NYC 9/11 Public Portal Document

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Certificate No.: **2J0573**

CLIENT INFORMATION

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LABORATORY INFORMATION

Contact:	
Project:	
Date Received:	
Date Reported:	
Date Revised:	
Revision Number:	
No. of pages:	

Project:	SW 8290
Project Desc:	PO#10295-R02100400
Sampled by:	PHILIP ANALYTICAL SERVICES-PA

Approved by: _____
Martin Dea, Chemist
Project manager

CONFIDENTIAL CLAUSE

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Martin Dea
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ed by:_____
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Inorganic Manager

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Stephan Obarewicz, Chemist
High Resolution Manager

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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 six weeks from date of reception or as per contract.
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The enclosed guidelines and criterias are provided for information purposes only.
In case of desparity between the guidelines and criterias provided and the official version, these are the valid one.

Organic analyses are not corrected for extraction recovery standards except for PCDD/F and PCB's (congeners).
Batch and run dates for subcontracted analyses are reported only when available; if not, the date of reception of the certificate by fax is reported.
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 MENV or EPA methodologies.
See the confirmation analysis report in the appendix at the end of this report for the list of the methods used, and the list of parameters analyzed by subcontracting laboratories.
Please contact your project manager for additionnals informations.

NOTES:
- = not analyzed
< = less than Reported Detection Limit (RDL)
NA = Not Applicable
RDL = Reported Detection Limit
Solids data is based on dry weight (unless otherwise specified).

Comments:

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			R02100400	R02100400	R02100400		R02100400
		Client ID:	01A	01A	01A	***Client ID:***	02A
		Lab No.:	039046 02	039046 02	039046 02	***Lab No.:***	039047 02
		Date Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09
		Matrix:				***Matrix:***	
Component	**RDL**	**Units**		**TEF**	**# of Isomers**	**RDL**	**Units**
Dioxins and furans							
2,3,7,8-Cl4DBF	0.09	pg	1.6	0.16		0.33	pg	3.2
2,3,7,8-Cl4DBD	0.19	"	1.1	1.1		0.61	"	<0.61
1,2,3,7,8-Cl5DBF	0.21	"	1.2	0.062		1.00	"	<1.00
2,3,4,7,8-Cl5DBF	0.21	"	1.1	0.57		0.22	"	0.82
1,2,3,7,8-Cl5DBD	0.14	"	0.89	0.44		0.54	"	<0.54
1,2,3,4,7,8-Cl6DBF	0.59	"	1.9	0.19		0.60	"	<0.60
1,2,3,6,7,8-Cl6DBF	2.2	"	<2.2	<0.22		0.63	"	<0.63
2,3,4,6,7,8-Cl6DBF	0.67	"	6.3	0.63		0.67	"	0.96
1,2,3,7,8,9-Cl6DBF	0.74	"	5.8	0.58		0.99	"	<0.99
1,2,3,4,7,8-Cl6DBD	1.3	"	<1.3	<0.13		0.41	"	<0.41
1,2,3,6,7,8-Cl6DBD	0.25	"	1.8	0.18		0.39	"	<0.39
1,2,3,7,8,9-Cl6DBD	0.25	"	2.6	0.26		1.4	"	<1.4
1,2,3,4,6,7,8-Cl7DBF	4.8	"	<4.8	<0.048		8.0	"	<8.0
1,2,3,4,7,8,9-Cl7DBF	0.7	"	6.4	0.064		2.1	"	<2.1
1,2,3,4,6,7,8-Cl7DBD	2.5	"	<2.5	<0.025		0.87	"	1.9
1,2,3,4,6,7,8,9-Cl8DBF	0.27	"	5.7	0.0057		0.5	"	11
1,2,3,4,6,7,8,9-Cl8DBD	0.24	"	9.3	0.0093		0.63	"	9.1
TEF		pg		4.2			pg	
EPA Requested TEQ				< **4.45**				
MAX TEF		"		< 4.7			"	
Units Ng/m²				**0.45**				
ΣT4CDF	0.09	pg	2.4		4	0.33	pg	3.8
ΣP5CDF	0.21	"	2.3		2	0.22	"	0.82
ΣH6CDF	0.67	"	14		3	0.67	"	0.96
ΣH7CDF	0.68	"	6.4		1	1.6	"	<1.6
OCDF	0.27	"	5.7		1	0.5	"	11
ΣT4CDD	0.19	"	1.1		1	0.34	"	4.4
ΣP5CDD	0.14	"	0.89		1	0.93	"	2.6
ΣH6CDD	0.25	"	4.5		2	0.41	"	<0.41
ΣH7CDD	0.24	"	0.46		1	0.87	"	1.9
OCDD	0.24	"	9.3		1	0.63	"	9.1
Surrogate Recoveries		%					%	
2,3,7,8-T4CDF-13C12			92					98
2,3,7,8-T4CDD-13C12			78					79
1,2,3,7,8-P5CDF-13C12			73					74
1,2,3,7,8-P5CDD-13C12			64					65
1,2,3,6,7,8-H6CDF-13C1			25					76
1,2,3,6,7,8-H6CDD-13C1			56					83
1,2,3,4,6,7,8-H7CDF-13C			22					48
1,2,3,4,6,7,8-H7CDD-13C			69					67
OCDD-13C12			61					49

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□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 02A	R02100400 02A		R02100400 03A	R02100400 03A	R02100400 03A
			Client ID:			
	039047 02	039047 02	***Lab No.:***	039048 02	039048 02	039048 02
	02/10/09	02/10/09	***Date Sampled:***	02/10/09	02/10/09	02/10/09
			Matrix:			

Component	**TEF**	**# of Isomers**	**RDL**	**Units**		**TEF**	**# of Isomers**	**RDL**
Dioxins and furans								
2,3,7,8-Cl4DBF	0.32		0.13	pg	5.4	0.54		0.21
2,3,7,8-Cl4DBD	<0.61		0.18	"	1.8	1.8		0.13
1,2,3,7,8-Cl5DBF	<0.050		0.13	"	1.5	0.074		0.89
2,3,4,7,8-Cl5DBF	0.41		0.12	"	1.7	0.84		0.79
1,2,3,7,8-Cl5DBD	<0.27		0.27	"	0.44	0.22		0.33
1,2,3,4,7,8-Cl6DBF	<0.060		0.15	"	<0.15	<0.015		0.23
1,2,3,6,7,8-Cl6DBF	<0.063		1.5	"	<1.5	<0.15		0.71
2,3,4,6,7,8-Cl6DBF	0.096		0.17	"	2.2	0.22		0.26
1,2,3,7,8,9-Cl6DBF	<0.099		0.19	"	0.32	0.032		0.29
1,2,3,4,7,8-Cl6DBD	<0.041		0.19	"	<0.19	<0.019		0.21
1,2,3,6,7,8-Cl6DBD	<0.039		0.58	"	<0.58	<0.058		0.20
1,2,3,7,8,9-Cl6DBD	<0.14		0.13	"	0.95	0.095		0.2
1,2,3,4,6,7,8-Cl7DBF	<0.080		11	"	<11	<0.11		11
1,2,3,4,7,8,9-Cl7DBF	<0.021		13	"	<13	<0.13		140
1,2,3,4,6,7,8-Cl7DBD	0.019		0.16	"	3.2	0.032		0.11
1,2,3,4,6,7,8,9-Cl8DBF	0.011		0.78	"	<0.78	<0.00078		1.1
1,2,3,4,6,7,8,9-Cl8DBD	0.0092		0.19	"	16	0.016		0.2
TEF	0.87			pg		3.8		
EPA Requested TEQ <	**1.59**					**<** **4.05**		
MAX TEF <	2.3			"		< 4.3		
Units Ng/m²	**0.16**					**0.41**		
ΣT4CDF		2	0.13	pg	13		7	0.21
ΣP5CDF		1	0.13	"	5.9		6	0.15
ΣH6CDF		1	0.17	"	2.5		2	0.23
ΣH7CDF		0	13	"	<13		0	140
OCDF		1	0.78	"	<0.78		0	1.1
ΣT4CDD		2	0.18	"	7.1		5	0.13
ΣP5CDD		1	0.27	"	9.3		8	0.66
ΣH6CDD		0	0.13	"	9.9		4	0.21
ΣH7CDD		1	0.16	"	7.2		2	0.11
OCDD		1	0.19	"	16		1	0.2
Surrogate Recoveries				%				
2,3,7,8-T4CDF-13C12					159			
2,3,7,8-T4CDD-13C12					133			
1,2,3,7,8-P5CDF-13C12					161			
1,2,3,7,8-P5CDD-13C12					166			
1,2,3,6,7,8-H6CDF-13C12					49			
1,2,3,6,7,8-H6CDD-13C12					75			
1,2,3,4,6,7,8-H7CDF-13C12					37			
1,2,3,4,6,7,8-H7CDD-13C12					95			
OCDD-13C12					77			

