

L" T i m e s N e w R o m a n , B o l d I t a l i c " 1 8

CLIENT INFORMATION

LABORATORY INFORMATION

Attention: Michael Salum	Contact: Ada Blythe, B.Sc., C.Chem.
Client Name: Philip Analytical Services Inc	Project: AN023026
Project: Misc.	Date Received: 17-Sep-2002
Project Desc:	Date Reported: 22-Oct-2002
Address: 4418 Pottsville Pike Reading, Pennsylvania 19605	Submission N°: 210647 Sample No.: 060266-060284
Fax Number: 610 921-9667	
Phone Number: 610 921-8833	

NOTES: '-' = not analysed '<' = less than Method Detection Limit (MDL) 'NA' = no data available
LOQ can be determined for all analytes by multiplying the appropriate MDL X 3.33
Blank correction is only performed on oil and grease, BTEX, total purgeable hydrocarbons
and VOC analyses when Canadian methods are utilized.
Solids data is based on dry weight except for biota analyses.
Organic analyses are not corrected for extraction recovery standards except for isotope
dilution methods, (i.e. CARB 429 PAH, all PCDD/F and DBD/DBF analyses)
The enclosed copy of the Chain of Custody Record may contain information necessary for the
interpretation of the data.

Methods used by PSC Analytical Services are based upon those found in 'Standard Methods for the Examination of Water and Wastewater', Nineteenth Edition. Other methods are based on the principles of MISA or EPA methodologies. New York State: ELAP Identification Number 10756.

All work recorded herein has been done in accordance with normal professional standards using accepted testing methodologies, quality assurance and quality control procedures except where otherwise agreed to by the client and testing company in writing. Any and all use of these test results shall be limited to the actual cost of the pertinent analysis done. There is no other warranty expressed or implied. Your samples will be retained at PSC Analytical Services for a period of three weeks from receipt of data or as per contract.

COMMENTS:

