I.1
3/29/01

SOUTHWEST LABORATORY OF OKLAHOMA
1700 West Albany, Suite A / Broken Arrow, OK 74012
918-251-2858

SDG NARRATIVE
March 29, 2001

CLIENT:	USEPA5
EPISODE NO.:	45826
SAMPLE NO.:	45826.01 Thru 45826.13
SDG NO.:	45826

EPA Region 5 Records Ctr.
356583

Samples were extracted and analyzed per method 8290.

Broad peaks were observed for HPCDD,OCDD and OCDF indicating chromatography problems. Replacing the columns twice showed some behavior. Indicating matrix related problems. 13C-OCDD was not detected in sample 45826.12 due to shifting of the retention time which was related to sample matrix.

Jayant Shringarpure, Ph.D.
Technical Director
em

March 29, 2001

AATS/SWOK
PCDD/PCDF SPIKED SAMPLE SUMMARY

EPA SAMPLE NO.

LCS B

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Contract:
Client: Case No: LAB. ID.: LC0214SA SDG No.:
Matrix: solid (aqueous/solid/leachate)

CONCENTRATION UNITS: (pg/L or ng/Kg) ng/Kg

ANALYTE	SPIKE ADDED (PG)	SPIKED SAMPLE CONCEN.	SAMPLE CONCEN.	% REC #	QC LIMITS
2378-TCDD	200	11.122	0.000	83.4	50-150
12378-PeCDD	500	27.978	0.000	83.9	50-150
123478-HxCDD	500	19.233	0.000	57.7	50-150
123678-HxCDD	500	30.248	0.000	90.7	50-150
123789-HxCDD	500	27.824	0.000	83.5	50-150
1234678-HpCDD	500	24.216	0.000	72.6	50-150
OCDD	1000	54.432	0.000	81.6	50-150
2378-TCDF	200	9.677	0.000	72.6	50-150
12378-PeCDF	500	24.656	0.000	74.0	50-150
23478-PeCDF	500	27.183	0.000	81.5	50-150
123478-HxCDF	500	20.597	0.000	61.8	50-150
123678-HxCDF	500	28.082	0.000	84.2	50-150
123789-HxCDF	500	26.312	0.000	78.9	50-150
234678-HxCDF	500	25.363	0.000	76.1	50-150
1234678-HpCDF	500	25.273	0.000	75.8	50-150
1234789-HpCDF	500	21.619	0.000	64.9	50-150
OCDF	1000	42.305	0.000	63.5	50-150

AATS/SWOK
PCDD/PCDF SPIKED SAMPLE SUMMARY

EPA SAMPLE NO.

Lab Name:	SOUTHWEST LAB. OF OKLAHOMA		Contract:		S01	
Client:	USEPA5	Case No:	SAS No.:		SDG No.:	45826
Matrix:	solid	(aqueous/solid/leachate) Sample Wt/Vol:	15.56	(g/ml)	% Moist.	31.93

CONCENTRATION UNITS: (pg/L or ng/Kg) ng/Kg

ANALYTE	SPIKE ADDED (PG)	SPIKE ADDED CONCENT	SPIKED SAMPLE CONCENT	SAMPLE CONCENTRAT.	% REC	#	QC LIMITS
2378-TCDD	200	18.88	21.42	"NotFnd"	113.4		50-150
12378-PeCDD	500	47.21	47.57	"NotFnd"	100.8		50-150
123478-HxCDD	500	47.21	56.70	"NotFnd"	120.1		50-150
123678-HxCDD	500	47.21	44.26	"NotFnd"	93.8		50-150
123789-HxCDD	500	47.21	48.48	"NotFnd"	102.7		50-150
1234678-HpCDD	500	47.21	51.74	10.009	88.4		50-150
OCDD	1000	94.41	158.72	108.271	53.4		50-150
2378-TCDF	200	18.88	17.41	"NotFnd"	92.2		50-150
12378-PeCDF	500	47.21	42.39	"NotFnd"	89.8		50-150
23478-PeCDF	500	47.21	37.70	"NotFnd"	79.9		50-150
123478-HxCDF	500	47.21	45.72	"NotFnd"	96.9		50-150
123678-HxCDF	500	47.21	41.06	0.635	85.6		50-150
123789-HxCDF	500	47.21	44.32	"NotFnd"	93.9		50-150
234678-HxCDF	500	47.21	41.78	"NotFnd"	88.5		50-150
1234678-HpCDF	500	47.21	43.72	2.277	87.8		50-150
1234789-HpCDF	500	47.21	43.60	"NotFnd"	92.4		50-150
OCDF	1000	94.41	88.01	5.374	87.5		50-150

AATS/SWOK
PCDD/PCDF DUPLICATE SAMPLE SUMMARY

EPA SAMPLE NO.

