

Columbus Incinerator Waste-to-Energy Facility

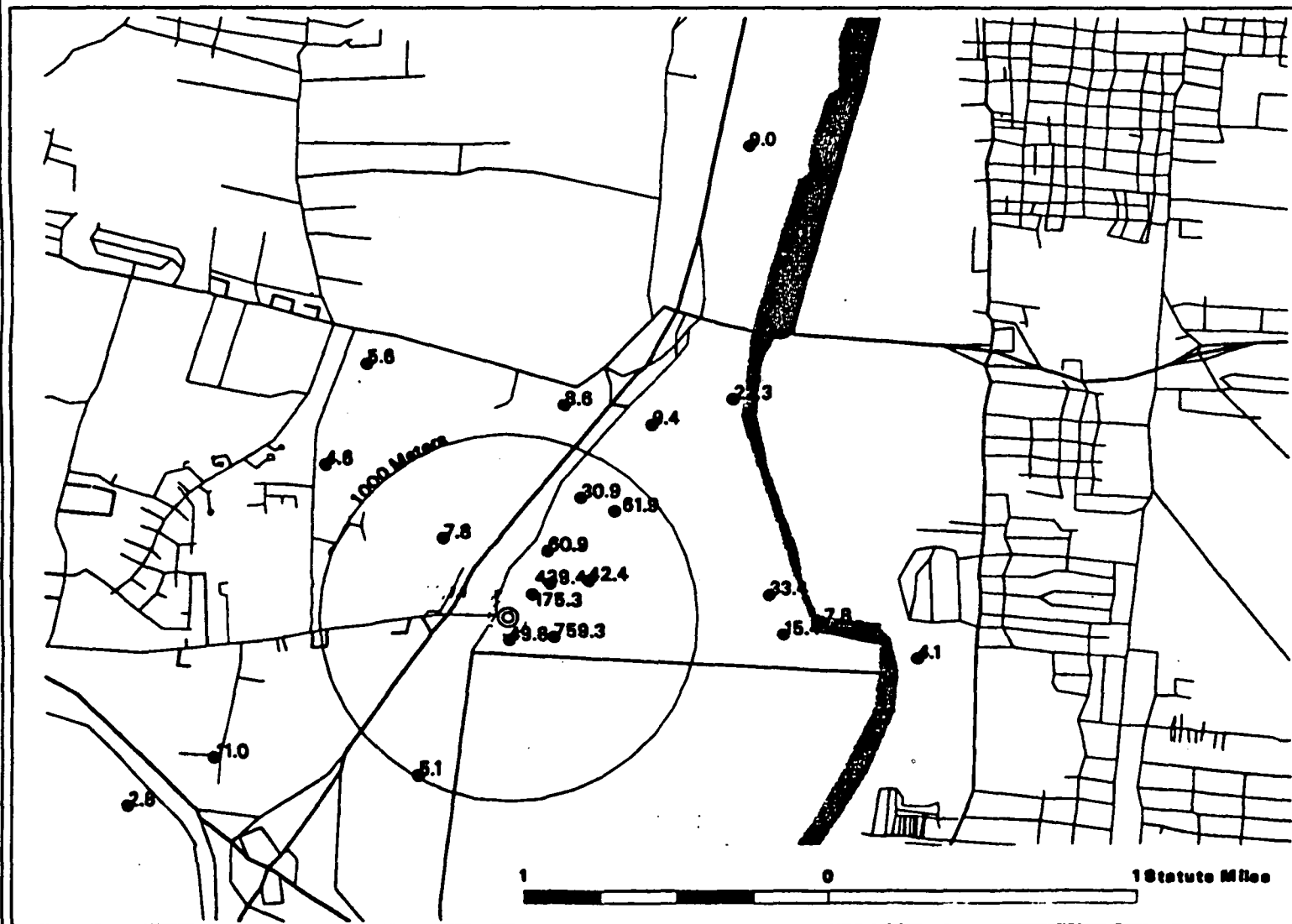
Soil Sample Site Descriptions

Laboratory Analysis Data Sheets

U.S. Environmental Protection Agency
Region 5
Chicago, Illinois
April 1996

Columbus Waste to Energy Facility

Soil Sampling Locations and Dioxin TEQ Concentrations



LEGEND

Transportation & Hydrography

- ↘ Interstate Highway
- ↘ Primary Road
- ↘ County Road
- ↘ Neighborhood Road
- ↘ Jeep Trail
- ↘ Railroad
- ↘ Pipeline
- ↘ Power Transmission Line
- ↘ Perennial Stream
- ↘ Drain or Intermittent Stream
- ↘ County Border

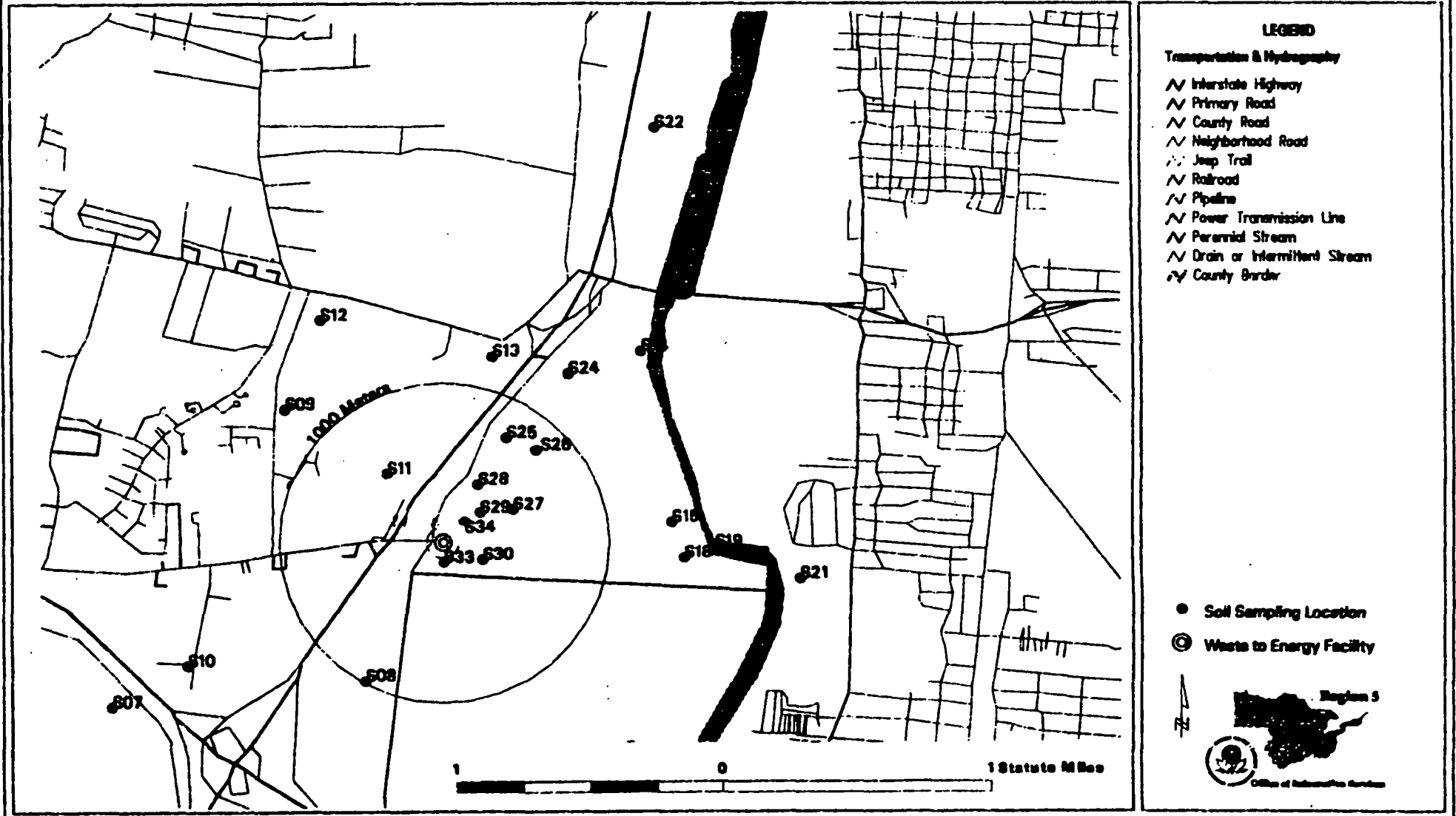
● Soil Sampling Location

⊙ Waste to Energy Facility



Columbus Waste to Energy Facility

Soil Sampling Locations and Sample Numbers



ATTACHMENT A - SOIL SAMPLE SITE DESCRIPTIONS

<u>Site No.</u>	<u>Sample No.</u>	<u>Site Descriptions</u>
1.	S29	Flat grassy area to north of facility buildings
2.	S28	Front lawn area of Sheriff training center
3.	S27	Covered lagoon area north of American Aggregate's access road and east of ditch
4.	S30	Flat grassy area to east of stacks on facility property
5.	S33	Front yard area of Columbus Incinerator between the stacks and shredding operations and east of the creek
6.	S34	Front yard of facility slightly north of stacks
7.	S25	Behind fenced in area around influent control site for Jackson Pike WWTP east of Rt. 104
8.	S24	North side of Jackson Pike WWTP and just north of the structure covering Compost Filter 1.
9.	S12	Entrance to Roadway Trucking Co property- high grassy knoll to the west of the entrance drive south of Frank Rd. and east of I-71
10.	S13	West of office area for Agg Rok Materials off of Frank Rd. (711 Frank Rd.)
11.	S14	Scioto River levee approximately 1777 feet upstream of USGS gauging station on Jackson Pike WWTP property
12.	S15	Scioto River levee approximately 804 feet downstream of Jackson Pike WWTP outfall structure.
13.	S18	Scioto River Levee at extreme southeast corner of Jackson Pike WWTP property (access from American Aggregates road)
14.	S08	Flat area at top of landfill west of Jackson Pike and south of facility
15.	S10	Private property south of Dyer Rd.-Tannis Dr.

16. S11 Private property off Dyer Rd. at end of long tree covered lane
17. S09 Agg Rok Materials property off Brown Rd. opposite 2335 Brown Rd. flat area above creek valley
18. S07 WMNI Radio tower site off Marlane Dr.
19. S26 Fill area at southwest corner of Jackson Pike WWTP
20. S22 Southwest corner of Berliner Park
21. S23 Berliner Park north of Jackson Pike grit chamber unit high flat grassy area
22. S19 American Aggregate's property off Haul Rd. site south of old quarry train
23. S20 Heritage Temple Baptist Church middle level of open grassy area
24. S21 Scioto Trail School open lawn area behind school
25. S06 Madison Plains School east of new high school high area of lawn to east of package WWTP behind football practice field
26. S05 Madison Plains School east of new high school high grassy area even with front of new high school
27. S04 Madison Plains School east of old high school

Quality control sample numbers: S01,S02,S03,S16,S17,S31,& S32

ATTACHMENT B - LABORATORY ANALYSIS DATA SHEETS

Key for Sample Analysis Data Sheets

Laboratory Identifying Number

47482-6-22
 47482-6-16
 47482-6-2
 47482-6-3
 47482-6-4
 47482-6-5
 47482-6-15
 47482-6-6
 47482-6-7
 47482-6-20
 47482-6-18
 47482-6-19
 47482-6-17
 47482-6-8
 47482-6-9
 47482-6-10
 47482-6-11
 47482-6-12
 47482-6-21
 47482-6-23
 47482-6-13
 47482-6-14
 47482-10-2
 47482-10-3
 47482-10-19
 47482-10-20
 47482-10-21
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 47482-10-11
 47482-10-12
 47482-10-13
 47482-10-14
 47482-10-15
 47482-10-16
 47482-10-17
 47482-10-18

Description

Method Blank
 S01 - Field Blank
 S04 - Background Sample
 S05 - Background Sample
 S06 - Background Sample
 S07
 S17 - Field Blank
 S08
 S09
 S09 - Laboratory Duplicate
 S03 - Field Duplicate
 S03 - Detection Limit Sample
 S02 - Soil Reference Matcrial
 S10
 S11
 S12
 S13
 S14
 S04 - Matrix Spike
 S04 - Matrix Spike Duplicate
 S15
 S16 - Field Duplicate
 S18
 S19
 S34
 S34 - Matrix Spike
 S34 - Matrix Spike Duplicate
 Method Blank
 S20
 S21
 S22
 S23
 S24
 S25
 S26
 S27
 S28
 S29
 S30
 S31 - Field Duplicate
 S32 - Field Blank
 S33
 S33 - Laboratory Duplicate

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 2-06-95
 Ext. Date: 12-07-95
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-22, METHOD
 Sample Wt/Vol: 10.0000 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 Sample Data Filename: A037804
 Blank Data Filename: A037803
 Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.26	1.00	*	13C-2,3,7,8-TCDD	2000	1509	75	0.79
1,2,3,7,8-PeCDD	0.36	0.20	5.00	1.43	13C-1,2,3,7,8-PeCDD	2000	1428	71	1.55
1,2,3,4,7,8-HxCDD	*	0.25	5.00	*	13C-1,2,3,4,7,8-HxCDD	2000	1576	79	1.25
1,2,3,6,7,8-HxCDD	*	0.27	5.00	1.21	13C-1,2,3,6,7,8-HxCDD	2000	1728	86	1.27
1,2,3,7,8,9-HxCDD	*	0.14	5.00	1.23	13C-1,2,3,4,6,7,8-HpCDD	2000	1582	79	1.04
1,2,3,4,6,7,8-HpCDD	0.53	0.51	5.00	1.20	13C-OCDD	4000	2641	66	0.90
OCDD	*	4.61	10.00	0.90	13C-2,3,7,8-TCDF	2000	1644	82	0.80
2,3,7,8-TCDF	*	0.30	1.00	0.77	13C-1,2,3,7,8-PeCDF	2000	1699	85	1.58
1,2,3,7,8-PeCDF	*	0.23	5.00	*	13C-2,3,4,7,8-PeCDF	2000	1694	85	1.61
2,3,4,7,8-PeCDF	0.26	0.26	5.00	1.69	13C-1,2,3,4,7,8-HxCDF	2000	1642	82	0.53
1,2,3,4,7,8-HxCDF	*	0.16	5.00	*	13C-1,2,3,6,7,8-HxCDF	2000	1697	85	0.52
1,2,3,6,7,8-HxCDF	0.24	0.13	5.00	1.24	13C-1,2,3,7,8,9-HxCDF	2000	1555	78	0.51
1,2,3,7,8,9-HxCDF	*	0.17	5.00	1.30	13C-2,3,4,6,7,8-HxCDF	2000	1674	84	0.54
2,3,4,6,7,8-HxCDF	0.45	0.10	5.00	1.24	13C-1,2,3,4,6,7,8-HpCDF	2000	1612	81	0.44
1,2,3,4,6,7,8-HpCDF	0.43	0.05	5.00	1.06	13C-1,2,3,4,7,8,9-HpCDF	2000	1569	78	0.43
1,2,3,4,7,8,9-HpCDF	*	0.22	5.00	*					
OCDF	0.29	0.27	10.00	0.85					
Total Tetra-Furans	*	0.34		*	CLEANUP STANDARD				
Total Tetra-Dioxins	0.33			0.75	37Cl-2,3,7,8-TCDD	200	197	98	
Total Penta-Furans	*	0.47		*					
Total Penta-Dioxins	*	0.40		*					
Total Hexa-Furans	1.25			*					
Total Hexa-Dioxins	*	0.32		*					
Total Hepta-Furans	1.16			*					
Total Hepta-Dioxins	0.66			1.15					

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 18-DEC-95 Time: 13:15:49
 Extract Volume (uL): 20
 Injection Volume (uL): 1

Lab Sample ID: 47482-6-16, S01
 Sample Wt/Vol: 10.1772 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037806
 Blank Data Filename: A037803
 Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATIO pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CON FOU pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.22	0.98	*		2000	1593	80	0.78
1,2,3,7,8-PeCDD	*	0.16	4.91	*	13C-1,2,3,7,8-PeCDD	2000	1593	80	1.57
1,2,3,4,7,8-HxCDD	*	0.23	4.91	*	13C-1,2,3,4,7,8-HxCDD	2000	1582	79	1.26
1,2,3,6,7,8-HxCDD	*	0.25	4.91	*	13C-1,2,3,6,7,8-HxCDD	2000	1808	90	1.24
1,2,3,7,8,9-HxCDD	*	0.13	4.91	*	13C-1,2,3,4,6,7,8-HpCDD	2000	1666	83	1.05
1,2,3,4,6,7,8-HpCDD	0.62	0.44	4.91	1.10	13C-OCDD	4000	2821	71	0.90
OCDD	*	4.05	9.83	0.87	13C-2,3,7,8-TCDF	2000	1549	77	0.81
2,3,7,8-TCDF	0.39	0.28	0.98	0.86	13C-1,2,3,7,8-PeCDF	2000	1734	87	1.62
1,2,3,7,8-PeCDF	*	0.20	4.91	*	13C-2,3,4,7,8-PeCDF	2000	1654	83	1.60
2,3,4,7,8-PeCDF	0.46	0.24	4.91	1.65	13C-1,2,3,4,7,8-HxCDF	2000	1617	81	0.53
1,2,3,4,7,8-HxCDF	*	0.16	4.91	*	13C-1,2,3,6,7,8-HxCDF	2000	1579	79	0.52
1,2,3,6,7,8-HxCDF	*	0.13	4.91	*	13C-1,2,3,7,8,9-HxCDF	2000	1562	78	0.52
1,2,3,7,8,9-HxCDF	*	0.16	4.91	*	13C-2,3,4,6,7,8-HxCDF	2000	1609	80	0.52
2,3,4,6,7,8-HxCDF	0.35	0.10	4.91	1.17	13C-1,2,3,4,6,7,8-HpCDF	2000	1621	81	0.45
1,2,3,4,6,7,8-HpCDF	0.41	0.04	4.91	0.91	13C-1,2,3,4,7,8,9-HpCDF	2000	1590	80	0.43
1,2,3,4,7,8,9-HpCDF	*	0.20	4.91	*					
OCDF	0.38	0.24	9.83	0.96					
Total Tetra-Furans	0.58			0.68	CLEANUP STANDARD				
Total Tetra-Dioxins	0.54			0.70	37Cl-2,3,7,8-TCDD	200	179	90	
Total Penta-Furans	0.60			1.48					
Total Penta-Dioxins	*	0.32		*					
Total Hexa-Furans	1.13			1.27					
Total Hexa-Dioxins	*	0.29		*					
Total Hepta-Furans	1.35			0.91					
Total Hepta-Dioxins	1.29			1.13					

