Supplemental Appendices

Final Report
Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State

April 1999

Ecology Publication No. 99-310

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refer to Publication Number 99-309.

Supplemental Appendices

Final Report
Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State

by
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Environmental Assessment Program
and
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Hazardous Waste and Toxics Reduction Program

Washington State Department of Ecology
Olympia, Washington 98504-7600

April 1999

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This *Supplemental Appendices* report is a companion document to Ecology Publication No. 99-309, *Final Report: Screening Survey for Metals and Dioxins in Fertilizer Products and Soils in Washington State.* For information about ordering either document, see the back of the front cover of this report.

In these *Supplemental Appendices*, sample concentrations are determined to two significant figures. Any additional values are a result of cell formatting and can be ignored.

This document includes:

Metals and Dioxins in Fertilizer Products

Appendix 1-D	Quality assurance memos
Appendix 1-P	Dioxin data and TEQ calculations - 1998 sampling results
Appendix 1-Q	Dioxin data and TEQ calculations - 1997 sampling results

Dioxins in Soils

Appendix 3-C	Quality assurance memos
Appendix 3-F	Dioxin data and TEQ calculations

Atomic Symbols for Metals

Arsenic	As
Barium	Ba
Cadmium	Cd
Chromium	Cr
Copper	Cu
Lead	Pb
Mercury	Hg
Nickel	Ni
Selenium	Se
Silver	Ag
Zinc	Zn

Key to Abbreviations

Data Qualifiers

Q	Data qualifier
U	Analyte was not detected at or above the reported limit (less than the given detection limit).
UJ	Analyte was not detected at or above the reported estimated result (estimated detection limit).
J	Analyte was positively identified. The associated numerical result is an estimate.
B	Analyte was also found in the analytical method blank indicating the sample may have been contaminated (these were treated as "U"s for this report).
EMPC	Estimated maximum possible concentration (these were converted to "J"s for this report).
E	Estimated (these were treated as "J"s for this report).
D	This compound was detected in the method, field, and trip blank (these were treated as "V"s for this report).

Other Abbreviations

DL	Detection limit
<ND=0	If the reported value is less than the detection limit (non-detect), the value is assumed to be 0.
<ND=1/2DL	If the reported value is less than the detection limit (non-detect), the value is assumed to be one-half of the detection limit.
<ND=DL	If the reported value is less than the detection limit (non-detect), the value is assumed to be the detection limit.
ND	non-detect
TEQ	Toxic equivalent
TEF	Toxic equivalent factor
ng	nanogram (10^{-9} grams)
pg	picograms (10^{-12} grams)
dscf	dry standard cubic foot
dscm	dry standard cubic meter
ppq	parts per quadrillion
MGD	million gallons/day

Appendix 1-D

Quality assurance memos
for
Metals and Dioxins in Fertilizer Products

Washington State Department of Ecology
Manchester Environment Laboratory

October 5, 1998

TO: Larry Goldstein

FROM: Bill Kammin, Ecology/Manchester Lab Director

SUBJECT: Total Metals Quality Assurance memo for the Fertilizer Dioxin and Metals Project

QUALITY ASSURANCE SUMMARY

The data generated by the analysis of these samples can be used noting the data qualifications discussed in this memo.

SAMPLE INFORMATION

The samples from this project were received in good condition by the Ecology Section at Manchester Environmental Laboratory over the time frame 7/31-8/18/98. The samples were analyzed for Ba, Cr, Cd, Pb, Ag, Hg, As, Se, by either graphite furnace atomic absorption or inductively coupled plasma optical emission spectroscopy, depending on analyte level and matrix interference. The samples were of a widely divergent nature, i. e. many different sample matrices were submitted as part of this project. In several instances sample data was qualified based on low spike recoveries or poor duplicate precision. The qualifications in all cases were applied on to the sample that was spiked or duplicated, not to the entire data set.

HOLDING TIMES

All analyses were performed within the accepted regulatory holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples showed no analytically significant levels of analytes, with the following exceptions: one of the lead procedural blanks showed lead at 0.55 ppm. Two low-level samples associated with this blank were qualified J, denoting estimated values.

SPIKED SAMPLE ANALYSES

63 spike and duplicate spike sample analyses were performed on this data set. All spike recoveries were within the lab established recovery limits (75-125%) with the following exceptions: two arsenic spike pairs showed low recovery, denoting sample-based interferences. Also, two barium spike pairs showed low and variable recovery. Samples associated with these spike pairs were qualified J, denoting estimated values. No other samples were qualified based on spike recovery. All other spike pairs showed acceptable recovery and precision.

LABORATORY CONTROL SAMPLE (LCS) ANALYSES

LCS samples help evaluate the entire analytical procedure, from prep to analysis. 42 LCS samples were analyzed with this project. All LCS analyses were 81-117% of the established LCS true value for each element. This range is within the +/- 20% lab LCS spec.

Please call Bill Kammin at SCAN 360-871-8801 to further discuss this project. Also see the attached QA table for a tabular representation of the project QA data.

WRK: wrk

Analyte	Method	QA Type	% Recovery	
Ag	6010	blanks	all clean	
Ag	7761	blanks	all clean	
As	7060	blanks	all clean	
Ba	6010	blanks	all clean	
Cd	6010	blanks	all clean	
Cd	7131	blanks	all clean	
Cr	6010	blanks	all clean	
Hg	7471	blanks	all clean	
Pb	6010	blanks	all clean	
Pb	7421	blanks	3 clean, one at 0.55	
Se	7740	blanks	all clean	
Ag	6010	LCS	86	
Ag	6010	LCS	89	
Ag	6010	LCS	85	
Ag	6010	LCS	85	
Ag	7761	LCS	91	
Ag	7761	LCS	99	
Ag	7761	LCS	109	
Ag	7761	LCS	105	
As	7060	LCS	103	
As	7060	LCS	114	
As	7060	LCS	99	
As	7060	LCS	103	
Ba	6010	LCS	81	
Ba	6010	LCS	86	
Ba	6010	LCS	93	
Ba	6010	LCS	106	
Cd	6010	LCS	91	
Cd	6010	LCS	88	
Cd	6010	LCS	102	
Cd	6010	LCS	108	
Cd	7131	LCS	106	
Cd	7131	LCS	104	
Cd	7131	LCS	111	
Cr	6010	LCS	90	
Cr	6010	LCS	83	
Cr	6010	LCS	98	
Cr	6010	LCS	103	
Hg	7471	LCS	106	
Hg	7471	LCS	97	
Hg	7471	LCS	105	
Hg	7471	LCS	100	
Pb	6010	LCS	89	
Pb	6010	LCS	88	
Pb	6010	LCS	100	
Pb	6010	LCS	102	
Pb	7421	LCS	97	
Pb	7421	LCS	105	

Analyte	Method	QA Type	% Recovery	
Pb	7421	LCS	114	
Pb	7421	LCS	109	
Se	7740	LCS	88	
Se	7740	LCS	88	
Se	7740	LCS	110	
Se	7740	LCS	117	
Ag	6010	spike	86	
Ag	6010	spike	89	
Ag	6010	spike	85	
Ag	6010	spike	85	
Ag	7761	spike	76	
Ag	7761	spike	74	
Ag	7761	spike	78	
Ag	7761	spike	81	
Ag	7761	spike	87	
Ag	7761	spike	76	
As	7060	spike	111	
As	7060	spike	112	
As	7060	spike	90	
As	7060	spike	94	
As	7060	spike	39	
As	7060	spike	50	
As	7060	spike	26	
As	7060	spike	19	
Ba	6010	spike	88	
Ba	6010	spike	94	
Ba	6010	spike	51	
Ba	6010	spike	90	
Ba	6010	spike	70	
Ba	6010	spike	50	
Ba	6010	spike	82	
Ba	6010	spike	84	
Cd	6010	spike	91	
Cd	6010	spike	92	
Cd	6010	spike	84	
Cd	6010	spike	109	
Cd	6010	spike	95	
Cd	6010	spike	94	
Cd	7131	spike	100	
Cd	7131	spike	97	
Cr	6010	spike	95	
Cr	6010	spike	97	
Cr	6010	spike	87	
Cr	6010	spike	89	
Cr	6010	spike	74	
Cr	6010	spike	79	
Hg	7471	spike	90	
Hg	7471	spike	88	

Analyte	Method	QA Type	% Recovery	
Hg	7471	spike	95	
Hg	7471	spike	95	
Hg	7471	spike	97	
Hg	7471	spike	98	
Hg	7471	spike	99	
Hg	7471	spike	100	
Pb	6010	spike	86	
Pb	6010	spike	90	
Pb	6010	spike	84	
Pb	6010	spike	85	
Pb	6010	spike	85	
Pb	6010	spike	81	
Pb	7421	spike	86	
Pb	7421	spike	99	
Pb	7421	spike	87	
Pb	7421	spike	77	
Pb	7421	spike	75	
Pb	7421	spike	76	
Se	7740	spike	90	
Se	7740	spike	88	
Se	7740	spike	56	
Se	7740	spike	54	

Washington State Department of Ecology
Manchester Environment Laboratory

September 30, 1998

TO: Larry Goldstein

FROM: Bill Kammin, Ecology/Manchester Lab Director

SUBJECT: TCLP Metals Quality Assurance memo for the Fertilizer Dioxin and Metals Project

QUALITY ASSURANCE SUMMARY

The data generated by the analysis of these samples can be used noting the data qualifications discussed in this memo.

SAMPLE INFORMATION

The samples from this project were received in good condition by the Ecology Section at Manchester Environmental Laboratory over the time frame 7/31-8/17/98. After the samples were analyzed for total metals, TCLP analysis (EPA Method 1311/6010) was performed for all analytes that could potentially exceed the Federal TCLP criteria, resulting in a designation of the sample as hazardous waste. Nine of the samples exceeded cadmium hazardous waste listing criteria of 1ppm in the final TCLP extract.

Samples exceeding hazardous waste criteria:

sample number	concentration Cd
98328126	1.53 ppm
98328131	2.25 ppm
98328140	1.50 ppm
98338194	2.23 ppm
98338195	1.36 ppm
98338196	1.04 ppm
98338205	1.26 ppm
98348210	2.16 ppm
98348214	2.52 ppm

Additionally, samples 98328144 and 98338198 showed cadmium in the TCLP extract at the 0.9 ppm level, which is 90% of the TCLP designation criteria.

HOLDING TIMES

All analyses were performed within the accepted regulatory holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting calibration requirements. Additionally, all target TCLP analytes were analyzed by the Method of Standard Additions (MSA). Linear regressions based on the MSA data also yielded a correlation coefficient of 0.995 or greater.

PROCEDURAL BLANKS

The procedural blanks associated with these samples showed no analytically significant levels of analytes, with the following exception. The TCLP blank associated with samples 98338344 and 8346 showed lead at a level of 0.036 ppm. Results for these samples were qualified with J, to denote estimated values.

SPIKED SAMPLE ANALYSES

Spike and duplicate spike sample analyses were performed on this data set. All spike recoveries for cadmium and chromium were between 74% and 84%, and deemed acceptable. Sample 98338187 was spiked for lead. This sample proved to contain a high amount of sulfate, which caused precipitation of the lead spike. Spike recoveries for this sample were found to be 30% and 31%. Data was not qualified based on the precipitation of the lead spike.

PRECISION DATA

The results of the spike and duplicate spike samples were used to evaluate precision on this sample set. The Relative Percent Difference (RPD) for all analytes was within the 20% lab established acceptance window for duplicate analysis.

LABORATORY CONTROL SAMPLE (LCS) ANALYSES

LCS analyses were 88-101% of the established LCS true value for each element.

Please call Bill Kammin at SCAN 206-871-8801 to further discuss this project.

WRK:wrk

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WRK:wrk

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TCLP metals for ICP analysis

Project Name: Fertilizer Dioxin & Metals **LIMS Project ID:** 2431-98

Project Officer: Dennis Bowhay **Method:** 1311-6010
Date Reported: 24-SEP-98 **Matrix:** Other
Analyte: Lead

Sample	QC	Field ID	Result	Qualifier	Units	Collected	Analyzed
98318086		F503G	**0.536**		mg/L	07/31/98	09/10/98
98318087		F420G	**1.87**		mg/L	07/31/98	09/10/98
98328144		NULIFE	**0.111**	J	mg/L	08/06/98	09/10/98
98328146		TEROSA	**0.053**	J	mg/L	08/06/98	09/10/98
98338183		COTTON	0.02	U	mg/L	08/12/98	09/10/98
98338187		EVERGR20	0.02	U	mg/L	08/14/98	09/10/98
98338187	LMX1 -	Matrix Spike	**31 %**			08/14/98	09/10/98
98338187	LMX2 -	Matrix Spike	**30 %**			08/14/98	09/10/98
98348214		FTF504G	**1.92**		mg/L	08/17/98	09/10/98
M8243TB1			**0.036**		mg/L		09/10/98
M8243TL1			**92 %**				09/10/98
M8247TB1			0.02	U	mg/L		09/10/98
M8247TB2			0.02	U	mg/L		09/10/98
M8247TL1			**88 %**				09/10/98
M8247TL2			**96 %**				09/10/98
M8252TB1			0.02	U	mg/L		09/10/98
M8252TL1			**87 %**				09/10/98

Authorized By: _____ Release Date: 9/28/98 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TCLP metals for ICP analysis

Project Name: Fertilizer Dioxin & Metals **LIMS Project ID:** 2431-98

Project Officer: Dennis Bowhay **Method:** 1311-6010
Date Reported: 24-SEP-98 **Matrix:** Other
Analyte: Cadmium

Sample	QC	Field ID	Result	Qualifier	Units	Collected	Analyzed
98318087		F420G	**0.125**		mg/L	07/31/98	09/10/98
98328126		WEBRHOD DUP	**1.53**		mg/L	08/06/98	09/10/98
98328126	LMX1 - Matrix Spike		**77 %**			08/06/98	09/10/98
98328126	LMX2 - Matrix Spike		**86 %**			08/06/98	09/10/98
98328131		AGRIUM	**2.25**		mg/L	08/03/98	09/10/98
98328140		WEBRHOD	**1.50**		mg/L	08/06/98	09/10/98
98328144		NULIFE	**0.907**		mg/L	08/06/98	09/10/98
98328146		TEROSA	**0.277**		mg/L	08/06/98	09/10/98
98338194		NL102020	**2.23**		mg/L	08/14/98	09/10/98
98338195		NL101510	**1.36**		mg/L	08/14/98	09/10/98
98338196		NL101510D	**1.04**		mg/L	08/14/98	09/10/98
98338196	LMX1 - Matrix Spike		**78 %**			08/14/98	09/10/98
98338196	LMX2 - Matrix Spike		**84 %**			08/14/98	09/10/98
98338197		WINTERGRN	**0.032**		mg/L	08/14/98	09/10/98
98338198		BEST62020	**0.903**		mg/L	08/14/98	09/10/98
98338205		PAYLESS	**1.26**		mg/L	08/14/98	09/10/98
98348210		UAP45	**2.16**		mg/L	08/17/98	09/10/98
98348214		FTF504G	**2.52**		mg/L	08/17/98	09/10/98
M8243TB1			0.005	U	mg/L		09/10/98
M8243TL1			**95 %**				09/10/98
M8247TB1			0.005	U	mg/L		09/10/98
M8247TB2			0.005	U	mg/L		09/10/98
M8247TL1			**92 %**				09/10/98
M8247TL2			**98 %**				09/10/98
M8252TB1			0.005	U	mg/L		09/10/98
M8252TL1			**92 %**				09/10/98

Authorized By: Bill Kammin Release Date: 9/28/98 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TCLP metals for ICP analysis

Project Name: Fertilizer Dioxin & Metals **LIMS Project ID:** 2431-98

Project Officer: Dennis Bowhay **Method:** 1311-6010
Date Reported: 24-SEP-98 **Matrix:** Other
Analyte: Chromium

Sample	QC	Field ID	Result	Qualifier	Units	Collected	Analyzed
98318086		F503G	**0.055**		mg/L	07/31/98	09/10/98
98318087		F420G	0.005	U	mg/L	07/31/98	09/10/98
98328126		WEBRHOD DUP	**2.49**		mg/L	08/06/98	09/10/98
98328126	LMX1 -	Matrix Spike	**74 %**			08/06/98	09/10/98
98328126	LMX2 -	Matrix Spike	**80 %**			08/06/98	09/10/98
98328131		AGRIUM	**0.208**		mg/L	08/03/98	09/10/98
98328140		WEBRHOD	**2.30**		mg/L	08/06/98	09/10/98
98328144		NULIFE	**0.008**		mg/L	08/06/98	09/10/98
98328146		TEROSA	**0.040**		mg/L	08/06/98	09/10/98
98338190		MCWEEDFD	**4.57**		mg/L	08/14/98	09/10/98
98338194		NL102020	**0.258**		mg/L	08/14/98	09/10/98
98338195		NL101510	**0.142**		mg/L	08/14/98	09/10/98
98338196		NL101510D	**0.118**		mg/L	08/14/98	09/10/98
98338196	LMX1 -	Matrix Spike	**74 %**			08/14/98	09/10/98
98338196	LMX2 -	Matrix Spike	**76 %**			08/14/98	09/10/98
98338197		WINTERGRN	**0.075**		mg/L	08/14/98	09/10/98
98338198		BEST62020	**0.171**		mg/L	08/14/98	09/10/98
98338205		PAYLESS	**0.101**		mg/L	08/14/98	09/10/98
98348209		ACE8108	**0.175**		mg/L	08/17/98	09/10/98
98348210		UAP45	**0.491**		mg/L	08/17/98	09/10/98
98348214		FTF504G	0.05	U	mg/L	08/17/98	09/10/98
M8243TB1			0.005	U	mg/L		09/10/98
M8243TL1			**92 %**				09/10/98
M8247TB1			0.005	U	mg/L		09/10/98
M8247TB2			**0.0096**		mg/L		09/10/98
M8247TL1			**90 %**				09/10/98
M8247TL2			**101 %**				09/10/98
M8252TB1			0.005	U	mg/L		09/10/98
M8252TL1			**92 %**				09/10/98

Authorized By: Bri Ken Release Date: 9/28/98 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Mercury, TCLP

Project Name: Fertilizer Dioxin & Metals **LIMS Project ID:** 2431-98

Project Officer: Dennis Bowhay **Method:** 1311-245.1
Date Reported: 02-SEP-98 **Matrix:** Other
Analyte: Mercury

Sample	QC	Field ID	Result	Qualifier	Units	Collected	Analyzed
98318086		F503G	**0.700**		ug/L	07/31/98	09/02/98
98318086	Matrix Spike		**96 %**			07/31/98	09/02/98
98318086	Matrix Spike		**98 %**			07/31/98	09/02/98
M8244WG1			**95**		%		09/02/98
M8244WH1			0.05	U	ug/L		09/02/98

Authorized By: Randy L Knox Release Date: 9/29/98 Page: 1

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Mercury, TCLP

Project Name: Fertilizer Dioxin & Metals **LIMS Project ID:** 2431-98

Project Officer: Dennis Bowhay **Method:** 1311-245.1
Date Reported: 30-SEP-98 **Matrix:** Other
Analyte: Mercury

Sample	QC	Field ID	Result	Qualifier	Units	Collected	Analyzed
98348214		FTF504G	**0.542**		ug/L	08/17/98	09/30/98
98348214	Matrix Spike		**100 %**			08/17/98	09/30/98
98348214	Matrix Spike		**92 %**			08/17/98	09/30/98

Authorized By: Randy S Knox Release Date: 9/30/98 Page: 1

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 7, 1998

Project: Fertilizer Dioxin

Samples: 98318081 - 98318087, 98328125 - 98328146

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

Samples were prepared and analyzed according to EPA method 8290.

