SECTION 3

ORGANIC DATA SUPPORT DOCUMENTATION

Organic Analyses Support Documentation

Environmental Standards Project Name: Kerr McGee / Hattiesburg
Sample Collection Dates: 10-13/14-98
Job Number: 9807M088
Project Manager: KAB
Laboratory: LLI

Reviewed By: K. Grega
Approved By: [signature]
Completion Date: 11/98

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

Sample No.	Lab. Control No.
SDG HM507	

Deliverables:
- CLP-like ☑
- Tier I ☐
- Tier II ☐
- 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) 8310		VOA Method 8260B	BNA Method 8270C	PEST / PCB Method	Other Method(s) 8310		VOA Method 8260B	BNA Method 8270C	PEST / PCB Method	Other Method(s) 8310	
Holding Times	✓	✓		✓					✓	✓		✓			
Blank Analysis Results: Target Compounds	✓	✓		✓					✓	✓		✓			
Blank Analysis Results: TICs															
System Mntr. Cmpds. &/or Surrogate Spike Rslts.	✓	✓		✓				✓	✓	✓		✓			
Matrix Spike / Matrix Spike Duplicate Results	✓	✓		✓				✓	✓	✓		✓			
Blank Spike Results	✓	✓		✓					✓	✓		✓			
Duplicate Analysis Results ☐ Field ☐ Lab															
Qualitative Identification: Target Compounds	✓	✓		✓											
Qualitative Identification: TICs															
DFTPP & BFB Mass Tuning	✓	✓							✓	✓					
GC Instrument Performance															
Initial Calibrations	✓	✓		✓	✓				✓	✓		✓			
Continuing Calibrations	✓	✓		✓	✓			✓	✓	✓		✓			
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: Data is acceptable for use unless otherwise qualified.

BLANK ANALYSIS RESULTS FOR TARGET ORGANIC COMPOUNDS

SDG # HMS07

Fraction (1)	Matrix (Aq., S)	Blank Type (2)	Blank Sample Number	Contaminant	Concentration (units)	Qualification Limit 5x	Qualification Limit 10x
V	Aq	MB	VBLKD28	None Detected			
↓	↓	MB	VBLKD29	↓			
		MB	VBLKD30				
		TB	TB-1				
		EB	RB-1				
S	Aq	MB	SBLKWA2937	None Detected			
S	Aq	EB	RB-1	↓			
P	Aq	MB	PBLK5G	None Detected			
P	Aq	EB	RB-1	↓			

1 – V = Volatile; S = Semivolatile; P = ~~Pesticide/PCB;~~ PAH 0 = 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: _____

Lab Name: LANCASTER LABS SDG No: HMS07

	EPA SAMPLE NO.	S1 (DBFM) #	S2 (DCA) #	S3 (TOL) #	S4 (BFB) #	OTHER	TOTAL OUT
01	W12--	108	100	93	96		
02	W10--	105	99	94	96		
03	W13--	108	101	96	97		
04	W23--	103	96	91	91		
05	TB-1-	102	94	89	90		
06	RB1--	102	94	90	91		
07	W11--	106	96	94	94		
08							
09	LAB QC						
10	VBLKD28	100	95	93	93		
11	VBLKD29	101	95	95	96		
12	VBLKD30	103	95	93	92		
13	18762	100	94	90	92		
14	18762MS	104	96	98	98		
15	18762MSD	101	96	98	100		
16	LCSW-28	100	94	99	104		
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

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Lancaster Laboratories, Inc.

GC/MS Volatiles Matrix Spike/Spike Duplicate Recoveries

Unspiked: ^DCL08 ✓ Matrix spike: ^DCL09 ✓ Spike Duplicate: ^DCL10 ✓

18762 3018496 ✓ 18762MS 3018497 ✓ 18762MSD 3018498 ✓

Method: Matrix/Level: WL Batch: D982921AB

Instrument: HP02700 ✓ Dilution Factor: 1.0

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
Dichlorodifluoromethane	20.00	0.00	17.65	17.92	88	90	44-150	YES	-2	30.00
Chloromethane	20.00	0.00	18.86 ✓	19.54	94	98	36-150	YES	-4	30.00
Vinyl Chloride	20.00	0.00	18.37	18.78 ✓	92	94	55-141	YES	-2	30.00
Bromomethane	20.00	0.00	19.58	20.81	98	104	17-149	YES	-6	30.00
Chloroethane	20.00	0.00	16.79	19.57	84	98	28-140	YES	-15 ✓	30.00
Trichlorofluoromethane	20.00	0.00	20.16	20.22	101	101	42-151	YES	-0	30.00
Ethyl Ether	20.00	0.00	19.80	19.78	99	99	30-200	YES	0	30.00
Acrolein	150.00	0.00	133.81	123.98	89	83	55-140	YES	8	30.00
1,1-Dichloroethene	20.00	0.00	24.13	23.15	121 ✓	116	48-141	YES	4	30.00
Freon 113	20.00	0.00	18.32	17.80	92	89	30-200	YES	3	30.00
Acetone	150.00	0.00	134.85	121.10	90	81	59-119	YES	11 ✓	30.00
Methyl Iodide	20.00	0.00	20.44	20.14	102	101	53-123	YES	1	30.00
Carbon Disulfide	20.00	0.00	22.93	21.98	115	110 ✓	36-177	YES	4	30.00
Allyl Chloride	20.00	0.00	20.00	17.39	100	87	73-144	YES	14	30.00
Methylene Chloride	20.00	0.00	22.07	21.74	110	109	52-133	YES	2	30.00
Acrylonitrile	150.00	0.00	133.94	135.32	89	90	69-135	YES	-1	30.00
trans-1,2-Dichloroethene	20.00	0.00	22.77 ✓	21.90	114	110	46-131	YES	4	30.00
t-Butyl Alcohol	200.00	146.81	329.05	221.07	91	37	30-200	NO	39	30.00
yl t-Butyl Ether	20.00	0.00	19.74	19.56	99	98	30-200	YES	1	30.00
exane	20.00	0.00	23.47	23.73	117	119	30-200	YES	-1	30.00
1,1-Dichloroethane	20.00	0.00	21.97	21.95 ✓	110	110	66-125	YES	0	30.00
di-Isopropyl Ether	20.00	0.00	20.42	20.49	102	102	30-200	YES	-0	30.00
2-Chloro-1,3-Butadiene	20.00	0.00	25.01	25.18	125	126	30-200	YES	-1	30.00
2,2-Dichloropropane	20.00	0.00	22.93	22.58	115	113	74-127	YES	2	30.00
cis-1,2-Dichloroethene	20.00	0.00	22.86	22.19	114 ✓	111	69-125	YES	3	30.00
Propionitrile	150.00	0.00	134.05	130.26	89	87	76-121	YES	3	30.00
Methacrylonitrile	150.00	0.00	130.28	126.12	87	84	87-124	NO	3	30.00
2-Butanone	150.00	0.00	121.19	124.85	81	83	62-125	YES	-3	30.00
Tetrahydrofuran	100.00	0.00	81.81	80.69	82	81	30-200	YES	1	30.00
Chloroform	20.00	0.00	21.24	21.15	106	106	79-121	YES	0	30.00
Bromochloromethane	20.00	0.00	22.50	21.75	112	109	72-119	YES	3	30.00
1,1,1-Trichloroethane	20.00	0.00	23.09	22.77	115	114 ✓	73-132	YES	1	30.00
Cyclohexane	20.00	0.00	22.57	22.41	113	112	30-200	YES	1	30.00
Carbon Tetrachloride	20.00	0.00	22.26	22.12	111	111	68-134	YES	1	30.00
1,1-Dichloropropene	20.00	0.00	22.36	22.41	112	112	59-131	YES	-0	30.00

N/C = Could not calculate

Lab Chronicle: _____ Ent. by _____.

_____ Ver. by _____.

_____.

* The %RPD for this compound exceeds requirements.

Lancaster Laboratories, Inc.
GC/MS Volatiles Matrix Spike/Spike Duplicate Recoveries

Unspiked: ^DCL08 Matrix spike: ^DCL09 Spike Duplicate: ^DCL10
18762 3018496 18762MS 3018497 18762MSD 3018498
Method: Matrix/Level: WL Batch: D982921AB
Instrument: HP02700 Dilution Factor: 1.0

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
Benzene	20.00	0.00	21.81	21.60	109	108	64-127	YES	1	30.00
Isobutyl Alcohol	500.00	0.00	462.93	413.79	92	83	41-146	YES	11	30.00
1,2-Dichloroethane	20.00	0.00	21.56	21.44	108	107	72-124	YES	1	30.00
n-Heptane	20.00	0.00	21.17	21.70	106	108	30-200	YES	-2	30.00
Trichloroethene	20.00	0.00	22.64	22.36	113	112	69-130	YES	1	30.00
1,2-Dichloropropane	20.00	0.00	21.14	21.00	106	105	71-123	YES	1	30.00
Dibromomethane	20.00	0.00	21.73	21.15	109	106	76-117	YES	3	30.00
Methyl Methacrylate	20.00	0.00	19.47	19.77	97	99	79-125	YES	-2	30.00
1,4-Dioxane	500.00	0.00	421.02	328.78	84	66	1-163	YES	25	30.00
Bromodichloromethane	20.00	0.00	21.80	21.70	109	108	65-120	YES	1	30.00
2-Nitropropane	20.00	0.00	17.16	16.89	86	84	30-200	YES	2	30.00
2-Chloroethyl Vinyl Ether	20.00	0.00	7.80	7.91	39	40	30-200	YES	-1	30.00
cis-1,3-Dichloropropene	20.00	0.00	20.41	20.31	102	102	71-118	YES	1	30.00
4-Methyl-2-Pentanone	100.00	0.00	85.23	87.30	85	87	64-135	YES	-2	30.00
Toluene	20.00	0.00	21.52	21.95	108	110	56-150	YES	-2	30.00
Ethyl Methacrylate	20.00	0.00	19.44	20.04	97	100	30-200	YES	-3	30.00
trans-1,3-Dichloropropene	20.00	0.00	20.55	20.38	103	102	70-119	YES	1	30.00
1,1,2-Trichloroethane	20.00	0.00	20.67	20.66	103	103	74-118	YES	0	30.00
Tetrachloroethene	20.00	0.00	24.64	24.04	123	120	61-148	YES	2	30.00
Dichloropropane	20.00	0.00	21.04	20.85	105	104	72-123	YES	1	30.00
Hexanone	100.00	0.00	85.44	90.87	85	91	60-136	YES	-6	30.00
Dibromochloromethane	20.00	0.00	21.32	21.34	107	107	71-118	YES	-0	30.00
1,2-Dibromoethane	20.00	0.00	21.22	21.82	106	109	72-116	YES	-3	30.00
Chlorobenzene	20.00	0.00	21.86	21.83	109	109	74-120	YES	0	30.00
1,1,1,2-Tetrachloroethane	20.00	0.00	22.28	22.07	111	110	79-120	YES	1	30.00
Ethylbenzene	20.00	0.00	21.77	21.73	109	109	74-130	YES	0	30.00
m+p-Xylene	40.00	0.00	44.51	43.80	111	110	74-131	YES	2	30.00
o-Xylene	20.00	0.00	21.44	21.95	107	110	74-128	YES	-2	30.00
Styrene	20.00	0.00	21.34	21.43	107	107	60-134	YES	-1	30.00
Bromoform	20.00	0.00	20.91	20.82	104	104	72-115	YES	1	30.00
Isopropylbenzene	20.00	0.00	21.30	21.78	106	109	75-140	YES	-2	30.00
trans-1,4-Dichloro-2-Butene	100.00	0.00	102.22	90.42	102	90	85-124	YES	12	30.00
1,1,2,2-Tetrachloroethane	20.00	0.00	18.86	19.31	94	96	65-123	YES	-2	30.00
Bromobenzene	20.00	0.00	21.28	21.29	106	106	76-120	YES	-0	30.00
1,2,3-Trichloropropane	20.00	0.00	19.06	20.05	95	100	70-121	YES	-5	30.00

N/C = Could not calculate

Lab Chronicle: _____ Ent. by _____

_____ Ver. by _____

* The %RPD for this compound exceeds requirements.

Lancaster Laboratories, Inc.
GC/MS Volatiles Matrix Spike/Spike Duplicate Recoveries

Unspiked: ^DCL08
18762 3018496
Method: Matrix/Level: WL
Instrument: HP02700

Matrix spike: ^DCL09
18762MS 3018497
Batch: D982921AB
Dilution Factor: 1.0

Spike Duplicate: ^DCL10
18762MSD 3018498

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
n-Propylbenzene	20.00	0.00	20.11	20.42	100	102	66-144	YES	-1	30.00
2-Chlorotoluene	20.00	0.00	22.09	21.53	110	108	70-128	YES	2	30.00
1,3,5-Trimethylbenzene	20.00	0.00	20.87	21.10	104	106	71-132	YES	-1	30.00
4-Chlorotoluene	20.00	0.00	19.90	20.02	99	100	67-130	YES	-1	30.00
tert-Butylbenzene	20.00	0.00	20.93	21.04	105	105	72-134	YES	-1	30.00
Pentachloroethane	20.00	0.00	20.25	20.13	101	101	30-200	YES	1	30.00
1,2,4-Trimethylbenzene	20.00	0.00	20.70	20.84	104	104	66-130	YES	-1	30.00
sec-Butylbenzene	20.00	0.00	20.59	21.18	103	106	70-135	YES	-3	30.00
p-Isopropyltoluene	20.00	0.00	21.64	21.72	108	108	76-139	YES	-0	30.00
1,3-Dichlorobenzene	20.00	0.00	21.42	21.35	107	107	76-119	YES	0	30.00
1,4-Dichlorobenzene	20.00	0.00	21.06	20.86	105	104	75-119	YES	1	30.00
n-Butylbenzene	20.00	0.00	20.36	20.58	102	103	66-144	YES	-1	30.00
1,2-Dichlorobenzene	20.00	0.00	21.12	21.14	106	106	73-121	YES	-0	30.00
1,2-Dibromo-3-Chloropropane	20.00	0.00	16.90	17.18	84	86	46-127	YES	-2	30.00
1,2,4-Trichlorobenzene	20.00	0.00	20.61	20.73	103	104	57-128	YES	-1	30.00
Hexachlorobutadiene	20.00	0.00	22.89	22.75	114	114	67-155	YES	1	30.00
Naphthalene	20.00	0.00	17.55	18.78	88	94	22-149	YES	-7	30.00
1,2,3-Trichlorobenzene	20.00	0.00	19.56	20.85	98	104	44-134	YES	-6	30.00

N/C = Could not calculate

Lab Chronicle: _____ Ent. by _____.

_____ Ver. by _____.

_____.

* The %RPD for this compound exceeds requirements.

Lancaster Laboratories, Inc.
GC/MS Volatiles Laboratory Control Sample Recovery

File: ^DCL01 Injected: 10/21/98 at 03:32 Method: 8260 5mL
Inst: HP02700 Sample: LCSW-28 LCSW-28 Matrix/level: WL
Dilution Factor: 1.0 Batch: D982921AB

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
Dichlorodifluoromethane	20.00	14.54	73	57- 144	YES
Chloromethane	20.00	16.99	85	58- 156	YES
Vinyl Chloride	20.00	15.69	78	74- 134	YES
Bromomethane	20.00	17.19	86	30- 154	YES
Chloroethane	20.00	14.73	74	38- 142	YES
Trichlorofluoromethane	20.00	17.63	88	73- 130	YES
Ethyl Ether	20.00	17.61	88	30- 200	YES
Acrolein	150.00	113.36	76	22- 169	YES
1,1-Dichloroethene	20.00	21.32	106	38- 153	YES
Freon 113	20.00	15.80	79	30- 200	YES
Acetone	150.00	112.77	75	57- 117	YES
Methyl Iodide	20.00	18.11	90	58- 133	YES
Carbon Disulfide	20.00	19.82	99	41- 186	YES
Allyl Chloride	20.00	16.53	83	30- 200	YES
Methylene Chloride	20.00	19.84	99	57- 132	YES
Acrylonitrile	150.00	122.40	82	65- 132	YES
trans-1,2-Dichloroethene	20.00	20.57	103	34- 148	YES
t-Butyl Alcohol	200.00	167.03	84	30- 200	YES
Methyl t-Butyl Ether	20.00	17.86	89	30- 200	YES
n-Hexane	20.00	20.54	103	30- 200	YES
1,1-Dichloroethane	20.00	19.90	100	59- 132	YES
di-Isopropyl Ether	20.00	18.24	91	30- 200	YES
2-Chloro-1,3-Butadiene	20.00	22.42	112	30- 200	YES
2,2-Dichloropropane	20.00	20.28	101	76- 118	YES
cis-1,2-Dichloroethene	20.00	20.11	100	63- 130	YES
Propionitrile	150.00	118.19	79	30- 200	YES
Methacrylonitrile	150.00	115.45	77	77- 126	YES
2-Butanone	150.00	102.50	68	63- 120	YES
Tetrahydrofuran	100.00	73.76	74	30- 200	YES
Chloroform	20.00	18.69	93	73- 126	YES
Bromochloromethane	20.00	19.34	97	68- 115	YES
1,1,1-Trichloroethane	20.00	20.43	102	65- 139	YES
Cyclohexane	20.00	19.82	99	30- 200	YES
Carbon Tetrachloride	20.00	19.57	98	61- 139	YES
1,1-Dichloropropene	20.00	19.84	99	47- 140	YES

Lab Chronicle: _____ Ent. by _____

_____ Ver. by _____

Lancaster Laboratories, Inc.
GC/MS Volatiles Laboratory Control Sample Recovery

File: ^DCL01 Injected: 10/21/98 at 03:32 Method: 8260 5mL
Inst: HP02700 Sample: LCSW-28 LCSW-28 Matrix/level: WL
Dilution Factor: 1.0 Batch: D982921AB

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
Benzene	20.00	19.49	97	58- 133	YES
Isobutyl Alcohol	500.00	351.82	70	30- 200	YES
1,2-Dichloroethane	20.00	18.75	94	68- 125	YES
n-Heptane	20.00	19.36	97	30- 200	YES
Trichloroethene	20.00	19.71	98	67- 130	YES
1,2-Dichloropropane	20.00	19.12	96	70- 123	YES
Dibromomethane	20.00	19.01	95	67- 124	YES
Methyl Methacrylate	20.00	17.50	87	66- 131	YES
1,4-Dioxane	500.00	358.43	72	30- 200	YES
Bromodichloromethane	20.00	19.54	98	64- 123	YES
2-Nitropropane	20.00	13.61	68	30- 200	YES
2-Chloroethyl Vinyl Ether	20.00	14.93	75	30- 200	YES
cis-1,3-Dichloropropene	20.00	18.73	94	66- 124	YES
4-Methyl-2-Pentanone	100.00	74.08	74	73- 125	YES
Toluene	20.00	19.91	100	63- 143	YES
Ethyl Methacrylate	20.00	17.23	86	76- 119	YES
trans-1,3-Dichloropropene	20.00	18.51	92	66- 125	YES
1,1,2-Trichloroethane	20.00	18.49	92	72- 119	YES
Tetrachloroethene	20.00	21.30	106	62- 150	YES
1,3-Dichloropropane	20.00	18.57	93	67- 128	YES
2-Hexanone	100.00	76.23	76	66- 126	YES
Dibromochloromethane	20.00	18.52	92	69- 115	YES
1,2-Dibromoethane	20.00	18.71	94	66- 122	YES
Chlorobenzene	20.00	19.48	97	74- 120	YES
1,1,1,2-Tetrachloroethane	20.00	19.78	99	77- 122	YES
Ethylbenzene	20.00	19.74	99	70- 132	YES
m+p-Xylene	40.00	39.44	99	68- 135	YES
o-Xylene	20.00	19.56	98	68- 132	YES
Styrene	20.00	19.28	96	74- 127	YES
Bromoform	20.00	18.36	92	70- 114	YES
Isopropylbenzene	20.00	19.10	95	74- 138	YES
trans-1,4-Dichloro-2-Butene	100.00	86.89	87	85- 117	YES
1,1,2,2-Tetrachloroethane	20.00	16.89	84	70- 119	YES
Bromobenzene	20.00	19.29	96	74- 118	YES
1,2,3-Trichloropropane	20.00	17.43	87	66- 125	YES

Lab Chronicle: _____ Ent. by _____.

_____ Ver. by _____.

_____.

Lancaster Laboratories, Inc.
GC/MS Volatiles Laboratory Control Sample Recovery

File: ^DCL01 Injected: 10/21/98 at 03:32 Method: 8260 5mL
Inst: HP02700 Sample: LCSW-28 LCSW-28 Matrix/level: WL
Dilution Factor: 1.0 Batch: D982921AB

COMPOUND NAME	SPIKE LEVEL	LCS CONC UG/L	LCS REC %	RANGE LOWER-UPPER	IN SPEC
n-Propylbenzene	20.00	18.20	91	69- 145	YES
2-Chlorotoluene	20.00	19.35	97	71- 132	YES
1,3,5-Trimethylbenzene	20.00	18.95	95	66- 135	YES
4-Chlorotoluene	20.00	18.29	91	65- 133	YES
tert-Butylbenzene	20.00	18.98	95	75- 133	YES
Pentachloroethane	20.00	17.68	88	30- 200	YES
1,2,4-Trimethylbenzene	20.00	18.80	94	61- 136	YES
sec-Butylbenzene	20.00	18.94	95	64- 140	YES
p-Isopropyltoluene	20.00	19.07	95	68- 144	YES
1,3-Dichlorobenzene	20.00	19.10	96	42- 150	YES
1,4-Dichlorobenzene	20.00	18.70	93	42- 150	YES
n-Butylbenzene	20.00	19.15	96	63- 148	YES
1,2-Dichlorobenzene	20.00	18.52	93	49- 139	YES
1,2-Dibromo-3-Chloropropane	20.00	14.60	73	51- 120	YES
1,2,4-Trichlorobenzene	20.00	18.88	94	52- 128	YES
Hexachlorobutadiene	20.00	21.31	106	63- 140	YES
Naphthalene	20.00	15.20	76	50- 122	YES
1,2,3-Trichlorobenzene	20.00	17.52	88	52- 131	YES

Lab Chronicle: _____ Ent. by _____.

_____ Ver. by _____.

_____.

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID: >DCLB1 ✓ Lab Sample ID: VBLKD28 ✓

Date Analyzed: 10/21/98 ✓ Time Analyzed: 02:42 ✓

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

Instrument ID: HP02700 ✓

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCSW-28	LCSW-28	>DCL01	03:32 ✓
02	LCSDW-28	LCSDW-28	>DCL02	04:08
03	TB101	3021551	>DCL03	05:01
04	FINAL	3021548	>DCL04	05:33
05	FINEF	3021550	>DCL05	06:05
06	FB101	3021549	>DCL06	06:36
07	STORA	3021552	>DCL07	07:21
08	18762	3018496	>DCL08	08:50 ✓
09	18762MS	3018497	>DCL09	09:35 ✓
10	18762MSD	3018498	>DCL10	10:14 ✓
11	18760DL	3018494	>DCL11	10:56
12	18761	3018495	>DCL12	11:41
13	18761DL	3018495	>DCL13	13:24
14				
15				
16				
17				
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19				
20				
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22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID: >DCLB3 ✓ Lab Sample ID: VBLKD29 ✓

Date Analyzed: 10/21/98 ✓ Time Analyzed: 17:20 ✓

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

Instrument ID: HP02700 ✓

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	FLRDN	3021922	>DCL22	19:20
02	18763	3018499	>DCL23	19:56
03	18764	3018500	>DCL25	21:47
04	18763DL	3018499	>DCL26	22:23
05	18765	3018501	>DCL27	23:08
06	W12--	3018874	>DCL28	23:44 ✓
07	W10--	3018875	>DCL29	00:20 ✓
08	W13--	3018878	>DCL30	00:55 ✓
09	W23--	3018879	>DCL31	01:30 ✓
10	TB-1-	3018880	>DCL32	02:05 ✓
11	RB1--	3018881	>DCL33	02:38 ✓
12				
13				
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COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID: >DCMB2 Lab Sample ID: VBLKD30

Date Analyzed: 10/22/98 Time Analyzed: 06:07

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

Instrument ID: HP02700

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	W11--	3018882	>DCM01	06:55
02				
03				
04				
05				
06				
07				
08				
09				
10				
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COMMENTS: _____

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: >DCHT2 ✓ BFB Injection Date: 10/17/98 ✓

Instrument ID: HP02700 ✓ BFB Injection Time: 12:24 ✓

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	18.9
75	30.0 - 60.0% of mass 95	48.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	67.1
175	5.0 - 9.0% of mass 174	5.0 (7.4)1
176	Greater than 95.0%, but less than 101.0% of mass 174	66.5 (99.0)1
177	5.0 - 9.0% of mass 176	4.4 (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	VSTD004	004 PPB IC	>DCHI1	10/17/98	12:58
02	VSTD010	010 PPB IC	>DCHI3	10/17/98	14:19
03	VSTD020	020 PPB IC	>DCHI4	10/17/98	14:56
04	VSTD050	050 PPB IC	>DCHI5	10/17/98	15:32
05	VSTD100	100 PPB IC	>DCHI6	10/17/98	16:07
06	VSTD300	VSTD300 IC	>DCHI7	10/17/98	16:52
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____

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

Instrument ID: HP02700 Calibration Date(s): 10/17/98 10/17/98

Calibration Times: 1258 1652

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= >DCHI1 RRF 10= >DCHI3 RRF 20= >DCHI4
RRF 50= >DCHI5 RRF100= >DCHI6 RRF300= >DCHI7

COMPOUND		RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane		.672	.730	.641	.619	.641	.573	.646	8.2	AVG
Chloromethane	#	.278	.322	.266	.257	.264	.228	.270	11.4	AVG #
Vinyl Chloride	*	.291	.325	.262	.270	.281	.242	.282	9.6	AVG *
Bromomethane		.351	.410	.324	.305	.324	.278	.332	13.6	AVG
Chloroethane		.176	.207	.167	.157	.165	.137	.168	13.7	AVG
Trichlorofluoromethane		.544	.635	.538	.517	.557	.510	.550	8.2	AVG
Ethyl Ether		.151	.143	.147	.160	.170	.156	.155	6.2	AVG
Acrolein		.030	.048	.034	.033	.036	.034	.036	17.3	2NDDEG
1,1-Dichloroethene	*	.247	.238	.236	.262	.270	.245	.250	5.5	AVG *
Freon 113		.592	.527	.524	.576	.591	.537	.558	5.7	AVG
Acetone		.016	.019	.016	.015	.017	.015	.016	9.0	AVG
hyl Iodide		.724	.719	.692	.787	.817	.751	.748	6.2	AVG
bon Disulfide		.710	.679	.663	.749	.779	.697	.713	6.1	AVG
llyl Chloride		.335	.420	.326	.323	.332	.310	.341	11.6	AVG
Methylene Chloride		.293	.279	.260	.287	.296	.275	.292	4.7	AVG
Acrylonitrile		.056	.087	.055	.059	.066	.060	.064	17.7	2NDDEG
trans-1,2-Dichloroethene		.295	.282	.271	.297	.314	.281	.290	5.2	AVG
t-Butyl Alcohol		.018	.021	.019	.017	.020	.018	.019	7.5	AVG
Methyl t-Butyl Ether		.544	.522	.530	.567	.606	.570	.556	5.6	AVG
n-Hexane		.274	.261	.267	.300	.304	.281	.281	6.3	AVG
1,1-Dichloroethane	#	.513	.509	.501	.540	.567	.517	.524	4.7	AVG #
di-Isopropyl Ether		.857	.854	.834	.904	.948	.881	.880	4.7	AVG
2-Chloro-1,3-Butadiene		.334	.344	.343	.369	.379	.347	.352	5.0	AVG
2,2-Dichloropropane		.374	.365	.353	.386	.410	.367	.376	5.3	AVG
cis-1,2-Dichloroethene		.291	.290	.280	.309	.322	.296	.298	5.0	AVG
Propionitrile		.020	.024	.021	.021	.023	.021	.022	7.0	AVG
Methacrylonitrile		.122	.160	.132	.111	.120	.110	.126	14.7	AVG
2-Butanone		.093	.132	.103	.088	.105	.094	.102	15.5	2NDDEG
Tetrahydrofuran		.063	.092	.066	.063	.071	.062	.069	16.5	2NDDEG
Chloroform	*	.671	.597	.566	.601	.636	.586	.609	6.3	AVG *
Bromochloromethane		.217	.287	.211	.207	.223	.208	.226	13.6	AVG
1,1,1-Trichloroethane		.441	.442	.437	.476	.504	.455	.459	5.7	AVG
Cyclohexane		.352	.330	.342	.374	.388	.348	.356	6.1	AVG
Carbon Tetrachloride		.506	.453	.442	.478	.502	.458	.473	5.6	AVG

J/R (all samples)

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date(s): 10/17/98 10/17/98

Calibration Times: 1258 1652

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= >DCHI1 RRF 10= >DCHI3 RRF 20= >DCHI4
RRF 50= >DCHI5 RRF100= >DCHI6 RRF300= >DCHI7

COMPOUND		RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
1,1-Dichloropropene		.388	.388	.379	.418	.430	.387	.398	5.1	AVG
Benzene		.763	.738	.729	.762	.801	.725	.751	4.0	AVG
Isobutyl Alcohol		.006	.007	.006	.006	.007	.006	.006	9.4	AVG
1,2-Dichloroethane		.314	.322	.315	.343	.358	.328	.330	5.3	AVG
n-Heptane		.311	.241	.218	.225	.222	.202	.236	16.3	2NDDEG
Trichloroethene		.411	.375	.367	.389	.400	.369	.385	4.6	AVG
1,2-Dichloropropane	*	.343	.350	.338	.359	.379	.346	.353	4.2	AVG *
Dibromomethane		.383	.389	.377	.396	.418	.389	.392	3.6	AVG
Methyl Methacrylate		.183	.177	.190	.196	.217	.200	.194	7.3	AVG
1,4-Dioxane		.002	.003	.003	.003	.003	.003	.003	11.7	AVG
Bromodichloromethane		.638	.668	.646	.683	.709	.670	.669	3.8	AVG
2-Nitropropane		.057	.077	.058	.065	.074	.067	.066	12.5	AVG
2-Chloroethyl Vinyl Ether		.164	.173	.183	.193	.214	.206	.189	10.2	AVG
cis-1,3-Dichloropropene		.473	.482	.475	.504	.539	.511	.497	5.2	AVG
4-Methyl-2-Pentanone		.252	.394	.276	.276	.304	.281	.297	16.9	2NDDEG
Toluene	*	.602	.596	.611	.664	.677	.658	.635	5.6	AVG *
Ethyl Methacrylate		.451	.465	.516	.528	.566	.564	.515	9.4	AVG
trans-1,3-Dichloropropene		.488	.516	.538	.575	.588	.602	.551	8.1	AVG
1,1,2-Trichloroethane		.387	.376	.401	.403	.416	.407	.399	3.6	AVG
Tetrachloroethene		.536	.527	.532	.578	.582	.569	.554	4.5	AVG
1,3-Dichloropropane		.617	.628	.642	.670	.677	.659	.649	3.7	AVG
2-Hexanone		.192	.298	.237	.231	.258	.247	.244	14.4	AVG
Dibromochloromethane		.768	.815	.844	.854	.902	.895	.846	6.0	AVG
1,2-Dibromoethane		.672	.689	.719	.755	.794	.765	.732	6.4	AVG
Chlorobenzene	#	.912	.869	.875	.931	.931	.909	.904	3.0	AVG #
1,1,1,2-Tetrachloroethane		.489	.501	.516	.534	.537	.532	.518	3.8	AVG
Ethylbenzene	*	1.228	1.232	1.263	1.320	1.338	1.309	1.282	3.7	AVG *
m+p-Xylene		.464	.470	.471	.498	.503	.486	.482	3.3	AVG
o-Xylene		.452	.459	.462	.492	.489	.479	.472	3.5	AVG
Styrene		.765	.790	.824	.862	.873	.872	.831	5.5	AVG
Bromoform	#	.587	.606	.648	.661	.709	.699	.652	7.5	AVG #
Isopropylbenzene		1.254	1.274	1.345	1.408	1.427	1.414	1.354	5.6	AVG
trans-1,4-Dichloro-2-Butene		.097	.121	.105	.108	.121	.122	.112	9.4	AVG
1,1,2,2-Tetrachloroethane	#	1.408	1.309	1.344	1.257	1.321	1.221	1.310	5.0	AVG #

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date(s): 10/17/98 10/17/98

Calibration Times: 1258 1652

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= >DCHI1 RRF 10= >DCHI3 RRF 20= >DCHI4
RRF 50= >DCHI5 RRF100= >DCHI6 RRF300= >DCHI7

COMPOUND	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Bromobenzene	.869	.855	.851	.861	.870	.824	.855	2.0	AVG
1,2,3-Trichloropropane	.290	.282	.288	.278	.287	.260	.281	4.0	AVG
n-Propylbenzene	2.893	2.715	2.668	2.734	2.714	2.615	2.723	3.4	AVG
2-Chlorotoluene	2.030	1.917	1.891	1.861	1.889	1.716	1.884	5.4	AVG
1,3,5-Trimethylbenzene	1.870	1.761	1.780	1.764	1.788	1.687	1.775	3.3	AVG
4-Chlorotoluene	2.319	2.258	2.177	2.189	2.243	2.058	2.207	4.1	AVG
tert-Butylbenzene	.518	.505	.475	.482	.493	.457	.488	4.5	AVG
Pentachloroethane	.725	.856	.687	.704	.697	.697	.728	8.8	AVG
1,2,4-Trimethylbenzene	1.957	1.819	1.825	1.815	1.809	1.690	1.819	4.7	AVG
sec-Butylbenzene	2.703	2.574	2.633	2.640	2.629	2.514	2.616	2.5	AVG
Isopropyltoluene	2.108	2.020	2.010	2.004	2.020	1.877	2.006	3.7	AVG
1,3-Dichlorobenzene	1.336	1.216	1.281	1.256	1.312	1.253	1.276	3.4	AVG
1,4-Dichlorobenzene	1.658	1.585	1.569	1.528	1.554	1.493	1.564	3.6	AVG
n-Butylbenzene	2.163	2.073	2.063	2.119	2.103	1.993	2.086	2.8	AVG
1,2-Dichlorobenzene	1.379	1.330	1.353	1.279	1.316	1.279	1.323	3.0	AVG
1,2-Dibromo-3-Chloropropane	.328	.234	.253	.239	.263	.244	.260	13.4	AVG
1,2,4-Trichlorobenzene	.797	.819	.894	.861	.906	.883	.860	5.1	AVG
Hexachlorobutadiene	.716	.664	.649	.636	.640	.583	.648	6.7	AVG
Naphthalene	1.025	.996	1.168	1.101	1.234	1.223	1.124	8.9	AVG
1,2,3-Trichlorobenzene	.582	.622	.682	.652	.702	.654	.649	6.6	AVG
Dibromofluoromethane	.741	.712	.674	.664	.700	.652	.690	4.8	AVG
1,2-Dichloroethane-d4	.195	.187	.181	.178	.182	.168	.182	4.8	AVG
Toluene-d8	1.136	1.136	1.120	1.126	1.138	1.143	1.133	.8	AVG
4-Bromofluorobenzene	.839	.839	.825	.843	.847	.844	.839	.9	AVG

The average RSD for the calibration is: 7.1

Calibration Report

Title: Calibration File for 8260B Waters Inst.- HP02700
Calibrated: 981017 18:12

Comp No.	Compound	Files: >DCHI1 RF 4.00	>DCHI3 RF 10.00	>DCHI4 RF 20.00	>DCHI5 RF 50.00	>DCHI6 RF 100.00	>DCHI7 RF 300.00	$\overline{RF}$	%RSD	CORR1	CORR2	Yint1	Yint
1]	Dichlorodifluoromethane	.67232	.73014	.64063	.61936	.64095	.57290	.64605	8.156	.999282	.999925	-3.88	.3
2]	Chloromethane	.27822	.32232	.26650	.25741	.26441	.22839	.26954	11.419	.998733	.999899	-5.46	.3
3]	Vinyl Chloride	.29132	.32511	.28208	.26980	.28055	.24216	.28184	9.631	.998706	.999886	-5.13	.6
4]	Bromomethane	.35124	.41005	.32389	.30546	.32419	.27752	.33206	13.642	.998580	.999793	-5.54	.4
5]	Chloroethane	.17620	.20651	.16667	.15654	.16498	.13735	.16804	13.653	.997947	.999785	-6.62	.6
6]	Trichlorofluoromethane	.54449	.63535	.53784	.51684	.55691	.50976	.55020	8.221	.999517	.999850	-2.35	.6
7]	Dichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	-	-
8]	n-Pentane	-	-	-	-	-	-	-	-	-	-	-	-
9]	Ethyl Ether	.15086	.14328	.14711	.16009	.16993	.15619	.15458	6.244	.999463	.999910	-.886	2.
10]	Acrolein	.02985	.04757	.03365	.03254	.03613	.03426	.03567	17.349	.999644	.999715	-9.72	4.
11]	1,1-Dichloroethene	.24720	.23755	.23563	.26172	.27045	.24522	.24963	5.512	.999293	.999936	-1.77	2.
12]	Freon 113	.59217	.52682	.52419	.57634	.59094	.53738	.55797	5.740	.999352	.999944	-1.99	1.
13]	Acetone	.01599	.01853	.01551	.01474	.01669	.01471	.01603	8.999	.998916	.999653	-5.58	3.
14]	Methyl Iodide	.72358	.71937	.69216	.78734	.81740	.75085	.74845	6.239	.999440	.999929	-1.14	2.
15]	Carbon Disulfide	.70951	.67904	.66293	.74930	.77870	.69732	.71280	6.132	.999093	.999912	-1.98	2.
16]	2-Propanol	-	-	-	-	-	-	-	-	-	-	-	-
17]	Acetonitrile	-	-	-	-	-	-	-	-	-	-	-	-
18]	Allyl Chloride	.33496	.41995	.32583	.32342	.33185	.30966	.34094	11.639	.999726	.999924	-2.69	-.3
19]	3-Chloro-1-Propene	-	-	-	-	-	-	-	-	-	-	-	-
20]	Methylene Chloride	.29257	.27902	.26026	.28702	.29603	.27522	.28169	4.657	.999617	.999944	-1.29	1.
21]	Acrylonitrile	.05582	.06654	.05834	.05903	.06559	.06024	.06426	17.715	.999389	.999666	-18.45	8.
22]	trans-1,2-Dichloroethene	.29508	.28199	.27097	.29651	.31390	.28088	.28989	5.229	.999122	.999884	-1.98	2.
23]	t-Butyl Alcohol	.01751	.02091	.01920	.01749	.01968	.01769	.01875	7.528	.999148	.999709	-15.66	14.
24]	Methyl t-Butyl Ether	.54362	.52224	.52973	.56672	.60632	.56957	.55637	5.577	.999685	.999913	-.214	2.
25]	n-Hexane	.27436	.25058	.26715	.30009	.30421	.28060	.28117	6.275	.999482	.999963	-1.38	1.
26]	1,1-Dichloroethane	.51347	.50886	.50102	.53972	.56711	.51677	.52449	4.690	.999387	.999922	-1.54	2.
27]	Vinyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-
28]	di-Isopropyl Ether	.85681	.85433	.83402	.90411	.94831	.88122	.87990	4.703	.999604	.999935	-.914	1.
29]	Ethyl t-Butyl Ether	-	-	-	-	-	-	-	-	-	-	-	-
30]	1-Propanol	-	-	-	-	-	-	-	-	-	-	-	-
31]	2-Chloro-1,3-Butadiene	.33438	.34408	.34017	.36908	.37894	.34743	.35235	4.998	.999457	.999959	-1.67	1.
32]	2,2-Dichloropropane	.37436	.36531	.35306	.38646	.40979	.36681	.37597	5.292	.999121	.999884	-1.89	2.
33]	cis-1,2-Dichloroethene	.29103	.29014	.28045	.30859	.32152	.29584	.29793	4.952	.999492	.999934	-1.27	1.
34]	Propionitrile	.01966	.02381	.02147	.02074	.02307	.02145	.02170	6.990	.999505	.999786	-4.42	16.
35]	Methacrylonitrile	.12230	.15967	.13219	.11108	.12044	.10953	.12587	14.694	.999232	.999487	-16.34	-4.
36]	2-Butanone	.05263	.13164	.09975	.08759	.10474	.09402	.10173	15.541	.998982	.999393	-4.11	2.
37]	Ethyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

Support data, JM, 11/11/98.

Calibration Report

Title: Calibration File for 8260B Waters Inst.- HP02700
Calibrated: 981017 18:12

Comp No.	Compound	Files: >DCHI1 RF 4.00	>DCHI3 RF 10.00	>DCHI4 RF 20.00	>DCHI5 RF 50.00	>DCHI6 RF 100.00	>DCHI7 RF 300.00	$\overline{RF}$	% RSD	CORR1	CORR2	Yint1	Yint
38)	Tetrahydrofuran	.06271	.09192	.06565	.06301	.07066	.06232	.06938	16.538	.998920	.999615	-6.66	2.
39)	Chloroform	.67136	.59663	.56565	.60096	.63634	.58561	.60943	6.261	.999529	.999901	-1.46	1.
40)	Bromochloromethane	.21656	.28722	.21083	.20743	.22327	.20850	.22564	13.623	.999654	.999811	-1.96	.1
41)	1,1,1-Trichloroethane	.44131	.44192	.43713	.47632	.50354	.45521	.45924	5.662	.999262	.999905	-1.56	2.
42)	Dibromofluoromethane	.74063	.71196	.67385	.66408	.70038	.65166	.69043	4.827	.999689	.999928	-1.76	.7
43)	Cyclohexane	.35220	.33030	.34070	.37421	.38792	.34781	.35552	6.066	.999126	.999930	-2.05	2.
44)	Carbon Tetrachloride	.50557	.45300	.44173	.47776	.50155	.45816	.47296	5.591	.999426	.999914	-1.59	1.
45)	1,1-Dichloropropene	.38785	.38812	.37856	.41789	.42956	.38706	.39817	5.134	.999214	.999942	-2.15	2.
46)	1,2-Dichloroethane-d4	.19460	.19667	.18136	.17820	.19249	.16834	.18194	4.804	.999628	.999970	-2.56	.4
47)	Benzene	.76259	.73821	.71874	.76155	.80109	.72523	.75123	4.047	.999325	.999914	-1.94	1.
48)	Isobutyl Alcohol	.00565	.00702	.00650	.00580	.00661	.00566	.00621	9.374	.998247	.999613	-65.10	52.
49)	t-Amyl Methyl Ether	-	-	-	-	-	-	-	-	-	-	-	-
50)	1,2-Dichloroethane	.31386	.32166	.31472	.34271	.35831	.32783	.32985	5.306	.999428	.999932	-1.40	2.
51)	n-Heptane	.31078	.24052	.21813	.22455	.22245	.20178	.23637	16.294	.999464	.999970	-4.00	-.1
52)	Trichloroethene	.41087	.37486	.36729	.38934	.40023	.36912	.38529	4.626	.999563	.999956	-1.82	1.
53)	n-Butanol	-	-	-	-	-	-	-	-	-	-	-	-
54)	1,2-Dichloropropane	.34315	.35023	.33810	.35946	.37885	.34640	.35270	4.167	.999443	.999920	-1.53	1.
55)	Dibromomethane	.38313	.38916	.37658	.39552	.41752	.38923	.39186	3.602	.999654	.999931	-.966	1.
56)	Methyl Methacrylate	.18294	.17677	.18995	.19571	.21713	.20000	.19375	7.333	.999454	.999829	-.276	2.
57)	1,4-Dioxane	.00224	.00299	.00282	.00255	.00314	.00282	.00276	11.659	.998666	.999479	1.79	83.
58)	n-Propyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-
59)	Monochloroacetone	-	-	-	-	-	-	-	-	-	-	-	-
60)	Bromodichloromethane	.63755	.66757	.64637	.68321	.70865	.67045	.66897	3.829	.999781	.999964	-.731	1.
61)	2-Nitropropane	.05650	.07709	.05762	.06506	.07354	.06736	.06620	12.508	.999296	.999685	-.668	5.
62)	2-Chloroethyl Vinyl Ether	.16353	.17332	.18302	.19340	.21383	.20606	.18886	10.204	.999802	.999879	2.57	5.
63)	cis-1,3-Dichloropropene	.47301	.48169	.47475	.50359	.53866	.51101	.49712	5.152	.999767	.999921	-.0130	1.
64)	4-Methyl-2-Pentanone	.25163	.39394	.27633	.27580	.30420	.28061	.29708	16.933	.999466	.999716	-3.57	1.
65)	Toluene-d8	1.13600	1.13602	1.11983	1.12566	1.13844	1.14315	1.13318	.767	.999997	.999998	.338	.1
66)	Toluene	.60192	.59586	.61110	.66355	.67746	.65820	.63468	5.616	.999915	.999983	.193	1.
67)	Ethyl Methacrylate	.45071	.46467	.51572	.52778	.56618	.56371	.51480	9.446	.999951	.999953	1.66	1.
68)	trans-1,3-Dichloropropene	.48763	.51618	.53793	.57458	.58832	.60180	.55107	8.086	.999979	.999995	1.86	1.
69)	1,1,2-Trichloroethane	.38733	.37647	.40143	.40328	.41602	.40687	.39857	3.581	.999957	.999986	.0845	.9
70)	Tetrachloroethene	.53631	.52666	.53249	.57810	.58218	.56880	.55409	4.506	.999939	.999988	.0671	1.
71)	1,3-Dichloropropane	.61662	.62776	.64203	.67004	.67685	.65851	.64864	3.685	.999939	.999995	-.257	.9
72)	2-Hexanone	.19172	.29831	.23661	.23067	.25808	.24714	.24376	14.356	.999722	.999774	.0269	2.
73)	Dibromochloromethane	.76772	.81471	.84389	.85386	.90180	.89543	.84623	5.962	.999967	.999969	1.04	1.
74)	Butyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RF}$ - Average Response Factor

%RSD - Percent Relative Standard Deviation

CORRn - Coefficient of Correlation (nth degree)

Yintn - Y intercept (nth degree) in UG/L

Calibration Report

Title: Calibration File for 8260B Waters Inst.- HP02700
Calibrated: 981017 18:12

Comp No.	Compound	Files: >DCHI1 RF 4.00	>DCHI3 RF 10.00	>DCHI4 RF 20.00	>DCHI5 RF 50.00	>DCHI6 RF 100.00	>DCHI7 RF 300.00	$\overline{RF}$	% RSD	CORR1	CORR2	Yint1	Yint
75)	1,2-Dibromoethane	.67165	.68898	.71886	.75487	.79382	.76524	.73224	6.439	.999877	.999962	.305	1.
76)	Chlorobenzene	.91223	.86922	.87459	.93051	.93115	.90862	.90439	2.968	.999944	.999992	-.302	.8
77)	1,1,1,2-Tetrachloroethane	.48939	.50132	.51558	.53363	.53723	.53157	.51812	3.763	.999987	.999998	.186	.7
78)	Ethylbenzene	1.22831	1.23165	1.26332	1.31967	1.33844	1.30896	1.28173	3.676	.999956	.999994	-.0118	.9
79)	m+p-Xylene	.46423	.47011	.47139	.49786	.50326	.48623	.48218	3.332	.999907	.999991	-.895	2.
80)	Isoamyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-
81)	o-Xylene	.45247	.45850	.46243	.49157	.48878	.47877	.47209	3.501	.999953	.999995	-.232	.7
82)	Styrene	.76490	.79013	.82375	.86171	.87348	.87249	.83108	5.530	.999995	.999997	.752	.9
83)	Bromoform	.58687	.60569	.64752	.66120	.70872	.69933	.65156	7.502	.999939	.999948	1.24	1.
84)	Cumene	-	-	-	-	-	-	-	-	-	-	-	-
85)	Isopropylbenzene	1.25429	1.27354	1.34511	1.40798	1.42722	1.41364	1.35363	5.560	.999984	.999996	.514	1.
86)	Cyclohexanone	-	-	-	-	-	-	-	-	-	-	-	-
87)	trans-1,4-Dichloro-2-Butene	.09729	.12123	.10450	.10816	.12108	.12248	.11246	9.439	.999776	.999776	9.54	9.
88)	4-Bromofluorobenzene	.83909	.83923	.82454	.84280	.84691	.84420	.83946	.941	.999998	.999999	.106	.2
89)	1,1,2,2-Tetrachloroethane	1.40809	1.30856	1.34375	1.25722	1.32150	1.22130	1.31007	5.011	.999640	.999931	-2.24	.5
90)	Bromobenzene	.86915	.85499	.85085	.86128	.87033	.82376	.85506	2.004	.999815	.999991	-1.56	.5
91)	1,2,3-Trichloropropane	.29050	.28189	.28786	.27779	.28705	.25982	.28082	4.008	.999400	.999953	-2.97	.8
92)	n-Propylbenzene	2.89306	2.71535	2.66831	2.73359	2.71389	2.61521	2.72324	3.436	.999914	.999997	-1.30	.1
93)	2-Chlorotoluene	2.03007	1.91706	1.89081	1.86061	1.88950	1.71632	1.88406	5.369	.999454	.999974	-3.20	.5
94)	1,3,5-Trimethylbenzene	1.86974	1.76084	1.77987	1.76438	1.78830	1.68662	1.77496	3.314	.999801	.999988	-1.80	.4
95)	4-Chlorotoluene	2.31929	2.25767	2.17725	2.18900	2.24312	2.05761	2.20732	4.052	.999553	.999966	-2.53	.7
96)	tert-Butylbenzene	.51613	.52533	.47481	.49152	.49330	.45721	.48838	4.486	.999660	.999967	-2.21	.6
97)	Pentachloroethane	.72496	.65591	.68708	.70399	.69663	.69718	.72762	8.812	.999969	.999971	-.640	-.8
98)	bis(2-Chloroethyl)ether	-	-	-	-	-	-	-	-	-	-	-	-
99)	1,2,4-Trimethylbenzene	1.95744	1.81920	1.82460	1.81546	1.80884	1.69048	1.81934	4.653	.999729	.999996	-2.46	.2
100)	sec-Butylbenzene	2.70343	2.57441	2.63329	2.63957	2.62893	2.51424	2.61564	2.463	.999876	.999999	-1.51	.2
101)	p-Isopropyltoluene	2.10843	2.01987	2.01008	2.00439	2.01950	1.87654	2.00647	3.706	.999679	.999989	-2.41	.4
102)	1,3-Dichlorobenzene	1.33568	1.21554	1.28143	1.25601	1.31159	1.25279	1.27551	3.408	.999861	.999962	-.776	.8
103)	1,4-Dichlorobenzene	1.65761	1.58497	1.56920	1.52792	1.55434	1.49303	1.56450	3.577	.999916	.999989	-1.33	.06
104)	n-Butylbenzene	2.16258	2.07310	2.06283	2.11931	2.10284	1.99273	2.08556	2.768	.999811	.999997	-1.77	.4
105)	1,2-Dichlorobenzene	1.37879	1.32987	1.35263	1.27930	1.31619	1.27558	1.32256	3.018	.999951	.999980	-.884	-.001
106)	1,4-Dithiane	-	-	-	-	-	-	-	-	-	-	-	-
107)	1,2-Dibromo-3-Chloropropane	.32808	.23424	.25251	.23917	.26303	.24409	.26019	13.370	.999595	.999818	-1.26	1.
108)	1,2,4-Trichlorobenzene	.79674	.81914	.89380	.86101	.90644	.88318	.85005	5.071	.999931	.999963	.124	1.
109)	Hexachlorobutadiene	.71583	.66429	.64930	.63650	.63973	.58252	.64803	6.675	.999493	.999984	-3.44	.2
110)	Naphthalene	1.02523	.99603	1.16765	1.10128	1.23381	1.22287	1.12448	8.927	.999859	.999659	1.77	1.
111)	1,2,3-Trichlorobenzene	.58226	.62204	.68158	.65153	.70207	.65386	.64899	6.570	.999637	.999906	-.917	1.