* Analyte concentration not quantified due to CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 18-DEC-95 Time: 14:28:07
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-2, S04
 Sample Wt/Vol: 6.5575 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037807
 Blank Data Filename: A037803
 Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.54	1.52	*	13C-2,3,7,8-TCDD	2000	1333	67	0.78
1,2,3,7,8-PeCDD	*	0.41	7.62	*	13C-1,2,3,7,8-PeCDD	2000	1268	63	1.57
1,2,3,4,7,8-HxCDD	0.74	0.60	7.62	1.14	13C-1,2,3,4,7,8-HxCDD	2000	1376	69	1.24
1,2,3,6,7,8-HxCDD	1.39	0.65	7.62	1.36	13C-1,2,3,6,7,8-HxCDD	2000	1564	78	1.28
1,2,3,7,8,9-HxCDD	2.11	0.34	7.62	1.12	13C-1,2,3,4,6,7,8-HpCDD	2000	1302	65	1.03
1,2,3,4,6,7,8-HpCDD	31.60		7.62	1.03	13C-OCDD	4000	2355	59	0.90
OCDD	298.32		15.25	0.88	13C-2,3,7,8-TCDF	2000	1243	62	0.81
2,3,7,8-TCDF	*	1.97	3.05	*	13C-1,2,3,7,8-PeCDF	2000	1362	68	1.59
1,2,3,7,8-PeCDF	*	0.52	7.62	*	13C-2,3,4,7,8-PeCDF	2000	1352	68	1.61
2,3,4,7,8-PeCDF	*	0.59	7.62	*	13C-1,2,3,4,7,8-HxCDF	2000	1272	64	0.52
1,2,3,4,7,8-HxCDF	*	0.44	7.62	*	13C-1,2,3,6,7,8-HxCDF	2000	1345	67	0.53
1,2,3,6,7,8-HxCDF	0.55*	0.35	7.62	*	13C-1,2,3,7,8,9-HxCDF	2000	1312	66	0.50
1,2,3,7,8,9-HxCDF	*	0.43	7.62	*	13C-2,3,4,6,7,8-HxCDF	2000	1490	74	0.52
2,3,4,6,7,8-HxCDF	0.89	0.23	7.62	1.46	13C-1,2,3,4,6,7,8-HpCDF	2000	1459	73	0.44
1,2,3,4,6,7,8-HpCDF	6.46	0.11	7.62	1.03	13C-1,2,3,4,7,8,9-HpCDF	2000	1208	60	0.44
1,2,3,4,7,8,9-HpCDF	*	0.58	7.62	*					
OCDF	18.02		15.25	0.92					
Total Tetra-Furans	4.22			0.69	CLEANUP STANDARD				
Total Tetra-Dioxins	1.98			0.72	37Cl-2,3,7,8-TCDD	200	156	78	
Total Penta-Furans	4.58			1.60					
Total Penta-Dioxins	*	0.83		*					
Total Hexa-Furans	4.87			1.35					
Total Hexa-Dioxins	7.72			1.19					
Total Hepta-Furans	18.52			*					
Total Hepta-Dioxins	74.13			1.02					

* Analyte concentration estimated; CDPE interference - see text for detail.

• Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE

Matrix: SOIL

Sample Receipt Date: 12-06-95

Ext. Date: 12-07-95

Analysis Date: 18-DEC-95 Time: 15:34:43

Extract Volume (uL): 20

Injection Volume (uL): 1

Dilution Factor: NONE

Lab Sample ID: 47482-6-3, S05

Sample Wt/Vol: 7.9895 units: g

Initial Calibration Date: 04-13-95

Instrument ID: Autospec

GC Column ID: 60M DB5

Sample Data Filename: A037808

Blank Data Filename: A037803

Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	C F	R(%)	ION RATIO
2,3,7,8-TCDD	0.34	0.28	1.25	0.69	13C-2,3,7,8-TCDD	2000	14	73	0.79
1,2,3,7,8-PeCDD	*	0.21	6.26	*	13C-1,2,3,7,8-PeCDD	2000	14	72	1.55
1,2,3,4,7,8-HxCDD	*	0.32	6.26	*	13C-1,2,3,4,7,8-HxCDD	2000	16	81	1.23
1,2,3,6,7,8-HxCDD	0.52	0.36	6.26	1.46	13C-1,2,3,6,7,8-HxCDD	2000	16	84	1.23
1,2,3,7,8,9-HxCDD	0.75	0.18	6.26	1.37	13C-1,2,3,4,6,7,8-HpCDD	2000	16	82	1.05
1,2,3,4,6,7,8-HpCDD	9.40		6.26	1.09	13C-OCDD	4000	26	66	0.89
OCDD	75.76		12.52	0.86	13C-2,3,7,8-TCDF	2000	15	75	0.79
2,3,7,8-TCDF	*	0.35	1.25	0.65	13C-1,2,3,7,8-PeCDF	2000	15	78	1.61
1,2,3,7,8-PeCDF	*	0.26	6.26	*	13C-2,3,4,7,8-PeCDF	2000	14	73	1.58
2,3,4,7,8-PeCDF	*	0.33	6.26	*	13C-1,2,3,4,7,8-HxCDF	2000	15	80	0.52
1,2,3,4,7,8-HxCDF	0.23*	0.22	6.26	*	13C-1,2,3,6,7,8-HxCDF	2000	16	83	0.52
1,2,3,6,7,8-HxCDF	0.55*	0.17	6.26	*	13C-1,2,3,7,8,9-HxCDF	2000	14	74	0.52
1,2,3,7,8,9-HxCDF	*	0.24	6.26	*	13C-2,3,4,6,7,8-HxCDF	2000	16	83	0.52
2,3,4,6,7,8-HxCDF	0.55	0.13	6.26	1.20	13C-1,2,3,4,6,7,8-HpCDF	2000	15	79	0.43
1,2,3,4,6,7,8-HpCDF	2.42	0.06	6.26	1.08	13C-1,2,3,4,7,8,9-HpCDF	2000	13	66	0.43
1,2,3,4,7,8,9-HpCDF	*	0.32	6.26	*					
OCDF	4.70	0.35	12.52	0.89					
Total Tetra-Furans	0.85			0.81	CLEANUP STANDARD				
Total Tetra-Dioxins	0.95			0.88	37Cl-2,3,7,8-TCDD	200	17	89	
Total Penta-Furans	0.70			1.45					
Total Penta-Dioxins	*	0.43		*					
Total Hexa-Furans	2.43			1.18					
Total Hexa-Dioxins	2.18			1.17					
Total Hepta-Furans	5.93			*					
Total Hepta-Dioxins	17.92			1.01					

* Analyte concentration estimated; CDPE interference - see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 18-DEC-95 Time: 16:41:51
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-4, S06
 Sample Wt/Vol: 8.2683 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037809
 Blank Data Filename: A037803
 Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	0.57	0.26	1.21	0.69
1,2,3,7,8-PeCDD	*	0.20	6.05	*
1,2,3,4,7,8-HxCDD	*	0.29	6.05	*
1,2,3,6,7,8-HxCDD	0.54	0.33	6.05	1.06
1,2,3,7,8,9-HxCDD	0.83	0.17	6.05	1.36
1,2,3,4,6,7,8-HpCDD	12.20		6.05	1.05
OCDD	108.60		12.09	0.87
2,3,7,8-TCDF	*	0.34	1.21	0.66
1,2,3,7,8-PeCDF	*	0.26	6.05	*
2,3,4,7,8-PeCDF	*	0.31	6.05	*
1,2,3,4,7,8-HxCDF	*	0.21	6.05	*
1,2,3,6,7,8-HxCDF	0.47*	0.16	6.05	*
1,2,3,7,8,9-HxCDF	*	0.21	6.05	*
2,3,4,6,7,8-HxCDF	0.47	0.12	6.05	1.26
1,2,3,4,6,7,8-HpCDF	3.30	0.05	6.05	1.09
1,2,3,4,7,8,9-HpCDF	0.35	0.28	6.05	1.06
OCDF	9.43	0.28	12.09	0.84
Total Tetra-Furans	1.70			0.65
Total Tetra-Dioxins	0.99			0.72
Total Penta-Furans	1.05			1.34
Total Penta-Dioxins	*	0.40		*
Total Hexa-Furans	3.08			1.31
Total Hexa-Dioxins	4.49			1.41
Total Hepta-Furans	10.42			*
Total Hepta-Dioxins	21.26			1.07

LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1367	68	0.77
13C-1,2,3,7,8-PeCDD	2000	1328	66	1.56
13C-1,2,3,4,7,8-HxCDD	2000	1517	76	1.28
13C-1,2,3,6,7,8-HxCDD	2000	1649	82	1.27
13C-1,2,3,4,6,7,8-HpCDD	2000	1569	78	1.03
13C-OCDD	4000	2755	69	0.89
13C-2,3,7,8-TCDF	2000	1318	66	0.81
13C-1,2,3,7,8-PeCDF	2000	1399	70	1.61
13C-2,3,4,7,8-PeCDF	2000	1338	67	1.59
13C-1,2,3,4,7,8-HxCDF	2000	1486	74	0.53
13C-1,2,3,6,7,8-HxCDF	2000	1506	75	0.52
13C-1,2,3,7,8,9-HxCDF	2000	1439	72	0.52
13C-2,3,4,6,7,8-HxCDF	2000	1585	79	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1628	81	0.42
13C-1,2,3,4,7,8,9-HpCDF	2000	1289	64	0.43

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 173 87

* Analyte concentration estimated; CDPE interference - see text for detail.
 * Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 18-DEC-95 Time: 17:48:26
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-5, S07
 Sample Wt/Vol: 7.4596 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037810
 Blank Data Filename: A037803
 Cal. Ver. Data Filename: A037802

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.45	1.34	*	13C-2,3,7,8-TCDD	2000	1335	67	0.76
1,2,3,7,8-PeCDD	1.12	0.35	6.70	1.54	13C-1,2,3,7,8-PeCDD	2000	1201	60	1.56
1,2,3,4,7,8-HxCDD	1.05	0.49	6.70	1.27	13C-1,2,3,4,7,8-HxCDD	2000	1655	83	1.24
1,2,3,6,7,8-HxCDD	1.20	0.54	6.70	1.08	13C-1,2,3,6,7,8-HxCDD	2000	1748	87	1.25
1,2,3,7,8,9-HxCDD	1.47	0.28	6.70	1.07	13C-1,2,3,4,6,7,8-HpCDD	2000	1579	79	1.05
1,2,3,4,6,7,8-HpCDD	11.69		6.70	1.10	13C-OCDD	4000	2537	63	0.89
OCDD	93.36		13.41	0.89	13C-2,3,7,8-TCDF	2000	1361	68	0.79
2,3,7,8-TCDF	0.78	0.66	1.34	0.82	13C-1,2,3,7,8-PeCDF	2000	1290	64	1.57
1,2,3,7,8-PeCDF	1.01	0.44	6.70	1.36	13C-2,3,4,7,8-PeCDF	2000	1237	62	1.58
2,3,4,7,8-PeCDF	1.41	0.54	6.70	1.40	13C-1,2,3,4,7,8-HxCDF	2000	1576	79	0.52
1,2,3,4,7,8-HxCDF	1.80*	0.36	6.70	*	13C-1,2,3,6,7,8-HxCDF	2000	1500	75	0.50
1,2,3,6,7,8-HxCDF	1.70	0.29	6.70	1.21	13C-1,2,3,7,8,9-HxCDF	2000	1379	69	0.52
1,2,3,7,8,9-HxCDF	*	0.41	6.70	*	13C-2,3,4,6,7,8-HxCDF	2000	1507	75	0.51
2,3,4,6,7,8-HxCDF	1.74	0.22	6.70	1.35	13C-1,2,3,4,6,7,8-HpCDF	2000	1622	81	0.43
1,2,3,4,6,7,8-HpCDF	6.56	0.09	6.70	0.97	13C-1,2,3,4,7,8,9-HpCDF	2000	1292	65	0.42
1,2,3,4,7,8,9-HpCDF	*	0.52	6.70	*					
OCDF	3.67	0.57	13.41	0.79					
Total Tetra-Furans	7.56			0.70	CLEANUP STANDARD				
Total Tetra-Dioxins	4.04			0.68	37Cl-2,3,7,8-TCDD	200	156	78	
Total Penta-Furans	12.61			1.45					
Total Penta-Dioxins	3.61			1.33					
Total Hexa-Furans	9.17			1.19					
Total Hexa-Dioxins	9.24			1.21					
Total Hepta-Furans	7.77			0.97					
Total Hepta-Dioxins	22.96			1.02					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference - see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 11:00:03
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-15, S17
 Sample Wt/Vol: 10.0121 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037904
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.23	1.00	*	13C-2,3,7,8-TCDD	2000	1256	63	0.78
1,2,3,7,8-PeCDD	*	0.36	5.00	*	13C-1,2,3,7,8-PeCDD	2000	1292	65	1.56
1,2,3,4,7,8-HxCDD	*	0.13	5.00	*	13C-1,2,3,4,7,8-HxCDD	2000	1375	69	1.26
1,2,3,6,7,8-HxCDD	*	0.16	5.00	*	13C-1,2,3,6,7,8-HxCDD	2000	1449	72	1.26
1,2,3,7,8,9-HxCDD	*	0.18	5.00	*	13C-1,2,3,4,6,7,8-HpCDD	2000	1300	65	1.04
1,2,3,4,6,7,8-HpCDD	0.58	0.36	5.00	1.12	13C-OCDD	4000	2177	54	0.90
OCDD	*	5.81	10.00	*	13C-2,3,7,8-TCDF	2000	1273	64	0.78
2,3,7,8-TCDF	*	0.18	1.00	*	13C-1,2,3,7,8-PeCDF	2000	1330	67	1.58
1,2,3,7,8-PeCDF	*	0.27	5.00	*	13C-2,3,4,7,8-PeCDF	2000	1351	68	1.61
2,3,4,7,8-PeCDF	*	0.24	5.00	*	13C-1,2,3,4,7,8-HxCDF	2000	1338	67	0.52
1,2,3,4,7,8-HxCDF	*	0.34	5.00	*	13C-1,2,3,6,7,8-HxCDF	2000	1287	64	0.53
1,2,3,6,7,8-HxCDF	*	0.26	5.00	*	13C-1,2,3,7,8,9-HxCDF	2000	1327	66	0.51
1,2,3,7,8,9-HxCDF	*	0.10	5.00	*	13C-2,3,4,6,7,8-HxCDF	2000	1355	68	0.51
2,3,4,6,7,8-HxCDF	0.26	0.20	5.00	1.35	13C-1,2,3,4,6,7,8-HpCDF	2000	1242	62	0.44
1,2,3,4,6,7,8-HpCDF	*	0.16	5.00	*	13C-1,2,3,4,7,8,9-HpCDF	2000	1214	61	0.43
1,2,3,4,7,8,9-HpCDF	*	0.08	5.00	*					
OCDF	*	0.31	10.00	*					
Total Tetra-Furans	*			*	CLEANUP STANDARD				
Total Tetra-Dioxins	0.38			0.67	37Cl-2,3,7,8-TCDD	200	142	71	
Total Penta-Furans	*	0.40		*					
Total Penta-Dioxins	*	0.32		*					
Total Hexa-Furans	0.52			1.28					
Total Hexa-Dioxins	0.34			1.42					
Total Hepta-Furans	*	0.18		*					
Total Hepta-Dioxins	0.60			1.12					

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 12:06:56
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-6, S08
 Sample Wt/Vol: 8.3373 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037905
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	1.52		1.20	0.82
1,2,3,7,8-PeCDD	1.41	0.39	6.00	1.59
1,2,3,4,7,8-HxCDD	1.12	0.16	6.00	1.19
1,2,3,6,7,8-HxCDD	1.46	0.20	6.00	1.12
1,2,3,7,8,9-HxCDD	3.43	0.23	6.00	1.07
1,2,3,4,6,7,8-HpCDD	15.47		6.00	0.98
OCDD	312.42		11.99	0.86
2,3,7,8-TCDF#	0.76	0.34	1.20	0.84
1,2,3,7,8-PeCDF	1.24	0.31	6.00	1.67
2,3,4,7,8-PeCDF	2.13	0.36	6.00	1.49
1,2,3,4,7,8-HxCDF	1.80*	0.42	6.00	*
1,2,3,6,7,8-HxCDF	1.71	0.32	6.00	1.20
1,2,3,7,8,9-HxCDF	*	0.13	6.00	*
2,3,4,6,7,8-HxCDF	1.65	0.25	6.00	1.25
1,2,3,4,6,7,8-HpCDF	6.11		6.00	1.14
1,2,3,4,7,8,9-HpCDF	0.49	0.11	6.00	1.01
OCDF	2.36	0.35	11.99	0.82
Total Tetra-Furans	13.96			0.85
Total Tetra-Dioxins	7.46			0.84
Total Penta-Furans	15.61			1.55
Total Penta-Dioxins	1.41			1.59
Total Hexa-Furans	9.37			1.09
Total Hexa-Dioxins	20.71			1.23
Total Hepta-Furans	6.60			*
Total Hepta-Dioxins	38.11			1.07

LABELED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1508	75	0.77
13C-1,2,3,7,8-PeCDD	2000	1554	78	1.56
13C-1,2,3,4,7,8-HxCDD	2000	1589	79	1.26
13C-1,2,3,6,7,8-HxCDD	2000	1742	87	1.25
13C-1,2,3,4,6,7,8-HpCDD	2000	1551	78	1.06
13C-OCDD	4000	2856	71	0.89
13C-2,3,7,8-TCDF	2000	1586	79	0.77
13C-1,2,3,7,8-PeCDF	2000	1585	79	1.60
13C-2,3,4,7,8-PeCDF	2000	1394	70	1.60
13C-1,2,3,4,7,8-HxCDF	2000	1595	80	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1602	80	0.52
13C-1,2,3,7,8,9-HxCDF	2000	1592	80	0.52
13C-2,3,4,6,7,8-HxCDF	2000	1676	84	0.53
13C-1,2,3,4,6,7,8-HpCDF	2000	1511	76	0.42
13C-1,2,3,4,7,8,9-HpCDF	2000	1334	67	0.43

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 183 91

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference - see text for detail
 * Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 13:14:56
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-7, S09
 Sample Wt/Vol: 7.5058 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037906
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.49	0.36	1.33	0.74	13C-2,3,7,8-TCDD	2000	1166	58	0.77
1,2,3,7,8-PeCDD	1.69	0.61	6.66	1.64	13C-1,2,3,7,8-PeCDD	2000	1133	57	1.50
1,2,3,4,7,8-HxCDD	1.53	0.20	6.66	1.11	13C-1,2,3,4,7,8-HxCDD	2000	1425	71	1.26
1,2,3,6,7,8-HxCDD	1.79	0.26	6.66	1.10	13C-1,2,3,6,7,8-HxCDD	2000	1458	73	1.27
1,2,3,7,8,9-HxCDD	2.85	0.28	6.66	1.39	13C-1,2,3,4,6,7,8-HpCDD	2000	1398	70	1.03
1,2,3,4,6,7,8-HpCDD	16.64		6.66	1.05	13C-OCDD	4000	2506	63	0.90
OCDD	81.49		13.32	0.88	13C-2,3,7,8-TCDF	2000	1206	60	0.78
2,3,7,8-TCDF#	*	3.21*	1.33	*	13C-1,2,3,7,8-PeCDF	2000	1249	62	1.59
1,2,3,7,8-PeCDF	1.61	0.43	6.66	1.71	13C-2,3,4,7,8-PeCDF	2000	1273	64	1.59
2,3,4,7,8-PeCDF	2.51	0.38	6.66	1.51	13C-1,2,3,4,7,8-HxCDF	2000	1255	63	0.52
1,2,3,4,7,8-HxCDF	3.00*	0.58	6.66	*	13C-1,2,3,6,7,8-HxCDF	2000	1225	61	0.51
1,2,3,6,7,8-HxCDF	2.57	0.45	6.66	1.08	13C-1,2,3,7,8,9-HxCDF	2000	1181	59	0.52
1,2,3,7,8,9-HxCDF	*	0.19	6.66	*	13C-2,3,4,6,7,8-HxCDF	2000	1361	68	0.53
2,3,4,6,7,8-HxCDF	2.62	0.33	6.66	1.17	13C-1,2,3,4,6,7,8-HpCDF	2000	1429	71	0.45
1,2,3,4,6,7,8-HpCDF	11.54		6.66	1.15	13C-1,2,3,4,7,8,9-HpCDF	2000	1220	61	0.44
1,2,3,4,7,8,9-HpCDF	0.73	0.12	6.66	0.90					
OCDF	6.76	0.42	13.32	0.89					
Total Tetra-Furans	21.67			0.78	CLEANUP STANDARD				
Total Tetra-Dioxins	11.70			0.79	37Cl-2,3,7,8-TCDD	200	147	73	
Total Penta-Furans	21.46			1.50					
Total Penta-Dioxins	7.85			1.43					
Total Hexa-Furans	15.29			1.18					
Total Hexa-Dioxins	22.15			1.17					
Total Hepta-Furans	17.56			*					
Total Hepta-Dioxins	31.68			1.07					

2,3,7,8-TCDF value from second column confirmation.

