	-14.3
Dimethylphthalate		1.372	1.383	80.63	80.0	-.8
2,6-Dinitrotoluene		.283	.319	80.67	80.0	-.8
Acenaphthylene		1.990	1.986	79.82	80.0	.2
3-Nitroaniline		.363	.392	79.34	80.0	.8
Acenaphthene	*	1.166	1.151	79.03	80.0	1.2*
2,4-Dinitrophenol	#	.137	.159	77.48	80.0	3.1#
4-Nitrophenol	#	.252	.286	90.80	80.0	-13.5#
Dibenzofuran		1.652	1.669	80.80	80.0	-1.0
2,4-Dinitrotoluene		.398	.445	80.85	80.0	-1.1
1-Naphthylamine		1.119	1.083	77.41	80.0	3.2
2-Naphthylamine		1.111	1.037	74.69	80.0	6.6
Diethylphthalate		1.489	1.510	81.11	80.0	-1.4
4-Chlorophenyl-phenylether		.600	.583	77.79	80.0	2.8
Fluorene		1.253	1.237	78.98	80.0	1.3
4-Nitroaniline		.392	.436	89.14	80.0	-11.4
4,6-Dinitro-2-methylphenol		.113	.127	75.46	80.0	5.7
N-Nitrosodiphenylamine (1)	*	.522	.530	81.23	80.0	-1.5*
1,2-Diphenylhydrazine		.878	.933	85.01	80.0	-6.3
4-Bromophenyl-phenylether		.211	.210	79.37	80.0	.8
Hexachlorobenzene		.246	.248	80.49	80.0	-.6
Pentachlorophenol	*	.139	.147	84.77	80.0	-6.0*
Phenanthrene		1.035	1.041	80.43	80.0	-.5
Anthracene		1.059	1.084	81.91	80.0	-2.4
Carbazole		1.019	1.034	81.20	80.0	-1.5
Di-n-butylphthalate		1.428	1.502	84.15	80.0	-5.2
Fluoranthene	*	1.115	1.179	84.64	80.0	-5.8*
Benzidine		.794	.738	297.53	320.0	7.0
Pyrene		1.200	1.229	81.90	80.0	-2.4
Butylbenzylphthalate		.691	.726	84.05	80.0	-5.1
3,3'-Dichlorobenzidine		.473	.486	82.17	80.0	-2.7
Benzo(a)anthracene		1.097	1.104	80.52	80.0	-.6
bis(2-Ethylhexyl)phthalate		.959	1.002	83.59	80.0	-4.5
Chrysene		1.055	1.066	80.84	80.0	-1.0
Di-n-octylphthalate	*	1.940	2.064	85.12	80.0	-6.4*
7,12-Dimethylbenz[a]anthrace		.608	.629	82.73	80.0	-3.4
Benzo(b)fluoranthene		1.422	1.414	79.56	80.0	.6
Benzo(k)fluoranthene		1.318	1.346	81.70	80.0	-2.1

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 09:18

Lab File ID: >BF526 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.247	81.00	80.0	-1.2*
Indeno(1,2,3-cd)pyrene		1.178	1.232	83.73	80.0	-4.7
Dibenz(a,h)anthracene		1.155	1.206	83.51	80.0	-4.4
Benzo(g,h,i)perylene		1.200	1.257	83.76	80.0	-4.7
2-Fluorophenol		1.155	1.168	80.85	80.0	-1.1
Phenol-d5		1.504	1.532	81.49	80.0	-1.9
Phenol-d6		1.504	1.532	81.49	80.0	-1.9
Nitrobenzene-d5		.413	.450	87.18	80.0	-9.0
2-Fluorobiphenyl		1.302	1.272	78.19	80.0	2.3
2,4,6-Tribromophenol		.231	.233	80.84	80.0	-1.0
Terphenyl-d14		.907	.910	80.25	80.0	-.3

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF526 Date Analyzed: 06/25/98

Instrument ID: HP06588 Time Analyzed: 09:18

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	126100	12.22	425534	16.07	214261	21.42
	UPPER LIMIT	252200		851068		428522	
	LOWER LIMIT	63050		212767		107131	
	EPA SAMPLE NO.						
01	SD2--	117974	12.22	405510	16.08	244630	21.42
02	SD5--	117170	12.21	402106	16.05	200843	21.41
03	SD6--	122023	12.21	429218	16.06	209431	21.40
04	SD7--	123321	12.21	424333	16.05	203409	21.41
05	SD8--	126175	12.21	445324	16.05	216978	21.40
06	SD9--	121290	12.21	415601	16.05	198533	21.41
07	SD10-	124972	12.21	426685	16.05	215588	21.41
08	SD11-	129033	12.21	448812	16.05	214009	21.40
09	SD12-	120372	12.20	414627	16.04	200539	21.39
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF526 Date Analyzed: 06/25/98

Instrument ID: HP06588 Time Analyzed: 09:18

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	372704	25.95	370474	32.56	296793	37.34
	UPPER LIMIT	745408		740948		593586	
	LOWER LIMIT	186352		185237		148397	
	EPA SAMPLE NO.						
01	SD2--	580661	25.96	435769	32.59	313119	37.34
02	SD5--	358536	25.93	357982	32.56	296984	37.33
03	SD6--	373206	25.93	366963	32.55	297483	37.32
04	SD7--	371421	25.93	373644	32.55	305257	37.32
05	SD8--	393061	25.93	386662	32.55	315968	37.31
06	SD9--	369355	25.93	372082	32.55	307239	37.32
07	SD10-	395581	25.93	385682	32.56	307870	37.32
08	SD11-	396798	25.93	387538	32.55	316946	37.30
09	SD12-	364818	25.92	375523	32.54	305268	37.30
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF540 DFTPP Injection Date: 06/25/98

Instrument ID: HP06588 DFTPP Injection Time: 22:30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	53.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	73.9
70	Less than 2.0% of mass 69	.3 (.5)1
127	40.0 - 60.0% of mass 198	54.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	18.5
365	Greater than 1.00% of mass 198	2.20
441	Present, but less than mass 443	7.6
442	Greater than 40.0% of mass 198	51.2
443	17.0 - 23.0% of mass 442	10.0 (19.4)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF541	06/25/98	22:59
02	UST63DL	2941361DL	>BF542	06/26/98	00:08
03	SD4--DL	2941674DL	>BF543	06/26/98	01:12
04	SD3--DL	2941673DL	>BF545	06/26/98	03:00
05	SD4--	2941674	>BF546	06/26/98	03:54
06	SD2--DL	2941672DL	>BF547	06/26/98	06:12
07					
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 22:59

Lab File ID: >BF541 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.190	78.29	80.0	2.1
N-Nitrosodimethylamine	.696	.622	71.57	80.0	10.5
2-Picoline	1.203	1.190	79.09	80.0	1.1
Phenol *	1.490	1.496	80.31	80.0	-.4
Aniline	1.850	1.800	77.84	80.0	2.7
bis(2-Chloroethyl)ether	1.207	1.137	75.41	80.0	5.7
2-Chlorophenol	1.341	1.327	79.13	80.0	1.1
1,3-Dichlorobenzene	1.477	1.440	77.99	80.0	2.5
1,4-Dichlorobenzene *	1.540	1.495	77.62	80.0	3.0
Benzyl alcohol	.781	.810	83.01	80.0	-3.8
1,2-Dichlorobenzene	1.399	1.366	78.12	80.0	2.3
2-Methylphenol	1.087	1.075	79.10	80.0	1.1
2,2'-oxybis(1-Chloropropane)	1.468	1.393	75.91	80.0	5.1
bis(2-Chloroisopropyl)ether	1.468	1.393	75.91	80.0	5.1
4-Methylphenol	1.146	1.134	79.16	80.0	1.0
3- and 4-Methylphenol	1.146	1.134	79.16	80.0	1.0
Acetophenone	1.592	1.596	80.21	80.0	-.3
N-Nitroso-di-n-propylamine #	.925	.935	80.84	80.0	-1.1
o-Toluidine	1.794	1.752	78.11	80.0	2.4
Hexachloroethane	.658	.679	82.62	80.0	-3.3
Nitrobenzene	.426	.449	84.43	80.0	-5.5
Isophorone	.744	.770	82.75	80.0	-3.4
2-Nitrophenol *	.198	.217	87.66	80.0	-9.6
2,4-Dimethylphenol	.363	.373	82.37	80.0	-3.0
Benzoic acid	.233	.261	82.14	80.0	-2.7
bis(2-Chloroethoxy)methane	.416	.408	78.36	80.0	2.1
2,4-Dichlorophenol *	.290	.307	84.49	80.0	-5.6
1,2,4-Trichlorobenzene	.328	.332	80.97	80.0	-1.2
Naphthalene	1.031	1.029	79.83	80.0	.2
4-Chloroaniline	.442	.457	82.83	80.0	-3.5
Hexachlorobutadiene *	.204	.209	81.98	80.0	-2.5
4-Chloro-3-methylphenol *	.298	.310	83.26	80.0	-4.1
2-Methylnaphthalene	.636	.654	82.33	80.0	-2.9
1-Methylnaphthalene	.596	.601	80.65	80.0	-.8
Hexachlorocyclopentadiene #	.347	.393	78.59	80.0	1.8
2,4,6-Trichlorophenol *	.401	.423	84.41	80.0	-5.5
2,4,5-Trichlorophenol	.432	.457	84.77	80.0	-6.0
2-Chloronaphthalene	1.235	1.229	79.57	80.0	.5

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 22:59

Lab File ID: >BF541 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.454	87.21	80.0	-9.0
Dimethylphthalate		1.372	1.366	79.67	80.0	.4
2,6-Dinitrotoluene		.283	.321	81.15	80.0	-1.4
Acenaphthylene		1.990	1.996	80.23	80.0	-.3
3-Nitroaniline		.363	.397	80.34	80.0	-.4
Acenaphthene	*	1.166	1.186	81.41	80.0	-1.8*
2,4-Dinitrophenol	#	.137	.175	83.43	80.0	-4.3#
4-Nitrophenol	#	.252	.283	89.95	80.0	-12.4#
Dibenzofuran		1.652	1.697	82.17	80.0	-2.7
2,4-Dinitrotoluene		.398	.443	80.38	80.0	-.5
1-Naphthylamine		1.119	1.044	74.62	80.0	6.7
2-Naphthylamine		1.111	.990	71.27	80.0	10.9
Diethylphthalate		1.489	1.522	81.74	80.0	-2.2
4-Chlorophenyl-phenylether		.600	.612	81.62	80.0	-2.0
Fluorene		1.253	1.298	82.86	80.0	-3.6
4-Nitroaniline		.392	.431	87.94	80.0	-9.9
4,6-Dinitro-2-methylphenol		.113	.139	81.60	80.0	-2.0
N-Nitrosodiphenylamine (1)	*	.522	.517	79.22	80.0	1.0*
1,2-Diphenylhydrazine		.878	.869	79.17	80.0	1.0
4-Bromophenyl-phenylether		.211	.212	80.15	80.0	-.2
Hexachlorobenzene		.246	.248	80.56	80.0	-.7
Pentachlorophenol	*	.139	.152	87.46	80.0	-9.3*
Phenanthrene		1.035	1.023	79.07	80.0	1.2
Anthracene		1.059	1.051	79.46	80.0	.7
Carbazole		1.019	1.015	79.66	80.0	.4
Di-n-butylphthalate		1.428	1.408	78.89	80.0	1.4
Fluoranthene	*	1.115	1.095	78.57	80.0	1.8*
Benzidine		.794	.681	274.32	320.0	14.3
Pyrene		1.200	1.185	79.01	80.0	1.2
Butylbenzylphthalate		.691	.699	80.92	80.0	-1.2
3,3'-Dichlorobenzidine		.473	.484	81.92	80.0	-2.4
Benzo(a)anthracene		1.097	1.121	81.77	80.0	-2.2
bis(2-Ethylhexyl)phthalate		.959	.964	80.47	80.0	-.6
Chrysene		1.055	1.063	80.64	80.0	-.8
Di-n-octylphthalate	*	1.940	1.918	79.08	80.0	1.2*
7,12-Dimethylbenz[a]anthrace		.608	.601	79.02	80.0	1.2
Benzo(b)fluoranthene		1.422	1.420	79.92	80.0	.1
Benzo(k)fluoranthene		1.318	1.281	77.75	80.0	2.8

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/25/98 Time: 22:59

Lab File ID: >BF541 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.237	80.40	80.0	-.5*
Indeno(1,2,3-cd)pyrene		1.178	1.183	80.36	80.0	-.5
Dibenz(a,h)anthracene		1.155	1.175	81.41	80.0	-1.8
Benzo(g,h,i)perylene		1.200	1.224	81.57	80.0	-2.0
2-Fluorophenol		1.155	1.161	80.35	80.0	-.4
Phenol-d5		1.504	1.487	79.12	80.0	1.1
Phenol-d6		1.504	1.487	79.12	80.0	1.1
Nitrobenzene-d5		.413	.438	84.90	80.0	-6.1
2-Fluorobiphenyl		1.302	1.343	82.54	80.0	-3.2
2,4,6-Tribromophenol		.231	.251	87.11	80.0	-8.9
Terphenyl-d14		.907	.908	80.09	80.0	-.1

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF541 Date Analyzed: 06/25/98

Instrument ID: HP06588 Time Analyzed: 22:59

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	158557	12.09	521986	15.93	255208	21.28
	UPPER LIMIT	317114		1043972		510416	
	LOWER LIMIT	79279		260993		127604	
	EPA SAMPLE NO.						
01	UST63DL	144028	12.09	493323	15.94	267615	21.29
02	SD4--DL	135211	12.10	466332	15.94	224917	21.29
03	SD3--DL	129797	12.10	447290	15.94	214132	21.29
04	SD4--	131673	12.10	450001	15.95	216040	21.29
05	SD2--DL	127331	12.12	432239	15.97	210880	21.31
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19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF541 Date Analyzed: 06/25/98

Instrument ID: HP06588 Time Analyzed: 22:59

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	461085		25.81	451614		32.44	376030		37.09
	UPPER LIMIT	922170			903228			752060		
	LOWER LIMIT	230543			225807			188015		
	EPA SAMPLE NO.									
01	UST63DL	437824		25.81	435577		32.44	370372		37.11
02	SD4--DL	405128		25.81	399773		32.44	341241		37.10
03	SD3--DL	382788		25.81	394177		32.44	330404		37.10
04	SD4--	611983		25.82	401060		32.45	339710		37.12
05	SD2--DL	375221		25.84	384110		32.45	352790		37.13
06										
07										
08										
09										
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14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF550 DFTPP Injection Date: 06/26/98

Instrument ID: HP06588 DFTPP Injection Time: 07:25

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	71.9
70	Less than 2.0% of mass 69	.5 (.6)1
127	40.0 - 60.0% of mass 198	53.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	19.2
365	Greater than 1.00% of mass 198	1.56
441	Present, but less than mass 443	7.2
442	Greater than 40.0% of mass 198	41.8
443	17.0 - 23.0% of mass 442	9.2 (22.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF551	06/26/98	07:52
02	SBLKLC176L	SBLKLC176	>BF552	06/26/98	09:23
03	176LCLCS2	176LCLCS	>BF553	06/26/98	10:17
04	176LCLCSD	176LCLCSD	>BF554	06/26/98	11:12
05	GP192RE	2940081RE	>BF555	06/26/98	12:06
06	JUNSQ	2952567	>BF556	06/26/98	13:01
07	SBLKLF1622	SBLKLF162	>BF557	06/26/98	13:56
08	162LFLCS2	162LFLCS	>BF558	06/26/98	14:50
09	2701-	2943293	>BF559	06/26/98	15:44
10	2701-MS	2943294	>BF560	06/26/98	16:38
11	2701-MSD	2943295	>BF561	06/26/98	17:32
12	0656-	2943287	>BF562	06/26/98	18:26
13					
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21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.224	80.52	80.0	-.6
N-Nitrosodimethylamine	.696	.694	79.83	80.0	.2
2-Picoline	1.203	1.217	80.88	80.0	-1.1
Phenol *	1.490	1.510	81.10	80.0	-1.4*
Aniline	1.850	1.790	77.38	80.0	3.3
bis(2-Chloroethyl)ether	1.207	1.175	77.87	80.0	2.7
2-Chlorophenol	1.341	1.344	80.18	80.0	-.2
1,3-Dichlorobenzene	1.477	1.439	77.95	80.0	2.6
1,4-Dichlorobenzene *	1.540	1.529	79.38	80.0	.8*
Benzyl alcohol	.781	.799	81.82	80.0	-2.3
1,2-Dichlorobenzene	1.399	1.381	78.97	80.0	1.3
2-Methylphenol	1.087	1.110	81.69	80.0	-2.1
2,2'-oxybis(1-Chloropropane)	1.468	1.417	77.21	80.0	3.5
bis(2-Chloroisopropyl)ether	1.468	1.417	77.21	80.0	3.5
4-Methylphenol	1.146	1.142	79.67	80.0	.4
3- and 4-Methylphenol	1.146	1.142	79.67	80.0	.4
Acetophenone	1.592	1.612	81.00	80.0	-1.2
N-Nitroso-di-n-propylamine #	.925	.944	81.65	80.0	-2.1#
o-Toluidine	1.794	1.803	80.42	80.0	-.5
Hexachloroethane	.658	.669	81.43	80.0	-1.8
Nitrobenzene	.426	.435	81.71	80.0	-2.1
Isophorone	.744	.741	79.61	80.0	.5
2-Nitrophenol *	.198	.209	84.39	80.0	-5.5*
2,4-Dimethylphenol	.363	.367	80.91	80.0	-1.1
Benzoic acid	.233	.249	78.97	80.0	1.3
bis(2-Chloroethoxy)methane	.416	.403	77.51	80.0	3.1
2,4-Dichlorophenol *	.290	.299	82.41	80.0	-3.0*
1,2,4-Trichlorobenzene	.328	.329	80.24	80.0	-.3
Naphthalene	1.031	1.000	77.62	80.0	3.0
4-Chloroaniline	.442	.451	81.72	80.0	-2.2
Hexachlorobutadiene *	.204	.207	81.42	80.0	-1.8*
4-Chloro-3-methylphenol *	.298	.300	80.58	80.0	-.7*
2-Methylnaphthalene	.636	.629	79.19	80.0	1.0
1-Methylnaphthalene	.596	.574	77.13	80.0	3.6
Hexachlorocyclopentadiene #	.347	→.312	63.93	80.0	20.1# J, UJ
2,4,6-Trichlorophenol *	.401	.419	83.69	80.0	-4.6*
2,4,5-Trichlorophenol	.432	.455	84.30	80.0	-5.4
2-Chloronaphthalene	1.235	1.241	80.40	80.0	-.5

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	2-Nitroaniline	.416	.453	87.17	80.0	-9.0
	Dimethylphthalate	1.372	1.390	81.02	80.0	-1.3
	2,6-Dinitrotoluene	.283	.313	79.19	80.0	1.0
	Acenaphthylene	1.990	1.991	80.01	80.0	-.0
	3-Nitroaniline	.363	.403	81.37	80.0	-1.7
*	Acenaphthene	1.166	1.175	80.67	80.0	-.8*
#	2,4-Dinitrophenol	.137	.138	69.40	80.0	13.3#
#	4-Nitrophenol	.252	.291	92.36	80.0	-15.4#
	Dibenzofuran	1.652	1.705	82.57	80.0	-3.2
	2,4-Dinitrotoluene	.398	.449	81.46	80.0	-1.8
	1-Naphthylamine	1.119	1.058	75.59	80.0	5.5
	2-Naphthylamine	1.111	1.016	73.15	80.0	8.6
	Diethylphthalate	1.489	1.514	81.32	80.0	-1.6
	4-Chlorophenyl-phenylether	.600	.611	81.48	80.0	-1.9
	Fluorene	1.253	1.269	80.99	80.0	-1.2
	4-Nitroaniline	.392	.422	86.30	80.0	-7.9
	4,6-Dinitro-2-methylphenol	.113	.118	70.43	80.0	12.0
*	N-Nitrosodiphenylamine (1)	.522	.506	77.52	80.0	3.1*
	1,2-Diphenylhydrazine	.878	.881	80.27	80.0	-.3
	4-Bromophenyl-phenylether	.211	.213	80.58	80.0	-.7
	Hexachlorobenzene	.246	.251	81.45	80.0	-1.8
*	Pentachlorophenol	.139	.148	85.63	80.0	-7.0*
	Phenanthrene	1.035	1.020	78.81	80.0	1.5
	Anthracene	1.059	1.047	79.08	80.0	1.1
	Carbazole	1.019	1.023	80.34	80.0	-.4
	Di-n-butylphthalate	1.428	1.394	78.07	80.0	2.4
*	Fluoranthene	1.115	1.124	80.64	80.0	-.8*
	Benzidine	.794	.681	274.57	320.0	14.2
	Pyrene	1.200	1.157	77.10	80.0	3.6
	Butylbenzylphthalate	.691	.662	76.57	80.0	4.3
	3,3'-Dichlorobenzidine	.473	.486	82.21	80.0	-2.8
	Benzo(a)anthracene	1.097	1.125	82.08	80.0	-2.6
	bis(2-Ethylhexyl)phthalate	.959	.912	76.08	80.0	4.9
	Chrysene	1.055	1.074	81.47	80.0	-1.8
*	Di-n-octylphthalate	1.940	1.767	72.88	80.0	8.9*
	7,12-Dimethylbenz[a]anthrace	.608	.598	78.73	80.0	1.6
	Benzo(b)fluoranthene	1.422	1.414	79.53	80.0	.6
	Benzo(k)fluoranthene	1.318	1.311	79.53	80.0	.6

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 07:52

Lab File ID: >BF551 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Benzo(a)pyrene	*	1.231	1.245	80.87	80.0	-1.1	*
Indeno(1,2,3-cd)pyrene		1.178	1.163	78.98	80.0	1.3	
Dibenz(a,h)anthracene		1.155	1.174	81.32	80.0	-1.6	
Benzo(g,h,i)perylene		1.200	1.174	78.22	80.0	2.2	
2-Fluorophenol		1.155	1.134	78.50	80.0	1.9	
Phenol-d5		1.504	1.501	79.84	80.0	.2	
Phenol-d6		1.504	1.501	79.84	80.0	.2	
Nitrobenzene-d5		.413	.422	81.83	80.0	-2.3	
2-Fluorobiphenyl		1.302	1.327	81.54	80.0	-1.9	
2,4,6-Tribromophenol		.231	.253	87.79	80.0	-9.7	
Terphenyl-d14		.907	.873	77.02	80.0	3.7	

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF551 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 07:52

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	162219		12.11	555238		15.95	266793		21.30
	UPPER LIMIT	324438			1110476			533586		
	LOWER LIMIT	81110			277619			133397		
	EPA SAMPLE NO.									
01	SBLKLC176L	158574		12.11	551236		15.95	254431		21.30
02	176LCLCS2	125056		12.10	443281		15.94	208859		21.28
03	176LCLCSD	129512		12.09	437596		15.93	214616		21.28
04	GP192RE	124911		12.09	409694		15.93	195875		21.28
05	JUNSQ	130356		12.09	437485		15.93	223932		21.28
06	SBLKLF1622	159401		12.09	533538		15.93	262135		21.28
07	162LFLCS2	139525		12.09	466098		15.94	224919		21.28
08	2701-	165578		12.10	561839		15.94	266369		21.29
09	2701-MS	183811		12.10	622934		15.94	305138		21.29
10	2701-MSD	199503		12.11	680560		15.95	329295		21.29
11	0656-	144652		12.10	486911		15.95	235331		21.30
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF551 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 07:52

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	484125	✓	25.82	495928		32.45	418849		37.11
	UPPER LIMIT	968250			991856			837698		
	LOWER LIMIT	242063			247964			209425		
	EPA SAMPLE NO.									
01	SBLKLC176L	469844		25.82	495681		32.44	419809		37.11
02	176LCLCS2	374530		25.82	383090		32.44	325460		37.09
03	176LCLCSD	380730		25.81	397377		32.44	325457		37.09
04	GP192RE	347534		25.81	366479		32.43	305627		37.09
05	JUNSQ	394823		25.81	401113		32.43	331405		37.09
06	SBLKLF1622	470364	✓	25.81	493709	✓	32.43	403603	✓	37.09
07	162LFLCS2	404185	✓	25.82	420963	✓	32.44	348017	✓	37.10
08	2701-	484745	✓	25.81	510413	✓	32.44	418870	✓	37.10
09	2701-MS	546389	✓	25.82	567143	✓	32.45	467875	✓	37.11
10	2701-MSD	604861	✓	25.82	626805	✓	32.45	512971	✓	37.11
11	0656-	419116	✓	25.82	435765	✓	32.44	359402	✓	37.11
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

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5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF570 DFTPP Injection Date: 06/26/98

Instrument ID: HP06588 DFTPP Injection Time: 19:17

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	48.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	55.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.1
365	Greater than 1.00% of mass 198	2.07
441	Present, but less than mass 443	8.3
442	Greater than 40.0% of mass 198	53.8
443	17.0 - 23.0% of mass 442	10.2 (18.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF571	06/26/98	19:45
02	1956-	2943290	>BF572	06/26/98	20:39
03	2023-	2943292	>BF574	06/26/98	22:29
04	2623-	2943380	>BF575	06/26/98	23:23
05	2723-	2943382	>BF576	06/27/98	00:17
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 19:45

Lab File ID: >BF571 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.257	82.69	80.0	-3.4
N-Nitrosodimethylamine	.696	.695	79.88	80.0	.2
2-Picoline	1.203	1.211	80.53	80.0	-.7
Phenol *	1.490	1.471	78.99	80.0	1.3*
Aniline	1.850	1.813	78.38	80.0	2.0
bis(2-Chloroethyl)ether	1.207	1.145	75.89	80.0	5.1
2-Chlorophenol	1.341	1.345	80.22	80.0	-.3
1,3-Dichlorobenzene	1.477	1.451	78.58	80.0	1.8
1,4-Dichlorobenzene *	1.540	1.522	79.04	80.0	1.2*
Benzyl alcohol	.781	.792	81.14	80.0	-1.4
1,2-Dichlorobenzene	1.399	1.382	79.02	80.0	1.2
2-Methylphenol	1.087	1.075	79.13	80.0	1.1
2,2'-oxybis(1-Chloropropane)	1.468	1.376	74.97	80.0	6.3
bis(2-Chloroisopropyl)ether	1.468	1.376	74.97	80.0	6.3
4-Methylphenol	1.146	1.143	79.74	80.0	.3
3- and 4-Methylphenol	1.146	1.143	79.74	80.0	.3
Acetophenone	1.592	1.595	80.14	80.0	-.2
N-Nitroso-di-n-propylamine #	.925	.928	80.18	80.0	-.2#
o-Toluidine	1.794	1.790	79.81	80.0	.2
Hexachloroethane	.658	.668	81.25	80.0	-1.6
Nitrobenzene	.426	.440	82.71	80.0	-3.4
Isophorone	.744	.760	81.71	80.0	-2.1
2-Nitrophenol *	.198	.207	83.74	80.0	-4.7*
2,4-Dimethylphenol	.363	.375	82.63	80.0	-3.3
Benzoic acid	.233	.256	80.80	80.0	-1.0
bis(2-Chloroethoxy)methane	.416	.407	78.25	80.0	2.2
2,4-Dichlorophenol *	.290	.303	83.48	80.0	-4.3*
1,2,4-Trichlorobenzene	.328	.336	81.85	80.0	-2.3
Naphthalene	1.031	1.009	78.32	80.0	2.1
4-Chloroaniline	.442	.446	80.77	80.0	-1.0
Hexachlorobutadiene *	.204	.207	81.26	80.0	-1.6*
4-Chloro-3-methylphenol *	.298	.303	81.27	80.0	-1.6*
2-Methylnaphthalene	.636	.620	78.03	80.0	2.5
1-Methylnaphthalene	.596	.593	79.64	80.0	.5
Hexachlorocyclopentadiene #	.347	.358	72.17	80.0	9.8#
2,4,6-Trichlorophenol *	.401	.426	85.06	80.0	-6.3*
2,4,5-Trichlorophenol	.432	.455	84.27	80.0	-5.3
2-Chloronaphthalene	1.235	1.227	79.47	80.0	.7

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 19:45

Lab File ID: >BF571 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline	.416	.435	83.57	80.0	-4.5
Dimethylphthalate	1.372	1.366	79.64	80.0	.4
2,6-Dinitrotoluene	.283	.306	77.56	80.0	3.0
Acenaphthylene	1.990	1.985	79.79	80.0	.3
3-Nitroaniline	.363	.397	80.33	80.0	-.4
Acenaphthene *	1.166	1.185	81.33	80.0	-1.7*
2,4-Dinitrophenol #	.137	.126	65.19	80.0	18.5#
4-Nitrophenol #	.252	.282	89.50	80.0	-11.9#
Dibenzofuran	1.652	1.695	82.06	80.0	-2.6
2,4-Dinitrotoluene	.398	.441	80.12	80.0	-.2
1-Naphthylamine	1.119	1.026	73.35	80.0	8.3
2-Naphthylamine	1.111	.965	69.50	80.0	13.1
Diethylphthalate	1.489	1.495	80.33	80.0	-.4
4-Chlorophenyl-phenylether	.600	.600	80.06	80.0	-.1
Fluorene	1.253	1.267	80.89	80.0	-1.1
4-Nitroaniline	.392	.423	86.46	80.0	-8.1
4,6-Dinitro-2-methylphenol	.113	.124	73.99	80.0	7.5
N-Nitrosodiphenylamine (1) *	.522	.517	79.18	80.0	1.0*
1,2-Diphenylhydrazine	.878	.874	79.65	80.0	.4
4-Bromophenyl-phenylether	.211	.217	82.22	80.0	-2.8
Hexachlorobenzene	.246	.253	82.19	80.0	-2.7
Pentachlorophenol *	.139	.152	87.74	80.0	-9.7*
Phenanthrene	1.035	1.019	78.73	80.0	1.6
Anthracene	1.059	1.052	79.51	80.0	.6
Carbazole	1.019	1.043	81.88	80.0	-2.3
Di-n-butylphthalate	1.428	1.404	78.63	80.0	1.7
Fluoranthene *	1.115	1.117	80.20	80.0	-.3*
Benzidine	.794	.664	267.53	320.0	16.4
Pyrene	1.200	1.123	74.88	80.0	6.4
Butylbenzylphthalate	.691	.651	75.27	80.0	5.9
3,3'-Dichlorobenzidine	.473	.476	80.45	80.0	-.6
Benzo(a)anthracene	1.097	1.097	80.02	80.0	-.0
bis(2-Ethylhexyl)phthalate	.959	.908	75.76	80.0	5.3
Chrysene	1.055	1.048	79.49	80.0	.6
Di-n-octylphthalate *	1.940	1.783	73.54	80.0	8.1*
7,12-Dimethylbenz[a]anthrace	.608	.597	78.53	80.0	1.8
Benzo(b)fluoranthene	1.422	1.400	78.77	80.0	1.5
Benzo(k)fluoranthene	1.318	1.341	81.35	80.0	-1.7

(1) Cannot be separated from Diphenylamine

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF571 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 19:45

	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
12 HOUR STD	166312	12.11	561165	15.95	273080	21.30
UPPER LIMIT	332624		1122330		546160	
LOWER LIMIT	83156		280583		136540	
EPA SAMPLE NO.						
01 1956-	178274	12.11	615555	15.95	290195	21.30
02 2023-	154216	12.11	526553	15.95	255589	21.30
03 2623-	190357	12.11	635351	15.95	310712	21.30
04 2723-	167157	12.11	570389	15.95	269233	21.30
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19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF571 Date Analyzed: 06/26/98

Instrument ID: HP06588 Time Analyzed: 19:45

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	488915	25.82	510030	32.45	418696	37.12
	UPPER LIMIT	977830		1020060		837392	
	LOWER LIMIT	244458		255015		209348	
	EPA SAMPLE NO.						
01	1956-	525813	25.82	537452	32.45	454660	37.12
02	2023-	471249	25.82	467372	32.45	395082	37.12
03	2623-	555672	25.82	556547	32.45	457251	37.11
04	2723-	498279	25.82	519221	32.45	420540	37.12
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/26/98 Time: 19:45

Lab File ID: >BF571 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Benzo(a)pyrene	*	1.231	1.249	81.16	80.0	-1.5	*
Indeno(1,2,3-cd)pyrene		1.178	1.199	81.43	80.0	-1.8	
Dibenz(a,h)anthracene		1.155	1.152	79.81	80.0	.2	
Benzo(g,h,i)perylene		1.200	1.186	79.05	80.0	1.2	
2-Fluorophenol		1.155	1.168	80.87	80.0	-1.1	
Phenol-d5		1.504	1.478	78.60	80.0	1.7	
Phenol-d6		1.504	1.478	78.60	80.0	1.7	
Nitrobenzene-d5		.413	.422	81.76	80.0	-2.2	
2-Fluorobiphenyl		1.302	1.349	82.89	80.0	-3.6	
2,4,6-Tribromophenol		.231	.252	87.45	80.0	-9.3	
Terphenyl-d14		.907	.868	76.54	80.0	4.3	

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF58A DFTPP Injection Date: 06/29/98

Instrument ID: HP06588 DFTPP Injection Time: 07:10

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	33.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.8
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	44.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	5.5
275	10.0 - 30.0% of mass 198	24.3
365	Greater than 1.00% of mass 198	3.25
441	Present, but less than mass 443	14.0
442	Greater than 40.0% of mass 198	84.2
443	17.0 - 23.0% of mass 442	15.6 (18.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF581	06/29/98	07:43
02	1901-	2943288	>BF585	06/29/98	10:14
03	2656-	2943381	>BF587	06/29/98	12:21
04	1923-	2943289	>BF586	06/29/98	11:25
05	GF003DL	2933383DL	>BF599	06/29/98	13:17
06	2756-	2943383	>BF588	06/29/98	14:34
07	3323-	2943385	>BF590	06/29/98	16:47
08	SBLKLB1742	SBLKLB174	>BF591	06/29/98	17:54
09	174LBLCS2	174LBLCS	>BF592	06/29/98	18:47
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.216	1.298	85.42	80.0	-6.8
N-Nitrosodimethylamine	.696	.746	85.81	80.0	-7.3
2-Picoline	1.203	1.263	83.96	80.0	-5.0
Phenol *	1.490	1.391	74.68	80.0	6.7*
Aniline	1.850	1.711	73.98	80.0	7.5
bis(2-Chloroethyl)ether	1.207	1.093	72.46	80.0	9.4
2-Chlorophenol	1.341	1.290	76.93	80.0	3.8
1,3-Dichlorobenzene	1.477	1.441	78.07	80.0	2.4
1,4-Dichlorobenzene *	1.540	1.505	78.14	80.0	2.3*
Benzyl alcohol	.781	.655	67.07	80.0	16.2
1,2-Dichlorobenzene	1.399	1.393	79.63	80.0	.5
2-Methylphenol	1.087	1.025	75.46	80.0	5.7
2,2'-oxybis(1-Chloropropane)	1.468	1.328	72.37	80.0	9.5
bis(2-Chloroisopropyl)ether	1.468	1.328	72.37	80.0	9.5
4-Methylphenol	1.146	1.094	76.38	80.0	4.5
3- and 4-Methylphenol	1.146	1.094	76.38	80.0	4.5
Acetophenone	1.592	1.534	77.11	80.0	3.6
N-Nitroso-di-n-propylamine #	.925	.871	75.25	80.0	5.9#
o-Toluidine	1.794	1.687	75.24	80.0	5.9
Hexachloroethane	.658	.636	77.38	80.0	3.3
Nitrobenzene	.426	.418	78.53	80.0	1.8
Isophorone	.744	.733	78.74	80.0	1.6
2-Nitrophenol *	.198	.211	85.09	80.0	-6.4*
2,4-Dimethylphenol	.363	.353	77.96	80.0	2.6
Benzoic acid	.233	.242	76.88	80.0	3.9
bis(2-Chloroethoxy)methane	.416	.400	76.83	80.0	4.0
2,4-Dichlorophenol *	.290	.303	83.55	80.0	-4.4*
1,2,4-Trichlorobenzene	.328	.351	85.60	80.0	-7.0
Naphthalene	1.031	1.011	78.47	80.0	1.9
4-Chloroaniline	.442	.428	77.58	80.0	3.0
Hexachlorobutadiene *	.204	.233	91.56	80.0	-14.4*
4-Chloro-3-methylphenol *	.298	.293	78.50	80.0	1.9*
2-Methylnaphthalene	.636	.632	79.58	80.0	.5
1-Methylnaphthalene	.596	.576	77.30	80.0	3.4
Hexachlorocyclopentadiene #	.347	.460	90.83	80.0	-13.5#
2,4,6-Trichlorophenol *	.401	.416	83.09	80.0	-3.9*
2,4,5-Trichlorophenol	.432	.460	85.28	80.0	-6.6
2-Chloronaphthalene	1.235	1.205	78.05	80.0	2.4

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline	.416	.423	81.42	80.0	-1.8
Dimethylphthalate	1.372	1.385	80.77	80.0	-1.0
2,6-Dinitrotoluene	.283	.313	79.27	80.0	.9
Acenaphthylene	1.990	1.979	79.56	80.0	.6
3-Nitroaniline	.363	.372	75.45	80.0	5.7
Acenaphthene *	1.166	1.163	79.79	80.0	.3*
2,4-Dinitrophenol #	.137	.147	72.88	80.0	8.9#
4-Nitrophenol #	.252	.265	84.18	80.0	-5.2#
Dibenzofuran	1.652	1.666	80.69	80.0	-.9
2,4-Dinitrotoluene	.398	.434	78.80	80.0	1.5
1-Naphthylamine	1.119	1.051	75.15	80.0	6.1
2-Naphthylamine	1.111	.967	69.65	80.0	12.9
Diethylphthalate	1.489	1.506	80.91	80.0	-1.1
4-Chlorophenyl-phenylether	.600	.625	83.38	80.0	-4.2
Fluorene	1.253	1.258	80.29	80.0	-.4
4-Nitroaniline	.392	.409	83.58	80.0	-4.5
4,6-Dinitro-2-methylphenol	.113	.128	75.62	80.0	5.5
N-Nitrosodiphenylamine (1) *	.522	.514	78.77	80.0	1.5*
1,2-Diphenylhydrazine	.878	.835	76.10	80.0	4.9
4-Bromophenyl-phenylether	.211	.222	83.97	80.0	-5.0
Hexachlorobenzene	.246	.262	85.02	80.0	-6.3
Pentachlorophenol *	.139	.137	78.82	80.0	1.5*
Phenanthrene	1.035	1.034	79.92	80.0	.1
Anthracene	1.059	1.054	79.64	80.0	.5
Carbazole	1.019	1.020	80.10	80.0	-.1
Di-n-butylphthalate	1.428	1.420	79.53	80.0	.6
Fluoranthene *	1.115	1.150	82.51	80.0	-3.1*
Benzidine	.794	.644	259.43	320.0	18.9
Pyrene	1.200	1.166	77.72	80.0	2.9
Butylbenzylphthalate	.691	.680	78.69	80.0	1.6
3,3'-Dichlorobenzidine	.473	.473	80.07	80.0	-.1
Benzo(a)anthracene	1.097	1.125	82.06	80.0	-2.6
bis(2-Ethylhexyl)phthalate	.959	.935	78.00	80.0	2.5
Chrysene	1.055	1.062	80.52	80.0	-.6
Di-n-octylphthalate *	1.940	1.828	75.40	80.0	5.7*
7,12-Dimethylbenz[a]anthrace	.608	.608	80.01	80.0	-.0
Benzo(b)fluoranthene	1.422	1.419	79.85	80.0	.2
Benzo(k)fluoranthene	1.318	1.313	79.70	80.0	.4

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/29/98 Time: 07:43

Lab File ID: >BF581 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.246	80.98	80.0	-1.2*
Indeno(1,2,3-cd)pyrene		1.178	1.213	82.39	80.0	-3.0
Dibenz(a,h)anthracene		1.155	1.195	82.77	80.0	-3.5
Benzo(g,h,i)perylene		1.200	1.266	84.41	80.0	-5.5
2-Fluorophenol		1.155	1.166	80.76	80.0	-1.0
Phenol-d5		1.504	1.413	75.19	80.0	6.0
Phenol-d6		1.504	1.413	75.19	80.0	6.0
Nitrobenzene-d5		.413	.415	80.47	80.0	-.6
2-Fluorobiphenyl		1.302	1.344	82.56	80.0	-3.2
2,4,6-Tribromophenol		.231	.255	88.39	80.0	-10.5
Terphenyl-d14		.907	.894	78.87	80.0	1.4

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF581 Date Analyzed: 06/29/98

Instrument ID: HP06588 Time Analyzed: 07:43

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	135692	12.11	436849	15.96	210992	21.30
	UPPER LIMIT	271384		873698		421984	
	LOWER LIMIT	67846		218425		105496	
01	1901-	159509	12.11	545810	15.96	285525	21.30
02	2656-	214569	12.11	734024	15.95	353427	21.30
03	1923-	145062	12.11	488924	15.96	246119	21.30
04	GF003DL	147864	12.11	484067	15.95	249376	21.31
05	2756-	183217	12.11	634338	15.96	311063	21.31
06	3323-	144566	12.12	507681	15.96	250311	21.31
07	SBLKLB1742	166403	12.11	566806	15.95	279699	21.31
08	174LBLCS2	155198	12.11	542844	15.95	270537	21.29
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF581 Date Analyzed: 06/29/98

Instrument ID: HP06588 Time Analyzed: 07:43

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	374415	25.83	387243	32.45	327652	37.11
	UPPER LIMIT	748830		774486		655304	
	LOWER LIMIT	187208		193622		163826	
	EPA SAMPLE NO.						
01	1901-	496247	25.83	722590	32.56	476668	37.35
02	2656-	629891	25.83	618133	32.46	522573	37.13
03	1923-	432508	25.83	453167	32.46	371664	37.14
04	GF003DL	435930	25.84	469618	32.47	380042	37.16
05	2756-	542863	25.84	540593	32.45	289624	37.14
06	3323-	433276	25.85	481867	32.47	377790	37.16
07	SBLKLB1742	510565	25.83	497007	32.45	411315	37.13
08	174LBLCS2	486963	25.83	493051	32.45	399002	37.12
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BF60Z DFTPP Injection Date: 06/30/98

Instrument ID: HP06588 DFTPP Injection Time: 07:34 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	57.6
70	Less than 2.0% of mass 69	.5 (.9)1
127	40.0 - 60.0% of mass 198	50.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.2
275	10.0 - 30.0% of mass 198	21.2
365	Greater than 1.00% of mass 198	2.79
441	Present, but less than mass 443	10.7
442	Greater than 40.0% of mass 198	62.3
443	17.0 - 23.0% of mass 442	11.8 (19.0)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BF601	06/30/98	08:02
02	1956-DL	2943290DL	>BF602	06/30/98	08:56
03	2001-	2943291	>BF603	06/30/98	09:49
04	0202-	2943286	>BF604	06/30/98	10:42
05	1901-DL	2943288DL	>BF605	06/30/98	11:46
06	1901-DL	2943288DL	>BF606	06/30/98	12:52
07	1923-DL	2943289DL	>BF607	06/30/98	13:56
08	JUNSQDL	2952567DL	>BF60A	06/30/98	14:50
09	3301-	2943384	>BF608	06/30/98	15:44
10	3323-DL	2943385DL	>BF609	06/30/98	16:43 ✓
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	Pyridine	1.216	1.155	76.01	80.0	5.0
	N-Nitrosodimethylamine	.696	.671	77.18	80.0	3.5
	2-Picoline	1.203	1.146	76.19	80.0	4.8
*	Phenol	1.490	1.495	80.26	80.0	-.3*
	Aniline	1.850	1.792	77.50	80.0	3.1
	bis(2-Chloroethyl)ether	1.207	1.175	77.90	80.0	2.6
	2-Chlorophenol	1.341	1.324	78.97	80.0	1.3
	1,3-Dichlorobenzene	1.477	1.487	80.55	80.0	-.7
*	1,4-Dichlorobenzene	1.540	1.546	80.28	80.0	-.4*
	Benzyl alcohol	.781	.812	83.15	80.0	-3.9
	1,2-Dichlorobenzene	1.399	1.418	81.06	80.0	-1.3
	2-Methylphenol	1.087	1.093	80.42	80.0	-.5
	2,2'-oxybis(1-Chloropropane)	1.468	1.448	78.90	80.0	1.4
	bis(2-Chloroisopropyl)ether	1.468	1.448	78.90	80.0	1.4
	4-Methylphenol	1.146	1.132	79.03	80.0	1.2
	3- and 4-Methylphenol	1.146	1.132	79.03	80.0	1.2
	Acetophenone	1.592	1.595	80.15	80.0	-.2
#	N-Nitroso-di-n-propylamine	.925	.930	80.36	80.0	-.4#
	o-Toluidine	1.794	1.767	78.80	80.0	1.5
	Hexachloroethane	.658	.680	82.72	80.0	-3.4
	Nitrobenzene	.426	.447	83.97	80.0	-5.0
	Isophorone	.744	.759	81.59	80.0	-2.0
*	2-Nitrophenol	.198	.211	85.25	80.0	-6.6*
	2,4-Dimethylphenol	.363	.375	82.81	80.0	-3.5
	Benzoic acid	.233	.255	80.67	80.0	-.8
	bis(2-Chloroethoxy)methane	.416	.425	81.75	80.0	-2.2
*	2,4-Dichlorophenol	.290	.303	83.38	80.0	-4.2*
	1,2,4-Trichlorobenzene	.328	.340	82.78	80.0	-3.5
	Naphthalene	1.031	1.058	82.12	80.0	-2.7
	4-Chloroaniline	.442	.450	81.41	80.0	-1.8
*	Hexachlorobutadiene	.204	.213	83.51	80.0	-4.4*
*	4-Chloro-3-methylphenol	.298	.312	83.72	80.0	-4.6*
	2-Methylnaphthalene	.636	.645	81.19	80.0	-1.5
	1-Methylnaphthalene	.596	.610	81.98	80.0	-2.5
#	Hexachlorocyclopentadiene	.347	.369	74.24	80.0	7.2#
*	2,4,6-Trichlorophenol	.401	.403	80.46	80.0	-.6*
	2,4,5-Trichlorophenol	.432	.439	81.42	80.0	-1.8
	2-Chloronaphthalene	1.235	1.217	78.82	80.0	1.5

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7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.438	84.12	80.0	-5.1
Dimethylphthalate		1.372	1.382	80.61	80.0	-.8
2,6-Dinitrotoluene		.283	.310	78.53	80.0	1.8
Acenaphthylene		1.990	1.957	78.67	80.0	1.7
3-Nitroaniline		.363	.381	77.29	80.0	3.4
Acenaphthene	*	1.166	1.122	77.01	80.0	3.7*
2,4-Dinitrophenol	#	.137	.160	77.68	80.0	2.9#
4-Nitrophenol	#	.252	.264	83.88	80.0	-4.8#
Dibenzofuran		1.652	1.657	80.22	80.0	-.3
2,4-Dinitrotoluene		.398	.442	80.18	80.0	-.2
1-Naphthylamine		1.119	1.011	72.30	80.0	9.6
2-Naphthylamine		1.111	.943	67.88	80.0	15.2
Diethylphthalate		1.489	1.479	79.43	80.0	.7
4-Chlorophenyl-phenylether		.600	.585	77.98	80.0	2.5
Fluorene		1.253	1.231	78.63	80.0	1.7
4-Nitroaniline		.392	.406	82.90	80.0	-3.6
4,6-Dinitro-2-methylphenol		.113	.133	78.31	80.0	2.1
N-Nitrosodiphenylamine (1)	*	.522	.521	79.80	80.0	.3*
1,2-Diphenylhydrazine		.878	.881	80.30	80.0	-.4
4-Bromophenyl-phenylether		.211	.211	80.03	80.0	-.0
Hexachlorobenzene		.246	.252	81.71	80.0	-2.1
Pentachlorophenol	*	.139	.148	85.27	80.0	-6.6*
Phenanthrene		1.035	1.035	79.97	80.0	.0
Anthracene		1.059	1.068	80.69	80.0	-.9
Carbazole		1.019	1.032	81.03	80.0	-1.3
Di-n-butylphthalate		1.428	1.458	81.67	80.0	-2.1
Fluoranthene	*	1.115	1.162	83.41	80.0	-4.3*
Benzidine		.794	.686	276.67	320.0	13.5
Pyrene		1.200	1.216	81.05	80.0	-1.3
Butylbenzylphthalate		.691	.709	82.03	80.0	-2.5
3,3'-Dichlorobenzidine		.473	.488	82.45	80.0	-3.1
Benzo(a)anthracene		1.097	1.116	81.42	80.0	-1.8
bis(2-Ethylhexyl)phthalate		.959	.967	80.73	80.0	-.9
Chrysene		1.055	1.043	79.06	80.0	1.2
Di-n-octylphthalate	*	1.940	1.996	82.33	80.0	-2.9*
7,12-Dimethylbenz[a]anthrace		.608	.625	82.27	80.0	-2.8
Benzo(b)fluoranthene		1.422	1.439	80.99	80.0	-1.2
Benzo(k)fluoranthene		1.318	1.358	82.37	80.0	-3.0

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 06/30/98 Time: 08:02

Lab File ID: >BF601 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.247	81.05	80.0	-1.3*
Indeno(1,2,3-cd)pyrene		1.178	1.174	79.73	80.0	.3
Dibenz(a,h)anthracene		1.155	1.151	79.74	80.0	.3
Benzo(g,h,i)perylene		1.200	1.211	80.72	80.0	-.9
2-Fluorophenol		1.155	1.160	80.29	80.0	-.4
Phenol-d5		1.504	1.535	81.67	80.0	-2.1
Phenol-d6		1.504	1.535	81.67	80.0	-2.1
Nitrobenzene-d5		.413	.438	84.97	80.0	-6.2
2-Fluorobiphenyl		1.302	1.280	78.63	80.0	1.7
2,4,6-Tribromophenol		.231	.240	83.08	80.0	-3.9
Terphenyl-d14		.907	.915	80.68	80.0	-.9

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF601 Date Analyzed: 06/30/98

Instrument ID: HP06588 Time Analyzed: 08:02

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	149428	12.00	497310	15.85	250625	21.19
	UPPER LIMIT	298856		994620		501250	
	LOWER LIMIT	74714		248655		125313	
	EPA SAMPLE NO.						
01	1956-DL	171537	12.00	602128	15.84	292377	21.18
02	2001-	159158	12.00	550293	15.84	271171	21.19
03	0202-	170736	12.00	582357	15.85	309133	21.20
04	1901-DL	146362	12.01	499360	15.86	255305	21.20
05	1901-DL	137223	12.01	486011	15.85	235888	21.20
06	1923-DL	137407	12.01	468132	15.85	236639	21.19
07	JUNSQDL	144795	12.01	495267	15.84	244700	21.19
08	3301-	149871	12.01	525627	15.84	249839	21.20
09	3323-DL	143711	12.01	501659	15.85	245265	21.20
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BF601 Date Analyzed: 06/30/98

Instrument ID: HP06588 Time Analyzed: 08:02

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	432323	25.71	427050	32.35	332699	36.92
	UPPER LIMIT	864646		854100		665398	
	LOWER LIMIT	216162		213525		166350	
	EPA SAMPLE NO.						
01	1956-DL	514243	25.72	510729	32.34	408567	36.91
02	2001-	487551	25.71	471093	32.34	379830	36.92
03	0202-	766467	25.75	734012	32.44	450278	37.06
04	1901-DL	435086	25.72	454236	32.36	379049	36.96
05	1901-DL	422401	25.72	412002	32.35	337591	36.94
06	1923-DL	402934	25.72	402494	32.35	328797	36.93
07	JUNSQDL	438292	25.71	432117	32.34	350135	36.92
08	3301-	435740	25.72	466051	32.36	372800	36.94
09	3323-DL	436067	25.71	434098	32.35	349948	36.92
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BG000 DFTPP Injection Date: 07/01/98

Instrument ID: HP06588 DFTPP Injection Time: 06:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	46.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	61.9
70	Less than 2.0% of mass 69	.7 (1.1)1
127	40.0 - 60.0% of mass 198	54.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	7.5
275	10.0 - 30.0% of mass 198	19.8
365	Greater than 1.00% of mass 198	2.31
441	Present, but less than mass 443	8.8
442	Greater than 40.0% of mass 198	54.0
443	17.0 - 23.0% of mass 442	10.0 (18.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BG001	07/01/98	07:11
02	ESL4-	2948677	>BG002	07/01/98	08:04
03	ESL4-MS	2948679MS	>BG003	07/01/98	08:59
04	3301-DL	2943384DL	>BG004	07/01/98	11:00
05	0202-DL	2943286DL	>BG005	07/01/98	11:53
06	ESL4-MSD	2948680MSD	>BG006	07/01/98	12:46
07	ESL1-	2948674	>BG007	07/01/98	13:42
08	ESL2-	2948675	>BG008	07/01/98	14:45
09	ESL3-	2948676	>BG009	07/01/98	15:42
10	ESL5-	2948681	>BG010	07/01/98	16:37
11	ESL6-	2948682	>BG011	07/01/98	17:32
12	ESL7-	2948683	>BG012	07/01/98	18:32
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22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/01/98 Time: 07:11

Lab File ID: >BG001 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.216	1.208	79.50	80.0	.6
N-Nitrosodimethylamine		.696	.694	79.81	80.0	.2
2-Picoline		1.203	1.187	78.91	80.0	1.4
Phenol	*	1.490	1.477	79.28	80.0	.9*
Aniline		1.850	1.798	77.73	80.0	2.8
bis(2-Chloroethyl)ether		1.207	1.205	79.90	80.0	.1
2-Chlorophenol		1.341	1.324	78.95	80.0	1.3
1,3-Dichlorobenzene		1.477	1.483	80.34	80.0	-.4
1,4-Dichlorobenzene	*	1.540	1.546	80.30	80.0	-.4*
Benzyl alcohol		.781	.807	82.62	80.0	-3.3
1,2-Dichlorobenzene		1.399	1.401	80.09	80.0	-.1
2-Methylphenol		1.087	1.081	79.53	80.0	.6
2,2'-oxybis(1-Chloropropane)		1.468	1.447	78.84	80.0	1.5
bis(2-Chloroisopropyl)ether		1.468	1.447	78.84	80.0	1.5
4-Methylphenol		1.146	1.156	80.66	80.0	-.8
3- and 4-Methylphenol		1.146	1.156	80.66	80.0	-.8
Acetophenone		1.592	1.568	78.81	80.0	1.5
N-Nitroso-di-n-propylamine	#	.925	.925	79.99	80.0	.0#
o-Toluidine		1.794	1.756	78.32	80.0	2.1
Hexachloroethane		.658	.680	82.75	80.0	-3.4
Nitrobenzene		.426	.453	85.20	80.0	-6.5
Isophorone		.744	.766	82.27	80.0	-2.8
2-Nitrophenol	*	.198	.218	87.88	80.0	-9.8*
2,4-Dimethylphenol		.363	.378	83.40	80.0	-4.3
Benzoic acid		.233	.262	82.65	80.0	-3.3
bis(2-Chloroethoxy)methane		.416	.428	82.21	80.0	-2.8
2,4-Dichlorophenol	*	.290	.308	84.83	80.0	-6.0*
1,2,4-Trichlorobenzene		.328	.350	85.23	80.0	-6.5
Naphthalene		1.031	1.050	81.48	80.0	-1.9
4-Chloroaniline		.442	.450	81.42	80.0	-1.8
Hexachlorobutadiene	*	.204	.213	83.77	80.0	-4.7*
4-Chloro-3-methylphenol	*	.298	.313	84.04	80.0	-5.0*
2-Methylnaphthalene		.636	.659	82.96	80.0	-3.7
1-Methylnaphthalene		.596	.616	82.67	80.0	-3.3
Hexachlorocyclopentadiene	#	.347	.358	72.28	80.0	9.6#
2,4,6-Trichlorophenol	*	.401	.414	82.65	80.0	-3.3*
2,4,5-Trichlorophenol		.432	.448	82.96	80.0	-3.7
2-Chloronaphthalene		1.235	1.260	81.64	80.0	-2.1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/01/98 Time: 07:11

Lab File ID: >BG001 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.451	86.69	80.0	-8.4
Dimethylphthalate		1.372	1.400	81.61	80.0	-2.0
2,6-Dinitrotoluene		.283	.320	81.01	80.0	-1.3
Acenaphthylene		1.990	2.015	81.00	80.0	-1.3
3-Nitroaniline		.363	.394	79.72	80.0	.4
Acenaphthene	*	1.166	1.188	81.54	80.0	-1.9*
2,4-Dinitrophenol	#	.137	.166	80.18	80.0	-.2#
4-Nitrophenol	#	.252	.272	86.31	80.0	-7.9#
Dibenzofuran		1.652	1.656	80.19	80.0	-.2
2,4-Dinitrotoluene		.398	.445	80.77	80.0	-1.0
1-Naphthylamine		1.119	1.024	73.21	80.0	8.5
2-Naphthylamine		1.111	.979	70.46	80.0	11.9
Diethylphthalate		1.489	1.539	82.66	80.0	-3.3
4-Chlorophenyl-phenylether		.600	.611	81.45	80.0	-1.8
Fluorene		1.253	1.273	81.28	80.0	-1.6
4-Nitroaniline		.392	.423	86.34	80.0	-7.9
4,6-Dinitro-2-methylphenol		.113	.136	79.97	80.0	.0
N-Nitrosodiphenylamine (1)	*	.522	.529	81.10	80.0	-1.4*
1,2-Diphenylhydrazine		.878	.902	82.16	80.0	-2.7
4-Bromophenyl-phenylether		.211	.220	83.28	80.0	-4.1
Hexachlorobenzene		.246	.257	83.28	80.0	-4.1
Pentachlorophenol	*	.139	.154	88.77	80.0	-11.0*
Phenanthrene		1.035	1.053	81.41	80.0	-1.8
Anthracene		1.059	1.094	82.67	80.0	-3.3
Carbazole		1.019	1.033	81.15	80.0	-1.4
Di-n-butylphthalate		1.428	1.479	82.87	80.0	-3.6
Fluoranthene	*	1.115	1.158	83.10	80.0	-3.9*
Benzidine		.794	.688	277.49	320.0	13.3
Pyrene		1.200	1.229	81.93	80.0	-2.4
Butylbenzylphthalate		.691	.698	80.74	80.0	-.9
3,3'-Dichlorobenzidine		.473	.484	81.89	80.0	-2.4
Benzo(a)anthracene		1.097	1.100	80.25	80.0	-.3
bis(2-Ethylhexyl)phthalate		.959	.961	80.20	80.0	-.3
Chrysene		1.055	1.062	80.56	80.0	-.7
Di-n-octylphthalate	*	1.940	2.010	82.89	80.0	-3.6*
7,12-Dimethylbenz[a]anthrace		.608	.636	83.65	80.0	-4.6
Benzo(b)fluoranthene		1.422	1.456	81.93	80.0	-2.4
Benzo(k)fluoranthene		1.318	1.360	82.52	80.0	-3.1

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/01/98 Time: 07:11

Lab File ID: >BG001 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.265	82.15	80.0	-2.7*
Indeno(1,2,3-cd)pyrene		1.178	1.199	81.44	80.0	-1.8
Dibenz(a,h)anthracene		1.155	1.190	82.41	80.0	-3.0
Benzo(g,h,i)perylene		1.200	1.156	77.07	80.0	3.7
2-Fluorophenol		1.155	1.146	79.33	80.0	.8
Phenol-d5		1.504	1.516	80.67	80.0	-.8
Phenol-d6		1.504	1.516	80.67	80.0	-.8
Nitrobenzene-d5		.413	.441	85.55	80.0	-6.9
2-Fluorobiphenyl		1.302	1.312	80.64	80.0	-.8
2,4,6-Tribromophenol		.231	.249	86.49	80.0	-8.1
Terphenyl-d14		.907	.913	80.50	80.0	-.6

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG001 Date Analyzed: 07/01/98

Instrument ID: HP06588 Time Analyzed: 07:11

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	161561		12.00	530899		15.84	263126		21.19
	UPPER LIMIT	323122			1061798			526252		
	LOWER LIMIT	80781			265450			131563		
	EPA SAMPLE NO.									
01	ESL4-	153216		12.00	539015		15.84	262478		21.18
02	ESL4-MS	166303		12.00	575560		15.84	281805		21.18
03	3301-DL	148387		12.01	522865		15.85	253518		21.19
04	0202-DL	137414	*	12.00	475893	*	15.85	230693	*	21.19
05	ESL4-MSD	170313		12.00	588518		15.84	285574		21.18
06	ESL1-	148155		12.01	515335		15.84	246728		21.19
07	ESL2-	157533		12.00	551608		15.84	263974		21.18
08	ESL3-	169020		12.00	591609		15.84	287342		21.18
09	ESL5-	166356		12.00	576053		15.84	273616		21.19
10	ESL6-	156421		12.00	543769		15.84	263663		21.19
11	ESL7-	170376		12.00	606028		15.85	290374		21.18
12										
13										
14										
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20										
21										
22										

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG001 Date Analyzed: 07/01/98

Instrument ID: HP06588 Time Analyzed: 07:11

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	451953	25.71	452511	32.34	352162	36.92
	UPPER LIMIT	903906		905022		704324	
	LOWER LIMIT	225977		226256		176081	
	EPA SAMPLE NO.						
01	ESL4-	465823	25.70	451074	32.34	375171	36.92
02	ESL4-MS	488802	25.71	485662	32.35	395712	36.92
03	3301-DL	446437	25.72	423579	32.35	340294	36.93
04	0202-DL	403794	25.70	389462	32.34	322765	36.91
05	ESL4-MSD	511423	25.71	500628	32.34	419051	36.92
06	ESL1-	427630	25.71	431319	32.34	363455	36.92
07	ESL2-	473761	25.70	462095	32.34	377332	36.92
08	ESL3-	510910	25.71	485512	32.34	416338	36.91
09	ESL5-	488240	25.71	468986	32.34	408200	36.91
10	ESL6-	473118	25.71	468691	32.34	395744	36.93
11	ESL7-	513357	25.72	514116	32.34	435036	36.93
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BG060 DFTPP Injection Date: 07/02/98

Instrument ID: HP06588 DFTPP Injection Time: 20:04

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	59.8
70	Less than 2.0% of mass 69	.5 (.9)1
127	40.0 - 60.0% of mass 198	51.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	19.8
365	Greater than 1.00% of mass 198	2.42
441	Present, but less than mass 443	9.7
442	Greater than 40.0% of mass 198	57.0
443	17.0 - 23.0% of mass 442	11.5 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BG061	07/02/98	20:27
02	180WBUS2	180WBUS	>BG062	07/02/98	21:20
03	180WBMS2	180WBMS	>BG063	07/02/98	22:12
04	180WBMSD	180WBMSD	>BG064	07/02/98	23:05
05	24ERB	2953835	>BG065	07/02/98	23:57
06	FILFB	2954229	>BG066	07/03/98	00:50
07	SBLKLC1772	SBLKLC177	>BG067	07/03/98	01:42
08	177LCLCS2	177LCLCS	>BG068	07/03/98	02:35
09	GG333	2946755	>BG069	07/03/98	03:27
10	GG333MS	2946755MS	>BG070	07/03/98	04:19
11	GG333MSD	2946755MSD	>BG071	07/03/98	05:12
12	SD12-RE	2941682RE	>BG072	07/03/98	06:04
13	GG334	2946757	>BG073	07/03/98	06:56
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/02/98 Time: 20:27

Lab File ID: >BG061 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.216	1.188	78.17	80.0	2.3	
N-Nitrosodimethylamine		.696	.677	77.91	80.0	2.6	
2-Picoline		1.203	1.195	79.47	80.0	.7	
Phenol	*	1.490	1.471	78.96	80.0	1.3	*
Aniline		1.850	1.748	75.60	80.0	5.5	
bis(2-Chloroethyl)ether		1.207	1.142	75.73	80.0	5.3	
2-Chlorophenol		1.341	1.336	79.70	80.0	.4	
1,3-Dichlorobenzene		1.477	1.449	78.47	80.0	1.9	
1,4-Dichlorobenzene	*	1.540	1.523	79.07	80.0	1.2	*
Benzyl alcohol		.781	.764	78.29	80.0	2.1	
1,2-Dichlorobenzene		1.399	1.400	80.04	80.0	-.0	
2-Methylphenol		1.087	1.075	79.09	80.0	1.1	
2,2'-oxybis(1-Chloropropane)		1.468	1.376	74.98	80.0	6.3	
bis(2-Chloroisopropyl)ether		1.468	1.376	74.98	80.0	6.3	
4-Methylphenol		1.146	1.125	78.52	80.0	1.9	
3- and 4-Methylphenol		1.146	1.125	78.52	80.0	1.9	
Acetophenone		1.592	1.579	79.34	80.0	.8	
N-Nitroso-di-n-propylamine	#	.925	.904	78.16	80.0	2.3	#
o-Toluidine		1.794	1.753	78.16	80.0	2.3	
Hexachloroethane		.658	.680	82.75	80.0	-3.4	
Nitrobenzene		.426	.429	80.57	80.0	-.7	
Isophorone		.744	.744	79.93	80.0	.1	
2-Nitrophenol	*	.198	.212	85.49	80.0	-6.9	*
2,4-Dimethylphenol		.363	.370	81.65	80.0	-2.1	
Benzoic acid		.233	.241	76.56	80.0	4.3	
bis(2-Chloroethoxy)methane		.416	.413	79.32	80.0	.8	
2,4-Dichlorophenol	*	.290	.300	82.72	80.0	-3.4	*
1,2,4-Trichlorobenzene		.328	.337	82.05	80.0	-2.6	
Naphthalene		1.031	1.022	79.34	80.0	.8	
4-Chloroaniline		.442	.438	79.41	80.0	.7	
Hexachlorobutadiene	*	.204	.210	82.61	80.0	-3.3	*
4-Chloro-3-methylphenol	*	.298	.308	82.52	80.0	-3.2	*
2-Methylnaphthalene		.636	.635	79.96	80.0	.0	
1-Methylnaphthalene		.596	.593	79.68	80.0	.4	
Hexachlorocyclopentadiene	#	.347	.350	70.84	80.0	11.5	#
2,4,6-Trichlorophenol	*	.401	.421	84.11	80.0	-5.1	*
2,4,5-Trichlorophenol		.432	.454	84.13	80.0	-5.2	
2-Chloronaphthalene		1.235	1.244	80.58	80.0	-.7	

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/02/98 Time: 20:27

Lab File ID: >BG061 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline	.416	.423	81.36	80.0	-1.7
Dimethylphthalate	1.372	1.385	80.74	80.0	-.9
2,6-Dinitrotoluene	.283	.315	79.77	80.0	.3
Acenaphthylene	1.990	1.982	79.67	80.0	.4
3-Nitroaniline	.363	.388	78.55	80.0	1.8
Acenaphthene *	1.166	1.164	79.90	80.0	.1*
2,4-Dinitrophenol #	.137	.157	76.56	80.0	4.3#
4-Nitrophenol #	.252	.270	85.63	80.0	-7.0#
Dibenzofuran	1.652	1.681	81.38	80.0	-1.7
2,4-Dinitrotoluene	.398	.438	79.63	80.0	.5
1-Naphthylamine	1.119	.995	71.13	80.0	11.1
2-Naphthylamine	1.111	.922	66.36	80.0	17.0
Diethylphthalate	1.489	1.512	81.21	80.0	-1.5
4-Chlorophenyl-phenylether	.600	.611	81.42	80.0	-1.8
Fluorene	1.253	1.270	81.11	80.0	-1.4
4-Nitroaniline	.392	.419	85.64	80.0	-7.1
4,6-Dinitro-2-methylphenol	.113	.131	77.45	80.0	3.2
N-Nitrosodiphenylamine (1) *	.522	.517	79.25	80.0	.9*
1,2-Diphenylhydrazine	.878	.862	78.54	80.0	1.8
4-Bromophenyl-phenylether	.211	.216	81.80	80.0	-2.2
Hexachlorobenzene	.246	.251	81.46	80.0	-1.8
Pentachlorophenol *	.139	.146	84.16	80.0	-5.2*
Phenanthrene	1.035	1.023	79.05	80.0	1.2
Anthracene	1.059	1.054	79.63	80.0	.5
Carbazole	1.019	1.028	80.74	80.0	-.9
Di-n-butylphthalate	1.428	1.408	78.84	80.0	1.4
Fluoranthene *	1.115	1.102	79.07	80.0	1.2*
Benzidine	.794	.680	273.97	320.0	14.4
Pyrene	1.200	1.194	79.59	80.0	.5
Butylbenzylphthalate	.691	.674	78.04	80.0	2.5
3,3'-Dichlorobenzidine	.473	.479	81.09	80.0	-1.4
Benzo(a)anthracene	1.097	1.121	81.80	80.0	-2.3
bis(2-Ethylhexyl)phthalate	.959	.928	77.43	80.0	3.2
Chrysene	1.055	1.060	80.39	80.0	-.5
Di-n-octylphthalate *	1.940	1.883	77.66	80.0	2.9*
7,12-Dimethylbenz[a]anthrace	.608	.600	78.90	80.0	1.4
Benzo(b)fluoranthene	1.422	1.440	81.00	80.0	-1.3
Benzo(k)fluoranthene	1.318	1.323	80.30	80.0	-.4

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/02/98 Time: 20:27

Lab File ID: >BG061 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.227	79.70	80.0	.4*
Indeno(1,2,3-cd)pyrene		1.178	1.188	80.73	80.0	-.9
Dibenz(a,h)anthracene		1.155	1.157	80.17	80.0	-.2
Benzo(g,h,i)perylene		1.200	1.212	80.75	80.0	-.9
2-Fluorophenol		1.155	1.150	79.62	80.0	.5
Phenol-d5		1.504	1.467	78.04	80.0	2.4
Phenol-d6		1.504	1.467	78.04	80.0	2.4
Nitrobenzene-d5		.413	.422	81.88	80.0	-2.3
2-Fluorobiphenyl		1.302	1.354	83.19	80.0	-4.0
2,4,6-Tribromophenol		.231	.251	86.92	80.0	-8.7
Terphenyl-d14		.907	.887	78.26	80.0	2.2

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG061 Date Analyzed: 07/02/98

Instrument ID: HP06588 Time Analyzed: 20:27

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	177804	11.82	594116	15.67	289505	21.01
	UPPER LIMIT	355608		1188232		579010	
	LOWER LIMIT	88902		297058		144753	
01	180WBUS2	147839	11.82	516502	15.66	244170	21.00
02	180WBMS2	143861	11.82	477073	15.66	230517	21.00
03	180WBMSD	146735	11.82	499314	15.66	241874	21.00
04	24ERB	148799	11.82	511446	15.66	245949	21.00
05	FILFB	151390	11.81	500494	15.66	242115	21.00
06	SBLKLC1772	151875	11.82	516773	15.66	246493	21.00
07	177LCLCS2	145067	11.81	478681	15.66	227346	21.00
08	GG333	154542	11.82	529152	15.66	254216	21.00
09	GG333MS	161567	11.82	540361	15.66	259881	21.00
10	GG333MSD	156608	11.81	519086	15.66	250214	21.00
11	SD12-RE	139490	11.82	468929	15.65	228614	20.99
12	GG334	148427	11.82	507468	15.66	248723	21.00
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG061 Date Analyzed: 07/02/98

Instrument ID: HP06588 Time Analyzed: 20:27

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	514173	25.52	511664	32.17	412132	36.60
	UPPER LIMIT	1028346		1023328		824264	
	LOWER LIMIT	257087		255832		206066	
	EPA SAMPLE NO.						
01	180WBUS2	424939	25.51	433675	32.17	352560	36.59
02	180WBMS2	405537	25.52	410558	32.17	323329	36.59
03	180WBMSD	418030	25.52	421554	32.17	337336	36.59
04	24ERB	425677	25.52	418146	32.17	351227	36.59
05	FILFB	435628	25.52	426448	32.16	348769	36.59
06	SBLKLC1772	432261	25.51	429537	32.16	353730	36.59
07	177LCLCS2	417399	25.52	411419	32.17	332497	36.59
08	GG333	447031	25.52	443631	32.17	359740	36.59
09	GG333MS	455229	25.52	457818	32.17	369292	36.59
10	GG333MSD	443242	25.51	445994	32.16	367693	36.59
11	SD12-RE	402737	25.51	401431	32.17	318902	36.59
12	GG334	433288	25.51	433075	32.17	354509	36.58
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20							
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22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >BG075 DFTPP Injection Date: 07/03/98

Instrument ID: HP06588 DFTPP Injection Time: 08:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	52.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	72.1
70	Less than 2.0% of mass 69	.2 (.2)1
127	40.0 - 60.0% of mass 198	54.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	18.3
365	Greater than 1.00% of mass 198	2.03
441	Present, but less than mass 443	8.3
442	Greater than 40.0% of mass 198	52.3
443	17.0 - 23.0% of mass 442	9.2 (17.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD80	STD1748	>BG076	07/03/98	08:49
02	SW03X	2955024	>BG077	07/03/98	10:17
03	SW032	2955025	>BG078	07/03/98	11:09
04	SW04-	2955026	>BG079	07/03/98	12:01
05	SW05-	2955027	>BG080	07/03/98	12:54
06	SW05-MS	2955027	>BG081	07/03/98	13:46
07	SW05-MSD	2955027	>BG082	07/03/98	14:38
08	SW06-	2955030	>BG083	07/03/98	15:31
09	SW07-	2955031	>BG084	07/03/98	16:23
10	08SW-	2955032	>BG085	07/03/98	17:15
11	08EB-	2955033	>BG086	07/03/98	18:08
12	SD12-DLRE	2941682DL	>BG087	07/03/98	19:00
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FORM V SV 1/87 Rev.