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Contract: S01
Client USEPA5 Case No: 0 SAS No.: 0 SDG No.: 45826
Matrix: solid (Soil/Water/Waste/Ash)

CONCENTRATION UNITS:(pg/L or ng/Kg) ng/Kg

ANALYTE	MS SAMP. CONCENT.	MSD SAMPLE CONCENT.	MSD SAMPLE % REC	RPD #	QC LIMITS
2378-TCDD	21.42	22.030	116.7	2.83	50
12378-PeCDD	47.57	56.485	119.7	17.14	50
123478-HxCDD	56.70	51.842	109.8	8.95	50
123678-HxCDD	44.26	50.476	106.9	13.12	50
123789-HxCDD	48.48	49.732	105.3	2.56	50
1234678-HpCDD	51.74	55.198	95.7	7.96	50
OCDD	158.72	156.783	51.4	3.91	50
2378-TCDF	17.41	18.187	96.3	4.35	50
12378-PeCDF	42.39	45.905	97.2	7.95	50
23478-PeCDF	37.70	41.381	87.7	9.30	50
123478-HxCDF	45.72	46.952	99.5	2.65	50
123678-HxCDF	41.06	45.091	94.2	9.51	50
123789-HxCDF	44.32	45.736	96.9	3.15	50
234678-HxCDF	41.78	45.059	95.5	7.54	50
1234678-HpCDF	43.72	44.812	90.1	2.60	50
1234789-HpCDF	43.60	40.456	85.7	7.49	50
OCDF	88.01	94.788	94.7	7.88	50

If an analyte is not detected in either analysis, enter 0 (zero) as the concentration.

Column to be used to flag values outside QC limits.

QC limits are advisory.

4DF
PCDD/PCDF METHOD BLANK SUMMARY

EPA SAMPLE NO.
S3/25/01

DFBLK 31

Lab Name: SOUTHWEST LABORATORY OF OKLAHOMA Contract: _____

Lab Code: SWOK Case No.: USEPAS SAS No.: _____ SDG No.: S01

Matrix: Soil (Soil/Water/Waste/Ash) Lab Sample ID: BL02148A

Sample wt/vol: 15 (g/mL) g Lab File ID: A0063#2

Water Sample Prep.: _____ (Sepf/Cont) Date Extracted: 2/14/01

Date Analyzed: 2/16/01

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, SPIKES, AND DUPLICATES:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
S01	45826.01	A0063#3	2/16/01
S01MS	45826.02MS	A0063#4	↓
S01MSD	45826.03MSD	A0063#5	↓
S02	45826.04	A0063#7	↓
S03	45826.05	A0063#9	↓
S04	45826.06	A0063#10	↓
S05	45826.07	A0063#11	✓

4DF
PCDD/PCDF METHOD BLANK SUMMARY

EPA SAMPLE NO.

DFBLK2

Lab Name: SOUTHWEST LABORATORY OF OKLAHOMA Contract: _____

Lab Code: SWOK Case No.: USEPA5 SAS No.: _____ SDG No.: S01

Matrix: Soil (Soil/Water/Waste/Ash) Lab Sample ID: BB0214SA

Sample wt/vol: 15 (g/mL) g Lab File ID: A0145#3

Water Sample Prep.: _____ (Sepf/Cont) Date Extracted: 2/14/01

Date Analyzed: 1/9/01

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, SPIKES, AND DUPLICATES:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
S06	45826.08	A0145#5	3/9/01
S07	45826.09	A0145#6	↓
S08	45826.10	A0145#7	↓
S09	45826.11	A0145#8	↓
S10	45826.12	A0145#9	↓

4DF
PCDD/PCDF METHOD BLANK SUMMARY

4 3/24/01

EPA SAMPLE NO.

DFBLK 3

Lab Name: SOUTHWEST LABORATORY OF OKLAHOMA Contract: _____

Lab Code: SWOK Case No.: USEPA5 SAS No.: _____ SDG No.: 301

Matrix: Soil (Soil/Water/Waste/Ash) Lab Sample ID: BB0214SA

Sample wt/vol: 15 (g/mL) g Lab File ID: A0149#4

Water Sample Prep.: _____ (Sepf/Cont) Date Extracted: 2/14/01

Date Analyzed: 3/9/01

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, SPIKES, AND DUPLICATES:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
D01	45826.13	A0149#5	3/9/01
LCS3	LC0214SA	A0149#3	3/9/01

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
DFBLK 31 ST 3/29/01

Lab Name: Southwest Lab. of Oklahoma Episode No.:

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: BL0214SA

Client Name: Sample Wt/Vol: 15.00 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #2

Analysis Date: 16-FEB-01 Time: 12:25:23 Blank Data Filename:

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.247	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.348	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	0.430	U	*	*	0.87
1,2,3,6,7,8-HxCDD	*	0.311	U	*	*	1.21
1,2,3,7,8,9-HxCDD	*	0.342	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	*	0.544	U	*	*	1.18
OCDD	*	1.222	U	*	*	1.27
2,3,7,8-TCDF	*	0.167	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.245	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.232	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.162	U	*	*	1.20
1,2,3,6,7,8-HxCDF	*	0.141	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.198	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.156	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	*	0.286	U	*	*	1.51
1,2,3,4,7,8,9-HpCDF	*	0.392	U	*	*	1.10
OCDF	*	1.559	U	*	*	1.61
Total Tetra-Dioxins	*	0.247	U			
Total Penta-Dioxins	*	0.348	U			
Total Hexa-Dioxins	*	0.311	U			
Total Hepta-Dioxins	*	0.544	U			
Total Tetra-Furans	*	0.167	U			
Total Penta-Furans	*	0.232	U			
Total Hexa-Furans	*	0.141	U			
Total Hepta-Furans	*	0.286	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

DFBLK 3 T 3/29/01

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.:

Client Name:

Lab Sample ID: BL0214SA

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 15.00 g or mL: g

Sample Receipt Date:

Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift:

Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 12:25:23

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A0063 #2

Injection Volume(ul): 2.00

Blank Data Filename:

Dilution Factor: 1

Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	*	X 0.01	*
OCDD	*	X 0.001	*
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 0.000e+00

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
DFBLK 2

Lab Name: Southwest Lab. of Oklahoma Episode No.:

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: BB0214SA

Client Name: Sample Wt/Vol: 15.00 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #3

Analysis Date: 9-MAR-01 Time: 03:06:14 Blank Data Filename:

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.044	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.066	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.081	U	*	*	0.83
1,2,3,6,7,8-HxCDD	*	0.057	U	*	*	1.18
1,2,3,7,8,9-HxCDD	*	0.055	U	*	*	1.23
1,2,3,4,6,7,8-HpCDD	*	0.068	U	*	*	1.24
OCDD	1.774	0.129		0.94	1.000	1.20
2,3,7,8-TCDF	*	0.039	U	*	*	1.18
1,2,3,7,8-PeCDF	*	0.045	U	*	*	1.08
2,3,4,7,8-PeCDF	*	0.046	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.032	U	*	*	1.36
1,2,3,6,7,8-HxCDF	*	0.029	U	*	*	1.45
1,2,3,7,8,9-HxCDF	*	0.040	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	0.033	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	*	0.057	U	*	*	1.70
1,2,3,4,7,8,9-HpCDF	*	0.087	U	*	*	1.13
OCDF	*	0.123	U	*	*	1.49
Total Tetra-Dioxins	*	0.044	U			
Total Penta-Dioxins	*	0.066	U			
Total Hexa-Dioxins	*	0.057	U			
Total Hepta-Dioxins	*	0.068	U			
Total Tetra-Furans	*	0.039	U			
Total Penta-Furans	*	0.046	U			
Total Hexa-Furans	*	0.029	U			
Total Hepta-Furans	*	0.057	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

DFBLK 2

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.:

Client Name:

Lab Sample ID: BB0214SA

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 15.00 g or mL: g

Sample Receipt Date:

Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift:

Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 03:06:14

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A0145 #3

Injection Volume(ul): 2.00

Blank Data Filename:

Dilution Factor: 1

Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	*	X 0.01	*
OCDD	1.77	X 0.001	1.77e-03
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 1.774e-03

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
DFBLK 2

Lab Name: Southwest Lab. of Oklahoma Episode No.:

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: BB0214SA

Client Name: USEPA5 Sample Wt/Vol: 15.00 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20.0 Inj. Vol(ul):1.0 Sample Data Filename: A0149 #4

Analysis Date: 9-MAR-01 Time: 17:02:42 Blank Data Filename: A0149#4

Dilution Factor: 1 Cal. Ver. Data Filename: A0149#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.080	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.105	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.192	U	*	*	0.83
1,2,3,6,7,8-HxCDD	*	0.135	U	*	*	1.18
1,2,3,7,8,9-HxCDD	*	0.130	U	*	*	1.23
1,2,3,4,6,7,8-HpCDD	*	0.157	U	*	*	1.24
OCDD	*	0.857	U	*	*	1.20
2,3,7,8-TCDF	*	0.077	U	*	*	1.18
1,2,3,7,8-PeCDF	*	0.064	U	*	*	1.08
2,3,4,7,8-PeCDF	*	0.065	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.063	U	*	*	1.36
1,2,3,6,7,8-HxCDF	*	0.059	U	*	*	1.45
1,2,3,7,8,9-HxCDF	*	0.081	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	0.066	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	*	0.164	U	*	*	1.70
1,2,3,4,7,8,9-HpCDF	*	0.248	U	*	*	1.13
OCDF	*	0.730	U	*	*	1.49
Total Tetra-Dioxins	*	0.080	U			
Total Penta-Dioxins	*	0.105	U			
Total Hexa-Dioxins	*	0.135	U			
Total Hepta-Dioxins	*	0.157	U			
Total Tetra-Furans	*	0.077	U			
Total Penta-Furans	*	0.065	U			
Total Hexa-Furans	*	0.059	U			
Total Hepta-Furans	*	0.164	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

DFBLK2

Lab Name: SOUTHWEST LAB. OF OKLAHOMA

Episode No.:

Client Name: USEPA5

Lab Sample ID: BB0214SA

Matrix (aqueous/solid/leachate): solid

Sample Wt/Vol: 15.00 g or mL: g

Sample Receipt Date:

Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift:

Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 17:02:42

GC Column ID: DB-5

Extract Volume(ul): 20.0

Sample Data Filename: A0149 #4

Injection Volume(ul): 2.00

Blank Data Filename: A0149#4

Dilution Factor: 1

Cal. Ver. Data Filename: A0149#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	*	X 0.01	*
OCDD	*	X 0.001	*
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 0.000e+00

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
D01

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.13

Client Name: USEPA5 Sample Wt/Vol: 15.59 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20.0 Inj. Vol(ul):1.0 Sample Data Filename: A0149 #5

Analysis Date: 9-MAR-01 Time: 17:51:19 Blank Data Filename: A0149#4

Dilution Factor: 1 Cal. Ver. Data Filename: A0149#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.37