Solid samples have been reported in nanograms per kilogram (ng/Kg); parts per trillion dry weight. Liquid samples have been reported in nanograms per liter (ng/L) as received.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.17, should be considered synonymous with 0.17 U, where "U" is a qualifier.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98318081	07/28/98	08/18/98	21	09/14/98	27
98318082	07/28/98	08/18/98	21	09/14/98	27
98318083	07/28/98	08/21/98	24	08/28/98	7
98318084	07/28/98	08/18/98	21	09/14/98	27
98318085	07/31/98	08/18/98	18	09/14/98	27
98318086	07/31/98	08/18/98	18	09/14/98	27
98318087	07/31/98	08/18/98	18	09/14/98	27
98328125	08/06/98	08/18/98	12	09/18/98	31
98328126	08/06/98	08/18/98	12	09/18/98	31
98328127	08/06/98	08/18/98	12	09/18/98	31
98328131	08/03/98	08/18/98	15	09/18/98	31
98328132	08/04/98	09/04/98	31	09/23/98	19
98328133	08/04/98	08/21/98	17	08/28/98	7
98328134	08/04/98	08/21/98	17	08/29/98	8
98328135	08/04/98	08/21/98	17	08/29/98	8
98328137	08/06/98	08/18/98	12	09/18/98	31
98328138	08/06/98	08/18/98	12	09/21/98	34
98328139	08/06/98	08/18/98	12	09/21/98	34
98328140	08/06/98	08/18/98	12	09/21/98	34
98328141	08/06/98	08/25/98	20	09/18/98	24
98328142	08/06/98	08/21/98	15	08/29/98	8
98328143	08/06/98	08/25/98	15	09/22/98	22
98328144	08/06/98	08/25/98	15	09/22/98	28
98328145	08/06/98	08/25/98	15	09/22/98	28
98328146	08/06/98	08/25/98	15	09/22/98	28

These samples were extracted and analyzed within holding times.

Method Blanks:

Several congeners were detected in the associated method blanks at concentrations below that of the lowest calibration standard. According to the method re-analysis is not required when a target congener is detected below the lowest calibration standard. Some of these congeners were also detected in some of the samples. If the concentration of a congener in a sample was less than five times that of the method blank a "U" or "UJ" qualifier was added to the result. Note that the laboratory flagged these results with a "B", which is defined on the report as less than five times higher than method blank level. In cases where the sample concentration for a congener was greater than five times that of the method blank, the method blank result is considered insignificant relative to the concentrations detected in the samples and o qualification is warranted.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for the samples, blanks, and other QC samples were within the 40 – 135% QC limits established for each congener.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

MS/MSD recoveries were within quality control limits of 60–140%; and precision data was within ±20 relative percent difference (RPD).

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range should be considered estimates.

DATA QUALIFIER CODES:

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical value is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 12, 1998

Project: Fertilizer Dioxin

Samples: 98338181 – 98338196

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

Samples were prepared and analyzed according to EPA method 8290.

Solid samples have been reported in nanograms per kilogram (ng/Kg) parts per trillion dry weight. Liquid samples have reported in nanograms per liter (ng/L) as received.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 3.9, should be considered synonymous with 3.9 U. The "U" qualifier means the analyte was not detected at or above the reported result.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98338181	08/10/98	09/02/98	22	09/22/98	20
98338182	08/11/98	09/08/98	28	09/21/98	13
98338183	08/12/98	09/02/98	20	09/22/98	20
98338184	08/12/98	09/02/98	20	09/22/98	20
98338185	08/12/98	09/08/98	26	09/22/98	13
98338186	08/12/98	09/08/98	26	09/22/98	13
98338187	08/14/98	09/02/98	18	09/22/98	20
98328188	08/14/98	09/02/98	18	09/23/98	21
98328189	08/14/98	09/02/98	18	09/23/98	21
98328190	08/14/98	09/02/98	18	09/23/98	21
98328191	08/14/98	09/08/98	24	09/22/98	13
98328192	08/14/98	09/02/98	18	09/23/98	21
98328193	08/14/98	09/08/98	24	09/22/98	13
98328194	08/14/98	09/02/98	18	09/24/98	22
98328195	08/14/98	09/02/98	18	09/24/98	22
98328196	08/14/98	09/02/98	18	09/24/98	22

These samples were extracted and analyzed within holding times.

Method Blanks:

OCDD and several non 2,3,7,8 substituted congeners were detected in the associated method blanks at concentrations below that of the lowest calibration standard. According to the method re-analysis is not required when a target congener is detected below the lowest calibration standard. Some of these congeners were also detected in some of the samples. If the concentration of a congener in a sample was less than five times that of the

method blank a "U" qualifier was added to the result. Note that the laboratory flagged these results with a "B", which is defined on the report as less than five times higher than method blank level. In cases where the sample concentration for a congener was greater than five times that of the method blank, the method blank result is considered insignificant relative to the concentrations detected in the samples and o qualification is warranted.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for the samples, blanks, and other QC samples were within the 40 – 135% QC limits established for each congener.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

MS/MSD recoveries were within quality control limits of 60–140%; and precision data was within ±20 relative percent difference (RPD).

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range should be considered estimates.

Although recoveries for three of the fifteen labeled compounds were below the 40% QC limit data is still of sufficient usefulness to meet the study objectives. It was not deemed necessary to re-extract and re-analyze sample 98338182. Results from this sample for 2,3,7,8-TCDF and 2,3,4,7,8-PeCDF have been qualified as estimates ("J" qualifier). The non-detect result for 2,3,4,6,7,8-HxCDF has been qualified with a "UJ".

DATA QUALIFIER CODES:

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical value is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 13, 1998

Project: Fertilizer Dioxin

Samples: 98338197 – 98338205, 98348206 - 98348214

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

Samples were prepared and analyzed according to EPA method 8290.

Samples have been reported in nanograms per kilogram (ng/Kg) parts per trillion dry weight.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.52, should be considered synonymous with 0.52 U. The "U" qualifier means the analyte was not detected at or above the reported result.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98338197	08/14/98	09/02/98	19	10/01/98	29
98338198	08/14/98	09/08/98	25	10/01/98	23
98338199	08/14/98	09/02/98	19	10/01/98	29
98338200	08/14/98	09/02/98	19	10/01/98	29
98338201	08/14/98	09/08/98	25	10/01/98	23
98338202	08/14/98	09/08/98	25	10/01/98	23
98338203*	08/14/98	09/02/98	19	10/01/98	29
98338204	08/14/98	09/02/98	19	10/02/98	30
98338205	08/14/98	09/02/98	19	10/02/98	30
98348206	08/17/98	09/02/98	16	10/02/98	30
98348207	08/17/98	09/08/98	22	10/02/98	24
98348208	08/17/98	09/02/98	16	10/05/98	33
98348209	08/17/98	09/08/98	22	10/02/98	24
98348210	08/17/98	09/02/98	16	10/05/98	33
98348211	08/17/98	09/02/98	16	10/05/98	33
98348212	08/17/98	09/02/98	16	10/05/98	33
98348213	08/17/98	09/02/98	16	10/05/98	33
98348214	08/17/98	09/02/98	16	10/05/98	33

* This sample required re-extraction.
These samples were extracted and analyzed within holding times.

Method Blanks:

OCDD, and several non 2,3,7,8 substituted congeners were detected in the associated method blanks at concentrations below that of the lowest calibration standard. According to the method re-analysis is not required when a target congener is detected below the

lowest calibration standard. Some of these congeners were also detected in some of the samples. If the concentration of a congener in a sample was less than five times that of the method blank a "U" or "UJ" qualifier was added to the result.

Note that the laboratory flagged these results with a "B", which is defined on the report as less than five times higher than method blank level. In cases where the sample concentration for a congener was greater than five times that of the method blank, the method blank result is considered insignificant relative to the concentrations detected in the samples and no qualification is warranted.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for the samples, blanks, and other QC samples were within the 40 – 135% QC limits established for each congener.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

MS/MSD recoveries were within quality control limits of 60–140%; and precision data was within ±20 relative percent difference (RPD).

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range should be considered estimates.
Re-analysis data will be provided for sample 98338203 when it becomes available.

DATA QUALIFIER CODES:

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical value is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 22, 1998

Project: Fertilizer Dioxin

Sample: 98338203

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

This sample was prepared and analyzed according to EPA method 8290.

This sample has been reported in nanograms per kilogram (ng/Kg); parts per trillion dry weight.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.49, should be considered synonymous with 0.49 U, where "U" is a qualifier.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
983338203*	08/14/98	09/02/98	19	10/01/98	29
983338203+	08/14/98	10/06/98	53	10/13/98	7

Extraction for re-analysis of this sample occurred twenty-three days beyond the recommend thirty day period. Method 8290 recognizes that PCDDs and PCDFs are very stable in a variety of matrices and under proper storage conditions the holding time from collection to extraction may be as high as a year. No qualification was added based on holding times.

* The original sample analysis.
+ The re-analysis.

Method Blank:

No unlabeled PCDD or PCDF was detected in the method blank demonstrating that the analytical process was free from widespread contamination.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for this sample and associated quality assurance samples were within the 40 – 135% QC limits established for each congener, with one exception.

As noted in the Discussion section (page 7) of the report from Pace analytical, the internal standard TCDF-^{13}C recovery for sample 98338203 at 39%, was slightly below the lower QC limit. No qualification was added based on the TCDF-^{13}C recovery.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio, retention time, and signal to noise criteria for positive identification.

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range are considered estimates.

Appendix 1-P

Dioxin data and TEQ calculations
1998 sampling results
for
Metals and Dioxins in Fertilizer Products

Sample Name Peter's Professional All-Purpose Plant Food
Sample Number 9.8E+07
Date 8/14/98

