CLIENT SAMPLE NO.
LAB BLANK

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	27-Oct-2002
Extraction Date:	11-Sep-2002			Instrument ID:	HR GC/MS
Analysis Date:	16-Nov-2002	Time:	12:11:36	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	**DX22_418 S:6**
Injection Volume (µL):	1.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_418 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	502	50.2	26:33	1.90E+04	1.05	5.40E+07
13C-1,2,3,7,8-PeCDD [3]	1000	758	75.8	36:08	2.90E+04	0.75	5.86E+07
13C-1,2,3,6,7,8-HxCDD	2500	1830	73.1	42:13	1.10E+05	0.93	1.47E+08
13C-1,2,3,4,6,7,8-HpCDD	2500	1480	59.3	46:41	1.70E+03	0.96	1.23E+08
13C-OCDD	5000	3170	63.3	50:16	8.00E+02	0.76	2.08E+08
13C-2,3,7,8-TCDF	1000	510	51.0	25:20	3.60E+04	1.47	7.71E+07
13C-1,2,3,7,8-PeCDF	1000	610	61.0	33:34	4.40E+04	1.23	7.70E+07
13C-1,2,3,4,7,8-HxCDF	2500	1600	64.0	40:41	6.10E+03	1.29	1.78E+08
13C-1,2,3,4,6,7,8-HpCDF	2500	1560	62.5	45:18	2.80E+03	1.15	1.55E+08

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101 Li
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	27-Oct-2002
Extraction Date:	11-Sep-2002			Instrument ID:	HR GC/MS
Analysis Date:	27-Nov-2002	Time:	13:40:42	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_435A S:5
Injection Volume (µL):	2.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_435A S:2
Concentration Units:	pg/g (dry weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				1.07	
1,2,3,7,8-PeCDD[3]	U		0.10				0.99	
1,2,3,4,7,8-HxCDD	U		0.10				0.96	
1,2,3,6,7,8-HxCDD	U		0.10				1.09	
1,2,3,7,8,9-HxCDD	U		0.10				1.03	
1,2,3,4,6,7,8-HpCDD	J EMPC	0.16	0.10	0.61	46:40	1.00E+01	1.20	3.02E+04
OCDD	J EMPC	0.83	0.10	1.03	50:17	5.00E+01	1.06	1.16E+05
2,3,7,8-TCDF	U		0.10				1.12	
1,2,3,7,8-PeCDF	U		0.10				1.16	
2,3,4,7,8-PeCDF	U		0.10				1.17	
1,2,3,4,7,8-HxCDF	U		0.10				1.27	
1,2,3,6,7,8-HxCDF	U		0.10				1.39	
1,2,3,7,8,9-HxCDF	U		0.10				1.11	
2,3,4,6,7,8-HxCDF	U		0.10				1.26	
1,2,3,4,6,7,8-HpCDF	U		0.10				1.45	
1,2,3,4,7,8,9-HpCDF	U		0.10				1.23	
OCDF	J EMPC	0.16	0.10	1.11	50:21	3.10E+01	1.40	3.00E+04
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.10					
Total Hexa-Dioxins	U		0.10					
Total Hepta-Dioxins	J	0.14	0.10					
Total Tetra-Furans	U		0.10					
Total Penta-Furans	U		0.10					
Total Hexa-Furans	U		0.10					
Total Hepta-Furans	U		0.10					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101 Li
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	27-Oct-2002
Extraction Date:	11-Sep-2002			Instrument ID:	HR GC/MS
Analysis Date:	27-Nov-2002	Time:	13:40:42	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_435A S:5
Injection Volume (µL):	2.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_435A S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	520	52.0	26:27	6.70E+03	1.05	1.91E+07
13C-1,2,3,7,8-PeCDD [3]	1000	768	76.8	36:02	6.90E+03	0.75	2.03E+07
13C-1,2,3,6,7,8-HxCDD	2500	1800	72.1	42:10	2.50E+04	0.93	4.54E+07
13C-1,2,3,4,6,7,8-HpCDD	2500	1470	58.9	46:40	5.50E+03	0.96	3.83E+07
13C-OCDD	5000	3190	63.8	50:16	8.80E+04	0.76	6.59E+07
13C-2,3,7,8-TCDF	1000	523	52.3	25:14	1.10E+04	1.47	2.71E+07
13C-1,2,3,7,8-PeCDF	1000	608	60.8	33:28	1.50E+04	1.23	2.62E+07
13C-1,2,3,4,7,8-HxCDF	2500	1580	63.0	40:37	2.00E+04	1.29	5.50E+07
13C-1,2,3,4,6,7,8-HpCDF	2500	1560	62.2	45:16	2.60E+03	1.15	4.83E+07

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	11-Sep-2002			Instrument ID:	HR GC/MS
Analysis Date:	03-Dec-2002	Time:	1:35:51	GC Column ID:	DB-5
Extract Volume (µL):	50			Sample Datafile:	DX22_446 S:5
Injection Volume (µL):	2.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_446 S:2
Concentration Units:	pg/g (dry weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				0.97	
1,2,3,7,8-PeCDD[3]	U		0.10				0.93	
1,2,3,4,7,8-HxCDD	J	0.13	0.10	1.15	42:01	9.70E+00	0.87	2.53E+04
1,2,3,6,7,8-HxCDD	U		0.10				1.00	
1,2,3,7,8,9-HxCDD	U		0.10				0.97	
1,2,3,4,6,7,8-HpCDD	J EMPC	0.19	0.10	1.20	46:40	3.70E+01	1.10	4.00E+04
OCDD	J	0.94	0.10	0.86	50:17	1.10E+02	0.97	1.85E+05
2,3,7,8-TCDF	U		0.10				1.03	
1,2,3,7,8-PeCDF	U		0.10				1.07	
2,3,4,7,8-PeCDF	U		0.10				1.05	
1,2,3,4,7,8-HxCDF	U		0.10				1.15	
1,2,3,6,7,8-HxCDF	U		0.10				1.24	
1,2,3,7,8,9-HxCDF	U		0.10				0.98	
2,3,4,6,7,8-HxCDF	J EMPC	0.10	0.10	1.83	41:46	1.60E+01	1.10	2.93E+04
1,2,3,4,6,7,8-HpCDF	U		0.10				1.30	
1,2,3,4,7,8,9-HpCDF	U		0.10				1.10	
OCDF	J	0.20	0.10	0.77	50:22	2.40E+01	1.16	4.78E+04
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.10					
Total Hexa-Dioxins	J	0.13	0.10					
Total Hepta-Dioxins	U		0.10					
Total Tetra-Furans	U		0.10					
Total Penta-Furans	U		0.10					
Total Hexa-Furans	U		0.10					
Total Hepta-Furans	U		0.10					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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CLIENT SAMPLE NO.
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Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	11-Sep-2002			Instrument ID:	HR GC/MS
Analysis Date:	03-Dec-2002	Time:	1:35:51	GC Column ID:	DB-5
Extract Volume (µL):	50			Sample Datafile:	DX22_446 S:5
Injection Volume (µL):	2.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_446 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	515	51.5	26:26	6.60E+03	1.06	2.37E+07
13C-1,2,3,7,8-PeCDD [3]	1000	792	79.2	36:02	7.70E+03	0.66	2.28E+07
13C-1,2,3,6,7,8-HxCDD	2500	1860	74.2	42:09	3.80E+04	0.92	5.65E+07
13C-1,2,3,4,6,7,8-HpCDD	2500	1650	65.8	46:39	6.20E+03	0.90	4.90E+07
13C-OCDD	5000	3940	78.8	50:16	1.00E+05	0.78	1.02E+08
13C-2,3,7,8-TCDF	1000	501	50.1	25:14	1.30E+04	1.37	2.98E+07
13C-1,2,3,7,8-PeCDF	1000	623	62.3	33:27	1.50E+04	1.07	2.88E+07
13C-1,2,3,4,7,8-HxCDF	2500	1610	64.6	40:36	7.00E+03	1.20	6.44E+07
13C-1,2,3,4,6,7,8-HpCDF	2500	1770	71.0	45:15	2.70E+03	0.97	5.71E+07

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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CLIENT SAMPLE NO.
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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6516-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	05-Dec-2002	Time:	11:21:05	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_451 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_451 S:2
Concentration Units:	pg/g (dry weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO [2]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				0.97	
1,2,3,7,8-PeCDD [3]	J EMPC	0.41	0.19	0.79	36:03	6.70E+00	0.93	1.18E+04
1,2,3,4,7,8-HxCDD	J EMPC	0.33	0.13	1.70	42:01	1.30E+01	0.87	8.88E+03
1,2,3,6,7,8-HxCDD	U		0.13				1.00	
1,2,3,7,8,9-HxCDD	J EMPC	0.49	0.13	2.40	42:34	2.60E+01	0.97	1.45E+04
1,2,3,4,6,7,8-HpCDD	J EMPC	1.02	0.14	1.36	46:38	2.30E+01	1.10	2.48E+04
OCDD	J	7.48	0.10	0.90	50:15	1.90E+02	0.97	1.15E+05
2,3,7,8-TCDF	J EMPC	0.20	0.11	1.05	25:14	8.20E+00	1.03	1.21E+04
1,2,3,7,8-PeCDF	J EMPC	0.34	0.15	0.79	33:28	1.10E+01	1.07	1.65E+04
2,3,4,7,8-PeCDF	J	0.66	0.15	1.66	35:13	1.80E+01	1.05	3.14E+04
1,2,3,4,7,8-HxCDF	J EMPC	0.49	0.15	0.97	40:36	1.10E+01	1.15	2.09E+04
1,2,3,6,7,8-HxCDF	J EMPC	0.57	0.15	1.82	40:48	1.20E+01	1.24	2.61E+04
1,2,3,7,8,9-HxCDF	J EMPC	0.59	0.15	0.68	42:49	8.70E+00	0.98	2.14E+04
2,3,4,6,7,8-HxCDF	J EMPC	0.97	0.15	1.05	41:46	1.50E+01	1.10	3.98E+04
1,2,3,4,6,7,8-HpCDF	J	0.96	0.12	1.15	45:15	2.60E+01	1.30	3.36E+04
1,2,3,4,7,8,9-HpCDF	J EMPC	1.15	0.12	1.50	47:03	3.00E+01	1.10	3.41E+04
OCDF	J	3.30	0.14	0.92	50:20	5.70E+01	1.16	6.04E+04
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.19					
Total Hexa-Dioxins	J	0.29	0.13					
Total Hepta-Dioxins	J	1.15	0.14					
Total Tetra-Furans	U		0.11					
Total Penta-Furans	J	0.66	0.15					
Total Hexa-Furans	U		0.15					
Total Hepta-Furans	J	0.96	0.12					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

– 0089

CLIENT SAMPLE NO.
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Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6516-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	05-Dec-2002	Time:	11:21:05	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_451 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_451 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	645	64.5	26:25	1.40E+03	1.06	4.16E+06
13C-1,2,3,7,8-PeCDD [3]	1000	772	77.2	36:00	9.70E+02	0.66	3.12E+06
13C-1,2,3,6,7,8-HxCDD	2500	2230	89.0	42:08	4.90E+03	0.92	7.67E+06
13C-1,2,3,4,6,7,8-HpCDD	2500	1640	65.6	46:39	3.00E+03	0.90	5.53E+06
13C-OCDD	5000	2720	54.3	50:15	4.60E+03	0.78	7.93E+06
13C-2,3,7,8-TCDF	1000	709	70.9	25:13	2.40E+03	1.37	5.90E+06
13C-1,2,3,7,8-PeCDF	1000	705	70.5	33:26	2.20E+03	1.07	4.55E+06
13C-1,2,3,4,7,8-HxCDF	2500	2050	81.9	40:36	4.00E+03	1.20	9.25E+06
13C-1,2,3,4,6,7,8-HpCDF	2500	1840	73.6	45:15	1.80E+03	0.97	6.71E+06

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6516-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	12-Dec-2002	Time:	0:34:08	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_464 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_464 S:2
Concentration Units:	pg/g (dry weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD								
1,2,3,7,8-PeCDD[3]								
1,2,3,4,7,8-HxCDD								
1,2,3,6,7,8-HxCDD								
1,2,3,7,8,9-HxCDD								
1,2,3,4,6,7,8-HpCDD								
OCDD	J	0.70	0.10	0.79	50:15	3.50E+01	0.97	4.67E+04
2,3,7,8-TCDF								
1,2,3,7,8-PeCDF								
2,3,4,7,8-PeCDF								
1,2,3,4,7,8-HxCDF								
1,2,3,6,7,8-HxCDF								
1,2,3,7,8,9-HxCDF								
2,3,4,6,7,8-HxCDF								
1,2,3,4,6,7,8-HpCDF								
1,2,3,4,7,8,9-HpCDF								
OCDF								
Total Tetra-Dioxins								
Total Penta-Dioxins								
Total Hexa-Dioxins								
Total Hepta-Dioxins								
Total Tetra-Furans								
Total Penta-Furans								
Total Hexa-Furans								
Total Hepta-Furans								

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6516-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	29-Nov-2002
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	12-Dec-2002	Time:	0:34:08	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX22_464 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX22_418 S:6
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX22_464 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD							
13C-1,2,3,7,8-PeCDD [3]							
13C-1,2,3,6,7,8-HxCDD							
13C-1,2,3,4,6,7,8-HpCDD							
13C-OCDD	5000	2530	50.6	50:14	1.60E+04	0.78	3.46E+07
13C-2,3,7,8-TCDF							
13C-1,2,3,7,8-PeCDF							
13C-1,2,3,4,7,8-HxCDF							
13C-1,2,3,4,6,7,8-HpCDF							

