

Gilsenan, Michael

From: Nace.Charles@epamail.epa.gov
Sent: Thursday, March 20, 2003 1:42 PM
To: Theodorellys, Penny
Cc: Radhakrishnan, Krish; Gilsenan, Michael; Callahan.Kathy@epamail.epa.gov
Subject: Re: FW: Dioxin Wipe results



R03030259 Cover
Letter.pdf



R03030259 excel
Report.xls

Penny,

I looked at the dioxin data that you forwarded to me and I have a few questions. The first is that I do not see the TEQ calculations that were detailed in Attachment 2 of the workplan (see below). The second is that the TEQs, when presented, should be reported in the units of ng/m2 (alternatively, the TEQs could be reported in pg as long as someone provides the template area that was sampled so that I could add a row to the spreadsheet and calculate it myself). Without the TEQ calculations, it is not possible to compare the results to the health-based benchmark.

7 of 7

2/7/03

Attachment 2: Reporting Dioxin Sampling Results

1. The laboratory shall submit sample results in tabular format on the laboratory's letterhead. The date of sample collection, the matrix (e.g. wipe), and date analyzed must be printed on each page of the report. The table must contain, at a minimum, columns with the following headings and information.

- \$ Sample Identification Number
- \$ Analytical Method
- \$ Analyte
- \$ Result (including units)
- \$ Detection Limit
- \$ EMPC
- \$ Laboratory Flags
- \$ Standard Type
- \$ Dilution Factor
- \$ Recovery Limits
- \$ TEF, max TEF
- \$ # Isomers

2. Analytical results shall be reported using a 2,3,7,8 -TCDD toxicity equivalence (TEQ). The TEQs shall be reported four ways. A TEQ which sets non-detects to zero (i.e., TEQ (ND=0)), a TEQ which sets non-detects at 1/2 the detection limit (i.e., TEQ (ND=1/2)), a TEQ Estimated Maximum Potential Concentration with non-detects set to zero (i.e., TEQ EMPC (ND=0)), and a TEQ Estimated Maximum Potential Concentration with non-detects set to 1/2 the detection limit (i.e., TEQ EMPC (ND=1/2)).

Thanks,

Chuck Nace
Environmental Toxicologist

USEPA - Region 2

290 Broadway - 18th Floor
New York, NY 10007-1866

212.637.3459
212.637.4164
212.637.4360 - fax
nace.charles@epa.gov

"Theodorellys,
Penny"
<ptrheodorellys@de
<kradhakrishnan@dep.nyc.gov>, "Gilsenan, Michael"
p.nyc.gov>
03/20/2003 09:50
AM
To: Charles Nace/R2/USEPA/US@EPA
cc: "Radhakrishnan, Krish"
<mgilsenan@dep.nyc.gov>
Subject: FW: Dioxin Wipe results

114 Liberty Street

Chuck: I requested that JLC and the laboratory contact you regarding
your
review of the previous data and that I receive a written update. I will
keep forwarding all the information as I receive it. Thank you for your
time and effort. It is appreciated. --Penny

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

From: Andrew Gasparro [mailto:agasparro@jlcenvironmental.com]
<mailto:[mailto:agasparro@jlcenvironmental.com]>
Sent: Wednesday, March 19, 2003 3:50 PM
To: 'Theodorellys, Penny'
Subject: FW: Dioxin Wipe results

<<R03030259 Cover Letter.pdf>> <<R03030259 excel Report.xls>> Penny,

Call me if you have any questions.
Thank you

Andrew L. Gasparro
Vice President
JLC Environmental Consultants, Inc.
200 Park Ave. S. Suite 1001
New York, NY 10003
212-420-8119
212-420-6092 Fax
917-612-4803 Cell

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

From: Usbeck, Fred [mailto:FUsbeck@contactpsc.com]
<mailto:[mailto:FUsbeck@contactpsc.com]>
Sent: Wednesday, March 19, 2003 3:16 PM
To: agasparro@jlcenvironmental.com
<mailto:agasparro@jlcenvironmental.com>
Subject: Dioxin Wipe results

Andrew -
Attached are your results for the first round of dioxin wipe samples. I
will mail the hard copy tomorrow. If you have any questions please get
back

to me.

