

Gilsenan, Michael

From: Theodorellys, Penny
Sent: Friday, November 01, 2002 4:03 PM
To: 'nase.charles@epa.gov'
Cc: Gilsenan, Michael
Subject: FW: Dioxin results

-----Original Message-----

From: Benjamin M. Sallemi [<mailto:sallemi15@atc-enviro.com>]
Sent: Friday, November 01, 2002 2:54 PM
To: Penny Theodorellys; Krish Radhakrishnan
Subject: FW: Dioxin results



R02090951 revised TEQ Report.xls... R02090971A revised TEQ Report.. R02090971B revised TEQ Report..

-----Original Message-----

From: Usbeck, Fred [<mailto:FUsbeck@contactpsc.com>] <<mailto:FUsbeck@contactpsc.com>>
Sent: Friday, November 01, 2002 2:09 PM
To: sallemi15@atc-enviro.com
Subject: Dioxin results

Ben -

Attached are three files containing about 1/3 of the "pre" results recalculated according to the TEQ specifications you requested. As I get more this afternoon I will email them to you. Note that the "-" on two of the reports indicates "less than" not negative values. Thanks! Fred
 <<R02090951 revised TEQ Report.xls>> <<R02090971A revised TEQ Report.xls>>

<<R02090971B revised TEQ Report.xls>>

Fred Usbeck, CIH
 PSC Analytical Services

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Component			Method	Blank	Blank	R02090951	R02090951
	<i>Client ID:</i>		Blank10/04	Spike#1	Spike#1	01A	02A
	<i>Lab No.:</i>		060266 02	060266 02	%Recoveries	060267 02	060268 02
	<i>Date Sampled:</i>		12-Sep-2002	12-Sep-2002		12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans		pg	<3.9	1100	-	<2.0	130
Total Pentachlorodibenzofurans		"	17	6400	-	<2.2	55
Total Hexachlorodibenzofurans		"	52	10000	-	<1.6	45
Total Heptachlorodibenzofurans		"	42	5100	-	<2.1	46
Octachlorodibenzofuran		"	67	4400	-	3.5	33
Total Tetrachlorodibenzo-p-dioxins		"	4.3	1100	-	4.3	110
Total Pentachlorodibenzo-p-dioxins		"	12	2700	-	<2.9	16
Total Hexachlorodibenzo-p-dioxins		"	35	7900	-	<8.9	<35
Total Heptachlorodibenzo-p-dioxins		"	26	2600	-	3.9	88
Octachlorodibenzo-p-dioxin		"	65	4900	-	16	390
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			65	70	70	82	72
2,3,7,8-T4CDD-13C12			74	84	84	79	75
1,2,3,7,8-P5CDF-13C12			43	70	70	88	61
1,2,3,7,8-P5CDD-13C12			48	76	76	105	67
1,2,3,4,7,8-H6CDF-13C12			72	85	85	86	73
1,2,3,6,7,8-H6CDD-13C12			74	88	88	91	76
1,2,3,4,6,7,8-H7CDF-13C12			82	86	86	83	71
1,2,3,4,6,7,8-H7CDD-13C12			75	89	89	81	68
OCDD-13C12			84	108	108	94	75
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	<3.9	1100	105	<2.0	20
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	4.3	1100	109	<2.6	<2.5
1,2,3,7,8-Cl5-Dibenzofuran		"	<9.6	2900	114	<2.1	4.0
2,3,4,7,8-Cl5-Dibenzofuran		"	17	3500	139	<2.3	<5.0
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	12	2700	110	<2.9	<3.6
1,2,3,4,7,8-Cl6-Dibenzofuran		"	11	2400	97	<1.4	8.2
1,2,3,6,7,8-Cl6-Dibenzofuran		"	14	2600	102	<1.4	4.5
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<14	2500	100	<1.7	10
1,2,3,7,8,9-Cl6-Dibenzofuran		"	29	2500	98	<2.0	<2.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<9.1	2700	108	<4.6	<2.4
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	14	2600	105	<4.5	<3.4
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	22	2600	102	<4.4	<2.3
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	18	2600	104	<1.8	21
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	25	2400	97	<2.5	<3.1
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	26	2600	103	3.9	48
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	67	4400	87	3.5	33
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	65	4900	99	16	390
2,3,7,8-TCDF (DB225)		pg	-	-	-	-	13
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			-	-	-	-	88
TEQ based on Nato Factors		pg	26.0			3.8	8.7

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Component			R02090951	R02090951	R02090951	R02090951	R02090951
	Client ID:		03A	04A	05A	06A	07A
	Lab No.:		060269 02	060270 02	060271 02	060272 02	060273 02
	Date Sampled:		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans	pg	27	<1.9	<2.0	5.8	<1.7	
Total Pentachlorodibenzofurans	"	<8.8	<1.9	<3.4	<1.5	<1.6	
Total Hexachlorodibenzofurans	"	21	<1.5	<1.2	2.5	<1.1	
Total Heptachlorodibenzofurans	"	57	<1.9	<1.8	11	<2.1	
Octachlorodibenzofuran	"	53	<2.7	<2.2	9.6	4.2	
Total Tetrachlorodibenzo-p-dioxins	"	56	<3.7	<3.4	20	<1.3	
Total Pentachlorodibenzo-p-dioxins	"	5.1	<3.4	<5.8	<3.4	<2.9	
Total Hexachlorodibenzo-p-dioxins	"	2.9	<8.0	<11	1.7	<3.7	
Total Heptachlorodibenzo-p-dioxins	"	62	<3.3	7.0	9.8	<2.0	
Octachlorodibenzo-p-dioxin	"	320	16	13	68	8.6	
Internal Recoveries	%						
2,3,7,8-T4CDF-13C12		68	65	81	72	75	
2,3,7,8-T4CDD-13C12		76	73	85	85	92	
1,2,3,7,8-P5CDF-13C12		76	60	86	67	83	
1,2,3,7,8-P5CDD-13C12		93	67	96	76	91	
1,2,3,4,7,8-H6CDF-13C12		79	79	96	86	96	
1,2,3,6,7,8-H6CDD-13C12		80	77	94	90	95	
1,2,3,4,6,7,8-H7CDF-13C12		78	85	97	92	97	
1,2,3,4,6,7,8-H7CDD-13C12		79	82	91	93	97	
OCDD-13C12		91	100	115	104	112	
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	11	<1.9	<2.0	4.0	<1.7	
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<3.7	<2.7	<2.5	<1.3	<1.3	
1,2,3,7,8-Cl5-Dibenzofuran	"	<6.5	<1.8	<3.2	<1.5	<1.5	
2,3,4,7,8-Cl5-Dibenzofuran	"	<7.1	<1.9	<3.5	<1.6	<1.6	
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<4.2	<3.4	<3.0	<2.8	<2.9	
1,2,3,4,7,8-Cl6-Dibenzofuran	"	5.2	<1.3	<1.1	<0.92	<0.97	
1,2,3,6,7,8-Cl6-Dibenzofuran	"	3.0	<1.4	<1.1	<0.94	<0.99	
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<2.7	<1.6	<1.3	<1.1	<1.2	
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<3.3	<2.0	<1.6	<1.4	<1.4	
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<2.6	<3.2	<3.3	<1.2	<1.6	
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<2.6	<3.1	<3.3	<1.2	<1.6	
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<2.5	<3.1	<3.2	<1.2	<1.6	
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	33	<1.6	<1.5	5.0	<3.2	
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<2.8	<2.3	<2.2	<2.2	<4.5	
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	35	<3.3	4.7	9.8	<2.7	
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	53	<2.7	<2.2	9.6	4.2	
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	320	16	13	68	8.6	
2,3,7,8-TCDF (DB225)	pg	<6.5	-	-	<5.7	<3.1	
Internal Recoveries	%						
2,3,7,8-TCDF-13C12		81	-	-	96	92	
TEQ based on Nato Factors	pg	7.7	3.7	3.9	2.7	2.4	