	Congener	TEF	Units ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
1	2,3,7,8-TCDD	1	0.42 U	0	0.21	0.42
2	1,2,3,7,8-PCDD	0.5	0.91 U	0	0.2275	0.455
3	1,2,3,4,7,8-HxCD	0.1	0.54 U	0	0.027	0.054
4	1,2,3,6,7,8-HxCD	0.1	1.00 U	0	0.05	0.1
5	1,2,3,7,8,9-HxCD	0.1	0.72 U	0	0.036	0.072
6	1,2,3,4,6,7,8-HpC	0.01	0.68 U	0	0.0034	0.0068
7	OCDD	0.001	5.10 J	0.0051	0.0051	0.0051
8	2,3,7,8-TCDF	0.1	0.26 J	0.026	0.026	0.026
9	1,2,3,7,8-PCDF	0.05	0.39 U	0	0.00975	0.0195
10	2,3,4,7,8-PCDF	0.5	0.44 U	0	0.11	0.22
11	1,2,3,4,7,8-HxCD	0.1	0.75 J	0.075	0.075	0.075
12	1,2,3,6,7,8-HxCD	0.1	0.70 U	0	0.035	0.07
13	2,3,4,6,7,8-HxCD	0.1	0.84 U	0	0.042	0.084
14	1,2,3,7,8,9-HxCD	0.1	1.20 U	0	0.06	0.12
15	1,2,3,4,6,7,8-HpC	0.01	0.88 U	0	0.0044	0.0088
16	1,2,3,4,7,8,9-HpC	0.01	1.10 U	0	0.0055	0.011
17	OCDF	0.001	1.10 U	0	0.00055	0.0011
	EPA TEQ			**0.11**	**0.93**	**1.75**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Northwest Alloys High-Mag Gro Powder					
Sample Number	98318081					
Date	7/28/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.25	U	0	0.125	0.25
2 1,2,3,7,8-PCDD	0.5	0.38	U	0	0.095	0.19
3 1,2,3,4,7,8-HxCDD	0.1	0.33	U	0	0.0165	0.033
4 1,2,3,6,7,8-HxCDD	0.1	0.32	U	0	0.016	0.032
5 1,2,3,7,8,9-HxCDD	0.1	0.33	U	0	0.0165	0.033
6 1,2,3,4,6,7,8-HpCDD	0.01	0.36	J	0.0036	0.0036	0.0036
7 OCDD	0.001	1.30	J	0.0013	0.0013	0.0013
8 2,3,7,8-TCDF	0.1	0.13	U	0	0.0065	0.013
9 1,2,3,7,8-PCDF	0.05	0.23	U	0	0.00575	0.0115
10 2,3,4,7,8-PCDF	0.5	0.35	U	0	0.0875	0.175
11 1,2,3,4,7,8-HxCDF	0.1	0.29	U	0	0.0145	0.029
12 1,2,3,6,7,8-HxCDF	0.1	0.41	U	0	0.0205	0.041
13 2,3,4,6,7,8-HxCDF	0.1	0.6	U	0	0.03	0.06
14 1,2,3,7,8,9-HxCDF	0.1	0.35	U	0	0.0175	0.035
15 1,2,3,4,6,7,8-HpCDF	0.01	0.36	U	0	0.0018	0.0036
16 1,2,3,4,7,8,9-HpCDF	0.01	0.28	U	0	0.0014	0.0028
17 OCDF	0.001	0.68	J	0.00068	0.00068	0.00068
EPA TEQ				**0.01**	**0.46**	**0.91**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Ponderay Newsprint Fiberay SC					
Sample Number	98318082					
Date	7/28/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	2.9 U		0	1.45	2.9
2 1,2,3,7,8-PCDD	0.5	3.3 U		0	0.825	1.65
3 1,2,3,4,7,8-HxCDD	0.1	7.2 U		0	0.36	0.72
4 1,2,3,6,7,8-HxCDD	0.1	7.4 U		0	0.37	0.74
5 1,2,3,7,8,9-HxCDD	0.1	5.8 U		0	0.29	0.58
6 1,2,3,4,6,7,8-HpCDD	0.01	11.0 U		0	0.055	0.11
7 OCDD	0.001	320.00		0.32	0.32	0.32
8 2,3,7,8-TCDF	0.1	0.80 J		0.08	0.08	0.08
9 1,2,3,7,8-PCDF	0.05	5.2 U		0	0.13	0.26
10 2,3,4,7,8-PCDF	0.5	3.3 U		0	0.825	1.65
11 1,2,3,4,7,8-HxCDF	0.1	3.3 U		0	0.165	0.33
12 1,2,3,6,7,8-HxCDF	0.1	6.8 U		0	0.34	0.68
13 2,3,4,6,7,8-HxCDF	0.1	5.0 U		0	0.25	0.5
14 1,2,3,7,8,9-HxCDF	0.1	8.7 U		0	0.435	0.87
15 1,2,3,4,6,7,8-HpCDF	0.01	11.0 U		0	0.055	0.11
16 1,2,3,4,7,8,9-HpCDF	0.01	7.6 U		0	0.038	0.076
17 OCDF	0.001	15.0 U		0	0.0075	0.015
EPA TEQ				**0.40**	**6.0**	**12**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	RSA Ruffin-Ready Zn					
Sample Number	98318083					
Date	7/29/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.28 U	0	0.14	0.28
2	1,2,3,7,8-PCDD	0.5	0.33 U	0	0.0825	0.165
3	1,2,3,4,7,8-HxCDD	0.1	0.50 U	0	0.025	0.05
4	1,2,3,6,7,8-HxCDD	0.1	0.50 U	0	0.025	0.05
5	1,2,3,7,8,9-HxCDD	0.1	0.48 U	0	0.024	0.048
6	1,2,3,4,6,7,8-HpCDD	0.01	0.64 U	0	0.0032	0.0064
7	OCDD	0.001	1.30 J	0.0013	0.0013	0.0013
8	2,3,7,8-TCDF	0.1	0.27 U	0	0.0135	0.027
9	1,2,3,7,8-PCDF	0.05	0.36 U	0	0.009	0.018
10	2,3,4,7,8-PCDF	0.5	0.41 U	0	0.1025	0.205
11	1,2,3,4,7,8-HxCDF	0.1	0.31 U	0	0.0155	0.031
12	1,2,3,6,7,8-HxCDF	0.1	0.29 U	0	0.0145	0.029
13	2,3,4,6,7,8-HxCDF	0.1	0.26 U	0	0.013	0.026
14	1,2,3,7,8,9-HxCDF	0.1	0.37 U	0	0.0185	0.037
15	1,2,3,4,6,7,8-HpCDF	0.01	0.20 U	0	0.001	0.002
16	1,2,3,4,7,8,9-HpCDF	0.01	0.53 U	0	0.00265	0.0053
17	OCDF	0.001		0	0	0
EPA TEQ				**<0.01**	**0.49**	**0.98**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Unocal Ammonium Nitrate					
Sample Number	98318084					
Date	7/29/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	1.00 U		0	0.5	1
2 1,2,3,7,8-PCDD	0.5	1.60 U		0	0.4	0.8
3 1,2,3,4,7,8-HxCDD	0.1	2.50 U		0	0.125	0.25
4 1,2,3,6,7,8-HxCDD	0.1	2.80 U		0	0.14	0.28
5 1,2,3,7,8,9-HxCDD	0.1	3.20 U		0	0.16	0.32
6 1,2,3,4,6,7,8-HpCDD	0.01	3.10 U		0	0.0155	0.031
7 OCDD	0.001	7.00 U		0	0.0035	0.007
8 2,3,7,8-TCDF	0.1	0.57 U		0	0.0285	0.057
9 1,2,3,7,8-PCDF	0.05	1.00 U		0	0.025	0.05
10 2,3,4,7,8-PCDF	0.5	1.40 U		0	0.35	0.7
11 1,2,3,4,7,8-HxCDF	0.1	1.00 U		0	0.05	0.1
12 1,2,3,6,7,8-HxCDF	0.1	0.76 U		0	0.038	0.076
13 2,3,4,6,7,8-HxCDF	0.1	1.60 U		0	0.08	0.16
14 1,2,3,7,8,9-HxCDF	0.1	2.10 U		0	0.105	0.21
15 1,2,3,4,6,7,8-HpCDF	0.01	1.30 U		0	0.0065	0.013
16 1,2,3,4,7,8,9-HpCDF	0.01	3.50 U		0	0.0175	0.035
17 OCDF	0.001	4.00 U		0	0.002	0.004
EPA TEQ				**ND**	**2.0**	**4.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Cozinco sample #1					
Sample Number	98318085					
Date	7/31/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.43 U		0	0.215	0.43
2 1,2,3,7,8-PCDD	0.5	0.99 U		0	0.2475	0.495
3 1,2,3,4,7,8-HxCDD	0.1	1.10 U		0	0.055	0.11
4 1,2,3,6,7,8-HxCDD	0.1	1.20 U		0	0.06	0.12
5 1,2,3,7,8,9-HxCDD	0.1	1.30 U		0	0.065	0.13
6 1,2,3,4,6,7,8-HpCDD	0.01	1.50 U		0	0.0075	0.015
7 OCDD	0.001	3.80 U		0	0.0019	0.0038
8 2,3,7,8-TCDF	0.1	0.99 U		0	0.0495	0.099
9 1,2,3,7,8-PCDF	0.05	0.73 U		0	0.01825	0.0365
10 2,3,4,7,8-PCDF	0.5	0.64 U		0	0.16	0.32
11 1,2,3,4,7,8-HxCDF	0.1	0.72 U		0	0.036	0.072
12 1,2,3,6,7,8-HxCDF	0.1	1.60 U		0	0.08	0.16
13 2,3,4,6,7,8-HxCDF	0.1	1.40 U		0	0.07	0.14
14 1,2,3,7,8,9-HxCDF	0.1	1.10 U		0	0.055	0.11
15 1,2,3,4,6,7,8-HpCDF	0.01	0.91 U		0	0.00455	0.0091
16 1,2,3,4,7,8,9-HpCDF	0.01	1.40 U		0	0.007	0.014
17 OCDF	0.001	2.60 U		0	0.0013	0.0026
EPA TEQ				**ND**	**1.1**	**2.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Frit F-503G sample #1					
Sample Number	98318086					
Date	7/31/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	2.9 U		0	1.45	2.9
2 1,2,3,7,8-PCDD	0.5	5.5 J		2.75	2.75	2.75
3 1,2,3,4,7,8-HxCDD	0.1	11.0 U		0	0.55	1.1
4 1,2,3,6,7,8-HxCDD	0.1	7.2 J		0.72	0.72	0.72
5 1,2,3,7,8,9-HxCDD	0.1	5.9 J		0.59	0.59	0.59
6 1,2,3,4,6,7,8-HpCDD	0.01	36.0		0.36	0.36	0.36
7 OCDD	0.001	130.0		0.13	0.13	0.13
8 2,3,7,8-TCDF	0.1	13.0		1.3	1.3	1.3
9 1,2,3,7,8-PCDF	0.05	13.0 J		0.65	0.65	0.65
10 2,3,4,7,8-PCDF	0.5	22.0		11	11	11
11 1,2,3,4,7,8-HxCDF	0.1	22.0		2.2	2.2	2.2
12 1,2,3,6,7,8-HxCDF	0.1	21.0		2.1	2.1	2.1
13 2,3,4,6,7,8-HxCDF	0.1	29.0		2.9	2.9	2.9
14 1,2,3,7,8,9-HxCDF	0.1	11.0 J		1.1	1.1	1.1
15 1,2,3,4,6,7,8-HpCDF	0.01	76.0		0.76	0.76	0.76
16 1,2,3,4,7,8,9-HpCDF	0.01	15.0 J		0.15	0.15	0.15
17 OCDF	0.001	110.0		0.11	0.11	0.11
EPA TEQ				**27**	**29**	**31**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Hydro-Agri/Viking Ship FS/31duplicate					
Sample Number	98328125					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.30 U		0	0.15	0.3
2 1,2,3,7,8-PCDD	0.5	0.53 U		0	0.1325	0.265
3 1,2,3,4,7,8-HxCDD	0.1	0.43 U		0	0.0215	0.043
4 1,2,3,6,7,8-HxCDD	0.1	0.58 U		0	0.029	0.058
5 1,2,3,7,8,9-HxCDD	0.1	0.35 U		0	0.0175	0.035
6 1,2,3,4,6,7,8-HpCDD	0.01	0.76 U		0	0.0038	0.0076
7 OCDD	0.001	0.92 J		0.00092	0.00092	0.00092
8 2,3,7,8-TCDF	0.1	0.44 U		0	0.022	0.044
9 1,2,3,7,8-PCDF	0.05	0.34 U		0	0.0085	0.017
10 2,3,4,7,8-PCDF	0.5	0.30 U		0	0.075	0.15
11 1,2,3,4,7,8-HxCDF	0.1	0.35 U		0	0.0175	0.035
12 1,2,3,6,7,8-HxCDF	0.1	0.43 U		0	0.0215	0.043
13 2,3,4,6,7,8-HxCDF	0.1	0.3 U		0	0.015	0.03
14 1,2,3,7,8,9-HxCDF	0.1	0.38 U		0	0.019	0.038
15 1,2,3,4,6,7,8-HpCDF	0.01	0.77 U		0	0.00385	0.0077
16 1,2,3,4,7,8,9-HpCDF	0.01	0.45 U		0	0.00225	0.0045
17 OCDF	0.001	0.41 U		0	0.000205	0.00041
EPA TEQ				**<0.01**	**0.54**	**1.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Webfoot Rhododendron, Camelia, Azalea Food duplicate					
Sample Number	98328126					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.50 U		0	0.25	0.5
2 1,2,3,7,8-PCDD	0.5	1.00 U		0	0.25	0.5
3 1,2,3,4,7,8-HxCDD	0.1	0.69 U		0	0.0345	0.069
4 1,2,3,6,7,8-HxCDD	0.1	1.00 U		0	0.05	0.1
5 1,2,3,7,8,9-HxCDD	0.1	0.96 U		0	0.048	0.096
6 1,2,3,4,6,7,8-HpCDD	0.01	2.10 J		0.021	0.021	0.021
7 OCDD	0.001	6.70 U		0	0.00335	0.0067
8 2,3,7,8-TCDF	0.1	0.31 U		0	0.0155	0.031
9 1,2,3,7,8-PCDF	0.05	0.63 U		0	0.01575	0.0315
10 2,3,4,7,8-PCDF	0.5	0.51 J		0.255	0.255	0.255
11 1,2,3,4,7,8-HxCDF	0.1	0.91 U		0	0.0455	0.091
12 1,2,3,6,7,8-HxCDF	0.1	0.64 U		0	0.032	0.064
13 2,3,4,6,7,8-HxCDF	0.1	0.74		0.074	0.074	0.074
14 1,2,3,7,8,9-HxCDF	0.1	1.40 U		0	0.07	0.14
15 1,2,3,4,6,7,8-HpCDF	0.01	2.90 U		0	0.0145	0.029
16 1,2,3,4,7,8,9-HpCDF	0.01	2.30 U		0	0.0115	0.023
17 OCDF	0.001	2.70 U		0	0.00135	0.0027
EPA TEQ				**0.35**	**1.2**	**2.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Whitney Farms 100% Organic Citrus, Berry, and Vine Food duplicate					
Sample Number	98328127					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.42 U		0	0.21	0.42
2 1,2,3,7,8-PCDD	0.5	1.60 U		0	0.4	0.8
3 1,2,3,4,7,8-HxCDD	0.1	2.60 U		0	0.13	0.26
4 1,2,3,6,7,8-HxCDD	0.1	1.70 U		0	0.085	0.17
5 1,2,3,7,8,9-HxCDD	0.1	2.00 U		0	0.1	0.2
6 1,2,3,4,6,7,8-HpCDD	0.01	3.80 U		0	0.019	0.038
7 OCDD	0.001	8.10 J		0.0081	0.0081	0.0081
8 2,3,7,8-TCDF	0.1	0.70 U		0	0.035	0.07
9 1,2,3,7,8-PCDF	0.05	1.60 U		0	0.04	0.08
10 2,3,4,7,8-PCDF	0.5	0.87 U		0	0.2175	0.435
11 1,2,3,4,7,8-HxCDF	0.1	1.00 U		0	0.05	0.1
12 1,2,3,6,7,8-HxCDF	0.1	0.97 U		0	0.0485	0.097
13 2,3,4,6,7,8-HxCDF	0.1	2.50 U		0	0.125	0.25
14 1,2,3,7,8,9-HxCDF	0.1	2.90 U		0	0.145	0.29
15 1,2,3,4,6,7,8-HpCDF	0.01	2.50 U		0	0.0125	0.025
16 1,2,3,4,7,8,9-HpCDF	0.01	3.00 U		0	0.015	0.03
17 OCDF	0.001	3.70 U		0	0.00185	0.0037
EPA TEQ				**0.01**	**1.6**	**3.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Agrium Ammonium Phosphate Sulfate					
Sample Number	98328131					
Date	8/3/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.43 U		0	0.215	0.43
2 1,2,3,7,8-PCDD	0.5	1.20 U		0	0.3	0.6
3 1,2,3,4,7,8-HxCDD	0.1	0.66 U		0	0.033	0.066
4 1,2,3,6,7,8-HxCDD	0.1	2.10 U		0	0.105	0.21
5 1,2,3,7,8,9-HxCDD	0.1	1.10 U		0	0.055	0.11
6 1,2,3,4,6,7,8-HpCDD	0.01	2.40 U		0	0.012	0.024
7 OCDD	0.001	4.00 U		0	0.002	0.004
8 2,3,7,8-TCDF	0.1	0.63 U		0	0.0315	0.063
9 1,2,3,7,8-PCDF	0.05	0.32 U		0	0.008	0.016
10 2,3,4,7,8-PCDF	0.5	0.46 U		0	0.115	0.23
11 1,2,3,4,7,8-HxCDF	0.1	0.79 U		0	0.0395	0.079
12 1,2,3,6,7,8-HxCDF	0.1	0.88 U		0	0.044	0.088
13 2,3,4,6,7,8-HxCDF	0.1	0.83 U		0	0.0415	0.083
14 1,2,3,7,8,9-HxCDF	0.1	1.10 U		0	0.055	0.11
15 1,2,3,4,6,7,8-HpCDF	0.01	1.40 U		0	0.007	0.014
16 1,2,3,4,7,8,9-HpCDF	0.01	2.30 U		0	0.0115	0.023
17 OCDF	0.001	3.60 U		0	0.0018	0.0036
EPA TEQ				**ND**	**1.1**	**2.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

	Sample Name	Tech-Flo Zeta Zinc 22				
	Sample Number	98328132				
	Date	8/4/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.50 U	0	0.25	0.5
2	1,2,3,7,8-PCDD	0.5	0.97 U	0	0.2425	0.485
3	1,2,3,4,7,8-HxCDD	0.1	0.41 U	0	0.0205	0.041
4	1,2,3,6,7,8-HxCDD	0.1	0.43 U	0	0.0215	0.043
5	1,2,3,7,8,9-HxCDD	0.1	0.47 U	0	0.0235	0.047
6	1,2,3,4,6,7,8-HpCDD	0.01	0.67 U	0	0.00335	0.0067
7	OCDD	0.001	5.10 J	0.0051	0.0051	0.0051
8	2,3,7,8-TCDF	0.1	0.22 U	0	0.011	0.022
9	1,2,3,7,8-PCDF	0.05	0.31 U	0	0.00775	0.0155
10	2,3,4,7,8-PCDF	0.5	0.33 U	0	0.0825	0.165
11	1,2,3,4,7,8-HxCDF	0.1	0.41 U	0	0.0205	0.041
12	1,2,3,6,7,8-HxCDF	0.1	0.27 U	0	0.0135	0.027
13	2,3,4,6,7,8-HxCDF	0.1	0.40 U	0	0.02	0.04
14	1,2,3,7,8,9-HxCDF	0.1	0.25 U	0	0.0125	0.025
15	1,2,3,4,6,7,8-HpCDF	0.01	0.45 U	0	0.00225	0.0045
16	1,2,3,4,7,8,9-HpCDF	0.01	1.40 U	0	0.007	0.014
17	OCDF	0.001	1.20 U	0	0.0006	0.0012
	EPA TEQ			**0.01**	**0.74**	**1.5**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Bioplus Micro 700					
Sample Number	98328133					
Date	8/4/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.30 U		0	0.15	0.3
2 1,2,3,7,8-PCDD	0.5	0.50 U		0	0.125	0.25
3 1,2,3,4,7,8-HxCDD	0.1	0.32 U		0	0.016	0.032
4 1,2,3,6,7,8-HxCDD	0.1	0.57 U		0	0.0285	0.057
5 1,2,3,7,8,9-HxCDD	0.1	0.33 U		0	0.0165	0.033
6 1,2,3,4,6,7,8-HpCDD	0.01	0.47 U		0	0.00235	0.0047
7 OCDD	0.001	0.69 U		0	0.000345	0.00069
8 2,3,7,8-TCDF	0.1	0.25 U		0	0.0125	0.025
9 1,2,3,7,8-PCDF	0.05	0.23 U		0	0.00575	0.0115
10 2,3,4,7,8-PCDF	0.5	0.30 U		0	0.075	0.15
11 1,2,3,4,7,8-HxCDF	0.1	0.45 U		0	0.0225	0.045
12 1,2,3,6,7,8-HxCDF	0.1	0.22 U		0	0.011	0.022
13 2,3,4,6,7,8-HxCDF	0.1	0.27 U		0	0.0135	0.027
14 1,2,3,7,8,9-HxCDF	0.1	0.36 U		0	0.018	0.036
15 1,2,3,4,6,7,8-HpCDF	0.01	0.44 U		0	0.0022	0.0044
16 1,2,3,4,7,8,9-HpCDF	0.01	0.39 U		0	0.00195	0.0039
17 OCDF	0.001	0.66 U		0	0.00033	0.00066
EPA TEQ				**ND**	**0.50**	**1.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Western Farm/Monteray 9% Zinc					
Sample Number	98328134					
Date	8/4/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.20 U	0	0.1	0.2
2	1,2,3,7,8-PCDD	0.5	0.25 U	0	0.0625	0.125
3	1,2,3,4,7,8-HxCDD	0.1	0.80 U	0	0.04	0.08
4	1,2,3,6,7,8-HxCDD	0.1	0.21 U	0	0.0105	0.021
5	1,2,3,7,8,9-HxCDD	0.1	0.32 U	0	0.016	0.032
6	1,2,3,4,6,7,8-HpCDD	0.01	0.48 U	0	0.0024	0.0048
7	OCDD	0.001	0.56 J	0.00056	0.00056	0.00056
8	2,3,7,8-TCDF	0.1	0.14 U	0	0.007	0.014
9	1,2,3,7,8-PCDF	0.05	0.22 U	0	0.0055	0.011
10	2,3,4,7,8-PCDF	0.5	0.18 U	0	0.045	0.09
11	1,2,3,4,7,8-HxCDF	0.1	0.36 U	0	0.018	0.036
12	1,2,3,6,7,8-HxCDF	0.1	0.19 U	0	0.0095	0.019
13	2,3,4,6,7,8-HxCDF	0.1	0.23 U	0	0.0115	0.023
14	1,2,3,7,8,9-HxCDF	0.1	0.14 U	0	0.007	0.014
15	1,2,3,4,6,7,8-HpCDF	0.01	0.32 U	0	0.0016	0.0032
16	1,2,3,4,7,8,9-HpCDF	0.01	0.41 U	0	0.00205	0.0041
17	OCDF	0.001	0.32 U	0	0.00016	0.00032
	EPA TEQ			**<0.01**	**0.34**	**0.68**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Horizon Ag Micro-Plus					
Sample Number	98328135					
Date	8/4/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.48 U		0	0.24	0.48
2 1,2,3,7,8-PCDD	0.5	0.37 U		0	0.0925	0.185
3 1,2,3,4,7,8-HxCDD	0.1	0.19 U		0	0.0095	0.019
4 1,2,3,6,7,8-HxCDD	0.1	0.33 U		0	0.0165	0.033
5 1,2,3,7,8,9-HxCDD	0.1	0.31 U		0	0.0155	0.031
6 1,2,3,4,6,7,8-HpCDD	0.01	0.52 U		0	0.0026	0.0052
7 OCDD	0.001	0.59 J		0.00059	0.00059	0.00059
8 2,3,7,8-TCDF	0.1	0.30 U		0	0.015	0.03
9 1,2,3,7,8-PCDF	0.05	0.28 U		0	0.007	0.014
10 2,3,4,7,8-PCDF	0.5	0.32 U		0	0.08	0.16
11 1,2,3,4,7,8-HxCDF	0.1	0.20 U		0	0.01	0.02
12 1,2,3,6,7,8-HxCDF	0.1	0.13 U		0	0.0065	0.013
13 2,3,4,6,7,8-HxCDF	0.1	23.00 U		0	1.15	2.3
14 1,2,3,7,8,9-HxCDF	0.1	0.18 U		0	0.009	0.018
15 1,2,3,4,6,7,8-HpCDF	0.01	0.29 U		0	0.00145	0.0029
16 1,2,3,4,7,8,9-HpCDF	0.01	0.22 U		0	0.0011	0.0022
17 OCDF	0.001	0.41 U		0	0.000205	0.00041
EPA TEQ				**<0.01**	**1.7**	**3.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Ringer/Amturf Wildflower Mix					
Sample Number	98328137					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (<DL=0)	TEQ pg/L (<DL=1/2DL)	TEQ pg/L (<DL=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	1.30 U		0.00	0.65	1.30
2 1,2,3,7,8-PCDD	0.5	1.40 U		0.00	0.35	0.70
3 1,2,3,4,7,8-HxCDD	0.1	1.90 U		0.00	0.10	0.19
4 1,2,3,6,7,8-HxCDD	0.1	2.60 U		0.00	0.13	0.26
5 1,2,3,7,8,9-HxCDD	0.1	4.20 U		0.00	0.21	0.42
6 1,2,3,4,6,7,8-HpCDD	0.01	5.00 J		0.05	0.05	0.05
7 OCDD	0.001	49.00		0.05	0.05	0.05
8 2,3,7,8-TCDF	0.1	0.58 U		0.00	0.03	0.06
9 1,2,3,7,8-PCDF	0.05	1.80 U		0.00	0.05	0.09
10 2,3,4,7,8-PCDF	0.5	1.90 U		0.00	0.48	0.95
11 1,2,3,4,7,8-HxCDF	0.1	1.30 U		0.00	0.07	0.13
12 1,2,3,6,7,8-HxCDF	0.1	1.30 U		0.00	0.07	0.13
13 2,3,4,6,7,8-HxCDF	0.1	2.20 U		0.00	0.11	0.22
14 1,2,3,7,8,9-HxCDF	0.1	1.60 U		0.00	0.08	0.16
15 1,2,3,4,6,7,8-HpCDF	0.01	2.60 U		0.00	0.01	0.03
16 1,2,3,4,7,8,9-HpCDF	0.01	3.80 U		0.00	0.02	0.04
17 OCDF	0.001	6.60 U		0.00	0.00	0.01
EPA TEQ				**0.10**	**2.4**	**4.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