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.079	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.141	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.328	U	*	*	0.83
1,2,3,6,7,8-HxCDD	0.461	0.230		1.23	1.000	1.18
1,2,3,7,8,9-HxCDD	0.450	0.222	X	1.90	1.009	1.23
1,2,3,4,6,7,8-HpCDD	11.215	1.229		1.05	1.000	1.24
OCDD	204.652	18.218		0.98	1.000	1.20
2,3,7,8-TCDF	*	0.087	U	*	*	1.18
1,2,3,7,8-PeCDF	0.278	0.072	I	1.41	1.001	1.08
2,3,4,7,8-PeCDF	0.187	0.073	X	1.00	1.035	1.07
1,2,3,4,7,8-HxCDF	*	0.124	U	*	*	1.36
1,2,3,6,7,8-HxCDF	1.698	0.116	X	1.58	1.003	1.45
1,2,3,7,8,9-HxCDF	*	0.159	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	0.129	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	9.031	0.376		1.03	1.000	1.70
1,2,3,4,7,8,9-HpCDF	*	0.567	U	*	*	1.13
OCDF	*	0.796	U	*	*	1.49
Total Tetra-Dioxins	*	0.079	U			
Total Penta-Dioxins	*	0.141	U			
Total Hexa-Dioxins	0.461	0.230				
Total Hepta-Dioxins	20.579	1.229				
Total Tetra-Furans	1.450	0.087				
Total Penta-Furans	6.814	0.073				
Total Hexa-Furans	6.138	0.116				
Total Hepta-Furans	23.483	0.376				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

D01

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.13

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.59 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 17:51:19 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0149 #5

Injection Volume(ul): 2.00 Blank Data Filename: A0149#4

Dilution Factor: 1 Cal. Ver. Data Filename: A0149#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 23.37

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	0.46	X 0.1	4.61e-02
1,2,3,7,8,9-HxCDD	0.45	X 0.1	4.50e-02
1,2,3,4,6,7,8-HpCDD	11.21	X 0.01	1.12e-01
OCDD	204.65	X 0.001	2.05e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	0.28	X 0.05	1.39e-02
2,3,4,7,8-PeCDF	0.19	X 0.5	9.34e-02
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	1.70	X 0.1	1.70e-01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	9.03	X 0.01	9.03e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 7.754e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S01

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.01

Client Name: USEPA5 Sample Wt/Vol: 15.56 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #3

Analysis Date: 16-FEB-01 Time: 13:14:02 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 31.93

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.369	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.595	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	0.710	U	*	*	0.87
1,2,3,6,7,8-HxCDD	*	0.514	U	*	*	1.21
1,2,3,7,8,9-HxCDD	*	0.564	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	10.009	0.793		0.92	1.001	1.18
OCDD	108.271	2.025		0.90	1.000	1.27
2,3,7,8-TCDF	*	0.233	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.300	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.285	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.428	U	*	*	1.20
1,2,3,6,7,8-HxCDF	0.635	0.372	I	1.38	1.002	1.38
1,2,3,7,8,9-HxCDF	*	0.522	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.410	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	2.277	0.505	X	1.23	1.001	1.51
1,2,3,4,7,8,9-HpCDF	*	0.692	U	*	*	1.10
OCDF	5.374	1.298		0.91	1.000	1.61
Total Tetra-Dioxins	*	0.369	U			
Total Penta-Dioxins	*	0.595	U			
Total Hexa-Dioxins	*	0.514	U			
Total Hepta-Dioxins	*	0.793	U			
Total Tetra-Furans	0.716	0.233				
Total Penta-Furans	0.956	0.285				
Total Hexa-Furans	1.916	0.372				
Total Hepta-Furans	*	0.505	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

S01

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.01

Matrix (aqueous/solid/Leachate): solid Sample Wt/Vol: 15.56 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 13:14:02 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0063 #3

Injection Volume(ul): 2.00 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 31.93

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	10.01	X 0.01	1.00e-01
OCDD	108.27	X 0.001	1.08e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	0.64	X 0.1	6.35e-02
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	2.28	X 0.01	2.28e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	5.37	X 0.001	5.37e-03

Total: 3.000e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S02

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.04

Client Name: USEPA5 Sample Wt/Vol: 15.26 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #7

Analysis Date: 16-FEB-01 Time: 16:28:39 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 43.76

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.646	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.727	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	1.269	U	*	*	0.87
1,2,3,6,7,8-HxCDD	1.741	0.918	X	2.20	1.001	1.21
1,2,3,7,8,9-HxCDD	*	1.008	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	154.800	0.983		1.04	1.001	1.18
OCDD	1736.879	3.410	E	0.91	1.000	1.27
2,3,7,8-TCDF	*	0.504	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.392	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.372	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.616	U	*	*	1.20
1,2,3,6,7,8-HxCDF	1.694	0.536	I	1.28	1.003	1.38
1,2,3,7,8,9-HxCDF	*	0.753	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.591	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	11.391	1.020		1.07	1.000	1.51
1,2,3,4,7,8,9-HpCDF	*	1.398	U	*	*	1.10
OCDF	21.591	5.536		0.88	1.002	1.61
Total Tetra-Dioxins	*	0.646	U			
Total Penta-Dioxins	*	0.727	U			
Total Hexa-Dioxins	*	0.918	U			
Total Hepta-Dioxins	*	0.983	U			
Total Tetra-Furans	2.524	0.504				
Total Penta-Furans	*	0.372	U			
Total Hexa-Furans	8.940	0.536				
Total Hepta-Furans	48.142	1.020				

GCH 4-17-01

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S02

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.04

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.26 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 16:28:39 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0063 #7

Injection Volume(ul): 2.00 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 43.76

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	1.74	X 0.1	1.74e-01
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	154.80	X 0.01	1.55e+00
OCDD	1736.88	X 0.001	1.74e+00
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	1.69	X 0.1	1.69e-01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	11.39	X 0.01	1.14e-01
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	21.59	X 0.001	2.16e-02

Total: 3.764e+00

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S03

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.05

Client Name: USEPA5 Sample Wt/Vol: 15.19 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #9