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Component	MDL	Units	Client ID:	R02090951	R02090951	R02090951	R02090951	R02090951
			Lab No.:	08A	09A	10A	11A	12A
			Date Sampled:	060274 02	060275 02	060276 02	060277 02	060278 02
				12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Total Tetrachlorodibenzofurans	pg			<1.7	4.8	970	180	170
Total Pentachlorodibenzofurans	"			<1.7	<9.5	450	110	78
Total Hexachlorodibenzofurans	"			1.8	<4.1	250	45	45
Total Heptachlorodibenzofurans	"			<3.8	<6.3	35	11	11
Octachlorodibenzofuran	"			<2.5	<5.3	58	12	16
Total Tetrachlorodibenzo-p-dioxins	"			<2.0	10	1700	230	170
Total Pentachlorodibenzo-p-dioxins	"			<2.6	<5.9	290	130	56
Total Hexachlorodibenzo-p-dioxins	"			1.9	<16	260	14	17
Total Heptachlorodibenzo-p-dioxins	"			4.2	7.7	190	90	80
Octachlorodibenzo-p-dioxin	"			12	46	730	350	320
Internal Recoveries	%							
2,3,7,8-T4CDF-13C12				71	81	93	87	92
2,3,7,8-T4CDD-13C12				83	76	80	80	85
1,2,3,7,8-P5CDF-13C12				70	74	88	82	84
1,2,3,7,8-P5CDD-13C12				79	79	95	88	87
1,2,3,4,7,8-H6CDF-13C12				90	79	95	90	85
1,2,3,6,7,8-H6CDD-13C12				94	82	93	93	88
1,2,3,4,6,7,8-H7CDF-13C12				92	77	85	86	80
1,2,3,4,6,7,8-H7CDD-13C12				97	78	88	91	85
OCDD-13C12				114	68	79	86	77
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg			<1.7	<4.8	140	28	21
2,3,7,8-Cl4-Dibenzo-p-dioxin	"			<2.0	<5.9	<10	<3.4	<3.3
1,2,3,7,8-Cl5-Dibenzofuran	"			<1.6	<9.2	<12	<2.2	<6.1
2,3,4,7,8-Cl5-Dibenzofuran	"			<1.8	<9.8	31	13	8.0
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"			<2.6	<5.9	<4.6	<3.5	<3.9
1,2,3,4,7,8-Cl6-Dibenzofuran	"			1.6	<4.1	50	15	11
1,2,3,6,7,8-Cl6-Dibenzofuran	"			<0.86	<3.4	19	<7.0	<5.3
2,3,4,6,7,8-Cl6-Dibenzofuran	"			<1.0	<4.4	22	<7.2	7.8
1,2,3,7,8,9-Cl6-Dibenzofuran	"			<1.2	<4.8	<8.0	<3.7	<4.3
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"			<1.4	<20	<3.5	<4.0	<6.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"			<1.4	<14	9.7	4.4	<4.4
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"			<1.3	<15	10	<5.3	<4.8
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"			<3.3	<5.5	<68	<24	<23
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"			<4.6	<7.4	19	<8.5	<5.2
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"			4.2	7.7	100	47	40
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"			<2.5	<5.3	58	12	16
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"			12	46	730	350	320
2,3,7,8-TCDF (DB225)	pg			<3.7	<4.8	37	<9.8	<6.7
Internal Recoveries	%							
2,3,7,8-TCDF-13C12				92	81	87	86	93
TEQ based on Nato Factors	pg			2.8	11.2	44.6	13.9	11.1

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Component			R02090951	R02090951	R02090951	R02090951	R02090951
	Client ID:		13A	14A	15A	16A	17A
	Lab No.:		060279 02	060280 02	060281 02	060282 02	060283 02
	Date Sampled:		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans		pg	<2.0	140	81	120	65
Total Pentachlorodibenzofurans		"	<2.7	95	64	250	19
Total Hexachlorodibenzofurans		"	<2.6	71	32	83	8.5
Total Heptachlorodibenzofurans		"	<3.4	<27	16	21	<8.9
Octachlorodibenzofuran		"	<5.1	22	18	31	7.9
Total Tetrachlorodibenzo-p-dioxins		"	6.6	190	130	670	94
Total Pentachlorodibenzo-p-dioxins		"	<4.6	160	80	210	17
Total Hexachlorodibenzo-p-dioxins		"	<13	120	47	92	18
Total Heptachlorodibenzo-p-dioxins		"	5.0	77	58	110	12
Octachlorodibenzo-p-dioxin		"	13	240	200	440	100
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			86	94	78	84	79
2,3,7,8-T4CDD-13C12			81	88	86	91	83
1,2,3,7,8-P5CDF-13C12			79	85	77	83	84
1,2,3,7,8-P5CDD-13C12			85	93	80	92	88
1,2,3,4,7,8-H6CDF-13C12			86	88	81	87	79
1,2,3,6,7,8-H6CDD-13C12			87	91	85	97	85
1,2,3,4,6,7,8-H7CDF-13C12			78	82	73	78	70
1,2,3,4,6,7,8-H7CDD-13C12			87	90	82	86	80
OCDD-13C12			77	80	88	90	82
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	<2.0	25	<17	<49	<13
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<3.2	<2.7	<2.4	<3.8	<2.0
1,2,3,7,8-Cl5-Dibenzofuran		"	<2.6	<5.7	6.3	<9.1	<3.5
2,3,4,7,8-Cl5-Dibenzofuran		"	<2.8	<13	6.5	16	<3.7
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<4.6	<2.3	<2.3	<3.0	<2.6
1,2,3,4,7,8-Cl6-Dibenzofuran		"	<2.5	17	9.4	23	3.8
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<2.1	7.8	<4.1	8.3	<2.4
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<2.8	6.7	<3.5	<9.2	<2.9
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<3.0	<5.8	<3.7	<3.7	<3.1
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<16	<6.3	<3.2	<3.0	<3.0
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	<12	<4.5	<2.9	4.8	<2.7
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	<13	<5.6	<2.6	5.3	<2.5
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<2.9	<24	<21	<39	<7.9
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<3.9	<32	<5.4	<13	<10
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	5.0	42	32	61	<18
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	<5.1	22	18	31	7.9
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	13	240	200	440	100
2,3,7,8-TCDF (DB225)		pg	<8.9	8.1	<4.6	10	<3.6
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			94	94	94	97	87
TEQ based on Nato Factors		pg	6.3	10.9	8.2	18.2	4.6

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		R02090951
Client ID:		18A
Lab No.:		060284 02
Date Sampled:		12-Sep-2002
Component	MDL	Units
Total Tetrachlorodibenzofurans	pg	130
Total Pentachlorodibenzofurans	"	62
Total Hexachlorodibenzofurans	"	21
Total Heptachlorodibenzofurans	"	14
Octachlorodibenzofuran	"	22
Total Tetrachlorodibenzo-p-dioxins	"	110
Total Pentachlorodibenzo-p-dioxins	"	35
Total Hexachlorodibenzo-p-dioxins	"	59
Total Heptachlorodibenzo-p-dioxins	"	74
Octachlorodibenzo-p-dioxin	"	300
Internal Recoveries	%	
2,3,7,8-T4CDF-13C12		90
2,3,7,8-T4CDD-13C12		102
1,2,3,7,8-P5CDF-13C12		94
1,2,3,7,8-P5CDD-13C12		98
1,2,3,4,7,8-H6CDF-13C12		94
1,2,3,6,7,8-H6CDD-13C12		98
1,2,3,4,6,7,8-H7CDF-13C12		80
1,2,3,4,6,7,8-H7CDD-13C12		88
OCDD-13C12		92
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<20
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"	<2.7
2,3,4,7,8-Cl5-Dibenzofuran	"	5.9
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<2.5
1,2,3,4,7,8-Cl6-Dibenzofuran	"	8.4
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<3.2
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<3.9
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<4.1
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<2.9
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	2.8
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	3.4
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<17
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<13
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	43
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	22
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	300
2,3,7,8-TCDF (DB225)	pg	<5.1
Internal Recoveries	%	
2,3,7,8-TCDF-13C12		109
TEQ based on Nato Factors	pg	8.2