	Sample Name	Whitney Farms !00% Organic Citrus, Berry & Vine Food				
	Sample Number	98328138				
	Date	8/6/98				
	Units		ng/kg	TEQ pg/L (<DL=0)	TEQ pg/L (<DL=1/2DL)	TEQ pg/L (<DL=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.72 U	0.00	0.36	0.72
2	1,2,3,7,8-PCDD	0.5	2.10 U	0.00	0.53	1.05
3	1,2,3,4,7,8-HxCD	0.1	1.90 U	0.00	0.10	0.19
4	1,2,3,6,7,8-HxCD	0.1	1.80 U	0.00	0.09	0.18
5	1,2,3,7,8,9-HxCD	0.1	2.10 U	0.00	0.11	0.21
6	1,2,3,4,6,7,8-HpC	0.01	4.10 U	0.00	0.02	0.04
7	OCDD	0.001	12.00 J	0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.46 U	0.00	0.02	0.05
9	1,2,3,7,8-PCDF	0.05	0.74 U	0.00	0.02	0.04
10	2,3,4,7,8-PCDF	0.5	0.75 U	0.00	0.19	0.38
11	1,2,3,4,7,8-HxCD	0.1	1.80 U	0.00	0.09	0.18
12	1,2,3,6,7,8-HxCD	0.1	1.50 U	0.00	0.08	0.15
13	2,3,4,6,7,8-HxCD	0.1	2.60 U	0.00	0.13	0.26
14	1,2,3,7,8,9-HxCD	0.1	3.10 U	0.00	0.16	0.31
15	1,2,3,4,6,7,8-HpC	0.01	2.20 U	0.00	0.01	0.02
16	1,2,3,4,7,8,9-HpC	0.01	4.50 U	0.00	0.02	0.05
17	OCDF	0.001	4.10 U	0.00	0.00	0.00
	EPA TEQ			**0.01**	**1.9**	**3.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

	Sample Name	Hydro-Agri/Viking Ship FS/31				
	Sample Number	98328139				
	Date	8/6/98				
	Units		ng/kg	TEQ pg/L (<DL=0)	TEQ pg/L (<DL=1/2DL)	TEQ pg/L (<DL=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.54 U	0.00	0.27	0.54
2	1,2,3,7,8-PCDD	0.5	0.87 U	0.00	0.22	0.44
3	1,2,3,4,7,8-HxCDD	0.1	0.73 U	0.00	0.04	0.07
4	1,2,3,6,7,8-HxCDD	0.1	0.95 U	0.00	0.05	0.10
5	1,2,3,7,8,9-HxCDD	0.1	0.81 U	0.00	0.04	0.08
6	1,2,3,4,6,7,8-HpCDD	0.01	1.10 U	0.00	0.01	0.01
7	OCDD	0.001	1.10 U	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.48 U	0.00	0.02	0.05
9	1,2,3,7,8-PCDF	0.05	0.29 U	0.00	0.01	0.01
10	2,3,4,7,8-PCDF	0.5	0.29 U	0.00	0.07	0.15
11	1,2,3,4,7,8-HxCDF	0.1	0.42 U	0.00	0.02	0.04
12	1,2,3,6,7,8-HxCDF	0.1	0.24 U	0.00	0.01	0.02
13	2,3,4,6,7,8-HxCDF	0.1	0.65 U	0.00	0.03	0.07
14	1,2,3,7,8,9-HxCDF	0.1	0.36 U	0.00	0.02	0.04
15	1,2,3,4,6,7,8-HpCDF	0.01	0.61 U	0.00	0.00	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.00 U	0.00	0.01	0.01
17	OCDF	0.001	1.70 U	0.00	0.00	0.00
	EPA TEQ			**ND**	**0.8**	**1.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

	Sample Name	Webfoot Rhododendron, Camelia, Azalea Food				
	Sample Number	98328140				
	Date	8/6/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.22 U	0.00	0.11	0.22
2	1,2,3,7,8-PCDD	0.5	0.81 U	0.00	0.20	0.41
3	1,2,3,4,7,8-HxCDD	0.1	1.10 U	0.00	0.06	0.11
4	1,2,3,6,7,8-HxCDD	0.1	1.30 U	0.00	0.07	0.13
5	1,2,3,7,8,9-HxCDD	0.1	1.90 U	0.00	0.10	0.19
6	1,2,3,4,6,7,8-HpCDD	0.01	3.40 U	0.00	0.02	0.03
7	OCDD	0.001	8.80 J	0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.31 U	0.00	0.02	0.03
9	1,2,3,7,8-PCDF	0.05	0.62 U	0.00	0.02	0.03
10	2,3,4,7,8-PCDF	0.5	0.79 U	0.00	0.20	0.40
11	1,2,3,4,7,8-HxCDF	0.1	1.00 U	0.00	0.05	0.10
12	1,2,3,6,7,8-HxCDF	0.1	0.75 U	0.00	0.04	0.08
13	2,3,4,6,7,8-HxCDF	0.1	1.50 U	0.00	0.08	0.15
14	1,2,3,7,8,9-HxCDF	0.1	1.40 U	0.00	0.07	0.14
15	1,2,3,4,6,7,8-HpCDF	0.01	1.30 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	2.60 U	0.00	0.01	0.03
17	OCDF	0.001	4.60 U	0.00	0.00	0.00
	EPA TEQ			**0.01**	**1.0**	**2.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

	Sample Name	Whitney Farms Iron Sulfate				
	Sample Number	98328141				
	Date	8/6/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	1.00 U	0.00	0.50	1.00
2	1,2,3,7,8-PCDD	0.5	0.68 U	0.00	0.17	0.34
3	1,2,3,4,7,8-HxCDD	0.1	0.60 U	0.00	0.03	0.06
4	1,2,3,6,7,8-HxCDD	0.1	0.69 U	0.00	0.03	0.07
5	1,2,3,7,8,9-HxCDD	0.1	1.10 U	0.00	0.06	0.11
6	1,2,3,4,6,7,8-HpCDD	0.01	1.10 U	0.00	0.01	0.01
7	OCDD	0.001	2.10 J	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.41 U	0.00	0.02	0.04
9	1,2,3,7,8-PCDF	0.05	0.46 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.49 U	0.00	0.12	0.25
11	1,2,3,4,7,8-HxCDF	0.1	0.69 U	0.00	0.03	0.07
12	1,2,3,6,7,8-HxCDF	0.1	0.41 U	0.00	0.02	0.04
13	2,3,4,6,7,8-HxCDF	0.1	0.70 U	0.00	0.04	0.07
14	1,2,3,7,8,9-HxCDF	0.1	0.86 U	0.00	0.04	0.09
15	1,2,3,4,6,7,8-HpCDF	0.01	0.62 U	0.00	0.00	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	0.80 U	0.00	0.00	0.01
17	OCDF	0.001	1.60 U	0.00	0.00	0.00
	EPA TEQ			**<0.01**	**1.1**	**2.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Liquinox Iron and Zinc				
Sample Number	98328142				
Date	8/6/98				
Units		ng/L	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.21 U	0.00	0.11	0.21
2 1,2,3,7,8-PCDD	0.5	0.38 U	0.00	0.10	0.19
3 1,2,3,4,7,8-HxCDD	0.1	0.25 U	0.00	0.01	0.03
4 1,2,3,6,7,8-HxCDD	0.1	0.38 U	0.00	0.02	0.04
5 1,2,3,7,8,9-HxCDD	0.1	0.28 U	0.00	0.01	0.03
6 1,2,3,4,6,7,8-HpCDD	0.01	0.33 U	0.00	0.00	0.00
7 OCDD	0.001	0.77 J	0.00	0.00	0.00
8 2,3,7,8-TCDF	0.1	0.40 U	0.00	0.02	0.04
9 1,2,3,7,8-PCDF	0.05	0.20 U	0.00	0.01	0.01
10 2,3,4,7,8-PCDF	0.5	0.30 U	0.00	0.08	0.15
11 1,2,3,4,7,8-HxCDF	0.1	0.37 U	0.00	0.02	0.04
12 1,2,3,6,7,8-HxCDF	0.1	0.29 U	0.00	0.01	0.03
13 2,3,4,6,7,8-HxCDF	0.1	0.40 U	0.00	0.02	0.04
14 1,2,3,7,8,9-HxCDF	0.1	0.15 U	0.00	0.01	0.02
15 1,2,3,4,6,7,8-HpCDF	0.01	0.32 U	0.00	0.00	0.00
16 1,2,3,4,7,8,9-HpCDF	0.01	0.41 U	0.00	0.00	0.00
17 OCDF	0.001	3.90 J	0.00	0.00	0.00
EPA TEQ			**<0.01**	**0.4**	**0.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Name	Schultz Bloom Plus					
Sample Number	98328143					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.32 U		0.00	0.16	0.32
2 1,2,3,7,8-PCDD	0.5	0.94 U		0.00	0.24	0.47
3 1,2,3,4,7,8-HxCDD	0.1	1.10 U		0.00	0.06	0.11
4 1,2,3,6,7,8-HxCDD	0.1	0.75 U		0.00	0.04	0.08
5 1,2,3,7,8,9-HxCDD	0.1	0.83 U		0.00	0.04	0.08
6 1,2,3,4,6,7,8-HpCDD	0.01	2.10 U		0.00	0.01	0.02
7 OCDD	0.001	1.40 U		0.00	0.00	0.00
8 2,3,7,8-TCDF	0.1	0.52 U		0.00	0.03	0.05
9 1,2,3,7,8-PCDF	0.05	0.79 U		0.00	0.02	0.04
10 2,3,4,7,8-PCDF	0.5	0.46 U		0.00	0.12	0.23
11 1,2,3,4,7,8-HxCDF	0.1	0.58 U		0.00	0.03	0.06
12 1,2,3,6,7,8-HxCDF	0.1	0.47 U		0.00	0.02	0.05
13 2,3,4,6,7,8-HxCDF	0.1	0.53 J		0.05	0.05	0.05
14 1,2,3,7,8,9-HxCDF	0.1	0.66 U		0.00	0.03	0.07
15 1,2,3,4,6,7,8-HpCDF	0.01	0.76 U		0.00	0.00	0.01
16 1,2,3,4,7,8,9-HpCDF	0.01	1.20 U		0.00	0.01	0.01
17 OCDF	0.001	1.80 U		0.00	0.00	0.00
EPA TEQ				**0.05**	**0.9**	**1.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	NuLife All-Purpose Trace Elements					
Sample Number	98328144					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	3.3		3.30	3.30	3.30
2 1,2,3,7,8-PCDD	0.5	13.0 J		6.50	6.50	6.50
3 1,2,3,4,7,8-HxCDD	0.1	8.0 J		0.80	0.80	0.80
4 1,2,3,6,7,8-HxCDD	0.1	17.0 J		1.70	1.70	1.70
5 1,2,3,7,8,9-HxCDD	0.1	13.0 J		1.30	1.30	1.30
6 1,2,3,4,6,7,8-HpCDD	0.01	80.0		0.80	0.80	0.80
7 OCDD	0.001	210.0		0.21	0.21	0.21
8 2,3,7,8-TCDF	0.1	25.0		2.50	2.50	2.50
9 1,2,3,7,8-PCDF	0.05	27.0		1.35	1.35	1.35
10 2,3,4,7,8-PCDF	0.5	38.0		19.00	19.00	19.00
11 1,2,3,4,7,8-HxCDF	0.1	39.0		3.90	3.90	3.90
12 1,2,3,6,7,8-HxCDF	0.1	37.0		3.70	3.70	3.70
13 2,3,4,6,7,8-HxCDF	0.1	54.0		5.40	5.40	5.40
14 1,2,3,7,8,9-HxCDF	0.1	14.0		1.40	1.40	1.40
15 1,2,3,4,6,7,8-HpCDF	0.01	140.0		1.40	1.40	1.40
16 1,2,3,4,7,8,9-HpCDF	0.01	24.0		0.24	0.24	0.24
17 OCDF	0.001	170.0		0.17	0.17	0.17
EPA TEQ				**54**	**54**	**54**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Osmocote Vegetable and Bedding Plant Food					
Sample Number	98328145					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.40 U		0.00	0.20	0.40
2 1,2,3,7,8-PCDD	0.5	0.93 U		0.00	0.23	0.47
3 1,2,3,4,7,8-HxCDD	0.1	1.60 U		0.00	0.08	0.16
4 1,2,3,6,7,8-HxCDD	0.1	1.50 U		0.00	0.08	0.15
5 1,2,3,7,8,9-HxCDD	0.1	1.40 U		0.00	0.07	0.14
6 1,2,3,4,6,7,8-HpCDD	0.01	2.70 U		0.00	0.01	0.03
7 OCDD	0.001	6.80 U		0.00	0.00	0.01
8 2,3,7,8-TCDF	0.1	0.68 U		0.00	0.03	0.07
9 1,2,3,7,8-PCDF	0.05	0.42 U		0.00	0.01	0.02
10 2,3,4,7,8-PCDF	0.5	0.48 U		0.00	0.12	0.24
11 1,2,3,4,7,8-HxCDF	0.1	1.70 U		0.00	0.09	0.17
12 1,2,3,6,7,8-HxCDF	0.1	0.85 U		0.00	0.04	0.09
13 2,3,4,6,7,8-HxCDF	0.1	1.30 U		0.00	0.07	0.13
14 1,2,3,7,8,9-HxCDF	0.1	1.50 U		0.00	0.08	0.15
15 1,2,3,4,6,7,8-HpCDF	0.01	4.30 U		0.00	0.02	0.04
16 1,2,3,4,7,8,9-HpCDF	0.01	4.20 U		0.00	0.02	0.04
17 OCDF	0.001	6.70 U		0.00	0.00	0.01
EPA TEQ				**ND**	**1.2**	**2.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Terosa Rose Food					
Sample Number	98328146					
Date	8/6/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.56 U		0.00	0.28	0.56
2 1,2,3,7,8-PCDD	0.5	1.20 U		0.00	0.30	0.60
3 1,2,3,4,7,8-HxCDD	0.1	1.40 U		0.00	0.07	0.14
4 1,2,3,6,7,8-HxCDD	0.1	0.91 U		0.00	0.05	0.09
5 1,2,3,7,8,9-HxCDD	0.1	1.60 U		0.00	0.08	0.16
6 1,2,3,4,6,7,8-HpCDD	0.01	3.30 U		0.00	0.02	0.03
7 OCDD	0.001	2.70 J		0.00	0.00	0.00
8 2,3,7,8-TCDF	0.1	0.95 U		0.00	0.05	0.10
9 1,2,3,7,8-PCDF	0.05	0.50 U		0.00	0.01	0.03
10 2,3,4,7,8-PCDF	0.5	1.00 U		0.00	0.25	0.50
11 1,2,3,4,7,8-HxCDF	0.1	1.90 U		0.00	0.10	0.19
12 1,2,3,6,7,8-HxCDF	0.1	1.10 U		0.00	0.06	0.11
13 2,3,4,6,7,8-HxCDF	0.1	2.00 U		0.00	0.10	0.20
14 1,2,3,7,8,9-HxCDF	0.1	1.20 U		0.00	0.06	0.12
15 1,2,3,4,6,7,8-HpCDF	0.01	2.50 U		0.00	0.01	0.03
16 1,2,3,4,7,8,9-HpCDF	0.01	2.80 U		0.00	0.01	0.03
17 OCDF	0.001	4.90 U		0.00	0.00	0.00
EPA TEQ				**<0.01**	**1.4**	**2.9**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

	Sample Name	Fort James Nutri Lime				
	Sample Number	98338181				
	Date	8/10/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.62 J	0.62	0.62	0.62
2	1,2,3,7,8-PCDD	0.5	2.90 J	1.45	1.45	1.45
3	1,2,3,4,7,8-HxCDD	0.1	2.60 J	0.26	0.26	0.26
4	1,2,3,6,7,8-HxCDD	0.1	5.50	0.55	0.55	0.55
5	1,2,3,7,8,9-HxCDD	0.1	3.70 J	0.37	0.37	0.37
6	1,2,3,4,6,7,8-HpCDD	0.01	14.00	0.14	0.14	0.14
7	OCDD	0.001	15.00	0.015	0.015	0.015
8	2,3,7,8-TCDF	0.1	3.30	0.33	0.33	0.33
9	1,2,3,7,8-PCDF	0.05	2.90 J	0.145	0.145	0.145
10	2,3,4,7,8-PCDF	0.5	5.00	2.5	2.5	2.5
11	1,2,3,4,7,8-HxCDF	0.1	2.80 J	0.28	0.28	0.28
12	1,2,3,6,7,8-HxCDF	0.1	2.30 J	0.23	0.23	0.23
13	2,3,4,6,7,8-HxCDF	0.1	3.40 J	0.34	0.34	0.34
14	1,2,3,7,8,9-HxCDF	0.1	1.20 J	0.12	0.12	0.12
15	1,2,3,4,6,7,8-HpCDF	0.01	3.9 U	0	0.0195	0.039
16	1,2,3,4,7,8,9-HpCDF	0.01	2.8 U	0	0.014	0.028
17	OCDF	0.001	4.30 J	0.0043	0.0043	0.0043
	EPA TEQ			**7.4**	**7.4**	**7.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Kelly Green Recycled Fresh Fish Fertilizer					
Sample Number	98338182					
Date	8/11/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	1.5 U	0	0.75	1.5
2	1,2,3,7,8-PCDD	0.5	6.1 U	0	1.525	3.05
3	1,2,3,4,7,8-HxCDD	0.1	2.7 U	0	0.135	0.27
4	1,2,3,6,7,8-HxCDD	0.1	2.7 U	0	0.135	0.27
5	1,2,3,7,8,9-HxCDD	0.1	4.7 U	0	0.235	0.47
6	1,2,3,4,6,7,8-HpCDD	0.01	1.2 U	0	0.006	0.012
7	OCDD	0.001	6.5 U	0	0.00325	0.0065
8	2,3,7,8-TCDF	0.1	1.9 J	0.19	0.19	0.19
9	1,2,3,7,8-PCDF	0.05	27.0 U	0	0.675	1.35
10	2,3,4,7,8-PCDF	0.5	1.5 J	0.75	0.75	0.75
11	1,2,3,4,7,8-HxCDF	0.1	3.3 U	0	0.165	0.33
12	1,2,3,6,7,8-HxCDF	0.1	2.0 U	0	0.1	0.2
13	2,3,4,6,7,8-HxCDF	0.1	4.1 UJ	0.41	0.205	0.41
14	1,2,3,7,8,9-HxCDF	0.1	4.9 U	0	0.245	0.49
15	1,2,3,4,6,7,8-HpCDF	0.01	3.4 U	0	0.017	0.034
16	1,2,3,4,7,8,9-HpCDF	0.01	3.1 U	0	0.0155	0.031
17	OCDF	0.001	3.1 U	0	0.00155	0.0031
	EPA TEQ			**1.4**	**5.2**	**9.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the estimated result.