RF - Response Factor (Subscript is amount in UG/L)

$\overline{RF}$ - Average Response Factor

%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: >DCLT6 ✓ BFB Injection Date: 10/21/98 ✓

Instrument ID: HP02700 ✓ BFB Injection Time: 01:24 ✓

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	18.2
75	30.0 - 60.0% of mass 95	46.6
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	73.2
175	5.0 - 9.0% of mass 174	5.7 (7.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	73.6 (100.5)1
177	5.0 - 9.0% of mass 176	5.1 (6.9)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	>DCLS1	10/21/98	01:46
02	VBLKD28	VBLKD28	>DCLB1	10/21/98	02:42
03	LCSW-28	LCSW-28	>DCL01	10/21/98	03:32
04	LCSDW-28	LCSDW-28	>DCL02	10/21/98	04:08
05	TB101	3021551	>DCL03	10/21/98	05:01
06	FINAL	3021548	>DCL04	10/21/98	05:33
07	FINEF	3021550	>DCL05	10/21/98	06:05
08	FB101	3021549	>DCL06	10/21/98	06:36
09	STORA	3021552	>DCL07	10/21/98	07:21
10	18762	3018496	>DCL08	10/21/98	08:50
11	18762MS	3018497	>DCL09	10/21/98	09:35
12	18762MSD	3018498	>DCL10	10/21/98	10:14
13	18760DL	3018494	>DCL11	10/21/98	10:56
14	18761	3018495	>DCL12	10/21/98	11:41
15	18761DL	3018495	>DCL13	10/21/98	13:24
16					
17					
18					
19					
20					
21					
22					

12 hrs

7A

VOLATILE CONTINUING CALIBRATION CHECK

only assoc. w/ QC samples

Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 ✓ Calibration Date: 10/21/98 ✓ Time: 0146 ✓

Lab File ID: >DCLS1 ✓ Init. Calib. Date(s): 10/17/98 ✓ 10/17/98 ✓

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
Dichlorodifluoromethane		.646	.531	41.10	50.0	17.8
Chloromethane	#	.270	.240	44.48	50.0	11.0#
Vinyl Chloride	*	.282	.233	41.42	50.0	17.2*
Bromomethane		.332	.304	45.81	50.0	8.4
Chloroethane		.168	.148	43.94	50.0	12.1
Trichlorofluoromethane		.550	.430	39.07	50.0	21.9
Ethyl Ether		.155	.157	50.74	50.0	-1.5
Acrolein		.036	.031	436.51	500.0	12.7
1,1-Dichloroethene	*	.250	.245	49.17	50.0	1.7*
Freon 113		.558	.528	47.31	50.0	5.4
Acetone		.016	.014	89.19 ✓	100.0	10.8 ✓
Methyl Iodide		.748	.786	52.49	50.0	-5.0
Carbon Disulfide		.713	.691	48.48	50.0	3.0
Allyl Chloride		.341	.279	40.95	50.0	18.1
Methylene Chloride		.282	.282	50.03	50.0	-.1
Acrylonitrile		.064	.055	423.58	500.0	15.3
trans-1,2-Dichloroethene		.290	.284 ✓	49.04	50.0	1.9
t-Butyl Alcohol		.019	.016	209.81	250.0	16.1
Methyl t-Butyl Ether		.556	.577	51.86	50.0	-3.7
n-Hexane		.281	.209	37.16	50.0	25.7
1,1-Dichloroethane	#	.524	.501	47.74	50.0	4.5#
di-Isopropyl Ether		.880	.868	49.35	50.0	1.3
2-Chloro-1,3-Butadiene		.352	.333	47.30	50.0	5.4
2,2-Dichloropropane		.376	.341	45.32	50.0	9.4
cis-1,2-Dichloroethene		.298	.303	50.86	50.0	-1.7
Propionitrile		.022	.020	228.35	250.0	8.7
Methacrylonitrile		.126	.106	105.30	125.0	15.8
2-Butanone		.102	.085	82.55	100.0	17.5
Tetrahydrofuran		.069	.059	84.35	100.0	15.6
Chloroform	*	.609	.582	47.74	50.0	4.5*
Bromochloromethane		.226	.196	43.53	50.0	12.9
1,1,1-Trichloroethane		.459	.449	48.86	50.0	2.3
Cyclohexane		.356	.333	46.88	50.0	6.2
Carbon Tetrachloride		.473	.455	48.09	50.0	3.8

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/21/98 Time: 0146

Lab File ID: >DCLS1 Init. Calib. Date(s): 10/17/98 10/17/98

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
1,1-Dichloropropene		.398	.371	46.57	50.0	6.9
Benzene		.751	.722	48.02	50.0	4.0
Isobutyl Alcohol		.006	.005	523.05	625.0	16.3
1,2-Dichloroethane		.330	.328	49.68	50.0	.6
n-Heptane		.236	.146	31.78	50.0	36.4
Trichloroethene		.385	.368	47.77	50.0	4.5
1,2-Dichloropropane	*	.353	.339	48.07	50.0	3.9*
Dibromomethane		.392	.400	51.01	50.0	-2.0
Methyl Methacrylate		.194	.194	50.10	50.0	-.2
1,4-Dioxane		.003	.002	508.26	625.0	18.7
Bromodichloromethane		.669	.678	50.65	50.0	-1.3
2-Nitropropane		.066	.052	78.03	100.0	22.0
2-Chloroethyl Vinyl Ether		.189	.177	93.54	100.0	6.5
cis-1,3-Dichloropropene		.497	.477	48.00	50.0	4.0
4-Methyl-2-Pentanone		.297	.251	83.52	100.0	16.5
Toluene	*	.635	.608	47.92	50.0	4.2*
Ethyl Methacrylate		.515	.507	49.25	50.0	1.5
trans-1,3-Dichloropropene		.551	.533	48.34	50.0	3.3
1,1,2-Trichloroethane		.399	.393	49.30	50.0	1.4
Tetrachloroethene		.554	.555	50.08	50.0	-.2
1,3-Dichloropropane		.649	.632	48.72	50.0	2.6
2-Hexanone		.244	.208	85.23	100.0	14.8
Dibromochloromethane		.846	.870	51.41	50.0	-2.8
1,2-Dibromoethane		.732	.740	50.51	50.0	-1.0
Chlorobenzene	#	.904	.888	49.07	50.0	1.9#
1,1,1,2-Tetrachloroethane		.518	.521	50.32	50.0	-.6
Ethylbenzene	*	1.282	1.203	46.91	50.0	6.2*
m+p-Xylene		.482	.458	94.99	100.0	5.0
o-Xylene		.472	.453	47.93	50.0	4.1
Styrene		.831	.809	48.66	50.0	2.7
Bromoform	#	.652	.676	51.88	50.0	-3.8#
Isopropylbenzene		1.354	1.296	47.87	50.0	4.3
trans-1,4-Dichloro-2-Butene		.112	.107	119.10	125.0	4.7
1,1,2,2-Tetrachloroethane	#	1.310	1.198	45.72	50.0	8.6#

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/21/98 Time: 0146

Lab File ID: >DCLS1 Init. Calib. Date(s): 10/17/98 10/17/98

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
Bromobenzene	.855	.858	50.15	50.0	-.3
1,2,3-Trichloropropane	.281	.275	48.93	50.0	2.1
n-Propylbenzene	2.723	2.349	43.13	50.0	13.7
2-Chlorotoluene	1.884	1.698	45.05	50.0	9.9
1,3,5-Trimethylbenzene	1.775	1.631	45.94	50.0	8.1
4-Chlorotoluene	2.207	1.939	43.93	50.0	12.1
tert-Butylbenzene	.488	.455	46.55	50.0	6.9
Pentachloroethane	.728	.669	45.98	50.0	8.0
1,2,4-Trimethylbenzene	1.819	1.625	44.65	50.0	10.7
sec-Butylbenzene	2.616	2.376	45.43	50.0	9.1
p-Isopropyltoluene	2.006	1.812	45.16	50.0	9.7
1,3-Dichlorobenzene	1.276	1.184	46.41	50.0	7.2
1,4-Dichlorobenzene	1.564	1.471	47.03	50.0	5.9
n-Butylbenzene	2.086	1.805	43.27	50.0	13.5
1,2-Dichlorobenzene	1.323	1.265	47.82	50.0	4.4
1,2-Dibromo-3-Chloropropane	.260	.214	41.20	50.0	17.6
1,2,4-Trichlorobenzene	.860	.810	47.09	50.0	5.8
Hexachlorobutadiene	.648	.584	45.03	50.0	9.9
Naphthalene	1.124	1.055	46.92	50.0	6.2
1,2,3-Trichlorobenzene	.649	.616	47.47	50.0	5.1
Dibromofluoromethane	.690	.728	52.72	50.0	-5.4
1,2-Dichloroethane-d4	.182	.181	49.63	50.0	.7
Toluene-d8	1.133	1.143	50.45	50.0	-.9
4-Bromofluorobenzene	.839	.844	50.27	50.0	-.5

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

8A
VOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

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

Lab File ID (Standard): >DCLS1 Date Analyzed: 10/21/98

Instrument ID: HP02700 Time Analyzed: 01:46

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	105913	11.49	83177	15.79	53013	19.16
	UPPER LIMIT	211826		166354		106026	
	LOWER LIMIT	52957		41589		26507	
	EPA SAMPLE NO.						
01	VBLKD28	114249	11.48	92909	15.78	51923	19.16
02	LCSW-28	113196	11.47	87772	15.77	55103	19.17
03	LCSDW-28	110695	11.49	86627	15.79	55072	19.16
04	TB101	116870	11.49	95009	15.78	54704	19.16
05	FINAL	103243	11.50	84402	15.79	48841	19.17
06	FINEF	101746	11.51	83495	15.79	47964	19.18
07	FB101	97005	11.50	78163	15.79	45740	19.17
08	STORA	96138	11.48	77925	15.79	45864	19.17
09	18762	96664	11.50	79044	15.81	46498	19.19
10	18762MS	97531	11.49	75971	15.79	48248	19.17
11	18762MSD	100156	11.49	77709	15.79	49527	19.17
12	18760DL	97131	11.48	79660	15.78	47825	19.17
13	18761	98242	11.48	80616	15.79	49152	19.16
14	18761DL	94062	11.49	76500	15.79	45926	19.16
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: >DCLT9 ✓ BFB Injection Date: 10/21/98 ✓

Instrument ID: HP02700 ✓ BFB Injection Time: 15:02 ✓

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	18.4 ✓
75	30.0 - 60.0% of mass 95	46.0
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	73.2
175	5.0 - 9.0% of mass 174	5.3 (7.2)1
176	Greater than 95.0%, but less than 101.0% of mass 174	69.7 (95.2)1
177	5.0 - 9.0% of mass 176	5.1 (7.3)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	>DCLS2	10/21/98	15:23 ✓
02	VBLKD29	VBLKD29	>DCLB3	10/21/98	17:20 ✓
03	FLRDN	3021922	>DCL22	10/21/98	19:20
04	18763	3018499	>DCL23	10/21/98	19:56
05	18764	3018500	>DCL25	10/21/98	21:47
06	18763DL	3018499	>DCL26	10/21/98	22:23
07	18765	3018501	>DCL27	10/21/98	23:08
08	W12--	3018874	>DCL28	10/21/98	23:44 ✓
09	W10--	3018875	>DCL29	10/22/98	00:20 ✓
10	W13--	3018878	>DCL30	10/22/98	00:55 ✓
11	W23--	3018879	>DCL31	10/22/98	01:30 ✓
12	TB-1-	3018880	>DCL32	10/22/98	02:05 ✓
13	RB1--	3018881	>DCL33	10/22/98	02:38 ✓
14					
15					
16					
17					
18					
19					
20					
21					
22					

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 ✓ Calibration Date: 10/21/98 ✓ Time: 1523 ✓

Lab File ID: >DCLS2 ✓ Init. Calib. Date(s): 10/17/98 ✓ 10/17/98 ✓

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		.646	.641	49.64	50.0	.7
Chloromethane	#	.270	.243	45.05	50.0	9.9#
Vinyl Chloride	*	.282	.269	47.73	50.0	4.5*
Bromomethane		.332	.315	47.43	50.0	5.1
Chloroethane		.168	.157	46.69	50.0	6.6
Trichlorofluoromethane		.550	.484	43.97	50.0	12.1
Ethyl Ether		.155	.158	51.25	50.0	-2.5
Acrolein		.036	.035	486.28	500.0	2.7
1,1-Dichloroethene	*	.250	.265	53.00	50.0	-6.0*
Freon 113		.558	.575	51.56	50.0	-3.1
Acetone		.016	.015 ✓	92.12	100.0	7.9
Methyl Iodide		.748	.818	54.68	50.0	-9.4
Carbon Disulfide		.713	.749	52.52	50.0	-5.0
Allyl Chloride		.341	.303	44.39	50.0	11.2
Methylene Chloride		.282	.287	50.99	50.0	-2.0
Acrylonitrile		.064	.058	447.22	500.0	10.6
trans-1,2-Dichloroethene		.290	.303	52.30 ✓	50.0	-4.6 ✓
t-Butyl Alcohol		.019	.017	227.16	250.0	9.1
Methyl t-Butyl Ether		.556	.569	51.11	50.0	-2.2
n-Hexane		.281	.284	50.44	50.0	-.9
1,1-Dichloroethane	#	.524	.523	49.90	50.0	.2#
di-Isopropyl Ether		.880	.871	49.48	50.0	1.0
2-Chloro-1,3-Butadiene		.352	.354	50.19	50.0	-.4
2,2-Dichloropropane		.376	.378	50.27	50.0	-.5
cis-1,2-Dichloroethene		.298	.317	53.19	50.0	-6.4
Propionitrile		.022	.020	232.02	250.0	7.2
Methacrylonitrile		.126	.106	104.84	125.0	16.1
2-Butanone		.102	.088	85.91	100.0	14.1
Tetrahydrofuran		.069	.060	85.25	100.0	14.8
Chloroform	*	.609	.596	48.91	50.0	2.2*
Bromochloromethane		.226	.252	55.88	50.0	-11.8
1,1,1-Trichloroethane		.459	.465	50.67	50.0	-1.3
Cyclohexane		.356	.362	50.88	50.0	-1.8
Carbon Tetrachloride		.473	.471	49.80	50.0	.4

J/R (all samples ex. 3018882)

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/21/98 Time: 1523

Lab File ID: >DCLS2 Init. Calib. Date(s): 10/17/98 10/17/98

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
	1,1-Dichloropropene		.398	.402	50.50	50.0	-1.0
	Benzene		.751	.759	50.52	50.0	-1.0
	Isobutyl Alcohol		.006	.006	582.90	625.0	6.7
	1,2-Dichloroethane		.330	.322	48.74	50.0	2.5
	n-Heptane		.236	.212	46.50	50.0	7.0
	Trichloroethene		.385	.389	50.44	50.0	-.9
	1,2-Dichloropropane	*	.353	.345	48.84	50.0	2.3*
	Dibromomethane		.392	.396	50.51	50.0	-1.0
	Methyl Methacrylate		.194	.195	50.35	50.0	-.7
	1,4-Dioxane		.003	.003	672.60	625.0	-7.6
	Bromodichloromethane		.669	.679	50.77	50.0	-1.5
	2-Nitropropane		.066	.053	79.75	100.0	20.3
	2-Chloroethyl Vinyl Ether		.189	.174	92.13	100.0	7.9
	cis-1,3-Dichloropropene		.497	.490	49.32	50.0	1.4
	4-Methyl-2-Pentanone		.297	.255	84.72	100.0	15.3
	Toluene	*	.635	.659	51.93	50.0	-3.9*
	Ethyl Methacrylate		.515	.514	49.90	50.0	.2
	trans-1,3-Dichloropropene		.551	.550	49.93	50.0	.1
	1,1,2-Trichloroethane		.399	.403	50.52	50.0	-1.0
	Tetrachloroethene		.554	.601	54.23	50.0	-8.5
	1,3-Dichloropropane		.649	.650	50.07	50.0	-.1
	2-Hexanone		.244	.220	90.17	100.0	9.8
	Dibromochloromethane		.846	.875	51.72	50.0	-3.4
	1,2-Dibromoethane		.732	.762	52.02	50.0	-4.0
	Chlorobenzene	#	.904	.935	51.67	50.0	-3.3#
	1,1,1,2-Tetrachloroethane		.518	.537	51.82	50.0	-3.6
	Ethylbenzene	*	1.282	1.301	50.75	50.0	-1.5*
	m+p-Xylene		.482	.502	104.04	100.0	-4.0
	o-Xylene		.472	.491	51.98	50.0	-4.0
	Styrene		.831	.858	51.60	50.0	-3.2
	Bromoform	#	.652	.695	53.36	50.0	-6.7#
	Isopropylbenzene		1.354	1.424	52.60	50.0	-5.2
	trans-1,4-Dichloro-2-Butene		.112	.113	125.10	125.0	-.1
	1,1,2,2-Tetrachloroethane	#	1.310	1.229	46.92	50.0	6.2#

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/21/98 Time: 1523

Lab File ID: >DCLS2 Init. Calib. Date(s): 10/17/98 10/17/98

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
Bromobenzene	.855	.872	50.98	50.0	-2.0
1,2,3-Trichloropropane	.281	.276	49.15	50.0	1.7
n-Propylbenzene	2.723	2.550	46.81	50.0	6.4
2-Chlorotoluene	1.884	1.842	48.87	50.0	2.3
1,3,5-Trimethylbenzene	1.775	1.720	48.44	50.0	3.1
4-Chlorotoluene	2.207	2.061	46.69	50.0	6.6
tert-Butylbenzene	.488	.490	50.13	50.0	-.3
Pentachloroethane	.728	.739	50.81	50.0	-1.6
1,2,4-Trimethylbenzene	1.819	1.735	47.68	50.0	4.6
sec-Butylbenzene	2.616	2.486	47.52	50.0	5.0
p-Isopropyltoluene	2.006	1.969	49.06	50.0	1.9
1,3-Dichlorobenzene	1.276	1.274	49.94	50.0	.1
1,4-Dichlorobenzene	1.564	1.543	49.31	50.0	1.4
n-Butylbenzene	2.086	1.955	46.86	50.0	6.3
1,2-Dichlorobenzene	1.323	1.295	48.96	50.0	2.1
1,2-Dibromo-3-Chloropropane	.260	.223	42.85	50.0	14.3
1,2,4-Trichlorobenzene	.860	.864	50.22	50.0	-.4
Hexachlorobutadiene	.648	.630	48.60	50.0	2.8
Naphthalene	1.124	1.039	46.21	50.0	7.6
1,2,3-Trichlorobenzene	.649	.628	48.40	50.0	3.2
Dibromofluoromethane	.690	.687	49.74	50.0	.5
1,2-Dichloroethane-d4	.182	.170	46.59	50.0	6.8
Toluene-d8	1.133	1.094	48.28	50.0	3.4
4-Bromofluorobenzene	.839	.818	48.72	50.0	2.6

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID (Standard): >DCLS2 ✓ Date Analyzed: 10/21/98 ✓

Instrument ID: HP02700 ✓ Time Analyzed: 15:23 ✓

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	119945 ✓	11.49 ✓	92223 ✓	15.78 ✓	59319 ✓	19.16 ✓
	UPPER LIMIT	239890		184446		118638	
	LOWER LIMIT	59973		46112		29660	
	EPA SAMPLE NO.						
01	VBLKD29	111492	11.48	89987	15.78	51729	19.17 ✓
02	FLRDN	112106	11.50	91541	15.80	55263	19.17
03	18763	106556	11.50	85556	15.78	51085	19.17
04	18764	103015	11.50	84144	15.79	49125	19.16
05	18763DL	101272	11.50	83250	15.79	47618	19.16
06	18765	103192	11.48	85329	15.79	50444	19.17
07	W12--	99345	11.50	82480	15.79	49508	19.16 ✓
08	W10--	101966	11.50	83291	15.79	48606	19.16 ✓
09	W13--	99454	11.50	80915	15.80	47008	19.17 ✓
10	W23--	94415	11.51	76602	15.80	44063	19.18 ✓
11	TB-1-	89695	11.50	73504	15.79	42325	19.16 ✓
12	RB1--	91310	11.51	73432	15.79	42369	19.17 ✓
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: >DCMT1 ✓ BFB Injection Date: 10/22/98 ✓

Instrument ID: HP02700 ✓ BFB Injection Time: 03:48 ✓

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	18.6 ✓
75	30.0 - 60.0% of mass 95	47.7
95	Base peak, 100% relative abundance	100.
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	75.4
175	5.0 - 9.0% of mass 174	5.1 (6.8)1
176	Greater than 95.0%, but less than 101.0% of mass 174	74.0 (98.2)1
177	5.0 - 9.0% of mass 176	5.1 (6.9)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	>DCMS1	10/22/98	04:17 ✓
02	VBLKD30	VBLKD30	>DCMB2	10/22/98	06:07 ✓
03	W11--	3018882	>DCM01	10/22/98	06:55 ✓
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/22/98 Time: 0417

Lab File ID: >DCMS1 Init. Calib. Date(s): 10/17/98 10/17/98

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		.646	.587	45.41	50.0	9.2
Chloromethane	#	.270	.237	44.01	50.0	12.0#
Vinyl Chloride	*	.282	.256	45.47	50.0	9.1*
Bromomethane		.332	.328	49.33	50.0	1.3
Chloroethane		.168	.158	47.07	50.0	5.9
Trichlorofluoromethane		.550	.449	40.76	50.0	18.5
Ethyl Ether		.155	.167	54.14	50.0	-8.3
Acrolein		.036	.035	488.55	500.0	2.3
1,1-Dichloroethene	*	.250	.272	54.47	50.0	-8.9*
Freon 113		.558	.599	53.70	50.0	-7.4
Acetone		.016	.017	104.17	100.0	-4.2 J/R
Methyl Iodide		.748	.863	57.67	50.0	-15.3
Carbon Disulfide		.713	.763	53.50	50.0	-7.0
Allyl Chloride		.341	.293	42.99	50.0	14.0 (3018882)
Methylene Chloride		.282	.300	53.21	50.0	-6.4
Acrylonitrile		.064	.062	475.91	500.0	4.8
trans-1,2-Dichloroethene		.290	.319	54.97	50.0	-9.9
t-Butyl Alcohol		.019	.021	275.12	250.0	-10.0
Methyl t-Butyl Ether		.556	.614	55.17	50.0	-10.3
n-Hexane		.281	.242	42.99	50.0	14.0
1,1-Dichloroethane	#	.524	.534	50.95	50.0	-1.9#
di-Isopropyl Ether		.880	.903	51.32	50.0	-2.6
2-Chloro-1,3-Butadiene		.352	.361	51.27	50.0	-2.5
2,2-Dichloropropane		.376	.367	48.76	50.0	2.5
cis-1,2-Dichloroethene		.298	.328	55.12	50.0	-10.2
Propionitrile		.022	.022	248.16	250.0	.7
Methacrylonitrile		.126	.114	113.70	125.0	9.0
2-Butanone		.102	.097	94.56	100.0	5.4
Tetrahydrofuran		.069	.064	90.94	100.0	9.1
Chloroform	*	.609	.619	50.78	50.0	-1.6*
Bromochloromethane		.226	.211	46.81	50.0	6.4
1,1,1-Trichloroethane		.459	.495	53.93	50.0	-7.9
Cyclohexane		.356	.371	52.16	50.0	-4.3
Carbon Tetrachloride		.473	.497	52.53	50.0	-5.1

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/22/98 Time: 0417

Lab File ID: >DCMS1 Init. Calib. Date(s): 10/17/98 10/17/98

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	
1,1-Dichloropropene		.398	.405	50.83	50.0	-1.7	
Benzene		.751	.778	51.77	50.0	-3.5	
Isobutyl Alcohol		.006	.007	670.26	625.0	-7.2	
1,2-Dichloroethane		.330	.336	50.90	50.0	-1.8	
n-Heptane		.236	.169	36.78	50.0	26.4	
Trichloroethene		.385	.397	51.55	50.0	-3.1	
1,2-Dichloropropane	*	.353	.356	50.49	50.0	-1.0	*
Dibromomethane		.392	.422	53.90	50.0	-7.8	
Methyl Methacrylate		.194	.232	59.99	50.0	-20.0	
1,4-Dioxane		.003	.003	724.37	625.0	-15.9	
Bromodichloromethane		.669	.708	52.93	50.0	-5.9	
2-Nitropropane		.066	.067	101.31	100.0	-1.3	
2-Chloroethyl Vinyl Ether		.189	.178	94.48	100.0	5.5	
cis-1,3-Dichloropropene		.497	.498	50.13	50.0	-.3	
4-Methyl-2-Pentanone		.297	.275	91.42	100.0	8.6	
Toluene	*	.635	.660	52.01	50.0	-4.0	*
Ethyl Methacrylate		.515	.546	53.05	50.0	-6.1	
trans-1,3-Dichloropropene		.551	.549	49.85	50.0	.3	
1,1,2-Trichloroethane		.399	.420	52.68	50.0	-5.4	
Tetrachloroethene		.554	.621	56.07	50.0	-12.1	
1,3-Dichloropropane		.649	.679	52.36	50.0	-4.7	
2-Hexanone		.244	.227	93.15	100.0	6.9	
Dibromochloromethane		.846	.929	54.92	50.0	-9.8	
1,2-Dibromoethane		.732	.812	55.41	50.0	-10.8	
Chlorobenzene	#	.904	.952	52.65	50.0	-5.3	#
1,1,1,2-Tetrachloroethane		.518	.566	54.67	50.0	-9.3	
Ethylbenzene	*	1.282	1.297	50.61	50.0	-1.2	*
m+p-Xylene		.482	.499	103.41	100.0	-3.4	
o-Xylene		.472	.490	51.93	50.0	-3.9	
Styrene		.831	.867	52.15	50.0	-4.3	
Bromoform	#	.652	.747	57.33	50.0	-14.7	#
Isopropylbenzene		1.354	1.384	51.13	50.0	-2.3	
trans-1,4-Dichloro-2-Butene		.112	.088	98.12	125.0	21.5	
1,1,2,2-Tetrachloroethane	#	1.310	1.318	50.31	50.0	-.6	#

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

7A
VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP02700 Calibration Date: 10/22/98 Time: 0417

Lab File ID: >DCMS1 Init. Calib. Date(s): 10/17/98 10/17/98

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
Bromobenzene	.855	.873	51.04	50.0	-2.1
1,2,3-Trichloropropane	.281	.296	52.78	50.0	-5.6
n-Propylbenzene	2.723	2.591	47.57	50.0	4.9
2-Chlorotoluene	1.884	1.716	45.54	50.0	8.9
1,3,5-Trimethylbenzene	1.775	1.716	48.35	50.0	3.3
4-Chlorotoluene	2.207	2.063	46.73	50.0	6.5
tert-Butylbenzene	.488	.492	50.33	50.0	-.7
Pentachloroethane	.728	.725	49.83	50.0	.3
1,2,4-Trimethylbenzene	1.819	1.781	48.95	50.0	2.1
sec-Butylbenzene	2.616	2.587	49.45	50.0	1.1
p-Isopropyltoluene	2.006	1.994	49.68	50.0	.6
1,3-Dichlorobenzene	1.276	1.296	50.81	50.0	-1.6
1,4-Dichlorobenzene	1.564	1.534	49.03	50.0	1.9
n-Butylbenzene	2.086	1.882	45.12	50.0	9.8
1,2-Dichlorobenzene	1.323	1.322	49.98	50.0	.0
1,2-Dibromo-3-Chloropropane	.260	.244	46.98	50.0	6.0
1,2,4-Trichlorobenzene	.860	.907	52.73	50.0	-5.5
Hexachlorobutadiene	.648	.659	50.84	50.0	-1.7
Naphthalene	1.124	1.180	52.49	50.0	-5.0
1,2,3-Trichlorobenzene	.649	.695	53.53	50.0	-7.1
Dibromofluoromethane	.690	.720	52.18	50.0	-4.4
1,2-Dichloroethane-d4	.182	.175	48.12	50.0	3.8
Toluene-d8	1.133	1.134	50.03	50.0	-.1
4-Bromofluorobenzene	.839	.822	48.98	50.0	2.0

Chloromethane, 1,1-Dichloroethane and Bromoform must meet a minimum RRF of .10.

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Name: LANCASTER LABS Contract: _____.

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

Lab File ID (Standard): >DCMS1 ✓ Date Analyzed: 10/22/98 ✓

Instrument ID: HP02700 ✓ Time Analyzed: 04:17 ✓

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	106547 ✓	11.50 ✓	83368 ✓	15.78 ✓	53149 ✓	19.17 ✓
	UPPER LIMIT	213094		166736		106298	
	LOWER LIMIT	53274		41684		26575	
	EPA SAMPLE NO.						
01	VBLKD30	99997	11.48	81548	15.79	46560	19.16 ✓
02	W11--	95592	11.48	77758	15.79	45355	19.17 ✓
03							
04							
05							
06							
07							
08							
09							
10							
11							
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.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD28

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD28

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB1 ✓

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98 ✓

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
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
110-54-3	n-Hexane	2	U
75-34-3	1,1-Dichloroethane	2	U
108-20-3	di-Isopropyl 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
107-12-0	Propionitrile	30	U
126-98-7	Methacrylonitrile	10	U
78-93-3	2-Butanone	3	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
56-23-5	Carbon Tetrachloride	1	U
563-58-6	1,1-Dichloropropene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD28

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD28

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB1

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
71-43-2	Benzene		1	U
78-83-1	Isobutyl Alcohol		100	U
107-06-2	1,2-Dichloroethane		2	U
142-82-5	n-Heptane		2	U
79-01-6	Trichloroethene		1	U
78-87-5	1,2-Dichloropropane		1	U
74-95-3	Dibromomethane		1	U
80-62-6	Methyl Methacrylate		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
98-82-8	Isopropylbenzene		2	U
110-57-6	trans-1,4-Dichloro-2-Butene		15	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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD28

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD28

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB1

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L ✓	Q
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
98-06-6	tert-Butylbenzene		1	U
76-01-7	Pentachloroethane		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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD29

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD29

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98

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
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
110-54-3	n-Hexane	2	U
75-34-3	1,1-Dichloroethane	2	U
108-20-3	di-Isopropyl 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
107-12-0	Propionitrile	30	U
126-98-7	Methacrylonitrile	10	U
78-93-3	2-Butanone	3	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
56-23-5	Carbon Tetrachloride	1	U
563-58-6	1,1-Dichloropropene	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD29

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD29

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) MDL UG/L	Q
71-43-2	Benzene	1	U
78-83-1	Isobutyl Alcohol	100	U
107-06-2	1,2-Dichloroethane	2	U
142-82-5	n-Heptane	2	U
79-01-6	Trichloroethene	1	U
78-87-5	1,2-Dichloropropane	1	U
74-95-3	Dibromomethane	1	U
80-62-6	Methyl Methacrylate	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
98-82-8	Isopropylbenzene	2	U
110-57-6	trans-1,4-Dichloro-2-Butene	15	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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD29

› Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD29

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCLB3

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/21/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
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
98-06-6	tert-Butylbenzene		1	U
76-01-7	Pentachloroethane		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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD30

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD30

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCMB2 ✓

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/22/98 ✓

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
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
110-54-3	n-Hexane		2	U
75-34-3	1,1-Dichloroethane		2	U
108-20-3	di-Isopropyl 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
107-12-0	Propionitrile		30	U
126-98-7	Methacrylonitrile		10	U
78-93-3	2-Butanone		3	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
56-23-5	Carbon Tetrachloride		1	U
563-58-6	1,1-Dichloropropene		1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD30

Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD30

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCMB2

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/22/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L ✓	Q
71-43-2	Benzene		1	U
78-83-1	Isobutyl Alcohol		100	U
107-06-2	1,2-Dichloroethane		2	U
142-82-5	n-Heptane		2	U
79-01-6	Trichloroethene		1	U
78-87-5	1,2-Dichloropropane		1	U
74-95-3	Dibromomethane		1	U
80-62-6	Methyl Methacrylate		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
98-82-8	Isopropylbenzene		2	U
110-57-6	trans-1,4-Dichloro-2-Butene		15	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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKD30

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: VBLKD30

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >DCMB2

Level: (low/med) LOW Date Received: _____.

% Moisture: not dec. _____ Date Analyzed: 10/22/98

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
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
98-06-6	tert-Butylbenzene		1	U
76-01-7	Pentachloroethane		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

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift SJL

8260 A/B ICAL Second Shift BJP

Third Shift

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DCHT1	BFB	50nG BFB	10/17/98	12:10		0.00	NV
>DCHT2	BFB	50nG BFB	10/17/98	12:24		0.00	
>DCHI1	VSTD004	004 PPB IC	10/17/98	12:58		1.00	
>DCHI2	VSTD004	004 PPB IC	10/17/98	13:34		1.00	NV
>DCHI3	VSTD010	010 PPB IC	10/17/98	14:19		1.00	
>DCHI4	VSTD020	020 PPB IC	10/17/98	14:56		1.00	
>DCHI5	VSTD050	050 PPB IC	10/17/98	15:32		1.00	
>DCHI6	VSTD100	100 PPB IC	10/17/98	16:07		1.00	
>DCHI7	VSTD300	VSTD300 IC	10/17/98	16:52		1.00	
>DCHX1	CLEANBLK	CLEANBLK	10/17/98	17:28		1.00	NV
>DCHXA	CLEANBLK	CLEANBLK	10/17/98	18:08	D2901	1.00	NV
>DCHI8	VSTD001	1 PPB MDL	10/17/98	18:49		1.00	
>DCHI8	VSTD001	1 PPB MDL	10/17/98	18:49		1.00	REPROCESSED!

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift LMT

Second Shift ~~JPB~~ 10/21/98

Third Shift — JPB

8260B Waters

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DCLT1	BFB	50nG BFB	10/21/98	00:23		0.00	NU
>DCLT2	BFB	50nG BFB	10/21/98	00:36		0.00	
>DCLT3	BFB	50nG BFB	10/21/98	00:48		0.00	
>DCLT4	BFB	50nG BFB	10/21/98	01:02		0.00	
>DCLT5	BFB	50nG BFB	10/21/98	01:13		0.00	
>DCLT6	BFB	50nG BFB	10/21/98	01:24		0.00	
>DCLS1	VSTD050	050 PPB CC	10/21/98	01:46		1.00	
>DCLB1	VBLKD28	VBLKD28	10/21/98	02:42	D2941	1.00	
>DCL01	LCSW-28	LCSW-28	10/21/98	03:32	D2941	1.00	
>DCL02	LCSDW-28	LCSDW-28	10/21/98	04:08	D2941	1.00	
>DCL03	TB101	3021551 ✓	10/21/98	05:01	D2941	1.00	
>DCL04	FINAL	3021548 10/21/98 @	10/21/98	05:33	D2941	1.00	
>DCL05	FINEF	3021550	10/21/98	06:05	D2941	1.00	
>DCL06	FB101	3021549	10/21/98	06:36	D2941	1.00	
>DCL07	STORA	3021552	10/21/98	07:21	D2941	1.00	
>DCL08	18762	3018496	10/21/98	08:50	D2921	1.00	
>DCL08	18762	3018496	10/21/98	08:50	D2921	1.00	REPROCESSED!
>DCL09	18762MS	3018497	10/21/98	09:35	D2921	1.00	
>DCL10	18762MSD	3018498	10/21/98	10:14	D2921	1.00	
>DCL11	18760DL	3018494	10/21/98	10:56	D2921	20.00	
>DCL12	18761	3018495	10/21/98	11:41	D2921	5.00	
>DCLX1	CLEAN BLK	CLEAN BLK	10/21/98	12:35	D2921	1.00	NU
>DCL13	18761DL	3018495	10/21/98	13:24	D2921	50.00	

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift _____

Second Shift BJP

Third Shift JPB

P260B Waters

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DCLT7	BFB	50nG BFB	10/21/98	14:18	_____	0.00	NU
>DCLT8	BFB	50nG BFB	10/21/98	14:30	_____	0.00	↓
>DCLT9	BFB	50nG BFB	10/21/98	15:02	_____	0.00	
>DCLS2	VSTD050	050 PPB CC	10/21/98	15:23	_____	1.00	
>DCLB2	VBLKD29	VBLKD29	10/21/98	16:21	D2921	1.00	NU
>DCLB3	VBLKD29	VBLKD29	10/21/98	17:20	D2921	1.00	
>DCL20	FLRDN	3021922	10/21/98	18:08	D2921	100.00	NU
>DCL21	FLRDN	3021922	10/21/98	18:44	D2921	25.00	↓
>DCL22	FLRDN	3021922	10/21/98	19:20	D2921	5.00	
>DCL23	18763	3018499	10/21/98	19:56	D2921	1.00	
>DCL24	18764	3018500	10/21/98	20:32	D2921	1.00	NU
>DCLX0	CLEAN	BLANK	10/21/98	21:12	D2921	1.00	↓
>DCL25	18764	3018500	10/21/98	21:47	D2921	1.00	
>DCL26	18763	3018499	10/21/98	22:23	D2921	5.00	
>DCL27	18765	3018501	10/21/98	23:08	D2921	1.00	
>DCL28	W12--	3018874	10/21/98	23:44	D2921	1.00	
>DCL29	W10--	3018875	10/22/98	00:20	D2921	1.00	
>DCL30	W13--	3018878	10/22/98	00:55	D2921	1.00	
>DCL31	W23--	3018879	10/22/98	01:30	D2921	1.00	
>DCL32	TB-1-	3018880	10/22/98	02:05	D2921	1.00	
>DCL33	RB1--	3018881	10/22/98	02:39	D2921	1.00	

LANCASTER LABORATORIES INC.
RUNLOG FOR HEWLETT PACKARD GC/MS SYSTEM #HP02700 (HP1)

First Shift CMT

8260 B water Second Shift BWD

Third Shift ———

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
>DCMT1	BFB	50nG BFB	10/22/98	03:49		0.00	
>DCMS1	VSTD050	050 PPB CC	10/22/98	04:17		1.00	
>DCMB1	VBLKD30	VBLKD30	10/22/98	05:10	D2921	1.00	NU
>DCMB2	VBLKD30	VBLKD30	10/22/98	06:07	D2921	1.00	
>DCM01	W11--	3018882	10/22/98	06:55	D2921	1.00	
>DCM10	LCSW-30	LCSW-30	10/22/98	09:04	D2951	1.00	
>DCMB2	VBLKD30	VBLKD30	10/22/98	06:07	D2951	1.00	
>DCM11	TXRW1	3020610	10/22/98	10:00	D2951	1.00	
>DCM11	TXRW1	3020610	10/22/98	10:00	D2951	1.00	REPROCESSED!
>DCM11	TXRW1	3020610	10/22/98	10:00	D2951	1.00	REPROCESSED!
>DCMX1	CLEAN BLK	CLEAN BLK	10/22/98	10:52	D2951	1.00	NU
>DCM12	TXRW1MS	3020611	10/22/98	11:50	D2951	1.00	
>DCM13	TXRW1MSD	3020612	10/22/98	12:33	D2951	1.00	
>DCM14	TX21-	3020609	10/22/98	13:24	D2951	1.00	
>DCM15	TMW-7	3020613	10/22/98	14:12	D2951	10.00	
>DCM16	TMW-1	3020614	10/22/98	14:56	D2951	1.00	
>DCM17	TMW-7	3020613	10/22/98	15:34	D2951	1.00	

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: LANCASTER LABS Contract: _____.

b 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	SBLKWA2937	88	78	95	41	62	91		0
02	293WALCS7	96	86	90	42	63	93		0
03	W03--	85	85	80	41	58	105		0
04	W01--	88	88	73	39	55	107		0
05	W05--	89	89	68	42	60	111		0
06	W09--	92	87	71	40	57	105		0
07	W09--DL	88	91	67	40	61	69		0
08	W19--	95	89	78	42	60	110		0
09	W19--DL	86	88	74	41	63	63		0
10	W08--	94	95	58	43	62	114		0
11	W04--	96	94	91	42	61	98		0
12	W04--MS	96	95	84	42	62	101		0
13	W04--MSD	74	75	68	35	49	79		0
14	W12--	89	88	69	40	56	108		0
15	W10--	93	91	76	41	59	108		0
16	W06--	94	93	70	40	56	105		0
17	W06--DL	101	99	71	42	62	87		0
18	W07--	94	92	64	44	63	112		0
19	W13--	94	92	67	37	52	100		0
20	W23--	98	92	78	40	56	94		0
21	RB1--	96	94	94	42	63	99		0
22	W11--	86	85	83	40	60	98		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

WATER SEMIVOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE SAMPLE RECOVERY

Name: LANCASTER LABS Lab Code: LANCAS Instrument: HP06777

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/ML AMT USED: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: W04-- 3018871 MS SAMPLE: W04--MS 3018872 MSD SAMPLE: W04--MSD 3018873

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	0.00	44.46	36.22	44	36	5.0-112.0	YES	20.00	30.	YES
Aniline	0.00	74.01	57.19	74	57	33.0-113.0	YES	26.00	30.	YES
bis(2-Chloroethyl)ether	0.00	94.39	75.37	94	75	40.0-128.0	YES	22.00	30.	YES
2-Chlorophenol	0.00	90.39	71.84	90	72	56.0-112.0	YES	23.00	30.	YES
1,3-Dichlorobenzene	0.00	96.88	77.49	97	77	44.0- 99.0	YES	22.00	30.	YES
1,4-Dichlorobenzene	0.00	98.87	78.75	99	79	34.0-108.0	YES	23.00	30.	YES
Benzyl alcohol	0.00	82.97	66.30	83	66	44.0-117.0	YES	22.00	30.	YES
1,2-Dichlorobenzene	0.00	102.00	80.70	102	81	32.0-121.0	YES	23.00	30.	YES
2-Methylphenol	0.00	79.19	62.90	79	63	25.0-122.0	YES	23.00	30.	YES
2,2'-oxybis(1-Chloropropane)	0.00	106.62	85.48	107	85	38.0-118.0	YES	22.00	30.	YES
4-Methylphenol	0.00	80.06	64.21	80	64	15.0-130.0	YES	22.00	30.	YES
N-Nitroso-di-n-propylamine	0.00	98.08	77.68	98	78	58.0-120.0	YES	23.00	30.	YES
Hexachloroethane	0.00	92.90	76.17	93	76	40.0-113.0	YES	20.00	30.	YES
Nitrobenzene	0.00	110.09	85.47	110	85	43.0-127.0	YES	25.00	30.	YES
Isophorone	0.00	112.90	88.70	113	89	42.0-134.0	YES	24.00	30.	YES
2-Nitrophenol	0.00	98.38	76.34	98	76	64.0-108.0	YES	25.00	30.	YES
2,4-Dimethylphenol	0.00	84.54	66.28	84	66	33.0-107.0	YES	24.00	30.	YES
Benzoic acid	0.00	43.93	35.30	44	35	1.0- 57.0	YES	22.00	30.	YES
bis(2-Chloroethoxy)methane	0.00	96.12	75.00	96	75	57.0-108.0	YES	25.00	30.	YES
2,4-Dichlorophenol	0.00	90.66	70.43	91	70	61.0-101.0	YES	25.00	30.	YES
1,2,4-Trichlorobenzene	0.00	98.38	76.26	98	76	50.0- 98.0	YES	25.00	30.	YES
Naphthalene	0.00	88.53	68.26	88	68	41.0-115.0	YES	26.00	30.	YES
4-Chloroaniline	0.00	60.12	49.85	60	50	9.0-119.0	YES	19.00	30.	YES
Hexachlorobutadiene	0.00	90.48	72.76	90	73	24.0- 98.0	YES	22.00	30.	YES
4-Chloro-3-methylphenol	0.00	93.41	74.44	93	74	54.0-115.0	YES	23.00	30.	YES
2-Methylnaphthalene	0.00	91.16	71.71	91	72	57.0-103.0	YES	24.00	30.	YES
Hexachlorocyclopentadiene	0.00	147.57	119.90	74	60	15.0- 83.0	YES	21.00	30.	YES
2,4,6-Trichlorophenol	0.00	98.65	76.87	99	77	43.0-121.0	YES	25.00	30.	YES
2,4,5-Trichlorophenol	0.00	100.27	79.54	100	80	40.0-122.0	YES	23.00	30.	YES
2-Chloronaphthalene	0.00	105.71	83.30	106	83	60.0-106.0	YES	24.00	30.	YES
2-Nitroaniline	0.00	102.47	83.13	102	83	60.0-111.0	YES	21.00	30.	YES
Dimethylphthalate	0.00	72.51	59.21	72	59	11.0-107.0	YES	20.00	30.	YES
2,6-Dinitrotoluene	0.00	115.75	90.39	116	90	62.0-118.0	YES	25.00	30.	YES
Acenaphthylene	0.00	92.59	72.79	92	73	61.0-103.0	YES	24.00	30.	YES
3-Nitroaniline	0.00	60.47	55.14	60	55	43.0-105.0	YES	9.00	30.	YES
Acenaphthene	0.00	92.41	74.22	92	74	60.0-101.0	YES	22.00	30.	YES
2,4-Dinitrophenol	0.00	85.24	68.14	85	68	6.0-120.0	YES	22.00	30.	YES
4-Nitrophenol	0.00	52.11	43.10	52	43	1.0- 93.0	YES	19.00	30.	YES
Dibenzofuran	0.00	96.30	76.78	96	77	64.0-100.0	YES	23.00	30.	YES

WATER 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: 1000.