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/03/98 Time: 08:49

Lab File ID: >BG076 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
Pyridine		1.216	1.197	78.72	80.0	1.6	
N-Nitrosodimethylamine		.696	.699	80.39	80.0	-.5	
2-Picoline		1.203	1.181	78.51	80.0	1.9	
Phenol	*	1.490	1.446	77.65	80.0	2.9	*
Aniline		1.850	1.760	76.09	80.0	4.9	
bis(2-Chloroethyl)ether		1.207	1.176	77.99	80.0	2.5	
2-Chlorophenol		1.341	1.323	78.88	80.0	1.4	
1,3-Dichlorobenzene		1.477	1.479	80.11	80.0	-.1	
1,4-Dichlorobenzene	*	1.540	1.531	79.49	80.0	.6	*
Benzyl alcohol		.781	.797	81.68	80.0	-2.1	
1,2-Dichlorobenzene		1.399	1.391	79.52	80.0	.6	
2-Methylphenol		1.087	1.078	79.32	80.0	.9	
2,2'-oxybis(1-Chloropropane)		1.468	1.394	75.94	80.0	5.1	
bis(2-Chloroisopropyl)ether		1.468	1.394	75.94	80.0	5.1	
4-Methylphenol		1.146	1.123	78.36	80.0	2.1	
3- and 4-Methylphenol		1.146	1.123	78.36	80.0	2.1	
Acetophenone		1.592	1.579	79.35	80.0	.8	
N-Nitroso-di-n-propylamine	#	.925	.917	79.30	80.0	.9	#
o-Toluidine		1.794	1.778	79.31	80.0	.9	
Hexachloroethane		.658	.684	83.23	80.0	-4.0	
Nitrobenzene		.426	.431	81.04	80.0	-1.3	
Isophorone		.744	.754	81.03	80.0	-1.3	
2-Nitrophenol	*	.198	.211	85.09	80.0	-6.4	*
2,4-Dimethylphenol		.363	.373	82.18	80.0	-2.7	
Benzoic acid		.233	.243	77.11	80.0	3.6	
bis(2-Chloroethoxy)methane		.416	.399	76.66	80.0	4.2	
2,4-Dichlorophenol	*	.290	.301	83.00	80.0	-3.8	*
1,2,4-Trichlorobenzene		.328	.339	82.68	80.0	-3.4	
Naphthalene		1.031	1.012	78.50	80.0	1.9	
4-Chloroaniline		.442	.443	80.27	80.0	-.3	
Hexachlorobutadiene	*	.204	.209	82.00	80.0	-2.5	*
4-Chloro-3-methylphenol	*	.298	.305	81.84	80.0	-2.3	*
2-Methylnaphthalene		.636	.638	80.29	80.0	-.4	
1-Methylnaphthalene		.596	.594	79.78	80.0	.3	
Hexachlorocyclopentadiene	#	.347	.315	64.36	80.0	19.6	#
2,4,6-Trichlorophenol	*	.401	.411	82.10	80.0	-2.6	*
2,4,5-Trichlorophenol		.432	.455	84.32	80.0	-5.4	
2-Chloronaphthalene		1.235	1.231	79.75	80.0	.3	

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/03/98 Time: 08:49

Lab File ID: >BG076 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.416	.424	81.47	80.0	-1.8
Dimethylphthalate		1.372	1.376	80.25	80.0	-.3
2,6-Dinitrotoluene		.283	.309	78.21	80.0	2.2
Acenaphthylene		1.990	1.955	78.58	80.0	1.8
3-Nitroaniline		.363	.394	79.77	80.0	.3
Acenaphthene	*	1.166	1.169	80.26	80.0	-.3*
2,4-Dinitrophenol	#	.137	.151	74.47	80.0	6.9#
4-Nitrophenol	#	.252	.254	80.75	80.0	-.9#
Dibenzofuran		1.652	1.638	79.33	80.0	.8
2,4-Dinitrotoluene		.398	.430	78.18	80.0	2.3
1-Naphthylamine		1.119	.983	70.23	80.0	12.2
2-Naphthylamine		1.111	.910	65.51	80.0	18.1
Diethylphthalate		1.489	1.497	80.44	80.0	-.5
4-Chlorophenyl-phenylether		.600	.607	80.91	80.0	-1.1
Fluorene		1.253	1.259	80.38	80.0	-.5
4-Nitroaniline		.392	.415	84.84	80.0	-6.1
4,6-Dinitro-2-methylphenol		.113	.128	75.84	80.0	5.2
N-Nitrosodiphenylamine (1)	*	.522	.521	79.80	80.0	.3*
1,2-Diphenylhydrazine		.878	.870	79.23	80.0	1.0
4-Bromophenyl-phenylether		.211	.213	80.48	80.0	-.6
Hexachlorobenzene		.246	.249	80.87	80.0	-1.1
Pentachlorophenol	*	.139	.145	83.70	80.0	-4.6*
Phenanthrene		1.035	1.040	80.41	80.0	-.5
Anthracene		1.059	1.060	80.11	80.0	-.1
Carbazole		1.019	1.035	81.31	80.0	-1.6
Di-n-butylphthalate		1.428	1.422	79.63	80.0	.5
Fluoranthene	*	1.115	1.128	80.93	80.0	-1.2*
Benzidine		.794	.674	271.56	320.0	15.1
Pyrene		1.200	1.197	79.80	80.0	.3
Butylbenzylphthalate		.691	.700	80.94	80.0	-1.2
3,3'-Dichlorobenzidine		.473	.482	81.57	80.0	-2.0
Benzo(a)anthracene		1.097	1.139	83.10	80.0	-3.9
bis(2-Ethylhexyl)phthalate		.959	.974	81.25	80.0	-1.6
Chrysene		1.055	1.080	81.89	80.0	-2.4
Di-n-octylphthalate	*	1.940	1.944	80.15	80.0	-.2*
7,12-Dimethylbenz[a]anthrace		.608	.608	80.03	80.0	-.0
Benzo(b)fluoranthene		1.422	1.440	81.01	80.0	-1.3
Benzo(k)fluoranthene		1.318	1.319	80.05	80.0	-.1

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06588 Calibration Date: 07/03/98 Time: 08:49

Lab File ID: >BG076 Init. Calib. Date(s): 06/24/98 06/24/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(a)pyrene	*	1.231	1.240	80.54	80.0	-.7*
Indeno(1,2,3-cd)pyrene		1.178	1.195	81.20	80.0	-1.5
Dibenz(a,h)anthracene		1.155	1.154	79.93	80.0	.1
Benzo(g,h,i)perylene		1.200	1.211	80.75	80.0	-.9
2-Fluorophenol		1.155	1.166	80.70	80.0	-.9
Phenol-d5		1.504	1.491	79.29	80.0	.9
Phenol-d6		1.504	1.491	79.29	80.0	.9
Nitrobenzene-d5		.413	.421	81.65	80.0	-2.1
2-Fluorobiphenyl		1.302	1.329	81.67	80.0	-2.1
2,4,6-Tribromophenol		.231	.240	83.14	80.0	-3.9
Terphenyl-d14		.907	.907	80.02	80.0	-.0

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG076 Date Analyzed: 07/03/98

Instrument ID: HP06588 Time Analyzed: 08:49

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	188618	11.81	637676	15.67	310052	21.00
	UPPER LIMIT	377236		1275352		620104	
	LOWER LIMIT	94309		318838		155026	
	EPA SAMPLE NO.						
01	SW03X	162746	11.83	568203	15.67	269440	21.01
02	SW032	150420	11.82	523499	15.66	253985	21.00
03	SW04-	149201	11.82	517115	15.66	251163	21.00
04	SW05-	155753	11.82	529176	15.66	253890	21.00
05	SW05-MS	157017	11.82	536979	15.66	261528	21.01
06	SW05-MSD	157327	11.81	520605	15.67	257447	21.01
07	SW06-	161934	11.82	552116	15.66	269047	21.00
08	SW07-	137588	11.82	481919	15.66	233905	21.00
09	08SW-	145851	11.82	498305	15.66	240843	21.00
10	08EB-	158262	11.82	524967	15.66	254800	21.00
11	SD12-DLRE	144414	11.82	486485	15.66	240210	21.00
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >BG076 Date Analyzed: 07/03/98

Instrument ID: HP06588 Time Analyzed: 08:49

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	542365		25.52	532431		32.17	432927		36.60
	UPPER LIMIT	1084730			1064862			865854		
	LOWER LIMIT	271183			266216			216464		
	EPA SAMPLE NO.									
01	SW03X	476392		25.52	460743		32.18	377842		36.61
02	SW032	445410		25.52	437424		32.17	352129		36.59
03	SW04-	429051		25.52	419247		32.17	345552		36.58
04	SW05-	447975		25.53	435465		32.17	356121		36.59
05	SW05-MS	453974		25.52	459417		32.17	369253		36.59
06	SW05-MSD	450073		25.52	455170		32.17	357137		36.59
07	SW06-	468182		25.52	464735		32.17	363992		36.58
08	SW07-	406499		25.52	394562		32.16	325874		36.59
09	08SW-	425168		25.52	422255		32.16	333967		36.59
10	08EB-	450660		25.52	445878		32.17	358277		36.59
11	SD12-DLRE	424938		25.51	422470		32.16	339091		36.59
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

HT = 0K = 2 days

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/11/98
Start Time: 10:00 PM
Tech 1: C. Medina 187
Tech 2:

BATCH NO. 98162SLF026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK79	30	SS98159A	1.0	N/A	N/A	1.0	N/A	N/A	Na2SO4
LCS6	LCS2C	30	SS98159A	1.0	MS98141F	1.0	1.0			↓
2943294MS	2701-MS	30	SS98159A	1.0	MS98141F	1.0	1.0			orange sand with rocks
2943295MSD	2701-	30	SS98159A	1.0	MS98141F	1.0	1.0	↓	↓	↓

C. Medina 6-12-98

	Sample #	Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2943286	0202-	30	SS98159A	1.0	1.0	N/A	N/A	dirt with rocks	4688 4689	6/24/98	N
2	2943287	0656-	30	SS98159A	1.0	1.0			orange sand texture	4688 4689	6/24/98	N
3	2943288	1901-	30	SS98159A	1.0	1.0			dirt rocks twigs	4688 4689	6/24/98	N
4	2943289	1923-	30	SS98159A	1.0	1.0			brown sand texture	4688 4689	6/24/98	N
5	2943290	1956-	30	SS98159A	1.0	1.0			↓	4688 4689	6/24/98	N
6	2943291	2001-	30	SS98159A	1.0	1.0			brown clay chunk texture	4688 4689	6/24/98	N
7	2943292	2023-	30	SS98159A	1.0	1.0			clay texture	4688 4689	6/24/98	N
8	2943293 bkg	2701-	30	SS98159A	1.0	1.0			orange dirt with rocks	4688 4689	6/24/98	N
9	943380	2623-	30	SS98159A	1.0	1.0			orange sand texture	4688 4689	6/24/98	N
10	2943381	2656-	30	SS98159A	1.0	1.0			orange clay chunk texture	4688 4689	6/24/98	N
11	2943382	2723-	30	SS98159A	1.0	1.0			orange sand texture	4688 4689	6/24/98	N
12	2943383	2756-	30	SS98159A	1.0	1.0			↓	4688 4689	6/24/98	N
13	2943384	3301-	30	SS98159A	1.0	1.0			dirt with rocks	4688 4689	6/24/98	N
14	2943385	3323-	30	SS98159A	1.0	1.0	↓	↓	brownish black clay texture	4688 4689	6/24/98	N
15												
16												
17												
18												
19												
20												

C. Medina 6-12-98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
Na2SO4	974089		
Acetone	132334		
Methanol	131608		
Internal Standar		Balance # 5340	
Evap/bath	97 °C	S-Evap/bath	— °C
N-Evap	— °C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

1154

HT = 14 days - ok

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction

Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:

Start Date: 6/18/98

Start Time: 930

Tech 1: Kim Sol

Tech 2:

ATCH NO. 98169SLB026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLKAG	60.0	SS98166B	1.0	NA	NA	1.0	NA		Na2SO4
LCS6	LCS5J	60.0	SS98166B	1.0	MS98167B	1.0				↓
2941671MS R	SD1-MS	30.0	SS98166B	1.0	MS98167B	1.0				crumbly, soil
2941671MSD R	SD1-MSD	30.0	SS98166B	1.0	MS98167B	1.0				↓

Kim Sol 6/18/98

	Sample #		Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2933383	R	GF003	30.0	SS98166B	1.0	1.0	NR	NR	brown sand/wd	4688 4689	6/5/98	N
2	2933388	R	GF009	30.0	SS98166B	1.0				brown sand/wd	4688 4689	6/5/98	N
3	2933391	R	GF012	30.0	SS98166B	1.0				brown sand/wd	4688 4689	6/5/98	N
4	2933393	R	GF014	30.0	SS98166B	1.0				red/brown sand	4688 4689	6/5/98	N
5	2941361		UST63 10.6	30.0	SS98166B	1.0				moist top soil	4688 4689	6/19/98	P
6	2941671 bkg	R	SD1- 15.1	30.0	SS98166B	1.0				crumbly, soil	4688 4689	6/22/98	N
7	2941672	R	SD2-	30.0	SS98166B	1.0				wet, black, mossy	4688 4689	6/22/98	N
8	2941673	R	SD3-	30.0	SS98166B	1.0				v. wet gray silt	4688 4689	6/22/98	N
9	2941674	R	SD4-	30.0	SS98166B	1.0				black gravel rocks/sand	4688 4689	6/22/98	N
10	2941675	R	SD5-	30.0	SS98166B	1.0				brown wet sand	4688 4689	6/22/98	N
11	2941676	R	SD6-	30.0	SS98166B	1.0				wet sand & stones	4688 4689	6/22/98	N
12	2941677	R	SD7-	30.0	SS98166B	1.0				v. v. wet sand	4688 4689	6/22/98	N
13	2941678	R	SD8-	30.0	SS98166B	1.0				wet sand, gravel	4688 4689	6/22/98	N
14	2941679	R	SD9-	30.0	SS98166B	1.0				wet gravel & stones	4688 4689	6/22/98	N
15	2941680	R	SD10-	30.0	SS98166B	1.0				v. wet gravel	4688 4689	6/22/98	N
16	2941681	R	SD11-	30.0	SS98166B	1.0				v. wet sand thick	4688 4689	6/22/98	N
17	2941682	R	SD12-	30.0	SS98166B	1.0	↓	↓	↓	v. wet sand gravel	4688 4689	6/22/98	N
18													
19													
20													

Kim Sol 6/18/98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	88608	—	—
Acetone		—	—
Na2SO4	974086	—	—
mal Standar	—	Balance #	5340
S-Evap/bath	46.1 °C	S-Evap/bath	°C
N-Evap	°C	N-Evap	°C

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98166B BNA SURROGATE STANDARD

MS98167B LCS SPIKE (100)

HT = 22days
J1, V5

Organic Extraction Batchlog

Prep Analysis # 00381 BNA Soil Extraction
Prep Group # 702 TC8 - Soil/Solid Dept: 26

Verified:
Start Date: 6/26/98
Start Time: 1010
Tech 1: JmB 438
Tech 2:

BATCH NO. 98177SLC026

QC	Sample Code	Amt (g)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLKEV	60.0	SS98166B	1.0			1.0			
LCS6	LCSA0	60.0	SS98166B		MS98167B	1.0	1.0			
2946755MS R	GG333MS	30.0	SS98166B		MS98167B		1.0			Clumpy
2946755MSD R	GG333MSD	30.0	SS98166B	✓	MS98167B	✓	2.0			Clumpy

JmB 438 6/26/98

	Sample #		Sample Code	Amt (g)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2941682	R	SD12-	30.0	SS98166B	1.0	1.0			Sandy	4688 4689	6/22/98	N
2	2946755 bkg	R	GG333		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
3	2946757	R	GG334		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
4	2946759	R	GG354		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
5	2946765	R	GG312		SS98166B					Rocky	4688 4689 5722	6/24/98	S
6	2946767	R	GG313		SS98166B					Rocky	4688 4689 5722	6/24/98	S
7	2946769	R	GG314		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
	2946771	R	GG315		SS98166B					Rocky	4688 4689 5722	6/24/98	S
	2946773	R	G3155		SS98166B					Rocky	4688 4689 5722	6/24/98	S
10	2946775	R	GG321		SS98166B					Rocky	4688 4689 5722	6/24/98	S
11	2946777	R	GG322		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
12	2946779	R	GG341		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
13	2946781	R	GG342		SS98166B					Clumpy	4688 4689 5722	6/24/98	S
14	2946783	R	GG362		SS98166B					Rocky	4688 4689 5722	6/24/98	S
15	2949425	R	GG351	✓	SS98166B	✓	✓			Rocky	4688 4689 5722	6/29/98	S
16													
17													
18													
19													
20													

JmB 438 6/24/98

Additional Comment:

DF = Dilution Factor FV = Final Volume

Spike Solutions:
SS98166B BNA SURROGATE STANDARD
MS98167B LCS SPIKE (100)

Solvent Used	Lot No.	Solvent Used	Lot No.
Na_2SO_4	974089		
Acetone	BR334		
$MeCl_2$	BP460		
Internal Standar		Balance #	5340
F-Evap/bath	96 °C	S-Evap/bath	°C N-Evap °C

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

** Shift #1 Analyst: Eileen Hostetler *** Shift #2 Analyst: *

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

*

*

*

*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF318::B1	DFTPP	50NG/UL	06/16/98	07:06		1.0	mvl
2	>BF31Y::B1	SSTD160	STD1558	06/16/98	10:58		1.0	
3	>BF31X::B1	SSTD01	MDL1558	06/16/98	11:54		1.0	
4	>BF313::B1	SSTD120	STD1558	06/16/98	12:51		1.0	
5	>BF314::B1	SSTD05	STD1558	06/16/98	13:48		1.0	
6	>BF315::B1	SSTD20	STD1558	06/16/98	14:45		1.0	
7	>BF316::B1	SSTD50	STD1558	06/16/98	15:42		1.0	
8	>BF317::B1	SSTD80	STD1558	06/16/98	16:39		1.0	
1	>BF320::B1	DFTPP	50NG/UL	06/16/98	17:35		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: [signature] *** Shift #2 Analyst: _____

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

✓ 8-7-98

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF49A::B1	DFTPP	50NG/UL	06/23/98	23:58		1.0	MR
2	>BF491::B1	SSTD80	STD1558	06/24/98	00:24		1.0	MR
6	>BF492::B1	SBLKLB1692	SBLKLB169	06/24/98	01:38	98169SLB	1.0	MR
7	>BF493::B1	169LBLCS2	169LBLCS	06/24/98	02:33	98169SLB	1.0	MR
8	>BF494::B1	SD1--	2941671	06/24/98	03:29	98169SLB	1.0	(MR)
9	>BF495::B1	SD1--MS	2941671	06/24/98	04:24	98169SLB	1.0	"
10	>BF496::B1	SD1--MSD	2941671	06/24/98	05:20	98169SLB	1.0	"
11	>BF497::B1	GF003RE	2933383RE	06/24/98	06:15	98169SLB	1.0	"
1	>BF500::B1	DFTPP	50NG/UL	06/24/98	08:11		1.0	"
1	>BF50A::B1	DFTPP	50NG/UL	06/24/98	08:33		1.0	"
1	>BF50B::B1	DFTPP	50NG/UL	06/24/98	09:02		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: D. Brown

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

_____

_____

_____

_____

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF508::B1	DFTPP	50NG/UL	06/24/98	09:02		1.0	
2	>BF501::B1	SSTD80	STD1748	06/24/98	09:34		1.0	
2	>BF502::B1	SSTD80	STD1748	06/24/98	11:11		1.0	
3	>BF503::B1	SSTD160	STD1748	06/24/98	12:07		1.0	
4	>BF504::B1	SSTD001	MDL1748	06/24/98	13:02		1.0	
5	>BF505::B1	SSTD120	STD1748	06/24/98	13:58		1.0	
6	>BF506::B1	SSTD005	STD1748	06/24/98	14:54		1.0	
7	>BF507::B1	SSTD020	STD1748	06/24/98	15:49		1.0	
8	>BF508::B1	SSTD050	STD1748	06/24/98	16:45		1.0	
1	>BF509::B1	DFTPP	50NG/UL	06/24/98	17:38		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

** Shift #1 Analyst: [signature] *** Shift #2 Analyst: _____

Comment Code:

R = Rejection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

(V) 8270C

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF509::B1	DFTPP	50NG/UL	06/24/98	17:38		1.0	MR
2	>BF510::B1	SSTD80	STD1748	06/24/98	18:02		1.0	"
11	>BF511::B1	SD1--	2941671	06/24/98	18:58	98169SLB	1.0	"
12	>BF512::B1	SD1--MS	2941671	06/24/98	19:54	98169SLB	1.0	"
13	>BF513::B1	SD1--MSD	2941671	06/24/98	20:50	98169SLB	1.0	"
14	>BF514::B1	GF003RE	2933383RE	06/24/98	21:45	98169SLB	1.0	"
15	>BF515::B1	GF009RE	2933388RE	06/24/98	23:17	98169SLB	1.0	"
16	>BF516::B1	GF012RE	2933391RE	06/25/98	00:41	98169SLB	1.0	"
17	>BF517::B1	GF014RE	2933393RE	06/25/98	02:02	98169SLB	1.0	"
18	>BF518::B1	UST63	2941361	06/25/98	03:25	98169SLB	1.0	"
19	>BF519::B1	SD3--	2941673	06/25/98	04:35	98169SLB	1.0	MRF
1	>BF525::B1	DFTPP	50NG/UL	06/25/98	07:51		1.0	MR
1	>BF52A::B1	DFTPP	50NG/UL	06/25/98	08:22		1.0	(MR)
1	>BF52B::B1	DFTPP	50NG/UL	06/25/98	08:44		1.0	"
							1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hartley *** Shift #2 Analyst: _____

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF570::A2	DFTPP	50NG/UL	06/26/98	19:17		1.0	ML
2	>BF571::A2	SSTD80	STD1748	06/26/98	19:45		1.0	"
17	>BF572::A2	1956-	2943290	06/26/98	20:39	98162SLF	1.0	" F2
18	>BF573::A2	2001-	2943291	06/26/98	21:33	98162SLF	1.0	(W) I
19	>BF574::A2	2023-	2943292	06/26/98	22:29	98162SLF	1.0	ML
20	>BF575::A2	2623-	2943380	06/26/98	23:23	98162SLF	1.0	"
21	>BF576::A3	2723-	2943382	06/27/98	00:17	98162SLF	1.0	"
22	>BF577::A3	2756-	2943383	06/27/98	01:11	98162SLF	1.0	"
1	>BF560::A3	DFTPP	50NG/UL	06/29/98	05:35		1.0	I, R (W)
1	>BF580::A3	DFTPP	50NG/UL	06/29/98	06:04		1.0	
1	>BF58A::A3	DFTPP	50NG/UL	06/29/98	07:10		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: [signature] *** Shift #2 Analyst: _____ *

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

(V) 8270C

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF540::A2	DFTPP	50NG/UL	06/25/98	22:30		1.0	MR
2	>BF541::A2	SSTD80	STD1748	06/25/98	22:59		1.0	"
11	>BF542::A2	UST63DL	2941361DL	06/26/98	00:08	98169SLB	2.0	"
12	>BF543::A2	SD4--DL	2941674DL	06/26/98	01:12	98169SLB	500.0	"
13	>BF544::A2	SD2--DL	2941672DL	06/26/98	02:06	98169SLB	250.0	"
14	>BF545::A2	SD3--DL	2941673DL	06/26/98	03:00	98169SLB	20.0	"
15	>BF546::A2	SD4--	2941674	06/26/98	03:54	98169SLB	10.0	"
1	>BF547::A2	SD2--DL	2941672DL	06/26/98	06:12	98169SLB	500.0	"
1	>BF550::A2	DFTPP	50NG/UL	06/26/98	07:25		1.0	MR

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Ellen Hostetter *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = 1 or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF550::A2	DFTPP	50NG/UL	06/26/98	07:25		1.0	MC
2	>BF551::A2	SSTD80	STD1748	06/26/98	07:52		1.0	
6	>BF552::A2	SBLKLC176L	SBLKLC176	06/26/98	09:23	98176SLC170SA	1.0	
7	>BF553::A2	176LCLCSL	176LCLCS	06/26/98	10:17	98176SLC170SA	1.0	
8	>BF554::A2	176LCLCSD	176LCLCSD	06/26/98	11:12	98176SLC170SA	1.0	
9	>BF555::A2	GP192RE	2940081RE	06/26/98	12:06	98176SLC170SA	1.0	
10	>BF556::A2	JUNSQ	2952567	06/26/98	13:01	98176SLC170SA	1.0	JXFL
11	>BF557::A2	SBLKLF1622	SBLKLF162	06/26/98	13:56	98162SLF	1.0	MC
12	>BF558::A2	162LFLCS2	162LFLCS	06/26/98	14:50	98162SLF	1.0	
13	>BF559::A2	2701-	2943293	06/26/98	15:44	98162SLF	1.0	
14	>BF560::A2	2701-MS	2943294	06/26/98	16:38	98162SLF	1.0	
15	>BF561::A2	2701-MSD	2943295	06/26/98	17:32	98162SLF	1.0	
16	>BF562::A2	0656-	2943287	06/26/98	18:26	98162SLF	1.0	
1	>BF570::A2	DFTPP	50NG/UL	06/26/98	19:17		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hinkel *** Shift #2 Analyst: *

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	f	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF52B::B1	DFTPP	50NG/UL	06/25/98	08:44		1.0	ok
2	>BF526::A2	SSTD80	STD1748	06/25/98	09:18		1.0	ok
20	>BF520::A2	SD4--	2941674	06/25/98	05:39	98169SLB	1.0	(NU)
6	>BF527::A2	SD2--	2941672	06/25/98	12:04	98169SLB	10.0	DILFS
7	>BF528::A2	SD5--	2941675	06/25/98	13:11	98169SLB	1.0	ok
8	>BF529::A2	SD6--	2941676	06/25/98	14:13	98169SLB	1.0	"
9	>BF530::A2	SD7--	2941677	06/25/98	15:09	98169SLB	1.0	"
10	>BF531::A2	SD8--	2941678	06/25/98	16:05	98169SLB	1.0	"
11	>BF532::A2	SD9--	2941679	06/25/98	17:01	98169SLB	1.0	"
12	>BF533::A2	SD10-	2941680	06/25/98	17:57	98169SLB	1.0	"
13	>BF534::A2	SD11-	2941681	06/25/98	19:00	98169SLB	1.0	"
14	>BF535::A2	SD12-	2941682	06/25/98	19:56	98169SLB	1.0	SX
1	>BF540::A2	DFTPP	50NG/UL	06/25/98	22:30		1.0	ok

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Willie Hostetter *** Shift #2 Analyst: _____

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF58A::A3	DFTPP	50NG/UL	06/29/98	07:10		1.0	MC
2	>BF581::A3	SSTD80	STD1748	06/29/98	07:43		1.0	1
5	>BF584::A3	0202-	2943286	06/29/98	09:07	98162SLF B	1.0	I, F2C (NU)
6	>BF585::A3	1901-	2943288	06/29/98	10:14	98162SLF B	1.0	Cl, F
8	>BF587::A3	2656-	2943381	06/29/98	12:21	98162SLF B	1.0	Cl, F2
7	>BF586::A3	1923-	2943289	06/29/98	11:25	98162SLF B	1.0	Cl
12	>BF599::A3	GF003DL	2933383DL	06/29/98	13:17	98169SLB B	1.0	Cl
9	>BF588::A3	2756-	2943383	06/29/98	14:34	98162SLF B	1.0	Cl
10	>BF589::A3	3301-	2943384	06/29/98	15:31	98162SLF B	1.0	(NU) IS 010
11	>BF590::A3	3323-	2943385	06/29/98	16:47	98162SLF B	1.0	Cl, F2C
12	>BF591::A3	SBLKLB1742	SBLKLB174	06/29/98	17:54	98174SLB B	1.0	Cl
13	>BF592::A3	174LBLCS2	174LBLCS	06/29/98	18:47	98174SLB B	1.0	Cl
1	>BF600::A3	DFTPP	50NG/UL	06/30/98	06:41		1.0	(NU)
1	>BF60Z::A3	DFTPP	50NG/UL	06/30/98	07:34		1.0	Cl

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

** Shift #1 Analyst: Eileen Hostetter *** Shift #2 Analyst:

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BF602::A3	DFTPP	50NG/UL	06/30/98	07:34		1.0	ml
2	>BF601::A3	SSTD80	STD1748	06/30/98	08:02		1.0	
3	>BF602::A3	1956-DL	2943290DL	06/30/98	08:56	98162SLF B	2.0	
4	>BF603::A3	2001-	2943291	06/30/98	09:49	98162SLF B	5.0	
5	>BF604::A3	0202-RE	2943286RE	06/30/98	10:42	98162SLF B	1.0	
6	>BF605::A3	1901-DL	2943288DL	06/30/98	11:46	98162SLF B	10.0	
7	>BF606::A3	1901-DL	2943288DL	06/30/98	12:52	98162SLF B	30.0	
8	>BF607::A3	1923-DL	2943289DL	06/30/98	13:56	98162SLF B	2.0	
9	>BF60A::A4	JUNSQDL	2952567DL	06/30/98	14:50	98176SLC170SA	20.0	
10	>BF608::A4	3301-	2943384	06/30/98	15:44	98162SLF B	10.0	d, F 20
11	>BF609::A4	3323-DL	2943385DL	06/30/98	16:43	98162SLF B	20.0	mc
12	>BF610::A4	0202-DL	2943286DL	06/30/98	17:36	98162SLF B	20.0	F4 (M)
1	>BF620::A4	DFTPP	50NG/UL	06/30/98	18:28		1.0	(M)
1	>BG000::A4	DFTPP	50NG/UL	07/01/98	06:49		1.0	ml

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Eileen Hostrew *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BG000::A4	DFTPP	50NG/UL	07/01/98	06:49		1.0	MK
2	>BG001::A4	SSTD80	STD1748	07/01/98	07:11		1.0	
14	>BG002::A4	ESL4-	2948677	07/01/98	08:04	98174SLB B	1.0	
15	>BG003::A4	ESL4-MS	2948679MS	07/01/98	08:59	98174SLB B	1.0	
3	>BG004::A4	3301-DL	2943384DL	07/01/98	11:00	98162SLF B	200.0	
4	>BG005::A4	0202-DL	2943286DL	07/01/98	11:53	98162SLF B	80.0	
16	>BG006::A4	ESL4-MSD	2948680MSD	07/01/98	12:46	98174SLB B	1.0	
17	>BG007::A4	ESL1-	2948674	07/01/98	13:42	98174SLB B	1.0	
18	>BG008::A4	ESL2-	2948675	07/01/98	14:45	98174SLB B	1.0	
19	>BG009::A4	ESL3-	2948676	07/01/98	15:42	98174SLB B	1.0	
20	>BG010::A4	ESL5-	2948681	07/01/98	16:37	98174SLB B	1.0	
21	>BG011::A4	ESL6-	2948682	07/01/98	17:32	98174SLB B	1.0	
22	>BG012::X1	ESL7-	2948683	07/01/98	18:32	98174SLB B	1.0	
1	>BG020::X1	DFTPP	50NG/UL	07/01/98	20:00		1.0	

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

*** Shift #1 Analyst: Hartenstine *** Shift #2 Analyst: *

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = 1 or X)	T	=	Injected outside valid tune period

(V) 8270C

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BG060::B2	DFTPP	50NG/UL	07/02/98	20:04		1.0	MR
2	>BG061::B2	SSTD80	STD1748	07/02/98	20:27		1.0	MR
27	>BG062::B2	180WBUS2	180WBUS	07/02/98	21:20	98180WAB B	1.0	MR
28	>BG063::B2	180WBMS2	180WBMS	07/02/98	22:12	98180WAB B	1.0	MR
29	>BG064::B2	180WBMSD	180WBMSD	07/02/98	23:05	98180WAB B	1.0	MR
25	>BG065::B2	24ERB	2953835	07/02/98	23:57	98180WAB B	1.0	MR
26	>BG066::B2	FILFB	2954229	07/03/98	00:50	98180WAB B	1.0	MR
30	>BG067::B2	SBLKLC1772	SBLKLC177	07/03/98	01:42	98177SLC B	1.0	MR
31	>BG068::B2	177LCLCS2	177LCLCS	07/03/98	02:35	98177SLC B	1.0	MR
32	>BG069::B2	GG333RE	2946755RE	07/03/98	03:27	98177SLC B	1.0	MR
33	>BG070::B2	GG333RE	2946755MS	07/03/98	04:19	98177SLC B	1.0	MR
34	>BG071::B2	GG333RE (3)	2946755MSD	07/03/98	05:12	98177SLC B	1.0	S
35	>BG072::B2	SD12-RE	2941682RE	07/03/98	06:04	98177SLC B	1.0	MR
36	>BG073::B2	GG334RE	2946757RE	07/03/98	06:56	98177SLC B	1.0	MR
1	>BG075::B2	DFTPP	50NG/UL	07/03/98	08:22		1.0	MR

7/3/98

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06588 **HP #02**

** Shift #1 Analyst: Eileen Hostetter *** Shift #2 Analyst: *

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>BG075::B2	DFTPP	SONG/UL	07/03/98	08:22		1.0	MK
2	>BG076::B2	SSTD80	STD1748	07/03/98	08:49		1.0	
6	>BG077::B2	SW03X	2955024	07/03/98	10:17	98182WAA B	1.0	
7	>BG078::B2	SW032	2955025	07/03/98	11:09	98182WAA B	1.0	
8	>BG079::B2	SW04-	2955026	07/03/98	12:01	98182WAA B	1.0	
9	>BG080::B2	SW05-	2955027	07/03/98	12:54	98182WAA B	1.0	
10	>BG081::B2	SW05-MS	2955027	07/03/98	13:46	98182WAA B	1.0	
11	>BG082::B2	SW05-MSD	2955027	07/03/98	14:38	98182WAA B	1.0	
12	>BG083::B2	SW06-	2955030	07/03/98	15:31	98182WAA B	1.0	
13	>BG084::B2	SW07-	2955031	07/03/98	16:23	98182WAA B	1.0	
14	>BG085::B2	08SW-	2955032	07/03/98	17:15	98182WAA B	1.0	
15	>BG086::B2	08EB-	2955033	07/03/98	18:08	98182WAA B	1.0	
16	>BG087::B2	SD12-DLRE	2941682DL	07/03/98	19:00	98177SLC B	2.0	
1	>BG088::B2	DFTPP	SONG/UL	07/03/98	19:49		1.0	(W)
1	>BG08A::B2	DFTPP	SONG/UL	07/03/98	20:08		1.0	MK

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A division of Thermo Analytical Inc.

Sample Reference List for SDG # HMS02
with a Package Type of I

Lab Sample Number	Sample Code	Client Sample Description
2941671	SD1--	SD-01 Grab Soil Sample
2941672	SD2--	SD-02 Grab Soil Sample
2941673	SD3--	SD-03 Grab Soil Sample
2941674	SD4--	SD-04 Grab Soil Sample
2941675	SD5--	SD-05 Grab Soil Sample
2941676	SD6--	SD-06 Grab Soil Sample
2941677	SD7--	SD-07 Grab Soil Sample
2941678	SD8--	SD-08 Grab Soil Sample
2941679	SD9--	SD-09 Grab Soil Sample
2941680	SD10-	SD-10 Grab Soil Sample
2941681	SD11-	SD-11 Grab Soil Sample
2941682	SD12-	SD-12 Grab Soil Sample
2943286	0202-	GEO-02/0-2' Grab Soil Sample
2943287	0656-	GEO-06/5-6' Grab Soil Sample
2943288	1901-	GEO-19/0-1' Grab Soil Sample
2943289	1923-	GEO-19/2-3' Grab Soil Sample
2943290	1956-	GEO-19/5-6' Grab Soil Sample
2943291	2001-	GEO-20/0-1' Grab Soil Sample
2943292	2023-	GEO-20/2-3' Grab Soil Sample
2943293	2701-	GEO-27/0-1' Unspiked Grab Soil Sample
2943294	2701-	GEO-27/0-1' Matrix Spike Grab Soil Sample
2943295	2701-	GEO-27/0-1' Matrix Spike Dup Grab Soil Sample

Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Shipping Address:
Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601
717-656-2300 Fax: 717-656-2681

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

HMS 03

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
S	Aq	EB	RB/6-4-88	none			
S	Aq	EB	RB/6-11-88	none			
S	Aq	MB	SBIKWC1610	Di-n-butylphthalate	10		100
				Butylbenzylphthalate	6		60
S	Aq	MB	SBIKWB1608	Butylbenzylphthalate	5		50
S		MB	SBIKWC1205	none			
V	Aq	EB	RB/6-11-88	none			
V	Aq	TB	TB/6-11-88	none			
V	Aq	MB	VBIKK72	none			
V	Aq	MB	VBIKK73	1,2,4-Trichlorobenzene	1	5	
				Naphthalene	3	15	

1 – V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: _____

Aq. = Aqueous; S = Solid

2 – MB = Method Blank; TB = Trip Blank; EB = Equipment Rinse Blank; FB = Field Blank
IB = Instrument Blank; SB = Storage Blank

* = Inferred from instrument printouts and/or supporting data; mass spectra not provided.

+ = Contaminant observed on one column only.

Notes: _____

WATER VOLATILE SURROGATE RECOVERY

2A

Lab Name: LANCASTER LABS SDG No: HMS03

	EPA SAMPLE NO.	S1 (DBFM) #	S2 (DCA) #	S3 (TOL) #	S4 (BFB) #	OTHER	TOTAL OUT
01	GW16-	110	92	92	98		
02	GW17-	112	94	91	99		
03	GW18-	111	94	90	98		
04	GW19-	112	94	91	97		
05	GW20-	109	94	90	97		
06	GW20-MS	105	98	100	102		
07	GW20-MSD	108	98	100	103		
08	GW21-	112	94	92	97		
09	RB611	112	96	92	97		
10	TB611	113	93	91	98		
11							
12	LAB QC						
13	VBLKK72	108	98	92	96		
14	VBLKK73	110	94	91	96		
15	LCSWK72	106	99	99	99		
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

				QC LIMITS
S1	(DBFM)	=	Dibromofluoromethane	86 - 118
S2	(DCA)	=	1,2-Dichloroethane-d4	80 - 120
S3	(TOL)	=	Toluene-d8	88 - 110
S4	(BFB)	=	4-Bromofluorobenzene	86 - 115

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

137

FORM II VOA-1

1/87 Rev.
Modified

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4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >KUNB3 Lab Sample ID: VBLKK72

Date Analyzed: 06/23/98 Time Analyzed: 21:09

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP03973

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCSWK72	LCSWK72	>KUN20	23:53
02	GW20-	2946089	>KUN21	00:27
03	GW20-MS	2946090	>KUN22	01:01
04	GW20-MSD	2946091	>KUN23	01:35
05	EXBLKB	2946813	>KUN24	02:09
06	ZH-1A	2946070	>KUN25	02:44
07	ZH-2A	2946071	>KUN26	03:18
08	ZH2A8	2946073	>KUN27	03:52
09	ZH-3A	2946075	>KUN28	04:26
10	GW16-	2946085	>KUN29	05:00
11				
12				
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COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK72

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK72

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUNB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/23/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/L	Q
75-71-8	Dichlorodifluoromethane	2	U
74-87-3	Chloromethane	3	U
75-01-4	Vinyl Chloride	2	U
74-83-9	Bromomethane	3	U
75-00-3	Chloroethane	3	U
75-69-4	Trichlorofluoromethane	2	U
60-29-7	Ethyl Ether	2	U
107-02-8	Acrolein	40	U
75-35-4	1,1-Dichloroethene	1	U
76-13-1	Freon 113	2	U
67-64-1	Acetone	6	U
74-88-4	Methyl Iodide	1	U
75-15-0	Carbon Disulfide	3	U
67-63-0	2-Propanol	50	U
107-05-1	Allyl Chloride	1	U
75-09-2	Methylene Chloride	2	U
107-13-1	Acrylonitrile	10	U
156-60-5	trans-1,2-Dichloroethene	2	U
75-65-0	t-Butyl Alcohol	30	U
1634-04-4	Methyl t-Butyl Ether	2	U
75-34-3	1,1-Dichloroethane	2	U
110-54-3	n-Hexane	2	U
108-20-3	di-Isopropyl Ether	1	U
637-92-3	Ethyl t-Butyl Ether	1	U
126-99-8	2-Chloro-1,3-Butadiene	2	U
594-20-7	2,2-Dichloropropane	1	U
156-59-2	cis-1,2-Dichloroethene	2	U
78-93-3	2-Butanone	3	U
107-12-0	Propionitrile	30	U
126-98-7	Methacrylonitrile	10	U
109-99-9	Tetrahydrofuran	3	U
67-66-3	Chloroform	1	U
74-97-5	Bromochloromethane	1	U
71-55-6	1,1,1-Trichloroethane	1	U
110-82-7	Cyclohexane	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK72

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK72

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUNB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/23/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
56-23-5	Carbon Tetrachloride		1	U
563-58-6	1,1-Dichloropropene		1	U
71-43-2	Benzene		1	U
107-06-2	1,2-Dichloroethane		2	U
78-83-1	Isobutyl Alcohol		100	U
994-05-8	t-Amyl Methyl Ether		1	U
142-82-5	n-Heptane		2	U
71-36-3	n-Butanol		100	U
79-01-6	Trichloroethene		1	U
78-87-5	1,2-Dichloropropane		1	U
80-62-6	Methyl Methacrylate		1	U
74-95-3	Dibromomethane		1	U
123-91-1	1,4-Dioxane		70	U
75-27-4	Bromodichloromethane		1	U
79-46-9	2-Nitropropane		2	U
110-75-8	2-Chloroethyl Vinyl Ether		2	U
10061-01-5	cis-1,3-Dichloropropene		1	U
108-10-1	4-Methyl-2-Pentanone		5	U
108-88-3	Toluene		2	U
97-63-2	Ethyl Methacrylate		1	U
10061-02-6	trans-1,3-Dichloropropene		1	U
79-00-5	1,1,2-Trichloroethane		2	U
127-18-4	Tetrachloroethene		1	U
142-28-9	1,3-Dichloropropane		1	U
591-78-6	2-Hexanone		7	U
124-48-1	Dibromochloromethane		2	U
106-93-4	1,2-Dibromoethane		1	U
108-90-7	Chlorobenzene		1	U
630-20-6	1,1,1,2-Tetrachloroethane		1	U
100-41-4	Ethylbenzene		2	U
1330-20-7	m+p-Xylene		1	U
95-47-6	o-Xylene		1	U
100-42-5	Styrene		1	U
75-25-2	Bromoform		1	U
110-57-6	trans-1,4-Dichloro-2-Butene		15	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK72

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK72

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUNB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/23/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
98-82-8	Isopropylbenzene		2	U
79-34-5	1,1,2,2-Tetrachloroethane		2	U
108-86-1	Bromobenzene		1	U
96-18-4	1,2,3-Trichloropropane		1	U
103-65-1	n-Propylbenzene		1	U
95-49-8	2-Chlorotoluene		1	U
108-67-8	1,3,5-Trimethylbenzene		1	U
106-43-4	4-Chlorotoluene		1	U
76-01-7	Pentachloroethane		1	U
98-06-6	tert-Butylbenzene		1	U
95-63-6	1,2,4-Trimethylbenzene		1	U
135-98-8	sec-Butylbenzene		1	U
99-87-6	p-Isopropyltoluene		1	U
541-73-1	1,3-Dichlorobenzene		2	U
106-46-7	1,4-Dichlorobenzene		2	U
104-51-8	n-Butylbenzene		1	U
95-50-1	1,2-Dichlorobenzene		2	U
96-12-8	1,2-Dibromo-3-Chloropropane		3	U
120-82-1	1,2,4-Trichlorobenzene		1	U
87-68-3	Hexachlorobutadiene		2	U
91-20-3	Naphthalene		1	U
87-61-6	1,2,3-Trichlorobenzene		1	U

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >KUOB1 Lab Sample ID: VBLKK73

Date Analyzed: 06/24/98 Time Analyzed: 06:53

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: HP03973

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ZH2A8RE	2946073	>KUO01	07:27
02	GW17-	2946086	>KUO02	08:01
03	GW18-	2946087	>KUO03	08:35
04	GW19-	2946088	>KUO04	09:09
05	GW21-	2946092	>KUO05	09:43
06	RB611	2946093	>KUO06	10:17
07	TB611	2946094	>KUO07	10:51
08	19622	2945433	>KUO08	11:25
09	19624	2945434	>KUO09	11:59
10	19625	2945435	>KUO10	12:33
11	19626	2945436	>KUO11	13:07
12	19627	2945437	>KUO12	13:41
13	19627MS	2945438	>KUO13	14:15
14	19627MSD	2945439	>KUO14	14:49
15	19628	2945440	>KUO15	15:24
16	001--	2947124	>KUO16	15:58
17	TB616	2947555	>KUO17	16:32
18				
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COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK73

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK73

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUOB1

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/24/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
75-71-8	Dichlorodifluoromethane		2	U
74-87-3	Chloromethane		3	U
75-01-4	Vinyl Chloride		2	U
74-83-9	Bromomethane		3	U
75-00-3	Chloroethane		3	U
75-69-4	Trichlorofluoromethane		2	U
60-29-7	Ethyl Ether		2	U
107-02-8	Acrolein		40	U
75-35-4	1,1-Dichloroethene		1	U
76-13-1	Freon 113		2	U
67-64-1	Acetone		6	U
74-88-4	Methyl Iodide		1	U
75-15-0	Carbon Disulfide		3	U
67-63-0	2-Propanol		50	U
107-05-1	Allyl Chloride		1	U
75-09-2	Methylene Chloride		2	U
107-13-1	Acrylonitrile		10	U
156-60-5	trans-1,2-Dichloroethene		2	U
75-65-0	t-Butyl Alcohol		30	U
1634-04-4	Methyl t-Butyl Ether		2	U
75-34-3	1,1-Dichloroethane		2	U
110-54-3	n-Hexane		2	U
108-20-3	di-Isopropyl Ether		1	U
637-92-3	Ethyl t-Butyl Ether		1	U
126-99-8	2-Chloro-1,3-Butadiene		2	U
594-20-7	2,2-Dichloropropane		1	U
156-59-2	cis-1,2-Dichloroethene		2	U
78-93-3	2-Butanone		3	U
107-12-0	Propionitrile		30	U
126-98-7	Methacrylonitrile		10	U
109-99-9	Tetrahydrofuran		3	U
67-66-3	Chloroform		1	U
74-97-5	Bromochloromethane		1	U
71-55-6	1,1,1-Trichloroethane		1	U
110-82-7	Cyclohexane		2	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK73

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK73

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUOB1

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/24/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
56-23-5	Carbon Tetrachloride		1	U
563-58-6	1,1-Dichloropropene		1	U
71-43-2	Benzene		1	U
107-06-2	1,2-Dichloroethane		2	U
78-83-1	Isobutyl Alcohol		100	U
994-05-8	t-Amyl Methyl Ether		1	U
142-82-5	n-Heptane		2	U
71-36-3	n-Butanol		100	U
79-01-6	Trichloroethene		1	U
78-87-5	1,2-Dichloropropane		1	U
80-62-6	Methyl Methacrylate		1	U
74-95-3	Dibromomethane		1	U
123-91-1	1,4-Dioxane		70	U
75-27-4	Bromodichloromethane		1	U
79-46-9	2-Nitropropane		2	U
110-75-8	2-Chloroethyl Vinyl Ether		2	U
10061-01-5	cis-1,3-Dichloropropene		1	U
108-10-1	4-Methyl-2-Pentanone		5	U
108-88-3	Toluene		2	U
97-63-2	Ethyl Methacrylate		1	U
10061-02-6	trans-1,3-Dichloropropene		1	U
79-00-5	1,1,2-Trichloroethane		2	U
127-18-4	Tetrachloroethene		1	U
142-28-9	1,3-Dichloropropane		1	U
591-78-6	2-Hexanone		7	U
124-48-1	Dibromochloromethane		2	U
106-93-4	1,2-Dibromoethane		1	U
108-90-7	Chlorobenzene		1	U
630-20-6	1,1,1,2-Tetrachloroethane		1	U
100-41-4	Ethylbenzene		2	U
1330-20-7	m+p-Xylene		1	U
95-47-6	o-Xylene		1	U
100-42-5	Styrene		1	U
75-25-2	Bromoform		1	U
110-57-6	trans-1,4-Dichloro-2-Butene		15	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKK73

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: VBLKK73

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >KUOB1

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 06/24/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
98-82-8	Isopropylbenzene		2	U
79-34-5	1,1,2,2-Tetrachloroethane		2	U
108-86-1	Bromobenzene		1	U
96-18-4	1,2,3-Trichloropropane		1	U
103-65-1	n-Propylbenzene		1	U
95-49-8	2-Chlorotoluene		1	U
108-67-8	1,3,5-Trimethylbenzene		1	U
106-43-4	4-Chlorotoluene		1	U
76-01-7	Pentachloroethane		1	U
98-06-6	tert-Butylbenzene		1	U
95-63-6	1,2,4-Trimethylbenzene		1	U
135-98-8	sec-Butylbenzene		1	U
99-87-6	p-Isopropyltoluene		1	U
541-73-1	1,3-Dichlorobenzene		2	U
106-46-7	1,4-Dichlorobenzene		2	U
104-51-8	n-Butylbenzene		1	U
95-50-1	1,2-Dichlorobenzene		2	U
96-12-8	1,2-Dibromo-3-Chloropropane		3	U
120-82-1	1,2,4-Trichlorobenzene		1	J
87-68-3	Hexachlorobutadiene		2	U
91-20-3	Naphthalene		3	J
87-61-6	1,2,3-Trichlorobenzene		1	U

Lancaster Laboratories, Inc.

GC/MS Volatiles Matrix Spike/Spike Duplicate Recoveries

Unspiked: ^KUN21
GW20- 2946089
Method: 8260 5mL
Instrument: HP03973

Matrix spike: ^KUN22
GW20-MS 2946090
Matrix/Level: WL
Dilution Factor: 1.0

Spike Duplicate: ^KUN23
GW20-MSD 2946091
Batch: K981751AA

COMPOUND NAME	SPIKE LEVEL	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	
Chloromethane	20.00	0.00	18.68	19.26	93	96	36-150	YES	-3	30.00	
Vinyl Chloride	20.00	0.00	21.23	20.94	106	105	55-141	YES	1	30.00	
Bromomethane	20.00	0.00	13.50	13.37	67	67	17-149	YES	1	30.00	
Chloroethane	20.00	0.00	19.05	18.73	95	94	28-140	YES	2	30.00	
1,1-Dichloroethene	20.00	0.00	23.34	23.34	117	117	48-141	YES	-0	30.00	
Acetone	150.00	0.00	156.75	156.89	104	104	59-119	YES	-0	30.00	
Carbon Disulfide	20.00	0.00	19.98	19.67	100	98	36-177	YES	2	30.00	
Methylene Chloride	20.00	0.00	21.92	21.77	110	109	52-133	YES	1	30.00	
trans-1,2-Dichloroethene	20.00	0.00	23.49	23.12	117	116	46-131	YES	2	30.00	
1,1-Dichloroethane	20.00	0.00	22.50	22.20	112	111	66-125	YES	1	30.00	
cis-1,2-Dichloroethene	20.00	0.00	22.32	22.46	112	112	69-125	YES	-1	30.00	
2-Butanone	150.00	0.00	156.90	159.25	105	106	62-125	YES	-1	30.00	
Chloroform	20.00	0.00	22.65	22.78	113	114	79-121	YES	-1	30.00	
1,1,1-Trichloroethane	20.00	0.00	23.93	23.63	120	118	73-132	YES	1	30.00	
Carbon Tetrachloride	20.00	0.00	24.04	23.94	120	120	68-134	YES	0	30.00	
Benzene	20.00	0.00	21.50	21.49	107	107	64-127	YES	0	30.00	
1,2-Dichloroethane	20.00	0.00	23.48	23.51	117	118	72-124	YES	-0	30.00	
[illegible]oroethene	20.00	0.00	22.82	22.00	114	110	69-130	YES	4	30.00	
[illegible]ichloropropane	20.00	0.00	21.21	21.86	106	109	71-123	YES	-3	30.00	
Bromodichloromethane	20.00	0.00	22.89	22.86	114	114	65-120	YES	0	30.00	
cis-1,3-Dichloropropene	20.00	0.00	21.62	21.73	108	109	71-118	YES	-1	30.00	
4-Methyl-2-Pentanone	100.00	0.00	99.86	103.81	100	104	64-135	YES	-4	30.00	
Toluene	20.00	0.00	21.97	22.07	110	110	56-150	YES	-1	30.00	
trans-1,3-Dichloropropene	20.00	0.00	22.71	22.06	114	110	70-119	YES	3	30.00	
1,1,2-Trichloroethane	20.00	0.00	22.46	22.43	112	112	74-118	YES	0	30.00	
Tetrachloroethene	20.00	0.00	25.05	24.58	125	123	61-148	YES	2	30.00	
2-Hexanone	100.00	0.00	97.89	97.96	98	98	60-136	YES	-0	30.00	
Dibromochloromethane	20.00	0.00	23.63	23.30	118	116	71-118	YES	1	30.00	
Chlorobenzene	20.00	0.00	22.37	22.48	112	112	74-120	YES	-1	30.00	
Ethylbenzene	20.00	0.00	22.84	22.41	114	112	74-130	YES	2	30.00	
Xylene (total)	60.00	0.00	67.60	67.19	113	112	73-131	YES	1	30.00	
Styrene	20.00	0.00	22.43	21.93	112	110	60-134	YES	2	30.00	
Bromoform	20.00	0.00	23.76	23.66	119	118	72-115	NO	0	30.00	J+
1,1,2,2-Tetrachloroethane	20.00	0.00	21.49	21.27	107	106	65-123	YES	1	30.00	

N/C = Could not calculate

Lab Chronicle: _____ Ent. by _____.

_____ Ver. by _____.

_____.

* The %RPD for this compound exceeds requirements.

sample is all ND
for volatiles
- no surr data for ms/msd

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Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2946090
Collected: 6/11/98 at 08:05 by DU

Submitted: 6/13/98 Reported: 7/ 3/98
Discard: 8/ 3/98

GEO-20-GW Matrix Spike Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
GW20- SDG#: HMS03-17MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Volatiles				
5385	Chloromethane	19.	3.	ug/l
5387	Bromomethane	14.	3.	ug/l
5386	Vinyl Chloride	21.	2.	ug/l
5388	Chloroethane	19.	3.	ug/l
5391	Methylene Chloride	22.	2.	ug/l
6302	Acetone	160.	6.	ug/l
6303	Carbon Disulfide	20.	3.	ug/l
5390	1,1-Dichloroethene	23.	1.	ug/l
5393	1,1-Dichloroethane	23.	2.	ug/l
5396	Chloroform	23.	1.	ug/l
5402	1,2-Dichloroethane	23.	2.	ug/l
6305	2-Butanone	160.	3.	ug/l
5398	1,1,1-Trichloroethane	24.	1.	ug/l
5399	Carbon Tetrachloride	24.	1.	ug/l
5406	Bromodichloromethane	23.	1.	ug/l
5421	1,1,2,2-Tetrachloroethane	21.	2.	ug/l
5404	1,2-Dichloropropane	21.	1.	ug/l
6306	trans-1,3-Dichloropropene	23.	1.	ug/l
5403	Trichloroethene	23.	1.	ug/l
5411	Dibromochloromethane	24.	2.	ug/l
5408	1,1,2-Trichloroethane	22.	2.	ug/l
5401	Benzene	22.	1.	ug/l
6307	cis-1,3-Dichloropropene	22.	1.	ug/l
5419	Bromoform	24.	1.	ug/l
6308	4-Methyl-2-pentanone	100.	5.	ug/l
6309	2-Hexanone	98.	7.	ug/l
5409	Tetrachloroethene	25.	1.	ug/l
5407	Toluene	22.	2.	ug/l
5413	Chlorobenzene	22.	1.	ug/l
5415	Ethylbenzene	23.	2.	ug/l
5418	Styrene	22.	1.	ug/l
6310	Xylene (Total)	68.	1.	ug/l
5392	trans-1,2-Dichloroethene	23.	2.	ug/l
5395	cis-1,2-Dichloroethene	22.	2.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

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Respectfully Submitted
Duane A. Luckenbill, B.S.
Group Leader, GC/MS Volatiles

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2946091
Collected: 6/11/98 at 08:05 by DU

Submitted: 6/13/98 Reported: 7/ 3/98
Discard: 8/ 3/98

GEO-20-GW Matrix Spike Dup. Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
GW20- SDG#: HMS03-17MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Volatiles				
5385	Chloromethane	19.	3.	ug/l
5387	Bromomethane	13.	3.	ug/l
5386	Vinyl Chloride	21.	2.	ug/l
5388	Chloroethane	19.	3.	ug/l
5391	Methylene Chloride	22.	2.	ug/l
6302	Acetone	160.	6.	ug/l
6303	Carbon Disulfide	20.	3.	ug/l
5390	1,1-Dichloroethene	23.	1.	ug/l
5393	1,1-Dichloroethane	22.	2.	ug/l
5396	Chloroform	23.	1.	ug/l
5402	1,2-Dichloroethane	24.	2.	ug/l
6305	2-Butanone	160.	3.	ug/l
5398	1,1,1-Trichloroethane	24.	1.	ug/l
5399	Carbon Tetrachloride	24.	1.	ug/l
5406	Bromodichloromethane	23.	1.	ug/l
5421	1,1,2,2-Tetrachloroethane	21.	2.	ug/l
5404	1,2-Dichloropropane	22.	1.	ug/l
6306	trans-1,3-Dichloropropene	22.	1.	ug/l
5403	Trichloroethene	22.	1.	ug/l
5411	Dibromochloromethane	23.	2.	ug/l
5408	1,1,2-Trichloroethane	22.	2.	ug/l
5401	Benzene	21.	1.	ug/l
6307	cis-1,3-Dichloropropene	22.	1.	ug/l
5419	Bromoform	24.	1.	ug/l
6308	4-Methyl-2-pentanone	100.	5.	ug/l
6309	2-Hexanone	98.	7.	ug/l
5409	Tetrachloroethene	25.	1.	ug/l
5407	Toluene	22.	2.	ug/l
5413	Chlorobenzene	22.	1.	ug/l
5415	Ethylbenzene	22.	2.	ug/l
5418	Styrene	22.	1.	ug/l
6310	Xylene (Total)	67.	1.	ug/l
5392	trans-1,2-Dichloroethene	23.	2.	ug/l
5395	cis-1,2-Dichloroethene	22.	2.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

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Respectfully Submitted
Duane A. Luckenbill, B.S.
Group Leader, GC/MS Volatiles

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories, Inc.
GC/MS Volatiles Laboratory Control Sample Recovery

File: ^KUN20
Inst: HP03973
Dilution Factor: 1.0

Injected: 06/23/98 at 23:53
Sample: LCSWK72 LCSWK72

Method: 8260 5mL
Matrix/level: WL
Batch: K981751AA

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
Dichlorodifluoromethane	20.00	22.56	113	57- 144	YES
Chloromethane	20.00	18.52	92	58- 156	YES
Vinyl Chloride	20.00	21.32	106	74- 134	YES
Bromomethane	20.00	13.71	68	30- 154	YES
Chloroethane	20.00	19.73	99	38- 142	YES
Trichlorofluoromethane	20.00	21.90	109	73- 130	YES
Ethyl Ether	20.00	20.25	101	30- 200	YES
Acrolein	150.00	143.30	96	22- 169	YES
1,1-Dichloroethene	20.00	23.57	118	38- 153	YES
Freon 113	20.00	17.27	86	30- 200	YES
Acetone	150.00	149.14	99	57- 117	YES
Methyl Iodide	20.00	19.02	95	58- 133	YES
Carbon Disulfide	20.00	20.10	100	41- 186	YES
2-Propanol	150.00	138.77	92	30- 200	YES
Allyl Chloride	20.00	16.71	84	30- 200	YES
Methylene Chloride	20.00	22.65	113	57- 132	YES
Acrylonitrile	150.00	153.33	102	65- 132	YES
trans-1,2-Dichloroethene	20.00	22.90	114	34- 148	YES
t-Butyl Alcohol	200.00	199.91	100	30- 200	YES
Methyl t-Butyl Ether	20.00	18.66	93	30- 200	YES
1,1-Dichloroethane	20.00	22.20	111	59- 132	YES
Hexane	20.00	19.39	97	30- 200	YES
di-Isopropyl Ether	20.00	19.44	97	30- 200	YES
Ethyl t-Butyl Ether	20.00	18.98	95	70- 130	YES
2-Chloro-1,3-Butadiene	20.00	24.77	124	30- 200	YES
2,2-Dichloropropane	20.00	23.62	118	76- 118	YES
cis-1,2-Dichloroethene	20.00	22.74	114	63- 130	YES
2-Butanone	150.00	151.72	101	63- 120	YES
Propionitrile	150.00	154.43	103	30- 200	YES
Methacrylonitrile	150.00	155.57	104	77- 126	YES
Tetrahydrofuran	100.00	101.31	101	30- 200	YES
Chloroform	20.00	22.99	115	73- 126	YES
Bromochloromethane	20.00	20.96	105	68- 115	YES
1,1,1-Trichloroethane	20.00	23.78	119	65- 139	YES
Cyclohexane	20.00	19.83	99	30- 200	YES

Lab Chronicle: _____ Ent. by _____

_____ Ver. by _____

_____

Lancaster Laboratories, Inc.

GC/MS Volatiles Laboratory Control Sample Recovery

File: ^KUN20 Injected: 06/23/98 at 23:53 Method: 8260 5mL

Inst: HP03973 Sample: LCSWK72 LCSWK72 Matrix/level: WL

Dilution Factor: 1.0 Batch: K981751AA

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
Carbon Tetrachloride	20.00	24.29	121	61- 139	YES
1,1-Dichloropropene	20.00	22.85	114	47- 140	YES
Benzene	20.00	21.82	109	58- 133	YES
1,2-Dichloroethane	20.00	23.01	115	68- 125	YES
Isobutyl Alcohol	150.00	126.86	85	30- 200	YES
t-Amyl Methyl Ether	20.00	20.06	100	70- 130	YES
n-Heptane	20.00	19.09	95	30- 200	YES
n-Butanol	1000.00	937.36	94	30- 200	YES
Trichloroethene	20.00	22.94	115	67- 130	YES
1,2-Dichloropropane	20.00	20.84	104	70- 123	YES
Methyl Methacrylate	20.00	19.45	97	66- 131	YES
Dibromomethane	20.00	22.73	114	67- 124	YES
1,4-Dioxane	500.00	499.27	98	30- 200	YES
Bromodichloromethane	20.00	22.97	115	64- 123	YES
2-Nitropropane	20.00	13.55	68	30- 200	YES
2-Chloroethyl Vinyl Ether	20.00	19.57	98	30- 200	YES
cis-1,3-Dichloropropene	20.00	21.49	107	66- 124	YES
4-Methyl-2-Pentanone	100.00	95.18	95	73- 125	YES
Toluene	20.00	21.16	106	63- 143	YES
Ethyl Methacrylate	20.00	18.82	94	76- 119	YES
trans-1,3-Dichloropropene	20.00	21.58	108	66- 125	YES
1,1,2-Trichloroethane	20.00	21.70	108	72- 119	YES
Tetrachloroethene	20.00	24.46	122	62- 150	YES
1,3-Dichloropropane	20.00	21.59	108	67- 128	YES
2-Hexanone	100.00	89.63	90	66- 126	YES
Dibromochloromethane	20.00	22.41	112	69- 115	YES
1,2-Dibromoethane	20.00	22.03	110	66- 122	YES
Chlorobenzene	20.00	21.63	108	74- 120	YES
1,1,1,2-Tetrachloroethane	20.00	23.31	116	77- 122	YES
Ethylbenzene	20.00	21.90	110	70- 132	YES
m+p-Xylene	40.00	44.10	110	68- 135	YES
o-Xylene	20.00	22.06	110	68- 132	YES
Styrene	20.00	21.55	108	74- 127	YES
Bromoform	20.00	22.67	113	70- 114	YES
trans-1,4-Dichloro-2-Butene	100.00	103.34	103	85- 117	YES

Lab Chronicle: _____ Ent. by _____

_____ Ver. by _____

_____

Lancaster Laboratories, Inc.
GC/MS Volatiles Laboratory Control Sample Recovery

File: ^KUN20
Lot: H203973
Dilution Factor: 1.0

Injected: 06/23/98 at 23:53
Sample: LCSWK72 LCSWK72

Method: 8260 5mL
Matrix/level: WL
Batch: K981751AA

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
Isopropylbenzene	20.00	21.60	108	74- 138	YES
1,1,2,2-Tetrachloroethane	20.00	20.18	101	70- 119	YES
Bromobenzene	20.00	22.80	114	74- 118	YES
1,2,3-Trichloropropane	20.00	21.48	107	66- 125	YES
n-Propylbenzene	20.00	19.75	99	69- 145	YES
2-Chlorotoluene	20.00	20.52	102	71- 132	YES
1,3,5-Trimethylbenzene	20.00	21.01	105	66- 135	YES
4-Chlorotoluene	20.00	20.57	103	65- 133	YES
Pentachloroethane	20.00	20.48	102	30- 200	YES
tert-Butylbenzene	20.00	21.92	110	75- 133	YES
1,2,4-Trimethylbenzene	20.00	21.43	107	61- 136	YES
sec-Butylbenzene	20.00	20.54	103	64- 140	YES
p-Isopropyltoluene	20.00	21.12	106	68- 144	YES
1,3-Dichlorobenzene	20.00	22.58	113	42- 150	YES
1,4-Dichlorobenzene	20.00	20.95	105	42- 150	YES
n-Butylbenzene	20.00	20.46	102	63- 148	YES
1,2-Dichlorobenzene	20.00	21.66	108	49- 139	YES
1,2-Dibromo-3-Chloropropane	20.00	20.85	104	51- 120	YES
1,2,4-Trichlorobenzene	20.00	21.17	106	52- 128	YES
Hexachlorobutadiene	20.00	22.78	114	63- 140	YES
Naphthalene	20.00	19.67	98	50- 122	YES
1,2,3-Trichlorobenzene	20.00	20.97	105	52- 131	YES

Lab Chronicle: _____ Ent. by _____

_____ Ver. by _____

_____

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >KUMT1 BFB Injection Date: 06/22/98

Instrument ID: HP03973 BFB Injection Time: 06:52

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.9
75	30.0 - 60.0% of mass 95	40.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	89.9
175	5.0 - 9.0% of mass 174	6.7 (7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	87.7 (97.6)1
177	5.0 - 9.0% of mass 176	5.6 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

HIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD004	004 PPB IC	>KUMI2	06/22/98	07:49
02	VSTD020	020 PPB IC	>KUMI4	06/22/98	08:57
03	VSTD050	050 PPB IC	>KUMI5	06/22/98	09:31
04	VSTD100	100 PPB IC	>KUMI6	06/22/98	10:05
05	VSTD300	300 PPB IC	>KUMI7	06/22/98	10:39
06	VSTD010	010PPB IC	>KUMI8	06/22/98	14:23
07	VSTD001	001PPB IC	>KUMM2	06/22/98	17:32
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No. _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date(s): 06/22/98 06/22/98

Calibration Times: 0749 1423

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform, Chloromethane, and 1,1-Dichloroethane) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF 4= >KUMI2 RRF 10= >KUMI8 RRF 20= >KUMI4
RRF 50= >KUMI5 RRF100= >KUMI6 RRF300= >KUMI7

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD	
Dichlorodifluoromethane	.487	.520	.584	.626	.597	.601	.563	9.4	AVG	
Chloromethane #	.238	.244	.249	.248	.254	.255	.248	2.6	AVG	#
Vinyl Chloride *	.230	.245	.256	.269	.268	.271	.256	6.4	AVG	*
Bromomethane	.317	.311	.327	.331	.296	.198	.297	16.9	2NDDEG	.9997
Chloroethane	.148	.162	.169	.178	.173	.145	.163	8.1	AVG	
Trichlorofluoromethane	.333	.343	.400	.430	.435	.447	.398	12.3	AVG	
Ethyl Ether	.163	.176	.178	.186	.189	.188	.180	5.6	AVG	
Acrolein	.027	.029	.031	.033	.035	.035	.032	10.3	AVG	- not target compd.
1,1-Dichloroethene *	.261	.246	.234	.287	.284	.256	.270	6.5	AVG	*
Freon 113	.525	.537	.590	.594	.583	.527	.559	5.9	AVG	
e	.057	.054	.051	.053	.053	.052	.053	4.3	AVG	
,4 Iodide	.965	.919	1.058	1.077	1.055	.962	1.006	6.5	AVG	
Carbon Disulfide	.710	.678	.777	.805	.811	.800	.764	7.3	AVG	
2-Propanol	.012	.011	.011	.014	.012	.013	.011	7.2	AVG	- not target
llyl Chloride	.396	.377	.394	.427	.434	.453	.413	7.0	AVG	
ethylene Chloride	.290	.278	.290	.291	.293	.285	.298	1.9	AVG	
crylonitrile	.043	.047	.048	.052	.054	.055	.050	8.9	AVG	- not target
rans-1,2-Dichloroethene	.282	.282	.322	.330	.321	.292	.305	7.1	AVG	
-Butyl Alcohol	.020	.020	.023	.024	.025	.025	.023	10.6	AVG	- not target
thyl t-Butyl Ether	.669	.645	.704	.708	.699	.666	.682	3.7	AVG	
.1-Dichloroethane #	.481	.480	.534	.546	.544	.541	.521	6.1	AVG	#
-Hexane	.252	.251	.285	.302	.306	.317	.286	9.9	AVG	
-Isopropyl Ether	.923	.939	.992	1.022	1.047	1.071	.999	5.9	AVG	
hyl t-Butyl Ether	.902	.927	.995	1.017	1.030	1.013	.981	5.4	AVG	
Chloro-1,3-Butadiene	.367	.378	.445	.435	.448	.427	.417	8.4	AVG	
2-Dichloropropane	.375	.364	.419	.426	.415	.374	.396	6.9	AVG	
s-1,2-Dichloroethene	.299	.299	.329	.335	.332	.307	.317	5.3	AVG	
Butanone	.068	.083	.082	.083	.088	.094	.083	10.5	AVG	
pionitrile	.013	.013	.017	.017	.019	.022	.017	20.2	2NDDEG	0.9999 - not target
hacrylonitrile	.060	.061	.068	.069	.073	.072	.067	8.1	AVG	
rahydrofuran *	.034	.048	.053	.056	.064	.067	.054	22.1	AVG @	- not target compd.
oroform	.566	.557	.620	.624	.619	.589	.596	5.0	AVG	*
nochloromethane	.247	.272	.290	.295	.288	.264	.276	6.7	AVG	
.1-Trichloroethane	.483	.458	.543	.543	.524	.453	.501	8.3	AVG	

@ = Average response factor used due to poor curve fit.

