



Pace Analytical Services, Inc
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel 612-607-1700
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Method 8290 Analysis Results

Client - ATC ASSOCIATES

Client's Sample ID	ATC-0912-124M-DX-1		
Lab Sample ID	103857751		
Filename	U21018A_09		
Injected By	MRO		
Total Amount Extracted	1.00 m2	Matrix	WIPE
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/12/2002
ICAL Date	08/06/2002	Received	09/16/2002
CCal Filename(s)	U21018A_03 & U21018A_15	Extracted	10/10/2002
Method Blank ID	BLANK-2278	Analyzed	10/18/2002 17 02

Native Isomers	Conc ng/m2	EMPC ng/m2	LRL ng/m2	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.00200	2,3,7,8-TCDF-13C	2.00	95
Total TCDF	ND	----	0.00200	2,3,7,8-TCDD-13C	2.00	94
				1,2,3,7,8-PeCDF-13C	2.00	112
2,3,7,8-TCDD	ND	----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	110
Total TCDD	ND	----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	108
				1,2,3,4,7,8-HxCDF-13C	2.00	102
1,2,3,7,8-PeCDF	ND	----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	118
2,3,4,7,8-PeCDF	ND	----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	105
Total PeCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	108
				1,2,3,4,7,8-HxCDD-13C	2.00	105
1,2,3,7,8-PeCDD	ND	----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	103
Total PeCDD	ND	----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	88
				1,2,3,4,7,8,9-HpCDF-13C	2.00	84
1,2,3,4,7,8-HxCDF	ND	----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	80
1,2,3,6,7,8-HxCDF	ND	----	0.01000	OCDD-13C	4.00	78
2,3,4,6,7,8-HxCDF	ND	----	0.01000			
1,2,3,7,8,9-HxCDF	ND	----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	90
1,2,3,6,7,8-HxCDD	ND	----	0.01000			
1,2,3,7,8,9-HxCDD	ND	----	0.01000			
Total HxCDD	ND	----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.01000	Equivalence 0.00 ng/m2		
Total HpCDF	ND	----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.01000			
Total HpCDD	ND	----	0.01000			
OCDF	ND	----	0.02000			
OCDD	ND	----	0.02000			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

Report No 1062687

REPORT OF LABORATORY ANALYSIS

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CITY_21MC100_003431545

SUBJECT TO PROTECTIVE ORDER NO. 2, SEPT. 2008



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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel 612-607-1700
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Method 8290 Analysis Results

Client - ATC ASSOCIATES

Client's Sample ID	ATC-0912-124M-DX-2		
Lab Sample ID	103857769		
Filename	U21018A_10		
Injected By	MRO		
Total Amount Extracted	1.00 m2	Matrix	WIPE
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/12/2002
ICAL Date	08/06/2002	Received	09/16/2002
CCal Filename(s)	U21018A_03 & U21018A_15	Extracted	10/10/2002
Method Blank ID	BLANK-2278	Analyzed	10/18/2002 17:51

Native Isomers	Conc ng/m2	EMPC ng/m2	LRL ng/m2	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.00200	2,3,7,8-TCDF-13C	2.00	94
Total TCDF	ND	----	0.00200	2,3,7,8-TCDD-13C	2.00	91
				1,2,3,7,8-PeCDF-13C	2.00	107
2,3,7,8-TCDD	ND	----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	104
Total TCDD	ND	----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	101
				1,2,3,4,7,8-HxCDF-13C	2.00	101
1,2,3,7,8-PeCDF	ND	----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	112
2,3,4,7,8-PeCDF	ND	----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	102
Total PeCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	99
				1,2,3,4,7,8-HxCDD-13C	2.00	106
1,2,3,7,8-PeCDD	ND	----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	102
Total PeCDD	ND	----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	88
				1,2,3,4,7,8,9-HpCDF-13C	2.00	79
1,2,3,4,7,8-HxCDF	ND	----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	79
1,2,3,6,7,8-HxCDF	ND	----	0.01000	OCDD-13C	4.00	73
2,3,4,6,7,8-HxCDF	ND	----	0.01000			
1,2,3,7,8,9-HxCDF	ND	----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	ND	----	0.01000			
1,2,3,7,8,9-HxCDD	ND	----	0.01000			
Total HxCDD	ND	----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.01000	Equivalence: 0.000035 ng/m2		
Total HpCDF	ND	----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.01000			
Total HpCDD	ND	----	0.01000			
OCDF	ND	----	0.02000			
OCDD	0.035	----	0.02000 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
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A = Detection Limit based on signal-to-noise measurement
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B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
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REPORT OF LABORATORY ANALYSIS