SAMPLE SPIKE LEVEL: 100.UG/L % MOISTURE 0. DILUTION: 1

US SAMPLE: W04-- 3018871 MS SAMPLE: W04--MS 3018872 MSD SAMPLE: W04--MSD 3018873

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
2,4-Dinitrotoluene	0.00	114.92	91.16	115	91	45.0-128.0	YES	23.00	30.	YES
Diethylphthalate	0.00	91.05	73.94	91	74	46.0-106.0	YES	21.00	30.	YES
4-Chlorophenyl-phenylether	0.00	98.62	77.69	99	78	58.0-106.0	YES	24.00	30.	YES
Fluorene	0.00	97.03	76.98	97	77	59.0-110.0	YES	23.00	30.	YES
4-Nitroaniline	0.00	93.81	76.13	94	76	55.0-116.0	YES	21.00	30.	YES
4,6-Dinitro-2-methylphenol	0.00	91.28	72.49	91	72	38.0-116.0	YES	23.00	30.	YES
N-Nitrosodiphenylamine	0.00	96.54	76.63	96	77	44.0-124.0	YES	23.00	30.	YES
4-Bromophenyl-phenylether	0.00	98.95	77.87	99	78	63.0-106.0	YES	24.00	30.	YES
Hexachlorobenzene	0.00	111.11	87.19	111	87	48.0-118.0	YES	24.00	30.	YES
Pentachlorophenol	0.00	87.49	68.79	87	69	14.0-130.0	YES	24.00	30.	YES
Phenanthrene	0.00	96.91	77.18	97	77	64.0-105.0	YES	23.00	30.	YES
Anthracene	0.00	96.56	77.44	96	77	62.0-103.0	YES	22.00	30.	YES
Carbazole	0.00	100.95	80.74	101	81	65.0-107.0	YES	22.00	30.	YES
Di-n-butylphthalate	0.00	98.94	79.57	99	80	60.0-110.0	YES	22.00	30.	YES
Fluoranthene	0.00	97.27	78.38	97	78	61.0-109.0	YES	22.00	30.	YES
Benzidine	0.00	163.40	139.61	33	28	1.0-125.0	YES	16.00	30.	YES
Pyrene	0.00	92.78	72.76	93	73	55.0-114.0	YES	24.00	30.	YES
Butylbenzylphthalate	0.00	91.62	74.42	92	74	53.0-110.0	YES	21.00	30.	YES
3,3'-Dichlorobenzidine	0.00	63.55	53.21	64	53	37.0-106.0	YES	18.00	30.	YES
Benzo(a)anthracene	0.00	92.74	73.47	93	73	64.0-103.0	YES	23.00	30.	YES
bis(2-Ethylhexyl)phthalate	0.00	95.92	76.70	96	77	39.0-131.0	YES	22.00	30.	YES
Chrysene	0.00	93.30	74.25	93	74	63.0-104.0	YES	23.00	30.	YES
n-octylphthalate	0.00	103.76	81.73	104	82	52.0-121.0	YES	24.00	30.	YES
zo(b)fluoranthene	0.00	87.83	69.46	88	69	54.0-108.0	YES	23.00	30.	YES
enzo(k)fluoranthene	0.00	95.75	73.92	96	74	59.0-112.0	YES	26.00	30.	YES
Benzo(a)pyrene	0.00	93.98	74.27	94	74	60.0-102.0	YES	23.00	30.	YES
Indeno(1,2,3-cd)pyrene	0.00	93.69	77.31	94	77	55.0-114.0	YES	19.00	30.	YES
Dibenz(a,h)anthracene	0.00	96.47	79.45	96	79	57.0-124.0	YES	19.00	30.	YES
Benzo(g,h,i)perylene	0.00	93.94	76.92	94	77	49.0-121.0	YES	20.00	30.	YES

COMMENTS:

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

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

SW846 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 293WALCS7 293WALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
Phenol	44.13	44	5.0- 83.0	YES
Aniline	79.76	80	53.0- 99.0	YES
bis(2-Chloroethyl)ether	97.14	97	66.0- 106.0	YES
2-Chlorophenol	92.65	93	62.0- 107.0	YES
1,3-Dichlorobenzene	80.95	81	45.0- 91.0	YES
1,4-Dichlorobenzene	83.97	84	45.0- 94.0	YES
Benzyl alcohol	95.91	96	59.0- 108.0	YES
1,2-Dichlorobenzene	90.43	90	52.0- 97.0	YES
2-Methylphenol	82.54	82	55.0- 96.0	YES
2,2'-oxybis(1-Chloropropane)	112.30	112	43.0- 118.0	YES
4-Methylphenol	82.28	82	48.0- 99.0	YES
N-Nitroso-di-n-propylamine	102.41	102	62.0- 118.0	YES
Hexachloroethane	54.88	55	40.0- 84.0	YES
Nitrobenzene	109.12	109	61.0- 113.0	YES
Isophorone	112.13	112	66.0- 113.0	YES
2-Nitrophenol	94.99	95	67.0- 104.0	YES
2,4-Dimethylphenol	89.98	90	52.0- 99.0	YES
Benzoic acid	19.90	20	6.0- 62.0	YES
bis(2-Chloroethoxy)methane	98.51	98	64.0- 103.0	YES
2,4-Dichlorophenol	88.60	89	65.0- 98.0	YES
1,2,4-Trichlorobenzene	86.23	86	52.0- 93.0	YES
Naphthalene	88.38	88	60.0- 97.0	YES
4-Chloroaniline	67.16	67	34.0- 101.0	YES
Hexachlorobutadiene	38.00	38	24.0- 86.0	YES
Chloro-3-methylphenol	96.90	97	60.0- 111.0	YES
2-Methylnaphthalene	90.32	90	62.0- 98.0	YES
Hexachlorocyclopentadiene	80.55	40	17.0- 80.0	YES
2,4,6-Trichlorophenol	93.15	93	66.0- 105.0	YES
2,4,5-Trichlorophenol	94.93	95	67.0- 103.0	YES
2-Chloronaphthalene	102.94	103	61.0- 103.0	YES
2-Nitroaniline	102.21	102	58.0- 112.0	YES
Dimethylphthalate	19.83	20	1.0- 90.0	YES
2,6-Dinitrotoluene	116.41	116	66.0- 113.0	NO
Acenaphthylene	90.89	91	64.0- 100.0	YES
3-Nitroaniline	58.03	58	40.0- 108.0	YES
Acenaphthene	90.46	90	61.0- 100.0	YES
2,4-Dinitrophenol	79.36	79	25.0- 124.0	YES
4-Nitrophenol	47.64	48	3.0- 83.0	YES
Dibenzofuran	92.80	93	67.0- 99.0	YES

WATER SEMIVOLATILE QUALITY CONTROL REFERENCE SAMPLE RECOVERY

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

346 METHOD 8270 SPIKE LEVEL: 100 UG/L

LCS SAMPLE NO: 293WALCS7 293WALCS

COMPOUND NAME	EXTRACT CONC UG/L	QCREF REC %	RANGE LOWER-UPPER	IN SPEC
2,4-Dinitrotoluene	114.09	114	64.0- 112.0	NO
Diethylphthalate	62.57	62	30.0- 99.0	YES
4-Chlorophenyl-phenylether	92.13	92	62.0- 104.0	YES
Fluorene	93.71	94	61.0- 108.0	YES
4-Nitroaniline	88.18	88	55.0- 116.0	YES
4,6-Dinitro-2-methylphenol	83.08	83	43.0- 120.0	YES
N-Nitrosodiphenylamine	96.50	96	64.0- 103.0	YES
4-Bromophenyl-phenylether	94.58	94	69.0- 102.0	YES
Hexachlorobenzene	109.32	109	62.0- 109.0	YES
Pentachlorophenol	80.53	80	46.0- 114.0	YES
Phenanthrene	95.44	95	68.0- 102.0	YES
Anthracene	94.00	94	66.0- 101.0	YES
Carbazole	100.17	100	66.0- 110.0	YES
Di-n-butylphthalate	84.17	84	61.0- 105.0	YES
Fluoranthene	96.00	96	66.0- 106.0	YES
Benzidine	180.70	36	1.0- 116.0	YES
Pyrene	97.40	97	58.0- 112.0	YES
Butylbenzylphthalate	69.02	69	48.0- 105.0	YES
3,3'-Dichlorobenzidine	57.68	58	37.0- 104.0	YES
Benzo(a)anthracene	96.49	96	69.0- 101.0	YES
bis(2-Ethylhexyl)phthalate	95.46	95	64.0- 113.0	YES
Chrysene	95.54	96	67.0- 101.0	YES
Di-n-octylphthalate	104.13	104	59.0- 118.0	YES
Benzo(b)fluoranthene	89.01	89	64.0- 101.0	YES
Benzo(k)fluoranthene	95.31	95	67.0- 105.0	YES
Benzo(a)pyrene	93.92	94	65.0- 101.0	YES
Indeno(1,2,3-cd)pyrene	92.51	92	59.0- 111.0	YES
Dibenz(a,h)anthracene	94.04	94	66.0- 117.0	YES
Benzo(g,h,i)perylene	92.20	92	55.0- 115.0	YES

COMMENTS:

4B
SEMIVOLATILE METHOD BLANK SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID: >GJ368 ✓ Lab Sample ID: SBLKWA293

Date Extracted: 10/20/98 Extraction: (SepF/Cont/Sonc) SEPF

Date Analyzed: 10/21/98 ✓ Time Analyzed: 03:12 ✓

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	293WALCS7	293WALCS	>GJ369	10/21/98 ✓
02	293WALCSD	293WALCSD	>GJ370	10/21/98
03	W04--	3018871	>GJ371	10/21/98 ✓
04	W04--MS	3018872	>GJ388	10/21/98 ✓
05	W04--MSD	3018873	>GJ389	10/21/98 ✓
06	G--21RE	3016624RE	>GJ390	10/21/98
07	GSB12RE	3017200RE	>GJ391	10/21/98
08	GSB15RE	3017203RE	>GJ392	10/21/98
09	GSB16RE	3017205RE	>GJ393	10/21/98
10	W03--	3018865	>GJ402	10/21/98 ✓
11	W01--	3018866	>GJ403	10/22/98 ✓
12	W05--	3018867	>GJ404	10/22/98 ✓
13	W09--	3018868	>GJ405	10/22/98 ✓
14	W19--	3018869	>GJ406	10/22/98 ✓
15	W08--	3018870	>GJ407	10/22/98 ✓
16	W12--	3018874	>GJ408	10/22/98 ✓
17	W10--	3018875	>GJ409	10/22/98 ✓
18	W06--	3018876	>GJ410	10/22/98 ✓
19	W07--	3018877	>GJ411	10/22/98 ✓
20	W13--	3018878	>GJ412	10/22/98 ✓
21	W06--DL	3018876DL	>GJ424	10/22/98 ✓
22	W23--	3018879	>GJ425	10/22/98 ✓
23	RB1--	3018881	>GJ426	10/22/98 ✓
24	W11--	3018882	>GJ427	10/22/98 ✓
25	SCLAO	3019055	>GJ428	10/22/98
26	W09--DL	3018868DL	>GJ43A	10/22/98 ✓
27	W19--DL	3018869DL	>GJ43B	10/23/98 ✓

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: >GJ36Z ✓ DFTPP Injection Date: 10/20/98 ✓

Instrument ID: HP06777 ✓ DFTPP Injection Time: 19:57 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.8
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.4
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	43.4
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	22.3
365	Greater than 1.00% of mass 198	3.34
441	Present, but less than mass 443	12.3
442	Greater than 40.0% of mass 198	73.9
443	17.0 - 23.0% of mass 442	13.9 (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	SSTD080	STD2928	>GJ361	10/20/98	20:23 ✓
02	SSTD160	STD2928	>GJ362	10/20/98	21:26 ✓
03	SSTD120	STD2928	>GJ363	10/20/98	22:24 ✓
04	SSTD001	STD2928	>GJ364	10/20/98	23:21
05	SSTD005	STD2928	>GJ365	10/21/98	00:19 ✓
06	SSTD020	STD2928	>GJ366	10/21/98	01:16 ✓
07	SSTD050	STD2928	>GJ367	10/21/98	02:14 ✓
08	SBLKWA2937	SBLKWA293	>GJ368	10/21/98	03:12 ✓
09	293WALCS7	293WALCS	>GJ369	10/21/98	04:10 ✓
10	293WALCSD	293WALCSD	>GJ370	10/21/98	05:08
11	W04--	3018871	>GJ371	10/21/98	06:05 ✓
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): 10/20/98 10/21/98

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

LAB FILE ID: RRF5 = >GJ365 RRF20 = >GJ366 RRF50 = >GJ367
RRF80 = >GJ361 RRF120= >GJ363 RRF160= >GJ362

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Pyridine	1.814	1.979	1.976	1.941	1.915	1.882	1.918	3.3	AVG	
N-Nitrosodimethylamine	1.136	1.191	1.239	1.236	1.230	1.236	1.211	3.4	AVG	
Phenol	2.088	2.090	2.026	1.966	1.949	1.945	2.010	3.3	AVG	*
Aniline	2.410	2.435	2.405	2.333	2.314	2.301	2.366	2.4	AVG	
bis(2-Chloroethyl)ether	1.612	1.585	1.534	1.510	1.471	1.452	1.527	4.1	AVG	
2-Chlorophenol	1.473	1.475	1.450	1.423	1.417	1.388	1.438	2.4	AVG	
1,3-Dichlorobenzene	1.476	1.488	1.453	1.429	1.407	1.387	1.440	2.7	AVG	
1,4-Dichlorobenzene	1.515	1.542	1.514	1.480	1.452	1.430	1.489	2.9	AVG	*
Benzyl alcohol	.907	.998	1.015	.998	.986	.970	.979	3.9	AVG	
1,2-Dichlorobenzene	1.383	1.427	1.386	1.358	1.334	1.310	1.366	3.1	AVG	
2-Methylphenol	1.372	1.389	1.387	1.347	1.356	1.341	1.365	1.5	AVG	
2,2'-oxybis(1-Chloropropane)	2.785	2.783	2.749	2.650	2.618	2.589	2.696	3.2	AVG	
bis(2-Chloroisopropyl)ether	2.785	2.783	2.749	2.650	2.618	2.589	2.696	3.2	AVG	
4-Methylphenol	1.467	1.449	1.408	1.309	1.270	1.247	1.358	7.0	AVG	
3- and 4-Methylphenol	1.467	1.449	1.408	1.309	1.270	1.247	1.358	7.0	AVG	
Acetophenone	2.073	2.059	1.969	1.841	1.801	1.769	1.919	6.9	AVG	
N-Nitroso-di-n-propylamine	1.232	1.255	1.224	1.146	1.122	1.104	1.181	5.4	AVG	#
o-Toluidine	2.247	2.212	2.236	2.144	2.097	2.028	2.161	4.0	AVG	
Hexachloroethane	.658	.686	.680	.671	.654	.650	.667	2.2	AVG	
trobenzene	.467	.487	.483	.483	.479	.484	.480	1.4	AVG	
sophorone	.893	.906	.891	.892	.882	.886	.892	.9	AVG	
2-Nitrophenol	.191	.213	.215	.221	.222	.224	.214	5.6	AVG	*
2,4-Dimethylphenol	.401	.406	.397	.406	.405	.409	.404	1.1	AVG	
Benzoic acid	.226	.266	.265	.275	.302	.307	.273	10.8	AVG	
bis(2-Chloroethoxy)methane	.508	.506	.503	.494	.491	.492	.499	1.6	AVG	
2,4-Dichlorophenol	.265	.273	.274	.280	.281	.282	.276	2.2	AVG	*
1,2,4-Trichlorobenzene	.293	.293	.292	.300	.295	.300	.295	1.3	AVG	
Naphthalene	1.059	1.060	1.032	1.016	.998	.983	1.025	3.1	AVG	
4-Chloroaniline	.447	.453	.455	.454	.444	.452	.451	1.0	AVG	
Hexachlorobutadiene	.160	.164	.161	.170	.170	.173	.167	3.3	AVG	*
4-Chloro-3-methylphenol	.325	.345	.344	.341	.347	.347	.342	2.5	AVG	*
2-Methylnaphthalene	.645	.641	.631	.629	.612	.612	.628	2.2	AVG	
1-Methylnaphthalene	.600	.611	.598	.590	.583	.585	.594	1.8	AVG	
Hexachlorocyclopentadiene	.197	.276	.337	.370	.381	.402	.327	23.7	1STDEG	#
2,4,6-Trichlorophenol	.345	.352	.364	.382	.384	.402	.372	5.8	AVG	*
2,4,5-Trichlorophenol	.357	.395	.398	.413	.416	.408	.398	5.5	AVG	
2-Chloronaphthalene	1.127	1.143	1.131	1.140	1.121	1.138	1.133	.7	AVG	
2-Nitroaniline	.504	.552	.555	.555	.561	.569	.550	4.2	AVG	

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): 10/20/98 10/21/98

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

LAB FILE ID: RRF5 = >GJ365 RRF20 = >GJ366 RRF50 = >GJ367
RRF80 = >GJ361 RRF120= >GJ363 RRF160= >GJ362

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	% RSD	CAL. METHOD	
Dimethylphthalate	1.378	1.386	1.359	1.372	1.317	1.322	1.356	2.2	AVG	
2,6-Dinitrotoluene	.284	.322	.328	.333	.333	.340	.324	6.2	AVG	
Acenaphthylene	1.886	1.922	1.888	1.880	1.869	1.885	1.888	.9	AVG	
3-Nitroaniline	.366	.406	.402	.401	.406	.417	.400	4.3	AVG	
Acenaphthene	1.142	1.153	1.130	1.130	1.109	1.117	1.130	1.4	AVG	*
2,4-Dinitrophenol	.115	.167	.176	.194	.210	.213	.179	20.3	1STDEG	#
4-Nitrophenol	.233	.244	.255	.255	.266	.266	.253	5.2	AVG	#
Dibenzofuran	1.587	1.581	1.541	1.533	1.502	1.513	1.543	2.3	AVG	
2,4-Dinitrotoluene	.395	.442	.442	.440	.435	.434	.431	4.2	AVG	
1-Naphthylamine	1.119	1.151	1.137	1.072	1.095	1.100	1.113	2.6	AVG	
2-Naphthylamine	1.202	1.195	1.153	1.090	1.134	1.133	1.151	3.7	AVG	
Diethylphthalate	1.488	1.506	1.462	1.422	1.431	1.394	1.451	2.9	AVG	
4-Chlorophenyl-phenylether	.553	.555	.539	.554	.561	.572	.556	2.0	AVG	
Fluorene	1.201	1.199	1.183	1.182	1.178	1.185	1.188	.8	AVG	
4-Nitroaniline	.398	.426	.420	.415	.422	.428	.418	2.6	AVG	
4,6-Dinitro-2-methylphenol	.112	.127	.144	.156	.164	.171	.146	15.7	1STDEG	
N-Nitrosodiphenylamine (1)	.513	.503	.504	.517	.526	.521	.514	1.8	AVG	*
?-Diphenylhydrazine	1.156	1.151	1.129	1.118	1.116	1.090	1.127	2.2	AVG	
romophenyl-phenylether	.174	.175	.178	.190	.198	.200	.186	6.3	AVG	
exachlorobenzene	.199	.204	.202	.214	.223	.232	.212	6.2	AVG	
Pentachlorophenol	.081	.113	.116	.129	.137	.145	.120	18.9	1STDEG	*
Phenanthrene	1.024	.989	.966	.973	.986	1.008	.991	2.2	AVG	
Anthracene	1.046	1.025	.992	1.012	1.011	1.024	1.019	1.7	AVG	
Carbazole	1.011	.984	.947	.956	.970	.987	.976	2.4	AVG	
Di-n-butylphthalate	1.516	1.528	1.483	1.455	1.472	1.465	1.487	2.0	AVG	
Fluoranthene	1.043	1.025	.973	.984	1.001	.998	1.004	2.6	AVG	*
Benzidine	.841	.822	.889	.858	.861	.857	.855	2.6	AVG	
Pyrene	1.251	1.200	1.202	1.218	1.167	1.187	1.204	2.4	AVG	
Butylbenzylphthalate	.754	.784	.755	.750	.750	.755	.758	1.7	AVG	
3,3'-Dichlorobenzidine	.449	.429	.494	.515	.531	.546	.494	9.4	AVG	
Benzo(a)anthracene	1.156	1.129	1.098	1.118	1.107	1.103	1.118	1.9	AVG	
bis(2-Ethylhexyl)phthalate	1.078	1.128	1.064	1.033	1.030	1.005	1.057	4.1	AVG	
Chrysene	1.040	1.016	.988	.997	.981	1.003	1.004	2.1	AVG	
Di-n-octylphthalate	1.946	2.155	2.175	2.209	2.236	2.269	2.165	5.3	AVG	*
7,12-Dimethylbenz[a]anthrace	.474	.555	.573	.602	.625	.642	.578	10.4	AVG	
Benzo(b)fluoranthene	1.320	1.339	1.344	1.397	1.459	1.569	1.405	6.8	AVG	
Benzo(k)fluoranthene	1.189	1.223	1.247	1.281	1.274	1.236	1.242	2.8	AVG	
Benzo(a)pyrene	1.126	1.146	1.150	1.194	1.211	1.253	1.180	4.0	AVG	*

(1) Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Name: LANCASTER LABS Contract: _____.

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

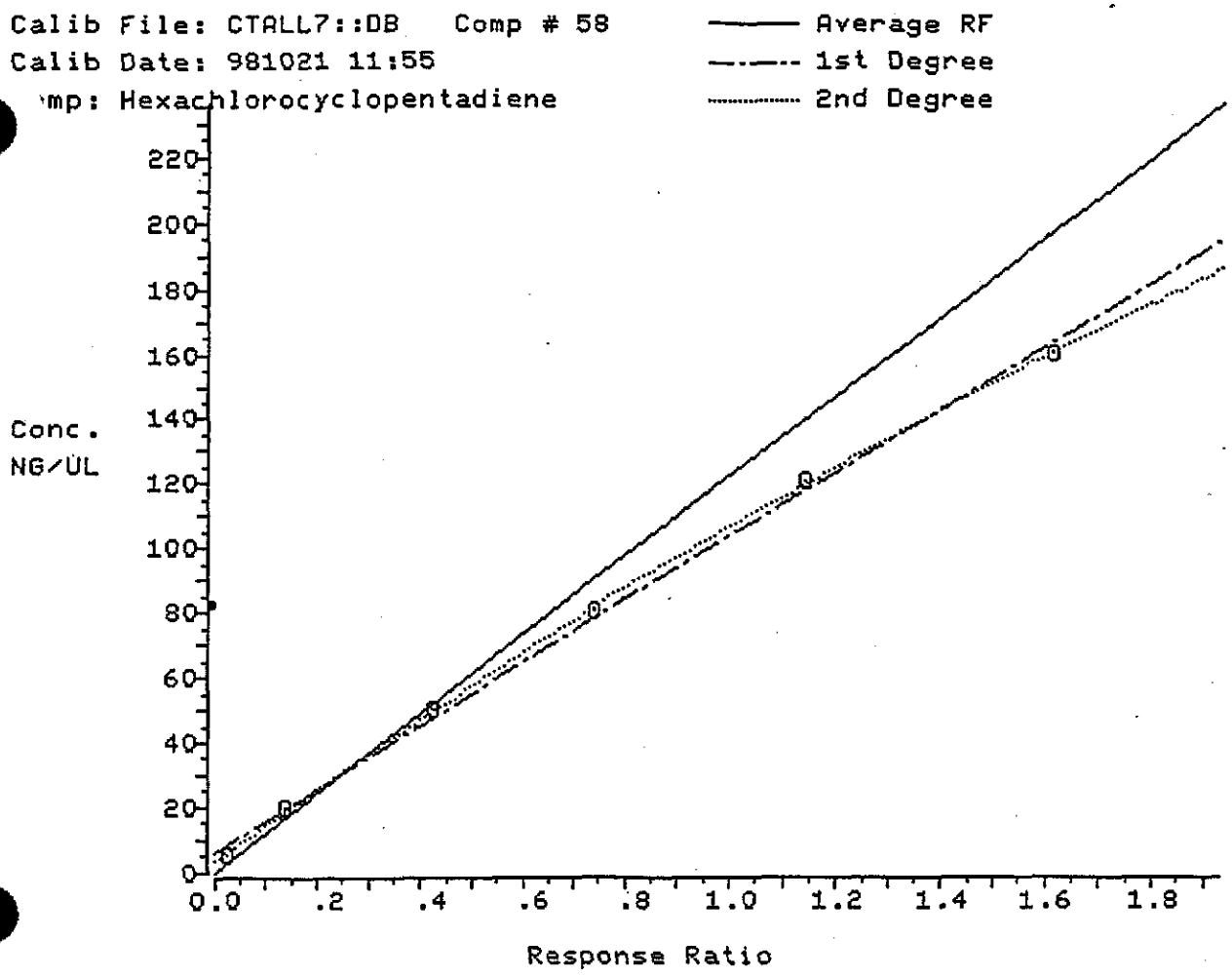
Instrument ID: HP06777 Calibration Date(s): 10/20/98 10/21/98

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

LAB FILE ID: RRF5 = >GJ365 RRF20 = >GJ366 RRF50 = >GJ367
RRF80 = >GJ361 RRF120= >GJ363 RRF160= >GJ362

COMPOUND	RRF5	RRF20	RRF50	RRF80	RRF120	RRF160	RRF	%RSD	CAL. METHOD
Indeno(1,2,3-cd)pyrene	1.038	1.067	1.070	1.128	1.186	1.198	1.115	6.0	AVG
Dibenz(a,h)anthracene	.988	1.054	1.063	1.125	1.156	1.194	1.097	6.9	AVG
Benzo(g,h,i)perylene	1.055	1.098	1.096	1.151	1.177	1.211	1.131	5.2	AVG
2-Fluorophenol	1.556	1.577	1.559	1.540	1.516	1.507	1.542	1.7	AVG
Phenol-d5	2.031	2.040	1.995	1.966	1.945	1.934	1.985	2.2	AVG
Phenol-d6	2.031	2.040	1.995	1.966	1.945	1.934	1.985	2.2	AVG
Nitrobenzene-d5	.466	.477	.482	.486	.483	.488	.480	1.7	AVG
2-Fluorobiphenyl	1.266	1.269	1.245	1.261	1.239	1.264	1.257	1.0	AVG
2,4,6-Tribromophenol	.144	.166	.169	.181	.187	.194	.173	10.4	AVG
Terphenyl-d14	.853	.836	.847	.862	.860	.900	.860	2.5	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.



Compound # 58 Calib File: CTALL7::DB

Compound: Hexachlorocyclopentadiene
Istd: Acenaphthene-d10

File:	>GJ365	>GJ366	>GJ367	>GJ361	>GJ363	>GJ362
Conc:	5.00	20.00	50.00	80.00	120.00	160.00
Rf:	.19717	.27571	.33688	.36998	.38078	.40223

Average of 6 Rfs: .32712 (23.67 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .1586988 + 2.435150(x)
1st Degree Corr Coef: .9989147
2nd Degree Equation: y = .0863542 + 2.805748(x) + -.232006(x^2)
2nd Degree Corr Coef: .9998279

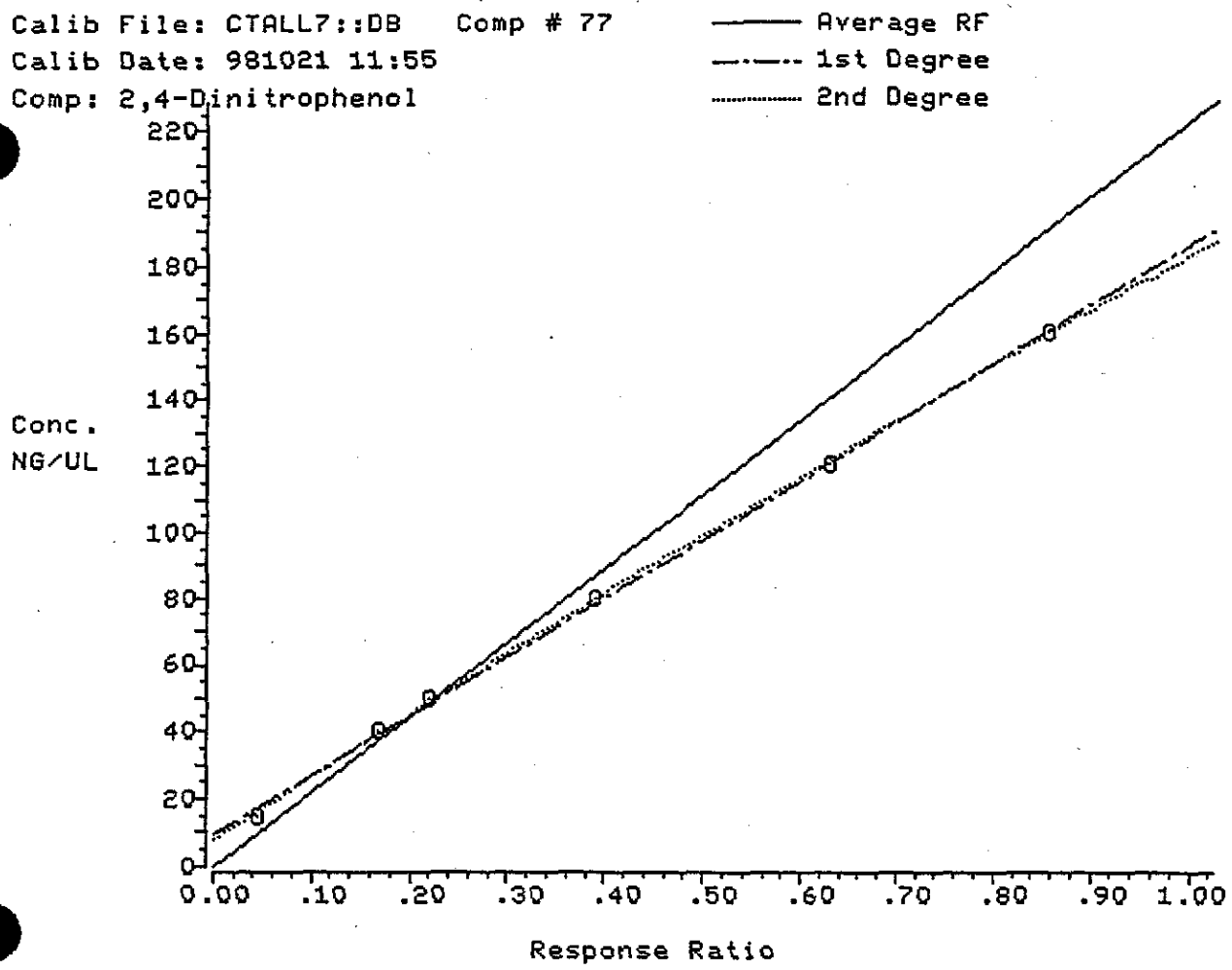
In the above equations:

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

Istd Conc for all calibration points is: 40.00

1st degree
RLE 10/21/98

Calib File: CTALL7::DB Comp # 77
Calib Date: 981021 11:55
Comp: 2,4-Dinitrophenol



Compound # 77 Calib File: CTALL7::DB

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

File:	>GJ365	>GJ366	>GJ367	>GJ361	>GJ363	>GJ362
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.11501	.16708	.17632	.19428	.20971	.21335

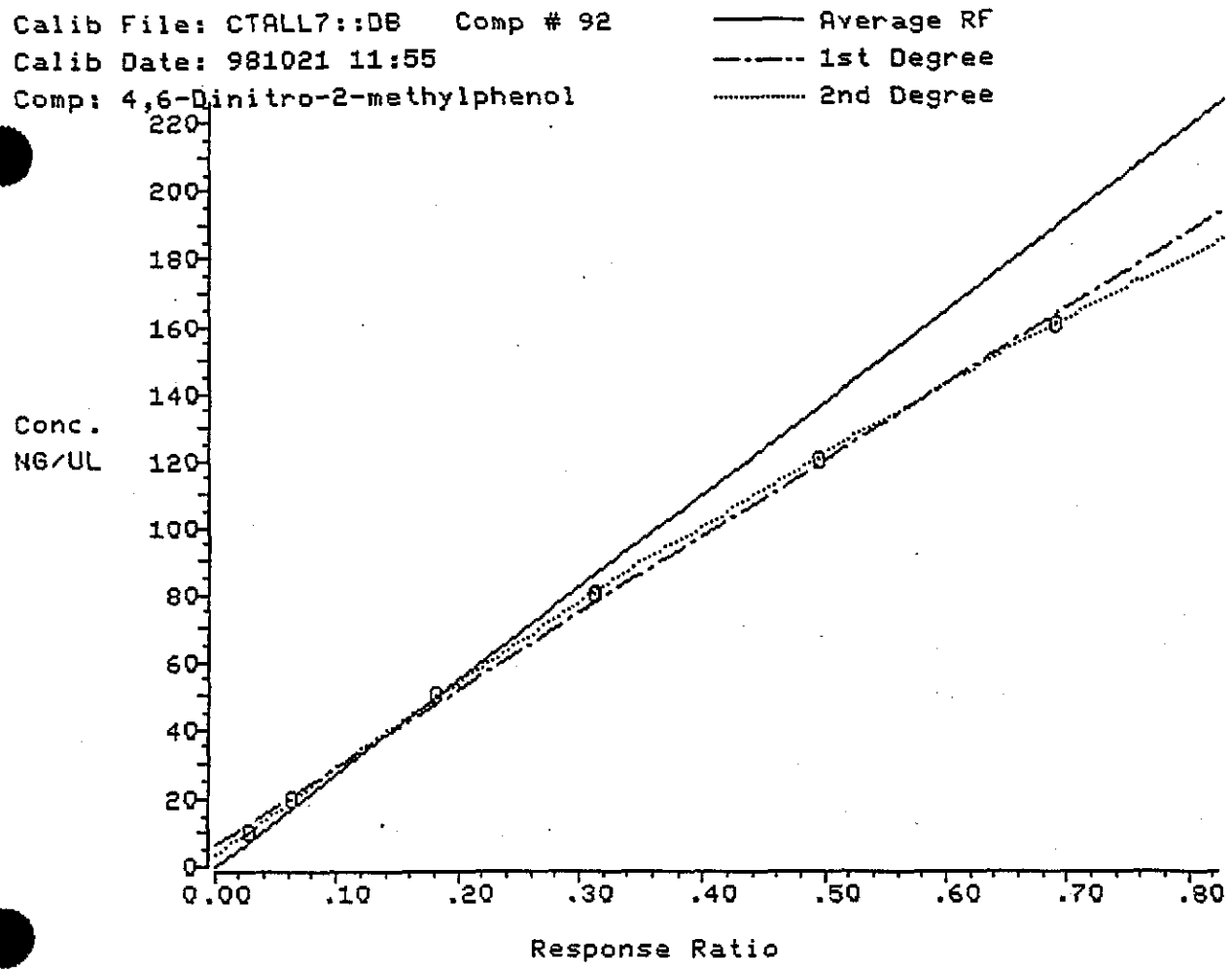
Average of 6 Rfs: .17929 (20.26 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2436073 + 4.415609(x)
1st Degree Corr Coef: .9996080
2nd Degree Equation: y = .1960479 + 4.770045(x) + -.391934(x^2)
2nd Degree Corr Coef: .9998002

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
JR3 10/21/98



Compound # 92 Calib File: CTALL7::DB

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

File:	>GJ365	>GJ366	>GJ367	>GJ361	>GJ363	>GJ362
Conc:	10.00	20.00	50.00	80.00	120.00	160.00
Rf:	.11177	.12658	.14353	.15583	.16398	.17147

Average of 6 Rfs: .14553 (15.74 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: $y = .1643426 + 5.689315(x)$
1st Degree Corr Coef: .9990708
2nd Degree Equation: $y = .0829230 + 6.588695(x) + -1.29289(x^2)$
2nd Degree Corr Coef: .9999405

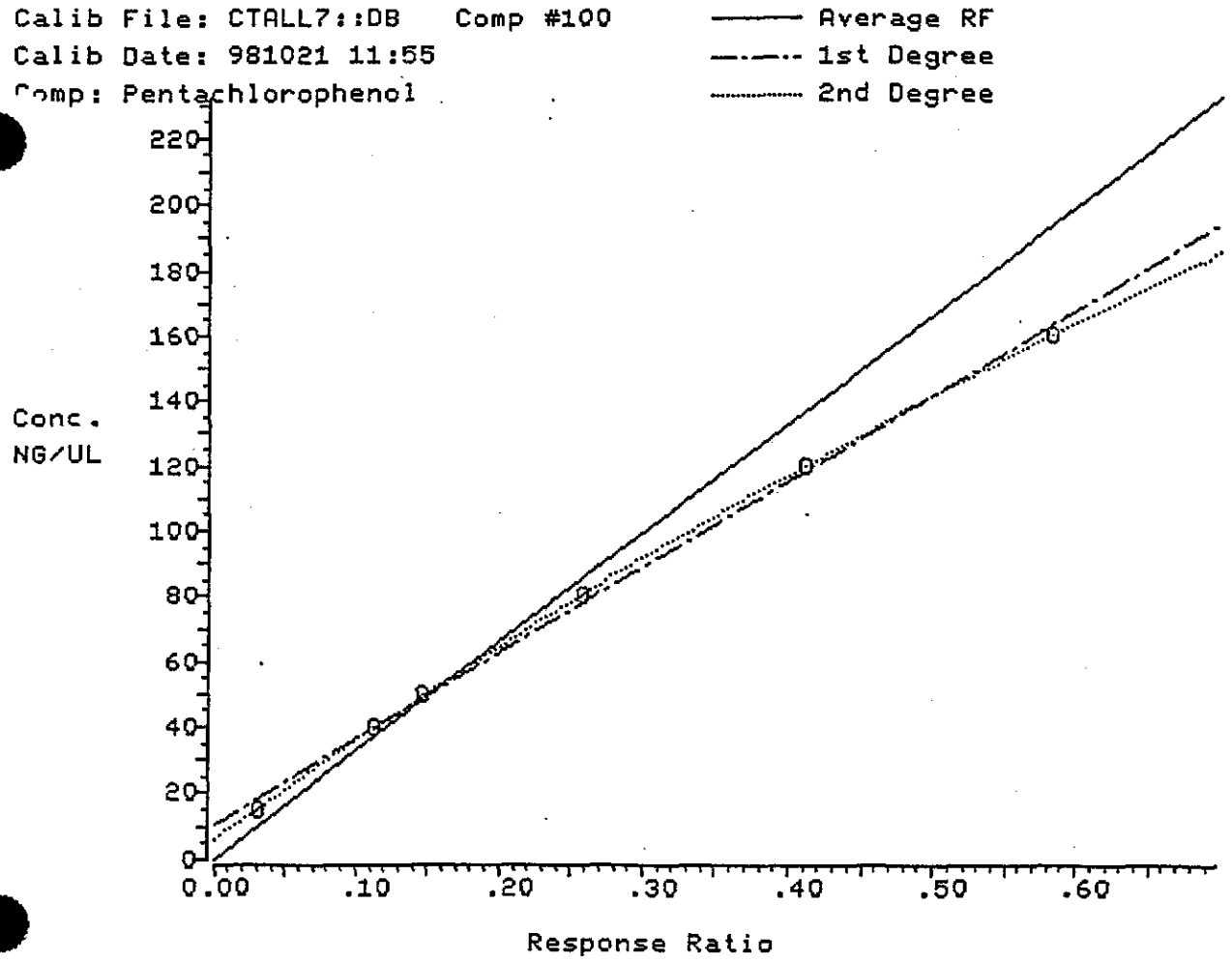
In the above equations:

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

Istd Conc for all calibration points is: 40.00

1st degree
PLE 10/21/98

Calib File: CTALL7::DB Comp #100
Calib Date: 981021 11:55
Comp: Pentachlorophenol



Compound #100 Calib File: CTALL7::DB

Compound: Pentachlorophenol
Istd: Phenanthrene-d10

File:	>GJ365	>GJ366	>GJ367	>GJ361	>GJ363	>GJ362
Conc:	15.00	40.00	50.00	80.00	120.00	160.00
Rf:	.08101	.11297	.11637	.12888	.13711	.14537

Average of 6 Rfs: .12029 (18.95 % Rsd) Rx: .0000000 Ry: .0000000
1st Degree Equation: y = .2573668 + 6.548603(x)
1st Degree Corr Coef: .9990270
2nd Degree Equation: y = .1520188 + 7.692978(x) + -1.85600(x^2)
2nd Degree Corr Coef: .9999691

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

JTE 10/21/98

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID (Standard): >GJ361 Date Analyzed: 10/20/98

Instrument ID: HP06777 Time Analyzed: 20:23

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	185275	11.80	673464	15.51	325945	20.84
	UPPER LIMIT	370550		1346928		651890	
	LOWER LIMIT	92638		336732		162973	
	EPA SAMPLE NO.						
01	SBLKWA2937	165936	11.80	623215	15.51	307036	20.84
02	293WALCS7	166649	11.80	621916	15.51	306252	20.84
03	293WALCSD	166183	11.81	619002	15.52	298211	20.85
04	W04--	171180	11.80	643094	15.51	315800	20.84
05							
06							
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): >GJ361 Date Analyzed: 10/20/98

Instrument ID: HP06777 Time Analyzed: 20:23

		IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	520078	25.40	442756	32.04	342467	36.46
	UPPER LIMIT	1040156		885512		684934	
	LOWER LIMIT	260039		221378		171234	
	EPA SAMPLE NO.						
01	SBLKWA2937	500483	25.40	401844	32.03	334766	36.46
02	293WALCS7	488498	25.40	421305	32.04	324402	36.46
03	293WALCSD	463946	25.39	387949	32.04	304821	36.47
04	W04--	502396	25.39	394987	32.02	333016	36.45
05							
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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: >GJ380 ✓ DFTPP Injection Date: 10/21/98 ✓

Instrument ID: HP06777 ✓ DFTPP Injection Time: 13:21 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.0 ✓
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	54.9
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	6.3
275	10.0 - 30.0% of mass 198	24.4
365	Greater than 1.00% of mass 198	3.68
441	Present, but less than mass 443	13.0
442	Greater than 40.0% of mass 198	81.4
443	17.0 - 23.0% of mass 442	15.3 (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	SSTD080	STD2928	>GJ381	10/21/98	14:19 ✓
02	W04--MS	3018872	>GJ388	10/21/98	15:37 ✓
03	W04--MSD	3018873	>GJ389	10/21/98	16:34 ✓
04	G--21RE	3016624RE	>GJ390	10/21/98	17:32
05	GSB12RE	3017200RE	>GJ391	10/21/98	18:29
06	GSB15RE	3017203RE	>GJ392	10/21/98	19:27
07	GSB16RE	3017205RE	>GJ393	10/21/98	20:26
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: HP06777 Calibration Date: 10/21/98 Time: 14:19

Lab File ID: >GJ381 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.918	2.025	84.47	80.0	-5.6
N-Nitrosodimethylamine		1.211	1.294	85.46	80.0	-6.8
Phenol	*	2.010	2.035	80.97	80.0	-1.2*
Aniline		2.366	2.438	82.42	80.0	-3.0
bis(2-Chloroethyl)ether		1.527	1.544	80.86	80.0	-1.1
2-Chlorophenol		1.438	1.456	81.03	80.0	-1.3
1,3-Dichlorobenzene		1.440	1.464	81.30	80.0	-1.6
1,4-Dichlorobenzene	*	1.489	1.502	80.70	80.0	-.9*
Benzyl alcohol		.979	.998	81.54	80.0	-1.9
1,2-Dichlorobenzene		1.366	1.382	80.93	80.0	-1.2
2-Methylphenol		1.365	1.385	81.18	80.0	-1.5
2,2'-oxybis(1-Chloropropane)		2.696	2.752	81.67	80.0	-2.1
bis(2-Chloroisopropyl)ether		2.696	2.752	81.67	80.0	-2.1
4-Methylphenol		1.358	1.343	79.08	80.0	1.1
3- and 4-Methylphenol		1.358	1.343	79.08	80.0	1.1
Acetophenone		1.919	1.896	79.04	80.0	1.2
N-Nitroso-di-n-propylamine	#	1.181	1.194	80.93	80.0	-1.2#
o-Toluidine		2.161	2.236	82.80	80.0	-3.5
Hexachloroethane		.667	.714	85.70	80.0	-7.1
Nitrobenzene		.480	.514	85.60	80.0	-7.0
Isophorone		.892	.938	84.16	80.0	-5.2
2-Nitrophenol	*	.214	.227	84.65	80.0	-5.8*
2,4-Dimethylphenol		.404	.409	80.93	80.0	-1.2
Benzoic acid		.273	.283	82.83	80.0	-3.5
bis(2-Chloroethoxy)methane		.499	.504	80.77	80.0	-1.0
2,4-Dichlorophenol	*	.276	.285	82.76	80.0	-3.4*
1,2,4-Trichlorobenzene		.295	.294	79.49	80.0	.6
Naphthalene		1.025	1.010	78.86	80.0	1.4
4-Chloroaniline		.451	.472	83.72	80.0	-4.7
Hexachlorobutadiene	*	.167	.168	80.59	80.0	-.7*
4-Chloro-3-methylphenol	*	.342	.350	81.88	80.0	-2.4*
2-Methylnaphthalene		.628	.624	79.38	80.0	.8
1-Methylnaphthalene		.594	.590	79.38	80.0	.8
Hexachlorocyclopentadiene	#	.327	.364	77.31	80.0	3.4#
2,4,6-Trichlorophenol	*	.372	.383	82.49	80.0	-3.1*
2,4,5-Trichlorophenol		.398	.422	84.95	80.0	-6.2
2-Chloronaphthalene		1.133	1.143	80.67	80.0	-.8
2-Nitroaniline		.550	.608	88.44	80.0	-10.6

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP06777 Calibration Date: 10/21/98 Time: 14:19

Lab File ID: >GJ381 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.356	1.412	83.32	80.0	-4.2
2,6-Dinitrotoluene	.324	.339	83.92	80.0	-4.9
Acenaphthylene	1.888	1.942	82.29	80.0	-2.9
3-Nitroaniline	.400	.428	85.73	80.0	-7.2
Acenaphthene *	1.130	1.157	81.90	80.0	-2.4*
2,4-Dinitrophenol #	.179	.208	83.08	80.0	-3.9#
4-Nitrophenol #	.253	.286	90.49	80.0	-13.1#
Dibenzofuran	1.543	1.578	81.80	80.0	-2.3
2,4-Dinitrotoluene	.431	.454	84.14	80.0	-5.2
1-Naphthylamine	1.113	1.123	80.76	80.0	-1.0
2-Naphthylamine	1.151	1.148	79.81	80.0	.2
Diethylphthalate	1.451	1.521	83.88	80.0	-4.9
4-Chlorophenyl-phenylether	.556	.570	81.99	80.0	-2.5
Fluorene	1.188	1.222	82.29	80.0	-2.9
4-Nitroaniline	.418	.448	85.77	80.0	-7.2
4,6-Dinitro-2-methylphenol	.146	.163	80.84	80.0	-1.1
N-Nitrosodiphenylamine (1) *	.514	.538	83.74	80.0	-4.7*
1,2-Diphenylhydrazine	1.127	1.225	86.94	80.0	-8.7
4-Bromophenyl-phenylether	.186	.192	82.52	80.0	-3.2
Hexachlorobenzene	.212	.213	80.39	80.0	-.5
Pentachlorophenol *	.120	.130	78.18	80.0	2.3*
Phenanthrene	.991	1.016	82.05	80.0	-2.6
Anthracene	1.019	1.065	83.65	80.0	-4.6
Carbazole	.976	1.019	83.53	80.0	-4.4
Di-n-butylphthalate	1.487	1.575	84.75	80.0	-5.9
Fluoranthene *	1.004	1.035	82.44	80.0	-3.0*
Benzidine	.855	.856	320.38	320.0	-.1
Pyrene	1.204	1.128	74.91	80.0	6.4
Butylbenzylphthalate	.758	.751	79.21	80.0	1.0
3,3'-Dichlorobenzidine	.494	.498	80.60	80.0	-.8
Benzo(a)anthracene	1.118	1.070	76.53	80.0	4.3
bis(2-Ethylhexyl)phthalate	1.057	1.058	80.11	80.0	-.1
Chrysene	1.004	.958	76.29	80.0	4.6
Di-n-octylphthalate *	2.165	2.303	85.09	80.0	-6.4*
7,12-Dimethylbenz[a]anthrace	.578	.611	84.53	80.0	-5.7
Benzo(b)fluoranthene	1.405	1.458	83.02	80.0	-3.8
Benzo(k)fluoranthene	1.242	1.276	82.21	80.0	-2.8
Benzo(a)pyrene *	1.180	1.217	82.50	80.0	-3.1*

(1) Cannot be separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP06777 Calibration Date: 10/21/98 Time: 14:19

Lab File ID: >GJ381 Init. Calib. Date(s): 10/20/98 10/21/98

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	1.115	1.146	82.27	80.0	-2.8
Dibenz(a,h)anthracene	1.097	1.137	82.92	80.0	-3.6
Benzo(g,h,i)perylene	1.131	1.240	87.71	80.0	-9.6
2-Fluorophenol	1.542	1.557	80.76	80.0	-.9
Phenol-d5	1.985	2.047	82.50	80.0	-3.1
Phenol-d6	1.985	2.047	82.50	80.0	-3.1
Nitrobenzene-d5	.480	.511	85.08	80.0	-6.4
2-Fluorobiphenyl	1.257	1.301	82.77	80.0	-3.5
2,4,6-Tribromophenol	.173	.180	83.25	80.0	-4.1
Terphenyl-d14	.860	.814	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.

8B

SEMIVOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: LANCASTER LABS Contract: _____.