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□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400		R02100400
	Client ID:	04A	04A	04A	***Client ID:***	05A
	Lab No.:	039049 02	039049 02	039049 02	***Lab No.:***	039050 02
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09
	Matrix:				***Matrix:***	
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**	
Dioxins and furans						
2,3,7,8-Cl4DBF	pg	5.0	0.50	0.33	pg	1.8
2,3,7,8-Cl4DBD	"	1.6	1.6	0.13	"	<0.13
1,2,3,7,8-Cl5DBF	"	<0.89	<0.045	0.36	"	<0.36
2,3,4,7,8-Cl5DBF	"	<0.79	<0.39	0.2	"	0.35
1,2,3,7,8-Cl5DBD	"	<0.33	<0.17	0.66	"	<0.66
1,2,3,4,7,8-Cl6DBF	"	1.2	0.12	0.31	"	<0.31
1,2,3,6,7,8-Cl6DBF	"	<0.71	<0.071	0.31	"	<0.31
2,3,4,6,7,8-Cl6DBF	"	1.4	0.14	0.35	"	0.42
1,2,3,7,8,9-Cl6DBF	"	<0.29	<0.029	0.39	"	<0.39
1,2,3,4,7,8-Cl6DBD	"	<0.21	<0.021	0.21	"	<0.21
1,2,3,6,7,8-Cl6DBD	"	<0.20	<0.020	0.20	"	<0.20
1,2,3,7,8,9-Cl6DBD	"	0.69	0.069	0.20	"	<0.20
1,2,3,4,6,7,8-Cl7DBF	"	<11	<0.11	89	"	<89
1,2,3,4,7,8,9-Cl7DBF	"	<140	<1.4	36	"	<36
1,2,3,4,6,7,8-Cl7DBD	"	3.4	0.034	0.53	"	<0.53
1,2,3,4,6,7,8,9-Cl8DBF	"	<1.1	<0.0011	5.6	"	<5.6
1,2,3,4,6,7,8,9-Cl8DBD	"	24	0.024	0.3	"	2.7
TEF	pg		2.5		pg	
EPA Requested TEQ			**< 3.60**			**<**
MAX TEF	"		< 4.7		"	<
Units Ng/m²			**0.36**			
ΣT4CDF	pg	17		9 0.33	pg	3.6
ΣP5CDF	"	3.1		5 0.21	"	0.35
ΣH6CDF	"	2.5		2 0.35	"	0.42
ΣH7CDF	"	<140		0 99	"	<99
OCDF	"	<1.1		0 5.6	"	<5.6
ΣT4CDD	"	8.6		9 0.13	"	0.90
ΣP5CDD	"	4.2		4 0.66	"	0.69
ΣH6CDD	"	1.6		2 0.21	"	<0.21
ΣH7CDD	"	6.8		2 0.19	"	<0.19
OCDD	"	24		1 0.3	"	2.7
Surrogate Recoveries	%				%	
2,3,7,8-T4CDF-13C12		71				134
2,3,7,8-T4CDD-13C12		93				129
1,2,3,7,8-P5CDF-13C12		112				120
1,2,3,7,8-P5CDD-13C12		107				114
1,2,3,6,7,8-H6CDF-13C12		30				50
1,2,3,6,7,8-H6CDD-13C12		73				91
1,2,3,4,6,7,8-H7CDF-13C12		13				29
1,2,3,4,6,7,8-H7CDD-13C12		85				98
OCDD-13C12		76				92

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□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 05A	R02100400 05A		R02100400 06A	R02100400 06A	R02100400 06A
			Client ID:			
	039050 02	039050 02	***Lab No.:***	039051 02	039051 02	039051 02
	02/10/09	02/10/09	***Date Sampled:***	02/10/09	02/10/09	02/10/09
			Matrix:			

Component	**TEF**	**# of Isomers**	**RDL**	**Units**		**TEF**	**# of Isomers**	**RDL**
Dioxins and furans								
2,3,7,8-Cl4DBF	0.18		0.13	pg	7.9	0.79		0.13
2,3,7,8-Cl4DBD	<0.13		1.4	"	<1.4	<1.4		0.48
1,2,3,7,8-Cl5DBF	<0.018		0.21	"	1.5	0.076		0.26
2,3,4,7,8-Cl5DBF	0.18		0.2	"	2.2	1.1		0.25
1,2,3,7,8-Cl5DBD	<0.33		0.89	"	0.65	0.33		1.2
1,2,3,4,7,8-Cl6DBF	<0.031		0.12	"	1.4	0.14		0.66
1,2,3,6,7,8-Cl6DBF	<0.031		0.12	"	1.1	0.11		0.28
2,3,4,6,7,8-Cl6DBF	0.042		0.13	"	1.6	0.16		0.32
1,2,3,7,8,9-Cl6DBF	<0.039		0.39	"	<0.39	<0.039		0.36
1,2,3,4,7,8-Cl6DBD	<0.021		0.16	"	0.75	0.075		0.18
1,2,3,6,7,8-Cl6DBD	<0.020		0.75	"	<0.75	<0.075		0.17
1,2,3,7,8,9-Cl6DBD	<0.020		0.15	"	1.1	0.11		0.42
1,2,3,4,6,7,8-Cl7DBF	<0.89		9.0	"	<9.0	<0.090		22
1,2,3,4,7,8,9-Cl7DBF	<0.36		17	"	<17	<0.17		19
1,2,3,4,6,7,8-Cl7DBD	<0.0053		0.14	"	2.6	0.026		0.31
1,2,3,4,6,7,8,9-Cl8DBF	<0.0056		1.1	"	1.9	0.0019		0.25
1,2,3,4,6,7,8,9-Cl8DBD	0.0027		0.47	"	11	0.011		0.4
TEF	0.40			pg		2.9		
EPA Requested TEQ	**1.35**				**<**	**3.80**		
MAX TEF	2.3			"	<	4.7		
Units Ng/m^2	**0.14**					**0.38**		
ΣT4CDF		4	0.13	pg	23		10	0.13
ΣP5CDF		1	0.21	"	12		7	0.26
ΣH6CDF		1	0.12	"	4.1		3	0.32
ΣH7CDF		0	25	"	<25		0	20
OCDF		0	1.1	"	1.9		1	0.25
ΣT4CDD		2	0.25	"	12		7	0.22
ΣP5CDD		1	0.89	"	12		4	1
ΣH6CDD		0	0.15	"	13		6	0.17
ΣH7CDD		0	0.14	"	2.6		1	0.31
OCDD		1	0.47	"	11		1	0.4
Surrogate Recoveries				%				
2,3,7,8-T4CDF-13C12					96			
2,3,7,8-T4CDD-13C12					88			
1,2,3,7,8-P5CDF-13C12					93			
1,2,3,7,8-P5CDD-13C12					98			
1,2,3,6,7,8-H6CDF-13C12					66			
1,2,3,6,7,8-H6CDD-13C12					88			
1,2,3,4,6,7,8-H7CDF-13C12					73			
1,2,3,4,6,7,8-H7CDD-13C12					86			
OCDD-13C12					77			