Thanks! Fred

<<R03030259 Cover Letter.pdf>> <<R03030259 excel Report.xls>>

Fred Usbeck, CIH

PSC Analytical Services

4418 Pottsville Pike

Reading, PA 19605

fusbeck@contactpsc.com <mailto:fusbeck@contactpsc.com>

(610) 921-8833 ext. 224

(See attached file: R03030259 Cover Letter.pdf) (See attached file:
R03030259 excel Report.xls)



4418 Pottsville Pike Reading, PA 19605
(Tel) 610-921-8833 (Fax) 610-921-9667

INDUSTRIAL HYGIENE

•EPA PA-00136
•AIHA ACCREDITATION NO. 100439
•NC DENR 599

ENVIRONMENTAL TESTING

•NY DOH/NELAC 10903
•PA DEP 06-353
•NJ DEP PA020
•CT DPH PH-0238

March 19, 2003

Andrew Gasparro
JLC Env. Consultants Inc.
200 Park Ave S
Suite 1001
New York, NY 10003-1503

TEL: (212) 420-8119
FAX (212) 420-6092

RE: US DEP WTC - LBA (Dioxin wipes)

Order No.: R03030259

Dear Andrew Gasparro:

PSC Analytical Services received 30 samples on 3/6/2003 1:00:00 PM for the analyses presented in the following Certificate of Analytical Results.

The analyses and all data for associated QC met regulatory and/or laboratory specifications. Exceptions will be noted in an enclosed Case Narrative.

The results on the attached Certificate of Analytical results relate only to items tested or to the samples as received by the laboratory. This Certificate of Analytical Results shall not be reproduced, except in full, without the written approval of PSC Analytical, Reading, PA.

Please note that any unused portion of the samples will be disposed of 30 days following issuance of report, unless you have requested otherwise.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Fred Usbeck
Manager, CIH

4418 Pottsville Pike, Reading, PA 19605 610-921-8833 FAX 610-921-8407

3/26/2003*

PASC - Certificate of Analysis

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Client ID: R03030259- Lab No.: Date Sampled:			Method Blank	Blank Spike		3rd Floor-07 -01A 009193 03 05-Mar-2003	3rd Floor-08 -02A 009194 03 05-Mar-2003
Component	MDL	Units			% Recovery		
Total Tetrachlorodibenzofurans		pg	<1.2	1100	-	<2.4	<1.4
Total Pentachlorodibenzofurans		"	<1.5	5400	-	<1.3	<1.7
Total Hexachlorodibenzofurans		"	<1.5	11000	-	<2.6	<1.5
Total Heptachlorodibenzofurans		"	<2.8	5200	-	<6.8	4.2
Octachlorodibenzofuran		"	<5.3	5400	-	14	6.2
Total Tetrachlorodibenzo-p-dioxins		"	<1.5	940	-	2.2	<1.6
Total Pentachlorodibenzo-p-dioxins		"	<1.4	2700	-	<6.0	<1.4
Total Hexachlorodibenzo-p-dioxins		"	<1.6	7700	-	4.6	<2.1
Total Heptachlorodibenzo-p-dioxins		"	12	2600	-	31	5.9
Octachlorodibenzo-p-dioxin		"	38	5300	-	130	41
Internal Recoveries		%					
2,3,7,8-T4CDF-13C12			80	77	-	80	81
2,3,7,8-T4CDD-13C12			88	82	-	86	93
1,2,3,7,8-P5CDF-13C12			86	92	-	76	81
1,2,3,7,8-P5CDD-13C12			85	83	-	72	75
1,2,3,4,7,8-H6CDF-13C12			100	91	-	91	97
1,2,3,6,7,8-H6CDD-13C12			97	88	-	84	91
1,2,3,4,6,7,8-H7CDF-13C12			114	101	-	89	100
1,2,3,4,6,7,8-H7CDD-13C12			111	97	-	82	96
OCDD-13C12			96	87	-	73	84
2,3,7,8-Cl4-Dibenzofuran (DB5)		pg	<1.2	1100	107	<3.5	<1.4
2,3,7,8-Cl4-Dibenzo-p-dioxin		"	<1.5	940	111	<2.4	<1.6
1,2,3,7,8-Cl5-Dibenzofuran		"	<1.5	2800	107	<1.3	<1.7
2,3,4,7,8-Cl5-Dibenzofuran		"	<1.5	2700	103	2.0	<1.7
1,2,3,7,8-Cl5-Dibenzo-p-dioxin		"	<1.4	2700	102	<1.6	<1.4
1,2,3,4,7,8-Cl6-Dibenzofuran		"	<1.4	2600	105	<2.4	<1.4
1,2,3,6,7,8-Cl6-Dibenzofuran		"	<1.4	2500	111	<1.2	<1.3
2,3,4,6,7,8-Cl6-Dibenzofuran		"	<1.6	2600	104	<1.4	<1.5
1,2,3,7,8,9-Cl6-Dibenzofuran		"	<1.9	2800	104	<1.6	<1.8
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin		"	<1.5	2600	107	<1.3	<2.0
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin		"	<1.7	2500	94	<1.5	<2.2
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin		"	<1.6	2600	107	<1.4	<2.0
1,2,3,4,6,7,8-Cl7-Dibenzofuran		"	<2.5	2600	102	<6.0	4.5
1,2,3,4,7,8,9-Cl7-Dibenzofuran		"	<3.3	2600	101	<7.2	<2.8
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin		"	6.0	2600	103	14	5.9
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran		"	<5.3	5400	102	14	6.2
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin		"	38	5300	106	130	41
2,3,7,8-TCDF (DB225)		pg	<5.4	-	-	<6.9	<2.8
Internal Recoveries		%					
2,3,7,8-TCDF-13C12			69	-	-	71	73