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

Lab File ID (Standard): >GJ381 Date Analyzed: 10/21/98

Instrument ID: HP06777 Time Analyzed: 14:19

		IS1(DCB) AREA	#	RT	IS2(NPT) AREA	#	RT	IS3(ANT) AREA	#	RT
	12 HOUR STD	165941		11.79	611176		15.48	294162		20.80
	UPPER LIMIT	331882			1222352			588324		
	LOWER LIMIT	82971			305588			147081		
	EPA SAMPLE NO.									
01	W04--MS	164747		11.79	603456		15.48	287348		20.82
02	W04--MSD	163269		11.79	612759		15.48	289958		20.82
03	G--21RE	167722		11.78	628452		15.48	306879		20.80
04	GSB12RE	147181		11.80	567008		15.49	291865		20.82
05	GSB15RE	164157		11.80	616468		15.48	309498		20.81
06	GSB16RE	173316		11.78	651848		15.48	323605		20.80
07										
08										
09										
10										
11										
12										
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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): >GJ381 Date Analyzed: 10/21/98

Instrument ID: HP06777 Time Analyzed: 14:19

		IS4 (PHN) AREA	#	RT	IS5 (CRY) AREA	#	RT	IS6 (PRY) AREA	#	RT
	12 HOUR STD	475136		25.36	453675		32.02	337514		36.42
	UPPER LIMIT	950272			907350			675028		
	LOWER LIMIT	237568			226838			168757		
	EPA SAMPLE NO.									
01	W04--MS	460193		25.36	414198		32.02	324454		36.41
02	W04--MSD	467757		25.36	424179		32.02	338050		36.42
03	G--21RE	502370		25.36	413467		32.01	330172		36.40
04	GSB12RE	479901		25.38	425979		32.00	354761		36.41
05	GSB15RE	509501		25.37	440157		32.01	371756		36.40
06	GSB16RE	517874		25.36	442114		32.01	366146		36.41
07										
08										
09										
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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: >GJ400 ✓ DFTPP Injection Date: 10/21/98 ✓

Instrument ID: HP06777 ✓ DFTPP Injection Time: 22:03 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	49.3 ✓
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 (.3)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	6.5
275	10.0 - 30.0% of mass 198	21.8
365	Greater than 1.00% of mass 198	2.55
441	Present, but less than mass 443	9.8
442	Greater than 40.0% of mass 198	61.4
443	17.0 - 23.0% of mass 442	11.6 (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	SSTD080	STD2928	>GJ401	10/21/98	22:27 ✓
02	W03--	3018865	>GJ402	10/21/98	23:31 ✓
03	W01--	3018866	>GJ403	10/22/98	00:29 ✓
04	W05--	3018867	>GJ404	10/22/98	01:26 ✓
05	W09--	3018868	>GJ405	10/22/98	02:24 ✓
06	W19--	3018869	>GJ406	10/22/98	03:21 ✓
07	W08--	3018870	>GJ407	10/22/98	04:19 ✓
08	W12--	3018874	>GJ408	10/22/98	05:16 ✓
09	W10--	3018875	>GJ409	10/22/98	06:14 ✓
10	W06--	3018876	>GJ410	10/22/98	07:11 ✓
11	W07--	3018877	>GJ411	10/22/98	08:09 ✓
12	W13--	3018878	>GJ412	10/22/98	09:06 ✓
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

o Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP06777 Calibration Date: 10/21/98 Time: 22:27

Lab File ID: >GJ401 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.918	1.980	82.61	80.0	-3.3
N-Nitrosodimethylamine		1.211	1.265	83.56	80.0	-4.4
Phenol	*	2.010	2.030	80.77	80.0	-1.0*
Aniline		2.366	2.395	80.96	80.0	-1.2
bis(2-Chloroethyl)ether		1.527	1.474	77.20	80.0	3.5
2-Chlorophenol		1.438	1.462	81.34	80.0	-1.7
1,3-Dichlorobenzene		1.440	1.446	80.35	80.0	-.4
1,4-Dichlorobenzene	*	1.489	1.487	79.89	80.0	.1*
Benzyl alcohol		.979	1.007	82.30	80.0	-2.9
1,2-Dichlorobenzene		1.366	1.373	80.37	80.0	-.5
2-Methylphenol		1.365	1.378	80.75	80.0	-.9
2,2'-oxybis(1-Chloropropane)		2.696	2.589	76.83	80.0	4.0
bis(2-Chloroisopropyl)ether		2.696	2.589	76.83	80.0	4.0
4-Methylphenol		1.358	1.317	77.58	80.0	3.0
3- and 4-Methylphenol		1.358	1.317	77.58	80.0	3.0
Acetophenone		1.919	1.858	77.45	80.0	3.2
N-Nitroso-di-n-propylamine	#	1.181	1.125	76.23	80.0	4.7#
o-Toluidine		2.161	2.223	82.30	80.0	-2.9
Hexachloroethane		.667	.686	82.31	80.0	-2.9
Nitrobenzene		.480	.490	81.66	80.0	-2.1
Isophorone		.892	.907	81.37	80.0	-1.7
2-Nitrophenol	*	.214	.227	84.90	80.0	-6.1*
2,4-Dimethylphenol		.404	.405	80.20	80.0	-.3
Benzoic acid		.273	.295	86.40	80.0	-8.0
bis(2-Chloroethoxy)methane		.499	.480	76.89	80.0	3.9
2,4-Dichlorophenol	*	.276	.289	83.88	80.0	-4.8*
1,2,4-Trichlorobenzene		.295	.296	80.24	80.0	-.3
Naphthalene		1.025	.975	76.13	80.0	4.8
4-Chloroaniline		.451	.464	82.30	80.0	-2.9
Hexachlorobutadiene	*	.167	.174	83.70	80.0	-4.6*
4-Chloro-3-methylphenol	*	.342	.356	83.29	80.0	-4.1*
2-Methylnaphthalene		.628	.617	78.57	80.0	1.8
1-Methylnaphthalene		.594	.586	78.84	80.0	1.4
Hexachlorocyclopentadiene	#	.327	.371	78.54	80.0	1.8#
2,4,6-Trichlorophenol	*	.372	.388	83.57	80.0	-4.5*
2,4,5-Trichlorophenol		.398	.428	86.03	80.0	-7.5
2-Chloronaphthalene		1.133	1.104	77.96	80.0	2.5
2-Nitroaniline		.550	.562	81.83	80.0	-2.3

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP06777 Calibration Date: 10/21/98 Time: 22:27

Lab File ID: >GJ401 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.356	1.411	83.24	80.0	-4.1
2,6-Dinitrotoluene	.324	.339	83.83	80.0	-4.8
Acenaphthylene	1.888	1.883	79.79	80.0	.3
3-Nitroaniline	.400	.419	83.89	80.0	-4.9
Acenaphthene *	1.130	1.112	78.73	80.0	1.6*
2,4-Dinitrophenol #	.179	.225	89.05	80.0	-11.3#
4-Nitrophenol #	.253	.280	88.55	80.0	-10.7#
Dibenzofuran	1.543	1.537	79.69	80.0	.4
2,4-Dinitrotoluene	.431	.457	84.68	80.0	-5.9
1-Naphthylamine	1.113	1.080	77.64	80.0	2.9
2-Naphthylamine	1.151	1.081	75.10	80.0	6.1
Diethylphthalate	1.451	1.508	83.17	80.0	-4.0
4-Chlorophenyl-phenylether	.556	.570	82.06	80.0	-2.6
Fluorene	1.188	1.201	80.87	80.0	-1.1
4-Nitroaniline	.418	.452	86.44	80.0	-8.1
4,6-Dinitro-2-methylphenol	.146	.168	83.02	80.0	-3.8
N-Nitrosodiphenylamine (1) *	.514	.515	80.09	80.0	-.1*
1,2-Diphenylhydrazine	1.127	1.086	77.06	80.0	3.7
4-Bromophenyl-phenylether	.186	.194	83.40	80.0	-4.2
Hexachlorobenzene	.212	.223	84.06	80.0	-5.1
Pentachlorophenol *	.120	.139	83.16	80.0	-3.9*
Phenanthrene	.991	.981	79.20	80.0	1.0
Anthracene	1.019	1.038	81.53	80.0	-1.9
Carbazole	.976	.998	81.80	80.0	-2.2
Di-n-butylphthalate	1.487	1.519	81.76	80.0	-2.2
Fluoranthene *	1.004	1.027	81.85	80.0	-2.3*
Benzidine	.855	.811	303.62	320.0	5.1
Pyrene	1.204	1.112	73.87	80.0	7.7
Butylbenzylphthalate	.758	.714	75.29	80.0	5.9
3,3'-Dichlorobenzidine	.494	.514	83.20	80.0	-4.0
Benzo(a)anthracene	1.118	1.052	75.26	80.0	5.9
bis(2-Ethylhexyl)phthalate	1.057	.998	75.57	80.0	5.5
Chrysene	1.004	.948	75.56	80.0	5.5
Di-n-octylphthalate *	2.165	2.125	78.51	80.0	1.9*
7,12-Dimethylbenz[a]anthrace	.578	.587	81.15	80.0	-1.4
Benzo(b)fluoranthene	1.405	1.434	81.65	80.0	-2.1
Benzo(k)fluoranthene	1.242	1.200	77.34	80.0	3.3
Benzo(a)pyrene *	1.180	1.189	80.59	80.0	-.7*

(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: 10/21/98 Time: 22:27

Lab File ID: >GJ401 Init. Calib. Date(s): 10/20/98 10/21/98

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	1.115	1.130	81.08	80.0	-1.4
Dibenz(a,h)anthracene	1.097	1.129	82.32	80.0	-2.9
Benzo(g,h,i)perylene	1.131	1.143	80.81	80.0	-1.0
2-Fluorophenol	1.542	1.540	79.88	80.0	.2
Phenol-d5	1.985	2.039	82.16	80.0	-2.7
Phenol-d6	1.985	2.039	82.16	80.0	-2.7
Nitrobenzene-d5	.480	.486	81.01	80.0	-1.3
2-Fluorobiphenyl	1.257	1.252	79.68	80.0	.4
2,4,6-Tribromophenol	.173	.204	94.29	80.0	-17.9
Terphenyl-d14	.860	.805	74.95	80.0	6.3

(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): >GJ401 Date Analyzed: 10/21/98

Instrument ID: HP06777 Time Analyzed: 22:27

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	180481	11.65	678811	15.35	346246	20.69
	UPPER LIMIT	360962		1357622		692492	
	LOWER LIMIT	90241		339406		173123	
01	W03--	177785	11.66	685657	15.36	351634	20.70
02	W01--	169493	11.66	647356	15.37	329900	20.70
03	W05--	163705	11.66	612554	15.36	309197	20.70
04	W09--	173159	11.66	626522	15.40	332720	20.70
05	W19--	170074	11.66	612370	15.40	325551	20.70
06	W08--	163453	11.66	619667	15.35	313393	20.70
07	W12--	164205	11.66	618068	15.35	311098	20.69
08	W10--	164561	11.65	626523	15.36	318325	20.69
09	W06--	170486	11.65	655423	15.37	326632	20.69
10	W07--	158657	11.65	604881	15.35	303849	20.69
11	W13--	161324	11.65	608411	15.35	307185	20.69
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): >GJ401 Date Analyzed: 10/21/98

Instrument ID: HP06777 Time Analyzed: 22:27

	EPA SAMPLE NO.	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	579262	25.23	563602	31.92	437108	36.22
	UPPER LIMIT	1158524		1127204		874216	
	LOWER LIMIT	289631		281801		218554	
01	W03--	586207	25.24	520375	31.91	439112	36.22
02	W01--	558022	25.24	492832	31.91	426781	36.22
03	W05--	525518	25.24	476402	31.91	407857	36.22
04	W09--	559414	25.25	498542	31.91	423477	36.23
05	W19--	552987	25.25	496742	31.91	428741	36.22
06	W08--	534515	25.24	475843	31.91	403951	36.22
07	W12--	529889	25.24	476918	31.91	414399	36.22
08	W10--	536703	25.25	487969	31.92	411738	36.21
09	W06--	524794	25.25	453780	31.91	402143	36.21
10	W07--	516908	25.24	463081	31.91	409298	36.22
11	W13--	522635	25.24	472142	31.91	406665	36.21
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: >GJ420 ✓ DFTPP Injection Date: 10/22/98 ✓

Instrument ID: HP06777 ✓ DFTPP Injection Time: 10:55 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.3 ✓
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	.4 (.7)1
127	40.0 - 60.0% of mass 198	45.6
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	21.7
365	Greater than 1.00% of mass 198	2.91
441	Present, but less than mass 443	10.2
442	Greater than 40.0% of mass 198	64.5
443	17.0 - 23.0% of mass 442	12.2 (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	SSTD080	STD2928	>GJ421	10/22/98	11:33 ✓
02	W06--DL	3018876DL	>GJ424	10/22/98	14:35 ✓
03	W23--	3018879	>GJ425	10/22/98	15:32 ✓
04	RB1--	3018881	>GJ426	10/22/98	16:30 ✓
05	W11--	3018882	>GJ427	10/22/98	17:28 ✓
06	SCLAO	3019055	>GJ428	10/22/98	18:25
07					
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7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Name: LANCASTER LABS Contract: _____.

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

Instrument ID: HP06777 Calibration Date: 10/22/98 Time: 11:33

Lab File ID: >GJ421 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine	1.918	1.960	81.76	80.0	-2.2
N-Nitrosodimethylamine	1.211	1.262	83.32	80.0	-4.1
Phenol *	2.010	2.020	80.38	80.0	-.5*
Aniline	2.366	2.385	80.65	80.0	-.8
bis(2-Chloroethyl)ether	1.527	1.499	78.54	80.0	1.8
2-Chlorophenol	1.438	1.430	79.57	80.0	.5
1,3-Dichlorobenzene	1.440	1.440	80.01	80.0	-.0
1,4-Dichlorobenzene *	1.489	1.495	80.34	80.0	-.4*
Benzyl alcohol	.979	1.002	81.90	80.0	-2.4
1,2-Dichlorobenzene	1.366	1.364	79.86	80.0	.2
2-Methylphenol	1.365	1.358	79.56	80.0	.5
2,2'-oxybis(1-Chloropropane)	2.696	2.658	78.87	80.0	1.4
bis(2-Chloroisopropyl)ether	2.696	2.658	78.87	80.0	1.4
4-Methylphenol	1.358	1.321	77.79	80.0	2.8
3- and 4-Methylphenol	1.358	1.321	77.79	80.0	2.8
Acetophenone	1.919	1.888	78.71	80.0	1.6
N-Nitroso-di-n-propylamine #	1.181	1.169	79.20	80.0	1.0#
o-Toluidine	2.161	2.183	80.84	80.0	-1.0
Hexachloroethane	.667	.670	80.36	80.0	-.5
Nitrobenzene	.480	.494	82.31	80.0	-2.9
Isophorone	.892	.901	80.84	80.0	-1.1
2-Nitrophenol *	.214	.222	82.63	80.0	-3.5*
2,4-Dimethylphenol	.404	.411	81.48	80.0	-1.8
Benzoic acid	.273	.304	88.96	80.0	-11.2
bis(2-Chloroethoxy)methane	.499	.497	79.70	80.0	.4
2,4-Dichlorophenol *	.276	.284	82.29	80.0	-2.9*
1,2,4-Trichlorobenzene	.295	.298	80.73	80.0	-.9
Naphthalene	1.025	1.019	79.57	80.0	.5
4-Chloroaniline	.451	.457	81.09	80.0	-1.4
Hexachlorobutadiene *	.167	.171	82.15	80.0	-2.7*
4-Chloro-3-methylphenol *	.342	.353	82.66	80.0	-3.3*
2-Methylnaphthalene	.628	.630	80.15	80.0	-.2
1-Methylnaphthalene	.594	.599	80.59	80.0	-.7
Hexachlorocyclopentadiene # *	.327	.351	74.72	80.0	6.6#
2,4,6-Trichlorophenol *	.372	.376	80.98	80.0	-1.2*
2,4,5-Trichlorophenol	.398	.413	83.05	80.0	-3.8
2-Chloronaphthalene	1.133	1.136	80.16	80.0	-.2
2-Nitroaniline	.550	.559	81.40	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: HP06777 Calibration Date: 10/22/98 Time: 11:33

Lab File ID: >GJ421 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND	RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate	1.356	1.386	81.79	80.0	-2.2
2,6-Dinitrotoluene	.324	.333	82.28	80.0	-2.8
Acenaphthylene	1.888	1.879	79.61	80.0	.5
3-Nitroaniline	.400	.409	81.80	80.0	-2.3
Acenaphthene *	1.130	1.125	79.62	80.0	.5*
2,4-Dinitrophenol #	.179	.198	79.58	80.0	.5#
4-Nitrophenol #	.253	.273	86.24	80.0	-7.8#
Dibenzofuran	1.543	1.530	79.31	80.0	.9
2,4-Dinitrotoluene	.431	.447	82.93	80.0	-3.7
1-Naphthylamine	1.113	1.120	80.55	80.0	-.7
2-Naphthylamine	1.151	1.151	79.97	80.0	.0
Diethylphthalate	1.451	1.460	80.51	80.0	-.6
4-Chlorophenyl-phenylether	.556	.552	79.44	80.0	.7
Fluorene	1.188	1.196	80.50	80.0	-.6
4-Nitroaniline	.418	.427	81.64	80.0	-2.1
4,6-Dinitro-2-methylphenol	.146	.155	76.99	80.0	3.8
N-Nitrosodiphenylamine (1) *	.514	.514	79.94	80.0	.1*
1,2-Diphenylhydrazine	1.127	1.123	79.73	80.0	.3
4-Bromophenyl-phenylether	.186	.187	80.39	80.0	-.5
Hexachlorobenzene	.212	.211	79.46	80.0	.7
Pentachlorophenol *	.120	.130	78.51	80.0	1.9*
Phenanthrene	.991	.984	79.43	80.0	.7
Anthracene	1.019	1.007	79.07	80.0	1.2
Carbazole	.976	.972	79.69	80.0	.4
Di-n-butylphthalate	1.487	1.494	80.38	80.0	-.5
Fluoranthene *	1.004	1.015	80.89	80.0	-1.1*
Benzidine	.855	.833	311.90	320.0	2.5
Pyrene	1.204	1.128	74.90	80.0	6.4
Butylbenzylphthalate	.758	.733	77.29	80.0	3.4
3,3'-Dichlorobenzidine	.494	.523	84.74	80.0	-5.9
Benzo(a)anthracene	1.118	1.083	77.46	80.0	3.2
bis(2-Ethylhexyl)phthalate	1.057	1.044	79.08	80.0	1.1
Chrysene	1.004	.985	78.49	80.0	1.9
Di-n-octylphthalate *	2.165	2.251	83.19	80.0	-4.0*
7,12-Dimethylbenz[a]anthrace	.578	.604	83.50	80.0	-4.4
Benzo(b)fluoranthene	1.405	1.435	81.70	80.0	-2.1
Benzo(k)fluoranthene	1.242	1.231	79.30	80.0	.9
Benzo(a)pyrene *	1.180	1.198	81.19	80.0	-1.5*

(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: 10/22/98 Time: 11:33

Lab File ID: >GJ421 Init. Calib. Date(s): 10/20/98 10/21/98

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	1.115	1.118	80.23	80.0	-.3
Dibenz(a,h)anthracene	1.097	1.112	81.09	80.0	-1.4
Benzo(g,h,i)perylene	1.131	1.128	79.74	80.0	.3
2-Fluorophenol	1.542	1.555	80.65	80.0	-.8
Phenol-d5	1.985	1.989	80.16	80.0	-.2
Phenol-d6	1.985	1.989	80.16	80.0	-.2
Nitrobenzene-d5	.480	.494	82.25	80.0	-2.8
2-Fluorobiphenyl	1.257	1.248	79.41	80.0	.7
2,4,6-Tribromophenol	.173	.181	83.47	80.0	-4.3
Terphenyl-d14	.860	.807	75.09	80.0	6.1

(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: _____.

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

Lab File ID (Standard): >GJ421 ✓ Date Analyzed: 10/22/98 ✓

Instrument ID: HP06777 ✓ Time Analyzed: 11:33 ✓

	EPA SAMPLE NO.	IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	165109 ✓	11.67 ✓	602028 ✓	15.37 ✓	297652 ✓	20.70 ✓
	UPPER LIMIT	330218		1204056		595304	
	LOWER LIMIT	82555		301014		148826	
01	W06--DL	157519	11.67	577167	15.37	291505	20.69 ✓
02	W23--	161721	11.67	592884	15.37	293251	20.69 ✓
03	RB1--	158202	11.67	580795	15.36	281832	20.69 ✓
04	W11--	154532	11.66	572305	15.36	283732	20.69 ✓
05	SCLAO	167447	11.67	612950	15.36	307316	20.69
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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): >GJ421 Date Analyzed: 10/22/98

Instrument ID: HP06777 Time Analyzed: 11:33

	EPA SAMPLE NO.	IS4 (PHN) AREA #	RT	IS5 (CRY) AREA #	RT	IS6 (PRY) AREA #	RT
	12 HOUR STD	485758	25.25	462572	31.93	359890	36.22
	UPPER LIMIT	971516		925144		719780	
	LOWER LIMIT	242879		231286		179945	
01	W06--DL	478380	25.24	403207	31.91	349491	36.21
02	W23--	491036	25.23	423037	31.91	366355	36.21
03	RB1--	474868	25.24	407805	31.91	360724	36.21
04	W11--	467528	25.24	401286	31.90	351933	36.20
05	SCLAO	507486	25.24	426099	31.91	369207	36.21
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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: >GJ430 ✓ DFTPP Injection Date: 10/22/98 ✓

Instrument ID: HP06777 ✓ DFTPP Injection Time: 20:00 ✓

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	58.0 ✓
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	70.5
70	Less than 2.0% of mass 69	.5 (.6)1
127	40.0 - 60.0% of mass 198	51.1
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	19.8
365	Greater than 1.00% of mass 198	2.21
441	Present, but less than mass 443	6.8
442	Greater than 40.0% of mass 198	40.3
443	17.0 - 23.0% of mass 442	7.8 (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	STD2928	>GJ431	10/22/98	20:25 ✓
02	W09--DL	3018868DL	>GJ43A	10/22/98	23:18 ✓
03	W19--DL	3018869DL	>GJ43B	10/23/98	00:16 ✓
04	SBLKLA2937	SBLKLA293	>GJ434	10/23/98	01:13
05	293LALCS7	293LALCS	>GJ435	10/23/98	02:11
06	BOTFT	3017029	>GJ436	10/23/98	03:07
07	BOTFTMS	3017029	>GJ437	10/23/98	04:03
08	BOTFTMSD	3017029	>GJ438	10/23/98	04:59
09	NSWFT	3017030	>GJ439	10/23/98	05:55
10	WSWFT	3017031	>GJ440	10/23/98	06:52
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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: 10/22/98 Time: 20:25

Lab File ID: >GJ431 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Pyridine		1.918	1.987	82.88	80.0	-3.6
N-Nitrosodimethylamine		1.211	1.265	83.51	80.0	-4.4
Phenol	*	2.010	2.038	81.09	80.0	-1.4*
Aniline		2.366	2.367	80.02	80.0	-.0
bis(2-Chloroethyl)ether		1.527	1.510	79.07	80.0	1.2
2-Chlorophenol		1.438	1.451	80.77	80.0	-1.0
1,3-Dichlorobenzene		1.440	1.436	79.78	80.0	.3
1,4-Dichlorobenzene	*	1.489	1.486	79.83	80.0	.2*
Benzyl alcohol		.979	1.015	82.93	80.0	-3.7
1,2-Dichlorobenzene		1.366	1.369	80.13	80.0	-.2
2-Methylphenol		1.365	1.381	80.92	80.0	-1.1
2,2'-oxybis(1-Chloropropane)		2.696	2.677	79.44	80.0	.7
bis(2-Chloroisopropyl)ether		2.696	2.677	79.44	80.0	.7
4-Methylphenol		1.358	1.323	77.93	80.0	2.6
3- and 4-Methylphenol		1.358	1.323	77.93	80.0	2.6
Acetophenone		1.919	1.901	79.27	80.0	.9
N-Nitroso-di-n-propylamine	#	1.181	1.158	78.44	80.0	2.0#
o-Toluidine		2.161	2.182	80.79	80.0	-1.0
Hexachloroethane		.667	.682	81.88	80.0	-2.4
Nitrobenzene		.480	.496	82.58	80.0	-3.2
Isophorone		.892	.905	81.22	80.0	-1.5
2-Nitrophenol	*	.214	.220	82.14	80.0	-2.7*
2,4-Dimethylphenol		.404	.412	81.69	80.0	-2.1
Benzoic acid		.273	.303	88.59	80.0	-10.7
bis(2-Chloroethoxy)methane		.499	.496	79.50	80.0	.6
2,4-Dichlorophenol	*	.276	.284	82.51	80.0	-3.1*
1,2,4-Trichlorobenzene		.295	.300	81.10	80.0	-1.4
Naphthalene		1.025	1.021	79.72	80.0	.4
4-Chloroaniline		.451	.458	81.30	80.0	-1.6
Hexachlorobutadiene	*	.167	.169	81.24	80.0	-1.5*
4-Chloro-3-methylphenol	*	.342	.351	82.17	80.0	-2.7*
2-Methylnaphthalene		.628	.625	79.59	80.0	.5
1-Methylnaphthalene		.594	.595	80.04	80.0	-.1
Hexachlorocyclopentadiene	#	.327	.368	78.12	80.0	2.4#
2,4,6-Trichlorophenol	*	.372	.377	81.20	80.0	-1.5*
2,4,5-Trichlorophenol		.398	.418	84.10	80.0	-5.1
2-Chloronaphthalene		1.133	1.144	80.77	80.0	-1.0
2-Nitroaniline		.550	.579	84.23	80.0	-5.3

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: 10/22/98 Time: 20:25

Lab File ID: >GJ431 Init. Calib. Date(s): 10/20/98 10/21/98

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

COMPOUND		RRF	RRF80	ACTUAL CONC	TRUE CONC	% DRIFT
Dimethylphthalate		1.356	1.386	81.80	80.0	-2.2
2,6-Dinitrotoluene		.324	.335	82.79	80.0	-3.5
Acenaphthylene		1.888	1.894	80.23	80.0	-.3
3-Nitroaniline		.400	.417	83.38	80.0	-4.2
Acenaphthene	*	1.130	1.130	79.97	80.0	.0*
2,4-Dinitrophenol	#	.179	.205	82.11	80.0	-2.6#
4-Nitrophenol	#	.253	.288	91.14	80.0	-13.9#
Dibenzofuran		1.543	1.529	79.26	80.0	.9
2,4-Dinitrotoluene		.431	.449	83.21	80.0	-4.0
1-Naphthylamine		1.113	1.039	74.72	80.0	6.6
2-Naphthylamine		1.151	1.030	71.55	80.0	10.6
Diethylphthalate		1.451	1.503	82.89	80.0	-3.6
4-Chlorophenyl-phenylether		.556	.555	79.91	80.0	.1
Fluorene		1.188	1.185	79.76	80.0	.3
4-Nitroaniline		.418	.437	83.56	80.0	-4.5
4,6-Dinitro-2-methylphenol		.146	.158	78.44	80.0	2.0
N-Nitrosodiphenylamine (1)	*	.514	.508	79.12	80.0	1.1*
1,2-Diphenylhydrazine		1.127	1.132	80.35	80.0	-.4
4-Bromophenyl-phenylether		.186	.184	79.37	80.0	.8
Hexachlorobenzene		.212	.210	79.20	80.0	1.0
Pentachlorophenol	*	.120	.134	80.35	80.0	-.4*
Phenanthrene		.991	.969	78.25	80.0	2.2
Anthracene		1.019	.999	78.44	80.0	1.9
Carbazole		.976	.980	80.31	80.0	-.4
Di-n-butylphthalate		1.487	1.507	81.11	80.0	-1.4
Fluoranthene	*	1.004	1.013	80.69	80.0	-.9*
Benzidine		.855	.830	310.87	320.0	2.9
Pyrene		1.204	1.132	75.19	80.0	6.0
Butylbenzylphthalate		.758	.734	77.45	80.0	3.2
3,3'-Dichlorobenzidine		.494	.516	83.57	80.0	-4.5
Benzo(a)anthracene		1.118	1.068	76.41	80.0	4.5
bis(2-Ethylhexyl)phthalate		1.057	1.031	78.07	80.0	2.4
Chrysene		1.004	.978	77.90	80.0	2.6
Di-n-octylphthalate	*	2.165	2.216	81.90	80.0	-2.4*
7,12-Dimethylbenz[a]anthrace		.578	.599	82.83	80.0	-3.5
Benzo(b)fluoranthene		1.405	1.422	80.96	80.0	-1.2
Benzo(k)fluoranthene		1.242	1.267	81.60	80.0	-2.0
Benzo(a)pyrene	*	1.180	1.193	80.87	80.0	-1.1*

(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: HP06777 Calibration Date: 10/22/98 Time: 20:25

Lab File ID: >GJ431 Init. Calib. Date(s): 10/20/98 10/21/98

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	1.115	1.166	83.73	80.0	-4.7
Dibenz(a,h)anthracene	1.097	1.146	83.57	80.0	-4.5
Benzo(g,h,i)perylene	1.131	1.176	83.16	80.0	-4.0
2-Fluorophenol	1.542	1.567	81.26	80.0	-1.6
Phenol-d5	1.985	2.011	81.05	80.0	-1.3
Phenol-d6	1.985	2.011	81.05	80.0	-1.3
Nitrobenzene-d5	.480	.498	82.91	80.0	-3.6
2-Fluorobiphenyl	1.257	1.254	79.79	80.0	.3
2,4,6-Tribromophenol	.173	.184	84.98	80.0	-6.2
Terphenyl-d14	.860	.808	75.17	80.0	6.0

(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): >GJ431 Date Analyzed: 10/22/98

Instrument ID: HP06777 Time Analyzed: 20:25

		IS1(DCB) AREA #	RT	IS2(NPT) AREA #	RT	IS3(ANT) AREA #	RT
	12 HOUR STD	175826	11.64	643706	15.34	315375	20.66
	UPPER LIMIT	351652		1287412		630750	
	LOWER LIMIT	87913		321853		157688	
	EPA SAMPLE NO.						
01	W09--DL	140711	11.63	529135	15.32	259064	20.64
02	W19--DL	142671	11.64	533266	15.33	262660	20.65
03	SBLKLA2937	145309	11.64	534648	15.32	261649	20.64
04	293LALCS7	137904	11.64	514319	15.33	247980	20.65
05	BOTFT	143111	11.63	527431	15.32	255327	20.64
06	BOTFTMS	138905	11.63	521559	15.32	245540	20.65
07	BOTFTMSD	147574	11.63	546496	15.32	259307	20.65
08	NSWFT	146106	11.63	542497	15.31	262680	20.64
09	WSWFT	142388	11.63	530082	15.32	257870	20.64
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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): >GJ431 Date Analyzed: 10/22/98

Instrument ID: HP06777 Time Analyzed: 20:25

		IS4(PHN) AREA	#	RT	IS5(CRY) AREA	#	RT	IS6(PRY) AREA	#	RT
	12 HOUR STD	516639		25.20	486930		31.89	370989		36.15
	UPPER LIMIT	1033278			973860			741978		
	LOWER LIMIT	258320			243465			185495		
	EPA SAMPLE NO.									
01	W09--DL	429512		25.19	359929		31.87	315441		36.12
02	W19--DL	432352		25.20	357597		31.87	311912		36.12
03	SBLKLA2937	429754		25.19	353580		31.87	294568		36.14
04	293LALCS7	396424		25.20	365383		31.88	284962		36.13
05	BOTFT	417954		25.19	347630		31.87	296962		36.12
06	BOTFTMS	391932		25.19	365152		31.88	288277		36.12
07	BOTFTMSD	418241		25.19	386257		31.88	306132		36.13
08	NSWFT	430090		25.19	359449		31.86	310333		36.11
09	WSWFT	419375		25.19	349027		31.87	296175		36.12
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.

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA2937

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA293

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GJ368 ✓

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 10/20/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 10/21/98 ✓

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
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
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
88-74-4	2-Nitroaniline		2	U
131-11-3	Dimethylphthalate		2	U
606-20-2	2,6-Dinitrotoluene		2	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA2937

Lab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA293

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GJ368

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 10/20/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 10/21/98

GPC Cleanup: (Y/N) N pH: _____. Dilution Factor: 1:0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	✓	Q
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
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
117-84-0	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

(1) - Cannot be separated from Diphenylamine

1C(CONT.)

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SBLKWA2937

ab Name: LANCASTER LABS Contract: _____.

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

Matrix: (soil/water) WATER Lab Sample ID: SBLKWA293

Sample wt/vol: 1000.0 (g/mL) ML Lab File ID: >GJ368

Level: (low/med) LOW Date Received:

% Moisture: not dec. _____. dec. _____. Date Extracted: 10/20/98

Extraction: (SepF/Cont/Sonc/Sox) SEPF Date Analyzed: 10/21/98

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	MDL UG/L	Q
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.

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: R. Beery

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	>GJ36Z::G2	DFTPP	50NG/UL	10/20/98	19:57		1.0	MR
1	>GJ361::G2	SSTD080	STD2928	10/20/98	20:23		1.0	
2	>GJ362::G2	SSTD160	STD2928	10/20/98	21:26		1.0	
3	>GJ363::G2	SSTD120	STD2928	10/20/98	22:24		1.0	
4	>GJ364::G2	SSTD001	STD2928	10/20/98	23:21		1.0	
5	>GJ365::G2	SSTD005	STD2928	10/21/98	00:19		1.0	
6	>GJ366::G2	SSTD020	STD2928	10/21/98	01:16		1.0	
7	>GJ367::G2	SSTD050	STD2928	10/21/98	02:14		1.0	
8	>GJ368::G2	SBLKWA2937	SBLKWA293	10/21/98	03:12	98293WAA B	1.0	
9	>GJ369::G2	293WALCS7	293WALCS	10/21/98	04:10	98293WAA B	1.0	
10	>GJ370::G2	293WALCSD	293WALCSD	10/21/98	05:08	98293WAA B	1.0	
11	>GJ371::G2	W04--	3018871	10/21/98	06:05	98293WAA B	1.0	
1	>GJ380::G2	DFTPP	50NG/UL	10/21/98	13:21		1.0	

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: [signature]

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	>GJ380::G2	DFTPP	50NG/UL	10/21/98	13:21		1.0	1111
1	>GJ381::G2	SSTD080	STD2928	10/21/98	14:19		1.0	
8	>GJ388::G2	W04--MS	3018872	10/21/98	15:37	98293WAA B	1.0	
9	>GJ389::G2	W04--MSD	3018873	10/21/98	16:34	98293WAA B	1.0	
10	>GJ390::G2	G--21RE	3016624RE	10/21/98	17:32	98293WAA B	1.0	
11	>GJ391::G2	GSB12RE	3017200RE	10/21/98	18:29	98293WAA B	1.0	
12	>GJ392::G2	GSB15RE	3017203RE	10/21/98	19:27	98293WAA B	1.0	
13	>GJ393::G2	GSB16RE	3017205RE	10/21/98	20:26	98293WAA B	1.0	
1	>GJ400::G2	DFTPP	50NG/UL	10/21/98	22:03		1.0	

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PMC *** Shift #2 Analyst: [signature]

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	>GJ400::G2	DFTPP	50NG/UL	10/21/98	22:03		1.0	MK
1	>GJ401::G2	SSTD080	STD2928	10/21/98	22:27		1.0	
1	>GJ402::G2	W03--	3018865	10/21/98	23:31	98293WAA B	1.0	
2	>GJ403::G2	W01--	3018866	10/22/98	00:29	98293WAA B	1.0	
3	>GJ404::G2	W05--	3018867	10/22/98	01:26	98293WAA B	1.0	
4	>GJ405::G2	W09--	3018868	10/22/98	02:24	98293WAA B	1.0	
5	>GJ406::G2	W19--	3018869	10/22/98	03:21	98293WAA B	1.0	
6	>GJ407::G2	W08--	3018870	10/22/98	04:19	98293WAA B	1.0	
7	>GJ408::G2	W12--	3018874	10/22/98	05:16	98293WAA B	1.0	
8	>GJ409::G2	W10--	3018875	10/22/98	06:14	98293WAA B	1.0	
9	>GJ410::G2	W06--	3018876	10/22/98	07:11	98293WAA B	1.0	
10	>GJ411::G2	W07--	3018877	10/22/98	08:09	98293WAA B	1.0	
11	>GJ412::G2	W13--	3018878	10/22/98	09:06	98293WAA B	1.0	
1	>GJ420::G2	DFTPP	50NG/UL	10/22/98	10:55		1.0	

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PKE *** Shift #2 Analyst: KEB

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
1	>GJ420::G2	DFTPP	50NG/UL	10/22/98	10:55		1.0	
1	>GJ421::G2	SSTD080	STD2928	10/22/98	11:33		1.0	
2	>GJ422::G2	W09--DL	3018868DL	10/22/98	12:38	98293WAA BL	10.0	
3	>GJ423::G2	W19--DL	3018869DL	10/22/98	13:36	98293WAA B	10.0	
4	>GJ424::G2	W06--DL	3018876DL	10/22/98	14:35	98293WAA BL	10.0	
5	>GJ425::G2	W23--	3018879	10/22/98	15:32	98293WAA B	1.0	
6	>GJ426::G2	RB1--	3018881	10/22/98	16:30	98293WAA B	1.0	
7	>GJ427::G2	W11--	3018882	10/22/98	17:28	98293WAA B	1.0	
8	>GJ428::G2	SCLAO	3019055	10/22/98	18:25	98293WAA B	1.0	
1	>GJ430::G2	DFTPP	50NG/UL	10/22/98	20:00		1.0	

Lancaster Laboratories, Inc.
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP06777 **HP #07**

*** Shift #1 Analyst: PRE *** Shift #2 Analyst: R. Bailey

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	>GJ430::G2	DFTPP	50NG/UL	10/22/98	20:00		1.0	MR
1	>GJ431::G2	SSTD080	STD2928	10/22/98	20:25		1.0	"
2	>GJ432::G2	W09--DL	3018868DL	10/22/98	21:23	98293WAA B	20.0	(NU)
3	>GJ433::G2	W19--DL	3018869DL	10/22/98	22:20	98293WAA B	30.0	NU)
2	>GJ43A::G2	W09--DL	3018868DL	10/22/98	23:18	98293WAA B	20.0	MR
3	>GJ43B::G2	W19--DL	3018869DL	10/23/98	00:16	98293WAA B	30.0	MR
4	>GJ434::G2	SBLKLA2937	SBLKLA293	10/23/98	01:13	98293SLA B	1.0	
5	>GJ435::G2	293LALCS7	293LALCS	10/23/98	02:11	98293SLA B	1.0	
6	>GJ436::G2	BOTFT	3017029	10/23/98	03:07	98293SLA B	1.0	
7	>GJ437::G2	BOTFTMS	3017029	10/23/98	04:03	98293SLA B	1.0	
8	>GJ438::G2	BOTFTMSD	3017029	10/23/98	04:59	98293SLA B	1.0	
9	>GJ439::G2	NSWFT	3017030	10/23/98	05:55	98293SLA B	1.0	
10	>GJ440::G2	WSWFT	3017031	10/23/98	06:52	98293SLA B	1.0	
1	>GJ450::G2	DFTPP	50NG/UL	10/23/98	08:42		1.0	

Organic Extraction Batchlog

Prep Analysis # 00813 BNA Water Extraction

Prep Group # 603 TC8 Water Dept: 26

Reviewed:

Start Date: 10/20/98

Start Time: 8:30

Tech 1: JSB

Tech 2: MH TSO

BATCH NO. 98293WAA026

QC	Sample Code	Amt (ml)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANK6	PBLK6O	1000	~~SS98279B~~	1.0	-	-	1.0	7.11	4.2	
LCS6	LCS2Z	1000	~~SS98279BY~~		MS98274A	1.0				
LCSD6	LCSDBL	1000	~~SS98279BY~~		MS98274A					
3018872MS	W04-MS	1000	~~SS98279BY~~		MS98274A					
3018873MSD	W04-MSD	1000	~~SS98279BY~~		MS98274A					

SS98279B: 10/20/98

	Sample #		Sample Code	Amt (ml)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	3016624	R	G-21	764	~~SS98279B~~	1.0	1.0	7.11	4.2	brown, very muddy	4678 4679 cent, 5x's	10/19/98	S
2	3017200	R	GSB12	1008	~~SS98279B~~	1	1	1	1	light brown	4678 4679 cent, 4x's	10/20/98	S
3	3017203	R	GSB15	961	~~SS98279B~~	1	1	1	1	light brown, muddy	4678 4679 cent, 6x's	10/20/98	S
4	3017205	R	GSB16	975	~~SS98279B~~	1	1	1	1	brown very muddy	4678 4679 cent, 6x's	10/20/98	S
5	3018865		W03-	1021	~~SS98279B~~	1	1	1	1	cloudy	4678 4679 cent, 3x's	10/29/98	N
6	3018866		W01-	1015	~~SS98279B~~	1	1	1	1	brown, muddy	4678 4679 cent, 3x's	10/29/98	N
7	3018867		W05-	971	~~SS98279B~~	1	1	1	1	orange brown	4678 4679 cent, 3x's	10/29/98	N
8	3018868		W09-	996	~~SS98279B~~	1	1	1	1	orange brown	4678 4679 cent, 3x's	10/29/98	N
9	3018869		W19-	935	~~SS98279B~~	1	1	1	1	light brown	4678 4679 cent, 4x's	10/29/98	N
10	3018870		W08-	971	~~SS98279B~~	1	1	1	1	brown, muddy	4678 4679 cent, 3x's	10/29/98	N
11	3018871	bkg	W04-	1000	~~SS98279B~~	1	1	1	1	cloudy	4678 4679 cent, 3x's	10/29/98	N
12	3018874		W12-	1003	~~SS98279B~~	1	1	1	1	cloudy	4678 4679 cent, 1x	10/29/98	N
13	3018875		W10-	1011	~~SS98279B~~	1	1	1	1	light brown	4678 4679 cent, 3x's	10/29/98	N
14	3018876		W06-	985	~~SS98279B~~	1	1	1	1	brown, muddy	4678 4679 cent, 3x's	10/29/98	N
15	3018877		W07-	1001	~~SS98279B~~	1	1	1	1	brown, muddy	4678 4679 cent, 3x's	10/29/98	N
16	3018878		W13-	997	~~SS98279B~~	1	1	1	1	brown	4678 4679 cent, 3x's	10/29/98	N
17	3018879		W23-	963	~~SS98279B~~	1	1	1	1	brown	4678 4679 cent, 3x's	10/29/98	N
18	3018881		RB1-	1019	~~SS98279B~~	1	1	1	1		4678 4679	10/29/98	N
19	3018882		W11-	1020	~~SS98279B~~	1	1	1	1		4678 4679	10/29/98	N
20	3019055		SCLAO	1027	~~SS98279B~~	1	1	1	1		4678 4679	10/29/98	N

Additional Comment:

DF = Dilution Factor FV = Final Volume

Spike Solutions:

SS98279B ~~SS98279B~~ BNA SURROGATE STANDARD SS98235A

MS98274A LCS SPIKE (100)

Solvent Used	Lot No.	Solvent Used	Lot No.
MeCl2	M202107	H2SO4	M210278
NaOH	30010995D	-	-
Na2SO4	9154784	-	-
Internal Standar	-	Balance #	8
S-Evap/bath	80 °C	S-Evap/bath	- °C
N-Evap	-	N-Evap	- °C

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column(1): SUPELCO ID: 250 (mm) GC Column(2): SUPELCO ID: 250 (mm)

all circled J/uJ (except for compound reported from diluted reanalysis)

	SAMPLE	SAMPLE CODE NO.	NBNZ 1 %REC #	NBNZ 2 %REC #	TPNL 1 %REC #	TPNL 2 %REC #	TOT OUT
01	3018881	RB1--	83	0 *	72	68	1
02	3018866	W01--	89	0 *	(58) *	78	2
03	3018867	W05--	85	0 *	(50) *	50 *	3
04	3018876	W06--	85	0 *D	(47) *D	69	0
05	3018877	W07--	89	0 *	(38) *	39 *	3
06	3018870	W08--	84	0 *	(44) *	43 *	3
07	3018868	W09--	86	0 *D	91	101	0
08	3018875	W10--	86	0 *	71	78	1
09	3018882	W11--	91	0 *	71	0 *	2
10	3018874	W12--	83	0 *	65	62	1
11	3018878	W13--	84	0 *	(40) *	65	2
12	3018869	W19--	82	0 *D	76	104	0
13	3018879	W23--	82	0 *	(37) *	57 *	3

KG 11-24-98

Detector not used to quantitate surrogates

	ADVISORY QC LIMITS	NOMINAL CONCENTRATION	
NBNZ = Nitrobenzene	(22-131)	252	ug/L
TPNL = Triphenylene	(60-120)	2.58	ug/L

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column(1): SUPELCO ID: 250 (mm) GC Column(2): SUPELCO ID: 250 (mm)

	SAMPLE	SAMPLE CODE NO.	NBNZ 1 %REC #	NBNZ 2 %REC #	TPNL 1 %REC #	TPNL 2 %REC #	TOT OUT
01	LCSA	LCS1O	88	0 *	76 ✓	71	1
02	BLANKA	PBLK5G	92 ✓	0 *	78	75	1
03	3018865	W03--	82 ✓	0 *	71	64	1
04	3018871	W04--	86	0 *	74 ✓	59 *	2
05	3018872 MS	W04--MS	85	0 *	73 ✓	66	1
06	3018873 MSD	W04--MSD	86 ✓	0 *	73	58 *	2

detector not used to quantitate surrogates

	ADVISORY QC LIMITS	NOMINAL CONCENTRATION	
NBNZ = Nitrobenzene	(22-131)	252	ug/L
TPNL = Triphenylene	(60-120)	2.58	ug/L

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column(1): SUPELCO ID: 250 (mm) GC Column(2): SUPELCO ID: 250 (mm)

not used for qualification since diluted out

	SAMPLE	SAMPLE CODE NO.	NBNZ 1 %REC #	NBNZ 2 %REC #	TPNL 1 %REC #	TPNL 2 %REC #	TOT OUT
01	3018876	W06--DL	~~66 0 D~~	0 D	6 D	134 D	0
02	3018868	W09--DL	~~71 0 D~~	0 D	85	0 D	0
03	3018869	W19--DL	~~60 0 D~~	0 D	63	245 D	0

KG 11-24-98

Detector not used to quantitate surrogates

	ADVISORY QC LIMITS	NOMINAL CONCENTRATION	
NBNZ = Nitrobenzene	(22-131)	252	ug/L
TPNL = Triphenylene	(60-120)	2.58	ug/L

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogate diluted out

==========PAH's by EPA 8310==========

Sample Name: 3018876 DF20 ABW06-- T 982890010A
Instrument ~~ID: CP09 P1562A~~ Injected on: Oct 29, 1998 11:48:31
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 989 Dilution Factor: 40
Raw File: C:\CP\DATA1\2C9P296.38R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: DBO

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.91	56	522	0.166	0.0000	
2	1.44	174	1782	0.214	0.0000	
3	1.86	223	2144	0.120	0.0000	
4	2.12	252	3119	0.097	0.0000	
5	2.41	298	3312	0.166	0.0000	
6	2.88	345	9295	0.397	0.0000	
7	3.25	966	14261	0.269	0.0000	
8	4.79	12851	139818	0.155	0.0000	Nitrobenzene
9	5.97	1291	13943	0.189	0.0000	
10	6.20	703	5205	0.115	0.0000	
11	6.36	630	5125	0.147	0.0000	
12	6.68	686	4027	0.109	0.0000	
13	6.80	510	3224	0.103	0.0000	
14	7.12	3058	15962	0.088	0.0000	
15	7.40	9635	104109	0.180	0.0000	
16	7.93	26981	169400	0.098	677.2924	Naphthalene
17	8.44	1059	10462	0.179	40.1424	Acenaphthylene
18	8.86	2108	13628	0.093	78.8534	1-methylnaphthalene
19	9.06	3188	19811	0.086	86.9001	2-Methylnaphthalene
20	9.24	438	2093	0.066	27.3065	Acenaphthene
21	9.37	3016	19237	0.089	15.5398	Fluorene
22	9.84	4573	32192	0.090	9.3131	Phenanthrene
23	10.29	696	4486	0.160	0.7005	Anthracene
24	10.70	73	355	0.078	0.5998	Fluoranthene
25	10.95	227	1434	0.100	2.2425	Pyrene
26	11.19	124	819	0.110	0.1664	Triphenylene
27	11.38	936	6059	0.085	0.0000	
28	11.62	270	1916	0.102	0.0000	
29	13.00	13336	100675	0.105	45.1424	Benzo(b)fluoranthene

$\frac{12851}{3.09\ mg/L} \times \frac{40\ ml}{989\ ml} = 168.21\ mg/L$

$\frac{168.21\ mg/L}{254.80\ mg/L} \times 100 = 66\%$

Lancaster Laboratories
Where quality is a science.