L" T i m e s N e w R o m a n , B o l d I t a l i c " 1 2
C e r t i

L D D C C " " T i m e s N e w R o m a n , B o l d I t a l i c " 1 4 P A S S

<i>Client ID:</i>		Method	Blank	Blank	R02090951	R02090951	R02090951
<i>Lab No.:</i>		Blank10/04	Spike#1	Spike#1	01A	02A	03A
<i>Date Sampled:</i>		060266 02	060266 02	%Recoveries	060267 02	060268 02	060269 02
		12-Sep-2002	12-Sep-2002		12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	MDL	Units					
Total Tetrachlorodibenzofuran	pg	<3.9	1100	-	<2.0	130	27
Total Pentachlorodibenzofuran	"	17	6400	-	<2.2	55	<8.8
Total Hexachlorodibenzofuran	"	52	10000	-	<1.6	45	21
Total Heptachlorodibenzofuran	"	42	5100	-	<2.1	46	57
Octachlorodibenzofuran	"	67	4400	-	3.5	33	53
Total Tetrachlorodibenzo-p-dioxin	"	4.3	1100	-	4.3	110	56
Total Pentachlorodibenzo-p-dioxin	"	12	2700	-	<2.9	16	5.1
Total Hexachlorodibenzo-p-dioxin	"	35	7900	-	<8.9	<35	2.9
Total Heptachlorodibenzo-p-dioxin	"	26	2600	-	3.9	88	62
Octachlorodibenzo-p-dioxin	"	65	4900	-	16	390	320
Internal Recoveries	%						
2,3,7,8-T4CDF-13C12		65	70	70	82	72	68
2,3,7,8-T4CDD-13C12		74	84	84	79	75	76
1,2,3,7,8-P5CDF-13C12		43	70	70	88	61	76
1,2,3,7,8-P5CDD-13C12		48	76	76	105	67	93
1,2,3,4,7,8-H6CDF-13C12		72	85	85	86	73	79
1,2,3,6,7,8-H6CDD-13C12		74	88	88	91	76	80
1,2,3,4,6,7,8-H7CDF-13C12		82	86	86	83	71	78
1,2,3,4,6,7,8-H7CDD-13C12		75	89	89	81	68	79
OCDD-13C12		84	108	108	94	75	91
2,3,7,8-Cl4-Dibenzofuran (D)	pg	<3.9	1100	105	<2.0	20	11
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	4.3	1100	109	<2.6	<2.5	<3.7
1,2,3,7,8-Cl5-Dibenzofuran	"	<9.6	2900	114	<2.1	4.0	<6.5
2,3,4,7,8-Cl5-Dibenzofuran	"	17	3500	139	<2.3	<5.0	<7.1
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	12	2700	110	<2.9	<3.6	<4.2
1,2,3,4,7,8-Cl6-Dibenzofuran	"	11	2400	97	<1.4	8.2	5.2
1,2,3,6,7,8-Cl6-Dibenzofuran	"	14	2600	102	<1.4	4.5	3.0
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<14	2500	100	<1.7	10	<2.7
1,2,3,7,8,9-Cl6-Dibenzofuran	"	29	2500	98	<2.0	<2.5	<3.3
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<9.1	2700	108	<4.6	<2.4	<2.6
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	14	2600	105	<4.5	<3.4	<2.6
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	22	2600	102	<4.4	<2.3	<2.5
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	18	2600	104	<1.8	21	33
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	25	2400	97	<2.5	<3.1	<2.8
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	26	2600	103	3.9	48	35
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	67	4400	87	3.5	33	53
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	65	4900	99	16	390	320
2,3,7,8-TCDF (DB225)	pg	-	-	-	-	13	<6.5
Internal Recoveries	%						
2,3,7,8-TCDF-13C12		-	-	-	-	88	81
TEQ based on Nato Factors	pg	28.9			0.06	5.6	3.0
TEQ's converted into appropriate units	ng/m ²	1.39	0.000	0.000	0.003	0.269	0.144
(a 209 cm ² area was wiped)							