* Sample limit of detection (LOD) higher than lowest calibration concentration.

* Analyte concentration estimated; CDPE interference - see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 14:23:23
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-20, S09, Duplicate
 Sample Wt/Vol: 7.5170 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037907
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATIO pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC pg	CONC. FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.54	0.26	1.33	0.75	13C-2,3,7,8-TCDD	2000	1356	68	0.78
1,2,3,7,8-PeCDD	2.41	0.46	6.65	1.72	13C-1,2,3,7,8-PeCDD	2000	1227	61	1.53
1,2,3,4,7,8-HxCDD	2.00	0.17	6.65	1.33	13C-1,2,3,4,7,8-HxCDD	2000	1554	78	1.26
1,2,3,6,7,8-HxCDD	2.33	0.22	6.65	1.35	13C-1,2,3,6,7,8-HxCDD	2000	1570	78	1.26
1,2,3,7,8,9-HxCDD	4.16	0.24	6.65	1.34	13C-1,2,3,4,6,7,8-HpCDD	2000	1588	79	1.02
1,2,3,4,6,7,8-HpCDD	19.71		6.65	1.02	13C-OCDD	4000	2724	68	0.88
OCDD	89.99		13.30	0.86	13C-2,3,7,8-TCDF	2000	1318	66	0.77
2,3,7,8-TCDF#	2.03		1.33	0.83	13C-1,2,3,7,8-PeCDF	2000	1335	67	1.60
1,2,3,7,8-PeCDF	1.73	0.33	6.65	1.59	13C-2,3,4,7,8-PeCDF	2000	1281	64	1.61
2,3,4,7,8-PeCDF	3.70	0.31	6.65	1.50	13C-1,2,3,4,7,8-HxCDF	2000	1479	74	0.51
1,2,3,4,7,8-HxCDF	1.50*	0.45	6.65	*	13C-1,2,3,6,7,8-HxCDF	2000	1459	73	0.50
1,2,3,6,7,8-HxCDF	3.89	0.34	6.65	1.25	13C-1,2,3,7,8,9-HxCDF	2000	1568	78	0.51
1,2,3,7,8,9-HxCDF	0.36	0.13	6.65	1.11	13C-2,3,4,6,7,8-HxCDF	2000	1560	78	0.52
2,3,4,6,7,8-HxCDF	3.36	0.26	6.65	1.15	13C-1,2,3,4,6,7,8-HpCDF	2000	1461	73	0.43
1,2,3,4,6,7,8-HpCDF	13.82		6.65	1.08	13C-1,2,3,4,7,8,9-HpCDF	2000	1350	68	0.43
1,2,3,4,7,8,9-HpCDF	1.04	0.10	6.65	0.99					
OCDF	7.87	0.37	13.30	0.92					
Total Tetra-Furans	27.12			0.73	CLEANUP STANDARD				
Total Tetra-Dioxins	11.34			0.75	37Cl-2,3,7,8-TCDD	200	169	84	
Total Penta-Furans	35.16			1.48					
Total Penta-Dioxins	3.57			1.67					
Total Hexa-Furans	19.55			1.36					
Total Hexa-Dioxins	28.40			1.22					
Total Hepta-Furans	21.69			*					
Total Hepta-Dioxins	36.35			1.06					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference - see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 16:36:31
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: 1:2

Lab Sample ID: 47482-6-18, S03
 Sample Wt/Vol: 6.6061 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037909
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CON FOU pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	2.27	6.06	*	13C-2,3,7,8-TCDD	2000	1337	67	0.77
1,2,3,7,8-PeCDD	*	1.95	30.28	*	13C-1,2,3,7,8-PeCDD	2000	1213	61	1.56
1,2,3,4,7,8-HxCDD	1.48	0.83	30.28	1.23	13C-1,2,3,4,7,8-HxCDD	2000	1472	74	1.25
1,2,3,6,7,8-HxCDD	1.67	1.06	30.28	1.20	13C-1,2,3,6,7,8-HxCDD	2000	1590	79	1.24
1,2,3,7,8,9-HxCDD	2.00	1.18	30.28	1.32	13C-1,2,3,4,6,7,8-HpCDD	2000	1555	78	1.05
1,2,3,4,6,7,8-HpCDD	28.00	2.17	30.28	1.07	13C-OCDD	4000	2677	67	0.88
OCDD	285.65		60.55	0.88	13C-2,3,7,8-TCDF	2000	1437	72	0.80
2,3,7,8-TCDF#	1.60	1.05	6.06	0.78	13C-1,2,3,7,8-PeCDF	2000	1246	62	1.57
1,2,3,7,8-PeCDF	1.97	1.82	30.28	1.32	13C-2,3,4,7,8-PeCDF	2000	840	42	1.63
2,3,4,7,8-PeCDF	*	3.94	30.28	*	13C-1,2,3,4,7,8-HxCDF	2000	1307	65	0.53
1,2,3,4,7,8-HxCDF	*	2.52	30.28	*	13C-1,2,3,6,7,8-HxCDF	2000	1368	68	0.50
1,2,3,6,7,8-HxCDF	2.10	1.79	30.28	*	13C-1,2,3,7,8,9-HxCDF	2000	1406	70	0.49
1,2,3,7,8,9-HxCDF	0.84	0.70	30.28	*	13C-2,3,4,6,7,8-HxCDF	2000	1384	69	0.53
2,3,4,6,7,8-HxCDF	2.00	1.42	30.28	*	13C-1,2,3,4,6,7,8-HpCDF	2000	1452	73	0.44
1,2,3,4,6,7,8-HpCDF	7.40	1.00	30.28	1.20	13C-1,2,3,4,7,8,9-HpCDF	2000	1347	67	0.43
1,2,3,4,7,8,9-HpCDF	1.38	0.49	30.28	1.05					
OCDF	18.28	1.77	60.55	0.78					
Total Tetra-Furans	2.06			0.71	CLEANUP STANDARD				
Total Tetra-Dioxins	*	2.09		*	37Cl-2,3,7,8-TCDD	200	179	89	
Total Penta-Furans	*	4.35		*					
Total Penta-Dioxins	*	1.75		*					
Total Hexa-Furans	*	1.94		*					
Total Hexa-Dioxins	6.25			1.33					
Total Hepta-Furans	20.63			*					
Total Hepta-Dioxins	64.01			1.10					

2,3,7,8-TCDF value from second column confirmation.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 17:52:10
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: 1:2

Lab Sample ID: 47482-6-19, S03, DL Spike
 Sample Wt/Vol: 6.6138 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037910
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	9.64		6.05	0.71
1,2,3,7,8-PeCDD	46.40		30.24	1.43
1,2,3,4,7,8-HxCDD	40.54		30.24	1.30
1,2,3,6,7,8-HxCDD	35.90		30.24	1.28
1,2,3,7,8,9-HxCDD	39.03		30.24	1.14
1,2,3,4,6,7,8-HpCDD	60.44		30.24	1.01
OCDD	270.77		60.48	0.90
2,3,7,8-TCDF	9.82		6.05	0.77
1,2,3,7,8-PeCDF	40.52		30.24	1.54
2,3,4,7,8-PeCDF	43.62		30.24	1.52
1,2,3,4,7,8-HxCDF	40.79		30.24	1.17
1,2,3,6,7,8-HxCDF	42.32		30.24	1.19
1,2,3,7,8,9-HxCDF	42.32		30.24	1.30
2,3,4,6,7,8-HxCDF	40.64		30.24	1.22
1,2,3,4,6,7,8-HpCDF	38.85		30.24	1.01
1,2,3,4,7,8,9-HpCDF	40.83		30.24	1.05
OCDF	87.91		60.48	0.85
Total Tetra-Furans	9.82			*
Total Tetra-Dioxins	9.64			0.71
Total Penta-Furans	86.18			1.74
Total Penta-Dioxins	46.40			1.43
Total Hexa-Furans	169.51			1.26
Total Hexa-Dioxins	115.47			1.30
Total Hepta-Furans	79.68			*
Total Hepta-Dioxins	89.91			1.06

LABELED COMPOUNDS	SPIKE CONC. pg	CONC FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1386	69	0.78
13C-1,2,3,7,8-PeCDD	2000	1351	68	1.60
13C-1,2,3,4,7,8-HxCDD	2000	1545	77	1.25
13C-1,2,3,6,7,8-HxCDD	2000	1664	83	1.24
13C-1,2,3,4,6,7,8-HpCDD	2000	1623	81	1.03
13C-OCDD	4000	3012	75	0.89
13C-2,3,7,8-TCDF	2000	1409	70	0.82
13C-1,2,3,7,8-PeCDF	2000	1366	68	1.58
13C-2,3,4,7,8-PeCDF	2000	1346	67	1.59
13C-1,2,3,4,7,8-HxCDF	2000	1438	72	0.53
13C-1,2,3,6,7,8-HxCDF	2000	1397	70	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1536	77	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1537	77	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1492	75	0.42
13C-1,2,3,4,7,8,9-HpCDF	2000	1371	69	0.43

CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	200	164	82	

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 19-DEC-95 Time: 18:58:11
 Extract Volume (uL): 20
 Injection Volume (uL): 1.0
 Dilution Factor: NONE

Lab Sample ID: 47482-6-17, S02,
 Sample Wt/Vol: 10.0000 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A037911
 Blank Data Filename: A037903
 Cal. Ver. Data Filename: A037902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	486.79		1.00	0.77
1,2,3,7,8-PeCDD	1072.82		5.00	1.54
1,2,3,4,7,8-HxCDD	941.48		5.00	1.24
1,2,3,6,7,8-HxCDD	864.45		5.00	1.24
1,2,3,7,8,9-HxCDD	926.91		5.00	1.24
1,2,3,4,6,7,8-HpCDD	1450.53		5.00	1.06
OCDD	3086.77		10.00	0.88
2,3,7,8-TCDF	467.75		1.00	0.76
1,2,3,7,8-PeCDF	925.28		5.00	1.53
2,3,4,7,8-PeCDF	972.43		5.00	1.52
1,2,3,4,7,8-HxCDF	965.78		5.00	1.21
1,2,3,6,7,8-HxCDF	942.33		5.00	1.21
1,2,3,7,8,9-HxCDF	1010.55		5.00	1.22
2,3,4,6,7,8-HxCDF	936.04		5.00	1.20
1,2,3,4,6,7,8-HpCDF	1332.23		5.00	1.00
1,2,3,4,7,8,9-HpCDF	1414.48		5.00	1.00
OCDF	2348.15		10.00	0.86
Total Tetra-Furans	467.75			*
Total Tetra-Dioxins	486.79			0.77
Total Penta-Furans	1897.71			1.53
Total Penta-Dioxins	1072.82			1.54
Total Hexa-Furans	3854.70			1.21
Total Hexa-Dioxins	2732.84			1.24
Total Hepta-Furans	2746.71			1.00
Total Hepta-Dioxins	1464.93			1.06

LABELED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1436	72	0.78
13C-1,2,3,7,8-PeCDD	2000	1420	71	1.56
13C-1,2,3,4,7,8-HxCDD	2000	1480	74	1.22
13C-1,2,3,6,7,8-HxCDD	2000	1503	75	1.24
13C-1,2,3,4,6,7,8-HpCDD	2000	1592	80	1.04
13C-OCDD	4000	2865	72	0.89
13C-2,3,7,8-TCDF	2000	1381	69	0.79
13C-1,2,3,7,8-PeCDF	2000	1464	73	1.58
13C-2,3,4,7,8-PeCDF	2000	1385	69	1.60
13C-1,2,3,4,7,8-HxCDF	2000	1374	69	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1382	69	0.52
13C-1,2,3,7,8,9-HxCDF	2000	1536	77	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1396	70	0.51
13C-1,2,3,4,6,7,8-HpCDF	2000	1427	71	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1496	75	0.43

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 175 87

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 11:10:41
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-8, S10
 Sample Wt/Vol: 6.8140 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038904
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.74	0.15	1.47	0.69	13C-2,3,7,8-TCDD	2000	1493	75	0.78
1,2,3,7,8-PeCDD	2.42	0.29	7.34	1.58	13C-1,2,3,7,8-PeCDD	2000	1590	79	1.57
1,2,3,4,7,8-HxCDD	3.76	0.35	7.34	1.28	13C-1,2,3,4,7,8-HxCDD	2000	1499	75	1.24
1,2,3,6,7,8-HxCDD	5.69	0.21	7.34	1.32	13C-1,2,3,6,7,8-HxCDD	2000	1658	83	1.25
1,2,3,7,8,9-HxCDD	8.85		7.34	1.22	13C-1,2,3,4,6,7,8-HpCDD	2000	1530	77	1.02
1,2,3,4,6,7,8-HpCDD	145.09		7.34	1.08	13C-OCDD	4000	2738	68	0.88
OCDD	1204.99		14.68	0.88	13C-2,3,7,8-TCDF	2000	1484	74	0.77
2,3,7,8-TCDF	(4.00)		1.47	(0.74)	13C-1,2,3,7,8-PeCDF	2000	1594	80	1.57
1,2,3,7,8-PeCDF	1.95	0.25	7.34	1.58	13C-2,3,4,7,8-PeCDF	2000	1582	79	1.57
2,3,4,7,8-PeCDF	4.55	0.21	7.34	1.39	13C-1,2,3,4,7,8-HxCDF	2000	1533	77	0.51
1,2,3,4,7,8-HxCDF	6.50 *	0.21	7.34	*	13C-1,2,3,6,7,8-HxCDF	2000	1563	78	0.51
1,2,3,6,7,8-HxCDF	3.39	0.32	7.34	1.11	13C-1,2,3,7,8,9-HxCDF	2000	1565	78	0.51
1,2,3,7,8,9-HxCDF	*	0.13	7.34	*	13C-2,3,4,6,7,8-HxCDF	2000	1629	81	0.52
2,3,4,6,7,8-HxCDF	3.43	0.09	7.34	1.21	13C-1,2,3,4,6,7,8-HpCDF	2000	1645	82	0.43
1,2,3,4,6,7,8-HpCDF	37.32		7.34	1.05	13C-1,2,3,4,7,8,9-HpCDF	2000	1481	74	0.43
1,2,3,4,7,8,9-HpCDF	2.51	0.78	7.34	1.03					
OCDF	81.41		14.68	0.87					
Total Tetra-Furans	78.74			0.79	CLEANUP STANDARD				
Total Tetra-Dioxins	8.25			0.67	37Cl-2,3,7,8-TCDD	200	192	96	
Total Penta-Furans	50.94			1.62					
Total Penta-Dioxins	2.42			1.58					
Total Hexa-Furans	43.33			1.28					
Total Hexa-Dioxins	55.54			1.31					
Total Hepta-Furans	104.54			*					
Total Hepta-Dioxins	256.53			1.04					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference - see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 12:39:50
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-9, S11
 Sample Wt/Vol: 7.5250 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038905
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.79	0.12	1.33	0.71	13C-2,3,7,8-TCDD	2000	1547	77	0.80
1,2,3,7,8-PeCDD	2.84	0.23	6.64	1.55	13C-1,2,3,7,8-PeCDD	2000	1608	80	1.55
1,2,3,4,7,8-HxCDD	2.95	0.26	6.64	1.32	13C-1,2,3,4,7,8-HxCDD	2000	1555	78	1.34
1,2,3,6,7,8-HxCDD	3.37	0.16	6.64	1.24	13C-1,2,3,6,7,8-HxCDD	2000	1684	84	1.17
1,2,3,7,8,9-HxCDD	6.71		6.64	1.25	13C-1,2,3,4,6,7,8-HpCDD	2000	1550	77	1.05
1,2,3,4,6,7,8-HpCDD	31.22		6.64	1.04	13C-OCDD	4000	2894	72	0.89
OCDD	124.76		13.29	0.88	13C-2,3,7,8-TCDF	2000	1482	74	0.81
2,3,7,8-TCDF	(2.11)		1.33	(0.79)	13C-1,2,3,7,8-PeCDF	2000	1680	84	1.57
1,2,3,7,8-PeCDF	2.15	0.19	6.64	1.34	13C-2,3,4,7,8-PeCDF	2000	1604	80	1.60
2,3,4,7,8-PeCDF	3.88	0.17	6.64	1.45	13C-1,2,3,4,7,8-HxCDF	2000	1557	78	0.52
1,2,3,4,7,8-HxCDF	4.30 *	0.17	6.64	*	13C-1,2,3,6,7,8-HxCDF	2000	1530	76	0.53
1,2,3,6,7,8-HxCDF	4.00	0.25	6.64	1.13	13C-1,2,3,7,8,9-HxCDF	2000	1581	79	0.51
1,2,3,7,8,9-HxCDF	*	0.10	6.64	*	13C-2,3,4,6,7,8-HxCDF	2000	1656	83	0.52
2,3,4,6,7,8-HxCDF	4.49	0.07	6.64	1.16	13C-1,2,3,4,6,7,8-HpCDF	2000	1551	78	0.44
1,2,3,4,6,7,8-HpCDF	23.83		6.64	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1462	73	0.44
1,2,3,4,7,8,9-HpCDF	1.59	0.58	6.64	0.93					
OCDF	32.95		13.29	0.89					
Total Tetra-Furans	37.50			0.68	CLEANUP STANDARD				
Total Tetra-Dioxins	10.80			0.74	37Cl-2,3,7,8-TCDD	200	205	102	
Total Penta-Furans	45.76			1.56					
Total Penta-Dioxins	22.37			1.53					
Total Hexa-Furans	23.95			1.22					
Total Hexa-Dioxins	40.95			1.37					
Total Hepta-Furans	36.08			*					
Total Hepta-Dioxins	57.44			1.08					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 13:48:39
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-10, S12
 Sample Wt/Vol: 7.6567 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038906
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.54	0.20	1.31	0.85	13C-2,3,7,8-TCDD	2000	1391	70	0.78
1,2,3,7,8-PeCDD	2.06	0.41	6.53	1.69	13C-1,2,3,7,8-PeCDD	2000	1337	67	1.53
1,2,3,4,7,8-HxCDD	2.20	0.42	6.53	1.38	13C-1,2,3,4,7,8-HxCDD	2000	1468	73	1.23
1,2,3,6,7,8-HxCDD	2.49	0.25	6.53	1.30	13C-1,2,3,6,7,8-HxCDD	2000	1555	78	1.25
1,2,3,7,8,9-HxCDD	2.75	0.34	6.53	1.29	13C-1,2,3,4,6,7,8-HpCDD	2000	1498	75	1.03
1,2,3,4,6,7,8-HpCDD	24.99		6.53	1.05	13C-OCDD	4000	2300	58	0.88
OCDD	142.08		13.06	0.87	13C-2,3,7,8-TCDF	2000	1387	69	0.78
2,3,7,8-TCDF	(1.26)		1.31	(0.75)	13C-1,2,3,7,8-PeCDF	2000	1397	70	1.55
1,2,3,7,8-PeCDF	2.24	0.33	6.53	1.35	13C-2,3,4,7,8-PeCDF	2000	1361	68	1.56
2,3,4,7,8-PeCDF	2.88	0.27	6.53	1.33	13C-1,2,3,4,7,8-HxCDF	2000	1386	69	0.52
1,2,3,4,7,8-HxCDF	3.20*	0.28	6.53	*	13C-1,2,3,6,7,8-HxCDF	2000	1382	69	0.52
1,2,3,6,7,8-HxCDF	3.33	0.42	6.53	1.14	13C-1,2,3,7,8,9-HxCDF	2000	1422	71	0.52
1,2,3,7,8,9-HxCDF	0.17	0.16	6.53	*	13C-2,3,4,6,7,8-HxCDF	2000	1429	71	0.51
2,3,4,6,7,8-HxCDF	3.33	0.12	6.53	1.37	13C-1,2,3,4,6,7,8-HpCDF	2000	1452	73	0.45
1,2,3,4,6,7,8-HpCDF	14.29		6.53	1.01	13C-1,2,3,4,7,8,9-HpCDF	2000	1336	67	0.43
1,2,3,4,7,8,9-HpCDF	1.04	1.00	6.53	1.17					
OCDF	13.10		13.06	0.84					
Total Tetra-Furans	17.02			0.68	CLEANUP STANDARD				
Total Tetra-Dioxins	3.60			0.76	37Cl-2,3,7,8-TCDD	200	154	77	
Total Penta-Furans	30.25			1.63					
Total Penta-Dioxins	7.82			1.73					
Total Hexa-Furans	21.30			1.05					
Total Hexa-Dioxins	18.87			1.23					
Total Hepta-Furans	22.99			*					
Total Hepta-Dioxins	46.84			1.01					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte not detected.