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184		Lab Sample ID:	WG6516-101	
Matrix:	N/A		Sample Size:	10.0	g
Sample Receipt Date:	N/A		Initial Calibration Date:	29-Nov-2002	
Extraction Date:	N/A		Instrument ID:	HR GC/MS	
Analysis Date:	14-Dec-2002	Time: 11:56:11	GC Column ID:	DB-5	
Extract Volume (µL):	20		Sample Datafile:	DX22_469 S:6	
Injection Volume (µL):	1.0		Blank Data Filename:	DX22_469 S:6	
Dilution Factor:	N/A		Cal. Ver. Data Filename:	DX22_469 S:2	
Concentration Units:	pg/g (dry weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD								
1,2,3,7,8-PeCDD[3]								
1,2,3,4,7,8-HxCDD								
1,2,3,6,7,8-HxCDD								
1,2,3,7,8,9-HxCDD								
1,2,3,4,6,7,8-HpCDD	J EMPC	0.16	0.01	1.56	46:41	3.20E+01	1.10	3.14E+04
OCDD	J	0.39	0.03	0.78	50:17	4.20E+01	0.97	5.23E+04
2,3,7,8-TCDF								
1,2,3,7,8-PeCDF								
2,3,4,7,8-PeCDF								
1,2,3,4,7,8-HxCDF								
1,2,3,6,7,8-HxCDF								
1,2,3,7,8,9-HxCDF								
2,3,4,6,7,8-HxCDF								
1,2,3,4,6,7,8-HpCDF	J EMPC	0.07	0.01	1.40	45:19	2.60E+01	1.30	2.12E+04
1,2,3,4,7,8,9-HpCDF	J	0.06	0.01	1.06	47:07	1.90E+01	1.10	1.52E+04
OCDF	J EMPC	0.15	0.03	0.49	50:22	9.20E+00	1.16	2.36E+04
Total Tetra-Dioxins								
Total Penta-Dioxins								
Total Hexa-Dioxins								
Total Hepta-Dioxins	J	0.09	0.01					
Total Tetra-Furans								
Total Penta-Furans								
Total Hexa-Furans								
Total Hepta-Furans	J	0.06	0.01					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

– 0093

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			**Lab Sample ID:**	WG6516-101
Matrix:	N/A			**Sample Size:**	10.0 g
Sample Receipt Date:	N/A			**Initial Calibration Date:**	29-Nov-2002
Extraction Date:	N/A			**Instrument ID:**	HR GC/MS
Analysis Date:	14-Dec-2002	**Time:**	11:56:11	**GC Column ID:**	DB-5
Extract Volume (µL):	20			**Sample Datafile:**	**DX22_469 S:6**
Injection Volume (µL):	1.0			**Blank Data Filename:**	DX22_469 S:6
Dilution Factor:	N/A			**Cal. Ver. Data Filename:**	DX22_469 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	644	64.4	26:32	1.10E+04	1.06	3.13E+07
13C-1,2,3,7,8-PeCDD [3]	1000	893	89.3	36:07	1.00E+04	0.66	2.72E+07
13C-1,2,3,6,7,8-HxCDD	2500	2060	82.4	42:12	6.90E+04	0.92	6.10E+07
13C-1,2,3,4,6,7,8-HpCDD	2500	1580	63.2	46:41	1.60E+03	0.90	4.58E+07
13C-OCDD	5000	2740	54.8	50:17	2.10E+04	0.78	6.87E+07
13C-2,3,7,8-TCDF	1000	673	67.3	25:19	1.70E+04	1.37	4.23E+07
13C-1,2,3,7,8-PeCDF	1000	678	67.8	33:33	2.10E+04	1.07	3.31E+07
13C-1,2,3,4,7,8-HxCDF	2500	1770	70.9	40:40	2.60E+04	1.20	6.87E+07
13C-1,2,3,4,6,7,8-HpCDF	2500	1750	70.0	45:18	3.90E+03	0.97	5.48E+07

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MW

CLIENT SAMPLE NO.
LAB BLANK

Form 1B
CONFIRMATION OF 2,3,7,8-TCDF CONCENTRATION

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	Lab Sample ID:	WG6796-101 i2
Matrix:	N/A	Sample Size:	10.0 g
Sample Receipt Date:	N/A	Initial Calibration Date:	23-Nov-2002
Extraction Date:	11-Sep-2002	Instrument ID:	HR GC/MS
Analysis Date:	25-Nov-2002 Time: 13:04:23	GC Column ID:	DB-225
Extract Volume (µL):	20	Sample Datafile:	DB23_340 S:6
Injection Volume (µL):	2.0	Blank Data Filename:	DB23_340 S: 6
Dilution Factor:	N/A	Cal. Ver. Data Filename:	DB23_340 S:2
Concentration Units:	pg/g		

COMPOUND	DATA FLAGS	CONC'N FOUND	EDL	ION ABUND. RATIO	RET'N. TIME	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDF	U		0.18				0.90	

(1) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(2) Alternate ions used for native and labelled P5CDD for confirmation and quantitation.
(3) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.

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MW 17-12-2002

6796cDD1_1, S1

Form 1B
CONFIRMATION OF 2,3,7,8-TCDF CONCENTRATION

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	Lab Sample ID:	WG6889-104 i
Matrix:	N/A	Sample Size:	10.0 g
Sample Receipt Date:	N/A	Initial Calibration Date:	23-Nov-2002
Extraction Date:	N/A	Instrument ID:	HR GC/MS
Analysis Date:	24-Nov-2002 Time: 1:58:44	GC Column ID:	DB-225
Extract Volume (µL):	20	Sample Datafile:	DB23_337 S:6
Injection Volume (µL):	2.0	Blank Data Filename:	DB23_340 S: 6
Dilution Factor:	N/A	Cal. Ver. Data Filename:	DB23_337 S:2
Concentration Units:	pg/g		

COMPOUND	DATA FLAGS	CONC'N FOUND	EDL	ION ABUND. RATIO	RET'N. TIME	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDF	U		0.14				0.90	

(1) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(2) Alternate ions used for native and labelled P5CDD for confirmation and quantitation.
(3) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL

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MW
17-12-2002

Form 8A
PCDD/PCDF LABORATORY CONTROL SAMPLE (LCS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.: 4184 Data Filename: DX22_418 S:3

Matrix: SOLID Lab Sample I.D.: WG6796-102

Extraction Date: 10-Sep-2002

Analysis Date: 16-Nov-2002 Time: 9:27:18

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	LCS CONC. LIMITS [2] (ng/mL)	PERCENT RECOVERY
2,3,7,8-TCDD	0.78	8.81	8.46	6.17 - 11.5	96.0
1,2,3,7,8-PeCDD [3]	0.64	38.4	34.4	26.9 - 50.0	89.5
1,2,3,4,7,8-HxCDD	1.31	38.9	32.2	27.2 - 50.6	82.8
1,2,3,6,7,8-HxCDD	1.21	31.9	27.3	22.3 - 41.4	85.7
1,2,3,7,8,9-HxCDD	1.25	37.1	29.7	26.0 - 48.3	80.0
1,2,3,4,6,7,8-HpCDD	1.06	28.0	26.9	19.6 - 36.4	96.1
OCDD	0.90	55.9	49.3	39.1 - 72.6	88.2
2,3,7,8-TCDF	0.78	10.6	9.11	7.43 - 13.8	85.8
1,2,3,7,8-PeCDF	1.56	30.6	28.3	21.4 - 39.8	92.4
2,3,4,7,8-PeCDF	1.56	29.4	28.2	20.6 - 38.2	96.0
1,2,3,4,7,8-HxCDF	1.24	33.3	30.3	23.3 - 43.2	91.1
1,2,3,6,7,8-HxCDF	1.25	30.4	28.7	21.3 - 39.5	94.5
1,2,3,7,8,9-HxCDF	1.25	31.0	26.4	21.7 - 40.3	85.2
2,3,4,6,7,8-HxCDF	1.24	30.3	27.1	21.2 - 39.4	89.4
1,2,3,4,6,7,8-HpCDF	1.03	32.0	29.2	22.4 - 41.6	91.3
1,2,3,4,7,8,9-HpCDF	1.05	31.2	23.7	21.8 - 40.5	76.0
OCDF	0.92	54.8	44.3	38.4 - 71.2	80.9

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) In-house concentration limits for unlabelled PCDDs/PCDFs in LCS are 70-130%.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 8B
PCDD/PCDF LABORATORY CONTROL SAMPLE (LCS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.: 4184 Data Filename: DX22_418 S:3

Matrix: SOLID Lab Sample I.D.: WG6796-102

Extraction Date: 10-Sep-2002

Analysis Date: 16-Nov-2002 Time: 9:27:18

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	ION ABUND. RATIO [1]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	LCS CONC. LIMITS [2] (ng/mL)	PERCENT RECOVERY
LABELED COMPOUND					
13C-2,3,7,8-TCDD	0.8	50.0	23.6	20.0 - 67.5	47.1
13C-1,2,3,7,8-PeCDD [3]	0.63	50.0	35.7	20.0 - 67.5	71.4
13C-1,2,3,6,7,8-HxCDD	1.24	125	95.3	50.0 - 169	76.2
13C-1,2,3,4,6,7,8-HpCDD	1.06	125	77.4	50.0 - 169	62.0
13C-OCDD	0.89	250	159	100 - 338	63.7
13C-2,3,7,8-TCDF	0.78	50.0	24.0	20.0 - 67.5	48.1
13C-1,2,3,7,8-PeCDF	1.59	50.0	28.4	20.0 - 67.5	56.8
13C-1,2,3,4,7,8-HxCDF	0.52	125	83.0	50.0 - 169	66.4
13C-1,2,3,4,6,7,8-HpCDF	0.45	125	86.2	50.0 - 169	69.0

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290

(2) Labelled compound concentration limits are based on required percent recovery of 40-135% (Section 8.4, Method 8290).

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MATRIX SPIKE

Form 8C
MATRIX SPIKE (MS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MS Data Filename:	DX22_435A S:9
Matrix:	SOLID	Lab Sample I.D.:	WG6796-103 Li (MS)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.83 g (dry)
Analysis Date:	27-Nov-2002 Time: 17:19:44	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. pg/g	SAMPLE FLAGS	SAMPLE CONC. pg/g	CONC. FOUND pg/g	MS RECOVERY (%)	RELATIVE PERCENT DIFFERENCE
2,3,7,8-TCDD	0.79	16.3		8.28	26.1	106	0.8
1,2,3,7,8-PeCDD [2]	0.64	70.2		32.1	93.7	91.6	0.1
1,2,3,4,7,8-HxCDD	1.27	72.0		40.4	97.3	86.6	2.1
1,2,3,6,7,8-HxCDD	1.25	59.1		252	286	92.0	0.4
1,2,3,7,8,9-HxCDD	1.25	57.2		145	187	92.3	1.1
1,2,3,4,6,7,8-HpCDD	1.04	51.7	OLR				
OCDD	0.96	103	OLR				
2,3,7,8-TCDF	0.79	20.3		86.8	93.8	87.6	1.9
1,2,3,7,8-PeCDF	1.58	55.4		17.9	69.1	94.3	2.0
2,3,4,7,8-PeCDF	1.57	53.6		49.5	98.2	95.3	2.9
1,2,3,4,7,8-HxCDF	1.24	60.9		130	177	92.6	0.6
1,2,3,6,7,8-HxCDF	1.24	55.4		54.5	107	97.5	0.9
1,2,3,7,8,9-HxCDF	1.21	57.3	U		40.8	71.2	9.6
2,3,4,6,7,8-HxCDF	1.25	55.4		40.8	85.3	88.6	0.2
1,2,3,4,6,7,8-HpCDF	1.03	59.1	OLR				
1,2,3,4,7,8,9-HpCDF	1.04	57.3		98.2	136	87.4	1.5
OCDF	0.89	102	OLR				

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

Form 8D
MATRIX SPIKE (MS)

CLIENT ID
SS-21 (MS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MS Data Filename:	DX22_435A S:9
Matrix:	SOLID	Lab Sample I.D.:	WG6796-103 Li (MS)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.83 g (dry)
Analysis Date:	27-Nov-2002 Time: 17:19:44	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

	ION ABUND. RATIO [1]	SPIKE CONC pg/g	CONC. FOUND pg/g	PERCENT RECOVERY
LABELED COMPOUND				
13C-2,3,7,8-TCDD	0.78	92.3	40.3	43.7
13C-1,2,3,7,8-PeCDD [2]	0.65	92.3	57.4	62.2
13C-1,2,3,6,7,8-HxCDD	1.25	231	145	62.8
13C-1,2,3,4,6,7,8-HpCDD	1.06	231	130	56.3
13C-OCDD	0.91	462	328	71.0
13C-2,3,7,8-TCDF	0.80	92.3	43.8	47.4
13C-1,2,3,7,8-PeCDF	1.58	92.3	47.1	51.0
13C-1,2,3,4,7,8-HxCDF	0.52	231	134	58.1
13C-1,2,3,4,6,7,8-HpCDF	0.45	231	125	54.3