ND - non-detect

DL - detection limit

	Sample Name	Gaia's Own Cottonseed Meal				
	Sample Number	98338183				
	Date	8/12/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.27 U	0	0.135	0.27
2	1,2,3,7,8-PCDD	0.5	0.38 U	0	0.095	0.19
3	1,2,3,4,7,8-HxCDD	0.1	0.86 U	0	0.043	0.086
4	1,2,3,6,7,8-HxCDD	0.1	0.68 U	0	0.034	0.068
5	1,2,3,7,8,9-HxCDD	0.1	0.67 U	0	0.0335	0.067
6	1,2,3,4,6,7,8-HpCDD	0.01	1.20 U	0	0.006	0.012
7	OCDD	0.001	1.50 U	0	0.00075	0.0015
8	2,3,7,8-TCDF	0.1	0.31 U	0	0.0155	0.031
9	1,2,3,7,8-PCDF	0.05	0.36 U	0	0.009	0.018
10	2,3,4,7,8-PCDF	0.5	0.69 U	0	0.1725	0.345
11	1,2,3,4,7,8-HxCDF	0.1	0.40 U	0	0.02	0.04
12	1,2,3,6,7,8-HxCDF	0.1	0.39 U	0	0.0195	0.039
13	2,3,4,6,7,8-HxCDF	0.1	0.58 U	0	0.029	0.058
14	1,2,3,7,8,9-HxCDF	0.1	0.61 U	0	0.0305	0.061
15	1,2,3,4,6,7,8-HpCDF	0.01	2.60 U	0	0.013	0.026
16	1,2,3,4,7,8,9-HpCDF	0.01	1.70 U	0	0.0085	0.017
17	OCDF	0.001	1.40 U	0	0.0007	0.0014
	EPA TEQ			**ND**	**0.7**	**1.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	IMC Kalium Potash					
Sample Number	98338184					
Date	8/12/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.51 U		0	0.255	0.51
2 1,2,3,7,8-PCDD	0.5	0.56 U		0	0.14	0.28
3 1,2,3,4,7,8-HxCDD	0.1	0.87 U		0	0.0435	0.087
4 1,2,3,6,7,8-HxCDD	0.1	0.75 U		0	0.0375	0.075
5 1,2,3,7,8,9-HxCDD	0.1	0.69 U		0	0.0345	0.069
6 1,2,3,4,6,7,8-HpCDD	0.01	1.10 U		0	0.0055	0.011
7 OCDD	0.001	3.1 U		0	0.00155	0.0031
8 2,3,7,8-TCDF	0.1	0.18		0.018	0.018	0.018
9 1,2,3,7,8-PCDF	0.05	0.24 U		0	0.006	0.012
10 2,3,4,7,8-PCDF	0.5	0.30 U		0	0.075	0.15
11 1,2,3,4,7,8-HxCDF	0.1	0.45 U		0	0.0225	0.045
12 1,2,3,6,7,8-HxCDF	0.1	0.51 U		0	0.0255	0.051
13 2,3,4,6,7,8-HxCDF	0.1	0.56 U		0	0.028	0.056
14 1,2,3,7,8,9-HxCDF	0.1	0.62 U		0	0.031	0.062
15 1,2,3,4,6,7,8-HpCDF	0.01	0.43 U		0	0.00215	0.0043
16 1,2,3,4,7,8,9-HpCDF	0.01	1.20 U		0	0.006	0.012
17 OCDF	0.001	1.50 U		0	0.00075	0.0015
EPA TEQ				**0.0**	**0.7**	**1.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name		Stoller Green Label Micronutrient II Super Starter				
Sample Number		98338185				
Date		8/12/98				
Units			ng/L	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener		TEF				
1	2,3,7,8-TCDD	1	0.25 U	0	0.125	0.25
2	1,2,3,7,8-PCDD	0.5	1.60 U	0	0.4	0.8
3	1,2,3,4,7,8-HxCDD	0.1	1.20 U	0	0.06	0.12
4	1,2,3,6,7,8-HxCDD	0.1	1.60 U	0	0.08	0.16
5	1,2,3,7,8,9-HxCDD	0.1	0.61 U	0	0.0305	0.061
6	1,2,3,4,6,7,8-HpCDD	0.01	2.20 J	0.022	0.022	0.022
7	OCDD	0.001	3.90 J	0.0039	0.0039	0.0039
8	2,3,7,8-TCDF	0.1	0.28 J	0.028	0.028	0.028
9	1,2,3,7,8-PCDF	0.05	0.96 U	0	0.024	0.048
10	2,3,4,7,8-PCDF	0.5	1.60 U	0	0.4	0.8
11	1,2,3,4,7,8-HxCDF	0.1	0.94 J	0.094	0.094	0.094
12	1,2,3,6,7,8-HxCDF	0.1	0.51 J	0.051	0.051	0.051
13	2,3,4,6,7,8-HxCDF	0.1	0.79 J	0.079	0.079	0.079
14	1,2,3,7,8,9-HxCDF	0.1	0.83 U	0	0.0415	0.083
15	1,2,3,4,6,7,8-HpCDF	0.01	1.20 J	0.012	0.012	0.012
16	1,2,3,4,7,8,9-HpCDF	0.01	1.40 U	0	0.007	0.014
17	OCDF	0.001	1.90 J	0.0019	0.0019	0.0019
EPA TEQ				**0.3**	**1.5**	**2.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Monteray 10% Zinc				
Sample Number	98338186				
Date	8/12/98				
Units		ng/L	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.21 U	0	0.105	0.21
2 1,2,3,7,8-PCDD	0.5	0.75 U	0	0.1875	0.375
3 1,2,3,4,7,8-HxCDD	0.1	0.52 U	0	0.026	0.052
4 1,2,3,6,7,8-HxCDD	0.1	0.48 U	0	0.024	0.048
5 1,2,3,7,8,9-HxCDD	0.1	0.48 U	0	0.024	0.048
6 1,2,3,4,6,7,8-HpCDD	0.01	0.35 U	0	0.00175	0.0035
7 OCDD	0.001	0.69 U	0	0.000345	0.00069
8 2,3,7,8-TCDF	0.1	0.13 U	0	0.0065	0.013
9 1,2,3,7,8-PCDF	0.05	0.20 U	0	0.005	0.01
10 2,3,4,7,8-PCDF	0.5	0.22 U	0	0.055	0.11
11 1,2,3,4,7,8-HxCDF	0.1	0.40 U	0	0.02	0.04
12 1,2,3,6,7,8-HxCDF	0.1	0.37 U	0	0.0185	0.037
13 2,3,4,6,7,8-HxCDF	0.1	0.41 J	0.041	0.041	0.041
14 1,2,3,7,8,9-HxCDF	0.1	0.32 U	0	0.016	0.032
15 1,2,3,4,6,7,8-HpCDF	0.01	0.43 U	0	0.00215	0.0043
16 1,2,3,4,7,8,9-HpCDF	0.01	0.50 U	0	0.0025	0.005
17 OCDF	0.001	2.40 J	0.0024	0.0024	0.0024
EPA TEQ			**0.0**	**0.5**	**1.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Hydro-Feed with Polyon 20-10-10				
Sample Number	98338187				
Date	8/14/98				
Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.62 U	0	0.31	0.62
2 1,2,3,7,8-PCDD	0.5	0.93 U	0	0.2325	0.465
3 1,2,3,4,7,8-HxCDD	0.1	1.20 U	0	0.06	0.12
4 1,2,3,6,7,8-HxCDD	0.1	1.70 U	0	0.085	0.17
5 1,2,3,7,8,9-HxCDD	0.1	1.30 U	0	0.065	0.13
6 1,2,3,4,6,7,8-HpCDD	0.01	2.40 U	0	0.012	0.024
7 OCDD	0.001	3.00 U	0	0.0015	0.003
8 2,3,7,8-TCDF	0.1	0.43 U	0	0.0215	0.043
9 1,2,3,7,8-PCDF	0.05	0.77 U	0	0.01925	0.0385
10 2,3,4,7,8-PCDF	0.5	1.00 U	0	0.25	0.5
11 1,2,3,4,7,8-HxCDF	0.1	1.30 U	0	0.065	0.13
12 1,2,3,6,7,8-HxCDF	0.1	0.53 U	0	0.0265	0.053
13 2,3,4,6,7,8-HxCDF	0.1	0.78 U	0	0.039	0.078
14 1,2,3,7,8,9-HxCDF	0.1	0.98 U	0	0.049	0.098
15 1,2,3,4,6,7,8-HpCDF	0.01	1.10 U	0	0.0055	0.011
16 1,2,3,4,7,8,9-HpCDF	0.01	1.90 U	0	0.0095	0.019
17 OCDF	0.001	4.70 U	0	0.00235	0.0047
EPA TEQ			**ND**	**1.3**	**2.5**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Evergro 23-3-23				
Sample Number	98338188				
Date	8/14/98				
Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.36 U	0	0.18	0.36
2 1,2,3,7,8-PCDD	0.5	1.70 U	0	0.425	0.85
3 1,2,3,4,7,8-HxCDD	0.1	1.10 U	0	0.055	0.11
4 1,2,3,6,7,8-HxCDD	0.1	1.10 U	0	0.055	0.11
5 1,2,3,7,8,9-HxCDD	0.1	1.10 U	0	0.055	0.11
6 1,2,3,4,6,7,8-HpCDD	0.01	1.90 U	0	0.0095	0.019
7 OCDD	0.001	3.50 U	0	0.00175	0.0035
8 2,3,7,8-TCDF	0.1	0.79 U	0	0.0395	0.079
9 1,2,3,7,8-PCDF	0.05	0.59 U	0	0.01475	0.0295
10 2,3,4,7,8-PCDF	0.5	0.86 U	0	0.215	0.43
11 1,2,3,4,7,8-HxCDF	0.1	1.90 U	0	0.095	0.19
12 1,2,3,6,7,8-HxCDF	0.1	0.91 U	0	0.0455	0.091
13 2,3,4,6,7,8-HxCDF	0.1	1.50 U	0	0.075	0.15
14 1,2,3,7,8,9-HxCDF	0.1	1.60 U	0	0.08	0.16
15 1,2,3,4,6,7,8-HpCDF	0.01	1.30 U	0	0.0065	0.013
16 1,2,3,4,7,8,9-HpCDF	0.01	2.20 U	0	0.011	0.022
17 OCDF	0.001	5.00 U	0	0.0025	0.005
EPA TEQ			**ND**	**1.4**	**2.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Evergro 23-3-23 duplicate					
Sample Number	98338189					
Date	8/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.39 U		0	0.195	0.39
2 1,2,3,7,8-PCDD	0.5	2.00 U		0	0.5	1
3 1,2,3,4,7,8-HxCDD	0.1	1.50 U		0	0.075	0.15
4 1,2,3,6,7,8-HxCDD	0.1	1.70 U		0	0.085	0.17
5 1,2,3,7,8,9-HxCDD	0.1	2.00 U		0	0.1	0.2
6 1,2,3,4,6,7,8-HpCDD	0.01	2.30 U		0	0.0115	0.023
7 OCDD	0.001	3.40 U		0	0.0017	0.0034
8 2,3,7,8-TCDF	0.1	0.70 U		0	0.035	0.07
9 1,2,3,7,8-PCDF	0.05	0.56 U		0	0.014	0.028
10 2,3,4,7,8-PCDF	0.5	1.10 U		0	0.275	0.55
11 1,2,3,4,7,8-HxCDF	0.1	2.10 U		0	0.105	0.21
12 1,2,3,6,7,8-HxCDF	0.1	1.10 U		0	0.055	0.11
13 2,3,4,6,7,8-HxCDF	0.1	1.30 U		0	0.065	0.13
14 1,2,3,7,8,9-HxCDF	0.1	3.50 U		0	0.175	0.35
15 1,2,3,4,6,7,8-HpCDF	0.01	1.60 U		0	0.008	0.016
16 1,2,3,4,7,8,9-HpCDF	0.01	2.10 U		0	0.0105	0.021
17 OCDF	0.001	6.80 U		0	0.0034	0.0068
EPA TEQ				**ND**	**1.7**	**3.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	McLendon Weed and Feed 15-5-5					
Sample Number	98338190					
Date	8/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	2.6		2.6	2.6	2.6
2 1,2,3,7,8-PCDD	0.5	4.7 J		2.35	2.35	2.35
3 1,2,3,4,7,8-HxCDD	0.1	1.3 U		0	0.065	0.13
4 1,2,3,6,7,8-HxCDD	0.1	4.2 J		0.42	0.42	0.42
5 1,2,3,7,8,9-HxCDD	0.1	2.3 U		0	0.115	0.23
6 1,2,3,4,6,7,8-HpCDD	0.01	2.9 J		0.029	0.029	0.029
7 OCDD	0.001	22.0		0.022	0.022	0.022
8 2,3,7,8-TCDF	0.1	4.0 U		0	0.2	0.4
9 1,2,3,7,8-PCDF	0.05	3.1 U		0	0.0775	0.155
10 2,3,4,7,8-PCDF	0.5	1.3 U		0	0.325	0.65
11 1,2,3,4,7,8-HxCDF	0.1	2.2 U		0	0.11	0.22
12 1,2,3,6,7,8-HxCDF	0.1	1.0 U		0	0.05	0.1
13 2,3,4,6,7,8-HxCDF	0.1	2.1 U		0	0.105	0.21
14 1,2,3,7,8,9-HxCDF	0.1	2.5 U		0	0.125	0.25
15 1,2,3,4,6,7,8-HpCDF	0.01	1.4 U		0	0.007	0.014
16 1,2,3,4,7,8,9-HpCDF	0.01	4.2 U		0	0.021	0.042
17 OCDF	0.001	5.2 U		0	0.0026	0.0052
EPA TEQ				**5.4**	**6.6**	**7.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	TurfGo 12-0-0					
Sample Number	98338191					
Date	8/14/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.34 U		0	0.17	0.34
2 1,2,3,7,8-PCDD	0.5	0.26 U		0	0.065	0.13
3 1,2,3,4,7,8-HxCDD	0.1	0.74 U		0	0.037	0.074
4 1,2,3,6,7,8-HxCDD	0.1	0.82 U		0	0.041	0.082
5 1,2,3,7,8,9-HxCDD	0.1	0.56 U		0	0.028	0.056
6 1,2,3,4,6,7,8-HpCDD	0.01	0.45 U		0	0.00225	0.0045
7 OCDD	0.001	0.96 U		0	0.00048	0.00096
8 2,3,7,8-TCDF	0.1	0.29 U		0	0.0145	0.029
9 1,2,3,7,8-PCDF	0.05	0.42 U		0	0.0105	0.021
10 2,3,4,7,8-PCDF	0.5	0.26 U		0	0.065	0.13
11 1,2,3,4,7,8-HxCDF	0.1	0.58 U		0	0.029	0.058
12 1,2,3,6,7,8-HxCDF	0.1	0.34 U		0	0.017	0.034
13 2,3,4,6,7,8-HxCDF	0.1	0.28 J		0.028	0.028	0.028
14 1,2,3,7,8,9-HxCDF	0.1	0.53 U		0	0.0265	0.053
15 1,2,3,4,6,7,8-HpCDF	0.01	0.59 U		0	0.00295	0.0059
16 1,2,3,4,7,8,9-HpCDF	0.01	0.75 U		0	0.00375	0.0075
17 OCDF	0.001	0.92 U		0	0.00046	0.00092
EPA TEQ				**0.0**	**0.5**	**1.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

	Sample Name	Ringer Magic Start Grass Patch				
	Sample Number	338192				
	Date	8/14/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.36 U	0	0.18	0.36
2	1,2,3,7,8-PCDD	0.5	0.79 U	0	0.1975	0.395
3	1,2,3,4,7,8-HxCDD	0.1	0.45 U	0	0.0225	0.045
4	1,2,3,6,7,8-HxCDD	0.1	1.00 U	0	0.05	0.1
5	1,2,3,7,8,9-HxCDD	0.1	0.66 U	0	0.033	0.066
6	1,2,3,4,6,7,8-HpCDD	0.01	1.10 U	0	0.0055	0.011
7	OCDD	0.001	4.2 U	0	0.0021	0.0042
8	2,3,7,8-TCDF	0.1	0.23 U	0	0.0115	0.023
9	1,2,3,7,8-PCDF	0.05	0.37 U	0	0.00925	0.0185
10	2,3,4,7,8-PCDF	0.5	0.35 U	0	0.0875	0.175
11	1,2,3,4,7,8-HxCDF	0.1	0.50 U	0	0.025	0.05
12	1,2,3,6,7,8-HxCDF	0.1	0.30 U	0	0.015	0.03
13	2,3,4,6,7,8-HxCDF	0.1	0.65 U	0	0.0325	0.065
14	1,2,3,7,8,9-HxCDF	0.1	0.40 U	0	0.02	0.04
15	1,2,3,4,6,7,8-HpCDF	0.01	0.73 U	0	0.00365	0.0073
16	1,2,3,4,7,8,9-HpCDF	0.01	1.00 U	0	0.005	0.01
17	OCDF	0.001	1.40 U	0	0.0007	0.0014
	EPA TEQ			**ND**	**0.7**	**1.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Ortho Upstart					
Sample Number	98338193					
Date	8/14/98					
Units		ng/L		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.25 U		0	0.125	0.25
2 1,2,3,7,8-PCDD	0.5	0.49 U		0	0.1225	0.245
3 1,2,3,4,7,8-HxCDD	0.1	0.76 U		0	0.038	0.076
4 1,2,3,6,7,8-HxCDD	0.1	0.84 U		0	0.042	0.084
5 1,2,3,7,8,9-HxCDD	0.1	0.59 U		0	0.0295	0.059
6 1,2,3,4,6,7,8-HpCDD	0.01	0.78 U		0	0.0039	0.0078
7 OCDD	0.001	0.72 U		0	0.00036	0.00072
8 2,3,7,8-TCDF	0.1	0.19 U		0	0.0095	0.019
9 1,2,3,7,8-PCDF	0.05	0.30 U		0	0.0075	0.015
10 2,3,4,7,8-PCDF	0.5	0.26 U		0	0.065	0.13
11 1,2,3,4,7,8-HxCDF	0.1	0.32 J		0.032	0.032	0.032
12 1,2,3,6,7,8-HxCDF	0.1	0.29 U		0	0.0145	0.029
13 2,3,4,6,7,8-HxCDF	0.1	0.51 J		0.051	0.051	0.051
14 1,2,3,7,8,9-HxCDF	0.1	0.65 U		0	0.0325	0.065
15 1,2,3,4,6,7,8-HpCDF	0.01	0.99 U		0	0.00495	0.0099
16 1,2,3,4,7,8,9-HpCDF	0.01	0.42 U		0	0.0021	0.0042
17 OCDF	0.001	0.49 U		0	0.000245	0.00049
EPA TEQ				**0.1**	**0.6**	**1.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Pace NuLife 10-20-20				
Sample Number	98338194				
Date	8/14/98				
Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.89 U	0	0.445	0.89
2 1,2,3,7,8-PCDD	0.5	2.00 U	0	0.5	1
3 1,2,3,4,7,8-HxCDD	0.1	0.93 U	0	0.0465	0.093
4 1,2,3,6,7,8-HxCDD	0.1	0.95 U	0	0.0475	0.095
5 1,2,3,7,8,9-HxCDD	0.1	1.10 U	0	0.055	0.11
6 1,2,3,4,6,7,8-HpCDD	0.01	2.70 U	0	0.0135	0.027
7 OCDD	0.001	5.80 U	0	0.0029	0.0058
8 2,3,7,8-TCDF	0.1	0.64 U	0	0.032	0.064
9 1,2,3,7,8-PCDF	0.05	0.62 U	0	0.0155	0.031
10 2,3,4,7,8-PCDF	0.5	0.99 U	0	0.2475	0.495
11 1,2,3,4,7,8-HxCDF	0.1	1.10 U	0	0.055	0.11
12 1,2,3,6,7,8-HxCDF	0.1	2.50 U	0	0.125	0.25
13 2,3,4,6,7,8-HxCDF	0.1	1.50 U	0	0.075	0.15
14 1,2,3,7,8,9-HxCDF	0.1	2.10 U	0	0.105	0.21
15 1,2,3,4,6,7,8-HpCDF	0.01	1.90 U	0	0.0095	0.019
16 1,2,3,4,7,8,9-HpCDF	0.01	3.20 U	0	0.016	0.032
17 OCDF	0.001	5.00 U	0	0.0025	0.005
EPA TEQ			**ND**	**1.8**	**3.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