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Component	<i>Client ID:</i>		Method	Blank	Blank	R02090951	R02090951
	<i>Lab No.:</i>		Blank10/04	Spike#1	Spike#1	01A	02A
	<i>Date Sampled:</i>		060266 02	060266 02	%Recoveries	060267 02	060268 02
			12-Sep-2002	12-Sep-2002		12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans		pg	<3.9	1100	-	<2.0	130
Total Pentachlorodibenzofurans		"	17	6400	-	<2.2	55
Total Hexachlorodibenzofurans		"	52	10000	-	<1.6	45
Total Heptachlorodibenzofurans		"	42	5100	-	<2.1	46
Octachlorodibenzofuran		"	67	4400	-	3.5	33
Total Tetrachlorodibenzo-p-dioxins		"	4.3	1100	-	4.3	110
Total Pentachlorodibenzo-p-dioxins		"	12	2700	-	<2.9	16
Total Hexachlorodibenzo-p-dioxins		"	35	7900	-	<8.9	<35
Total Heptachlorodibenzo-p-dioxins		"	26	2600	-	3.9	88
Octachlorodibenzo-p-dioxin		"	65	4900	-	16	390
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			65	70	70	82	72
2,3,7,8-T4CDD-13C12			74	84	84	79	75
1,2,3,7,8-P5CDF-13C12			43	70	70	88	61
1,2,3,7,8-P5CDD-13C12			48	76	76	105	67
1,2,3,4,7,8-H6CDF-13C12			72	85	85	86	73
1,2,3,6,7,8-H6CDD-13C12			74	88	88	91	76
1,2,3,4,6,7,8-H7CDF-13C12			82	86	86	83	71
1,2,3,4,6,7,8-H7CDD-13C12			75	89	89	81	68
OCDD-13C12			84	108	108	94	75
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	<3.9	1100	105	<2.0	20
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	4.3	1100	109	<2.6	<2.5
1,2,3,7,8-Cl5-Dibenzofuran		"	<9.6	2900	114	<2.1	4.0
2,3,4,7,8-Cl5-Dibenzofuran		"	17	3500	139	<2.3	<5.0
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	12	2700	110	<2.9	<3.6
1,2,3,4,7,8-Cl6-Dibenzofuran		"	11	2400	97	<1.4	8.2
1,2,3,6,7,8-Cl6-Dibenzofuran		"	14	2600	102	<1.4	4.5
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<14	2500	100	<1.7	10
1,2,3,7,8,9-Cl6-Dibenzofuran		"	29	2500	98	<2.0	<2.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<9.1	2700	108	<4.6	<2.4
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	14	2600	105	<4.5	<3.4
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	22	2600	102	<4.4	<2.3
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	18	2600	104	<1.8	21
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	25	2400	97	<2.5	<3.1
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	26	2600	103	3.9	48
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	67	4400	87	3.5	33
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	65	4900	99	16	390
2,3,7,8-TCDF (DB225)		pg	-	-	-	-	13
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			-	-	-	-	88
TEQ based on Nato Factors		pg	26.0			3.8	8.7

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Component			R02090951	R02090951	R02090951	R02090951	R02090951
	Client ID:		03A	04A	05A	06A	07A
	Lab No.:		060269 02	060270 02	060271 02	060272 02	060273 02
	Date Sampled:		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans		pg	27	<1.9	<2.0	5.8	<1.7
Total Pentachlorodibenzofurans		"	<8.8	<1.9	<3.4	<1.5	<1.6
Total Hexachlorodibenzofurans		"	21	<1.5	<1.2	2.5	<1.1
Total Heptachlorodibenzofurans		"	57	<1.9	<1.8	11	<2.1
Octachlorodibenzofuran		"	53	<2.7	<2.2	9.6	4.2
Total Tetrachlorodibenzo-p-dioxins		"	56	<3.7	<3.4	20	<1.3
Total Pentachlorodibenzo-p-dioxins		"	5.1	<3.4	<5.8	<3.4	<2.9
Total Hexachlorodibenzo-p-dioxins		"	2.9	<8.0	<11	1.7	<3.7
Total Heptachlorodibenzo-p-dioxins		"	62	<3.3	7.0	9.8	<2.0
Octachlorodibenzo-p-dioxin		"	320	16	13	68	8.6
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			68	65	81	72	75
2,3,7,8-T4CDD-13C12			76	73	85	85	92
1,2,3,7,8-P5CDF-13C12			76	60	86	67	83
1,2,3,7,8-P5CDD-13C12			93	67	96	76	91
1,2,3,4,7,8-H6CDF-13C12			79	79	96	86	96
1,2,3,6,7,8-H6CDD-13C12			80	77	94	90	95
1,2,3,4,6,7,8-H7CDF-13C12			78	85	97	92	97
1,2,3,4,6,7,8-H7CDD-13C12			79	82	91	93	97
OCDD-13C12			91	100	115	104	112
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	11	<1.9	<2.0	4.0	<1.7
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<3.7	<2.7	<2.5	<1.3	<1.3
1,2,3,7,8-Cl5-Dibenzofuran		"	<6.5	<1.8	<3.2	<1.5	<1.5
2,3,4,7,8-Cl5-Dibenzofuran		"	<7.1	<1.9	<3.5	<1.6	<1.6
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<4.2	<3.4	<3.0	<2.8	<2.9
1,2,3,4,7,8-Cl6-Dibenzofuran		"	5.2	<1.3	<1.1	<0.92	<0.97
1,2,3,6,7,8-Cl6-Dibenzofuran		"	3.0	<1.4	<1.1	<0.94	<0.99
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<2.7	<1.6	<1.3	<1.1	<1.2
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<3.3	<2.0	<1.6	<1.4	<1.4
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<2.6	<3.2	<3.3	<1.2	<1.6
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	<2.6	<3.1	<3.3	<1.2	<1.6
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	<2.5	<3.1	<3.2	<1.2	<1.6
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	33	<1.6	<1.5	5.0	<3.2
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<2.8	<2.3	<2.2	<2.2	<4.5
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	35	<3.3	4.7	9.8	<2.7
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	53	<2.7	<2.2	9.6	4.2
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	320	16	13	68	8.6
2,3,7,8-TCDF (DB225)		pg	<6.5	-	-	<5.7	<3.1
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			81	-	-	96	92
TEQ based on Nato Factors		pg	7.7	3.7	3.9	2.7	2.4