==========PAH's by EPA 8310==========

Sample Name: 3018868 DF50 ABW09-- T 982890010A
Instrument ID: CP09-P1562A Injected on: Oct 29, 1998 11:02:05
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 999 Dilution Factor: 100
Raw File: C:\CP\DATA1\2C9P296.36R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min: 100% at 8 min hold 6 min
Run Time: 16 min
Analyst: 080

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.92	40	421	0.210	0.0000	
2	1.44	195	2773	0.360	0.0000	
3	2.14	135	2753	0.315	0.0000	
4	2.73	1325	14349	0.159	0.0000	
5	3.49	58	931	0.352	0.0000	
6	4.80	5514	63311	0.158	0.0000	Nitrobenzene
7	5.88	490	3842	0.129	0.0000	
8	6.20	331	4908	0.254	0.0000	
9	6.44	131	716	0.079	0.0000	
10	6.69	695	3998	0.098	0.0000	
11	6.81	328	7604	0.165	0.0000	
12	7.11	6436	34520	0.086	0.0000	
13	7.34	3202	23387	0.116	0.0000	
14	7.50	1383	8021	0.100	0.0000	
15	7.90	32857	220043	0.096	2204.7354	Naphthalene
16	8.43	2166	22991	0.164	203.2086	Acenaphthylene
17	8.54	2243	16547	0.104	0.0000	
18	8.79	6551	42877	0.093	606.5166	1-methylnaphthalene
19	9.00	8738	56018	0.086	592.9272	2-methylnaphthalene
20	9.19	1599	8503	0.080	245.2274	Acenaphthene
21	9.32	7303	48777	0.087	93.1243	Fluorene
22	9.79	9640	70107	0.089	49.5961	Phenanthrene
23	10.23	1704	12112	0.103	4.2488	Anthracene
24	10.44	254	1380	0.091	0.0000	
25	10.64	286	1762	0.109	5.8432	Fluoranthene
26	10.87	326	1652	0.081	0.0000	
27	11.03	177	1131	0.108	4.3266	Pyrene
28	11.32	662	3701	0.086	2.2034	Triphenylene
29	12.19	71	400	0.102	0.4009	Chrysene
30	12.94	257	2081	0.114	2.1510	Benzo(b)fluoranthene

$\frac{5514}{3.09 mg/L} \times \frac{100 mL}{999 mL} = 178.62 mg/L$

$\frac{178.62 mg/L}{252.25 mg/L} \times 100 = 71\%$

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==========PAH's by EPA 8310==========

Sample Name: 3018869 0F50 ABW19-- T 982890010A
Instrument ID: ~~CP09--P1562A~~ Injected on: Oct 29, 1998 11:25:15
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 1003 Dilution Factor: 100
Raw File: C:\CP\DATA1\2C9P296.37R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: 080

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.89	45	414	0.220	0.0000	
2	1.44	155	1586	0.329	0.0000	
3	2.73	1082	10935	0.158	0.0000	
4	3.46	59	1285	0.552	0.0000	
5	4.79	4714	54043	0.157	0.0000	
6	5.88	403	3106	0.132	0.0000	
7	6.19	290	4386	0.264	0.0000	
8	6.45	102	540	0.078	0.0000	
9	6.69	609	3789	0.107	0.0000	
10	6.83	671	6056	0.155	0.0000	
11	7.11	5405	29442	0.097	0.0000	
12	7.34	2626	19726	0.118	0.0000	
13	7.50	1110	6503	0.099	0.0000	
14	7.92	27145	184323	0.098	1814.1737	Napnthalene
15	8.45	1763	19118	0.139	164.7133	Acenaphthylene
16	8.56	1827	13119	0.102	0.0000	
17	8.82	5437	35753	0.093	301.3664	1-methylnaphthalene
18	9.03	7325	46563	0.087	492.1152	2-methylnaphthalene
19	9.22	1291	6645	0.077	196.8463	Acenaphthene
20	9.35	6190	40940	0.088	77.7231	Fluorene
21	9.82	8209	57006	0.089	41.2089	Phenanthrene
22	10.26	1277	8059	0.102	3.1696	Anthracene
23	10.67	195	1189	0.105	3.9649	Fluoranthene
24	10.90	262	1310	0.084	0.0000	
25	11.06	76	718	0.068	1.6503	Pyrene
26	11.35	487	2717	0.085	1.6145	Triphenylene
27	12.22	50	321	0.115	0.2803	Chrysene
28	12.97	105	737	0.118	0.8730	Benzo(b)fluoranthene

Nitrobenzene

$\frac{4714}{3.09\ mg/L} \times \frac{100\ mL}{1003\ mL} = 152.10\ mg/L$

$\frac{152.10\ mg/L}{251.25\ mg/L} \times 100 = 60\%$

3E
WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Matrix Spike - Sample Code No.: W04--

Compound	Spike Added (ug/L)	Sample Concen (ug/L)	MS Concen (ug/L)	MSD Concen (ug/L)	MS % REC#	MSD % REC#	MS-MSD % REC Limits	% RPD #	% RPD LIM
Naphthalene	200	0	172	167	86	84	(37-120)	3	30
Acenaphthylene	200	0	183	176	92	88	(41-135)	4	30
Acenaphthene	200	0	183	177	92	89	(38-135)	3	30
Fluorene	20.0	0	19.1	18.4	96	92	(41-140)	4	30
Phenanthrene	6.01	0	5.58	5.37	93	90	(48-152)	4	30
Anthracene	3.00	0.0307	2.43	2.34	80	77	(42-143)	4	30
Fluoranthene	3.01	0	2.86	2.76	95	93	(48-155)	4	30
Pyrene	20.1	10.4	19.8	19.2	47*	44*	(51-146)	3	30
Benzo(a)anthracen	1.50	0	1.41	1.35	94	91	(52-146)	4	30
Chrysene	6.01	0.0630	5.89	5.59	97	93	(56-145)	5	30
Benzo(b)fluoranth	1.20	0	1.17	1.12	98	94	(59-141)	4	30
Benzo(k)fluoranth	1.20	0	1.13	1.10	94	92	(60-137)	3	30
Benzo(a)pyrene	1.50	0	1.47	1.41	98	95	(42-158)	4	30
Dibenzo(a,h)anthr	3.01	0	2.88	2.79	96	94	(49-142)	3	30
Benzo(g,h,i)peryl	12.0	0	12.5	11.9	104	100	(46-148)	5	30
Indeno(1,2,3-cd)p	6.01	0	6.23	5.98	104	100	(64-134)	4	30

~~J/UJ~~ KG 11-24-98
J pyrene, this sample only

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 16 outside limits

Spike Recovery: 2 out of 32 outside limits

COMMENTS:

Sample No.: 3018871 Batch: 982890010A

3E

WATER PESTICIDE LAB CONTROL SPIKE/LAB CONTROL SPIKE DUPLICATE

ab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Lab Control Spike - Sample Code No.: LCS10

Compound	Spike Added (ug/L)	LCS Concen (ug/L)	LCSD Concen (ug/L)	LCS % REC#	LCSD % REC#	LCS-LCSD % REC Limits	% RPD #	% RPD LIM
Naphthalene	201	164		82		(37-120)		30
Acenaphthylene	200	175		87		(41-135)		30
Acenaphthene	200	173		86		(38-135)		30
Fluorene	20.0	18.5		92		(41-140)		30
Phenanthrene	6.03	5.55		92		(48-152)		30
Anthracene	3.01	2.39		79		(42-143)		30
Fluoranthene	3.01	2.85		95		(48-155)		30
Pyrene	20.1	19.8		99		(51-146)		30
Benzo(a)anthracen	1.50	1.42		94		(52-146)		30
Chrysene	6.02	5.92		98		(56-145)		30
Benzo(b)fluoranth	1.21	1.18		98		(59-141)		30
Benzo(k)fluoranth	1.20	1.15		96		(60-137)		30
Benzo(a)pyrene	1.50	1.44		96		(42-158)		30
Dibenzo(a,h)anthr	3.01	2.89		96		(49-142)		30
Benzo(g,h,i)peryl	12.0	12.3		102		(46-148)		30
Indeno(1,2,3-cd)p	6.02	6.22		103		(64-134)		30

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 16 outside limits

Spike Recovery: 0 out of 32 outside limits

COMMENTS: _____

Sample No.: LCSA Batch: 982890010A

4C

PESTICIDE METHOD BLANK SUMMARY

SAMPLE CODE NO.: PBLK5G

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Lab Sample ID: BLANKA Lab File ID:

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 10/17/98

Date Analyzed (1): 10/25/98 Date Analyzed (2): 10/25/98

Time Analyzed (1): 0:56 Time Analyzed (2): 0:56

Instrument ID (1): P1562A Instrument ID (2): P1562B

GC Column (1): SUPELCO L ID: 250 (mm) GC Column (2): SUPELCO L ID: 250 (mm)

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

	SAMPLE CODE NO.	LAB SAMPLEID	DATE ANALYZED 1	DATE ANALYZED 2
01	LCS1O	LCSA	10/25/98	10/25/98
02	PBLK5G	BLANKA	10/25/98	10/25/98
03	RB1--	3018881	10/23/98	10/23/98
04	W01--	3018866	10/23/98	10/23/98
05	W03--	3018865	10/25/98	10/25/98
06	W04--	3018871	10/25/98	10/25/98
07	W04--MS	3018872	10/25/98	10/25/98
08	W04--MSD	3018873	10/25/98	10/25/98
09	W05--	3018867	10/23/98	10/23/98
10	W06--	3018876	10/23/98	10/23/98
11	W06--DL	3018876	10/29/98	10/29/98
12	W07--	3018877	10/23/98	10/23/98
13	W08--	3018870	10/23/98	10/23/98
14	W09--	3018868	10/23/98	10/23/98
15	W09--DL	3018868	10/29/98	10/29/98
16	W10--	3018875	10/23/98	10/23/98
17	W11--	3018882	10/23/98	10/23/98
18	W12--	3018874	10/23/98	10/23/98
19	W13--	3018878	10/23/98	10/23/98
20	W19--	3018869	10/23/98	10/23/98
21	W19--DL	3018869	10/29/98	10/29/98
22	W23--	3018879	10/23/98	10/23/98

COMMENTS: _____

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Instrument: P1562A ✓ Calibration File: 1C9P293

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/20/98 10/20/98

COMPOUND	RT OF STANDARDS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MIDPOINT RT	RT WINDOW FROM	TO
Naphthalene	7.90	7.91	7.92	7.90	7.89	7.92	7.82	8.02
Acenaphthylene	8.40	8.41	8.42	8.40	8.39	8.42	8.32	8.52
~~Fluorene~~ Acenapthene	9.08	9.10	9.11	9.08	9.07	9.11 ~~9.23~~	9.01 ~~9.13~~	9.21 ~~9.33~~
Phenanthrene	9.64	9.65	9.66	9.64	9.62	9.66	9.55	9.77
Anthracene	10.06	10.07	10.08	10.05	10.04	10.08	9.97	10.19
Fluoranthene	10.44	10.46	10.46	10.43	10.42	10.46	10.36	10.56
Pyrene	10.81	10.83	10.83	10.80	10.79	10.83	10.73	10.93
Benzo(a)anthracene	11.62	11.64	11.63	11.61	11.60	11.63	11.43	11.83
Chrysene	11.91	11.92	11.92	11.89	11.89	11.92	11.72	12.12
Benzo(b)fluoranthene	12.72	12.73	12.72	12.70	12.70	12.72	12.52	12.92
Benzo(k)fluoranthene	13.22	13.23	13.21	13.20	13.20	13.21	13.01	13.41
Benzo(a)pyrene	13.97	13.97	13.96	13.94	13.94	13.96	13.76	14.16
Dibenzo(a,h)anthracene	14.56	14.57	14.55	14.54	14.54	14.55	14.35	14.75
Benzo(g,h,i)perylene	15.74	15.75	15.73	15.71	15.71	15.73	15.53	15.93
Indeno(1,2,3-cd)pyrene	16.12	16.12	16.10	16.09	16.09	16.10	15.90	16.30
Nitrobenzene	4.96	4.95	4.95	4.95	4.94	4.95	4.80	5.10
Triphenylene	11.09	11.11	11.11	11.08	11.07	11.11	11.01	11.21
Fluorene	9.20	9.22	9.23	9.20	9.19	9.23	9.13	9.33

==========PAH's by EPA 8310==========

Sample Name: PAHX198A AAPAHX1AA ICAL 9829199999
Instrument ID: CP09--P1562A Injected on: Oct 20, 1998 12:08:13
Volume Inj.(ul): 20 HPLC Column: Supelco PAH 25Cm x 4.6mm, 5 um
Sample Amount: 1 Dilution Factor: 1
Raw File: C:\CP\DATA1\1C9P293.02R

HPLC Conditions: Ambient Temperature
Flow Conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run time: 18 min
Analyst: 080

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ug/ml	Peak Name
1	1.45	146	704	0.075	0.0000	
2	1.72	62	800	0.299	0.0000	
3	3.74	439	5196	0.175	0.0000	
4	4.96	12438	98347	0.113	4156.1504	Nitrobenzene
5	5.44	60	733	0.266	0.0000	
6	7.90	6076	39073	0.094	4172.0718	Naphthalene
7	8.40	4321	28074	0.093	4140.0107	Acenaphthylene
8	8.73	1114	6745	0.092	1063.8159	1-Methylnaphthalene
9	8.90	1517	9311	0.078	1046.4237	2-Methylnaphthalene
10	9.08	2668	14285	0.088	344.3479	~~Fluorene~~ Acenapthene
11	9.20	3178	19463	0.097	0.0000	Fluorene
12	9.64	3209	19373	0.086	163.1077	Phenanthrene
13	10.06	3339	19673	0.084	81.6535	Anthracene
14	10.44	386	2139	0.087	78.3484	Fluoranthene
15	10.81	1654	10469	0.088	399.1196	Pyrene
16	11.09	6161	38057	0.083	202.3341	Triphenylene
17	11.62	531	3877	0.084	43.7922	Benzo(a)anthracene
18	11.91	2907	19586	0.086	164.0458	Chrysene
19	12.72	428	4033	0.107	37.8161	Benzo(b)fluoranthene
20	13.22	239	1786	0.109	31.2796	Benzo(k)fluoranthene
21	13.97	279	2300	0.122	35.1914	Benzo(a)pyrene
22	14.56	143	1272	0.138	78.3551	Dibenzo(a,h)anthrace
23	15.74	485	5295	0.159	204.2409	Benzo(g,h,i)perylene
24	16.12	908	10799	0.166	153.0925	Indeno(1,2,3-cd)pyre

FILES:
Area file: C:\CP\DATA1\1C9P293.02A
Method file: C:\CP\DATA1\PNA.MET
Calibration File: C:\CP\DATA1\1C9P293.CAL

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Instrument: P1562A Calibration File: 1C9P293

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/20/98 10/20/98

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
Naphthalene	1.51E+00	1.48E+00	1.50E+00	1.46E+00	1.43E+00	1.48E+00	2.3
Acenaphthylene	1.08E+00	1.05E+00	1.06E+00	1.04E+00	1.02E+00	1.05E+00	2.0
Acenaphthene	6.65E-01	6.43E-01	6.44E-01	6.27E-01	6.17E-01	6.39E-01	2.9
Fluorene	7.93E+00	7.77E+00	7.89E+00	7.77E+00	7.69E+00	7.81E+00	1.2
Phenanthrene	2.01E+01	1.96E+01	1.96E+01	1.95E+01	1.91E+01	1.96E+01	1.8
Anthracene	4.17E+01	4.08E+01	4.03E+01	3.90E+01	3.63E+01	3.96E+01	5.3
Fluoranthene	4.82E+00	4.79E+00	4.83E+00	4.86E+00	4.82E+00	4.82E+00	0.6
Pyrene	4.12E+00	4.04E+00	4.11E+00	4.05E+00	4.03E+00	4.07E+00	1.0
Benzo(a)anthracene	1.33E+01	1.18E+01	1.19E+01	1.18E+01	1.18E+01	1.21E+01	5.5
Chrysene	1.81E+01	1.75E+01	1.77E+01	1.76E+01	1.73E+01	1.76E+01	1.5
Benzo(b)fluoranthene	1.34E+01	1.18E+01	1.20E+01	1.15E+01	1.13E+01	1.20E+01	6.6
Benzo(k)fluoranthene	7.47E+00	7.22E+00	7.35E+00	7.36E+00	7.40E+00	7.36E+00	1.2
Benzo(a)pyrene	6.97E+00	6.85E+00	6.89E+00	6.83E+00	6.86E+00	6.88E+00	0.8
Dibenzo(a,h)anthracene	1.79E+00	1.79E+00	1.82E+00	1.83E+00	1.83E+00	1.81E+00	1.2
Benzo(g,h,i)perylene	2.01E+00	2.08E+00	2.16E+00	2.20E+00	2.26E+00	2.14E+00	4.6
Indeno(1,2,3-cd)pyrene	5.64E+00	5.66E+00	5.83E+00	5.89E+00	5.87E+00	5.78E+00	2.0
Nitrobenzene	3.03E+00	2.99E+00	3.06E+00	3.07E+00	2.86E+00	3.00E+00	2.8
Triphenylene	3.06E+01	3.01E+01	3.04E+01	3.01E+01	2.89E+01	3.00E+01	2.2

Average % RSD: 2.5

7E
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/20/98 10/20/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98

Lab File ID: 2C9P293.79R Time Analyzed: 3:01

Lab Standard ID: PAHX3NX

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	5.04	4.80	5.10	27888.60	25670.70	8.6
Naphthalene	7.91	7.82	8.02	41727.70	40160.00	3.9
Acenaphthylene	8.41	8.32	8.52	41956.67	40100.00	4.6
1-methylnaphthalene	8.73	8.65	8.85	10606.06	10188.08	4.1
2-methylnaphthalene	8.91	8.83	9.03	10524.59	10157.40	3.6
Acenaphthene	9.09	9.01	9.21	41578.35	40100.00	3.7
Fluorene	9.21	9.13	9.33	4128.39	4010.00	3.0
Phenanthrene	9.65	9.55	9.77	1658.53	1607.20	3.2
Anthracene	10.07	9.97	10.19	850.78	802.40	6.0
~~Fluoranthene~~	~~10.46~~	~~10.36~~	~~10.56~~	~~823.92~~	~~803.20~~	~~2.6~~
~~Pyrene~~	~~10.83~~	~~10.73~~	~~10.93~~	~~4113.64~~	~~4010.00~~	~~2.6~~
Triphenylene	11.11	11.01	11.21	2560.85	2507.40	2.1
~~Benzo(a)anthracene~~	~~11.66~~	~~11.43~~	~~11.83~~	~~397.49~~	~~400.80~~	~~-0.8~~
Chrysene	11.95	11.72	12.12	1617.09	1606.40	0.7
Benzo(b)fluoranthene	12.78	12.52	12.92	300.60	321.60	-6.5
Benzo(k)fluoranthene	13.29	13.01	13.41	324.85	320.80	1.3
Benzo(a)pyrene	14.05	13.76	14.16	409.02	400.80	2.1
Dibenzo(a,h)anthracene	14.66	14.35	14.75	795.38	803.20	-1.0
Benzo(g,h,i)perylene	15.85	15.53	15.93	2605.07	2410.00	8.1
~~Indeno(1,2,3-cd)pyrene~~	~~16.24~~	~~15.90~~	~~16.30~~	~~1636.74~~	~~1606.40~~	~~1.9~~

Average of %D: ~~3.5~~ 4.3

*ink 11/10/98 · * · BLK 11/10/98*

* Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/20/98 10/20/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98

Lab File ID: 2C9P293.89R Time Analyzed: 6:16

Lab Standard ID: PAHX3NY

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	5.04	4.80	5.10	29024.25	25670.70	13.1
Naphthalene	7.91	7.82	8.02	42158.89	40160.00	5.0
Acenaphthylene	8.42	8.32	8.52	42307.71	40100.00	5.5
1-methylnaphthalene	8.76	8.65	8.85	10724.90	10188.08	5.3
2-methylnaphthalene	8.94	8.83	9.03	10674.65	10157.40	5.1
Acenaphthene	9.13	9.01	9.21	42172.43	40100.00	5.2
Fluorene	9.25	9.13	9.33	4190.20	4010.00	4.5
Phenanthrene	9.70	9.55	9.77	1694.59	1607.20	5.4
Anthracene	10.13	9.97	10.19	867.70	802.40	8.1
~~Fluoranthene~~	~~10.52~~	~~10.36~~	~~10.56~~	~~844.53~~	~~803.20~~	~~5.1~~
~~Pyrene~~	~~10.90~~	~~10.73~~	~~10.93~~	~~4180.60~~	~~4010.00~~	~~4.3~~
Triphenylene	11.18	11.01	11.21	2602.89	2507.40	3.8
~~enzo(a)anthracene~~	~~11.73~~	~~11.43~~	~~11.83~~	~~400.95~~	~~400.80~~	~~0.0~~
Chrysene	12.03	11.72	12.12	1636.53	~~1606.40~~	1.9
Benzo(b)fluoranthene	12.85	12.52	12.92	304.28	321.60	-5.4
Benzo(k)fluoranthene	13.36	~~13.01~~	13.41	330.62	320.80	3.1
Benzo(a)pyrene	14.11	13.76	14.16	414.77	400.80	3.5
Dibenzo(a,h)anthracene	14.71	14.35	14.75	818.78	803.20	1.9
Benzo(g,h,i)perylene	15.90	15.53	15.93	2638.40	2410.00	9.5
~~Indeno(1,2,3-cd)pyrene~~	~~16.28~~	~~15.90~~	~~16.30~~	~~1651.06~~	~~1606.40~~	~~2.8~~

Average of %D: ~~4.9~~ 6.1

* ND with RT

ND with RT

Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A ✓ Init. Calib. Date(s): 10/20/98 ✓ 10/20/98 ✓

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98 ✓

Lab File ID: 2C9P293.94R ✓ Time Analyzed: 7:54 ✓

Lab Standard ID: PAHX3NZ

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	4.97	4.80	5.10	27657.90	25670.70	7.7
Naphthalene	7.89	7.82	8.02	42062.32	40160.00	4.7
Acenaphthylene	8.39	8.32	8.52	42003.43 ✓	40100.00	4.7
1-methylnaphthalene	8.72	8.65	8.85	10663.67	10188.08	4.7 ✓
2-methylnaphthalene	8.90	8.83	9.03	10593.76	10157.40	4.3
Acenaphthene	9.08	9.01	9.21	41752.45	40100.00	4.1
Fluorene	9.20	9.13	9.33	4124.33	4010.00	2.9
Phenanthrene	9.65	9.55	9.77	1661.84	1607.20	3.4 ✓
Anthracene	10.07	9.97	10.19	847.45 ✓	802.40	5.6
~~Fluoranthene~~	~~10.45~~	~~10.36~~	~~10.56~~	~~822.75~~	~~803.20~~	~~2.4~~
~~Pyrene~~	~~10.83~~	~~10.73~~	~~10.93~~	~~4089.63~~	~~4010.00~~	~~2.0~~
Triphenylene	11.11	11.01	11.21	2556.25	2507.40	1.9
~~nzo(a)anthracene~~	~~11.65~~	~~11.43~~	~~11.83~~	~~393.13~~	~~400.80~~	~~1.9~~
Chrysene	11.94	11.72	12.12	1615.52	~~1606.40~~	0.6
Benzo(b)fluoranthene	12.76	12.52	12.92	299.77	321.60	-6.8
Benzo(k)fluoranthene	13.26	~~13.01~~	13.41	326.28	320.80	1.7
Benzo(a)pyrene	14.01	13.76	14.16	410.29	400.80	2.4
Dibenzo(a,h)anthracene	14.62	14.35	14.75	813.43	803.20	1.3
Benzo(g,h,i)perylene	15.80	15.53	15.93	2631.08	2410.00	9.2
~~Indeno(1,2,3-cd)pyrene~~	~~16.18~~	~~15.90~~	~~16.30~~	~~1641.89~~	~~1606.40~~	~~2.2~~

Average of %D: ~~3.7~~ 4.4

~~2~~ MK 11/10/98

MK 11/10/98

* Alternate detector used for quantitation.

8D

PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/20/98 10/20/98

Instrument: P1562A Calibration File: 1C9P293

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 4.95 TPNL: 11.11

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT #	TPNL RT #
001	PAHX1AA	PAHX198A	10/20/98	12:08	4.96	11.09
002	PAHX2AA	PAHX298A	10/20/98	12:27	4.95	11.11
003	PAHX3AA	PAHX398A	10/20/98	12:47	4.95	11.11
004	PAHX4AA	PAHX498A	10/20/98	13:06	4.95	11.08
005	PAHX5AA	PAHX598A	10/20/98	13:26	4.94	11.07
006	MDPAXAA	MDPAX98F	10/20/98	13:46	4.93	11.12
007	PAHX3NX	PAHX398A	10/23/98	3:01	5.04	11.11
008	W01--	3018866	10/23/98	3:20	5.03	11.16
009	W05--	3018867	10/23/98	3:40	5.03	11.12
010	W09--	3018868	10/23/98	4:00	5.04	11.18
011	W19--	3018869	10/23/98	4:19	5.01	11.06
012	W08--	3018870	10/23/98	4:39	4.96	11.13
013	W12--	3018874	10/23/98	4:58	5.01	11.19
014	W10--	3018875	10/23/98	5:18	5.04	11.19
015	W06--	3018876	10/23/98	5:37	5.02	11.13
016	W07--	3018877	10/23/98	5:57	5.02	11.19
017	PAHX3NY	PAHX398A	10/23/98	6:16	5.04	11.18
018	W13--	3018878	10/23/98	6:36	5.06	11.12
019	W23--	3018879	10/23/98	6:55	5.03	11.18
020	RB1--	3018881	10/23/98	7:15	5.03	11.21
021	W11--	3018882	10/23/98	7:34	5.05	11.23*
022	PAHX3NZ	PAHX398A	10/23/98	7:54	4.97	11.11

QC LIMITS

NBNZ = Nitrobenzene (4.80 -5.10 MINUTES)

TPNL = Triphenylene (11.01 -11.21 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

==========PAH's by EPA 8310==========

Sample Name: 3018881 AARB1-- T 982890010A
Instrument ID: CP09--P1562A Injected on: Oct 23, 1998 07:15:20
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 990 Dilution Factor: 2
Raw File: C:\CP\DATA1\2C9P293.92R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: 448

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.86	513	2834	0.088	0.0000	
2	1.46	157	672	0.071	0.0000	
3	1.75	127	1509	0.327	0.0000	
4	3.83	411	5696	0.257	0.0000	
5	5.03	315657	2526309	0.112	212.4059	Nitrobenzene
6	5.65	1232	13627	0.174	0.0000	
7	6.31	72	666	0.152	0.0000	
8	7.34	51	289	0.124	0.0000	
9	7.50	86	568	0.095	0.0000	
10	7.71	83	474	0.093	0.0000	
11	8.72	77	704	0.178	0.1451	1-Methylnaphthalene
12	9.71	93	762	0.113	0.0096	Phenanthrene
13	10.05	182	1054	0.094	0.0093	Anthracene
14	10.77	330	1655	0.093	0.1636	Pyrene
15	11.21	27724	167565	0.084	0.0000	Triphenylene
16	12.69	56	646	0.196	0.0094	Benzo(b)fluoranthene

FILES:
Area file: C:\CP\DATA1\2C9P293.92A
Method file: C:\CP\DATA1\PNAW.MET
Calibration File: C:\CP\DATA1\1C9P293.CAL
Format File: C:\CP\DATA1\PAHW.FMT
Area file created on: 10/23/98 07:16:22
File reported on: 10-23-1998at 07:16:26

retention time not reported on Pesticide analytical sequence

%Nitrobenzene SSR = 83.39455
%Triphenylene SSR = ø 72

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Calibration File: 1C9P296

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/23/98 10/23/98

COMPOUND	RT OF STANDARDS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MIDPOINT RT	RT WINDOW FROM	TO
Nitrobenzene	5.04	5.00	4.99	5.00	4.99	4.99	4.84	5.14
Naphthalene	7.92	7.90	7.89	7.88	7.88	7.88	7.78	7.98
Acenaphthylene	8.44	8.41	8.40	8.39	8.39	8.39	8.29	8.49
1-methylnaphthalene	8.78	8.75	8.74	8.72	8.73	8.73	8.63	8.83
2-methylnaphthalene	8.96	8.93	8.92	8.90	8.91	8.91	8.81	9.01
Acenaphthene	9.15	9.12	9.11	9.09	9.10	9.10	9.00	9.20
Fluorene	9.27	9.24	9.23	9.21	9.22	9.22	9.12	9.32
Phenanthrene	9.72	9.70	9.69	9.67	9.67	9.67	9.56	9.78
Anthracene	10.15	10.13	10.12	10.10	10.10	10.10	9.99	10.21
Fluoranthene	10.53	10.52	10.51	10.49	10.49	10.49	10.39	10.59
Pyrene	10.92	10.90	10.89	10.87	10.87	10.87	10.77	10.97
Triphenylene	11.20	11.18	11.17	11.15	11.16	11.16	11.06	11.26
Benzo(a)anthracene	11.75	11.73	11.73	11.71	11.71	11.71	11.51	11.91
Chrysene	12.04	12.02	12.02	12.00	12.00	12.00	11.80	12.20
Benzo(b)fluoranthene	12.86	12.84	12.85	12.83	12.82	12.82	12.62	13.02
Benzo(k)fluoranthene	13.35	13.34	13.35	13.34	13.33	13.33	13.13	13.53
Benzo(a)pyrene	14.09	14.08	14.10	14.09	14.08	14.08	13.88	14.28
Dibenzo(a,h)anthracene	14.68	14.68	14.70	14.70	14.68	14.68	14.48	14.88
Benzo(g,h,i)perylene	15.86	15.86	15.88	15.88	15.86	15.86	15.66	16.06
Indeno(1,2,3-cd)pyrene	16.23	16.23	16.26	16.26	16.24	16.24	16.04	16.44

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

ab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A ✓ Calibration File: 1C9P296

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/23/98 ✓ 10/23/98 ✓

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
Nitrobenzene	3.16E+00	3.11E+00	3.07E+00	3.14E+00	2.96E+00	3.09E+00	2.5
Naphthalene	1.54E+00	1.52E+00	1.48E+00	1.46E+00	1.45E+00	1.49E+00	2.6
Acenaphthylene	1.10E+00	1.08E+00	1.06E+00	1.05E+00	1.05E+00	1.07E+00	2.2
1-methylnaphthalene	1.10E+00	1.09E+00	1.07E+00	1.08E+00	1.06E+00	1.08E+00	1.5
2-methylnaphthalene	1.53E+00	1.49E+00	1.47E+00	1.47E+00	1.46E+00	1.48E+00	1.8
Acenaphthene	6.79E-01	6.59E-01	6.42E-01	6.35E-01	6.29E-01	6.49E-01	3.1
Fluorene	8.05E+00	7.91E+00	7.75E+00	7.78E+00	7.77E+00	7.85E+00	1.6
Phenanthrene	2.04E+01	2.01E+01	1.95E+01	1.98E+01	1.95E+01	1.99E+01	2.1
Anthracene	4.27E+01	4.18E+01	4.00E+01	3.94E+01	3.69E+01	4.02E+01	5.7
~~Fluoranthene~~	~~4.92E+00~~	~~4.94E+00~~	~~4.78E+00~~	~~4.92E+00~~	~~4.91E+00~~	~~4.90E+00~~	~~1.3~~
~~Pyrene~~	~~4.20E+00~~	~~4.12E+00~~	~~4.01E+00~~	~~4.07E+00~~	~~4.06E+00~~	~~4.09E+00~~	~~1.8~~
Triphenylene	3.11E+01	3.05E+01	2.96E+01	3.01E+01	2.90E+01	3.01E+01	2.6
~~Benzo(a)anthracene~~	~~1.34E+01~~	~~1.20E+01~~	~~1.15E+01~~	~~1.18E+01~~	~~1.18E+01~~	~~1.21E+01~~	~~6.2~~
Chrysene	1.85E+01	1.78E+01	1.71E+01	1.76E+01	1.74E+01	~~1.77E+01~~	3.0
Benzo(b)fluoranthene	1.29E+01	1.19E+01	1.15E+01	~~1.17E+01~~	1.18E+01	1.19E+01	4.5
Benzo(k)fluoranthene	7.86E+00	7.39E+00	~~7.15E+00~~	7.43E+00	7.43E+00	7.45E+00	3.4
Benzo(a)pyrene	~~7.18E+00~~	~~6.89E+00~~	6.66E+00	6.93E+00	6.97E+00	6.93E+00	2.7
~~Dibenzo(a,h)anthracene~~	~~2.49E+00~~	1.84E+00	1.79E+00	1.84E+00	1.86E+00	1.96E+00	15.1
Benzo(g,h,i)perylene	2.20E+00	2.11E+00	2.09E+00	2.17E+00	2.22E+00	2.16E+00	2.6
~~Indeno(1,2,3-cd)pyrene~~	~~5.99E+00~~	~~5.72E+00~~	~~5.59E+00~~	~~5.83E+00~~	~~5.89E+00~~	~~5.81E+00~~	~~2.7~~
					Average % RSD:	~~3.4~~ 2.6	

* Alternate detector used for quantitation.

MK 030 11/5/98

781

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/24/98 10/24/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/24/98

Lab File ID: 1C9P296.45R Time Analyzed: 22:17

Lab Standard ID: PAHX30Q

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	4.87	4.72	5.02	25313.63	25670.70	-1.4
Naphthalene	7.84	7.74	7.94	40110.80	40160.00	-0.1
Acenaphthylene	8.33	8.23	8.43	39738.20	40100.00	-0.9
1-methylnaphthalene	8.65	8.55	8.75	10157.59	10188.08	-0.3
2-methylnaphthalene	8.83	8.73	8.93	10102.87	10157.40	-0.5
Acenaphthene	9.01	8.91	9.11	39880.73	40100.00	-0.5
Fluorene	9.13	9.03	9.23	3992.98	4010.00	-0.4
Phenanthrene	9.57	9.46	9.68	1597.07	1607.20	-0.6
Anthracene	9.98	9.87	10.09	799.55	802.40	-0.4
~~Fluoranthene~~	~~10.36~~	~~10.26~~	~~10.46~~	~~709.50~~	~~803.20~~	~~1.7~~ #
~~Pyrene~~	~~10.72~~	~~10.62~~	~~10.82~~	~~4008.13~~	~~4010.00~~	~~0.0~~ ② MK 11/6/98
Triphenylene	10.99	10.89	11.09	2539.88	2507.40	1.3
~~Benzo(a)anthracene~~	~~11.52~~	~~11.32~~	~~11.72~~	~~395.19~~	~~400.80~~	~~-1.4~~
Chrysene	11.80	11.60	12.00	1593.49	1606.40	-0.8
Benzo(b)fluoranthene	12.62	12.42	12.82	314.99	321.60	-2.1
Benzo(k)fluoranthene	13.12	12.92	13.32	317.93	320.80	-0.9
Benzo(a)pyrene	13.86	13.66	14.06	407.82	400.80	1.8
Dibenzo(a,h)anthracene	14.46	14.26	14.66	757.79	803.20	-5.7
Benzo(g,h,i)perylene	15.62	15.42	15.82	2401.64	2410.00	-0.3
~~Indeno(1,2,3-cd)pyrene~~	~~16.00~~	~~15.80~~	~~16.20~~	~~1599.97~~	~~1606.40~~	~~-0.4~~ ③ MK 11/6/98

Average of %D: ~~1.1~~ 0.6

Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/23/98 10/23/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/25/98

Lab File ID: 1C9P296.56R Time Analyzed: 1:55

Lab Standard ID: PAHX3OR

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	5.06	4.84	5.14	26346.53	25670.70	2.6
Naphthalene	7.91	7.78	7.98	39728.26	40160.00	-1.1
Acenaphthylene	8.42	8.29	8.49	39494.51	40100.00	-1.5
1-methylnaphthalene	8.76	8.63	8.83	9996.76	10188.08	-1.9
2-methylnaphthalene	8.93	8.81	9.01	9957.90	10157.40	-2.0
Acenaphthene	9.12	9.00	9.20	39404.75	40100.00	-1.7
Fluorene	9.24	9.12	9.32	3959.20	4010.00	-1.3
Phenanthrene	9.69	9.56	9.78	1583.80	1607.20	-1.5
Anthracene	10.12	9.99	10.21	809.06	802.40	0.8
~~Fluoranthene~~	~~10.51~~	~~10.39~~	~~10.59~~	~~787.23~~	~~803.20~~	~~-2.0~~
~~Pyrene~~	~~10.89~~	~~10.77~~	~~10.97~~	~~3964.76~~	~~4010.00~~	~~-1.1~~
Triphenylene	11.17	11.06	11.26	2492.33	2507.40	-0.6
~~enzo(a)anthracene~~	~~11.72~~	~~11.51~~	~~11.91~~	~~389.14~~	~~400.80~~	~~-2.9~~
Chrysene	12.01	11.80	12.20	1573.28	~~1606.40~~	-2.1
Benzo(b)fluoranthene	12.83	12.62	~~13.02~~	300.08	321.60	-6.7
Benzo(k)fluoranthene	13.34	~~13.13~~	13.53	313.63	320.80	-2.2
Benzo(a)pyrene	14.09	13.88	14.28	395.94	400.80	-1.2
Dibenzo(a,h)anthracene	14.70	14.48	14.88	734.47	803.20	-8.6
Benzo(g,h,i)perylene	15.88	15.66	16.06	2439.99	2410.00	1.2
~~Indeno(1,2,3-cd)pyrene~~	~~16.26~~	~~16.04~~	~~16.44~~	~~1591.84~~	~~1606.40~~	~~-0.9~~

Average of %D: ~~3.2~~ 1.5

2nd MK 11/9/98

3rd MK 11/9/98

* Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A ✓ Init. Calib. Date(s): 10/23/98 ✓ 10/23/98 ✓

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/25/98 ✓

Lab File ID: 1C9P296.67R ✓ Time Analyzed: 5:41 ✓

Lab Standard ID: PAHX30S

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D	
Nitrobenzene	5.04	4.84	5.14	27257.13	25670.70	6.2	
Naphthalene	7.91	7.78	7.98	40836.51	40160.00	1.7	
Acenaphthylene	8.41	8.29	8.49	40465.53	40100.00	0.9	
1-methylnaphthalene	8.74	8.63	8.83	10222.89	10188.08	0.3	
2-methylnaphthalene	8.92	8.81	9.01	10185.41	10157.40	0.3	
Acenaphthene	9.11	9.00	9.20	40295.50	40100.00	0.5	
Fluorene	9.23	9.12	9.32	4051.95	4010.00	1.0	
Phenanthrene	9.67	9.56	9.78	1616.22	1607.20	0.6	
Anthracene	10.10	9.99	10.21	825.35	802.40	2.9	
~~Fluoranthene~~	~~10.49~~	~~10.39~~	~~10.59~~	~~799.86~~	~~803.20~~	~~-0.4~~	*
~~Pyrene~~	~~10.86~~	~~10.77~~	~~10.97~~	~~4059.09~~	~~4010.00~~	~~1.2~~	*
Triphenylene	11.14	11.06	11.26	2555.21	2507.40	1.9	
~~Benzo(a)anthracene~~	~~11.69~~	~~11.51~~	~~11.91~~	~~398.28~~	~~400.80~~	~~-0.6~~	
Chrysene	11.98	11.80	12.20	~~1618.18~~	1606.40	0.7	
Benzo(b)fluoranthene	12.80	~~12.62~~	13.02	306.27	321.60	-4.8	*
Benzo(k)fluoranthene	~~13.30~~	13.13	13.53	323.72	320.80	0.9	*
Benzo(a)pyrene	14.06	13.88	14.28	408.74	400.80	2.0	*
Dibenzo(a,h)anthracene	14.67	14.48	14.88	764.38	803.20	-4.8	*
Benzo(g,h,i)perylene	15.85	15.66	16.06	2583.85	2410.00	7.2	*
~~Indeno(1,2,3-cd)pyrene~~	16.24	16.04	16.44	1651.32	1606.40	~~2.8~~	*

Average of %D: ~~2.1~~ Calc 1.6 11/5/98

* alternate detector used for quantitation.

* inc 11/5/98

8D

PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/23/98 ✓ 10/23/98 ✓

Instrument: P1562A ✓ Calibration File: 1C9P296

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 4.99 TPNL: 11.16

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT #	TPNL RT 11.20 #
001	PAHX1AA	PAHX198A	10/23/98	19:39	5.04	~~10.92~~ *
002	PAHX2AA	PAHX298A	10/23/98	19:58	5.00	11.18
003	PAHX3AA	PAHX398A	10/23/98	20:18	4.99	11.17
004	PAHX4AA	PAHX498A	10/23/98	20:37	5.00	11.15
005	PAHX5AA	PAHX598A	10/23/98	20:57	4.99	11.16
006	MDPAXAA	MDPAX98F	10/23/98	21:16	4.95	11.17
007	PAHX3OQ	PAHX398A	10/24/98	22:17	4.87	10.99 ← updated RT windows
008	ZZZZZ	3016053	10/24/98	23:38	5.00	11.17
009	ZZZZZ	3016054	10/24/98	23:58	5.08	11.23
010	ZZZZZ	3016055	10/25/98	0:17	5.03	11.22
011	ZZZZZ	3016056	10/25/98	0:37	5.04	11.22
012	PBLK5G	BLANKA	10/25/98	0:56	5.02	11.19
013	LCS1O	LCSA	10/25/98	1:16	5.06	11.20
014	W04--	3018871	10/25/98	1:35	5.07	11.20
015	PAHX3OR	PAHX398A	10/25/98	1:55	5.06	11.17 ← returned to old RT windows
016	W04--MS	3018872	10/25/98	2:14	5.03	11.17
017	W04--MSD	3018873	10/25/98	2:34	5.07	11.16
018	W03--	3018865	10/25/98	2:54	5.04	11.16
019	ZZZZZ	BLANKB	10/25/98	3:13	5.07	11.15
020	ZZZZZ	LCSB	10/25/98	3:33	5.04	11.15
021	ZZZZZ	LCSDB	10/25/98	3:52	5.06	11.16
022	ZZZZZ	3019703	10/25/98	4:16	4.77 *	11.13
023	ZZZZZ	3019704	10/25/98	4:39	4.77 *	11.10
024	ZZZZZ	3019705	10/25/98	5:02	4.26 *	11.10
025	ZZZZZ	ACN	10/25/98	5:22		
026	PAHX3OS	PAHX398A	10/25/98	5:41	5.04	11.14

KG 11-23-98

QC LIMITS

NBNZ = Nitrobenzene (4.84 -5.14 MINUTES)

TPNL = Triphenylene (11.06 -11.26 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Calibration File: 9C9P296

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/29/98 10/29/98

COMPOUND	RT OF STANDARDS					MIDPOINT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	RT	FROM	TO
Nitrobenzene			5.06			5.06	4.91	5.21
Naphthalene			7.95			7.95	7.85	8.05
Acenaphthylene			8.48			8.48	8.38	8.58
1-methylnaphthalene			8.83			8.83	8.73	8.93
2-methylnaphthalene			9.01			9.01	8.91	9.11
Acenaphthene			9.20			9.20	9.10	9.30
Fluorene			9.33			9.33	9.23	9.43
Phenanthrene			9.78			9.78	9.67	9.89
Anthracene			10.22			10.22	10.11	10.33
Fluoranthene			10.61			10.61	10.51	10.71
Pyrene			10.99			10.99	10.89	11.09
Triphenylene			11.28			11.28	11.18	11.38
Benzo(a)anthracene			11.84			11.84	11.64	12.04
Chrysene			12.13			12.13	11.93	12.33
Benzo(b)fluoranthene			12.96			12.96	12.76	13.16
Benzo(k)fluoranthene			13.47			13.47	13.27	13.67
Benzo(a)pyrene			14.23			14.23	14.03	14.43
ibenzo(a,h)anthracene			14.84			14.84	14.64	15.04
Benzo(g,h,i)perylene			16.06			16.06	15.86	16.26
Indeno(1,2,3-cd)pyrene			16.44			16.44	16.24	16.64

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Calibration File: 9C9P296

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/29/98 10/29/98

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
Nitrobenzene	3.16E+00	3.11E+00	3.07E+00	3.14E+00	2.96E+00	3.09E+00	2.5
Naphthalene	1.54E+00	1.52E+00	1.48E+00	1.46E+00	1.45E+00	1.49E+00	2.6
Acenaphthylene	1.10E+00	1.08E+00	1.06E+00	1.05E+00	1.05E+00	1.07E+00	2.2
1-methylnaphthalene	1.10E+00	1.09E+00	1.07E+00	1.08E+00	1.06E+00	1.08E+00	1.5
2-methylnaphthalene	1.53E+00	1.49E+00	1.47E+00	1.47E+00	1.46E+00	1.48E+00	1.8
Acenaphthene	6.79E-01	6.59E-01	6.42E-01	6.35E-01	6.29E-01	6.49E-01	3.1
Fluorene	8.05E+00	7.91E+00	7.75E+00	7.78E+00	7.77E+00	7.85E+00	1.6
Phenanthrene	2.04E+01	2.01E+01	1.95E+01	1.98E+01	1.95E+01	1.99E+01	2.1
Anthracene	4.27E+01	4.18E+01	4.00E+01	3.94E+01	3.69E+01	4.02E+01	5.7
~~Fluoranthene~~	~~4.92E+00~~	~~4.94E+00~~	~~4.78E+00~~	~~4.92E+00~~	~~4.91E+00~~	~~4.90E+00~~	~~1.3~~
Pyrene	4.20E+00	4.12E+00	4.01E+00	4.07E+00	4.06E+00	4.09E+00	1.8
Triphenylene	3.11E+01	3.05E+01	2.96E+01	3.01E+01	2.90E+01	3.01E+01	2.6
~~Benzo(a)anthracene~~	~~1.34E+01~~	~~1.20E+01~~	~~1.15E+01~~	~~1.18E+01~~	~~1.10E+01~~	~~1.21E+01~~	~~6.2~~
Chrysene	1.85E+01	1.78E+01	1.71E+01	1.76E+01	1.74E+01	1.77E+01	3.0
Benzo(b)fluoranthene	1.29E+01	1.19E+01	1.15E+01	1.17E+01	1.18E+01	1.19E+01	4.5
Benzo(k)fluoranthene	7.86E+00	7.39E+00	7.15E+00	7.43E+00	7.43E+00	7.45E+00	3.4
Benzo(a)pyrene	7.18E+00	6.89E+00	6.66E+00	6.93E+00	6.97E+00	6.93E+00	2.7
Dibenzo(a,h)anthracene	2.49E+00	1.84E+00	1.79E+00	1.84E+00	1.86E+00	1.96E+00	15.1
Benzo(g,h,i)perylene	2.20E+00	2.11E+00	2.09E+00	2.17E+00	2.22E+00	2.16E+00	2.6
~~Indeno(1,2,3-cd)pyrene~~	~~5.99E+00~~	~~5.72E+00~~	~~5.59E+00~~	~~5.83E+00~~	~~5.89E+00~~	~~5.81E+00~~	~~2.7~~

Average % RSD: ~~3.4~~ 2.6

* Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/29/98 10/29/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/29/98

Lab File ID: 2C9P296.35R Time Analyzed: 10:38

Lab Standard ID: PAHX3PE

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	5.06	4.91	5.21	29864.62	25670.70	16.3
Naphthalene	7.95	7.85	8.05	45459.53	40160.00	13.2
Acenaphthylene	8.48	8.38	8.58	45027.40	40100.00	12.3
1-methylnaphthalene	8.83	8.73	8.93	11329.35	10188.08	11.2
2-methylnaphthalene	9.01	8.91	9.11	11183.08	10157.40	10.1
Acenaphthene	9.20	9.10	9.30	44123.14	40100.00	10.0
Fluorene	9.33	9.23	9.43	4435.41	4010.00	10.6
Phenanthrene	9.78	9.67	9.89	1760.24	1607.20	9.5
Anthracene	10.22	10.11	10.33	870.02	802.40	8.4
~~Fluoranthene~~	~~10.61~~	~~10.51~~	~~10.71~~	~~864.23~~	~~803.20~~	~~7.6~~
~~Pyrene~~	~~10.99~~	~~10.89~~	~~11.09~~	~~4336.71~~	~~4010.00~~	~~8.1~~
Triphenylene	11.28	11.18	11.38	2741.50	2507.40	9.3
~~enzo(a)anthracene~~	~~11.84~~	~~11.64~~	~~12.04~~	~~421.29~~	~~400.80~~	~~5.1~~
~~hrysene~~	12.13	11.93	12.33	~~1738.02~~	1606.40	8.2
Benzo(b)fluoranthene	12.96	12.76	13.16	334.36	321.60	4.0
Benzo(k)fluoranthene	~~13.47~~	13.27	13.67	344.80	320.80	7.5
Benzo(a)pyrene	14.23	14.03	14.43	450.78	400.80	12.5
Dibenzo(a,h)anthracene	14.84	14.64	15.04	807.10	803.20	0.5
Benzo(g,h,i)perylene	16.06	15.86	16.26	2673.73	2410.00	10.9
~~Indeno(1,2,3-cd)pyrene~~	~~16.44~~	~~16.24~~	~~16.64~~	~~1744.37~~	~~1606.40~~	~~8.6~~

Average of %D: ~~9.2~~ 11.1

no qualification surrogate compound

* Confirmation detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562A Init. Calib. Date(s): 10/29/98 10/29/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/29/98

Lab File ID: 2C9P296.39R Time Analyzed: 12:08

Lab Standard ID: PAHX3PF

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
Nitrobenzene	5.17	4.91	5.21	30604.13	25670.70	19.2
Naphthalene	8.00	7.85	8.05	45179.27	40160.00	~~12.5~~
Acenaphthylene	8.53	8.38	8.58	44863.50	40100.00	11.9
1-methylnaphthalene	8.87	8.73	8.93	11285.48	10188.08	10.8
2-methylnaphthalene	9.05	8.91	9.11	11167.53	10157.40	9.9
Acenaphthene	9.25	9.10	9.30	44083.75	40100.00	9.9
Fluorene	9.37	9.23	9.43	4429.38	4010.00	10.5
Phenanthrene	9.83	9.67	9.89	1751.21	1607.20	9.0
Anthracene	10.26	10.11	10.33	869.85	802.40	8.4
~~Fluoranthene~~	~~10.66~~	~~10.51~~	~~10.71~~	~~856.41~~	~~803.20~~	~~6.6~~
~~Pyrene~~	~~11.05~~	~~10.89~~	~~11.09~~	~~4320.06~~	~~4010.00~~	~~7.7~~
Triphenylene	11.34	11.18	11.38	2723.05	2507.40	8.6
~~Benzo(a)anthracene~~	~~11.90~~	~~11.64~~	~~12.04~~	~~417.92~~	~~400.80~~	~~4.3~~
Chrysene	12.19	11.93	12.33	1716.71	~~1606.40~~	6.9
Benzo(b)fluoranthene	13.03	12.76	~~13.16~~	327.97	321.60	2.0
Benzo(k)fluoranthene	~~13.53~~	~~13.27~~	13.67	340.26	320.80	6.1
Benzo(a)pyrene	14.30	14.03	14.43	445.68	400.80	11.2
Dibenzo(a,h)anthracene	14.91	14.64	15.04	801.71	803.20	-0.2
Benzo(g,h,i)perylene	16.14	15.86	16.26	2668.10	2410.00	10.7
~~Indeno(1,2,3-cd)pyrene~~	~~16.52~~	~~16.24~~	~~16.64~~	~~1727.91~~	1606.40	7.6

Average of %D: ~~8.7~~ 11.1

no qualification surrogate compound

MK 10/30/98

* Alternate detector used for quantitation.