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400		R02100400	
	Client ID:	07A	07A	07A	***Client ID:***	08A	
	Lab No.:	039052 02	039052 02	039052 02	***Lab No.:***	039053 02	
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09	
	Matrix:				***Matrix:***		
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**		
Dioxins and furans							
2,3,7,8-Cl4DBF	pg	2.1	0.21	1.6	pg	<1.6	
2,3,7,8-Cl4DBD	"	<0.48	<0.48	0.36	"	<0.36	
1,2,3,7,8-Cl5DBF	"	0.69	0.035	0.32	"	0.65	
2,3,4,7,8-Cl5DBF	"	0.55	0.28	0.31	"	<0.31	
1,2,3,7,8-Cl5DBD	"	<1.2	<0.61	0.41	"	<0.41	
1,2,3,4,7,8-Cl6DBF	"	<0.66	<0.066	0.55	"	<0.55	
1,2,3,6,7,8-Cl6DBF	"	0.82	0.082	0.55	"	<0.55	
2,3,4,6,7,8-Cl6DBF	"	0.70	0.070	0.63	"	<0.63	
1,2,3,7,8,9-Cl6DBF	"	<0.36	<0.036	0.70	"	<0.70	
1,2,3,4,7,8-Cl6DBD	"	<0.18	<0.018	0.45	"	<0.45	
1,2,3,6,7,8-Cl6DBD	"	<0.17	<0.017	0.43	"	<0.43	
1,2,3,7,8,9-Cl6DBD	"	<0.42	<0.042	0.42	"	<0.42	
1,2,3,4,6,7,8-Cl7DBF	"	<22	<0.22	16	"	<16	
1,2,3,4,7,8,9-Cl7DBF	"	<19	<0.19	18	"	<18	
1,2,3,4,6,7,8-Cl7DBD	"	1.3	0.013	1.3	"	<1.3	
1,2,3,4,6,7,8,9-Cl8DBF	"	6.3	0.0063	1.1	"	<1.1	
1,2,3,4,6,7,8,9-Cl8DBD	"	8.7	0.0087	3.9	"	<3.9	
TEF	pg		0.70		pg		
EPA Requested TEQ			< **1.55**				<
MAX TEF	"		< 2.4		"		<
Units Ng/m^2			**0.16**				
ΣT4CDF	pg	4.4		5 0.27	pg	<0.27	
ΣP5CDF	"	1.8		3 0.32	"	0.65	
ΣH6CDF	"	1.9		3 0.63	"	<0.63	
ΣH7CDF	"	<20		0 17	"	<17	
OCDF	"	6.3		1 1.1	"	<1.1	
ΣT4CDD	"	0.43		1 0.36	"	<0.36	
ΣP5CDD	"	1.3		2 0.41	"	0.63	
ΣH6CDD	"	<0.17		0 0.45	"	<0.45	
ΣH7CDD	"	2.6		2 1.3	"	<1.3	
OCDD	"	8.7		1 3.9	"	<3.9	
Surrogate Recoveries	%				%		
2,3,7,8-T4CDF-13C12		108				86	
2,3,7,8-T4CDD-13C12		95				82	
1,2,3,7,8-P5CDF-13C12		105				71	
1,2,3,7,8-P5CDD-13C12		111				65	
1,2,3,6,7,8-H6CDF-13C12		70				48	
1,2,3,6,7,8-H6CDD-13C12		89				75	
1,2,3,4,6,7,8-H7CDF-13C12		60				47	
1,2,3,4,6,7,8-H7CDD-13C12		86				82	
OCDD-13C12		76				67	

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 08A	R02100400 08A		R02100400 09A	R02100400 09A	R02100400 09A
			Client ID:			
	039053 02	039053 02	***Lab No.:***	039054 02	039054 02	039054 02
	02/10/09	02/10/09	***Date Sampled:***	02/10/09	02/10/09	02/10/09
			Matrix:			

Component	**TEF**	**# of Isomers**	**RDL**	**Units**			**TEF**	**# of Isomers**	**RDL**
Dioxins and furans									
2,3,7,8-Cl4DBF	<0.16		0.32	pg	3.1		0.31		0.14
2,3,7,8-Cl4DBD	<0.36		0.78	"	<0.78		<0.78		0.47
1,2,3,7,8-Cl5DBF	0.033		0.31	"	<0.31		<0.015		0.14
2,3,4,7,8-Cl5DBF	<0.16		0.24	"	0.69		0.35		0.14
1,2,3,7,8-Cl5DBD	<0.20		0.81	"	<0.81		<0.41		0.54
1,2,3,4,7,8-Cl6DBF	<0.055		1.0	"	<1.0		<0.10		0.21
1,2,3,6,7,8-Cl6DBF	<0.055		1.0	"	<1.0		<0.10		1.9
2,3,4,6,7,8-Cl6DBF	<0.063		1.2	"	<1.2		<0.12		0.24
1,2,3,7,8,9-Cl6DBF	<0.070		1.3	"	<1.3		<0.13		2.3
1,2,3,4,7,8-Cl6DBD	<0.045		0.53	"	<0.53		<0.053		0.31
1,2,3,6,7,8-Cl6DBD	<0.043		0.50	"	<0.50		<0.050		0.29
1,2,3,7,8,9-Cl6DBD	<0.042		0.49	"	<0.49		<0.049		0.28
1,2,3,4,6,7,8-Cl7DBF	<0.16		14	"	<14		<0.14		6.2
1,2,3,4,7,8,9-Cl7DBF	<0.18		1.4	"	<1.4		<0.014		3.3
1,2,3,4,6,7,8-Cl7DBD	<0.013		1.0	"	2.5		0.025		0.34
1,2,3,4,6,7,8,9-Cl8DBF	<0.0011		0.86	"	4.2		0.0042		0.98
1,2,3,4,6,7,8,9-Cl8DBD	<0.0039		1.0	"	30		0.030		0.66
TEF	0.033			pg			0.71		
EPA Requested TEQ	**0.82**					**<**	**1.71**		
MAX TEF	1.6			"		<	2.7		
Units Ng/m^2	**0.08**						**0.17**		
ΣT4CDF		0	0.32	pg	6.8			5	0.14
ΣP5CDF		1	0.31	"	1.3			2	0.14
ΣH6CDF		0	1.0	"	<1.0			0	0.24
ΣH7CDF		0	16	"	<16			0	26
OCDF		0	0.86	"	4.2			1	0.98
ΣT4CDD		0	0.53	"	0.70			1	0.13
ΣP5CDD		1	0.81	"	<0.81			0	0.60
ΣH6CDD		0	0.53	"	3.5			1	0.31
ΣH7CDD		0	1.0	"	5.5			2	0.34
OCDD		0	1.0	"	30			1	0.66
Surrogate Recoveries				%					
2,3,7,8-T4CDF-13C12					97				
2,3,7,8-T4CDD-13C12					77				
1,2,3,7,8-P5CDF-13C12					73				
1,2,3,7,8-P5CDD-13C12					64				
1,2,3,6,7,8-H6CDF-13C12					69				
1,2,3,6,7,8-H6CDD-13C12					80				
1,2,3,4,6,7,8-H7CDF-13C12					59				
1,2,3,4,6,7,8-H7CDD-13C12					76				
OCDD-13C12					52				