R C C I i C e n t : P h i l i p A n a l y t i c a l

LDDCCTTImeNewRoomban,BolldItaLic"14PASF

Client ID: Lab No.: Date Sampled:			R02090951 04A 060270 02 12-Sep-2002	R02090951 05A 060271 02 12-Sep-2002	R02090951 06A 060272 02 12-Sep-2002	R02090951 07A 060273 02 12-Sep-2002	R02090951 08A 060274 02 12-Sep-2002	R02090951 09A 060275 02 12-Sep-2002
Component	MDL	Units						
Total Tetrachlorodibenzofuran		pg	<1.9	<2.0	5.8	<1.7	<1.7	4.8
Total Pentachlorodibenzofuran		"	<1.9	<3.4	<1.5	<1.6	<1.7	<9.5
Total Hexachlorodibenzofuran		"	<1.5	<1.2	2.5	<1.1	1.8	<4.1
Total Heptachlorodibenzofuran		"	<1.9	<1.8	11	<2.1	<3.8	<6.3
Octachlorodibenzofuran		"	<2.7	<2.2	9.6	4.2	<2.5	<5.3
Total Tetrachlorodibenzo-p-di		"	<3.7	<3.4	20	<1.3	<2.0	10
Total Pentachlorodibenzo-p-d		"	<3.4	<5.8	<3.4	<2.9	<2.6	<5.9
Total Hexachlorodibenzo-p-di		"	<8.0	<11	1.7	<3.7	1.9	<16
Total Heptachlorodibenzo-p-d		"	<3.3	7.0	9.8	<2.0	4.2	7.7
Octachlorodibenzo-p-dioxin		"	16	13	68	8.6	12	46
Internal Recoveries		%						
2,3,7,8-T4CDF-13C12			65	81	72	75	71	81
2,3,7,8-T4CDD-13C12			73	85	85	92	83	76
1,2,3,7,8-P5CDF-13C12			60	86	67	83	70	74
1,2,3,7,8-P5CDD-13C12			67	96	76	91	79	79
1,2,3,4,7,8-H6CDF-13C12			79	96	86	96	90	79
1,2,3,6,7,8-H6CDD-13C12			77	94	90	95	94	82
1,2,3,4,6,7,8-H7CDF-13C12			85	97	92	97	92	77
1,2,3,4,6,7,8-H7CDD-13C12			82	91	93	97	97	78
OCDD-13C12			100	115	104	112	114	68
2,3,7,8-Cl4-Dibenzofuran (D)		pg	<1.9	<2.0	4.0	<1.7	<1.7	<4.8
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<2.7	<2.5	<1.3	<1.3	<2.0	<5.9
1,2,3,7,8-Cl5-Dibenzofuran		"	<1.8	<3.2	<1.5	<1.5	<1.6	<9.2
2,3,4,7,8-Cl5-Dibenzofuran		"	<1.9	<3.5	<1.6	<1.6	<1.8	<9.8
1,2,3,7,8-Cl5-Dibenzo-p-diox		"	<3.4	<3.0	<2.8	<2.9	<2.6	<5.9
1,2,3,4,7,8-Cl6-Dibenzofuran		"	<1.3	<1.1	<0.92	<0.97	1.6	<4.1
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<1.4	<1.1	<0.94	<0.99	<0.86	<3.4
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<1.6	<1.3	<1.1	<1.2	<1.0	<4.4
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<2.0	<1.6	<1.4	<1.4	<1.2	<4.8
1,2,3,4,7,8-Cl6-Dibenzo-p-di		"	<3.2	<3.3	<1.2	<1.6	<1.4	<20
1,2,3,6,7,8-Cl6-Dibenzo-p-di		"	<3.1	<3.3	<1.2	<1.6	<1.4	<14
1,2,3,7,8,9-Cl6-Dibenzo-p-di		"	<3.1	<3.2	<1.2	<1.6	<1.3	<15
1,2,3,4,6,7,8-Cl7-Dibenzofur		"	<1.6	<1.5	5.0	<3.2	<3.3	<5.5
1,2,3,4,7,8,9-Cl7-Dibenzofur		"	<2.3	<2.2	<2.2	<4.5	<4.6	<7.4
1,2,3,4,6,7,8-Cl7-Dibenzo-p-d		"	<3.3	4.7	9.8	<2.7	4.2	7.7
1,2,3,4,6,7,8,9-Cl8-Dibenzofi		"	<2.7	<2.2	9.6	4.2	<2.5	<5.3
1,2,3,4,6,7,8,9-Cl8-Dibenzo-l		"	16	13	68	8.6	12	46
2,3,7,8-TCDF (DB225)		pg	-	-	<5.7	<3.1	<3.7	<4.8
Internal Recoveries		%						
2,3,7,8-TCDF-13C12			-	-	96	92	92	81
TEQ based on Nato Factors		pg	0.02	0.06	0.63	0.01	0.21	0.12
TEQ's converted into appropriate units (a 209 cm² area was wiped)		ng/m²	0.001	0.003	0.030	0.000	0.010	0.006