Analysis Date: 16-FEB-01 Time: 18:05:58 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 26.92

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.178	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.443	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	0.512	U	*	*	0.87
1,2,3,6,7,8-HxCDD	*	0.370	U	*	*	1.21
1,2,3,7,8,9-HxCDD	*	0.407	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	2.807	1.053		1.06	1.001	1.18
OCDD	50.649	1.576		0.90	0.999	1.27
2,3,7,8-TCDF	*	0.157	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.222	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.210	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.142	U	*	*	1.20
1,2,3,6,7,8-HxCDF	*	0.124	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.174	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.136	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	*	1.280	U	*	*	1.51
1,2,3,4,7,8,9-HpCDF	*	1.755	U	*	*	1.10
OCDF	*	2.070	U	*	*	1.61
Total Tetra-Dioxins	*	0.178	U			
Total Penta-Dioxins	*	0.443	U			
Total Hexa-Dioxins	*	0.370	U			
Total Hepta-Dioxins	*	1.053	U			
Total Tetra-Furans	*	0.157	U			
Total Penta-Furans	*	0.210	U			
Total Hexa-Furans	0.478	0.124				
Total Hepta-Furans	*	1.280	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

S03

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.05

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.19 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 18:05:58 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0063 #9

Injection Volume(ul): 2.00 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 26.92

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	2.81	X 0.01	2.81e-02
OCDD	50.65	X 0.001	5.06e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 7.872e-02

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S04

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.06

Client Name: USEPA5 Sample Wt/Vol: 15.05 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #10

Analysis Date: 16-FEB-01 Time: 18:54:38 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 25.66

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.295	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.388	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	0.773	U	*	*	0.87
1,2,3,6,7,8-HxCDD	*	0.559	U	*	*	1.21
1,2,3,7,8,9-HxCDD	*	0.614	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	29.265	1.028		1.01	1.001	1.18
OCDD	254.420	1.756		0.91	1.001	1.27
2,3,7,8-TCDF	*	0.235	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.249	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.236	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.506	U	*	*	1.20
1,2,3,6,7,8-HxCDF	1.300	0.440	X	1.94	1.003	1.38
1,2,3,7,8,9-HxCDF	*	0.618	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.485	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	7.473	1.215		1.07	1.000	1.51
1,2,3,4,7,8,9-HpCDF	*	1.665	U	*	*	1.10
OCDF	15.363	2.338		0.99	1.003	1.61
Total Tetra-Dioxins	*	0.295	U			
Total Penta-Dioxins	*	0.388	U			
Total Hexa-Dioxins	4.127	0.559				
Total Hepta-Dioxins	*	1.028	U			
Total Tetra-Furans	1.594	0.235				
Total Penta-Furans	3.786	0.236				
Total Hexa-Furans	6.890	0.440				
Total Hepta-Furans	7.473	1.215				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S04

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.06

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.05 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 18:54:38 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0063 #10

Injection Volume(ul): 2.00 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 25.66

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	29.27	X 0.01	2.93e-01
OCDD	254.42	X 0.001	2.54e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	1.30	X 0.1	1.30e-01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	7.47	X 0.01	7.47e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	15.36	X 0.001	1.54e-02

Total: 7.672e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S05

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.07

Client Name: USEPA5 Sample Wt/Vol: 15.05 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-16-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0063 #11

Analysis Date: 16-FEB-01 Time: 19:43:18 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 24.29

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.204	U	*	*	1.14
1,2,3,7,8-PeCDD	*	0.317	U	*	*	1.13
1,2,3,4,7,8-HxCDD	*	0.472	U	*	*	0.87
1,2,3,6,7,8-HxCDD	*	0.341	U	*	*	1.21
1,2,3,7,8,9-HxCDD	*	0.375	U	*	*	1.10
1,2,3,4,6,7,8-HpCDD	3.018	0.921		0.96	1.000	1.18
OCDD	48.264	1.670		0.98	1.000	1.27
2,3,7,8-TCDF	*	0.150	U	*	*	1.20
1,2,3,7,8-PeCDF	*	0.271	U	*	*	1.02
2,3,4,7,8-PeCDF	*	0.257	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.298	U	*	*	1.20
1,2,3,6,7,8-HxCDF	*	0.259	U	*	*	1.38
1,2,3,7,8,9-HxCDF	*	0.364	U	*	*	0.98
2,3,4,6,7,8-HxCDF	*	0.286	U	*	*	1.25
1,2,3,4,6,7,8-HpCDF	*	0.506	U	*	*	1.51
1,2,3,4,7,8,9-HpCDF	*	0.694	U	*	*	1.10
OCDF	*	1.134	U	*	*	1.61
Total Tetra-Dioxins	*	0.204	U			
Total Penta-Dioxins	*	0.317	U			
Total Hexa-Dioxins	*	0.341	U			
Total Hepta-Dioxins	*	0.921	U			
Total Tetra-Furans	*	0.150	U			
Total Penta-Furans	*	0.257	U			
Total Hexa-Furans	*	0.259	U			
Total Hepta-Furans	*	0.506	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S05

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.07

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.05 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-16-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 16-FEB-01 Time: 19:43:18 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0063 #11

Injection Volume(ul): 2.00 Blank Data Filename: A0063 #2

Dilution Factor: 1 Cal. Ver. Data Filename: A0061 #13

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture: 24.29

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	3.02	X 0.01	3.02e-02
OCDD	48.26	X 0.001	4.83e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	*	X 0.1	*
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	*	X 0.01	*
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 7.844e-02