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400		R02100400
	Client ID:	10A	10A	10A	***Client ID:***	11A
	Lab No.:	039055 02	039055 02	039055 02	***Lab No.:***	039056 02
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09
	Matrix:				***Matrix:***	
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**	
Dioxins and furans						
2,3,7,8-Cl4DBF	pg	1.7	0.17	1.8	pg	2.6
2,3,7,8-Cl4DBD	"	<0.47	<0.47	1.3	"	<1.3
1,2,3,7,8-Cl5DBF	"	0.72	0.036	2.0	"	<2.0
2,3,4,7,8-Cl5DBF	"	1.1	0.55	1.9	"	<1.9
1,2,3,7,8-Cl5DBD	"	<0.54	<0.27	2.2	"	<2.2
1,2,3,4,7,8-Cl6DBF	"	2.0	0.20	1.0	"	<1.0
1,2,3,6,7,8-Cl6DBF	"	<1.9	<0.19	1.0	"	<1.0
2,3,4,6,7,8-Cl6DBF	"	2.4	0.24	1.2	"	<1.2
1,2,3,7,8,9-Cl6DBF	"	<2.3	<0.23	1.3	"	<1.3
1,2,3,4,7,8-Cl6DBD	"	1.3	0.13	2.1	"	<2.1
1,2,3,6,7,8-Cl6DBD	"	1.4	0.14	2.0	"	<2.0
1,2,3,7,8,9-Cl6DBD	"	2.0	0.20	2.0	"	<2.0
1,2,3,4,6,7,8-Cl7DBF	"	<6.2	<0.062	1.8	"	<1.8
1,2,3,4,7,8,9-Cl7DBF	"	<3.3	<0.033	4.8	"	<4.8
1,2,3,4,6,7,8-Cl7DBD	"	1.9	0.019	2.7	"	<2.7
1,2,3,4,6,7,8,9-Cl8DBF	"	4.2	0.0042	2.8	"	<2.8
1,2,3,4,6,7,8,9-Cl8DBD	"	12	0.012	4.7	"	5.0
TEF	pg		1.7		pg	
EPA Requested TEQ			**2.35**			
MAX TEF	"		3.0		"	
Units Ng/m²			**0.24**			
ΣT4CDF	pg	2.5		2 1.8	pg	2.6
ΣP5CDF	"	3.8		6 2.0	"	<2.0
ΣH6CDF	"	7.3		5 1.2	"	<1.2
ΣH7CDF	"	<26		0 2.0	"	<2.0
OCDF	"	4.2		1 2.8	"	<2.8
ΣT4CDD	"	1.7		3 1.3	"	<1.3
ΣP5CDD	"	<0.60		0 2.2	"	<2.2
ΣH6CDD	"	6.2		5 2.1	"	<2.1
ΣH7CDD	"	3.8		2 2.7	"	<2.7
OCDD	"	12		1 4.7	"	5.0
Surrogate Recoveries	%				%	
2,3,7,8-T4CDF-13C12		110				91
2,3,7,8-T4CDD-13C12		85				85
1,2,3,7,8-P5CDF-13C12		77				58
1,2,3,7,8-P5CDD-13C12		60				65
1,2,3,6,7,8-H6CDF-13C12		59				89
1,2,3,6,7,8-H6CDD-13C12		80				69
1,2,3,4,6,7,8-H7CDF-13C12		51				61
1,2,3,4,6,7,8-H7CDD-13C12		90				64
OCDD-13C12		73				93

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 11A	R02100400 11A		R02100400 12A	R02100400 12A	R02100400 12A
			Client ID:			
	039056 02	039056 02	***Lab No.:***	039057 02	039057 02	039057 02
	02/10/09	02/10/09	***Date Sampled:***	02/10/09	02/10/09	02/10/09
			Matrix:			

Component	**TEF**	**# of Isomers**	**RDL**	**Units**		**TEF**		**# of Isomers**	**RDL**
Dioxins and furans									
2,3,7,8-Cl4DBF	0.26		1.2	pg	<1.2	<0.12			1.3
2,3,7,8-Cl4DBD	<1.3		3.1	"	<3.1	<3.1			1.1
1,2,3,7,8-Cl5DBF	<0.098		2.3	"	<2.3	<0.11			0.99
2,3,4,7,8-Cl5DBF	<0.95		2.2	"	<2.2	<1.1			0.96
1,2,3,7,8-Cl5DBD	<1.1		2.5	"	<2.5	<1.3			3.8
1,2,3,4,7,8-Cl6DBF	<0.10		2.6	"	<2.6	<0.26			1.5
1,2,3,6,7,8-Cl6DBF	<0.10		16	"	<16	<1.6			1.4
2,3,4,6,7,8-Cl6DBF	<0.12		80	"	<80	<8.0			1.6
1,2,3,7,8,9-Cl6DBF	<0.13		3.2	"	<3.2	<0.32			1.8
1,2,3,4,7,8-Cl6DBD	<0.21		61	"	<61	<6.1			0.59
1,2,3,6,7,8-Cl6DBD	<0.20		6.0	"	<6.0	<0.60			0.56
1,2,3,7,8,9-Cl6DBD	<0.20		5.9	"	<5.9	<0.59			0.54
1,2,3,4,6,7,8-Cl7DBF	<0.018		5.6	"	<5.6	<0.056			5.2
1,2,3,4,7,8,9-Cl7DBF	<0.048		6.4	"	<6.4	<0.064			6.0
1,2,3,4,6,7,8-Cl7DBD	<0.027		3.5	"	<3.5	<0.035			1.2
1,2,3,4,6,7,8,9-Cl8DBF	<0.0028		3.2	"	5.4	0.0054			1.3
1,2,3,4,6,7,8,9-Cl8DBD	0.0050		3.0	"	<3.0	<0.030			0.85
TEF	0.27			pg		0.0054			
EPA Requested TEQ	**2.59**					**<**	**11.50**		
MAX TEF	4.9			"		<	23		
Units Ng/m^2	**0.26**						**1.15**		
ΣT4CDF		1	1.2	pg	<1.2			0	1.3
ΣP5CDF		0	2.3	"	<2.3			0	0.99
ΣH6CDF		0	2.6	"	<2.6			0	1.5
ΣH7CDF		0	6.2	"	<6.2			0	5.8
OCDF		0	3.2	"	5.4			1	1.3
ΣT4CDD		0	3.1	"	<3.1			0	1.1
ΣP5CDD		0	2.5	"	<2.5			0	3.8
ΣH6CDD		0	290	"	<290			0	0.56
ΣH7CDD		0	3.5	"	<3.5			0	1.2
OCDD		1	3.0	"	<3.0			0	0.85
Surrogate Recoveries				%					
2,3,7,8-T4CDF-13C12					76				
2,3,7,8-T4CDD-13C12					84				
1,2,3,7,8-P5CDF-13C12					51				
1,2,3,7,8-P5CDD-13C12					46				
1,2,3,6,7,8-H6CDF-13C12					68				
1,2,3,6,7,8-H6CDD-13C12					69				
1,2,3,4,6,7,8-H7CDF-13C12					60				
1,2,3,4,6,7,8-H7CDD-13C12					61				
OCDD-13C12					117				