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Component	Client ID: 3rd Floor-09 R03030259- 4th Floor-07 Lab No.: 009195 03 009196 03 009197 03 009198 03 Date Sampled: 05-Mar-2003 05-Mar-2003 05-Mar-2003 05-Mar-2003				
	MDL	Units			
Total Tetrachlorodibenzofurans	pg	<2.2	85	<1.7	31
Total Pentachlorodibenzofurans	"	<1.9	66	<1.6	28
Total Hexachlorodibenzofurans	"	<1.9	30	<1.8	14
Total Heptachlorodibenzofurans	"	<3.1	2.9	2.3	4.2
Octachlorodibenzofuran	"	6.3	19	7.1	<11
Total Tetrachlorodibenzo-p-dioxins	"	<2.9	120	<2.1	35
Total Pentachlorodibenzo-p-dioxins	"	<1.9	30	<1.8	4.5
Total Hexachlorodibenzo-p-dioxins	"	<6.8	57	<7.0	36
Total Heptachlorodibenzo-p-dioxins	"	15	53	20	36
Octachlorodibenzo-p-dioxin	"	43	160	56	100
Internal Recoveries	%				
2,3,7,8-T4CDF-13C12		83	93	86	84
2,3,7,8-T4CDD-13C12		94	101	94	97
1,2,3,7,8-P5CDF-13C12		88	88	93	89
1,2,3,7,8-P5CDD-13C12		85	79	86	80
1,2,3,4,7,8-H6CDF-13C12		102	107	105	106
1,2,3,6,7,8-H6CDD-13C12		97	91	99	98
1,2,3,4,6,7,8-H7CDF-13C12		109	106	111	113
1,2,3,4,6,7,8-H7CDD-13C12		105	97	105	109
OCDD-13C12		85	90	97	104
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<2.2	<21	<2.3	<8.1
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<2.5	<2.1	<2.1	<2.1
1,2,3,7,8-Cl5-Dibenzofuran	"	<1.8	4.6	<1.6	<2.1
2,3,4,7,8-Cl5-Dibenzofuran	"	<1.9	6.0	<1.7	4.2
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<1.9	<2.1	<1.8	<2.0
1,2,3,4,7,8-Cl6-Dibenzofuran	"	<1.7	8.9	<1.6	<2.8
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<1.7	<4.8	<1.6	3.4
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<1.9	3.8	<1.9	2.5
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<2.3	<2.7	<2.2	<2.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<1.8	<2.1	<1.9	<2.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<2.0	<2.3	<2.1	<2.5
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<1.8	<2.1	<2.0	<2.2
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<2.8	<15	<3.5	<8.7
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<1.9	<2.9	<2.4	<2.5
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	6.8	23	8.0	16
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	6.3	19	7.1	<11
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	43	160	56	100
2,3,7,8-TCDF (DB225)	pg	<2.9	14	<4.9	<5.7
Internal Recoveries	%				
2,3,7,8-TCDF-13C12		73	82	75	78