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No. _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date(s): 06/22/98 06/22/98

Calibration Times: 0749 1423

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform, Chloromethane, and 1,1-Dichloroethane) Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF 4= >KUMI2 RRF 10= >KUMI8 RRF 20= >KUMI4
RRF 50= >KUMI5 RRF100= >KUMI6 RRF300= >KUMI7

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Cyclohexane	.358	.331	.396	.414	.429	.423	.330	9.6	AVG
Carbon Tetrachloride	.490	.451	.564	.566	.550	.438	.518	9.3	AVG
1,1-Dichloropropene	.360	.353	.417	.424	.419	.379	.392	8.1	AVG
Benzene	.703	.698	.782	.801	.802	.760	.758	6.2	AVG
1,2-Dichloroethane	.349	.356	.406	.414	.404	.375	.384	7.2	AVG
Isobutyl Alcohol	.005	.004	.005	.006	.006	.006	.006	14.5	AVG
t-Amyl Methyl Ether	.722	.702	.769	.779	.812	.810	.766	5.9	AVG
n-Heptane	.276	.195	.199	.198	.197	.190	.207	16.3	1STDEG
n-Butanol	.003	.003	.004	.004	.005	.005	.004	26.5	2NDDEG
Trichloroethene	.375	.361	.414	.422	.413	.385	.395	6.3	AVG
1,2-Dichloropropane	* .296	.295	.328	.340	.341	.342	.324	6.9	AVG *
Methacrylate	.135	.155	.187	.196	.210	.201	.181	16.3	1STDEG
omethane	.325	.324	.353	.361	.354	.318	.339	5.6	AVG
1,4-Dioxane	.002	.002	.003	.003	.003	.003	.003	13.5	AVG
Bromodichloromethane	.576	.567	.646	.662	.660	.525	.623	6.7	AVG
2-Nitropropane	.077	.085	.097	.098	.091	.097	.091	9.4	AVG
2-Chloroethyl Vinyl Ether	.151	.161	.183	.198	.209	.210	.185	13.5	AVG
cis-1,3-Dichloropropene	.432	.462	.496	.537	.544	.540	.502	9.4	AVG
4-Methyl-2-Pentanone	.255	.257	.258	.282	.293	.313	.277	9.1	AVG
Toluene	* .519	.599	.667	.699	.689	.692	.644	11.1	AVG *
Ethyl Methacrylate	.329	.449	.495	.547	.567	.599	.498	19.7	2NDDEG
trans-1,3-Dichloropropene	.401	.468	.523	.572	.579	.603	.524	14.8	AVG
1,1,2-Trichloroethane	.285	.313	.341	.355	.352	.352	.333	8.5	AVG
Tetrachloroethene	.679	.738	.841	.842	.800	.682	.764	9.8	AVG
1,3-Dichloropropane	.499	.575	.606	.622	.600	.547	.575	7.9	AVG
2-Hexanone	.155	.184	.201	.223	.242	.252	.211	18.5	2NDDEG
Dibromochloromethane	.693	.787	.892	.920	.890	.848	.838	10.1	AVG
1,2-Dibromoethane	.552	.616	.692	.716	.715	.710	.667	10.2	AVG
Chlorobenzene	# .810	.908	.999	1.022	.993	.952	.947	8.3	AVG #
1,1,1,2-Tetrachloroethane	.466	.542	.598	.600	.572	.495	.546	12.1	AVG
Ethylbenzene	* 1.006	1.138	1.292	1.334	1.306	1.187	1.210	10.4	AVG *
m,p-Xylene	.438	.492	.552	.559	.529	.460	.505	9.8	AVG
o-Xylene	.437	.477	.532	.530	.509	.443	.488	8.7	AVG
Styrene	.679	.812	.903	.939	.917	.817	.844	11.5	AVG

not target

not targets

not target

not target

0.9999

FORM VI VOA 1/87 Rev.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No. _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date(s): 06/22/98 06/22/98

Calibration Times: 0749 1423

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF for SPCC(#) = 0.300 (0.10 for Bromoform, Chloromethane, and 1,1-Dichloroethane) Max %RSD for CCC(*) = 30.0%

LAB FILE ID:	RRF 4= >KUMI2	RRF 10= >KUMI3	RRF 20= >KUMI4
	RRF 50= >KUMI5	RRF100= >KUMI6	RRF300= >KUMI7

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD	
Bromoform	# .668	.772	.879	.931	.911	.854	.836	11.8	AVG	#
trans-1,4-Dichloro-2-Butene	.098	.114	.132	.138	.140	.131	.126	13.0	AVG	
Isopropylbenzene	1.179	1.324	1.524	1.537	1.482	1.424	1.412	9.8	AVG	
1,1,2,2-Tetrachloroethane	# .775	.749	.804	.812	.825	.809	.796	3.5	AVG	#
Bromobenzene	.803	.828	.903	.901	.869	.757	.843	6.9	AVG	
1,2,3-Trichloropropane	.218	.202	.217	.217	.214	.193	.210	4.9	AVG	
n-Propylbenzene	1.903	1.875	2.058	2.030	2.129	2.291	2.048	7.5	AVG	
2-Chlorotoluene	1.608	1.519	1.690	1.688	1.669	1.801	1.663	5.7	AVG	
1,3,5-Trimethylbenzene	1.445	1.451	1.549	1.568	1.545	1.511	1.511	3.5	AVG	
4-Chlorotoluene	1.856	1.737	1.891	1.921	1.934	1.879	1.870	3.8	AVG	
[illegible]chloroethane	.680	.719	.744	.758	.715	.592	.701	8.5	AVG	
[illegible]utylbenzene	.414	.415	.455	.444	.422	.362	.419	7.7	AVG	
1,2,4-Trimethylbenzene	1.411	1.385	1.549	1.548	1.513	1.387	1.465	5.4	AVG	
sec-Butylbenzene	1.698	1.589	1.969	2.012	2.017	2.182	1.911	11.6	AVG	
p-Isopropyltoluene	1.542	1.504	1.674	1.702	1.683	1.491	1.599	6.1	AVG	
1,3-Dichlorobenzene	.956	1.071	1.164	1.181	1.154	1.078	1.101	7.7	AVG	
1,4-Dichlorobenzene	1.588	1.471	1.565	1.549	1.543	1.516	1.539	2.7	AVG	
n-Butylbenzene	1.292	1.167	1.331	1.424	1.426	1.455	1.349	8.1	AVG	
1,2-Dichlorobenzene	1.296	1.214	1.291	1.305	1.318	1.265	1.282	2.9	AVG	
1,2-Dibromo-3-Chloropropane	.238	.245	.279	.294	.317	.366	.290	16.5	2NDDEG	0.????
1,2,4-Trichlorobenzene	.949	1.137	1.151	1.174	1.212	1.274	1.150	9.6	AVG	
Hexachlorobutadiene	.726	.783	.826	.811	.919	.856	.800	5.4	AVG	
Naphthalene	1.191	1.290	1.344	1.472	1.591	1.819	1.451	15.7	2NDDEG	0.????
1,2,3-Trichlorobenzene	.959	1.043	1.049	1.055	1.086	1.169	1.060	6.4	AVG	
Dibromofluoromethane	.629	.607	.620	.669	.651	.552	.630	7.5	AVG	
1,2-Dichloroethane-d4	.080	.088	.099	.097	.099	.095	.093	7.9	AVG	
Toluene-d8	.904	1.031	1.174	1.191	1.176	1.143	1.103	10.3	AVG	
Bromofluorobenzene	.721	.806	.905	.915	.912	.856	.853	9.0	AVG	

FORM VI VOA 1/87 Rev.

average RSD for the calibration is: 9.0

Calibration Report

Supporting Data
LF 7/15/98

Title: Method 8260 WATERS File for Inst. 03973
Calibrated: 980623 13:57

Comp No.	Compound	Files: >KUMI2 RF 4.00	>KUMI8 RF 10.00	>KUMI4 RF 20.00	>KUMI5 RF 50.00	>KUMI6 RF 100.00	>KUMI7 RF 300.00	% RSD	CORR1	CORR2	Yint1	Yint2	
1)	Dichlorodifluoromethane	.49668	.52030	.58438	.62579	.59724	.60119	9.442	.999947	.999953	.362	.768	
2)	Chloromethane	.23825	.24354	.24915	.24817	.25448	.25493	2.588	.999993	.999994	.591	.481	
3)	Vinyl Chloride	.22998	.24463	.25623	.26877	.26775	.27085	6.356	.999996	.999997	.909	.753	
4)	Bromomethane	.31654	.31139	.32698	.33121	.29629	.19765	16.873	.984227	.999786	-16.63	4.34	
5)	Chloroethane	.14839	.15219	.16860	.17754	.17298	.14543	8.094	.997685	.999982	-5.69	1.90	
6)	Trichlorofluoromethane	.31321	.34336	.39968	.43033	.43533	.44714	12.324	.999980	.999993	2.13	1.59	
7)	Dichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	
8)	Freon 141b	-	-	-	-	-	-	-	-	-	-	-	
9)	n-Pentane	-	-	-	-	-	-	-	-	-	-	-	
10)	Ethyl Ether	-	-	-	-	-	-	-	-	-	-	-	
11)	Acrolein	.16296	.17556	.17809	.18629	.18921	.18799	5.565	.999990	.999995	.566	.953	
12)	1,1-Dichloroethene	.02696	.02913	.03122	.03326	.03498	.03508	10.328	.999977	.999977	17.80	18.32	(Conc
13)	Freon 113	.26133	.24592	.28393	.28685	.28384	.25575	6.432	.999197	.999991	-3.14	1.32	
14)	Acetone	.52498	.53701	.59017	.59398	.58308	.52656	5.916	.999241	.999997	-3.36	1.05	
15)	Methyl Iodide	.05741	.05388	.05071	.05310	.05271	.05193	4.284	.999981	.999993	-1.01	.0994	(Conc
16)	Carbon Disulfide	.96507	.91922	1.05798	1.07679	1.05465	.96225	6.473	.999351	.999994	-2.56	1.17	
17)	2-Propanol	.70992	.67785	.77745	.80527	.81074	.80037	7.347	.999970	.999994	.406	1.18	
18)	Acetonitrile	.01089	.01062	.01063	.01079	.01202	.01263	7.219	.999829	.999902	25.09	15.07	(Conc
19)	Allyl Chloride	-	-	-	-	-	-	-	-	-	-	-	(Conc
20)	3-Chloro-1-Propene	.39570	.37711	.39363	.42663	.43379	.45251	5.964	.999920	.999991	2.37	1.05	
21)	Methylene Chloride	-	-	-	-	-	-	-	-	-	-	-	
22)	Acrylonitrile	.29026	.27776	.29045	.29119	.29255	.28521	1.935	.999956	.999998	-.627	.421	
23)	trans-1,2-Dichloroethene	.04349	.04747	.04766	.05153	.05384	.05520	8.892	.999957	.999982	22.70	15.02	(Conc
24)	t-Butyl Alcohol	.28165	.28244	.32209	.32954	.32055	.29234	7.114	.999324	.999994	-2.94	1.17	
25)	Methyl t-Butyl Ether	.01988	.01986	.02271	.02362	.02517	.02515	10.586	.999943	.999982	18.62	25.02	(Conc
26)	1,1-Dichloroethane	.66852	.64522	.70408	.70786	.69898	.66637	3.724	.999828	.999997	-1.51	.586	
27)	n-Hexane	.48071	.47994	.53435	.54621	.54370	.54116	6.097	.999988	.999996	.307	.762	
28)	Vinyl Acetate	.25217	.25127	.28489	.30239	.30648	.31578	9.885	.999963	.999994	2.15	1.28	
29)	di-Isopropyl Ether	-	-	-	-	-	-	-	-	-	-	-	
30)	1-Propanol	.92290	.93861	.99159	1.02188	1.04653	1.07077	5.911	.999975	.999957	1.61	.874	
31)	2-Chloro-1,3-Butadiene	-	-	-	-	-	-	-	-	-	-	-	
32)	Ethyl t-Butyl Ether	.36666	.37837	.44469	.43518	.44799	.42657	8.436	.999815	.999980	-.660	1.35	(Conc
33)	2,2-Dichloropropane	.90192	.92716	.99484	1.01693	1.03050	1.01258	5.412	.999970	.999997	.125	.948	
34)	cis-1,2-Dichloroethene	.37505	.36412	.41891	.42630	.41510	.37374	6.930	.999145	.999994	-3.41	1.22	
35)	2-Butanone	.29898	.29960	.32870	.33458	.33244	.30655	5.334	.999523	.999996	-2.33	1.13	
36)	Propionitrile	.06796	.08342	.08194	.08291	.08756	.09432	10.452	.999687	.999994	7.04	1.62	(Conc
37)	Ethyl Acetate	.01345	.01276	.01686	.01719	.01949	.02163	20.188	.999793	.999964	47.33	33.97	(Conc
38)	Methacrylonitrile	-	-	-	-	-	-	-	-	-	-	-	
39)	Tetrahydrofuran	.06048	.05203	.06830	.06923	.07333	.07217	8.138	.999914	.999987	5.63	10.54	(Conc
		.03445	.04753	.05292	.05630	.06382	.06722	22.054	.999772	.999997	9.33	6.09	(Conc

RF - Response Factor (Subscript is amount in ug/L)

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in ug/L

Calibration Report

Title: Method 8260 WATERS File for Inst. 03973
Calibrated: 980623 13:57

Comp No.	Compound	Files: >KUMI2 RF 4.00	>KUMI8 RF 10.00	>KUMI4 RF 20.00	>KUMI5 RF 50.00	>KUMI6 RF 100.00	>KUMI7 RF 300.00	% RSD	CORR1	CORR2	Yint1	Yint2	
40)	Chloroform	.56573	.55686	.62014	.62442	.61917	.58913	4.991	.999808	.999997	-1.38	.807	
41)	Bromochloromethane	.24698	.27162	.28995	.29472	.28819	.26432	6.665	.999438	.999999	-2.85	.938	
42)	1,1,1-Trichloroethane	.48292	.45767	.54332	.54250	.52422	.45309	8.251	.998353	.999991	-5.06	1.40	
43)	Dibromofluoromethane	.62038	.60703	.68040	.66929	.65139	.55242	7.504	.997999	.999990	-5.92	1.30	
44)	Cyclohexane	.35816	.33078	.39649	.41390	.41859	.42291	9.614	.999990	.999990	1.38	1.34	
45)	Carbon Tetrachloride	.48999	.45148	.56389	.56611	.55005	.48755	9.258	.998833	.999986	-3.87	1.49	
46)	1,1-Dichloropropene	.36048	.35271	.41657	.42442	.41896	.37916	8.133	.999227	.999992	-2.84	1.50	
47)	Benzene	.70330	.69799	.78252	.80130	.80225	.75950	6.195	.999767	.999995	-1.18	1.19	
48)	1,2-Dichloroethane	.34944	.35601	.40640	.41352	.40396	.37546	7.197	.999563	.999994	-2.25	1.05	
49)	1,2-Dichloroethane-d4	.08038	.08803	.09863	.09632	.09883	.09489	7.887	.999875	.999990	-.634	1.06	
50)	Isobutyl Alcohol	.00494	.00443	.00547	.00552	.00642	.00647	14.510	.999830	.999856	73.04	86.54	(Conc
51)	t-Amyl Methyl Ether	.72229	.70163	.76944	.77898	.81218	.81009	5.930	.999981	.999982	1.06	1.19	
52)	n-Heptane	.27558	.19470	.19947	.19778	.18710	.18988	15.256	.999944	.999958	-1.00	-1.64	
53)	n-Butanol	.00273	.00293	.00400	.00424	.00490	.00547	25.524	.999841	.999972	273.13	218.49	(Conc
54)	Trichloroethene	.37527	.36099	.41443	.42154	.41316	.38468	6.298	.999589	.999993	-2.17	1.02	
55)	1,2-Dichloropropane	.29611	.29527	.32840	.33964	.34117	.34206	6.889	.999995	.999997	.794	.963	
56)	Methyl Methacrylate	.13470	.15530	.18724	.19639	.21019	.20117	15.290	.999797	.999948	.900	2.72	
57)	Dibromomethane	.32482	.32355	.35259	.36141	.35413	.31825	5.573	.999156	.999996	-3.45	1.17	
58)	Bromodichloromethane	.57644	.56684	.64586	.66190	.66011	.62539	6.714	.999764	.999995	-1.19	1.21	
59)	1,4-Dioxane	.00208	.00242	.00263	.00285	.00303	.00295	13.535	.999786	.999966	41.31	77.70	(Conc
60)	n-Propyl Acetate	-	-	-	-	-	-	-	-	-	-	-	
61)	2-Nitropropane	.07662	.08525	.09731	.09791	.09094	.09740	9.440	.999732	.999869	2.96	-.853	(Conc
62)	2-Chloroethyl Vinyl Ether	.15054	.16140	.18291	.19834	.20946	.20965	13.501	.999970	.999973	4.13	4.58	(Conc
63)	cis-1,3-Dichloropropene	.43169	.46155	.49625	.53749	.54390	.53952	9.363	.999977	.999994	.893	1.53	
	4-Methyl-2-Pentanone	.25548	.25656	.25805	.28217	.29310	.31790	9.125	.999678	.999988	7.81	2.36	(Conc
	Toluene-d8	.90365	1.03076	1.17369	1.19063	1.17591	1.14318	10.303	.999906	.999994	-.475	1.01	
66)	Toluene	.51886	.59864	.66719	.69874	.68316	.69196	11.107	.999987	.999991	.739	1.05	
67)	Ethyl Methacrylate	.32927	.44879	.49507	.54736	.56695	.59865	19.733	.999901	.999996	3.57	2.11	
68)	trans-1,3-Dichloropropene	.40061	.46771	.52322	.57176	.57876	.60319	14.763	.999950	.999995	2.67	1.65	
69)	1,1,2-Trichloroethane	.28457	.31313	.34071	.35452	.35162	.35213	8.472	.999992	.999995	.593	.893	
70)	Tetrachloroethene	.67937	.73823	.84084	.84174	.80027	.68190	9.768	.997951	.999996	-5.90	1.36	
71)	1,3-Dichloropropane	.49943	.57484	.60606	.62188	.59992	.54726	7.981	.999312	.999996	-3.22	.904	
72)	2-Hexanone	.15550	.18447	.20071	.22280	.24130	.25240	18.476	.999673	.999964	9.99	4.96	(Conc
73)	Dibromochloromethane	.69333	.78727	.89201	.91952	.89008	.84830	10.134	.999755	.999987	-1.40	1.00	
74)	1,2-Dibromoethane	.55157	.61577	.69249	.71610	.71459	.70986	10.137	.999981	.999997	.509	1.13	
75)	Chlorobenzene	.80984	.90824	.99865	1.02240	.99262	.95153	8.282	.999817	.999990	-1.32	.776	
76)	1,1,1,2-Tetrachloroethane	.46637	.54243	.59840	.60014	.57165	.49521	10.125	.998363	.999997	-5.31	1.18	
77)	Ethylbenzene	1.00619	1.13769	1.29197	1.33358	1.30613	1.18742	10.352	.999266	.999997	-2.73	1.51	
78)	m-p-Xylene	.43844	.49210	.55175	.55867	.52360	.45955	9.813	.998397	.999993	-10.42	2.39	(Conc

RF - Response Factor (Subscript is amount in ug/L)

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Intn - Y intercept (nth degree) in ug/L

Calibration Report

Title: Method 8260 WATERS File for Inst. 03973
Calibrated: 980623 13:57

Comp No.	Compound	Files: >KUMI2 RF 4.00	>KUMI8 RF 10.00	>KUMI4 RF 20.00	>KUMI5 RF 50.00	>KUMI6 RF 100.00	>KUMI7 RF 300.00	% RSD	CORR1	CORR2	Yint1	Yint2
79)	Isoamyl Acetate	-	-	-	-	-	-	-	-	-	-	-
80)	o-Xylene	.43658	.47667	.53219	.53048	.50918	.44295	8.697	.998498	.999998	-5.08	1.15
81)	Styrene	.67913	.81176	.90272	.93915	.91666	.81557	11.453	.998929	.999998	-3.43	1.68
82)	Bromoform	.66842	.77238	.87865	.93108	.91124	.85395	11.839	.999605	.999994	-1.49	1.57
83)	trans-1,4-Dichloro-2-Butene	.09810	.11403	.13242	.13818	.14038	.13058	13.024	.999329	.999996	.0685	14.53 (Conc
84)	Cumene	-	-	-	-	-	-	-	-	-	-	-
85)	Isopropylbenzene	1.17937	1.32413	1.52385	1.53676	1.48171	1.42395	9.750	.999810	.999979	-1.34	.731
86)	4-Bromofluorobenzene	.72092	.80633	.90477	.91469	.91245	.85604	9.033	.999683	.999998	-1.55	1.24
87)	1,1,2,2-Tetrachloroethane	.77512	.74924	.80384	.81151	.82534	.80899	3.534	.999967	.999994	-.0500	.789
88)	Bromobenzene	.80257	.82806	.90305	.90110	.86923	.75568	6.909	.998567	.999998	-5.10	1.02
89)	1,2,3-Trichloropropane	.21764	.20207	.21720	.21728	.21440	.19278	4.950	.999229	.999994	-3.66	.825
90)	n-Propylbenzene	1.90333	1.87480	2.05844	2.02956	2.12893	2.29363	7.464	.999702	.999988	3.34	.672
91)	2-Chlorotoluene	1.60792	1.51907	1.68995	1.68839	1.66940	1.80124	5.660	.999721	.999983	2.54	-.0722
92)	4-Ethyltoluene	-	-	-	-	-	-	-	-	-	-	-
93)	1,3,5-Trimethylbenzene	1.44470	1.45051	1.54904	1.56756	1.54519	1.51065	3.435	.999950	.999997	-.680	.422
94)	4-Chlorotoluene	1.85595	1.73675	1.89094	1.92103	1.93418	1.87931	3.797	.999934	.999995	-.455	.788
95)	Pentachloroethane	.67987	.71903	.74389	.75845	.71545	.59177	8.566	.997185	.999995	-7.39	1.28
96)	tert-Butylbenzene	.42403	.41466	.45528	.44398	.42211	.36215	7.720	.998238	.999997	-6.19	.719
97)	1,2,4-Trimethylbenzene	1.41120	1.38492	1.54888	1.54787	1.51266	1.38704	5.421	.999462	.999996	-2.97	.813
98)	sec-Butylbenzene	1.69762	1.58869	1.96904	2.01225	2.01712	2.18205	11.648	.999736	.999980	3.30	.872
99)	p-Isopropyltoluene	1.54240	1.50402	1.67429	1.70247	1.68296	1.49074	6.085	.998929	.999991	-3.78	1.40
100)	1,3-Dichlorobenzene	.95649	1.07054	1.16396	1.18062	1.15412	1.07783	7.653	.999627	.999998	-2.19	.891
101)	1,4-Dichlorobenzene	1.58548	1.47091	1.56527	1.54923	1.54335	1.51561	2.671	.999976	.999999	-.619	.143
102)	Benzyl Chloride	-	-	-	-	-	-	-	-	-	-	-
)	1,3-Diethylbenzene	-	-	-	-	-	-	-	-	-	-	-
)	1,4-Diethylbenzene	-	-	-	-	-	-	-	-	-	-	-
105)	n-Butylbenzene	1.29176	1.15698	1.33136	1.42446	1.42555	1.45453	8.081	.999982	.999998	1.53	1.14
106)	1,2-Dichlorobenzene	1.29552	1.21439	1.29096	1.30535	1.31822	1.26465	2.918	.999883	.999994	-.939	.742
107)	1,2-Diethylbenzene	-	-	-	-	-	-	-	-	-	-	-
108)	1,4-Dithiane	-	-	-	-	-	-	-	-	-	-	-
109)	1,2,4,5-Tetramethylbenzene	-	-	-	-	-	-	-	-	-	-	-
110)	1,2-Dibromo-3-Chloropropane	.23806	.24463	.27877	.29353	.31671	.36614	15.489	.999016	.999981	6.41	1.73
111)	1,2,4-Trichlorobenzene	.94913	1.13683	1.15068	1.17370	1.21236	1.27445	9.566	.999874	.999997	2.53	.786
112)	Hexachlorobutadiene	.72543	.78279	.80559	.81050	.81869	.85621	5.408	.999902	1.00000	1.85	.262
113)	Naphthalene	1.19062	1.28974	1.34415	1.47182	1.59143	1.81783	15.724	.999152	.999972	6.16	1.86
114)	1,2,3-Trichlorobenzene	.95943	1.04310	1.04918	1.05529	1.08633	1.16857	6.399	.999717	.999998	2.99	.310

RF - Response Factor (Subscript is amount in ug/L)

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in ug/L

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >KUNT3 BFB Injection Date: 06/23/98

Instrument ID: HP03973 BFB Injection Time: 18:52

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.2
75	30.0 - 60.0% of mass 95	41.9
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	97.1
175	5.0 - 9.0% of mass 174	7.8 (8.0)1
176	Greater than 95.0%, but less than 101.0% of mass 174	96.7 (99.5)1
177	5.0 - 9.0% of mass 176	6.9 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	050 PPB CC	>KUNS2	06/23/98	19:24
02	VBLKK72	VBLKK72	>KUNB3	06/23/98	21:09
03	LCSWK72	LCSWK72	>KUN20	06/23/98	23:53
04	GW20-	2946089	>KUN21	06/24/98	00:27
05	GW20-MS	2946090	>KUN22	06/24/98	01:01
06	GW20-MSD	2946091	>KUN23	06/24/98	01:35
07	EXBLKB	2946813	>KUN24	06/24/98	02:09
08	ZH-1A	2946070	>KUN25	06/24/98	02:44
09	ZH-2A	2946071	>KUN26	06/24/98	03:18
10	ZH2A8	2946073	>KUN27	06/24/98	03:52
11	ZH-3A	2946075	>KUN28	06/24/98	04:26
12	GW16-	2946085	>KUN29	06/24/98	05:00
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/23/98 Time: 1924

Lab File ID: >KUNS2 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

COMPOUND		RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane		.569	.583	51.23	50.0	-2.5
Chloromethane	#	.248	.240	48.35	50.0	3.3#
Vinyl Chloride	*	.256	.259	50.61	50.0	-1.2*
Bromomethane		.297	.339	48.79	50.0	2.4
Chloroethane		.163	.175	53.97	50.0	-7.9
Trichlorofluoromethane		.398	.433	54.35	50.0	-8.7
Ethyl Ether		.180	.190	52.73	50.0	-5.5
Acrolein		.032	.035	553.32	500.0	-10.7
1,1-Dichloroethene	*	.270	.292	54.09	50.0	-8.2*
Freon 113		.559	.593	52.98	50.0	-6.0
Acetone		.053	.055	103.77	100.0	-3.8
Methyl Iodide		1.006	1.093	54.32	50.0	-8.6
Carbon Disulfide		.764	.826	54.12	50.0	-8.2
2-Propanol		.011	.011	244.59	250.0	2.2
Allyl Chloride		.413	.379	45.87	50.0	8.3
Methylene Chloride		.288	.309	53.62	50.0	-7.2
Acrylonitrile		.050	.053	535.74	500.0	-7.1
trans-1,2-Dichloroethene		.305	.337	55.37	50.0	-10.7
t-Butyl Alcohol		.023	.019	203.48	250.0	18.6
Methyl t-Butyl Ether		.682	.670	49.14	50.0	1.7
1,1-Dichloroethane	#	.521	.545	52.30	50.0	-4.6#
n-Hexane		.286	.263	46.09	50.0	7.8
di-Isopropyl Ether		.999	.981	49.13	50.0	1.7
Ethyl t-Butyl Ether		.981	.957	48.78	50.0	2.4
2-Chloro-1,3-Butadiene		.417	.422	50.69	50.0	-1.4
2,2-Dichloropropane		.396	.414	52.32	50.0	-4.6
cis-1,2-Dichloroethene		.317	.339	53.56	50.0	-7.1
2-Butanone		.083	.084	101.66	100.0	-1.7
Propionitrile		.017	.017	237.52	250.0	5.0
Methacrylonitrile		.067	.067	125.10	125.0	-.1
Tetrahydrofuran		.054	.056	104.30	100.0	-4.3
Chloroform	*	.596	.638	53.54	50.0	-7.1*
Bromochloromethane		.276	.303	54.93	50.0	-9.9
1,1,1-Trichloroethane		.501	.540	53.90	50.0	-7.8

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA 1/87 Rev.

2 comps out of control but not targets

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/23/98 Time: 1924

Lab File ID: >KUNS2 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

	COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Cyclohexane	.390	.374	47.96	50.0	4.1
	Carbon Tetrachloride	.518	.559	53.98	50.0	-8.0
	1,1-Dichloropropene	.392	.412	52.57	50.0	-5.1
	Benzene	.758	.777	51.29	50.0	-2.6
	1,2-Dichloroethane	.384	.415	54.03	50.0	-8.1
	Isobutyl Alcohol	.006	.005	587.61	625.0	6.0
	t-Amyl Methyl Ether	.766	.758	49.46	50.0	1.1
	n-Heptane	.207	.157	40.66	50.0	18.7
	n-Butanol	.004	.004	1156.96	1250.0	7.4
	Trichloroethene	.395	.408	51.58	50.0	-3.2
*	1,2-Dichloropropane	.324	.319	49.28	50.0	1.4*
	Methyl Methacrylate	.181	.197	49.47	50.0	1.1
	Dibromomethane	.339	.367	54.18	50.0	-8.4
	1,4-Dioxane	.003	.003	617.45	625.0	1.2
	Bromodichloromethane	.623	.678	54.45	50.0	-8.9
	2-Nitropropane	.091	.095	104.84	100.0	-4.8
	2-Chloroethyl Vinyl Ether	.185	.190	102.25	100.0	-2.2
	cis-1,3-Dichloropropene	.502	.513	51.08	50.0	-2.2
	4-Methyl-2-Pentanone	.277	.279	100.60	100.0	-.6
*	Toluene	.644	.666	51.71	50.0	-3.4*
	Ethyl Methacrylate	.498	.528	48.26	50.0	3.5
	trans-1,3-Dichloropropene	.524	.550	52.48	50.0	-5.0
	1,1,2-Trichloroethane	.333	.350	52.52	50.0	-5.0
	Tetrachloroethene	.764	.906	59.35	50.0	-18.7
	1,3-Dichloropropane	.575	.618	53.71	50.0	-7.4
	2-Hexanone	.211	.230	100.05	100.0	-.1
	Dibromochloromethane	.838	.950	56.64	50.0	-13.3
	1,2-Dibromoethane	.667	.734	55.05	50.0	-10.1
#	Chlorobenzene	.947	.984	51.96	50.0	-3.9#
	1,1,1,2-Tetrachloroethane	.546	.619	56.67	50.0	-13.3
*	Ethylbenzene	1.210	1.257	51.92	50.0	-3.8*
	m+p-Xylene	.505	.530	105.00	100.0	-5.0
	o-Xylene	.488	.504	51.67	50.0	-3.3
	Styrene	.844	.907	53.70	50.0	-7.4

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA 1/87 Rev.

O out of control but not target

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/23/98 Time: 1924

Lab File ID: >KUNS2 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Bromoform	.836	.968	57.92	50.0	-15.8#
trans-1,4-Dichloro-2-Butene	.126	.133	132.65	125.0	-6.1
Isopropylbenzene	1.412	1.461	51.74	50.0	-3.5
1,1,2,2-Tetrachloroethane #	.796	.824	51.78	50.0	-3.6#
Bromobenzene	.843	.914	54.17	50.0	-8.3
1,2,3-Trichloropropane	.210	.228	54.33	50.0	-8.7
n-Propylbenzene	2.048	1.914	46.73	50.0	6.5
2-Chlorotoluene	1.663	1.619	48.69	50.0	2.6
1,3,5-Trimethylbenzene	1.511	1.488	49.21	50.0	1.6
4-Chlorotoluene	1.870	1.792	47.93	50.0	4.1
Pentachloroethane	.701	.692	49.34	50.0	1.3
tert-Butylbenzene	.419	.426	50.82	50.0	-1.6
1,2,4-Trimethylbenzene	1.465	1.477	50.41	50.0	-.8
sec-Butylbenzene	1.911	1.865	48.78	50.0	2.4
p-Isopropyltoluene	1.599	1.597	49.91	50.0	.2
1,3-Dichlorobenzene	1.101	1.181	53.64	50.0	-7.3
1,4-Dichlorobenzene	1.539	1.547	50.28	50.0	-.6
n-Butylbenzene	1.349	1.276	47.28	50.0	5.4
1,2-Dichlorobenzene	1.282	1.302	50.78	50.0	-1.6
1,2-Dibromo-3-Chloropropane	.290	.317	52.62	50.0	-5.2
1,2,4-Trichlorobenzene	1.150	1.199	52.17	50.0	-4.3
Hexachlorobutadiene	.800	.798	49.86	50.0	.3
Naphthalene	1.451	1.494	49.51	50.0	1.0
1,2,3-Trichlorobenzene	1.060	1.073	50.59	50.0	-1.2
Dibromofluoromethane	.630	.652	51.70	50.0	-3.4
1,2-Dichloroethane-d4	.093	.098	52.57	50.0	-5.1
Toluene-d8	1.103	1.122	50.86	50.0	-1.7
4-Bromofluorobenzene	.853	.863	50.61	50.0	-1.2

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA 1/87 Rev.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____ SDG No.: _____.

Lab File ID (Standard): >KUNS2 Date Analyzed: 06/23/98

Instrument ID: HP03973 Time Analyzed: 19:24

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1 (FBZ) AREA #	RT	IS2 (CBZ) AREA #	RT	IS3 (DCB) AREA #	RT
	12 HOUR STD	125874	10.32	104935	14.73	84852	18.16
	UPPER LIMIT	251748		209870		169704	
	LOWER LIMIT	62937		52468		42426	
	EPA SAMPLE NO.						
01	VBLKK72	118793	10.33	109697	14.75	79570	18.17
02	LCSWK72	117152	10.32	101662	14.74	82344	18.16
03	GW20-	112812	10.33	105505	14.74	77633	18.16
04	GW20-MS	115895	10.33	97830	14.73	79583	18.17
05	GW20-MSD	116368	10.29	98620	14.69	81562	18.13
06	EXBLKB	113622	10.32	105167	14.73	78282	18.17
07	ZH-1A	110089	10.32	101504	14.73	75207	18.17
08	ZH-2A	108486	10.33	101782	14.73	77964	18.17
09	ZH2A8	108797	10.32	100673	14.73	73727	18.17
10	ZH-3A	106417	10.32	97214	14.72	73274	18.16
11	GW16-	107171	10.33	98294	14.74	73642	18.16
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (FBZ) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >KUOT1 BFB Injection Date: 06/24/98

Instrument ID: HP03973 BFB Injection Time: 05:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.6
75	30.0 - 60.0% of mass 95	43.7
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	7.0
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	98.1
175	5.0 - 9.0% of mass 174	7.3 (7.5)1
176	Greater than 95.0%, but less than 101.0% of mass 174	96.8 (98.7)1
177	5.0 - 9.0% of mass 176	6.5 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD050	050 PPB CC	>KUOS1	06/24/98	06:12
02	VBLKK73	VBLKK73	>KUOB1	06/24/98	06:53
03	ZH2A8RE	2946073	>KUO01	06/24/98	07:27
04	GW17-	2946086	>KUO02	06/24/98	08:01
05	GW18-	2946087	>KUO03	06/24/98	08:35
06	GW19-	2946088	>KUO04	06/24/98	09:09
07	GW21-	2946092	>KUO05	06/24/98	09:43
08	RB611	2946093	>KUO06	06/24/98	10:17
09	TB611	2946094	>KUO07	06/24/98	10:51
10	19622	2945433	>KUO08	06/24/98	11:25
11	19624	2945434	>KUO09	06/24/98	11:59
12	19625	2945435	>KUO10	06/24/98	12:33
13	19626	2945436	>KUO11	06/24/98	13:07
14	19627	2945437	>KUO12	06/24/98	13:41
15	19627MS	2945438	>KUO13	06/24/98	14:15
16	19627MSD	2945439	>KUO14	06/24/98	14:49
17	19628	2945440	>KUO15	06/24/98	15:24
18	001--	2947124	>KUO16	06/24/98	15:58
19	TB616	2947555	>KUO17	06/24/98	16:32
20					
21					
22					

7A

VOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/24/98 Time: 0612

Lab File ID: >KUOS1 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

COMPOUND		RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dichlorodifluoromethane		.569	.624	54.83	50.0	-9.7
Chloromethane	#	.248	.214	43.09	50.0	13.8#
Vinyl Chloride	*	.256	.249	48.65	50.0	2.7*
Bromomethane		.297	.360	52.56	50.0	-5.1
Chloroethane		.163	.176	54.16	50.0	-8.3
Trichlorofluoromethane		.398	.435	54.67	50.0	-9.3
Ethyl Ether		.180	.188	52.32	50.0	-4.6
Acrolein		.032	.034	527.65	500.0	-5.5
1,1-Dichloroethene	*	.270	.305	56.59	50.0	-13.2*
Freon 113		.559	.660	58.99	50.0	-18.0
Acetone		.053	.052	97.92	100.0	2.1
Methyl Iodide		1.006	1.166	57.96	50.0	-15.9
Carbon Disulfide		.764	.839	54.91	50.0	-9.8
2-Propanol		.011	.011	233.15	250.0	6.7
Allyl Chloride		.413	.336	40.64	50.0	18.7
Methylene Chloride		.288	.315	54.65	50.0	-9.3
Acrylonitrile		.050	.050	503.74	500.0	-.7
trans-1,2-Dichloroethene		.305	.343	56.22	50.0	-12.4
t-Butyl Alcohol		.023	.018	196.47	250.0	21.4 not logged
Methyl t-Butyl Ether		.682	.664	48.66	50.0	2.7
1,1-Dichloroethane	#	.521	.543	52.16	50.0	-4.3#
n-Hexane		.286	.281	49.11	50.0	1.8
di-Isopropyl Ether		.999	.924	46.25	50.0	7.5
Ethyl t-Butyl Ether		.981	.937	47.76	50.0	4.5
2-Chloro-1,3-Butadiene		.417	.441	52.92	50.0	-5.8
2,2-Dichloropropane		.396	.448	56.62	50.0	-13.2
cis-1,2-Dichloroethene		.317	.336	52.98	50.0	-6.0
2-Butanone		.083	.071	85.31	100.0	14.7
Propionitrile		.017	.015	222.51	250.0	11.0
Methacrylonitrile		.067	.065	120.53	125.0	3.6
Tetrahydrofuran		.054	.049	90.54	100.0	9.5
Chloroform	*	.596	.655	54.99	50.0	-10.0*
Bromochloromethane		.276	.283	51.34	50.0	-2.7
1,1,1-Trichloroethane		.501	.573	57.25	50.0	-14.5

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA

1/87 Rev.

Should be centered but not target

7A

VOLATILE CONTINUING CALIBRATION CHECK

ɔ Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/24/98 Time: 0612

Lab File ID: >KUOS1 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

	COMPOUND	RRF	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
	Cyclohexane	.390	.372	47.63	50.0	4.7
	Carbon Tetrachloride	.518	.609	58.80	50.0	-17.6
	1,1-Dichloropropene	.392	.420	53.52	50.0	-7.0
	Benzene	.758	.760	50.16	50.0	-.3
	1,2-Dichloroethane	.384	.438	57.03	50.0	-14.1
	Isobutyl Alcohol	.006	.005	567.68	625.0	9.2
	t-Amyl Methyl Ether	.766	.727	47.47	50.0	5.1
	n-Heptane	.207	.186	48.08	50.0	3.8
	n-Butanol	.004	.004	1086.18	1250.0	13.1
	Trichloroethene	.395	.415	52.54	50.0	-5.1
*	1,2-Dichloropropane	.324	.308	47.64	50.0	4.7*
	Methyl Methacrylate	.181	.190	47.75	50.0	4.5
	Dibromomethane	.339	.367	54.12	50.0	-8.2
	1,4-Dioxane	.003	.003	638.02	625.0	-2.1
	Bromodichloromethane	.623	.690	55.41	50.0	-10.8
	2-Nitropropane	.091	.094	103.60	100.0	-3.6
	2-Chloroethyl Vinyl Ether	.185	.181	97.39	100.0	2.6
	cis-1,3-Dichloropropene	.502	.517	51.50	50.0	-3.0
	4-Methyl-2-Pentanone	.277	.251	90.56	100.0	9.4
*	Toluene	.644	.658	51.07	50.0	-2.1*
	Ethyl Methacrylate	.498	.510	46.65	50.0	6.7
	trans-1,3-Dichloropropene	.524	.567	54.11	50.0	-8.2
	1,1,2-Trichloroethane	.333	.345	51.81	50.0	-3.6
	Tetrachloroethene	.764	.857	56.13	50.0	-12.3
	1,3-Dichloropropane	.575	.610	53.04	50.0	-6.1
	2-Hexanone	.211	.200	87.84	100.0	12.2
	Dibromochloromethane	.838	.961	57.30	50.0	-14.6
	1,2-Dibromoethane	.667	.723	54.24	50.0	-8.5
#	Chlorobenzene	.947	.985	52.00	50.0	-4.0#
	1,1,1,2-Tetrachloroethane	.546	.621	56.85	50.0	-13.7
*	Ethylbenzene	1.210	1.302	53.78	50.0	-7.6*
	m+p-Xylene	.505	.523	103.64	100.0	-3.6
	o-Xylene	.488	.509	52.13	50.0	-4.3
	Styrene	.844	.900	53.32	50.0	-6.6

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA 1/87 Rev.

out of control but not target

7A

VOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP03973 Calibration Date: 06/24/98 Time: 0612

Lab File ID: >KUOS1 Init. Calib. Date(s): 06/22/98 06/22/98

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

Min RRF50 for SPCC(#)= 0.300 (0.10 for Bromoform) Max %Drift for CCC(*)= 20.0%

COMPOUND		$\overline{RRF}$	RRF 50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Bromoform	#	.836	.966	57.77	50.0	-15.5#
trans-1,4-Dichloro-2-Butene		.126	.137	136.68	125.0	-9.3
Isopropylbenzene		1.412	1.465	51.89	50.0	-3.8
1,1,2,2-Tetrachloroethane	#	.796	.788	49.50	50.0	1.0#
Bromobenzene		.843	.898	53.26	50.0	-6.5
1,2,3-Trichloropropane		.210	.226	53.73	50.0	-7.5
n-Propylbenzene		2.048	1.964	47.95	50.0	4.1
2-Chlorotoluene		1.663	1.592	47.88	50.0	4.2
1,3,5-Trimethylbenzene		1.511	1.504	49.77	50.0	.5
4-Chlorotoluene		1.870	1.864	49.86	50.0	.3
Pentachloroethane		.701	.766	54.63	50.0	-9.3
tert-Butylbenzene		.419	.438	52.35	50.0	-4.7
1,2,4-Trimethylbenzene		1.465	1.495	51.00	50.0	-2.0
sec-Butylbenzene		1.911	1.910	49.98	50.0	.0
p-Isopropyltoluene		1.599	1.643	51.35	50.0	-2.7
1,3-Dichlorobenzene		1.101	1.157	52.56	50.0	-5.1
1,4-Dichlorobenzene		1.539	1.544	50.17	50.0	-.3
n-Butylbenzene		1.349	1.354	50.18	50.0	-.4
1,2-Dichlorobenzene		1.282	1.320	51.50	50.0	-3.0
1,2-Dibromo-3-Chloropropane		.290	.300	49.87	50.0	.3
1,2,4-Trichlorobenzene		1.150	1.205	52.41	50.0	-4.8
Hexachlorobutadiene		.800	.867	54.19	50.0	-8.4
Naphthalene		1.451	1.447	48.05	50.0	3.9
1,2,3-Trichlorobenzene		1.060	1.073	50.60	50.0	-1.2
Dibromofluoromethane		.630	.665	52.79	50.0	-5.6
1,2-Dichloroethane-d4		.093	.095	51.07	50.0	-2.1
Toluene-d8		1.103	1.116	50.57	50.0	-1.1
4-Bromofluorobenzehe		.853	.869	50.94	50.0	-1.9

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

FORM VII VOA 1/87 Rev.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____ SDG No.: _____.

Lab File ID (Standard): >KUOS1 Date Analyzed: 06/24/98

Instrument ID: HP03973 Time Analyzed: 06:12

Matrix:(soil/water) WATER Level:(low/med) LOW Column:(pack/cap) CAP

		IS1(FBZ) AREA #	RT	IS2(CBZ) AREA #	RT	IS3(DCB) AREA #	RT
	12 HOUR STD	113572	10.32	94539	14.74	77156	18.18
	UPPER LIMIT	227144		189078		154312	
	LOWER LIMIT	56786		47270		38578	
	EPA SAMPLE NO.						
01	VBLKK73	111030	10.33	102832	14.75	75535	18.19
02	ZH2A8RE	106415	10.32	97449	14.74	72387	18.18
03	GW17-	103732	10.32	97021	14.73	74574	18.16
04	GW18-	103657	10.34	96715	14.76	71668	18.18
05	GW19-	102725	10.33	95986	14.74	73563	18.17
06	GW21-	103937	10.32	96757	14.73	71903	18.16
07	RB611	103129	10.33	96167	14.73	71455	18.17
08	TB611	101237	10.34	94174	14.75	70896	18.19
09	19622	100982	10.34	92989	14.75	69586	18.18
10	19624	99545	10.33	93415	14.74	68847	18.19
11	19625	99235	10.34	92926	14.75	66630	18.18
12	19626	98602	10.35	92036	14.75	69910	18.18
13	19627	98457	10.34	91051	14.75	67505	18.20
14	19627MS	104730	10.35	90288	14.76	74079	18.20
15	19627MSD	107444	10.38	93734	14.79	76199	18.22
16	19628	105083	10.37	97658	14.79	71516	18.23
17	001--	101768	10.37	95078	14.79	69342	18.22
18	TB616	99707	10.37	92750	14.79	68683	18.22
19							
20							
21							
22							

IS1 (FBZ) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk.

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP03973 (HP8)

First Shift KRW

Second Shift RRM

Third Shift

8260B · Water ICAL

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>KUMT1	BFB	50nG BFB	06/22/98	06:52		0.00	
>KUMI1	VSTD004	004 PPB IC	06/22/98	07:15		1.00	NU
>KUMI2	VSTD004	004 PPB IC	06/22/98	07:49		1.00	
>KUMI3	VSTD010	010 PPB IC	06/22/98	08:23		1.00	NU
>KUMI4	VSTD020	020 PPB IC	06/22/98	08:57		1.00	
>KUMI5	VSTD050	050 PPB IC	06/22/98	09:31		1.00	
>KUMI6	VSTD100	100 PPB IC	06/22/98	10:05		1.00	
>KUMI7	VSTD300	300 PPB IC	06/22/98	10:39		1.00	
>KUMX1	CLEANING	BLANK	06/22/98	11:38		1.00	NU
>KUMX2	CLEANING	BLANK	06/22/98	12:28		1.00	
>KA607	TB-02	2901578	04/06/98	14:08	K0961	1.00	REPROCESSED
>KA609	TB-02RE	2901578	04/06/98	19:52	K0961	1.00	
>KA610	TB-01	2901579	04/06/98	21:29	K0961	1.00	
>KA611	TB02D	2901580	04/06/98	22:08	K0961	1.00	
>KA612	TB-01RE	2901579	04/06/98	22:48	K0961	1.00	
>KUMI8	VSTD010	010PPB IC	06/22/98	14:23		1.00	
>KA904	TB-04	2901573	04/09/98	08:45	K0961	1.00	REPROCESSED
>KA902	TB-07	2901570	04/09/98	06:02	K0961	1.00	
>KA903	TB-05	2901572	04/09/98	06:51	K0961	1.00	
>KUMX3	CLEAN BLK	CLEAN BLK	06/22/98	13:29		1.00	NU
>KUMI9	VSTD001	001PPB IC	06/22/98	15:55		1.00	
>KUMM1	VSTD001	001PPB IC	06/22/98	16:50		1.00	
>KUMM2	VSTD001	001PPB IC	06/22/98	17:32		1.00	

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP03973 (HP8)

First Shift —

Second Shift CAA

Third Shift JEV

DICOBuster

FILE	SAMPLE	LI I#	DATE	TIME	BATCH	D.F.	NOTES
>KUNT3	BFB	50nG BFB	06/23/98	18:52		0.00	
>KUNS2	USTD050	050 PPB CC	06/23/98	19:24		1.00	
>KUN82	UBLKK72	UBLKK72	06/23/98	20:14	K1731	1.00	NU
>KUN83	UBLKK72	UBLKK72	06/23/98	21:09	K1731	1.00	
>KUN17	EQTNKDL	2948077	06/23/98	22:02	K1731	50.00	
>KUN18	FFD-7	2945940	06/23/98	22:36	K1731	50.00	
>KUN19	FFD-8	2945941	06/23/98	23:10	K1731	20.00	
>KUN20	LCSWK72	LCSWK72	06/23/98	23:53	K1751	1.00	
>KUN21	GW20-	2946089	06/24/98	00:27	K1751	1.00	
>KUN83	UBLKK72	UBLKK72	06/23/98	21:09	K1751	1.00	19,20,5,22
>KUN22	GW20-MS	2946090	06/24/98	01:01	K1751	1.00	
>KUN23	GW20-MSD	2946091	06/24/98	01:35	K1751	1.00	
>KUNS2	USTD050	050 PPB CC	06/23/98	19:24		1.00	REPROCESSED!
>KUN24	EXBLKB	2946813	06/24/98	02:09	K1751	1.00	
>KUN83	UBLKK72	UBLKK72	06/23/98	21:09	K1751	1.00	REPROCESSED!
>KUN25	ZH-1A	2946070	06/24/98	02:44	K1751	1.00	
>KUN20	LCSWK72	LCSWK72	06/23/98	23:53	K1751	1.00	REPROCESSED!
>KUN21	GW20-	2946089	06/24/98	00:27	K1751	1.00	REPROCESSED!
>KUN26	ZH-2A	2946071	06/24/98	03:18	K1751	1.00	
>KUN22	GW20-MS	2946090	06/24/98	01:01	K1751	1.00	REPROCESSED!
>KUN27	ZH2A8	2946073	06/24/98	03:52	K1751	1.00	* DK
>KUN28	ZH-3A	2946075	06/24/98	04:26	K1751	1.00	
>KUN29	GW16-	2946085	06/24/98	05:00	K1751	1.00	

*TH 6/26/98

③

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP03973 (HP8)

First Shift KRW

Second Shift CAO

Third Shift JRN

8260B waters

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>KUOT1	BFB	50nG BFB	06/24/98	05:47	_____	0.00	
>KUOS1	VSTD050	050 PPB CC	06/24/98	06:12	_____	1.00	
>KUOB1	VBLKK73	VBLKK73	06/24/98	06:53	K1751	1.00	
>KUO01	ZH2A8RE TIC cleanup	2946073	06/24/98	07:27	K1751	1.00	
>KUO02	GW17-	2946086	06/24/98	08:01	K1751	50.00	
>KUO03	GW18-	2946087	06/24/98	08:35	K1751	1.00	
>KUN27	ZH2A8	2946073	06/24/98	03:52	K1751	1.00	
>KUO04	GW19-	2946088	06/24/98	09:09	K1751	5.00	
>KUO05	GW21-	2946092	06/24/98	09:43	K1751	50.00	
>KUO06	RB611	2946093	06/24/98	10:17	K1751	1.00	
>KUMS1	VSTD050	050 PPB CC	06/22/98	19:11	_____	1.00	
>KUMB1	VBLKK70	VBLKK70	06/22/98	20:33	K1731	1.00	
>KUM06	04352	2945847	06/23/98	00:29	K1731	1.00	
>KUM07	04353	2945848	06/23/98	01:03	K1731	1.00	
>KUM08	04357	2945849	06/23/98	01:37	K1731	1.00	
>KUM09	LCSWK70	LCSWK70	06/23/98	02:12	K1731	1.00	
>KUM10	LCSDWK70	LCSDWK70	06/23/98	02:46	K1731	1.00	
>KUM11	04353MS	2945848	06/23/98	03:20	K1731	1.00	
>KUM12	04353MSD	2945848	06/23/98	03:54	K1731	1.00	
>KUNS1	VSTD050	050 PPB CC	06/23/98	06:40	_____	1.00	
>KUN06	EQTNK	2948077	06/23/98	10:44	K1731	10.00	
>KUM12	04353MSD	2945848	06/23/98	03:54	K1731	1.00	REPROCESSED!
>KUNB1	VBLKK71	VBLKK71	06/23/98	07:15	K1731	1.00	
>KUO07	TB611	2946094	06/24/98	10:51	K1751	1.00	
>KUO08	19622	2945433	06/24/98	11:25	K1751	1.00	
>KUO09	19624	2945434	06/24/98	11:59	K1751	1.00	
>KUO10	19625	2945435	06/24/98	12:33	K1751	1.00	
>KUO11	19626	2945436	06/24/98	13:07	K1751	1.00	
>KUO12	19627	2945437	06/24/98	13:41	K1751	1.00	
>KUO13	19627MS	2945438	06/24/98	14:15	K1751	1.00	
>KUO14	19627MSD	2945439	06/24/98	14:49	K1751	1.00	
>KUO15	19628	2945440	06/24/98	15:24	K1751	1.00	
>KUO16	001--	2947124	06/24/98	15:58	K1751	1.00	
>KUO17	TB616	2947555	06/24/98	16:32	K1751	1.00	

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (2FP) #	S6 (TBP) #	OTHER	TOT OUT	
		BN	BN	BN	A	A	A			
01	SBLKWC161D	95	76	109	42	67	86		0	
02	SBLKWB168	79	70	80	33	50	85		0	
03	SBLKWC190J	88	87	96	38	58	78		0	
04	161WCLCS	99	80	96	46	71	95		0	
05	168WBLCS7	80	78	91	39	58	101		0	
06	190WCLCSJ	88	92	96	37	56	82		0	
07	2SW--	58	55	52	24	39	58		0	
08	3SW--	96	92	100	37	63	96		0	
09	4SW--	96	88	93	41	66	96		0	
10	6SW--	98	96	108	44	77	104		0	
11	7SW--	93	87	106	38	64	90		0	
12	8SW--	93	90	108	38	62	96		0	
13	9SW--	22 *	24 *	20 *	10	16 *	23 *		5	J+,U
14	9SW--RE	88	91	79	38	58	83		0	
15	10SW-	84	82	62	35	52	83		0	
16	11SW-	86	85	75	38	55	88		0	
17	12SW-	87	86	80	37	55	89		0	
18	CFO--	91	86	70	40	57	85		0	
19	RB-64	84	82	83	38	55	87		0	
20	GW16-	89	96	90	33	53	102		0	
21	GW17-	84	87	81	39	54	105		0	
22	GW17-DL	63	72	58	29	44	50		0	
23	GW19-	85	83	49	26	38	69		0	
24	GW19-DL	87	86	47	24	38	59		0	
25	GW20-	87	84	87	36	54	99		0	
26	GW20-MS	87	85	83	35	53	97		0	
27	GW20-MSD	89	86	87	39	57	102		0	
28	GW21-	96	91	82	36	54	108		0	
29	GW21-DL	70	85	64	31	47	64		0	
30	RB611	74	78	75	31	45	74		0	

		QC LIMITS
S1 (NBZ)	= Nitrobenzene-d5	(47-114)
S2 (FBP)	= 2-Fluorobiphenyl	(51-106)
S3 (TPH)	= Terphenyl-d14	(37-119)
S4 (PHL)	= Phenol-d6	(7- 74)
S5 (2FP)	= 2-Fluorophenol	(25- 88)
S6 (TBP)	= 2,4,6-Tribromophenol	(34-125)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG062 Lab Sample ID:SBLKWC161

Date Extracted: 06/10/98 Extraction:(SepF/Cont/Sonc) SEPF

Date Analyzed: 07/07/98 Time Analyzed: 18:44

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP06780

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	161WCLCS	161WCLCS	>DG063	07/07/98
02	161WCUS	161WCUS	>DG064	07/07/98
03	161WCMS	161WCMS	>DG065	07/07/98
04	161WCMSD	161WCMSD	>DG066	07/07/98
05	CHM8-	2941303	>DG067	07/07/98
06	CHM9-	2941304	>DG068	07/08/98
07	CHM10	2941305	>DG069	07/08/98
08	CMD11	2941306	>DG070	07/08/98
09	CMW11	2941307	>DG077	07/08/98
10	6498-	2941308	>DG078	07/08/98
11	2SW--	2941683	>DG079	07/08/98
12	3SW--	2941684	>DG080	07/08/98
13	4SW--	2941685	>DG081	07/08/98
14	6SW--	2941686	>DG082	07/08/98
15	7SW--	2941687	>DG083	07/08/98
16	8SW--	2941688	>DG084	07/08/98
17	9SW--	2941689	>DG085	07/08/98
18	10SW-	2941690	>DG139	07/11/98
19	11SW-	2941691	>DG140	07/11/98
20	12SW-	2941692	>DG141	07/11/98
21	CFO--	2941693	>DG147	07/12/98
22	RB-64	2941694	>DG148	07/12/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWC161D

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWC161

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >DG062

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/10/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/07/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
108-95-2	Phenol		1	U
111-44-4	bis(2-Chloroethyl)ether		1	U
95-57-8	2-Chlorophenol		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
95-48-7	2-Methylphenol		1	U
108-60-1	2,2'-oxybis(1-Chloropropane)		1	U
106-44-5	4-Methylphenol		1	U
621-64-7	N-Nitroso-di-n-propylamine		3	U
67-72-1	Hexachloroethane		1	U
98-95-3	Nitrobenzene		1	U
78-59-1	Isophorone		1	U
88-75-5	2-Nitrophenol		1	U
105-67-9	2,4-Dimethylphenol		1	U
111-91-1	bis(2-Chloroethoxy)methane		1	U
120-83-2	2,4-Dichlorophenol		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
91-20-3	Naphthalene		1	U
106-47-8	4-Chloroaniline		1	U
87-68-3	Hexachlorobutadiene		1	U
59-50-7	4-Chloro-3-methylphenol		2	U
91-57-6	2-Methylnaphthalene		1	U
77-47-4	Hexachlorocyclopentadiene		1	U
88-06-2	2,4,6-Trichlorophenol		5	U
95-95-4	2,4,5-Trichlorophenol		2	U
91-58-7	2-Chloronaphthalene		2	U
88-74-4	2-Nitroaniline		1	U
131-11-3	Dimethylphthalate		2	U
606-20-2	2,6-Dinitrotoluene		2	U
208-96-8	Acenaphthylene		2	U
99-09-2	3-Nitroaniline		1	U
83-32-9	Acenaphthene		2	U
			1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWC161D

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWC161

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >DG062

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/10/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/07/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
51-28-5	2,4-Dinitrophenol		15	U
100-02-7	4-Nitrophenol		10	U
132-64-9	Dibenzofuran		1	U
121-14-2	2,4-Dinitrotoluene		1	U
84-66-2	Diethylphthalate		2	U
7005-72-3	4-Chlorophenyl-phenylether		1	U
86-73-7	Fluorene		1	U
100-01-6	4-Nitroaniline		2	U
534-52-1	4,6-Dinitro-2-methylphenol		5	U
86-30-6	N-Nitrosodiphenylamine (1)		1	U
101-55-3	4-Bromophenyl-phenylether		2	U
118-74-1	Hexachlorobenzene		2	U
87-86-5	Pentachlorophenol		3	U
85-01-8	Phenanthrene		1	U
120-12-7	Anthracene		1	U
86-74-8	Carbazole		2	U
84-74-2	Di-n-butylphthalate		10	U
206-44-0	Fluoranthene		1	U
129-00-0	Pyrene		1	U
85-68-7	Butylbenzylphthalate		6	U
91-94-1	3,3'-Dichlorobenzidine		2	U J
56-55-3	Benzo(a)anthracene		1	U
117-81-7	bis(2-Ethylhexyl)phthalate		2	U
218-01-9	Chrysene		1	U
117-84-0	Di-n-octylphthalate		2	U
205-99-2	Benzo(b)fluoranthene		1	U
207-08-9	Benzo(k)fluoranthene		1	U
50-32-8	Benzo(a)pyrene		1	U
193-39-5	Indeno(1,2,3-cd)pyrene		1	U
53-70-3	Dibenz(a,h)anthracene		1	U
191-24-2	Benzo(g,h,i)perylene		1	U

(1) - Cannot be separated from Diphenylamine

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF450 Lab Sample ID: SBLKWB168

Date Extracted: 06/17/98 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 06/23/98 Time Analyzed: 00:34

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: HP06777

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	168WBLCS	168WBLCS7	>GF451	06/23/98
02	168WBLCSD	168WBLCSD	>GF452	06/23/98
03	GW20-	2946089	>GF455	06/23/98
04	GW20-MS	2946090	>GF456	06/23/98
05	GW20-MSD	2946091	>GF457	06/23/98
06	GW16-	2946085	>GF588	06/26/98
07	GW17-	2946086	>GF589	06/26/98
08	GW19-	2946088	>GF590	06/26/98
09	GW21-	2946092	>GF591	06/26/98
10	RB611	2946093	>GF592	06/26/98
11	20641	2946718	>GF593	06/27/98
12	20642	2946719	>GF594	06/27/98
13	20643	2946720	>GF595	06/27/98
14	20644	2946721	>GF596	06/27/98
15	20645	2946722	>GF597	06/27/98
16	GW17-DL	2946086DL	>GF618	06/28/98
17	GW21-DL	2946092DL	>GF620	06/28/98
18	20646DL	2946723DL	>GF623	06/28/98
19	20647DL	2946724DL	>GF624	06/28/98
20	20648DL	2946725DL	>GF625	06/28/98
21	20646	2946723	>GF626	06/28/98
22	20647	2946724	>GF627	06/28/98
23	20648	2946725	>GF628	06/28/98
24	20645DL	2946722DL	>GF649	06/29/98
25	20647DL	2946724DL	>GF650	06/29/98
26	GW19-DL	2946088DL	>GF657	06/29/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWB168

b Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWB168

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GF450

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/23/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
62-75-9--------	N-Nitrosodimethylamine		2	U
108-95-2-------	Phenol		1	U
62-53-3--------	Aniline		1	U
111-44-4-------	bis(2-Chloroethyl)ether		1	U
95-57-8--------	2-Chlorophenol		1	U
541-73-1-------	1,3-Dichlorobenzene		1	U
106-46-7-------	1,4-Dichlorobenzene		1	U
100-51-6-------	Benzyl alcohol		1	U
95-50-1--------	1,2-Dichlorobenzene		5	U
95-48-7--------	2-Methylphenol		1	U
108-60-1-------	2,2'-oxybis(1-Chloropropane)		1	U
108-60-1-------	bis(2-Chloroisopropyl)ether		1	U
106-44-5-------	4-Methylphenol		1	U
621-64-7-------	N-Nitroso-di-n-propylamine		3	U
67-72-1--------	Hexachloroethane		1	U
98-95-3--------	Nitrobenzene		1	U
78-59-1--------	Isophorone		1	U
88-75-5--------	2-Nitrophenol		1	U
105-67-9-------	2,4-Dimethylphenol		1	U
65-85-0--------	Benzoic acid		5	U
111-91-1-------	bis(2-Chloroethoxy)methane		1	U
120-83-2-------	2,4-Dichlorophenol		1	U
120-82-1-------	1,2,4-Trichlorobenzene		1	U
91-20-3--------	Naphthalene		1	U
106-47-8-------	4-Chloroaniline		1	U
87-68-3--------	Hexachlorobutadiene		2	U
59-50-7--------	4-Chloro-3-methylphenol		1	U
91-57-6--------	2-Methylnaphthalene		1	U
77-47-4--------	Hexachlorocyclopentadiene		5	U
88-06-2--------	2,4,6-Trichlorophenol		2	U
95-95-4--------	2,4,5-Trichlorophenol		2	U
91-58-7--------	2-Chloronaphthalene		1	U
88-74-4--------	2-Nitroaniline		2	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWB168

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWB168

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GF450

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/23/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
131-11-3	Dimethylphthalate		2	U
606-20-2	2,6-Dinitrotoluene		2	U
208-96-8	Acenaphthylene		1	U
99-09-2	3-Nitroaniline		2	U
83-32-9	Acenaphthene		1	U
51-28-5	2,4-Dinitrophenol		15	U
100-02-7	4-Nitrophenol		10	U
132-64-9	Dibenzofuran		1	U
121-14-2	2,4-Dinitrotoluene		1	U
84-66-2	Diethylphthalate		2	U
7005-72-3	4-Chlorophenyl-phenylether		1	U
86-73-7	Fluorene		1	U
100-01-6	4-Nitroaniline		2	U
534-52-1	4,6-Dinitro-2-methylphenol		5	U
86-30-6	N-Nitrosodiphenylamine (1)		1	U
122-66-7	1,2-Diphenylhydrazine		1	U
101-55-3	4-Bromophenyl-phenylether		2	U
118-74-1	Hexachlorobenzene		2	U
87-86-5	Pentachlorophenol		3	U
85-01-8	Phenanthrene		1	U
120-12-7	Anthracene		1	U
86-74-8	Carbazole		2	U
84-74-2	Di-n-butylphthalate		2	U
206-44-0	Fluoranthene		1	U
92-87-5	Benzidine		20	U
129-00-0	Pyrene		1	U
85-68-7	Butylbenzylphthalate		5	U J
91-94-1	3,3'-Dichlorobenzidine		2	U
56-55-3	Benzo(a)anthracene		1	U
117-81-7	bis(2-Ethylhexyl)phthalate		2	U
218-01-9	Chrysene		1	U
117-84-0	Di-n-octylphthalate		2	U
205-99-2	Benzo(b)fluoranthene		1	U

(1) - Cannot be separated from Diphenylamine

1C(CONT.)
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWB168

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWB168

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GF450

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 06/17/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 06/23/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
207-08-9	Benzo(k)fluoranthene		1	U
50-32-8	Benzo(a)pyrene		1	U
193-39-5	Indeno(1,2,3-cd)pyrene		1	U
53-70-3	Dibenz(a,h)anthracene		1	U
191-24-2	Benzo(g,h,i)perylene		1	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2 1/87 Rev.