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400			R02100400
	Client ID:	13A	13A	13A	***Client ID:***		14A
	Lab No.:	039058 02	039058 02	039058 02	***Lab No.:***		039059 02
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***		02/10/09
	Matrix:				***Matrix:***		
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**		
Dioxins and furans							
2,3,7,8-Cl4DBF	pg	<1.3	<0.13	1.1	pg	<1.1	
2,3,7,8-Cl4DBD	"	<1.1	<1.1	1.1	"	<1.1	
1,2,3,7,8-Cl5DBF	"	<0.99	<0.050	1.2	"	<1.2	
2,3,4,7,8-Cl5DBF	"	<0.96	<0.48	1.2	"	<1.2	
1,2,3,7,8-Cl5DBD	"	<3.8	<1.9	1.4	"	<1.4	
1,2,3,4,7,8-Cl6DBF	"	<1.5	<0.15	1.0	"	<1.0	
1,2,3,6,7,8-Cl6DBF	"	<1.4	<0.14	1.0	"	<1.0	
2,3,4,6,7,8-Cl6DBF	"	<1.6	<0.16	1.1	"	<1.1	
1,2,3,7,8,9-Cl6DBF	"	<1.8	<0.18	1.3	"	<1.3	
1,2,3,4,7,8-Cl6DBD	"	<0.59	<0.059	1.2	"	<1.2	
1,2,3,6,7,8-Cl6DBD	"	<0.56	<0.056	1.1	"	<1.1	
1,2,3,7,8,9-Cl6DBD	"	<0.54	<0.054	1.1	"	<1.1	
1,2,3,4,6,7,8-Cl7DBF	"	<5.2	<0.052	1.2	"	<1.2	
1,2,3,4,7,8,9-Cl7DBF	"	<6.0	<0.060	1.4	"	<1.4	
1,2,3,4,6,7,8-Cl7DBD	"	<1.2	<0.012	1.2	"	<1.2	
1,2,3,4,6,7,8,9-Cl8DBF	"	<1.3	<0.0013	2.1	"	<2.1	
1,2,3,4,6,7,8,9-Cl8DBD	"	4.5	0.0045	4.3	"	<4.3	
TEF	pg		0.0045		pg		
EPA Requested TEQ			**< 2.30**				**<**
MAX TEF	"		< 4.6		"		<
Units Ng/m²			**0.23**				
ΣT4CDF	pg	<1.3		0 1.1	pg	<1.1	
ΣP5CDF	"	<0.99		0 1.2	"	<1.2	
ΣH6CDF	"	<1.5		0 1.0	"	<1.0	
ΣH7CDF	"	<5.8		0 1.4	"	<1.4	
OCDF	"	<1.3		0 2.1	"	<2.1	
ΣT4CDD	"	1.9		1 1.1	"	<1.1	
ΣP5CDD	"	<3.8		0 1.4	"	<1.4	
ΣH6CDD	"	<0.56		0 1.1	"	<1.1	
ΣH7CDD	"	<1.2		0 1.2	"	<1.2	
OCDD	"	4.5		1 4.3	"	<4.3	
Surrogate Recoveries	%				%		
2,3,7,8-T4CDF-13C12		80				84	
2,3,7,8-T4CDD-13C12		83				85	
1,2,3,7,8-P5CDF-13C12		69				70	
1,2,3,7,8-P5CDD-13C12		67				79	
1,2,3,6,7,8-H6CDF-13C12		77				77	
1,2,3,6,7,8-H6CDD-13C12		90				90	
1,2,3,4,6,7,8-H7CDF-13C12		88				87	
1,2,3,4,6,7,8-H7CDD-13C12		99				98	
OCDD-13C12		94				87	

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 14A	R02100400 14A		R02100400 15A	R02100400 15A	R02100400 15A
			Client ID:			
	039059 02	039059 02	***Lab No.:***	039060 02	039060 02	039060 02
	02/10/09	02/10/09	***Date Sampled:***	02/10/09	02/10/09	02/10/09
			Matrix:			

Component	**TEF**	**# of Isomers**	**RDL**	**Units**			**TEF**	**# of Isomers**	**RDL**
Dioxins and furans									
2,3,7,8-Cl4DBF	<0.11		1.0	pg	1.9		0.19		12
2,3,7,8-Cl4DBD	<1.1		2.0	"	<2.0		<2.0		1.4
1,2,3,7,8-Cl5DBF	<0.061		1.7	"	<1.7		<0.087		1.1
2,3,4,7,8-Cl5DBF	<0.59		1.7	"	<1.7		<0.84		1.1
1,2,3,7,8-Cl5DBD	<0.72		1.5	"	<1.5		<0.77		1.2
1,2,3,4,7,8-Cl6DBF	<0.10		1.4	"	<1.4		<0.14		3.5
1,2,3,6,7,8-Cl6DBF	<0.10		1.4	"	<1.4		<0.14		1.4
2,3,4,6,7,8-Cl6DBF	<0.11		1.6	"	<1.6		<0.16		1.6
1,2,3,7,8,9-Cl6DBF	<0.13		1.7	"	<1.7		<0.17		1.8
1,2,3,4,7,8-Cl6DBD	<0.12		1.3	"	<1.3		<0.13		1.3
1,2,3,6,7,8-Cl6DBD	<0.11		1.3	"	<1.3		<0.13		1.2
1,2,3,7,8,9-Cl6DBD	<0.11		1.2	"	<1.2		<0.12		1.2
1,2,3,4,6,7,8-Cl7DBF	<0.012		2.8	"	<2.8		<0.028		1.6
1,2,3,4,7,8,9-Cl7DBF	<0.014		3.2	"	<3.2		<0.032		1.9
1,2,3,4,6,7,8-Cl7DBD	<0.012		1.4	"	<1.4		<0.014		2.0
1,2,3,4,6,7,8,9-Cl8DBF	<0.0021		1.6	"	2.0		0.0020		5.4
1,2,3,4,6,7,8,9-Cl8DBD	<0.0043		1.9	"	11		0.011		1.7
TEF	0			pg			0.21		
EPA Requested TEQ	**1.70**					**<**	**2.56**		
MAX TEF	3.4			"		<	4.9		
Units Ng/m^2	**0.17**						**0.26**		
ΣT4CDF		0	1.0	pg	1.9			1	0.82
ΣP5CDF		0	1.7	"	<1.7			0	1.1
ΣH6CDF		0	1.6	"	<1.6			0	1.4
ΣH7CDF		0	3.1	"	<3.1			0	1.8
OCDF		0	1.6	"	2.0			1	5.4
ΣT4CDD		0	2.0	"	<2.0			0	1.4
ΣP5CDD		0	1.5	"	<1.5			0	1.2
ΣH6CDD		0	1.3	"	<1.3			0	1.2
ΣH7CDD		0	1.4	"	<1.4			0	2.0
OCDD		0	1.9	"	11			1	1.7
Surrogate Recoveries				%					
2,3,7,8-T4CDF-13C12					66				
2,3,7,8-T4CDD-13C12					79				
1,2,3,7,8-P5CDF-13C12					59				
1,2,3,7,8-P5CDD-13C12					67				
1,2,3,6,7,8-H6CDF-13C12					48				
1,2,3,6,7,8-H6CDD-13C12					65				
1,2,3,4,6,7,8-H7CDF-13C12					44				
1,2,3,4,6,7,8-H7CDD-13C12					81				
OCDD-13C12					182				