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		5th	5th	5th	6th
<i>Client ID:</i>		Floor-07	Floor-08	Floor-09	Floor-07
R03030259-		-07A	-08A	-09A	-10A
<i>Lab No.:</i>		009199 03	009200 03	009201 03	009202 03
<i>Date Sampled:</i>		05-Mar-2003	05-Mar-2003	05-Mar-2003	05-Mar-2003
Component	MDL	Units			
Total Tetrachlorodibenzofurans	pg	100	<1.6	13	76
Total Pentachlorodibenzofurans	"	36	<2.2	27	25
Total Hexachlorodibenzofurans	"	17	<1.5	27	18
Total Heptachlorodibenzofurans	"	<14	<3.8	5.6	<13
Octachlorodibenzofuran	"	19	8.2	20	29
Total Tetrachlorodibenzo-p-dioxins	"	91	<2.0	24	62
Total Pentachlorodibenzo-p-dioxins	"	24	<1.7	20	17
Total Hexachlorodibenzo-p-dioxins	"	37	<2.7	49	33
Total Heptachlorodibenzo-p-dioxins	"	45	20	46	41
Octachlorodibenzo-p-dioxin	"	170	61	97	120
Internal Recoveries	%				
2,3,7,8-T4CDF-13C12		95	64	97	96
2,3,7,8-T4CDD-13C12		97	65	101	103
1,2,3,7,8-P5CDF-13C12		94	91	98	94
1,2,3,7,8-P5CDD-13C12		89	71	85	80
1,2,3,4,7,8-H6CDF-13C12		99	78	107	109
1,2,3,6,7,8-H6CDD-13C12		92	74	95	99
1,2,3,4,6,7,8-H7CDF-13C12		105	85	112	110
1,2,3,4,6,7,8-H7CDD-13C12		97	80	103	100
OCDD-13C12		90	66	99	87
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<17	<1.6	<6.6	<14
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<3.2	<2.0	<2.3	<2.9
1,2,3,7,8-Cl5-Dibenzofuran	"	<2.9	<2.2	<3.3	<3.8
2,3,4,7,8-Cl5-Dibenzofuran	"	5.4	<2.3	<3.8	<4.0
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<2.2	<1.7	<4.1	<4.8
1,2,3,4,7,8-Cl6-Dibenzofuran	"	<4.0	<1.4	7.0	6.1
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<3.2	<1.3	4.0	3.9
2,3,4,6,7,8-Cl6-Dibenzofuran	"	<2.2	<1.5	3.0	<2.8
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<1.8	<1.8	<3.0	<3.3
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<1.6	<1.4	<2.3	<2.5
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	2.4	<1.6	<2.6	<2.8
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	2.8	<1.4	<2.3	<2.6
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<13	<3.3	<15	<11
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<2.9	<2.3	<3.3	<3.6
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	22	8.8	20	17
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	19	8.2	20	29
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	170	61	97	120
2,3,7,8-TCDF (DB225)	pg	11	<4.4	<2.9	<7.2
Internal Recoveries	%				
2,3,7,8-TCDF-13C12		85	53	80	79