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 8C
MATRIX SPIKE (MS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MS Data Filename:	DX22_469 S:9
Matrix:	SOLID	Lab Sample I.D.:	WG6796-103 LW (MS)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.83 g (dry)
Analysis Date:	14-Dec-2002 Time: 14:41:01	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. pg/g	SAMPLE FLAGS	SAMPLE CONC. pg/g	CONC. FOUND pg/g	MS RECOVERY (%)	RELATIVE PERCENT DIFFERENCE
2,3,7,8-TCDD							
1,2,3,7,8-PeCDD [2]							
1,2,3,4,7,8-HxCDD							
1,2,3,6,7,8-HxCDD							
1,2,3,7,8,9-HxCDD							
1,2,3,4,6,7,8-HpCDD	1.04	51.7	D	5100	5891	114	0.5
OCDD	0.88	103	D	55200	56362	102	4.6
2,3,7,8-TCDF							
1,2,3,7,8-PeCDF							
2,3,4,7,8-PeCDF							
1,2,3,4,7,8-HxCDF							
1,2,3,6,7,8-HxCDF							
1,2,3,7,8,9-HxCDF							
2,3,4,6,7,8-HxCDF							
1,2,3,4,6,7,8-HpCDF	1.03	59.1	D	1270	1468	110	4.5
1,2,3,4,7,8,9-HpCDF							
OCDF	0.89	102	D	2820	2866	98.1	7.2

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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CLIENT ID
SS-21 (MS)

Form 8D
MATRIX SPIKE (MS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MS Data Filename:	DX22_469 S:9
Matrix:	SOLID	Lab Sample I.D.:	WG6796-103 LW (MS)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.83 g (dry)
Analysis Date:	14-Dec-2002 Time: 14:41:01	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

	ION ABUND. RATIO [1]	SPIKE CONC pg/g	CONC. FOUND pg/g	PERCENT RECOVERY
LABELED COMPOUND				
13C-2,3,7,8-TCDD				
13C-1,2,3,7,8-PeCDD [2]				
13C-1,2,3,6,7,8-HxCDD				
13C-1,2,3,4,6,7,8-HpCDD	1.00	231	119	51.6
13C-OCDD	0.90	462	270	58.6
13C-2,3,7,8-TCDF				
13C-1,2,3,7,8-PeCDF				
13C-1,2,3,4,7,8-HxCDF				
13C-1,2,3,4,6,7,8-HpCDF	0.47	231	126	54.8

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MATRIX SPIKE DUPLICATE

Form 8E
MATRIX SPIKE DUPLCIATE (MSD)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MSD Data Filename:	DX22_435A S:10
Matrix:	SOLID	Lab Sample I.D.:	WG6796-104 Li (MSD)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.32 g (dry)
Analysis Date:	27-Nov-2002 Time: 18:14:31	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. pg/g	SAMPLE FLAGS	SAMPLE CONC. pg/g	CONC. FOUND pg/g	MSD RECOVERY (%)	RELATIVE PERCENT DIFFERENCE
2,3,7,8-TCDD	0.79	17.1		8.28	26.3	104	0.8
1,2,3,7,8-PeCDD [2]	0.63	73.6		32.1	93.8	88.7	0.1
1,2,3,4,7,8-HxCDD	1.26	75.6		40.4	95.3	82.1	2.1
1,2,3,6,7,8-HxCDD	1.27	62.0		252	285	90.7	0.4
1,2,3,7,8,9-HxCDD	1.25	60.1		145	189	92.4	1.1
1,2,3,4,6,7,8-HpCDD	1.04	54.3	OLR				
OCDD	0.96	109	OLR				
2,3,7,8-TCDF	0.79	21.3		86.8	95.6	88.4	1.9
1,2,3,7,8-PeCDF	1.53	58.1		17.9	70.5	92.8	2.0
2,3,4,7,8-PeCDF	1.53	56.2		49.5	95.4	90.3	2.9
1,2,3,4,7,8-HxCDF	1.24	64.0		130	176	90.9	0.6
1,2,3,6,7,8-HxCDF	1.23	58.1		54.5	106	93.8	0.9
1,2,3,7,8,9-HxCDF	1.28	60.1	U		44.9	74.8	9.6
2,3,4,6,7,8-HxCDF	1.23	58.1		40.8	85.1	86.0	0.2
1,2,3,4,6,7,8-HpCDF	1.04	62.0	OLR				
1,2,3,4,7,8,9-HpCDF	1.05	60.1		98.2	138	87.4	1.5
OCDF	0.91	107	OLR				

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

CLIENT ID
SS-21 (MSD)

Form 8F
MATRIX SPIKE DUPLICATE (MSD)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MSD Data Filename:	DX22_435A S:10
Matrix:	SOLID	Lab Sample I.D.:	WG6796-104 Li (MSD)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.32 g (dry)
Analysis Date:	27-Nov-2002 Time: 18:14:31	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

	ION ABUND. RATIO [1]	SPIKE CONC pg/g	CONC. FOUND pg/g	PERCENT RECOVERY
LABELED COMPOUND				
13C-2,3,7,8-TCDD	0.76	96.9	40.6	41.9
13C-1,2,3,7,8-PeCDD [2]	0.62	96.9	59.7	61.6
13C-1,2,3,6,7,8-HxCDD	1.27	242	144	59.2
13C-1,2,3,4,6,7,8-HpCDD	1.06	242	129	53.4
13C-OCDD	0.91	484	311	64.1
13C-2,3,7,8-TCDF	0.78	96.9	41.9	43.3
13C-1,2,3,7,8-PeCDF	1.54	96.9	46.2	47.7
13C-1,2,3,4,7,8-HxCDF	0.52	242	132	54.4
13C-1,2,3,4,6,7,8-HpCDF	0.45	242	125	51.6

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

AXYS ANALYTICAL SERVICES LTD P.O. BOX 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

Form 8E
MATRIX SPIKE DUPLCIATE (MSD)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MSD Data Filename:	DX22_469 S:10
Matrix:	SOLID	Lab Sample I.D.:	WG6796-104 LW (MSD)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.32 g (dry)
Analysis Date:	14-Dec-2002 Time: 15:35:56	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. pg/g	SAMPLE FLAGS	SAMPLE CONC. pg/g	CONC. FOUND pg/g	MSD RECOVERY (%)	RELATIVE PERCENT DIFFERENCE
2,3,7,8-TCDD							
1,2,3,7,8-PeCDD [2]							
1,2,3,4,7,8-HxCDD							
1,2,3,6,7,8-HxCDD							
1,2,3,7,8,9-HxCDD							
1,2,3,4,6,7,8-HpCDD	1.03	54.3	D	5100	5860	114	0.5
OCDD	0.89	109	D	55200	59008	107	4.6
2,3,7,8-TCDF							
1,2,3,7,8-PeCDF							
2,3,4,7,8-PeCDF							
1,2,3,4,7,8-HxCDF							
1,2,3,6,7,8-HxCDF							
1,2,3,7,8,9-HxCDF							
2,3,4,6,7,8-HxCDF							
1,2,3,4,6,7,8-HpCDF	1.02	62.0	D	1270	1404	105	4.5
1,2,3,4,7,8,9-HpCDF							
OCDF	0.88	107	D	2820	3080	105	7.2

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

AXYS ANALYTICAL SERVICES LTD P.O. BOX 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

CLIENT ID
SS-21 (MSD)

Form 8F
MATRIX SPIKE DUPLICATE (MSD)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	MSD Data Filename:	DX22_469 S:10
Matrix:	SOLID	Lab Sample I.D.:	WG6796-104 LW (MSD)
Extraction Date:	11-Sep-2002	MS Sample Size:	10.32 g (dry)
Analysis Date:	14-Dec-2002 Time: 15:35:56	Original Sample Size:	10.0 g (dry)

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS ON SAMPLE SIZE BASIS.

	ION ABUND. RATIO [1]	SPIKE CONC pg/g	CONC. FOUND pg/g	PERCENT RECOVERY
LABELED COMPOUND				
13C-2,3,7,8-TCDD				
13C-1,2,3,7,8-PeCDD [2]				
13C-1,2,3,6,7,8-HxCDD				
13C-1,2,3,4,6,7,8-HpCDD	1.05	242	123	51.0
13C-OCDD	0.93	484	263	54.2
13C-2,3,7,8-TCDF				
13C-1,2,3,7,8-PeCDF				
13C-1,2,3,4,7,8-HxCDF				
13C-1,2,3,4,6,7,8-HpCDF	0.45	242	137	56.7

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

AXYS ANALYTICAL SERVICES LTD P.O. BOX 2219, 2045 MILLS RD. WEST, SIDNEY, B.C., CANADA V8L 3S8 TEL (250) 655-5800 FAX (250) 655-5811

ENVIRONMENTAL RESOURCE MANAGEMENT

ADDENDUM

SOLID SAMPLES

DIOXIN/FURAN ANALYSIS

AXYS METHOD: DX-S-8290/VER.2

Data Package:
4184
L4974 -6

Prepared for:
Rachel Leary
Environmental Resource Management
399 Boylston Street. 6th Floor
Boston, MA 02116
USA

Prepared by:
AXYS Analytical Services Ltd.
P.O. Box 2219, 2045 Mills Road
Sidney, British Columbia V8L 3S8
CANADA

Contact: Dr. M.C. Hamilton

FEBRUARY 2003

ENVIRONMENTAL RESOURCE MANAGEMENT
SOLID SAMPLES

DIOXIN / FURAN ANALYSIS
AXYS METHOD: DX-S-8290/Ver.2
4184: L4974-6

17 February 2003

ADDENDUM

This document is an addendum to the original data package for the analysis of Dioxins / Furans, data package: 4184: L4974-1 to –5 and –7 submitted on 18 December 2002.

The results reported in this document complete the above noted data package.

Content

This addendum data package contains:

- Analysis results for sample SS-26 (Axys ID L4974-6) and results for the associated Lab blank (Axys ID WG7724-101) and Ongoing Precision and Recovery (Axys ID WG7724-102).
- Also contained in this addendum are supporting documentations and instrument QC reports pertaining to the analysis of sample SS-26 (Axys ID L4974-6).

QA/QC Notes

Sample and QC samples were analyzed in a single batch named DXWG7724. The sample data were reviewed and evaluated in relation to the batch QC samples. Note that sample data are not blank corrected. All results fell within the quality acceptance specifications of the method and the contract.

Analytical Discussion

- Sample analyte concentrations are not blank corrected.
- To remove interferences sample extract SS-26 (Axys ID L4974-6) was given additional cleanup using Florisil chromatographic column. Additional cleanup removed the observed interference and results are reported from the re-columned data.
- To bring the response for 1,2,3,4,6,7,8-HpCDD and OCDD within the calibrated linear range of the instrument the sample extract was diluted and reanalyzed. The dilution factor is provided on the report forms and the affected analytes are separately reported from the dilution data.

DX-DB5-1_01

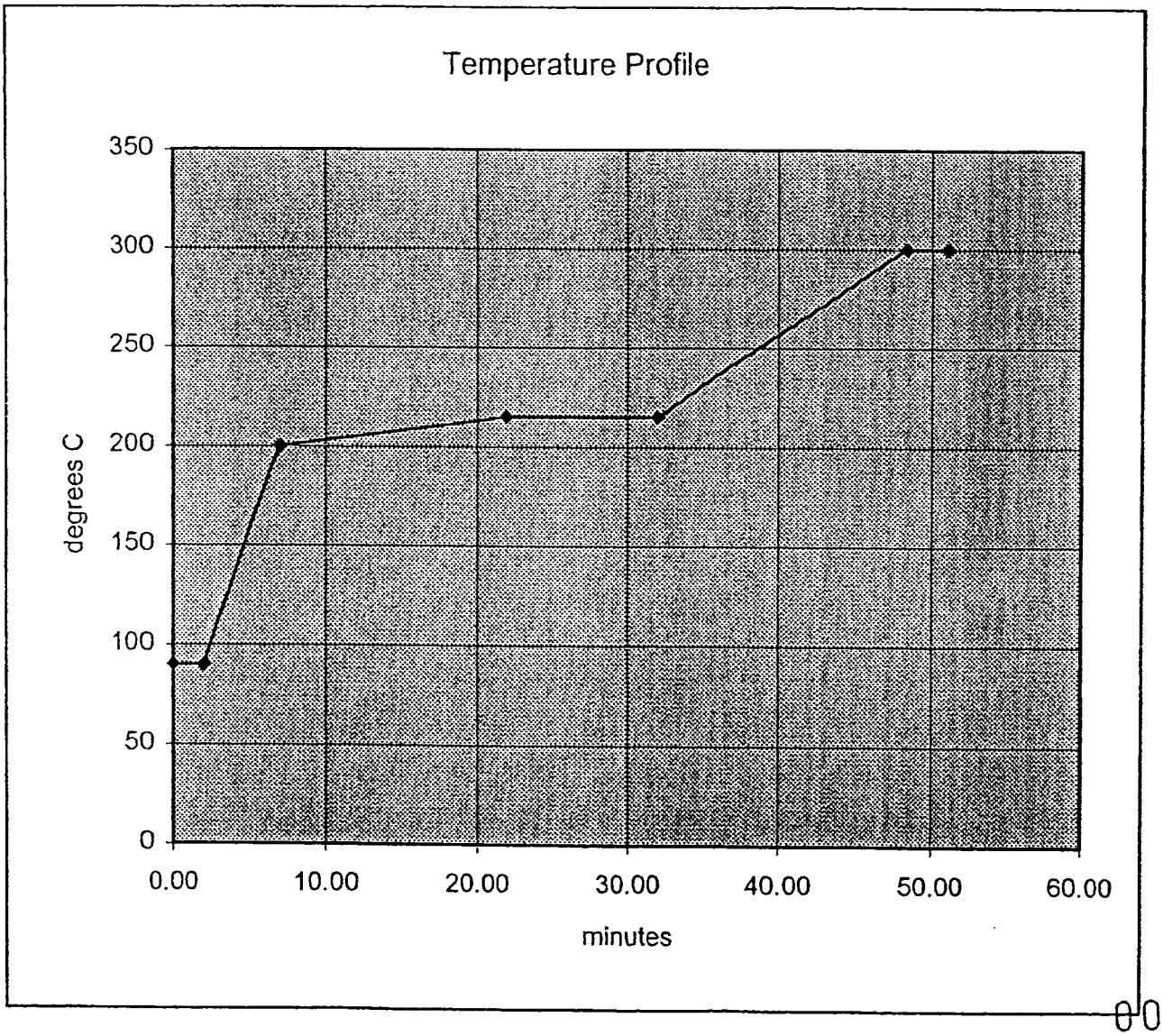
COLUMN CONDITIONS:

60m DB-5 0.25mm id, 0.1um film, 5m guard column

		TIME/min.	TEMP/C
Temp	90		
Hold time	2		
Rate	22	0.00	90
Temp	200	2.00	90
Hold time	0	7.00	200
Rate	1	7.00	200
Temp	215	22.00	215
Hold time	10	32.00	215
Rate	5.2	48.35	300
Temp	300	51.05	300
Hold time	2.7		

GC CONDITIONS:

Injector Temp/C	290
Splitless time/min.	2
He/kPa (new column)	~200
Maximum Temp/C	325



0002

DX-DB225-1_01

COLUMN CONDITIONS:

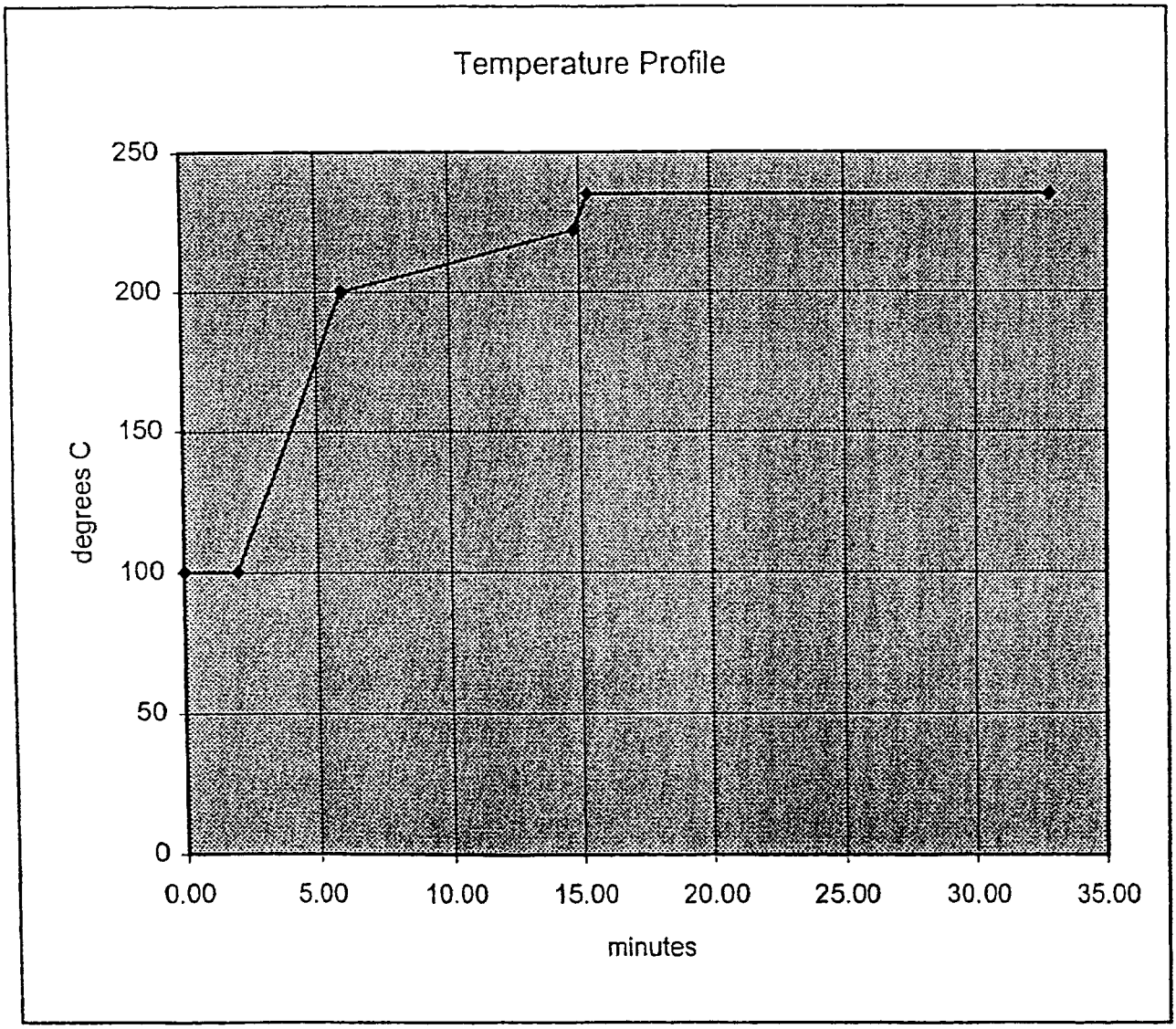
30m DB-225 0.25mm id, 0.15um film, no guard column

Temp	100
Hold time	2
Rate	25
Temp	200
Hold time	0
Rate	2.5
Temp	222
Hold time	0
Rate	25
Temp	235
Hold time	17.5

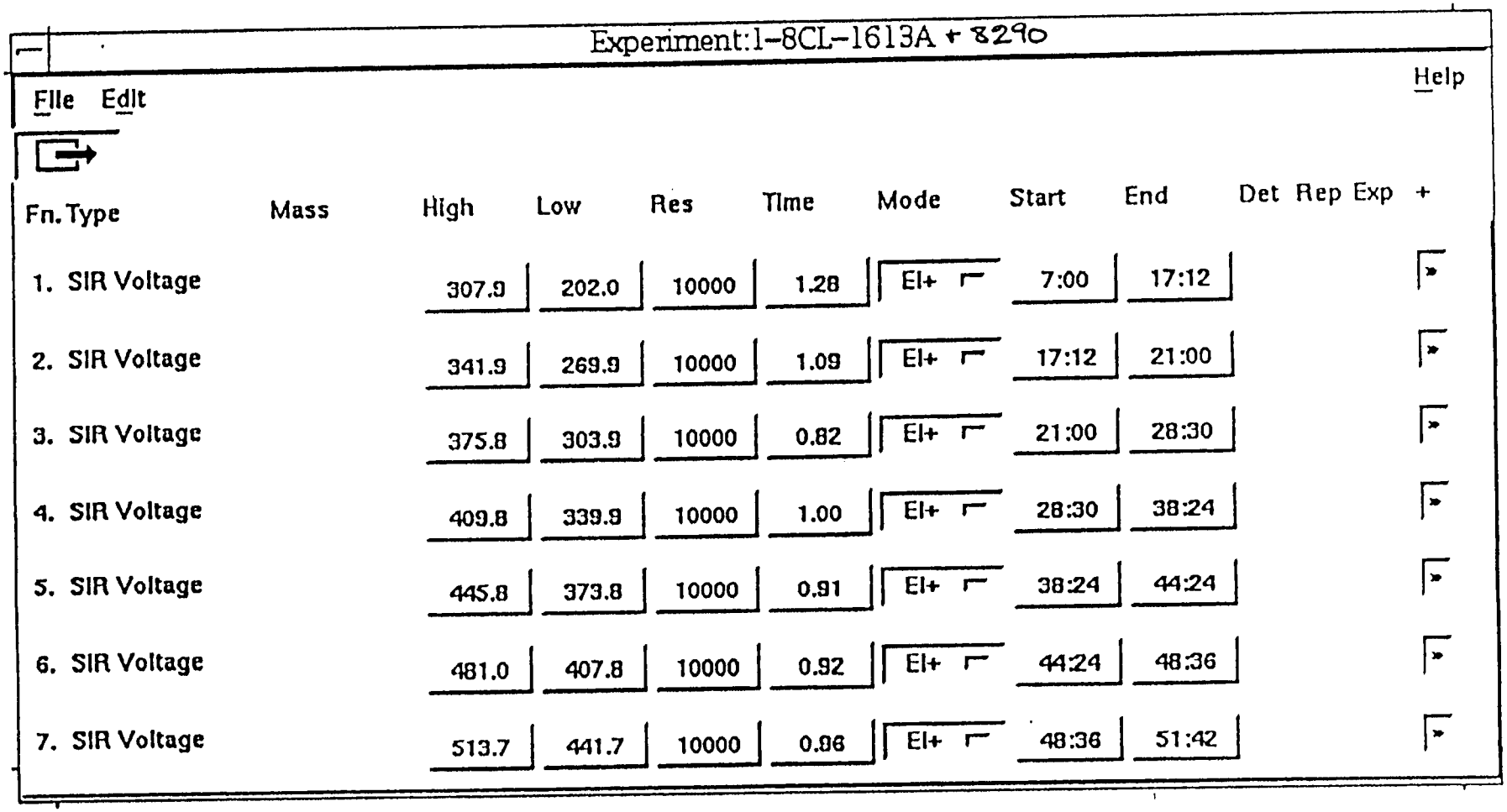
TIME/min.	TEMP/C
0.00	100
2.00	100
6.00	200
6.00	200
14.80	222
14.80	222
15.32	235
32.82	235

GC CONDITIONS:

Injector Temp/C	240
Splitless time/min.	2
He/kPa (new column)	~150
Maximum Temp/C	240



0003


Experiment:1-8CL-1613A + 8290
File Edit
Help
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Mass
High
Low
Res
Time
Mode
Start
End
Det Rep Exp
+
1. SIR Voltage 307.9 202.0 10000 1.28 El+ 7:00 17:12
2. SIR Voltage 341.9 269.9 10000 1.09 El+ 17:12 21:00
3. SIR Voltage 375.8 303.9 10000 0.82 El+ 21:00 28:30
4. SIR Voltage 409.8 339.9 10000 1.00 El+ 28:30 38:24
5. SIR Voltage 445.8 373.8 10000 0.91 El+ 38:24 44:24
6. SIR Voltage 481.0 407.8 10000 0.92 El+ 44:24 48:36
7. SIR Voltage 513.7 441.7 10000 0.86 El+ 48:36 51:42

Rachel Leary
Environmental Resource Management
399 Boylston Street, 6th Floor
Boston MA USA 02116

COVER PAGE - DIOXIN/FURAN ANALYSIS

Lab Name: AXYS Analytical Services Ltd.	Contract Number: 4184
Project No: NA	AXYS Methods: DX-S-8290/VER.2
Industrial Category: NA	Program: Solid Samples

Client Sample Number	Lab Sample Identification
LAB BLANK	WG7724-101
OPR	WG7724-102
SS-26	L4974-6

Comments: Narrative Report is attached. (yes)

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the Narrative Report. Release of the data contained in this hardcopy data package (and in the data submitted on magnetic media, if data are submitted on magnetic media), has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Million Woudneh	Name: Million Woudneh M.Sc.
Date: December 2002	Title: QA/QC Chemist

CORRELATION BETWEEN CLIENT SAMPLE NUMBERS AND
AXYS SAMPLE LOGIN NUMBERS

CLIENT SAMPLE NUMBER	AXYS SAMPLE IDENTIFICATION
SS-26	L4974-6

AXYS | Axys Analytical Services Ltd

Post Office Box 2219, 2045 Mills Road West
Sidney, British Columbia, Canada V8L 3S8

TEL: (250) 655-5800
FAX: (250) 655-5811

CHAIN OF CUSTODY

AXYS CLIENT #:

REPORT TO:

Company: ERM
Address: 399 Boylston St., 6th Fl
Boston, MA 02116
USA
Contact: Rachel Leary
Phone: (617) 646-7841
Fax: (617) 267-8377

INVOICE TO:

Company: Same
Address:
Contact:
Phone:
Fax:

Project Name/Number: 143.72

Sampler's Name: Rachel Leary
Signature: Rachel Leary

Client Sample Identification	Matrix	Sampling Date	Sampling Time	Container Type/No	Axys Lab Sample ID (Lab use only)	ANALYSIS REQUESTED: Dioxins / Furans	Dioxin-like PCBs
SS-21	S	8/12/02	15:45	500ml jar	L4974-1	2	
SS-22	S	8/12/02	15:20		-2	2	
SS-23	S	8/12/02	15:20		-3	2	
SS-24	S	8/12/02	16:00		-4	2	
SS-25	S	8/12/02	14:30		-5	2	
SS-26	S	8/12/02	14:30		-6	2	
DUP	S	8/12/02	9:00		L4974 -7	2	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time
Rachel Leary	8/12/02	3:45pm		15 Aug 02	10:00
Relinquished by (Signature)	Date	Time	Received by (Signature)	Date	Time

Courier:
Waybill No.:

Sample Receipt

	Coolers #1	#2	#3
Temp °C			
Custody Seal #			
Seal Intact Y/N			
Sample Tags Y/N			

Remarks:

AXYS Analytical Services Ltd

SAMPLE RECEIVING RECORD

Waybill : Present ✓ Absent ____ Waybill #: 828850130040

Date Shipped: 13/Aug/02 | Date Received: 15/Aug/02 | Time Received: 10:00

Received By (print): R Pingle Signature: [signature]

Axys Client and Contract #: 4184 ERM | Client Reference #:

Condition of Shipping Container: Intact Cooler

Temperature of Shipping Container on Receipt: 22°C on ice packs

Custody Seals: Absent : ✓ Present : ___ Intact ___ Broken ___ On: Shipping Container: ___ Sample Container: ___ | Custody Seal Numbers: NA

Axys Sample IDs: L4974-137

Log-in by (print): R Pingle Signature: [signature]

Chain of Custody or Documents: Present: ✓ Absent: ___ Traffic Report/Packing List: Y (N)

Sample IDs	(Y) / N	Sample Tag Numbers	Y / (N)
Location	Y / (N)	Sample Type	(Y) N
Date & Time of Collection	(Y) / N	Preservative Added	Y (N) (details)
Collector's Name	(Y) / N	Preservation Requested	Y (N) (details)

Sample Acceptance Criteria: Matrix Type : Solid

Appropriate Container	(Y) / N	Correct Labelling	(Y) N
Damaged Container	Y / (N)	Holding Time Exceeded	Y / (N)
Adequate Sample Size	(Y) / N	Appropriate Temperature	Y / (N)

Aqueous Samples: pH adjustment required Y / N Residual Cl required Y / N

Sample Tags: Present: ___ Absent: ✓ **Sample Labels:** Present: ✓ Absent: ___

Sample Labels Cross Referenced to Chain of Custody	(Y) / N	Information Agrees	Y (N)
Sample Tags Cross Referenced to Sample Labels	Y / N	Information Agrees	Y / N
Sample Tags Cross-Referenced to Chain of Custody	Y / N	Information Agrees	Y / N

Problems or Discrepancies: Solid samples should arrive @ ≤ 4°C
Sample SS-22 does not have the same sample times on label + COC - COC states 15:20 label states 15:05

Action Taken: Notified Laurie + PCs, client replied back to use label ID

AXYS

Axys Analytical Services Ltd.