8D

PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/29/98 10/29/98

Instrument: P1562A Calibration File: 9C9P296

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 5.06 TPNL: 11.28

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT	#	TPNL RT	#
001	PAHX3PE	PAHX398A	10/29/98	10:38	5.06		11.28	
002	W09--DL	3018868	10/29/98	11:02	4.80	*	~~11.03~~	*
003	W19--DL	3018869	10/29/98	11:25	4.79	*	~~11.06~~	*
004	W06--DL	3018876	10/29/98	11:48	4.79	*	~~10.95~~	*
005	PAHX3PF	PAHX398A	10/29/98	12:08	5.17		11.34	

KS 11-23-98

11.32

11.35

11.38

QC LIMITS

NBNZ = Nitrobenzene (4.91 -5.21 MINUTES)

TPNL = Triphenylene (11.18 -11.38 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

==========PAH's by EPA 8310==========

Sample Name: 3018868 0F50 ABW09-- T 982890010A
Instrument ID: CP09--P1562A Injected on: Oct 29, 1998 11:02:05
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 999 Dilution Factor: 100
Raw File: C:\CP\DATA1\2C9P296.36R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: 080

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.92	40	421	0.210	0.0000	
2	1.44	195	2773	0.360	0.0000	
3	2.14	135	2753	0.315	0.0000	
4	2.73	1325	14349	0.159	0.0000	
5	3.49	58	931	0.352	0.0000	
6	4.80	5514	63311	0.158	0.0000	
7	5.88	490	3842	0.129	0.0000	
8	6.20	331	4908	0.254	0.0000	
9	6.44	131	718	0.079	0.0000	
10	6.69	695	3998	0.098	0.0000	
11	6.81	828	7604	0.165	0.0000	
12	7.11	6438	34520	0.086	0.0000	
13	7.34	3202	23387	0.116	0.0000	
14	7.50	1383	8021	0.100	0.0000	
15	7.90	32857	220043	0.096	2204.7354	Naphthalene
16	8.43	2166	22991	0.184	203.2086	Acenaphthylene
17	8.54	2203	16547	0.104	0.0000	
18	8.79	6551	62877	0.093	606.5166	1-Methylnaphthalene
19	9.00	8738	86018	0.086	592.8272	2-Methylnaphthalene
20	9.19	1589	9503	0.080	245.2274	Acenaphthene
21	9.32	7303	48777	0.087	93.1243	Fluorene
22	9.79	9640	70107	0.089	49.5961	Phenanthrene
23	10.23	1704	12112	0.103	4.2488	Anthracene
24	10.44	254	1380	0.091	0.0000	
25	10.64	286	1762	0.109	5.8432	Fluoranthene
26	10.87	326	1652	0.081	0.0000	
27	11.03	177	1131	0.108	4.3266	Pyrene
28	11.32	662	3701	0.086	2.2034	Triphenylene
29	12.19	71	400	0.102	0.4009	Chrysene
30	12.94	257	2081	0.114	2.1510	Benzo(b)fluoranthene

incorrect retention time reported on Pesticide Analytical Sequence

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Instrument: P1562B Calibration File: 1C9P293B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/20/98 10/20/98

COMPOUND	RT OF STANDARDS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MIDPOINT RT	RT WINDOW FROM	TO
Naphthalene	7.94	7.94	7.96	7.94	7.93	7.96	7.86	8.06
Acenaphthylene	8.37	8.44	8.48	8.43	8.42	8.48	8.38	8.58
Acenaphthene		8.95	8.96	8.93	8.92	9.14	9.04	9.24
Fluorene	9.11	9.13	9.14	9.11	9.10	9.24	9.14	9.34
Phenanthrene	9.67	9.68	9.69	9.66	9.65	9.69	9.58	9.80
Anthracene	10.08	10.11	10.10	10.08	10.07	10.10	9.99	10.21
Fluoranthene	10.47	10.48	10.49	10.46	10.45	10.49	10.39	10.59
Pyrene	10.84	10.86	10.86	10.83	10.82	10.86	10.76	10.96
Benzo(a)anthracene	11.54	11.67	11.66	11.64	11.63	11.66	11.56	11.76
Chrysene	11.93	11.95	11.94	11.92	11.91	11.94	11.74	12.14
Benzo(b)fluoranthene	12.74	12.76	12.74	12.72	12.72	12.74	12.54	12.94
Benzo(k)fluoranthene	13.24	13.25	13.24	13.22	13.22	13.24	13.04	13.44
Benzo(a)pyrene	14.00	13.99	13.98	13.97	13.97	13.98	13.78	14.18
Dibenzo(a,h)anthracene	14.59	14.59	14.58	14.56	14.56	14.58	14.38	14.78
Benzo(g,h,i)perylene	15.76	15.76	15.75	15.73	15.73	15.75	15.55	15.95
Indeno(1,2,3-cd)pyrene	16.16	16.14	16.12	16.11	16.11	16.12	15.92	16.32
Triphenylene	11.11	11.14	11.13	11.10	11.10	11.13	11.03	11.23

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

Instrument: P1562B Calibration File: 1C9P293B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/20/98 10/20/98

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
~~Naphthalene~~	~~2.97E-01~~	~~3.56E-01~~	~~3.62E-01~~	~~3.47E-01~~	~~3.25E-01~~	~~3.37E-01~~	~~7.9~~
Acenaphthylene	-2.49E-04	-4.99E-05	-2.49E-05	2.09E-03	1.69E-03	6.91E-04	160.1
Acenaphthene	2.03E+00	2.01E+00	1.99E+00	1.85E+00	1.67E+00	1.91E+00	7.9
Fluorene	-2.49E-03	-4.99E-04	-2.49E-04	-9.98E-05	-4.99E-05	-6.78E-04	151.8
Phenanthrene	1.71E+00	1.15E+00	1.35E+00	1.48E+00	1.49E+00	1.44E+00	14.3
~~Anthracene~~	~~1.69E+00~~	~~8.67E-01~~	~~7.76E-01~~	~~9.59E-01~~	~~1.05E+00~~	~~1.07E+00~~	~~33.8~~
Fluoranthene	1.44E+01	1.73E+01	1.79E+01	1.81E+01	1.79E+01	1.71E+01	9.2
Pyrene	9.88E-01	1.23E+00	1.31E+00	1.34E+00	1.32E+00	1.24E+00	11.8
Benzo(a)anthracene	2.00E+01	2.62E+01	2.74E+01	2.77E+01	2.73E+01	2.57E+01	12.6
Chrysene	1.65E+00	2.40E+00	2.63E+00	2.75E+00	2.75E+00	2.44E+00	19.1
Benzo(b)fluoranthene	1.82E+01	2.23E+01	2.41E+01	2.47E+01	2.48E+01	2.28E+01	12.1
Benzo(k)fluoranthene	4.88E+01	5.69E+01	5.88E+01	5.89E+01	5.87E+01	5.64E+01	7.7
Benzo(a)pyrene	1.02E+01	1.49E+01	1.58E+01	1.60E+01	1.61E+01	1.46E+01	17.2
Dibenzo(a,h)anthracene	6.74E+00	9.12E+00	9.66E+00	9.84E+00	9.85E+00	9.04E+00	14.6
Benzo(g,h,i)perylene	2.31E+00	3.06E+00	3.36E+00	3.39E+00	3.51E+00	3.13E+00	15.6
Indeno(1,2,3-cd)pyrene	2.22E+00	2.97E+00	3.26E+00	3.37E+00	3.44E+00	3.05E+00	16.4
~~Nitrobenzene~~	~~2.49E-04~~	~~4.98E-05~~	~~2.49E-05~~	~~9.96E-06~~	~~4.98E-06~~	~~6.77E-05~~	~~151.8~~ *
~~Triphenylene~~	~~1.22E+00~~	~~1.01E+00~~	~~1.21E+00~~	~~1.27E+00~~	~~1.28E+00~~	~~1.20E+00~~	~~9.1~~ *
						Average % RSD:	~~37.4~~ 13.6

* Alternate detector used for quantitation

11/11/98

778

FORM VI PEST-2

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Init. Calib. Date(s): 10/20/98 ✓ 10/20/98 ✓

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98 ✓

Lab File ID: 2C9P293B.79R ✓ Time Analyzed: 3:01 ✓

Lab Standard ID: PAHX3NX

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.95~~	~~7.86~~	~~8.06~~	~~46118.15~~	40160.00	14.8
Acenaphthylene	8.46	8.38	8.58	~~54953.57~~	40100.00	37.0
1-methylnaphthalene	8.77	~~8.69~~	~~8.88~~	11368.96	10188.08	11.6
2-methylnaphthalene	~~8.94~~	8.86	9.06	11627.58	10157.40	14.5
Acenaphthene	9.12	9.04	9.24	44355.13	40100.00	10.6
Phenanthrene	9.68	9.58	9.80	1632.86	1607.20	1.6
~~Anthracene~~	~~10.10~~	~~9.99~~	~~10.21~~	~~632.32~~	~~802.40~~	~~21.2~~
Fluoranthene	10.48	10.39	10.59	881.69	803.20	9.8
Pyrene	10.85	10.76	10.96	4509.65	4010.00	12.5
~~Triphenylene~~	~~11.14~~	~~11.03~~	~~11.23~~	~~2642.67~~	~~2507.40~~	~~5.4~~ *
Benzo(a)anthracene	11.68	11.56	11.76	451.55	400.80	12.7
Chrysene	11.98	11.74	12.14	1843.38	1606.40	14.8
Benzo(b)fluoranthene	12.80	12.54	12.94	351.51	321.60	9.3
Benzo(k)fluoranthene	13.31	13.04	13.44	343.16	320.80	7.0
Benzo(a)pyrene	14.07	13.78	14.18	471.99	400.80	17.8
Dibenzo(a,h)anthracene	14.68	14.38	14.78	910.92	803.20	13.4
Benzo(g,h,i)perylene	15.87	15.55	15.95	2920.40	2410.00	21.2
Indeno(1,2,3-cd)pyrene	16.26	15.92	16.32	1756.21	1606.40	9.3

Average of %D: ~~13.6~~ 12.8

MK 11/16/98 ②

* alternate detector used for quantitation.

MK 11/16/98 *

J/UJ (samples MW-01, MW-05, MW-09, MW-19, MW-08, MW-12, MW-06, MW-07)

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Init. Calib. Date(s): 10/20/98 10/20/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98

Lab File ID: 2C9P293B.89R Time Analyzed: 6:16

Lab Standard ID: PAHX3NY

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.95~~	~~7.86~~	~~8.06~~	~~43971.61~~	~~40160.00~~	~~9.5~~
Acenaphthylene	8.44	8.38	8.58	32791.83	40100.00	-18.2
1-methylnaphthalene	8.80	8.68	8.88	10847.96	10188.08	6.5
2-methylnaphthalene	8.97	8.86	9.06	11131.13	10157.40	9.6
Acenaphthene	9.16	9.04	9.24	43771.80	40100.00	9.2
Phenanthrene	9.73	9.58	9.80	1523.83	1607.20	-5.2
~~Anthracene~~	~~10.16~~	~~9.99~~	~~10.21~~	~~680.54~~	~~802.40~~	~~-15.2~~
Fluoranthene	10.54	10.39	10.59	890.79	803.20	10.9
Pyrene	10.92	10.76	10.96	4479.54	4010.00	11.7
~~Triphenylene~~	~~11.21~~	~~11.03~~	~~11.23~~	~~2531.34~~	~~2507.40~~	~~1.0~~ *
Benzo(a)anthracene	11.76	11.56	11.76	442.41	400.80	10.4
Chrysene	12.05	11.74	12.14	1788.11	1606.40	11.3
Benzo(b)fluoranthene	12.87	12.54	12.94	352.96	321.60	9.7
Benzo(k)fluoranthene	13.38	13.04	13.44	340.24	320.80	6.1
Benzo(a)pyrene	14.13	13.78	14.18	459.44	400.80	14.6
Dibenzo(a,h)anthracene	14.74	14.38	14.78	888.83	803.20	10.7
Benzo(g,h,i)perylene	15.92	15.55	15.95	2832.82	2410.00	17.5
Indeno(1,2,3-cd)pyrene	16.31	15.92	16.32	1753.59	1606.40	9.2

Average of %D: ~~10.4~~ 11.2

ALK 11/10/98

BMK 11/10/98

* Alternate detector used for quantitation.

J/UJ (all samples except MW-03, MW-04, & dilutions)

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Init. Calib. Date(s): 10/20/98 ✓ 10/20/98 ✓

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/23/98 ✓

Lab File ID: 2C9P293B.94R ✓ Time Analyzed: 7:54 ✓

Lab Standard ID: PAHX3NZ

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.92~~	~~7.86~~	~~8.06~~	~~44302.49~~	~~40160.00~~	~~10.5~~
Acenaphthylene	8.45	8.38	8.58	~~42523.65~~	40100.00	6.0
1-methylnaphthalene	8.76	~~8.68~~	~~8.88~~	11012.06	10188.08	8.1
2-methylnaphthalene	~~8.93~~	8.86	9.06	11312.20	10157.40	11.4
Acenaphthene	9.11	9.04	9.24	42801.32	40100.00	6.7
Phenanthrene	9.68	9.58	9.80	1549.59	1607.20	-3.6
~~Anthracene~~	10.10	9.99	~~10.21~~	~~617.26~~	~~802.40~~	-23.1
Fluoranthene	10.48	10.39	10.59	860.18	803.20	7.1
Pyrene	10.85	10.76	10.96	4430.18	4010.00	10.5
~~Triphenylene~~	~~11.13~~	~~11.03~~	~~11.23~~	~~2620.61~~	~~2507.40~~	~~4.5~~ *
Benzo(a)anthracene	11.68	11.56	11.76	425.93 ✓	400.80	6.3
Chrysene	11.97	11.74	12.14	1752.10	1606.40	9.1 ✓
Benzo(b)fluoranthene	12.78	12.54	12.94	336.06	321.60	4.5
Benzo(k)fluoranthene	13.28	13.04	13.44	336.36	320.80	4.9
Benzo(a)pyrene	14.04	13.78	14.18	449.38	400.80	12.1
Dibenzo(a,h)anthracene	14.64	14.38	14.78	873.25 ✓	803.20	8.7
Benzo(g,h,i)perylene	15.82	15.55	15.95	2832.69	2410.00	17.5
Indeno(1,2,3-cd)pyrene	16.21	15.92	16.32	1741.98	1606.40	8.4

Average of %D: ~~9.1~~ 8.5

* alternate detector used for quantitation.

J/UJ (samples MW-13, MW-23, RB-1, & MW-11)

8D

PESTICIDE ANALYTICAL SEQUENCE

b Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/20/98 10/20/98

Instrument: P1562B Calibration File: 1C9P293B

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 4.87 TPNL: 11.13

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT #	TPNL RT #
001	PAHX1AA	PAHX198A	10/20/98	12:08		11.11
002	PAHX2AA	PAHX298A	10/20/98	12:27		11.14
003	PAHX3AA	PAHX398A	10/20/98	12:47		11.13
004	PAHX4AA	PAHX498A	10/20/98	13:06		11.10
005	PAHX5AA	PAHX598A	10/20/98	13:26		11.10
006	MDPAXAA	MDPAX98F	10/20/98	13:46		
007	PAHX3NX	PAHX398A	10/23/98	3:01		11.14
008	W01--	3018866	10/23/98	3:20		11.18
009	W05--	3018867	10/23/98	3:40		11.15
010	W09--	3018868	10/23/98	4:00		11.20
011	W19--	3018869	10/23/98	4:19		11.09
012	W08--	3018870	10/23/98	4:39		11.14
013	W12--	3018874	10/23/98	4:58		11.21
014	W10--	3018875	10/23/98	5:18		11.22
015	W06--	3018876	10/23/98	5:37		11.13
016	W07--	3018877	10/23/98	5:57		11.21
017	PAHX3NY	PAHX398A	10/23/98	6:16		11.21
018	W13--	3018878	10/23/98	6:36		11.12
019	W23--	3018879	10/23/98	6:55		11.19
020	RB1--	3018881	10/23/98	7:15		11.23
021	W11--	3018882	10/23/98	7:34		
022	PAHX3NZ	PAHX398A	10/23/98	7:54		11.13

This detector not used to quantitate surrogates.

QC LIMITS

NBNZ = Nitrobenzene (4.72 -5.02 MINUTES)

TPNL = Triphenylene (11.03 -11.23 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Calibration File: 1C9P296B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/23/98 10/23/98

COMPOUND	RT OF STANDARDS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MIDPOINT RT	RT WINDOW FROM	TO
~~Naphthalene~~	~~7.95~~	~~7.94~~	~~7.93~~	~~7.92~~	~~7.92~~	~~7.92~~	~~7.82~~	~~8.02~~
Acenaphthylene	8.48	8.41	8.40	~~8.43~~	8.44	8.44	8.34	8.54
1-methylnaphthalene	8.81	~~8.78~~	~~8.78~~	8.76	8.77	8.77	8.67	8.87
2-methylnaphthalene	~~8.99~~	8.97	8.95	8.94	8.94	8.94	8.84	9.04
Acenaphthene	9.18	9.15	9.14	9.12	9.13	9.13	9.03	9.23
Phenanthrene	9.75	9.73	9.72	9.70	9.70	9.70	9.59	9.81
~~Anthracene~~	~~10.17~~	~~10.15~~	~~10.15~~	~~10.12~~	~~10.13~~	~~10.13~~	~~10.02~~	~~10.24~~
Fluoranthene	10.56	10.54	10.53	10.51	10.52	10.52	10.42	10.62
Pyrene	10.95	10.92	10.92	10.89	10.90	10.90	10.80	11.00
~~Triphenylene~~	~~11.22~~	~~11.20~~	~~11.20~~	~~11.18~~	~~11.18~~	~~11.18~~	~~11.08~~	~~11.28~~ *
Benzo(a)anthracene	11.77	11.75	11.75	11.73	11.74	11.74	11.64	11.84
Chrysene	12.07	12.04	12.05	12.03	12.03	12.03	11.83	12.23
Benzo(b)fluoranthene	12.88	12.86	12.87	12.85	12.85	12.85	12.65	13.05
Benzo(k)fluoranthene	13.37 ~~13.21~~	13.36	13.37	13.36	13.35	13.35	13.15	13.55
Benzo(a)pyrene	14.11	14.10	14.12	14.11	14.10	14.10	13.90	14.30
Dibenzo(a,h)anthracene	14.71	14.70	14.72	14.72	14.70	14.70	14.50	14.90
Benzo(g,h,i)perylene	15.87	15.87	15.90	15.90	15.88	15.88	15.68	16.08
Indeno(1,2,3-cd)pyrene	16.25	16.25	16.28	16.28	16.26	16.26	16.06	16.46

KG 11-23-98

* alternate detector used for quantitation.

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Calibration File: 1C9P296B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/23/98 ✓ 10/23/98 ✓

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
Nitrobenzene	-2.49E-04	-4.98E-05	-2.49E-05	-9.96E-06	-4.98E-06	-6.77E-05	151.8
Naphthalene	2.99E-01	3.47E-01	3.43E-01	3.37E-01	3.09E-01	3.27E-01	6.6
Acenaphthylene	-2.49E-04	-4.99E-05	-2.49E-05	2.12E-03	1.61E-03	6.81E-04	161.4
1-methylnaphthalene	5.94E-01	7.24E-01	7.20E-01	7.40E-01	7.24E-01	7.00E-01	8.6
2-methylnaphthalene	6.57E-01	7.87E-01	8.03E-01	8.21E-01	8.14E-01	7.77E-01	8.8
Acenaphthene	1.97E+00	1.98E+00	1.90E+00	1.81E+00	1.64E+00	1.86E+00	7.5
Fluorene	-2.49E-03	-4.99E-04	-2.49E-04	-9.98E-05	-4.99E-05	-6.78E-04	151.8
Phenanthrene	1.39E+00	1.08E+00	1.25E+00	1.40E+00	1.42E+00	1.31E+00	10.9
Anthracene	1.39E+00	9.39E-01	7.91E-01	9.72E-01	1.03E+00	1.02E+00	21.8
Fluoranthene	1.45E+01	1.73E+01	1.75E+01	1.80E+01	1.78E+01	1.70E+01	8.5
Pyrene	9.41E-01	1.20E+00	1.25E+00	1.30E+00	1.28E+00	1.19E+00	12.2
Triphenylene	1.21E+00	9.30E-01	1.09E+00	1.25E+00	1.24E+00	1.14E+00	11.7
Benzo(a)anthracene	2.04E+01	2.60E+01	2.56E+01	2.69E+01	2.67E+01	2.51E+01	10.8
Chrysene	1.98E+00	2.36E+00	2.42E+00	2.68E+00	2.69E+00	2.43E+00	11.9
Benzo(b)fluoranthene	1.84E+01	2.28E+01	2.28E+01	2.42E+01	2.45E+01	2.25E+01	10.7
Benzo(k)fluoranthene	5.01E+01	5.72E+01	5.58E+01	5.82E+01	5.89E+01	5.60E+01	6.3
Benzo(a)pyrene	1.15E+01	1.43E+01	1.47E+01	1.60E+01	1.62E+01	1.45E+01	12.9
Dibenzo(a,h)anthracene	7.80E+00	8.85E+00	9.07E+00	9.60E+00	9.71E+00	9.00E+00	8.5
Benzo(g,h,i)perylene	2.49E+00	3.05E+00	3.13E+00	3.30E+00	3.38E+00	3.07E+00	11.4
Indeno(1,2,3-cd)pyrene	2.17E+00	2.97E+00	3.08E+00	3.32E+00	3.38E+00	2.98E+00	16.3

Average % RSD: ~~82.5~~ 11.3

ALL 11/4/98 ✓

ok

Qual 11/24/98

* Alternate dilution used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Init. Calib. Date(s): 10/24/98 10/24/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/24/98

Lab File ID: 1C9P296B.45R Time Analyzed: 22:17

Lab Standard ID: PAHX30Q

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.88~~	~~7.78~~	~~7.98~~	~~42633.75~~	~~40160.00~~	~~6.2~~
Acenaphthylene	8.38	8.28	8.48	56500.30	~~40100.00~~	40.9
1-methylnaphthalene	8.68	8.58	8.78	10596.84	10188.08	4.0
2-methylnaphthalene	8.86	~~8.76~~	8.96	10434.93	10157.40	2.7
Acenaphthene	9.04	8.94	9.14	40182.83	40100.00	0.2
Phenanthrene	9.60	9.49	9.71	1560.69	1607.20	-2.9
~~Anthracene~~	~~10.01~~	~~9.90~~	~~10.12~~	~~606.21~~	~~802.40~~	~~-24.5~~
Fluoranthene	10.38	10.28	10.48	819.69	803.20	2.1
Pyrene	10.75	10.65	10.85	4104.74	4010.00	2.4
~~Triphenylene~~	~~11.02~~	~~10.92~~	~~11.12~~	~~2526.03~~	~~2507.40~~	~~0.7~~
Benzo(a)anthracene	11.55	11.45	11.65	407.05	400.80	1.6
Chrysene	11.83	11.63	12.03	1638.34	1606.40	2.0
Benzo(b)fluoranthene	12.64	12.44	12.84	328.81	321.60	2.2
enzo(k)fluoranthene	13.14	12.94	13.34	320.34 ~~386.80~~	320.80	~~-20.6~~ -0.1
Benzo(a)pyrene	13.88	13.68	14.08	412.75	400.80	3.0
Dibenzo(a,h)anthracene	14.48	14.28	14.68	803.88	803.20	0.1
Benzo(g,h,i)perylene	15.64	15.44	15.84	2430.88	2410.00	0.9
Indeno(1,2,3-cd)pyrene	16.02	15.82	16.22	1709.50	1606.40	6.4

Average of %D: ~~6.8~~ 4.1

KG 11-23-98

BMK 11/9/98

Alternate detector used for quantitation.

==========PAH's by EPA 8310==========

**********Continuing Calibration Report**********

Sample Name: PAHX398A QQPAHX3QQ CCAL 9828600008A
Instrument ID: CP09--P1562B Injected on: Oct 24, 1998 22:17:07
HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um Raw File: C:\CP\DATA\1C9P296B.45R
Sample Amount: 1 Dilution Factor: 1
Volume Injected (UL): 20

HPLC Conditions: 35C
Flow Conditions: 1.5ml/min 60:40 H2O:ACN to 100%ACN in 25min; Hold 7min
Run Time: 32min
Analyst: 080

Integration & Calculation Parameters:
Threshold: -1 Width: .04 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

MIN RT (min)	Ret Time (min)	MAX RT (min)	Peak Height	Amount ppb	Peak Name	RPD (%)
0.00	6.30	0.00	25	0.0000		0.0
0.00	6.44	0.00	59	0.0000		0.0
0.00	6.50	0.00	49	0.0000		0.0
0.00	6.61	0.00	68	0.0000		0.0
0.00	6.68	0.00	43	0.0000		0.0
0.00	6.76	0.00	49	0.0000		0.0
0.00	6.86	0.00	67	0.0000		0.0
0.00	7.03	0.00	44	0.0000		0.0
0.00	7.11	0.00	32	0.0000		0.0
0.00	7.31	0.00	39	0.0000		0.0
0.00	7.45	0.00	51	0.0000		0.0
0.00	7.53	0.00	48	0.0000		0.0
0.00	7.64	0.00	49	0.0000		0.0
7.79	7.88	7.99	13947	42633.7500	Naphthalene	6.2
8.18	8.32	8.38	72	38644.5273	Acenaphthylene	-3.6
0.00	8.38	0.00	105	0.0000		0.0
8.60	8.68	8.80	7420	10596.8369	1-Methylnaphthalene	4.0
8.77	8.86	8.97	8104	10434.9336	2-Methylnaphthalene	2.7
8.95	9.04	9.15	74792	40182.8320	Acenaphthene	0.2
0.00	9.48	0.00	224	0.0000		0.0
9.49	9.60	9.71	2043	1560.6864	Phenanthrene	-2.9
9.90	10.01	10.12	621	606.2091	Anthracene	-24.4
10.30	10.38	10.50	13961	819.6938	Fluoranthene	2.1
10.67	10.75	10.87	4899	4104.7432	Pyrene	2.4
10.95	11.02	11.15	2885	2526.0251	Triphenylene	0.8
11.49	11.55	11.69	10192	405.9683	Benzo(a)anthracene	1.5
11.68	11.83	12.08	3974	1638.3384	Chrysene	2.0

12.50	12.64	12.90	7408	328.8091	Benzo(b)fluoranthene	2.4
13.01	13.14	13.41	17946	320.3397	Benzo(k)fluoranthene	0.1
13.78	13.88	14.18	6004	412.7516	Benzo(a)pyrene	3.2
14.40	14.48	14.80	7239	803.8751	Dibenzo(a,h)anthrace	0.1
0.00	15.28	0.00	158	0.0000		0.0
15.58	15.64	15.98	7462	2430.8750	Benzo(g,h,i)perylene	0.9
15.97	16.02	16.37	5102	1709.4954	Indeno(1,2,3-cd)pyre	6.4

Calculation for RPD % = (ICAL LVL 3 AMT)-(CCAL LVL 3 AMT)/(ICAL LVL 3 AMT)

Reviewed by: M. Fahey Date: 11/5/98

FILES:
Area file: C:\CP\DATA1\1C9P296B.45R
Method file: C:\CP\DATA1\PNACCB.MET
Calibration File: C:\CP\DATA1\4C9P296B.CAL
Format File: C:\CP\DATA1\PAHCC.FMT
Area file created on:
File reported on: 11-09-1998at 16:52:59

incorrectly reported on Pesticide Calibration Verification summary

$$\frac{17946}{56.0\ \mu g/L} \times \frac{1\ mL}{1\ mL} = 320.46\ \mu g/L$$

KS 11-24-98

$$\frac{320.80 - 320.34}{320.80} \times 100 = 0.1\%\ D$$

$$\frac{320.34 - 320.80}{320.80} \times 100 = -0.1\%\ D$$

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Init. Calib. Date(s): 10/23/98 ✓ 10/23/98 ✓

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/25/98 ✓

Lab File ID: 1C9P296B.56R ✓ Time Analyzed: 1:55 ✓

Lab Standard ID: PAHX3OR

COMPOUND	RT ✓	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.95~~	~~7.82~~	~~8.02~~	~~40027.12~~	~~40160.00~~	~~-0.3~~
Acenaphthylene	8.46	8.34	8.54	~~32674.88~~	40100.00	-18.5
1-methylnaphthalene	8.79	~~8.67~~	8.87	9958.10	10188.08	-2.3
2-methylnaphthalene	~~8.97~~	8.84	9.04	9936.42	10157.40	-2.2
Acenaphthene	9.15	9.03	9.23	39499.14	40100.00	-1.5
Phenanthrene	9.72	9.59	9.81	1397.80	1607.20	-13.0
~~Anthracene~~	~~10.15~~	~~10.02~~	~~10.24~~	~~624.31~~	~~802.40~~	~~-22.2~~
Fluoranthene	10.54	10.42	10.62	797.34	803.20	-0.7
Pyrene	10.92	10.80	11.00	3953.34 ✓	4010.00	-1.4
~~Triphenylene~~	~~11.20~~	~~11.08~~	~~11.28~~	~~2359.95~~	~~2507.40~~	~~-5.9~~
Benzo(a)anthracene	11.75	11.64	11.84	397.32	400.80	-0.9
Chrysene	12.04	11.83	12.23	1585.79	1606.40	-1.3
Benzo(b)fluoranthene	12.86	12.65	13.05	320.98	321.60	-0.2
Benzo(k)fluoranthene	13.36	13.15	13.55	314.59	320.80	-1.9
Benzo(a)pyrene	14.12	13.90	14.30	400.76 ✓	400.80	0.0
Dibenzo(a,h)anthracene	14.72	14.50	14.90	782.66	803.20	-2.6 ✓
Benzo(g,h,i)perylene	15.91	15.68	16.08	2427.29	2410.00	0.7
Indeno(1,2,3-cd)pyrene	16.29	16.06	16.46	1672.92	1606.40	4.1

Average of %D: ~~-4.4~~ 1.1

* ~~-5.9~~ ✓ 11/9/98

Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Init. Calib. Date(s): 10/23/98 10/23/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/25/98

Lab File ID: 1C9P296B.67R Time Analyzed: 5:41

Lab Standard ID: PAHX30S

COMPOUND	RT	RT WINDOW FROM	RT WINDOW TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	7.95	7.82	~~8.02~~	~~41380.75~~	~~40160.00~~	~~3.0~~
Acenaphthylene	8.45	8.34	8.54	40440.50	~~40100.00~~	0.8
1-methylnaphthalene	8.78	8.67	~~8.87~~	10298.86	10188.08	1.1
2-methylnaphthalene	~~8.96~~	8.84	9.04	10341.75	10157.40	1.8
Acenaphthene	9.14	9.03	9.23	40547.87	40100.00	1.1
~~Phenanthrene~~	9.71	9.59	9.81	1554.43	1607.20	-3.3
~~Anthracene~~	~~10.13~~	~~10.02~~	~~10.24~~	~~602.20~~	~~802.40~~	~~-25.0~~
Fluoranthene	10.51	10.42	10.62	819.51	803.20	2.0
Pyrene	10.89	10.80	11.00	4115.65	4010.00	2.6
~~Triphenylene~~	~~11.17~~	~~11.08~~	~~11.28~~	~~2550.94~~	~~2507.40~~	~~1.7~~
Benzo(a)anthracene	11.71	11.64	11.84	413.75	400.80	3.2
Chrysene	12.00	11.83	12.23	1736.63	1606.40	8.1
Benzo(b)fluoranthene	12.82	12.65	13.05	339.95	321.60	5.7
Benzo(k)fluoranthene	13.33	13.15	13.55	330.72	320.80	3.1
Benzo(a)pyrene	14.08	13.90	14.30	428.50	400.80	6.9
Dibenzo(a,h)anthracene	14.69	14.50	14.90	860.20	803.20	7.1
Benzo(g,h,i)perylene	15.88	15.68	16.08	2671.17	2410.00	10.8
Indeno(1,2,3-cd)pyrene	16.26	16.06	16.46	1833.46	1606.40	14.1

Average of %D: ~~5.6~~ 6.4 @ MK 11/9/98

* Alternate detector used for quantitation.

8D

PESTICIDE ANALYTICAL SEQUENCE

.b Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/23/98 10/23/98

Instrument: P1562B Calibration File: 1C9P296B

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 4.87 TPNL: 11.18

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT #	TPNL RT #
001	PAHX1AA	PAHX198A	10/23/98	19:39		11.22
002	PAHX2AA	PAHX298A	10/23/98	19:58		11.20
003	PAHX3AA	PAHX398A	10/23/98	20:18		11.20
004	PAHX4AA	PAHX498A	10/23/98	20:37		11.18
005	PAHX5AA	PAHX598A	10/23/98	20:57		11.18
006	MDPAXAA	MDPAX98F	10/23/98	21:16		
007	PAHX3OQ	PAHX398A	10/24/98	22:17		
008	ZZZZZ	3016053	10/24/98	23:38		11.19
009	ZZZZZ	3016054	10/24/98	23:58		11.25
010	ZZZZZ	3016055	10/25/98	0:17		11.25
011	ZZZZZ	3016056	10/25/98	0:37		11.13
012	PBLK5G	BLANKA	10/25/98	0:56		11.22
013	LCS1O	LCSA	10/25/98	1:16		11.22
014	W04--	3018871	10/25/98	1:35		11.23
015	PAHX3OR	PAHX398A	10/25/98	1:55		11.20
016	W04--MS	3018872	10/25/98	2:14		11.19
017	W04--MSD	3018873	10/25/98	2:34		11.18
018	W03--	3018865	10/25/98	2:54		11.18
019	ZZZZZ	BLANKB	10/25/98	3:13		11.18
020	ZZZZZ	LCSB	10/25/98	3:33		11.18
021	ZZZZZ	LCSDB	10/25/98	3:52		11.19
022	ZZZZZ	3019703	10/25/98	4:16	5.02	9.68 *
023	ZZZZZ	3019704	10/25/98	4:39	4.91	9.70 *
024	ZZZZZ	3019705	10/25/98	5:02		9.84 *
025	ZZZZZ	ACN	10/25/98	5:22		
026	PAHX3OS	PAHX398A	10/25/98	5:41		11.17

updated RT windows

returned to old RT windows

This detector not used to quantitate surrogates.

QC LIMITS

NBNZ = Nitrobenzene (4.72 -5.02 MINUTES)

TPNL = Triphenylene (11.08 -11.28 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

6D

PESTICIDE INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Calibration File: 9C9P296B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/29/98 10/29/98

COMPOUND	RT OF STANDARDS					MIDPOINT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	RT	FROM	TO
Naphthalene			7.99			7.99	7.89	8.09
Acenaphthylene			8.60			8.60	8.50	8.70
1-methylnaphthalene			8.87			8.87	8.77	8.97
2-methylnaphthalene			9.05			9.05	8.95	9.15
Acenaphthene			9.23			9.23	9.13	9.33
Phenanthrene			9.81			9.81	9.70	9.92
Anthracene			10.24			10.24	10.13	10.35
Fluoranthene			10.63			10.63	10.53	10.73
Pyrene			11.02			11.02	10.92	11.12
Triphenylene			11.31			11.31	11.21	11.41
Benzo(a)anthracene			11.87			11.87	11.77	11.97
Chrysene			12.16			12.16	11.96	12.36
Benzo(b)fluoranthene			12.99			12.99	12.79	13.19
Benzo(k)fluoranthene			13.50			13.50	13.30	13.70
Benzo(a)pyrene			14.26			14.26	14.06	14.46
Dibenzo(a,h)anthracene			14.87			14.87	14.67	15.07
Benzo(g,h,i)perylene			16.08			16.08	15.88	16.28
Indeno(1,2,3-cd)pyrene			16.46			16.46	16.26	16.66

6E

PESTICIDE INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

ab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B Calibration File: 9C9P296B

GC Column(1): SUPELCO ID: 250. (mm) Date(s) Analyzed: 10/29/98 10/29/98

COMPOUND	CALIBRATION FACTORS LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	MEAN	% RSD
~~Nitrobenzene~~	~~-2.49E-04~~	~~-4.98E-05~~	~~-2.49E-05~~	~~-9.96E-06~~	~~-4.98E-06~~	~~-6.77E-05~~	~~151.8~~
Naphthalene	2.99E-01	3.47E-01	3.43E-01	~~3.37E-01~~	~~3.09E-01~~	3.27E-01	6.6
Acenaphthylene	-2.49E-04	-4.99E-05	~~-2.49E-05~~	2.12E-03	1.61E-03	6.81E-04	161.4
1-methylnaphthalene	5.94E-01	7.24E-01	7.20E-01	7.40E-01	7.24E-01	7.00E-01	8.6
2-methylnaphthalene	6.57E-01	7.87E-01	8.03E-01	8.21E-01	8.14E-01	7.77E-01	8.8
Acenaphthene	1.97E+00	1.98E+00	1.90E+00	1.81E+00	1.64E+00	1.86E+00	7.5
Fluorene	-2.49E-03	-4.99E-04	-2.49E-04	-9.98E-05	-4.99E-05	-6.78E-04	151.8
Phenanthrene	1.39E+00	1.08E+00	1.25E+00	1.40E+00	1.42E+00	1.31E+00	10.9
~~Anthracene~~	~~1.39E+00~~	~~9.39E-01~~	~~7.91E-01~~	~~9.72E-01~~	~~1.03E+00~~	~~1.02E+00~~	~~21.8~~
Fluoranthene	1.45E+01	1.73E+01	1.75E+01	1.80E+01	1.78E+01	1.70E+01	8.5
Pyrene	9.41E-01	1.20E+00	1.25E+00	1.30E+00	1.28E+00	1.19E+00	12.2
~~Triphenylene~~	~~1.21E+00~~	~~9.30E-01~~	~~1.09E+00~~	~~1.25E+00~~	~~1.24E+00~~	~~1.14E+00~~	~~11.7~~
Benzo(a)anthracene	2.04E+01	2.60E+01	2.56E+01	2.69E+01	2.67E+01	2.51E+01	10.8
Chrysene	1.98E+00	2.36E+00	2.42E+00	2.68E+00	2.69E+00	2.43E+00	11.9
Benzo(b)fluoranthene	1.84E+01	2.28E+01	2.28E+01	2.42E+01	2.45E+01	2.25E+01	10.7
Benzo(k)fluoranthene	5.01E+01	5.72E+01	5.58E+01	5.82E+01	5.89E+01	5.60E+01	6.3
Benzo(a)pyrene	1.15E+01	1.43E+01	1.47E+01	1.60E+01	1.62E+01	1.45E+01	12.9
Dibenzo(a,h)anthracene	7.80E+00	8.85E+00	9.07E+00	9.60E+00	9.71E+00	9.00E+00	8.5
Benzo(g,h,i)perylene	2.49E+00	3.05E+00	3.13E+00	3.30E+00	3.38E+00	3.07E+00	11.4
Indeno(1,2,3-cd)pyrene	2.17E+00	2.97E+00	3.08E+00	3.32E+00	3.38E+00	2.98E+00	16.3

Average % RSD: ~~32.5~~ 11.0

Alternate detector used for quantitation.

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Init. Calib. Date(s): 10/29/98 10/29/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/29/98 ✓

Lab File ID: 2C9P296B.35R ✓ Time Analyzed: 10:38 ✓

Lab Standard ID: PAHX3PE

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D
~~Naphthalene~~	~~7.99~~	~~7.89~~	~~8.09~~	~~44403.66~~	~~40160.00~~	~~10.6~~
Acenaphthylene	8.60	8.50	8.70	43296.77	40100.00	8.0
1-methylnaphthalene	8.87	8.77	8.97	11046.81	10188.08	8.4
2-methylnaphthalene	9.05	8.95	9.15	10964.30	10157.40	7.9
Acenaphthene	9.23	9.13	9.33	42949.86	40100.00	7.1
Phenanthrene	9.81	9.70	9.92	1594.04	1607.20	-0.8
~~Anthracene~~	~~10.24~~	~~10.13~~	~~10.35~~	~~664.88~~	~~802.40~~	~~17.1~~
Fluoranthene	10.63	10.53	10.73	883.95 ✓	803.20	10.1
Pyrene	11.02	10.92	11.12	4233.70	4010.00	5.6
~~Triphenylene~~	~~11.31~~	~~11.21~~	~~11.41~~	~~2582.80~~	~~2507.40~~	~~3.0~~
Benzo(a)anthracene	11.87	11.77	11.97	427.12	400.80	6.6
Chrysene	12.16	11.96	12.36	1704.26	1606.40	6.1
Benzo(b)fluoranthene	12.99	12.79	13.19	348.39	321.60	8.3
Benzo(k)fluoranthene	13.50	13.30	13.70	346.21 ✓	320.80	7.9
Benzo(a)pyrene	14.26	14.06	14.46	441.68	400.80	10.2 ✓
Dibenzo(a,h)anthracene	14.87	14.67	15.07	866.70	803.20	7.9
Benzo(g,h,i)perylene	16.08	15.88	16.28	2631.01	2410.00	9.2
Indeno(1,2,3-cd)pyrene	16.46	16.26	16.66	1850.70	1606.40	15.2

Average of %D: 8.3

8.7 11/10/98

* Alternate detector used for quantitation.

FORM VII PEST-2

7E

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories Contract:

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

Instrument: P1562B ✓ Init. Calib. Date(s): 10/29/98 10/29/98

GC Column(1): SUPELCO ID: 250. (mm) Date Analyzed: 10/29/98 ✓

Lab File ID: 2C9P296B.39R ✓ Time Analyzed: 12:08 ✓

Lab Standard ID: PAHX3PF

COMPOUND	RT	RT WINDOW FROM	TO	CALC AMOUNT (ng/ml)	NOM AMOUNT (ng/ml)	%D	
~~Naphthalene~~	~~8.04~~	~~7.89~~	~~8.09~~	43703.80	40160.00	~~8.8~~	
Acenaphthylene	8.57	8.50	8.70	~~47421.83~~	40100.00	18.3	
1-methylnaphthalene	8.91	~~8.77~~	8.97	10737.63	10188.08	5.4	
2-methylnaphthalene	9.09	8.95	9.15	10927.51	10157.40	7.6	
Fluorene	9.28	9.23	9.43	0.00	4010.00	-100.0	*
Phenanthrene	9.86	9.70	9.92	1554.15	1607.20	-3.3	
~~Anthracene~~	~~10.29~~	~~10.13~~	~~10.35~~	~~637.54~~	~~803.40~~	~~-20.5~~	
Fluoranthene	10.69	10.53	10.73	869.35	803.20	8.2	MK ok
Pyrene	11.07	10.92	11.12	4197.41 ✓	4010.00	4.7	
~~Triphenylene~~	~~11.36~~	~~11.21~~	~~11.41~~	~~2526.20~~	~~2507.40~~	~~0.7~~	* ok
Benzo(a)anthracene	11.92	11.77	11.97	423.65	400.80	5.7	
Chrysene	12.22	11.96	12.36	1682.51	1606.40	4.7	
Benzo(b)fluoranthene	13.05	12.79	13.19	348.55	321.60	8.4	
Benzo(k)fluoranthene	13.56	13.30	13.70	340.01	320.80	6.0	
Benzo(a)pyrene	14.32	14.06	14.46	438.05 ✓	400.80	9.3	
Dibenzo(a,h)anthracene	14.94	14.67	15.07	850.67	803.20	5.9 ✓	
Benzo(g,h,i)perylene	16.16	15.88	16.28	2633.88	2410.00	9.3	
Indeno(1,2,3-cd)pyrene	16.54	16.26	16.66	1793.36	1606.40	11.6	Only ok

Average of %D: ~~13.3~~ 7.4

* Alternate detector used for quantitation.

802

FORM VII PEST-2

8D

PESTICIDE ANALYTICAL SEQUENCE

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

GC Column: SUPELCO ID: 250. (mm) Init. Calib Date(s): 10/29/98 10/29/98

Instrument: P1562B ✓ Calibration File: 9C9P296B

THIS ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

SURROGATE RT FROM INITIAL CALIBRATION
NBNZ: 4.76 TPNL: 11.31

	SAMPLE CODE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	NBNZ RT #	TPNL RT #
001	PAHX3PE	PAHX398A	10/29/98	10:38		11.31
002	W09--DL	3018868	10/29/98	11:02		
003	W19--DL	3018869	10/29/98	11:25		11.35
004	W06--DL	3018876	10/29/98	11:48		11.40
005	PAHX3PF	PAHX398A	10/29/98	12:08		11.36

This detector not used to quantitate surrogates.

QC LIMITS

NBNZ = Nitrobenzene (4.61 -4.91 MINUTES)

TPNL = Triphenylene (11.21 -11.41 MINUTES)

Column used to flag retention time values with asterisk.
* Values outside of QC limits.

1D

PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE CODE NO.: PBLK5G

Lab Name: Lancaster Laboratories Contract:

Lab Code: Case No.: SAS No.: SDG No.: HMS07

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

Sample wt/vol: 1000 (g/ml) ml Lab File ID:

% Moisture: Date Received:

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 10/17/98

Concentrated Extract Volume 2000 (uL) Date Analyzed: 10/25/98

Injection Volume: 20 (uL) Dilution Factor: 1

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS:

CAS NO.	COMPOUND (UG/L or UG/KG) UG/L		Q
91-20-3	Naphthalene	0.80	U
208-96-8	Acenaphthylene	0.80	U
83-32-9	Acenaphthene	0.80	U
86-73-7	Fluorene	0.17	U
85-01-8	Phenanthrene	0.046	U
120-12-7	Anthracene	0.031	U
206-44-0	Fluoranthene	0.020	U
129-00-0	Pyrene	0.18	U
56-55-3	Benzo(a)anthracene	0.018	U
218-01-9	Chrysene	0.059	U
205-99-2	Benzo(b)fluoranthene	0.035	U
207-08-9	Benzo(k)fluoranthene	0.027	U
50-32-8	Benzo(a)pyrene	0.022	U
53-70-3	Dibenzo(a,h)anthracene	0.047	U
191-24-2	Benzo(g,h,i)perylene	0.099	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.064	U

#Name?