3/26/2003*

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Component	MDL	Units	6th	6th	7th	7th
			Floor-08	Floor-09	Floor-07	Floor-08
Client ID:			-11A	-12A	-13A	-14A
R03030259-						
Lab No.:			009203 03	009204 03	009205 03	009206 03
Date Sampled:			05-Mar-2003	05-Mar-2003	05-Mar-2003	05-Mar-2003
Total Tetrachlorodibenzofurans	pg		7.4	7.5	24	<2.1
Total Pentachlorodibenzofurans	"		<3.1	10	11	<3.2
Total Hexachlorodibenzofurans	"		2.9	8.3	7.8	<1.7
Total Heptachlorodibenzofurans	"		<7.0	<7.4	3.7	2.2
Octachlorodibenzofuran	"		10.0	11	12	7.3
Total Tetrachlorodibenzo-p-dioxins	"		14	27	36	3.3
Total Pentachlorodibenzo-p-dioxins	"		3.5	<14	26	<2.7
Total Hexachlorodibenzo-p-dioxins	"		3.2	14	14	2.8
Total Heptachlorodibenzo-p-dioxins	"		32	24	27	17
Octachlorodibenzo-p-dioxin	"		84	73	86	55
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12			94	83	102	84
2,3,7,8-T4CDD-13C12			107	99	112	105
1,2,3,7,8-P5CDF-13C12			101	84	100	86
1,2,3,7,8-P5CDD-13C12			88	70	85	79
1,2,3,4,7,8-H6CDF-13C12			118	107	111	112
1,2,3,6,7,8-H6CDD-13C12			106	95	100	102
1,2,3,4,6,7,8-H7CDF-13C12			123	108	108	112
1,2,3,4,6,7,8-H7CDD-13C12			112	99	96	105
OCDD-13C12			100	88	75	95
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		<4.5	<7.5	<8.2	<2.1
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		<2.5	<2.7	<2.5	<2.4
1,2,3,7,8-Cl5-Dibenzofuran	"		<3.0	<3.2	<2.6	<3.2
2,3,4,7,8-Cl5-Dibenzofuran	"		<3.1	<3.3	2.9	<3.3
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		<2.9	<5.1	<3.1	<2.7
1,2,3,4,7,8-Cl6-Dibenzofuran	"		<1.7	3.2	3.7	<1.5
1,2,3,6,7,8-Cl6-Dibenzofuran	"		<1.7	<2.3	<1.7	<1.5
2,3,4,6,7,8-Cl6-Dibenzofuran	"		<2.0	1.9	<1.8	<1.7
1,2,3,7,8,9-Cl6-Dibenzofuran	"		<2.3	<2.0	<2.1	<2.1
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		<2.0	<2.4	<2.1	<1.9
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		<2.3	<2.7	<2.3	<2.1
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		<2.1	<2.5	<2.1	<1.9
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		<6.2	<6.5	<6.5	<2.4
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		<2.6	<3.1	<2.9	<2.2
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		16	10	11	7.5
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		10.0	11	12	7.3
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		84	73	86	55
2,3,7,8-TCDF (DB225)	pg		<6.1	<3.9	<5.3	<2.5
Internal Recoveries	%					
2,3,7,8-TCDF-13C12			83	78	86	85