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S06

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.08

Client Name: USEPA5 Sample Wt/Vol: 15.20 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #5

Analysis Date: 9-MAR-01 Time: 04:43:38 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.084	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.173	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.255	U	*	*	0.83
1,2,3,6,7,8-HxCDD	*	0.179	U	*	*	1.18
1,2,3,7,8,9-HxCDD	0.903	0.173	X	0.96	1.009	1.23
1,2,3,4,6,7,8-HpCDD	9.740	0.584		1.10	1.000	1.24
OCDD	135.469	0.489	B	0.89	1.001	1.20
2,3,7,8-TCDF	*	0.073	U	*	*	1.18
1,2,3,7,8-PeCDF	*	0.133	U	*	*	1.08
2,3,4,7,8-PeCDF	*	0.135	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.141	U	*	*	1.36
1,2,3,6,7,8-HxCDF	1.793	0.132	X	1.52	1.003	1.45
1,2,3,7,8,9-HxCDF	*	0.181	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	0.147	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	12.706	0.150		1.01	1.000	1.70
1,2,3,4,7,8,9-HpCDF	*	0.227	U	*	*	1.13
OCDF	13.489	0.552		0.92	1.002	1.49
Total Tetra-Dioxins	*	0.084	U			
Total Penta-Dioxins	*	0.173	U			
Total Hexa-Dioxins	*	0.179	U			
Total Hepta-Dioxins	*	0.584	U			
Total Tetra-Furans	18.915	0.073				
Total Penta-Furans	6.851	0.135				
Total Hexa-Furans	6.745	0.132				
Total Hepta-Furans	28.328	0.150				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S06

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA
Episode No.: 45826

Client Name: USEPA5
Lab Sample ID: 45826.08

Matrix (aqueous/solid/leachate): solid
Sample Wt/Vol: 15.20 g or mL: g

Sample Receipt Date: 02-13-01
Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift:
Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 04:43:38
GC Column ID: DB-5

Extract Volume(ul): 20.0
Sample Data Filename: A0145 #5

Injection Volume(ul): 2.00
Blank Data Filename: A0145 #3

Dilution Factor: 1
Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	0.90	X 0.1	9.03e-02
1,2,3,4,6,7,8-HpCDD	9.74	X 0.01	9.74e-02
OCDD	135.47	X 0.001	1.35e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	1.79	X 0.1	1.79e-01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	12.71	X 0.01	1.27e-01
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	13.49	X 0.001	1.35e-02

Total: 6.431e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S07

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.09

Client Name: USEPA5 Sample Wt/Vol: 15.24 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #6

Analysis Date: 9-MAR-01 Time: 05:32:20 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.068	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.138	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.217	U	*	*	0.83
1,2,3,6,7,8-HxCDD	0.767	0.152	X	1.63	1.000	1.18
1,2,3,7,8,9-HxCDD	0.916	0.147		1.38	1.009	1.23
1,2,3,4,6,7,8-HpCDD	15.933	0.543		1.09	1.001	1.24
OCDD	174.976	0.319	B	0.93	1.001	1.20
2,3,7,8-TCDF	*	0.098	U	*	*	1.18
1,2,3,7,8-PeCDF	*	0.196	U	*	*	1.08
2,3,4,7,8-PeCDF	*	0.200	U	*	*	1.07
1,2,3,4,7,8-HxCDF	*	0.092	U	*	*	1.36
1,2,3,6,7,8-HxCDF	2.079	0.086	I	1.29	1.003	1.45
1,2,3,7,8,9-HxCDF	*	0.117	U	*	*	1.06
2,3,4,6,7,8-HxCDF	0.152	0.095		1.37	1.021	1.31
1,2,3,4,6,7,8-HpCDF	4.690	0.521	X	1.30	1.000	1.70
1,2,3,4,7,8,9-HpCDF	*	0.787	U	*	*	1.13
OCDF	9.605	1.652		0.87	1.003	1.49
Total Tetra-Dioxins	*	0.068	U			
Total Penta-Dioxins	*	0.138	U			
Total Hexa-Dioxins	1.037	0.152				
Total Hepta-Dioxins	*	0.543	U			
Total Tetra-Furans	1.018	0.098				
Total Penta-Furans	2.512	0.200				
Total Hexa-Furans	13.689	0.086				
Total Hepta-Furans	12.694	0.521				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S07

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.09

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.24 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 05:32:20 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0145 #6

Injection Volume(ul): 2.00 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	0.77	X 0.1	7.67e-02
1,2,3,7,8,9-HxCDD	0.92	X 0.1	9.16e-02
1,2,3,4,6,7,8-HpCDD	15.93	X 0.01	1.59e-01
OCDD	174.98	X 0.001	1.75e-01
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	2.08	X 0.1	2.08e-01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	0.15	X 0.1	1.52e-02
1,2,3,4,6,7,8-HpCDF	4.69	X 0.01	4.69e-02
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	9.60	X 0.001	9.61e-03

Total: 7.822e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S08

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.10

Client Name: USEPA5 Sample Wt/Vol: 15.36 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #7