	Sample Name	NuLife Agro 10-15-10				
	Sample Number	98338195				
	Date	8/14/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.88 U	0	0.44	0.88
2	1,2,3,7,8-PCDD	0.5	2.40 U	0	0.6	1.2
3	1,2,3,4,7,8-HxCDD	0.1	3.50 U	0	0.175	0.35
4	1,2,3,6,7,8-HxCDD	0.1	2.30 U	0	0.115	0.23
5	1,2,3,7,8,9-HxCDD	0.1	3.70 U	0	0.185	0.37
6	1,2,3,4,6,7,8-HpCDD	0.01	5.60 U	0	0.028	0.056
7	OCDD	0.001	7.70 U	0	0.00385	0.0077
8	2,3,7,8-TCDF	0.1	2.00 U	0	0.1	0.2
9	1,2,3,7,8-PCDF	0.05	1.60 U	0	0.04	0.08
10	2,3,4,7,8-PCDF	0.5	0.88 U	0	0.22	0.44
11	1,2,3,4,7,8-HxCDF	0.1	2.20 U	0	0.11	0.22
12	1,2,3,6,7,8-HxCDF	0.1	2.10 U	0	0.105	0.21
13	2,3,4,6,7,8-HxCDF	0.1	3.90 U	0	0.195	0.39
14	1,2,3,7,8,9-HxCDF	0.1	3.00 U	0	0.15	0.3
15	1,2,3,4,6,7,8-HpCDF	0.01	2.90 U	0	0.0145	0.029
16	1,2,3,4,7,8,9-HpCDF	0.01	6.50 U	0	0.0325	0.065
17	OCDF	0.001	5.40 U	0	0.0027	0.0054
	EPA TEQ			**ND**	**2.5**	**5.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	NuLife Agro 10-15-10 duplicate					
Sample Number	98338196					
Date	8/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	1.2 U		0	0.6	1.2
2 1,2,3,7,8-PCDD	0.5	2.1 U		0	0.525	1.05
3 1,2,3,4,7,8-HxCDD	0.1	3.4 U		0	0.17	0.34
4 1,2,3,6,7,8-HxCDD	0.1	3.0 U		0	0.15	0.3
5 1,2,3,7,8,9-HxCDD	0.1	2.2 U		0	0.11	0.22
6 1,2,3,4,6,7,8-HpCDD	0.01	8.3 U		0	0.0415	0.083
7 OCDD	0.001	11.0 U		0	0.0055	0.011
8 2,3,7,8-TCDF	0.1	1.4 U		0	0.07	0.14
9 1,2,3,7,8-PCDF	0.05	1.8 U		0	0.045	0.09
10 2,3,4,7,8-PCDF	0.5	4.3 U		0	1.075	2.15
11 1,2,3,4,7,8-HxCDF	0.1	3.6 U		0	0.18	0.36
12 1,2,3,6,7,8-HxCDF	0.1	3.7 U		0	0.185	0.37
13 2,3,4,6,7,8-HxCDF	0.1	4.5 U		0	0.225	0.45
14 1,2,3,7,8,9-HxCDF	0.1	5.2 U		0	0.26	0.52
15 1,2,3,4,6,7,8-HpCDF	0.01	2.0		0.02	0.02	0.02
16 1,2,3,4,7,8,9-HpCDF	0.01	5.4 U		0	0.027	0.054
17 OCDF	0.001	10.0 U		0	0.005	0.01
EPA TEQ				**0.0**	**3.7**	**7.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Winter Green 15-10-25					
Sample Number	98338197					
Date	3/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.84 U	0.00	0.42	0.84
2	1,2,3,7,8-PCDD	0.5	1.20 U	0.00	0.30	0.60
3	1,2,3,4,7,8-HxCDD	0.1	1.40 U	0.00	0.07	0.14
4	1,2,3,6,7,8-HxCDD	0.1	1.50 U	0.00	0.08	0.15
5	1,2,3,7,8,9-HxCDD	0.1	1.40 U	0.00	0.07	0.14
6	1,2,3,4,6,7,8-HpCDD	0.01	2.10 U	0.00	0.01	0.02
7	OCDD	0.001	5.70 U	0.00	0.00	0.01
8	2,3,7,8-TCDF	0.1	0.52 U	0.00	0.03	0.05
9	1,2,3,7,8-PCDF	0.05	0.57 U	0.00	0.01	0.03
10	2,3,4,7,8-PCDF	0.5	0.53 U	0.00	0.13	0.27
11	1,2,3,4,7,8-HxCDF	0.1	0.62 U	0.00	0.03	0.06
12	1,2,3,6,7,8-HxCDF	0.1	0.62 U	0.00	0.03	0.06
13	2,3,4,6,7,8-HxCDF	0.1	0.55 J	0.06	0.06	0.06
14	1,2,3,7,8,9-HxCDF	0.1	1.70 U	0.00	0.09	0.17
15	1,2,3,4,6,7,8-HpCDF	0.01	1.60 U	0.00	0.01	0.02
16	1,2,3,4,7,8,9-HpCDF	0.01	3.90 U	0.00	0.02	0.04
17	OCDF	0.001	8.20 U	0.00	0.00	0.01
	EPA TEQ			**0.06**	**1.4**	**2.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	J.R. Simplot Best 6-20-20XB					
Sample Number	98338198					
Date	8/14/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.60 U	0.00	0.30	0.60
2	1,2,3,7,8-PCDD	0.5	1.20 U	0.00	0.30	0.60
3	1,2,3,4,7,8-HxCDD	0.1	0.91 U	0.00	0.05	0.09
4	1,2,3,6,7,8-HxCDD	0.1	0.63 U	0.00	0.03	0.06
5	1,2,3,7,8,9-HxCDD	0.1	0.80 U	0.00	0.04	0.08
6	1,2,3,4,6,7,8-HpCDD	0.01	2.0 J	0.02	0.02	0.02
7	OCDD	0.001	13.0	0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.40 U	0.00	0.02	0.04
9	1,2,3,7,8-PCDF	0.05	0.71 U	0.00	0.02	0.04
10	2,3,4,7,8-PCDF	0.5	0.58 U	0.00	0.15	0.29
11	1,2,3,4,7,8-HxCDF	0.1	0.99 U	0.00	0.05	0.10
12	1,2,3,6,7,8-HxCDF	0.1	0.63 U	0.00	0.03	0.06
13	2,3,4,6,7,8-HxCDF	0.1	1.30 U	0.00	0.07	0.13
14	1,2,3,7,8,9-HxCDF	0.1	1.20 U	0.00	0.06	0.12
15	1,2,3,4,6,7,8-HpCDF	0.01	1.30 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.40 U	0.00	0.01	0.01
17	OCDF	0.001	3.30 U	0.00	0.00	0.00
	EPA TEQ			**0.03**	**1.2**	**2.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Whitney Farms Jersey Green Sand					
Sample Number	98338199					
Date	8/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.39 U	0.00	0.20	0.39
2	1,2,3,7,8-PCDD	0.5	0.66 U	0.00	0.17	0.33
3	1,2,3,4,7,8-HxCDD	0.1	0.84 U	0.00	0.04	0.08
4	1,2,3,6,7,8-HxCDD	0.1	0.55 U	0.00	0.03	0.06
5	1,2,3,7,8,9-HxCDD	0.1	1.00 U	0.00	0.05	0.10
6	1,2,3,4,6,7,8-HpCDD	0.01	1.60 J	0.02	0.02	0.02
7	OCDD	0.001	140.00	0.14	0.14	0.14
8	2,3,7,8-TCDF	0.1	0.35 U	0.00	0.02	0.04
9	1,2,3,7,8-PCDF	0.05	0.35 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.29 U	0.00	0.07	0.15
11	1,2,3,4,7,8-HxCDF	0.1	0.34 U	0.00	0.02	0.03
12	1,2,3,6,7,8-HxCDF	0.1	0.54 U	0.00	0.03	0.05
13	2,3,4,6,7,8-HxCDF	0.1	0.47 U	0.00	0.02	0.05
14	1,2,3,7,8,9-HxCDF	0.1	0.60 U	0.00	0.03	0.06
15	1,2,3,4,6,7,8-HpCDF	0.01	1.30 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.60 U	0.00	0.01	0.02
17	OCDF	0.001	1.90 U	0.00	0.00	0.00
	EPA TEQ			**0.16**	**0.85**	**1.5**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Pursell Sta-Green Azalea, Camelia, and Rhododendron Food					
Sample Number	98338200					
Date	8/14/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.73 U	0.00	0.37	0.73
2	1,2,3,7,8-PCDD	0.5	2.10 U	0.00	0.53	1.05
3	1,2,3,4,7,8-HxCDD	0.1	1.70 U	0.00	0.09	0.17
4	1,2,3,6,7,8-HxCDD	0.1	1.40 U	0.00	0.07	0.14
5	1,2,3,7,8,9-HxCDD	0.1	1.80 U	0.00	0.09	0.18
6	1,2,3,4,6,7,8-HpCDD	0.01	2.80 J	0.03	0.03	0.03
7	OCDD	0.001	12.00	0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.91 U	0.00	0.05	0.09
9	1,2,3,7,8-PCDF	0.05	0.84 U	0.00	0.02	0.04
10	2,3,4,7,8-PCDF	0.5	0.61 U	0.00	0.15	0.31
11	1,2,3,4,7,8-HxCDF	0.1	1.70 U	0.00	0.09	0.17
12	1,2,3,6,7,8-HxCDF	0.1	1.60 U	0.00	0.08	0.16
13	2,3,4,6,7,8-HxCDF	0.1	0.94 J	0.09	0.09	0.09
14	1,2,3,7,8,9-HxCDF	0.1	1.30 U	0.00	0.07	0.13
15	1,2,3,4,6,7,8-HpCDF	0.01	1.80 J	0.02	0.02	0.02
16	1,2,3,4,7,8,9-HpCDF	0.01	2.00 U	0.00	0.01	0.02
17	OCDF	0.001	4.80 U	0.00	0.00	0.00
	EPA TEQ			**0.15**	**1.7**	**3.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name		Cozinco sample #2					
Sample Number		98338201					
Date		8/14/98					
					TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)
Congener		TEF		Qualifier			
1	2,3,7,8-TCDD	1	0.78	U	0.00	0.39	0.78
2	1,2,3,7,8-PCDD	0.5	0.81	U	0.00	0.20	0.41
3	1,2,3,4,7,8-HxCDD	0.1	1.20	U	0.00	0.06	0.12
4	1,2,3,6,7,8-HxCDD	0.1	1.10	U	0.00	0.06	0.11
5	1,2,3,7,8,9-HxCDD	0.1	0.83	U	0.00	0.04	0.08
6	1,2,3,4,6,7,8-HpCDD	0.01	1.20	U	0.00	0.01	0.01
7	OCDD	0.001	2.80	U	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.73	U	0.00	0.04	0.07
9	1,2,3,7,8-PCDF	0.05	0.25	J	0.01	0.01	0.01
10	2,3,4,7,8-PCDF	0.5	0.63	U	0.00	0.16	0.32
11	1,2,3,4,7,8-HxCDF	0.1	0.36	U	0.00	0.02	0.04
12	1,2,3,6,7,8-HxCDF	0.1	0.61	U	0.00	0.03	0.06
13	2,3,4,6,7,8-HxCDF	0.1	0.53	J	0.05	0.05	0.05
14	1,2,3,7,8,9-HxCDF	0.1	0.82	U	0.00	0.04	0.08
15	1,2,3,4,6,7,8-HpCDF	0.01	0.81	U	0.00	0.00	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.20	U	0.00	0.01	0.01
17	OCDF	0.001	2.00	U	0.00	0.00	0.00
EPA TEQ					**0.07**	**1.1**	**2.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Cozinco sample #2 duplicate					
Sample Number	98338202					
Date	8/14/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.37 U	0.00	0.19	0.37
2	1,2,3,7,8-PCDD	0.5	0.48 U	0.00	0.12	0.24
3	1,2,3,4,7,8-HxCDD	0.1	0.46 U	0.00	0.02	0.05
4	1,2,3,6,7,8-HxCDD	0.1	0.63 U	0.00	0.03	0.06
5	1,2,3,7,8,9-HxCDD	0.1	0.73 U	0.00	0.04	0.07
6	1,2,3,4,6,7,8-HpCDD	0.01	0.56 U	0.00	0.00	0.01
7	OCDD	0.001	1.10 J	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.29 U	0.00	0.01	0.03
9	1,2,3,7,8-PCDF	0.05	0.43 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.42 U	0.00	0.11	0.21
11	1,2,3,4,7,8-HxCDF	0.1	0.55 U	0.00	0.03	0.06
12	1,2,3,6,7,8-HxCDF	0.1	0.56 U	0.00	0.03	0.06
13	2,3,4,6,7,8-HxCDF	0.1	0.58 J	0.06	0.06	0.06
14	1,2,3,7,8,9-HxCDF	0.1	0.40 U	0.00	0.02	0.04
15	1,2,3,4,6,7,8-HpCDF	0.01	0.62 U	0.00	0.00	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	0.60 U	0.00	0.00	0.01
17	OCDF	0.001	0.59 U	0.00	0.00	0.00
	EPA TEQ			**0.06**	**0.67**	**1.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Peters Professional All-Purpose Plant Food					
Sample Number	98338203					
Date	8/14/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	1.00 U	0.00	0.50	1.00
2	1,2,3,7,8-PCDD	0.5	3.30 U	0.00	0.83	1.65
3	1,2,3,4,7,8-HxCDD	0.1	1.80 U	0.00	0.09	0.18
4	1,2,3,6,7,8-HxCDD	0.1	2.20 U	0.00	0.11	0.22
5	1,2,3,7,8,9-HxCDD	0.1	3.10 U	0.00	0.16	0.31
6	1,2,3,4,6,7,8-HpCDD	0.01	2.80 U	0.00	0.01	0.03
7	OCDD	0.001	5.50 U	0.00	0.00	0.01
8	2,3,7,8-TCDF	0.1	0.92 UJ	0.00	0.05	0.09
9	1,2,3,7,8-PCDF	0.05	1.20 UJ	0.00	0.03	0.06
10	2,3,4,7,8-PCDF	0.5	1.40 UJ	0.00	0.35	0.70
11	1,2,3,4,7,8-HxCDF	0.1	1.90 U	0.00	0.10	0.19
12	1,2,3,6,7,8-HxCDF	0.1	1.80 U	0.00	0.09	0.18
13	2,3,4,6,7,8-HxCDF	0.1	0.88 J	0.09	0.09	0.09
14	1,2,3,7,8,9-HxCDF	0.1	1.80 UJ	0.00	0.09	0.18
15	1,2,3,4,6,7,8-HpCDF	0.01	2.30 U	0.00	0.01	0.02
16	1,2,3,4,7,8,9-HpCDF	0.01	3.00 U	0.00	0.02	0.03
17	OCDF	0.001	5.40 U	0.00	0.00	0.01
	EPA TEQ			**0.09**	**2.5**	**4.9**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the estimated result.