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Component	<i>Client ID:</i>		R02090951	R02090951	R02090951	R02090951	R02090951
	<i>Lab No.:</i>		08A	09A	10A	11A	12A
	<i>Date Sampled:</i>		060274 02	060275 02	060276 02	060277 02	060278 02
			12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans		pg	<1.7	4.8	970	180	170
Total Pentachlorodibenzofurans		"	<1.7	<9.5	450	110	78
Total Hexachlorodibenzofurans		"	1.8	<4.1	250	45	45
Total Heptachlorodibenzofurans		"	<3.8	<6.3	35	11	11
Octachlorodibenzofuran		"	<2.5	<5.3	58	12	16
Total Tetrachlorodibenzo-p-dioxins		"	<2.0	10	1700	230	170
Total Pentachlorodibenzo-p-dioxins		"	<2.6	<5.9	290	130	56
Total Hexachlorodibenzo-p-dioxins		"	1.9	<16	260	14	17
Total Heptachlorodibenzo-p-dioxins		"	4.2	7.7	190	90	80
Octachlorodibenzo-p-dioxin		"	12	46	730	350	320
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			71	81	93	87	92
2,3,7,8-T4CDD-13C12			83	76	80	80	85
1,2,3,7,8-P5CDF-13C12			70	74	88	82	84
1,2,3,7,8-P5CDD-13C12			79	79	95	88	87
1,2,3,4,7,8-H6CDF-13C12			90	79	95	90	85
1,2,3,6,7,8-H6CDD-13C12			94	82	93	93	88
1,2,3,4,6,7,8-H7CDF-13C12			92	77	85	86	80
1,2,3,4,6,7,8-H7CDD-13C12			97	78	88	91	85
OCDD-13C12			114	68	79	86	77
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	<1.7	<4.8	140	28	21
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<2.0	<5.9	<10	<3.4	<3.3
1,2,3,7,8-Cl5-Dibenzofuran		"	<1.6	<9.2	<12	<2.2	<6.1
2,3,4,7,8-Cl5-Dibenzofuran		"	<1.8	<9.8	31	13	8.0
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<2.6	<5.9	<4.6	<3.5	<3.9
1,2,3,4,7,8-Cl6-Dibenzofuran		"	1.6	<4.1	50	15	11
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<0.86	<3.4	19	<7.0	<5.3
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<1.0	<4.4	22	<7.2	7.8
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<1.2	<4.8	<8.0	<3.7	<4.3
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<1.4	<20	<3.5	<4.0	<6.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	<1.4	<14	9.7	4.4	<4.4
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	<1.3	<15	10	<5.3	<4.8
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<3.3	<5.5	<68	<24	<23
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<4.6	<7.4	19	<8.5	<5.2
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	4.2	7.7	100	47	40
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	<2.5	<5.3	58	12	16
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	12	46	730	350	320
2,3,7,8-TCDF (DB225)		pg	<3.7	<4.8	37	<9.8	<6.7
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			92	81	87	86	93
TEQ based on Nato Factors		pg	2.8	11.2	44.6	13.9	11.1

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Component	Client ID:		R02090951	R02090951	R02090951	R02090951	R02090951
	Lab No.:		13A	14A	15A	16A	17A
	Date Sampled:		060279 02	060280 02	060281 02	060282 02	060283 02
			12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
	MDL	Units					
Total Tetrachlorodibenzofurans	pg	<2.0	140	81	120	65	
Total Pentachlorodibenzofurans	"	<2.7	95	64	250	19	
Total Hexachlorodibenzofurans	"	<2.6	71	32	83	8.5	
Total Heptachlorodibenzofurans	"	<3.4	<27	16	21	<8.9	
Octachlorodibenzofuran	"	<5.1	22	18	31	7.9	
Total Tetrachlorodibenzo-p-dioxins	"	6.6	190	130	670	94	
Total Pentachlorodibenzo-p-dioxins	"	<4.6	160	80	210	17	
Total Hexachlorodibenzo-p-dioxins	"	<13	120	47	92	18	
Total Heptachlorodibenzo-p-dioxins	"	5.0	77	58	110	12	
Octachlorodibenzo-p-dioxin	"	13	240	200	440	100	
Internal Recoveries	%						
2,3,7,8-T4CDF-13C12		86	94	78	84	79	
2,3,7,8-T4CDD-13C12		81	88	86	91	83	
1,2,3,7,8-P5CDF-13C12		79	85	77	83	84	
1,2,3,7,8-P5CDD-13C12		85	93	80	92	88	
1,2,3,4,7,8-H6CDF-13C12		86	88	81	87	79	
1,2,3,6,7,8-H6CDD-13C12		87	91	85	97	85	
1,2,3,4,6,7,8-H7CDF-13C12		78	82	73	78	70	
1,2,3,4,6,7,8-H7CDD-13C12		87	90	82	86	80	
OCDD-13C12		77	80	88	90	82	
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<2.0	25	<17	<49	<13	
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<3.2	<2.7	<2.4	<3.8	<2.0	
1,2,3,7,8-Cl5-Dibenzofuran	"	<2.6	<5.7	6.3	<9.1	<3.5	
2,3,4,7,8-Cl5-Dibenzofuran	"	<2.8	<13	6.5	16	<3.7	
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<4.6	<2.3	<2.3	<3.0	<2.6	
1,2,3,4,7,8-Cl6-Dibenzofuran	"	<2.5	17	9.4	23	3.8	
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<2.1	7.8	<4.1	8.3	<2.4	
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<2.8	6.7	<3.5	<9.2	<2.9	
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<3.0	<5.8	<3.7	<3.7	<3.1	
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<16	<6.3	<3.2	<3.0	<3.0	
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<12	<4.5	<2.9	4.8	<2.7	
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<13	<5.6	<2.6	5.3	<2.5	
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<2.9	<24	<21	<39	<7.9	
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<3.9	<32	<5.4	<13	<10	
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	5.0	42	32	61	<18	
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	<5.1	22	18	31	7.9	
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	13	240	200	440	100	
2,3,7,8-TCDF (DB225)	pg	<8.9	8.1	<4.6	10	<3.6	
Internal Recoveries	%						
2,3,7,8-TCDF-13C12		94	94	94	97	87	
TEQ based on Nato Factors	pg	6.3	10.9	8.2	18.2	4.6	

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		R02090951
Client ID:		18A
Lab No.:		060284 02
Date Sampled:		12-Sep-2002
Component	MDL	Units
Total Tetrachlorodibenzofurans	pg	130
Total Pentachlorodibenzofurans	"	62
Total Hexachlorodibenzofurans	"	21
Total Heptachlorodibenzofurans	"	14
Octachlorodibenzofuran	"	22
Total Tetrachlorodibenzo-p-dioxins	"	110
Total Pentachlorodibenzo-p-dioxins	"	35
Total Hexachlorodibenzo-p-dioxins	"	59
Total Heptachlorodibenzo-p-dioxins	"	74
Octachlorodibenzo-p-dioxin	"	300
Internal Recoveries	%	
2,3,7,8-T4CDF-13C12		90
2,3,7,8-T4CDD-13C12		102
1,2,3,7,8-P5CDF-13C12		94
1,2,3,7,8-P5CDD-13C12		98
1,2,3,4,7,8-H6CDF-13C12		94
1,2,3,6,7,8-H6CDD-13C12		98
1,2,3,4,6,7,8-H7CDF-13C12		80
1,2,3,4,6,7,8-H7CDD-13C12		88
OCDD-13C12		92
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<20
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"	<2.7
2,3,4,7,8-Cl5-Dibenzofuran	"	5.9
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<2.5
1,2,3,4,7,8-Cl6-Dibenzofuran	"	8.4
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<3.2
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<3.9
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<4.1
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<2.9
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	2.8
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	3.4
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<17
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<13
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	43
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	22
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	300
2,3,7,8-TCDF (DB225)	pg	<5.1
Internal Recoveries	%	
2,3,7,8-TCDF-13C12		109
TEQ based on Nato Factors	pg	8.2

Client:Philip Analytical Services Inc Project:Misc.