Analysis Date: 9-MAR-01 Time: 06:21:02 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	*	0.069	U	*	*	1.51
1,2,3,7,8-PeCDD	*	0.146	U	*	*	1.11
1,2,3,4,7,8-HxCDD	*	0.256	U	*	*	0.83
1,2,3,6,7,8-HxCDD	*	0.180	U	*	*	1.18
1,2,3,7,8,9-HxCDD	*	0.173	U	*	*	1.23
1,2,3,4,6,7,8-HpCDD	3.955	0.130		0.94	1.000	1.24
OCDD	37.300	0.809	B	0.85	1.000	1.20
2,3,7,8-TCDF	*	0.102	U	*	*	1.18
1,2,3,7,8-PeCDF	*	0.074	U	*	*	1.08
2,3,4,7,8-PeCDF	*	0.075	U	*	*	1.07
1,2,3,4,7,8-HxCDF	0.195	0.078	X	0.93	1.000	1.36
1,2,3,6,7,8-HxCDF	0.215	0.073		1.37	1.003	1.45
1,2,3,7,8,9-HxCDF	*	0.099	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	0.080	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	0.504	0.308		0.62	1.001	1.70
1,2,3,4,7,8,9-HpCDF	*	0.466	U	*	*	1.13
OCDF	*	0.684	U	*	*	1.49
Total Tetra-Dioxins	*	0.069	U			
Total Penta-Dioxins	*	0.146	U			
Total Hexa-Dioxins	*	0.180	U			
Total Hepta-Dioxins	*	0.130	U			
Total Tetra-Furans	*	0.102	U			
Total Penta-Furans	*	0.075	U			
Total Hexa-Furans	1.312	0.073				
Total Hepta-Furans	*	0.308	U			

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

EPA SAMPLE NO.
S08

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.10

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.36 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 06:21:02 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0145 #7

Injection Volume(ul): 2.00 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	*	X 1.0	*
1,2,3,7,8-PeCDD	*	X 0.5	*
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	*	X 0.1	*
1,2,3,7,8,9-HxCDD	*	X 0.1	*
1,2,3,4,6,7,8-HpCDD	3.96	X 0.01	3.96e-02
OCDD	37.30	X 0.001	3.73e-02
2,3,7,8-TCDF	*	X 0.1	*
1,2,3,7,8-PeCDF	*	X 0.05	*
2,3,4,7,8-PeCDF	*	X 0.5	*
1,2,3,4,7,8-HxCDF	0.20	X 0.1	1.95e-02
1,2,3,6,7,8-HxCDF	0.22	X 0.1	2.15e-02
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	0.50	X 0.01	5.04e-03
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 1.229e-01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

6/90

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S09

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.11

Client Name: USEPA5 Sample Wt/Vol: 15.20 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #8

Analysis Date: 9-MAR-01 Time: 07:09:44 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	0.394	0.037	X	0.09	1.001	1.51
1,2,3,7,8-PeCDD	0.503	0.159	X	1.91	1.000	1.11
1,2,3,4,7,8-HxCDD	*	0.344	U	*	*	0.83
1,2,3,6,7,8-HxCDD	27.349	0.242		1.23	1.000	1.18
1,2,3,7,8,9-HxCDD	4.133	0.233		1.13	1.009	1.23
1,2,3,4,6,7,8-HpCDD	479.067	7.128		1.04	1.000	1.24
OCDD	9210.704	1.468	BE	0.89	0.999	1.20
2,3,7,8-TCDF	3.632	0.065	C	0.74	1.001	1.18
1,2,3,7,8-PeCDF	0.602	0.143		1.55	1.001	1.08
2,3,4,7,8-PeCDF	0.815	0.146		1.42	1.034	1.07
1,2,3,4,7,8-HxCDF	*	1.139	U	*	*	1.36
1,2,3,6,7,8-HxCDF	12.179	1.065	I	1.23	1.003	1.45
1,2,3,7,8,9-HxCDF	*	1.457		*	*	1.06
2,3,4,6,7,8-HxCDF	1.762	1.182		1.19	1.022	1.31
1,2,3,4,6,7,8-HpCDF	49.202	1.413		1.04	1.000	1.70
1,2,3,4,7,8,9-HpCDF	2.263	2.133		0.96	1.037	1.13
OCDF	124.496	58.894		0.87	1.000	1.49
Total Tetra-Dioxins	1.441	0.037				
Total Penta-Dioxins	*	0.159	U			
Total Hexa-Dioxins	74.033	0.242				
Total Hepta-Dioxins	*	7.128	U			
Total Tetra-Furans	6.024	0.065				
Total Penta-Furans	16.682	0.146				
Total Hexa-Furans	224.610	1.065				
Total Hepta-Furans	227.853	1.413				

acH 4-17-01

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

S09

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.11

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.20 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 07:09:44 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0145 #8

Injection Volume(ul): 2.00 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.39	X 1.0	3.94e-01
1,2,3,7,8-PeCDD	0.50	X 0.5	2.51e-01
1,2,3,4,7,8-HxCDD	*	X 0.1	*
1,2,3,6,7,8-HxCDD	27.35	X 0.1	2.73e+00
1,2,3,7,8,9-HxCDD	4.13	X 0.1	4.13e-01
1,2,3,4,6,7,8-HpCDD	479.07	X 0.01	4.79e+00
OCDD	9210.70	X 0.001	9.21e+00
2,3,7,8-TCDF	3.63	X 0.1	3.63e-01
1,2,3,7,8-PeCDF	0.60	X 0.05	3.01e-02
2,3,4,7,8-PeCDF	0.82	X 0.5	4.08e-01
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	12.18	X 0.1	1.22e+00
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	1.76	X 0.1	1.76e-01
1,2,3,4,6,7,8-HpCDF	49.20	X 0.01	4.92e-01
1,2,3,4,7,8,9-HpCDF	2.26	X 0.01	2.26e-02
OCDF	124.50	X 0.001	1.24e-01