ND - non-detect

DL - detection limit

Sample Name	Schultz Soluble for Orchids					
Sample Number	98338204					
Date	8/14/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.58 U	0.00	0.29	0.58
2	1,2,3,7,8-PCDD	0.5	0.86 U	0.00	0.22	0.43
3	1,2,3,4,7,8-HxCDD	0.1	0.47 U	0.00	0.02	0.05
4	1,2,3,6,7,8-HxCDD	0.1	1.00 U	0.00	0.05	0.10
5	1,2,3,7,8,9-HxCDD	0.1	0.88 U	0.00	0.04	0.09
6	1,2,3,4,6,7,8-HpCDD	0.01	1.40 U	0.00	0.01	0.01
7	OCDD	0.001	3.40 U	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.45 U	0.00	0.02	0.05
9	1,2,3,7,8-PCDF	0.05	0.41 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.36 U	0.00	0.09	0.18
11	1,2,3,4,7,8-HxCDF	0.1	0.46 J	0.05	0.05	0.05
12	1,2,3,6,7,8-HxCDF	0.1	0.45 U	0.00	0.02	0.05
13	2,3,4,6,7,8-HxCDF	0.1	0.42 J	0.04	0.04	0.04
14	1,2,3,7,8,9-HxCDF	0.1	0.49 U	0.00	0.02	0.05
15	1,2,3,4,6,7,8-HpCDF	0.01	1.00 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.30 U	0.00	0.01	0.01
17	OCDF	0.001	1.90 U	0.00	0.00	0.00
	EPA TEQ			**0.09**	**0.90**	**1.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Thrifty Payless Tomato and Vegetable Food					
Sample Number	98338205					
Date	8/14/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units		ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	1.20 U	0.00	0.60	1.20
2	1,2,3,7,8-PCDD	0.5	2.00 U	0.00	0.50	1.00
3	1,2,3,4,7,8-HxCDD	0.1	1.80 U	0.00	0.09	0.18
4	1,2,3,6,7,8-HxCDD	0.1	2.50 U	0.00	0.13	0.25
5	1,2,3,7,8,9-HxCDD	0.1	2.80 U	0.00	0.14	0.28
6	1,2,3,4,6,7,8-HpCDD	0.01	5.80 U	0.00	0.03	0.06
7	OCDD	0.001	7.6 J	0.0076	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.62 U	0.00	0.03	0.06
9	1,2,3,7,8-PCDF	0.05	1.30 U	0.00	0.03	0.07
10	2,3,4,7,8-PCDF	0.5	1.60 U	0.00	0.40	0.80
11	1,2,3,4,7,8-HxCDF	0.1	1.40 U	0.00	0.07	0.14
12	1,2,3,6,7,8-HxCDF	0.1	1.60 U	0.00	0.08	0.16
13	2,3,4,6,7,8-HxCDF	0.1	2.60 U	0.00	0.13	0.26
14	1,2,3,7,8,9-HxCDF	0.1	2.10 U	0.00	0.11	0.21
15	1,2,3,4,6,7,8-HpCDF	0.01	2.70 U	0.00	0.01	0.03
16	1,2,3,4,7,8,9-HpCDF	0.01	3.50 U	0.00	0.02	0.04
17	OCDF	0.001	9.20 U	0.00	0.00	0.01
	EPA TEQ			**0.01**	**2.4**	**4.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Name	Pursell Sta-Green Nursery Special						
Sample Number	98348206						
Date	8/17/98						
					TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	0.72	U	0.00	0.36	0.72
2	1,2,3,7,8-PCDD	0.5	1.40	U	0.00	0.35	0.70
3	1,2,3,4,7,8-HxCDD	0.1	1.50	U	0.00	0.08	0.15
4	1,2,3,6,7,8-HxCDD	0.1	1.1	J	0.11	0.11	0.11
5	1,2,3,7,8,9-HxCDD	0.1	1.90	U	0.00	0.10	0.19
6	1,2,3,4,6,7,8-HpCDD	0.01	4.8	J	0.05	0.05	0.05
7	OCDD	0.001	12.0		0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	1.3		0.13	0.13	0.13
9	1,2,3,7,8-PCDF	0.05	1.3	J	0.07	0.07	0.07
10	2,3,4,7,8-PCDF	0.5	3.0	J	1.50	1.50	1.50
11	1,2,3,4,7,8-HxCDF	0.1	3.2	J	0.32	0.32	0.32
12	1,2,3,6,7,8-HxCDF	0.1	3.0	J	0.30	0.30	0.30
13	2,3,4,6,7,8-HxCDF	0.1	4.1	J	0.41	0.41	0.41
14	1,2,3,7,8,9-HxCDF	0.1	1.7	J	0.17	0.17	0.17
15	1,2,3,4,6,7,8-HpCDF	0.01	9.2		0.09	0.09	0.09
16	1,2,3,4,7,8,9-HpCDF	0.01	2.1	J	0.02	0.02	0.02
17	OCDF	0.001	13.0		0.01	0.01	0.01
	EPA TEQ				**3.2**	**4.1**	**5.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

	Sample Name	Hi Yield Sulfur				
	Sample Number	98348207				
	Date	8/17/98				
	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.83 U	0.00	0.42	0.83
2	1,2,3,7,8-PCDD	0.5	3.00 U	0.00	0.75	1.50
3	1,2,3,4,7,8-HxCDD	0.1	1.30 U	0.00	0.07	0.13
4	1,2,3,6,7,8-HxCDD	0.1	2.40 U	0.00	0.12	0.24
5	1,2,3,7,8,9-HxCDD	0.1	1.80 U	0.00	0.09	0.18
6	1,2,3,4,6,7,8-HpCDD	0.01	3.70 U	0.00	0.02	0.04
7	OCDD	0.001	3.80 U	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.88 U	0.00	0.04	0.09
9	1,2,3,7,8-PCDF	0.05	0.91 U	0.00	0.02	0.05
10	2,3,4,7,8-PCDF	0.5	0.74 U	0.00	0.19	0.37
11	1,2,3,4,7,8-HxCDF	0.1	1.50 U	0.00	0.08	0.15
12	1,2,3,6,7,8-HxCDF	0.1	0.81 U	0.00	0.04	0.08
13	2,3,4,6,7,8-HxCDF	0.1	2.00 U	0.00	0.10	0.20
14	1,2,3,7,8,9-HxCDF	0.1	2.00 U	0.00	0.10	0.20
15	1,2,3,4,6,7,8-HpCDF	0.01	2.20 U	0.00	0.01	0.02
16	1,2,3,4,7,8,9-HpCDF	0.01	2.00 U	0.00	0.01	0.02
17	OCDF	0.001	5.20 U	0.00	0.00	0.01
	EPA TEQ			**ND**	**2.1**	**4.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	Hi-Yield Pecan and Fruit Tree Fertilizer					
Sample Number	98348208					
Date	8/17/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units		ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.45	U	0.00	0.23	0.45
2 1,2,3,7,8-PCDD	0.5	0.98	U	0.00	0.25	0.49
3 1,2,3,4,7,8-HxCDD	0.1	0.51	U	0.00	0.03	0.05
4 1,2,3,6,7,8-HxCDD	0.1	0.84	U	0.00	0.04	0.08
5 1,2,3,7,8,9-HxCDD	0.1	0.59	U	0.00	0.03	0.06
6 1,2,3,4,6,7,8-HpCDD	0.01	1.40	U	0.00	0.01	0.01
7 OCDD	0.001	3.50	J	0.00	0.00	0.00
8 2,3,7,8-TCDF	0.1	4.30		0.43	0.43	0.43
9 1,2,3,7,8-PCDF	0.05	0.98	U	0.00	0.02	0.05
10 2,3,4,7,8-PCDF	0.5	0.33	J	0.17	0.17	0.17
11 1,2,3,4,7,8-HxCDF	0.1	0.39	U	0.00	0.02	0.04
12 1,2,3,6,7,8-HxCDF	0.1	0.69	U	0.00	0.03	0.07
13 2,3,4,6,7,8-HxCDF	0.1	0.53	J	0.05	0.05	0.05
14 1,2,3,7,8,9-HxCDF	0.1	0.60	U	0.00	0.03	0.06
15 1,2,3,4,6,7,8-HpCDF	0.01	1.10	U	0.00	0.01	0.01
16 1,2,3,4,7,8,9-HpCDF	0.01	1.10	U	0.00	0.01	0.01
17 OCDF	0.001	1.50	U	0.00	0.00	0.00
EPA TEQ				**0.65**	**1.3**	**2.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	A.H. Hoffman Ace Tomato and Vegetable Food					
Sample Number	98348209					
Date	8/17/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.41 U	0.00	0.21	0.41
2	1,2,3,7,8-PCDD	0.5	1.90 U	0.00	0.48	0.95
3	1,2,3,4,7,8-HxCDD	0.1	0.48 U	0.00	0.02	0.05
4	1,2,3,6,7,8-HxCDD	0.1	0.85 U	0.00	0.04	0.09
5	1,2,3,7,8,9-HxCDD	0.1	1.70 U	0.00	0.09	0.17
6	1,2,3,4,6,7,8-HpCDD	0.01	3.10 J	0.03	0.03	0.03
7	OCDD	0.001	21.00	0.02	0.02	0.02
8	2,3,7,8-TCDF	0.1	0.89 U	0.00	0.04	0.09
9	1,2,3,7,8-PCDF	0.05	1.20 U	0.00	0.03	0.06
10	2,3,4,7,8-PCDF	0.5	0.70 U	0.00	0.18	0.35
11	1,2,3,4,7,8-HxCDF	0.1	1.20 U	0.00	0.06	0.12
12	1,2,3,6,7,8-HxCDF	0.1	0.57 U	0.00	0.03	0.06
13	2,3,4,6,7,8-HxCDF	0.1	1.20 U	0.00	0.06	0.12
14	1,2,3,7,8,9-HxCDF	0.1	2.00 U	0.00	0.10	0.20
15	1,2,3,4,6,7,8-HpCDF	0.01	1.20 J	0.01	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	2.80 U	0.00	0.01	0.03
17	OCDF	0.001	8.90 U	0.00	0.00	0.01
	EPA TEQ			**0.06**	**1.4**	**2.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	United Agri Products UAP 0-45-0					
Sample Number	98348210					
Date	8/17/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
Congener		TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.31 U	0.00	0.16	0.31
2	1,2,3,7,8-PCDD	0.5	0.41 U	0.00	0.10	0.21
3	1,2,3,4,7,8-HxCDD	0.1	0.44 U	0.00	0.02	0.04
4	1,2,3,6,7,8-HxCDD	0.1	0.45 U	0.00	0.02	0.05
5	1,2,3,7,8,9-HxCDD	0.1	0.51 U	0.00	0.03	0.05
6	1,2,3,4,6,7,8-HpCDD	0.01	0.65 U	0.00	0.00	0.01
7	OCDD	0.001	1.40 J	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.36 U	0.00	0.02	0.04
9	1,2,3,7,8-PCDF	0.05	0.18 U	0.00	0.00	0.01
10	2,3,4,7,8-PCDF	0.5	0.18 U	0.00	0.05	0.09
11	1,2,3,4,7,8-HxCDF	0.1	0.15 J	0.02	0.02	0.02
12	1,2,3,6,7,8-HxCDF	0.1	0.28 U	0.00	0.01	0.03
13	2,3,4,6,7,8-HxCDF	0.1	0.38 J	0.04	0.04	0.04
14	1,2,3,7,8,9-HxCDF	0.1	0.32 U	0.00	0.02	0.03
15	1,2,3,4,6,7,8-HpCDF	0.01	0.68 U	0.00	0.00	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	0.86 U	0.00	0.00	0.01
17	OCDF	0.001	0.56 U	0.00	0.00	0.00
EPA TEQ				**0.05**	**0.49**	**0.93**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	Fred-Meyer Moss Control Plus Lawn Food					
Sample Number	98348211					
Date	8/17/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.47 U	0.00	0.24	0.47
2	1,2,3,7,8-PCDD	0.5	0.80 U	0.00	0.20	0.40
3	1,2,3,4,7,8-HxCDD	0.1	1.00 U	0.00	0.05	0.10
4	1,2,3,6,7,8-HxCDD	0.1	1.20 U	0.00	0.06	0.12
5	1,2,3,7,8,9-HxCDD	0.1	0.69 U	0.00	0.03	0.07
6	1,2,3,4,6,7,8-HpCDD	0.01	1.30 U	0.00	0.01	0.01
7	OCDD	0.001	2.60 U	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.28 J	0.03	0.03	0.03
9	1,2,3,7,8-PCDF	0.05	0.53 U	0.00	0.01	0.03
10	2,3,4,7,8-PCDF	0.5	0.77 U	0.00	0.19	0.39
11	1,2,3,4,7,8-HxCDF	0.1	0.90 U	0.00	0.05	0.09
12	1,2,3,6,7,8-HxCDF	0.1	0.52 U	0.00	0.03	0.05
13	2,3,4,6,7,8-HxCDF	0.1	1.50 U	0.00	0.08	0.15
14	1,2,3,7,8,9-HxCDF	0.1	0.83 U	0.00	0.04	0.08
15	1,2,3,4,6,7,8-HpCDF	0.01	1.30 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	1.60 U	0.00	0.01	0.02
17	OCDF	0.001	2.00 U	0.00	0.00	0.00
	EPA TEQ			**0.03**	**1.0**	**2.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	QC Ferrous Sulfate Monohydrate 30% Iron					
Sample Number	98348212					
Date	8/17/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units			ng/kg	(ND=0)	(ND=1/2DL)	(ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.49 U	0.00	0.25	0.49
2	1,2,3,7,8-PCDD	0.5	1.10 U	0.00	0.28	0.55
3	1,2,3,4,7,8-HxCDD	0.1	0.93 U	0.00	0.05	0.09
4	1,2,3,6,7,8-HxCDD	0.1	0.98 U	0.00	0.05	0.10
5	1,2,3,7,8,9-HxCDD	0.1	1.50 U	0.00	0.08	0.15
6	1,2,3,4,6,7,8-HpCDD	0.01	1.60 U	0.00	0.01	0.02
7	OCDD	0.001	2.90 J	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.36 U	0.00	0.02	0.04
9	1,2,3,7,8-PCDF	0.05	0.46 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.57 U	0.00	0.14	0.29
11	1,2,3,4,7,8-HxCDF	0.1	0.63 U	0.00	0.03	0.06
12	1,2,3,6,7,8-HxCDF	0.1	0.44 U	0.00	0.02	0.04
13	2,3,4,6,7,8-HxCDF	0.1	1.10 U	0.00	0.06	0.11
14	1,2,3,7,8,9-HxCDF	0.1	0.75 U	0.00	0.04	0.08
15	1,2,3,4,6,7,8-HpCDF	0.01	1.40 U	0.00	0.01	0.01
16	1,2,3,4,7,8,9-HpCDF	0.01	0.98 U	0.00	0.00	0.01
17	OCDF	0.001	2.00 U	0.00	0.00	0.00
	EPA TEQ			**<0.01**	**1.0**	**2.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	Webfoot Turf Treat 15-5-10					
Sample Number	98348213					
Date	8/17/98					
Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF	Qualifier			
1	2,3,7,8-TCDD	1	0.70 U	0.00	0.35	0.70
2	1,2,3,7,8-PCDD	0.5	1.00 U	0.00	0.25	0.50
3	1,2,3,4,7,8-HxCDD	0.1	2.00 U	0.00	0.10	0.20
4	1,2,3,6,7,8-HxCDD	0.1	1.60 U	0.00	0.08	0.16
5	1,2,3,7,8,9-HxCDD	0.1	1.20 U	0.00	0.06	0.12
6	1,2,3,4,6,7,8-HpCDD	0.01	2.90 J	0.03	0.03	0.03
7	OCDD	0.001	4.90 J	0.00	0.00	0.00
8	2,3,7,8-TCDF	0.1	0.89 J	0.09	0.09	0.09
9	1,2,3,7,8-PCDF	0.05	0.67 J	0.03	0.03	0.03
10	2,3,4,7,8-PCDF	0.5	1.30 J	0.65	0.65	0.65
11	1,2,3,4,7,8-HxCDF	0.1	1.10 J	0.11	0.11	0.11
12	1,2,3,6,7,8-HxCDF	0.1	0.96 J	0.10	0.10	0.10
13	2,3,4,6,7,8-HxCDF	0.1	1.60 J	0.16	0.16	0.16
14	1,2,3,7,8,9-HxCDF	0.1	0.88 U	0.00	0.04	0.09
15	1,2,3,4,6,7,8-HpCDF	0.01	2.40 J	0.02	0.02	0.02
16	1,2,3,4,7,8,9-HpCDF	0.01	4.40 U	0.00	0.02	0.04
17	OCDF	0.001	4.80 U	0.00	0.00	0.00
	EPA TEQ			**1.2**	**2.1**	**3.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Sample Name	Frit F-503G sample #2					
Sample Number	98348214					
Date	8/17/98					
				TEQ pg/L	TEQ pg/L	TEQ pg/L
Units		ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	3.5		3.50	3.50	3.50
2 1,2,3,7,8-PCDD	0.5	17.0		8.50	8.50	8.50
3 1,2,3,4,7,8-HxCDD	0.1	22.0		2.20	2.20	2.20
4 1,2,3,6,7,8-HxCDD	0.1	49.0		4.90	4.90	4.90
5 1,2,3,7,8,9-HxCDD	0.1	33.0		3.30	3.30	3.30
6 1,2,3,4,6,7,8-HpCDD	0.01	240.0		2.40	2.40	2.40
7 OCDD	0.001	570.0		0.57	0.57	0.57
8 2,3,7,8-TCDF	0.1	65.0		6.50	6.50	6.50
9 1,2,3,7,8-PCDF	0.05	66.0		3.30	3.30	3.30
10 2,3,4,7,8-PCDF	0.5	130.0		65.00	65.00	65.00
11 1,2,3,4,7,8-HxCDF	0.1	120.0		12.00	12.00	12.00
12 1,2,3,6,7,8-HxCDF	0.1	110.0		11.00	11.00	11.00
13 2,3,4,6,7,8-HxCDF	0.1	170.0		17.00	17.00	17.00
14 1,2,3,7,8,9-HxCDF	0.1	68	U	0.00	3.40	6.80
15 1,2,3,4,6,7,8-HpCDF	0.01	370.0		3.70	3.70	3.70
16 1,2,3,4,7,8,9-HpCDF	0.01	59.0		0.59	0.59	0.59
17 OCDF	0.001	460.0		0.46	0.46	0.46
EPA TEQ				**140**	**150**	**150**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit
result is an estimate.

Appendix 1-Q

Dioxin data and TEQ calculations
1997 sampling results
for
Metals and Dioxins in Fertilizer Products

Sample Nam Allied Minerals Dolomite
Sample Num 448080
Date 10/15/97

Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2 DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCD	1	0.24 U	0	0.12	0.24
2 1,2,3,7,8-PC	0.5	0.38 U	0	0.095	0.19
3 1,2,3,4,7,8-H	0.1	0.41 U	0	0.0205	0.041
4 1,2,3,6,7,8-H	0.1	0.35 U	0	0.0175	0.035
5 1,2,3,7,8,9-H	0.1	0.36 U	0	0.018	0.036
6 1,2,3,4,6,7,8-	0.01	0.80 U	0	0.004	0.008
7 OCDD	0.001	4.4 U	0	0.0022	0.004
8 2,3,7,8-TCDF	0.1	0.15 U	0	0.0075	0.015
9 1,2,3,7,8-PC	0.05	0.33 U	0	0.00825	0.017
# 2,3,4,7,8-PC	0.5	0.35 U	0	0.0875	0.175
# 1,2,3,4,7,8-H	0.1	0.18 U	0	0.009	0.018
# 1,2,3,6,7,8-H	0.1	0.16 U	0	0.008	0.016
# 2,3,4,6,7,8-H	0.1	0.23 U	0	0.0115	0.023
# 1,2,3,7,8,9-H	0.1	0.20 U	0	0.01	0.02
# 1,2,3,4,6,7,8-	0.01	0.16 U	0	0.0008	0.002
# 1,2,3,4,7,8,9-	0.01	0.22 U	0	0.0011	0.002
# OCDF	0.001	0.33 U	0	0.00017	3E-04
EPA TEQ			**0.00**	**0.42**	**0.84**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Fort James Nutri Lime
Sample Num 448081
Date 10/20/97

Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2 DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	3.2	3.2	3.2	3.2
2 1,2,3,7,8-PC	0.5	15	7.5	7.5	7.5
3 1,2,3,4,7,8-H	0.1	20	2	2	2
4 1,2,3,6,7,8-H	0.1	40	4	4	4
5 1,2,3,7,8,9-H	0.1	28	2.8	2.8	2.8
6 1,2,3,4,6,7,8-	0.01	160	1.6	1.6	1.6
7 OCDD	0.001	99	0.099	0.099	0.099
8 2,3,7,8-TCDF	0.1	17	1.7	1.7	1.7
9 1,2,3,7,8-PC	0.05	11 U	0	0.275	0.55
# 2,3,4,7,8-PC	0.5	20	10	10	10
# 1,2,3,4,7,8-H	0.1	11	1.1	1.1	1.1
# 1,2,3,6,7,8-H	0.1	7.1	0.71	0.71	0.71
# 2,3,4,6,7,8-H	0.1	5.8 J	0.58	0.58	0.58
# 1,2,3,7,8,9-H	0.1	1.4 U	0	0.07	0.14
# 1,2,3,4,6,7,8-	0.01	9.3	0.093	0.093	0.093
# 1,2,3,4,7,8,9-	0.01	3.7 J	0.037	0.037	0.037
# OCDF	0.001	2.8 U	0	0.0014	0.003
EPA TEQ			**35**	**36**	**36**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Holnam Cement Kiln Dust
Sample Num 448083
Date 10/21/97