Login Chain of Custody Report (In01)

Aug. 27, 2002

10:20 AM

Login Number: L4974

Account: 4184 ERM

Project:

AXYS ID	Client Sample Identification	Collect Date	Receive Date	PR	Due Date
L4974-1	SS-21	12-AUG-02 15:45	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD
ANY	DX MS		:		USD
ANY	DX MSD		:		USD
L4974-2	SS-22	12-AUG-02 15:05	15-AUG-02		14-SEP-02
WIF-4,3C, client wants collection time from label used					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD
L4974-3	SS-23	12-AUG-02 15:20	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD

* As per ref S29C must be extracted by Sept 12 so as not exceed hold times.

0009

Signature : Katrina Bass

Date : Aug 27-02

AXYS

Axys Analytical Services Ltd.

Login Chain of Custody Report (ln01)

Aug. 27, 2002

10:20 AM

Login Number: L4974

Account: 4184 ERM

Project:

AXYS ID	Client Sample Identification	Collect Date	Receive Date	PR	Due Date
L4974-4	SS-24	12-AUG-02 16:00	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD
L4974-5	SS-25	12-AUG-02 14:30	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD
L4974-6	SS-26	12-AUG-02 14:50	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD
L4974-7	DUP	12-AUG-02 09:00	15-AUG-02		14-SEP-02
WIF-4,3C					
Solid	2:SOLIDS		:		USD
Solid	7:MOISTURE		:		USD
Solid	DX8290 (DB 5)		:		USD
Solid	DX8290 (DB225)		:		USD
Solid	HOMOGENIZATION		2 : 500 ml Jar		USD
D.Package	DX DATA PKG		:		USD
D.Package	DX DATA PKG-CD		:		USD

Signature : Katrina Bale

Date : Aug 27-02

0010

AXYS | Axys Analytical Services Ltd

Confirmation of Samples Received

TO: Rachel Leary
FAX: (617) 267-6447
Environmental Resource Management

DATE: August 28, 2002
TOTAL PAGES: 2

Please review this information and contact Laurie Phillips immediately if any problems exist. Unless instructed otherwise we will use this information:

Billing Address:	Reporting Address:
Rachel Leary	Rachel Leary
Environmental Resource Management	Environmental Resource Management
399 Boylston Street, 6th floor	399 Boylston Street, 6th floor
Boston, MA, USA 02116	Boston, MA, USA 02116
	rachel.leary@erm.com

Sample(s) Received : 15-AUG-2002

ERM

Your Sample ID / Product- Description		AXYS Client Account No.: 4184 / AXYS ID
SS-21 12-AUG-02 ()		**L4974-1**
Percent Solids Content	{2:SOLIDS}	
Percent Moisture Content	{7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5)	{DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225)	{DX8290 (DB225)}	
Homogenization of Sample	{HOMOGENIZATION}	
Dioxin/Furan Data Package	{DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom	{DX DATA PKG-CD}	
Dioxins/Furans MS	{DX MS}	
Dioxins/Furans MSD	{DX MSD}	
SS-22 12-AUG-02 ()		**L4974-2**
Percent Solids Content	{2:SOLIDS}	
Percent Moisture Content	{7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5)	{DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225)	{DX8290 (DB225)}	
Homogenization of Sample	{HOMOGENIZATION}	
Dioxin/Furan Data Package	{DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom	{DX DATA PKG-CD}	
SS-23 12-AUG-02 ()		**L4974-3**
Percent Solids Content	{2:SOLIDS}	
Percent Moisture Content	{7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5)	{DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225)	{DX8290 (DB225)}	
Homogenization of Sample	{HOMOGENIZATION}	
Dioxin/Furan Data Package	{DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom	{DX DATA PKG-CD}	
SS-24 12-AUG-02 ()		**L4974-4**
Percent Solids Content	{2:SOLIDS}	
Percent Moisture Content	{7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5)	{DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225)	{DX8290 (DB225)}	
Homogenization of Sample	{HOMOGENIZATION}	
Dioxin/Furan Data Package	{DX DATA PKG}	

0011

AXYS | Axys Analytical Services Ltd

Confirmation of Samples Received

Sample(s) Received : 15-AUG-2002

ERM

Your Sample ID

AXYS Client Account No.: 4184

Product- Description	AXYS ID
SS-24 12-AUG-02 ()	**L4974-4**
Dioxin/Furan Data Package on CD Rom {DX DATA PKG-CD}	
SS-25 12-AUG-02 ()	**L4974-5**
Percent Solids Content {2:SOLIDS}	
Percent Moisture Content {7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5) {DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225) {DX8290 (DB225)}	
Homogenization of Sample {HOMOGENIZATION}	
Dioxin/Furan Data Package {DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom {DX DATA PKG-CD}	
SS-26 12-AUG-02 ()	**L4974-6**
Percent Solids Content {2:SOLIDS}	
Percent Moisture Content {7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5) {DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225) {DX8290 (DB225)}	
Homogenization of Sample {HOMOGENIZATION}	
Dioxin/Furan Data Package {DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom {DX DATA PKG-CD}	
DUP 12-AUG-02 ()	**L4974-7**
Percent Solids Content {2:SOLIDS}	
Percent Moisture Content {7:MOISTURE}	
Dioxins/Furans EPA 8290 (DB5) {DX8290 (DB 5)}	
Dioxins/Furans EPA8290 (DB225) {DX8290 (DB225)}	
Homogenization of Sample {HOMOGENIZATION}	
Dioxin/Furan Data Package {DX DATA PKG}	
Dioxin/Furan Data Package on CD Rom {DX DATA PKG-CD}	

Number:	Matrix:	Product Description:
7	Solid	Percent Solids Content
7	Solid	Percent Moisture Content
7	Solid	Dioxins/Furans EPA 8290 (DB5)
7	Solid	Dioxins/Furans EPA8290 (DB225)
7	Solid	Homogenization of Sample
7	D.Package	Dioxin/Furan Data Package
7	D.Package	Dioxin/Furan Data Package on CD Rom
1	Any	Dioxins/Furans MS
1	Any	Dioxins/Furans MSD

0012

TEL: (250) 655-5800
toll-free: 1-888-373-0881

FAX: (250) 655-5811
E-MAIL: analytical@axys.com

4784

FedEx Express. International Air Waybill

FedEx Tracking Number 8288 5013 0040 Form I.D. No. 0402

1 From

Date 08/13/02 Sender's FedEx Account Number 1037-1805-8

Sender's Name Rachel B. Leary Phone (617) 267-5377

Company LAM

Address 394 Boylston St. 6th Fl

City Boston State Province MA

Country USA ZIP Postal Code 02116

2 Your Internal Billing Reference 143.72

3 To

Recipient's Name Laurie Phillips Phone (250) 655-5800

Company AXYS Analytical Services LTD.

Address 2045 Mills Road West Dept./Floor

City Sidney State Province BC

Country Canada ZIP Postal Code V8L 3S8

Recipient's Tax I.D. number for Customs purposes
e.g. GST/RFC/VAT/IVA/EIN, or as locally required

4 Shipment Information

☐ For EU Only: Tick here if goods are not in free circulation and provide C.I.

ALL shipments can be subject to Customs charges.

Total Packages (Shipper's Load and Count/SL&C) 1 Total Weight 30 lbs. ☑ kg ☐ DIM 24 / 12 / 12 in. ☑ cm ☐

Commodity Description REQUIRED	Harmonized Code	Country of Manufacture	Value for Customs REQUIRED
Soil Sample Glass Jars	NA	US	$44

For U.S. Export Only: Check One
☑ No SED required per Exemption
☑ No SED required, value $2500 or less per Schedule B Commodity number
☐ SED attached (provide export license no. and exp. date or license exemption symbol, w/ECCN if applicable)

Total Declared Value for Carriage

Total Value for Customs (Specify Currency) $44

5 Express Package Service — Packages up to 150 lbs. / 68 kg. For packages over 150 lbs. (68 kg), use the FedEx Expanded Service Intl. Air Waybill.

Not all services and options are available to all destinations.

1 ☑ FedEx Intl. Priority
6 ☐ FedEx Intl. First — Available to select locations. Higher rates apply.
☐ ____
3 ☐ FedEx Intl. Economy — FedEx Envelope and FedEx Pak rate not available
7 ☐ NEW FedEx Intl. Extra Hours — Available for select locations

6 Packaging

6 ☐ FedEx Envelope
2 ☐ FedEx Pak
1 ☑ Other Pkg. — Includes FedEx Box, FedEx Tube, and customer pkg.

These unique boxes used with special pricing are provided by FedEx for FedEx Intl. Priority and FedEx Intl. Extra Hours only.

PW ☐ FedEx 10kg Box PX ☐ FedEx 25kg Box

7 Special Handling

1 ☐ HOLD at FedEx Location
3 ☐ SATURDAY Delivery — Available to select locations. Available for FedEx Intl. Priority only

Shipper must check / tick:
☑ This shipment does not contain Dangerous Goods.
Dangerous Goods cannot be shipped using this Air Waybill.

8a Payment Bill transportation charges to:

1 ☑ Sender Acct. No. in Section 1 will be billed.
Enter FedEx Acct. No. or Credit Card No. below.
2 ☐ Recipient 3 ☐ Third Party 4 ☐ Credit Card 5 ☐ Cash Check/Cheque

Total Transportation

FedEx Acct. No. Credit Card No.

Credit Card Exp. Date

Specify Currency

8b Payment Bill duties and taxes to:

FedEx cannot estimate Customs charges.

1 ☑ Sender Acct. No. in Section 1 will be billed.
Enter FedEx Acct. No. below.
2 ☐ Recipient 3 ☐ Third Party 5 ☐ Cash Check/Cheque

FedEx Acct. No.

9 Required Signature

Use of this Air Waybill constitutes your agreement to the Conditions of Contract on the back of this Air Waybill, and you represent that this shipment does not require a U.S. State Department License. Certain international treaties, including the Warsaw Convention, may apply to this shipment and limit our liability for damage, loss, or delay, as described in the Conditions of Contract. WARNING: These commodities, technology, or software were exported from the United States in accordance with Export Administration Regulations. Diversion contrary to U.S. law prohibited.

Sender's Signature: Rachel Beary Date Executed:

This is not authorization to deliver this shipment without a recipient signature.

Received above shipment in good order and condition. We agree to pay all charges, including Customs duties and taxes as applicable, and we agree to the Conditions of Contract as stated on the reverse side of the Recipient's Copy.

Recipient's Signature:

412

FedEx Tracking Number 8288 5013 0040 0402

Form I.D. No.

Origin Station I.D.	Destination Station I.D.	URSA Routing	Handling Units
BV4A	CA NS	X4VYS	Total Volume

Received At 1 ☐ Drop Box 2 ☐ On-Call Stop 3 ☒ Pickup 4 ☐ World Service Center 5 ☐ Station

Forms Attached: ☐ ☐ SED ☐ CO

Base Charges / Declared Val. Chg. / Other / ODA/OPA / Credit Card Auth.

FedEx Emp. # 3?? / Agent Emp. # / Date / Time / Del. Courier Emp. # / Date / Time

PART 153023 Rev. Date 10/00 ©1994–2000 FedEx PRINTED IN U.S.A.

01 SRC

PACKAGE LABEL

COMMERCIAL INVOICE LABEL

DELIVERY RECORD LABEL 828850130040

DELIVERY REATTEMPT LABEL 828850130040

0013

COMMERCIAL INVOICE

DATE OF EXPORTATION: 8/13/02	EXPORTER REFERENCE (i.e., order no., invoice no., etc.):
SHIPPER/EXPORTER (complete name and address): ERM 399 Boylston St., 6th Floor Boston, MA 02116 USA Attn: Rachel Leary	CONSIGNEE (complete name and address: *AXYS Analytical Services* *2045 Mills Road West* *Sidney, BC CANADA* *V8L 3S8* *Phone: 250-655-5800*
Country of Export: *USA*	REASON FOR SHIPMENT: *Samples for Analysis Only*
Country of Manufacture: *USA*	*No Commercial Value*
Country of Ultimate Destination: *CANADA*	
International Air Waybill No.:	

MARKS / Nos.	No. of PKGS	TYPE OF PACKAGING	FULL DESCRIPTION OF GOODS	Qty.	UNIT OF MEASURE	WEIGHT	UNIT VALUE	TOTAL VALUE
N/A	1	Cooler	Jars of Sediment	14	Lbs	30	$1.00	$14.00
	TOTAL NO. OF PKGS.					TOTAL WEIGHT		TOTAL INVOICE VALUE
	1					30 lbs		$14.00

THESE COMMODITIES ARE LICENSED FOR THE ULTIMATE DESTINATION SHOWN.
DIVERSION CONTRARY TO UNITED STATES LAW IS PROHIBITED.