4B

SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >JG123 Lab Sample ID: SBLKWC190

Date Extracted: 07/09/98 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 07/10/98 Time Analyzed: 08:24

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: HP05525

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	190WCLCSJ	190WCLCS	>JG124	07/10/98
02	190WCLCSDJ	190WCLCSD	>JG125	07/10/98
03	9SW--RE	2941689RE	>JG126	07/10/98
04	CH-10RE	2949966RE	>JG127	07/10/98

COMMENTS: _____

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWC190J

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWC190

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >JG123

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/09/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/10/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
108-95-2	Phenol		1	U
111-44-4	bis(2-Chloroethyl)ether		1	U
95-57-8	2-Chlorophenol		1	U
541-73-1	1,3-Dichlorobenzene		1	U
106-46-7	1,4-Dichlorobenzene		1	U
95-50-1	1,2-Dichlorobenzene		1	U
95-48-7	2-Methylphenol		1	U
108-60-1	2,2'-oxybis(1-Chloropropane)		1	U
106-44-5	4-Methylphenol		1	U
621-64-7	N-Nitroso-di-n-propylamine		3	U
67-72-1	Hexachloroethane		1	U
98-95-3	Nitrobenzene		1	U
78-59-1	Isophorone		1	U
88-75-5	2-Nitrophenol		1	U
105-67-9	2,4-Dimethylphenol		1	U
111-91-1	bis(2-Chloroethoxy)methane		1	U
120-83-2	2,4-Dichlorophenol		1	U
120-82-1	1,2,4-Trichlorobenzene		1	U
91-20-3	Naphthalene		1	U
106-47-8	4-Chloroaniline		1	U
87-68-3	Hexachlorobutadiene		2	U
59-50-7	4-Chloro-3-methylphenol		1	U
91-57-6	2-Methylnaphthalene		1	U
77-47-4	Hexachlorocyclopentadiene		5	U
88-06-2	2,4,6-Trichlorophenol		2	U
95-95-4	2,4,5-Trichlorophenol		2	U
91-58-7	2-Chloronaphthalene		1	U
88-74-4	2-Nitroaniline		2	U
131-11-3	Dimethylphthalate		2	U
606-20-2	2,6-Dinitrotoluene		2	U
208-96-8	Acenaphthylene		1	U
99-09-2	3-Nitroaniline		2	U
83-32-9	Acenaphthene		1	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWC190J

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Matrix: (soil/water) WATER Lab Sample ID: SBLKWC190

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >JG123

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 07/09/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 07/10/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
51-28-5	2,4-Dinitrophenol		15	U
100-02-7	4-Nitrophenol		10	U
132-64-9	Dibenzofuran		1	U
121-14-2	2,4-Dinitrotoluene		1	U
84-66-2	Diethylphthalate		2	U
7005-72-3	4-Chlorophenyl-phenylether		1	U
86-73-7	Fluorene		1	U
100-01-6	4-Nitroaniline		2	U
534-52-1	4,6-Dinitro-2-methylphenol		5	U
86-30-6	N-Nitrosodiphenylamine (1)		1	U
101-55-3	4-Bromophenyl-phenylether		2	U
118-74-1	Hexachlorobenzene		2	U
87-86-5	Pentachlorophenol		3	U
85-01-8	Phenanthrene		1	U
120-12-7	Anthracene		1	U
86-74-8	Carbazole		2	U
84-74-2	Di-n-butylphthalate		2	U
206-44-0	Fluoranthene		1	U
129-00-0	Pyrene		1	U
85-68-7	Butylbenzylphthalate		2	U
91-94-1	3,3'-Dichlorobenzidine		2	U
56-55-3	Benzo(a)anthracene		1	U
117-81-7	bis(2-Ethylhexyl)phthalate		2	U
218-01-9	Chrysene		1	U
117-84-0	Di-n-octylphthalate		2	U
205-99-2	Benzo(b)fluoranthene		1	U
207-08-9	Benzo(k)fluoranthene		1	U
50-32-8	Benzo(a)pyrene		1	U
193-39-5	Indeno(1,2,3-cd)pyrene		1	U
53-70-3	Dibenz(a,h)anthracene		1	U
191-24-2	Benzo(g,h,i)perylene		1	U

(1) - Cannot be separated from Diphenylamine

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Lab Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06777

6 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: GW20- 2946089 MS SAMPLE: GW20-MS 2946090 MSD SAMPLE: GW20-MSD 2946091

COMPOUND NAME	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
N-Nitrosodimethylamine	0.00	57.01	60.17	57	60	42.0- 84.0	YES	-5.00	30.	YES
Phenol	0.00	38.14	40.05	38	40	5.0-112.0	YES	-5.00	30.	YES
Aniline	0.00	76.92	67.13	77	67	33.0-113.0	YES	14.00	30.	YES
bis(2-Chloroethyl)ether	0.00	85.35	71.33	85	71	40.0-128.0	YES	18.00	30.	YES
2-Chlorophenol	0.00	85.18	78.19	85	78	56.0-112.0	YES	9.00	30.	YES
1,3-Dichlorobenzene	0.00	83.97	67.58	84	68	44.0- 99.0	YES	22.00	30.	YES
1,4-Dichlorobenzene	0.00	84.25	67.50	84	68	34.0-108.0	YES	22.00	30.	YES
Benzyl alcohol	0.00	76.96	73.43	77	73	44.0-117.0	YES	5.00	30.	YES
1,2-Dichlorobenzene	0.00	88.74	70.28	89	70	32.0-121.0	YES	23.00	30.	YES
2-Methylphenol	0.00	76.13	72.49	76	72	25.0-122.0	YES	5.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	94.63	74.32	95	74	38.0-118.0	YES	24.00	30.	YES
bis(2-Chloroisopropyl)ether	0.00	94.63	74.32	95	74	38.0-118.0	YES	24.00	30.	YES
4-Methylphenol	0.00	70.79	68.78	71	69	15.0-130.0	YES	3.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	94.04	80.76	94	81	58.0-120.0	YES	15.00	30.	YES
Hexachloroethane	0.00	76.66	61.09	77	61	40.0-113.0	YES	23.00	30.	YES
Nitrobenzene	0.00	90.46	74.50	90	74	43.0-127.0	YES	19.00	30.	YES
Isophorone	0.00	92.44	82.00	92	82	42.0-134.0	YES	12.00	30.	YES
2-Nitrophenol	0.00	88.49	81.68	88	82	64.0-108.0	YES	8.00	30.	YES
2,4-Dimethylphenol	0.00	80.65	76.14	81	76	33.0-107.0	YES	6.00	30.	YES
Benzoic acid	0.00	39.96	46.25	40	46	1.0- 57.0	YES	-15.00	30.	YES
bis(2-Chloroethoxy)methane	0.00	85.58	75.93	86	76	57.0-108.0	YES	12.00	30.	YES
2,4-Dichlorophenol	0.00	86.23	81.23	86	81	61.0-101.0	YES	6.00	30.	YES
1,2,4-Trichlorobenzene	0.00	84.92	68.41	85	68	50.0- 98.0	YES	22.00	30.	YES
N[illegible]halene	0.00	82.18	65.68	82	66	41.0-115.0	YES	22.00	30.	YES
[illegible]oroaniline	0.00	81.33	74.25	81	74	9.0-119.0	YES	9.00	30.	YES
[illegible]xachlorobutadiene	0.00	80.39	64.85	80	65	24.0- 98.0	YES	21.00	30.	YES
4-Chloro-3-methylphenol	0.00	88.26	82.94	88	83	54.0-115.0	YES	6.00	30.	YES
2-Methylnaphthalene	0.00	84.27	67.97	84	68	57.0-103.0	YES	21.00	30.	YES
Hexachlorocyclopentadiene	0.00	141.61	119.13	71	60	15.0- 83.0	YES	17.00	30.	YES
2,4,6-Trichlorophenol	0.00	87.72	86.07	88	86	43.0-121.0	YES	2.00	30.	YES
2,4,5-Trichlorophenol	0.00	91.77	88.18	92	88	40.0-122.0	YES	4.00	30.	YES
2-Chloronaphthalene	0.00	86.79	72.71	87	73	60.0-106.0	YES	18.00	30.	YES
2-Nitroaniline	0.00	72.76	68.79	73	69	60.0-111.0	YES	6.00	30.	YES
Dimethylphthalate	0.00	67.93	68.40	68	68	11.0-107.0	YES	-1.00	30.	YES
2,6-Dinitrotoluene	0.00	94.54	86.48	94	86	62.0-118.0	YES	9.00	30.	YES
Acenaphthylene	0.00	79.99	69.72	80	70	61.0-103.0	YES	14.00	30.	YES
3-Nitroaniline	0.00	73.06	68.49	73	68	43.0-105.0	YES	6.00	30.	YES
Acenaphthene	0.00	82.02	70.85	82	71	60.0-101.0	YES	15.00	30.	YES
2,4-Dinitrophenol	0.00	85.29	86.37	85	86	6.0-120.0	YES	-1.00	30.	YES

all ok

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06777

.46 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: GW20- 2946089 MS SAMPLE: GW20-MS 2946090 MSD SAMPLE: GW20-MSD 2946091

COMPOUND NAME	US CONC UG/L	MS CONC UG/L	MSD CONC UG/L	MS REC %	MSD REC %	RANGE LOWER-UPPER	IN SPEC	RPD %	RPD MAX	RPD IN SPEC
4-Nitrophenol	0.00	44.92	47.90	45	48	1.0- 93.0	YES	-6.00	30.	YES
Dibenzofuran	0.00	83.60	73.69	84	74	64.0-100.0	YES	13.00	30.	YES
2,4-Dinitrotoluene	0.00	93.31	87.44	93	87	45.0-128.0	YES	6.00	30.	YES
Diethylphthalate	0.00	82.70	78.08	83	78	46.0-106.0	YES	6.00	30.	YES
4-Chlorophenyl-phenylether	0.00	90.39	80.15	90	80	58.0-106.0	YES	12.00	30.	YES
Fluorene	0.00	87.45	78.06	87	78	59.0-110.0	YES	11.00	30.	YES
4-Nitroaniline	0.00	83.10	78.44	83	78	55.0-116.0	YES	6.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	86.51	83.16	86	83	38.0-116.0	YES	4.00	30.	YES
N-Nitrosodiphenylamine	0.00	86.12	79.19	86	79	44.0-124.0	YES	8.00	30.	YES
1,2-Diphenylhydrazine	0.00	93.91	83.20	94	83	46.0-133.0	YES	12.00	30.	YES
4-Bromophenyl-phenylether	0.00	90.17	82.47	90	82	63.0-106.0	YES	9.00	30.	YES
Hexachlorobenzene	0.00	96.47	87.68	96	88	48.0-118.0	YES	10.00	30.	YES
Pentachlorophenol	0.00	91.30	88.90	91	89	14.0-130.0	YES	3.00	30.	YES
Phenanthrene	0.00	85.42	78.05	85	78	64.0-105.0	YES	9.00	30.	YES
Anthracene	0.00	88.60	80.46	88	80	62.0-103.0	YES	10.00	30.	YES
Carbazole	0.00	86.95	79.66	87	80	65.0-107.0	YES	9.00	30.	YES
Di-n-butylphthalate	0.00	88.06	80.90	88	81	60.0-110.0	YES	8.00	30.	YES
Fluoranthene	0.00	89.73	81.27	90	81	61.0-109.0	YES	10.00	30.	YES
Benzidine	0.00	253.16	228.99	51	46	1.0-125.0	YES	10.00	30.	YES
Pyrene	0.00	87.96	81.95	88	82	55.0-114.0	YES	7.00	30.	YES
Butylbenzylphthalate	0.00	85.02	78.10	85	78	53.0-110.0	YES	8.00	30.	YES
3,3'-Dichlorobenzidine	0.00	71.65	66.72	72	67	37.0-106.0	YES	7.00	30.	YES
[illegible](a)anthracene	0.00	85.99	80.68	86	81	64.0-103.0	YES	6.00	30.	YES
[illegible]-Ethylhexyl)phthalate	0.00	83.13	73.95	83	74	39.0-131.0	YES	12.00	30.	YES
[illegible]hrysene	0.00	84.53	78.36	84	78	63.0-104.0	YES	8.00	30.	YES
Di-n-octylphthalate	0.00	94.66	84.29	95	84	52.0-121.0	YES	12.00	30.	YES
Benzo(b)fluoranthene	0.00	86.86	78.17	87	78	54.0-108.0	YES	11.00	30.	YES
Benzo(k)fluoranthene	0.00	89.83	83.93	90	84	59.0-112.0	YES	7.00	30.	YES
Benzo(a)pyrene	0.00	88.25	81.56	88	82	60.0-102.0	YES	8.00	30.	YES
Indeno(1,2,3-cd)pyrene	0.00	86.59	79.54	86	80	55.0-114.0	YES	8.00	30.	YES
Dibenz(a,h)anthracene	0.00	89.42	80.92	89	81	57.0-124.0	YES	10.00	30.	YES
Benzo(g,h,i)perylene	0.00	87.36	79.32	87	79	49.0-121.0	YES	10.00	30.	YES

COMMENTS:

all on

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2946090
Collected: 6/11/98 at 08:05 by DU

Submitted: 6/13/98 Reported: 7/ 3/98
Discard: 8/ 3/98

GEO-20-GW Matrix Spike Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
GW20- SDG#: HMS03-17MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles				
3925	phenol	38.	1.	ug/l
3936	bis (2-chloroethyl) ether	85.	1.	ug/l
3924	2-chlorophenol	85.	1.	ug/l
3937	1,3-dichlorobenzene	84.	1.	ug/l
3938	1,4-dichlorobenzene	84.	1.	ug/l
3939	1,2-dichlorobenzene	89.	1.	ug/l
4680	2-methylphenol	76.	1.	ug/l
4681	2,2'oxybis (1-chloropropane)	95.	2.	ug/l
4682	4-methylphenol	71.	3.	ug/l
3942	N-nitrosodi-n-propylamine	94.	1.	ug/l
3941	hexachloroethane	77.	1.	ug/l
3943	nitrobenzene	90.	1.	ug/l
3944	isophorone	92.	1.	ug/l
3926	2-nitrophenol	88.	1.	ug/l
3927	2,4-dimethylphenol	81.	1.	ug/l
3945	bis (2-chloroethoxy) methane	86.	1.	ug/l
3928	2,4-dichlorophenol	86.	1.	ug/l
3946	1,2,4-trichlorobenzene	85.	1.	ug/l
3947	naphthalene	82.	1.	ug/l
3871	4-chloroaniline	81.	1.	ug/l
3948	hexachlorobutadiene	80.	2.	ug/l
3929	4-chloro-3-methylphenol	88.	1.	ug/l
3905	2-methylnaphthalene	84.	1.	ug/l
3949	hexachlorocyclopentadiene	140.	5.	ug/l
3930	2,4,6-trichlorophenol	88.	2.	ug/l
3922	2,4,5-trichlorophenol	92.	2.	ug/l
3950	2-chloronaphthalene	87.	1.	ug/l
3907	2-nitroaniline	73.	2.	ug/l
3952	dimethyl phthalate	68.	2.	ug/l
3951	acenaphthylene	80.	1.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

See reverse side for explanation of symbols and abbreviations

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2946090
Collected: 6/11/98 at 08:05 by DU

Submitted: 6/13/98 Reported: 7/ 3/98
Discard: 8/ 3/98

GEO-20-GW Matrix Spike Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
GW20- SDG#: HMS03-17MS

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles cont'd					
3908	3-nitroaniline	73.		2.	ug/l
3954	acenaphthene	82.		1.	ug/l
3931	2,4-dinitrophenol	85.		15.	ug/l
3932	4-nitrophenol	45.	J	10.	ug/l
3879	dibenzofuran	84.		1.	ug/l
3955	2,4-dinitrotoluene	93.		1.	ug/l
3953	2,6-dinitrotoluene	95.		2.	ug/l
3958	diethyl phthalate	83.		2.	ug/l
3957	4-chlorophenyl phenyl ether	90.		1.	ug/l
3956	fluorene	87.		1.	ug/l
3909	4-nitroaniline	83.		2.	ug/l
3933	4,6-dinitro-2-methylphenol	87.		5.	ug/l
960	N-nitrosodiphenylamine	86.		1.	ug/l
961	4-bromophenyl phenyl ether	90.		2.	ug/l
3962	hexachlorobenzene	96.		2.	ug/l
3934	pentachlorophenol	91.		3.	ug/l
3963	phenanthrene	85.		1.	ug/l
3964	anthracene	89.		1.	ug/l
4684	carbazole	87.		1.	ug/l
3965	di-n-butyl phthalate	88.		2.	ug/l
3966	fluoranthene	90.		1.	ug/l
3967	pyrene	88.		1.	ug/l
3969	butyl benzyl phthalate	85.		2.	ug/l
3972	3,3'-dichlorobenzidine	72.		2.	ug/l
3970	benzo (a) anthracene	86.		1.	ug/l
3973	bis (2-ethylhexyl) phthalate	83.		2.	ug/l
3971	chrysene	85.		1.	ug/l
3974	di-n-octyl phthalate	95.		2.	ug/l
3975	benzo (b) fluoranthene	87.		1.	ug/l
3976	benzo (k) fluoranthene	90.		1.	ug/l
3977	benzo (a) pyrene	88.		1.	ug/l
3978	indeno (1,2,3-cd) pyrene	87.		1.	ug/l
3979	dibenz (a,h) anthracene	89.		1.	ug/l
3980	benzo (ghi) perylene	87.		1.	ug/l

Questions? Contact your Client Services Representative
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Respectfully Submitted
Charles J. Neslund, B.S.
Group Leader, GC/MS SVOA

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 2946091
Collected: 6/11/98 at 08:05 by DU

Submitted: 6/13/98 Reported: 7/ 3/98
Discard: 8/ 3/98

GEO-20-GW Matrix Spike Dup. Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
GW20- SDG#: HMS03-17MSD

Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles				
3925	phenol	40.	1.	ug/l
3936	bis (2-chloroethyl) ether	71.	1.	ug/l
3924	2-chlorophenol	78.	1.	ug/l
3937	1,3-dichlorobenzene	68.	1.	ug/l
3938	1,4-dichlorobenzene	68.	1.	ug/l
3939	1,2-dichlorobenzene	70.	1.	ug/l
4680	2-methylphenol	72.	1.	ug/l
4681	2,2'oxybis (1-chloropropane)	74.	2.	ug/l
4682	4-methylphenol	69.	3.	ug/l
3942	N-nitrosodi-n-propylamine	81.	1.	ug/l
3941	hexachloroethane	61.	1.	ug/l
3943	nitrobenzene	75.	1.	ug/l
3944	isophorone	82.	1.	ug/l
3926	2-nitrophenol	82.	1.	ug/l
3927	2,4-dimethylphenol	76.	1.	ug/l
3945	bis (2-chloroethoxy) methane	76.	1.	ug/l
3928	2,4-dichlorophenol	81.	1.	ug/l
3946	1,2,4-trichlorobenzene	68.	1.	ug/l
3947	naphthalene	66.	1.	ug/l
3871	4-chloroaniline	74.	1.	ug/l
3948	hexachlorobutadiene	65.	2.	ug/l
3929	4-chloro-3-methylphenol	83.	1.	ug/l
3905	2-methylnaphthalene	68.	1.	ug/l
3949	hexachlorocyclopentadiene	120.	5.	ug/l
3930	2,4,6-trichlorophenol	86.	2.	ug/l
3922	2,4,5-trichlorophenol	88.	2.	ug/l
3950	2-chloronaphthalene	73.	1.	ug/l
3907	2-nitroaniline	69.	2.	ug/l
3952	dimethyl phthalate	68.	2.	ug/l
3951	acenaphthylene	70.	1.	ug/l

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Lancaster Laboratories
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Account No: 07802
Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City OK 73125

P.O. GULF STATES CREOSOT
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS
TCL Semivolatiles cont'd					
3908	3-nitroaniline	68.		2.	ug/l
3954	acenaphthene	71.		1.	ug/l
3931	2,4-dinitrophenol	86.		15.	ug/l
3932	4-nitrophenol	48.	J	10.	ug/l
3879	dibenzofuran	74.		1.	ug/l
3955	2,4-dinitrotoluene	87.		1.	ug/l
3953	2,6-dinitrotoluene	86.		2.	ug/l
3958	diethyl phthalate	78.		2.	ug/l
3957	4-chlorophenyl phenyl ether	80.		1.	ug/l
3956	fluorene	78.		1.	ug/l
3909	4-nitroaniline	78.		2.	ug/l
3933	4,6-dinitro-2-methylphenol	83.		5.	ug/l
3960	N-nitrosodiphenylamine	79.		1.	ug/l
3961	4-bromophenyl phenyl ether	82.		2.	ug/l
3962	hexachlorobenzene	88.		2.	ug/l
3934	pentachlorophenol	89.		3.	ug/l
3963	phenanthrene	78.		1.	ug/l
3964	anthracene	80.		1.	ug/l
4684	carbazole	80.		1.	ug/l
3965	di-n-butyl phthalate	81.		2.	ug/l
3966	fluoranthene	81.		1.	ug/l
3967	pyrene	82.		1.	ug/l
3969	butyl benzyl phthalate	78.		2.	ug/l
3972	3,3'-dichlorobenzidine	67.		2.	ug/l
3970	benzo (a) anthracene	81.		1.	ug/l
3973	bis (2-ethylhexyl) phthalate	74.		2.	ug/l
3971	chrysene	78.		1.	ug/l
3974	di-n-octyl phthalate	84.		2.	ug/l
3975	benzo (b) fluoranthene	78.		1.	ug/l
3976	benzo (k) fluoranthene	84.		1.	ug/l
3977	benzo (a) pyrene	82.		1.	ug/l
3978	indeno (1,2,3-cd) pyrene	80.		1.	ug/l
3979	dibenz (a,h) anthracene	81.		1.	ug/l
3980	benzo (ghi) perylene	79.		1.	ug/l

Questions? Contact your Client Services Representative
Kay G. Hower at (717) 656-2300

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Respectfully Submitted
Charles J. Neslund, B.S.
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MEMBER ACIL
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Lancaster, PA 17605-2425
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WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06780

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 161WCLCS 161WCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	44.35	44	5.0- 83.0	YES
bis(2-Chloroethyl)ether	79.88	80	66.0- 106.0	YES
2-Chlorophenol	80.22	80	62.0- 107.0	YES
1,3-Dichlorobenzene	58.92	59	45.0- 91.0	YES
1,4-Dichlorobenzene	59.19	59	45.0- 94.0	YES
1,2-Dichlorobenzene	62.08	62	52.0- 97.0	YES
2-Methylphenol	83.13	83	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	88.73	89	43.0- 118.0	YES
4-Methylphenol	80.38	80	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	80.56	80	62.0- 118.0	YES
Hexachloroethane	51.41	51	40.0- 84.0	YES
Nitrobenzene	82.37	82	61.0- 113.0	YES
Isophorone	94.43	94	66.0- 113.0	YES
2-Nitrophenol	83.24	83	67.0- 104.0	YES
2,4-Dimethylphenol	82.55	82	52.0- 99.0	YES
bis(2-Chloroethoxy)methane	84.35	84	64.0- 103.0	YES
2,4-Dichlorophenol	85.30	85	65.0- 98.0	YES
1,2,4-Trichlorobenzene	65.09	65	52.0- 93.0	YES
Naphthalene	68.97	69	60.0- 97.0	YES
4-Chloroaniline	66.81	67	34.0- 101.0	YES
Hexachlorobutadiene	44.85	45	24.0- 86.0	YES
4-Chloro-3-methylphenol	96.86	97	60.0- 111.0	YES
2-Methylnaphthalene	70.72	71	62.0- 98.0	YES
Hexachlorocyclopentadiene	75.75	38	17.0- 80.0	YES
2,4,6-Trichlorophenol	84.13	84	66.0- 105.0	YES
2,4,5-Trichlorophenol	83.27	83	67.0- 103.0	YES
2-Chloronaphthalene	72.59	72	61.0- 103.0	YES
2-Nitroaniline	98.73	99	58.0- 112.0	YES
Dimethylphthalate	47.77	48	1.0- 90.0	YES
2,6-Dinitrotoluene	94.31	94	66.0- 113.0	YES
Acenaphthylene	70.13	70	64.0- 100.0	YES
3-Nitroaniline	74.64	75	40.0- 108.0	YES
Acenaphthene	72.57	72	61.0- 100.0	YES
2,4-Dinitrophenol	85.76	86	25.0- 124.0	YES
4-Nitrophenol	54.94	55	3.0- 83.0	YES
Dibenzofuran	72.71	73	67.0- 99.0	YES
2,4-Dinitrotoluene	84.04	84	64.0- 112.0	YES
Diethylphthalate	73.62	74	30.0- 99.0	YES
4-Chlorophenyl-phenylether	75.80	76	62.0- 104.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06780

346 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 161WCLCS 161WCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Fluorene	77.52	78	61.0- 108.0	YES
4-Nitroaniline	96.54	96	55.0- 116.0	YES
4,6-Dinitro-2-methylphenol	83.83	84	43.0- 120.0	YES
N-Nitrosodiphenylamine	76.91	77	64.0- 103.0	YES
4-Bromophenyl-phenylether	79.08	79	69.0- 102.0	YES
Hexachlorobenzene	85.58	86	62.0- 109.0	YES
Pentachlorophenol	85.66	86	46.0- 114.0	YES
Phenanthrene	80.66	81	68.0- 102.0	YES
Anthracene	81.25	81	66.0- 101.0	YES
Carbazole	82.51	82	66.0- 110.0	YES
Di-n-butylphthalate	80.77	81	61.0- 105.0	YES
Fluoranthene	80.95	81	66.0- 106.0	YES
Pyrene	85.49	85	58.0- 112.0	YES
Butylbenzylphthalate	76.80	77	48.0- 105.0	YES
3,3'-Dichlorobenzidine	85.59	86	37.0- 104.0	YES
Benzo(a)anthracene	91.61	92	69.0- 101.0	YES
bis(2-Ethylhexyl)phthalate	91.15	91	64.0- 113.0	YES
Chrysene	89.73	90	67.0- 101.0	YES
Di-n-octylphthalate	83.06	83	59.0- 118.0	YES
Benzo(b)fluoranthene	70.96	71	64.0- 101.0	YES
Benzo(k)fluoranthene	90.03	90	67.0- 105.0	YES
Benzo(a)pyrene	89.28	89	65.0- 101.0	YES
Indeno(1,2,3-cd)pyrene	95.57	96	59.0- 111.0	YES
Dibenz(a,h)anthracene	97.19	97	66.0- 117.0	YES
Benzo(g,h,i)perylene	98.72	99	55.0- 115.0	YES

COMMENTS:

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

METHOD 8270 SPIKE LEVEL: 100 UG/L

CS SAMPLE NO: 168WBLCS 168WBLCS7

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
N-Nitrosodimethylamine	58.80	59	46.0- 81.0	YES
Phenol	40.74	41	5.0- 83.0	YES
Aniline	68.87	69	53.0- 99.0	YES
bis(2-Chloroethyl)ether	73.56	74	66.0- 106.0	YES
2-Chlorophenol	82.70	83	62.0- 107.0	YES
1,3-Dichlorobenzene	63.64	64	45.0- 91.0	YES
1,4-Dichlorobenzene	64.51	64	45.0- 94.0	YES
Benzyl alcohol	80.80	81	59.0- 108.0	YES
1,2-Dichlorobenzene	68.38	68	52.0- 97.0	YES
2-Methylphenol	76.25	76	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	78.31	78	43.0- 118.0	YES
bis(2-Chloroisopropyl)ether	78.31	78	43.0- 118.0	YES
4-Methylphenol	71.89	72	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	79.39	79	62.0- 118.0	YES
Hexachloroethane	54.54	54	40.0- 84.0	YES
Nitrobenzene	75.62	76	61.0- 113.0	YES
Isophorone	78.47	78	66.0- 113.0	YES
2-Nitrophenol	85.32	85	67.0- 104.0	YES
2,4-Dimethylphenol	78.01	78	52.0- 99.0	YES
Benzoic acid	43.31	43	6.0- 62.0	YES
bis(2-Chloroethoxy)methane	73.10	73	64.0- 103.0	YES
2,4-Dichlorophenol	81.92	82	65.0- 98.0	YES
1,2,4-Trichlorobenzene	65.15	65	52.0- 93.0	YES
Naphthalene	66.53	66	60.0- 97.0	YES
4-Chloroaniline	55.43	55	34.0- 101.0	YES
He[illegible]chlorobutadiene	53.23	53	24.0- 86.0	YES
[illegible]ro-3-methylphenol	84.38	84	60.0- 111.0	YES
[illegible]hylnaphthalene	66.56	66	62.0- 98.0	YES
Hexachlorocyclopentadiene	102.54	51	17.0- 80.0	YES
2,4,6-Trichlorophenol	85.51	86	66.0- 105.0	YES
2,4,5-Trichlorophenol	86.85	87	67.0- 103.0	YES
2-Chloronaphthalene	69.23	69	61.0- 103.0	YES
2-Nitroaniline	63.40	63	58.0- 112.0	YES
Dimethylphthalate	43.13	43	1.0- 90.0	YES
2,6-Dinitrotoluene	79.36	79	66.0- 113.0	YES
Acenaphthylene	65.13	65	64.0- 100.0	YES
3-Nitroaniline	51.16	51	40.0- 108.0	YES
Acenaphthene	67.71	68	61.0- 100.0	YES
2,4-Dinitrophenol	86.56	86	25.0- 124.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP06777

METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 168WBLCS 168WBLCS7

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
4-Nitrophenol	45.53	46	3.0- 83.0	YES
Dibenzofuran	69.00	69	67.0- 99.0	YES
2,4-Dinitrotoluene	79.95	80	64.0- 112.0	YES
Diethylphthalate	62.03	62	30.0- 99.0	YES
4-Chlorophenyl-phenylether	73.90	74	62.0- 104.0	YES
Fluorene	72.63	73	61.0- 108.0	YES
4-Nitroaniline	72.81	73	55.0- 116.0	YES
4,6-Dinitro-2-methylphenol	82.83	83	43.0- 120.0	YES
N-Nitrosodiphenylamine	71.89	72	64.0- 103.0	YES
1,2-Diphenylhydrazine	78.56	78	57.0- 123.0	YES
4-Bromophenyl-phenylether	75.09	75	69.0- 102.0	YES
Hexachlorobenzene	81.47	81	62.0- 109.0	YES
Pentachlorophenol	87.56	88	46.0- 114.0	YES
Phenanthrene	72.96	73	68.0- 102.0	YES
Anthracene	75.15	75	66.0- 101.0	YES
Carbazole	72.57	72	66.0- 110.0	YES
Di-n-butylphthalate	73.88	74	61.0- 105.0	YES
Fluoranthene	75.68	76	66.0- 106.0	YES
Benzidine	179.30	36	1.0- 116.0	YES
Pyrene	77.67	78	58.0- 112.0	YES
Butylbenzylphthalate	71.09	71	48.0- 105.0	YES
3,3'-Dichlorobenzidine	52.70	53	37.0- 104.0	YES
Benzo(a)anthracene	76.23	76	69.0- 101.0	YES
bis(2-Ethylhexyl)phthalate	74.63	75	64.0- 113.0	YES
[illegible]ene	74.34	74	67.0- 101.0	YES
[illegible]octylphthalate	82.79	83	59.0- 118.0	YES
[illegible]zo(b)fluoranthene	73.19	73	64.0- 101.0	YES
Benzo(k)fluoranthene	78.64	79	67.0- 105.0	YES
Benzo(a)pyrene	75.85	76	65.0- 101.0	YES
Indeno(1,2,3-cd)pyrene	76.18	76	59.0- 111.0	YES
Dibenz(a,h)anthracene	77.02	77	66.0- 117.0	YES
Benzo(g,h,i)perylene	75.44	75	55.0- 115.0	YES

COMMENTS:

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP05525

'6 METHOD 8270 SPIKE LEVEL: 100 UG/L

CC SAMPLE NO: 190WCLCSJ 190WCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	39.86	40	5.0- 83.0	YES
bis(2-Chloroethyl)ether	82.40	82	66.0- 106.0	YES
2-Chlorophenol	81.04	81	62.0- 107.0	YES
1,3-Dichlorobenzene	73.80	74	45.0- 91.0	YES
1,4-Dichlorobenzene	76.40	76	45.0- 94.0	YES
1,2-Dichlorobenzene	77.50	78	52.0- 97.0	YES
2-Methylphenol	74.82	75	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	88.98	89	43.0- 118.0	YES
4-Methylphenol	73.14	73	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	83.29	83	62.0- 118.0	YES
Hexachloroethane	55.49	55	40.0- 84.0	YES
Nitrobenzene	86.46	86	61.0- 113.0	YES
Isophorone	90.49	90	66.0- 113.0	YES
2-Nitrophenol	88.33	88	67.0- 104.0	YES
2,4-Dimethylphenol	80.74	81	52.0- 99.0	YES
bis(2-Chloroethoxy)methane	85.92	86	64.0- 103.0	YES
2,4-Dichlorophenol	84.97	85	65.0- 98.0	YES
1,2,4-Trichlorobenzene	76.58	76	52.0- 93.0	YES
Naphthalene	74.99	75	60.0- 97.0	YES
4-Chloroaniline	83.21	83	34.0- 101.0	YES
Hexachlorobutadiene	50.10	50	24.0- 86.0	YES
4-Chloro-3-methylphenol	87.46	87	60.0- 111.0	YES
2-Methylnaphthalene	77.33	77	62.0- 98.0	YES
Hexachlorocyclopentadiene	60.61	30	17.0- 80.0	YES
2,4,6-Trichlorophenol	92.30	92	66.0- 105.0	YES
2 4,5-Trichlorophenol	96.17	96	67.0- 103.0	YES
loronaphthalene	87.98	88	61.0- 103.0	YES
croaniline	91.62	92	58.0- 112.0	YES
imethylphthalate	31.81	32	1.0- 90.0	YES
2,6-Dinitrotoluene	97.09	97	66.0- 113.0	YES
Acenaphthylene	81.74	82	64.0- 100.0	YES
3-Nitroaniline	92.87	93	40.0- 108.0	YES
Acenaphthene	81.46	81	61.0- 100.0	YES
2,4-Dinitrophenol	43.69	44	25.0- 124.0	YES
4-Nitrophenol	40.62	41	3.0- 83.0	YES
Dibenzofuran	84.77	85	67.0- 99.0	YES
2,4-Dinitrotoluene	93.76	94	64.0- 112.0	YES
Diethylphthalate	64.93	65	30.0- 99.0	YES
4-Chlorophenyl-phenylether	86.38	86	62.0- 104.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP05525

46 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 190WCLCSJ 190WCLCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC	
Fluorene	86.91	87	61.0- 108.0	YES	
4-Nitroaniline	96.39	96	55.0- 116.0	YES	
4,6-Dinitro-2-methylphenol	55.90	56	43.0- 120.0	YES	
N-Nitrosodiphenylamine	92.97	93	64.0- 103.0	YES	
4-Bromophenyl-phenylether	84.85	85	69.0- 102.0	YES	
Hexachlorobenzene	83.29	83	62.0- 109.0	YES	
Pentachlorophenol	79.00	79	46.0- 114.0	YES	
Phenanthrene	87.17	87	68.0- 102.0	YES	
Anthracene	82.94	83	66.0- 101.0	YES	
Carbazole	84.30	84	66.0- 110.0	YES	
Di-n-butylphthalate	80.00	80	61.0- 105.0	YES	
Fluoranthene	76.28	76	66.0- 106.0	YES	
Pyrene	106.80	107	58.0- 112.0	YES	
Butylbenzylphthalate	88.61	89	48.0- 105.0	YES	
3,3'-Dichlorobenzidine	88.05	88	37.0- 104.0	YES	
Benzo(a)anthracene	84.49	84	69.0- 101.0	YES	
bis(2-Ethylhexyl)phthalate	92.31	92	64.0- 113.0	YES	
Chrysene	84.64	85	67.0- 101.0	YES	
Di-n-octylphthalate	119.93	120	59.0- 118.0	NO	J+
Benzo(b)fluoranthene	97.13	97	64.0- 101.0	YES	
Benzo(k)fluoranthene	97.01	97	67.0- 105.0	YES	
Benzo(a)pyrene	88.72	89	65.0- 101.0	YES	
Indeno(1,2,3-cd)pyrene	60.10	60	59.0- 111.0	YES	
Dibenz(a,h)anthracene	57.96	58	66.0- 117.0	NO	J+, UJ-
P o(g,h,i)perylene	51.04	51	55.0- 115.0	NO	J+, UJ-

COMMENTS:

Assoc: 95WRE
Original analysis reported, no qualifications

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG03B DFTPP Injection Date: 07/06/98

Instrument ID: HP06780 DFTPP Injection Time: 09:29 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	45.2
70	Less than 2.0% of mass 69	.2 (.5)1
127	40.0 - 60.0% of mass 198	41.0
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 30.0% of mass 198	23.8
365	Greater than 1.00% of mass 198	4.03
441	Present, but less than mass 443	10.0
442	Greater than 40.0% of mass 198	60.6
443	17.0 - 23.0% of mass 442	11.2 (18.6)2

1-value is % mass 69 2-value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>DG031	07/06/98	10:10
02	SSTD160	STD1818	>DG032	07/06/98	12:43
03	SSTD001	MDL1818	>DG033	07/06/98	13:47
04	SSTD005	STD1818	>DG034	07/06/98	14:52
05	SSTD120	STD1818	>DG035	07/06/98	15:57
06	SSTD020	STD1818	>DG036	07/06/98	17:02
07	SSTD050	STD1818	>DG037	07/06/98	18:07
08	SBLKLA177D	SBLKLA177	>DG038	07/06/98	19:12
09	PC4--	2951779	>DG039	07/06/98	20:18
10	SS2--	2947708	>DG040	07/06/98	21:23 ✓
11					
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20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

me: LANCASTER LABS Contract: _____

Lab Code: LANCAS Case No.: _____ SAS No.: _____ SDG No.: _____

Instrument ID: HP06780 Calibration Date(s): 07/06/98 07/06/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >DG034 RRF20 = >DG036 RRF50 = >DG037
RRF80 = >DG031 RRF120= >DG035 RRF160= >DG032

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
Pyridine	1.808	1.988	2.079	2.171	2.091	2.180	2.053	6.8	AVG	
N-Nitrosodimethylamine	1.021	1.089	1.076	1.142	1.084	1.155	1.094	4.4	AVG	
2-Picoline	2.195	2.346	2.288	2.406	2.319	2.460	2.336	4.0	AVG	
Phenol	2.567	2.758	2.957	3.253	3.306	3.631	3.079	12.7	AVG	*
Aniline	3.363	3.300	3.222	3.846	3.430	4.034	3.533	9.3	AVG	
bis(2-Chloroethyl)ether	2.199	2.237	2.292	2.461	2.426	2.731	2.391	8.2	AVG	
2-Chlorophenol	1.195	1.344	1.392	1.500	1.622	1.715	1.461	13.0	AVG	
1,3-Dichlorobenzene	1.331	1.416	1.470	1.561	1.644	1.725	1.524	9.6	AVG	
1,4-Dichlorobenzene	1.461	1.513	1.573	1.667	1.771	1.859	1.641	9.4	AVG	*
Benzyl alcohol	1.150	1.302	1.378	1.450	1.493	1.591	1.394	11.1	AVG	
1,2-Dichlorobenzene	1.344	1.361	1.442	1.548	1.681	1.775	1.525	11.5	AVG	
2-Methylphenol	1.739	1.820	1.933	2.093	2.114	2.290	1.998	10.3	AVG	
2,2'-oxybis(1-Chloropropane)	3.404	3.383	3.378	3.691	3.593	3.783	3.539	5.0	AVG	
bis(2-Chloroisopropyl)ether	3.404	3.383	3.378	3.691	3.593	3.783	3.539	5.0	AVG	
4-Methylphenol	1.866	1.992	2.079	2.251	2.283	2.445	2.153	9.9	AVG	
3- and 4-Methylphenol	1.866	1.992	2.079	2.251	2.283	2.445	2.153	9.9	AVG	
Acetophenone	3.172	3.211	3.510	3.815	3.823	4.156	3.615	10.7	AVG	
Nitroso-di-n-propylamine	1.374	1.428	1.464	1.665	1.633	1.839	1.567	11.3	AVG	#
oluidine	2.948	3.109	3.205	3.660	3.591	3.891	3.401	10.8	AVG	
exachloroethane	.865	.928	.918	1.008	.993	1.048	.960	7.1	AVG	
Nitrobenzene	.733	.739	.716	.811	.815	.918	.788	9.6	AVG	
Isophorone	1.353	1.423	1.488	1.684	1.643	1.772	1.561	10.5	AVG	
2-Nitrophenol	.199	.218	.218	.236	.247	.255	.229	9.2	AVG	*
2,4-Dimethylphenol	.635	.636	.659	.761	.772	.837	.717	11.9	AVG	
Benzoic acid	.289	.406	.443	.464	.565	.599	.461	24.3	1STDEG	
bis(2-Chloroethoxy)methane	.735	.758	.818	.920	.934	1.022	.865	13.0	AVG	
2,4-Dichlorophenol	.279	.306	.324	.362	.391	.413	.346	14.9	AVG	*
1,2,4-Trichlorobenzene	.353	.374	.399	.434	.489	.504	.426	14.5	AVG	
Naphthalene	1.024	1.026	1.094	1.192	1.332	1.401	1.178	13.6	AVG	
4-Chloroaniline	.423	.443	.455	.510	.541	.579	.492	12.5	AVG	
Hexachlorobutadiene	.237	.257	.276	.310	.339	.362	.297	16.4	1STDEG	*
4-Chloro-3-methylphenol	.523	.573	.594	.669	.694	.749	.634	13.3	AVG	*
2-Methylnaphthalene	.686	.703	.763	.835	.941	.970	.816	14.7	AVG	
1-Methylnaphthalene	.641	.665	.706	.780	.864	.897	.759	13.9	AVG	
Hexachlorocyclopentadiene	.166	.241	.317	.413	.440	.468	.341	35.2	1STDEG	#
2,4,6-Trichlorophenol	.340	.379	.403	.447	.495	.544	.435	17.5	1STDEG	*
2,4,5-Trichlorophenol	.365	.394	.444	.481	.532	.610	.469	19.8	1STDEG	
2-Chloronaphthalene	.972	1.050	1.150	1.260	1.380	1.462	1.213	15.7	1STDEG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

: LANCASTER LABS Contract: _____.

ode: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

strument ID: HP06780 Calibration Date(s): 07/06/98 07/06/98

in $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

AB FILE ID: RRF5 = >DG034 RRF20 = >DG036 RRF50 = >DG037
RRF80 = >DG031 RRF120= >DG035 RRF160= >DG032

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.514	.601	.627	.707	.683	.766	.650	13.6	AVG	
Dimethylphthalate	1.370	1.444	1.515	1.659	1.746	1.878	1.602	12.1	AVG	
2,6-Dinitrotoluene	.291	.359	.365	.398	.418	.455	.381	14.8	AVG	
Acenaphthylene	1.559	1.687	1.815	2.002	2.206	2.365	1.939	16.0	1STDEG	
3-Nitroaniline	.279	.321	.325	.343	.360	.398	.338	11.9	AVG	
Acenaphthene	* .956	1.068	1.160	1.289	1.407	1.500	1.230	16.8	1STDEG	*
2,4-Dinitrophenol	# .139	.203	.229	.264	.296	.319	.242	27.3	1STDEG	#
4-Nitrophenol	# .388	.414	.441	.493	.487	.548	.462	12.7	AVG	#
Dibenzofuran	1.583	1.694	1.815	2.004	2.237	2.455	1.965	17.0	1STDEG	
2,4-Dinitrotoluene	.433	.491	.516	.561	.584	.669	.542	15.1	1STDEG	
1-Naphthylamine	.568	.702	.710	.889	.802	1.013	.781	20.1	2NDDEG	
2-Naphthylamine	.606	.617	.616	.903	.706	1.030	.746	24.0	2NDDEG	
Diethylphthalate	1.566	1.626	1.712	1.885	2.022	2.194	1.834	13.3	AVG	
4-Chlorophenyl-phenylether	.679	.735	.806	.931	1.005	1.161	.886	20.5	1STDEG	
Fluorene	1.285	1.392	1.579	1.775	1.947	2.171	1.692	20.0	1STDEG	
4-Nitroaniline	.303	.392	.402	.432	.412	.446	.398	12.7	AVG	
4,6-Dinitro-2-methylphenol	.104	.131	.138	.162	.172	.195	.150	21.6	1STDEG	
1-Nitronaphthalene	.120	.125	.130	.141	.159	.164	.140	13.1	AVG	
trosodiphenylamine (1)	* .411	.436	.468	.507	.576	.607	.501	15.6	1STDEG	*
Diphenylhydrazine	1.019	1.010	1.096	1.161	1.209	1.300	1.133	10.0	AVG	
Bromophenyl-phenylether	.160	.178	.193	.216	.243	.259	.208	18.4	1STDEG	
Hexachlorobenzene	.205	.199	.217	.243	.265	.289	.236	15.2	1STDEG	
Pentachlorophenol	* .098	.130	.135	.139	.175	.193	.145	23.4	1STDEG	*
Phenanthrene	.854	.934	1.047	1.156	1.260	1.404	1.109	18.5	1STDEG	
Anthracene	.848	.942	1.038	1.188	1.296	1.463	1.129	20.4	1STDEG	
Carbazole	.786	.858	.923	1.014	1.134	1.217	.989	16.7	1STDEG	
Di-n-butylphthalate	1.156	1.269	1.395	1.539	1.736	1.855	1.492	18.1	1STDEG	
Fluoranthene	* .927	.973	1.107	1.285	1.414	1.645	1.225	22.6	1STDEG	*
Benzidine	.999	.917	.732	.855	.830	.898	.872	10.3	AVG	
Pyrene	1.001	1.073	1.170	1.214	1.321	1.369	1.191	11.9	AVG	
Butylbenzylphthalate	.567	.617	.644	.652	.682	.686	.641	6.9	AVG	
3,3'-Dichlorobenzidine	.371	.416	.461	.503	.516	.529	.466	13.4	AVG	
Benzo(a)anthracene	1.014	1.005	1.061	1.107	1.167	1.203	1.093	7.4	AVG	
bis(2-Ethylhexyl)phthalate	.765	.862	.943	.977	1.018	1.029	.932	10.9	AVG	
Chrysene	.897	.968	1.027	1.107	1.151	1.212	1.060	11.1	AVG	
Di-n-octylphthalate	* 1.710	1.986	2.202	2.229	2.613	2.548	2.215	15.3	1STDEG	*
7,12-Dimethylbenz[a]anthrace	.198	.475	.614	.693	.759	.797	.589	37.9	1STDEG	
Benzo(b)fluoranthene	1.297	1.423	1.525	1.669	1.945	2.022	1.647	17.6	1STDEG	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

: LANCASTER LABS Contract: _____

b Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

strument ID: HP06780 Calibration Date(s): 07/06/98 07/06/98

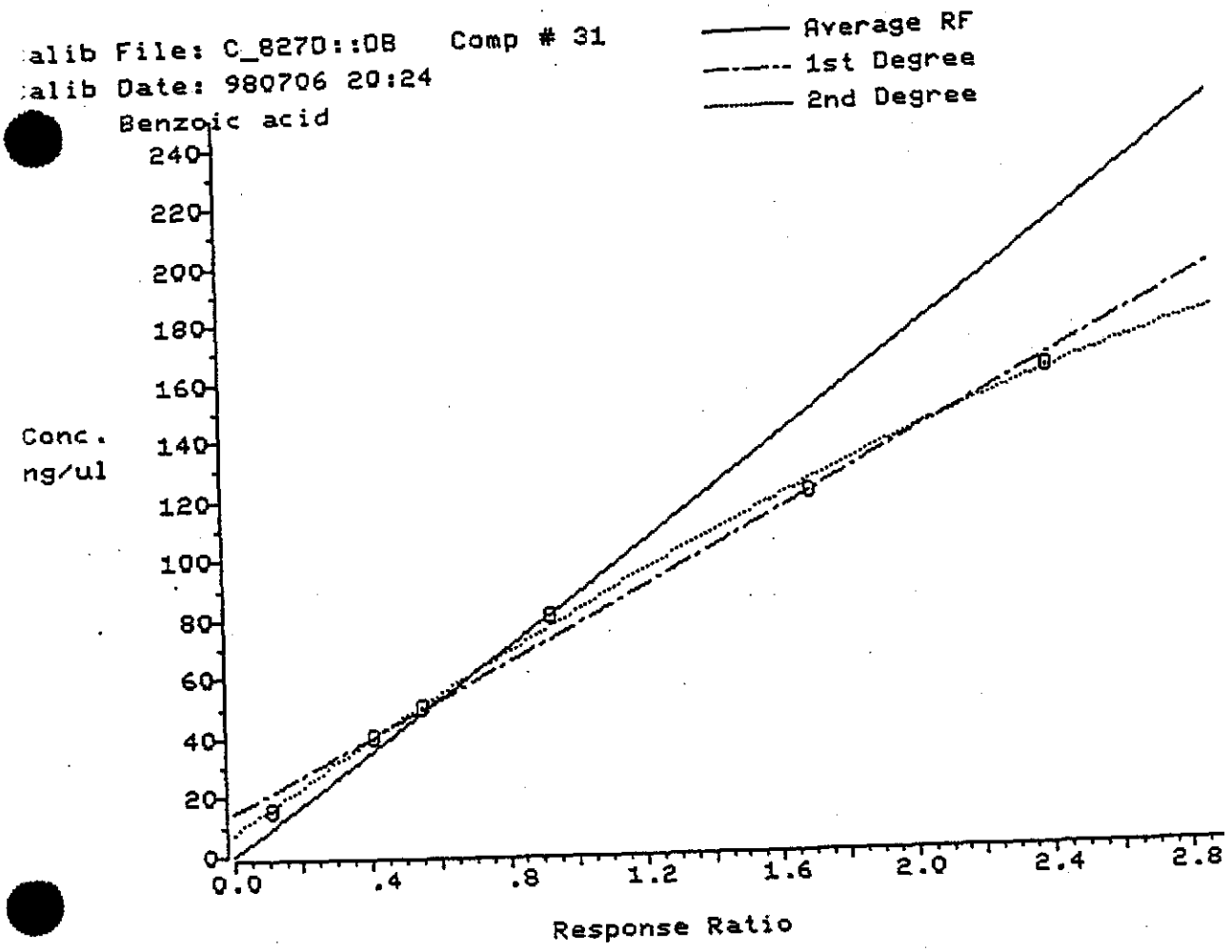
in $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >DG034 RRF20 = >DG036 RRF50 = >DG037
RRF80 = >DG031 RRF120= >DG035 RRF160= >DG032

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(k)fluoranthene	1.227	1.362	1.469	1.540	1.572	1.702	1.479	11.3	AVG
Benzo(a)pyrene *	1.129	1.193	1.250	1.334	1.425	1.461	1.299	10.1	AVG *
Indeno(1,2,3-cd)pyrene	.828	.916	.915	1.010	1.047	1.189	.984	12.9	AVG
Dibenz(a,h)anthracene	.863	.968	.973	1.105	1.124	1.223	1.043	12.6	AVG
Benzo(g,h,i)perylene	.842	.937	.901	1.027	1.001	1.071	.963	8.9	AVG
2-Fluorophenol	1.600	1.728	1.740	1.900	1.943	2.037	1.825	8.9	AVG
Phenol-d5	2.493	2.660	2.780	3.000	2.999	3.287	2.870	9.9	AVG
Phenol-d6	2.493	2.660	2.780	3.000	2.999	3.287	2.870	9.9	AVG
Nitrobenzene-d5	.730	.760	.735	.849	.805	.929	.801	9.6	AVG
2-Fluorobiphenyl	1.186	1.240	1.367	1.485	1.689	1.774	1.457	16.4	1STDEG
2,4,6-Tribromophenol	.164	.197	.226	.249	.273	.315	.237	22.7	1STDEG
Terphenyl-d14	.821	.899	1.004	1.049	1.118	1.146	1.006	12.6	AVG

FORM VI SV-1 1/87 Rev.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.



Compound # 31 Calib File: C_827D::DB

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.28923	.40646	.44276	.46367	.56496	.59912

Average of 6 Rfs: .46103 (24.29 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3634173 + 1.551564(x)
1st Degree Corr Coef: .9961139
2nd Degree Equation: y = .1865190 + 2.045870(x) + -.195550(x^2)
2nd Degree Corr Coef: .9990175

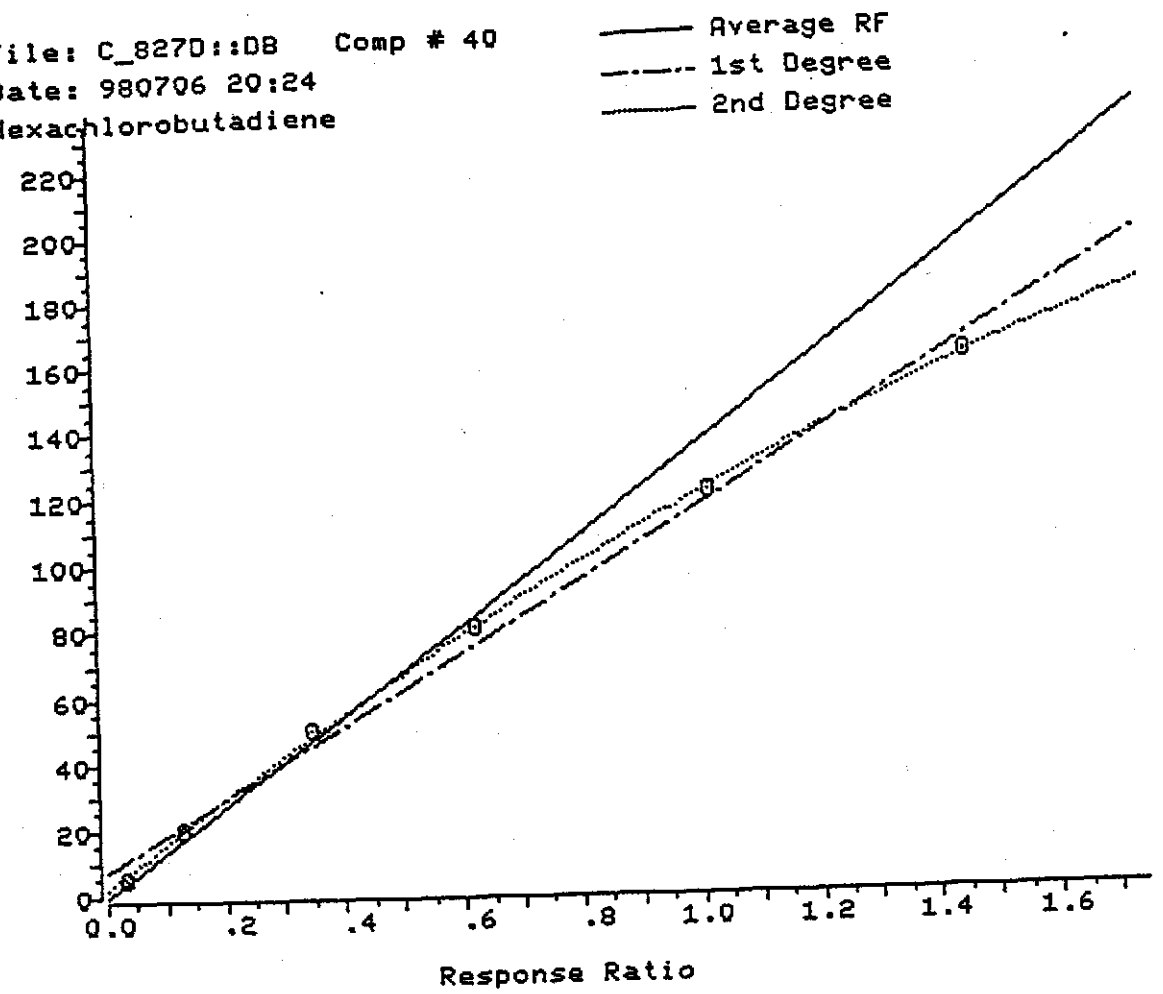
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP 1727
7/6/98

alib File: C_827D::DB Comp # 40
alib Date: 980706 20:24
Hexachlorobutadiene



Compound # 40 Calib File: C_827D::DB

Compound: Hexachlorobutadiene
Istd: Naphthalene-d8

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.23687	.25687	.27607	.30958	.33875	.36232

Average of 6 Rfs: .29674 (16.39 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1939779 + 2.706711(x)
1st Degree Corr Coef: .9967355
2nd Degree Equation: y = .0563689 + 3.476233(x) + -.529776(x^2)
2nd Degree Corr Coef: .9997045

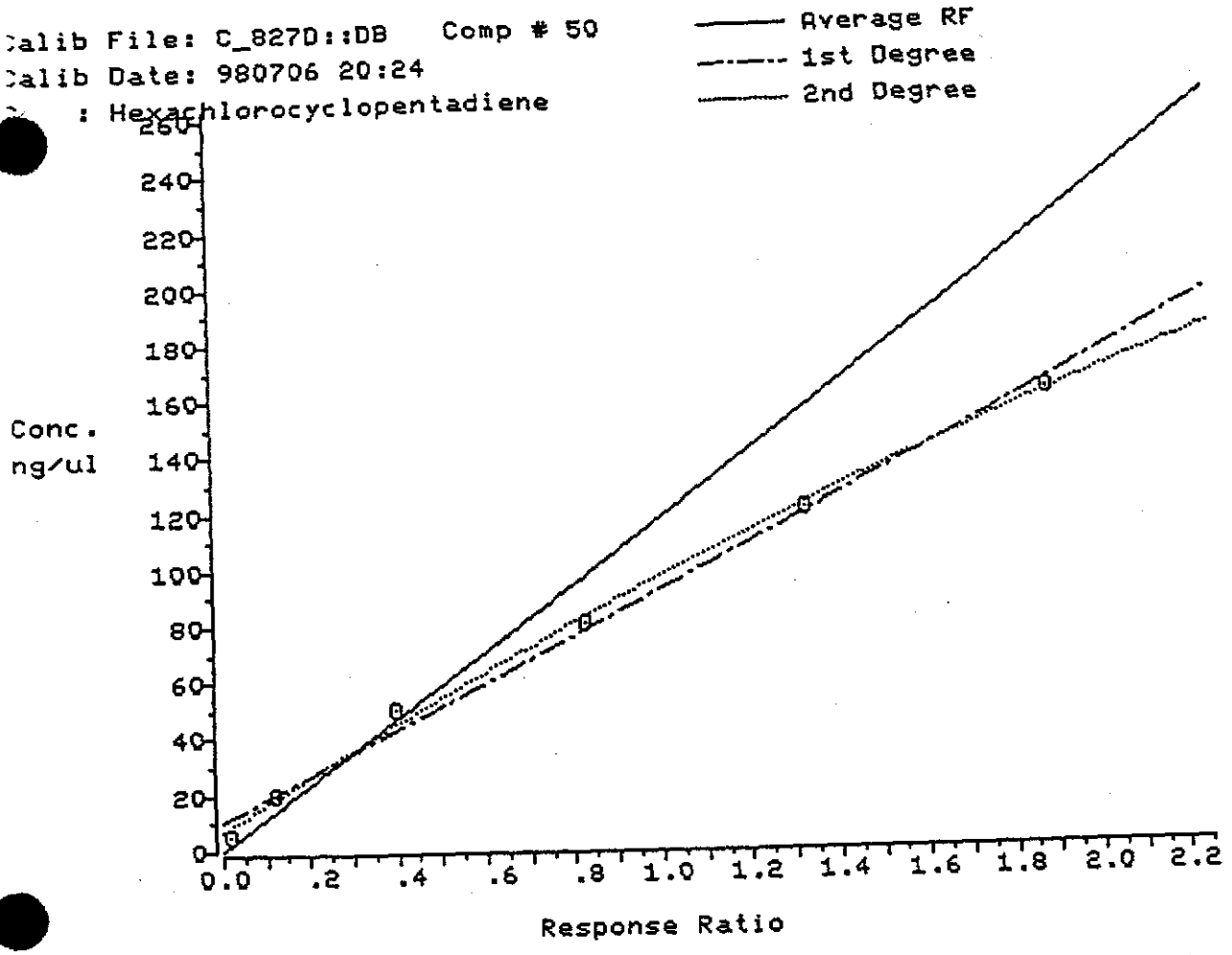
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1' TPF/TPH
7/6/98

Calib File: C_827D::DB Comp # 50
Calib Date: 980706 20:24
: Hexachlorocyclopentadiene



Compound # 50 Calib File: C_827D::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.16647	.24112	.31717	.41275	.43989	.46825

Average of 6 Rfs: .34094 (35.23 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2607402 + 2.043583(x)
1st Degree Corr Coef: .9965652
2nd Degree Equation: y = .1648513 + 2.508775(x) + -.252991(x^2)
2nd Degree Corr Coef: .9985344

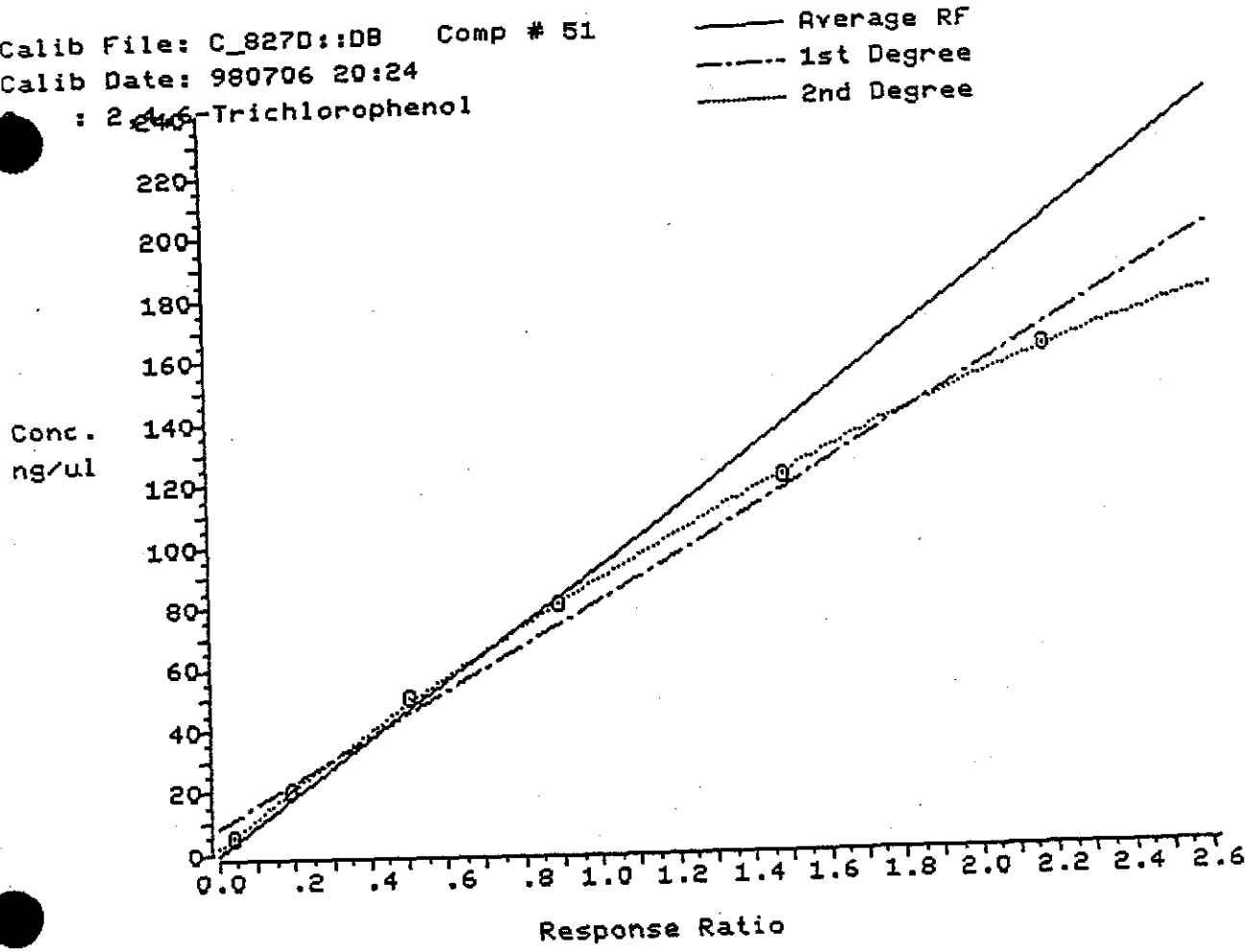
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1 TRB/TB
7/6/98

Calib File: C_827D::DB Comp # 51
Calib Date: 980706 20:24
: 2,4,6-Trichlorophenol



Compound # 51 Calib File: C_827D::DB

Compound: 2,4,6-Trichlorophenol
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.33958	.37860	.40336	.44686	.49472	.54431

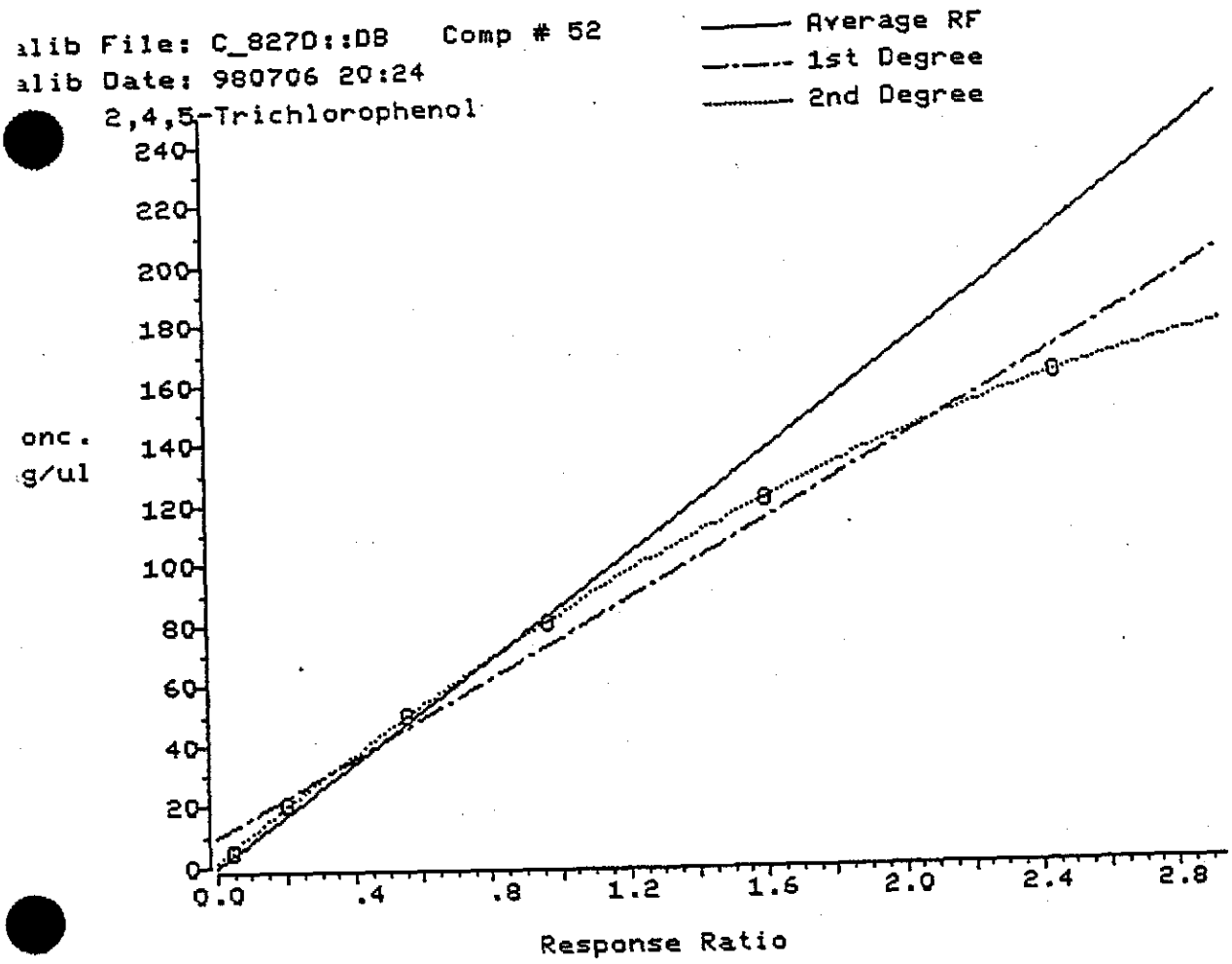
Average of 6 Rfs: .43457 (17.51 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2181191 + 1.808003(x)
1st Degree Corr Coef: .9951246
2nd Degree Equation: y = .0458274 + 2.449179(x) + -.293606(x^2)
2nd Degree Corr Coef: .9998262

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° Trifluralin
7/6/98



Compound # 52 Calib File: C_827D::DB

Compound: 2,4,5-Trichlorophenol
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.35506	.39377	.44385	.48148	.53190	.61048

Average of 6 Rfs: .46942 (19.85 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2491895 + 1.618147(x)
1st Degree Corr Coef: .9928032
2nd Degree Equation: y = .0411109 + 2.312292(x) + -.283620(x^2)
2nd Degree Corr Coef: .9999626

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

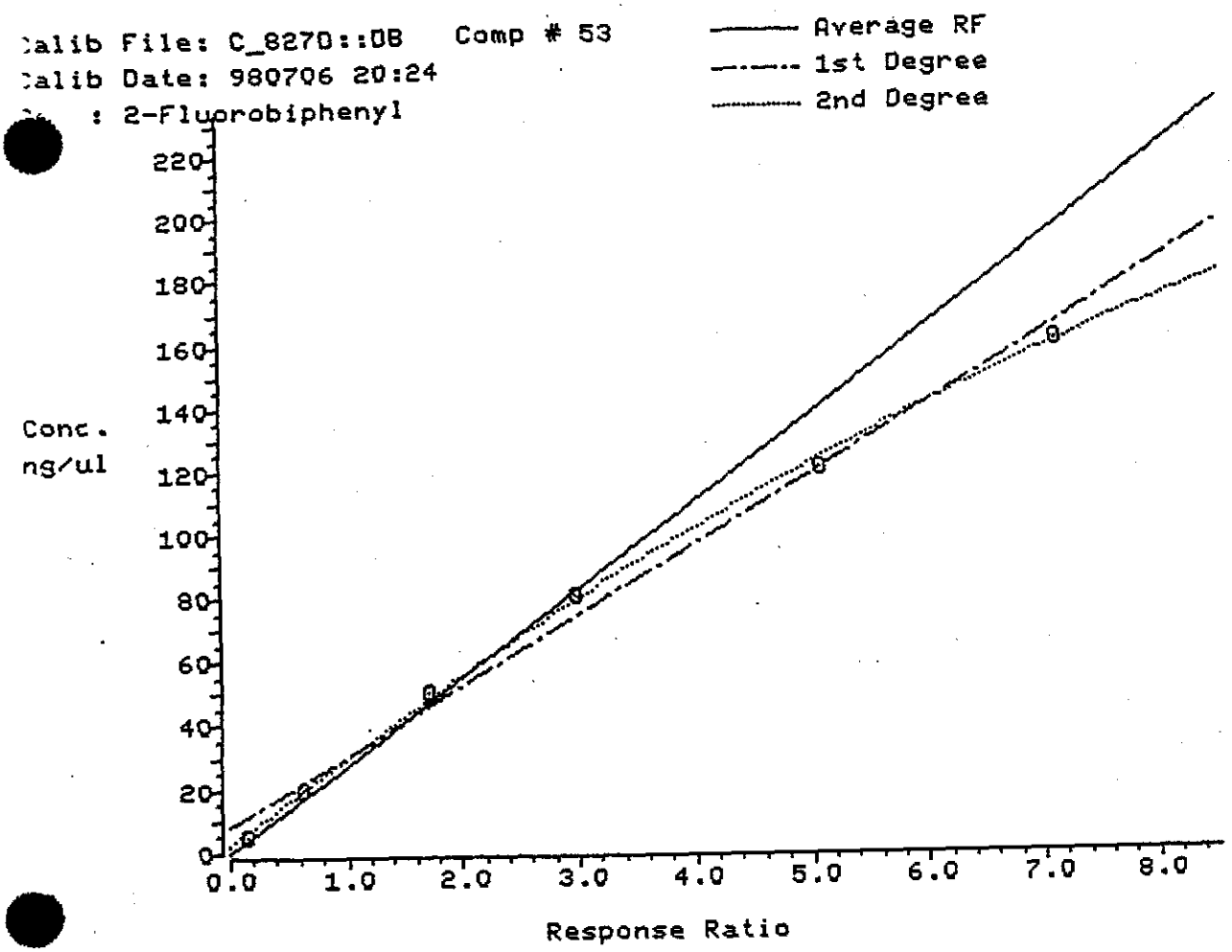
Istd Conc for all calibration points is: 40.00

1° TMS/TP²
7/6/98

Calib File: C_8270::DB Comp # 53

Calib Date: 980706 20:24

: 2-Fluorobiphenyl



Compound # 53 Calib File: C_827D::DB

Compound: 2-Fluorobiphenyl
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.1864	1.2400	1.3665	1.4845	1.6892	1.7744

Average of 6 Rfs: 1.4568 (16.36 % Rsd) Rx: .0000000 Ry: .0000000

1st Degree Equation: y = .1984109 + .5499312(x)

1st Degree Corr Coef: .9965225

2nd Degree Equation: y = .0602834 + .7081662(x) + -.022199(x^2)

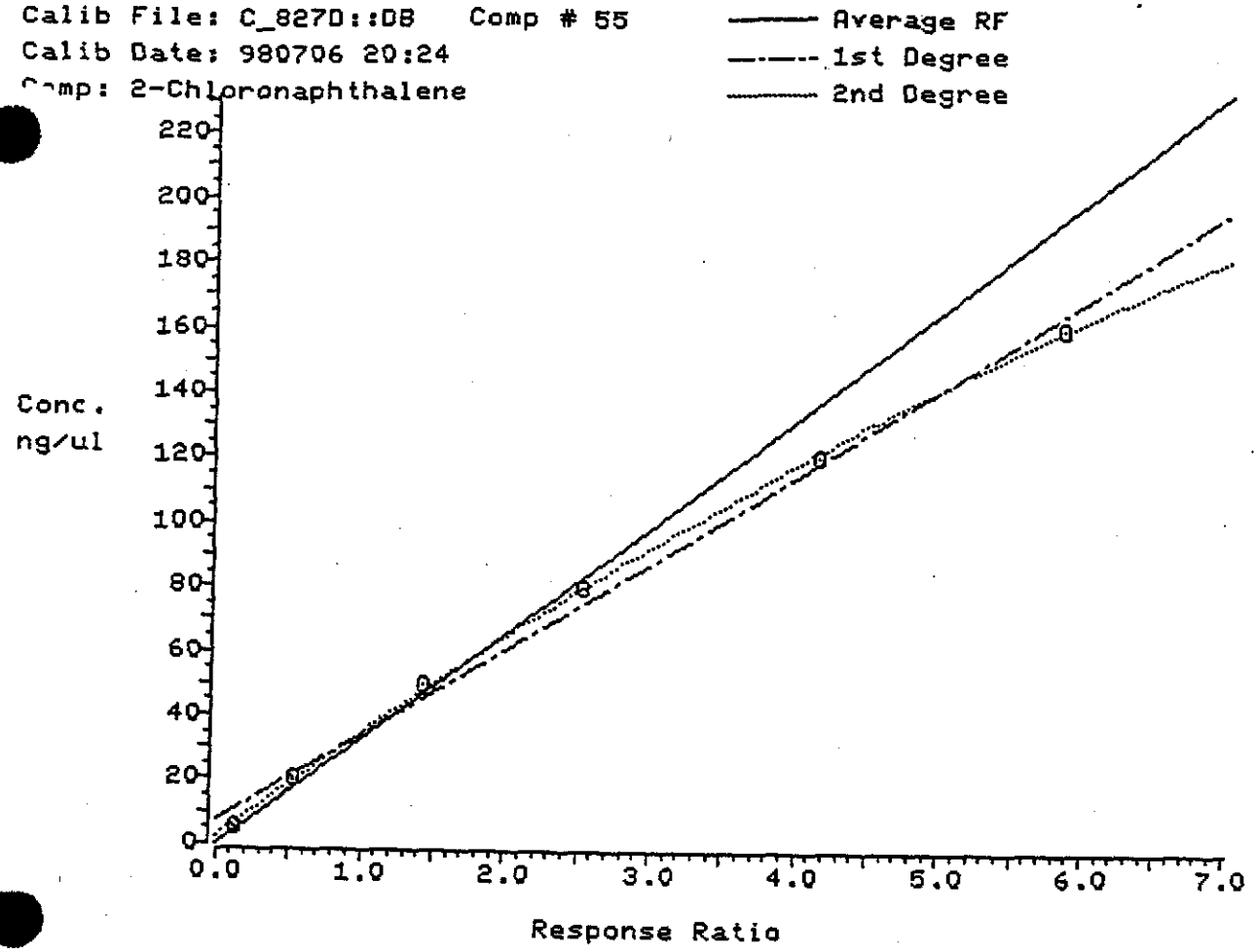
2nd Degree Corr Coef: .9994608

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TMP/TSP
7/16/98



Compound # 55 Calib File: C_827D::DB

Compound: 2-Chloronaphthalene
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.97235	1.0499	1.1499	1.2604	1.3800	1.4624

Average of 6 Rfs: 1.2125 (15.68 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1807350 + .6708450(x)
1st Degree Corr Coef: .9972917
2nd Degree Equation: y = .0542668 + .8450588(x) + -.029695(x^2)
2nd Degree Corr Coef: .9997668

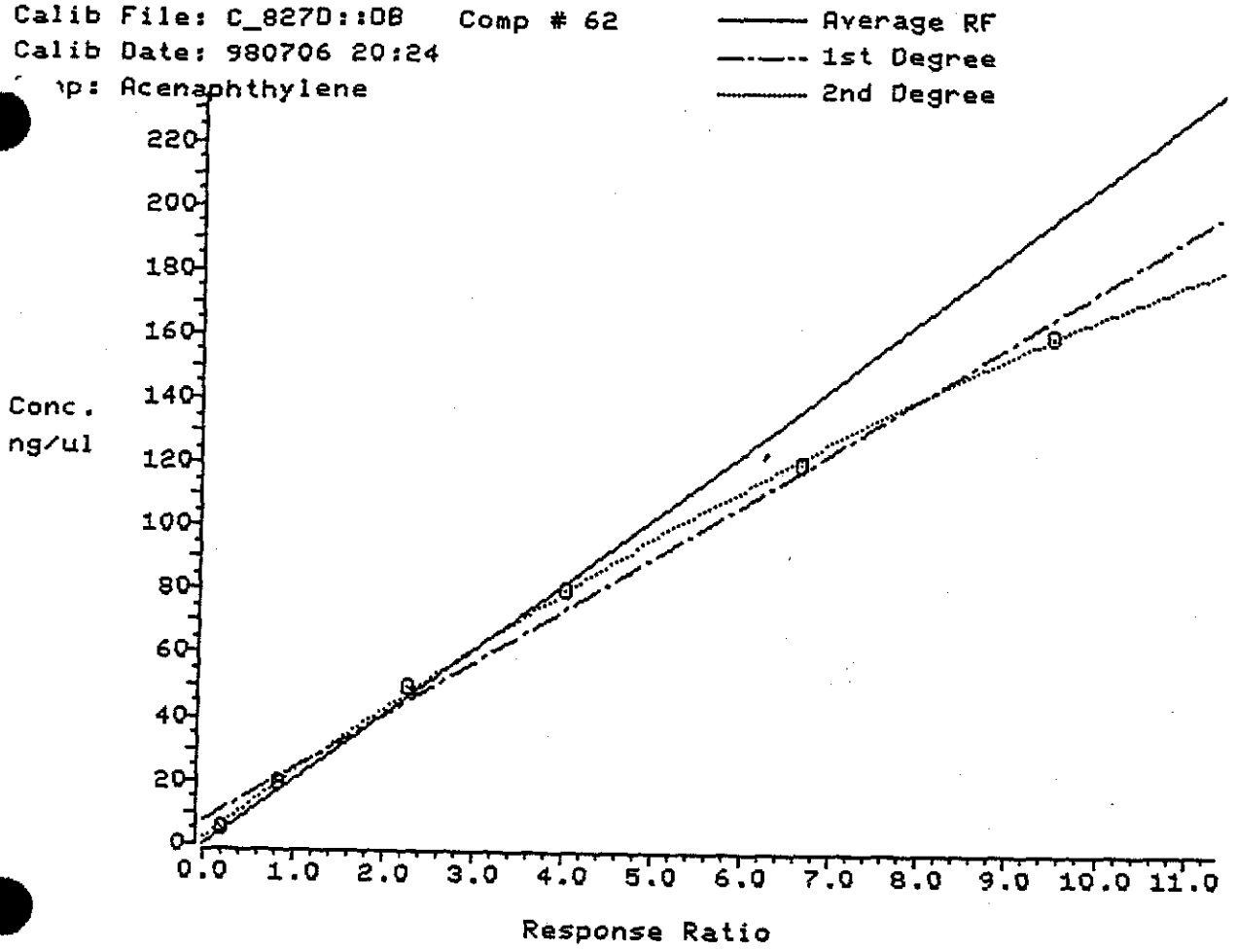
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10 TAT/7/98
7/16/98

Calib File: C_827D::DB Comp # 62
Calib Date: 980706 20:24
Comp: Acenaphthylene



Compound # 62 Calib File: C_827D::DB

Compound: Acenaphthylene
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.5595	1.6874	1.8147	2.0017	2.2058	2.3650