Total: 2.063e+01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'

Form 1

PCDD/PCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID.
S10

Lab Name: Southwest Lab. of Oklahoma Episode No.: 45826

Lab Code: SWL Case No.: SDG No.: Lab Sample ID: 45826.12

Client Name: USEPA5 Sample Wt/Vol: 15.00 g or mL: g

Matrix (aqueous/solid/leachate): solid Initial Calibration Date: 02-26-01

Sample Receipt Date: 02-13-01 Instrument ID: AutoSpec

Ext. Date: 02-14-01 GC Column:DB-5

Ext. Vol(ul):20 Inj. Vol(ul):1 Sample Data Filename: A0145 #9

Analysis Date: 9-MAR-01 Time: 07:58:26 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND	DETECTION LIMIT	Qual. (1)	ION ABUND. RATIO (2)	RRT (2)	MEAN RRF
2,3,7,8-TCDD	3.719	0.284	X	0.10	1.001	1.51
1,2,3,7,8-PeCDD	3.431	1.151	X	2.17	1.001	1.11
1,2,3,4,7,8-HxCDD	5.780	2.202	X	1.62	0.997	0.83
1,2,3,6,7,8-HxCDD	225.218	1.547		1.24	1.000	1.18
1,2,3,7,8,9-HxCDD	34.547	1.490		1.25	1.009	1.23
1,2,3,4,6,7,8-HpCDD	3711.476	106.271		1.04	1.000	1.24
OCDD	*	*	U	*	*	1.20
2,3,7,8-TCDF	31.274	0.319	C	0.74	1.001	1.18
1,2,3,7,8-PeCDF	4.551	0.508	X	1.87	1.001	1.08
2,3,4,7,8-PeCDF	6.389	0.517		1.60	1.034	1.07
1,2,3,4,7,8-HxCDF	*	1.234	U	*	*	1.36
1,2,3,6,7,8-HxCDF	104.173	1.154	I	1.19	1.003	1.45
1,2,3,7,8,9-HxCDF	*	1.578	U	*	*	1.06
2,3,4,6,7,8-HxCDF	*	1.280	U	*	*	1.31
1,2,3,4,6,7,8-HpCDF	398.677	12.926		0.94	0.999	1.70
1,2,3,4,7,8,9-HpCDF	*	19.512	U	*	*	1.13
OCDF	*	*	U	*	*	1.49
Total Tetra-Dioxins	12.243	0.284				
Total Penta-Dioxins	*	1.151	U			
Total Hexa-Dioxins	685.751	1.547				
Total Hepta-Dioxins	*	106.271	U			
Total Tetra-Furans	50.574	0.319				
Total Penta-Furans	133.275	0.517				
Total Hexa-Furans	665.928	1.154				
Total Hepta-Furans	478.733	12.926				

(1) Qualifiers: U and * - not detected; X & I - EMPC. C - use value from second column analysis. B - possible blank contamination.
(2) RRTs and ion ratios are specified in Tables 11 and 8, Method 8290. 8290F1

EPA SAMPLE NO.

PCDD/PCDF TOXICITY EQUIVALENCE SUMMARY
Use for Sample and Blank Results

S10

Lab Name: SOUTHWEST LAB. OF OKLAHOMA Episode No.: 45826

Client Name: USEPA5 Lab Sample ID: 45826.12

Matrix (aqueous/solid/leachate): solid Sample Wt/Vol: 15.00 g or mL: g

Sample Receipt Date: 02-13-01 Initial Calibration Date: 02-26-01

Ext. Date: 02-14-01 Shift: Instrument ID: AutoSpec

Analysis Date: 9-MAR-01 Time: 07:58:26 GC Column ID: DB-5

Extract Volume(ul): 20.0 Sample Data Filename: A0145 #9

Injection Volume(ul): 2.00 Blank Data Filename: A0145 #3

Dilution Factor: 1 Cal. Ver. Data Filename: A0142 #1

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

	CONCENTRATION	TEF(1)	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	3.72	X 1.0	3.72e+00
1,2,3,7,8-PeCDD	3.43	X 0.5	1.72e+00
1,2,3,4,7,8-HxCDD	5.78	X 0.1	5.78e-01
1,2,3,6,7,8-HxCDD	225.22	X 0.1	2.25e+01
1,2,3,7,8,9-HxCDD	34.55	X 0.1	3.45e+00
1,2,3,4,6,7,8-HpCDD	3711.48	X 0.01	3.71e+01
OCDD	*	X 0.001	*
2,3,7,8-TCDF	31.27	X 0.1	3.13e+00
1,2,3,7,8-PeCDF	4.55	X 0.05	2.28e-01
2,3,4,7,8-PeCDF	6.39	X 0.5	3.19e+00
1,2,3,4,7,8-HxCDF	*	X 0.1	*
1,2,3,6,7,8-HxCDF	104.17	X 0.1	1.04e+01
1,2,3,7,8,9-HxCDF	*	X 0.1	*
2,3,4,6,7,8-HxCDF	*	X 0.1	*
1,2,3,4,6,7,8-HpCDF	398.68	X 0.01	3.99e+00
1,2,3,4,7,8,9-HpCDF	*	X 0.01	*
OCDF	*	X 0.001	*

Total: 9.006e+01

(1) Taken from 'Interim Procudures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxin and -Dibenzofurans (CDDs and CDFs) and 1989 Udate(EPA/625/3-89/016, March 1989.'