I DECLARE ALL THE INFORMATION CONTAINED IN THIS INVOICE TO BE TRUE AND CORRECT.

SIGNATURE OF SHIPPER/EXPORTER (Type name and title, and sign). DATE

Rachel A Leary — 8/13/02

RACHEL LEARY
PROJECT ENGINEER

0014

AXYS Analytical Services Ltd

SAMPLE PREPARATION RECORD

Axys Sample ID: L497-6 (1 of 2) Axys Contract No.: 4184

Date: 30-Aug-02 Record Keeper: Marta Marbella

Filleting/Dissection: _____ (Initials) _____ (Time) Homogenization: MM (Initials) 12:10 (Time)

Client Label: SS-26
8/12/02

Sample Type: solid; sediment

Sample Description: - wet, soft, black, clumpy sediment containing small bits of vegetation. Original jar was broken. Parts of sample in contact with the broken glass was carefully separated from the rest of the sample.

Equipment Used: 4 mm sieve ☑ Stainless bowl ☑ Spatula ☑ Scissors ☐ Forceps ☐ Shears ☐ Knife ☐

Blender: BO6 ☐ BO7 ☐ Grinder: GO1 ☐ GO2 ☐ GO3 ☐ GO4 ☐

Virtis: Large blade ☐ Stator ☐

Other _____

Procedure: - initial sample weight obtained. Sample was put through a sieve and collected in a stainless steel bowl. Sample was mixed thoroughly in the bowl, then ~~returned back to the original jar~~ MM transferred to a new, pre-weighed baked jar. Final sample weight was obtained.

Single Sample: ✓ Composite sample: _____

Sample weight before preparation: 551 g

Sample weight before preparation: _____

Sample weight before preparation: _____

Sample weight before preparation: _____

Sample weight before preparation: _____

Sample weight before preparation: _____

Sample weight before preparation: _____

Total sample weight after preparation: 432 g

Jars or Containers Filled: 1x new baked 500 ml amber jar

Verification Checklist:
Client/AXYS ID correlation ☑ Basic Information ☑ LIMS Updated ☑ Requested Work Completed ☑
Initial of Verification: EG Date: 17-Sep-02

0015

SAMPLE PREPARATION RECORD

Axys Sample ID: L4974-6 (2 of 2) Axys Contract No.: 4184

Date: 30-Aug-02 Record Keeper: Marte Martella

Fileting/Dissection: ____ Initials ____ Time Homogenization: MM Initials 13:45 Time

Client Label: SS-26
8/12/02

Sample Type: solid; sediment

Sample Description: – wet, soft, black, clumpy sediment containing few small bits of vegetation and garbage. Original jar was broken. Faint hydrocarbon odour present. Parts of sample in contact with the broken glass was carefully separated from the rest of the sample.

Equipment Used: 4 mm sieve ☑ Stainless bowl ☑ Spatula ☑ Scissors ☐ Forceps ☐ Shears ☐ Knife ☐

Blender: BO6 ☐ BO7 ☐ Grinder: GO1 ☐ GO2 ☐ GO3 ☐ GO4 ☐

Virtis: Large blade ☐ Stator ☐

Other ____

Procedure: – initial sample weight obtained. Sample was put through a sieve and collected in a stainless steel bowl. Sample was mixed thoroughly in the bowl, then transferred to a new, pre-weighed baked jar. Final sample weight was obtained.

Single Sample: ✓ Composite sample: ____

Sample weight before preparation: 548 g
Sample weight before preparation: ____
Sample weight before preparation: ____
Sample weight before preparation: ____
Sample weight before preparation: ____
Sample weight before preparation: ____
Sample weight before preparation: ____

Total sample weight after preparation: 475 g

Jars or Containers Filled: 1X new baked 500 ml amber jar

Verification Checklist:
Client/AXYS ID correlation ☑ Basic Information ☑ LIMS Updated ☑ Requested Work Completed ☑
Initial of Verification: OG Date: 17-Sep-02

0016

Axys Analytical Services Ltd

PERCENT MOISTURE

TO: Dana Johnson

FROM: Elza Perkins

DATE: 3-Sept-02

SUBJECT: % moistures for L 4974-1 → 7, account # 4184

Note: all samples were taken from jar # 1 of 2.

Axys Sample ID	Weigh Boat Wt. (g)	Weigh Boat + Wet Sample Wt. (g)	Wet Sample Wt. (g)	Weigh Boat + Dry Sample Wt. (g)	Dry Sample Wt. (g)	Dry Wt. / Wet Wt.	% Moisture	Sample Size Required (g)
L4974-1	0.97	2.13	1.16	1.22	0.25	0.216	78.4	.
-2	0.97	2.37	1.40	1.54	0.57	0.407	59.3	
-3	0.97	2.59	1.62	1.64	0.67	0.413	58.8	
-4	0.97	2.07	1.10	1.28	0.31	0.282	71.8	
-5	0.96	2.02	1.06	1.26	0.30	0.283	71.7	
-6	0.97	2.375	1.38	1.38	0.41	0.297	70.3	
-7	~~0.96~~ 0.97	2.30	1.33	1.54	0.57	0.428	57.2	

0017

Fraction:	Tray #

BATCH LIST

	Batch ID: DXWG7724
Analysis Type: DIOXINS (8290), AXYS	Blank: WG7724– 101 BLK (5 g 10S-REF/03 – treat as an ash)
	Spiked Matrix: WG7724 – 102 SPM (treat as an ash)
	5g 10S REF/03 spiked with 20uL DX012B-AUT/02
Matrix: SOLID/ASH/BLQ	
Method ID: DX-S-8290/Ver.2	Samples:
Analyst: Jas Hundal	(4184)
Date Due: ASAP	L4974 – 6R2 34.0g SOLID
Date Started: 15-Jan-03	(4094)
Date Finished: 22 JAN 03	L5259 – 2 5.0g ASH
	(2023)

Surrogate:	F.V.	L5334-2R 25g BLQ
DX013A-SUR/06 , 20uL		
Recovery:		
DX005A-REC/18 #23 aL , 20uL	20uL	
Calibration:		
DX018C-CAL/		Duplicate: NO

COMMENTS:

- PRE-SOXHLET GLASSWARE FOR 2HRS IN TOLUENE THEN HEXANE RINSE
- SAMPLE SIZES AS ABOVE (use large soxhlet for 4184 solid and black liquor)
- % MOISTURE REQUIRED (except for blq)

- USE EXTREME CAUTION WHEN WORKING WITH ASH SAMPLE – GRIND IT IN THE FUME HOOD, and take the necessary precautions to prevent cross- contamination.
- Treat glassware for ash as high- level with extra rinsing before submitting to wash-up.
- Extra clean rotovaps – especially after each use - before other analysts use them.

Dilute 20x (as per Diane) L4974-6R2 due to OLR (HpCDD, OCDD) EA 27-Jan-03

Recol: L4974-6R2 Florisil due to DPE's. EA 27-Jan-03 CD

QA/QC SPECIFICATIONS (State If different from AXYS Criteria)	PASS Y	PASS N	Checked By	QA/QC SPECIFICATIONS (State If different from AXYS Criteria)	PASS Y	PASS N	Checked By
BLANK:							
REFERENCES				SURROGATE RECs			
DUPLICATES				DETECTION LIMITS			

0018

DIOXIN/FURAN SAMPLE ANALYSIS RECORD

Method #s

Level: DC _____ MDT _____ HR _____ LR _____

Ash: DX-A-01/Ver. 6

Due Date: _____

Sample ID: EA7724-101 BLK Date: 15-JAN-03 Analyst: J. MUNDAL BATCH #: DXW.7724

Blank: WA 7724-101 BLK Rec'd: _____ Back-up — g Stored In: _____

Original Labelling: ICS REF #7

Sample Type and Description: Procedural Blank

Sample Pre-Treatment at Axys: — Date: — Homogenizer: —

at other: — Specifics: —

AUTHENTIC STANDARD:

name	volume	date	time	analyst

Sample Weight: Wet 5.00 g Moisture: 0% Tare: 0.97 g

_____ g Dry + Tare: ~~3.33~~ 3.33 g

Dry 5.00 g Wet + Tare: 2.33 g

Dry/Wet Ratio: 0 / 100

SURROGATE STANDARD ID DX013A-SUR106 | 20uL | 15JAN03 | 12:27 | JH

name	quantity	date	time	analyst

Acidify with 1M HCl ✓ Sonicate (30 min) ✓ pH (requires ≤2) ✓ 2nd sonication (30 min) _____ pH _____

Millipore filtration ✓ _____ Rinse with water until neutral pH ✓

Dry particulate overnight _____ or dry with Na_2SO_4 ✓

Extract filtrate with DCM 2 x 100 mL _____ or stir overnight ✓

Extraction Start: 15JAN03 (date) | 16:30 (time) | JH (analyst) End: 16JAN03 (date) | 9:00 (time) | JH (analyst)

Cleanup:

Base/Acid Wash: ✓ B ✓ W ✓ A ✓ W 17JAN03 JH

Chromatography: Cu rxn: 1 -ve 2 -ve

Procedure No.

( ) Ag A/B Silica Gel	(Batch # 182)	20 JAN 03 (date)	JH (analyst)
( ) Florisil	(Batch # 55A)	21 JAN03	JH
( ) Carbon/celite	(Batch # 111)	21 JAN03	JH
( ) Alumina	(Batch # 232)	22JAN03 (date)	JH (analyst)

RECOVERY STANDARD ID: DX005A-REC18 | 20uL | 22JAN03 | 15:16 | _____

name	quantity	date	time	analyst

Final microvial volume: 20uL

Additional Work

Action:	Reason:	GC Data File:	Requested by/date:	Completed in lab by/date	Run on Instr. by/date

Comments B#182 Ag#03 22JAN03 JH

CD 0019

DIOXIN/FURAN SAMPLE ANALYSIS RECORD

Method #s   Level: DC ____ MDT ____ HR ____ LR ____

Ash: DX-A-01/Ver. 6   Due Date: ____

Sample ID: WG7724-102SPM   Date: 15 JAN 03   Analyst: J. HUNDAL   BATCH #: DXWG7724

Blank: WG7724-101 BLK   Rec'd: ____   Back-up ____ g   Stored In: ____

Original Labelling: ICS REF # 7

Sample Type and Description: Spiked Matrix

Sample Pre-Treatment   at Axys: —   Date: —   Homogenizer: —

at other: —   Specifics: —

AUTHENTIC STANDARD: DXODB-AN7/02 (name)   20uL (volume)   15JAN03 (date)   12:23 (time)   JH (analyst)

Sample Weight: Wet 5.03 g   Moisture: 0%   Tare: 0.97 g

____ g   Dry + Tare: ~~2.73~~ 2.23 JH 15 JAN03 g

Dry 5.03g g   Wet + Tare: 2.23 g

Dry/Wet Ratio: ∅ | 00

SURROGATE STANDARD ID   DXOBA-SUR/06 (name)   20uL (quantity)   15 JAN03 (date)   12:30 (time)   JH (analyst)

Acidify with 1M HCl ✓   Sonicate (30 min) ✓   pH (requires ≤2) ✓   2nd sonication (30 min) ____   pH ____

Millipore filtration ✓ ____   Rinse with water until neutral pH ✓

Dry particulate overnight ____ or dry with Na_2SO_4 ✓

Extract filtrate with DCM 2 x 100 mL ____ or stir overnight ✓

Extraction   Start: 15JAN03 (date)   16:30 (time)   JH (analyst)   End: 16JAN03 (date)   9:00 (time)   JH (analyst)

Cleanup:

Base/Acid Wash: / B / W / A / W 17JAN03 JH

Chromatography: Cu rxn: 1 -'ve   2 -'ve

Procedure No.

	Batch #	date	analyst
( ) Ag A/B Silica Gel	182	20 JAN 03	JH
( ) Florisil	55A	21 JAN 03	JH
( ) Carbon/celite	111	21 JAN 03	JH
( ) Alumina	232	22 JAN 03	JH

RECOVERY STANDARD ID: DXOOSA-REC/18 (name)   20uL (quantity)   22JAN03 (date)   16:25 (time)   ____ (analyst)

Final microvial volume: 20uL

Additional Work

Action:	Reason:	GC Data File:	Requested by/date:	Completed in lab by/date	Run on Instr. by/date

Comments B#182 AgNO3 22JAN03 JH

0020

checked w/ CD 12 Feb 03

DIOXIN/FURAN SAMPLE ANALYSIS RECORD

Method #s: Pulp: DX-P-01/Ver.4 Sludge: DX-SL-01/Ver.4, DX-SL-8290 / Ver. 2 Filter/Pufs: DX-F-01/Ver.2
Sediment: DX-S-01/Ver.4, (DX-S-8290/Ver.2) Wood Chips: DX-WC-01/Ver.4 Black Liquor: DX-L-01/Ver.2

Level: DC ______ MDT ______ HR ______ LR ______ Due Date: ______

Sample ID: L4974-6R2L Date: 15 JAN 03 Analyst: J. HUNDAL BATCH #: DXWG 7724

Blank: WG7724-101 BLK Rec'd: 15 AUG 02 Back-up: 2.30 g Stored In: ______

Original Labelling: SS-26

Sample Type and Description: SOLID - BLACK GOO

Sample Pre-Treatment at Axys: ✓ Date: 30 AUG 02 Homogenizer: MM
at other: ______ Specifics: JAR TRANSFER + HOMO

AUTHENTIC STANDARD	name	volume	date	time	analyst

Sample Weight: Wet 34.10 g Moisture: 69% Tare: 0.97 g
Dry + Tare: 1.60 g
Dry ~~10.57~~ g 10.53g EA 27-Jan-03 Wet + Tare: 3.01 g
Dry/Wet Ratio: 0.63/2.04 = ~~0.31~~ 0.3088 EA 27 Jan

SURROGATE STANDARD ID	name	quantity	date	time	analyst
	DXOBA-SUR166	20 µL	15 JAN 03	13:26	JH

Extraction:
Start: 15 JAN 03 (date) 16:30 (time) JH (analyst) End: 16 JAN 03 (date) 9:00 (time) JH (analyst)

Cleanup:
Base/Acid Wash: 4 B 1 W 8 A 1 W 17 JAN 03 JH
Chromatography: Cu rxn: 1 +ve 2 -ve

Procedure No.