Average of 6 Rfs: 1.9390 (15.97 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1940070 + .4152160(x)
1st Degree Corr Coef: .9965570
2nd Degree Equation: y = .0502084 + .5378429(x) + -.012920(x^2)
2nd Degree Corr Coef: .9997627

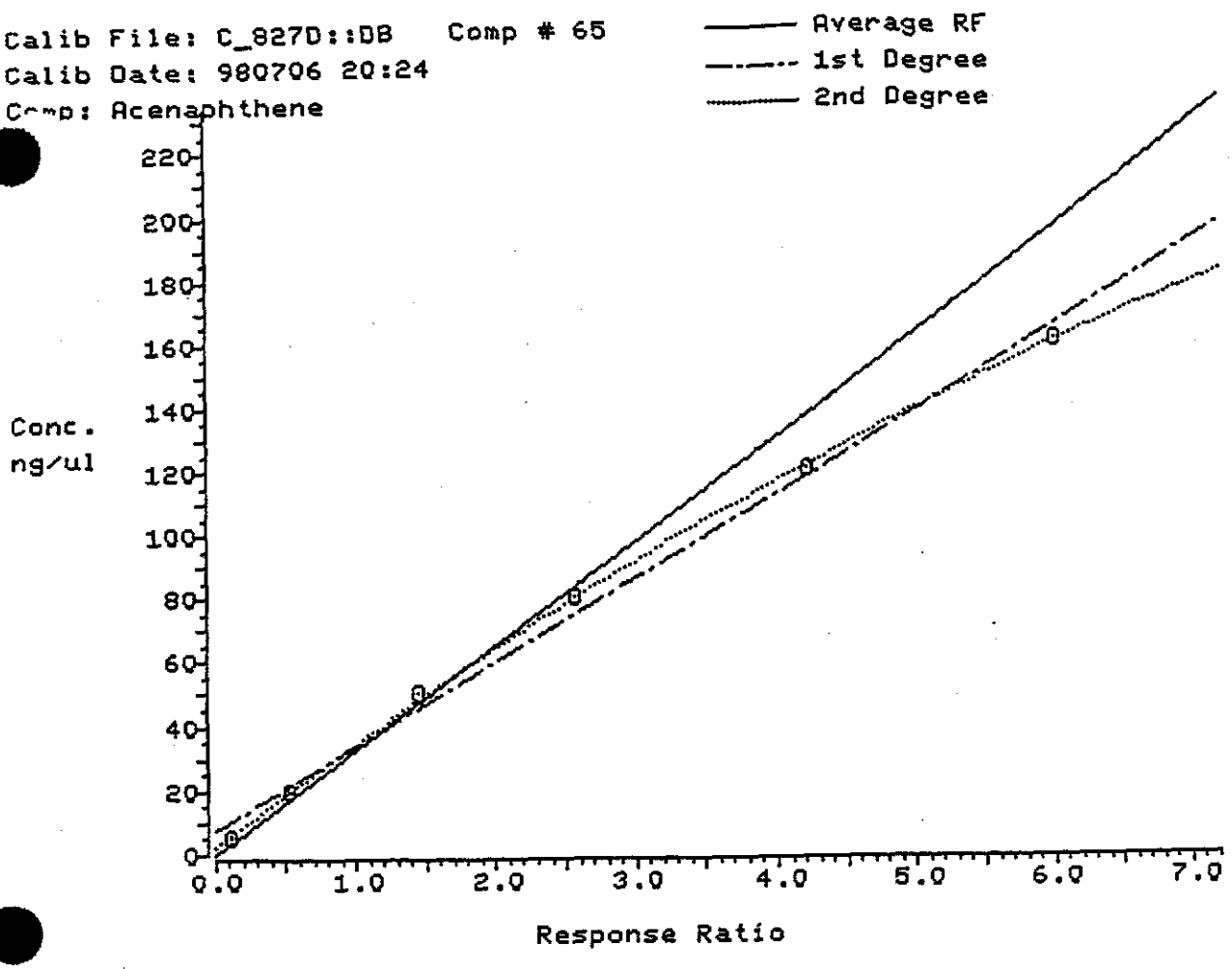
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

7/6/98

Calib File: C_827D::DB Comp # 65
Calib Date: 980706 20:24
Comp: Acenaphthene



Compound # 65 Calib File: C_827D::DB

Compound: Acenaphthene
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.95624	1.0682	1.1598	1.2885	1.4075	1.4996

Average of 6 Rfs: 1.2300 (16.81 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1884187 + .6539307(x)
1st Degree Corr Coef: .9970635
2nd Degree Equation: y = .0576531 + .8304927(x) + -.029377(x^2)
2nd Degree Corr Coef: .9997518

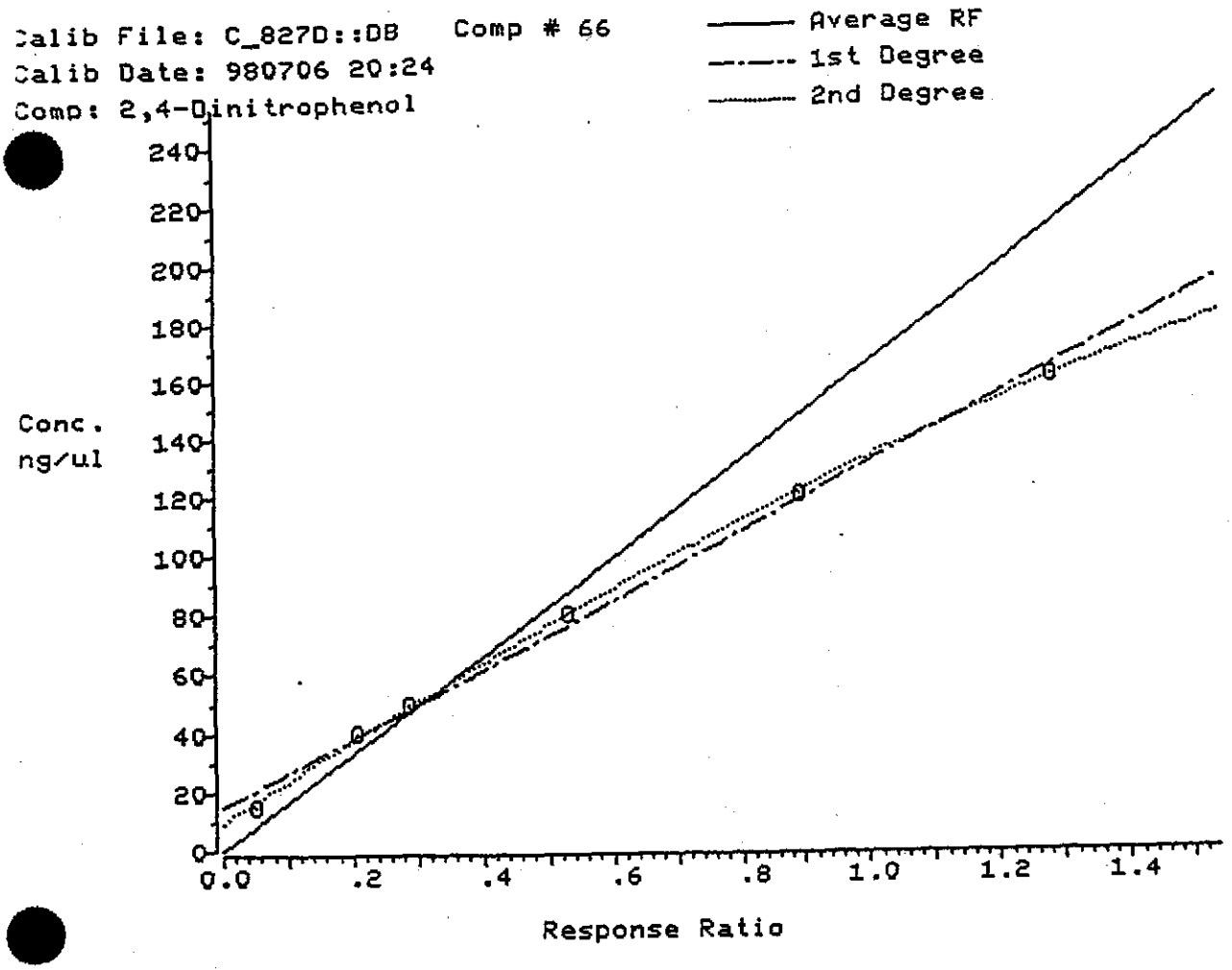
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TRF/TM
7/6/98

Calib File: C_827D::DB Comp # 66
Calib Date: 980706 20:24
Comp: 2,4-Dinitrophenol



Compound # 66 Calib File: C_827D::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.13899	.20305	.22863	.26444	.29623	.31944

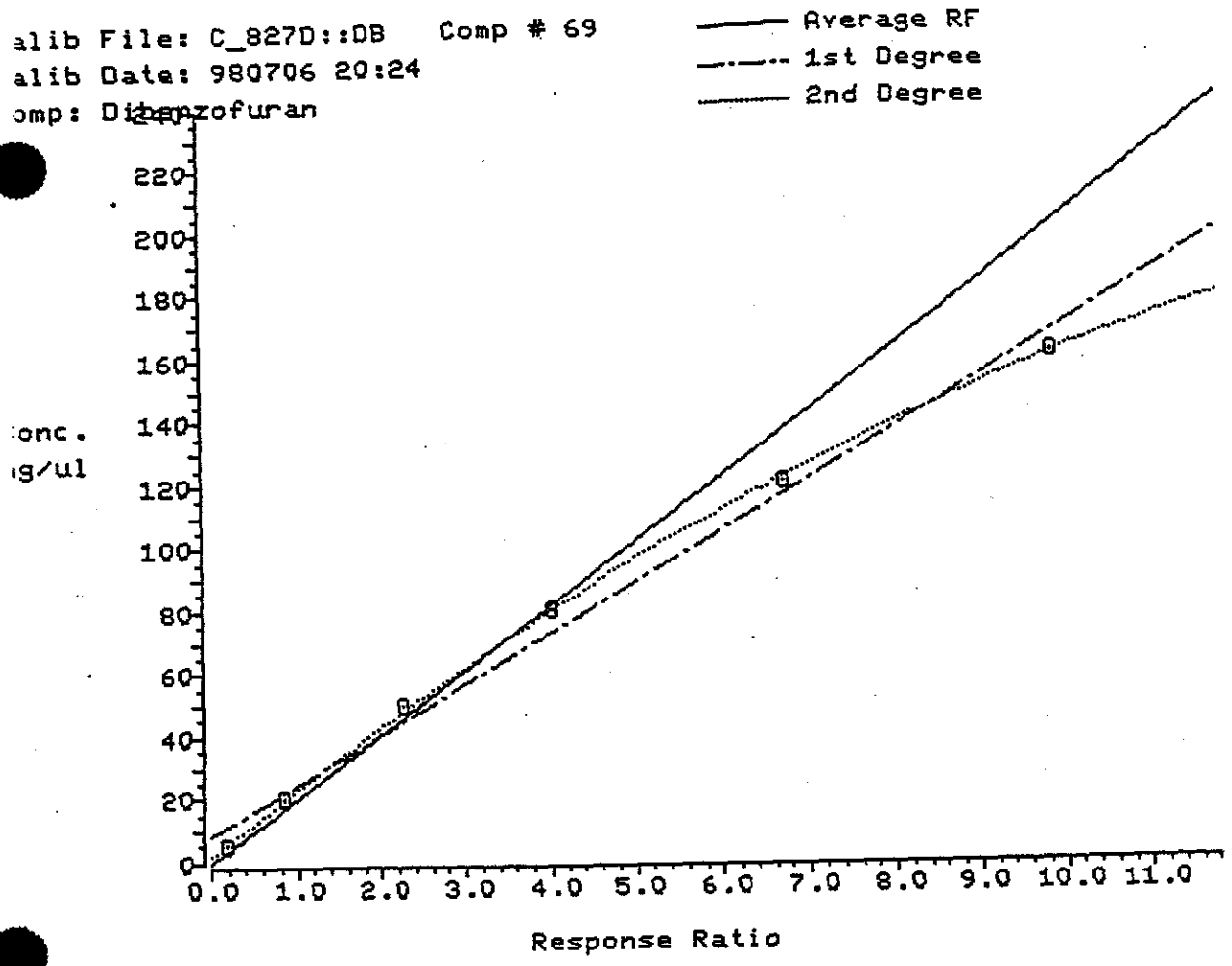
Average of 6 Rfs: .24180 (27.27 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3702524 + 2.905661(x)
1st Degree Corr Coef: .9976376
2nd Degree Equation: y = .2331898 + 3.643256(x) + -.553338(x^2)
2nd Degree Corr Coef: .9996465

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° 7/7/98
7/6/98



Compound # 69 Calib File: C_827D::DB

Compound: Dibenzofuran
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.5827	1.6943	1.8154	2.0037	2.2368	2.4555

Average of 6 Rfs: 1.9647 (17.00 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2204310 + .4004556(x)
1st Degree Corr Coef: .9949776
2nd Degree Equation: y = .0456443 + .5447104(x) + -.014635(x^2)
2nd Degree Corr Coef: .9997870

In the above equations:

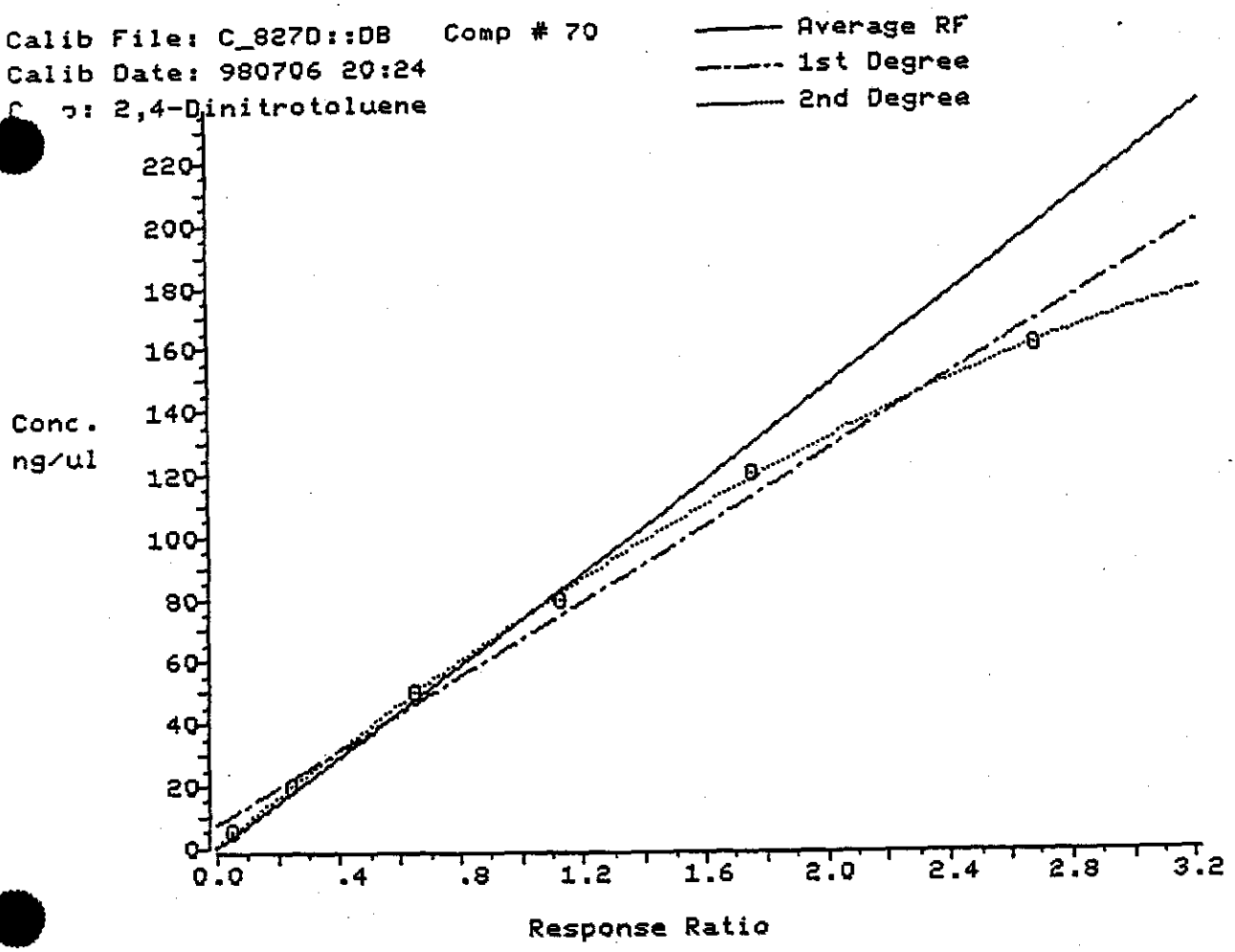
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10 TAP/739
7/6/98

660

Calib File: C_827D::DB Comp # 70
Calib Date: 980706 20:24
C o: 2,4-Dinitrotoluene



Compound # 70 Calib File: C_827D::DB

Compound: 2,4-Dinitrotoluene
    Istd: Acenaphthene-d10

File: >DG034 >DG036 >DG037 >DG031 >DG035 >DG032
Conc: 5.00 20.00 50.00 80.00 120.00 160.00
  Rf: .43263 .49061 .51641 .56144 .58369 .66942

   Average of 6 Rfs: .54236   (15.12 % Rsd)   Rx: .0000000 Ry: .0000000
 1st Degree Equation: y = .1977972 + 1.491296(x)
1st Degree Corr Coef: .9943706
 2nd Degree Equation: y = .0099775 + 2.042233(x) + -.204750(x^2)
2nd Degree Corr Coef: .9998223

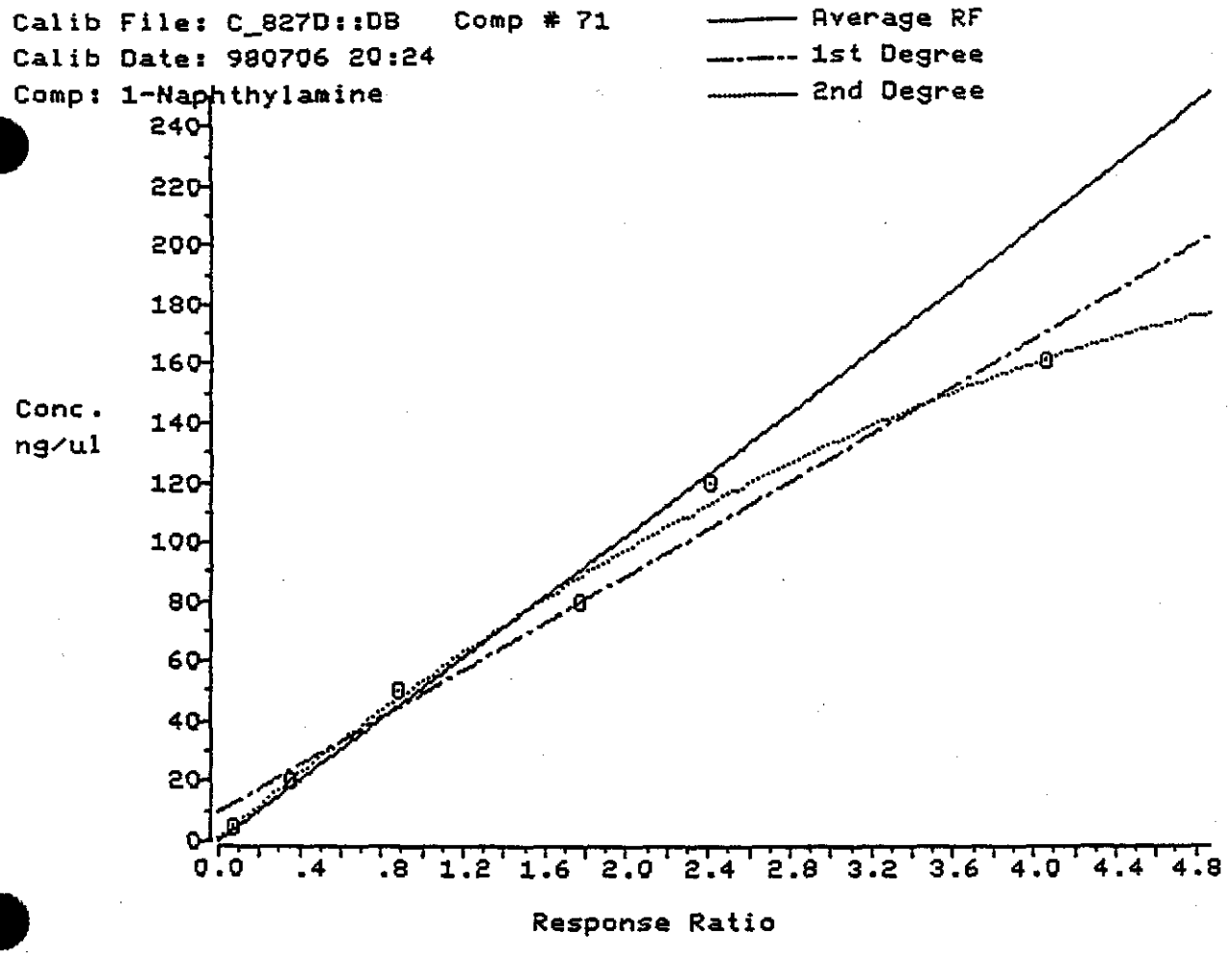
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

pTA/m
7/6/98

Calib File: C_827D::DB Comp # 71
Calib Date: 980706 20:24
Comp: 1-Naphthylamine



Compound # 71 Calib File: C_827D::DB

Compound: 1-Naphthylamine
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.56808	.70183	.71049	.88916	.80185	1.0134

Average of 6 Rfs: .78079 (20.06 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2395361 + .9885278(x)
1st Degree Corr Coef: .9879539
2nd Degree Equation: y = .0164922 + 1.425207(x) + -.107653(x^2)
2nd Degree Corr Coef: .9964187

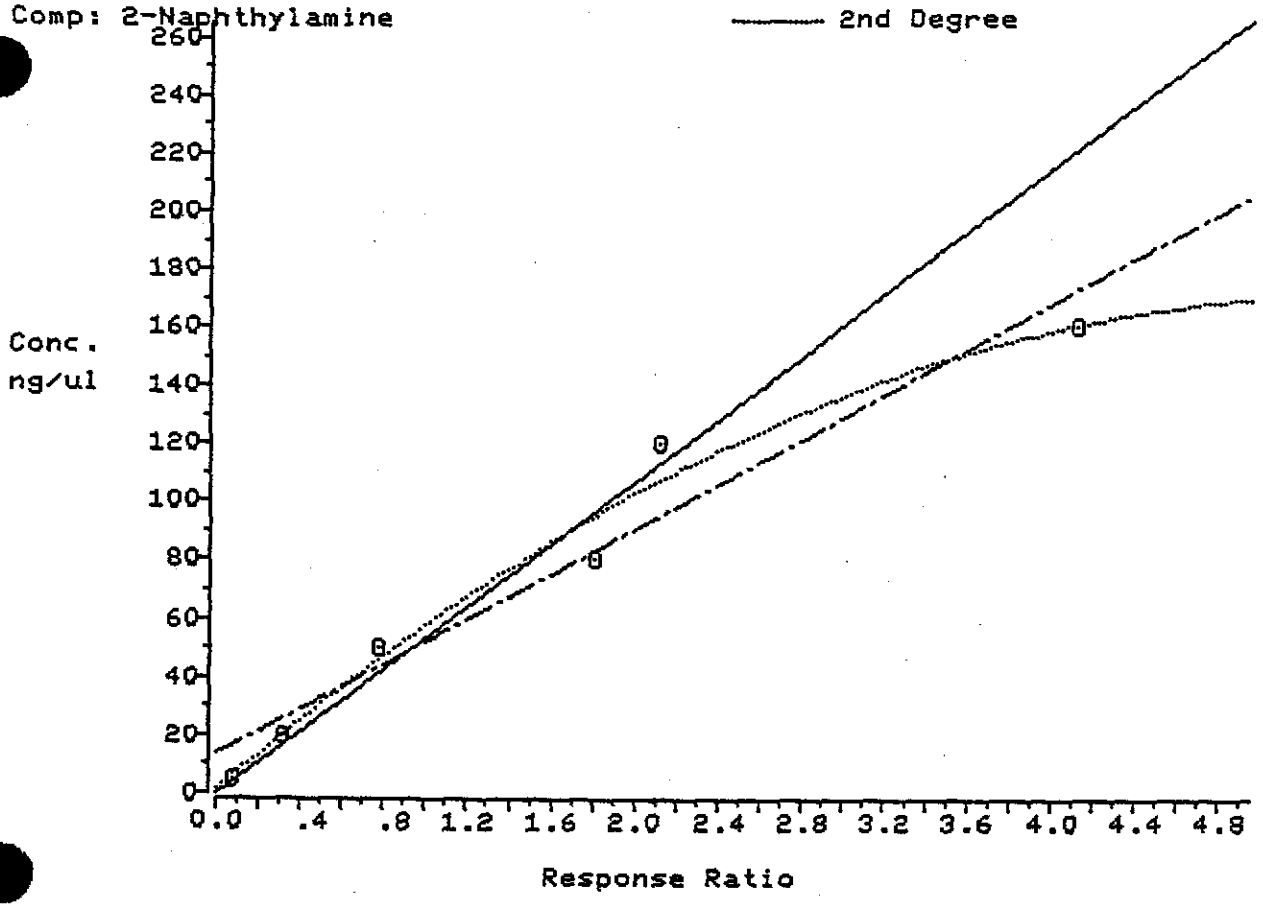
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

2° TPHMS
7/6/98

Calib File: C_827D::DB Comp # 72
Calib Date: 980706 20:24
Comp: 2-Naphthylamine



Compound # 72 Calib File: C_827D::DB

Compound: 2-Naphthylamine
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.60565	.61716	.61636	.90296	.70553	1.0301

Average of 6 Rfs: .74629 (23.98 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3357637 + .9633374(x)
1st Degree Corr Coef: .9718310
2nd Degree Equation: y = .0314374 + 1.559816(x) + -.144027(x^2)
2nd Degree Corr Coef: .9885972

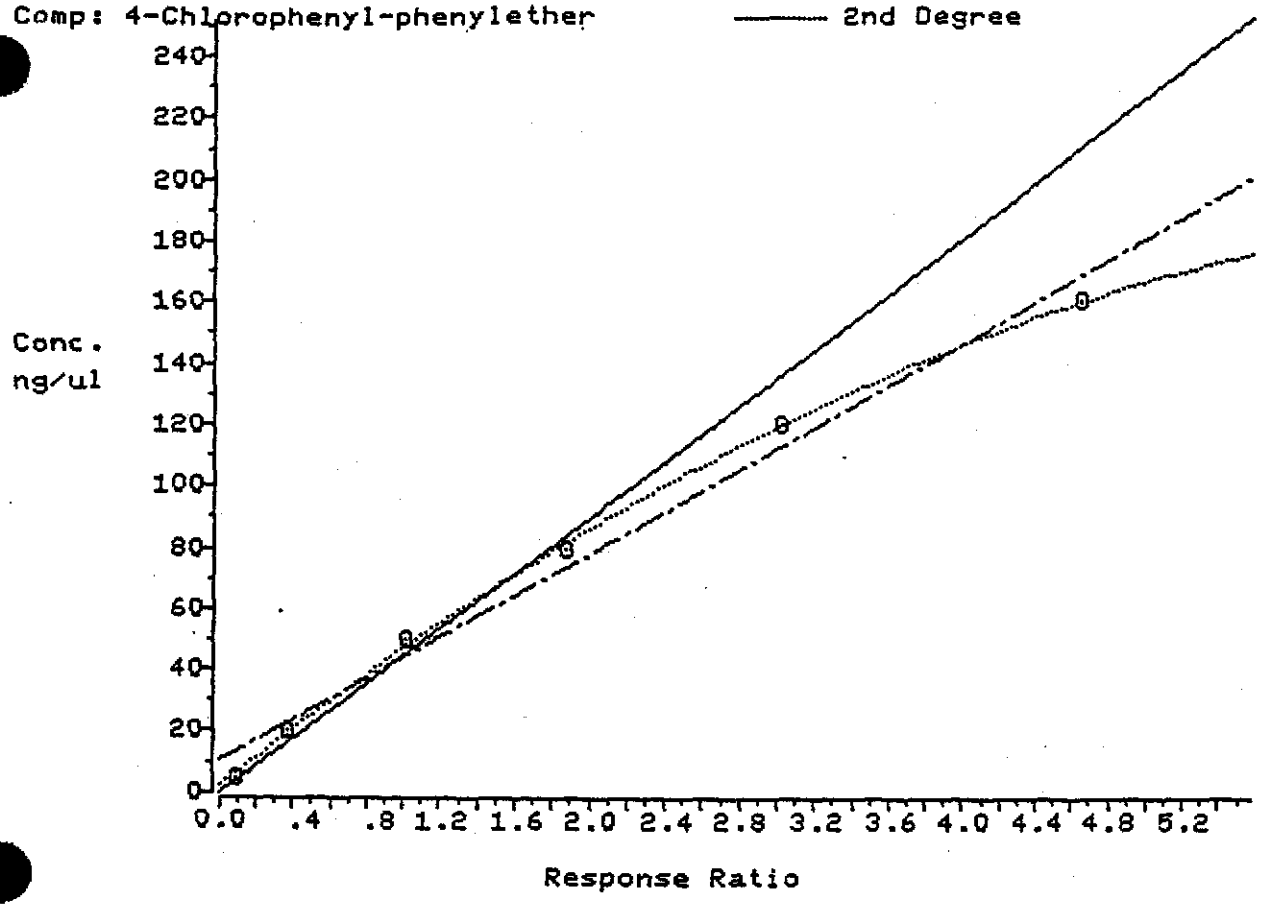
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

2° Trip Blk 7/16/98

Calib File: C_827D::DB Comp # 74
Calib Date: 980706 20:24
Comp: 4-Chlorophenyl-phenylether



Compound # 74 Calib File: C_827D::DB

Compound: 4-Chlorophenyl-phenylether
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.67895	.73518	.80561	.93130	1.0055	1.1614

Average of 6 Rfs: .88633 (20.45 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2584338 + .8488895(x)
1st Degree Corr Coef: .9925435
2nd Degree Equation: y = .0527195 + 1.213586(x) + -.078500(x^2)
2nd Degree Corr Coef: .9997424

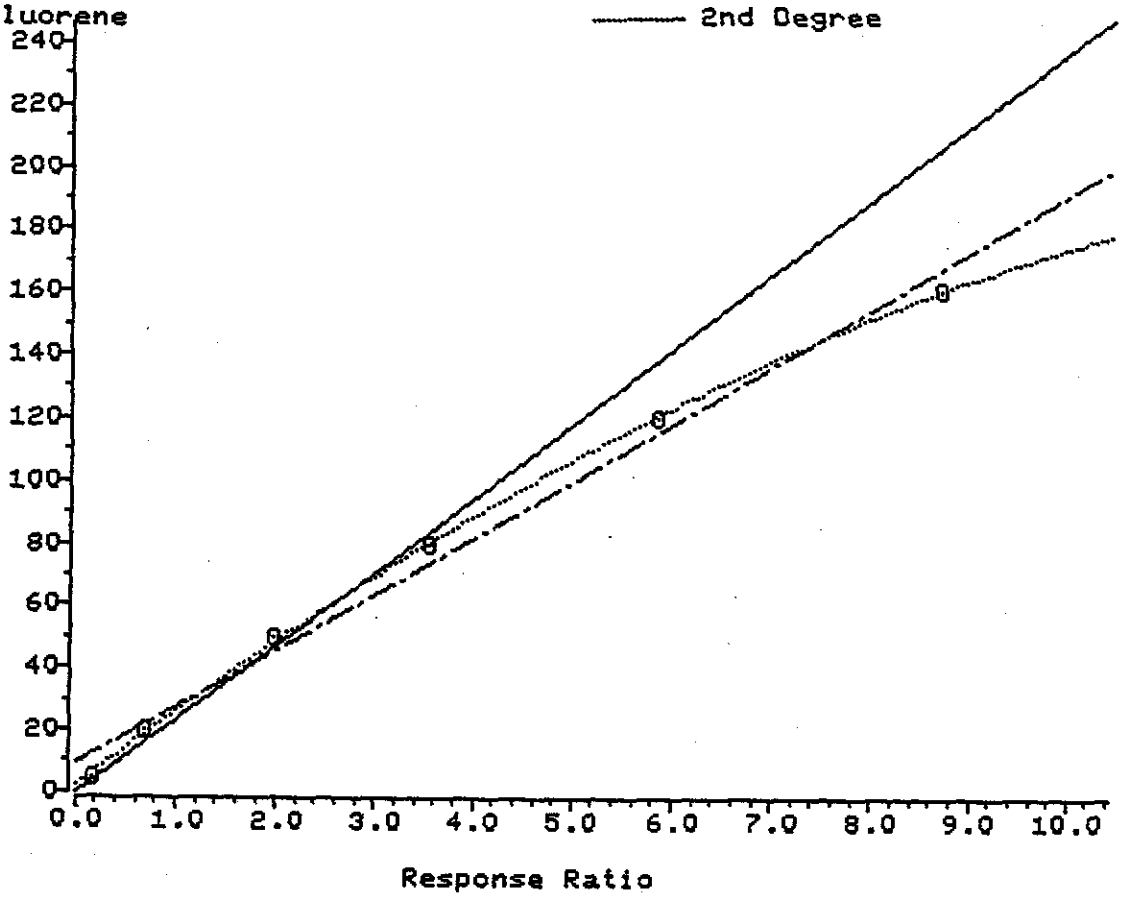
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP/BA
7/6/18

Calib File: C_827D::DB Comp # 75
Calib Date: 980706 20:24
Comp: Fluorene



Compound # 75 Calib File: C_827D::DB

Compound: Fluorene
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.2853	1.3921	1.5787	1.7753	1.9473	2.1711

Average of 6 Rfs: 1.6917 (19.96 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2355902 + .4525459(x)
1st Degree Corr Coef: .9946893
2nd Degree Equation: y = .0609953 + .6181600(x) + -.019081(x^2)
2nd Degree Corr Coef: .9998116

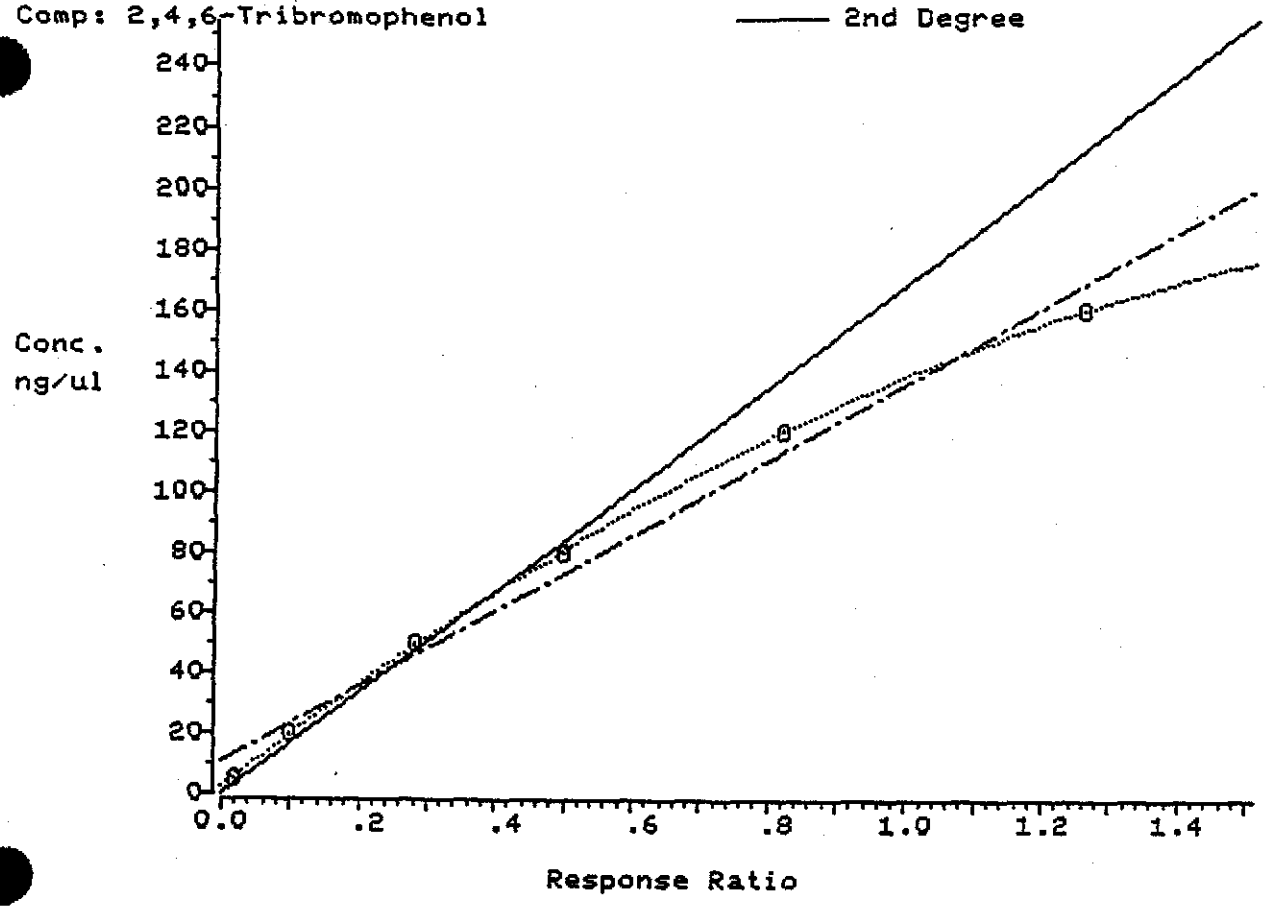
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP 1/09
7/16/98

Calib File: C_827D::DB Comp # 77
Calib Date: 980706 20:24
Comp: 2,4,6-Tribromophenol



Compound # 77 Calib File: C_827D::DB

Compound: 2,4,6-Tribromophenol
Istd: Acenaphthene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.16444	.19659	.22606	.24942	.27290	.31466

Average of 6 Rfs: .23735 (22.68 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2570713 + 3.134236(x)
1st Degree Corr Coef: .9928389
2nd Degree Equation: y = .0541466 + 4.463017(x) + -1.05622(x^2)
2nd Degree Corr Coef: .9999373

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

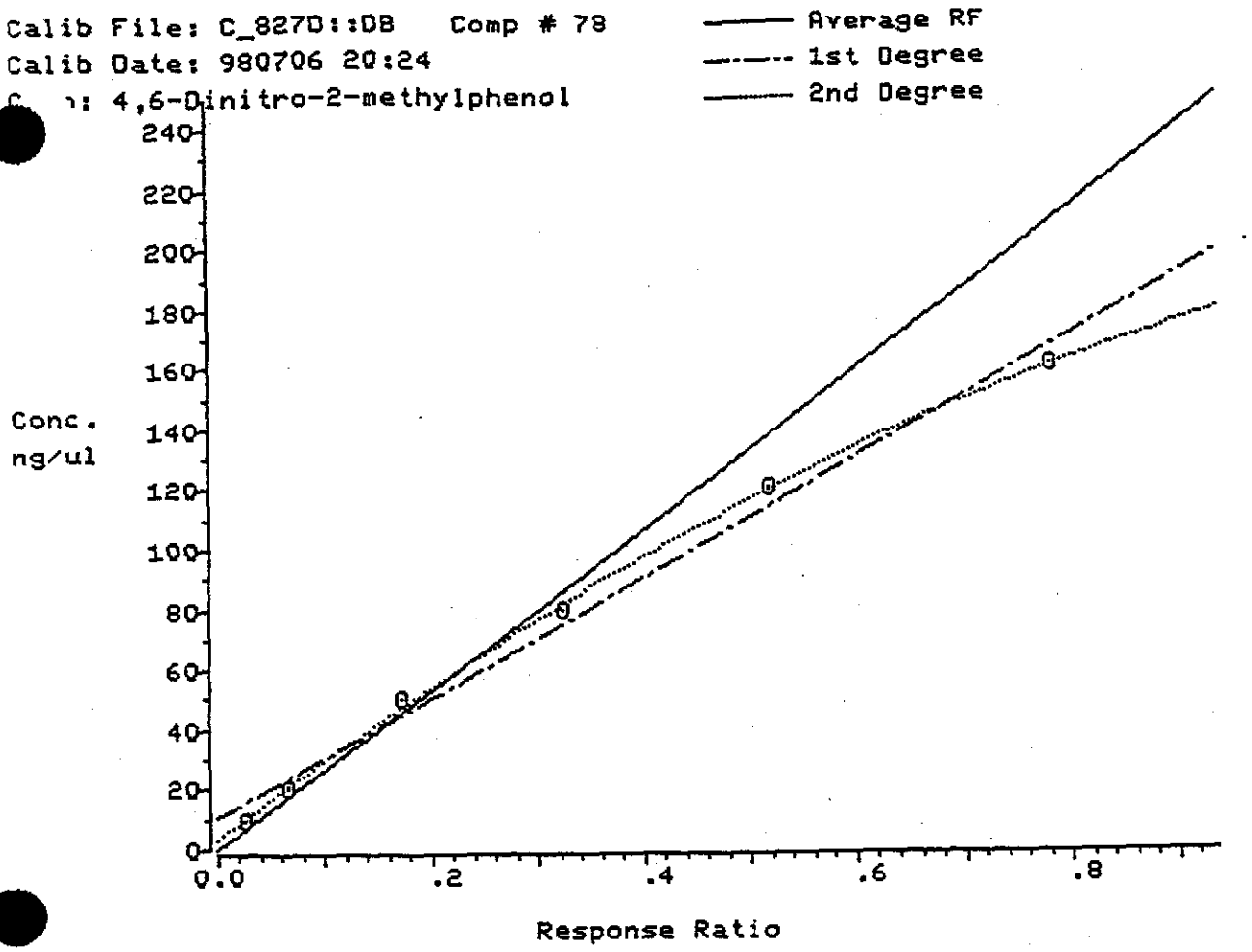
Istd Conc for all calibration points is: 40.00

1° TAMS
7/6/98 666

Calib File: C_827D::DB Comp # 78

Calib Date: 980706 20:24

C[illegible]: 4,6-Dinitro-2-methylphenol



Compound # 78 Calib File: C_827D::DB

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.10401	.13106	.13786	.16186	.17224	.19502

Average of 6 Rfs: .15034 (21.62 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2614976 + 5.004827(x)
1st Degree Corr Coef: .9949156
2nd Degree Equation: y = .0821072 + 6.812442(x) + -2.29549(x^2)
2nd Degree Corr Coef: .9996930

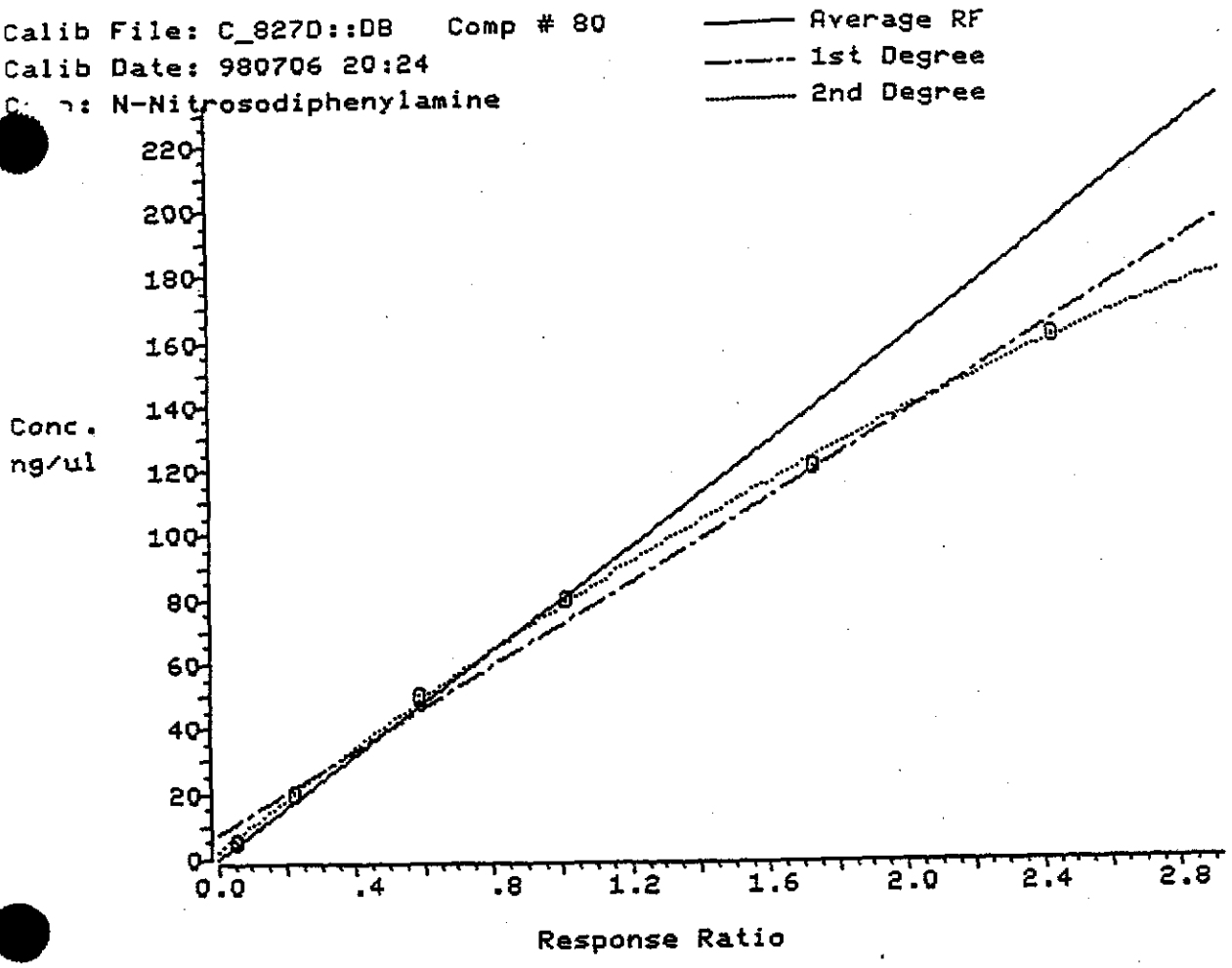
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP/7/98
7/6/98

Calib File: C_827D::DB Comp # 80
Calib Date: 980706 20:24
C: n: N-Nitrosodiphenylamine



Compound # 80 Calib File: C_827D::DB

Compound: N-Nitrosodiphenylamine
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.41078	.43566	.46760	.50709	.57610	.60709

Average of 6 Rfs: .50072 (15.59 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1953252 + 1.610594(x)
1st Degree Corr Coef: .9964195
2nd Degree Equation: y = .0524398 + 2.085759(x) + -.194612(x^2)
2nd Degree Corr Coef: .9995092

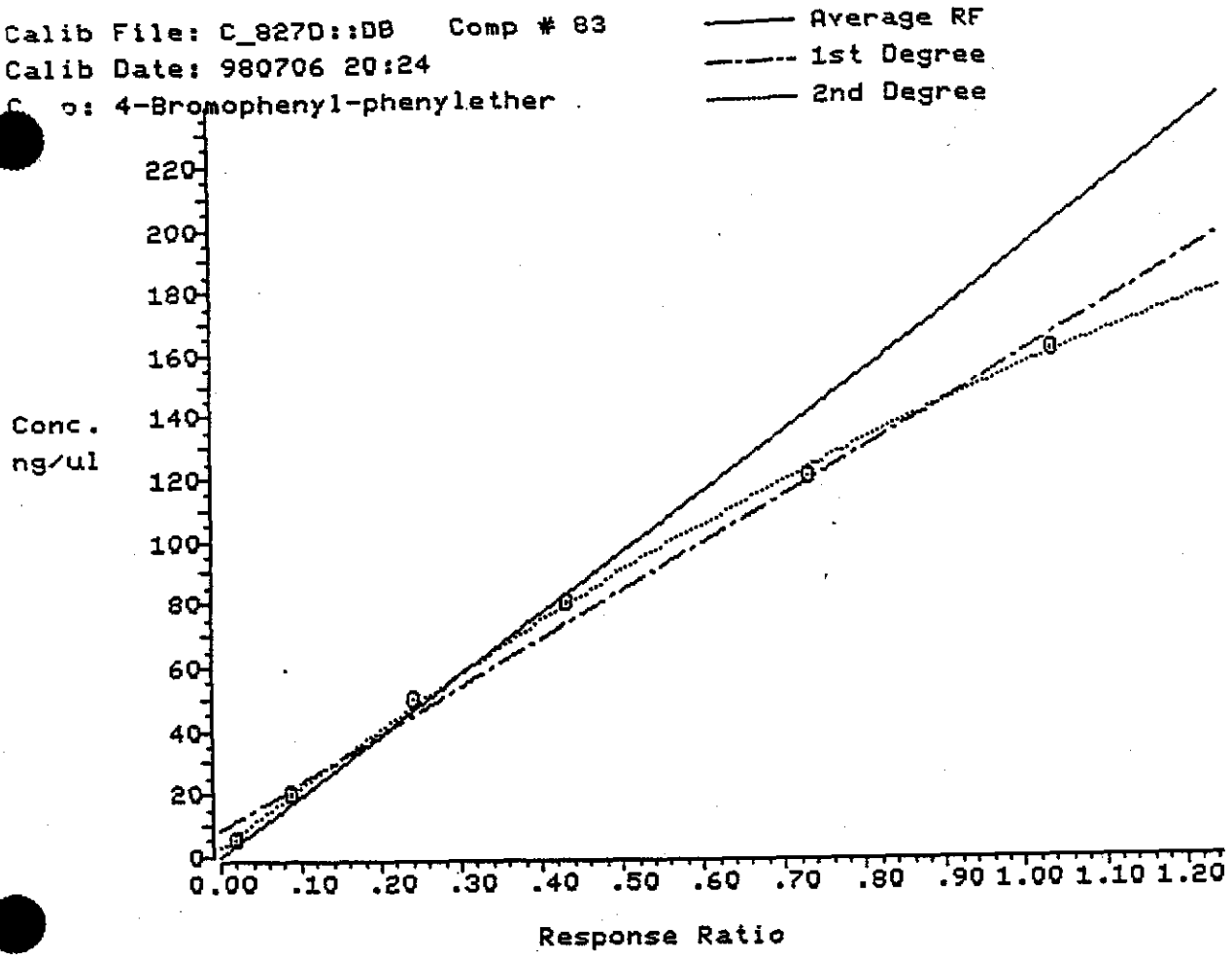
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAC/TS
7/16/98

Calib File: C_827D::DB Comp # 83
Calib Date: 980706 20:24
C o: 4-Bromophenyl-phenylether



Compound # 83 Calib File: C_827D::DB

Compound: 4-Bromophenyl-phenylether
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.15974	.17775	.19337	.21608	.24307	.25867

Average of 6 Rfs: .20811 (18.39 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2109851 + 3.773316(x)
1st Degree Corr Coef: .9962140
2nd Degree Equation: y = .0666975 + 4.917853(x) + -1.10409(x^2)
2nd Degree Corr Coef: .9995353

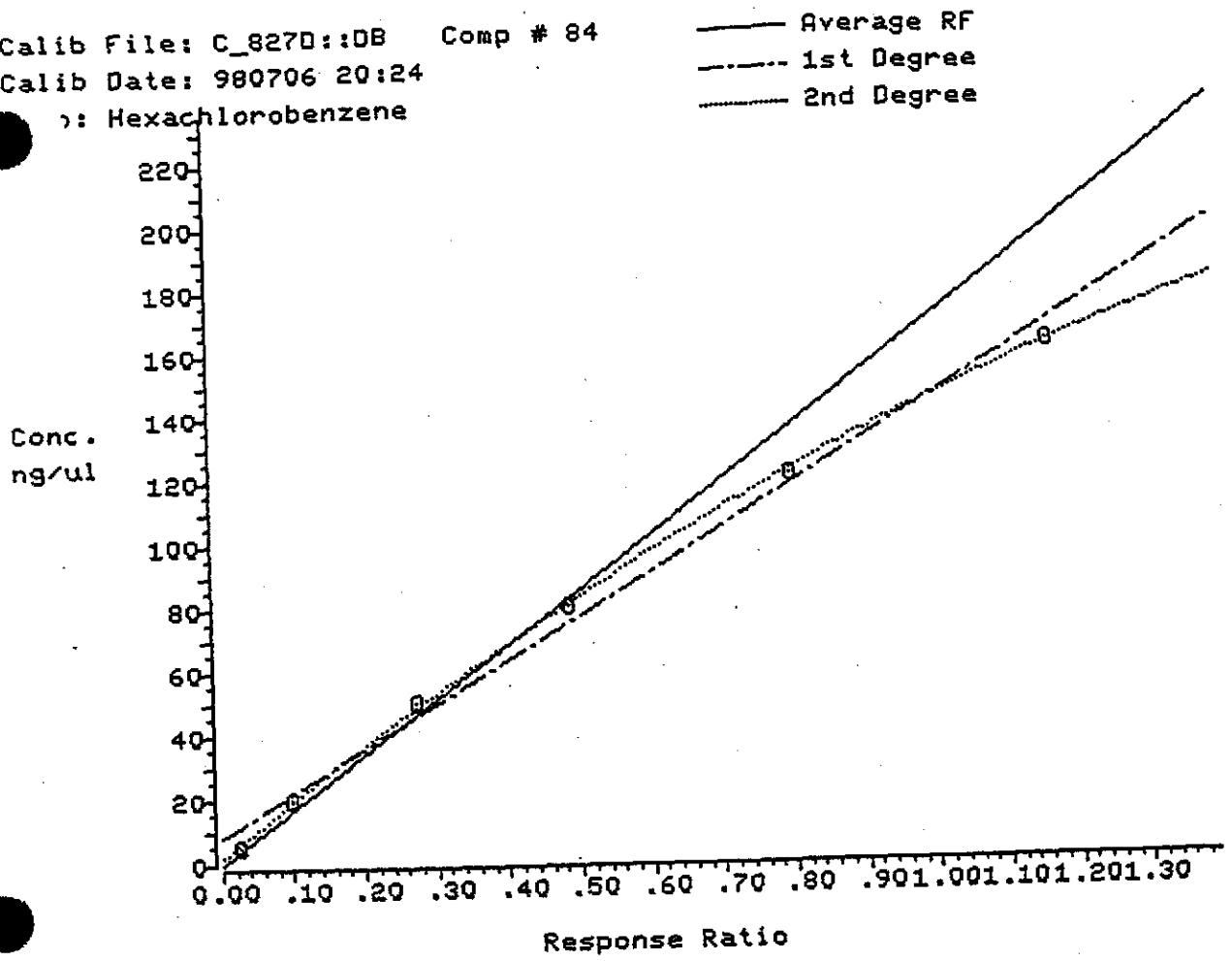
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10 7/7/98
7/6/98

Calib File: C_827D::DB Comp # 84
Calib Date: 980706 20:24
): Hexachlorobenzene



Compound # 84 Calib File: C_827D::DB

Compound: Hexachlorobenzene
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.20520	.19850	.21734	.24290	.26493	.28949

Average of 6 Rfs: .23639 (15.19 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2056359 + 3.400597(x)
1st Degree Corr Coef: .9957731
2nd Degree Equation: y = .0457550 + 4.515063(x) + -.959644(x^2)
2nd Degree Corr Coef: .9997754

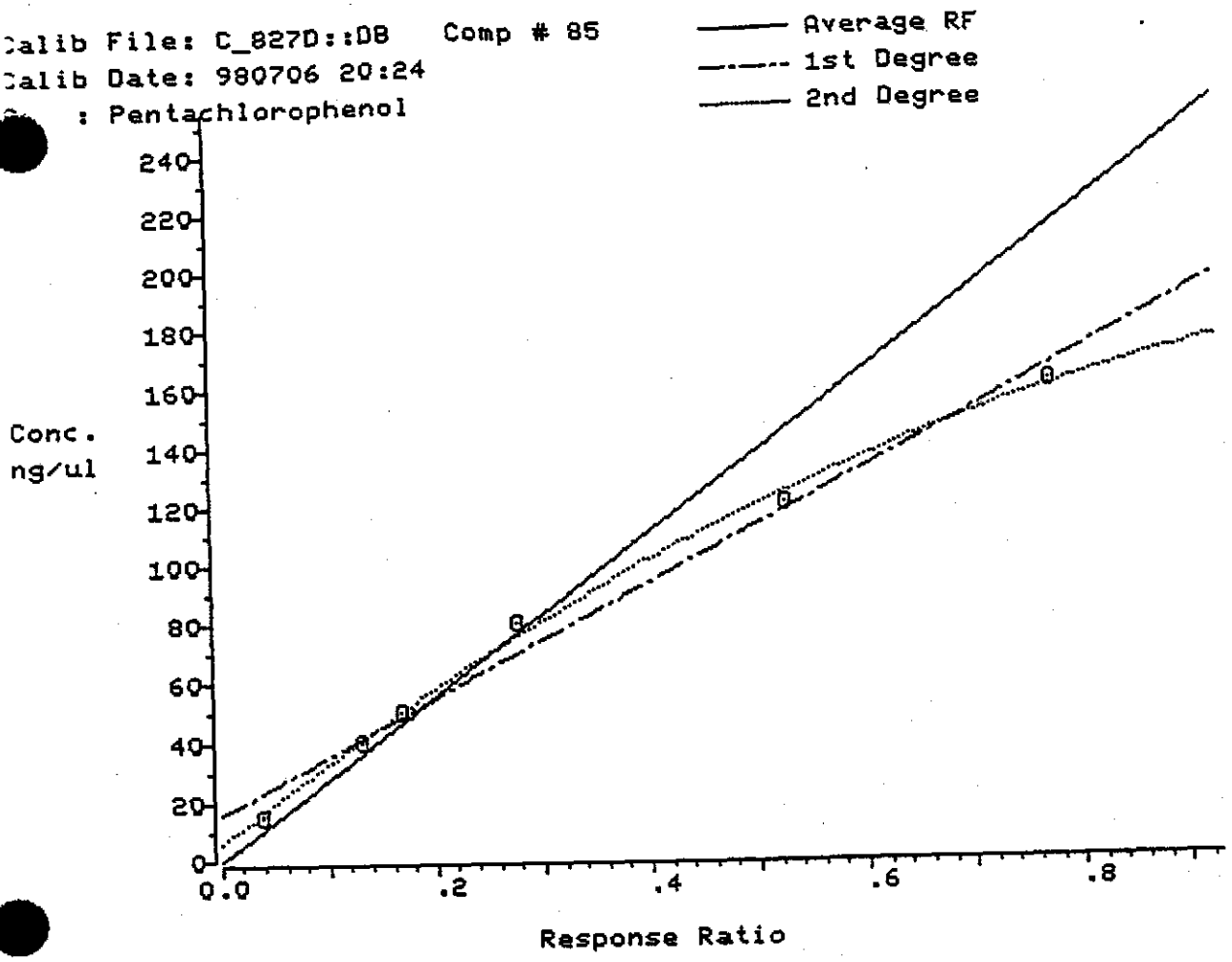
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10TRP1728
7/6/98

Calib File: C_827D::DB Comp # 85
Calib Date: 980706 20:24
: Pentachlorophenol



Compound # 85 Calib File: C_827D::DB

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.09772	.13039	.13463	.13882	.17493	.19266

Average of 6 Rfs: .14486 (23.43 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3974687 + 4.841825(x)
1st Degree Corr Coef: .9929330
2nd Degree Equation: y = .1438091 + 7.045782(x) + -2.70285(x^2)
2nd Degree Corr Coef: .9987482

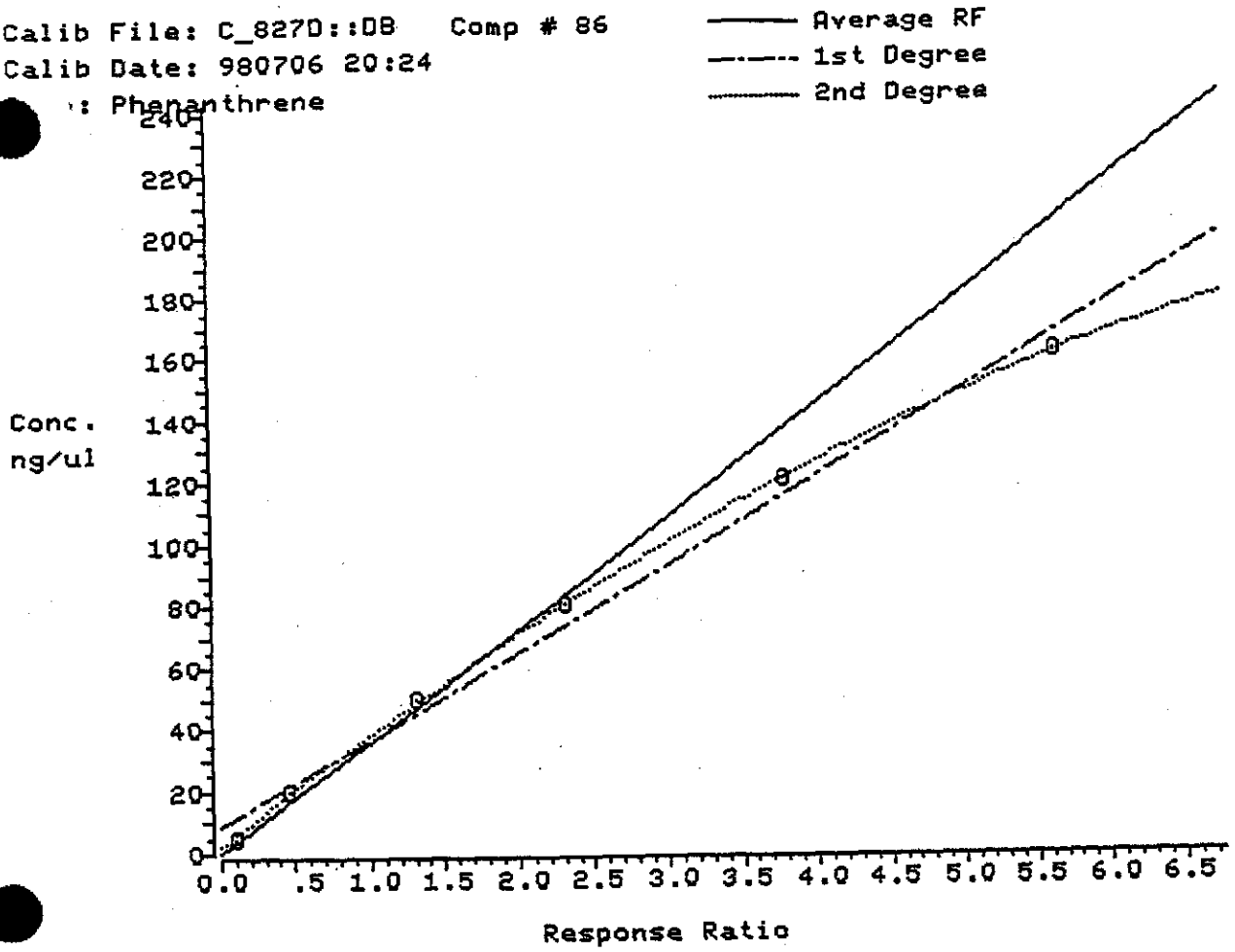
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP 1/3
7/6/98

Calib File: C_827D::DB Comp # 86
Calib Date: 980706 20:24
: Phenanthrene



Compound # 86 Calib File: C_827D::DB

Compound: Phenanthrene
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.85377	.93428	1.0468	1.1562	1.2598	1.4040

Average of 6 Rfs: 1.1091 (18.54 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2223146 + .7020690(x)
1st Degree Corr Coef: .9950118
2nd Degree Equation: y = .0495183 + .9524195(x) + -.044538(x^2)
2nd Degree Corr Coef: .9999005

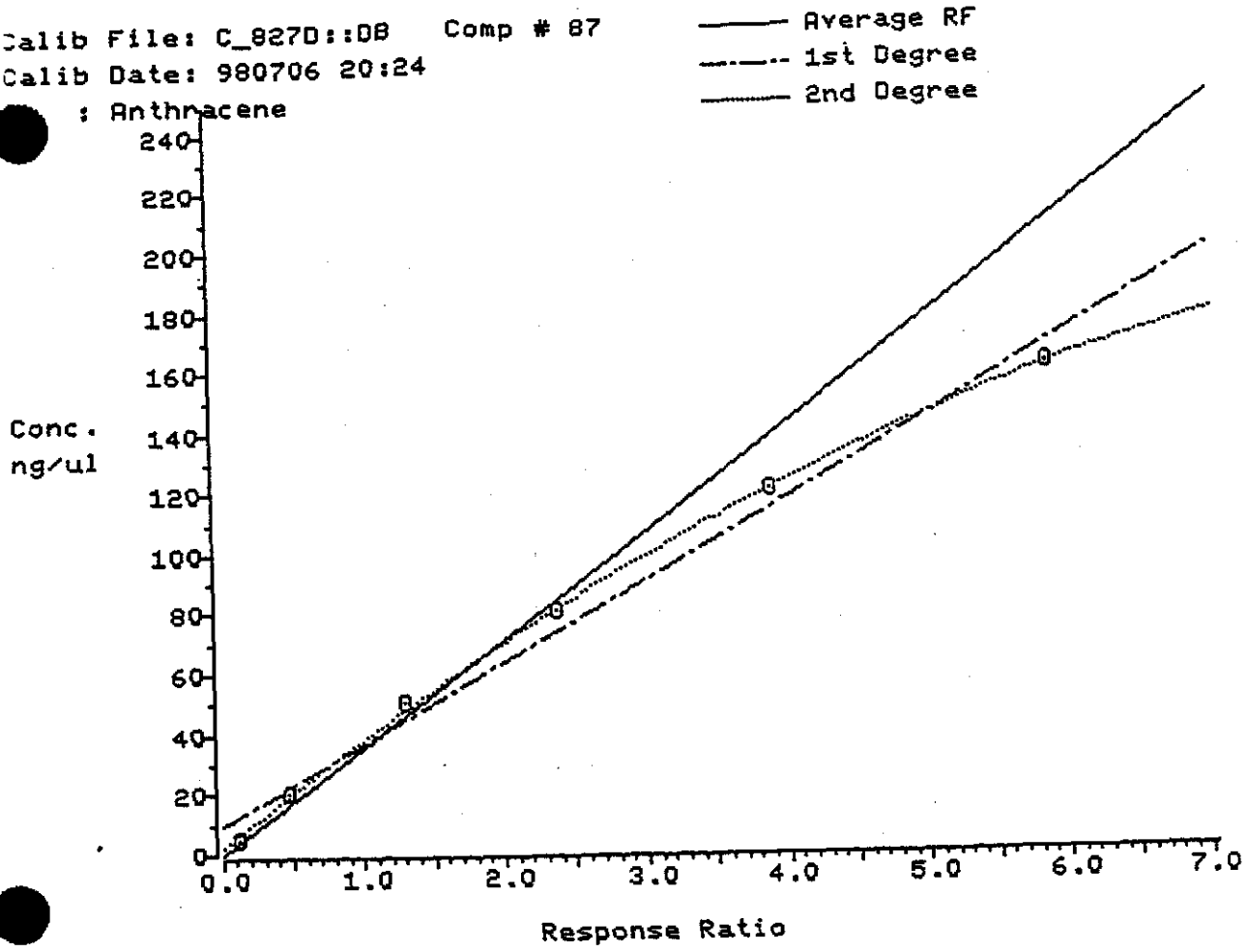
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAB/TSI
7/16/98

Calib File: C_827D::DB Comp # 87
Calib Date: 980706 20:24
: Anthracene



Compound # 87 Calib File: C_827D::DB

Compound: Anthracene
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.84823	.94185	1.0382	1.1879	1.2957	1.4634

Average of 6 Rfs: 1.1292 (20.39 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2452026 + .6721232(x)
1st Degree Corr Coef: .9938924
2nd Degree Equation: y = .0585522 + .9350060(x) + -.044931(x^2)
2nd Degree Corr Coef: .9997749

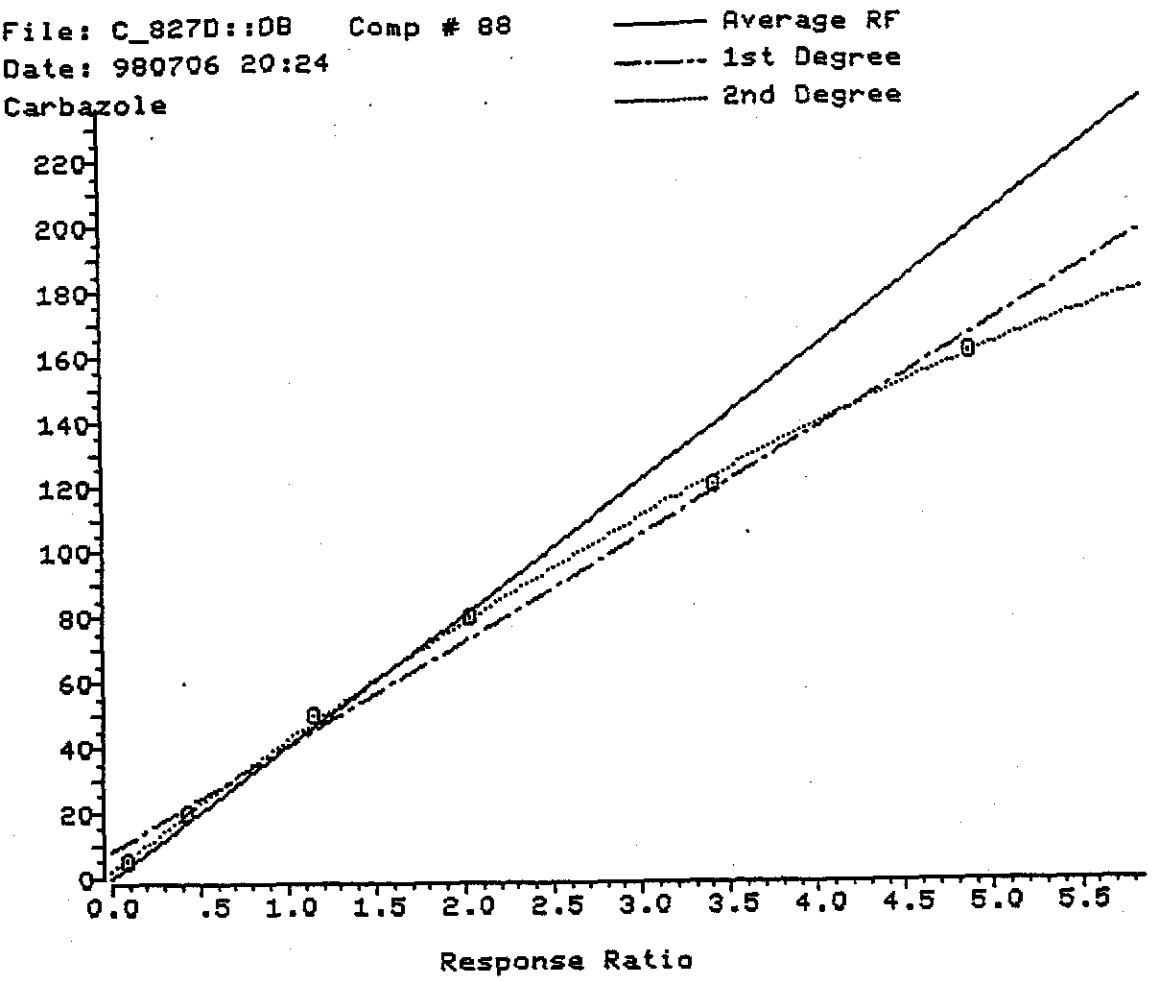
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1 of 7/6/98

Calib File: C_827D::DB Comp # 88
Calib Date: 980706 20:24
Carbazole



Compound # 88 Calib File: C_827D::DB

Compound: Carbazole
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.78619	.85759	.92331	1.0140	1.1339	1.2175

Average of 6 Rfs: .98874 (16.71 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2041453 + .8054706(x)
1st Degree Corr Coef: .9961002
2nd Degree Equation: y = .0519626 + 1.058644(x) + -.051805(x^2)
2nd Degree Corr Coef: .9997067