Client: Philip Analytical Services Inc Project: JLC Environmental

3/26/2003*

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Component	MDL	Units	7th	8th	8th	8th
			Floor-09	Floor-07	Floor-08	Floor-09
Client ID:			-15A	-16A	-17A	-18A
R03030259-						
Lab No.:			009207 03	009208 03	009209 03	009210 03
Date Sampled:			05-Mar-2003	05-Mar-2003	05-Mar-2003	05-Mar-2003
Total Tetrachlorodibenzofurans	pg		<3.1	30	<3.6	5.4
Total Pentachlorodibenzofurans	"		<3.6	12	<3.3	<5.1
Total Hexachlorodibenzofurans	"		<2.3	6.9	<3.5	<4.0
Total Heptachlorodibenzofurans	"		<3.0	<9.1	<4.3	<8.6
Octachlorodibenzofuran	"		<4.7	<4.3	<4.9	<7.1
Total Tetrachlorodibenzo-p-dioxins	"		<4.6	50	<5.6	7.6
Total Pentachlorodibenzo-p-dioxins	"		<4.8	28	<7.3	<6.6
Total Hexachlorodibenzo-p-dioxins	"		<5.3	6.2	<31	<58
Total Heptachlorodibenzo-p-dioxins	"		<5.6	12	<4.7	9.1
Octachlorodibenzo-p-dioxin	"		13	44	9.9	33
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12			69	77	69	74
2,3,7,8-T4CDD-13C12			92	102	91	95
1,2,3,7,8-P5CDF-13C12			74	86	77	81
1,2,3,7,8-P5CDD-13C12			78	92	81	87
1,2,3,4,7,8-H6CDF-13C12			105	101	91	98
1,2,3,6,7,8-H6CDD-13C12			99	100	93	99
1,2,3,4,6,7,8-H7CDF-13C12			99	93	93	96
1,2,3,4,6,7,8-H7CDD-13C12			101	98	96	96
OCDD-13C12			102	91	84	81
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		<3.1	12	<3.6	5.4
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		<4.6	<4.8	<3.6	<5.0
1,2,3,7,8-Cl5-Dibenzofuran	"		<3.5	<6.4	<3.3	<5.1
2,3,4,7,8-Cl5-Dibenzofuran	"		<3.6	<6.6	<3.3	<5.2
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		<4.8	<7.5	<7.3	<6.6
1,2,3,4,7,8-Cl6-Dibenzofuran	"		<2.0	6.0	<3.0	<3.4
1,2,3,6,7,8-Cl6-Dibenzofuran	"		<2.0	<3.1	<3.1	<3.6
2,3,4,6,7,8-Cl6-Dibenzofuran	"		<2.4	<3.6	<3.6	<4.1
1,2,3,7,8,9-Cl6-Dibenzofuran	"		<2.8	<4.3	<4.4	<5.0
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		<5.3	<5.3	<6.6	<5.3
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		<5.6	<5.6	<7.0	<5.6
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		<5.2	<5.2	<6.5	<5.2
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		<2.6	<7.9	<3.7	<7.4
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		<3.5	<4.8	<5.1	<5.3
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		<5.6	12	<4.7	9.1
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		<4.7	<4.3	<4.9	<7.1
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		13	44	9.9	33
2,3,7,8-TCDF (DB225)	pg		<4.0	7.1	<2.8	4.6
Internal Recoveries	%					
2,3,7,8-TCDF-13C12			73	77	75	80

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Component	MDL	Units	9th	9th	9th	10th
			Floor-07	Floor-08	Floor-09	Floor-07
Client ID:			-19A	-20A	-21A	-22A
R03030259-						
Lab No.:			009211 03	009212 03	009213 03	009214 03
Date Sampled:			05-Mar-2003	05-Mar-2003	05-Mar-2003	04-Mar-2003
Total Tetrachlorodibenzofurans	pg		140	<2.7	100	160
Total Pentachlorodibenzofurans	"		64	<2.7	54	15
Total Hexachlorodibenzofurans	"		36	<2.6	25	12
Total Heptachlorodibenzofurans	"		<24	<2.4	<17	<14
Octachlorodibenzofuran	"		5.9	<3.5	8.5	16
Total Tetrachlorodibenzo-p-dioxins	"		110	<4.0	130	180
Total Pentachlorodibenzo-p-dioxins	"		16	<7.0	28	30
Total Hexachlorodibenzo-p-dioxins	"		14	<35	10	<84
Total Heptachlorodibenzo-p-dioxins	"		22	<4.9	33	17
Octachlorodibenzo-p-dioxin	"		120	9.8	52	85
Internal Recoveries	%					
2,3,7,8-TCDF-13C12			73	65	78	59
2,3,7,8-TCDD-13C12			90	86	102	71
1,2,3,7,8-P5CDF-13C12			79	72	83	65
1,2,3,7,8-P5CDD-13C12			83	82	94	71
1,2,3,4,7,8-H6CDF-13C12			78	92	91	73
1,2,3,6,7,8-H6CDD-13C12			77	94	90	72
1,2,3,4,6,7,8-H7CDF-13C12			76	89	87	68
1,2,3,4,6,7,8-H7CDD-13C12			76	94	92	70
OCDD-13C12			63	87	80	53
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		32	<2.7	31	<37
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		<4.9	<3.3	<4.3	<5.8
1,2,3,7,8-Cl5-Dibenzofuran	"		6.6	<2.7	<5.8	<10.0
2,3,4,7,8-Cl5-Dibenzofuran	"		6.8	<2.7	9.3	<10
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		<7.6	<7.0	<7.3	<7.6
1,2,3,4,7,8-Cl6-Dibenzofuran	"		13	<2.3	10	11
1,2,3,6,7,8-Cl6-Dibenzofuran	"		6.7	<2.4	<3.1	<5.2
2,3,4,6,7,8-Cl6-Dibenzofuran	"		<6.9	<2.7	<3.5	<5.9
1,2,3,7,8,9-Cl6-Dibenzofuran	"		<8.4	<3.3	<4.3	<7.2
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		<4.2	<3.4	<5.1	<8.2
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		<4.5	<3.6	<5.4	<8.7
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		<4.2	<3.3	<5.0	<8.1
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		<20	<2.1	<15	<12
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		<7.1	<2.9	<4.0	<7.0
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		<18	<4.9	16	<14
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		20	<3.5	8.5	16
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		120	9.8	52	85
2,3,7,8-TCDF (DB225)	pg		15	<2.4	16	17
Internal Recoveries	%					
2,3,7,8-TCDF-13C12			78	70	76	64