Procedure	Batch #	date	analyst
(2X) Ag/A/B Silica Gel	182	20 JAN 03	JH
( ) Florisil	55A	21 JAN 03	JH
( ) Carbon/celite	111	21 JAN 03	JH
( ) Alumina	232	22 JAN 03	JH

RECOVERY STANDARD ID	name	quantity	date	time	analyst
	DXCC5A-REC118	20 µL	22 JAN 03	17:44	JH

Final microvial volume: 20 µL

Additional Work

Action:	Reason:	GC Data File:	Requested by/date:	Completed in lab by/date	Run on Instr. by/date
Dil 20x (as per Diane)	OLR (HpCDD, OCDD)	2-049	EA 27-Jan-03	AA/27 Jan 3	AA/28 Jan 03
Recol Florisil	DPE's	2-049/2-052	EA 27-Jan-03	DJ 30 Jan 03	#2 RT 07 FEB 03

Comments B²b03 AgNO3 22 JAN 03

0021

checked MK 12 Feb 03 OO.

SAMPLE DATA

Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	L4974-6R2 L
Matrix:	TISSUE			Sample Size:	10.5 g (wet)
Sample Receipt Date:	15-Aug-2002			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	07-Feb-2003	Time:	7:09:33	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX32_071 S:10
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_071 S:2
Concentration Units:	pg/g (wet weight basis)			% Solid:	31

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD		3.08	0.10	0.72	26:25	2.10E+02	1.03	2.00E+06
1,2,3,7,8-PeCDD[3]		9.97	0.10	0.64	36:01	2.50E+03	0.96	5.59E+06
1,2,3,4,7,8-HxCDD		12.6	0.12	1.26	42:00	3.50E+02	0.88	5.23E+06
1,2,3,6,7,8-HxCDD		69.4	0.12	1.25	42:08	2.00E+03	1.05	3.44E+07
1,2,3,7,8,9-HxCDD		43.9	0.12	1.29	42:33	8.90E+02	0.97	2.01E+07
1,2,3,4,6,7,8-HpCDD	OLR						1.17	
OCDD	OLR						1.02	
2,3,7,8-TCDF		34.0	0.86	0.79	25:14	4.70E+01	1.07	3.80E+07
1,2,3,7,8-PeCDF		7.53	0.20	1.43	33:26	1.10E+02	1.14	7.16E+06
2,3,4,7,8-PeCDF		18.8	0.20	1.52	35:12	2.70E+02	1.10	1.72E+07
1,2,3,4,7,8-HxCDF		50.6	0.28	1.26	40:36	4.40E+02	1.24	4.00E+07
1,2,3,6,7,8-HxCDF		25.1	0.28	1.23	40:47	2.30E+02	1.32	2.12E+07
1,2,3,7,8,9-HxCDF	J	1.25	0.28	1.30	42:47	9.10E+00	0.92	7.33E+05
2,3,4,6,7,8-HxCDF		17.8	0.28	1.24	41:44	1.40E+02	1.12	1.27E+07
1,2,3,4,6,7,8-HpCDF		451	0.17	1.04	45:15	8.00E+03	1.40	2.63E+08
1,2,3,4,7,8,9-HpCDF		43.6	0.17	1.04	47:03	5.50E+02	1.02	1.85E+07
OCDF		1030	0.10	0.89	50:20	5.80E+04	1.27	3.42E+08
Total Tetra-Dioxins		253	0.10					
Total Penta-Dioxins		117	0.10					
Total Hexa-Dioxins		502	0.12					
Total Hepta-Dioxins	OLR							
Total Tetra-Furans		403	0.86					
Total Penta-Furans		552	0.20					
Total Hexa-Furans		701	0.28					
Total Hepta-Furans		1640	0.17					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL; U: not detected; OLR: exceeds calibrated linear range, see dilution data
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	L4974-6R2 L
Matrix:	TISSUE			Sample Size:	10.5 g (wet)
Sample Receipt Date:	15-Aug-2002			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	07-Feb-2003	Time:	7:09:33	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	**DX32_071 S:10**
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_071 S:2
Concentration Units:	pg absolute			% Solid:	31

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	689	68.9	26:24	2.20E+04	1.04	6.00E+07
13C-1,2,3,7,8-PeCDD [3]	1000	998	99.8	35:59	3.00E+04	0.66	5.57E+07
13C-1,2,3,6,7,8-HxCDD	2500	2150	85.9	42:07	1.30E+04	0.94	1.12E+08
13C-1,2,3,4,6,7,8-HpCDD	2500	2100	83.8	46:38	4.60E+03	0.78	9.09E+07
13C-OCDD	5000	3380	67.5	50:15	1.30E+04	0.67	1.25E+08
13C-2,3,7,8-TCDF	1000	830	83.0	25:12	6.70E+03	1.42	9.93E+07
13C-1,2,3,7,8-PeCDF	1000	874	87.4	33:24	4.90E+04	1.08	7.92E+07
13C-1,2,3,4,7,8-HxCDF	2500	2030	81.0	40:35	9.70E+03	1.35	1.51E+08
13C-1,2,3,4,6,7,8-HpCDF	2500	1760	70.5	45:14	5.10E+03	1.01	9.89E+07

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	L4974-6R2 W
Matrix:	TISSUE			Sample Size:	10.5 g (wet)
Sample Receipt Date:	15-Aug-2002			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	28-Jan-2003	Time:	7:02:10	GC Column ID:	DB-5
Extract Volume (µL):	400			Sample Datafile:	DX32_052 S:11
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	20			Cal. Ver. Data Filename:	DX32_052 S:2
Concentration Units:	pg/g (wet weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD								
1,2,3,7,8-PeCDD[3]								
1,2,3,4,7,8-HxCDD								
1,2,3,6,7,8-HxCDD								
1,2,3,7,8,9-HxCDD								
1,2,3,4,6,7,8-HpCDD	D	1620	1.57	1.04	46:35	1.80E+03	1.17	3.97E+07
OCDD	D	16400	0.67	0.91	50:10	1.70E+05	1.02	2.63E+08
2,3,7,8-TCDF								
1,2,3,7,8-PeCDF								
2,3,4,7,8-PeCDF								
1,2,3,4,7,8-HxCDF								
1,2,3,6,7,8-HxCDF								
1,2,3,7,8,9-HxCDF								
2,3,4,6,7,8-HxCDF								
1,2,3,4,6,7,8-HpCDF								
1,2,3,4,7,8,9-HpCDF								
OCDF								
Total Tetra-Dioxins								
Total Penta-Dioxins								
Total Hexa-Dioxins								
Total Hepta-Dioxins	D	3260	1.57					
Total Tetra-Furans								
Total Penta-Furans								
Total Hexa-Furans								
Total Hepta-Furans								

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected; D: dilution data
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	L4974-6R2 W
Matrix:	TISSUE			Sample Size:	10.5 g (wet)
Sample Receipt Date:	15-Aug-2002			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	28-Jan-2003	Time:	7:02:10	GC Column ID:	DB-5
Extract Volume (µL):	400			Sample Datafile:	DX32_052 S:11
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	20			Cal. Ver. Data Filename:	DX32_052 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD							
13C-1,2,3,7,8-PeCDD [3]							
13C-1,2,3,6,7,8-HxCDD							
13C-1,2,3,4,6,7,8-HpCDD	2500	1670	66.7	46:34	3.80E+03	0.78	4.98E+06
13C-OCDD	5000	2940	58.8	50:09	4.80E+03	0.67	7.46E+06
13C-2,3,7,8-TCDF							
13C-1,2,3,7,8-PeCDF							
13C-1,2,3,4,7,8-HxCDF							
13C-1,2,3,4,6,7,8-HpCDF							

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MK 12-02-2003

CLIENT SAMPLE NO.
SS-26

Form 1B
CONFIRMATION OF 2,3,7,8-TCDF CONCENTRATION

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	**Lab Sample ID:**	L4974-6R2 L
Matrix:	SOLID	**Sample Size:**	10.5 g (wet)
Sample Receipt Date:	15-Aug-2002	**Initial Calibration Date:**	24-Jan-2003
Extraction Date:	15-Jan-2003	**Instrument ID:**	HR GC/MS
Analysis Date:	10-Feb-2003 Time: 19:09:52	**GC Column ID:**	DB-225
Extract Volume (µL):	20	**Sample Datafile:**	**DB33_057 S:15**
Injection Volume (µL):	2.0	**Blank Data Filename:**	DB33_036 S: 6
Dilution Factor:	N/A	**Cal. Ver. Data Filename:**	DB33_057 S:3
Concentration Units:	pg/g (wet weight basis)		

COMPOUND	DATA FLAGS	CONC'N FOUND	EDL	ION ABUND. RATIO	RET'N. TIME	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDF		17.3	0.10	0.80	16:08	9.60E+02	1.08	2.78E+07

(1) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(2) Alternate ions used for native and labelled P5CDD for confirmation and quantitation.
(3) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.

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MK 12-02-2003

LAB BLANKS

Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG7724-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	26-Jan-2003	Time:	15:45:20	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX32_049 S:7
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_049 S:2
Concentration Units:	pg/g				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO[2]	RET'N. TIME[2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				1.03	
1,2,3,7,8-PeCDD[3]	U		0.10				0.96	
1,2,3,4,7,8-HxCDD	U		0.10				0.88	
1,2,3,6,7,8-HxCDD	U		0.10				1.05	
1,2,3,7,8,9-HxCDD	U		0.10				0.97	
1,2,3,4,6,7,8-HpCDD	U		0.10				1.17	
OCDD	J	0.24	0.10	0.81	50:09	8.90E+01	1.02	9.90E+04
2,3,7,8-TCDF	U		0.10				1.07	
1,2,3,7,8-PeCDF	U		0.10				1.14	
2,3,4,7,8-PeCDF	U		0.10				1.10	
1,2,3,4,7,8-HxCDF	U		0.10				1.24	
1,2,3,6,7,8-HxCDF	U		0.10				1.32	
1,2,3,7,8,9-HxCDF	U		0.10				0.92	
2,3,4,6,7,8-HxCDF	J	0.30	0.10	1.20	41:42	2.90E+01	1.12	3.36E+05
1,2,3,4,6,7,8-HpCDF		10.4	0.10	1.05	45:12	2.40E+03	1.40	1.02E+07
1,2,3,4,7,8,9-HpCDF	U		0.10				1.02	
OCDF	J	2.28	0.10	0.81	50:14	4.30E+02	1.27	1.15E+06
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.10					
Total Hexa-Dioxins	J	0.20	0.10					
Total Hepta-Dioxins	J	0.25	0.10					
Total Tetra-Furans	U		0.10					
Total Penta-Furans	J	2.17	0.10					
Total Hexa-Furans		10.2	0.10					
Total Hepta-Furans		16.1	0.10					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG7724-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	15-Jan-2003			Instrument ID:	HR GC/MS
Analysis Date:	26-Jan-2003	Time:	15:45:20	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX32_049 S:7
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_049 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	507	50.7	26:22	4.30E+04	1.04	1.20E+08
13C-1,2,3,7,8-PeCDD [3]	1000	822	82.2	35:58	4.20E+04	0.66	1.25E+08
13C-1,2,3,6,7,8-HxCDD	2500	1980	79.1	42:06	1.40E+05	0.94	1.90E+08
13C-1,2,3,4,6,7,8-HpCDD	2500	1580	63.2	46:34	3.00E+03	0.78	1.26E+08
13C-OCDD	5000	2940	58.9	50:09	2.00E+04	0.67	2.00E+08
13C-2,3,7,8-TCDF	1000	576	57.6	25:09	6.80E+04	1.42	1.88E+08
13C-1,2,3,7,8-PeCDF	1000	563	56.3	33:22	7.40E+04	1.08	1.39E+08
13C-1,2,3,4,7,8-HxCDF	2500	1810	72.5	40:33	5.20E+03	1.35	2.49E+08
13C-1,2,3,4,6,7,8-HpCDF	2500	1700	68.0	45:11	4.10E+03	1.01	1.76E+08