RCCLicn:PhLiPAnalytca

LDDCCTTIme N ew R o m a n , B o l d I t a l i c " 1 4 P A S S

		R02090951	R02090951	R02090951	R02090951	R02090951	R02090951
<i>Client ID:</i>		10A	11A	12A	13A	14A	15A
<i>Lab No.:</i>		060276 02	060277 02	060278 02	060279 02	060280 02	060281 02
<i>Date Sampled:</i>		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	MDL Units						
Total Tetrachlorodibenzofuran	pg	970	180	170	<2.0	140	81
Total Pentachlorodibenzofuran	"	450	110	78	<2.7	95	64
Total Hexachlorodibenzofuran	"	250	45	45	<2.6	71	32
Total Heptachlorodibenzofuran	"	35	11	11	<3.4	<27	16
Octachlorodibenzofuran	"	58	12	16	<5.1	22	18
Total Tetrachlorodibenzo-p-dioxin	"	1700	230	170	6.6	190	130
Total Pentachlorodibenzo-p-dioxin	"	290	130	56	<4.6	160	80
Total Hexachlorodibenzo-p-dioxin	"	260	14	17	<13	120	47
Total Heptachlorodibenzo-p-dioxin	"	190	90	80	5.0	77	58
Octachlorodibenzo-p-dioxin	"	730	350	320	13	240	200
Internal Recoveries	%						
2,3,7,8-TCDF-13C12		93	87	92	86	94	78
2,3,7,8-TCDD-13C12		80	80	85	81	88	86
1,2,3,7,8-P5CDF-13C12		88	82	84	79	85	77
1,2,3,7,8-P5CDD-13C12		95	88	87	85	93	80
1,2,3,4,7,8-H6CDF-13C12		95	90	85	86	88	81
1,2,3,6,7,8-H6CDD-13C12		93	93	88	87	91	85
1,2,3,4,6,7,8-H7CDF-13C12		85	86	80	78	82	73
1,2,3,4,6,7,8-H7CDD-13C12		88	91	85	87	90	82
OCDD-13C12		79	86	77	77	80	88
2,3,7,8-Cl4-Dibenzofuran (D)	pg	140	28	21	<2.0	25	<17
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<10	<3.4	<3.3	<3.2	<2.7	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"	<12	<2.2	<6.1	<2.6	<5.7	6.3
2,3,4,7,8-Cl5-Dibenzofuran	"	31	13	8.0	<2.8	<13	6.5
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<4.6	<3.5	<3.9	<4.6	<2.3	<2.3
1,2,3,4,7,8-Cl6-Dibenzofuran	"	50	15	11	<2.5	17	9.4
1,2,3,6,7,8-Cl6-Dibenzofuran	"	19	<7.0	<5.3	<2.1	7.8	<4.1
2,3,4,6,7,8-Cl6-Dibenzofuran	"	22	<7.2	7.8	<2.8	6.7	<3.5
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<8.0	<3.7	<4.3	<3.0	<5.8	<3.7
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<3.5	<4.0	<6.2	<16	<6.3	<3.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	9.7	4.4	<4.4	<12	<4.5	<2.9
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	10	<5.3	<4.8	<13	<5.6	<2.6
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<68	<24	<23	<2.9	<24	<21
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	19	<8.5	<5.2	<3.9	<32	<5.4
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	100	47	40	5.0	42	32
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	58	12	16	<5.1	22	18
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	730	350	320	13	240	200
2,3,7,8-TCDF (DB225)	pg	37	<9.8	<6.7	<8.9	8.1	<4.6
Internal Recoveries	%						
2,3,7,8-TCDF-13C12		87	86	93	94	94	94
TEQ based on Nato Factors	pg	42.1	11.9	8.7	0.06	6.4	5.04
TEQ's converted into appropriate units (a 209 cm² area was wiped)							
	ng/m²	2.021	0.571	0.418	0.003	0.307	0.242