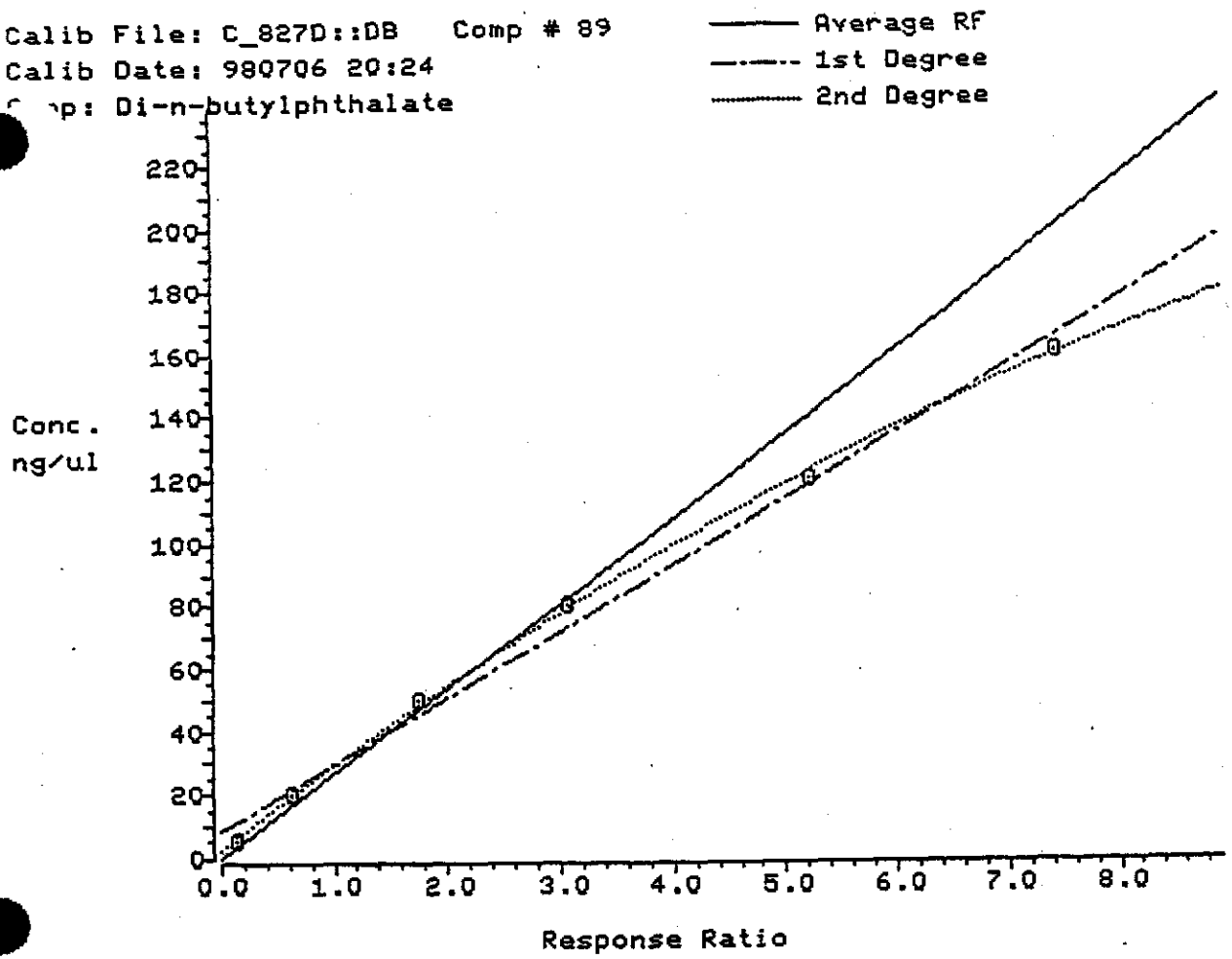
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAP/TBP
7/6/98

Calib File: C_827D::DB Comp # 89
Calib Date: 980706 20:24
Comp: Di-n-butylphthalate



Compound # 89 Calib File: C_827D::DB

Compound: Di-n-butylphthalate
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.1557	1.2694	1.3948	1.5388	1.7362	1.8548

Average of 6 Rfs: 1.4916 (18.13 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2118167 + .5268803(x)
1st Degree Corr Coef: .9960666
2nd Degree Equation: y = .0627737 + .6913177(x) + -.022113(x^2)
2nd Degree Corr Coef: .9995995

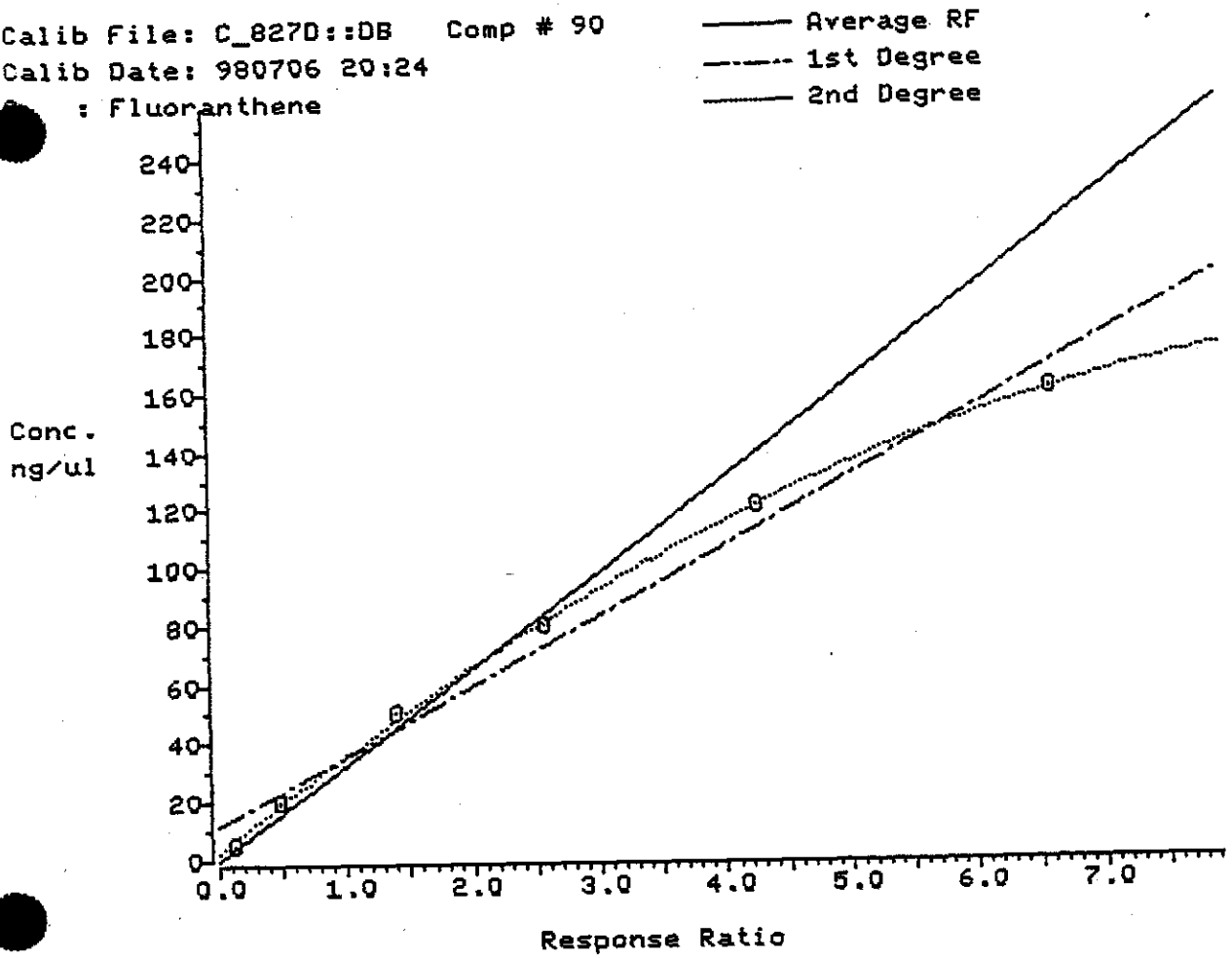
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

7/6/98

Calib File: C_827D::DB Comp # 90
Calib Date: 980706 20:24
: Fluoranthene



Compound # 90 Calib File: C_827D::DB

Compound: Fluoranthene
Istd: Phenanthrene-d10

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.92732	.97293	1.1066	1.2851	1.4143	1.6451

Average of 6 Rfs: 1.2252 (22.56 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2820641 + .5970773(x)
1st Degree Corr Coef: .9914687
2nd Degree Equation: y = .0659383 + .8720036(x) + -.041833(x^2)
2nd Degree Corr Coef: .9997019

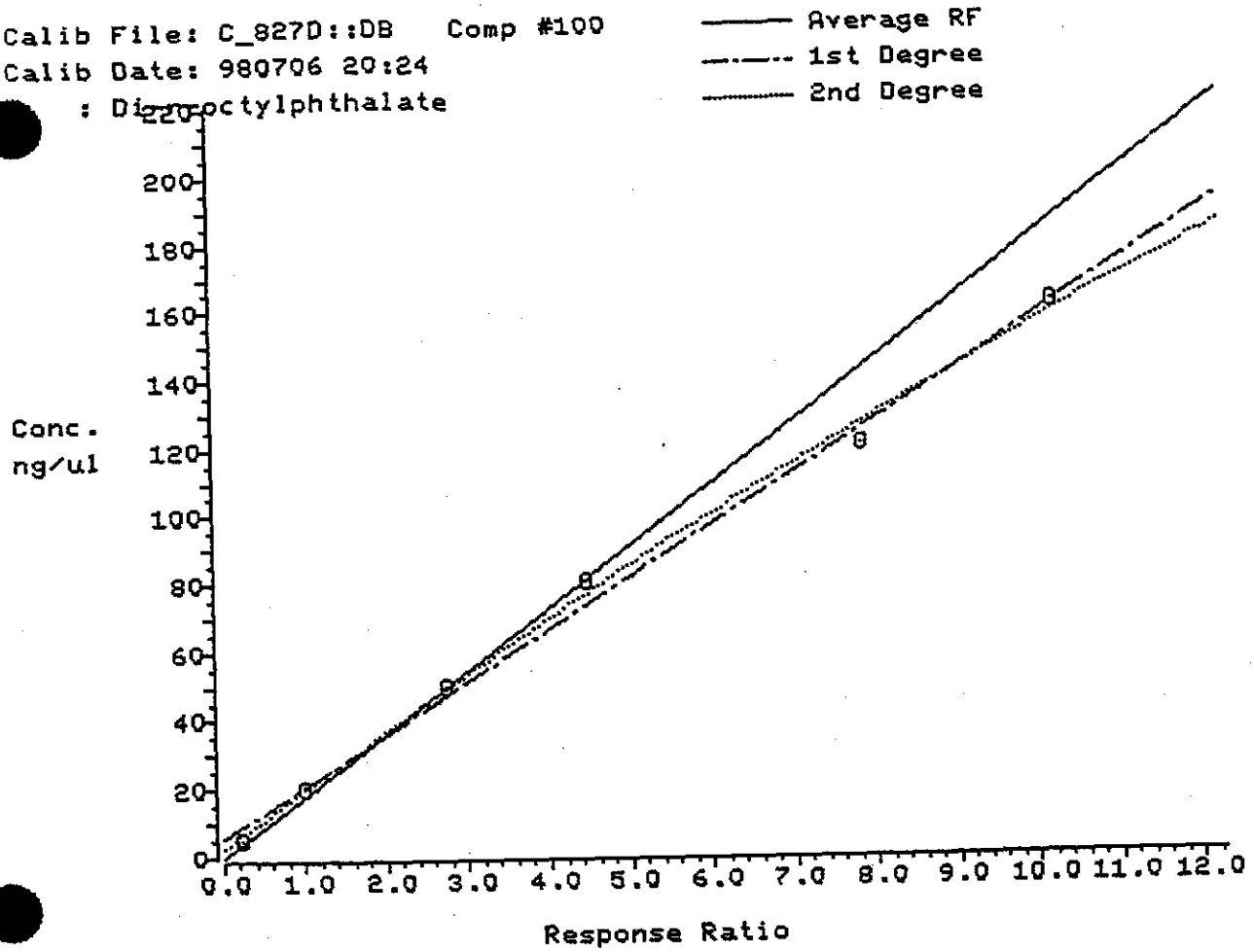
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10 JAP 7/16/98
7/16/98

Calib File: C_827D::DB Comp #100
Calib Date: 980706 20:24
: Di-n-octylphthalate



Compound #100 Calib File: C_827D::DB

Compound: Di-n-octylphthalate
Istd: Perylene-d12

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.7100	1.9856	2.2015	2.2287	2.6129	2.5483

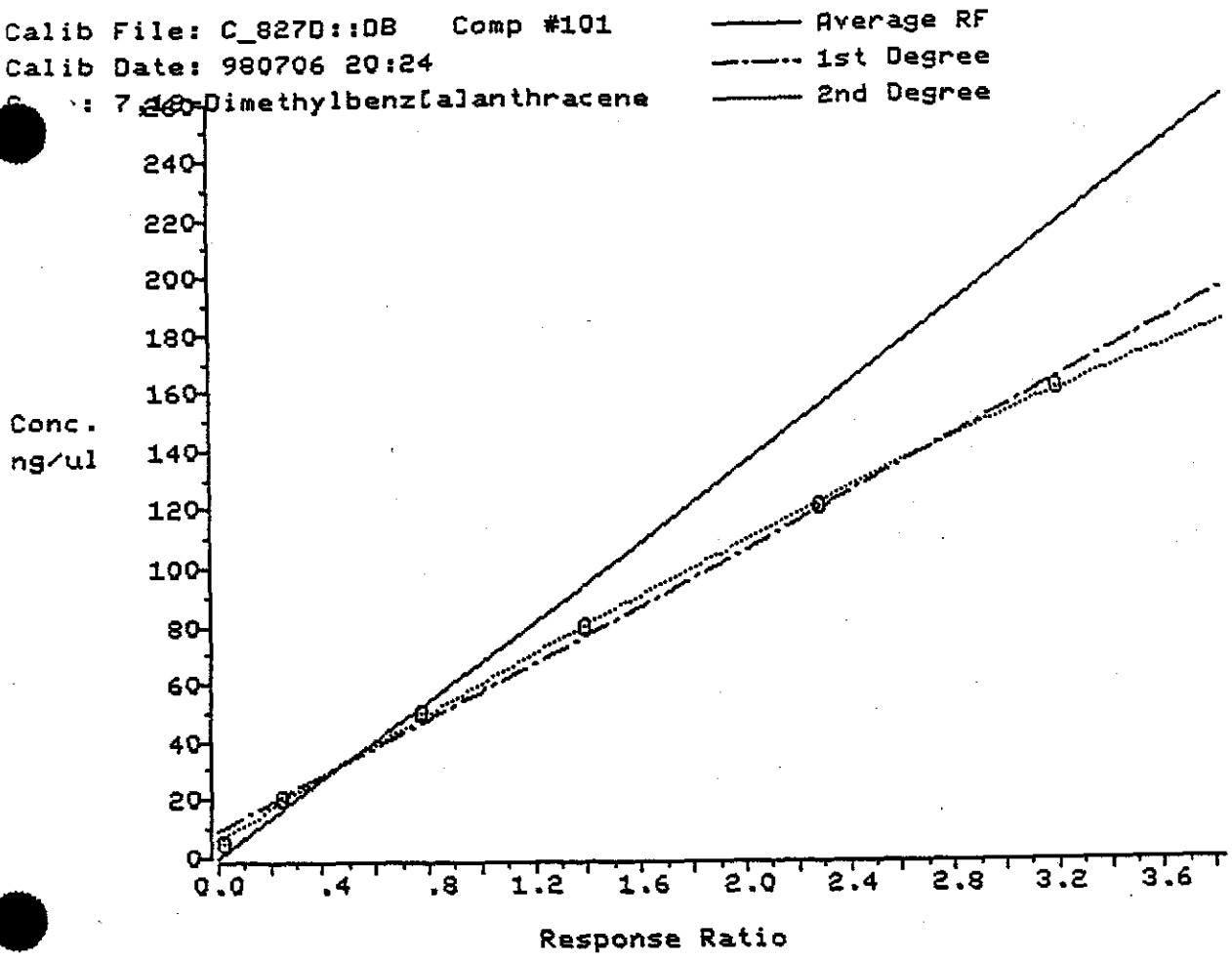
Average of 6 Rfs: 2.2145 (15.35 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1443525 + .3784393(x)
1st Degree Corr Coef: .9975071
2nd Degree Equation: y = .0671413 + .4389252(x) + -.005863(x^2)
2nd Degree Corr Coef: .9983493

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TRS/TRS 7/6/98



Compound #101 Calib File: C_827D::DB

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File: >DG034 >DG036 >DG037 >DG031 >DG035 >DG032
Conc: 5.00 20.00 50.00 80.00 120.00 160.00
Rf: .19805 .47497 .61376 .69334 .75914 .79704

Average of 6 Rfs: .58938 (37.91 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2232511 + 1.209824(x)
1st Degree Corr Coef: .9980639
2nd Degree Equation: y = .1329520 + 1.457504(x) + -.078704(x^2)
2nd Degree Corr Coef: .9996860

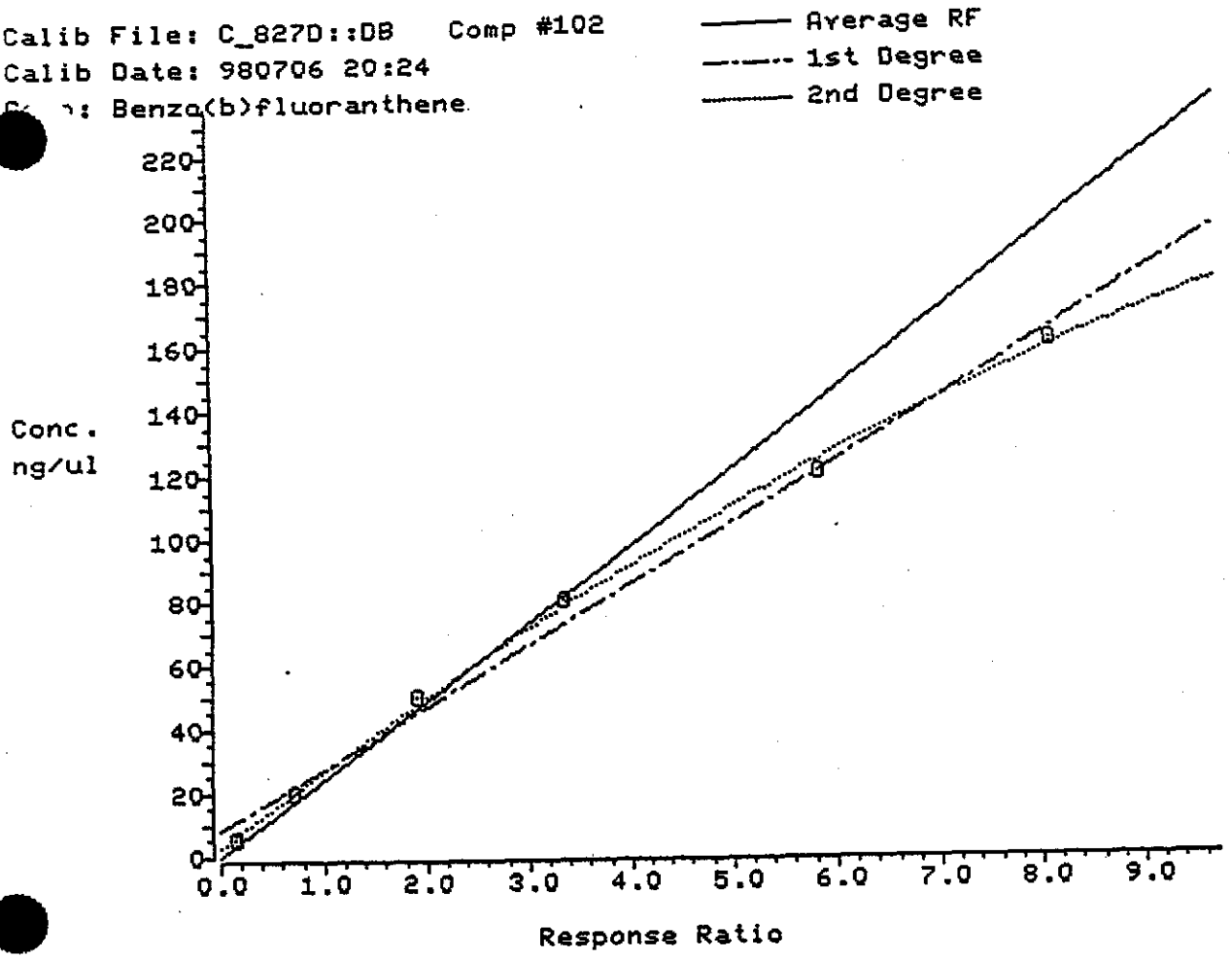
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

10 TMP/MM
7/16/98

Calib File: C_827D::DB Comp #102
Calib Date: 980706 20:24
C[illegible]: Benzo(b)fluoranthene



Compound #102 Calib File: C_827D::DB

Compound: Benzo(b)fluoranthene
Istd: Perylene-d12

File:	>DG034	>DG036	>DG037	>DG031	>DG035	>DG032
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	1.2971	1.4227	1.5246	1.6687	1.9448	2.0222

Average of 6 Rfs: 1.6467 (17.55 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2088617 + .4801300(x)
1st Degree Corr Coef: .9959941
2nd Degree Equation: y = .0669648 + .6238413(x) + -.017675(x^2)
2nd Degree Corr Coef: .9990803

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TAS/TSA
7/16/98

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG06B DFTPP Injection Date: 07/07/98

Instrument ID: HP06780 DFTPP Injection Time: 16:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	51.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.9
70	Less than 2.0% of mass 69	.4 (.7)1
127	40.0 - 60.0% of mass 198	47.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	7.2
275	10.0 - 30.0% of mass 198	22.1
365	Greater than 1.00% of mass 198	3.20
441	Present, but less than mass 443	7.9
442	Greater than 40.0% of mass 198	45.3
443	17.0 - 23.0% of mass 442	9.2 (20.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>DG061	07/07/98	17:38
02	SBLKWC161D	SBLKWC161	>DG062	07/07/98	18:44
03	161WCLCS	161WCLCS	>DG063	07/07/98	19:46
04	161WCUS	161WCUS	>DG064	07/07/98	20:48
05	161WCMS	161WCMS	>DG065	07/07/98	21:49
06	161WCMSD	161WCMSD	>DG066	07/07/98	22:51
07	CHM8-	2941303	>DG067	07/07/98	23:53
08	CHM9-	2941304	>DG068	07/08/98	00:55
09	CHM10	2941305	>DG069	07/08/98	01:57
10	CMD11	2941306	>DG070	07/08/98	02:59
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/07/98 Time: 17:38

Lab File ID: >DG061 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	Pyridine	2.053	2.191	85.40	80.0	-6.8
	N-Nitrosodimethylamine	1.094	1.163	85.03	80.0	-6.3
	2-Picoline	2.336	2.497	85.54	80.0	-6.9
*	Phenol	3.079	3.302	85.81	80.0	-7.3*
	Aniline	3.533	3.775	85.50	80.0	-6.9
	bis(2-Chloroethyl)ether	2.391	2.564	85.79	80.0	-7.2
	2-Chlorophenol	1.461	1.424	77.97	80.0	2.5
	1,3-Dichlorobenzene	1.524	1.499	78.69	80.0	1.6
*	1,4-Dichlorobenzene	1.641	1.585	77.29	80.0	3.4*
	Benzyl alcohol	1.394	1.382	79.31	80.0	.9
	1,2-Dichlorobenzene	1.525	1.461	76.65	80.0	4.2
	2-Methylphenol	1.998	2.087	83.57	80.0	-4.5
	2,2'-oxybis(1-Chloropropane)	3.539	3.598	81.33	80.0	-1.7
	bis(2-Chloroisopropyl)ether	3.539	3.598	81.33	80.0	-1.7
	4-Methylphenol	2.153	2.264	84.14	80.0	-5.2
	3- and 4-Methylphenol	2.153	2.264	84.14	80.0	-5.2
	Acetophenone	3.615	3.792	83.93	80.0	-4.9
#	N-Nitroso-di-n-propylamine	1.567	1.643	83.86	80.0	-4.8#
	o-Toluidine	3.401	3.599	84.67	80.0	-5.8
	Hexachloroethane	.960	1.011	84.21	80.0	-5.3
	Nitrobenzene	.788	.844	85.66	80.0	-7.1
	Isophorone	1.561	1.798	92.18	80.0	-15.2
*	2-Nitrophenol	.229	.232	80.99	80.0	-1.2*
	2,4-Dimethylphenol	.717	.800	89.31	80.0	-11.6
	Benzoic acid	.461	.568	85.02	80.0	-6.3
	bis(2-Chloroethoxy)methane	.865	.990	91.59	80.0	-14.5
*	2,4-Dichlorophenol	.346	.358	82.84	80.0	-3.5*
	1,2,4-Trichlorobenzene	.426	.432	81.27	80.0	-1.6
	Naphthalene	1.178	1.194	81.05	80.0	-1.3
	4-Chloroaniline	.492	.509	82.75	80.0	-3.4
*	Hexachlorobutadiene	.297	.318	76.64	80.0	4.2*
*	4-Chloro-3-methylphenol	.634	.704	88.93	80.0	-11.2*
	2-Methylnaphthalene	.816	.830	81.34	80.0	-1.7
	1-Methylnaphthalene	.759	.764	80.55	80.0	-.7
#	Hexachlorocyclopentadiene	.341	.385	73.30	80.0	8.4#
*	2,4,6-Trichlorophenol	.435	.459	75.16	80.0	6.1*
	2,4,5-Trichlorophenol	.469	.482	72.30	80.0	9.6
	2-Chloronaphthalene	1.213	1.238	73.67	80.0	7.9

7/17/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/07/98 Time: 17:38

Lab File ID: >DG061 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline	.650	.731	89.94	80.0	-12.4
Dimethylphthalate	1.602	1.675	83.65	80.0	-4.6
2,6-Dinitrotoluene	.381	.401	84.25	80.0	-5.3
Acenaphthylene	1.939	1.992	73.94	80.0	7.6
3-Nitroaniline	.338	.351	83.03	80.0	-3.8
Acenaphthene *	1.230	1.273	74.15	80.0	7.3*
2,4-Dinitrophenol #	.242	.262	75.65	80.0	5.4#
4-Nitrophenol #	.462	.519	89.91	80.0	-12.4#
Dibenzofuran	1.965	1.973	72.04	80.0	9.9
2,4-Dinitrotoluene	.542	.559	74.59	80.0	6.8
1-Naphthylamine	.781	.873	87.04	80.0	-8.8
2-Naphthylamine	.746	.846	90.36	80.0	-12.9
Diethylphthalate	1.834	1.908	83.21	80.0	-4.0
4-Chlorophenyl-phenylether	.886	.942	74.32	80.0	7.1
Fluorene	1.692	1.772	73.57	80.0	8.0
4-Nitroaniline	.398	.422	84.90	80.0	-6.1
4,6-Dinitro-2-methylphenol	.150	.162	75.34	80.0	5.8
1-Nitronaphthalene	.140	.140	80.39	80.0	-.5
N-Nitrosodiphenylamine (1) *	.501	.506	73.04	80.0	8.7*
1,2-Diphenylhydrazine	1.133	1.200	84.77	80.0	-6.0
4-Bromophenyl-phenylether	.208	.219	74.61	80.0	6.7
Hexachlorobenzene	.236	.250	76.11	80.0	4.9
Pentachlorophenol *	.145	.158	76.91	80.0	3.9*
Phenanthrene	1.109	1.161	74.11	80.0	7.4
Anthracene	1.129	1.187	73.61	80.0	8.0
Carbazole	.989	1.026	74.27	80.0	7.2
Di-n-butylphthalate	1.492	1.590	75.51	80.0	5.6
Fluoranthene *	1.225	1.334	75.01	80.0	6.2*
Benzidine	.872	.831	305.17	320.0	4.6
Pyrene	1.191	1.181	79.29	80.0	.9
Butylbenzylphthalate	.641	.649	81.02	80.0	-1.3
3,3'-Dichlorobenzidine	.466	.515	88.35	80.0	-10.4
Benzo(a)anthracene	1.093	1.118	81.81	80.0	-2.3
bis(2-Ethylhexyl)phthalate	.932	.983	84.37	80.0	-5.5
Chrysene	1.060	1.105	83.35	80.0	-4.2
Di-n-octylphthalate *	2.215	2.137	70.47	80.0	11.9*
7,12-Dimethylbenz[a]anthrace	.589	.694	76.13	80.0	4.8
Benzo(b)fluoranthene	1.647	1.658	72.03	80.0	10.0

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/07/98 Time: 17:38

Lab File ID: >DG061 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.479	1.510	81.71	80.0	-2.1
Benzo(a)pyrene *	1.299	1.335	82.21	80.0	-2.8*
Indeno(1,2,3-cd)pyrene	.984	1.098	89.25	80.0	-11.6
Dibenz(a,h)anthracene	1.043	1.170	89.77	80.0	-12.2
Benzo(g,h,i)perylene	.963	1.101	91.47	80.0	-14.3
2-Fluorophenol	1.825	1.856	81.37	80.0	-1.7
Phenol-d6	2.870	3.053	85.11	80.0	-6.4
Nitrobenzene-d5	.801	.900	89.78	80.0	-12.2
2-Fluorobiphenyl	1.457	1.546	75.95	80.0	5.1
2,4,6-Tribromophenol	.237	.262	75.91	80.0	5.1
Terphenyl-d14	1.006	1.043	82.92	80.0	-3.6

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG061 Date Analyzed: 07/07/98

Instrument ID: HP06780 Time Analyzed: 17:38

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	194285	13.24	678073	16.98	477634	22.39
	UPPER LIMIT	388570		1356146		955268	
	LOWER LIMIT	97143		339037		238817	
	EPA SAMPLE NO.						
01	SBLKWC161D	179077	13.23	668494	16.97	448893	22.38
02	161WCLCS	162940	13.23	602018	16.97	409831	22.39
03	161WCUS	174039	13.23	654788	16.96	441875	22.38
04	161WCMS	168310	13.23	634330	16.97	427232	22.39
05	161WCMSD	141144	13.24	508469	16.98	341654	22.38
06	CHM8-	166827	13.23	622640	16.97	391765	22.38
07	CHM9-	172188	13.23	629253	16.97	419008	22.38
08	CHM10	164303	13.23	626965	16.97	426612	22.38
09	CMD11	151131	13.23	590159	16.97	398081	22.38
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG061 Date Analyzed: 07/07/98

Instrument ID: HP06780 Time Analyzed: 17:38

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	1081466	✓	26.94	1240007	✓	34.01	824250	✓	40.75
	UPPER LIMIT	2162932			2480014			1648500		
	LOWER LIMIT	540733			620004			412125		
	EPA SAMPLE NO.									
01	SBLKWC161D	993832	✓	26.92	976837	✓	33.97	729903	✓	40.70
02	161WCLCS	902832	✓	26.93	1049111	✓	34.00	678785	✓	40.73
03	161WCUS	974270	✓	26.92	968522	✓	33.97	704622	✓	40.70
04	161WCMS	937340	✓	26.94	1074833	✓	34.00	673364	✓	40.74
05	161WCMSD	738758	✓	26.93	827195	✓	34.00	529124	✓	40.72
06	CHM8-	849718		26.92	863239		33.97	621973		40.70
07	CHM9-	935325		26.92	924123		33.97	665659		40.70
08	CHM10	940941		26.92	904295		33.97	635983		40.71
09	CMD11	892742		26.92	886958		33.98	620568		40.70
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG07A DFTPP Injection Date: 07/08/98

Instrument ID: HP06780 DFTPP Injection Time: 09:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.7
70	Less than 2.0% of mass 69	.2 (.5)1
127	40.0 - 60.0% of mass 198	44.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.7
365	Greater than 1.00% of mass 198	4.33
441	Present, but less than mass 443	10.9
442	Greater than 40.0% of mass 198	62.6
443	17.0 - 23.0% of mass 442	11.7 (18.7)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>DG076	07/08/98	10:00
02	CMW11	2941307	>DG077	07/08/98	12:49
03	6498-	2941308	>DG078	07/08/98	13:50
04	2SW--	2941683	>DG079	07/08/98	14:53
05	3SW--	2941684	>DG080	07/08/98	15:54
06	4SW--	2941685	>DG081	07/08/98	16:55
07	6SW--	2941686	>DG082	07/08/98	17:56
08	7SW--	2941687	>DG083	07/08/98	18:58
09	8SW--	2941688	>DG084	07/08/98	19:59
10	9SW--	2941689	>DG085	07/08/98	21:00
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/08/98 Time: 10:00

Lab File ID: >DG076 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	2.053	2.219	86.46	80.0	-8.1
N-Nitrosodimethylamine	1.094	1.181	86.35	80.0	-7.9
2-Picoline	2.336	2.472	84.65	80.0	-5.8
Phenol *	3.079	3.266	84.85	80.0	-6.1*
Aniline	3.533	3.783	85.67	80.0	-7.1
bis(2-Chloroethyl)ether	2.391	2.472	82.71	80.0	-3.4
2-Chlorophenol	1.461	1.425	77.98	80.0	2.5
1,3-Dichlorobenzene	1.524	1.569	82.36	80.0	-3.0
1,4-Dichlorobenzene *	1.641	1.696	82.68	80.0	-3.4*
Benzyl alcohol	1.394	1.451	83.25	80.0	-4.1
1,2-Dichlorobenzene	1.525	1.564	82.01	80.0	-2.5
2-Methylphenol	1.998	2.059	82.44	80.0	-3.0
2,2'-oxybis(1-Chloropropane)	3.539	3.686	83.34	80.0	-4.2
bis(2-Chloroisopropyl)ether	3.539	3.686	83.34	80.0	-4.2
4-Methylphenol	2.153	2.264	84.14	80.0	-5.2
3- and 4-Methylphenol	2.153	2.264	84.14	80.0	-5.2
Acetophenone	3.615	3.776	83.56	80.0	-4.5
N-Nitroso-di-n-propylamine #	1.567	1.650	84.21	80.0	-5.3#
o-Toluidine	3.401	3.764	88.56	80.0	-10.7
Hexachloroethane	.960	1.010	84.18	80.0	-5.2
Nitrobenzene	.788	.846	85.82	80.0	-7.3
Isophorone	1.561	1.619	82.99	80.0	-3.7
2-Nitrophenol *	.229	.223	78.04	80.0	2.5*
2,4-Dimethylphenol	.717	.751	83.90	80.0	-4.9
Benzoic acid	.461	.540	81.57	80.0	-2.0
bis(2-Chloroethoxy)methane	.865	.884	81.81	80.0	-2.3
2,4-Dichlorophenol *	.346	.353	81.52	80.0	-1.9*
1,2,4-Trichlorobenzene	.426	.425	79.97	80.0	.0
Naphthalene	1.178	1.186	80.54	80.0	-.7
4-Chloroaniline	.492	.489	79.44	80.0	.7
Hexachlorobutadiene *	.297	.325	78.07	80.0	2.4*
4-Chloro-3-methylphenol *	.634	.659	83.20	80.0	-4.0*
2-Methylnaphthalene	.816	.814	79.73	80.0	.3
1-Methylnaphthalene	.759	.748	78.86	80.0	1.4
Hexachlorocyclopentadiene #	.341	.387	73.78	80.0	7.8#
2,4,6-Trichlorophenol *	.435	.471	76.79	80.0	4.0*
2,4,5-Trichlorophenol	.469	.496	74.21	80.0	7.2
2-Chloronaphthalene	1.213	1.188	71.00	80.0	11.2

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/08/98 Time: 10:00

Lab File ID: >DG076 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.650	.713	87.72	80.0	-9.7
Dimethylphthalate		1.602	1.615	80.68	80.0	-.8
2,6-Dinitrotoluene		.381	.418	87.79	80.0	-9.7
Acenaphthylene		1.939	1.904	71.02	80.0	11.2
3-Nitroaniline		.338	.343	81.32	80.0	-1.7
Acenaphthene	*	1.230	1.305	75.82	80.0	5.2*
2,4-Dinitrophenol	#	.242	.266	76.70	80.0	4.1#
4-Nitrophenol	#	.462	.523	90.54	80.0	-13.2#
Dibenzofuran		1.965	2.032	73.91	80.0	7.6
2,4-Dinitrotoluene		.542	.573	76.26	80.0	4.7
1-Naphthylamine		.781	.911	90.25	80.0	-12.8
2-Naphthylamine		.746	.864	91.84	80.0	-14.8
Diethylphthalate		1.834	1.836	80.09	80.0	-.1
4-Chlorophenyl-phenylether		.886	.899	71.36	80.0	10.8
Fluorene		1.692	1.710	71.34	80.0	10.8
4-Nitroaniline		.398	.426	85.70	80.0	-7.1
4,6-Dinitro-2-methylphenol		.150	.165	76.71	80.0	4.1
1-Nitronaphthalene		.140	.141	80.89	80.0	-1.1
N-Nitrosodiphenylamine (1)	*	.501	.496	71.68	80.0	10.4*
1,2-Diphenylhydrazine		1.133	1.280	90.43	80.0	-13.0
4-Bromophenyl-phenylether		.208	.237	79.91	80.0	.1
Hexachlorobenzene		.236	.233	71.57	80.0	10.5
Pentachlorophenol	*	.145	.167	80.53	80.0	-.7*
Phenanthrene		1.109	1.171	74.65	80.0	6.7
Anthracene		1.129	1.190	73.80	80.0	7.7
Carbazole		.989	1.027	74.36	80.0	7.1
Di-n-butylphthalate		1.492	1.637	77.49	80.0	3.1
Fluoranthene	*	1.225	1.376	77.02	80.0	3.7*
Benzidine		.872	.788	289.07	320.0	9.7
Pyrene		1.191	1.208	81.12	80.0	-1.4
Butylbenzylphthalate		.641	.648	80.87	80.0	-1.1
3,3'-Dichlorobenzidine		.466	.504	86.47	80.0	-8.1
Benzo(a)anthracene		1.093	1.089	79.73	80.0	.3
bis(2-Ethylhexyl)phthalate		.932	.971	83.33	80.0	-4.2
Chrysene		1.060	1.045	78.86	80.0	1.4
Di-n-octylphthalate	*	2.215	2.375	77.69	80.0	2.9*
7,12-Dimethylbenz[a]anthrace		.589	.734	80.01	80.0	-.0
Benzo(b)fluoranthene		1.647	1.716	74.28	80.0	7.1

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/08/98 Time: 10:00

Lab File ID: >DG076 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.479	1.570	84.94	80.0	-6.2
Benzo(a)pyrene *	1.299	1.359	83.74	80.0	-4.7*
Indeno(1,2,3-cd)pyrene	.984	1.112	90.36	80.0	-13.0
Dibenz(a,h)anthracene	1.043	1.186	90.99	80.0	-13.7
Benzo(g,h,i)perylene	.963	1.095	90.93	80.0	-13.7
2-Fluorophenol	1.825	1.977	86.67	80.0	-8.3
Phenol-d6	2.870	3.102	86.48	80.0	-8.1
Nitrobenzene-d5	.801	.854	85.26	80.0	-6.6
2-Fluorobiphenyl	1.457	1.589	77.86	80.0	2.7
2,4,6-Tribromophenol	.237	.282	80.87	80.0	-1.1
Terphenyl-d14	1.006	1.022	81.28	80.0	-1.6

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG076 Date Analyzed: 07/08/98

Instrument ID: HP06780 Time Analyzed: 10:00

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	168286	13.25	634445	16.99	421489	22.39
	UPPER LIMIT	336572		1268890		842978	
	LOWER LIMIT	84143		317223		210745	
	EPA SAMPLE NO.						
01	CMW11	150330	13.24	582221	16.98	387483	22.39
02	6498--	147033	13.24	571535	16.98	366889	22.39
03	2SW--	156215	13.24	599273	16.98	376150	22.39
04	3SW--	160329	13.24	622712	16.98	400114	22.39
05	4SW--	163717	13.25	618761	16.97	401706	22.38
06	6SW--	164984	13.24	642411	16.98	405159	22.39
07	7SW--	158757	13.24	611632	16.98	395706	22.39
08	8SW--	156944	13.24	600347	16.98	383514	22.39
09	9SW--	165788	13.24	641835	16.98	409064	22.39
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG076 Date Analyzed: 07/08/98

Instrument ID: HP06780 Time Analyzed: 10:00

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	925740		26.94	1074386		34.01	641387		40.75
	UPPER LIMIT	1851480			2148772			1282774		
	LOWER LIMIT	462870			537193			320694		
	EPA SAMPLE NO.									
01	CMW11	829659		26.93	825703		33.99	532003		40.74
02	6498-	834708		26.94	816477		33.98	567907		40.72
03	2SW--	850574		26.93	941633		33.99	569892		40.75
04	3SW--	863631		26.93	814397		33.98	577895		40.72
05	4SW--	872074		26.94	833403		33.99	561292		40.73
06	6SW--	911514		26.93	847916		33.99	585501		40.72
07	7SW--	865663		26.93	837902		33.98	574465		40.72
08	8SW--	863794		26.93	833594		33.99	568716		40.72
09	9SW--	918720		26.93	879858		33.98	598719		40.73
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG130 DFTPP Injection Date: 07/11/98

Instrument ID: HP06780 DFTPP Injection Time: 11:12

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	51.1
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.4
275	10.0 - 30.0% of mass 198	20.4
365	Greater than 1.00% of mass 198	2.40
441	Present, but less than mass 443	11.5
442	Greater than 40.0% of mass 198	65.7
443	17.0 - 23.0% of mass 442	13.3 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1898	>DG131	07/11/98	12:04
02	SSTD001	MDL1898	>DG132	07/11/98	13:10
03	SSTD005	STD1898	>DG133	07/11/98	14:14
04	SSTD120	STD1898	>DG134	07/11/98	15:19
05	SSTD020	STD1898	>DG135	07/11/98	16:24
06	SSTD001	MDL1898	>DG136	07/11/98	17:29
07	SSTD050	STD1898	>DG137	07/11/98	18:34
08	SSTD080	STD1898	>DG138	07/11/98	19:39
09	10SW-	2941690	>DG139	07/11/98	20:44
10	11SW-	2941691	>DG140	07/11/98	21:49
11	12SW-	2941692	>DG141	07/11/98	22:54
12					
13					
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20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

me: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date(s): 07/11/98 07/11/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >DG133 RRF20 = >DG135 RRF50 = >DG137
RRF80 = >DG138 RRF120= >DG134 RRF160= >DG131

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	3.899	3.695	3.753	3.569	3.617	3.549	3.680	3.6	AVG	
N-Nitrosodimethylamine	1.920	1.969	2.104	1.976	2.034	1.946	1.991	3.4	AVG	
2-Picoline	3.954	3.641	3.822	3.631	3.699	3.531	3.713	4.1	AVG	
Phenol	* 4.483	4.114	4.023	3.834	3.757	3.514	3.954	8.4	AVG	*
Aniline	5.469	5.084	4.992	4.782	4.724	4.553	4.934	6.6	AVG	
bis(2-Chloroethyl)ether	3.467	3.230	3.168	3.001	2.931	2.812	3.102	7.6	AVG	
2-Chlorophenol	1.681	1.577	1.550	1.478	1.438	1.391	1.519	6.9	AVG	
1,3-Dichlorobenzene	1.540	1.466	1.408	1.360	1.308	1.258	1.390	7.5	AVG	
1,4-Dichlorobenzene	* 1.564	1.491	1.454	1.413	1.341	1.272	1.422	7.4	AVG	*
Benzyl alcohol	1.803	1.759	1.754	1.676	1.645	1.600	1.706	4.6	AVG	
1,2-Dichlorobenzene	1.482	1.385	1.324	1.270	1.218	1.147	1.304	9.2	AVG	
2-Methylphenol	2.602	2.411	2.422	2.316	2.232	2.196	2.363	6.3	AVG	
2,2'-oxybis(1-Chloropropane)	4.254	4.002	4.055	3.919	3.835	3.733	3.966	4.6	AVG	
bis(2-Chloroisopropyl)ether	4.254	4.002	4.055	3.919	3.835	3.733	3.966	4.6	AVG	
4-Methylphenol	2.829	2.568	2.595	2.449	2.391	2.306	2.523	7.3	AVG	
3- and 4-Methylphenol	2.829	2.568	2.595	2.449	2.391	2.306	2.523	7.3	AVG	
Acetophenone	3.993	3.781	3.632	3.441	3.283	3.230	3.560	8.3	AVG	
N-Nitroso-di-n-propylamine	# 1.653	1.542	1.601	1.469	1.363	1.284	1.485	9.5	AVG	#
luidine	4.461	4.226	4.105	3.903	3.739	3.626	4.010	7.8	AVG	
achloroethane	.913	.880	.887	.848	.815	.789	.855	5.5	AVG	
itrobenzene	.789	.761	.742	.730	.711	.682	.736	5.1	AVG	
Isophorone	1.772	1.713	1.675	1.659	1.590	1.626	1.673	3.8	AVG	
2-Nitrophenol	* .231	.239	.224	.223	.216	.208	.224	4.9	AVG	*
2,4-Dimethylphenol	.722	.703	.670	.664	.638	.616	.669	5.9	AVG	
Benzoic acid	.445	.543	.598	.619	.622	.626	.576	12.4	AVG	
bis(2-Chloroethoxy)methane	1.081	1.043	1.006	.988	.924	.893	.989	7.1	AVG	
2,4-Dichlorophenol	* .309	.316	.301	.302	.295	.287	.302	3.4	AVG	*
1,2,4-Trichlorobenzene	.322	.318	.305	.303	.296	.287	.305	4.4	AVG	
Naphthalene	1.234	1.178	1.121	1.102	1.046	1.007	1.115	7.5	AVG	
4-Chloroaniline	.542	.544	.512	.517	.491	.468	.512	5.7	AVG	
Hexachlorobutadiene	* .188	.181	.172	.172	.169	.164	.174	5.0	AVG	*
4-Chloro-3-methylphenol	* .658	.625	.611	.610	.589	.582	.613	4.5	AVG	*
2-Methylnaphthalene	.742	.725	.687	.675	.652	.627	.685	6.4	AVG	
1-Methylnaphthalene	.713	.675	.648	.627	.616	.583	.643	7.1	AVG	
Hexachlorocyclopentadiene	# .168	.218	.260	.266	.272	.261	.241	16.8	1STDEG	#
2,4,6-Trichlorophenol	* .376	.368	.367	.364	.361	.344	.363	2.9	AVG	*
2,4,5-Trichlorophenol	.393	.399	.387	.388	.381	.361	.385	3.3	AVG	
2-Chloronaphthalene	1.204	1.166	1.121	1.115	1.081	1.039	1.121	5.2	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date(s): 07/11/98 07/11/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >DG133 RRF20 = >DG135 RRF50 = >DG137
RRF80 = >DG138 RRF120= >DG134 RRF160= >DG131

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
2-Nitroaniline	.566	.602	.605	.598	.579	.555	.584	3.6	AVG	
Dimethylphthalate	1.554	1.516	1.486	1.473	1.428	1.381	1.473	4.2	AVG	
2,6-Dinitrotoluene	.319	.363	.367	.366	.368	.351	.356	5.4	AVG	
Acenaphthylene	1.987	1.946	1.922	1.876	1.849	1.754	1.889	4.4	AVG	
3-Nitroaniline	.397	.423	.425	.420	.415	.410	.415	2.5	AVG	
Acenaphthene *	1.243	1.184	1.099	1.065	1.028	.988	1.101	8.7	AVG	*
2,4-Dinitrophenol #	.118	.178	.188	.200	.203	.206	.182	18.3	1STDEG	#
4-Nitrophenol #	.345	.358	.358	.362	.364	.354	.357	1.9	AVG	#
Dibenzofuran	1.722	1.695	1.614	1.591	1.552	1.487	1.610	5.5	AVG	
2,4-Dinitrotoluene	.470	.499	.495	.499	.493	.474	.488	2.7	AVG	
1-Naphthylamine	1.010	1.036	.981	.953	.926	.876	.964	6.0	AVG	
2-Naphthylamine	1.119	.996	.899	.885	.892	.856	.941	10.5	AVG	
Diethylphthalate	1.555	1.530	1.459	1.432	1.392	1.324	1.449	5.9	AVG	
4-Chlorophenyl-phenylether	.639	.622	.592	.583	.568	.548	.592	5.7	AVG	
Fluorene	1.328	1.266	1.195	1.196	1.149	1.097	1.205	6.8	AVG	
4-Nitroaniline	.428	.427	.416	.414	.412	.400	.416	2.5	AVG	
4,6-Dinitro-2-methylphenol	.113	.136	.154	.157	.161	.158	.146	12.6	AVG	
1-Nitronaphthalene	.154	.155	.154	.149	.147	.144	.150	3.0	AVG	
N-nitrosodiphenylamine (1) *	.571	.536	.526	.515	.510	.498	.526	4.8	AVG	*
1,2-Diphenylhydrazine	1.607	1.548	1.501	1.456	1.378	1.319	1.468	7.3	AVG	
4-Bromophenyl-phenylether	.207	.194	.195	.191	.189	.188	.194	3.6	AVG	
Hexachlorobenzene	.227	.216	.215	.210	.210	.211	.215	3.0	AVG	
Pentachlorophenol *	.135	.144	.147	.145	.147	.146	.144	3.3	AVG	*
Phenanthrene	1.064	1.035	1.002	.981	.968	.945	.999	4.4	AVG	
Anthracene	1.090	1.047	1.019	1.001	.985	.967	1.018	4.4	AVG	
Carbazole	1.080	1.043	1.000	.984	.966	.962	1.006	4.7	AVG	
Di-n-butylphthalate	1.555	1.496	1.430	1.401	1.372	1.336	1.432	5.7	AVG	
Fluoranthene *	1.189	1.149	1.114	1.102	1.089	1.072	1.119	3.8	AVG	*
Benzidine	.904	.774	.682	.659	.673	.657	.725	13.5	AVG	
Pyrene	1.295	1.239	1.212	1.191	1.187	1.152	1.213	4.1	AVG	
Butylbenzylphthalate	.746	.722	.701	.686	.671	.640	.694	5.4	AVG	
3,3'-Dichlorobenzidine	.503	.495	.482	.479	.476	.474	.485	2.4	AVG	
Benzo(a)anthracene	1.174	1.111	1.103	1.083	1.069	1.076	1.103	3.5	AVG	
bis(2-Ethylhexyl)phthalate	1.012	1.021	.987	.965	.943	.904	.972	4.5	AVG	
Chrysene	1.098	1.062	1.037	1.032	1.013	.998	1.040	3.4	AVG	
Di-n-octylphthalate *	2.129	2.202	2.228	2.175	2.101	2.052	2.148	3.1	AVG	*
7,12-Dimethylbenz[a]anthrace	.428	.528	.610	.631	.639	.630	.578	14.5	AVG	
Benzo(b)fluoranthene	1.492	1.433	1.426	1.427	1.463	1.408	1.442	2.1	AVG	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date(s): 07/11/98 07/11/98

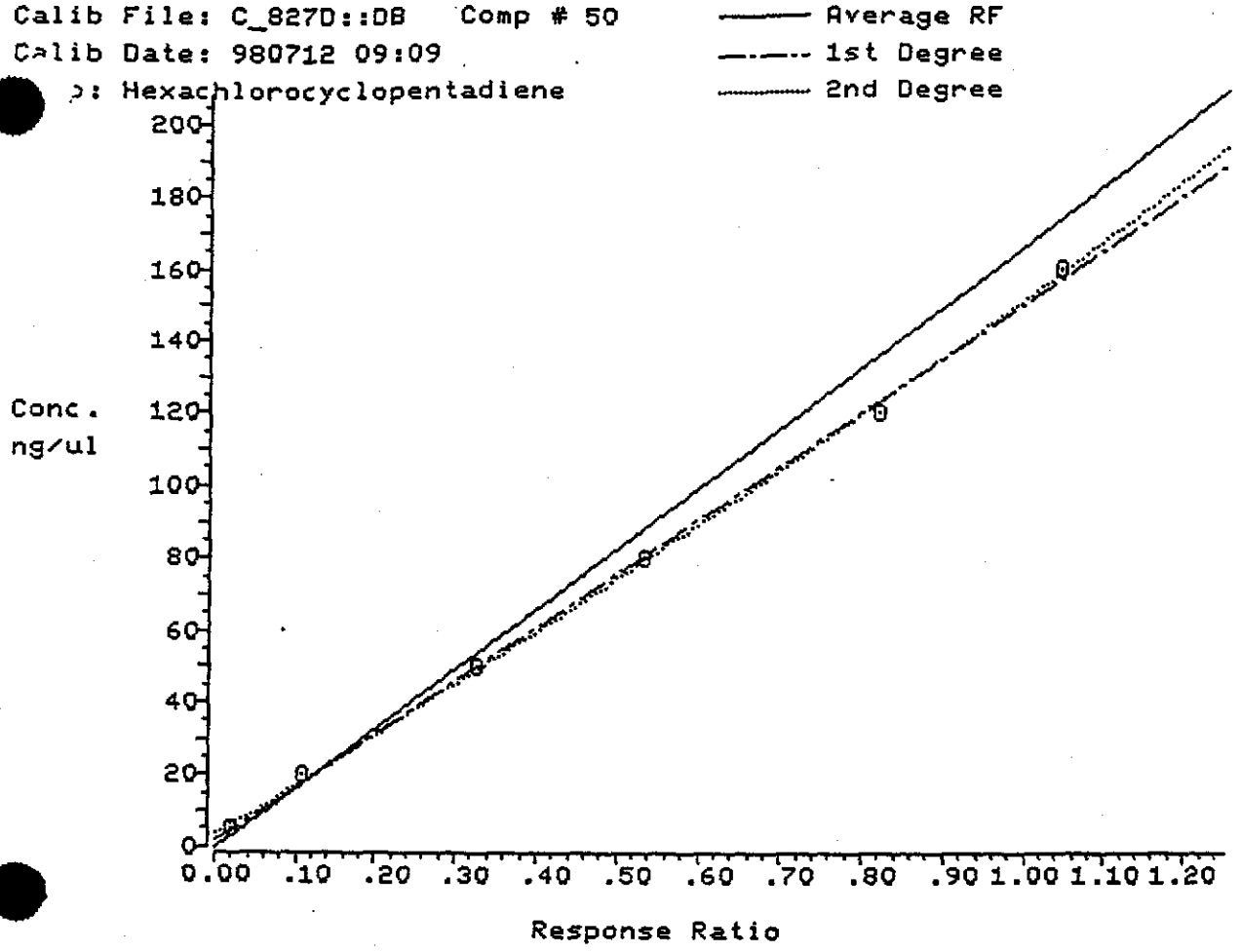
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >DG133 RRF20 = >DG135 RRF50 = >DG137
RRF80 = >DG138 RRF120= >DG134 RRF160= >DG131

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(k)fluoranthene	1.368	1.359	1.364	1.349	1.277	1.277	1.332	3.3	AVG
Benzo(a)pyrene *	1.302	1.289	1.281	1.279	1.262	1.234	1.275	1.9	AVG
Indeno(1,2,3-cd)pyrene	1.136	1.150	1.181	1.204	1.229	1.259	1.193	3.9	AVG
Dibenz(a,h)anthracene	1.150	1.195	1.223	1.245	1.210	1.198	1.204	2.7	AVG
Benzo(g,h,i)perylene	1.151	1.170	1.209	1.227	1.172	1.188	1.186	2.4	AVG
2-Fluorophenol	2.655	2.510	2.601	2.460	2.459	2.321	2.501	4.7	AVG
Phenol-d5	4.090	3.719	3.732	3.641	3.541	3.517	3.707	5.6	AVG
Phenol-d6	4.090	3.719	3.732	3.641	3.541	3.517	3.707	5.6	AVG
Nitrobenzene-d5	.788	.774	.771	.773	.756	.737	.767	2.3	AVG
2-Fluorobiphenyl	1.335	1.313	1.269	1.243	1.213	1.158	1.255	5.2	AVG
2,4,6-Tribromophenol	.200	.200	.205	.206	.209	.205	.204	1.7	AVG
Terphenyl-d14	.972	.931	.901	.890	.890	.873	.910	4.0	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: C_827D::DB Comp # 50
Calib Date: 980712 09:09
: Hexachlorocyclopentadiene



Compound # 50 Calib File: C_827D::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>DG133	>DG135	>DG137	>DG138	>DG134	>DG131
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.16806	.21811	.25959	.26573	.27249	.26097

Average of 6 Rfs: .24082 (16.81 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .0520849 + 3.709593(x)
1st Degree Corr Coef: .9993087
2nd Degree Equation: y = .0936581 + 3.392869(x) + .3023113(x^2)
2nd Degree Corr Coef: .9995688

In the above equations:

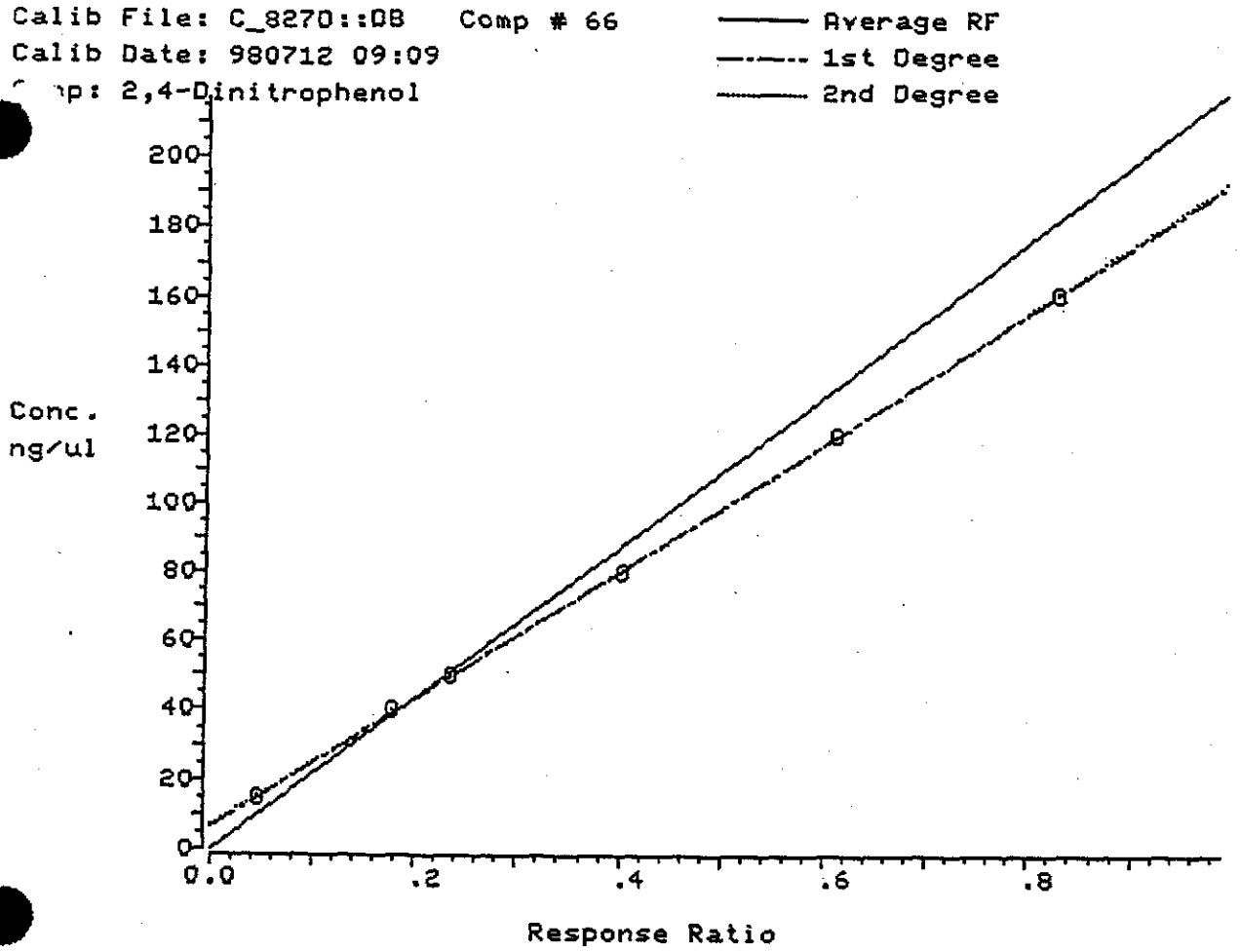
$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree

SMS 7/12/98

Calib File: C_8270::DB Comp # 66
Calib Date: 980712 09:09
Comp: 2,4-Dinitrophenol



Compound # 66 Calib File: C_827D::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>DG133	>DG135	>DG137	>DG138	>DG134	>DG131
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.11756	.17815	.18844	.20009	.20345	.20632

Average of 6 Rfs: .18234 (18.33 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1634237 + 4.640893(x)
1st Degree Corr Coef: .9999634
2nd Degree Equation: y = .1779127 + 4.533585(x) + .1221762(x^2)
2nd Degree Corr Coef: .9999803

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree
SNS 7/12/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG138 Date Analyzed: 07/11/98

Instrument ID: HP06780 Time Analyzed: 19:39

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	256572	13.70	947729	17.47	527772	22.91
	UPPER LIMIT	513144		1895458		1055544	
	LOWER LIMIT	128286		473865		263886	
	EPA SAMPLE NO.						
01	10SW-	261389	13.70	986726	17.46	548927	22.90
02	11SW-	279331	13.69	1061730	17.46	589024	22.90
03	12SW-	309331	13.69	1178429	17.45	648965	22.90
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG138 Date Analyzed: 07/11/98

Instrument ID: HP06780 Time Analyzed: 19:39

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	921105	27.43	878750	34.66	691437	42.06
	UPPER LIMIT	1842210		1757500		1382874	
	LOWER LIMIT	460553		439375		345719	
	EPA SAMPLE NO.						
01	10SW-	947057	27.42	896015	34.63	663588	42.03
02	11SW-	1036547	27.42	974696	34.63	732595	42.04
03	12SW-	1125659	27.42	1072656	34.63	794513	42.04
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >DG145 DFTPP Injection Date: 07/12/98

Instrument ID: HP06780 DFTPP Injection Time: 10:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.6
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	51.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.75
441	Present, but less than mass 443	13.8
442	Greater than 40.0% of mass 198	76.3
443	17.0 - 23.0% of mass 442	15.0 (19.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1898	>DG146	07/12/98	11:31
02	CFO--	2941693	>DG147	07/12/98	12:49
03	RB-64	2941694	>DG148	07/12/98	13:54
04	8-502	2952163	>DG149	07/12/98	14:59
05	742--	2952165	>DG150	07/12/98	16:04
06	743--	2952166	>DG151	07/12/98	17:14
07	744--	2952167	>DG152	07/12/98	18:25
08	745--	2952168	>DG153	07/12/98	19:35
09	746--	2952169	>DG154	07/12/98	20:41
10	747--	2952170	>DG155	07/12/98	21:55
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/12/98 Time: 11:31

Lab File ID: >DG146 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80 ✓	ACTUAL CONC	TRUE CONC	% DRIFT ✓
Pyridine		3.680	3.935	85.54	80.0	-6.9
N-Nitrosodimethylamine		1.991	2.102	84.47	80.0	-5.6
2-Picoline		3.713	3.755	80.92	80.0	-1.1
Phenol	*	3.954	4.034	81.62	80.0	-2.0*
Aniline		4.934	4.935	80.02	80.0	-.0
bis(2-Chloroethyl)ether		3.102	3.138	80.94	80.0	-1.2
2-Chlorophenol		1.519	1.517	79.86	80.0	.2
1,3-Dichlorobenzene		1.390	1.352	77.81	80.0	2.7
1,4-Dichlorobenzene	*	1.422	1.389	78.09	80.0	2.4*
Benzyl alcohol		1.706	1.761	82.60	80.0	-3.2
1,2-Dichlorobenzene		1.304	1.263	77.45	80.0	3.2
2-Methylphenol		2.363	2.352	79.63	80.0	.5
2,2'-oxybis(1-Chloropropane)		3.966	4.172	84.15	80.0	-5.2
bis(2-Chloroisopropyl)ether		3.966	4.172	84.15	80.0	-5.2
4-Methylphenol		2.523	2.515	79.73	80.0	.3
3- and 4-Methylphenol		2.523	2.515	79.73	80.0	.3
Acetophenone		3.560	3.637	81.73	80.0	-2.2
N-Nitroso-di-n-propylamine	#	1.485	1.540	82.96	80.0	-3.7#
o-Toluidine		4.010	3.971	79.22	80.0	1.0
Hexachloroethane		.855	.877	81.98	80.0	-2.5
Nitrobenzene		.736	.760	82.62	80.0	-3.3
Isophorone		1.673	1.752	83.77	80.0	-4.7
2-Nitrophenol	*	.224	.222	79.50	80.0	.6*
2,4-Dimethylphenol		.669	.662	79.18	80.0	1.0
Benzoic acid		.576	.634	88.14	80.0	-10.2
bis(2-Chloroethoxy)methane		.989	1.029	83.25	80.0	-4.1
2,4-Dichlorophenol	*	.302	.299	79.31	80.0	.9*
1,2,4-Trichlorobenzene		.305	.302	79.22	80.0	1.0
Naphthalene		1.115	1.100	78.94	80.0	1.3
4-Chloroaniline		.512	.499	77.95	80.0	2.6
Hexachlorobutadiene	*	.174	.171	78.77	80.0	1.5*
4-Chloro-3-methylphenol	*	.613	.608	79.34	80.0	.8*
2-Methylnaphthalene		.685	.677	79.15	80.0	1.1
1-Methylnaphthalene		.643	.638	79.29	80.0	.9
Hexachlorocyclopentadiene	#	.241	.271	82.47	80.0	-3.1#
2,4,6-Trichlorophenol	*	.363	.357	78.61	80.0	1.7*
2,4,5-Trichlorophenol		.385	.377	78.33	80.0	2.1
2-Chloronaphthalene		1.121	1.106	78.91	80.0	1.4

9404

8/19/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/12/98 Time: 11:31

Lab File ID: >DG146 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.584	.622	85.20	80.0	-6.5
Dimethylphthalate		1.473	1.456	79.10	80.0	1.1
2,6-Dinitrotoluene		.356	.370	83.10	80.0	-3.9
Acenaphthylene		1.889	1.878	79.55	80.0	.6
3-Nitroaniline		.415	.420	81.03	80.0	-1.3
Acenaphthene	*	1.101	1.094	79.45	80.0	.7*
2,4-Dinitrophenol	#	.182	.199	80.33	80.0	-.4#
4-Nitrophenol	#	.357	.367	82.19	80.0	-2.7#
Dibenzofuran		1.610	1.579	78.46	80.0	1.9
2,4-Dinitrotoluene		.488	.491	80.52	80.0	-.6
1-Naphthylamine		.964	.920	76.39	80.0	4.5
2-Naphthylamine		.941	.840	71.42	80.0	10.7
Diethylphthalate		1.449	1.425	78.71	80.0	1.6
4-Chlorophenyl-phenylether		.592	.581	78.47	80.0	1.9
Fluorene		1.205	1.182	78.49	80.0	1.9
4-Nitroaniline		.416	.414	79.68	80.0	.4
4,6-Dinitro-2-methylphenol		.146	.158	86.07	80.0	-7.6
1-Nitronaphthalene		.150	.148	78.50	80.0	1.9
N-Nitrosodiphenylamine (1)	*	.526	.518	78.74	80.0	1.6*
1,2-Diphenylhydrazine		1.468	1.478	80.54	80.0	-.7
4-Bromophenyl-phenylether		.194	.194	80.05	80.0	-.1
Hexachlorobenzene		.215	.214	79.59	80.0	.5
Pentachlorophenol	*	.144	.148	82.24	80.0	-2.8*
Phenanthrene		.999	.982	78.65	80.0	1.7
Anthracene		1.018	1.007	79.08	80.0	1.2
Carbazole		1.006	.990	78.72	80.0	1.6
Di-n-butylphthalate		1.432	1.400	78.24	80.0	2.2
Fluoranthene	*	1.119	1.091	77.98	80.0	2.5*
Benzidine		.725	.659	290.95	320.0	9.1
Pyrene		1.213	1.198	79.07	80.0	1.2
Butylbenzylphthalate		.694	.686	79.00	80.0	1.3
3,3'-Dichlorobenzidine		.485	.488	80.52	80.0	-.7
Benzo(a)anthracene		1.103	1.092	79.25	80.0	.9
bis(2-Ethylhexyl)phthalate		.972	.970	79.86	80.0	.2
Chrysene		1.040	1.032	79.35	80.0	.8
Di-n-octylphthalate	*	2.148	2.209	82.29	80.0	-2.9*
7,12-Dimethylbenz[a]anthrace		.578	.621	86.03	80.0	-7.5
Benzo(b)fluoranthene		1.442	1.431	79.39	80.0	.8

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06780 Calibration Date: 07/12/98 Time: 11:31

Lab File ID: >DG146 Init. Calib. Date(s): 07/11/98 07/11/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.332	1.343	80.63	80.0	-.8
Benzo(a)pyrene *	1.275	1.260	79.10	80.0	1.1*
Indeno(1,2,3-cd)pyrene	1.193	1.195	80.12	80.0	-.2
Dibenz(a,h)anthracene	1.204	1.193	79.32	80.0	.8
Benzo(g,h,i)perylene	1.186	1.174	79.17	80.0	1.0
2-Fluorophenol	2.501	2.524	80.72	80.0	-.9
Phenol-d6	3.707	3.978	85.85	80.0	-7.3
Nitrobenzene-d5	.767	.792	82.67	80.0	-3.3
2-Fluorobiphenyl	1.255	1.227	78.18	80.0	2.3
2,4,6-Tribromophenol	.204	.206	80.67	80.0	-.8
Terphenyl-d14	.910	.893	78.57	80.0	1.8

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

b Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG146 Date Analyzed: 07/12/98

Instrument ID: HP06780 Time Analyzed: 11:31

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	267884	13.70	1000043	17.47	559979	22.91
	UPPER LIMIT	535768		2000086		1119958	
	LOWER LIMIT	133942		500022		279990	
	EPA SAMPLE NO.						
01	CFO--	301674	13.70	1153096	17.46	635201	22.90
02	RB-64	275660	13.70	1061045	17.46	590048	22.89
03	8-502	235338	13.69	891373	17.45	480817	22.90
04	742--	249863	13.69	931913	17.45	494825	22.92
05	743--	256330	13.70	956298	17.46	525327	22.91
06	744--	263512	13.70	984745	17.46	531809	22.90
07	745--	259475	13.70	992392	17.46	545339	22.90
08	746--	261975	13.70	984090	17.46	508277	22.96
09	747--	266206	13.70	1025555	17.46	562851	22.90
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >DG146 Date Analyzed: 07/12/98

Instrument ID: HP06780 Time Analyzed: 11:31

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	964708	27.42	903839	34.66	708055	42.08
	UPPER LIMIT	1929416		1807678		1416110	
	LOWER LIMIT	482354		451920		354028	
	EPA SAMPLE NO.						
01	CFO--	1090808	27.42	1041516	34.63	739677	42.06
02	RB-64	1002396	27.42	950434	34.63	716562	42.04
03	8-502	819822	27.42	741794	34.63	533930	42.03
04	742--	769183	27.44	368657*	34.82	156429*	42.25
05	743--	826439	27.44	410049*	34.81	179828*	42.27
06	744--	848480	27.42	405350*	34.66	148985*	42.09
07	745--	912263	27.42	665215	34.64	268542*	42.06
08	746--	687885	27.57	361135*	34.76	136451*	42.10
09	747--	887152	27.42	612233	34.67	254612*	42.12
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF42Z DFTPP Injection Date: 06/22/98

Instrument ID: HP06777 DFTPP Injection Time: 08:52 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	33.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	44.9
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	42.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	24.8
365	Greater than 1.00% of mass 198	2.50
441	Present, but less than mass 443	13.3
442	Greater than 40.0% of mass 198	74.0
443	17.0 - 23.0% of mass 442	14.9 (20.2)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD160	STD1668	>GF422	06/22/98	09:48
02	SSTD120	STD1668	>GF423	06/22/98	10:47
03	MDL001	STD1668	>GF42B	06/22/98	13:55
04	SSTD050	STD1668	>GF427	06/22/98	14:54
05	SSTD005	STD1668	>GF428	06/22/98	15:54
06	SSTD020	STD1668	>GF429	06/22/98	16:54
07	SSTD080	STD1668	>GF430	06/22/98	17:53 ✓
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____ SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/22/98 06/22/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF428 RRF20 = >GF429 RRF50 = >GF427
RRF80 = >GF430 RRF120= >GF423 RRF160= >GF422

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.443	1.457	1.367	1.353	1.293	1.274	1.365	5.5	AVG	
N-Nitrosodimethylamine	.820	.830	.807	.814	.803	.804	.813	1.3	AVG	
Phenol	1.885	1.821	1.676	1.586	1.535	1.481	1.664	9.7	AVG	*
Aniline	2.170	2.159	2.000	1.955	1.893	1.836	2.002	6.9	AVG	
bis(2-Chloroethyl)ether	1.367	1.368	1.284	1.222	1.189	1.145	1.262	7.4	AVG	
2-Chlorophenol	1.576	1.567	1.495	1.420	1.371	1.340	1.461	6.8	AVG	
1,3-Dichlorobenzene	1.683	1.671	1.578	1.532	1.461	1.447	1.562	6.5	AVG	
1,4-Dichlorobenzene	1.785	1.729	1.631	1.581	1.508	1.493	1.621	7.3	AVG	*
Benzyl alcohol	.884	.936	.880	.842	.829	.811	.864	5.3	AVG	
1,2-Dichlorobenzene	1.631	1.559	1.496	1.443	1.375	1.352	1.476	7.3	AVG	
2-Methylphenol	1.275	1.287	1.203	1.162	1.137	1.105	1.195	6.2	AVG	
2,2'-oxybis(1-Chloropropane)	1.937	1.902	1.821	1.743	1.725	1.639	1.795	6.3	AVG	
bis(2-Chloroisopropyl)ether	1.937	1.902	1.821	1.743	1.725	1.639	1.795	6.3	AVG	
4-Methylphenol	1.369	1.378	1.279	1.220	1.176	1.133	1.259	8.0	AVG	
3- and 4-Methylphenol	1.369	1.378	1.279	1.220	1.176	1.133	1.259	8.0	AVG	
Acetophenone	2.003	2.025	1.837	1.744	1.665	1.591	1.811	9.8	AVG	
N-Nitroso-di-n-propylamine	.971	.982	.901	.848	.818	.688	.868	12.6	AVG	#
o-Toluidine	2.152	2.201	2.014	1.913	1.866	1.903	2.008	7.0	AVG	
Hexachloroethane	.700	.726	.698	.672	.649	.622	.678	5.6	AVG	
Nitrobenzene	.405	.410	.399	.386	.382	.375	.393	3.5	AVG	
Isophorone	.744	.775	.742	.711	.704	.712	.731	3.7	AVG	
Nitrophenol	.212	.236	.239	.236	.229	.230	.230	4.1	AVG	*
2,4-Dimethylphenol	.388	.404	.389	.381	.368	.370	.383	3.5	AVG	
Benzoic acid	.261	.305	.306	.326	.327	.327	.309	8.3	AVG	
bis(2-Chloroethoxy)methane	.457	.463	.437	.419	.398	.392	.428	6.9	AVG	
2,4-Dichlorophenol	.316	.331	.324	.318	.313	.317	.320	2.0	AVG	*
1,2,4-Trichlorobenzene	.361	.360	.351	.347	.334	.341	.349	3.1	AVG	
Naphthalene	1.112	1.100	1.052	1.010	.967	.962	1.034	6.3	AVG	
4-Chloroaniline	.495	.499	.480	.461	.449	.446	.472	4.9	AVG	
Hexachlorobutadiene	.227	.236	.238	.237	.230	.235	.234	1.9	AVG	*
4-Chloro-3-methylphenol	.329	.353	.342	.331	.324	.322	.334	3.5	AVG	*
2-Methylnaphthalene	.718	.717	.685	.663	.636	.640	.677	5.4	AVG	
1-Methylnaphthalene	.681	.692	.644	.619	.600	.599	.639	6.3	AVG	
Hexachlorocyclopentadiene	.374	.471	.500	.536	.517	.554	.492	13.1	AVG	#
2,4,6-Trichlorophenol	.424	.456	.458	.454	.463	.501	.459	5.3	AVG	*
2,4,5-Trichlorophenol	.462	.494	.501	.496	.479	.466	.483	3.4	AVG	
2-Chloronaphthalene	1.261	1.292	1.250	1.220	1.187	1.209	1.236	3.1	AVG	
2-Nitroaniline	.511	.539	.530	.531	.522	.515	.525	2.0	AVG	

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/22/98 06/22/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF428 RRF20 = >GF429 RRF50 = >GF427
RRF80 = >GF430 RRF120= >GF423 RRF160= >GF422

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Dimethylphthalate	1.578	1.609	1.568	1.527	1.512	1.518	1.552	2.5	AVG	
2,6-Dinitrotoluene	.316	.378	.375	.371	.368	.344	.359	6.7	AVG	
Acenaphthylene	2.024	2.109	2.033	1.973	1.921	1.940	2.000	3.5	AVG	
3-Nitroaniline	.389	.432	.434	.430	.426	.440	.425	4.3	AVG	
Acenaphthene	1.282	1.300	1.221	1.201	1.167	1.183	1.226	4.4	AVG	*
2,4-Dinitrophenol	.193	.243	.258	.269	.274	.273	.252	12.4	AVG	#
4-Nitrophenol	.264	.277	.287	.291	.281	.286	.281	3.3	AVG	#
Dibenzofuran	1.941	1.902	1.825	1.786	1.731	1.755	1.823	4.6	AVG	
2,4-Dinitrotoluene	.467	.519	.518	.509	.507	.476	.499	4.4	AVG	
1-Naphthylamine	1.153	1.165	1.009	1.065	1.012	.972	1.062	7.6	AVG	
2-Naphthylamine	1.154	1.143	.953	1.047	.991	.942	1.038	8.9	AVG	
Diethylphthalate	1.706	1.742	1.707	1.674	1.638	1.516	1.664	4.8	AVG	
4-Chlorophenyl-phenylether	.712	.714	.695	.711	.702	.720	.709	1.3	AVG	
Fluorene	1.366	1.358	1.290	1.305	1.281	1.317	1.320	2.7	AVG	
4-Nitroaniline	.427	.444	.441	.440	.440	.446	.440	1.6	AVG	
4,6-Dinitro-2-methylphenol	.149	.171	.183	.189	.186	.192	.178	9.1	AVG	
N-Nitrosodiphenylamine (1)	.534	.550	.529	.517	.509	.495	.522	3.8	AVG	*
1,2-Diphenylhydrazine	.813	.831	.796	.769	.717	.690	.769	7.2	AVG	
[illegible]romophenyl-phenylether	.248	.268	.267	.272	.267	.275	.266	3.5	AVG	
[illegible]chlorobenzene	.332	.347	.351	.359	.350	.362	.350	3.0	AVG	
[illegible]achlorophenol	.185	.214	.219	.231	.231	.240	.220	8.9	AVG	*
Phenanthrene	1.080	1.085	1.039	1.021	1.016	1.047	1.048	2.8	AVG	
Anthracene	1.078	1.101	1.059	1.044	1.016	1.012	1.052	3.3	AVG	
Carbazole	1.023	1.044	1.008	.983	.968	.953	.997	3.5	AVG	
Di-n-butylphthalate	1.410	1.531	1.510	1.475	1.395	1.390	1.452	4.2	AVG	
Fluoranthene	1.168	1.195	1.180	1.173	1.123	1.139	1.163	2.3	AVG	*
Benzidine	.878	.804	.646	.689	.652	.646	.719	13.7	AVG	
Pyrene	1.137	1.188	1.145	1.132	1.110	1.127	1.140	2.3	AVG	
Butylbenzylphthalate	.595	.655	.633	.626	.622	.622	.625	3.1	AVG	
3,3'-Dichlorobenzidine	.465	.521	.529	.547	.548	.543	.525	6.0	AVG	
Benzo(a)anthracene	1.124	1.136	1.098	1.114	1.093	1.107	1.112	1.5	AVG	
bis(2-Ethylhexyl)phthalate	.819	.907	.881	.852	.858	.880	.866	3.5	AVG	
Chrysene	1.052	1.079	1.041	1.063	1.033	1.053	1.054	1.5	AVG	
Di-n-octylphthalate	1.518	1.714	1.743	1.687	1.714	1.776	1.692	5.4	AVG	*
7,12-Dimethylbenz[a]anthrace	.551	.616	.603	.647	.654	.682	.626	7.3	AVG	
Benzo(b)fluoranthene	1.389	1.456	1.424	1.449	1.471	1.527	1.453	3.2	AVG	
Benzo(k)fluoranthene	1.305	1.359	1.341	1.322	1.308	1.281	1.320	2.1	AVG	
Benzo(a)pyrene	1.186	1.269	1.273	1.276	1.269	1.302	1.263	3.1	AVG	*

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/22/98 06/22/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF428 RRF20 = >GF429 RRF50 = >GF427
RRF80 = >GF430 RRF120= >GF423 RRF160= >GF422

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Indeno(1,2,3-cd)pyrene	1.147	1.235	1.270	1.285	1.279	1.296	1.252	4.4	AVG
Dibenz(a,h)anthracene	1.130	1.208	1.281	1.308	1.290	1.303	1.253	5.6	AVG
Benzo(g,h,i)perylene	1.189	1.291	1.331	1.351	1.315	1.313	1.298	4.4	AVG
2-Fluorophenol	1.448	1.459	1.388	1.369	1.317	1.274	1.376	5.3	AVG
Phenol-d5	1.788	1.793	1.727	1.653	1.608	1.578	1.691	5.4	AVG
Phenol-d6	1.788	1.793	1.727	1.653	1.608	1.578	1.691	5.4	AVG
Nitrobenzene-d5	.375	.394	.389	.384	.379	.375	.383	2.0	AVG
2-Fluorobiphenyl	1.440	1.439	1.407	1.388	1.350	1.373	1.399	2.6	AVG
2,4,6-Tribromophenol	.335	.388	.408	.422	.417	.435	.401	9.0	AVG
Terphenyl-d14	.920	.980	.958	.963	.934	.955	.952	2.2	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF440 DFTPP Injection Date: 06/22/98

Instrument ID: HP06777 DFTPP Injection Time: 21:46

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	30.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	41.2
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	40.1
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 30.0% of mass 198	26.9
365	Greater than 1.00% of mass 198	2.85
441	Present, but less than mass 443	16.0
442	Greater than 40.0% of mass 198	88.8
443	17.0 - 23.0% of mass 442	17.7 (19.9)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1668	>GF442	06/22/98	23:13
02	SBLKWB168	SBLKWB168	>GF450	06/23/98	00:34
03	168WBLCS	168WBLCS7	>GF451	06/23/98	01:34
04	168WBLCSD	168WBLCSD	>GF452	06/23/98	02:33
05	SBLKLF170	SBLKLF170	>GF453	06/23/98	03:32
06	170LFLCS	170LFLCS7	>GF454	06/23/98	04:32
07	GW20-	2946089	>GF455	06/23/98	05:31
08	GW20-MS	2946090	>GF456	06/23/98	06:31
09	GW20-MSD	2946091	>GF457	06/23/98	08:26
10					
11					
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FORM V SV 1/87 Rev.