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG7624-101 i2
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	28-Jan-2003	Time:	1:33:28	GC Column ID:	DB-5
Extract Volume (µL):	10			Sample Datafile:	DX32_052 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_052 S:2
Concentration Units:	pg/g (wet weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO [2]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				1.03	
1,2,3,7,8-PeCDD [3]	U		0.10				0.96	
1,2,3,4,7,8-HxCDD	U		0.10				0.88	
1,2,3,6,7,8-HxCDD	U		0.10				1.05	
1,2,3,7,8,9-HxCDD	U		0.10				0.97	
1,2,3,4,6,7,8-HpCDD	J EMPC	0.16	0.10	1.22	46:34	3.70E+01	1.17	6.81E+04
OCDD	J EMPC	0.39	0.10	1.07	50:08	1.10E+02	1.02	1.03E+05
2,3,7,8-TCDF	U		0.10				1.07	
1,2,3,7,8-PeCDF	U		0.10				1.14	
2,3,4,7,8-PeCDF	U		0.10				1.10	
1,2,3,4,7,8-HxCDF	U		0.10				1.24	
1,2,3,6,7,8-HxCDF	U		0.10				1.32	
1,2,3,7,8,9-HxCDF	U		0.10				0.92	
2,3,4,6,7,8-HxCDF	U		0.10				1.12	
1,2,3,4,6,7,8-HpCDF	U		0.10				1.40	
1,2,3,4,7,8,9-HpCDF	U		0.10				1.02	
OCDF	J EMPC	0.19	0.10	1.21	50:14	7.30E+01	1.27	6.19E+04
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.10					
Total Hexa-Dioxins	U		0.10					
Total Hepta-Dioxins	U		0.10					
Total Tetra-Furans	U		0.10					
Total Penta-Furans	U		0.10					
Total Hexa-Furans	U		0.10					
Total Hepta-Furans	U		0.10					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG7624-101 i2
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	28-Jan-2003	Time:	1:33:28	GC Column ID:	DB-5
Extract Volume (µL):	10			Sample Datafile:	DX32_052 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_052 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	460	46.0	26:21	2.90E+04	1.04	9.29E+07
13C-1,2,3,7,8-PeCDD [3]	1000	705	70.5	35:57	3.30E+04	0.66	9.14E+07
13C-1,2,3,6,7,8-HxCDD	2500	1640	65.7	42:05	1.40E+05	0.94	1.40E+08
13C-1,2,3,4,6,7,8-HpCDD	2500	1330	53.2	46:33	3.20E+03	0.78	9.43E+07
13C-OCDD	5000	2150	43.0	50:08	3.50E+04	0.67	1.30E+08
13C-2,3,7,8-TCDF	1000	550	55.0	25:09	5.10E+04	1.42	1.53E+08
13C-1,2,3,7,8-PeCDF	1000	503	50.3	33:21	4.20E+04	1.08	1.06E+08
13C-1,2,3,4,7,8-HxCDF	2500	1570	62.7	40:32	4.00E+03	1.35	1.91E+08
13C-1,2,3,4,6,7,8-HpCDF	2500	1490	59.5	45:10	5.80E+03	1.01	1.36E+08

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MV 12-02-2003

CLIENT SAMPLE NO.
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Form 1A
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	07-Feb-2003	Time:	2:35:36	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX32_071 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_071 S:2
Concentration Units:	pg/g (wet weight basis)				

COMPOUND	DATA FLAGS[1]	CONC'N FOUND	EDL	ION ABUND. RATIO [2]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDD	U		0.10				1.03	
1,2,3,7,8-PeCDD [3]	U		0.10				0.96	
1,2,3,4,7,8-HxCDD	U		0.10				0.88	
1,2,3,6,7,8-HxCDD	U		0.10				1.05	
1,2,3,7,8,9-HxCDD	U		0.10				0.97	
1,2,3,4,6,7,8-HpCDD	J	0.20	0.10	1.19	46:36	5.70E+01	1.17	3.54E+04
OCDD	J	0.96	0.10	0.87	50:13	9.50E+01	1.02	1.24E+05
2,3,7,8-TCDF	U		0.10				1.07	
1,2,3,7,8-PeCDF	U		0.10				1.14	
2,3,4,7,8-PeCDF	U		0.10				1.10	
1,2,3,4,7,8-HxCDF	U		0.10				1.24	
1,2,3,6,7,8-HxCDF	U		0.10				1.32	
1,2,3,7,8,9-HxCDF	U		0.10				0.92	
2,3,4,6,7,8-HxCDF	U		0.10				1.12	
1,2,3,4,6,7,8-HpCDF	U		0.10				1.40	
1,2,3,4,7,8,9-HpCDF	U		0.10				1.02	
OCDF	J EMPC	0.19	0.10	1.12	50:18	3.30E+01	1.27	3.12E+04
Total Tetra-Dioxins	U		0.10					
Total Penta-Dioxins	U		0.10					
Total Hexa-Dioxins	U		0.10					
Total Hepta-Dioxins	J	0.20	0.10					
Total Tetra-Furans	U		0.10					
Total Penta-Furans	U		0.10					
Total Hexa-Furans	U		0.10					
Total Hepta-Furans	U		0.10					

(1) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.; U: not detected.
(2) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

0031

Form 2
PCDD/PCDF ANALYSIS REPORT

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184			Lab Sample ID:	WG6796-101
Matrix:	N/A			Sample Size:	10.0 g
Sample Receipt Date:	N/A			Initial Calibration Date:	25-Jan-2003
Extraction Date:	N/A			Instrument ID:	HR GC/MS
Analysis Date:	07-Feb-2003	Time:	2:35:36	GC Column ID:	DB-5
Extract Volume (µL):	20			Sample Datafile:	DX32_071 S:5
Injection Volume (µL):	1.0			Blank Data Filename:	DX32_049 S:7
Dilution Factor:	N/A			Cal. Ver. Data Filename:	DX32_071 S:2
Concentration Units:	pg absolute				

LABELED COMPOUND	SPIKE CONC.	CONC. FOUND	% R [1]	RET'N. TIME [2]	S/N	MEAN RRF	AREA RESPONSE
13C-2,3,7,8-TCDD	1000	501	50.1	26:23	7.80E+03	1.04	2.12E+07
13C-1,2,3,7,8-PeCDD [3]	1000	783	78.3	35:58	9.90E+03	0.66	2.12E+07
13C-1,2,3,6,7,8-HxCDD	2500	1790	71.8	42:07	2.90E+04	0.94	4.53E+07
13C-1,2,3,4,6,7,8-HpCDD	2500	1780	71.2	46:36	3.90E+03	0.78	3.74E+07
13C-OCDD	5000	3560	71.2	50:12	3.80E+04	0.67	6.36E+07
13C-2,3,7,8-TCDF	1000	543	54.3	25:10	1.30E+04	1.42	3.15E+07
13C-1,2,3,7,8-PeCDF	1000	684	68.4	33:23	1.90E+04	1.08	3.01E+07
13C-1,2,3,4,7,8-HxCDF	2500	1660	66.2	40:33	2.20E+04	1.35	6.00E+07
13C-1,2,3,4,6,7,8-HpCDF	2500	1760	70.6	45:12	5.40E+03	1.01	4.80E+07

(1) Limits for percent recovery (R) are specified in Section 8.4, Method 8290.

(2) Limits for RRTs are specified in Section 7.8.4.1 Method 8290.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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MU 12-02-2003

CLIENT SAMPLE NO.
LAB BLANK

Form 1B
CONFIRMATION OF 2,3,7,8-TCDF CONCENTRATION

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	Lab Sample ID:	WG7724-101 i
Matrix:	N/A	Sample Size:	10.0 g
Sample Receipt Date:	N/A	Initial Calibration Date:	24-Jan-2003
Extraction Date:	15-Jan-2003	Instrument ID:	HR GC/MS
Analysis Date:	25-Jan-2003 Time: 10:14:15	GC Column ID:	DB-225
Extract Volume (µL):	20	Sample Datafile:	DB33_036 S:6
Injection Volume (µL):	2.0	Blank Data Filename:	DB33_036 S: 6
Dilution Factor:	N/A	Cal. Ver. Data Filename:	DB33_036 S:3
Concentration Units:	pg/g		

COMPOUND	DATA FLAGS	CONC'N FOUND	EDL	ION ABUND. RATIO	RET'N. TIME	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDF	U		0.10				1.08	

(1) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(2) Alternate ions used for native and labelled P5CDD for confirmation and quantitation.
(3) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.

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12-02-2003

CLIENT SAMPLE NO.
INSTRUMENT BLANK

Form 1B
CONFIRMATION OF 2,3,7,8-TCDF CONCENTRATION

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.:	4184	Lab Sample ID:	WG6796-101
Matrix:	N/A	Sample Size:	10.0 g
Sample Receipt Date:	N/A	Initial Calibration Date:	24-Jan-2003
Extraction Date:	N/A	Instrument ID:	HR GC/MS
Analysis Date:	10-Feb-2003 Time: 13:28:32	GC Column ID:	DB-225
Extract Volume (µL):	20	Sample Datafile:	DB33_057 S:6
Injection Volume (µL):	2.0	Blank Data Filename:	DB33_036 S: 6
Dilution Factor:	N/A	Cal. Ver. Data Filename:	DB33_057 S:3
Concentration Units:	pg/g		

COMPOUND	DATA FLAGS	CONC'N FOUND	EDL	ION ABUND. RATIO	RET'N. TIME	S/N	MEAN RRF	AREA RESPONSE
2,3,7,8-TCDF	U		0.10				1.08	

(1) Limits for RRTs and ion abundance ratios are specified in Sections 7.8.4.1 and 7.8.4.2, respectively, Method 8290.
(2) Alternate ions used for native and labelled P5CDD for confirmation and quantitation.
(3) EMPC: peak detected but did not meet confirmation criteria; J: concentration less than LMCL.

0034

ONGOING PRECISION AND RECOVERY

Form 8A

PCDD/PCDF LABORATORY CONTROL SAMPLE (LCS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.: 4184 Data Filename: DX32_049 S:3

Matrix: SOLID Lab Sample I.D.: WG7724-102

Extraction Date: 15-Jan-2003

Analysis Date: 26-Jan-2003 Time: 12:05:56

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

COMPOUND	ION ABUND. RATIO [1]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	LCS CONC. LIMITS [2] (ng/mL)	PERCENT RECOVERY
2,3,7,8-TCDD	0.79	9.10	8.00	6.37 - 11.8	87.9
1,2,3,7,8-PeCDD [3]	0.63	37.0	31.9	25.9 - 48.1	86.2
1,2,3,4,7,8-HxCDD	1.26	35.0	31.6	24.5 - 45.5	90.3
1,2,3,6,7,8-HxCDD	1.25	31.0	25.6	21.7 - 40.3	82.6
1,2,3,7,8,9-HxCDD	1.25	34.0	28.1	23.8 - 44.2	82.6
1,2,3,4,6,7,8-HpCDD	1.04	28.0	25.0	19.6 - 36.4	89.3
OCDD	0.90	48.0	44.6	33.6 - 62.4	92.9
2,3,7,8-TCDF	0.78	9.60	8.24	6.72 - 12.5	85.8
1,2,3,7,8-PeCDF	1.57	30.0	25.3	21.0 - 39.0	84.3
2,3,4,7,8-PeCDF	1.57	30.0	24.8	21.0 - 39.0	82.7
1,2,3,4,7,8-HxCDF	1.23	31.0	27.8	21.7 - 40.3	89.7
1,2,3,6,7,8-HxCDF	1.25	31.0	26.4	21.7 - 40.3	85.2
1,2,3,7,8,9-HxCDF	1.25	31.0	26.1	21.7 - 40.3	84.2
2,3,4,6,7,8-HxCDF	1.23	30.0	25.6	21.0 - 39.0	85.3
1,2,3,4,6,7,8-HpCDF	1.03	30.0	32.6	21.0 - 39.0	109
1,2,3,4,7,8,9-HpCDF	1.04	30.0	25.4	21.0 - 39.0	84.7
OCDF	0.92	48.0	47.3	33.6 - 62.4	98.5

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290.

(2) In-house concentration limits for unlabelled PCDDs/PCDFs in LCS are 70-130%.

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

0035

Form 8B
PCDD/PCDF LABORATORY CONTROL SAMPLE (LCS)

Lab Name: AXYS ANALYTICAL SERVICES

Contract No.: 4184 Data Filename: DX32_049 S:3

Matrix: SOLID Lab Sample I.D.: WG7724-102

Extraction Date: 15-Jan-2003

Analysis Date: 26-Jan-2003 Time: 12:05:56

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

	ION ABUND. RATIO [1]	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	LCS CONC. LIMITS [2] (ng/mL)	PERCENT RECOVERY
LABELED COMPOUND					
13C-2,3,7,8-TCDD	0.77	50.0	34.8	20.0 - 67.5	69.7
13C-1,2,3,7,8-PeCDD [3]	0.63	50.0	50.8	20.0 - 67.5	102
13C-1,2,3,6,7,8-HxCDD	1.24	125	120	50.0 - 169	96.1
13C-1,2,3,4,6,7,8-HpCDD	1.05	125	99.6	50.0 - 169	79.7
13C-OCDD	0.9	250	177	100 - 338	70.9
13C-2,3,7,8-TCDF	0.79	50.0	39.2	20.0 - 67.5	78.5
13C-1,2,3,7,8-PeCDF	1.57	50.0	37.0	20.0 - 67.5	74.1
13C-1,2,3,4,7,8-HxCDF	0.53	125	107	50.0 - 169	85.4
13C-1,2,3,4,6,7,8-HpCDF	0.45	125	112	50.0 - 169	89.8

(1) Contract-required Ion Abundance Ratios are specified in Table 8, Method 8290

(2) Labelled compound concentration limits are based on required percent recovery of 40-135% (Section 8.4, Method 8290).

(3) Alternate ions used for native and labeled P5CDD for confirmation and quantitation.

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