* Analyte concentration estimated; CDPE interference; see text for detail.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 14:57:09
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-11, S13
 Sample Wt/Vol: 8.0366 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038907
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	0.67	0.14	1.24	0.67	13C-2,3,7,8-TCDD	2000	1436	72	0.78
1,2,3,7,8-PeCDD	3.41	0.28	6.22	1.53	13C-1,2,3,7,8-PeCDD	2000	1326	66	1.52
1,2,3,4,7,8-HxCDD	3.23	0.34	6.22	1.31	13C-1,2,3,4,7,8-HxCDD	2000	1386	69	1.26
1,2,3,6,7,8-HxCDD	3.81	0.20	6.22	1.18	13C-1,2,3,6,7,8-HxCDD	2000	1554	78	1.29
1,2,3,7,8,9-HxCDD	5.21	0.27	6.22	1.22	13C-1,2,3,4,6,7,8-HpCDD	2000	1524	76	1.04
1,2,3,4,6,7,8-HpCDD	29.20		6.22	1.05	13C-OCDD	4000	2679	67	0.89
OCDD	126.12		12.44	0.89	13C-2,3,7,8-TCDF	2000	1311	66	0.81
2,3,7,8-TCDF	(2.15)		1.24	(0.72)	13C-1,2,3,7,8-PeCDF	2000	1392	70	1.59
1,2,3,7,8-PeCDF	2.73	0.23	6.22	1.62	13C-2,3,4,7,8-PeCDF	2000	1348	67	1.59
2,3,4,7,8-PeCDF	4.92	0.21	6.22	1.60	13C-1,2,3,4,7,8-HxCDF	2000	1380	69	0.52
1,2,3,4,7,8-HxCDF	4.90*	0.23	6.22	*	13C-1,2,3,6,7,8-HxCDF	2000	1403	70	0.52
1,2,3,6,7,8-HxCDF	4.91	0.33	6.22	1.25	13C-1,2,3,7,8,9-HxCDF	2000	1537	77	0.51
1,2,3,7,8,9-HxCDF	0.25	0.12	6.22	*	13C-2,3,4,6,7,8-HxCDF	2000	1473	74	0.52
2,3,4,6,7,8-HxCDF	4.80	0.09	6.22	1.15	13C-1,2,3,4,6,7,8-HpCDF	2000	1482	74	0.44
1,2,3,4,6,7,8-HpCDF	20.96		6.22	0.99	13C-1,2,3,4,7,8,9-HpCDF	2000	1407	70	0.43
1,2,3,4,7,8,9-HpCDF	1.59	0.77	6.22	0.94					
OCDF	11.18	0.55	12.44	0.87					
Total Tetra-Furans	40.17			0.79	CLEANUP STANDARD				
Total Tetra-Dioxins	15.71			0.68	37Cl-2,3,7,8-TCDD	200	160	80	
Total Penta-Furans	50.32			1.48					
Total Penta-Dioxins	20.64			1.48					
Total Hexa-Furans	24.82			1.28					
Total Hexa-Dioxins	44.22			1.25					
Total Hepta-Furans	32.65			*					
Total Hepta-Dioxins	55.01			1.05					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail

• Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 16:06:00
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-12, S14
 Sample Wt/Vol: 7.2963 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038908
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	10.91		1.37	0.73
1,2,3,7,8-PeCDD	4.08	0.29	6.85	1.67
1,2,3,4,7,8-HxCDD	3.90	0.32	6.85	1.11
1,2,3,6,7,8-HxCDD	7.34		6.85	1.24
1,2,3,7,8,9-HxCDD	5.93	0.26	6.85	1.15
1,2,3,4,6,7,8-HpCDD	127.53		6.85	1.06
OCDD	997.01		13.71	0.87
2,3,7,8-TCDF	(3.92)		1.37	(0.81)
1,2,3,7,8-PeCDF	4.14	0.25	6.85	1.42
2,3,4,7,8-PeCDF	5.79	0.21	6.85	1.45
1,2,3,4,7,8-HxCDF	5.70*	0.23	6.85	*
1,2,3,6,7,8-HxCDF	5.04	0.34	6.85	1.22
1,2,3,7,8,9-HxCDF	*	0.13	6.85	*
2,3,4,6,7,8-HxCDF	4.76	0.10	6.85	1.23
1,2,3,4,6,7,8-HpCDF	30.87		6.85	0.97
1,2,3,4,7,8,9-HpCDF	1.70	0.83	6.85	1.02
OCDF	31.49		13.71	0.86
Total Tetra-Furans	86.66			0.69
Total Tetra-Dioxins	32.32			0.76
Total Penta-Furans	63.76			1.53
Total Penta-Dioxins	4.08			1.67
Total Hexa-Furans	42.85			1.12
Total Hexa-Dioxins	62.86			1.19
Total Hepta-Furans	64.79			*
Total Hepta-Dioxins	230.85			1.04

LABELED COMPOUNDS	SPIKE CONC pg	CONC. FOUN pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1247	62	0.80
13C-1,2,3,7,8-PeCDD	2000	1234	62	1.54
13C-1,2,3,4,7,8-HxCDD	2000	1325	66	1.22
13C-1,2,3,6,7,8-HxCDD	2000	1463	73	1.26
13C-1,2,3,4,6,7,8-HpCDD	2000	1286	64	1.04
13C-OCDD	4000	2370	59	0.89
13C-2,3,7,8-TCDF	2000	1170	58	0.81
13C-1,2,3,7,8-PeCDF	2000	1239	62	1.58
13C-2,3,4,7,8-PeCDF	2000	1198	60	1.57
13C-1,2,3,4,7,8-HxCDF	2000	1244	62	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1187	59	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1290	65	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1291	65	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1251	63	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1129	56	0.42

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 141 70

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.
 * Analyte concentration estimated; CDPE interference, see text for detail.
 • Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 17:12:38
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-21, S04, MS
 Sample Wt/Vol: 6.5583 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038909
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC pg	CONC FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	37.23		1.52	0.76	13C-2,3,7,8-TCDD	2000	1450	73	0.79
1,2,3,7,8-PeCDD	193.83		7.62	1.56	13C-1,2,3,7,8-PeCDD	2000	1442	72	1.53
1,2,3,4,7,8-HxCDD	168.85		7.62	1.34	13C-1,2,3,4,7,8-HxCDD	2000	1509	75	1.24
1,2,3,6,7,8-HxCDD	147.66		7.62	1.21	13C-1,2,3,6,7,8-HxCDD	2000	1606	80	1.25
1,2,3,7,8,9-HxCDD	160.72		7.62	1.23	13C-1,2,3,4,6,7,8-HpCDD	2000	1514	76	1.03
1,2,3,4,6,7,8-HpCDD	191.35		7.62	1.08	13C-OCDD	4000	2525	63	0.87
OCDD	544.99		15.25	0.88	13C-2,3,7,8-TCDF	2000	1477	74	0.78
2,3,7,8-TCDF	35.49		1.52	0.77	13C-1,2,3,7,8-PeCDF	2000	1511	76	1.60
1,2,3,7,8-PeCDF	167.14		7.62	1.55	13C-2,3,4,7,8-PeCDF	2000	1433	72	1.55
2,3,4,7,8-PeCDF	169.57		7.62	1.54	13C-1,2,3,4,7,8-HxCDF	2000	1378	69	0.52
1,2,3,4,7,8-HxCDF	172.18		7.62	1.25	13C-1,2,3,6,7,8-HxCDF	2000	1337	67	0.51
1,2,3,6,7,8-HxCDF	172.44		7.62	1.18	13C-1,2,3,7,8,9-HxCDF	2000	1438	72	0.51
1,2,3,7,8,9-HxCDF	179.73		7.62	1.24	13C-2,3,4,6,7,8-HxCDF	2000	1433	72	0.52
2,3,4,6,7,8-HxCDF	169.94		7.62	1.21	13C-1,2,3,4,6,7,8-HpCDF	2000	1470	73	0.43
1,2,3,4,6,7,8-HpCDF	158.59		7.62	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1323	66	0.44
1,2,3,4,7,8,9-HpCDF	171.61		7.62	1.00					
OCDF	359.45		15.25	0.91					
Total Tetra-Furans	36.31			0.87	CLEANUP STANDARD				
Total Tetra-Dioxins	37.23			0.76	37Cl-2,3,7,8-TCDD	200	184	92	
Total Penta-Furans	336.70			1.55					
Total Penta-Dioxins	193.83			1.56					
Total Hexa-Furans	694.29			*					
Total Hexa-Dioxins	477.23			1.34					
Total Hepta-Furans	340.29			*					
Total Hepta-Dioxins	218.67			1.05					

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-06-95
 Ext. Date: 12-07-95
 Analysis Date: 15-JAN-96 Time: 18:19:06
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-23,S04MSD
 Sample Wt/Vol: 6.5930 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A038910
 Blank Data Filename: A038903
 Cal. Ver. Data Filename: A038902

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	36.00		1.52	0.77
1,2,3,7,8-PeCDD	193.90		7.58	1.54
1,2,3,4,7,8-HxCDD	173.60		7.58	1.24
1,2,3,6,7,8-HxCDD	140.62		7.58	1.27
1,2,3,7,8,9-HxCDD	159.06		7.58	1.24
1,2,3,4,6,7,8-HpCDD	197.31		7.58	1.04
OCDD	568.12		15.17	0.88
2,3,7,8-TCDF	34.94		1.52	0.75
1,2,3,7,8-PeCDF	162.82		7.58	1.56
2,3,4,7,8-PeCDF	169.29		7.58	1.56
1,2,3,4,7,8-HxCDF	170.26		7.58	1.20
1,2,3,6,7,8-HxCDF	167.91		7.58	1.18
1,2,3,7,8,9-HxCDF	176.07		7.58	1.20
2,3,4,6,7,8-HxCDF	165.92		7.58	1.21
1,2,3,4,6,7,8-HpCDF	158.11		7.58	1.01
1,2,3,4,7,8,9-HpCDF	169.34		7.58	1.01
OCDF	336.43		15.17	0.86
Total Tetra-Furans	35.71			0.66
Total Tetra-Dioxins	36.00			0.77
Total Penta-Furans	332.11			1.56
Total Penta-Dioxins	193.90			1.54
Total Hexa-Furans	680.17			*
Total Hexa-Dioxins	477.83			1.09
Total Hepta-Furans	338.67			*
Total Hepta-Dioxins	233.51			1.03

LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1398	70	0.80
13C-1,2,3,7,8-PeCDD	2000	1273	64	1.52
13C-1,2,3,4,7,8-HxCDD	2000	1426	71	1.22
13C-1,2,3,6,7,8-HxCDD	2000	1585	79	1.24
13C-1,2,3,4,6,7,8-HpCDD	2000	1436	72	1.04
13C-OCDD	4000	2548	64	0.89
13C-2,3,7,8-TCDF	2000	1362	68	0.79
13C-1,2,3,7,8-PeCDF	2000	1334	67	1.57
13C-2,3,4,7,8-PeCDF	2000	1274	64	1.58
13C-1,2,3,4,7,8-HxCDF	2000	1321	66	0.53
13C-1,2,3,6,7,8-HxCDF	2000	1276	64	0.50
13C-1,2,3,7,8,9-HxCDF	2000	1417	71	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1425	71	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1376	69	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1198	60	0.44

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 172 86

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-07-95
 Analysis Date: 16-JAN-96 Time: 11:20:42
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-13, S15
 Sample Wt/Vol: 7.9766 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039004
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC. FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	3.46		1.25	0.75	13C-2,3,7,8-TCDD	2000	1376	69	0.80
1,2,3,7,8-PeCDD	9.79		6.27	1.67	13C-1,2,3,7,8-PeCDD	2000	1429	71	1.56
1,2,3,4,7,8-HxCDD	9.95		6.27	1.31	13C-1,2,3,4,7,8-HxCDD	2000	1403	70	1.27
1,2,3,6,7,8-HxCDD	31.83		6.27	1.23	13C-1,2,3,6,7,8-HxCDD	2000	1538	77	1.26
1,2,3,7,8,9-HxCDD	19.18		6.27	1.29	13C-1,2,3,4,6,7,8-HpCDD	2000	1441	72	1.05
1,2,3,4,6,7,8-HpCDD	572.53		6.27	1.07	13C-OCDD	4000	2815	70	0.88
OCDD	3994.50		12.54	0.89	13C-2,3,7,8-TCDF	2000	1394	70	0.79
2,3,7,8-TCDF	(5.19)		1.25	(0.75)	13C-1,2,3,7,8-PeCDF	2000	1528	76	1.57
1,2,3,7,8-PeCDF	7.52		6.27	1.50	13C-2,3,4,7,8-PeCDF	2000	1462	73	1.59
2,3,4,7,8-PeCDF	8.21		6.27	1.45	13C-1,2,3,4,7,8-HxCDF	2000	1424	71	0.55
1,2,3,4,7,8-HxCDF	16.00*	0.34	6.27	*	13C-1,2,3,6,7,8-HxCDF	2000	1428	71	0.51
1,2,3,6,7,8-HxCDF	8.82		6.27	1.20	13C-1,2,3,7,8,9-HxCDF	2000	1450	73	0.52
1,2,3,7,8,9-HxCDF	*	1.01	6.27	*	13C-2,3,4,6,7,8-HxCDF	2000	1502	75	0.52
2,3,4,6,7,8-HxCDF	7.98		6.27	1.19	13C-1,2,3,4,6,7,8-HpCDF	2000	1461	73	0.43
1,2,3,4,6,7,8-HpCDF	75.66		6.27	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1379	69	0.42
1,2,3,4,7,8,9-HpCDF	3.82		6.27	0.97					
OCDF	74.74		12.54	0.87					
Total Tetra-Furans	89.94			0.80	CLEANUP STANDARD				
Total Tetra-Dioxins	51.87			0.77	37Cl-2,3,7,8-TCDD	200	149	74	
Total Penta-Furans	113.25			1.62					
Total Penta-Dioxins	39.58			1.55					
Total Hexa-Furans	105.07			1.11					
Total Hexa-Dioxins	205.82			1.22					
Total Hepta-Furans	170.54			*					
Total Hepta-Dioxins	1028.51			1.05					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte not detected.