Filen 39327

Sample

Sam **039327**

Com PSC-P

Sam 1

R02090971

09A

#	Name	pg	LOD(pg)
1	2,3,7,8-Cl4-Dibenzofuran	9.0	-0.42
2	1,2,3,7,8-Cl5-Dibenzofuran	-0.56	-0.56
3	2,3,4,7,8-Cl5-Dibenzofuran	1.5	-0.54
4	1,2,3,4,7,8-Cl6-Dibenzofuran	2.6	-0.82
5	1,2,3,6,7,8-Cl6-Dibenzofuran	-0.82	-0.82
6	2,3,4,6,7,8-Cl6-Dibenzofuran	-0.93	-0.93
7	1,2,3,7,8,9-Cl6-Dibenzofuran	-1.0	-1.0
8	1,2,3,4,6,7,8-Cl7-Dibenzofuran	-14	-14
9	1,2,3,4,7,8,9-Cl7-Dibenzofuran	-3.9	-3.9
10	1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	-3.4	-3.4
11	2,3,7,8-Cl4-Dibenzo-p-dioxin	-0.93	-0.93
12	1,2,3,7,8-Cl5-Dibenzo-p-dioxin	-1.5	-1.5
13	1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	-1.2	-1.2
14	1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	-1.1	-1.1
15	1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	-1.1	-1.1
16	1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	-7.3	-7.3
17	1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	55	-2.7
		%	
18	2,3,7,8-T4CDF-13C12	90	
19	1,2,3,7,8-P5CDF-13C12	65	
20	1,2,3,6,7,8-H6CDF-13C12	90	
21	1,2,3,4,6,7,8-H7CDF-13C12	72	
22	2,3,7,8-T4CDD-13C12	83	

23	1,2,3,7,8-P5CDD-13C12	70	
24	1,2,3,6,7,8-H6CDD-13C12	84	
25	1,2,3,4,6,7,8-H7CDD-13C12	80	
26	OCDD-13C12	63	
35	Total Tetrachlorodibenzofurans	49	-0.42
36	Total Tetrachlorodibenzo-p-dioxins	43	-0.93
37	Total Pentachlorodibenzofurans	6.2	-0.54
38	Total Pentachlorodibenzo-p-dioxins	14	-1.5
39	Total Hexachlorodibenzofurans	2.6	-0.82
40	Total Hexachlorodibenzo-p-dioxins	9.4	-1.1
41	Total Heptachlorodibenzofurans	-2.6	-2.6
42	Total Heptachlorodibenzo-p-dioxins	12	-2.1
	TEQ based on Nato Factors	1.9	
	2,3,7,8-TCDF (DB225)	2.9	-1.7
	Internal Recoveries	%	
	2,3,7,8-TCDF-13C12	114	

File# 39330

Sample

Sam **039330**

Com PSC-P

Sam 1

R02090971

01A

#	Name	pg	LOD(pg)
1	2,3,7,8-Cl4-Dibenzofuran	6.1	-0.31
2	1,2,3,7,8-Cl5-Dibenzofuran	1.2	-0.33
3	2,3,4,7,8-Cl5-Dibenzofuran	1.0	-0.32
4	1,2,3,4,7,8-Cl6-Dibenzofuran	-1.6	-1.6
5	1,2,3,6,7,8-Cl6-Dibenzofuran	1.1	-0.50
6	2,3,4,6,7,8-Cl6-Dibenzofuran	-1.5	-1.5
7	1,2,3,7,8,9-Cl6-Dibenzofuran	-0.63	-0.63
8	1,2,3,4,6,7,8-Cl7-Dibenzofuran	-2.2	-2.2
9	1,2,3,4,7,8,9-Cl7-Dibenzofuran	-2.5	-2.5
10	1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	-2.0	-2.0
11	2,3,7,8-Cl4-Dibenzo-p-dioxin	10	-0.84
12	1,2,3,7,8-Cl5-Dibenzo-p-dioxin	-0.78	-0.78
13	1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	-0.50	-0.50
14	1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	-1.0	-1.0
15	1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	-0.70	-0.70
16	1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	-3.1	-3.1
17	1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	18	-1.3
		%	
18	2,3,7,8-T4CDF-13C12	142	
19	1,2,3,7,8-P5CDF-13C12	92	
20	1,2,3,6,7,8-H6CDF-13C12	50	
21	1,2,3,4,6,7,8-H7CDF-13C12	36	
22	2,3,7,8-T4CDD-13C12	52	

23	1,2,3,7,8-P5CDD-13C12	84	
24	1,2,3,6,7,8-H6CDD-13C12	72	
25	1,2,3,4,6,7,8-H7CDD-13C12	72	
26	OCDD-13C12	67	
35	Total Tetrachlorodibenzofurans	22	-0.33
36	Total Tetrachlorodibenzo-p-dioxins	55	-0.89
37	Total Pentachlorodibenzofurans	5.3	-0.33
38	Total Pentachlorodibenzo-p-dioxins	6.7	-0.79
39	Total Hexachlorodibenzofurans	1.1	-0.53
40	Total Hexachlorodibenzo-p-dioxins	-0.60	-0.60
41	Total Heptachlorodibenzofurans	-2.4	-2.4
42	Total Heptachlorodibenzo-p-dioxins	3.5	-0.41
	TEQ based on Nato Factors	11	
	2,3,7,8-TCDF (DB225)	-2.0	
	Internal Recoveries	%	
	2,3,7,8-TCDF-13C12	107	

Gilsenan, Michael

From: Theodorellys, Penny
Sent: Monday, November 04, 2002 8:59 AM
To: 'nace.charles@epa.gov'
Cc: Gilsenan, Michael
Subject: FW: Revised TEQ reports

-----Original Message-----

From: Benjamin M. Sallemi [mailto:sallemi15@atc-enviro.com]
Sent: Monday, November 04, 2002 8:22 AM
To: Penny Theodorellys
Subject: FW: Revised TEQ reports

Penny,



R02090957 revised R02090971 revised
TEQ Report.x... TEQ final Re...

Here are more reports with recalc ated Dioxin TEQ's. As opposed to what is referenced in the email sent to me, I haven't recieved any additional dioxin pre-wipe sample results. As soon as I receive this information, I shall forward it to you.

-----Original Message-----

From: Usbeck, Fred [mailto:FUsbeck@contactpsc.com]
Sent: Friday, November 01, 2002 4:42 PM
To: sallemi15@atc-enviro.com
Subject: Revised TEQ reports

Ben -

Here are some more reports - R02090957 and R02090971. Last batch will be late today (after 5:00), but at least you'll have it waiting for you on Monday morning. Thanks for your patience! Fred

<<R02090957 revised TEQ Report.xls>> <<R02090971 revised TEQ final Report.xls>>

Fred Usbeck, CIH
PSC Analytical Services
4418 Pottsville Pike
Reading, PA 19605
fusbeck@contactpsc.com
(610) 921-8833 ext. 224