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/22/98 Time: 23:13

Lab File ID: >GF442 Init. Calib. Date(s): 06/22/98 06/22/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.365	1.302	76.31	80.0	4.6
N-Nitrosodimethylamine	.813	.773	76.08	80.0	4.9
Phenol *	1.664	1.567	75.36	80.0	5.8*
Aniline	2.002	1.907	76.17	80.0	4.8
bis(2-Chloroethyl)ether	1.262	1.213	76.87	80.0	3.9
2-Chlorophenol	1.461	1.432	78.37	80.0	2.0
1,3-Dichlorobenzene	1.562	1.545	79.13	80.0	1.1
1,4-Dichlorobenzene *	1.621	1.607	79.30	80.0	.9*
Benzyl alcohol	.864	.843	78.07	80.0	2.4
1,2-Dichlorobenzene	1.476	1.459	79.05	80.0	1.2
2-Methylphenol	1.195	1.166	78.04	80.0	2.4
2,2'-oxybis(1-Chloropropane)	1.795	1.693	75.47	80.0	5.7
bis(2-Chloroisopropyl)ether	1.795	1.693	75.47	80.0	5.7
4-Methylphenol	1.259	1.209	76.83	80.0	4.0
3- and 4-Methylphenol	1.259	1.209	76.83	80.0	4.0
Acetophenone	1.811	1.763	77.87	80.0	2.7
N-Nitroso-di-n-propylamine #	.868	.854	78.74	80.0	1.6#
o-Toluidine	2.008	1.927	76.77	80.0	4.0
Hexachloroethane	.678	.682	80.54	80.0	-.7
Nitrobenzene	.393	.393	80.14	80.0	-.2
Isophorone	.731	.725	79.37	80.0	.8
2-Nitrophenol *	.230	.238	82.64	80.0	-3.3*
2,4-Dimethylphenol	.383	.384	80.14	80.0	-.2
Benzoic acid	.309	.332	86.07	80.0	-7.6
bis(2-Chloroethoxy)methane	.428	.418	78.14	80.0	2.3
2,4-Dichlorophenol *	.320	.327	81.72	80.0	-2.2*
1,2,4-Trichlorobenzene	.349	.355	81.32	80.0	-1.6
Naphthalene	1.034	1.026	79.39	80.0	.8
4-Chloroaniline	.472	.461	78.18	80.0	2.3
Hexachlorobutadiene *	.234	.248	84.91	80.0	-6.1*
4-Chloro-3-methylphenol *	.334	.336	80.64	80.0	-.8*
2-Methylnaphthalene	.677	.677	80.11	80.0	-.1
1-Methylnaphthalene	.639	.633	79.19	80.0	1.0
Hexachlorocyclopentadiene #	.492	.553	89.92	80.0	-12.4#
2,4,6-Trichlorophenol *	.459	.471	81.93	80.0	-2.4*
2,4,5-Trichlorophenol	.483	.497	82.33	80.0	-2.9
2-Chloronaphthalene	1.236	1.230	79.61	80.0	.5
2-Nitroaniline	.525	.528	80.52	80.0	-.6

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/22/98 Time: 23:13

Lab File ID: >GF442 Init. Calib. Date(s): 06/22/98 06/22/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.552	1.564	80.60	80.0	-.8
2,6-Dinitrotoluene	.359	.372	83.05	80.0	-3.8
Acenaphthylene	2.000	2.001	80.04	80.0	-.1
3-Nitroaniline	.425	.420	78.99	80.0	1.3
Acenaphthene *	1.226	1.216	79.39	80.0	.8*
2,4-Dinitrophenol #	.252	.269	85.41	80.0	-6.8#
4-Nitrophenol #	.281	.286	81.37	80.0	-1.7#
Dibenzofuran	1.823	1.809	79.38	80.0	.8
2,4-Dinitrotoluene	.499	.504	80.77	80.0	-1.0
1-Naphthylamine	1.062	1.053	79.29	80.0	.9
2-Naphthylamine	1.038	1.016	78.28	80.0	2.2
Diethylphthalate	1.664	1.687	81.12	80.0	-1.4
4-Chlorophenyl-phenylether	.709	.734	82.88	80.0	-3.6
Fluorene	1.320	1.334	80.88	80.0	-1.1
4-Nitroaniline	.440	.432	78.55	80.0	1.8
4,6-Dinitro-2-methylphenol	.178	.185	83.11	80.0	-3.9
N-Nitrosodiphenylamine (1) *	.522	.516	79.09	80.0	1.1*
1,2-Diphenylhydrazine	.769	.741	77.01	80.0	3.7
4-Bromophenyl-phenylether	.266	.275	82.66	80.0	-3.3
Hexachlorobenzene	.350	.367	83.91	80.0	-4.9
Pentachlorophenol *	.220	.234	85.19	80.0	-6.5*
Phenanthrene	1.048	1.030	78.61	80.0	1.7
Anthracene	1.052	1.042	79.28	80.0	.9
Carbazole	.997	.960	77.09	80.0	3.6
Di-n-butylphthalate	1.452	1.432	78.90	80.0	1.4
Fluoranthene *	1.163	1.150	79.13	80.0	1.1*
Benzidine	.719	.706	314.24	320.0	1.8
Pyrene	1.140	1.162	81.54	80.0	-1.9
Butylbenzylphthalate	.625	.633	81.02	80.0	-1.3
3,3'-Dichlorobenzidine	.525	.542	82.50	80.0	-3.1
Benzo(a)anthracene	1.112	1.101	79.24	80.0	1.0
bis(2-Ethylhexyl)phthalate	.866	.862	79.63	80.0	.5
Chrysene	1.054	1.037	78.72	80.0	1.6
Di-n-octylphthalate *	1.692	1.759	83.19	80.0	-4.0*
7,12-Dimethylbenz[a]anthrace	.625	.664	84.98	80.0	-6.2
Benzo(b)fluoranthene	1.453	1.457	80.23	80.0	-.3
Benzo(k)fluoranthene	1.320	1.359	82.38	80.0	-3.0
Benzo(a)pyrene *	1.263	1.286	81.49	80.0	-1.9*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/22/98 Time: 23:13

Lab File ID: >GF442 Init. Calib. Date(s): 06/22/98 06/22/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.252	1.278	81.66	80.0	-2.1
Dibenz(a,h)anthracene	1.253	1.291	82.42	80.0	-3.0
Benzo(g,h,i)perylene	1.298	1.313	80.90	80.0	-1.1
2-Fluorophenol	1.376	1.329	77.29	80.0	3.4
Phenol-d5	1.691	1.633	77.24	80.0	3.4
Phenol-d6	1.691	1.633	77.24	80.0	3.4
Nitrobenzene-d5	.383	.391	81.66	80.0	-2.1
2-Fluorobiphenyl	1.399	1.397	79.87	80.0	.2
2,4,6-Tribromophenol	.401	.434	86.63	80.0	-8.3
Terphenyl-d14	.952	1.011	84.95	80.0	-6.2

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF442 Date Analyzed: 06/22/98

Instrument ID: HP06777 Time Analyzed: 23:13

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	350309	12.80	1283788	16.55	679568	21.93
	UPPER LIMIT	700618		2567576		1359136	
	LOWER LIMIT	175155		641894		339784	
01	SBLKWB168	355479	12.80	1302694	16.55	698238	21.93
02	168WBLCS	327334	12.80	1232310	16.55	661491	21.94
03	168WBLCSD	308905	12.80	1166485	16.55	620740	21.94
04	SBLKLF170	392601	12.80	1468545	16.54	802162	21.93
05	170LFLCS	354892	12.80	1371194	16.55	739074	21.93
06	GW20-	334814	12.80	1253042	16.55	666044	21.93
07	GW20-MS	302361	12.81	1152057	16.56	627947	21.93
08	GW20-MSD	343347	12.81	1264754	16.55	666719	21.93
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF442 Date Analyzed: 06/22/98

Instrument ID: HP06777 Time Analyzed: 23:13

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	1273775	✓	26.50	1281693	✓	33.09	1043824	✓	38.59
	UPPER LIMIT	2547550			2563386			2087648		
	LOWER LIMIT	636888			640847			521912		
	EPA SAMPLE NO.									
01	SBLKWB168	1310767	✓	26.49	1368321	✓	33.07	1076372	✓	38.57
02	168WBLCS	1242900	✓	26.49	1236012	✓	33.08	1001665	✓	38.58
03	168WBLCSD	1155439	✓	26.49	1156210	✓	33.08	933171	✓	38.58
04	SBLKLF170	1514257		26.49	1587181		33.07	1217004		38.58
05	170LFLCS	1403198		26.50	1434280		33.09	1127275		38.60
06	GW20-	1266726	✓	26.49	1292907	✓	33.07	999779	✓	38.58
07	GW20-MS	1163028	✓	26.50	1199731	✓	33.09	950562	✓	38.59
08	GW20-MSD	1239725	✓	26.50	1263058	✓	33.09	1006418	✓	38.58
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF52Z DFTPP Injection Date: 06/24/98

Instrument ID: HP06777 DFTPP Injection Time: 23:59

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	42.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.1
70	Less than 2.0% of mass 69	.4 (.7)1
127	40.0 - 60.0% of mass 198	45.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.25
441	Present, but less than mass 443	11.4
442	Greater than 40.0% of mass 198	71.6
443	17.0 - 23.0% of mass 442	13.8 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1668	>GF52A	06/25/98	00:29
02	SSTD160	STD1668	>GF522	06/25/98	01:38
03	SSTD005	STD1668	>GF523	06/25/98	02:34
04	SSTD120	STD1668	>GF524	06/25/98	03:30
05	SSTD020	STD1668	>GF525	06/25/98	04:26
06	SSTD050	STD1668	>GF526	06/25/98	05:22
07	SSTD001	MDL1668	>GF527	06/25/98	06:22
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____ SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.330	1.347	1.320	1.264	1.227	1.203	1.282	4.6	AVG	
N-Nitrosodimethylamine	.757	.780	.775	.765	.740	.747	.761	2.0	AVG	
Phenol	1.643	1.643	1.568	1.504	1.419	1.367	1.524	7.5	AVG	*
Aniline	1.943	1.970	1.883	1.849	1.762	1.728	1.856	5.2	AVG	
bis(2-Chloroethyl)ether	1.275	1.235	1.208	1.161	1.097	1.057	1.172	7.1	AVG	
2-Chlorophenol	1.421	1.402	1.351	1.316	1.274	1.246	1.335	5.2	AVG	
1,3-Dichlorobenzene	1.551	1.530	1.489	1.449	1.404	1.375	1.466	4.7	AVG	
1,4-Dichlorobenzene	1.604	1.582	1.524	1.485	1.446	1.425	1.511	4.8	AVG	*
Benzyl alcohol	.863	.848	.828	.801	.772	.762	.812	5.1	AVG	
1,2-Dichlorobenzene	1.463	1.450	1.402	1.367	1.314	1.309	1.384	4.8	AVG	
2-Methylphenol	1.167	1.176	1.130	1.106	1.056	1.027	1.110	5.4	AVG	
2,2'-oxybis(1-Chloropropane)	1.754	1.699	1.658	1.609	1.577	1.504	1.633	5.5	AVG	
bis(2-Chloroisopropyl)ether	1.754	1.699	1.658	1.609	1.577	1.504	1.633	5.5	AVG	
4-Methylphenol	1.256	1.242	1.177	1.124	1.067	1.033	1.150	7.9	AVG	
3- and 4-Methylphenol	1.256	1.242	1.177	1.124	1.067	1.033	1.150	7.9	AVG	
Acetophenone	1.868	1.840	1.726	1.647	1.576	1.530	1.698	8.1	AVG	
N-Nitroso-di-n-propylamine	.872	.878	.833	.799	.768	.746	.816	6.7	AVG	#
o-Toluidine	1.986	1.938	1.863	1.791	1.709	1.672	1.826	6.8	AVG	
Hexachloroethane	.651	.660	.648	.638	.613	.587	.633	4.4	AVG	
Nitrobenzene	.375	.381	.380	.368	.363	.354	.370	2.9	AVG	
Isophorone	.711	.715	.697	.697	.667	.665	.692	3.1	AVG	
2-Nitrophenol	.199	.212	.216	.212	.214	.210	.211	2.9	AVG	*
2,4-Dimethylphenol	.382	.384	.374	.369	.361	.357	.371	3.0	AVG	
Benzoic acid	.233	.273	.282	.286	.292	.302	.278	8.7	AVG	
bis(2-Chloroethoxy)methane	.442	.439	.425	.410	.383	.378	.413	6.7	AVG	
2,4-Dichlorophenol	.310	.315	.317	.313	.311	.313	.313	.8	AVG	*
1,2,4-Trichlorobenzene	.365	.364	.361	.356	.358	.365	.362	1.1	AVG	
Naphthalene	1.078	1.051	1.008	.981	.948	.948	1.002	5.4	AVG	
4-Chloroaniline	.460	.467	.452	.443	.426	.423	.445	4.0	AVG	
Hexachlorobutadiene	.236	.242	.245	.242	.247	.253	.244	2.3	AVG	*
4-Chloro-3-methylphenol	.323	.334	.327	.329	.317	.314	.324	2.3	AVG	*
2-Methylnaphthalene	.698	.692	.671	.657	.645	.644	.668	3.5	AVG	
1-Methylnaphthalene	.660	.646	.635	.620	.605	.604	.628	3.6	AVG	
Hexachlorocyclopentadiene	.082	.255	.370	.401	.439	.476	.337	43.4	1STDEG	#
2,4,6-Trichlorophenol	.421	.441	.451	.449	.447	.457	.444	2.8	AVG	*
2,4,5-Trichlorophenol	.444	.488	.501	.487	.490	.502	.485	4.4	AVG	
2-Chloronaphthalene	1.247	1.236	1.207	1.189	1.152	1.171	1.200	3.1	AVG	
2-Nitroaniline	.375	.413	.411	.406	.396	.400	.400	3.5	AVG	

6/25/98 #46

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Dimethylphthalate	1.530	1.533	1.514	1.506	1.473	1.458	1.502	2.0	AVG
2,6-Dinitrotoluene	.302	.352	.361	.354	.354	.356	.347	6.4	AVG
Acenaphthylene	1.978	1.996	1.948	1.923	1.867	1.877	1.932	2.7	AVG
3-Nitroaniline	.373	.400	.412	.406	.397	.397	.398	3.3	AVG
Acenaphthene *	1.220	1.186	1.160	1.139	1.124	1.127	1.159	3.3	AVG *
2,4-Dinitrophenol #	.143	.208	.225	.221	.242	.242	.213	17.3	1STDEG #
4-Nitrophenol #	.239	.258	.276	.273	.275	.277	.266	5.7	AVG #
Dibenzofuran	1.819	1.795	1.763	1.704	1.680	1.711	1.745	3.2	AVG
2,4-Dinitrotoluene	.446	.499	.505	.492	.492	.502	.489	4.4	AVG
1-Naphthylamine	1.057	1.094	1.015	1.041	1.006	.975	1.031	4.1	AVG
2-Naphthylamine	1.150	1.072	.974	1.031	.994	.970	1.032	6.7	AVG
Diethylphthalate	1.612	1.651	1.626	1.613	1.573	1.558	1.606	2.1	AVG
4-Chlorophenyl-phenylether	.686	.700	.696	.706	.741	.751	.713	3.7	AVG
Fluorene	1.354	1.324	1.284	1.295	1.323	1.362	1.324	2.3	AVG
4-Nitroaniline	.409	.422	.426	.429	.422	.423	.422	1.6	AVG
4,6-Dinitro-2-methylphenol	.117	.145	.162	.163	.168	.172	.154	13.2	AVG
N-Nitrosodiphenylamine (1) *	.488	.482	.474	.470	.461	.474	.475	2.0	AVG *
1,2-Diphenylhydrazine	.729	.731	.695	.680	.649	.638	.687	5.7	AVG
4-Bromophenyl-phenylether	.230	.241	.245	.247	.255	.260	.246	4.3	AVG
Hexachlorobenzene	.290	.300	.304	.309	.319	.329	.308	4.5	AVG
Pentachlorophenol *	.132	.168	.173	.167	.187	.190	.169	12.1	AVG *
Phenanthrene	1.009	.998	.966	.953	.964	.981	.979	2.2	AVG
Anthracene	1.022	1.013	1.001	.991	.994	1.019	1.007	1.3	AVG
Carbazole	.970	.966	.947	.936	.939	.957	.952	1.4	AVG
Di-n-butylphthalate	1.335	1.400	1.359	1.356	1.322	1.317	1.348	2.3	AVG
Fluoranthene *	1.149	1.172	1.154	1.165	1.166	1.187	1.166	1.2	AVG *
Benzidine	.867	.778	.639	.714	.695	.689	.730	11.0	AVG
Pyrene	1.176	1.178	1.149	1.196	1.158	1.185	1.174	1.5	AVG
Butylbenzylphthalate	.625	.619	.595	.600	.584	.575	.600	3.2	AVG
3,3'-Dichlorobenzidine	.464	.488	.497	.512	.536	.542	.507	5.8	AVG
Benzo(a)anthracene	1.089	1.091	1.073	1.099	1.126	1.145	1.104	2.4	AVG
bis(2-Ethylhexyl)phthalate	.863	.841	.806	.816	.799	.795	.820	3.3	AVG
Chrysene	1.006	1.031	1.023	1.038	1.049	1.054	1.034	1.7	AVG
Di-n-octylphthalate *	1.673	1.674	1.621	1.685	1.629	1.603	1.648	2.1	AVG *
7,12-Dimethylbenz(a)anthrace	.440	.526	.569	.607	.627	.636	.568	13.1	AVG
Benzo(b)fluoranthene	1.352	1.367	1.354	1.392	1.452	1.501	1.403	4.3	AVG
Benzo(k)fluoranthene	1.222	1.233	1.266	1.273	1.284	1.279	1.259	2.0	AVG
Benzo(a)pyrene *	1.156	1.180	1.202	1.223	1.233	1.244	1.206	2.8	AVG *

(1) Cannot be separated from Diphenylamine

6/25/98 8:47

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date(s): 06/25/98 06/25/98

___.

Min RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

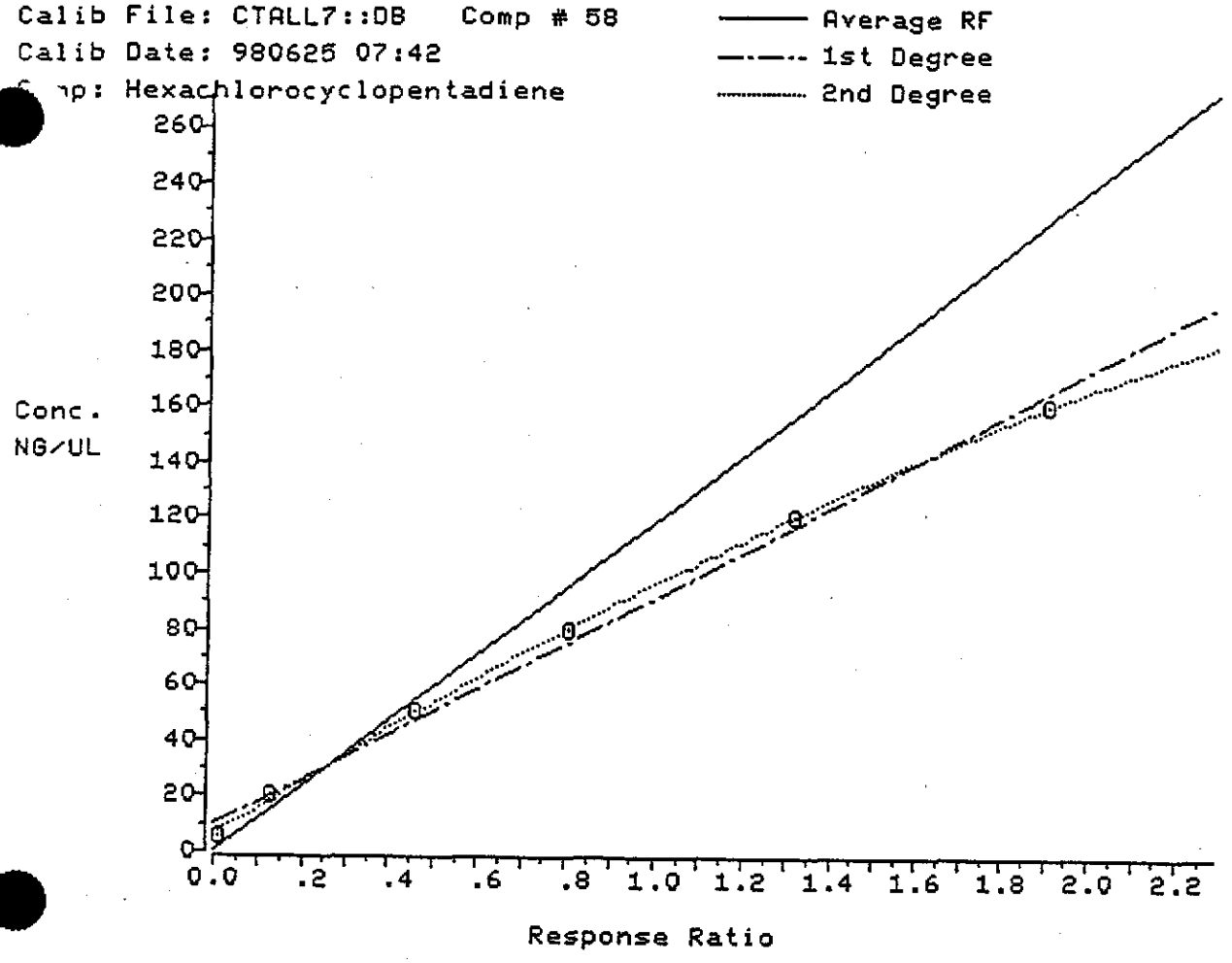
LAB FILE ID: RRF5 = >GF523 RRF20 = >GF525 RRF50 = >GF526
RRF80 = >GF52A RRF120= >GF524 RRF160= >GF522

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD
Indeno(1,2,3-cd)pyrene	1.123	1.141	1.185	1.209	1.209	1.255	1.187	4.1	AVG
Dibenz(a,h)anthracene	1.102	1.107	1.179	1.216	1.216	1.248	1.178	5.2	AVG
Benzo(g,h,i)perylene	1.161	1.196	1.227	1.236	1.234	1.270	1.221	3.1	AVG
2-Fluorophenol	1.326	1.332	1.317	1.303	1.237	1.210	1.288	4.0	AVG
Phenol-d5	1.635	1.638	1.609	1.573	1.497	1.450	1.567	5.0	AVG
Phenol-d6	1.635	1.638	1.609	1.573	1.497	1.450	1.567	5.0	AVG
Nitrobenzene-d5	.372	.381	.379	.371	.368	.363	.372	1.8	AVG
2-Fluorobiphenyl	1.401	1.398	1.371	1.331	1.324	1.349	1.362	2.4	AVG
2,4,6-Tribromophenol	.279	.321	.349	.348	.369	.375	.340	10.3	AVG
Terphenyl-d14	.872	.901	.893	.959	.961	.970	.926	4.6	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

JLE 6/25/98

Calib File: CTALL7::DB Comp # 58
Calib Date: 980625 07:42
Comp: Hexachlorocyclopentadiene



Compound # 58 Calib File: CTALL7::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>GF523	>GF525	>GF526	>GF52A	>GF524	>GF522
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.08176	.25506	.37023	.40135	.43919	.47620

Average of 6 Rfs: .33730 (43.36 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2444529 + 2.033954(x)
1st Degree Corr Coef: .9973547
2nd Degree Equation: y = .1365031 + 2.534246(x) + -.267098(x^2)
2nd Degree Corr Coef: .9998397

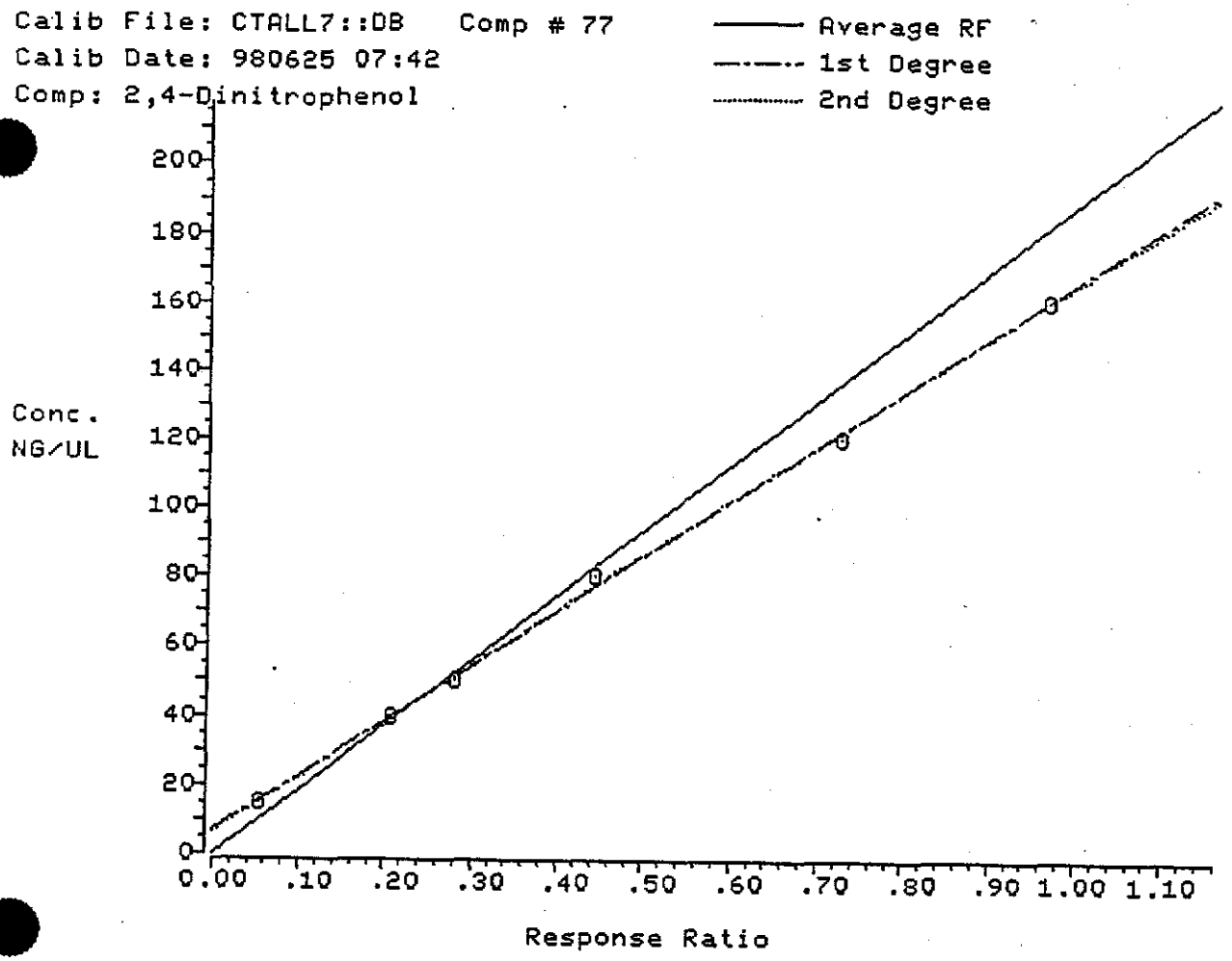
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1st degree
Date 6/25/98

Calib File: CTALL7::DB Comp # 77
Calib Date: 980625 07:42
Comp: 2,4-Dinitrophenol



Compound # 77 Calib File: CTALL7::DB

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>GF523	>GF525	>GF526	>GF52A	>GF524	>GF522
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.14289	.20823	.22455	.22114	.24207	.24166

Average of 6 Rfs: .21342 (17.28 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .1742574 + 3.951048(x)$
1st Degree Corr Coef: .9994929
2nd Degree Equation: $y = .1563571 + 4.063260(x) + -.108315(x^2)$
2nd Degree Corr Coef: .9995170

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

: 1st degree
Date 6/25/98
850

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF58X DFTPP Injection Date: 06/26/98

Instrument ID: HP06777 DFTPP Injection Time: 16:24 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	36.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	46.7
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	41.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	23.6
365	Greater than 1.00% of mass 198	2.99
441	Present, but less than mass 443	16.0
442	Greater than 40.0% of mass 198	96.4
443	17.0 - 23.0% of mass 442	18.4 (19.1)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GF58B	06/26/98	16:54
02	GW16-	2946085	>GF588	06/26/98	18:08
03	GW17-	2946086	>GF589	06/26/98	19:00
04	GW19-	2946088	>GF590	06/26/98	19:52
05	GW21-	2946092	>GF591	06/26/98	22:33
06	RB611	2946093	>GF592	06/26/98	23:25
07	20641	2946718	>GF593	06/27/98	00:17
08	20642	2946719	>GF594	06/27/98	01:09
09	20643	2946720	>GF595	06/27/98	02:01
10	20644	2946721	>GF596	06/27/98	02:53 ✓
11	20645	2946722	>GF597	06/27/98	03:43
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SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/26/98 Time: 16:54

Lab File ID: >GF58B Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.282	1.080	67.41	80.0	15.7
N-Nitrosodimethylamine		.761	.615	64.64	80.0	19.2
Phenol	*	1.524	1.431	75.12	80.0	6.1*
Aniline		1.856	1.648	71.03	80.0	11.2
bis(2-Chloroethyl)ether		1.172	1.013	69.15	80.0	13.6
2-Chlorophenol		1.335	1.256	75.27	80.0	5.9
1,3-Dichlorobenzene		1.466	1.479	80.70	80.0	-.9
1,4-Dichlorobenzene	*	1.511	1.505	79.68	80.0	.4*
Benzyl alcohol		.812	.715	70.39	80.0	12.0
1,2-Dichlorobenzene		1.384	1.395	80.61	80.0	-.8
2-Methylphenol		1.110	.992	71.52	80.0	10.6
2,2'-oxybis(1-Chloropropane)		1.633	1.330	65.16	80.0	18.6
bis(2-Chloroisopropyl)ether		1.633	1.330	65.16	80.0	18.6
4-Methylphenol		1.150	1.044	72.64	80.0	9.2
3- and 4-Methylphenol		1.150	1.044	72.64	80.0	9.2
Acetophenone		1.698	1.614	76.05	80.0	4.9
N-Nitroso-di-n-propylamine	#	.816	.730	71.57	80.0	10.5#
o-Toluidine		1.826	1.636	71.65	80.0	10.4
Hexachloroethane		.633	.638	80.58	80.0	-.7
Nitrobenzene		.370	.351	75.97	80.0	5.0
Isophorone		.692	.633	73.19	80.0	8.5
2-Nitrophenol	*	.211	.207	78.72	80.0	1.6*
2,4-Dimethylphenol		.371	.361	77.88	80.0	2.7
Benzoic acid		.278	.250	72.11	80.0	9.9
bis(2-Chloroethoxy)methane		.413	.384	74.35	80.0	7.1
2,4-Dichlorophenol	*	.313	.323	82.57	80.0	-3.2*
1,2,4-Trichlorobenzene		.362	.395	87.33	80.0	-9.2
Naphthalene		1.002	1.010	80.59	80.0	-.7
4-Chloroaniline		.445	.435	78.12	80.0	2.3
Hexachlorobutadiene	*	.244	.285	93.40	80.0	-16.7*
4-Chloro-3-methylphenol	*	.324	.303	74.80	80.0	6.5*
2-Methylnaphthalene		.668	.667	79.91	80.0	.1
1-Methylnaphthalene		.628	.632	80.49	80.0	-.6
Hexachlorocyclopentadiene	#	.337	→ .266	53.09	80.0	33.6#
2,4,6-Trichlorophenol	*	.444	.459	82.64	80.0	-3.3*
2,4,5-Trichlorophenol		.485	.503	82.94	80.0	-3.7
2-Chloronaphthalene		1.200	1.233	82.15	80.0	-2.7
2-Nitroaniline		.400	.362	72.42	80.0	9.5

Decrease sensitivity J+, UJ-

all are ND for low... ⇒ UJ

Cw16
Cw17
Cw19
Cw21
RB611

962

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/26/98 Time: 16:54

Lab File ID: >GF58B Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.502	1.477	78.64	80.0	1.7
2,6-Dinitrotoluene	.347	.339	78.31	80.0	2.1
Acenaphthylene	1.932	1.940	80.35	80.0	-.4
3-Nitroaniline	.398	.370	74.43	80.0	7.0
Acenaphthene *	1.159	1.163	80.25	80.0	-.3*
2,4-Dinitrophenol #	.213	.181	64.20	80.0	19.7#
4-Nitrophenol #	.266	.238	71.57	80.0	10.5#
Dibenzofuran	1.745	1.770	81.12	80.0	-1.4
2,4-Dinitrotoluene	.489	.473	77.41	80.0	3.2
1-Naphthylamine	1.031	1.000	77.59	80.0	3.0
2-Naphthylamine	1.032	.971	75.28	80.0	5.9
Diethylphthalate	1.605	1.581	78.78	80.0	1.5
4-Chlorophenyl-phenylether	.713	.721	80.80	80.0	-1.0
Fluorene	1.324	1.284	77.59	80.0	3.0
4-Nitroaniline	.422	.389	73.82	80.0	7.7
4,6-Dinitro-2-methylphenol	.154	.149	77.05	80.0	3.7
N-Nitrosodiphenylamine (1) *	.475	.478	80.48	80.0	-.6*
1,2-Diphenylhydrazine	.687	.639	74.46	80.0	6.9
4-Bromophenyl-phenylether	.246	.270	87.57	80.0	-9.5
Hexachlorobenzene	.308	.343	88.96	80.0	-11.2
Pentachlorophenol *	.169	.136	64.41	80.0	19.5*
Phenanthrene	.979	.985	80.49	80.0	-.6
Anthracene	1.007	1.025	81.49	80.0	-1.9
Carbazole	.952	.935	78.53	80.0	1.8
Di-n-butylphthalate	1.348	1.343	79.71	80.0	.4
Fluoranthene *	1.166	1.193	81.90	80.0	-2.4*
Benzidine	.730	.655	286.89	320.0	10.3
Pyrene	1.174	1.104	75.29	80.0	5.9
Butylbenzylphthalate	.600	.543	72.42	80.0	9.5
3,3'-Dichlorobenzidine	.507	.513	81.01	80.0	-1.3
Benzo(a)anthracene	1.104	1.124	81.44	80.0	-1.8
bis(2-Ethylhexyl)phthalate	.820	.730	71.26	80.0	10.9
Chrysene	1.034	1.012	78.32	80.0	2.1
Di-n-octylphthalate *	1.648	1.528	74.20	80.0	7.3*
7,12-Dimethylbenz[a]anthrace	.568	.635	89.48	80.0	-11.9
Benzo(b)fluoranthene	1.403	1.440	82.11	80.0	-2.6
Benzo(k)fluoranthene	1.259	1.302	82.73	80.0	-3.4
Benzo(a)pyrene *	1.206	1.213	80.41	80.0	-.5*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/26/98 Time: 16:54

Lab File ID: >GF58B Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.187	1.221	82.32	80.0	-2.9
Dibenz(a,h)anthracene	1.178	1.195	81.12	80.0	-1.4
Benzo(g,h,i)perylene	1.221	1.238	81.18	80.0	-1.5
2-Fluorophenol	1.287	1.194	74.21	80.0	7.2
Phenol-d5	1.567	1.374	70.16	80.0	12.3
Phenol-d6	1.567	1.374	70.16	80.0	12.3
Nitrobenzene-d5	.372	.358	76.97	80.0	3.8
2-Fluorobiphenyl	1.362	1.427	83.80	80.0	-4.7
2,4,6-Tribromophenol	.340	.357	84.03	80.0	-5.0
Terphenyl-d14	.926	.889	76.83	80.0	4.0

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF58B Date Analyzed: 06/26/98

Instrument ID: HP06777 Time Analyzed: 16:54

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	352107	10.59	1185202	14.25	633537	19.50
	UPPER LIMIT	704214		2370404		1267074	
	LOWER LIMIT	176054		592601		316769	
	EPA SAMPLE NO.						
01	GW16-	355195	10.59	1228632	14.23	639017	19.50
02	GW17-	303708	10.60	1023365	14.58	544626	19.51
03	GW19-	346655	10.60	1175386	14.26	617660	19.51
04	GW21-	405834	10.59	1232126	14.32	715183	19.51
05	RB611	410012	10.59	1406022	14.24	739953	19.50
06	20641	411860	10.59	1410097	14.24	752367	19.50
07	20642	351810	10.60	1226751	14.24	658199	19.50
08	20643	381498	10.60	1326371	14.24	708755	19.50
09	20644	385240	10.60	1320742	14.24	706475	19.50
10	20645	380161	10.61	1303178	14.27	714629	19.51
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF58B Date Analyzed: 06/26/98

Instrument ID: HP06777 Time Analyzed: 16:54

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	1215317	23.99	1357346	30.88	1097855	34.28
	UPPER LIMIT	2430634		2714692		2195710	
	LOWER LIMIT	607659		678673		548928	
	EPA SAMPLE NO.						
01	GW16-	1201857	23.98	1230941	30.87	1010030	34.27
02	GW17-	1041803	24.00	1050435	30.88	884880	34.28
03	GW19-	1175828	23.99	1204146	30.88	983661	34.28
04	GW21-	1338327	23.99	1336332	30.88	1078016	34.28
05	RB611	1440558	23.98	1464540	30.88	1179093	34.28
06	20641	1450203	23.98	1497055	30.88	1182599	34.28
07	20642	1283943	23.98	1303069	30.88	1023472	34.28
08	20643	1378565	23.98	1415690	30.88	1123055	34.28
09	20644	1392578	23.98	1427969	30.88	1136846	34.28
10	20645	1383037	23.98	1464727	30.86	1202231	34.28
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF610 DFTPP Injection Date: 06/28/98

Instrument ID: HP06777 DFTPP Injection Time: 10:54

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	39.0
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	50.9
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	44.2
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	23.9
365	Greater than 1.00% of mass 198	2.98
441	Present, but less than mass 443	13.0
442	Greater than 40.0% of mass 198	78.1
443	17.0 - 23.0% of mass 442	15.0 (19.3)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GF611	06/28/98	11:19
02	GW17-DL	2946086DL	>GF618	06/28/98	12:39
03	GW21-DL	2946092DL	>GF620	06/28/98	14:19
04	20646DL	2946723DL	>GF623	06/28/98	16:49
05	20647DL	2946724DL	>GF624	06/28/98	17:40
06	20648DL	2946725DL	>GF625	06/28/98	18:30
07	20646	2946723	>GF626	06/28/98	19:20
08	20647	2946724	>GF627	06/28/98	20:10
09	20648	2946725	>GF628	06/28/98	21:00
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/28/98 Time: 11:19

Lab File ID: >GF611 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.282	1.004	62.68	80.0	21.6
N-Nitrosodimethylamine	.761	.567	59.59	80.0	25.5
Phenol *	1.524	1.357	71.25	80.0	10.9*
Aniline	1.856	1.574	67.86	80.0	15.2
bis(2-Chloroethyl)ether	1.172	.960	65.51	80.0	18.1
2-Chlorophenol	1.335	1.259	75.46	80.0	5.7
1,3-Dichlorobenzene	1.466	1.472	80.30	80.0	-.4
1,4-Dichlorobenzene *	1.511	1.541	81.58	80.0	-2.0*
Benzyl alcohol	.812	.711	69.99	80.0	12.5
1,2-Dichlorobenzene	1.384	1.424	82.32	80.0	-2.9
2-Methylphenol	1.110	.980	70.60	80.0	11.7
2,2'-oxybis(1-Chloropropane)	1.633	1.249	61.15	80.0	23.6
bis(2-Chloroisopropyl)ether	1.633	1.249	61.15	80.0	23.6
4-Methylphenol	1.150	1.125	78.29	80.0	2.1
3- and 4-Methylphenol	1.150	1.125	78.29	80.0	2.1
Acetophenone	1.698	1.667	78.54	80.0	1.8
N-Nitroso-di-n-propylamine #	.816	.755	74.05	80.0	7.4#
o-Toluidine	1.826	1.660	72.70	80.0	9.1
Hexachloroethane	.633	.658	83.11	80.0	-3.9
Nitrobenzene	.370	.352	76.09	80.0	4.9
Isophorone	.692	.632	73.06	80.0	8.7
2-Nitrophenol *	.211	.202	76.70	80.0	4.1*
2,4-Dimethylphenol	.371	.357	76.86	80.0	3.9
Benzoic acid	.278	.248	71.43	80.0	10.7
bis(2-Chloroethoxy)methane	.413	.371	71.87	80.0	10.2
2,4-Dichlorophenol *	.313	.322	82.23	80.0	-2.8*
1,2,4-Trichlorobenzene	.362	.394	87.03	80.0	-8.8
Naphthalene	1.002	1.005	80.24	80.0	-.3
4-Chloroaniline	.445	.431	77.53	80.0	3.1
Hexachlorobutadiene *	.244	.283	92.83	80.0	-16.0*
4-Chloro-3-methylphenol *	.324	.305	75.37	80.0	5.8*
2-Methylnaphthalene	.668	.681	81.56	80.0	-2.0
1-Methylnaphthalene	.628	.641	81.66	80.0	-2.1
Hexachlorocyclopentadiene #	.337	.351	66.84	80.0	16.5#
2,4,6-Trichlorophenol *	.444	.467	84.09	80.0	-5.1*
2,4,5-Trichlorophenol	.485	.460	75.83	80.0	5.2
2-Chloronaphthalene	1.200	1.227	81.78	80.0	-2.2
2-Nitroaniline	.400	.374	74.86	80.0	6.4

all are decreasing sensitivity
J+, UJ- but the Y samples in question are repeated
from unaddulated sample ⇒ no qual of data

Cw17 DL
Cw21 DL

Jaulsss 6/29/98

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/28/98 Time: 11:19

Lab File ID: >GF611 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.502	1.397	74.40	80.0	7.0
2,6-Dinitrotoluene	.347	.343	79.14	80.0	1.1
Acenaphthylene	1.932	1.958	81.10	80.0	-1.4
3-Nitroaniline	.398	.373	75.05	80.0	6.2
Acenaphthene *	1.159	1.183	81.62	80.0	-2.0 *
2,4-Dinitrophenol #	.213	.201	70.46	80.0	11.9 #
4-Nitrophenol #	.266	.277	83.06	80.0	-3.8 #
Dibenzofuran	1.745	1.804	82.66	80.0	-3.3
2,4-Dinitrotoluene	.489	.472	77.19	80.0	3.5
1-Naphthylamine	1.031	.985	76.38	80.0	4.5
2-Naphthylamine	1.032	.975	75.62	80.0	5.5
Diethylphthalate	1.605	1.501	74.81	80.0	6.5
4-Chlorophenyl-phenylether	.713	.721	80.80	80.0	-1.0
Fluorene	1.324	1.337	80.82	80.0	-1.0
4-Nitroaniline	.422	.395	74.85	80.0	6.4
4,6-Dinitro-2-methylphenol	.154	.152	78.83	80.0	1.5
N-Nitrosodiphenylamine (1) *	.475	.498	83.92	80.0	-4.9 *
1,2-Diphenylhydrazine	.687	.636	74.04	80.0	7.4
4-Bromophenyl-phenylether	.246	.273	88.70	80.0	-10.9
Hexachlorobenzene	.308	.361	93.69	80.0	-17.1
Pentachlorophenol *	.169	.177	83.66	80.0	-4.6 *
Phenanthrene	.979	1.065	87.06	80.0	-8.8
Anthracene	1.007	1.042	82.80	80.0	-3.5
Carbazole	.952	.966	81.17	80.0	-1.5
Di-n-butylphthalate	1.348	1.385	82.18	80.0	-2.7
Fluoranthene *	1.166	1.252	85.95	80.0	-7.4 *
Benzidine	.730	.635	278.47	320.0	13.0
Pyrene	1.174	1.040	70.89	80.0	11.4
Butylbenzylphthalate	.600	.518	69.09	80.0	13.6
3,3'-Dichlorobenzidine	.507	.510	80.53	80.0	-.7
Benzo(a)anthracene	1.104	1.148	83.18	80.0	-4.0
bis(2-Ethylhexyl)phthalate	.820	.708	69.08	80.0	13.6
Chrysene	1.034	1.015	78.53	80.0	1.8
Di-n-octylphthalate *	1.648	1.489	72.30	80.0	9.6 *
7,12-Dimethylbenz[a]anthrace	.568	.658	92.76	80.0	-16.0
Benzo(b)fluoranthene	1.403	1.597	91.04	80.0	-13.8
Benzo(k)fluoranthene	1.259	1.228	78.03	80.0	2.5
Benzo(a)pyrene *	1.206	1.229	81.50	80.0	-1.9 *

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/28/98 Time: 11:19

Lab File ID: >GF611 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.187	1.227	82.67	80.0	-3.3
Dibenz(a,h)anthracene	1.178	1.243	84.44	80.0	-5.5
Benzo(g,h,i)perylene	1.221	1.262	82.72	80.0	-3.4
2-Fluorophenol	1.287	1.112	69.11	80.0	13.6
Phenol-d5	1.567	1.293	66.03	80.0	17.5
Phenol-d6	1.567	1.293	66.03	80.0	17.5
Nitrobenzene-d5	.372	.358	77.01	80.0	3.7
2-Fluorobiphenyl	1.362	1.422	83.49	80.0	-4.4
2,4,6-Tribromophenol	.340	.390	91.71	80.0	-14.6
Terphenyl-d14	.926	.828	71.50	80.0	10.6

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Job Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF611 Date Analyzed: 06/28/98

Instrument ID: HP06777 Time Analyzed: 11:19

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	590130	10.54	2085229	14.19	1161624	19.44
	UPPER LIMIT	1180260		4170458		2323248	
	LOWER LIMIT	295065		1042615		580812	
	EPA SAMPLE NO.						
01	GW17-DL	612818	10.53	2132753	14.19	1164029	19.44
02	GW21-DL	623056	10.53	2161079	14.18	1192764	19.44
03	20646DL	654666	10.53	2293109	14.18	1251046	19.44
04	20647DL	603355	10.53	2140380	14.18	1211503	19.44
05	20648DL	651645	10.54	2276441	14.18	1257258	19.44
06	20646	676079	10.61	2441125	14.30	1384642	19.44
07	20647	722645	10.54	2559009	14.21	1481854	19.48
08	20648	754088	10.56	2714878	14.23	1516659	19.47
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IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF611 Date Analyzed: 06/28/98

Instrument ID: HP06777 Time Analyzed: 11:19

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	2181603	23.93	2794539	30.84	2271559	34.21
	UPPER LIMIT	4363206		5589078		4543118	
	LOWER LIMIT	1090802		1397270		1135780	
	EPA SAMPLE NO.						
01	GW17-DL	2318092	23.92	2691365	30.82	2302093	34.20
02	GW21-DL	2420570	23.92	2787390	30.83	2427555	34.20
03	20646DL	2535914	23.93	2917381	30.82	2530230	34.20
04	20647DL	2434200	23.93	2746375	30.82	2394651	34.20
05	20648DL	2561965	23.92	2975273	30.82	2596680	34.20
06	20646	2705215	23.92	3000546	30.82	2493027	34.20
07	20647	2946994	23.93	3024115	30.83	2672204	34.20
08	20648	3101260	23.94	3301304	30.83	2827825	34.20
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >GF64Z DFTPP Injection Date: 06/29/98

Instrument ID: HP06777 DFTPP Injection Time: 07:58

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	48.1
70	Less than 2.0% of mass 69	.3 (.6)1
127	40.0 - 60.0% of mass 198	43.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	23.9
365	Greater than 1.00% of mass 198	2.82
441	Present, but less than mass 443	14.2
442	Greater than 40.0% of mass 198	84.5
443	17.0 - 23.0% of mass 442	16.5 (19.5)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1748	>GF642	06/29/98	08:31
02	20645DL	2946722DL	>GF649	06/29/98	10:14
03	20647DL	2946724DL	>GF650	06/29/98	11:04
04	SBLKLE1627	SBLKLE162	>GF652	06/29/98	12:13
05	162LELCS7	162LELCS	>GF653	06/29/98	13:03
06	3356-	2943357	>GF654	06/29/98	13:53
07	3356-MS	2943358	>GF655	06/29/98	14:43
08	3356-MSD	2943359	>GF656	06/29/98	15:33
09	GW19-DL	2946088DL	>GF657	06/29/98	16:34
10	20910	2943339	>GF659	06/29/98	18:21
11	2101-	2943340	>GF660	06/29/98	19:21
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

	COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
	Pyridine	1.282	1.101	68.73	80.0	14.1
	N-Nitrosodimethylamine	.761	.616	64.80	80.0	19.0
*	Phenol	1.524	1.409	73.94	80.0	7.6*
	Aniline	1.856	1.606	69.24	80.0	13.5
	bis(2-Chloroethyl)ether	1.172	.972	66.35	80.0	17.1
	2-Chlorophenol	1.335	1.267	75.95	80.0	5.1
	1,3-Dichlorobenzene	1.466	1.487	81.11	80.0	-1.4
*	1,4-Dichlorobenzene	1.511	1.544	81.75	80.0	-2.2*
	Benzyl alcohol	.812	.721	70.98	80.0	11.3
	1,2-Dichlorobenzene	1.384	1.412	81.64	80.0	-2.0
	2-Methylphenol	1.110	.977	70.37	80.0	12.0
	2,2'-oxybis(1-Chloropropane)	1.633	1.237	60.58	80.0	24.3
	bis(2-Chloroisopropyl)ether	1.633	1.237	60.57	80.0	24.3
	4-Methylphenol	1.150	1.129	78.54	80.0	1.8
	3- and 4-Methylphenol	1.150	1.135	78.93	80.0	1.3
	Acetophenone	1.698	1.639	77.20	80.0	3.5
#	N-Nitroso-di-n-propylamine	.816	.762	74.72	80.0	6.6#
	o-Toluidine	1.826	1.632	71.49	80.0	10.6
	Hexachloroethane	.633	.649	82.06	80.0	-2.6
	Nitrobenzene	.370	.360	77.75	80.0	2.8
	Isophorone	.692	.643	74.34	80.0	7.1
*	2-Nitrophenol	.211	.207	78.48	80.0	1.9*
	2,4-Dimethylphenol	.371	.362	77.97	80.0	2.5
	Benzoic acid	.278	.249	71.66	80.0	10.4
	bis(2-Chloroethoxy)methane	.413	.368	71.23	80.0	11.0
*	2,4-Dichlorophenol	.313	.332	84.90	80.0	-6.1*
	1,2,4-Trichlorobenzene	.362	.401	88.75	80.0	-10.9
	Naphthalene	1.002	1.003	80.07	80.0	-.1
	4-Chloroaniline	.445	.435	78.19	80.0	2.3
*	Hexachlorobutadiene	.244	.290	94.92	80.0	-18.6*
*	4-Chloro-3-methylphenol	.324	.303	74.79	80.0	6.5*
	2-Methylnaphthalene	.668	.684	81.88	80.0	-2.4
	1-Methylnaphthalene	.628	.641	81.62	80.0	-2.0
#	Hexachlorocyclopentadiene	.337	.404	75.52	80.0	5.6#
*	2,4,6-Trichlorophenol	.444	.477	85.98	80.0	-7.5*
	2,4,5-Trichlorophenol	.485	.506	83.39	80.0	-4.2
	2-Chloronaphthalene	1.200	1.218	81.14	80.0	-1.4
	2-Nitroaniline	.400	.375	74.88	80.0	6.4

FORM VII SV-1 1/87 Rev.

CCV 19-D2
- 2 compds in question re reported from undiluted and - no qual of data

982

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate		1.502	1.543	82.15	80.0	-2.7
2,6-Dinitrotoluene		.347	.352	81.18	80.0	-1.5
Acenaphthylene		1.932	1.977	81.87	80.0	-2.3
3-Nitroaniline		.398	.373	74.96	80.0	6.3
Acenaphthene	*	1.159	1.192	82.28	80.0	-2.9*
2,4-Dinitrophenol	#	.213	.215	75.03	80.0	6.2#
4-Nitrophenol	#	.266	.289	86.81	80.0	-8.5#
Dibenzofuran		1.745	1.830	83.87	80.0	-4.8
2,4-Dinitrotoluene		.489	.502	82.03	80.0	-2.5
1-Naphthylamine		1.031	.998	77.39	80.0	3.3
2-Naphthylamine		1.032	.979	75.93	80.0	5.1
Diethylphthalate		1.605	1.617	80.58	80.0	-.7
4-Chlorophenyl-phenylether		.713	.743	83.31	80.0	-4.1
Fluorene		1.324	1.364	82.45	80.0	-3.1
4-Nitroaniline		.422	.398	75.38	80.0	5.8
4,6-Dinitro-2-methylphenol		.154	.162	83.67	80.0	-4.6
N-Nitrosodiphenylamine (1)	*	.475	.482	81.29	80.0	-1.6*
1,2-Diphenylhydrazine		.687	.644	75.02	80.0	6.2
4-Bromophenyl-phenylether		.246	.266	86.52	80.0	-8.2
Hexachlorobenzene		.308	.354	91.86	80.0	-14.8
Pentachlorophenol	*	.169	.189	89.12	80.0	-11.4*
Phenanthrene		.979	1.031	84.26	80.0	-5.3
Anthracene		1.007	1.055	83.85	80.0	-4.8
Carbazole		.952	.973	81.71	80.0	-2.1
Di-n-butylphthalate		1.348	1.355	80.43	80.0	-.5
Fluoranthene	*	1.166	1.250	85.78	80.0	-7.2*
Benzidine		.730	.661	289.80	320.0	9.4
Pyrene		1.174	1.054	71.85	80.0	10.2
Butylbenzylphthalate		.600	.504	67.25	80.0	15.9
3,3'-Dichlorobenzidine		.507	.508	80.25	80.0	-.3
Benzo(a)anthracene		1.104	1.133	82.14	80.0	-2.7
bis(2-Ethylhexyl)phthalate		.820	.689	67.26	80.0	15.9
Chrysene		1.034	.984	76.18	80.0	4.8
Di-n-octylphthalate	*	1.648	1.512	73.42	80.0	8.2*
7,12-Dimethylbenz[a]anthrace		.568	.671	94.53	80.0	-18.2
Benzo(b)fluoranthene		1.403	1.570	89.52	80.0	-11.9
Benzo(k)fluoranthene		1.259	1.339	85.03	80.0	-6.3
Benzo(a)pyrene	*	1.206	1.243	82.43	80.0	-3.0*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP06777 Calibration Date: 06/29/98 Time: 08:31

Lab File ID: >GF642 Init. Calib. Date(s): 06/25/98 06/25/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Indeno(1,2,3-cd)pyrene	1.187	1.241	83.62	80.0	-4.5
Dibenz(a,h)anthracene	1.178	1.239	84.13	80.0	-5.2
Benzo(g,h,i)perylene	1.221	1.261	82.67	80.0	-3.3
2-Fluorophenol	1.287	1.159	72.02	80.0	10.0
Phenol-d5	1.567	1.336	68.19	80.0	14.8
Phenol-d6	1.567	1.329	67.87	80.0	15.2
Nitrobenzene-d5	.372	.367	78.97	80.0	1.3
2-Fluorobiphenyl	1.362	1.456	85.51	80.0	-6.9
2,4,6-Tribromophenol	.340	.426	100.20	80.0	-25.3
Terphenyl-d14	.926	.845	73.02	80.0	8.7

(1) Cannot be separated from Diphenylamine

FORM VII SV-2 1/87 Rev.

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF642 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 08:31

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	625762	10.47	2143715	14.12	1188409	19.38
	UPPER LIMIT	1251524		4287430		2376818	
	LOWER LIMIT	312881		1071858		594205	
01	20645DL	692637	10.46	2349666	14.10	1297527	19.36
02	20647DL	559743	10.46	1914325	14.10	1075420	19.37
03	SBLKLE1627	568445	10.47	1920105	14.11	1052682	19.37
04	162LELCS7	540555	10.47	1848963	14.11	1046412	19.38
05	3356-	552014	10.47	1885085	14.11	1036865	19.37
06	3356-MS	616414	10.47	2135308	14.12	1164330	19.38
07	3356-MSD	587546	10.47	2026645	14.12	1118410	19.38
08	GW19-DL	638829	10.48	2189158	14.12	1185330	19.38
09	20910	614381	10.48	2317787	14.20	1190302	19.41
10	2101-	625379	10.48	2160608	14.12	1170171	19.38
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22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >GF642 Date Analyzed: 06/29/98

Instrument ID: HP06777 Time Analyzed: 08:31

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	2342637	✓	23.85	2917947	✓	30.77	2252172	✓	34.11
	UPPER LIMIT	4685274			5835894			4504344		
	LOWER LIMIT	1171319			1458974			1126086		
	EPA SAMPLE NO.									
01	20645DL	2581728		23.84	2964059		30.76	2548865		34.10
02	20647DL	2172740		23.84	2509997		30.76	2158189		34.10
03	SBLKLE1627	2143405		23.85	2486767		30.76	2123379		34.10
04	162LELCS7	2065007		23.85	2607327		30.78	2090533		34.12
05	3356-	2083475		23.85	2378688		30.76	1997713		34.10
06	3356-MS	2290633		23.85	2787636		30.78	2191869		34.12
07	3356-MSD	2204326		23.85	2624653		30.78	2004393		34.12
08	GW19-DL	2321670	✓	23.85	2640493	✓	30.76	2212625	✓	34.10
09	20910	2371763		23.99	2824107		30.84	1909677		34.16
10	2101-	2255318		23.86	2582704		30.79	2020883		34.14
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IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >JG02A DFTPP Injection Date: 07/06/98

Instrument ID: HP05525 DFTPP Injection Time: 08:33

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	58.2
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	76.9
70	Less than 2.0% of mass 69	.2 (.2)1
127	40.0 - 60.0% of mass 198	53.9
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.8
275	10.0 - 30.0% of mass 198	22.1
365	Greater than 1.00% of mass 198	2.43
441	Present, but less than mass 443	14.1
442	Greater than 40.0% of mass 198	96.0
443	17.0 - 23.0% of mass 442	18.8 (19.6)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1818	>JG021	07/06/98	09:19
02	SSTD160	STD1818	>JG022	07/06/98	10:23
03	SSTD001	STD1818	>JG023	07/06/98	11:24
04	SSTD005	STD1818	>JG024	07/06/98	12:22
05	SSTD120	STD1818	>JG025	07/06/98	13:19
06	SSTD020	STD1818	>JG026	07/06/98	14:17
07	SSTD050	STD1818	>JG027	07/06/98	15:14
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SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP05525 Calibration Date(s): 07/06/98 07/06/98

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >JG024 RRF20 = >JG026 RRF50 = >JG027
RRF80 = >JG021 RRF120= >JG025 RRF160= >JG022

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD	
N-Nitrosodimethylamine	1.307	1.268	1.313	1.709	1.376	1.320	1.382	11.9	AVG	
Pyridine	2.311	2.230	2.218	2.854	2.188	2.181	2.330	11.2	AVG	
2-Picoline	2.172	2.136	2.067	2.425	2.079	2.044	2.154	6.6	AVG	
Phenol *	2.362	2.354	2.305	2.438	2.197	2.096	2.292	5.4	AVG	*
Aniline	2.764	2.753	2.727	2.778	2.624	2.583	2.705	3.0	AVG	
bis(2-Chloroethyl)ether	1.858	1.750	1.758	1.831	1.716	1.619	1.755	4.9	AVG	
2-Chlorophenol	1.728	1.677	1.650	1.697	1.616	1.602	1.662	2.9	AVG	
1,3-Dichlorobenzene	1.532	1.623	1.549	1.547	1.484	1.515	1.542	3.0	AVG	
1,4-Dichlorobenzene *	1.622	1.609	1.639	1.626	1.544	1.520	1.593	3.1	AVG	*
Benzyl alcohol	1.008	1.028	1.069	1.105	1.054	1.030	1.049	3.3	AVG	
1,2-Dichlorobenzene	1.571	1.502	1.468	1.427	1.440	1.434	1.474	3.7	AVG	
2-Methylphenol	1.561	1.526	1.504	1.497	1.466	1.408	1.494	3.5	AVG	
2,2'-oxybis(1-Chloropropane)	2.364	2.368	2.303	2.542	2.302	2.169	2.342	5.2	AVG	
bis(2-Chloroisopropyl)ether	2.364	2.368	2.303	2.542	2.302	2.169	2.342	5.2	AVG	
4-Methylphenol	1.510	1.580	1.602	1.632	1.514	1.466	1.551	4.1	AVG	
3- and 4-Methylphenol	1.510	1.580	1.602	1.632	1.514	1.466	1.551	4.1	AVG	
[illegible]henone	2.415	2.275	2.203	2.130	2.096	2.091	2.202	5.7	AVG	
[illegible]roso-di-n-propylamine #	1.377	1.330	1.328	1.333	1.234	1.258	1.310	4.1	AVG	#
o-Toluidine	2.297	2.353	2.250	2.314	2.232	2.191	2.273	2.6	AVG	
Hexachloroethane	.894	.837	.813	.863	.821	.819	.841	3.7	AVG	
Nitrobenzene	.529	.528	.543	.558	.544	.524	.538	2.4	AVG	
Isophorone	.993	.944	.955	1.000	.965	.928	.964	2.9	AVG	
2-Nitrophenol *	.173	.213	.219	.219	.218	.218	.210	8.7	AVG	*
2,4-Dimethylphenol	.395	.431	.429	.432	.448	.427	.427	4.0	AVG	
Benzoic acid	.051	.161	.210	.226	.273	.282	.200	42.6	1STDEG	
bis(2-Chloroethoxy)methane	.550	.543	.506	.508	.510	.478	.516	5.2	AVG	
2,4-Dichlorophenol *	.259	.280	.280	.277	.288	.279	.277	3.5	AVG	*
1,2,4-Trichlorobenzene	.286	.297	.282	.292	.287	.286	.288	1.8	AVG	
Naphthalene	1.117	1.115	1.057	1.090	1.060	1.021	1.077	3.5	AVG	
4-Chloroaniline	.472	.484	.472	.470	.479	.445	.470	2.9	AVG	
Hexachlorobutadiene *	.186	.181	.180	.187	.185	.186	.184	1.6	AVG	*
4-Chloro-3-methylphenol *	.328	.343	.354	.364	.366	.374	.355	4.8	AVG	*
2-Methylnaphthalene	.657	.644	.615	.604	.664	.609	.632	4.1	AVG	
1-Methylnaphthalene	.585	.603	.590	.581	.614	.577	.592	2.4	AVG	
Hexachlorocyclopentadiene #	.184	.289	.362	.412	.414	.446	.351	28.1	1STDEG	#
2,4,6-Trichlorophenol *	.326	.357	.360	.371	.365	.375	.359	4.9	AVG	*
2,4,5-Trichlorophenol	.330	.363	.387	.390	.387	.411	.378	7.5	AVG	
2-Chloronaphthalene	1.157	1.184	1.178	1.161	1.134	1.182	1.166	1.6	AVG	

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

...e: LANCASTER LABS Contract: _____.