* Analyte concentration estimated; CDPE
 interference, see text for detail.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-07-95
 Analysis Date: 16-JAN-96 Time: 12:27:46
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-6-14, S16
 Sample Wt/Vol: 8.0213 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039005
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	3.33		1.25	0.74
1,2,3,7,8-PeCDD	8.81		6.23	1.62
1,2,3,4,7,8-HxCDD	9.07		6.23	1.27
1,2,3,6,7,8-HxCDD	32.10		6.23	1.20
1,2,3,7,8,9-HxCDD	17.64		6.23	1.32
1,2,3,4,6,7,8-HpCDD	591.09		6.23	1.07
OCDD	4300.91		12.47	0.88
2,3,7,8-TCDF	(4.91)		1.25	(0.75)
1,2,3,7,8-PeCDF	8.14		6.23	1.36
2,3,4,7,8-PeCDF	9.35		6.23	1.50
1,2,3,4,7,8-HxCDF	21.00*	0.34	6.23	*
1,2,3,6,7,8-HxCDF	8.23		6.23	1.15
1,2,3,7,8,9-HxCDF	*	1.02	6.23	*
2,3,4,6,7,8-HxCDF	7.91		6.23	1.19
1,2,3,4,6,7,8-HpCDF	84.56		6.23	1.02
1,2,3,4,7,8,9-HpCDF	3.48	0.45	6.23	0.94
OCDF	83.05		12.47	0.86
Total Tetra-Furans	121.64			0.73
Total Tetra-Dioxins	44.78			0.78
Total Penta-Furans	118.08			1.61
Total Penta-Dioxins	56.27			1.51
Total Hexa-Furans	115.03			1.22
Total Hexa-Dioxins	200.08			1.23
Total Hepta-Furans	192.32			*
Total Hepta-Dioxins	1041.07			1.06

LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1464	73	0.79
13C-1,2,3,7,8-PeCDD	2000	1517	76	1.57
13C-1,2,3,4,7,8-HxCDD	2000	1483	74	1.24
13C-1,2,3,6,7,8-HxCDD	2000	1639	82	1.26
13C-1,2,3,4,6,7,8-HpCDD	2000	1577	79	1.04
13C-OCDD	4000	2927	73	0.90
13C-2,3,7,8-TCDF	2000	1552	78	0.77
13C-1,2,3,7,8-PeCDF	2000	1617	81	1.59
13C-2,3,4,7,8-PeCDF	2000	1573	79	1.61
13C-1,2,3,4,7,8-HxCDF	2000	1521	76	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1494	75	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1515	76	0.52
13C-2,3,4,6,7,8-HxCDF	2000	1552	78	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1447	72	0.43
13C-1,2,3,4,7,8,9-HpCDF	2000	1404	70	0.42

CLEANUP STANDARD
 37Cl-2,3,7,8-TCDD 200 161 80

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 16-JAN-96 Time: 13:36:12
 Extract Volume (uL): 20
 Injection Volume (uL): 1
 Dilution Factor: NONE

Lab Sample ID: 47482-10-2, S18
 Sample Wt/Vol: 8.4973 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039006
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.40	1.18	*	13C-2,3,7,8-TCDD	2000	1489	74	0.80
1,2,3,7,8-PeCDD	4.80	0.36	5.88	1.67	13C-1,2,3,7,8-PeCDD	2000	2113	106	1.54
1,2,3,4,7,8-HxCDD	6.31		5.88	1.20	13C-1,2,3,4,7,8-HxCDD	2000	1592	80	1.24
1,2,3,6,7,8-HxCDD	16.17		5.88	1.28	13C-1,2,3,6,7,8-HxCDD	2000	1673	84	1.26
1,2,3,7,8,9-HxCDD	9.88		5.88	1.31	13C-1,2,3,4,6,7,8-HpCDD	2000	1270	64	1.04
1,2,3,4,6,7,8-HpCDD	312.06		5.88	1.06	13C-OCDD	4000	1533	38	0.90
OCDD	2275.10		11.77	0.88	13C-2,3,7,8-TCDF	2000	1908	95	0.81
2,3,7,8-TCDF	(2.21)		1.18	(0.81)	13C-1,2,3,7,8-PeCDF	2000	2322	116	1.56
1,2,3,7,8-PeCDF	2.99	0.35	5.88	1.66	13C-2,3,4,7,8-PeCDF	2000	2336	117	1.58
2,3,4,7,8-PeCDF	4.09	0.49	5.88	1.69	13C-1,2,3,4,7,8-HxCDF	2000	1546	77	0.51
1,2,3,4,7,8-HxCDF	5.00 *	0.22	5.88	*	13C-1,2,3,6,7,8-HxCDF	2000	1454	73	0.52
1,2,3,6,7,8-HxCDF	3.97	0.17	5.88	1.28	13C-1,2,3,7,8,9-HxCDF	2000	1456	73	0.52
1,2,3,7,8,9-HxCDF	*	0.72	5.88	*	13C-2,3,4,6,7,8-HxCDF	2000	1483	74	0.52
2,3,4,6,7,8-HxCDF	3.61	0.36	5.88	1.18	13C-1,2,3,4,6,7,8-HpCDF	2000	1104	55	0.44
1,2,3,4,6,7,8-HpCDF	34.78		5.88	1.02	13C-1,2,3,4,7,8,9-HpCDF	2000	1291	65	0.44
1,2,3,4,7,8,9-HpCDF	1.90	0.33	5.88	1.07					
OCDF	48.78		11.77	0.86					
Total Tetra-Furans	36.32			0.85	CLEANUP STANDARD				
Total Tetra-Dioxins	25.78			0.74	37Cl-2,3,7,8-TCDD	200	225	113	
Total Penta-Furans	45.76			1.56					
Total Penta-Dioxins	22.41			1.51					
Total Hexa-Furans	47.36			1.23					
Total Hexa-Dioxins	101.42			1.28					
Total Hepta-Furans	96.64			*					
Total Hepta-Dioxins	561.94			1.06					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE

Matrix: SOIL

Sample Receipt Date: 12-07-95

Ext. Date: 12-12-95

Analysis Date: 16-JAN-96 Time: 14:42:05

Extract Volume (uL): 20

Injection Volume (uL): 0.5

Dilution Factor: NONE

Lab Sample ID: 47482-10-3, S19

Sample Wt/Vol: 8.8356 units: g

Initial Calibration Date: 04-13-95

Instrument ID: Autospec

GC Column ID: 60M DB5

Sample Data Filename: A039007

Blank Data Filename: A039003

Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	0.93	0.30	2.26	0.84
1,2,3,7,8-PeCDD	2.69	0.71	11.32	1.43
1,2,3,4,7,8-HxCDD	2.26	0.38	11.32	1.24
1,2,3,6,7,8-HxCDD	3.74	0.28	11.32	1.20
1,2,3,7,8,9-HxCDD	3.86	0.53	11.32	1.10
1,2,3,4,6,7,8-HpCDD	58.39		11.32	1.03
OCDD	615.85		22.64	0.88
2,3,7,8-TCDF	(1.63)		2.26	(0.73)
1,2,3,7,8-PeCDF	2.22	0.68	11.32	1.63
2,3,4,7,8-PeCDF	3.53	1.03	11.32	1.46
1,2,3,4,7,8-HxCDF	3.50	0.39	11.32	*
1,2,3,6,7,8-HxCDF	3.34	0.29	11.32	1.14
1,2,3,7,8,9-HxCDF	*	1.12	11.32	*
2,3,4,6,7,8-HxCDF	3.05	0.55	11.32	1.23
1,2,3,4,6,7,8-HpCDF	21.82		11.32	0.99
1,2,3,4,7,8,9-HpCDF	1.62	0.48	11.32	1.04
OCDF	22.73		22.64	0.84
Total Tetra-Furans	30.61	0.38		0.85
Total Tetra-Dioxins	12.73	0.49		0.83
Total Penta-Furans	32.72	0.70		1.48
Total Penta-Dioxins	18.49	0.55		1.78
Total Hexa-Furans	28.14	0.53		1.26
Total Hexa-Dioxins	32.93	0.42		1.22
Total Hepta-Furans	49.68	0.35		*
Total Hepta-Dioxins	107.20	0.60		1.04

LABELED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1517	76	0.78
13C-1,2,3,7,8-PeCDD	2000	1520	76	1.54
13C-1,2,3,4,7,8-HxCDD	2000	1575	79	1.25
13C-1,2,3,6,7,8-HxCDD	2000	1650	83	1.24
13C-1,2,3,4,6,7,8-HpCDD	2000	1579	79	1.02
13C-OCDD	4000	2741	69	0.89
13C-2,3,7,8-TCDF	2000	1594	80	0.82
13C-1,2,3,7,8-PeCDF	2000	1676	84	1.59
13C-2,3,4,7,8-PeCDF	2000	1633	82	1.58
13C-1,2,3,4,7,8-HxCDF	2000	1492	75	0.50
13C-1,2,3,6,7,8-HxCDF	2000	1426	71	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1541	77	0.49
13C-2,3,4,6,7,8-HxCDF	2000	1577	79	0.51
13C-1,2,3,4,6,7,8-HpCDF	2000	1493	75	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1430	71	0.43

CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	200	218	109	

(*) Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 16-JAN-96 Time: 15:48:21
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-19, S34
 Sample Wt/Vol: 7.6565 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039008
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	14.62		2.61	0.79	13C-2,3,7,8-TCDD	2000	1623	81	0.79
1,2,3,7,8-PeCDD	84.78		13.06	1.53	13C-1,2,3,7,8-PeCDD	2000	1518	76	1.55
1,2,3,4,7,8-HxCDD	71.47		13.06	1.22	13C-1,2,3,4,7,8-HxCDD	2000	1628	81	1.26
1,2,3,6,7,8-HxCDD	64.68		13.06	1.26	13C-1,2,3,6,7,8-HxCDD	2000	1855	93	1.26
1,2,3,7,8,9-HxCDD	96.10		13.06	1.27	13C-1,2,3,4,6,7,8-HpCDD	2000	1798	90	1.04
1,2,3,4,6,7,8-HpCDD	411.19		13.06	1.03	13C-OCDD	4000	3247	81	0.90
OCDD	773.32		26.12	0.89	13C-2,3,7,8-TCDF	2000	1657	83	0.79
2,3,7,8-TCDF#	41.85		2.61	0.75	13C-1,2,3,7,8-PeCDF	2000	1631	82	1.57
1,2,3,7,8-PeCDF	70.83		13.06	1.56	13C-2,3,4,7,8-PeCDF	2000	1604	80	1.59
2,3,4,7,8-PeCDF	99.65		13.06	1.55	13C-1,2,3,4,7,8-HxCDF	2000	1534	77	0.52
1,2,3,4,7,8-HxCDF	100.00 *	0.81	13.06	*	13C-1,2,3,6,7,8-HxCDF	2000	1530	77	0.52
1,2,3,6,7,8-HxCDF	105.99		13.06	1.15	13C-1,2,3,7,8,9-HxCDF	2000	1696	85	0.50
1,2,3,7,8,9-HxCDF	5.37	2.30	13.06	1.39	13C-2,3,4,6,7,8-HxCDF	2000	1600	80	0.52
2,3,4,6,7,8-HxCDF	77.02		13.06	1.07	13C-1,2,3,4,6,7,8-HpCDF	2000	1722	86	0.45
1,2,3,4,6,7,8-HpCDF	344.45		13.06	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1605	80	0.44
1,2,3,4,7,8,9-HpCDF	29.80		13.06	1.04					
OCDF	87.93		26.12	0.83					
Total Tetra-Furans	786.22			0.74	CLEANUP STANDARD				
Total Tetra-Dioxins	425.73			0.75	37Cl-2,3,7,8-TCDD	200	223	112	
Total Penta-Furans	1010.97			1.54					
Total Penta-Dioxins	632.56			1.54					
Total Hexa-Furans	537.05			1.20					
Total Hexa-Dioxins	748.54			1.25					
Total Hepta-Furans	494.36			*					
Total Hepta-Dioxins	716.51			1.04					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 16-JAN-96 Time: 16:55:40
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-20, S34, MS
 Sample Wt/Vol: 7.6950 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039009
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	45.57		2.60	0.75
1,2,3,7,8-PeCDD	233.48		13.00	1.53
1,2,3,4,7,8-HxCDD	212.73		13.00	1.25
1,2,3,6,7,8-HxCDD	201.38		13.00	1.22
1,2,3,7,8,9-HxCDD	313.61		13.00	1.25
1,2,3,4,6,7,8-HpCDD	597.88		13.00	1.07
OCDD	1058.34		25.99	0.89
2,3,7,8-TCDF	202.97		2.60	0.76
1,2,3,7,8-PeCDF	174.41		13.00	1.68
2,3,4,7,8-PeCDF	228.11		13.00	1.59
1,2,3,4,7,8-HxCDF	244.72		13.00	1.17
1,2,3,6,7,8-HxCDF	241.33		13.00	1.19
1,2,3,7,8,9-HxCDF	149.02		13.00	1.18
2,3,4,6,7,8-HxCDF	212.90		13.00	1.24
1,2,3,4,6,7,8-HpCDF	510.32		13.00	1.03
1,2,3,4,7,8,9-HpCDF	164.88		13.00	1.04
OCDF	332.72		25.99	0.88
Total Tetra-Furans	977.98			0.75
Total Tetra-Dioxins	523.46			0.77
Total Penta-Furans	1269.31			1.61
Total Penta-Dioxins	987.36			1.35
Total Hexa-Furans	1242.53			1.21
Total Hexa-Dioxins	1351.72			1.28
Total Hepta-Furans	811.74			*
Total Hepta-Dioxins	950.77			1.05

LABELED COMPOUNDS	SPIKE CONC pg	CONC. FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1388	69	0.77
13C-1,2,3,7,8-PeCDD	2000	1311	66	1.58
13C-1,2,3,4,7,8-HxCDD	2000	1381	69	1.25
13C-1,2,3,6,7,8-HxCDD	2000	1478	74	1.26
13C-1,2,3,4,6,7,8-HpCDD	2000	1654	83	1.05
13C-OCDD	4000	3006	75	0.87
13C-2,3,7,8-TCDF	2000	1384	69	0.77
13C-1,2,3,7,8-PeCDF	2000	1309	65	1.60
13C-2,3,4,7,8-PeCDF	2000	1279	64	1.58
13C-1,2,3,4,7,8-HxCDF	2000	1329	66	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1300	65	0.52
13C-1,2,3,7,8,9-HxCDF	2000	1450	73	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1393	70	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1510	76	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1431	72	0.43

CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	200	187	93	

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 16-JAN-96 Time: 18:01:38
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-21, S34, MSD
 Sample Wt/Vol: 7.6564 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039010
 Blank Data Filename: A039003
 Cal. Ver. Data Filename: A039002

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. pg	CONC FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	46.33		2.61	0.77	13C-2,3,7,8-TCDD	2000	1190	59	0.78
1,2,3,7,8-PeCDD	255.46		13.06	1.60	13C-1,2,3,7,8-PeCDD	2000	972	49	1.53
1,2,3,4,7,8-HxCDD	209.34		13.06	1.23	13C-1,2,3,4,7,8-HxCDD	2000	1119	56	1.25
1,2,3,6,7,8-HxCDD	172.39		13.06	1.26	13C-1,2,3,6,7,8-HxCDD	2000	1266	63	1.26
1,2,3,7,8,9-HxCDD	281.64		13.06	1.21	13C-1,2,3,4,6,7,8-HpCDD	2000	1217	61	1.05
1,2,3,4,6,7,8-HpCDD	591.83		13.06	1.02	13C-OCDD	4000	2193	55	0.87
OCDD	1145.12		26.12	0.87	13C-2,3,7,8-TCDF	2000	1159	58	0.78
2,3,7,8-TCDF	186.98		2.61	0.76	13C-1,2,3,7,8-PeCDF	2000	1115	56	1.59
1,2,3,7,8-PeCDF	181.54		13.06	1.34	13C-2,3,4,7,8-PeCDF	2000	1042	52	1.57
2,3,4,7,8-PeCDF	231.60		13.06	1.58	13C-1,2,3,4,7,8-HxCDF	2000	1055	53	0.51
1,2,3,4,7,8-HxCDF	246.72		13.06	1.20	13C-1,2,3,6,7,8-HxCDF	2000	992	50	0.51
1,2,3,6,7,8-HxCDF	261.15		13.06	1.28	13C-1,2,3,7,8,9-HxCDF	2000	1141	57	0.51
1,2,3,7,8,9-HxCDF	153.39		13.06	1.18	13C-2,3,4,6,7,8-HxCDF	2000	1050	53	0.52
2,3,4,6,7,8-HxCDF	224.36		13.06	1.19	13C-1,2,3,4,6,7,8-HpCDF	2000	1121	56	0.44
1,2,3,4,6,7,8-HpCDF	490.06		13.06	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1053	53	0.43
1,2,3,4,7,8,9-HpCDF	162.78		13.06	1.00					
OCDF	331.61		26.12	0.89					
Total Tetra-Furans	903.60		0.79	0.79	CLEANUP STANDARD				
Total Tetra-Dioxins	491.90		0.74	0.74	37Cl-2,3,7,8-TCDD	200	158	79	
Total Penta-Furans	1158.30		1.57	1.57					
Total Penta-Dioxins	884.17		1.50	1.50					
Total Hexa-Furans	1269.46		1.20	1.20					
Total Hexa-Dioxins	1214.11		1.26	1.26					
Total Hepta-Furans	780.94		*	*					
Total Hepta-Dioxins	917.13		1.09	1.09					

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 11:33:14
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: 1:2

Lab Sample ID: 47482-10-22, METHOD
 Sample Wt/Vol: 10.0000 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039105
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	1.08	4.00	*	13C-2,3,7,8-TCDD	2000	1600	80	0.79
1,2,3,7,8-PeCDD	*	1.34	20.00	*	13C-1,2,3,7,8-PeCDD	2000	1443	72	1.58
1,2,3,4,7,8-HxCDD	*	1.68	20.00	*	13C-1,2,3,4,7,8-HxCDD	2000	1668	83	1.25
1,2,3,6,7,8-HxCDD	*	1.61	20.00	*	13C-1,2,3,6,7,8-HxCDD	2000	1856	93	1.26
1,2,3,7,8,9-HxCDD	*	1.57	20.00	*	13C-1,2,3,4,6,7,8-HpCDD	2000	1674	84	1.00
1,2,3,4,6,7,8-HpCDD	*	3.73	20.00	*	13C-OCDD	4000	2916	73	0.88
OCDD	*	45.49*	40.00	*	13C-2,3,7,8-TCDF	2000	1573	79	0.82
2,3,7,8-TCDF	*	4.81*	4.00	*	13C-1,2,3,7,8-PeCDF	2000	1473	74	1.60
1,2,3,7,8-PeCDF	*	1.62	20.00	*	13C-2,3,4,7,8-PeCDF	2000	811	41	1.56
2,3,4,7,8-PeCDF	*	*	20.00	*	13C-1,2,3,4,7,8-HxCDF	2000	1568	78	0.56
1,2,3,4,7,8-HxCDF	*	1.57	20.00	*	13C-1,2,3,6,7,8-HxCDF	2000	1603	80	0.49
1,2,3,6,7,8-HxCDF	*	2.59	20.00	*	13C-1,2,3,7,8,9-HxCDF	2000	1659	83	0.51
1,2,3,7,8,9-HxCDF	*	1.40	20.00	*	13C-2,3,4,6,7,8-HxCDF	2000	1635	82	0.49
2,3,4,6,7,8-HxCDF	*	1.92	20.00	*	13C-1,2,3,4,6,7,8-HpCDF	2000	1617	81	0.44
1,2,3,4,6,7,8-HpCDF	*	1.98	20.00	*	13C-1,2,3,4,7,8,9-HpCDF	2000	1432	72	0.44
1,2,3,4,7,8,9-HpCDF	*	1.14	20.00	*					
OCDF	*	1.74	40.00	*					
Total Tetra-Furans	*	2.84		*	CLEANUP STANDARD				
Total Tetra-Dioxins	*	2.00		*	37Cl-2,3,7,8-TCDD	200	177	88	
Total Penta-Furans	*	2.44		*					
Total Penta-Dioxins	*	1.48		*					
Total Hexa-Furans	*	1.26		*					
Total Hexa-Dioxins	*	1.78		*					
Total Hepta-Furans	*	1.52		*					
Total Hepta-Dioxins	*	2.36		*					

* Sample limit of detection (LOD) higher than lowest calibration concentration
 * Analyte not detected.