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		R02090957	R02090957	R02090957	R02090957	R02090957
Client ID:		01A	02A	03A	04A	05A
Lab No.:		060285 02	060286 02	060287 02	060288 02	060289 02
Date Sampled:		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	Units					
Total Tetrachlorodibenzofurans	pg	100	270	150	860	160
Total Pentachlorodibenzofurans	"	250	97	65	720	77
Total Hexachlorodibenzofurans	"	70	32	20	350	33
Total Heptachlorodibenzofurans	"	13	<20	<15	32	<5.3
Octachlorodibenzofuran	"	17	13	13	41	7.9
Total Tetrachlorodibenzo-p-dioxins	"	940	310	150	1200	160
Total Pentachlorodibenzo-p-dioxins	"	370	130	28	1400	9.6
Total Hexachlorodibenzo-p-dioxins	"	110	55	29	670	18
Total Heptachlorodibenzo-p-dioxins	"	74	66	58	200	59
Octachlorodibenzo-p-dioxin	"	290	230	220	550	140
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12		86	83	85	87	94
2,3,7,8-T4CDD-13C12		91	85	85	91	82
1,2,3,7,8-P5CDF-13C12		90	88	90	76	102
1,2,3,7,8-P5CDD-13C12		93	92	94	80	99
1,2,3,4,7,8-H6CDF-13C12		91	83	90	95	92
1,2,3,6,7,8-H6CDD-13C12		96	88	92	93	87
1,2,3,4,6,7,8-H7CDF-13C12		85	81	85	86	89
1,2,3,4,6,7,8-H7CDD-13C12		88	87	90	93	87
OCDD-13C12		93	88	97	100	76
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<70	<42	<21	<170	<25
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<2.8	<2.1	<3.2	6.9	<5.1
1,2,3,7,8-Cl5-Dibenzofuran	"	<14	<5.9	<3.3	37	<1.5
2,3,4,7,8-Cl5-Dibenzofuran	"	<19	9.8	6.9	<68	<1.6
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<4.0	<2.6	<2.6	<17	<1.1
1,2,3,4,7,8-Cl6-Dibenzofuran	"	19	10	7.9	83	9.6
1,2,3,6,7,8-Cl6-Dibenzofuran	"	7.4	<3.5	<3.7	31	<4.6
2,3,4,6,7,8-Cl6-Dibenzofuran	"	7.0	<4.2	<4.4	30	4.0
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<3.5	<4.4	<4.7	3.3	<3.8
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<5.2	<4.7	<6.9	9.0	<4.8
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<4.7	<4.2	<6.2	17	<3.5
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<4.3	<3.8	<5.6	25	<3.8
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<19	<18	<14	<77	<13
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<11	<23	<17	<1.8	<6.2
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	40	34	32	100	<3.3
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	17	13	13	41	7.9
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	290	230	220	550	140
2,3,7,8-TCDF (DB225)	pg	10	5.4	4.4	27	<6.1
Internal Recoveries	%					
2,3,7,8-TCDF-13C12		97	90	92	100	90
TEQ based on Nato Factors		13	10	9.3	55	6.2

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		R02090957	R02090957	R02090957	R02090957	R02090957
Client ID:		06A	07A	08A	09A	10A
Lab No.:		060290 02	060291 02	060292 02	060293 02	060323 02
Date Sampled:		12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	Units					
Total Tetrachlorodibenzofurans	pg	69	<2.9	88	330	78
Total Pentachlorodibenzofurans	"	19	<4.3	38	340	23
Total Hexachlorodibenzofurans	"	9.7	<1.2	15	170	8.6
Total Heptachlorodibenzofurans	"	<13	<1.8	<13	20	<9.7
Octachlorodibenzofuran	"	6.7	<3.8	11	72	9.9
Total Tetrachlorodibenzo-p-dioxins	"	89	9.9	160	360	120
Total Pentachlorodibenzo-p-dioxins	"	23	<3.8	13	370	23
Total Hexachlorodibenzo-p-dioxins	"	5.1	<13	15	440	21
Total Heptachlorodibenzo-p-dioxins	"	38	<3.3	60	300	21
Octachlorodibenzo-p-dioxin	"	210	16	210	890	47
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12		106	83	84	102	93
2,3,7,8-T4CDD-13C12		91	74	73	88	87
1,2,3,7,8-P5CDF-13C12		119	89	84	101	99
1,2,3,7,8-P5CDD-13C12		118	88	83	98	98
1,2,3,4,7,8-H6CDF-13C12		98	94	85	97	96
1,2,3,6,7,8-H6CDD-13C12		94	85	78	90	92
1,2,3,4,6,7,8-H7CDF-13C12		93	86	81	100	91
1,2,3,4,6,7,8-H7CDD-13C12		89	78	77	97	93
OCDD-13C12		81	68	68	84	87
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	13	<2.9	<23	<56	<18
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<3.3	<4.8	<3.8	<4.7	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"	<5.2	<4.1	<6.8	12	4.8
2,3,4,7,8-Cl5-Dibenzofuran	"	<5.5	<4.4	<7.2	32	5.6
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<2.9	<3.8	<3.6	<6.0	<2.2
1,2,3,4,7,8-Cl6-Dibenzofuran	"	5.9	<1.2	7.4	51	4.8
1,2,3,6,7,8-Cl6-Dibenzofuran	"	3.1	<0.99	2.9	20	<2.8
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<2.5	<1.3	<2.8	<14	<3.3
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<1.9	<1.4	<3.1	<4.6	<3.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<3.5	<4.0	<4.4	<6.1	<3.0
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<2.5	<2.9	<3.2	14	<2.7
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<2.7	<3.1	<3.4	24	<2.4
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<11	<1.6	<12	<89	<8.7
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<1.6	<1.7	<6.6	<2.8	<11
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	38	<3.3	35	160	12
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	6.7	<3.8	11	72	9.9
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	210	16	210	890	47
2,3,7,8-TCDF (DB225)	pg	<4.1	<4.2	<5.4	12	<3.6
Internal Recoveries	%					
2,3,7,8-TCDF-13C12		96	79	79	97	97
TEQ based on Nato Factors		6.3	5.6	7.6	24	6.6

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		R02090957	R02090957	R02090957	R02090957	R02090957
	Client ID:	11A	12A	13A	14A	15A
	Lab No.:	060324 02	060325 02	060326 02	060327 02	060328 02
	Date Sampled:	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Component	Units					
Total Tetrachlorodibenzofurans	pg	33	79	2.8	17	170
Total Pentachlorodibenzofurans	"	25	45	<3.5	39	40
Total Hexachlorodibenzofurans	"	10	20	<2.6	29	19
Total Heptachlorodibenzofurans	"	<13	<15	<10	<18	<20
Octachlorodibenzofuran	"	6.9	14	<4.5	17	16
Total Tetrachlorodibenzo-p-dioxins	"	62	150	5.7	83	160
Total Pentachlorodibenzo-p-dioxins	"	19	31	<2.0	65	37
Total Hexachlorodibenzo-p-dioxins	"	22	43	<2.6	69	41
Total Heptachlorodibenzo-p-dioxins	"	34	100	10	50	25
Octachlorodibenzo-p-dioxin	"	110	250	28	110	150
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12		90	94	88	98	66
2,3,7,8-T4CDD-13C12		83	86	83	88	63
1,2,3,7,8-P5CDF-13C12		88	104	94	105	66
1,2,3,7,8-P5CDD-13C12		87	100	100	106	65
1,2,3,4,7,8-H6CDF-13C12		94	97	99	103	72
1,2,3,6,7,8-H6CDD-13C12		93	91	99	98	71
1,2,3,4,6,7,8-H7CDF-13C12		89	91	96	96	70
1,2,3,4,6,7,8-H7CDD-13C12		90	90	99	94	69
OCDD-13C12		90	88	93	96	70
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<14	<18	<2.8	<11	<25
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<2.4	<2.0	<2.3	<2.8	<3.3
1,2,3,7,8-Cl5-Dibenzofuran	"	<4.1	<2.7	<3.4	<5.6	<4.6
2,3,4,7,8-Cl5-Dibenzofuran	"	<4.2	5.2	<3.6	<8.4	<4.8
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<2.5	<3.2	<2.0	<3.5	<3.0
1,2,3,4,7,8-Cl6-Dibenzofuran	"	4.1	5.9	<2.4	9.3	7.9
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<2.3	3.0	<2.3	<6.1	<4.5
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<2.7	<2.9	<2.7	7.0	<5.4
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<2.9	<3.1	<2.9	<2.9	<5.7
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<2.9	<2.8	<2.9	3.8	<3.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<2.6	3.2	<2.6	4.2	<2.9
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<2.4	<2.3	<2.4	6.0	<2.6
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<11	<13	<9.2	<16	<18
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<15	<17	<12	<20	<22
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	18	59	6.6	28	<23
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	6.9	14	<4.5	17	16
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	110	250	28	110	150
2,3,7,8-TCDF (DB225)	pg	<3.7	<4.3	<4.2	<3.1	<8.8
Internal Recoveries	%					
2,3,7,8-TCDF-13C12		93	99	94	99	73
TEQ based on Nato Factors		4.8	7.5	4	8.7	6.6

Client: Philip Analytical Services Inc Project: Misc.