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400		R02100400	
	Client ID:	16A	16A	16A	***Client ID:***	17A	
	Lab No.:	039061 02	039061 02	039061 02	***Lab No.:***	039062 02	
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09	
	Matrix:				***Matrix:***		
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**		
Dioxins and furans							
2,3,7,8-Cl4DBF	pg	<12	<1.2	0.89	pg	<0.89	
2,3,7,8-Cl4DBD	"	13	13	1.5	"	<1.5	
1,2,3,7,8-Cl5DBF	"	<1.1	<0.056	1.2	"	<1.2	
2,3,4,7,8-Cl5DBF	"	2.3	1.1	1.2	"	<1.2	
1,2,3,7,8-Cl5DBD	"	<1.2	<0.59	1.9	"	<1.9	
1,2,3,4,7,8-Cl6DBF	"	<3.5	<0.35	1.1	"	<1.1	
1,2,3,6,7,8-Cl6DBF	"	<1.4	<0.14	1.1	"	<1.1	
2,3,4,6,7,8-Cl6DBF	"	<1.6	<0.16	1.3	"	<1.3	
1,2,3,7,8,9-Cl6DBF	"	<1.8	<0.18	1.4	"	<1.4	
1,2,3,4,7,8-Cl6DBD	"	<1.3	<0.13	2.5	"	<2.5	
1,2,3,6,7,8-Cl6DBD	"	<1.2	<0.12	2.4	"	<2.4	
1,2,3,7,8,9-Cl6DBD	"	<1.2	<0.12	2.3	"	<2.3	
1,2,3,4,6,7,8-Cl7DBF	"	<1.6	<0.017	2.7	"	<2.7	
1,2,3,4,7,8,9-Cl7DBF	"	<1.9	<0.019	3.1	"	<3.1	
1,2,3,4,6,7,8-Cl7DBD	"	12	0.12	1.4	"	<1.4	
1,2,3,4,6,7,8,9-Cl8DBF	"	<5.4	<0.0054	3.4	"	<3.4	
1,2,3,4,6,7,8,9-Cl8DBD	"	110	0.11	5.4	"	<5.4	
TEF	pg		15		pg		
EPA Requested TEQ			**< 16.50**				**<**
MAX TEF	"		< 18		"		<
Units Ng/m²			**1.65**				
ΣT4CDF	pg	16		4 0.89	pg	<0.89	
ΣP5CDF	"	11		4 1.2	"	<1.2	
ΣH6CDF	"	<1.4		0 1.3	"	<1.3	
ΣH7CDF	"	<1.8		0 3.0	"	<3.0	
OCDF	"	<5.4		0 3.4	"	<3.4	
ΣT4CDD	"	58		5 1.5	"	<1.5	
ΣP5CDD	"	21		3 1.9	"	<1.9	
ΣH6CDD	"	22		2 2.5	"	<2.5	
ΣH7CDD	"	25		2 1.4	"	<1.4	
OCDD	"	110		1 5.4	"	<5.4	
Surrogate Recoveries	%				%		
2,3,7,8-T4CDF-13C12		74				69	
2,3,7,8-T4CDD-13C12		40				73	
1,2,3,7,8-P5CDF-13C12		64				49	
1,2,3,7,8-P5CDD-13C12		68				51	
1,2,3,6,7,8-H6CDF-13C12		54				75	
1,2,3,6,7,8-H6CDD-13C12		70				80	
1,2,3,4,6,7,8-H7CDF-13C12		49				57	
1,2,3,4,6,7,8-H7CDD-13C12		78				71	
OCDD-13C12		105				50	

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 17A	R02100400 17A		R02100400 18A	R02100400 18A	R02100400 18A
Client ID:						
Lab No.:	039062 02	039062 02		039063 02	039063 02	039063 02
Date Sampled:	02/10/09	02/10/09		02/10/09	02/10/09	02/10/09
Matrix:						

Component	**TEF**	**# of Isomers**	**RDL**	**Units**		**TEF**	**# of Isomers**	**RDL**
Dioxins and furans								
2,3,7,8-Cl4DBF	<0.089		4.7	pg	<4.7	<0.47		0.58
2,3,7,8-Cl4DBD	<1.5		0.72	"	<0.72	<0.72		0.49
1,2,3,7,8-Cl5DBF	<0.060		0.40	"	<0.40	<0.020		0.33
2,3,4,7,8-Cl5DBF	<0.58		0.36	"	1.2	0.58		0.77
1,2,3,7,8-Cl5DBD	<0.96		1.1	"	<1.1	<0.55		0.54
1,2,3,4,7,8-Cl6DBF	<0.11		1.9	"	<1.9	<0.19		0.19
1,2,3,6,7,8-Cl6DBF	<0.11		1.5	"	<1.5	<0.15		0.18
2,3,4,6,7,8-Cl6DBF	<0.13		2.3	"	<2.3	<0.23		0.21
1,2,3,7,8,9-Cl6DBF	<0.14		0.64	"	2.2	0.22		0.23
1,2,3,4,7,8-Cl6DBD	<0.25		0.81	"	<0.81	<0.081		0.35
1,2,3,6,7,8-Cl6DBD	<0.24		1.7	"	<1.7	<0.17		0.33
1,2,3,7,8,9-Cl6DBD	<0.23		0.73	"	2.3	0.23		0.32
1,2,3,4,6,7,8-Cl7DBF	<0.027		3.7	"	<3.7	<0.037		4.3
1,2,3,4,7,8,9-Cl7DBF	<0.031		2.7	"	<2.7	<0.027		3.0
1,2,3,4,6,7,8-Cl7DBD	<0.014		4.4	"	<4.4	<0.044		0.52
1,2,3,4,6,7,8,9-Cl8DBF	<0.0034		1.4	"	11	0.011		1.7
1,2,3,4,6,7,8,9-Cl8DBD	<0.0054		2.8	"	22	0.022		0.64
TEF	0			pg		1.1		
EPA Requested TEQ	**2.25**					**< 2.40**		
MAX TEF	4.5			"		< 3.7		
Units Ng/m^2	**0.23**					**0.24**		
ΣT4CDF		0	0.27	pg	11		9	0.58
ΣP5CDF		0	0.4	"	2.7		2	0.33
ΣH6CDF		0	0.59	"	2.2		1	0.21
ΣH7CDF		0	5.9	"	<5.9		0	2.8
OCDF		0	1.4	"	11		1	1.7
ΣT4CDD		0	0.47	"	23		3	0.49
ΣP5CDD		0	1.1	"	3.3		1	0.54
ΣH6CDD		0	0.75	"	2.3		1	0.33
ΣH7CDD		0	0.20	"	<0.20		0	0.52
OCDD		0	2.8	"	22		1	0.64
Surrogate Recoveries				%				
2,3,7,8-T4CDF-13C12					94			
2,3,7,8-T4CDD-13C12					85			
1,2,3,7,8-P5CDF-13C12					79			
1,2,3,7,8-P5CDD-13C12					68			
1,2,3,6,7,8-H6CDF-13C12					95			
1,2,3,6,7,8-H6CDD-13C12					71			
1,2,3,4,6,7,8-H7CDF-13C12					81			
1,2,3,4,6,7,8-H7CDD-13C12					67			
OCDD-13C12					47			