Soil SRM (Sample S02) Recovery Results:

Analyte	Soil SRM Target conc. (pg/g)	S02 conc. found (pg/g)	S02 % REC
2378-TCDD	500	487	97.4
12378-PeCDD	1000	1072	107.2
123478-HxCDD	1000	941	94.1
123678-HxCDD	1000	864	86.4
123789-HxCDD	1000	927	92.7
1234678-HpCDD	1500	1451	96.7
OCDD	2500	3087	123.5
2378-TCDF	500	468	93.6
12378-PeCDF	1000	925	92.5
23478-PeCDF	1000	972	97.2
123478-HxCDF	1000	966	96.6
123678-HxCDF	1000	942	94.2
123789-HxCDF	1000	1011	101.1
234678-HxCDF	1000	936	93.6
1234678-HpCDF	1500	1332	88.8
1234789-HpCDF	1500	1414	94.3
OCDF	2500	2348	93.9

Detection Limit (DL) Results for S03:

Analyte	S03 conc. found (pg/g)	S03 DL conc. found (pg/g)	DL Spike conc. (pg/g)	S03 DL % REC #
2378-TCDD	*	9.6	7.6	127.5
12378-PeCDD	*	46.4	37.8	122.8
123478-HxCDD	1.5	40.5	37.8	103.2
123678-HxCDD	1.7	35.9	37.8	91.0
123789-HxCDD	2.0	39.0	37.8	98.1
1234678-HpCDD	28.0	60.4	37.8	91.9
OCDD	285.7	270.8	75.6	75.0
2378-TCDF	1.6	9.8	7.6	107.2
12378-PeCDF	2.0	40.5	37.8	101.9
23478-PeCDF	*	43.6	37.8	115.4
123478-HxCDF	*	40.8	37.8	107.9
123678-HxCDF	1.3	42.3	37.8	108.2
123789-HxCDF	*	42.3	37.8	112.0
234678-HxCDF	*	40.6	37.8	107.5
1234678-HpCDF	7.4	38.9	37.8	86.0
1234789-HpCDF	1.4	40.8	37.8	104.2
OCDF	18.3	87.9	75.6	93.6

Percent recovery calculated using the equation:

$$\% \text{ REC} = 100 (\text{MS conc. found}) / (\text{Spike conc.} + \text{Background conc.})$$

Matrix Spike/Matrix Spike Duplicate Results for S04:

Analyte	S04 conc. found (pg/g)	S04 MS conc. found (pg/g)	S04 MS Dup conc. found (pg/g)	MS Spike conc. (pg/g)	MSD Spike conc. (pg/g)	S04 MS % REC	S04 MSD % REC	MS/MSD RPD
2378-TCDD	*	37.2	36.0	30.5	30.3	122.1	118.7	3.35
12378-PeCDD	*	193.8	193.9	152.5	151.7	127.1	127.8	0.04
123478-HxCDD	0.7	168.9	173.6	152.5	151.7	110.3	114.0	2.78
123678-HxCDD	1.4	147.7	140.6	152.5	151.7	95.9	91.8	4.88
123789-HxCDD	2.1	160.7	159.1	152.5	151.7	104.0	103.5	1.04
1234678-HpCDD	31.6	191.3	197.3	152.5	151.7	104.8	109.3	3.07
OCDD	298.3	545.0	568.1	305.0	303.4	80.9	88.9	4.16
2378-TCDF	*	35.5	34.9	30.5	30.3	116.4	115.2	1.58
12378-PeCDF	*	167.1	162.8	152.5	151.7	109.6	107.3	2.62
23478-PeCDF	*	169.6	169.3	152.5	151.7	111.2	111.6	0.16
123478-HxCDF	*	172.2	170.3	152.5	151.7	112.9	112.3	1.12
123678-HxCDF	0.55^	172.4	167.9	152.5	151.7	113.1	110.7	2.66
123789-HxCDF	*	179.7	176.1	152.5	151.7	117.9	116.1	2.06
234678-HxCDF	0.9	169.9	165.9	152.5	151.7	110.9	108.8	2.39
1234678-HpCDF	6.5	158.6	158.1	152.5	151.7	99.8	100.0	0.31
1234789-HpCDF	*	171.6	169.3	152.5	151.7	112.5	111.6	1.34
OCDF	18.0	359.5	336.4	305.0	303.4	112.0	105.0	6.62

* Analyte peak not detected.

^Analyte concentration estimated; CDPE interference, see text for detail.

Matrix Spike/Matrix Spike Duplicate Results for S34:

Analyte	S34 conc. found (pg/g)	S34 MS conc. found (pg/g)	S34 MS Dup conc. found (pg/g)	MS Spike conc. (pg/g)	MSD Spike conc. (pg/g)	S34 MS % REC #	S34 MSD % REC #	MS/MSD RPD
2378-TCDD	14.6	45.6	46.3	26.0	26.1	112.2	113.7	1.66
12378-PeCDD	84.8	233.5	255.5	130.0	130.6	108.7	118.6	8.99
123478-HxCDD	71.5	212.7	209.3	130.0	130.6	105.6	103.6	1.61
123678-HxCDD	64.7	201.4	172.4	130.0	130.6	103.5	88.3	15.51
123789-HxCDD	96.1	313.6	281.6	130.0	130.6	138.7	124.2	10.74
1234678-HpCDD	411.2	597.9	591.8	130.0	130.6	110.5	109.2	1.02
OCDD	773.3	1058.3	1145.1	259.9	261.2	102.4	110.7	7.88
2378-TCDF	152.3	203.0	187.0	26.0	26.1	113.8	104.8	8.20
12378-PeCDF	70.8	174.4	181.5	130.0	130.6	86.9	90.1	4.01
23478-PeCDF	99.7	228.1	231.6	130.0	130.6	99.4	100.6	1.51
123478-HxCDF	100.00^	244.7	246.7	130.0	130.6	188.3	188.9	0.82
123678-HxCDF	106.0	241.3	261.1	130.0	130.6	102.3	110.4	7.89
123789-HxCDF	5.4	149.0	153.4	130.0	130.6	110.1	112.8	2.89
234678-HxCDF	77.0	212.9	224.4	130.0	130.6	102.9	108.1	5.24
1234678-HpCDF	344.4	510.3	490.1	130.0	130.6	107.6	103.2	4.05
1234789-HpCDF	29.8	164.9	162.8	130.0	130.6	103.2	101.5	1.28
OCDF	87.9	332.7	331.6	259.9	261.2	95.7	95.0	0.33

^ Analyte concentration estimated; CDPE interference, see text for detail.

Percent recovery calculated using the equation:

$$\% \text{ REC} = 100 (\text{MS conc. found}) / (\text{Spike conc.} + \text{Background conc.})$$

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 19:24:45
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-18, S33, Duplicate
 Sample Wt/Vol: 8.0124 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039211
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC pg	CONC. FOUN pg	R(%)	ION RATIO
2,3,7,8-TCDD	4.15		2.50	0.66	13C-2,3,7,8-TCDD	2000	1756	88	0.78
1,2,3,7,8-PeCDD	21.02		12.48	1.42	13C-1,2,3,7,8-PeCDD	2000	1547	77	1.52
1,2,3,4,7,8-HxCDD	18.30		12.48	1.20	13C-1,2,3,4,7,8-HxCDD	2000	1628	81	1.32
1,2,3,6,7,8-HxCDD	17.54		12.48	1.29	13C-1,2,3,6,7,8-HxCDD	2000	1883	94	1.13
1,2,3,7,8,9-HxCDD	26.64		12.48	1.16	13C-1,2,3,4,6,7,8-HpCDD	2000	1697	85	1.02
1,2,3,4,6,7,8-HpCDD	130.35		12.48	1.06	13C-OCDD	4000	3260	82	0.89
OCDD	668.85		24.96	0.87	13C-2,3,7,8-TCDF	2000	1664	83	0.79
2,3,7,8-TCDF#	11.24		2.50	0.79	13C-1,2,3,7,8-PeCDF	2000	1493	75	1.55
1,2,3,7,8-PeCDF	17.66		12.48	1.46	13C-2,3,4,7,8-PeCDF	2000	1467	73	1.57
2,3,4,7,8-PeCDF	23.94		12.48	1.44	13C-1,2,3,4,7,8-HxCDF	2000	1449	72	0.52
1,2,3,4,7,8-HxCDF	27.00*	0.53	12.48	*	13C-1,2,3,6,7,8-HxCDF	2000	1448	72	0.51
1,2,3,6,7,8-HxCDF	29.92		12.48	1.16	13C-1,2,3,7,8,9-HxCDF	2000	1740	87	0.52
1,2,3,7,8,9-HxCDF	1.74	0.63	12.48	1.31	13C-2,3,4,6,7,8-HxCDF	2000	1525	76	0.51
2,3,4,6,7,8-HxCDF	22.72		12.48	1.11	13C-1,2,3,4,6,7,8-HpCDF	2000	1541	77	0.43
1,2,3,4,6,7,8-HpCDF	98.58		12.48	1.01	13C-1,2,3,4,7,8,9-HpCDF	2000	1492	75	0.42
1,2,3,4,7,8,9-HpCDF	8.79	0.48	12.48	0.93					
OCDF	42.12		24.96	0.84					
Total Tetra-Furans	195.58			0.69	CLEANUP STANDARD				
Total Tetra-Dioxins	87.06			0.81	37Cl-2,3,7,8-TCDD	200	220	110	
Total Penta-Furans	238.88			1.52					
Total Penta-Dioxins	119.68			1.42					
Total Hexa-Furans	149.99			1.13					
Total Hexa-Dioxins	192.53			1.23					
Total Hepta-Furans	150.98			*					
Total Hepta-Dioxins	236.82			1.01					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated, CDPE interference, see text for detail.
 * Analyte not detected.

ATTACHMENT C - SUMMARY OF LABORATORY QUALITY CONTROL RESULTS

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 17:11:56
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-16, S32
 Sample Wt/Vol: 10.0644 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039209
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.57	1.99	*	13C-2,3,7,8-TCDD	2000	1449	72	0.79
1,2,3,7,8-PeCDD	*	1.25	9.94	*	13C-1,2,3,7,8-PeCDD	2000	1255	63	1.50
1,2,3,4,7,8-HxCDD	*	0.52	9.94	*	13C-1,2,3,4,7,8-HxCDD	2000	1435	72	1.20
1,2,3,6,7,8-HxCDD	*	0.34	9.94	*	13C-1,2,3,6,7,8-HxCDD	2000	1804	90	1.24
1,2,3,7,8,9-HxCDD	*	0.41	9.94	*	13C-1,2,3,4,6,7,8-HpCDD	2000	1449	72	1.04
1,2,3,4,6,7,8-HpCDD	*	0.96	9.94	*	13C-OCDD	4000	2606	65	0.89
OCDD	*	28.06 *	19.87	*	13C-2,3,7,8-TCDF	2000	1362	68	0.78
2,3,7,8-TCDF	*	0.30	1.99	*	13C-1,2,3,7,8-PeCDF	2000	1298	65	1.58
1,2,3,7,8-PeCDF	*	1.67	9.94	*	13C-2,3,4,7,8-PeCDF	2000	1292	65	1.59
2,3,4,7,8-PeCDF	*	0.95	9.94	*	13C-1,2,3,4,7,8-HxCDF	2000	1316	66	0.53
1,2,3,4,7,8-HxCDF	*	0.46	9.94	*	13C-1,2,3,6,7,8-HxCDF	2000	1390	69	0.51
1,2,3,6,7,8-HxCDF	*	0.41	9.94	*	13C-1,2,3,7,8,9-HxCDF	2000	1441	72	0.50
1,2,3,7,8,9-HxCDF	*	0.54	9.94	*	13C-2,3,4,6,7,8-HxCDF	2000	1375	69	0.52
2,3,4,6,7,8-HxCDF	*	0.77	9.94	*	13C-1,2,3,4,6,7,8-HpCDF	2000	1326	66	0.43
1,2,3,4,6,7,8-HpCDF	*	0.74	9.94	*	13C-1,2,3,4,7,8,9-HpCDF	2000	1282	64	0.43
1,2,3,4,7,8,9-HpCDF	*	0.41	9.94	*					
OCDF	*	0.91	19.87	*					
Total Tetra-Furans	*	0.62		*	CLEANUP STANDARD				
Total Tetra-Dioxins	*	0.55		*	37Cl-2,3,7,8-TCDD	200	192	96	
Total Penta-Furans	*	1.20		*					
Total Penta-Dioxins	*	1.51		*					
Total Hexa-Furans	*	0.58		*					
Total Hexa-Dioxins	*	0.61		*					
Total Hepta-Furans	*	0.85		*					
Total Hepta-Dioxins	*	0.96		*					

* Sample limit of detection (LOD) higher than lowest calibration concentration.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE

Matrix: SOIL

Sample Receipt Date: 12-08-95

Ext. Date: 12-12-95

Analysis Date: 18-JAN-96 Time: 18:17:54

Extract Volume (uL): 20

Injection Volume (uL): 0.5

Dilution Factor: NONE

Lab Sample ID: 47482-10-17, S33

Sample Wt/Vol: 7.9871 units: g

Initial Calibration Date: 04-13-95

Instrument ID: Autospec

GC Column ID: 60M DB5

Sample Data Filename: A039210

Blank Data Filename: A039203

Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	4.20		2.50	0.76	13C-2,3,7,8-TCDD	2000	1075	54	0.79
1,2,3,7,8-PeCDD	21.52		12.52	1.60	13C-1,2,3,7,8-PeCDD	2000	980	49	1.58
1,2,3,4,7,8-HxCDD	20.61		12.52	1.18	13C-1,2,3,4,7,8-HxCDD	2000	941	47	1.22
1,2,3,6,7,8-HxCDD	18.15		12.52	1.19	13C-1,2,3,6,7,8-HxCDD	2000	1197	60	1.25
1,2,3,7,8,9-HxCDD	26.69		12.52	1.20	13C-1,2,3,4,6,7,8-HpCDD	2000	1025	51	1.02
1,2,3,4,6,7,8-HpCDD	139.24		12.52	1.04	13C-OCDD	4000	2137	53	0.87
OCDD	653.25		25.04	0.88	13C-2,3,7,8-TCDF	2000	1000	50	0.77
2,3,7,8-TCDF#	11.40		2.50	0.82	13C-1,2,3,7,8-PeCDF	2000	949	47	1.56
1,2,3,7,8-PeCDF	20.11		12.52	1.46	13C-2,3,4,7,8-PeCDF	2000	914	46	1.60
2,3,4,7,8-PeCDF	26.55		12.52	1.47	13C-1,2,3,4,7,8-HxCDF	2000	924	46	0.51
1,2,3,4,7,8-HxCDF	37.00*	0.61	12.52	*	13C-1,2,3,6,7,8-HxCDF	2000	925	46	0.51
1,2,3,6,7,8-HxCDF	31.68		12.52	1.18	13C-1,2,3,7,8,9-HxCDF	2000	1075	54	0.52
1,2,3,7,8,9-HxCDF	1.79	0.73	12.52	1.08	13C-2,3,4,6,7,8-HxCDF	2000	933	47	0.53
2,3,4,6,7,8-HxCDF	26.13		12.52	1.18	13C-1,2,3,4,6,7,8-HpCDF	2000	923	46	0.44
1,2,3,4,6,7,8-HpCDF	106.75		12.52	1.01	13C-1,2,3,4,7,8,9-HpCDF	2000	922	46	0.43
1,2,3,4,7,8,9-HpCDF	9.30	0.59	12.52	1.01					
OCDF	44.74		25.04	0.84					
Total Tetra-Furans	195.62			0.81	CLEANUP STANDARD				
Total Tetra-Dioxins	105.97			0.74	37Cl-2,3,7,8-TCDD	200	139	70	
Total Penta-Furans	254.09			1.45					
Total Penta-Dioxins	134.88			1.59					
Total Hexa-Furans	142.44			1.18					
Total Hexa-Dioxins	215.79			1.23					
Total Hepta-Furans	165.87			*					
Total Hepta-Dioxins	255.32			1.08					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 14:55:00
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-14, S30
 Sample Wt/Vol: 8.0175 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039207
 Blank Data Filename: A039203
 Cal. Ver. Data Filename:

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	56.99		2.49	0.76	13C-2,3,7,8-TCDD	2000	1678	84	0.78
1,2,3,7,8-PeCDD	393.18		12.47	1.57	13C-1,2,3,7,8-PeCDD	2000	1523	76	1.54
1,2,3,4,7,8-HxCDD	297.59		12.47	1.22	13C-1,2,3,4,7,8-HxCDD	2000	1667	83	1.25
1,2,3,6,7,8-HxCDD	295.49		12.47	1.25	13C-1,2,3,6,7,8-HxCDD	2000	1868	93	1.26
1,2,3,7,8,9-HxCDD	422.85		12.47	1.24	13C-1,2,3,4,6,7,8-HpCDD	2000	1737	87	1.04
1,2,3,4,6,7,8-HpCDD	1508.86		12.47	1.06	13C-OCDD	4000	3282	82	0.88
OCDD	2581.50		24.95	0.89	13C-2,3,7,8-TCDF	2000	1696	85	0.78
2,3,7,8-TCDF#	184.66		2.49	0.75	13C-1,2,3,7,8-PeCDF	2000	1673	84	1.59
1,2,3,7,8-PeCDF	298.89		12.47	1.58	13C-2,3,4,7,8-PeCDF	2000	1586	79	1.60
2,3,4,7,8-PeCDF	434.37		12.47	1.54	13C-1,2,3,4,7,8-HxCDF	2000	1598	80	0.51
1,2,3,4,7,8-HxCDF	420.00 *	0.41	12.47	*	13C-1,2,3,6,7,8-HxCDF	2000	1565	78	0.52
1,2,3,6,7,8-HxCDF	437.19		12.47	1.15	13C-1,2,3,7,8,9-HxCDF	2000	1763	88	0.51
1,2,3,7,8,9-HxCDF	24.16		12.47	1.23	13C-2,3,4,6,7,8-HxCDF	2000	1685	84	0.51
2,3,4,6,7,8-HxCDF	327.62		12.47	1.18	13C-1,2,3,4,6,7,8-HpCDF	2000	1593	80	0.44
1,2,3,4,6,7,8-HpCDF	1340.60		12.47	1.01	13C-1,2,3,4,7,8,9-HpCDF	2000	1500	75	0.44
1,2,3,4,7,8,9-HpCDF	123.81		12.47	1.01					
OCDF	307.96		24.95	0.85					
Total Tetra-Furans	3517.40			0.72	CLEANUP STANDARD				
Total Tetra-Dioxins	1839.01			0.76	37Cl-2,3,7,8-TCDD	200	229	114	
Total Penta-Furans	4422.76			1.53					
Total Penta-Dioxins	3037.44			1.47					
Total Hexa-Furans	2024.89			1.38					
Total Hexa-Dioxins	3078.33			1.24					
Total Hepta-Furans	1927.79			*					
Total Hepta-Dioxins	2683.34			1.04					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 16:01:00
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-15, S31
 Sample Wt/Vol: 8.1683 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039208
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	72.54	0.44	2.45	0.77
1,2,3,7,8-PeCDD	405.88		12.24	1.54
1,2,3,4,7,8-HxCDD	358.99		12.24	1.25
1,2,3,6,7,8-HxCDD	305.24		12.24	1.27
1,2,3,7,8,9-HxCDD	462.25		12.24	1.28
1,2,3,4,6,7,8-HpCDD	1634.40		12.24	1.07
OCDD	2662.38		24.48	0.89
2,3,7,8-TCDF#	208.93		2.45	0.77
1,2,3,7,8-PeCDF	337.39		12.24	1.50
2,3,4,7,8-PeCDF	486.79		12.24	1.55
1,2,3,4,7,8-HxCDF	460.00*		12.24	*
1,2,3,6,7,8-HxCDF	530.30		12.24	1.21
1,2,3,7,8,9-HxCDF	26.25		12.24	1.18
2,3,4,6,7,8-HxCDF	375.89		12.24	1.24
1,2,3,4,6,7,8-HpCDF	1435.59		12.24	1.01
1,2,3,4,7,8,9-HpCDF	130.35		12.24	1.01
OCDF	300.56		24.48	0.88
Total Tetra-Furans	4219.69			0.74
Total Tetra-Dioxins	2034.88			0.77
Total Penta-Furans	4797.72			1.54
Total Penta-Dioxins	2530.19			1.44
Total Hexa-Furans	2635.91			1.18
Total Hexa-Dioxins	3495.62			1.26
Total Hepta-Furans	2036.93			*
Total Hepta-Dioxins	2834.56			1.06

LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUN pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1760	88	0.79
13C-1,2,3,7,8-PeCDD	2000	1738	87	1.53
13C-1,2,3,4,7,8-HxCDD	2000	1702	85	1.24
13C-1,2,3,6,7,8-HxCDD	2000	2023	101	1.27
13C-1,2,3,4,6,7,8-HpCDD	2000	1723	86	1.05
13C-OCDD	4000	2793	70	0.87
13C-2,3,7,8-TCDF	2000	1818	91	0.78
13C-1,2,3,7,8-PeCDF	2000	1764	88	1.60
13C-2,3,4,7,8-PeCDF	2000	1752	88	1.62
13C-1,2,3,4,7,8-HxCDF	2000	1756	88	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1756	88	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1700	85	0.52
13C-2,3,4,6,7,8-HxCDF	2000	1804	90	0.52
13C-1,2,3,4,6,7,8-HpCDF	2000	1621	81	0.42
13C-1,2,3,4,7,8,9-HpCDF	2000	1503	75	0.43

CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	200	242	121	

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 12:37:55
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-12, S28
 Sample Wt/Vol: 8.4043 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039205
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	4.71		2.38	0.75	13C-2,3,7,8-TCDD	2000	1704	85	0.80
1,2,3,7,8-PeCDD	24.62		11.90	1.56	13C-1,2,3,7,8-PeCDD	2000	1807	90	1.55
1,2,3,4,7,8-HxCDD	21.94		11.90	1.32	13C-1,2,3,4,7,8-HxCDD	2000	1596	80	1.23
1,2,3,6,7,8-HxCDD	29.91		11.90	1.33	13C-1,2,3,6,7,8-HxCDD	2000	1833	92	1.24
1,2,3,7,8,9-HxCDD	36.29		11.90	1.28	13C-1,2,3,4,6,7,8-HpCDD	2000	1588	79	1.04
1,2,3,4,6,7,8-HpCDD	482.26		11.90	1.08	13C-OCDD	4000	3046	76	0.88
OCDD	4811.18		23.80	0.89	13C-2,3,7,8-TCDF	2000	1760	88	0.79
2,3,7,8-TCDF#	10.66		2.38	0.82	13C-1,2,3,7,8-PeCDF	2000	1845	92	1.58
1,2,3,7,8-PeCDF	18.51		11.90	1.53	13C-2,3,4,7,8-PeCDF	2000	1760	88	1.59
2,3,4,7,8-PeCDF	26.61		11.90	1.72	13C-1,2,3,4,7,8-HxCDF	2000	1614	81	0.52
1,2,3,4,7,8-HxCDF	34.00*	0.34	11.90	*	13C-1,2,3,6,7,8-HxCDF	2000	1578	79	0.52
1,2,3,6,7,8-HxCDF	28.13		11.90	1.31	13C-1,2,3,7,8,9-HxCDF	2000	1716	86	0.52
1,2,3,7,8,9-HxCDF	1.98	0.44	11.90	1.37	13C-2,3,4,6,7,8-HxCDF	2000	1664	83	0.51
2,3,4,6,7,8-HxCDF	20.43		11.90	1.21	13C-1,2,3,4,6,7,8-HpCDF	2000	1550	77	0.43
1,2,3,4,6,7,8-HpCDF	138.76		11.90	1.03	13C-1,2,3,4,7,8,9-HpCDF	2000	1530	76	0.43
1,2,3,4,7,8,9-HpCDF	11.10	0.32	11.90	0.98					
OCDF	199.37		23.80	0.88					
Total Tetra-Furans	244.29			0.81	CLEANUP STANDARD				
Total Tetra-Dioxins	115.10			0.79	37Cl-2,3,7,8-TCDD	200	235	117	
Total Penta-Furans	278.91			1.55					
Total Penta-Dioxins	161.29			1.57					
Total Hexa-Furans	188.32			1.18					
Total Hexa-Dioxins	278.57			1.26					
Total Hepta-Furans	322.68			*					
Total Hepta-Dioxins	843.23			1.08					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 13:49:28
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-13, S29
 Sample Wt/Vol: 8.2512 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039206
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	38.27		2.42	0.75	13C-2,3,7,8-TCDD	2000	1652	83	0.78
1,2,3,7,8-PeCDD	220.55		12.12	1.60	13C-1,2,3,7,8-PeCDD	2000	1524	76	1.55
1,2,3,4,7,8-HxCDD	179.48		12.12	1.33	13C-1,2,3,4,7,8-HxCDD	2000	1530	76	1.27
1,2,3,6,7,8-HxCDD	172.87		12.12	1.17	13C-1,2,3,6,7,8-HxCDD	2000	1789	89	1.27
1,2,3,7,8,9-HxCDD	260.79		12.12	1.21	13C-1,2,3,4,6,7,8-HpCDD	2000	1572	79	1.03
1,2,3,4,6,7,8-HpCDD	1001.35		12.12	1.05	13C-OCDD	4000	3077	77	0.89
OCDD	1973.49		24.24	0.88	13C-2,3,7,8-TCDF	2000	1577	79	0.80
2,3,7,8-TCDF#	105.66		2.42	0.78	13C-1,2,3,7,8-PeCDF	2000	1617	81	1.60
1,2,3,7,8-PeCDF	168.48		12.12	1.53	13C-2,3,4,7,8-PeCDF	2000	1595	80	1.57
2,3,4,7,8-PeCDF	239.20		12.12	1.56	13C-1,2,3,4,7,8-HxCDF	2000	1519	76	0.55
1,2,3,4,7,8-HxCDF	230.00*	0.36	12.12	*	13C-1,2,3,6,7,8-HxCDF	2000	1515	76	0.50
1,2,3,6,7,8-HxCDF	261.58		12.12	1.23	13C-1,2,3,7,8,9-HxCDF	2000	1651	83	0.53
1,2,3,7,8,9-HxCDF	14.88		12.12	1.27	13C-2,3,4,6,7,8-HxCDF	2000	1615	81	0.51
2,3,4,6,7,8-HxCDF	195.87		12.12	1.22	13C-1,2,3,4,6,7,8-HpCDF	2000	1489	74	0.44
1,2,3,4,6,7,8-HpCDF	772.00		12.12	1.00	13C-1,2,3,4,7,8,9-HpCDF	2000	1441	72	0.44
1,2,3,4,7,8,9-HpCDF	68.64		12.12	1.01					
OCDF	297.35		24.24	0.87					
Total Tetra-Furans	2171.82			0.76	CLEANUP STANDARD				
Total Tetra-Dioxins	1101.21			0.77	37Cl-2,3,7,8-TCDD	200	234	117	
Total Penta-Furans	2304.49			1.60					
Total Penta-Dioxins	1825.92			1.44					
Total Hexa-Furans	1078.75			1.27					
Total Hexa-Dioxins	1893.64			1.23					
Total Hepta-Furans	1184.23			*					
Total Hepta-Dioxins	1779.71			1.05					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 19:26:41
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-10, S26
 Sample Wt/Vol: 6.5986 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039112
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	6.86		3.03	0.84	13C-2,3,7,8-TCDD	2000	1608	80	0.82
1,2,3,7,8-PeCDD	17.31		15.15	1.66	13C-1,2,3,7,8-PeCDD	2000	1554	78	1.57
1,2,3,4,7,8-HxCDD	15.18		15.15	1.21	13C-1,2,3,4,7,8-HxCDD	2000	1557	78	1.24
1,2,3,6,7,8-HxCDD	40.17		15.15	1.29	13C-1,2,3,6,7,8-HxCDD	2000	1708	85	1.25
1,2,3,7,8,9-HxCDD	36.59		15.15	1.25	13C-1,2,3,4,6,7,8-HpCDD	2000	1604	80	1.05
1,2,3,4,6,7,8-HpCDD	902.55		15.15	1.06	13C-OCDD	4000	2995	75	0.90
OCDD	6995.43		30.31	0.88	13C-2,3,7,8-TCDF	2000	1653	83	0.78
2,3,7,8-TCDF	(9.39)		3.03	(0.84)	13C-1,2,3,7,8-PeCDF	2000	1659	83	1.64
1,2,3,7,8-PeCDF	15.48		15.15	1.41	13C-2,3,4,7,8-PeCDF	2000	1571	79	1.59
2,3,4,7,8-PeCDF	19.38		15.15	1.45	13C-1,2,3,4,7,8-HxCDF	2000	1571	79	0.53
1,2,3,4,7,8-HxCDF	36.00*	1.80	15.15	*	13C-1,2,3,6,7,8-HxCDF	2000	1527	76	0.51
1,2,3,6,7,8-HxCDF	21.26		15.15	1.11	13C-1,2,3,7,8,9-HxCDF	2000	1617	81	0.51
1,2,3,7,8,9-HxCDF	*		15.15	*	13C-2,3,4,6,7,8-HxCDF	2000	1618	81	0.51
2,3,4,6,7,8-HxCDF	18.87		15.15	1.22	13C-1,2,3,4,6,7,8-HpCDF	2000	1464	73	0.44
1,2,3,4,6,7,8-HpCDF	115.09		15.15	1.01	13C-1,2,3,4,7,8,9-HpCDF	2000	1458	73	0.44
1,2,3,4,7,8,9-HpCDF	15.05	1.16	15.15	1.07					
OCDF	127.34		30.31	0.85					
Total Tetra-Furans	102.95			0.75	CLEANUP STANDARD				
Total Tetra-Dioxins	180.85			0.75	37Cl-2,3,7,8-TCDD	200	291	145	
Total Penta-Furans	207.96			1.52					
Total Penta-Dioxins	*	2.33		*					
Total Hexa-Furans	125.37			1.18					
Total Hexa-Dioxins	44.32			1.28					
Total Hepta-Furans	274.56			*					
Total Hepta-Dioxins	1664.02			1.07					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

• Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 18-JAN-96 Time: 11:30:40
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-11, S27
 Sample Wt/Vol: 7.4562 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039204
 Blank Data Filename: A039203
 Cal. Ver. Data Filename: A039202

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	1.52	2.68	*	13C-2,3,7,8-TCDD	2000	1721	86	0.80
1,2,3,7,8-PeCDD	16.91		13.41	1.69	13C-1,2,3,7,8-PeCDD	2000	1645	82	1.57
1,2,3,4,7,8-HxCDD	14.76		13.41	1.28	13C-1,2,3,4,7,8-HxCDD	2000	1644	82	1.22
1,2,3,6,7,8-HxCDD	19.47		13.41	1.33	13C-1,2,3,6,7,8-HxCDD	2000	1709	85	1.24
1,2,3,7,8,9-HxCDD	21.65		13.41	1.18	13C-1,2,3,4,6,7,8-HpCDD	2000	1636	82	1.02
1,2,3,4,6,7,8-HpCDD	298.28		13.41	1.06	13C-OCDD	4000	2993	75	0.89
OCDD	2690.97		26.82	0.88	13C-2,3,7,8-TCDF	2000	1780	89	0.77
2,3,7,8-TCDF#	10.35		2.68	0.77	13C-1,2,3,7,8-PeCDF	2000	1684	84	1.60
1,2,3,7,8-PeCDF	14.15		13.41	1.76	13C-2,3,4,7,8-PeCDF	2000	1465	73	1.59
2,3,4,7,8-PeCDF	23.17		13.41	1.73	13C-1,2,3,4,7,8-HxCDF	2000	1586	79	0.50
1,2,3,4,7,8-HxCDF	27.00*	0.62	13.41	*	13C-1,2,3,6,7,8-HxCDF	2000	1509	75	0.49
1,2,3,6,7,8-HxCDF	25.99		13.41	1.18	13C-1,2,3,7,8,9-HxCDF	2000	1707	85	0.52
1,2,3,7,8,9-HxCDF	1.42	0.74	13.41	1.09	13C-2,3,4,6,7,8-HxCDF	2000	1597	80	0.52
2,3,4,6,7,8-HxCDF	20.79		13.41	1.23	13C-1,2,3,4,6,7,8-HpCDF	2000	1518	76	0.44
1,2,3,4,6,7,8-HpCDF	95.99		13.41	0.96	13C-1,2,3,4,7,8,9-HpCDF	2000	1423	71	0.44
1,2,3,4,7,8,9-HpCDF	7.05	0.54	13.41	0.92					
OCDF	61.79		26.82	0.92					
Total Tetra-Furans	156.51			0.80	CLEANUP STANDARD				
Total Tetra-Dioxins	48.78			0.85	37Cl-2,3,7,8-TCDD	200	231	116	
Total Penta-Furans	202.33			1.48					
Total Penta-Dioxins	57.25			1.66					
Total Hexa-Furans	127.49			1.37					
Total Hexa-Dioxins	183.13			1.20					
Total Hepta-Furans	168.95			0.92					
Total Hepta-Dioxins	525.38			1.07					

2,3,7,8-TCDF value from second column confirmation.

* Analyte concentration estimated; CDPE interference, see text for details.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 17:10:51
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-8, S24
 Sample Wt/Vol: 7.2232 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039110
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELLED COMPOUNDS	SPIKE CONC. PB	CONC. FOUND PB	R(%)	ION RATIO
2,3,7,8-TCDD	1.82	0.55	2.77	0.73	13C-2,3,7,8-TCDD	2000	1447	72	0.80
1,2,3,7,8-PeCDD	2.17	1.50	13.84	1.60	13C-1,2,3,7,8-PeCDD	2000	1384	69	1.54
1,2,3,4,7,8-HxCDD	1.76	1.25	13.84	1.40	13C-1,2,3,4,7,8-HxCDD	2000	1441	72	1.24
1,2,3,6,7,8-HxCDD	6.56	1.32	13.84	1.06	13C-1,2,3,6,7,8-HxCDD	2000	1434	72	1.26
1,2,3,7,8,9-HxCDD	4.93	1.23	13.84	1.13	13C-1,2,3,4,6,7,8-HpCDD	2000	1327	66	1.03
1,2,3,4,6,7,8-HpCDD	147.41		13.84	1.05	13C-OCDD	4000	2503	63	0.89
OCDD	1892.40		27.69	0.86	13C-2,3,7,8-TCDF	2000	1398	70	0.78
2,3,7,8-TCDF	(1.29)		2.77	(0.76)	13C-1,2,3,7,8-PeCDF	2000	1374	69	1.59
1,2,3,7,8-PeCDF	*	1.53	13.84	*	13C-2,3,4,7,8-PeCDF	2000	1337	67	1.58
2,3,4,7,8-PeCDF	*	2.32	13.84	*	13C-1,2,3,4,7,8-HxCDF	2000	1168	58	0.52
1,2,3,4,7,8-HxCDF	4.00	1.43	13.84	*	13C-1,2,3,6,7,8-HxCDF	2000	1175	59	0.52
1,2,3,6,7,8-HxCDF	*	2.42	13.84	*	13C-1,2,3,7,8,9-HxCDF	2000	1411	71	0.52
1,2,3,7,8,9-HxCDF	*	1.11	13.84	*	13C-2,3,4,6,7,8-HxCDF	2000	1220	61	0.53
2,3,4,6,7,8-HxCDF	2.58	1.63	13.84	1.14	13C-1,2,3,4,6,7,8-HpCDF	2000	1147	57	0.43
1,2,3,4,6,7,8-HpCDF	13.53	1.80	13.84	0.90	13C-1,2,3,4,7,8,9-HpCDF	2000	1139	57	0.44
1,2,3,4,7,8,9-HpCDF	0.98	0.93	13.84	1.00					
OCDF	13.16	1.25	27.69	0.86					
Total Tetra-Furans	18.32			0.65	CLEANUP STANDARD				
Total Tetra-Dioxins	12.98			0.77	37Cl-2,3,7,8-TCDD	200	190	95	
Total Penta-Furans	24.64			1.71					
Total Penta-Dioxins	7.23			1.39					
Total Hexa-Furans	19.92			1.34					
Total Hexa-Dioxins	53.06			1.18					
Total Hepta-Furans	29.86			1.00					
Total Hepta-Dioxins	262.01			1.09					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-08-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 18:20:42
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-9, S25
 Sample Wt/Vol: 8.1293 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039111
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO
2,3,7,8-TCDD	3.37		2.46	0.75
1,2,3,7,8-PeCDD	11.53	1.03	12.30	1.63
1,2,3,4,7,8-HxCDD	10.34	0.87	12.30	1.19
1,2,3,6,7,8-HxCDD	13.67		12.30	1.27
1,2,3,7,8,9-HxCDD	17.81		12.30	1.25
1,2,3,4,6,7,8-HpCDD	154.90		12.30	1.04
OCDD	1075.87		24.60	0.88
2,3,7,8-TCDF	(7.06)		2.46	(0.80)
1,2,3,7,8-PeCDF	10.31	0.95	12.30	1.62
2,3,4,7,8-PeCDF	14.27		12.30	1.36
1,2,3,4,7,8-HxCDF	24.00*	0.88	12.30	*
1,2,3,6,7,8-HxCDF	17.64		12.30	1.27
1,2,3,7,8,9-HxCDF	1.07	0.77	12.30	1.25
2,3,4,6,7,8-HxCDF	14.49		12.30	1.33
1,2,3,4,6,7,8-HpCDF	74.88		12.30	1.01
1,2,3,4,7,8,9-HpCDF	5.95	0.58	12.30	0.89
OCDF	48.85		24.60	0.89
Total Tetra-Furans	120.59			0.75
Total Tetra-Dioxins	61.09			0.72
Total Penta-Furans	146.88			1.34
Total Penta-Dioxins	12.37			1.72
Total Hexa-Furans	91.20			1.20
Total Hexa-Dioxins	139.43			1.24
Total Hepta-Furans	127.28			0.89
Total Hepta-Dioxins	284.29			1.01

LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
13C-2,3,7,8-TCDD	2000	1483	74	0.79
13C-1,2,3,7,8-PeCDD	2000	1392	70	1.53
13C-1,2,3,4,7,8-HxCDD	2000	1486	74	1.23
13C-1,2,3,6,7,8-HxCDD	2000	1546	77	1.23
13C-1,2,3,4,6,7,8-HpCDD	2000	1377	69	1.07
13C-OCDD	4000	2566	64	0.89
13C-2,3,7,8-TCDF	2000	1367	68	0.80
13C-1,2,3,7,8-PeCDF	2000	1481	74	1.60
13C-2,3,4,7,8-PeCDF	2000	1388	69	1.61
13C-1,2,3,4,7,8-HxCDF	2000	1436	72	0.52
13C-1,2,3,6,7,8-HxCDF	2000	1351	68	0.51
13C-1,2,3,7,8,9-HxCDF	2000	1482	74	0.51
13C-2,3,4,6,7,8-HxCDF	2000	1463	73	0.51
13C-1,2,3,4,6,7,8-HpCDF	2000	1279	64	0.44
13C-1,2,3,4,7,8,9-HpCDF	2000	1302	65	0.42
CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	200	202	101	

(.) Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 14:58:33
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-6, S22
 Sample Wt/Vol: 7.8343 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039108
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	1.76	0.25	2.55	0.69	13C-2,3,7,8-TCDD	2000	1557	78	0.78
1,2,3,7,8-PeCDD	2.85	0.75	12.76	1.68	13C-1,2,3,7,8-PeCDD	2000	1365	68	1.52
1,2,3,4,7,8-HxCDD	2.73	0.67	12.76	1.15	13C-1,2,3,4,7,8-HxCDD	2000	1460	73	1.22
1,2,3,6,7,8-HxCDD	5.24	0.68	12.76	1.28	13C-1,2,3,6,7,8-HxCDD	2000	1706	85	1.21
1,2,3,7,8,9-HxCDD	4.10	0.64	12.76	1.16	13C-1,2,3,4,6,7,8-HpCDD	2000	1493	75	1.05
1,2,3,4,6,7,8-HpCDD	76.76		12.76	1.02	13C-OCDD	4000	2745	69	0.89
OCDD	572.75		25.53	0.88	13C-2,3,7,8-TCDF	2000	1447	72	0.78
2,3,7,8-TCDF	(1.83)		2.55	(0.75)	13C-1,2,3,7,8-PeCDF	2000	1411	71	1.55
1,2,3,7,8-PeCDF	2.51	0.72	12.76	1.33	13C-2,3,4,7,8-PeCDF	2000	1361	68	1.60
2,3,4,7,8-PeCDF	3.84	1.01	12.76	1.53	13C-1,2,3,4,7,8-HxCDF	2000	1402	70	0.52
1,2,3,4,7,8-HxCDF	*	0.70	12.76	*	13C-1,2,3,6,7,8-HxCDF	2000	1434	72	0.51
1,2,3,6,7,8-HxCDF	3.96	1.17	12.76	1.13	13C-1,2,3,7,8,9-HxCDF	2000	1512	76	0.53
1,2,3,7,8,9-HxCDF	*	0.61	12.76	*	13C-2,3,4,6,7,8-HxCDF	2000	1527	76	0.52
2,3,4,6,7,8-HxCDF	3.36	0.73	12.76	1.18	13C-1,2,3,4,6,7,8-HpCDF	2000	1467	73	0.44
1,2,3,4,6,7,8-HpCDF	20.18		12.76	1.03	13C-1,2,3,4,7,8,9-HpCDF	2000	1310	66	0.45
1,2,3,4,7,8,9-HpCDF	1.13	0.48	12.76	0.97					
OCDF	11.78	0.70	25.53	0.91					
Total Tetra-Furans	34.57			0.68	CLEANUP STANDARD				
Total Tetra-Dioxins	16.54			0.73	37Cl-2,3,7,8-TCDD	200	210	105	
Total Penta-Furans	42.43			1.65					
Total Penta-Dioxins	11.69			1.66					
Total Hexa-Furans	27.88			1.20					
Total Hexa-Dioxins	41.02			1.20					
Total Hepta-Furans	40.11			*					
Total Hepta-Dioxins	138.28			1.07					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration not quantified due to CDPE interference; see text.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 16:04:48
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: 1:2

Lab Sample ID: 47482-10-7, S23
 Sample Wt/Vol: 7.6321 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039109
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	3.00	5.24	*	13C-2,3,7,8-TCDD	2000	405	20<	0.81
1,2,3,7,8-PeCDD	*	6.55	26.21	*	13C-1,2,3,7,8-PeCDD	2000	513	26<	1.72
1,2,3,4,7,8-HxCDD	30.41		26.21	1.36	13C-1,2,3,4,7,8-HxCDD	2000	485	24<	1.29
1,2,3,6,7,8-HxCDD	24.49	4.23	26.21	1.36	13C-1,2,3,6,7,8-HxCDD	2000	519	26<	1.29
1,2,3,7,8,9-HxCDD	29.66		26.21	1.32	13C-1,2,3,4,6,7,8-HpCDD	2000	1437	72	1.04
1,2,3,4,6,7,8-HpCDD	1174.14		26.21	1.07	13C-OCDD	4000	2534	63	0.91
OCDD	18875.28		52.41	0.87	13C-2,3,7,8-TCDF	2000	306	15<	0.75
2,3,7,8-TCDF	*	53.63*	5.24	*	13C-1,2,3,7,8-PeCDF	2000	544	27<	1.70
1,2,3,7,8-PeCDF	*	6.59	26.21	*	13C-2,3,4,7,8-PeCDF	2000	505	25<	1.75
2,3,4,7,8-PeCDF	*	7.95	26.21	*	13C-1,2,3,4,7,8-HxCDF	2000	1146	57	0.52
1,2,3,4,7,8-HxCDF	*	5.67	26.21	*	13C-1,2,3,6,7,8-HxCDF	2000	958	48	0.49
1,2,3,6,7,8-HxCDF	*	9.28	26.21	*	13C-1,2,3,7,8,9-HxCDF	2000	1323	66	0.50
1,2,3,7,8,9-HxCDF	*	3.16	26.21	*	13C-2,3,4,6,7,8-HxCDF	2000	490	25<	0.51
2,3,4,6,7,8-HxCDF	*	7.21	26.21	*	13C-1,2,3,4,6,7,8-HpCDF	2000	1261	63	0.45
1,2,3,4,6,7,8-HpCDF	226.39		26.21	1.04	13C-1,2,3,4,7,8,9-HpCDF	2000	1235	62	0.44
1,2,3,4,7,8,9-HpCDF	19.26	2.75	26.21	0.94					
OCDF	422.85		52.41	0.85					
Total Tetra-Furans	198.25			0.79	CLEANUP STANDARD				
Total Tetra-Dioxins	*	5.56		*	37Cl-2,3,7,8-TCDD	200	*	*	
Total Penta-Furans	323.36			1.78					
Total Penta-Dioxins	*	7.24		*					
Total Hexa-Furans	201.39			1.39					
Total Hexa-Dioxins	575.90			1.41					
Total Hepta-Furans	882.00			*					
Total Hepta-Dioxins	2449.77			1.05					

- * Analyte concentration not quantified due to CDPE interference; see text.
- * Sample limit of detection (LOD) higher than lowest calibration concentration.
- * Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 12:43:14
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-4, S20
 Sample Wt/Vol: 8.7148 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039106
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	31.06		2.29	0.80	13C-2,3,7,8-TCDD	2000	567	28 <	0.81
1,2,3,7,8-PeCDD	84.70		11.47	1.57	13C-1,2,3,7,8-PeCDD	2000	522	26 <	1.56
1,2,3,4,7,8-HxCDD	14.51		11.47	1.21	13C-1,2,3,4,7,8-HxCDD	2000	513	26 <	1.28
1,2,3,6,7,8-HxCDD	74.43		11.47	1.23	13C-1,2,3,6,7,8-HxCDD	2000	620	31 <	1.26
1,2,3,7,8,9-HxCDD	169.09		11.47	1.24	13C-1,2,3,4,6,7,8-HpCDD	2000	588	29 <	1.04
1,2,3,4,6,7,8-HpCDD	878.03		11.47	1.06	13C-OCDD	4000	1029	26 <	0.89
OCDD	9005.18		22.95	0.88	13C-2,3,7,8-TCDF	2000	543	27 <	0.80
2,3,7,8-TCDF	(1.53)		2.29	(0.72)	13C-1,2,3,7,8-PeCDF	2000	558	28 <	1.57
1,2,3,7,8-PeCDF	*	2.04	11.47	*	13C-2,3,4,7,8-PeCDF	2000	519	26 <	1.60
2,3,4,7,8-PeCDF	*	2.96	11.47	*	13C-1,2,3,4,7,8-HxCDF	2000	512	26 <	0.52
1,2,3,4,7,8-HxCDF	*	2.10	11.47	*	13C-1,2,3,6,7,8-HxCDF	2000	525	26 <	0.52
1,2,3,6,7,8-HxCDF	4.04	3.47	11.47	1.33	13C-1,2,3,7,8,9-HxCDF	2000	601	30 <	0.50
1,2,3,7,8,9-HxCDF	*	1.67	11.47	*	13C-2,3,4,6,7,8-HxCDF	2000	541	27 <	0.51
2,3,4,6,7,8-HxCDF	3.64	2.30	11.47	1.14	13C-1,2,3,4,6,7,8-HpCDF	2000	481	24 <	0.44
1,2,3,4,6,7,8-HpCDF	37.16		11.47	0.98	13C-1,2,3,4,7,8,9-HpCDF	2000	488	24 <	0.42
1,2,3,4,7,8,9-HpCDF	2.66	1.44	11.47	1.15					
OCDF	79.09		22.95	0.86					
Total Tetra-Furans	16.91			0.77	CLEANUP STANDARD				
Total Tetra-Dioxins	78.00			0.72	37Cl-2,3,7,8-TCDD	200	73	36 <	
Total Penta-Furans	73.89			1.49					
Total Penta-Dioxins	287.85			1.54					
Total Hexa-Furans	58.48			1.25					
Total Hexa-Dioxins	1473.65			1.24					
Total Hepta-Furans	110.03			*					
Total Hepta-Dioxins	2200.80			1.05					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration not quantified due to CDPE interference; see text.

* Analyte not detected.

PCDD/PCDF ANALYSIS DATA SHEET

Lab Name: BATTELLE
 Matrix: SOIL
 Sample Receipt Date: 12-07-95
 Ext. Date: 12-12-95
 Analysis Date: 17-JAN-96 Time: 13:51:19
 Extract Volume (uL): 20
 Injection Volume (uL): 0.5
 Dilution Factor: NONE

Lab Sample ID: 47482-10-5, S21
 Sample Wt/Vol: 7.5419 units: g
 Initial Calibration Date: 04-13-95
 Instrument ID: Autospec
 GC Column ID: 60M DB5
 Sample Data Filename: A039107
 Blank Data Filename: A039103
 Cal. Ver. Data Filename: A039102

ANALYTE	CONC. FOUND pg/g dry	SAMPLE LIMIT OF DETECTION pg/g dry	LOWEST CALIBRATION CONCENTRATION pg/g dry	ION RATIO	LABELED COMPOUNDS	SPIKE CONC. pg	CONC. FOUND pg	R(%)	ION RATIO
2,3,7,8-TCDD	*	0.46	2.65	*	13C-2,3,7,8-TCDD	2000	1140	57	0.78
1,2,3,7,8-PeCDD	1.67	0.97	13.26	1.53	13C-1,2,3,7,8-PeCDD	2000	1177	59	1.60
1,2,3,4,7,8-HxCDD	1.68	1.09	13.26	1.09	13C-1,2,3,4,7,8-HxCDD	2000	1078	54	1.22
1,2,3,6,7,8-HxCDD	1.62	1.06	13.26	1.47	13C-1,2,3,6,7,8-HxCDD	2000	1353	68	1.24
1,2,3,7,8,9-HxCDD	3.31	1.02	13.26	1.10	13C-1,2,3,4,6,7,8-HpCDD	2000	1186	59	1.04
1,2,3,4,6,7,8-HpCDD	14.48		13.26	1.02	13C-OCDD	4000	2143	54	0.89
OCDD	76.61		26.52	0.86	13C-2,3,7,8-TCDF	2000	1184	59	0.80
2,3,7,8-TCDF	(1.12)		2.65	(0.82)	13C-1,2,3,7,8-PeCDF	2000	1138	57	1.63
1,2,3,7,8-PeCDF	1.84	1.03	13.26	1.58	13C-2,3,4,7,8-PeCDF	2000	1233	62	1.59
2,3,4,7,8-PeCDF	2.49	1.34	13.26	1.61	13C-1,2,3,4,7,8-HxCDF	2000	1113	56	0.51
1,2,3,4,7,8-HxCDF	2.40*	1.09	13.26	*	13C-1,2,3,6,7,8-HxCDF	2000	1193	60	0.50
1,2,3,6,7,8-HxCDF	2.32	1.74	13.26	1.05	13C-1,2,3,7,8,9-HxCDF	2000	1259	63	0.49
1,2,3,7,8,9-HxCDF	*	0.93	13.26	*	13C-2,3,4,6,7,8-HxCDF	2000	1177	59	0.52
2,3,4,6,7,8-HxCDF	2.42	1.17	13.26	1.29	13C-1,2,3,4,6,7,8-HpCDF	2000	1045	52	0.44
1,2,3,4,6,7,8-HpCDF	9.28	1.46	13.26	0.92	13C-1,2,3,4,7,8,9-HpCDF	2000	1040	52	0.43
1,2,3,4,7,8,9-HpCDF	*	0.77	13.26	*					
OCDF	5.03	1.14	26.52	0.86					
Total Tetra-Furans	16.57			0.80	CLEANUP STANDARD				
Total Tetra-Dioxins	5.29			0.88	37Cl-2,3,7,8-TCDD	200	158	79	
Total Penta-Furans	21.38			1.62					
Total Penta-Dioxins	5.66			1.51					
Total Hexa-Furans	6.78			1.17					
Total Hexa-Dioxins	14.54			1.14					
Total Hepta-Furans	11.36			0.92					
Total Hepta-Dioxins	27.92			1.02					

() Second column confirmation not done. 2,3,7,8-TCDF concentration estimated; see text for detail.

* Analyte concentration estimated; CDPE interference, see text for detail.

* Analyte not detected.

Duplicate Sample Results for S09:

Analyte	S09 conc. found (pg/g)	S09 Dup conc. found (pg/g)	RPD (%)	
2378-TCDD	0.5	0.5	9.6	
12378-PeCDD	1.7	2.4	35.2	#
123478-HxCDD	1.5	2.0	26.5	#
123678-HxCDD	1.8	2.3	26.4	#
123789-HxCDD	2.9	4.2	37.3	#
1234678-HpCDD	16.6	19.7	16.9	
OCDD	81.5	90.0	9.9	
2378-TCDF	*	2.0	NC	
12378-PeCDF	1.6	1.7	7.1	
23478-PeCDF	2.5	3.7	38.3	#
123478-HxCDF	3.00^	1.50^	*	
123678-HxCDF	2.6	3.9	40.9	#
123789-HxCDF	*	0.4	NC	
234678-HxCDF	2.6	3.4	24.8	
1234678-HpCDF	11.5	13.8	18.0	
1234789-HpCDF	0.7	1.0	35.4	#
OCDF	6.8	7.9	15.2	

* Analyte peak not detected.

RPD outside 25% control limit but measurement made at or below the lowest calibration concentration.

^ Analyte concentration estimated; CDPE interference, see text for detail.

NC - % RPD not calculated due to a non-detect for this analyte in S09.

Duplicate Sample Results for S33:

Analyte	S33 conc. found (pg/g)	S33 Dup conc. found (pg/g)	RPD (%)
2378-TCDD	4.2	4.2	1.2
12378-PeCDD	21.5	21.0	2.4
123478-HxCDD	20.6	18.3	11.9
123678-HxCDD	18.2	17.5	3.4
123789-HxCDD	26.7	26.6	0.2
1234678-HpCDD	139.2	130.3	6.6
OCDD	653.3	668.9	2.4
2378-TCDF	11.4	11.2	1.4
12378-PeCDF	20.1	17.7	13.0
23478-PeCDF	26.6	23.9	10.3
123478-HxCDF	37.00^	27.00^	*
123678-HxCDF	31.7	29.9	5.7
123789-HxCDF	1.8	1.7	2.8
234678-HxCDF	26.1	22.7	14.0
1234678-HpCDF	106.8	98.6	8.0
1234789-HpCDF	9.3	8.8	5.6
OCDF	44.7	42.1	6.0

* Analyte peak not detected.

^ Analyte concentration estimated; CDPE interference, see text for detail.