.ab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

.nstrument ID: HP05525 Calibration Date(s): 07/06/98 07/06/98

.in RRF for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >JG024 RRF20 = >JG026 RRF50 = >JG027
RRF80 = >JG021 RRF120= >JG025 RRF160= >JG022

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	%RSD	CAL. METHOD	
2-Nitroaniline	.462	.538	.551	.559	.571	.567	.542	7.5	AVG	
Dimethylphthalate	1.423	1.442	1.418	1.403	1.416	1.436	1.423	1.0	AVG	
2,6-Dinitrotoluene	.262	.334	.338	.331	.348	.348	.327	10.0	AVG	
Acenaphthylene	1.707	1.850	1.797	1.793	1.795	1.825	1.795	2.7	AVG	
3-Nitroaniline	.377	.423	.435	.426	.425	.440	.421	5.3	AVG	
Acenaphthene *	1.127	1.166	1.168	1.133	1.119	1.105	1.136	2.2	AVG	*
2,4-Dinitrophenol #	.084	.135	.149	.161	.183	.196	.151	26.2	1STDEG	#
4-Nitrophenol #	.282	.299	.334	.355	.352	.394	.336	12.1	AVG	#
Dibenzofuran	1.657	1.626	1.558	1.599	1.563	1.584	1.598	2.4	AVG	
2,4-Dinitrotoluene	.367	.437	.453	.442	.455	.458	.435	7.9	AVG	
1-Naphthylamine	.717	.942	.925	1.032	.896	.900	.902	11.5	AVG	
2-Naphthylamine	.867	.816	.780	1.018	.818	.786	.847	10.5	AVG	
Diethylphthalate	1.499	1.539	1.453	1.477	1.479	1.558	1.501	2.7	AVG	
4-Chlorophenyl-phenylether	.567	.582	.567	.554	.563	.586	.570	2.1	AVG	
Fluorene	1.206	1.197	1.155	1.120	1.117	1.182	1.163	3.3	AVG	
4-Nitroaniline	.371	.427	.432	.423	.420	.432	.418	5.6	AVG	
4 `initro-2-methylphenol	.088	.123	.147	.160	.162	.174	.142	22.2	1STDEG	
ronaphthalene	.140	.154	.156	.165	.158	.158	.155	5.3	AVG	
`itrosodiphenylamine (1) *	.505	.542	.511	.501	.501	.532	.515	3.4	AVG	*
1,2-Diphenylhydrazine	1.197	1.244	1.231	1.245	1.185	1.183	1.214	2.4	AVG	
4-Bromophenyl-phenylether	.224	.232	.238	.249	.239	.250	.239	4.2	AVG	
Hexachlorobenzene	.384	.384	.378	.419	.384	.401	.392	3.9	AVG	
Pentachlorophenol *	.107	.151	.157	.162	.191	.211	.163	22.0	1STDEG	*
Phenanthrene	.994	1.058	1.009	1.008	1.025	1.026	1.020	2.2	AVG	
Anthracene	1.026	1.021	1.054	1.057	1.018	1.068	1.041	2.1	AVG	
Carbazole	.998	.978	1.023	1.029	.946	1.006	.997	3.1	AVG	
Di-n-butylphthalate	1.412	1.503	1.474	1.558	1.540	1.579	1.511	4.1	AVG	
Fluoranthene *	1.053	1.071	1.039	1.109	1.051	1.147	1.078	3.9	AVG	*
Benzidine	.803	.812	.651	.686	.702	.708	.727	9.0	AVG	
Pyrene	1.085	1.195	1.116	1.144	1.194	1.183	1.153	4.0	AVG	
Butylbenzylphthalate	.660	.742	.726	.711	.740	.727	.718	4.2	AVG	
3,3'-Dichlorobenzidine	.451	.537	.530	.535	.531	.568	.525	7.4	AVG	
Benzo(a)anthracene	1.030	1.023	.975	.965	.964	.999	.993	2.9	AVG	
bis(2-Ethylhexyl)phthalate	.831	1.002	.975	.949	.960	.990	.951	6.5	AVG	
Chrysene	.923	.996	.957	.928	.940	.947	.949	2.8	AVG	
Di-n-octylphthalate *	1.397	1.707	1.698	1.641	1.711	1.628	1.630	7.3	AVG	*
7,12-Dimethylbenz[a]anthrace	.175	.482	.522	.570	.590	.595	.489	32.7	1STDEG	
Benzo(b)fluoranthene	1.236	1.361	1.294	1.304	1.305	1.349	1.308	3.4	AVG	

(1) Cannot be separated from Diphenylamine

6C Cont.

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____.SAS No.: _____. SDG No.: _____.

Instrument ID: HP05525 Calibration Date(s): 07/06/98 07/06/98

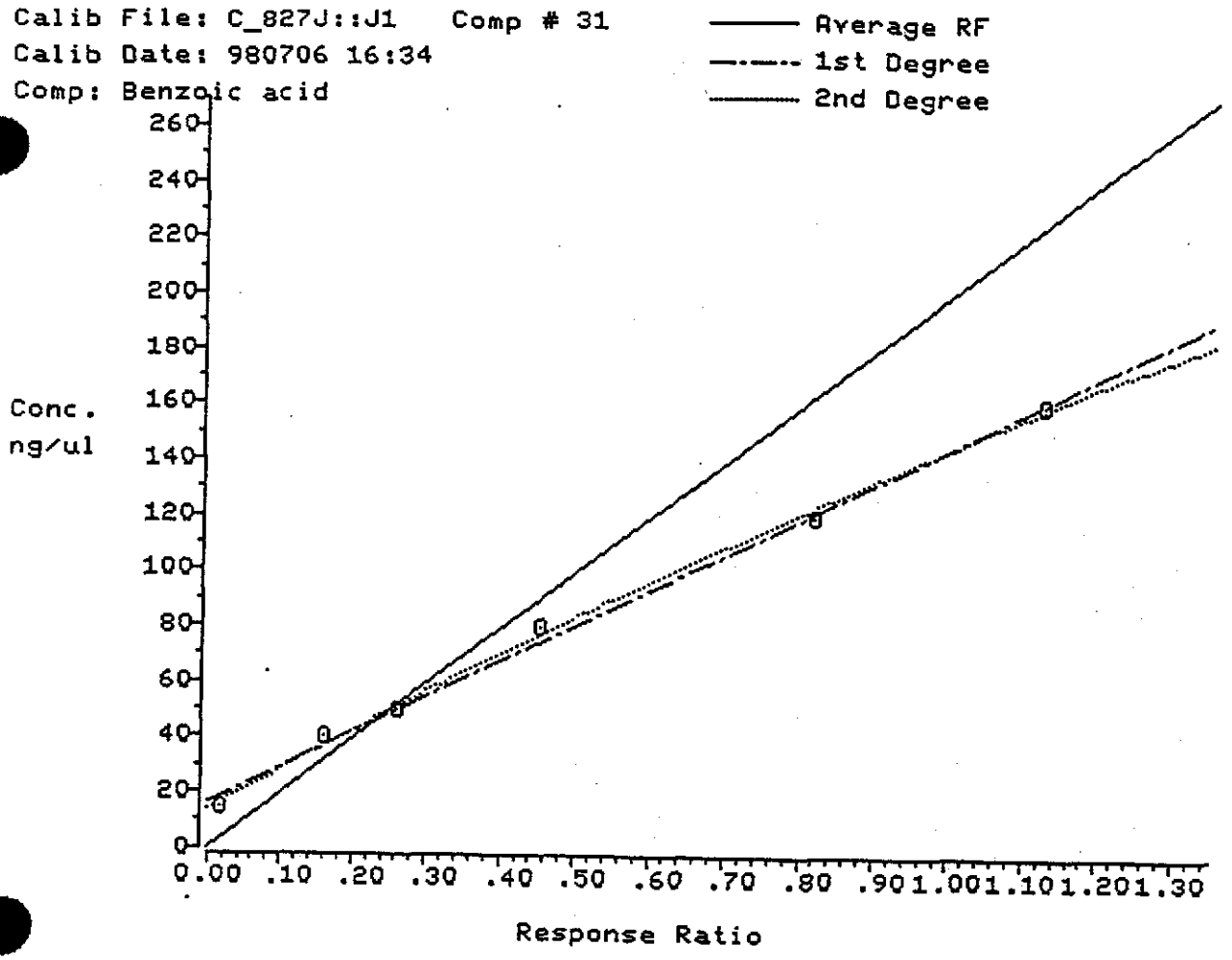
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30.0%

LAB FILE ID: RRF5 = >JG024 RRF20 = >JG026 RRF50 = >JG027
RRF80 = >JG021 RRF120= >JG025 RRF160= >JG022

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	$\overline{RRF}$	% RSD	CAL. METHOD
Benzo(k)fluoranthene	1.134	1.186	1.252	1.187	1.216	1.154	1.188	3.6	AVG
Benzo(a)pyrene *	1.088	1.176	1.187	1.203	1.201	1.179	1.172	3.6	AVG *
Indeno(1,2,3-cd)pyrene	1.221	1.327	1.351	1.397	1.371	1.410	1.346	5.1	AVG
Dibenz(a,h)anthracene	1.222	1.323	1.298	1.331	1.364	1.390	1.321	4.4	AVG
Benzo(g,h,i)perylene	1.278	1.357	1.352	1.449	1.425	1.468	1.388	5.2	AVG
2-Fluorophenol	1.754	1.678	1.764	1.999	1.766	1.731	1.782	6.2	AVG
Phenol-d6	2.255	2.285	2.255	2.358	2.134	2.077	2.227	4.6	AVG
Nitrobenzene-d5	.498	.517	.522	.547	.555	.532	.529	3.9	AVG
2-Fluorobiphenyl	1.273	1.239	1.262	1.242	1.223	1.234	1.245	1.5	AVG
2,4,6-Tribromophenol	.336	.383	.404	.433	.437	.460	.409	10.9	AVG
Terphenyl-d14	.903	.977	.900	.913	.964	.997	.942	4.5	AVG

,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/uL in the 5 standard.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/uL in the 5 standard.
Benzidine levels in the 5,20,50,80,120,160 standards are 95,150,200,320,480 and 640 ng/uL respectively.
Benzoic Acid, Pentachlorophenol and 2,4-Dinitrophenol are at 40 ng/uL in the 20 standard.

Calib File: C_827J::J1 Comp # 31
Calib Date: 980706 16:34
Comp: Benzoic acid



Compound # 31 Calib File: C_827J::J1

Compound: Benzoic acid
Istd: Naphthalene-d8

File:	>JG024	>JG026	>JG027	>JG021	>JG025	>JG022
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.05083	.16129	.20967	.22646	.27269	.28152

Average of 6 Rfs: .20041 (42.62 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .4236080 + 3.198907(x)
1st Degree Corr Coef: .9981257
2nd Degree Equation: y = .3502135 + 3.687560(x) + -.423314(x^2)
2nd Degree Corr Coef: .9988887

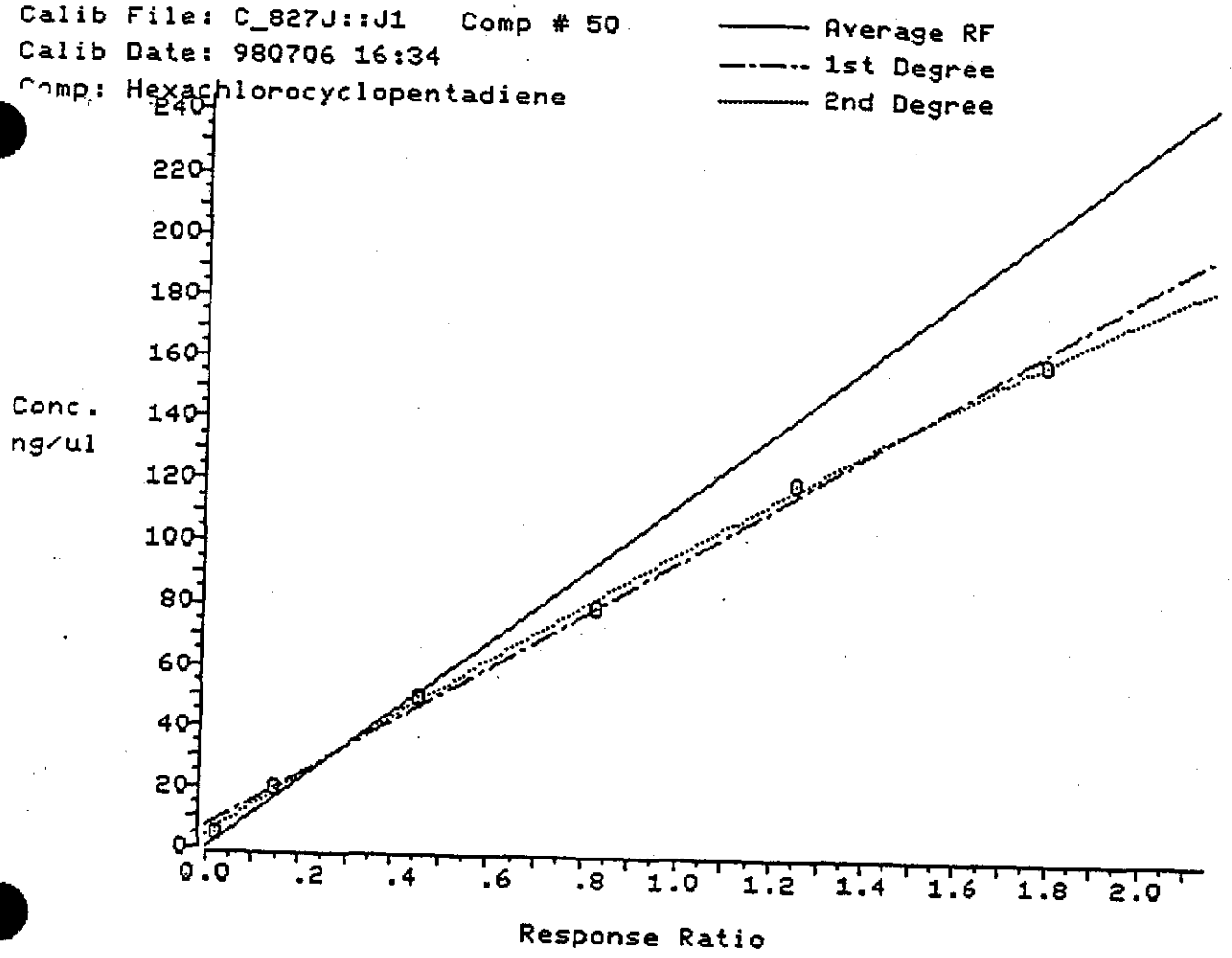
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TMB/RA 7/16/98

Calib File: C_827J::J1 Comp # 50
Calib Date: 980706 16:34
Comp: Hexachlorocyclopentadiene



Compound # 50 Calib File: C_827J::J1

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>JG024	>JG026	>JG027	>JG021	>JG025	>JG022
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.18373	.28916	.36158	.41188	.41440	.44606

Average of 6 Rfs: .35113 (28.10 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1776512 + 2.194089(x)
1st Degree Corr Coef: .9984303
2nd Degree Equation: y = .0997278 + 2.560732(x) + -.207980(x^2)
2nd Degree Corr Coef: .9995645

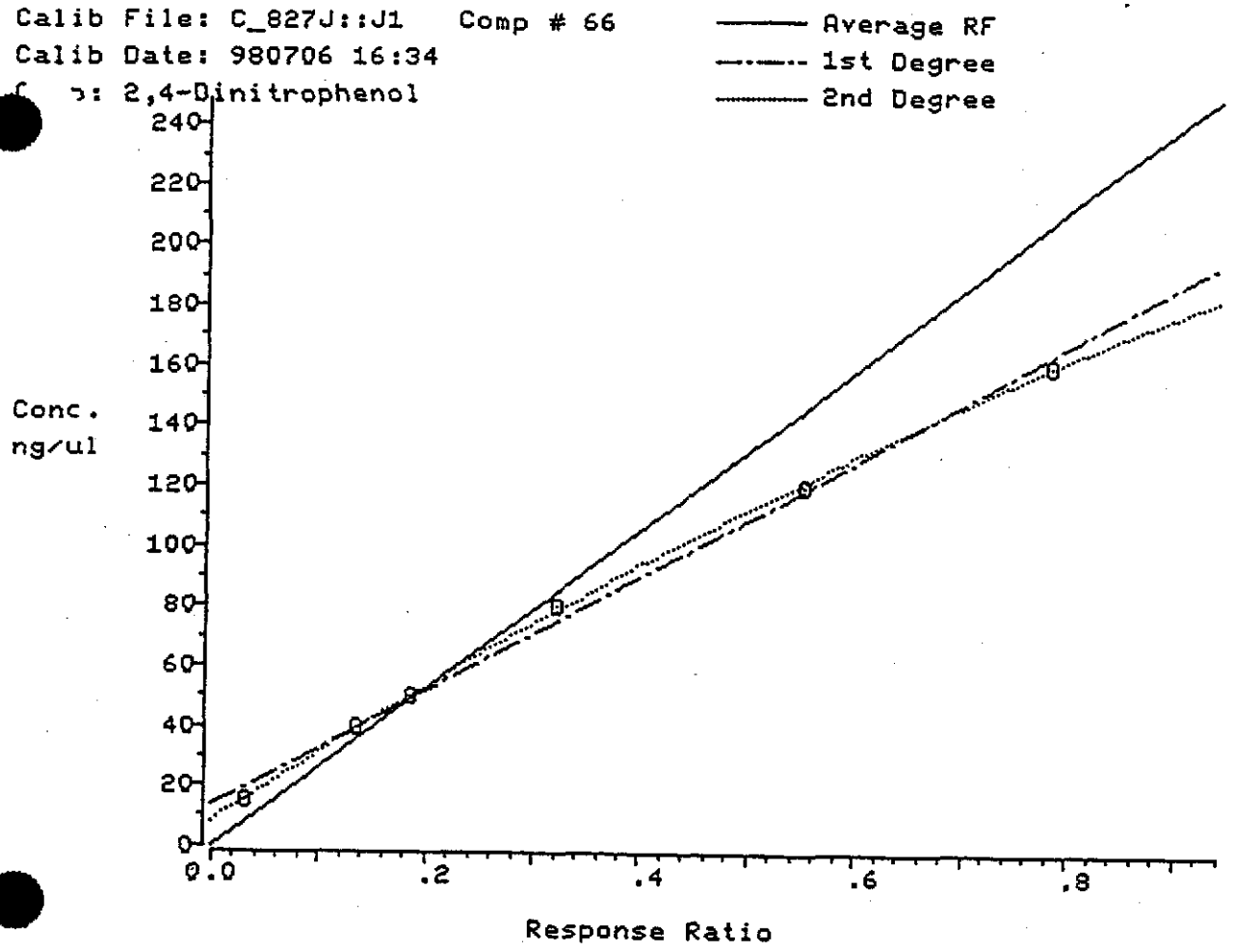
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1 of 1
7/6/98

Calib File: C_827J::J1 Comp # 66
Calib Date: 980706 16:34
Compound: 2,4-Dinitrophenol



Compound # 66 Calib File: C_827J::J1

Compound: 2,4-Dinitrophenol
Istd: Acenaphthene-d10

File:	>JG024	>JG026	>JG027	>JG021	>JG025	>JG022
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.08432	.13470	.14851	.16093	.18325	.19551

Average of 6 Rfs: .15120 (26.18 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3405201 + 4.777522(x)
1st Degree Corr Coef: .9980289
2nd Degree Equation: y = .2076390 + 5.916348(x) + -1.38818(x^2)
2nd Degree Corr Coef: .9997981

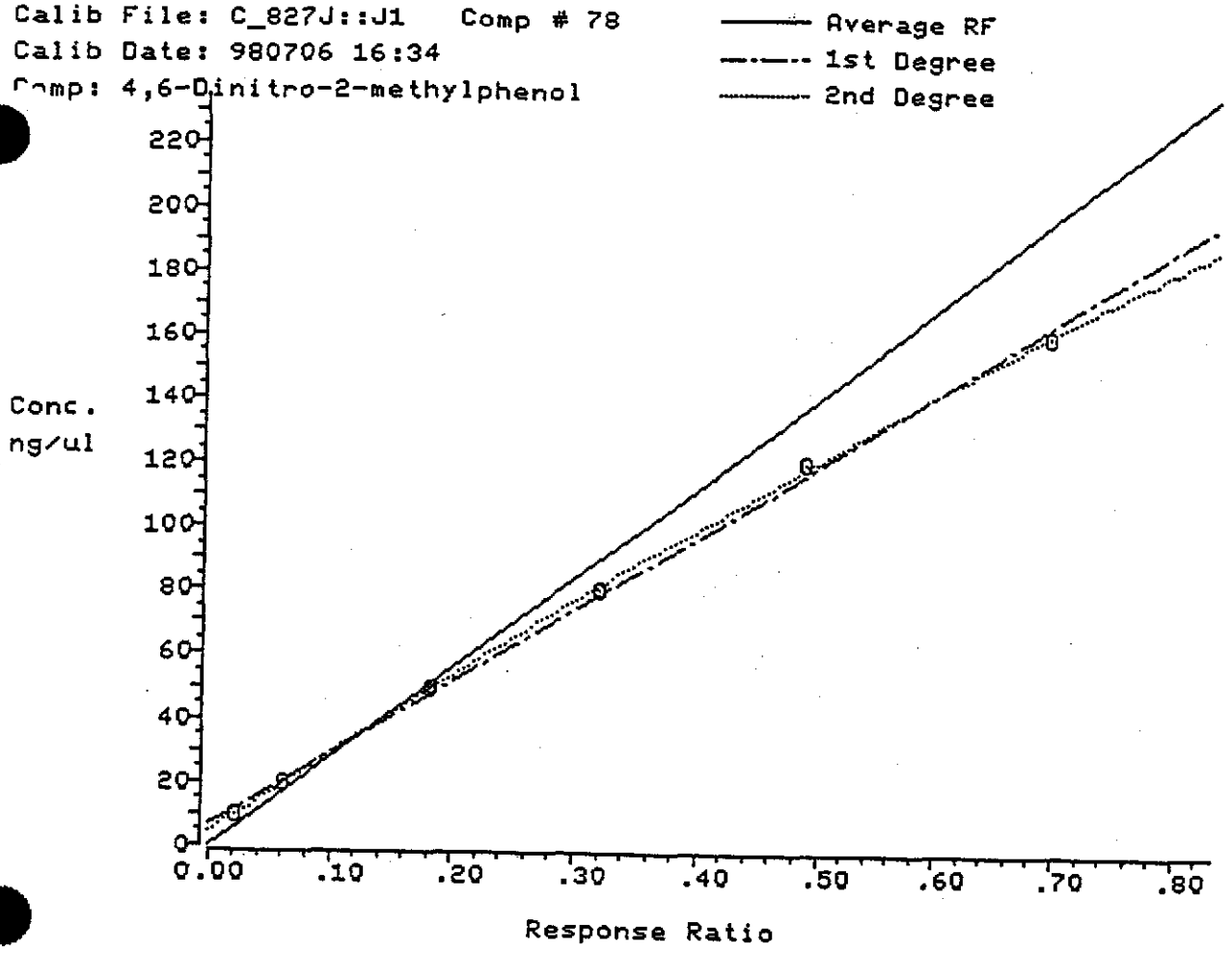
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° Analyst 7/6/98

Calib File: C_827J::J1 Comp # 78
Calib Date: 980706 16:34
Comp: 4,6-Dinitro-2-methylphenol



Compound # 78 Calib File: C_827J::J1

Compound: 4,6-Dinitro-2-methylphenol
Istd: Phenanthrene-d10

File: >JG024 >JG026 >JG027 >JG021 >JG025 >JG022
Conc: 10.00 20.00 50.00 80.00 120.00 160.00
Rf: .08849 .12275 .14666 .16029 .16248 .17373

Average of 6 Rfs: .14240 (22.24 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1773717 + 5.614169(x)
1st Degree Corr Coef: .9991050
2nd Degree Equation: y = .1080353 + 6.390065(x) + -1.11146(x^2)
2nd Degree Corr Coef: .9998264

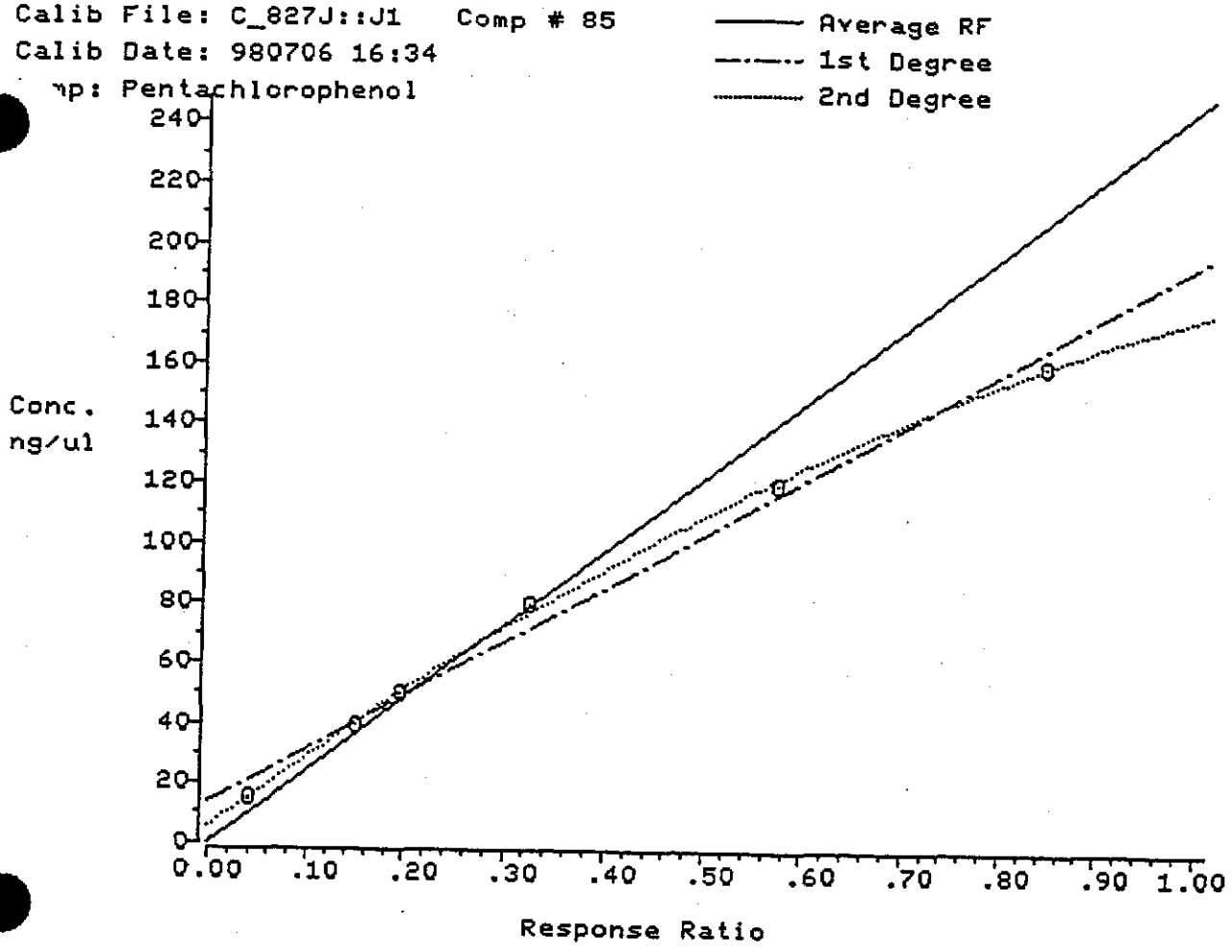
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TPS 1/29
7/16/98

Calib File: C_827J::J1 Comp # 85
Calib Date: 980706 16:34
Comp: Pentachlorophenol



Compound # 85 Calib File: C_827J::J1

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>JG024	>JG026	>JG027	>JG021	>JG025	>JG022
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.10692	.15097	.15689	.16191	.19137	.21115

Average of 6 Rfs: .16320 (22.01 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .3504236 + 4.471230(x)
1st Degree Corr Coef: .9951574
2nd Degree Equation: y = .1281034 + 6.187837(x) + -1.91790(x^2)
2nd Degree Corr Coef: .9995646

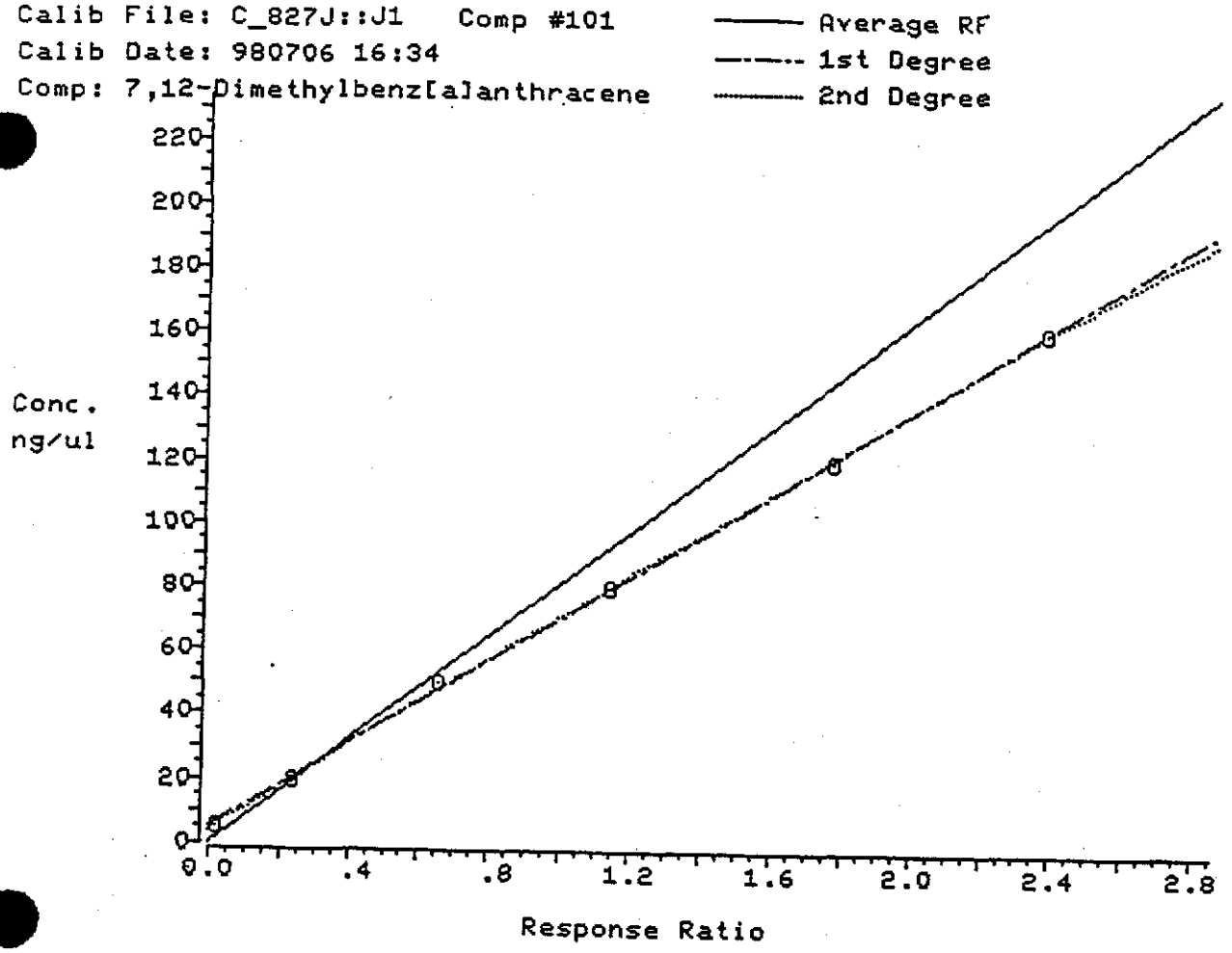
In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° TPH/TPH 7/6/98

Calib File: C_827J::J1 Comp #101
Calib Date: 980706 16:34
Comp: 7,12-Dimethylbenz[a]anthracene



Compound #101 Calib File: C_827J::J1

Compound: 7,12-Dimethylbenz[a]anthracene
Istd: Perylene-d12

File:	>JG024	>JG026	>JG027	>JG021	>JG025	>JG022
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.17527	.48168	.52243	.57028	.59001	.59486

Average of 6 Rfs: .48909 (32.66 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1224801 + 1.633965(x)
1st Degree Corr Coef: .9997510
2nd Degree Equation: y = .0986031 + 1.716525(x) + -.034884(x^2)
2nd Degree Corr Coef: .9998482

In the above equations:

$$y = \frac{\text{Conc Std}}{\text{Conc Istd}} \qquad x = \frac{\text{Area Std}}{\text{Area Istd}}$$

Istd Conc for all calibration points is: 40.00

1° 7/16/98

920

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID: >JG115 DFTPP Injection Date: 07/10/98

Instrument ID: HP05525 DFTPP Injection Time: 00:43

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	56.4
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.0
70	Less than 2.0% of mass 69	.2 (.4)1
127	40.0 - 60.0% of mass 198	54.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5.0 to 9.0% of mass 198	6.6
275	10.0 - 30.0% of mass 198	22.4
365	Greater than 1.00% of mass 198	2.61
441	Present, but less than mass 443	13.9
442	Greater than 40.0% of mass 198	87.6
443	17.0 - 23.0% of mass 442	17.3 (19.8)2

1-Value is % mass 69 2-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD080	STD1898	>JG116	07/10/98	01:08
02	SSD20	2952051	>JG117	07/10/98	02:05
03	SS-24	2952052	>JG118	07/10/98	03:02
04	SS-35	2952053	>JG119	07/10/98	03:59
05	SS-36	2952054	>JG120	07/10/98	04:56
06	SS-43	2952055	>JG121	07/10/98	05:53
07	SS-48	2952057	>JG122	07/10/98	06:50
08	SBLKWC190J	SBLKWC190	>JG123	07/10/98	08:24
09	190WCLCSJ	190WCLCS	>JG124	07/10/98	09:22
10	190WCLCSDJ	190WCLCSD	>JG125	07/10/98	10:19
11	9SW--RE	2941689RE	>JG126	07/10/98	11:17
12	CH-10RE	2949966RE	>JG127	07/10/98	12:15
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP05525 Calibration Date: 07/10/98 Time: 01:08

Lab File ID: >JG116 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT	
N-Nitrosodimethylamine		1.382	1.325	76.69	80.0	4.1	
Pyridine		2.330	2.126	72.98	80.0	8.8	
2-Picoline		2.154	2.072	76.95	80.0	3.8	
Phenol	*	2.292	2.306	80.49	80.0	-.6	*
Aniline		2.705	2.760	81.63	80.0	-2.0	
bis(2-Chloroethyl)ether		1.755	1.731	78.89	80.0	1.4	
2-Chlorophenol		1.662	1.704	82.04	80.0	-2.6	
1,3-Dichlorobenzene		1.542	1.553	80.59	80.0	-.7	
1,4-Dichlorobenzene	*	1.593	1.587	79.66	80.0	.4	*
Benzyl alcohol		1.049	1.004	76.61	80.0	4.2	
1,2-Dichlorobenzene		1.474	1.456	79.05	80.0	1.2	
2-Methylphenol		1.494	1.503	80.49	80.0	-.6	
2,2'-oxybis(1-Chloropropane)		2.342	2.138	73.05	80.0	8.7	
bis(2-Chloroisopropyl)ether		2.342	2.138	73.05	80.0	8.7	
4-Methylphenol		1.551	1.585	81.76	80.0	-2.2	
3- and 4-Methylphenol		1.551	1.585	81.76	80.0	-2.2	
Acetophenone		2.202	2.246	81.62	80.0	-2.0	
N-Nitroso-di-n-propylamine	#	1.310	1.297	79.23	80.0	1.0	#
o-Toluidine		2.273	2.178	76.67	80.0	4.2	
Hexachloroethane		.841	.796	75.73	80.0	5.3	
Nitrobenzene		.538	.498	74.05	80.0	7.4	
Isophorone		.964	.933	77.42	80.0	3.2	
2-Nitrophenol	*	.210	.229	87.21	80.0	-9.0	*
2,4-Dimethylphenol		.427	.429	80.30	80.0	-.4	
Benzoic acid		.200	.272	86.46	80.0	-8.1	
bis(2-Chloroethoxy)methane		.516	.516	79.97	80.0	.0	
2,4-Dichlorophenol	*	.277	.293	84.53	80.0	-5.7	*
1,2,4-Trichlorobenzene		.288	.281	77.88	80.0	2.6	
Naphthalene		1.077	1.055	78.39	80.0	2.0	
4-Chloroaniline		.470	.466	79.32	80.0	.8	
Hexachlorobutadiene	*	.184	.173	75.39	80.0	5.8	*
4-Chloro-3-methylphenol	*	.355	.364	82.09	80.0	-2.6	*
2-Methylnaphthalene		.632	.629	79.62	80.0	.5	
1-Methylnaphthalene		.592	.583	78.85	80.0	1.4	
Hexachlorocyclopentadiene	#	.351	.308	61.11	80.0	(23.6	# J+, UJ
2,4,6-Trichlorophenol	*	.359	.374	83.38	80.0	-4.2	*
2,4,5-Trichlorophenol		.378	.406	86.03	80.0	-7.5	
2-Chloronaphthalene		1.166	1.179	80.90	80.0	-1.1	

FORM VII SV-1 1/87 Rev.

95% - RE - Here ... not reported per reanalysis, no qual of data required.

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP05525 Calibration Date: 07/10/98 Time: 01:08

Lab File ID: >JG116 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
2-Nitroaniline		.542	.569	84.04	80.0	-5.1
Dimethylphthalate		1.423	1.483	83.38	80.0	-4.2
2,6-Dinitrotoluene		.327	.361	88.34	80.0	-10.4
Acenaphthylene		1.795	1.788	79.70	80.0	.4
3-Nitroaniline		.421	.455	86.47	80.0	-8.1
Acenaphthene	*	1.136	1.108	77.97	80.0	2.5*
2,4-Dinitrophenol	#	.151	.138	66.29	80.0	17.1#
4-Nitrophenol	#	.336	.346	82.42	80.0	-3.0#
Dibenzofuran		1.598	1.649	82.58	80.0	-3.2
2,4-Dinitrotoluene		.435	.459	84.34	80.0	-5.4
1-Naphthylamine		.902	1.104	97.95	80.0	-22.4
2-Naphthylamine		.847	1.086	102.49	80.0	-28.1
Diethylphthalate		1.501	1.490	79.43	80.0	.7
4-Chlorophenyl-phenylether		.570	.567	79.66	80.0	.4
Fluorene		1.163	1.133	77.95	80.0	2.6
4-Nitroaniline		.418	.449	86.04	80.0	-7.6
4,6-Dinitro-2-methylphenol		.142	.149	74.17	80.0	7.3
1-Nitronaphthalene		.155	.170	87.93	80.0	-9.9
N-Nitrosodiphenylamine (1)	*	.515	.491	76.24	80.0	4.7*
1,2-Diphenylhydrazine		1.214	1.161	76.48	80.0	4.4
4-Bromophenyl-phenylether		.239	.247	82.96	80.0	-3.7
Hexachlorobenzene		.392	.374	76.33	80.0	4.6
Pentachlorophenol	*	.163	.176	77.10	80.0	3.6*
Phenanthrene		1.020	1.007	78.95	80.0	1.3
Anthracene		1.041	.973	74.79	80.0	6.5
Carbazole		.997	.951	76.33	80.0	4.6
Di-n-butylphthalate		1.511	1.465	77.54	80.0	3.1
Fluoranthene	*	1.078	1.061	78.70	80.0	1.6*
Benzidine		.727	1.016	447.10	320.0	-39.7
Pyrene		1.153	1.456	101.03	80.0	-26.3
Butylbenzylphthalate		.718	.927	103.31	80.0	-29.1
3,3'-Dichlorobenzidine		.525	.659	100.42	80.0	-25.5
Benzo(a)anthracene		.993	1.021	82.28	80.0	-2.9
bis(2-Ethylhexyl)phthalate		.951	1.106	93.01	80.0	-16.3
Chrysene		.949	.989	83.37	80.0	-4.2
Di-n-octylphthalate	*	1.630	1.823	89.47	80.0	-11.8*
7,12-Dimethylbenz[a]anthrace		.489	.599	83.24	80.0	-4.1
Benzo(b)fluoranthene		1.308	1.270	77.68	80.0	2.9

not targets

JA, VJ

(1) Cannot be separated from Diphenylamine

9Sw-RE
Compds in question not reported from analysis. No qual of data required.

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Instrument ID: HP05525 Calibration Date: 07/10/98 Time: 01:08

Lab File ID: >JG116 Init. Calib. Date(s): 07/06/98 07/06/98

Min RRF50 for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20.0%

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Benzo(k)fluoranthene	1.188	1.182	79.56	80.0	.5
Benzo(a)pyrene *	1.172	1.218	83.15	80.0	-3.9*
Indeno(1,2,3-cd)pyrene	1.346	1.278	75.93	80.0	5.1
Dibenz(a,h)anthracene	1.321	1.173	71.03	80.0	11.2
Benzo(g,h,i)perylene	1.388	1.225	70.59	80.0	11.8
2-Fluorophenol	1.782	1.783	80.03	80.0	-.0
Phenol-d6	2.227	2.243	80.56	80.0	-.7
Nitrobenzene-d5	.529	.501	75.80	80.0	5.3
2-Fluorobiphenyl	1.245	1.281	82.28	80.0	-2.9
2,4,6-Tribromophenol	.409	.380	74.39	80.0	7.0
Terphenyl-d14	.942	1.195	101.49	80.0	-26.9

(1) Cannot be separated from Diphenylamine

Benzidine level in the 50 standard is 200 ng/uL.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Lab Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >JG116 Date Analyzed: 07/10/98

Instrument ID: HP05525 Time Analyzed: 01:08

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	113796	12.48	452342	16.01	207984	21.07
	UPPER LIMIT	227592		904684		415968	
	LOWER LIMIT	56898		226171		103992	
01	SSD20	108853	12.48	422015	16.00	184372	21.07
02	SS-24	100500	12.48	380069	16.00	155017	21.06
03	SS-35	98658	12.48	381684	16.00	156513	21.07
04	SS-36	97507	12.48	354009	16.01	142876	21.07
05	SS-43	94036	12.48	366404	16.00	141338	21.07
06	SS-48	94591	12.47	369667	16.00	127814	21.07
07	SBLKWC190J	101918	12.47	391825	16.00	185087	21.06
08	190WCLCSJ	97434	12.48	371896	16.01	161723	21.07
09	190WCLCSDJ	93294	12.48	365911	16.01	171246	21.07
10	9SW--RE	96428	12.48	383637	16.00	179958	21.06
11	CH-10RE	98240	12.48	359567	16.00	177591	21.06
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-1 1/87 Rev.

8C

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

Code: LANCAS Case No.: _____. SAS No.: _____. SDG No.: _____.

Lab File ID (Standard): >JG116 Date Analyzed: 07/10/98

Instrument ID: HP05525 Time Analyzed: 01:08

		IS4(PHN) AREA #	RT	IS5(CRY) AREA #	RT	IS6(PRY) AREA #	RT
	12 HOUR STD	329304	25.38	223667	32.23	226411	37.73
	UPPER LIMIT	658608		447334		452822	
	LOWER LIMIT	164652		111834		113206	
	EPA SAMPLE NO.						
01	SSD20	264048	25.38	192800	32.24	161438	37.73
02	SS-24	205948	25.37	178713	32.23	136706	37.74
03	SS-35	206915	25.37	177727	32.24	144409	37.74
04	SS-36	191382	25.38	160893	32.26	90698*	37.77
05	SS-43	191725	25.38	169536	32.24	117920	37.74
06	SS-48	172328	25.39	172267	32.24	122280	37.72
07	SBLKWC190J	283315	25.38	186374	32.22	145364	37.70
08	190WCLCSJ	253638	25.37	174065	32.23	139916	37.72
09	190WCLCSDJ	260109	25.37	179552	32.23	145287	37.71
10	9SW--RE	279242	25.37	246776	32.22	195630	37.70
11	CH-10RE	272907	25.37	226259	32.22	167046	37.71
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

UPPER LIMIT = + 100% of internal standard area.
LOWER LIMIT = - 50% of internal standard area.

Column used to flag internal standard area values with an asterisk

FORM VIII SV-2 1/87 Rev.

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 6/10/98
Start Time: 08:00
Tech 1: D. Trimby 277
Tech 2:

BATCH NO. 98161WAC026

QC	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BG	PBLK5W	1000	SS98141B	1.0			1.0	711	<2	TAP H_2O
BLANK6	PBLK5V	↓	SS98141B	↓			↓	711	<2	DI H_2O
LCS6	LCS0Y		SS98141B		MS98141F	1.0		711	<2	↓
MS	LCS0Z		SS98141B		MS98141F	↓		711	<2	TAP H_2O
MSD	LCSD1B	↓	SS98141B	↓	MS98141F	↓	↓	711	<2	TAP H_2O

	Sample #	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2941303	CHM8-	1030	SS98141B	1.0	1.0	711	<2	brown	4678 4679	6/19/98	P
2	2941304	CHM9-	1034	SS98141B	↓	↓	711	<2	brown	4678 4679	6/19/98	P
3	2941305	CHM10	1020	SS98141B			711	<2	tan	4678 4679	6/19/98	P
4	2941306	CMD11	1031	SS98141B			711	<2	tan	4678 4679	6/19/98	P
5	2941307	CMW11	1051	SS98141B			711	<2	tan	4678 4679	6/19/98	P
6	2941308	6498-	1011	SS98141B			711	<2	clear	4678 4679	6/19/98	P
7	2941683	2SW-	961	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
8	2941684	3SW-	950	SS98141B			711	<2	light brown	4678 4679	6/22/98	N
9	2941685	4SW-	957	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
10	2941686	6SW-	994	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
11	2941687	7SW-	1018	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
12	2941688	8SW-	1015	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
13	2941689	9SW-	1026	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
14	2941690	10SW-	1035	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
15	2941691	11SW-	912	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
16	2941692	12SW-	1006	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
17	2941693	CFO-	957	SS98141B			711	<2	light tan	4678 4679	6/22/98	N
18	2941694	RB-64	945	SS98141B	↓	↓	711	<2	clear	4678 4679	6/22/98	N
19									clear	4678 4679	6/22/98	N
20												

DF 277 6/10/98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	RP6008	H_2SO_4	L49099
Na_2SO_4	974089		
NaOH	976631A		
Internal Standar		Balance # 7	
K-Evap/bath	95 °C	S-Evap/bath	86 °C N-Evap °C

DF = Dilution Factor FV = Final Volume

Spike Solutions:
SS98141B BNA SURROGATE STANDARD
MS98141F LCS SPIKE (100)

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 6/17/98
Start Time: 9:30
Tech 1: BMM SD
Tech 2:

BATCH NO. 98168WAB026

QC	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK9T	1000	SS98159A	1.0	* NA	NA	1.0	>11	<2	IS DI 20
LCS6	LCS4W	1000	SS98159A		~~MS98141F~~	1.0				↓
LCSD6	LCSD3H	1000	SS98159A		MS98141F					
2946090MS	GW20-MS	1072	SS98159A		MS98141F					yellow
2946091MSD	GW20-MSD	1077	SS98159A		~~MS98141F~~		↓	↓	↓	orange

BMM 6/17/98

	Sample #	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
*	1 2946085	GW16-	1023	SS98159A	1.0	1.0	>11	<2	Yellow tint	4678 4679	6/29/98	N
*	2 2946086	GW17-	999	SS98159A					orange tint	4678 4679	6/29/98	N
*	3 2946088	GW19-	914	SS98159A					orange/brown	4678 4679	6/29/98	N
	4 2946089 bkg	GW20-	1025	SS98159A					yellow	4678 4679	6/29/98	N
*	5 2946092	GW21-	1027	SS98159A					↓	4678 4679	6/29/98	N
	6 2946093	RB611	1008	SS98159A		↓	↓	↓	clear	4678 4679	6/29/98	N
	7 2946094	TB611		SS98159A						4678 4679	6/29/98	N
	8 2946718	20641	1029	SS98159A	1.0	1.0	>11	<2	No sample	4678 4679	6/29/98	N
	9 2946719	20642	676	SS98159A					yellow	4678 4679	6/29/98	S
	10 2946720	20643	1037	SS98159A					clear	4678 4679	6/29/98	S
	11 2946721	20644	1029	SS98159A					yellow	4678 4679	6/29/98	S
	12 2946722	20645	1036	SS98159A					↓	4678 4679	6/29/98	S
	13 2946723	20646	1038	SS98159A					peach	4678 4679	6/29/98	S
	14 2946724	20647	1039	SS98159A					clear	4678 4679	6/29/98	S
	15 2946725	20648	1026	SS98159A		↓	↓	↓	peach	4678 4679	6/29/98	S
	16								clear	4678 4679	6/29/98	S
	17											
	18											
	19											
	20											

Checked 6/17/98

* Centrifuge base shakes (3)
* Centrifuge acid shakes (3)

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	BF00	H2SO4	LH9049
Na2SO4	974084	—	—
NaOH	977894	—	—
Internal Standar	—	Balance #	—
S-Evap/bath	96.1 °C	S-Evap/bath	°C
N-Evap	°C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98159A BNA SURROGATE STANDARD
~~MS98141F~~ LCS SPIKE (100) MS98167B

BMM SD 6/17/98

LA-74727 IS SRE 6/22/98

1162

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction
Prep Group # 603 TC8 Water Dept: 26

Verified:
Start Date: 7/9/98
Start Time: 9545
Tech 1: BUMGDR
Tech 2: D. Trimby 277

BATCH NO. 98190WAC026182WC

QC	Sample Code	Amt (mL)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANKC	PBLKJZ	1000	SS98184A	1.0	MA	MA	1.0	>11	<2	
LCSC	LCSF6	1000	SS98184A	↓	MS98167B	1.0	↓	↓	↓	
LCSDC	LCSD9N	1000	SS98184A	↓	MS98167B	↓	↓	↓	↓	

Bumgdr 7/9/98

	Sample #		Sample Code	Amt (ml)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	2941689	R	9SW--	1013	SS98184A	1.0	1.0	>11	<2	yellow brownish -	4678 4679	6/22/98	N
2	2949966	R	CH-10	1054	SS98184A	↓	↓	↓	↓	cloudy orange -	4678 4679	7/6/98	P
3													
4													
5													
6													
7													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

Bumgdr 7/9/98

Additional Comment:

Solvent Used	Lot No.	Solvent Used	Lot No.
MeOH	182485	H2SO4	L49049
H2SO4	984784	←	—
NaOH	977894	—	—
Internal Standar	IA2477	Balance # 7	—
S-Evap/bath	89 °C	S-Evap/bath	— °C
N-Evap	— °C		

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98184A BNA SURROGATE STANDARD
MS98167B LCS SPIKE (100)

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06780 **HP #04**

*** Shift #1 Analyst: S.Small *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
S = Surrogate problem
NU = Not used
MR = Meets requirements
Cz = Confirms z, (z = I or X)
X = Sample sent to be reextracted
I = Internal Standard problem
F = Further dilution required
IUO = Internal use only
T = Injected outside valid tune period

Other problems or comments are as follows:

*
*
*
*
*

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
		DFTPP	50NG/UL	07/06/98	09:29		1.0	OK
1	>DG038::I4	SSTD080	STD1818	07/06/98	10:10		1.0	OK
2	>DG031::I4	SSTD160	STD1818	07/06/98	12:43		1.0	OK
3	>DG032::I4	SSTD001	MDL1818	07/06/98	13:47		1.0	OK
4	>DG033::I4	SSTD005	STD1818	07/06/98	14:52		1.0	OK
5	>DG034::I4	SSTD120	STD1818	07/06/98	15:57		1.0	OK
6	>DG035::I4	SSTD020	STD1818	07/06/98	17:02		1.0	OK
7	>DG036::I4	SSTD050	STD1818	07/06/98	18:07		1.0	OK
8	>DG037::I4	SBLKLA177O	SBLKLA177	07/06/98	19:12	98177SLA	1.0	OK
9	>DG038::I4	PC4--RE	2951779RE	07/06/98	20:18	98177SLA	5.0	T,R
10	>DG039::I4	SS2--RE	2947708RE	07/06/98	21:23	98177SLA	1.0	OK
11	>DG040::I4	DFTPP	50NG/UL	07/06/98	22:30			
1	>DG045::I4							

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06780 **HP #04**

*** Shift #1 Analyst: S. Small *** Shift #2 Analyst: _____

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>DG068::I4	DFTPP	50NG/UL	07/07/98	16:57		1.0	OK
2	>DG061::I4	SSTD080	STD1818	07/07/98	17:38		1.0	OK
3	>DG062::D1	SBLKWC161D	SBLKWC161	07/07/98	18:44	98161WAC	1.0	OK
4	>DG063::D1	161WCLCS	161WCLCS	07/07/98	19:46	98161WAC	1.0	OK
5	>DG064::D1	161WCUS	161WCUS	07/07/98	20:48	98161WAC	1.0	OK
6	>DG065::D1	161WCMS	161WCMS	07/07/98	21:49	98161WAC	1.0	OK
7	>DG066::D1	161WCMSD	161WCMSD	07/07/98	22:51	98161WAC	1.0	OK
8	>DG067::D1	CHM8-	2941303	07/07/98	23:53	98161WAC	1.0	OK
9	>DG068::D1	CHM9-	2941304	07/08/98	00:55	98161WAC	1.0	OK
10	>DG069::D1	CHM10	2941305	07/08/98	01:57	98161WAC	1.0	OK
11	>DG070::D1	CMD11	2941306	07/08/98	02:59	98161WAC	1.0	OK
1	>DG075::D1	DFTPP	50NG/UL	07/08/98	09:03		1.0	OK
1	>DG07A::D1	DFTPP	50NG/UL	07/08/98	09:29		1.0	OK

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06780 **HP #04**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: T. Pinco

Comment Code: R = Reinjection necessary X = Sample sent to be reextracted
S = Surrogate problem I = Internal Standard problem
NU = Not used F = Further dilution required
MR = Meets requirements IUO = Internal use only
Cz = Confirms z, (z = I or X) T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>DG07A::D1	DFTPP	50NG/UL	07/08/98	09:29		1.0	MR
2	>DG076::D1	SSTD080	STD1818	07/08/98	10:00		1.0	
3	>DG077::D1	CMW11	2941307	07/08/98	12:49	98161WAC	1.0	"
4	>DG078::D1	6498-	2941308	07/08/98	13:50	98161WAC	1.0	"
5	>DG079::D1	2SW--	2941683	07/08/98	14:53	98161WAC	1.0	"
6	>DG080::D1	3SW--	2941684	07/08/98	15:54	98161WAC	1.0	"
7	>DG081::D1	4SW--	2941685	07/08/98	16:55	98161WAC	1.0	"
8	>DG082::D1	6SW--	2941686	07/08/98	17:56	98161WAC	1.0	"
9	>DG083::D1	7SW--	2941687	07/08/98	18:58	98161WAC	1.0	"
10	>DG084::D1	8SW--	2941688	07/08/98	19:59	98161WAC	1.0	"
11	>DG085::D1	9SW--	2941689	07/08/98	21:00	98161WAC	1.0	MR
1	>DG090::D1	DFTPP	50NG/UL	07/08/98	22:31		1.0	5 hr - CAL STD
								MR

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Runlog for Hewlett Packard GC/MS System HP06780 **HP #04**

** Shift #1 Analyst: S. Small *** Shift #2 Analyst: *

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
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MR = Meets requirements
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Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>DG130::D4	DFTPP	50NG/UL	07/11/98	11:12		1.0	OK
2	>DG131::D4	SSTD160	STD1898	07/11/98	12:04		1.0	OK
3	>DG132::D4	SSTD001	MDL1898	07/11/98	13:10		1.0	OK
4	>DG133::D4	SSTD005	STD1898	07/11/98	14:14		1.0	OK
5	>DG134::D4	SSTD120	STD1898	07/11/98	15:19		1.0	OK
6	>DG135::D4	SSTD020	STD1898	07/11/98	16:24		1.0	OK
3	>DG136::D4	SSTD001	MDL1898	07/11/98	17:29		1.0	OK
7	>DG137::D4	SSTD050	STD1898	07/11/98	18:34		1.0	OK
8	>DG138::D4	SSTD080	STD1898	07/11/98	19:39		1.0	OK
9	>DG139::D4	10SW-	2941690	07/11/98	20:44	98161WAC	1.0	OK
10	>DG140::D4	11SW-	2941691	07/11/98	21:49	98161WAC	1.0	OK
11	>DG141::D4	12SW-	2941692	07/11/98	22:54	98161WAC	1.0	OK
12	>DG142::D4	CFO--	2941693	07/11/98	23:59	98161WAC	1.0	OK T(DW)
1	>DG145::D4	DFTPP	50NG/UL	07/12/98	10:57		1.0	OK

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Runlog for Hewlett Packard GC/MS System HP06780 **HP #04**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: T Lewis

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>DG145::D4	DFTPP	50NG/UL	07/12/98	10:57		1.0	MR
2	>DG146::D4	SSTD080	STD1898	07/12/98	11:31		1.0	MR
3	>DG147::D4	CFO--	2941693	07/12/98	12:49	98161WAC	1.0	
4	>DG148::D4	RB-64	2941694	07/12/98	13:54	98161WAC	1.0	
5	>DG149::D4	8-502	2952163	07/12/98	14:59	98177SLA	1.0	MR
6	>DG150::I4	742--	2952165	07/12/98	16:04	98177SLA	1.0	
7	>DG151::I4	743--	2952166	07/12/98	17:14	98177SLA	1.0	
8	>DG152::D4	744--	2952167	07/12/98	18:25	98177SLA	1.0	
9	>DG153::D4	745--	2952168	07/12/98	19:35	98177SLA	1.0	
10	>DG154::I4	746--	2952169	07/12/98	20:41	98177SLA	1.0	
11	>DG155::D5	747--	2952170	07/12/98	21:55	98177SLA	1.0	MR
12	>DG156::D4	748--	2952171	07/12/98	23:07	98177SLA	1.0	4,4'-DDT (R)

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Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: Phillip Eisenstadt *** Shift #2 Analyst: JCA

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF420::G4	DFTPP	50 NG/UL	06/22/98	07:57		1.0	NU
1	>GF42Z::G4	DFTPP	50 NG/UL	06/22/98	08:52		1.0	MR
1	>GF422::G4	SSTD160	STD1668	06/22/98	09:48		1.0	MR
2	>GF423::G4	SSTD120	STD1668	06/22/98	10:47		1.0	MR
3	>GF424::G4	SSTD050	APP1688	06/22/98	11:47		1.0	NU
4	>GF425::G4	MDL 1.5	APP1688	06/22/98	12:46		1.0	NU
5	>GF42B::G4	MDL001	STD1668	06/22/98	13:55		1.0	MR
6	>GF427::G4	SSTD050	STD1668	06/22/98	14:54		1.0	MR
7	>GF428::G4	SSTD005	STD1668	06/22/98	15:54		1.0	MR
8	>GF429::G4	SSTD020	STD1668	06/22/98	16:54		1.0	MR
9	>GF430::G4	SSTD080	STD1668	06/22/98	17:53		1.0	MR
6	>GF385::G4	SB-10RE	2924325RE	06/20/98	00:06	98138SLA (	25.0	NU
3	>GF402::G4	SB-10RE	2924325RE	06/20/98	12:19	98138SLA (	25.0	NU
10	>GF431::G4	C0205	2940338	06/22/98	18:57	98162SLC (	1.0	NU
11	>GF432::G4	C0206	2940339	06/22/98	19:56	98162SLC (	1.0	NU
1	>GF440::G4	DFTPP	50 NG/UL	06/22/98	21:46		1.0	MR

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: JCA

Comment Code:

R = Reinjection necessary		X =	Sample sent to be reextracted
S = Surrogate problem		I =	Internal Standard problem
NU = Not used		F =	Further dilution required
MR = Meets requirements		IUO =	Internal use only
Cz = Confirms z, (z = I or X)		T =	Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF440::G4	DFTPP	50 NG/UL	06/22/98	21:46		1.0	Passed
1	>GF441::G4	SSTD050	APP1688	06/22/98	22:14		1.0	MR
2	>GF442::G4	SSTD080	STD1668	06/22/98	23:13		1.0	passed
9	>GF450::G4	SBLKWB168	SBLKWB168	06/23/98	00:34	98162WAB (	1.0	MR
10	>GF451::G4	168WBLCS	168WBLCS7	06/23/98	01:34	98162WAB (	1.0	
11	>GF452::G4	168WBLCSD	168WBLCSD	06/23/98	02:33	98162WAB (	1.0	
12	>GF453::G4	SBLKLF170	SBLKLF170	06/23/98	03:32	98170SLF (	1.0	
13	>GF454::G4	170LFLCS	170LFLCS7	06/23/98	04:32	98170SLF (	1.0	
14	>GF455::G4	GW20-	2946089	06/23/98	05:31	98168WAB (	1.0	
15	>GF456::G4	GW20-MS	2946090	06/23/98	06:31	98168WAB (	1.0	
7	>GF405::G4	CO204	2940337	06/20/98	15:28	98162SLC (	1.0	
1	>GF457::G4	GW20-MSD	2946091	06/23/98	08:26	98170SLF (	1.0	
1	>GF46Z::G4	DFTPP	50 NG/UL	06/23/98	11:51		1.0	passed

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JLA

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF520::G4	DFTPP	50 NG/UL	06/24/98	21:48		1.0	NU
2	>GF521::G4	SSTD080	STD1668	06/24/98	22:21		1.0	NU
1	>GF52Z::G4	DFTPP	50 NG/UL	06/24/98	23:59		1.0	MR
2	>GF52A::G4	SSTD080	STD1668	06/25/98	00:29		1.0	MR
3	>GF522::G4	SSTD160	STD1668	06/25/98	01:38		1.0	MR
4	>GF523::G4	SSTD005	STD1668	06/25/98	02:34		1.0	MR
5	>GF524::G4	SSTD120	STD1668	06/25/98	03:30		1.0	MR
6	>GF525::G4	SSTD020	STD1668	06/25/98	04:26		1.0	MR
7	>GF526::G4	SSTD050	STD1668	06/25/98	05:22		1.0	MR
8	>GF527::G4	SSTD001	MDL1668	06/25/98	06:22		1.0	MR
1	>GF530::G4	DFTPP	50 NG/UL	06/25/98	07:35		1.0	MR

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF58X::G1	DFTPP	50 NG/UL	06/26/98	16:24		1.0	Passed
2	>GF58B::G1	SSTD080	STD1748	06/26/98	16:54		1.0	Passed ✓
9	>GF588::G1	GW16-	2946085	06/26/98	18:08	98168WAB (	1.0	MR
10	>GF589::G1	GW17-	2946086	06/26/98	19:00	98168WAB (	1.0	MR F200
11	>GF590::G1	GW19-	2946088	06/26/98	19:52	98168WAB (	1.0	MR F100
12	>GF591::G1	GW21-	2946092	06/26/98	22:33	98168WAB (	1.0	MR
13	>GF592::G3	RB611	2946093	06/26/98	23:25	98168WAB (	1.0	MR
14	>GF593::G3	20641	2946718	06/27/98	00:17	98168WAB (	1.0	MR
15	>GF594::G3	20642	2946719	06/27/98	01:09	98168WAB (	1.0	SX
16	>GF595::G3	20643	2946720	06/27/98	02:01	98168WAB (	1.0	MR
17	>GF596::G3	20644	2946721	06/27/98	02:53	98168WAB (	1.0	MR
18	>GF597::G3	20645	2946722	06/27/98	03:43	98168WAB (	1.0	MR F100
19	>GF598::G3	20646	2946723	06/27/98	04:33	98168WAB (	1.0	T F500
20	>GF599::G3	20647	2946724	06/27/98	05:22	98168WAB (	1.0	T F200
21	>GF600::G3	20648	2946725	06/27/98	06:13	98168WAB (	1.0	T SX F200
22	>GF601::G3	INSTBLK	6/26/98	06/27/98	07:04	98168WAB (	1.0	IUO
22	>GF602::G3	INSTBLK	6/26/98	06/27/98	07:55	98168WAB (	1.0	
22	>GF603::G3	INSTBLK	6/22/98	06/27/98	08:46	98170SLF (	1.0	
22	>GF604::G3	INSTBLK	6/22/98	06/27/98	09:38	98170SLF (	1.0	
22	>GF605::G3	INSTBLK	6/22/98	06/27/98	10:30	98170SLF (	1.0	
22	>GF606::G3	INSTBLK	6/22/98	06/27/98	11:22	98170SLF (	1.0	
22	>GF607::G3	INSTBLK	6/22/98	06/27/98	12:14	98170SLF (	1.0	
1	>GF610::G3	DFTPP	50 NG/UL	06/28/98	10:54		1.0	Passed

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:

R =	Reinjection necessary	X =	Sample sent to be reextracted
S =	Surrogate problem	I =	Internal Standard problem
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Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF610::G3	DFTPP	50 NG/UL	06/28/98	10:54		1.0	Passed
2	>GF611::G3	SSTD080	STD1748	06/28/98	11:19		1.0	passed
9	>GF618::G3	GW17-DL	2946086DL	06/28/98	12:39	98168WAB (	200.0	MR
10	>GF619::G3	GW19-DL	2946088DL	06/28/98	13:29	98168WAB (	50.0	(ND)
11	>GF620::G3	GW21-DL	2946092DL	06/28/98	14:19	98168WAB (	100.0	MR
12	>GF621::G3	20642	2946719	06/28/98	15:09	98168WAB (	1.0	MR (ND) 6/30/98
13	>GF622::G3	20645DL	2946722DL	06/28/98	15:59	98168WAB	100.0	(ND)
14	>GF623::G3	20646DL	2946723DL	06/28/98	16:49	98168WAB (	500.0	MR
15	>GF624::G3	20647DL	2946724DL	06/28/98	17:40	98168WAB (	25.0	MR
16	>GF625::G3	20648DL	2946725DL	06/28/98	18:30	98168WAB (	200.0	MR
17	>GF626::G3	20646	2946723	06/28/98	19:20	98168WAB (	1.0	MR
18	>GF627::G3	20647	2946724	06/28/98	20:10	98168WAB (	1.0	MR
19	>GF628::G3	20648	2946725	06/28/98	21:00	98168WAB (	1.0	MR
20	>GF629::G3	INSTBLK	6/26/98	06/28/98	21:50	98168WAB (	1.0	MR
20	>GF630::G3	INSTBLK	6/26/98	06/28/98	22:41	98168WAB (	1.0	IUO
20	>GF631::G3	INSTBLK	6/22/98	06/28/98	23:31	98170SLF (	1.0	
20	>GF632::G3	INSTBLK	6/22/98	06/29/98	00:22	98170SLF (	1.0	
20	>GF633::G3	INSTBLK	6/22/98	06/29/98	01:12	98170SLF (	1.0	
20	>GF634::G3	INSTBLK	6/22/98	06/29/98	02:02	98170SLF (	1.0	
20	>GF635::G3	INSTBLK	6/22/98	06/29/98	02:53	98170SLF (	1.0	
1	>GF64Z::G3	DFTPP	50 NG/UL	06/29/98	07:58		1.0	passed

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: JCA

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>GF64Z::G3	DFTPP	50 NG/UL	06/29/98	07:58		1.0	passed
2	>GF642::G3	SSTD080	STD1748	06/29/98	08:31		1.0	passed ✓
9	>GF649::G3	20645DL	2946722DL	06/29/98	10:14	98168WAB	200.0	MR
10	>GF650::G3	20647DL	2946724DL	06/29/98	11:04	98168WAB (	125.0	MR
12	>GF652::G3	SBLKLE1627	SBLKLE162	06/29/98	12:13	9816162SLE (	1.0	MR
13	>GF653::G3	162LELCS7	162LELCS	06/29/98	13:03	9816162SLE (	1.0	
14	>GF654::G3	3356-	2943357	06/29/98	13:53	9816162SLE (	1.0	
15	>GF655::G3	3356-MS	2943358	06/29/98	14:43	9816162SLE (	1.0	
16	>GF656::G3	3356-MSD	2943359	06/29/98	15:33	9816162SLE (	1.0	
17	>GF657::G3	GW19- DL	2946088 DL	06/29/98	16:34	98168WAB B 9825	20.0	MR
18	>GF658::G3	2056-	2943338	06/29/98	17:24	98162SLE B 6/30/98	1.0	(NU)
19	>GF659::G3	20910	2943339	06/29/98	18:21	98162SLE	1.0	F50
20	>GF660::G3	2101-	2943340	06/29/98	19:21	98162SLE BL	25.0	F2
1	>GF670::G3	DFTPP	50 NG/UL	06/29/98	20:51		1.0	

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP05525 **HP #10**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: T. Lacey

Comment Code:
R = Reinjection necessary
X = Sample sent to be reextracted
S = Surrogate problem
I = Internal Standard problem
NU = Not used
F = Further dilution required
MR = Meets requirements
IUO = Internal use only
Cz = Confirms z, (z = I or X)
T = Injected outside valid tune period

Other problems or comments are as follows:

ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>JG02A::J1	DFTPP	50NG/UL	07/06/98	08:33		1	OK
2	>JG021::J1	SSTD080	STD1818	07/06/98	09:19		1	"
3	>JG022::J1	SSTD160	STD1818	07/06/98	10:23		1	"
4	>JG023::J1	SSTD001	STD1818	07/06/98	11:24		1	"
5	>JG024::J1	SSTD005	STD1818	07/06/98	12:22		1	"
6	>JG025::J1	SSTD120	STD1818	07/06/98	13:19		1	"
7	>JG026::J1	SSTD020	STD1818	07/06/98	14:17		1	"
8	>JG027::J1	SSTD050	STD1818	07/06/98	15:14		1	"
1	>JG030::J1	DFTPP	50NG/UL	07/06/98	16:08		1	VM

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Runlog for Hewlett Packard GC/MS System HP05525 **HP #10**

*** Shift #1 Analyst: S. Small *** Shift #2 Analyst: _____

Comment Code:

R = Reinjection necessary		X = Sample sent to be reextracted	
S = Surrogate problem		I = Internal Standard problem	
NU = Not used		F = Further dilution required	
MR = Meets requirements		IUO = Internal use only	
Cz = Confirms z, (z = I or X)		T = Injected outside valid tune period	

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time Injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	>JG09A::J1	DFTPP	50NG/UL	07/09/98	10:08		1	
2	>JG097::J1	SSTD080	STD1748	07/09/98	10:58		1	
3	>JG098::J1	SBLKLF183J	SBLKLF183	07/09/98	12:17	98183SLF	1	
4	>JG099::J1	183LFLCS	183LFLCS	07/09/98	13:15	98183SLF	1	
5	>JG100::J1	8SSSS	2952058	07/09/98	14:13	98183SLF	1	
6	>JG101::J1	8SSSSMS	2952059	07/09/98	15:11	98183SLF	1	
7	>JG102::J1	8SSSSMSD	2952060	07/09/98	16:08	98183SLF	1	
8	>JG103::J1	TP-H-	2953357	07/09/98	17:06	98183SLF	1	
9	>JG104::J1	XXXXX	2954333	07/09/98	18:04	98183SLF	1	
10	>JG105::J1	CCCCC	2954334	07/09/98	19:02	98183SLF	1	
11	>JG106::J1	SS-6-	2952049	07/09/98	20:00	98183SLF	1	
12	>JG107::J1	SS-20	2952050	07/09/98	20:57	98183SLF	1	
13	>JG108::J1	PAHSUR	SS98189A	07/09/98	21:55	98183SLF	1	
14	>JG109::J1	2-PICO	MS98189E	07/09/98	22:52	98183SLF	1	
15	>JG110::J1	LCSSPK	MS98190A	07/09/98	23:50	98183SLF	1	
1	>JG115::J1	DFTPP	50NG/UL	07/10/98	00:43		1	
2	>JG116::J1	SSTD080	STD1898	07/10/98	01:08		1	OL
16	>JG117::J1	SSD20	2952051	07/10/98	02:05	98183SLF	1	OK
17	>JG118::J1	SS-24	2952052	07/10/98	03:02	98183SLF	1	OL
18	>JG119::J1	SS-35	2952053	07/10/98	03:59	98183SLF	1	OK
19	>JG120::J1	SS-36	2952054	07/10/98	04:56	98183SLF	1	OK,F
20	>JG121::J1	SS-43	2952055	07/10/98	05:53	98183SLF	1	I,R,F
								OK,F

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Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP05525 **HP #10**

*** Shift #1 Analyst: S. Small *** Shift #2 Analyst: _____

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

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ALS Btl #	Laboratory File ID	Client ID	Laboratory Sample ID	Date Injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
20	>JG121::J1	SS-43	2952055	07/10/98	05:53	98183SLF	1	OK,F
21	>JG122::J1	SS-45	2952057	07/10/98	06:50	98183SLF	1	OK
22	>JG123::J1	SBLKWC190J	SBLKWC190	07/10/98	08:24	98190WAC182WC	1	OK
23	>JG124::J1	190WCLCSJ	190WCLCS	07/10/98	09:22	98190WAC182WC	1	OK
24	>JG125::J1	190WCLCSDJ	190WCLCSD	07/10/98	10:19	98190WAC182WC	1	OK
25	>JG126::J1	9SW--RE	2941689RE	07/10/98	11:17	98190WAC182WC	1	OK
26	>JG127::J1	CH-10RE	2949966RE	07/10/98	12:15	98190WAC182WC	1	OK
1	>JG130::J1	DFTPP	50NG/UL	07/10/98	14:03		1	(NU)