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Component	MDL	Units	10th	10th	11th Floor	11th Floor
			Floor-08	Floor-09	Down-07	Down-08
Client ID:			-23A	-24A	-25A	-26A
R03030259-						
Lab No.:			009215 03	009216 03	009217 03	009218 03
Date Sampled:			04-Mar-2003	04-Mar-2003	04-Mar-2003	04-Mar-2003
Total Tetrachlorodibenzofurans	pg		<3.8	36	<2.9	90
Total Pentachlorodibenzofurans	"		<5.2	<14	<4.2	21
Total Hexachlorodibenzofurans	"		<3.3	25	<2.2	22
Total Heptachlorodibenzofurans	"		<2.6	<15	<3.6	<14
Octachlorodibenzofuran	"		<3.4	11	<4.5	12
Total Tetrachlorodibenzo-p-dioxins	"		<7.9	62	<8.5	110
Total Pentachlorodibenzo-p-dioxins	"		<6.2	30	<8.9	19
Total Hexachlorodibenzo-p-dioxins	"		<2.9	8.4	<3.4	<5.9
Total Heptachlorodibenzo-p-dioxins	"		5.1	27	3.7	14
Octachlorodibenzo-p-dioxin	"		15	49	15	68
Internal Recoveries	%					
2,3,7,8-T4CDF-13C12			74	73	64	77
2,3,7,8-T4CDD-13C12			104	96	88	105
1,2,3,7,8-P5CDF-13C12			84	82	67	87
1,2,3,7,8-P5CDD-13C12			88	86	72	92
1,2,3,4,7,8-H6CDF-13C12			107	91	86	99
1,2,3,6,7,8-H6CDD-13C12			108	94	85	97
1,2,3,4,6,7,8-H7CDF-13C12			115	98	88	101
1,2,3,4,6,7,8-H7CDD-13C12			117	104	93	109
OCDD-13C12			116	94	84	105
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg		<3.8	<23	<2.9	<22
2,3,7,8-Cl4-Dibenzo-p-dioxin	"		<4.7	<4.6	<4.0	<4.0
1,2,3,7,8-Cl5-Dibenzofuran	"		<5.2	<10	<4.1	<8.2
2,3,4,7,8-Cl5-Dibenzofuran	"		<5.3	<10	<4.2	<8.3
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"		<6.2	<6.8	<8.9	<6.9
1,2,3,4,7,8-Cl6-Dibenzofuran	"		<2.9	12	<1.9	7.8
1,2,3,6,7,8-Cl6-Dibenzofuran	"		<3.0	<4.9	<2.0	<3.4
2,3,4,6,7,8-Cl6-Dibenzofuran	"		<3.5	<5.6	<2.3	<3.7
1,2,3,7,8,9-Cl6-Dibenzofuran	"		<4.2	<6.8	<2.8	<4.5
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"		<5.0	<4.7	<4.6	<5.1
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"		<5.3	<5.1	<4.9	<5.4
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"		<4.9	<4.7	<4.5	<5.0
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"		<2.3	<13	<3.1	<12
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"		<3.1	<5.3	<4.2	<2.9
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"		5.1	13	3.7	14
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"		<3.4	11	<4.5	12
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"		15	49	15	68
2,3,7,8-TCDF (DB225)	pg		<3.5	13	<4.2	<11
Internal Recoveries	%					
2,3,7,8-TCDF-13C12			83	77	68	88