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Tel 612-607-1700
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Method 8290 Analysis Results

Client - ATC ASSOCIATES

Client's Sample ID	ATC-0912-124M-DX-3		
Lab Sample ID	103857777		
Filename	U21018A_11		
Injected By	MRO		
Total Amount Extracted	1.00 m2	Matrix	WIPE
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/12/2002
ICAL Date	08/06/2002	Received	09/16/2002
CCal Filename(s)	U21018A_03 & U21018A_15	Extracted	10/10/2002
Method Blank ID	BLANK-2278	Analyzed	10/18/2002 18:40

Native Isomers	Conc ng/m2	EMPC ng/m2	LRL ng/m2	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.00200	2,3,7,8-TCDF-13C	2.00	93
Total TCDF	ND	----	0.00200	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	104
2,3,7,8-TCDD	ND	----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	98
Total TCDD	ND	----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	99
				1,2,3,4,7,8-HxCDF-13C	2.00	101
1,2,3,7,8-PeCDF	ND	----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	112
2,3,4,7,8-PeCDF	ND	----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	104
Total PeCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	104
				1,2,3,4,7,8-HxCDD-13C	2.00	107
1,2,3,7,8-PeCDD	ND	----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	101
Total PeCDD	ND	----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	87
				1,2,3,4,7,8,9-HpCDF-13C	2.00	81
1,2,3,4,7,8-HxCDF	ND	----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	84
1,2,3,6,7,8-HxCDF	ND	----	0.01000	OCDD-13C	4.00	75
2,3,4,6,7,8-HxCDF	ND	----	0.01000			
1,2,3,7,8,9-HxCDF	ND	----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	ND	----	0.01000			
1,2,3,7,8,9-HxCDD	ND	----	0.01000			
Total HxCDD	ND	----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.01000	Equivalence: 0.00 ng/m2		
Total HpCDF	ND	----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.01000			
Total HpCDD	ND	----	0.01000			
OCDF	ND	----	0.02000			
OCDD	ND	----	0.02000			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
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1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel 612-607-1700
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Method 8290 Analysis Results

Client - ATC ASSOCIATES

Client's Sample ID	ATC-0912-124M-DX-4		
Lab Sample ID	103857785		
Filename	U21018A_12		
Injected By	MRO		
Total Amount Extracted	1.00 m2	Matrix	WIPE
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/12/2002
ICAL Date	08/06/2002	Received	09/16/2002
CCal Filename(s)	U21018A_03 & U21018A_15	Extracted	10/10/2002
Method Blank ID	BLANK-2278	Analyzed	10/18/2002 19:29

Native Isomers	Conc ng/m2	EMPC ng/m2	LRL ng/m2	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.00200	2,3,7,8-TCDF-13C	2.00	90
Total TCDF	ND	----	0.00200	2,3,7,8-TCDD-13C	2.00	87
				1,2,3,7,8-PeCDF-13C	2.00	98
2,3,7,8-TCDD	ND	----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	95
Total TCDD	ND	----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	94
				1,2,3,4,7,8-HxCDF-13C	2.00	96
1,2,3,7,8-PeCDF	ND	----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	108
2,3,4,7,8-PeCDF	ND	----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	101
Total PeCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	96
				1,2,3,4,7,8-HxCDD-13C	2.00	99
1,2,3,7,8-PeCDD	ND	----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	100
Total PeCDD	ND	----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	87
				1,2,3,4,7,8,9-HpCDF-13C	2.00	80
1,2,3,4,7,8-HxCDF	ND	----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	77
1,2,3,6,7,8-HxCDF	ND	----	0.01000	OCDD-13C	4.00	73
2,3,4,6,7,8-HxCDF	ND	----	0.01000			
1,2,3,7,8,9-HxCDF	ND	----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	----	0.01000			
1,2,3,7,8,9-HxCDD	ND	----	0.01000			
Total HxCDD	ND	----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.01000	Equivalence 0.00 ng/m2		
Total HpCDF	ND	----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.01000			
Total HpCDD	ND	----	0.01000			
OCDF	ND	----	0.02000			
OCDD	ND	----	0.02000			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
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