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Component	Units	Client ID:	R02090957	R02090957	R02090957	Method	Method
		Lab No.:	16A	17A	18A	Blank 10/08	Blank 10/09
		Date Sampled:	060329 02	060330 02	060331 02	12-Sep-2002	12-Sep-2002
			12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002	12-Sep-2002
Total Tetrachlorodibenzofurans	pg		5.9	36	90	<4.4	<1.5
Total Pentachlorodibenzofurans	"		<3.9	13	39	<10	<1.8
Total Hexachlorodibenzofurans	"		<1.2	5.4	20	5.4	<3.0
Total Heptachlorodibenzofurans	"		<1.8	<1.1	<2.0	21	<3.3
Octachlorodibenzofuran	"		<3.1	<3.6	12	33	<5.3
Total Tetrachlorodibenzo-p-dioxins	"		21	30	86	<6.0	<1.8
Total Pentachlorodibenzo-p-dioxins	"		5.7	<4.7	38	<5.2	<2.5
Total Hexachlorodibenzo-p-dioxins	"		<13	<19	6.0	<7.4	<2.7
Total Heptachlorodibenzo-p-dioxins	"		5.4	4.3	80	21	10
Octachlorodibenzo-p-dioxin	"		27	28	340	42	30
Internal Recoveries	%						
2,3,7,8-T4CDF-13C12			95	111	102	74	86
2,3,7,8-T4CDD-13C12			87	74	84	77	80
1,2,3,7,8-P5CDF-13C12			93	103	104	75	86
1,2,3,7,8-P5CDD-13C12			94	104	106	80	87
1,2,3,4,7,8-H6CDF-13C12			92	96	95	74	100
1,2,3,6,7,8-H6CDD-13C12			92	96	91	78	100
1,2,3,4,6,7,8-H7CDF-13C12			94	93	91	69	98
1,2,3,4,6,7,8-H7CDD-13C12			93	92	89	80	100
OCDD-13C12			81	81	79	78	94
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		<3.4	11	17	<4.4	<1.5
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		<3.6	<4.8	<3.3	<6.0	<1.8
1,2,3,7,8-Cl5-Dibenzofuran	"		<3.8	<5.5	<3.6	<10	<1.8
2,3,4,7,8-Cl5-Dibenzofuran	"		<4.1	<5.8	<4.4	<10	<1.9
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		<3.7	<4.7	<4.9	<5.2	<2.5
1,2,3,4,7,8-Cl6-Dibenzofuran	"		<1.2	2.1	7.1	5.2	<2.8
1,2,3,6,7,8-Cl6-Dibenzofuran	"		<0.98	<1.4	<2.8	<3.7	<2.6
2,3,4,6,7,8-Cl6-Dibenzofuran	"		<1.3	<1.8	<3.6	<4.5	<3.2
1,2,3,7,8,9-Cl6-Dibenzofuran	"		<1.4	<2.0	<4.0	<4.7	<3.4
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		<3.6	<3.8	<4.4	<8.2	<3.0
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		<2.6	<2.7	<3.3	<7.4	<2.7
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		<2.8	<3.0	<3.5	<6.7	<2.5
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		<1.6	<2.1	<15	11	<3.0
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		<2.1	<1.2	<2.3	<5.7	<3.8
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		5.4	4.3	41	21	6.7
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		<3.1	<3.6	12	33	<5.3
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		27	28	340	42	30
2,3,7,8-TCDF (DB225)	pg		<4.1	<3.8	<3.9	-	
Internal Recoveries	%						
2,3,7,8-TCDF-13C12			102	92	98	-	
TEQ based on Nato Factors			4.8	6.3	6.9	10	

Client: Philip Analytical Services Inc Project: Misc.

3/11/2003

PASC - Certificate of Analysis

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Component	Units	Client ID:	Blank	Blank
		Lab No.:	Spike	Spike
		Date Sampled:	%Recoveries	
Total Tetrachlorodibenzofurans	pg		1100	-
Total Pentachlorodibenzofurans	"		5300	-
Total Hexachlorodibenzofurans	"		9100	-
Total Heptachlorodibenzofurans	"		5000	-
Octachlorodibenzofuran	"		4700	-
Total Tetrachlorodibenzo-p-dioxins	"		1000	-
Total Pentachlorodibenzo-p-dioxins	"		2700	-
Total Hexachlorodibenzo-p-dioxins	"		7200	-
Total Heptachlorodibenzo-p-dioxins	"		2500	-
Octachlorodibenzo-p-dioxin	"		4800	-
Internal Recoveries	%			
2,3,7,8-T4CDF-13C12			86	86
2,3,7,8-T4CDD-13C12			81	81
1,2,3,7,8-P5CDF-13C12			88	88
1,2,3,7,8-P5CDD-13C12			90	90
1,2,3,4,7,8-H6CDF-13C12			93	93
1,2,3,6,7,8-H6CDD-13C12			95	95
1,2,3,4,6,7,8-H7CDF-13C12			95	95
1,2,3,4,6,7,8-H7CDD-13C12			95	95
OCDD-13C12			86	86
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		1000	104
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		1000	102
1,2,3,7,8-Cl5-Dibenzofuran	"		2600	102
2,3,4,7,8-Cl5-Dibenzofuran	"		2700	107
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		2700	108
1,2,3,4,7,8-Cl6-Dibenzofuran	"		2400	94
1,2,3,6,7,8-Cl6-Dibenzofuran	"		2200	88
2,3,4,6,7,8-Cl6-Dibenzofuran	"		2400	95
1,2,3,7,8,9-Cl6-Dibenzofuran	"		2100	85
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		2500	98
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		2500	98
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		2300	92
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		2500	100
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		2500	99
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		2400	97
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		4700	95
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		4800	96
2,3,7,8-TCDF (DB225)	pg			
Internal Recoveries	%			
2,3,7,8-TCDF-13C12				

TEQ based on Nato Factors

Client:Philip Analytical Services Inc Project:Misc.