Organic Extraction Batchlog

Reviewed: CMA
Start Date: 10/17/98
Start Time: 7100
Tech 1: SF 981
Tech 2: —

Prep Analysis # 03337 PAH Water Extraction
Prep Group # 9 PAHs by HPLC - waters Dept: 24

TCH NO. 982890010A | UPDATE III

QC	Sample Code	Amt (mL)	SS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments
BLANKA	PBLK5G	1000	~~SS98259A~~ ✓	1.5	—	—	2	6		
LCSA	LCS1O	1000	~~SS98259A~~ ✓		~~MS98252B~~ ✓	1.5		6		
3018872MS	W04–MS	1002	~~SS98259A~~ ✓		~~MS98252B~~ ✓			6		
3018873MSD	W04–MSD	1010	~~SS98259A~~ ✓	✓	~~MS98252B~~ ✓	✓	✓	6		

SF 981 10/17/98

	Sample #	Sample Code	Amt (mL)	SS Sol.	Amt (mL)	FV (mL)	pH	pH	Comments	Analyses	Due Date	Pri
1	3018865	W03–	1032	~~SS98259A~~ ✓	1.5	2	6	NA		1861	10/29/98	N
2	3018866	W01–	1024	~~SS98259A~~ ✓			6		orange/brown	1861 cent, 3x's	10/29/98	N
3	3018867	W05–	995	~~SS98259A~~ ✓			6		light brown	1861	10/29/98	N
4	3018868	W09–	999	~~SS98259A~~ ✓			6		light brown	1861	10/29/98	N
5	3018869	W19–	1003	~~SS98259A~~ ✓			6		light brown	1861	10/29/98	N
6	3018870	W08–	985	~~SS98259A~~ ✓			6		brown, muddy	1861	10/29/98	N
7	3018871 bkg	W04–	1017	~~SS98259A~~ ✓			6		cloudy	1861	10/29/98	N
	3018874	W12–	972	~~SS98259A~~ ✓			6		cloudy	1861	10/29/98	N
9	3018875	W10–	974	~~SS98259A~~ ✓			6		orange brown	1861 cent, 3x's	10/29/98	N
10	3018876	W06–	989	~~SS98259A~~ ✓			6		brown, muddy	1861 cent, 3x's	10/29/98	N
11	3018877	W07–	964	~~SS98259A~~ ✓			6		brown, muddy	1861 cent, 3x's	10/29/98	N
12	3018878	W13–	1000	~~SS98259A~~ ✓			6		light brown, muddy	1861	10/29/98	N
13	3018879	W23–	994	~~SS98259A~~ ✓			6		light brown, muddy	1861	10/29/98	N
14	3018881	RB1–	990	~~SS98259A~~ ✓		✓	6	✓		1861	10/29/98	N
15	3018882	W11–	1036	~~SS98259A~~ ✓	✓	✓	6	✓	cloudy	1861	10/29/98	N
16												
17												
18												
19												
20												

SF 981 10/17/98

Additional Comment: _____

DF = Dilution Factor FV = Final Volume

Spike Solutions:

~~SS98259A~~ ✓ PAH SURROGATE STD. (PEST) SS98259D
~~MS98252B~~ ✓ PAH SPIKE (PEST) MS98233A
DF 10/17

Solvent Used	Lot No.	Solvent Used	Lot No.
Mecla	M20267	Na2SO4	984784
Acetonitrile	38194		
—	—		
Internal Standar	—	Balance #	8

S-Evap/bath	95 °C	S-Evap/bath	— °C	N-Evap	— °C

95

Lancaster Laboratories, Inc.

CHROMPERFECT SEQUENCE FILE

equence File: c:\CP\DATA1\1C9P293.SEQ
[redacted]ography Directory: c:\cp\data1\
[redacted] Directory: c:\cp\data1\
umber of Entries: 98

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
1	CONDITIONER	MISC	AA	1C9P293.01R	PNA.MET	1.00	1.00	1.00	9829199999	
2	PAHX198A	ICAL	AA	1C9P293.02R	PNA.MET	1.00	1.00	1.00	9829199999	
3	PAHX298A	ICAL	AA	1C9P293.03R	PNA.MET	1.00	1.00	1.00	9829199999	
4	PAHX398A	ICAL	AA	1C9P293.04R	PNA.MET	1.00	1.00	1.00	9829199999	
5	PAHX498A	ICAL	AA	1C9P293.05R	PNA.MET	1.00	1.00	1.00	9829199999	
6	PAHX598A	ICAL	AA	1C9P293.06R	PNA.MET	1.00	1.00	1.00	9829199999	
7	MDPAX98F	ICAL	AA	1C9P293.07R	PNA.MET	1.00	1.00	1.00	9829199999	
8	3016404 RI	T	AA	1C9P293.08R	PNAW.MET	1047.00	2.00	1.00	982870018A	01861
9	3017134 RI	T	AA	1C9P293.09R	PNAW.MET	947.00	2.00	1.00	982870018A	01861
10	BLANKA 10/15/98	BLK	AA	1C9P293.10R	PNAW.MET	30.00	2.00	1.00	982880005A	
11	LCSA 10/15/98	LCS	AA	1C9P293.11R	PNAW.MET	30.00	2.00	1.00	982880005A	
12	BLANKB 10/19/98	BLK	AA	1C9P293.12R	610.MET	1000.00	2.00	1.00	982890005B	
13	LCSB 10/19/98	LCS	AA	1C9P293.13R	610.MET	1000.00	2.00	1.00	982890005B	
14	LCSDB 10/19/98	LCSD	AA	1C9P293.14R	610.MET	1000.00	2.00	1.00	982890005B	
15	3020450 DF100	T	AB	1C9P293.15R	610.MET	964.00	200.00	1.00	982890005B	01861
16	3020451 DF10	T	AB	1C9P293.16R	610.MET	978.00	20.00	1.00	982890005B	01861
17	ACN	MISC	AA	1C9P293.17R	PNA.MET	1.00	1.00	1.00	9829199999	
18	PAHX398A	CCAL	MS	1C9P293.18R	PNACC.MET	1.00	1.00	1.00	982880005A	
19	3017618 DF10	T	AB	1C9P293.19R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
20	3017618MS DF10	MS	AB	1C9P293.20R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
21	3017618MSD DF10	MSD	AB	1C9P293.21R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
22	3017619 DF10	T	AB	1C9P293.22R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
23	3017620 DF10	T	AB	1C9P293.23R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
24	3017622	T	AA	1C9P293.24R	PNAW.MET	30.00	2.00	1.00	982880005A	01862
25	BLANKC 10/16/98	BLK	AA	1C9P293.25R	PNAW.MET	1000.00	2.00	1.00	982860008C	
26	LCSC 10/16/98	LCS	AA	1C9P293.26R	PNAW.MET	1000.00	2.00	1.00	982860008C	
27	LCSDC 10/16/98	LCSD	AA	1C9P293.27R	PNAW.MET	1000.00	2.00	1.00	982860008C	
28	ACN	MISC	AA	1C9P293.28R	PNA.MET	1.00	1.00	1.00	982880005A	
[redacted]	X398A	CCAL	MT	1C9P293.29R	PNACC.MET	1.00	1.00	1.00	982880005A	
[redacted]	623	T	AA	1C9P293.30R	PNAW.MET	1038.00	2.00	1.00	982860008C	01861
[redacted]	017624	T	AA	1C9P293.31R	PNAW.MET	1037.00	2.00	1.00	982860008C	01861
32	3017625 DF50	T	AB	1C9P293.32R	PNAW.MET	880.00	100.00	1.00	982860008C	01861
33	3017626	T	AA	1C9P293.33R	PNAW.MET	1045.00	2.00	1.00	982860008C	01861
34	3017627	T	AA	1C9P293.34R	PNAW.MET	993.00	2.00	1.00	982860008C	01861
35	BLANKA 10/15/98 RI	BLK	AA	1C9P293.35R	PNAW.MET	1000.00	2.00	1.00	982870018A	
36	LCSA 10/15/98 RI	LCS	AA	1C9P293.36R	PNAW.MET	1000.00	2.00	1.00	982870018A	
37	3015174 RI	T	AA	1C9P293.37R	PNAW.MET	1034.00	2.00	1.00	982870018A	01861
38	ACN	MISC	AA	1C9P293.38R	PNA.MET	1.00	1.00	1.00	9829399999	
39	PAHX398A	CCAL	MZ	1C9P293.39R	PNACC.MET	1.00	1.00	1.00	982880005A	
40	3015174MS RI	MS	AA	1C9P293.40R	PNAW.MET	250.00	2.00	1.00	982870018A	01861
41	3015174MSD RI	MSD	AA	1C9P293.41R	PNAW.MET	250.00	2.00	1.00	982870018A	01861
42	3015170 RI	T	AA	1C9P293.42R	PNAW.MET	1021.00	2.00	1.00	982870018A	01861
43	3015171 RI	T	AA	1C9P293.43R	PNAW.MET	976.00	2.00	1.00	982870018A	01861
44	3016153 RI	T	AA	1C9P293.44R	PNAW.MET	1039.00	2.00	1.00	982870018A	01861
45	3016154 RI	T	AA	1C9P293.45R	PNAW.MET	942.00	2.00	1.00	982870018A	01861
46	PAHX398A	CCAL	NC	1C9P293.46R	PNACC.MET	1.00	1.00	1.00	9829399999	
47	3019865	T	AA	1C9P293.47R	610.MET	1038.00	2.00	1.00	982890005B	01632
48	3019866	T	AA	1C9P293.48R	610.MET	1029.00	2.00	1.00	982890005B	01632
49	3019867	T	AA	1C9P293.49R	610.MET	1043.00	2.00	1.00	982890005B	01632
50	3019868	T	AA	1C9P293.50R	610.MET	1035.00	2.00	1.00	982890005B	01632
51	3019868	T	AA	1C9P293.51R	610.MET	1035.00	2.00	1.00	982890005B	01632
52	BLANKA 10/12/98 RI	BLK	AA	1C9P293.52R	610.MET	1000.00	2.00	1.00	982830001A	
53	LCSA 10/12/98 RI	LCS	AA	1C9P293.53R	610.MET	1000.00	2.00	1.00	982830001A	
54	LCSDA 10/12/98 RI	LCSD	AA	1C9P293.54R	610.MET	1000.00	2.00	1.00	982830001A	
55	3014513 RI	T	AA	1C9P293.55R	610.MET	1043.00	2.00	1.00	982830001A	01632
56	ACN	MISC	AA	1C9P293.56R	PNA.MET	1.00	1.00	1.00	9829399999	
57	PAHX398A	CCAL	NB	1C9P293.57R	PNACC.MET	1.00	1.00	1.00	9829399999	
58	3014514 RI	T	AA	1C9P293.58R	610.MET	1049.00	2.00	1.00	982830001A	01632
59	3014515 RI	T	AA	1C9P293.59R	610.MET	1046.00	2.00	1.00	982830001A	01632
60	3014516	T	AA	1C9P293.60R	610.MET	1028.00	2.00	1.00	982830001A	01632
61	3014517	T	AA	1C9P293.61R	610.MET	1028.00	2.00	1.00	982830001A	01632
62	3014518	T	AA	1C9P293.62R	610.MET	1039.00	2.00	1.00	982830001A	01632
[redacted]	4519	T	AA	1C9P293.63R	610.MET	1048.00	2.00	1.00	982830001A	01632

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P293.SEQ
[redacted]atography Directory: c:\cp\data1\
[redacted]d Directory: c:\cp\data1\
Number of Entries: 98

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
64	3014520 RI	T	AA	1C9P293.64R	610.MET	1018.00	2.00	1.00	982830001A	01632
65	3014521 RI DF5	T	AB	1C9P293.65R	610.MET	1040.00	10.00	1.00	982830001A	01632
66	ACN	MISC	AA	1C9P293.66R	PNA.MET	1.00	1.00	1.00	982880005A	
67	PAHX398A	CCAL	ND	1C9P293.67R	PNACC.MET	1.00	1.00	1.00	9829199999	
68	3014522 RI	T	AA	1C9P293.68R	610.MET	1044.00	2.00	1.00	982830001A	01632
69	3014523 RI	T	AA	1C9P293.69R	610.MET	1039.00	2.00	1.00	982830001A	01632
70	3014527 RI	T	AA	1C9P293.70R	610.MET	1048.00	2.00	1.00	982830001A	01632
71	3014528 RI	T	AA	1C9P293.71R	610.MET	1047.00	2.00	1.00	982830001A	01632
72	3014529 RI	T	AA	1C9P293.72R	610.MET	1043.00	2.00	1.00	982830001A	01632
73	3014530 RI	T	AA	1C9P293.73R	610.MET	1041.00	2.00	1.00	982830001A	01632
74	3014531 RI	T	AA	1C9P293.74R	610.MET	1046.00	2.00	1.00	982830001A	01632
75	3014532 RI	T	AA	1C9P293.75R	610.MET	1020.00	2.00	1.00	982830001A	01632
76	ACN	MISC	AA	1C9P293.76R	PNA.MET	1.00	1.00	1.00	982880005A	
77	PAHX398A	CCAL	NE	1C9P293.77R	PNACC.MET	1.00	1.00	1.00	9829199999	
78	3014533 RI	T	AA	1C9P293.78R	610.MET	1046.00	2.00	1.00	982830001A	01632
79	BLANKB 10/13/98 RI	BLK	AA	1C9P293.79R	610.MET	1000.00	2.00	1.00	982780009B	
80	LCSB 10/13/98	LCS	AA	1C9P293.80R	610.MET	1000.00	2.00	1.00	982780009B	
81	LCSDB 10/13/98	LCSD	AA	1C9P293.81R	610.MET	1000.00	2.00	1.00	982780009B	
82	LCSC 10/16/98 RI	LCS	AA	1C9P293.82R	PNAW.MET	1000.00	2.00	1.00	982860008C	
83	3017618MS RI DF10	MS	AB	1C9P293.83R	PNAW.MET	30.00	20.00	1.00	982880005A	01862
84	3015635	T	AA	1C9P293.84R	610.MET	1051.00	2.00	1.00	982780009B	01632
85	3015636	T	AA	1C9P293.85R	610.MET	1046.00	2.00	1.00	982780009B	01632
86	BLANKB 10/15/98	BLK	AA	1C9P293.86R	PNAW.MET	30.00	2.00	1.00	982800001B	
87	PAHX398A	CCAL	NF	1C9P293.87R	PNACC.MET	1.00	1.00	1.00	9829199999	
88	LCSB 10/15/98	LCS	AA	1C9P293.88R	PNAW.MET	30.00	2.00	1.00	982800001B	
89	LCSDB 10/15/98	LCSD	AA	1C9P293.89R	PNAW.MET	30.00	2.00	1.00	982800001B	
90	3016441 DF10	T	AB	1C9P293.90R	PNAW.MET	30.00	20.00	1.00	982800001B	01862
91	3016442 DF10	T	AB	1C9P293.91R	PNAW.MET	30.00	20.00	1.00	982800001B	01862
[redacted]	ANKC 10/18/98	BLK	AA	1C9P293.92R	PNAW.MET	30.00	2.00	1.00	982800001C	
[redacted]	3C 10/18/98	LCS	AA	1C9P293.93R	PNAW.MET	30.00	2.00	1.00	982800001C	
[redacted]	LCSDC 10/18/98	LCSD	AA	1C9P293.94R	PNAW.MET	30.00	2.00	1.00	982800001C	
95	3020262	T	AA	1C9P293.95R	PNAW.MET	30.00	2.00	1.00	982800001C	01862
96	3020263	T	AA	1C9P293.96R	PNAW.MET	30.00	2.00	1.00	982800001C	
97	ACN	MISC	AA	1C9P293.97R	PNA.MET	1.00	1.00	1.00	982880005A	
98	PAHX398A	CCAL	MK	1C9P293.98R	PNACC.MET	1.00	1.00	1.00	9829199999	

[redacted]up by: _____ Date: 10/21/98

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\2C9P293.SEQ
[redacted]atography Directory: c:\cp\data1\
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Number of Entries: 94

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	ISTd	Batch	Analysis
1	LCSA 10/19/98	LCS	AA	2C9P293.01R	PNAW.MET	1.00	2.00	1.00	982900003A	
2	LCSDA 10/19/98	LCSD	AA	2C9P293.02R	PNAW.MET	1.00	2.00	1.00	982900003A	
3	3016341	T	AA	2C9P293.03R	PNAW.MET	1.00	2.00	1.00	982900003A	01862
4	3016342	T	AA	2C9P293.04R	PNAW.MET	1.00	2.00	1.00	982900003A	01862
5	3016343	T	AA	2C9P293.05R	PNAW.MET	1.00	2.00	1.00	982900003A	01862
6	BLANKA 10/17/98	BLK	AA	2C9P293.06R	PNAW.MET	1000.00	2.00	1.00	982890005A	
7	LCSA 10/17/98	LCS	AA	2C9P293.07R	PNAW.MET	1000.00	2.00	1.00	982890005A	
8	3017946	T	AA	2C9P293.08R	PNAW.MET	975.00	2.00	1.00	982890005A	01861
9	ACN	MISC	AA	2C9P293.09R	PAH.MET	1.00	1.00	1.00	9829499999	
10	PAHX398A	CCAL	NO	2C9P293.10R	PNACC.MET	1.00	1.00	1.00	9829499999	
11	3017946MS	MS	AA	2C9P293.11R	PNAW.MET	250.00	2.00	1.00	982890005A	01861
12	3017946MSD	MSD	AA	2C9P293.12R	PNAW.MET	250.00	2.00	1.00	982890005A	01861
13	3017947	T	AA	2C9P293.13R	PNAW.MET	956.00	2.00	1.00	982890005A	01861
14	3018332	T	AA	2C9P293.14R	PNAW.MET	989.00	2.00	1.00	982890005A	01861
15	3018333	T	AA	2C9P293.15R	PNAW.MET	1017.00	2.00	1.00	982890005A	01861
16	3018334	T	AA	2C9P293.16R	PNAW.MET	1013.00	2.00	1.00	982890005A	01861
17	3018335	T	AA	2C9P293.17R	PNAW.MET	990.00	2.00	1.00	982890005A	01861
18	3018336	T	AA	2C9P293.18R	PNAW.MET	1022.00	2.00	1.00	982890005A	01861
19	3018373	T	AA	2C9P293.19R	PNAW.MET	1028.00	2.00	1.00	982890005A	01861
20	ACN	MISC	AA	2C9P293.20R	PAH.MET	1.00	1.00	1.00	9829499999	
21	PAHX398A	CCAL	NP	2C9P293.21R	PNACC.MET	1.00	1.00	1.00	9829499999	
22	3018374	T	AA	2C9P293.22R	PNAW.MET	1038.00	2.00	1.00	982890005A	01861
23	3018375	T	AA	2C9P293.23R	PNAW.MET	1034.00	2.00	1.00	982890005A	01861
24	3018376	T	AA	2C9P293.24R	PNAW.MET	1011.00	2.00	1.00	982890005A	01861
25	3018777	T	AA	2C9P293.25R	PNAW.MET	250.00	2.00	1.00	982890005A	01861
26	3018782	T	AA	2C9P293.26R	PNAW.MET	988.00	2.00	1.00	982890005A	01861
27	3019008	T	AA	2C9P293.27R	PNAW.MET	995.00	2.00	1.00	982890005A	01861
28	ACN	MISC	AA	2C9P293.28R	PAH.MET	1.00	1.00	1.00	9829499999	
	[redacted]HX398A	CCAL	NQ	2C9P293.29R	PNACC.MET	1.00	1.00	1.00	9829499999	
	[redacted]INJ	MISC	AA	2C9P293.30R	PNA.MET	1.00	1.00	1.00	982900003A	
	[redacted]BLANKC 10/16/98	BLK	AA	2C9P293.31R	PNAW.MET	1.00	2.00	1.00	982860008C	
32	BLANKA 10/19/98	BLK	AA	2C9P293.32R	PNAW.MET	1.00	2.00	1.00	982900003A	
33	3017624 DF5	T	AB	2C9P293.33R	PNAW.MET	1037.00	10.00	1.00	982860008C	01861
34	PAHX398A	CCAL	NR	2C9P293.34R	PNACC.MET	1.00	1.00	1.00	982900003A	
35	3015190 RI	T	AA	2C9P293.35R	PNAW.MET	971.00	2.00	1.00	982870018A	01861
36	3015191 RI	T	AA	2C9P293.36R	PNAW.MET	1038.00	2.00	1.00	982870018A	01861
37	3020262 DF20	T	AB	2C9P293.37R	PNAW.MET	30.00	2.00	1.00	982800001C	01862
38	PAHX398A	CCAL	NW	2C9P293.38R	PNACC.MET	1.00	1.00	1.00	982900003A	
39	3015192 RI	T	AA	2C9P293.39R	PNAW.MET	1044.00	2.00	1.00	982870018A	01861
40	3015193 RI	T	AA	2C9P293.40R	PNAW.MET	1021.00	2.00	1.00	982870018A	01861
41	3015194 RI	T	AA	2C9P293.41R	PNAW.MET	1047.00	2.00	1.00	982870018A	01861
42	3016400 RI	T	AA	2C9P293.42R	PNAW.MET	1018.00	2.00	1.00	982870018A	01861
43	3016401 RI	T	AA	2C9P293.43R	PNAW.MET	1047.00	2.00	1.00	982870018A	01861
44	3016402 RI	T	AA	2C9P293.44R	PNAW.MET	1006.00	2.00	1.00	982870018A	01861
45	3016403 RI	T	AA	2C9P293.45R	PNAW.MET	1006.00	2.00	1.00	982870018A	01861
46	PAHX398A	CCAL	NU	2C9P293.46R	PNACC.MET	1.00	1.00	1.00	9829599999	
47	BLANKB 10/21/98	BLK	AA	2C9P293.47R	PNAW.MET	1000.00	2.00	1.00	982890010B	
48	LCSB 10/21/98	LCS	AA	2C9P293.48R	PNAW.MET	1000.00	2.00	1.00	982890010B	
49	LCSDB 10/21/98	LCSD	AA	2C9P293.49R	PNAW.MET	1000.00	2.00	1.00	982890010B	
50	3022152 DF10	T	AB	2C9P293.50R	PNAW.MET	917.00	20.00	1.00	982890010B	01861
51	3022153 DF10	T	AB	2C9P293.51R	PNAW.MET	1041.00	20.00	1.00	982890010B	01861
52	3022174	T	AA	2C9P293.52R	PNAW.MET	994.00	2.00	1.00	982890010B	01861
53	3022175	T	AA	2C9P293.53R	PNAW.MET	1001.00	2.00	1.00	982890010B	01861
54	BLANKA 10/14/98	BLK	AA	2C9P293.54R	PNAW.MET	1000.00	2.00	1.00	982860008A	
55	LCSA 10/14/98	LCS	AA	2C9P293.55R	PNAW.MET	1000.00	2.00	1.00	982860008A	
56	LCSDA 10/14/98	LCSD	AA	2C9P293.56R	PNAW.MET	1000.00	2.00	1.00	982860008A	
57	PAHX398A	CCAL	OA	2C9P293.57R	PNACC.MET	1.00	1.00	1.00		
58	3016043	T	AA	2C9P293.58R	PNAW.MET	1042.00	2.00	1.00	982860008A	01861
59	3016044	T	AA	2C9P293.59R	PNAW.MET	1040.00	2.00	1.00	982860008A	01861
60	3016045 DF5	T	AB	2C9P293.60R	PNAW.MET	1026.00	10.00	1.00	982860008A	01861
61	3016046	T	AA	2C9P293.61R	PNAW.MET	989.00	2.00	1.00	982860008A	01861
62	3016047	T	AA	2C9P293.62R	PNAW.MET	979.00	2.00	1.00	982860008A	01861
	[redacted]016048	T	AA	2C9P293.63R	PNAW.MET	1052.00	2.00	1.00	982860008A	01861

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CHROMPERFECT SEQUENCE FILE

equence File: c:\CP\DATA1\2C9P293.SEQ
tography Directory: c:\cp\data1\
Directory: c:\cp\data1\
umber of Entries: 94

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
54	3016049 DF5	T	AB	2C9P293.64R	PNAW.MET	1004.00	10.00	1.00	982860008A	01861
55	3016050	T	AA	2C9P293.65R	PNAW.MET	1006.00	2.00	1.00	982860008A	01861
56	3016051 DF5	T	AB	2C9P293.66R	PNAW.MET	1036.00	10.00	1.00	982860008A	01861
57	3016052 DF5	T	AB	2C9P293.67R	PNAW.MET	1042.00	10.00	1.00	982860008A	01861
58	PAHX398A	CCAL	OB	2C9P293.68R	PNACC.MET	1.00	1.00	1.00		
59	3016053	T	AA	2C9P293.69R	PNAW.MET	1042.00	2.00	1.00	982860008A	01861
70	3016054	T	AA	2C9P293.70R	PNAW.MET	1046.00	2.00	1.00	982860008A	01861
71	3016055	T	AA	2C9P293.71R	PNAW.MET	1049.00	2.00	1.00	982860008A	01861
72	3016056	T	AA	2C9P293.72R	PNAW.MET	1034.00	2.00	1.00	982860008A	01861
73	BLANKA 10/17/98	BLK	AA	2C9P293.73R	PNAW.MET	1000.00	2.00	1.00	982890010A	
74	LCSA 10/17/98	LCS	AA	2C9P293.74R	PNAW.MET	1000.00	2.00	1.00	982890010A	
75	3018871	T	AA	2C9P293.75R	PNAW.MET	1017.00	2.00	1.00	982890010A	01861
76	3018872MS	MS	AA	2C9P293.76R	PNAW.MET	1002.00	2.00	1.00	982890010A	01861
77	3018873MSD	MSD	AA	2C9P293.77R	PNAW.MET	1010.00	2.00	1.00	982890010A	01861
78	3018865	T	AA	2C9P293.78R	PNAW.MET	1032.00	2.00	1.00	982890010A	01861
79	PAHX398A	CCAL	OC	2C9P293.79R	PNACC.MET	1.00	1.00	1.00		
80	3018866	T	AA	2C9P293.80R	PNAW.MET	1024.00	2.00	1.00	982890010A	01861
81	3018867	T	AA	2C9P293.81R	PNAW.MET	995.00	2.00	1.00	982890010A	01861
82	3018868	T	AA	2C9P293.82R	PNAW.MET	999.00	2.00	1.00	982890010A	01861
83	3018869	T	AA	2C9P293.83R	PNAW.MET	1003.00	2.00	1.00	982890010A	01861
84	3018870	T	AA	2C9P293.84R	PNAW.MET	985.00	2.00	1.00	982890010A	01861
85	3018874	T	AA	2C9P293.85R	PNAW.MET	972.00	2.00	1.00	982890010A	01861
86	3018875	T	AA	2C9P293.86R	PNAW.MET	974.00	2.00	1.00	982890010A	01861
87	3018876	T	AA	2C9P293.87R	PNAW.MET	989.00	2.00	1.00	982890010A	01861
88	3018877	T	AA	2C9P293.88R	PNAW.MET	964.00	2.00	1.00	982890010A	01861
89	PAHX398A	CCAL	OD	2C9P293.89R	PNACC.MET	1.00	1.00	1.00		
90	3018878	T	AA	2C9P293.90R	PNAW.MET	1000.00	2.00	1.00	982890010A	01861
91	3018879	T	AA	2C9P293.91R	PNAW.MET	994.00	2.00	1.00	982890010A	01861
	8881	T	AA	2C9P293.92R	PNAW.MET	990.00	2.00	1.00	982890010A	01861
	8882	T	AA	2C9P293.93R	PNAW.MET	1006.00	2.00	1.00	982890010A	01861
	AHX398A	CCAL	OE	2C9P293.94R	PNACC.MET	1.00	1.00	1.00		

up by: M. Kelly Date: 10/29/98

812

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P296.SEQ
Chromatography Directory: c:\cp\data1\
Method Directory: c:\cp\data1\
Number of Entries: 81

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
1	CONDITIONER	MISC	AA	1C9P296.01R	PNA.MET	1.00	1.00	1.00	9829699999	
2	CONDITIONER	MISC	AA	1C9P296.02R	PNA.MET	1.00	1.00	1.00	9829699999	
3	PAHX198A	ICAL	AA	1C9P296.03R	PNA.MET	1.00	1.00	1.00	9829699999	
4	PAHX298A	ICAL	AA	1C9P296.04R	PNA.MET	1.00	1.00	1.00	9829699999	
5	PAHX398A	ICAL	AA	1C9P296.05R	PNA.MET	1.00	1.00	1.00	9829699999	
6	PAHX498A	ICAL	AA	1C9P296.06R	PNA.MET	1.00	1.00	1.00	9829699999	
7	PAHX598A	ICAL	AA	1C9P296.07R	PNA.MET	1.00	1.00	1.00	9829699999	
8	MDPAX98F	ICAL	AA	1C9P296.08R	PNA.MET	1.00	1.00	1.00	9829699999	
9	BLANKB 10/21/98 RI	BLK	AA	1C9P296.09R	PNAW.MET	1000.00	2.00	1.00	982890010B	
10	LCSB 10/21/98 RI	LCS	AA	1C9P296.10R	PNAW.MET	1000.00	2.00	1.00	982890010B	
11	LCSDB 10/21/98 RI	LCSD	AA	1C9P296.11R	PNAW.MET	1000.00	2.00	1.00	982890010B	
12	3022152 RI DF10	T	AB	1C9P296.12R	PNAW.MET	917.00	20.00	1.00	982890010B	01861
13	3022153 RI DF10	T	AB	1C9P296.13R	PNAW.MET	1041.00	20.00	1.00	982890010B	01861
14	3022174 RI	T	AA	1C9P296.14R	PNAW.MET	994.00	2.00	1.00	982890010B	01861
15	3022175 RI	T	AA	1C9P296.15R	PNAW.MET	1001.00	2.00	1.00	982890010B	01861
16	BLANKB 10/16/98	BLK	AA	1C9P296.16R	610.MET	1000.00	2.00	1.00	982820004B	
17	LCSB 10/16/98	LCS	AA	1C9P296.17R	610.MET	1000.00	2.00	1.00	982820004B	
18	ACN	MISC	AA	1C9P296.18R	PNA.MET	1.00	1.00	1.00	9829699999	
19	PAHX398A	CCAL	ON	1C9P296.19R	PNACC.MET	1.00	1.00	1.00	9829699999	
20	LCSDB 10/16/98	LCSD	AA	1C9P296.20R	610.MET	1000.00	2.00	1.00	982820004B	
21	3016925	T	AA	1C9P296.21R	610.MET	794.00	2.00	1.00	982820004B	01632
22	3016926	T	AA	1C9P296.22R	610.MET	770.00	2.00	1.00	982820004B	01632
23	3016927	T	AA	1C9P296.23R	610.MET	777.00	2.00	1.00	982820004B	01632
24	3016928	T	AA	1C9P296.24R	610.MET	916.00	2.00	1.00	982820004B	01632
25	3016929	T	AA	1C9P296.25R	610.MET	821.00	2.00	1.00	982820004B	01632
26	3016930	T	AA	1C9P296.26R	610.MET	851.00	2.00	1.00	982820004B	01632
27	3016931	T	AA	1C9P296.27R	610.MET	800.00	2.00	1.00	982820004B	01632
28	3016932	T	AA	1C9P296.28R	610.MET	999.00	2.00	1.00	982820004B	01632
	6933	T	AA	1C9P296.29R	610.MET	850.00	2.00	1.00	982820004B	01632
	HX398A	CCAL	OO	1C9P296.30R	PNACC.MET	1.00	1.00	1.00	9829699999	
	BLANKA 10/14/98 RI	BLK	AA	1C9P296.31R	PNAW.MET	1000.00	2.00	1.00	982860008A	
32	LCSA 10/14/98 RI	LCS	AA	1C9P296.32R	PNAW.MET	1000.00	2.00	1.00	982860008A	
33	LCSDA 10/14/98 RI	LCSD	AA	1C9P296.33R	PNAW.MET	1000.00	2.00	1.00	982860008A	
34	3016043 DF5	T	AB	1C9P296.34R	PNAW.MET	1042.00	10.00	1.00	982860008A	01861
35	3016044 RI	T	AA	1C9P296.35R	PNAW.MET	1040.00	2.00	1.00	982860008A	01861
36	3016045	T	AA	1C9P296.36R	PNAW.MET	1026.00	2.00	1.00	982860008A	01861
37	3016046 RI	T	AA	1C9P296.37R	PNAW.MET	989.00	2.00	1.00	982860008A	01861
38	3016047 RI	T	AA	1C9P296.38R	PNAW.MET	979.00	2.00	1.00	982860008A	01861
39	3016048 RI	T	AA	1C9P296.39R	PNAW.MET	1052.00	2.00	1.00	982860008A	01861
40	3016049	T	AA	1C9P296.40R	PNAW.MET	1004.00	2.00	1.00	982860008A	01861
41	PAHX398A	CCAL	OP	1C9P296.41R	PNACC.MET	1.00	1.00	1.00	9829699999	
42	3016050 RI	T	AA	1C9P296.42R	PNAW.MET	1006.00	2.00	1.00	982860008A	01861
43	3016051	T	AA	1C9P296.43R	PNAW.MET	1036.00	2.00	1.00	982860008A	01861
44	CONITIONER	MISC	AA	1C9P296.44R	PNA.MET	1.00	1.00	1.00	982860008A	
45	PAHX398A	CCAL	OQ	1C9P296.45R	PNACC.MET	1.00	1.00	1.00	982860008A	
46	3016050 RI	T	AA	1C9P296.46R	PNAW.MET	1006.00	2.00	1.00	982860008A	01861
47	3016051 RI	T	AA	1C9P296.47R	PNAW.MET	1036.00	2.00	1.00	982860008A	01861
48	3016052 RI DF5	T	AB	1C9P296.48R	PNAW.MET	1042.00	10.00	1.00	982860008A	01861
49	3016053 RI	T	AA	1C9P296.49R	PNAW.MET	1042.00	2.00	1.00	982860008A	01861
50	3016054 RI	T	AA	1C9P296.50R	PNAW.MET	1046.00	2.00	1.00	982860008A	01861
51	3016055 RI	T	AA	1C9P296.51R	PNAW.MET	1049.00	2.00	1.00	982860008A	01861
52	3016056 RI	T	AA	1C9P296.52R	PNAW.MET	1034.00	2.00	1.00	982860008A	01861
53	BLANKA 10/17/98 RI	BLK	AA	1C9P296.53R	PNAW.MET	1000.00	2.00	1.00	982890010A	
54	LCSA 10/17/98 RI	LCS	AA	1C9P296.54R	PNAW.MET	1000.00	2.00	1.00	982890010A	
55	3018871 RI	T	AA	1C9P296.55R	PNAW.MET	1017.00	2.00	1.00	982890010A	01861
56	PAHX398A	CCAL	OR	1C9P296.56R	PNACC.MET	1.00	1.00	1.00	9829699999	
57	3018872MS RI	MS	AA	1C9P296.57R	PNAW.MET	1002.00	2.00	1.00	982890010A	01861
58	3018873MSD RI	MSD	AA	1C9P296.58R	PNAW.MET	1010.00	2.00	1.00	982890010A	01861
59	3018865 RI	T	AA	1C9P296.59R	PNAW.MET	1032.00	2.00	1.00	982890010A	01861
60	BLANKB 10/19/98	BLK	AA	1C9P296.60R	PNAW.MET	30.00	2.00	1.00	982880005B	
61	LCSB 10/19/98	LCS	AA	1C9P296.61R	PNAW.MET	30.00	2.00	1.00	982880005B	
62	LCSDB 10/19/98	LCSD	AA	1C9P296.62R	PNAW.MET	30.00	2.00	1.00	982880005B	
	119703 DF20	T	AB	1C9P296.63R	PAHW.MET	30.00	40.00	1.00	982880005B	01862

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P296.SEQ
[illegible]atography Directory: c:\cp\data1\
[illegible]od Directory: c:\cp\data1\
Number of Entries: 81

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
64	3019704 DF20	T	AB	1C9P296.64R	PAHW.MET	30.00	40.00	1.00	982880005B	01862
65	3019705 DF20	T	AB	1C9P296.65R	PAHW.MET	30.00	40.00	1.00	982880005B	01862
66	ACN	MISC	AA	1C9P296.66R	PNA.MET	1.00	1.00	1.00	9829699999	
67	PAHX398A	CCAL	OS	1C9P296.67R	PNACC.MET	1.00	1.00	1.00	9829699999	
68	3019706 DF5	T	AB	1C9P296.68R	PAHW.MET	30.00	10.00	1.00	982880005B	01862
69	3019707 DF20	T	AB	1C9P296.69R	PAHW.MET	30.00	40.00	1.00	982880005B	01862
70	3019708 DF5	T	AB	1C9P296.70R	PAHW.MET	30.00	10.00	1.00	982880005B	01862
71	3019709 DF20	T	AB	1C9P296.71R	PAHW.MET	30.00	40.00	1.00	982880005B	01862
72	3019710 DF20	T	AB	1C9P296.72R	PAHW.MET	30.00	40.00	1.00	982880005B	01862
73	ACN	MISC	AA	1C9P296.73R	PNA.MET	1.00	1.00	1.00	9829699999	
74	PAHX398A	CCAL	OT	1C9P296.74R	PNACC.MET	1.00	1.00	1.00	9829699999	
75	CONDITIONER	MISC	AA	1C9P296.75R	PNA.MET	1.00	1.00	1.00	9829699999	
76	CONDITIONER	MISC	AA	1C9P296.76R	PNA.MET	1.00	1.00	1.00	9829699999	
77	CONITIONER	MISC	AA	1C9P296.77R	PNA.MET	1.00	1.00	1.00	9829699999	
78	PAHX398A	CCAL	OV	1C9P296.78R	PNACC.MET	1.00	1.00	1.00		
79	3016929 DF5	T	AB	1C9P296.79R	610.MET	821.00	10.00	1.00	982820004B	01632
80	3016932 DF5	T	AB	1C9P296.80R	610.MET	999.00	10.00	1.00	982820004B	01632
81	PAHX398A	CCAL	OU	1C9P296.81R	PNACC.MET	1.00	1.00	1.00		

[illegible]-up by: M. [illegible] Date: 11-9-98

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CHROMPERFECT SEQUENCE FILE

[redacted]nce File: c:\CP\DATA1\2C9P296.SEQ
[redacted]tography Directory: c:\cp\data1\
[redacted]od Directory: c:\cp\data1\
Number of Entries: 48

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
1	CONDITIONER	MISC	AA	2C9P296.01R	PNA.MET	1.00	1.00	1.00	9830099999	
2	CONDITIONER	MISC	AA	2C9P296.02R	PNA.MET	1.00	1.00	1.00	9830099999	
3	PAHX398A	CCAL	PA	2C9P296.03R	PNACC.MET	1.00	1.00	1.00	9830099999	
4	BLANKA 10/21/98	BLK	AA	2C9P296.04R	PNAW.MET	1000.00	2.00	1.00	982930010A	
5	LCSA 10/21/98	LCS	AA	2C9P296.05R	PNAW.MET	1000.00	2.00	1.00	982930010A	
6	3020522	T	AA	2C9P296.06R	PNAW.MET	987.00	2.00	1.00	982930010A	01861
7	3020522MS	MS	AA	2C9P296.07R	PNAW.MET	250.00	2.00	1.00	982930010A	01861
8	3020522MSD	MSD	AA	2C9P296.08R	PNAW.MET	250.00	2.00	1.00	982930010A	01861
9	3020523	T	AA	2C9P296.09R	PNAW.MET	967.00	2.00	1.00	982930010A	01861
10	3020524	T	AA	2C9P296.10R	PNAW.MET	977.00	2.00	1.00	982930010A	01861
11	3020525	T	AA	2C9P296.11R	PNAW.MET	992.00	2.00	1.00	982930010A	01861
12	BLANKA 10/21/98	BLK	AA	2C9P296.12R	610.MET	1000.00	2.00	1.00	982930011A	
13	LCSA 10/21/98	LCS	AA	2C9P296.13R	610.MET	1000.00	2.00	1.00	982930011A	
14	PAHX398A	CCAL	PB	2C9P296.14R	PNACC.MET	1.00	1.00	1.00	9830099999	
15	3020395	T	AA	2C9P296.15R	610.MET	1003.00	2.00	1.00	982930011A	01632
16	3020395MS	MS	AA	2C9P296.16R	610.MET	250.00	2.00	1.00	982930011A	01632
17	3020395MSD	MSD	AA	2C9P296.17R	610.MET	250.00	2.00	1.00	982930011A	01632
18	3020396	T	AA	2C9P296.18R	610.MET	976.00	2.00	1.00	982930011A	01632
19	3020397	T	AA	2C9P296.19R	610.MET	1014.00	2.00	1.00	982930011A	01632
20	3020398 DF5	T	AB	2C9P296.20R	610.MET	983.00	10.00	1.00	982930011A	01632
21	3020399	T	AA	2C9P296.21R	610.MET	1022.00	2.00	1.00	982930011A	01632
22	3020400	T	AA	2C9P296.22R	610.MET	1029.00	2.00	1.00	982930011A	01632
23	3020401	T	AA	2C9P296.23R	610.MET	1011.00	2.00	1.00	982930011A	01632
24	3020402	T	AA	2C9P296.24R	610.MET	1005.00	2.00	1.00	982930011A	01632
25	PAHX398A	CCAL	PC	2C9P296.25R	PNACC.MET	1.00	1.00	1.00	9830099999	
26	BLANKA 10/26/98	BLK	AA	2C9P296.26R	PNAW.MET	1000.00	2.00	1.00	982950009A	
27	LCSA 10/26/98	LCS	AA	2C9P296.27R	PNAW.MET	1000.00	2.00	1.00	982950009A	
28	3022324	T	AA	2C9P296.28R	PNAW.MET	1002.00	2.00	1.00	982950009A	01861
[redacted]	324MS	MS	AA	2C9P296.29R	PNAW.MET	250.00	2.00	1.00	982950009A	01861
[redacted]	324MSD	MSD	AA	2C9P296.30R	PNAW.MET	250.00	2.00	1.00	982950009A	01861
[redacted]	AHX398A	CCAL	PD	2C9P296.31R	PNACC.MET	1.00	1.00	1.00	9830099999	
32	CONDITIONER	MISC	AA	2C9P296.32R	PNA.MET	1.00	1.00	1.00	9830099999	
33	CONDITIONER	MISC	AA	2C9P296.33R	PNA.MET	1.00	1.00	1.00	9830099999	
34	CONDITIONER	MISC	AA	2C9P296.34R	PNA.MET	1.00	1.00	1.00	9830099999	
35	PAHX398A	CCAL	PE	2C9P296.35R	PNACC.MET	1.00	1.00	1.00	9830099999	
36	3018868 DF50	T	AB	2C9P296.36R	PNAW.MET	999.00	100.00	1.00	982890010A	01861
37	3018869 DF50	T	AB	2C9P296.37R	PNAW.MET	1003.00	100.00	1.00	982890010A	01861
38	3018876 DF20	T	AB	2C9P296.38R	PNAW.MET	989.00	40.00	1.00	982890010A	01861
39	PAHX398A	CCAL	PF	2C9P296.39R	PNACC.MET	1.00	1.00	1.00	982890010A	
40	NO INJ	MISC	AA	2C9P296.40R	PNA.MET	1.00	1.00	1.00	9830099999	
41	BLANKA 10/21/98	BLK	AA	2C9P296.41R	PNAW.MET	1000.00	2.00	1.00	982930010A	
42	LCSA 10/21/98	LCS	AA	2C9P296.42R	PNAW.MET	1000.00	2.00	1.00	982930010A	
43	PAHX398A	CCAL	PG	2C9P296.43R	PNACC.MET	1.00	1.00	1.00	982930010A	
44	CONDITIONER	MISC	AA	2C9P296.44R	PNA.MET	1.00	1.00	1.00	9830099999	
45	CONDITIONER	MISC	AA	2C9P296.45R	PNA.MET	1.00	1.00	1.00	9830099999	
46	PAHX398A	CCAL	PG	2C9P296.46R	PNACC.MET	1.00	1.00	1.00	9830099999	
47	BLANKB 10/19 RI	BLK	AB	2C9P296.47R	PNAW.MET	30.00	2.00	1.00	9830099999	
48	PAHX398A	CCAL	PH	2C9P296.48R	PNACC.MET	1.00	1.00	1.00	9830099999	

[redacted]p by: M. Kline Date: 11/18/98

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CHROMPERFECT SEQUENCE FILE

equence File: c:\CP\DATA1\1C9P293B.SEQ
tography Directory: c:\cp\data1\
Directory: c:\cp\data1\
Number of Entries: 98

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	ISTd	Batch	Analysis
1	CONDITIONER	MISC	AA	1C9P293B.01R	PNAB.MET	1.00	1.00	1.00	9829199999	
2	PAHX198A	ICAL	AA	1C9P293B.02R	PNAB.MET	1.00	1.00	1.00	9829199999	
3	PAHX298A	ICAL	AA	1C9P293B.03R	PNAB.MET	1.00	1.00	1.00	9829199999	
4	PAHX398A	ICAL	AA	1C9P293B.04R	PNAB.MET	1.00	1.00	1.00	9829199999	
5	PAHX498A	ICAL	AA	1C9P293B.05R	PNAB.MET	1.00	1.00	1.00	9829199999	
6	PAHX598A	ICAL	AA	1C9P293B.06R	PNAB.MET	1.00	1.00	1.00	9829199999	
7	MDPAX98F	ICAL	AA	1C9P293B.07R	PNAB.MET	1.00	1.00	1.00	9829199999	
8	3016404 RI	T	AA	1C9P293B.08R	PNAWB.MET	1047.00	2.00	1.00	982870018A	01861
9	3017134 RI	T	AA	1C9P293B.09R	PNAWB.MET	947.00	2.00	1.00	982870018A	01861
10	BLANKA 10/15/98	BLK	AA	1C9P293B.10R	PNAWB.MET	30.00	2.00	1.00	982880005A	
11	LCSA 10/15/98	LCS	AA	1C9P293B.11R	PNAWB.MET	30.00	2.00	1.00	982880005A	
12	BLANKB 10/19/98	BLK	AA	1C9P293B.12R	610B.MET	1000.00	2.00	1.00	982890005B	
13	LCSB 10/19/98	LCS	AA	1C9P293B.13R	610B.MET	1000.00	2.00	1.00	982890005B	
14	LCSDB 10/19/98	LCSD	AA	1C9P293B.14R	610B.MET	1000.00	2.00	1.00	982890005B	
15	3020450 DF100	T	AB	1C9P293B.15R	610B.MET	964.00	200.00	1.00	982890005B	01861
16	3020451 DF10	T	AB	1C9P293B.16R	610B.MET	978.00	20.00	1.00	982890005B	01861
17	ACN	MISC	AA	1C9P293B.17R	PNAB.MET	1.00	1.00	1.00	9829199999	
18	PAHX398A	CCAL	MS	1C9P293B.18R	PNACCB.MET	1.00	1.00	1.00	982880005A	
19	3017618 DF10	T	AB	1C9P293B.19R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
20	3017618MS DF10	MS	AB	1C9P293B.20R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
21	3017618MSD DF10	MSD	AB	1C9P293B.21R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
22	3017619 DF10	T	AB	1C9P293B.22R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
23	3017620 DF10	T	AB	1C9P293B.23R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
24	3017622	T	AA	1C9P293B.24R	PNAWB.MET	30.00	2.00	1.00	982880005A	01862
25	BLANKC 10/16/98	BLK	AA	1C9P293B.25R	PNAWB.MET	1000.00	2.00	1.00	982860008C	
26	LCSC 10/16/98	LCS	AA	1C9P293B.26R	PNAWB.MET	1000.00	2.00	1.00	982860008C	
27	LCSDC 10/16/98	LCSD	AA	1C9P293B.27R	PNAWB.MET	1000.00	2.00	1.00	982860008C	
28	ACN	MISC	AA	1C9P293B.28R	PNAB.MET	1.00	1.00	1.00	982880005A	
29	[illegible]X398A	CCAL	MT	1C9P293B.29R	PNACCB.MET	1.00	1.00	1.00	982880005A	
30	[illegible]623	T	AA	1C9P293B.30R	PNAWB.MET	1038.00	2.00	1.00	982860008C	01861
31	[illegible]17624	T	AA	1C9P293B.31R	PNAWB.MET	1037.00	2.00	1.00	982860008C	01861
32	3017625 DF50	T	AB	1C9P293B.32R	PNAWB.MET	880.00	100.00	1.00	982860008C	01861
33	3017626	T	AA	1C9P293B.33R	PNAWB.MET	1045.00	2.00	1.00	982860008C	01861
34	3017627	T	AA	1C9P293B.34R	PNAWB.MET	993.00	2.00	1.00	982860008C	01861
35	BLANKA 10/15/98 RI	BLK	AA	1C9P293B.35R	PNAWB.MET	1000.00	2.00	1.00	982870018A	
36	LCSA 10/15/98 RI	LCS	AA	1C9P293B.36R	PNAWB.MET	1000.00	2.00	1.00	982870018A	
37	3015174 RI	T	AA	1C9P293B.37R	PNAWB.MET	1034.00	2.00	1.00	982870018A	01861
38	ACN	MISC	AA	1C9P293B.38R	PNAB.MET	1.00	1.00	1.00	9829399999	
39	PAHX398A	CCAL	MZ	1C9P293B.39R	PNACCB.MET	1.00	1.00	1.00	982880005A	
40	3015174MS RI	MS	AA	1C9P293B.40R	PNAWB.MET	250.00	2.00	1.00	982870018A	01861
41	3015174MSD RI	MSD	AA	1C9P293B.41R	PNAWB.MET	250.00	2.00	1.00	982870018A	01861
42	3015170 RI	T	AA	1C9P293B.42R	PNAWB.MET	1021.00	2.00	1.00	982870018A	01861
43	3015171 RI	T	AA	1C9P293B.43R	PNAWB.MET	976.00	2.00	1.00	982870018A	01861
44	3016153 RI	T	AA	1C9P293B.44R	PNAWB.MET	1039.00	2.00	1.00	982870018A	01861
45	3016154 RI	T	AA	1C9P293B.45R	PNAWB.MET	942.00	2.00	1.00	982870018A	01861
46	PAHX398A	CCAL	NC	1C9P293B.46R	PNACCB.MET	1.00	1.00	1.00	9829399999	
47	3019865	T	AA	1C9P293B.47R	610B.MET	1038.00	2.00	1.00	982890005B	01632
48	3019866	T	AA	1C9P293B.48R	610B.MET	1029.00	2.00	1.00	982890005B	01632
49	3019867	T	AA	1C9P293B.49R	610B.MET	1043.00	2.00	1.00	982890005B	01632
50	3019868	T	AA	1C9P293B.50R	610B.MET	1035.00	2.00	1.00	982890005B	01632
51	3019868	T	AA	1C9P293B.51R	610B.MET	1035.00	2.00	1.00	982890005B	01632
52	BLANKA 10/12/98 RI	BLK	AA	1C9P293B.52R	610B.MET	1000.00	2.00	1.00	982830001A	
53	LCSA 10/12/98 RI	LCS	AA	1C9P293B.53R	610B.MET	1000.00	2.00	1.00	982830001A	
54	LCSDA 10/12/98 RI	LCSD	AA	1C9P293B.54R	610B.MET	1000.00	2.00	1.00	982830001A	
55	3014513 RI	T	AA	1C9P293B.55R	610B.MET	1043.00	2.00	1.00	982830001A	01632
56	ACN	MISC	AA	1C9P293B.56R	PNAB.MET	1.00	1.00	1.00	9829399999	
57	PAHX398A	CCAL	NB	1C9P293B.57R	PNACCB.MET	1.00	1.00	1.00	9829399999	
58	3014514 RI	T	AA	1C9P293B.58R	610B.MET	1049.00	2.00	1.00	982830001A	01632
59	3014515 RI	T	AA	1C9P293B.59R	610B.MET	1046.00	2.00	1.00	982830001A	01632
60	3014516	T	AA	1C9P293B.60R	610B.MET	1028.00	2.00	1.00	982830001A	01632
61	3014517	T	AA	1C9P293B.61R	610B.MET	1028.00	2.00	1.00	982830001A	01632
62	3014518	T	AA	1C9P293B.62R	610B.MET	1039.00	2.00	1.00	982830001A	01632
63	[illegible]14519	T	AA	1C9P293B.63R	610B.MET	1048.00	2.00	1.00	982830001A	01632