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

		R02100400	R02100400	R02100400		R02100400
	Client ID:	19A	19A	19A	***Client ID:***	20A
	Lab No.:	039064 02	039064 02	039064 02	***Lab No.:***	039065 02
	)ate Sampled:	02/10/09	02/10/09	02/10/09	***Date Sampled:***	02/10/09
	Matrix:				***Matrix:***	
Component	**Units**		**TEF**	**# of Isomers RDL**	**Units**	
Dioxins and furans						
2,3,7,8-Cl4DBF	pg	7.5	0.75	0.20	pg	0.72
2,3,7,8-Cl4DBD	"	1.5	1.5	0.37	"	<0.37
1,2,3,7,8-Cl5DBF	"	1.0	0.051	0.53	"	<0.53
2,3,4,7,8-Cl5DBF	"	<0.77	<0.39	0.51	"	<0.51
1,2,3,7,8-Cl5DBD	"	<0.54	<0.27	0.33	"	<0.33
1,2,3,4,7,8-Cl6DBF	"	1.1	0.11	0.12	"	<0.12
1,2,3,6,7,8-Cl6DBF	"	0.58	0.058	0.11	"	<0.11
2,3,4,6,7,8-Cl6DBF	"	<0.21	<0.021	0.13	"	<0.13
1,2,3,7,8,9-Cl6DBF	"	<0.23	<0.023	0.14	"	<0.14
1,2,3,4,7,8-Cl6DBD	"	<0.35	<0.035	0.32	"	<0.32
1,2,3,6,7,8-Cl6DBD	"	<0.33	<0.033	0.30	"	<0.30
1,2,3,7,8,9-Cl6DBD	"	<0.32	<0.032	0.29	"	<0.29
1,2,3,4,6,7,8-Cl7DBF	"	<4.3	<0.043	11	"	<11
1,2,3,4,7,8,9-Cl7DBF	"	<3.0	<0.030	13	"	<13
1,2,3,4,6,7,8-Cl7DBD	"	8.7	0.087	0.32	"	<0.32
1,2,3,4,6,7,8,9-Cl8DBF	"	1.9	0.0019	0.29	"	8.7
1,2,3,4,6,7,8,9-Cl8DBD	"	26	0.026	1.7	"	<1.7
TEF	pg		2.6		pg	
EPA Requested TEQ			**< 3.05**			**<**
MAX TEF	"		< 3.5		"	<
Units Ng/m²			**0.31**			
ΣT4CDF	pg	39		11 0.20	pg	0.72
ΣP5CDF	"	7.8		4 0.53	"	<0.53
ΣH6CDF	"	4.0		4 0.15	"	<0.15
ΣH7CDF	"	<2.8		0 12	"	<12
OCDF	"	1.9		1 0.29	"	8.7
ΣT4CDD	"	30		7 0.37	"	<0.37
ΣP5CDD	"	10		4 0.33	"	<0.33
ΣH6CDD	"	5.6		3 0.30	"	<0.30
ΣH7CDD	"	18		2 0.32	"	<0.32
OCDD	"	26		1 1.7	"	<1.7
Surrogate Recoveries	%				%	
2,3,7,8-T4CDF-13C12		89				95
2,3,7,8-T4CDD-13C12		76				86
1,2,3,7,8-P5CDF-13C12		94				97
1,2,3,7,8-P5CDD-13C12		93				93
1,2,3,6,7,8-H6CDF-13C12		84				89
1,2,3,6,7,8-H6CDD-13C12		87				90
1,2,3,4,6,7,8-H7CDF-13C12		98				101
1,2,3,4,6,7,8-H7CDD-13C12		42				55
OCDD-13C12		83				83

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i

	R02100400 20A 039065 02 02/10/09	R02100400 20A 039065 02 02/10/09
Component	**TEF**	**# of Isomers**
Dioxins and furans		
2,3,7,8-Cl4DBF	0.072	
2,3,7,8-Cl4DBD	<0.37	
1,2,3,7,8-Cl5DBF	<0.026	
2,3,4,7,8-Cl5DBF	<0.25	
1,2,3,7,8-Cl5DBD	<0.16	
1,2,3,4,7,8-Cl6DBF	<0.012	
1,2,3,6,7,8-Cl6DBF	<0.011	
2,3,4,6,7,8-Cl6DBF	<0.013	
1,2,3,7,8,9-Cl6DBF	<0.014	
1,2,3,4,7,8-Cl6DBD	<0.032	
1,2,3,6,7,8-Cl6DBD	<0.030	
1,2,3,7,8,9-Cl6DBD	<0.029	
1,2,3,4,6,7,8-Cl7DBF	<0.11	
1,2,3,4,7,8,9-Cl7DBF	<0.13	
1,2,3,4,6,7,8-Cl7DBD	<0.0032	
1,2,3,4,6,7,8,9-Cl8DBF	0.0087	
1,2,3,4,6,7,8,9-Cl8DBD	<0.0017	
TEF	0.081	
EPA Requested TEQ	**0.69**	
MAX TEF	1.3	
Units Ng/m^2	**0.07**	
ΣT4CDF		1
ΣP5CDF		0
ΣH6CDF		0
ΣH7CDF		0
OCDF		1
ΣT4CDD		0
ΣP5CDD		0
ΣH6CDD		0
ΣH7CDD		0
OCDD		0
Surrogate Recoveries		
2,3,7,8-T4CDF-13C12		
2,3,7,8-T4CDD-13C12		
1,2,3,7,8-P5CDF-13C12		
1,2,3,7,8-P5CDD-13C12		
1,2,3,6,7,8-H6CDF-13C12		
1,2,3,6,7,8-H6CDD-13C12		
1,2,3,4,6,7,8-H7CDF-13C12		
1,2,3,4,6,7,8-H7CDD-13C12		
OCDD-13C12		