**PSC Analytical Services
Certificate of Analysis**

		R02090971	R02090971	R02090971	R02090971
		12A	02A	03A	04A
		039319 02	039320 02	039321 02	039322 02
		02/09/12	02/09/12	02/09/12	02/09/12
Client ID:					
Lab No.:					
Date Sampled:					
Component	MDL	Units			
Total Tetrachlorodibenzofurans		pg	18	57	100
Total Pentachlorodibenzofurans		"	3.5	8.6	31
Total Hexachlorodibenzofurans		"	13	4.3	16
Total Heptachlorodibenzofurans		"	<2.1	<4.8	<1.4
Octachlorodibenzofuran		"	9.7	4.0	5.0
Total Tetrachlorodibenzo-p-dioxins		"	11	36	120
Total Pentachlorodibenzo-p-dioxins		"	5.1	12	64
Total Hexachlorodibenzo-p-dioxins		"	7.8	14	58
Total Heptachlorodibenzo-p-dioxins		"	24	17	35
Octachlorodibenzo-p-dioxin		"	89	54	74
Internal Recoveries		%			
2,3,7,8-T4CDF-13C12			85	72	71
2,3,7,8-T4CDD-13C12			82	73	70
1,2,3,7,8-P5CDF-13C12			54	48	59
1,2,3,7,8-P5CDD-13C12			52	49	65
1,2,3,6,7,8-H6CDF-13C12			28	31	49
1,2,3,6,7,8-H6CDD-13C12			48	62	83
1,2,3,4,6,7,8-H7CDF-13C12			17	20	39
1,2,3,4,6,7,8-H7CDD-13C12			54	64	77
OCDD-13C12			54	65	82
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	0.44	<0.23	33
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<0.75	<0.34	<0.55
1,2,3,7,8-Cl5-Dibenzofuran		"	<2.5	2.4	5.2
2,3,4,7,8-Cl5-Dibenzofuran		"	<2.3	<2.4	5.3
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<1.1	<0.99	1.9
1,2,3,4,7,8-Cl6-Dibenzofuran		"	<5.6	4.3	9.6
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<3.7	<3.1	<3.9
2,3,4,6,7,8-Cl6-Dibenzofuran		"	6.3	<5.4	<4.3
1,2,3,7,8,9-Cl6-Dibenzofuran		"	6.4	<0.96	1.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<2.4	<0.40	1.1
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	2.7	<1.2	2.7
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	5.1	<3.2	3.1
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<1.9	<3.5	<53
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<16	<9.9	<1.4
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	16	9.8	15
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	9.7	4.0	5.0
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	89	54	74
2,3,7,8-TCDF (DB225)		pg	<3.0	3.9	4.8
Internal Recoveries		%			
2,3,7,8-TCDF-13C12			118	112	107
TEQ based on Nato Factors		pg	2.4	0.71	9.1

**PSC Analytical Services
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		R02090971	R02090971	R02090971	R02090971
		05A	06A	07A	08A
		039323 02	039324 02	039325 02	039326 02
		02/09/12	02/09/12	02/09/12	02/09/12
Client ID:					
Lab No.:					
Date Sampled:					
Component	MDL	Units			
Total Tetrachlorodibenzofurans		pg	140	210	3.1
Total Pentachlorodibenzofurans		"	70	110	<0.55
Total Hexachlorodibenzofurans		"	33	70	<0.66
Total Heptachlorodibenzofurans		"	2.5	91	<0.84
Octachlorodibenzofuran		"	4.4	38	<2.4
Total Tetrachlorodibenzo-p-dioxins		"	130	190	<0.65
Total Pentachlorodibenzo-p-dioxins		"	130	97	1.1
Total Hexachlorodibenzo-p-dioxins		"	93	190	1.1
Total Heptachlorodibenzo-p-dioxins		"	51	490	5.9
Octachlorodibenzo-p-dioxin		"	120	2000	17
Internal Recoveries		%			
2,3,7,8-T4CDF-13C12			83	80	86
2,3,7,8-T4CDD-13C12			84	84	83
1,2,3,7,8-P5CDF-13C12			71	65	81
1,2,3,7,8-P5CDD-13C12			75	73	90
1,2,3,6,7,8-H6CDF-13C12			58	46	80
1,2,3,6,7,8-H6CDD-13C12			71	67	81
1,2,3,4,6,7,8-H7CDF-13C12			56	39	52
1,2,3,4,6,7,8-H7CDD-13C12			79	81	91
OCDD-13C12			74	78	77
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	40	55	1.6
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	14	<20	<0.71
1,2,3,7,8-Cl5-Dibenzofuran		"	6.4	11	<0.55
2,3,4,7,8-Cl5-Dibenzofuran		"	8.7	14	<0.53
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<2.8	3.9	<0.48
1,2,3,4,7,8-Cl6-Dibenzofuran		"	14	28	<0.61
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<6.3	<12	<0.58
2,3,4,6,7,8-Cl6-Dibenzofuran		"	7.3	15	<0.66
1,2,3,7,8,9-Cl6-Dibenzofuran		"	1.1	<3.6	<0.73
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<1.7	3.4	<0.68
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	3.4	9.5	<0.64
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	5.8	13	<0.63
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<30	91	<6.6
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<3.4	<14	<5.4
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	22	220	2.4
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	4.4	38	<2.4
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	120	2000	17
2,3,7,8-TCDF (DB225)		pg	7.3	9.9	<2.0
Internal Recoveries		%			
2,3,7,8-TCDF-13C12			116	111	111
TEQ based on Nato Factors		pg	26	27	0.20

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**PSC Analytical Services
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			R02090971	R02090971	R02090971	R02090971
			09A	10A	11A	01A
			039327 02	039328 02	039329 02	039330 02
			02/09/12	02/09/12	02/09/12	02/09/12
Client ID:						
Lab No.:						
Date Sampled:						
Component	MDL	Units				
Total Tetrachlorodibenzofurans		pg	49	4.5	34	22
Total Pentachlorodibenzofurans		"	6.2	0.58	5.1	5.3
Total Hexachlorodibenzofurans		"	2.6	<0.29	2.8	1.1
Total Heptachlorodibenzofurans		"	<2.6	<1.9	2.1	<2.4
Octachlorodibenzofuran		"	<3.4	<3.3	<3.1	<2.0
Total Tetrachlorodibenzo-p-dioxins		"	43	5.0	31	55
Total Pentachlorodibenzo-p-dioxins		"	14	2.4	19	6.7
Total Hexachlorodibenzo-p-dioxins		"	9.4	0.68	15	<0.60
Total Heptachlorodibenzo-p-dioxins		"	12	0.84	14	3.5
Octachlorodibenzo-p-dioxin		"	55	6.8	41	18
Internal Recoveries		%				
2,3,7,8-T4CDF-13C12			90	79	86	142
2,3,7,8-T4CDD-13C12			83	72	85	52
1,2,3,7,8-P5CDF-13C12			65	59	63	92
1,2,3,7,8-P5CDD-13C12			70	56	64	84
1,2,3,6,7,8-H6CDF-13C12			90	81	65	50
1,2,3,6,7,8-H6CDD-13C12			84	89	85	72
1,2,3,4,6,7,8-H7CDF-13C12			72	63	50	36
1,2,3,4,6,7,8-H7CDD-13C12			80	73	80	72
OCDD-13C12			63	69	77	67
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	9.0	<0.22	8.5	6.1
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<0.93	<0.46	0.79	10
1,2,3,7,8-Cl5-Dibenzofuran		"	<0.56	<0.67	<1.6	1.2
2,3,4,7,8-Cl5-Dibenzofuran		"	1.5	<0.22	<1.1	0.97
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<1.5	<0.50	0.53	<0.78
1,2,3,4,7,8-Cl6-Dibenzofuran		"	2.6	<0.28	2.8	<1.6
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<0.82	<0.28	<1.1	1.1
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<0.93	<0.31	<0.99	<1.5
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<1.0	<0.35	<0.55	<0.63
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<1.2	<0.46	<0.87	<0.50
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	<1.1	<0.43	<0.83	<1.0
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	<1.1	0.68	<1.3	<0.70
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<14	<1.7	<0.68	<2.2
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<3.9	<2.0	<0.94	<2.5
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	<7.3	0.84	6.2	<3.1
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	<3.4	<3.3	<3.1	<2.0
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	55	6.8	41	18
2,3,7,8-TCDF (DB225)		pg	2.9	<2.0	<3.0	<2.0
Internal Recoveries		%				
2,3,7,8-TCDF-13C12			114	108	117	107
TEQ based on Nato Factors		pg	1.9	0.084	2.3	11