837

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P293B.SEQ
Chromatography Directory: c:\cp\data1\
Method Directory: c:\cp\data1\
Number of Entries: 98

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64	3014520 RI	T	AA	1C9P293B.64R	610B.MET	1018.00	2.00	1.00	982830001A	01632
65	3014521 RI DF5	T	AB	1C9P293B.65R	610B.MET	1040.00	10.00	1.00	982830001A	01632
66	ACN	MISC	AA	1C9P293B.66R	PNAB.MET	1.00	1.00	1.00	982880005A	
67	PAHX398A	CCAL	ND	1C9P293B.67R	PNACCB.MET	1.00	1.00	1.00	9829199999	
68	3014522 RI	T	AA	1C9P293B.68R	610B.MET	1044.00	2.00	1.00	982830001A	01632
69	3014523 RI	T	AA	1C9P293B.69R	610B.MET	1039.00	2.00	1.00	982830001A	01632
70	3014527 RI	T	AA	1C9P293B.70R	610B.MET	1048.00	2.00	1.00	982830001A	01632
71	3014528 RI	T	AA	1C9P293B.71R	610B.MET	1047.00	2.00	1.00	982830001A	01632
72	3014529 RI	T	AA	1C9P293B.72R	610B.MET	1043.00	2.00	1.00	982830001A	01632
73	3014530 RI	T	AA	1C9P293B.73R	610B.MET	1041.00	2.00	1.00	982830001A	01632
74	3014531 RI	T	AA	1C9P293B.74R	610B.MET	1046.00	2.00	1.00	982830001A	01632
75	3014532 RI	T	AA	1C9P293B.75R	610B.MET	1020.00	2.00	1.00	982830001A	01632
76	ACN	MISC	AA	1C9P293B.76R	PNAB.MET	1.00	1.00	1.00	982880005A	
77	PAHX398A	CCAL	NE	1C9P293B.77R	PNACCB.MET	1.00	1.00	1.00	9829199999	
78	3014533 RI	T	AA	1C9P293B.78R	610B.MET	1046.00	2.00	1.00	982830001A	01632
79	BLANKB 10/13/98 RI	BLK	AA	1C9P293B.79R	610B.MET	1000.00	2.00	1.00	982780009B	
80	LCSB 10/13/98	LCS	AA	1C9P293B.80R	610B.MET	1000.00	2.00	1.00	982780009B	
81	LCSDB 10/13/98	LCSD	AA	1C9P293B.81R	610B.MET	1000.00	2.00	1.00	982780009B	
82	LCSC 10/16/98 RI	LCS	AA	1C9P293B.82R	PNAWB.MET	1000.00	2.00	1.00	982860008C	
83	3017618MS RI DF10	MS	AB	1C9P293B.83R	PNAWB.MET	30.00	20.00	1.00	982880005A	01862
84	3015635	T	AA	1C9P293B.84R	610B.MET	1051.00	2.00	1.00	982780009B	01632
85	3015636	T	AA	1C9P293B.85R	610B.MET	1046.00	2.00	1.00	982780009B	01632
86	BLANKB 10/15/98	BLK	AA	1C9P293B.86R	PNAWB.MET	30.00	2.00	1.00	982800001B	
87	PAHX398A	CCAL	NF	1C9P293B.87R	PNACCB.MET	1.00	1.00	1.00	9829199999	
88	LCSB 10/15/98	LCS	AA	1C9P293B.88R	PNAWB.MET	30.00	2.00	1.00	982800001B	
89	LCSDB 10/15/98	LCSD	AA	1C9P293B.89R	PNAWB.MET	30.00	2.00	1.00	982800001B	
90	3016441 DF10	T	AB	1C9P293B.90R	PNAWB.MET	30.00	20.00	1.00	982800001B	01862
91	3016442 DF10	T	AB	1C9P293B.91R	PNAWB.MET	30.00	20.00	1.00	982800001B	01862
92	BLANKC 10/18/98	BLK	AA	1C9P293B.92R	PNAWB.MET	30.00	2.00	1.00	982800001C	
93	LCSC 10/18/98	LCS	AA	1C9P293B.93R	PNAWB.MET	30.00	2.00	1.00	982800001C	
94	LCSDC 10/18/98	LCSD	AA	1C9P293B.94R	PNAWB.MET	30.00	2.00	1.00	982800001C	
95	3020262	T	AA	1C9P293B.95R	PNAWB.MET	30.00	2.00	1.00	982800001C	01862
96	3020263	T	AA	1C9P293B.96R	PNAWB.MET	30.00	2.00	1.00	982800001C	
97	ACN	MISC	AA	1C9P293B.97R	PNAB.MET	1.00	1.00	1.00	982880005A	
98	PAHX398A	CCAL	MK	1C9P293B.98R	PNACCB.MET	1.00	1.00	1.00	9829199999	

Signed up by:_____ Date:_____

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\2C9P293B.SEQ
Chromatography Directory: c:\cp\data1\
[redacted]d Directory: c:\cp\data1\
[redacted]mber of Entries: 94

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	ISTd	Batch	Analysis
1	LCSA 10/19/98	LCS	AA	2C9P293B.01R	PNAWB.MET	1.00	2.00	1.00	982900003A	
2	LCSDA 10/19/98	LCSD	AA	2C9P293B.02R	PNAWB.MET	1.00	2.00	1.00	982900003A	
3	3016341	T	AA	2C9P293B.03R	PNAWB.MET	1.00	2.00	1.00	982900003A	01862
4	3016342	T	AA	2C9P293B.04R	PNAWB.MET	1.00	2.00	1.00	982900003A	01862
5	3016343	T	AA	2C9P293B.05R	PNAWB.MET	1.00	2.00	1.00	982900003A	01862
6	BLANKA 10/17/98	BLK	AA	2C9P293B.06R	PNAWB.MET	1000.00	2.00	1.00	982890005A	
7	LCSA 10/17/98	LCS	AA	2C9P293B.07R	PNAWB.MET	1000.00	2.00	1.00	982890005A	
8	3017946	T	AA	2C9P293B.08R	PNAWB.MET	975.00	2.00	1.00	982890005A	01861
9	ACN	MISC	AA	2C9P293B.09R	PAHB.MET	1.00	1.00	1.00	9829499999	
10	PAHX398A	CCAL	NO	2C9P293B.10R	PNACCB.MET	1.00	1.00	1.00	9829499999	
11	3017946MS	MS	AA	2C9P293B.11R	PNAWB.MET	250.00	2.00	1.00	982890005A	01861
12	3017946MSD	MSD	AA	2C9P293B.12R	PNAWB.MET	250.00	2.00	1.00	982890005A	01861
13	3017947	T	AA	2C9P293B.13R	PNAWB.MET	956.00	2.00	1.00	982890005A	01861
14	3018332	T	AA	2C9P293B.14R	PNAWB.MET	989.00	2.00	1.00	982890005A	01861
15	3018333	T	AA	2C9P293B.15R	PNAWB.MET	1017.00	2.00	1.00	982890005A	01861
16	3018334	T	AA	2C9P293B.16R	PNAWB.MET	1013.00	2.00	1.00	982890005A	01861
17	3018335	T	AA	2C9P293B.17R	PNAWB.MET	990.00	2.00	1.00	982890005A	01861
18	3018336	T	AA	2C9P293B.18R	PNAWB.MET	1022.00	2.00	1.00	982890005A	01861
19	3018373	T	AA	2C9P293B.19R	PNAWB.MET	1028.00	2.00	1.00	982890005A	01861
20	ACN	MISC	AA	2C9P293B.20R	PAHB.MET	1.00	1.00	1.00	9829499999	
21	PAHX398A	CCAL	NP	2C9P293B.21R	PNACCB.MET	1.00	1.00	1.00	9829499999	
22	3018374	T	AA	2C9P293B.22R	PNAWB.MET	1038.00	2.00	1.00	982890005A	01861
23	3018375	T	AA	2C9P293B.23R	PNAWB.MET	1034.00	2.00	1.00	982890005A	01861
24	3018376	T	AA	2C9P293B.24R	PNAWB.MET	1011.00	2.00	1.00	982890005A	01861
25	3018777	T	AA	2C9P293B.25R	PNAWB.MET	250.00	2.00	1.00	982890005A	01861
26	3018782	T	AA	2C9P293B.26R	PNAWB.MET	988.00	2.00	1.00	982890005A	01861
27	3019008	T	AA	2C9P293B.27R	PNAWB.MET	995.00	2.00	1.00	982890005A	01861
28	ACN	MISC	AA	2C9P293B.28R	PAHB.MET	1.00	1.00	1.00	9829499999	
29	PAHX398A	CCAL	NQ	2C9P293B.29R	PNACCB.MET	1.00	1.00	1.00	9829499999	
	[redacted]INJ	MISC	AA	2C9P293B.30R	PNAB.MET	1.00	1.00	1.00	982900003A	
	[redacted]ANKC 10/16/98	BLK	AA	2C9P293B.31R	PNAWB.MET	1.00	2.00	1.00	982860008C	
	[redacted]BLANKA 10/19/98	BLK	AA	2C9P293B.32R	PNAWB.MET	1.00	2.00	1.00	982900003A	
33	3017624 DF5	T	AB	2C9P293B.33R	PNAWB.MET	1037.00	10.00	1.00	982860008C	01861
34	PAHX398A	CCAL	NR	2C9P293B.34R	PNACCB.MET	1.00	1.00	1.00	982900003A	
35	3015190 RI	T	AA	2C9P293B.35R	PNAWB.MET	971.00	2.00	1.00	982870018A	01861
36	3015191 RI	T	AA	2C9P293B.36R	PNAWB.MET	1038.00	2.00	1.00	982870018A	01861
37	3020262 DF20	T	AB	2C9P293B.37R	PNAWB.MET	30.00	2.00	1.00	982800001C	01862
38	PAHX398A	CCAL	NW	2C9P293B.38R	PNACCB.MET	1.00	1.00	1.00	982900003A	
39	3015192 RI	T	AA	2C9P293B.39R	PNAWB.MET	1044.00	2.00	1.00	982870018A	01861
40	3015193 RI	T	AA	2C9P293B.40R	PNAWB.MET	1021.00	2.00	1.00	982870018A	01861
41	3015194 RI	T	AA	2C9P293B.41R	PNAWB.MET	1047.00	2.00	1.00	982870018A	01861
42	3016400 RI	T	AA	2C9P293B.42R	PNAWB.MET	1018.00	2.00	1.00	982870018A	01861
43	3016401 RI	T	AA	2C9P293B.43R	PNAWB.MET	1047.00	2.00	1.00	982870018A	01861
44	3016402 RI	T	AA	2C9P293B.44R	PNAWB.MET	1006.00	2.00	1.00	982870018A	01861
45	3016403 RI	T	AA	2C9P293B.45R	PNAWB.MET	1006.00	2.00	1.00	982870018A	01861
46	PAHX398A	CCAL	NU	2C9P293B.46R	PNACCB.MET	1.00	1.00	1.00	9829599999	
47	BLANKB 10/21/98	BLK	AA	2C9P293B.47R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
48	LCSB 10/21/98	LCS	AA	2C9P293B.48R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
49	LCSDB 10/21/98	LCSD	AA	2C9P293B.49R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
50	3022152 DF10	T	AB	2C9P293B.50R	PNAWB.MET	917.00	20.00	1.00	982890010B	01861
51	3022153 DF10	T	AB	2C9P293B.51R	PNAWB.MET	1041.00	20.00	1.00	982890010B	01861
52	3022174	T	AA	2C9P293B.52R	PNAWB.MET	994.00	2.00	1.00	982890010B	01861
53	3022175	T	AA	2C9P293B.53R	PNAWB.MET	1001.00	2.00	1.00	982890010B	01861
54	BLANKA 10/14/98	BLK	AA	2C9P293B.54R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
55	LCSA 10/14/98	LCS	AA	2C9P293B.55R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
56	LCSDA 10/14/98	LCSD	AA	2C9P293B.56R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
57	PAHX398A	CCAL	OA	2C9P293B.57R	PNACCB.MET	1.00	1.00	1.00		
58	3016043	T	AA	2C9P293B.58R	PNAWB.MET	1042.00	2.00	1.00	982860008A	01861
59	3016044	T	AA	2C9P293B.59R	PNAWB.MET	1040.00	2.00	1.00	982860008A	01861
60	3016045 DF5	T	AB	2C9P293B.60R	PNAWB.MET	1026.00	10.00	1.00	982860008A	01861
61	3016046	T	AA	2C9P293B.61R	PNAWB.MET	989.00	2.00	1.00	982860008A	01861
62	3016047	T	AA	2C9P293B.62R	PNAWB.MET	979.00	2.00	1.00	982860008A	01861
63	3016048	T	AA	2C9P293B.63R	PNAWB.MET	1052.00	2.00	1.00	982860008A	01861

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\2C9P293B.SEQ
C[illegible]matography Directory: c:\cp\data1\
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Number of Entries: 94

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
64	3016049 DF5	T	AB	2C9P293B.64R	PNAWB.MET	1004.00	10.00	1.00	982860008A	01861
65	3016050	T	AA	2C9P293B.65R	PNAWB.MET	1006.00	2.00	1.00	982860008A	01861
66	3016051 DF5	T	AB	2C9P293B.66R	PNAWB.MET	1036.00	10.00	1.00	982860008A	01861
67	3016052 DF5	T	AB	2C9P293B.67R	PNAWB.MET	1042.00	10.00	1.00	982860008A	01861
68	PAHX398A	CCAL	OB	2C9P293B.68R	PNACCB.MET	1.00	1.00	1.00		
69	3016053	T	AA	2C9P293B.69R	PNAWB.MET	1042.00	2.00	1.00	982860008A	01861
70	3016054	T	AA	2C9P293B.70R	PNAWB.MET	1046.00	2.00	1.00	982860008A	01861
71	3016055	T	AA	2C9P293B.71R	PNAWB.MET	1049.00	2.00	1.00	982860008A	01861
72	3016056	T	AA	2C9P293B.72R	PNAWB.MET	1034.00	2.00	1.00	982860008A	01861
73	BLANKA 10/17/98	BLK	AA	2C9P293B.73R	PNAWB.MET	1000.00	2.00	1.00	982890010A	
74	LCSA 10/17/98	LCS	AA	2C9P293B.74R	PNAWB.MET	1000.00	2.00	1.00	982890010A	
75	3018871	T	AA	2C9P293B.75R	PNAWB.MET	1017.00	2.00	1.00	982890010A	01861
76	3018872MS	MS	AA	2C9P293B.76R	PNAWB.MET	1002.00	2.00	1.00	982890010A	01861
77	3018873MSD	MSD	AA	2C9P293B.77R	PNAWB.MET	1010.00	2.00	1.00	982890010A	01861
78	3018865	T	AA	2C9P293B.78R	PNAWB.MET	1032.00	2.00	1.00	982890010A	01861
79	PAHX398A	CCAL	OC	2C9P293B.79R	PNACCB.MET	1.00	1.00	1.00		
80	3018866	T	AA	2C9P293B.80R	PNAWB.MET	1024.00	2.00	1.00	982890010A	01861
81	3018867	T	AA	2C9P293B.81R	PNAWB.MET	995.00	2.00	1.00	982890010A	01861
82	3018868	T	AA	2C9P293B.82R	PNAWB.MET	999.00	2.00	1.00	982890010A	01861
83	3018869	T	AA	2C9P293B.83R	PNAWB.MET	1003.00	2.00	1.00	982890010A	01861
84	3018870	T	AA	2C9P293B.84R	PNAWB.MET	985.00	2.00	1.00	982890010A	01861
85	3018874	T	AA	2C9P293B.85R	PNAWB.MET	972.00	2.00	1.00	982890010A	01861
86	3018875	T	AA	2C9P293B.86R	PNAWB.MET	974.00	2.00	1.00	982890010A	01861
87	3018876	T	AA	2C9P293B.87R	PNAWB.MET	989.00	2.00	1.00	982890010A	01861
88	3018877	T	AA	2C9P293B.88R	PNAWB.MET	964.00	2.00	1.00	982890010A	01861
89	PAHX398A	CCAL	OD	2C9P293B.89R	PNACCB.MET	1.00	1.00	1.00		
90	3018878	T	AA	2C9P293B.90R	PNAWB.MET	1000.00	2.00	1.00	982890010A	01861
91	3018879	T	AA	2C9P293B.91R	PNAWB.MET	994.00	2.00	1.00	982890010A	01861
92	3018881	T	AA	2C9P293B.92R	PNAWB.MET	990.00	2.00	1.00	982890010A	01861
93	018882	T	AA	2C9P293B.93R	PNAWB.MET	1006.00	2.00	1.00	982890010A	01861
94	AHX398A	CCAL	OE	2C9P293B.94R	PNACCB.MET	1.00	1.00	1.00		

up by: [signature] Date: 10/28/98

840

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CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P296B.SEQ
matography Directory: c:\cp\data1\
..iod Directory: c:\cp\data1\
Number of Entries: 81

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1	CONDITIONER	MISC	AA	1C9P296B.01R	PNAB.MET	1.00	1.00	1.00	9829699999	
2	CONDITIONER	MISC	AA	1C9P296B.02R	PNAB.MET	1.00	1.00	1.00	9829699999	
3	PAHX198A	ICAL	AA	1C9P296B.03R	PNAB.MET	1.00	1.00	1.00	9829699999	
4	PAHX298A	ICAL	AA	1C9P296B.04R	PNAB.MET	1.00	1.00	1.00	9829699999	
5	PAHX398A	ICAL	AA	1C9P296B.05R	PNAB.MET	1.00	1.00	1.00	9829699999	
6	PAHX498A	ICAL	AA	1C9P296B.06R	PNAB.MET	1.00	1.00	1.00	9829699999	
7	PAHX598A	ICAL	AA	1C9P296B.07R	PNAB.MET	1.00	1.00	1.00	9829699999	
8	MDPAX98F	ICAL	AA	1C9P296B.08R	PNAB.MET	1.00	1.00	1.00	9829699999	
9	BLANKB 10/21/98 RI	BLK	AA	1C9P296B.09R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
10	LCSB 10/21/98 RI	LCS	AA	1C9P296B.10R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
11	LCSDB 10/21/98 RI	LCSD	AA	1C9P296B.11R	PNAWB.MET	1000.00	2.00	1.00	982890010B	
12	3022152 RI DF10	T	AB	1C9P296B.12R	PNAWB.MET	917.00	20.00	1.00	982890010B	01861
13	3022153 RI DF10	T	AB	1C9P296B.13R	PNAWB.MET	1041.00	20.00	1.00	982890010B	01861
14	3022174 RI	T	AA	1C9P296B.14R	PNAWB.MET	994.00	2.00	1.00	982890010B	01861
15	3022175 RI	T	AA	1C9P296B.15R	PNAWB.MET	1001.00	2.00	1.00	982890010B	01861
16	BLANKB 10/16/98	BLK	AA	1C9P296B.16R	610B.MET	1000.00	2.00	1.00	982820004B	
17	LCSB 10/16/98	LCS	AA	1C9P296B.17R	610B.MET	1000.00	2.00	1.00	982820004B	
18	ACN	MISC	AA	1C9P296B.18R	PNAB.MET	1.00	1.00	1.00	9829699999	
19	PAHX398A	CCAL	ON	1C9P296B.19R	PNACCB.MET	1.00	1.00	1.00	9829699999	
20	LCSDB 10/16/98	LCSD	AA	1C9P296B.20R	610B.MET	1000.00	2.00	1.00	982820004B	
21	3016925	T	AA	1C9P296B.21R	610B.MET	794.00	2.00	1.00	982820004B	01632
22	3016926	T	AA	1C9P296B.22R	610B.MET	770.00	2.00	1.00	982820004B	01632
23	3016927	T	AA	1C9P296B.23R	610B.MET	777.00	2.00	1.00	982820004B	01632
24	3016928	T	AA	1C9P296B.24R	610B.MET	916.00	2.00	1.00	982820004B	01632
25	3016929	T	AA	1C9P296B.25R	610B.MET	821.00	2.00	1.00	982820004B	01632
26	3016930	T	AA	1C9P296B.26R	610B.MET	851.00	2.00	1.00	982820004B	01632
27	3016931	T	AA	1C9P296B.27R	610B.MET	800.00	2.00	1.00	982820004B	01632
28	3016932	T	AA	1C9P296B.28R	610B.MET	999.00	2.00	1.00	982820004B	01632
	7016933	T	AA	1C9P296B.29R	610B.MET	850.00	2.00	1.00	982820004B	01632
	AHX398A	CCAL	OO	1C9P296B.30R	PNACCB.MET	1.00	1.00	1.00	9829699999	
	BLANKA 10/14/98 RI	BLK	AA	1C9P296B.31R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
32	LCSA 10/14/98 RI	LCS	AA	1C9P296B.32R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
33	LCSDA 10/14/98 RI	LCSD	AA	1C9P296B.33R	PNAWB.MET	1000.00	2.00	1.00	982860008A	
34	3016043 DF5	T	AB	1C9P296B.34R	PNAWB.MET	1042.00	10.00	1.00	982860008A	01861
35	3016044 RI	T	AA	1C9P296B.35R	PNAWB.MET	1040.00	2.00	1.00	982860008A	01861
36	3016045	T	AA	1C9P296B.36R	PNAWB.MET	1026.00	2.00	1.00	982860008A	01861
37	3016046 RI	T	AA	1C9P296B.37R	PNAWB.MET	989.00	2.00	1.00	982860008A	01861
38	3016047 RI	T	AA	1C9P296B.38R	PNAWB.MET	979.00	2.00	1.00	982860008A	01861
39	3016048 RI	T	AA	1C9P296B.39R	PNAWB.MET	1052.00	2.00	1.00	982860008A	01861
40	3016049	T	AA	1C9P296B.40R	PNAWB.MET	1004.00	2.00	1.00	982860008A	01861
41	PAHX398A	CCAL	OP	1C9P296B.41R	PNACCB.MET	1.00	1.00	1.00	9829699999	
42	3016050 RI	T	AA	1C9P296B.42R	PNAWB.MET	1006.00	2.00	1.00	982860008A	01861
43	3016051	T	AA	1C9P296B.43R	PNAWB.MET	1036.00	2.00	1.00	982860008A	01861
44	CONTTIONER	MISC	AA	1C9P296B.44R	PNAB.MET	1.00	1.00	1.00	982860008A	
45	PAHX398A	CCAL	OQ	1C9P296B.45R	PNACCB.MET	1.00	1.00	1.00	982860008A	
46	3016050 RI	T	AA	1C9P296B.46R	PNAWB.MET	1006.00	2.00	1.00	982860008A	01861
47	3016051 RI	T	AA	1C9P296B.47R	PNAWB.MET	1036.00	2.00	1.00	982860008A	01861
48	3016052 RI DF5	T	AB	1C9P296B.48R	PNAWB.MET	1042.00	10.00	1.00	982860008A	01861
49	3016053 RI	T	AA	1C9P296B.49R	PNAWB.MET	1042.00	2.00	1.00	982860008A	01861
50	3016054 RI	T	AA	1C9P296B.50R	PNAWB.MET	1046.00	2.00	1.00	982860008A	01861
51	3016055 RI	T	AA	1C9P296B.51R	PNAWB.MET	1049.00	2.00	1.00	982860008A	01861
52	3016056 RI	T	AA	1C9P296B.52R	PNAWB.MET	1034.00	2.00	1.00	982860008A	01861
53	BLANKA 10/17/98 RI	BLK	AA	1C9P296B.53R	PNAWB.MET	1000.00	2.00	1.00	982890010A	
54	LCSA 10/17/98 RI	LCS	AA	1C9P296B.54R	PNAWB.MET	1000.00	2.00	1.00	982890010A	
55	3018871 RI	T	AA	1C9P296B.55R	PNAWB.MET	1017.00	2.00	1.00	982890010A	01861
56	PAHX398A	CCAL	OR	1C9P296B.56R	PNACCB.MET	1.00	1.00	1.00	9829699999	
57	3018872MS RI	MS	AA	1C9P296B.57R	PNAWB.MET	1002.00	2.00	1.00	982890010A	01861
58	3018873MSD RI	MSD	AA	1C9P296B.58R	PNAWB.MET	1010.00	2.00	1.00	982890010A	01861
59	3018865 RI	T	AA	1C9P296B.59R	PNAWB.MET	1032.00	2.00	1.00	982890010A	01861
60	BLANKB 10/19/98	BLK	AA	1C9P296B.60R	PNAWB.MET	30.00	2.00	1.00	982880005B	
61	LCSB 10/19/98	LCS	AA	1C9P296B.61R	PNAWB.MET	30.00	2.00	1.00	982880005B	
62	LCSDB 10/19/98	LCSD	AA	1C9P296B.62R	PNAWB.MET	30.00	2.00	1.00	982880005B	
63	3019703 DF20	T	AB	1C9P296B.63R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862

Lancaster Laboratories, Inc.

CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\1C9P296B.SEQ
[illegible]matography Directory: c:\cp\data1\
[illegible]od Directory: c:\cp\data1\
Number of Entries: 81

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	IStd	Batch	Analysis
64	3019704 DF20	T	AB	1C9P296B.64R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862
65	3019705 DF20	T	AB	1C9P296B.65R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862
66	ACN	MISC	AA	1C9P296B.66R	PNAB.MET	1.00	1.00	1.00	9829699999	
67	PAHX398A	CCAL	OS	1C9P296B.67R	PNACCB.MET	1.00	1.00	1.00	9829699999	
68	3019706 DF5	T	AB	1C9P296B.68R	PAHWB.MET	30.00	10.00	1.00	982880005B	01862
69	3019707 DF20	T	AB	1C9P296B.69R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862
70	3019708 DF5	T	AB	1C9P296B.70R	PAHWB.MET	30.00	10.00	1.00	982880005B	01862
71	3019709 DF20	T	AB	1C9P296B.71R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862
72	3019710 DF20	T	AB	1C9P296B.72R	PAHWB.MET	30.00	40.00	1.00	982880005B	01862
73	ACN	MISC	AA	1C9P296B.73R	PNAB.MET	1.00	1.00	1.00	9829699999	
74	PAHX398A	CCAL	OT	1C9P296B.74R	PNACCB.MET	1.00	1.00	1.00	9829699999	
75	CONDITIONER	MISC	AA	1C9P296B.75R	PNAB.MET	1.00	1.00	1.00	9829699999	
76	CONDITIONER	MISC	AA	1C9P296B.76R	PNAB.MET	1.00	1.00	1.00	9829699999	
77	CONITIONER	MISC	AA	1C9P296B.77R	PNAB.MET	1.00	1.00	1.00	9829699999	
78	PAHX398A	CCAL	OV	1C9P296B.78R	PNACCB.MET	1.00	1.00	1.00		
79	3016929 DF5	T	AB	1C9P296B.79R	610B.MET	821.00	10.00	1.00	982820004B	01632
80	3016932 DF5	T	AB	1C9P296B.80R	610B.MET	999.00	10.00	1.00	982820004B	01632
81	PAHX398A	CCAL	OU	1C9P296B.81R	PNACCB.MET	1.00	1.00	1.00		

[illegible]p by: [signature] Date: 11/9/98

Lancaster Laboratories, Inc.

CHROMPERFECT SEQUENCE FILE

Sequence File: c:\CP\DATA1\2C9P296B.SEQ
Chromatography Directory: c:\cp\data1\
Method Directory: c:\cp\data1\
Number of Entries: 48

	Sample Name	SCode	ID	FileName	Method	SampWt	DilFact	ISTd	Batch	Analysis
1	CONDITIONER	MISC	AA	2C9P296B.01R	PNAB.MET	1.00	1.00	1.00	9830099999	
2	CONDITIONER	MISC	AA	2C9P296B.02R	PNAB.MET	1.00	1.00	1.00	9830099999	
3	PAHX398A	CCAL	PA	2C9P296B.03R	PNACCB.MET	1.00	1.00	1.00	9830099999	
4	BLANKA 10/21/98	BLK	AA	2C9P296B.04R	PNAWB.MET	1000.00	2.00	1.00	982930010A	
5	LCSA 10/21/98	LCS	AA	2C9P296B.05R	PNAWB.MET	1000.00	2.00	1.00	982930010A	
6	3020522	T	AA	2C9P296B.06R	PNAWB.MET	987.00	2.00	1.00	982930010A	01861
7	3020522MS	MS	AA	2C9P296B.07R	PNAWB.MET	250.00	2.00	1.00	982930010A	01861
8	3020522MSD	MSD	AA	2C9P296B.08R	PNAWB.MET	250.00	2.00	1.00	982930010A	01861
9	3020523	T	AA	2C9P296B.09R	PNAWB.MET	967.00	2.00	1.00	982930010A	01861
10	3020524	T	AA	2C9P296B.10R	PNAWB.MET	977.00	2.00	1.00	982930010A	01861
11	3020525	T	AA	2C9P296B.11R	PNAWB.MET	992.00	2.00	1.00	982930010A	01861
12	BLANKA 10/21/98	BLK	AA	2C9P296B.12R	610B.MET	1000.00	2.00	1.00	982930011A	
13	LCSA 10/21/98	LCS	AA	2C9P296B.13R	610B.MET	1000.00	2.00	1.00	982930011A	
14	PAHX398A	CCAL	PB	2C9P296B.14R	PNACCB.MET	1.00	1.00	1.00	9830099999	
15	3020395	T	AA	2C9P296B.15R	610B.MET	1003.00	2.00	1.00	982930011A	01632
16	3020395MS	MS	AA	2C9P296B.16R	610B.MET	250.00	2.00	1.00	982930011A	01632
17	3020395MSD	MSD	AA	2C9P296B.17R	610B.MET	250.00	2.00	1.00	982930011A	01632
18	3020396	T	AA	2C9P296B.18R	610B.MET	976.00	2.00	1.00	982930011A	01632
19	3020397	T	AA	2C9P296B.19R	610B.MET	1014.00	2.00	1.00	982930011A	01632
20	3020398 DF5	T	AB	2C9P296B.20R	610B.MET	983.00	10.00	1.00	982930011A	01632
21	3020399	T	AA	2C9P296B.21R	610B.MET	1022.00	2.00	1.00	982930011A	01632
22	3020400	T	AA	2C9P296B.22R	610B.MET	1029.00	2.00	1.00	982930011A	01632
23	3020401	T	AA	2C9P296B.23R	610B.MET	1011.00	2.00	1.00	982930011A	01632
24	3020402	T	AA	2C9P296B.24R	610B.MET	1005.00	2.00	1.00	982930011A	01632
25	PAHX398A	CCAL	PC	2C9P296B.25R	PNACCB.MET	1.00	1.00	1.00	9830099999	
26	BLANKA 10/26/98	BLK	AA	2C9P296B.26R	PNAWB.MET	1000.00	2.00	1.00	982950009A	
27	LCSA 10/26/98	LCS	AA	2C9P296B.27R	PNAWB.MET	1000.00	2.00	1.00	982950009A	
28	3022324	T	AA	2C9P296B.28R	PNAWB.MET	1002.00	2.00	1.00	982950009A	01861
29	2324MS	MS	AA	2C9P296B.29R	PNAWB.MET	250.00	2.00	1.00	982950009A	01861
30	2324MSD	MSD	AA	2C9P296B.30R	PNAWB.MET	250.00	2.00	1.00	982950009A	01861
31	PAHX398A	CCAL	PD	2C9P296B.31R	PNACCB.MET	1.00	1.00	1.00	9830099999	
32	CONDITIONER	MISC	AA	2C9P296B.32R	PNAB.MET	1.00	1.00	1.00	9830099999	
33	CONDITIONER	MISC	AA	2C9P296B.33R	PNAB.MET	1.00	1.00	1.00	9830099999	
34	CONDITIONER	MISC	AA	2C9P296B.34R	PNAB.MET	1.00	1.00	1.00	9830099999	
35	PAHX398A	CCAL	PE	2C9P296B.35R	PNACCB.MET	1.00	1.00	1.00	9830099999	
36	3018868 DF50	T	AB	2C9P296B.36R	PNAWB.MET	999.00	100.00	1.00	982890010A	01861
37	3018869 DF50	T	AB	2C9P296B.37R	PNAWB.MET	1003.00	100.00	1.00	982890010A	01861
38	3018876 DF20	T	AB	2C9P296B.38R	PNAWB.MET	989.00	40.00	1.00	982890010A	01861
39	PAHX398A	CCAL	PF	2C9P296B.39R	PNACCB.MET	1.00	1.00	1.00	982890010A	
40	NO INJ	MISC	AA	2C9P296B.40R	PNAB.MET	1.00	1.00	1.00	9830099999	
41	BLANKA 10/21/98	BLK	AA	2C9P296B.41R	PNAWB.MET	1000.00	2.00	1.00	982930010A	
42	LCSA 10/21/98	LCS	AA	2C9P296B.42R	PNAWB.MET	1000.00	2.00	1.00	982930010A	
43	PAHX398A	CCAL	PG	2C9P296B.43R	PNACCB.MET	1.00	1.00	1.00	982930010A	
44	CONDITIONER	MISC	AA	2C9P296B.44R	PNAB.MET	1.00	1.00	1.00	9830099999	
45	CONDITIONER	MISC	AA	2C9P296B.45R	PNAB.MET	1.00	1.00	1.00	9830099999	
46	PAHX398A	CCAL	PG	2C9P296B.46R	PNACCB.MET	1.00	1.00	1.00	9830099999	
47	BLANKB 10/19 RI	BLK	AB	2C9P296B.47R	PNAWB.MET	30.00	2.00	1.00	9830099999	
48	PAHX398A	CCAL	PH	2C9P296B.48R	PNACCB.MET	1.00	1.00	1.00	9830099999	

Set up by: M. Kenney Date: 11/10/98

Analysis: 01861 Name: PAH's in Water

Description: Default Values

Compound	Units	LOQ	JLO	MDL
Acenaphthene	ug/l	8	0.8	0.8
Acenaphthylene	ug/l	8	0.8	0.8
Anthracene	ug/l	0.2	0.031	0.031
Benzo(a)anthracene	ug/l	0.08	0.018	0.018
Benzo(a)pyrene	ug/l	0.08	0.022	0.022
Benzo(b)fluoranthene	ug/l	0.06	0.035	0.035
Benzo(g,h,i)perylene	ug/l	0.5	0.099	0.099
Benzo(k)fluoranthene	ug/l	0.06	0.027	0.027
Chrysene	ug/l	0.3	0.059	0.059
Dibenzo(a,h)anthracene	ug/l	0.2	0.047	0.047
Fluoranthene	ug/l	0.2	0.02	0.02
Fluorene	ug/l	0.8	0.17	0.17
Indeno(1,2,3-cd)pyrene	ug/l	0.3	0.064	0.064
Naphthalene	ug/l	8	0.8	0.8
Phenanthrene	ug/l	0.3	0.046	0.046
Pyrene	ug/l	0.8	0.18	0.18

Lancaster Laboratories
A division of Thermo Analytical Inc.

LLI Sample No. WW 3018868
Collected: 10/13/98 at 16:30 by DU

Submitted: 10/15/98 Reported: 11/ 9/98
Discard: 12/10/98

MW-09 Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
W09-- SDG#: HMS07-04

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

P.O. HATTIESBURG, MS
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS		METHOD DETECTION LIMIT	UNITS
PAH's in Water					
3280	Naphthalene	2,200.		40.	ug/l
3281	Acenaphthylene	197. KG 11-23-98		0.80	ug/l
3282	Acenaphthene	230.		0.80	ug/l
3283	Fluorene	93 ~~N.D.~~		8.5	ug/l
3284	Phenanthrene	50.		2.3	ug/l
3285	Anthracene	4.17		0.031	ug/l
3286	Fluoranthene	6.32		0.020	ug/l
3287	Pyrene	5.15		0.18	ug/l
3288	Benzo(a)anthracene	N.D.		0.018	ug/l
3289	Chrysene	0.224	J	0.059	ug/l
3290	Benzo(b)fluoranthene	0.041	J	0.035	ug/l
3291	Benzo(k)fluoranthene	0.037	J	0.027	ug/l
3292	Benzo(a)pyrene	N.D.		0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.		0.047	ug/l
3294	Benzo(g,h,i)perylene	N.D.		0.099	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.		0.064	ug/l

Questions? Contact your Client Services Representative
Donald J. Nazario at (717) 656-2300

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
Lancaster Laboratories
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Where quality is a science.

ple Name: 3018868 DF50 W09— Batch: 982890010A
Analyst: 080 Analysis No(s).: 1861
Total Volume: 100.00 mL Sample Amount: 999 G or L or mL

Primary Analysis Report (A)

Injected on : Oct 29, 1998 11:02:05
Instrument : CP09--P1562A
Raw File Name: C:\CP\DATA1\2C9P296.36R
Method Name : C:\CP\DATA1\PNAW9.MET
ISSR(1A) : ----------
ISSR(2A) : ----------

Min R.T.	R.T.	Max R.T.	Peak Name	Height	Amount
7.35	7.90	8.05	Naphthalene	32857	2204.735352
8.38	8.43	8.58	Acenaphthylene	2166	203.208588
8.73	8.79	8.93	1-Methylnaphthalene	6551	606.516357
8.91	9.00	9.11	2-Methylnaphthalene	8788	592.827209
9.10	9.19	9.30	Acenaphthene	1589	245.227356
9.23	9.32	9.43	Fluorene	7303	93.124329
9.67	9.79	9.89	Phenanthrene	9840	49.596092
10.11	10.23	10.33	Anthracene	1704	4.248769
10.51	10.64	10.71	Fluoranthene	286	5.643201
10.89	11.03	11.09	Pyrene	177	4.326626
11.18	11.32	11.33	Triphenylene	662	2.203385
11.93	12.19	12.33	Chrysene	71	0.409698
12.76	12.94	13.16	Benzo(b)fluoranthene	257	2.151042
16.24	16.49	16.64	Indeno(1,2,3-cd)pyre	35	0.208391

Confirmation Analysis Report (B)

Injected on : Oct 29, 1998 11:02:05
Instrument : CP09--P1562B
Raw File Name: C:\CP\DATA1\2C9P296B.36R
Method Name : C:\CP\DATA1\PNAW9B.MET
ISSR(1B) : ----------
ISSR(2B) : ----------

Min R.T.	R.T.	Max R.T.	Peak Name	Height	Amount
7.89	7.98	8.09	Naphthalene	7914	2421.553223
8.50	8.62	8.70	Acenaphthylene	103	5511.256592
8.77	8.84	8.97	1-Methylnaphthalene	1651	236.093475
8.95	9.04	9.15	2-Methylnaphthalene	8439	1097.755249
9.13	9.22	9.33	Acenaphthene	3236	174.045502
9.23	9.35	9.43	Fluorene	2549	0.000000
9.70	9.82	9.92	Phenanthrene	679	51.913876
10.13	10.21	10.35	Anthracene	246	24.018560
10.53	10.66	10.73	Fluoranthene	708	4.161129
11.77	11.90	11.97	Benzo(a)anthracene	124	0.492899
13.30	13.57	13.70	Benzo(k)fluoranthene	95	0.169251
14.06	14.35	14.46	Benzo(a)pyrene	103	0.705383
14.67	14.98	15.07	Dibenzo(a,h)anthrace	104	1.151811
15.88	16.10	16.28	Benzo(g,h,i)perylene	72	2.338956

Summary Report

Compound Name	GC Col.	Lowest Amt. Found	L.U.Q.	%Difference	Comments
Nitrobenzene					
Naphthalene	A	2204.735352	400	9.834190	
*Acenaphthylene	A	203.208588		2612.118896	
*1-Methylnaphthalene	B	236.093475		156.896698	
*2-Methylnaphthalene	A	592.827209		83.486053	
*Acenaphthene	B	174.045502		40.898415	
*Fluorene	B	0.000000	40	40.898415	
Phenanthrene	A	49.596092	15	4.673318	
*Anthracene	A	4.248769		465.306335	
*Fluoranthene	A	4.161129		40.423950	
Pyrene					
Triphenylene					
Benzo(a)anthracene					
Chrysene					
Benzo(b)fluoranthene					
Benzo(k)fluoranthene					
Benzo(a)pyrene					
Dibenzo(a,h)anthrace					
Benzo(g,h,i)perylene					
Indeno(1,2,3-cd)pyre					

A 93.12 ↑ lab reported as not detected

Units are ug/l mg/l mg/kg ug/kg ug

Reviewed by: [signature] Date: 10/29/98

* Means primary and confirmation results differ by 25.00 percent or more (see %Difference for the actual value).
* %Difference = High Amount - Low Amount divided by Low Amount times 100.

Printed on 10-29-1998 13:56:56 ChromaPerfect Version .01 Confira Version 1.20

[signature]

delete 2C9P293.82R for undiluted run

678

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==========PAH's by EPA 8310==========

Sample Name: 3018868 0750 ABW09-- T 982890010A
Instrument ID: CP09--P1562A Injected on: Oct 29, 1998 11:02:05
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 999 Dilution Factor: 100
Raw File: C:\CP\DATA1\2C9P296.36R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min: 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: 080

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.92	40	421	0.210	0.0000	
2	1.44	195	2773	0.360	0.0000	
3	2.14	135	2753	0.315	0.0000	
4	2.73	1325	14349	0.159	0.0000	
5	3.49	58	931	0.352	0.0000	
6	4.80	5514	63311	0.158	0.0000	
7	5.88	490	3842	0.129	0.0000	
8	6.20	331	4908	0.254	0.0000	
9	6.44	131	716	0.079	0.0000	
10	6.69	695	3998	0.098	0.0000	
11	6.81	328	7604	0.165	0.0000	
12	7.11	6436	34520	0.086	0.0000	
13	7.34	3202	23387	0.116	0.0000	
14	7.50	1383	6021	0.100	0.0000	
15	7.90	32857	220043	0.096	2204.7354	Naphthalene
16	8.43	2166	22991	0.184	203.2086	Acenaphthylene
17	8.54	2248	16547	0.104	0.0000	
18	8.79	6551	42877	0.093	606.5164	1-methylnaphthalene
19	9.00	8738	56018	0.086	592.8272	2-methylnaphthalene
20	9.19	1589	8503	0.080	245.2276	Acenaphthene
21	9.32	7303	48777	0.087	93.1243	Fluorene
22	9.79	9640	70107	0.089	49.5961	Phenanthrene
23	10.23	1704	12112	0.103	4.2488	Anthracene
24	10.44	254	1380	0.091	0.0000	
25	10.64	286	1762	0.109	5.8432	Fluoranthene
26	10.87	326	1652	0.081	0.0000	
27	11.03	177	1131	0.108	4.3266	Pyrene
28	11.32	662	3701	0.086	2.2034	Triphenylene
29	12.19	71	400	0.102	0.4009	Chrysene
30	12.94	257	2081	0.114	2.1510	Benzo(b)fluoranthene

lab reported as not-detected

Lancaster Laboratories
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LLI Sample No. WW 3018876
Collected: 10/13/98 at 15:50 by DU

Submitted: 10/15/98 Reported: 11/ 9/98
Discard: 12/10/98

MW-06 Grab Water Sample

Gulf States Creosoting - Hattiesburg, MS
W06-- SDG#: HMS07-10

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

P.O. HATTIESBURG, MS
Rel.

CAT NO.	ANALYSIS NAME	AS RECEIVED RESULTS	METHOD DETECTION LIMIT	UNITS
PAH's in Water				
3280	Naphthalene	680.	16.	ug/l
3281	Acenaphthylene	26.0 KG 11-23-98	0.81	ug/l
3282	Acenaphthene	26.	0.81	ug/l
3283	Fluorene	15.1 ~~15.5 J~~	~~3.4~~ 0.17	ug/l
3284	Phenanthrene	9.28	0.047	ug/l
3285	Anthracene	0.75	0.031	ug/l
3286	Fluoranthene	0.52	0.020	ug/l
3287	Pyrene	N.D.	0.18	ug/l
3288	Benzo(a)anthracene	N.D.	0.018	ug/l
3289	Chrysene	N.D.	0.060	ug/l
3290	Benzo(b)fluoranthene	N.D.	0.035	ug/l
3291	Benzo(k)fluoranthene	N.D.	0.027	ug/l
3292	Benzo(a)pyrene	N.D.	0.022	ug/l
3293	Dibenzo(a,h)anthracene	N.D.	0.048	ug/l
3294	Benzo(g,h,i)perylene	N.D.	0.10	ug/l
3295	Indeno(1,2,3-cd)pyrene	N.D.	0.065	ug/l

Questions? Contact your Client Services Representative
Donald J. Nazario at (717) 656-2300

88

Respectfully Submitted
Jenifer E. Hess, B.S.
Group Leader Pesticides/PCBs

MEMBER ACIL
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Lancaster Laboratories
Where quality is a science.

==========PAH's by EPA 8310==========

Sample Name: 3018876 AAW06-- T 982890010A
Instrument ID: CP09--P1562A Injected on: Oct 23, 1998 05:37:38
Volume Inj. 20 ul HPLC Column ID: Supelco PAH 25CM x 4.6mm, 5 um
Sample Amount: 989 Dilution Factor: 2
Raw File: C:\CP\DATA1\2C9P293.87R

HPLC Conditions: Ambient Temp
Flow conditions: 2.0 ml/min 40% ACN/H2O 1min; 100% at 8 min hold 6 min
Run Time: 18 min
Analyst: 448

Integration & Calculation Parameters:
Threshold: 0 Width: .05 Area Reject: 0

Calib. Type: EXTERNAL Quantitation: HEIGHT

Peak Table:

Peak #	Ret Time (min)	Peak Height	Peak Area	Half Width (min)	Amount ppb	Peak Name
1	0.72	43	122	0.052	0.0000	
2	0.87	390	2906	0.116	0.0000	
3	1.31	57	386	0.130	0.0000	
4	1.46	106	391	0.082	0.0000	
5	1.91	5194	40704	0.115	0.0000	
6	2.02	5551	38562	0.067	0.0000	
7	2.17	6726	58164	0.083	0.0000	
8	2.50	7467	92477	0.143	0.0000	
9	2.94	8464	192787	0.331	0.0000	
10	3.46	22514	486711	0.303	0.0000	
11	4.23	1374	17660	0.220	0.0000	
12	4.74	9245	85898	0.140	0.0000	
13	5.02	321354	2669087	0.115	216.4582	Nitrobenzene
14	5.44	2741	26546	0.133	0.0000	
15	5.74	948	11397	0.147	0.0000	
16	6.08	25426	276304	0.170	0.0000	
17	6.30	13258	107584	0.097	0.0000	
18	6.47	13128	93641	0.134	0.0000	
19	6.75	13288	86381	0.115	0.0000	
20	6.84	9958	55674	0.089	0.0000	
21	7.16	56418	312934	0.095	0.0000	
22	7.42	191872	1928321	0.167	0.0000	
23	7.89	455186	2972604	0.095	623.8160	Naphthalene
24	8.35	20810	184729	0.160	0.0000	
25	8.47	13482	78093	0.085	25.9551	Acenaphthylene
26	8.72	39201	249344	0.093	74.3962	1-Methylnaphthalene
27	8.92	58769	364509	0.085	81.3105	2-Methylnaphthalene
28	9.09	8273	35232	0.055	26.1711	Acenaphthene
29	9.21	58470	366817	0.088	15.1407	Fluorene
30	9.66	89785	625048	0.089	9.2778	Phenanthrene

within the calibration range of the instrument, lab reports it from the diluted analysis