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		11th Floor	11th Floor	11th Floor	11th Floor
		Down-09	Up-07	Up-08	Up-09
		-27A	-28A	-29A	-30A
		009219 03	009220 03	009221 03	009222 03
		04-Mar-2003	04-Mar-2003	04-Mar-2003	04-Mar-2003
Component	MDL	Units			
Total Tetrachlorodibenzofurans	pg	43	29	<2.3	6.5
Total Pentachlorodibenzofurans	"	68	6.9	<3.5	<5.2
Total Hexachlorodibenzofurans	"	31	<3.4	<1.5	<3.3
Total Heptachlorodibenzofurans	"	<35	<8.6	<3.1	<6.7
Octachlorodibenzofuran	"	19	7.6	<2.4	<5.3
Total Tetrachlorodibenzo-p-dioxins	"	99	51	<4.3	9.1
Total Pentachlorodibenzo-p-dioxins	"	21	<9.0	<7.6	<12
Total Hexachlorodibenzo-p-dioxins	"	22	<50	<36	<53
Total Heptachlorodibenzo-p-dioxins	"	61	16	<3.0	9.7
Octachlorodibenzo-p-dioxin	"	97	39	<11	34
Internal Recoveries	%				
2,3,7,8-T4CDF-13C12		56	75	71	71
2,3,7,8-T4CDD-13C12		72	99	98	95
1,2,3,7,8-P5CDF-13C12		66	82	80	79
1,2,3,7,8-P5CDD-13C12		74	88	86	87
1,2,3,4,7,8-H6CDF-13C12		74	88	94	93
1,2,3,6,7,8-H6CDD-13C12		75	92	96	93
1,2,3,4,6,7,8-H7CDF-13C12		73	91	97	95
1,2,3,4,6,7,8-H7CDD-13C12		76	101	109	103
OCDD-13C12		60	95	109	93
2,3,7,8-Cl4-Dibenzofuran (DB5)	pg	<30	13	<2.3	<6.5
2,3,7,8-Cl4-Dibenzo-p-dioxin	"	<6.0	<5.2	<2.4	<4.7
1,2,3,7,8-Cl5-Dibenzofuran	"	<9.4	<5.2	<3.4	<5.2
2,3,4,7,8-Cl5-Dibenzofuran	"	15	<5.3	<3.5	<5.3
1,2,3,7,8-Cl5-Dibenzo-p-dioxin	"	<8.8	<9.0	<7.6	<6.6
1,2,3,4,7,8-Cl6-Dibenzofuran	"	19	<2.9	<1.3	<2.9
1,2,3,6,7,8-Cl6-Dibenzofuran	"	<12	<3.0	<1.4	<3.0
2,3,4,6,7,8-Cl6-Dibenzofuran	"	10	<3.5	<1.6	<3.5
1,2,3,7,8,9-Cl6-Dibenzofuran	"	<6.7	<4.2	<1.9	<4.2
1,2,3,4,7,8-Cl6-Dibenzo-p-dioxin	"	<5.4	<3.4	<4.5	<4.0
1,2,3,6,7,8-Cl6-Dibenzo-p-dioxin	"	<5.7	<3.7	<4.8	<4.3
1,2,3,7,8,9-Cl6-Dibenzo-p-dioxin	"	<5.3	<3.4	<4.4	<4.0
1,2,3,4,6,7,8-Cl7-Dibenzofuran	"	<30	<7.5	<2.7	<5.8
1,2,3,4,7,8,9-Cl7-Dibenzofuran	"	<6.7	<4.6	<3.7	<4.6
1,2,3,4,6,7,8-Cl7-Dibenzo-p-dioxin	"	31	9.6	<3.0	<9.5
1,2,3,4,6,7,8,9-Cl8-Dibenzofuran	"	19	7.6	<2.4	<5.3
1,2,3,4,6,7,8,9-Cl8-Dibenzo-p-dioxin	"	97	39	<11	34
2,3,7,8-TCDF (DB225)	pg	19	6.6	<4.1	<4.5
Internal Recoveries	%				
2,3,7,8-TCDF-13C12		65	81	79	78