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i□

Component	RDL	Units	BLANK		# of Isomers	MR	RDL	Units	BLANK	
Batch Code:			**1016JM01**	**TEF**					**1021NZ01**	**TEF**
2,3,7,8-Cl4DBF	0.11	pg	1.1	0.11		100%	0.85	pg	<0.85	<0.085
2,3,7,8-Cl4DBD	0.22	"	0.53	0.53		118%	0.89	"	<0.89	<0.89
1,2,3,7,8-Cl5DBF	0.36	"	<0.36	<0.018		109%	0.98	"	<0.98	<0.049
2,3,4,7,8-Cl5DBF	0.40	"	<0.40	<0.20		92%	0.94	"	<0.94	<0.47
1,2,3,7,8-Cl5DBD	0.31	"	<0.31	<0.15		92%	0.81	"	<0.81	<0.40
1,2,3,4,7,8-Cl6DBF	0.45	"	0.58	0.058		90%	0.75	"	<0.75	<0.075
1,2,3,6,7,8-Cl6DBF	0.47	"	<0.47	<0.047		97%	0.75	"	<0.75	<0.075
2,3,4,6,7,8-Cl6DBF	0.50	"	1.0	0.10		162%	0.85	"	<0.85	<0.085
1,2,3,7,8,9-Cl6DBF	0.76	"	<0.76	<0.076		162%	0.94	"	<0.94	<0.094
1,2,3,4,7,8-Cl6DBD	0.30	"	<0.30	<0.030		84%	1.3	"	<1.3	<0.13
1,2,3,6,7,8-Cl6DBD	0.28	"	<0.28	<0.028		92%	1.3	"	<1.3	<0.13
1,2,3,7,8,9-Cl6DBD	1.0	"	<1.0	<0.10		104%	1.2	"	<1.2	<0.12
1,2,3,4,6,7,8-Cl7DBF	2.5	"	<2.5	<0.025		101%	2.4	"	<2.4	<0.024
1,2,3,4,7,8,9-Cl7DBF	2.8	"	<2.8	<0.028		179%	2.8	"	<2.8	<0.028
1,2,3,4,6,7,8-Cl7DBD	1.6	"	<1.6	<0.016		97%	2.3	"	<2.3	<0.023
1,2,3,4,6,7,8,9-Cl8DBF	0.26	"	4.6	0.0046		75%	1.2	"	1.6	0.0016
1,2,3,4,6,7,8,9-Cl8DBD	0.27	"	9.5	0.0095		95%	3.4	"	5.5	0.0055
FET		pg		0.825				pg		0.007
FET MAX		"		<1.5				"		<2.7
ΣT4CDF	0.11	pg	2.2		5	100%	0.40	pg	<0.40	
ΣP5CDF	0.18	"	<0.18		0	101%	0.98	"	<0.98	
ΣH6CDF	0.38	"	1.6		2	128%	0.75	"	<0.75	
ΣH7CDF	1.7	"	0.26		1	140%	2.7	"	<2.7	
OCDF	0.26	"	4.6		1	75%	1.2	"	1.6	
ΣT4CDD	0.14	"	0.53		1	118%	0.89	"	<0.89	
ΣP5CDD	0.45	"	<0.45		0	92%	0.81	"	<0.81	
ΣH6CDD	0.30	"	<0.30		0	93%	1.3	"	<1.3	
ΣH7CDD	0.47	"	<0.47		1	97%	2.3	"	<2.3	
OCDD	0.27	"	9.5		1	95%	3.4	"	5.5	
Surrogate Recoveries		%						%		
2,3,7,8-T4CDF-13C12			101						67	
2,3,7,8-T4CDD-13C12			82						65	
1,2,3,7,8-P5CDF-13C12			86						45	
1,2,3,7,8-P5CDD-13C12			75						44	
1,2,3,6,7,8-H6CDF-13C1			47						68	
1,2,3,6,7,8-H6CDD-13C1			72						77	
1,2,3,4,6,7,8-H7CDF-13C			36						51	
1,2,3,4,6,7,8-H7CDD-13C			82						65	
OCDD-13C12			75						131	

L□"□A□r□i□a□l□,□l□t□a□l□i□c□"□C□e□r□t□i□f□i□c□a□t□e□ □N□o□:□2□J□0□5□7□3□
□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i□

Component			RDL	Units	BLANK			
Batch Code:	**# of Isomers**	**MR**			**1025NZ01**	**TEF**	**# of Isomers**	**MR**
2,3,7,8-Cl4DBF		90%	0.47	pg	1.3	0.13		97%
2,3,7,8-Cl4DBD		98%	0.47	"	0.86	0.86		108%
1,2,3,7,8-Cl5DBF		100%	0.56	"	<0.56	<0.028		107%
2,3,4,7,8-Cl5DBF		92%	0.54	"	<0.54	<0.27		94%
1,2,3,7,8-Cl5DBD		81%	1.1	"	<1.1	<0.54		89%
1,2,3,4,7,8-Cl6DBF		87%	0.32	"	<0.32	<0.032		102%
1,2,3,6,7,8-Cl6DBF		89%	0.30	"	<0.30	<0.030		98%
2,3,4,6,7,8-Cl6DBF		77%	0.35	"	<0.35	<0.035		104%
1,2,3,7,8,9-Cl6DBF		73%	0.38	"	<0.38	<0.038		103%
1,2,3,4,7,8-Cl6DBD		84%	0.80	"	<0.80	<0.080		100%
1,2,3,6,7,8-Cl6DBD		80%	0.75	"	<0.75	<0.075		92%
1,2,3,7,8,9-Cl6DBD		82%	0.73	"	<0.73	<0.073		93%
1,2,3,4,6,7,8-Cl7DBF		96%	0.72	"	<0.72	<0.0072		101%
1,2,3,4,7,8,9-Cl7DBF		89%	1.1	"	<1.1	<0.011		95%
1,2,3,4,6,7,8-Cl7DBD		92%	5.8	"	<5.8	<0.058		98%
1,2,3,4,6,7,8,9-Cl8DBF		76%	5.9	"	2.7	0.0027		95%
1,2,3,4,6,7,8,9-Cl8DBD		89%	4.0	"	11	0.011		98%
FET				pg		1.0		
FET MAX				"		<2.3		
ΣT4CDF	0	90%	0.47	pg	1.3		1	97%
ΣP5CDF	0	96%	0.56	"	<0.56		0	101%
ΣH6CDF	0	82%	0.35	"	<0.35		0	102%
ΣH7CDF	0	93%	0.81	"	<0.81		0	98%
OCDF	1	76%	5.9	"	2.7		1	95%
ΣT4CDD	0	98%	0.47	"	0.86		1	108%
ΣP5CDD	0	81%	1.1	"	<1.1		0	89%
ΣH6CDD	0	82%	0.75	"	<0.75		0	95%
ΣH7CDD	0	92%	0.95	"	<0.95		0	98%
OCDD	1	89%	4.0	"	11		1	98%
Surrogate Recoveries				%				
2,3,7,8-T4CDF-13C12					91			
2,3,7,8-T4CDD-13C12					82			
1,2,3,7,8-P5CDF-13C12					80			
1,2,3,7,8-P5CDD-13C12					74			
1,2,3,6,7,8-H6CDF-13C12					87			
1,2,3,6,7,8-H6CDD-13C12					85			
1,2,3,4,6,7,8-H7CDF-13C12					86			
1,2,3,4,6,7,8-H7CDD-13C12					37			
OCDD-13C12					68			

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□n□h□C□"□A□r□i□a□l□,□l□

C□"□A□r□i□a□l□,□g□r□a□s□ □i□t□a□l□i□q□u□e□"□1□4□P□S□C□ □A□n□a□l□y□t□i□c□a□l□

Batch Code:	**1016JM01**	**1021NZ01**	**1025NZ01**
2,3,7,8-Cl4DBF et	039046 02	039056 02	039063 02
	039047 02	039057 02	039064 02
	039048 02	039058 02	039065 02
	039049 02	039059 02	
	039050 02	039060 02	
	039051 02	039061 02	
	039052 02	039062 02	
	039053 02		
	039054 02		
	039055 02		
Date Analyzed:	10/30/2002	10/25/2002	11/2/2002
Date Prepared:	10/16/2002	10/21/2002	10/25/2002

Batch Code:	**1016JM01**	**1021NZ01**	**1025NZ01**
ΣT4CDF etc.	039046 02	039056 02	039063 02
	039047 02	039057 02	039064 02
	039048 02	039058 02	039065 02
	039049 02	039059 02	
	039050 02	039060 02	
	039051 02	039061 02	
	039052 02	039062 02	
	039053 02		
	039054 02		
	039055 02		
Date Analyzed:	10/30/2002	10/25/2002	11/2/2002
Date Prepared:	10/16/2002	10/21/2002	10/25/2002

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□n□h□C□"□A□r□i□a□l□,□l□t□a

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