R C I i e n t : P h i l i p A n a l y t i c a l

LDDC "T" i m e s N e w R o m a n , B o l d I t a l i c " 1 4 P A S

		R02090951	R02090951	R02090951
<i>Client ID:</i>		16A	17A	18A
<i>Lab No.:</i>		060282 02	060283 02	060284 02
<i>Date Sampled:</i>		12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	MDL	Units		
Total Tetrachlorodibenzofuran	pg	120	65	130
Total Pentachlorodibenzofuran	"	250	19	62
Total Hexachlorodibenzofuran	"	83	8.5	21
Total Heptachlorodibenzofuran	"	21	<8.9	14
Octachlorodibenzofuran	"	31	7.9	22
Total Tetrachlorodibenzo-p-di	"	670	94	110
Total Pentachlorodibenzo-p-d	"	210	17	35
Total Hexachlorodibenzo-p-di	"	92	18	59
Total Heptachlorodibenzo-p-d	"	110	12	74
Octachlorodibenzo-p-dioxin	"	440	100	300
Internal Recoveries	%			
2,3,7,8-T4CDF-13C12		84	79	90
2,3,7,8-T4CDD-13C12		91	83	102
1,2,3,7,8-P5CDF-13C12		83	84	94
1,2,3,7,8-P5CDD-13C12		92	88	98
1,2,3,4,7,8-H6CDF-13C12		87	79	94
1,2,3,6,7,8-H6CDD-13C12		97	85	98
1,2,3,4,6,7,8-H7CDF-13C12		78	70	80
1,2,3,4,6,7,8-H7CDD-13C12		86	80	88
OCDD-13C12		90	82	92
2,3,7,8-Cl4-Dibenzofuran (D)	pg	<49	<13	<20
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<3.8	<2.0	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"	<9.1	<3.5	<2.7
2,3,4,7,8-Cl5-Dibenzofuran	"	16	<3.7	5.9
1,2,3,7,8-Cl5-Dibenzo-p-diox	"	<3.0	<2.6	<2.5
1,2,3,4,7,8-Cl6-Dibenzofuran	"	23	3.8	8.4
1,2,3,6,7,8-Cl6-Dibenzofuran	"	8.3	<2.4	<3.2
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<9.2	<2.9	<3.9
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<3.7	<3.1	<4.1
1,2,3,4,7,8-Cl6-Dibenzo-p-di	"	<3.0	<3.0	<2.9
1,2,3,6,7,8-Cl6-Dibenzo-p-di	"	4.8	<2.7	2.8
1,2,3,7,8,9-Cl6-Dibenzo-p-di	"	5.3	<2.5	3.4
1,2,3,4,6,7,8-Cl7-Dibenzofur	"	<39	<7.9	<17
1,2,3,4,7,8,9-Cl7-Dibenzofur	"	<13	<10	<13
1,2,3,4,6,7,8-Cl7-Dibenzo-p-	"	61	<18	43
1,2,3,4,6,7,8,9-Cl8-Dibenzof	"	31	7.9	22
1,2,3,4,6,7,8,9-Cl8-Dibenzo-j	"	440	100	300
2,3,7,8-TCDF (DB225)	pg	10	<3.6	<5.1
Internal Recoveries	%			
2,3,7,8-TCDF-13C12		97	87	109
TEQ based on Nato Factors	pg	13.2	0.5	5.18
TEQ's converted into appropriate units		ng/m ²		
(a 209 cm ² area was wiped)		0.634	0.024	0.249

R C I i c e n t : P h i i p A n a l y t i c a l

LDDC "Tm s New Ro m n, B o l d I t a l i c " 1 4 P A S C -
S u

Batch Code:	1004HW01	1004HW01	1008HW01	1008HW01
PCDD/F (DB5	060266 02	060272 02	060275 02	060281 02
	060267 02	060273 02	060276 02	060282 02
	060268 02	060274 02	060277 02	060283 02
	060269 02		060278 02	060284 02
	060270 02		060279 02	
	060271 02		060280 02	
Date Analysed	02/10/09	02/10/10	02/10/19	02/10/21
Date Prepared:	02/10/04	02/10/04	02/10/08	02/10/08

Batch Code:	1004HW01	1008HW01
2,3,7,8-TCDF	060268 02	060281 02
	060269 02	060282 02
	060272 02	060283 02
	060273 02	060284 02
	060274 02	
	060275 02	
	060276 02	
	060277 02	
	060278 02	
	060279 02	
	060280 02	
Date Analysed	02/10/20	02/10/22
Date Prepared:	02/10/04	02/10/08

R C I n e n t : P h i p A n a l y t i c a l