	Units		ng/L	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCD	1	0.30 U	0	0.15	0.3
2	1,2,3,7,8-PC	0.5	0.30 U	0	0.075	0.15
3	1,2,3,4,7,8-H	0.1	0.53 U	0	0.0265	0.053
4	1,2,3,6,7,8-H	0.1	1.2 U	0	0.06	0.12
5	1,2,3,7,8,9-H	0.1	1.2 U	0	0.06	0.12
6	1,2,3,4,6,7,8	0.01	27 J	0.27	0.27	0.27
7	OCDD	0.001	210 J	0.21	0.21	0.21
8	2,3,7,8-TCD	0.1	4.6	0.46	0.46	0.46
9	1,2,3,7,8-PC	0.05	1.0 U	0	0.025	0.05
#	2,3,4,7,8-PC	0.5	1.9 U	0	0.475	0.95
#	1,2,3,4,7,8-H	0.1	0.56 U	0	0.028	0.056
#	1,2,3,6,7,8-H	0.1	0.23 U	0	0.0115	0.023
#	2,3,4,6,7,8-H	0.1	0.54 U	0	0.027	0.054
#	1,2,3,7,8,9-H	0.1	0.27 U	0	0.0135	0.027
#	1,2,3,4,6,7,8	0.01	1.4 U	0	0.007	0.014
#	1,2,3,4,7,8,9	0.01	0.25 U	0	0.0013	0.0025
#	OCDF	0.001	8.0 J	0.008	0.008	0.008
	EPA TEQ			**0.95**	**1.9**	**2.9**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

ND - non-detect

DL - detection limit

Sample Nam Bay Zinc K061
Sample Num 448084
Date 10/29/97

Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2 DL)	TEQ pg/L (ND=DL)
Congener	TEF				
1 2,3,7,8-TCD	1	16	16	16	16
2 1,2,3,7,8-PC	0.5	130	65	65	65
3 1,2,3,4,7,8-H	0.1	130	13	13	13
4 1,2,3,6,7,8-H	0.1	400	40	40	40
5 1,2,3,7,8,9-H	0.1	660	66	66	66
6 1,2,3,4,6,7,8-	0.01	1500	15	15	15
7 OCDD	0.001	780	0.78	0.78	0.78
8 2,3,7,8-TCDF	0.1	410 J	41	41	41
9 1,2,3,7,8-PC	0.05	470 U	0	11.75	23.5
# 2,3,4,7,8-PC	0.5	740	370	370	370
# 1,2,3,4,7,8-H	0.1	850	85	85	85
# 1,2,3,6,7,8-H	0.1	420	42	42	42
# 2,3,4,6,7,8-H	0.1	410	41	41	41
# 1,2,3,7,8,9-H	0.1	62	6.2	6.2	6.2
# 1,2,3,4,6,7,8-	0.01	1000	10	10	10
# 1,2,3,4,7,8,9-	0.01	360	3.6	3.6	3.6
# OCDF	0.001	610	0.61	0.61	0.61
EPA TEQ			**820**	**830**	**840**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Bay Zinc Tire Dust
Sample Num 448085
Date 10/29/97

	Units		ng/kg	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCD	1	1.2	1.2	1.2	1.2
2	1,2,3,7,8-PC	0.5	0.85 U	0	0.2125	0.425
3	1,2,3,4,7,8-H	0.1	0.40 U	0	0.02	0.04
4	1,2,3,6,7,8-H	0.1	0.26 U	0	0.013	0.026
5	1,2,3,7,8,9-H	0.1	0.45 U	0	0.0225	0.045
6	1,2,3,4,6,7,8	0.01	0.71 U	0	0.0036	0.0071
7	OCDD	0.001	0.59 U	0	0.0003	0.0006
8	2,3,7,8-TCD	0.1	4.2	0.42	0.42	0.42
9	1,2,3,7,8-PC	0.05	3.6 U	0	0.09	0.18
#	2,3,4,7,8-PC	0.5	2.2 U	0	0.55	1.1
#	1,2,3,4,7,8-H	0.1	0.88 U	0	0.044	0.088
#	1,2,3,6,7,8-H	0.1	0.67 U	0	0.0335	0.067
#	2,3,4,6,7,8-H	0.1	0.58 U	0	0.029	0.058
#	1,2,3,7,8,9-H	0.1	0.99 U	0	0.0495	0.099
#	1,2,3,4,6,7,8	0.01	1.7 U	0	0.0085	0.017
#	1,2,3,4,7,8,9	0.01	0.34 U	0	0.0017	0.0034
#	OCDF	0.001	0.85 U	0	0.0004	0.0009
	EPA TEQ			**1.6**	**2.7**	**3.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Bay Zinc Blu-Min
Sample Num 448087
Date 10/29/97

			TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2 DL)	TEQ pg/L (ND=DL)
Units		ng/kg			
Congener	TEF				
1 2,3,7,8-TCD	1	6.8	6.8	6.8	6.8
2 1,2,3,7,8-PC	0.5	42	21	21	21
3 1,2,3,4,7,8-H	0.1	49	4.9	4.9	4.9
4 1,2,3,6,7,8-H	0.1	130	13	13	13
5 1,2,3,7,8,9-H	0.1	110	11	11	11
6 1,2,3,4,6,7,8-	0.01	580	5.8	5.8	5.8
7 OCDD	0.001	540	0.54	0.54	0.54
8 2,3,7,8-TCD	0.1	150	15	15	15
9 1,2,3,7,8-PC	0.05	170	8.5	8.5	8.5
# 2,3,4,7,8-PC	0.5	360	180	180	180
# 1,2,3,4,7,8-H	0.1	180	18	18	18
# 1,2,3,6,7,8-H	0.1	210	21	21	21
# 2,3,4,6,7,8-H	0.1	230	23	23	23
# 1,2,3,7,8,9-H	0.1	30	3	3	3
# 1,2,3,4,6,7,8-	0.01	710	7.1	7.1	7.1
# 1,2,3,4,7,8,9-	0.01	220	2.2	2.2	2.2
# OCDF	0.001	780	0.78	0.78	0.78
EPA TEQ			**340**	**340**	**340**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Bay Zinc LHM
Sample Num 448088
Date 10/29/97

	Units		ng/kg		TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2 DL)	TEQ pg/L (ND=DL)
	Congener	TEF					
1	2,3,7,8-TCD	1	1.4		1.4	1.4	1.4
2	1,2,3,7,8-PC	0.5	2.7	U	0	0.675	1.35
3	1,2,3,4,7,8-H	0.1	1.8	U	0	0.09	0.18
4	1,2,3,6,7,8-H	0.1	3.7	J	0.37	0.37	0.37
5	1,2,3,7,8,9-H	0.1	2.8	J	0.28	0.28	0.28
6	1,2,3,4,6,7,8-	0.01	15		0.15	0.15	0.15
7	OCDD	0.001	16		0.016	0.016	0.016
8	2,3,7,8-TCD	0.1	7.8		0.78	0.78	0.78
9	1,2,3,7,8-PC	0.05	7.9	U	0	0.1975	0.395
#	2,3,4,7,8-PC	0.5	9.6	U	0	2.4	4.8
#	1,2,3,4,7,8-H	0.1	9.9		0.99	0.99	0.99
#	1,2,3,6,7,8-H	0.1	6.8		0.68	0.68	0.68
#	2,3,4,6,7,8-H	0.1	6.1		0.61	0.61	0.61
#	1,2,3,7,8,9-H	0.1	0.75	U	0	0.0375	0.075
#	1,2,3,4,6,7,8-	0.01	24		0.24	0.24	0.24
#	1,2,3,4,7,8,9-	0.01	6.1		0.061	0.061	0.061
#	OCDF	0.001	27		0.027	0.027	0.027
	EPA TEQ				**5.6**	**9.0**	**12**

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

ND - non-detect

DL - detection limit

Sample Nam Bay Zinc Liquid
Sample Num 448089
Date 10/29/97

	Units		ng/kg*	TEQ pg/L (ND=0)	TEQ pg/L (ND=1/2DL)	TEQ pg/L (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCD	1	0.016	0.016	0.016	0.016
2	1,2,3,7,8-PC	0.5	0.059	0.0295	0.0295	0.0295
3	1,2,3,4,7,8-H	0.1	0.083	0.0083	0.0083	0.0083
4	1,2,3,6,7,8-H	0.1	0.19	0.019	0.019	0.019
5	1,2,3,7,8,9-H	0.1	0.13	0.013	0.013	0.013
6	1,2,3,4,6,7,8-	0.01	1.2	0.012	0.012	0.012
7	OCDD	0.001	1.5	0.0015	0.0015	0.0015
8	2,3,7,8-TCD	0.1	0.22	0.022	0.022	0.022
9	1,2,3,7,8-PC	0.05	0.31	0.0155	0.0155	0.0155
#	2,3,4,7,8-PC	0.5	0.61	0.305	0.305	0.305
#	1,2,3,4,7,8-H	0.1	0.63	0.063	0.063	0.063
#	1,2,3,6,7,8-H	0.1	0.42	0.042	0.042	0.042
#	2,3,4,6,7,8-H	0.1	0.58	0.058	0.058	0.058
#	1,2,3,7,8,9-H	0.1	0.072	0.0072	0.0072	0.0072
#	1,2,3,4,6,7,8-	0.01	2.1	0.021	0.021	0.021
#	1,2,3,4,7,8,9-	0.01	0.57	0.0057	0.0057	0.0057
#	OCDF	0.001	2.8	0.0028	0.0028	0.0028
	EPA TEQ			**0.64**	**0.64**	**0.64**

* liquid concentrations expressed on dry weight basis

U - The analyte was not detected at or above the reported result.

J - The analyte was positvely identified. The associated numerical result is an estimate.

< - less than

Appendix 3-C

Quality assurance memos for *Dioxin in Soils*

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 6, 1998

Project: Dioxin in Soils

Samples: 98308000, 98308004, 98318230 - 98318242, 98328330- 98328332

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

Samples were prepared and analyzed according to EPA method 8290.

These samples have been reported in nanograms per kilogram (ng/Kg); parts per trillion dry weight.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.51, should be considered synonymous with 0.51 U, where "U" is a qualifier.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98308000	07/23/98	08/10/98	18	08/27/98	17
98308004	07/24/98	08/10/98	17	08/27/98	17
98318230	07/27/98	08/10/98	14	08/27/98	17
98318231	07/27/98	08/10/98	14	08/27/98	17
98318232	07/27/98	08/10/98	14	08/28/98	18
98318233	07/27/98	08/10/98	14	08/28/98	18
98318234	07/28/98	08/10/98	13	08/28/98	18
98318235	07/28/98	08/10/98	13	09/08/98	29
98318236	07/28/98	08/10/98	13	09/08/98	29
98318237	07/28/98	08/10/98	13	09/01/98	22
98318238	07/29/98	08/10/98	12	09/08/98	29
98318239	07/29/98	08/10/98	12	09/08/98	29
98318240	07/29/98	08/10/98	12	09/11/98	32
98318241	07/29/98	08/10/98	12	09/11/98	32
98318242	07/30/98	08/10/98	11	09/01/98	22
98328330	08/04/98	08/10/98	6	09/01/98	22
98328331	08/04/98	08/10/98	6	09/01/98	22
98328332	08/03/98	08/10/98	7	09/01/98	22

These samples were extracted and analyzed within holding times.

Method Blank:

Four of the seventeen congeners were detected in the associated method blank at concentrations below that of the lowest calibration standard. According to the method re-analysis is not required when a target congener is detected below the lowest calibration standard. These congeners were also detected most of the samples. If the concentration of a congener in a sample was less than five times that of the method blank a "U" or "UJ" qualifier was added to the result. In cases where the sample concentration for a congener was greater than five times that of the method blank, the method blank result is considered insignificant relative to the concentrations detected in the samples. No qualification is warranted in these situations.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for these samples were within the 40 – 135% QC limits established for each congener. As noted in the Discussion section (page 7) of the report from Pace analytical, the internal standard 1,2,3,4,6,7,8-HpCDF-13C recoveries for all the samples were not within control limits. The associated target congener 1,2,3,4,6,7,8-HpCDF was positively identified in two of the samples (98318230 and 98318240). Neither of these results was qualified because the matrix spikes performed on sample 98318230 demonstrated that low internal standard recovery (15% & 20%) for 1,2,3,4,6,7,8-HpCDF did not adversely impact recoveries. Note that the limit of detection was elevated for this congener in all other samples.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

MS/MSD recoveries were within quality control limits of 60–140%; and precision data was within ±20 relative percent difference (RPD).

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range are considered estimates.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 14, 1998

Project: Dioxin in Soils

Samples: 98318243, 98328333 - 98338341, 98338330- 98338333

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

Samples were prepared and analyzed according to EPA method 8290.

These samples have been reported in nanograms per kilogram (ng/Kg); parts per trillion dry weight.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.51, should be considered synonymous with 0.51 U, where "U" is a qualifier.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98318243	08/01/98	08/31/98	30	09/24/98	24
98328333	08/03/98	08/31/98	28	09/24/98	24
98328334	08/03/98	08/31/98	28	09/24/98	24
98328335	08/03/98	08/31/98	28	09/24/98	24
98328336	08/05/98	08/31/98	26	09/24/98	24
98328337	08/05/98	08/31/98	26	09/24/98	24
98328338	08/05/98	08/31/98	26	09/24/98	24
98328339*	08/06/98	08/31/98	25	09/24/98	24
98328340	08/06/98	08/31/98	25	09/24/98	24
98328341	08/03/98	08/31/98	28	09/25/98	25
98338330	08/10/98	08/31/98	21	10/01/98	31
98338331	08/11/98	08/31/98	20	09/11/98	11
98338332	08/12/98	08/31/98	19	09/11/98	11
98338333	08/14/98	08/31/98	17	09/12/98	12

These samples were extracted and analyzed within holding times.
* This sample required re-extraction.

Method Blank:

Small amounts of OCDD (1.6 ng/Kg) and 1234678-HpCDF (0.32 ng/Kg) were detected in the associated method blank. The concentrations are below that of the lowest calibration standard. According to the method re-analysis is not required when a target congener is detected below the lowest calibration standard. These congeners were also detected most of the samples. If the concentration of a congener in a sample was less than five times that of the method blank a "U" qualifier was added to the result. In cases where the sample concentration for a congener is greater than five times that of the method blank, the method blank result is considered insignificant relative to the concentration detected in the samples. No qualification is warranted in these situations.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for these samples were within the 40 – 135% QC limits established for each congener. As noted in the Discussion section (page 7) of the report from Pace analytical, the internal standard 1234678-HpCDF-^{13}C recoveries for all the samples were not within control limits. Eight samples were affected with low 1234678-HpCDF-^{13}C recoveries.

The associated target congener 1234678-HpCDF was positively identified in two of the samples (98328339 and 98338333). The 1234678-HpCDF results for these samples were qualified as an estimates. A complete re-analysis of sample 98328339 is being performed since only one of the fifteen internal standards met the recovery criteria. Data from this re-analysis should be delivered the week of October 19th.

Note that the limit of detection was elevated for 1234678-HpCDF in all other samples where 1234678-HpCDF-^{13}C recoveries were below 40%, and the non-detect results were qualified as estimates ("UJ").

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

MS/MSD recoveries were within quality control limits of 60–140%; and precision data was within ±20 relative percent difference (RPD).

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range are considered estimates.

State of Washington Department of Ecology
Manchester Environmental Laboratory
7411 Beach Dr. East Port Orchard WA. 98366

Data Review
October 22, 1998

Project: Dioxin in Soils

Sample: 98328339

Laboratory: MAXIM Technologies/Pace Analytical

By: Stuart Magoon

Data Review for Polychlorodibenzo-p-dioxin and furan
(2,3,7,8 substituted tetra - octa PCDD/PCDF)

Data from these analyses were reviewed for qualitative and quantitative accuracy, validity, and usefulness, following the National Functional Guidelines for Organic Data Review adapted for high resolution dioxin analysis, and the EPA Region 10 SOP for the Validation of PCDD/PCDF.

This sample was prepared and analyzed according to EPA method 8290.

This sample has been reported in nanograms per kilogram (ng/Kg); parts per trillion dry weight.

MAXIM Technologies was acquired by Pace Analytical in September.
MAXIM/Pace have developed their own data "flags". Definitions of the "flags" and qualifiers are included in the report.

Flags are added by the laboratory performing the analysis, usually the analyst. Qualifiers are added by the data reviewer as part of addressing the usability of the data. Generally flags signal the reviewer to access the results and determine what to do about the fact that flags were added. For your reporting purposes the "flags" should not be considered part of the final result. The qualifiers, however, are to be considered part of the final result.

There is a number reported for each analyte that appears in one or two columns. If the number appears in the column labeled "CONC" then this analyte has been detected at the concentration reported. The number in the column labeled "LOD", is the estimated

detection limit as defined in EPA method 8290, at or above which the analyte was not detected. There is an "ND", short for not detected, that appears in the "CONC" column whenever an analyte is not detected. In order to be consistent with Manchester Environmental Laboratory's reporting convention, a result reported as ND with an associated number in the Limit of Detection column, e.g. 0.49, should be considered synonymous with 0.49 U, where "U" is a qualifier.

PCDD/PCDF Analysis

Holding times:

EPA method 8290 specifies a holding time of thirty days (30) from the date of collection to the date of extraction; and forty-five (45) days from extraction to analysis.

Sample no.	Collect date	Extraction date	#days from collection to Extraction	Analysis date	#days from Extraction to Analysis
98328339*	08/06/98	08/31/98	25	09/24/98	24
98328339+	08/06/98	10/06/98	61	10/13/98	7

Extraction for re-analysis of this sample occurred thirty-one days beyond the recommend thirty day period. Method 8290 recognizes that PCDDs and PCDFs are very stable in a variety of matrices and under proper storage conditions the holding time from collection to extraction may be as high as a year. No qualification was added based on holding times.

* The original sample analysis.
+ The re-analysis.

Method Blank:

No unlabeled PCDD or PCDF was detected in the method blank demonstrating that the analytical process was free from widespread contamination.

Calibration:

The calibration standards were within 20% relative standard deviations (RSD) for all target analytes and 30% for all the reference compounds. All the ion abundance ratios were within +/- 15% of the theoretical value.

Internal Standard Recoveries:

Internal standard recoveries for this sample and associated quality assurance samples were within the 40 – 135% QC limits established for each congener.

As noted in the Discussion section (page 7) of the report from Pace analytical, the internal standard TCDF-^{13}C recovery for sample 98338203 at 39%, was slightly below the lower QC limit. This sample is from another related project (Fertilizer Dioxin) and is not part of this review.

Ion abundance ratios:

Each dioxin and furan isomer reported as detected met the isotopic abundance ratio and retention time criteria for positive identification.

Summary:

This data is acceptable for use as amended. A number of congeners were qualified with a "J" because the concentration detected was below the lowest calibration standard; results derived from responses outside the calibration range are considered estimates.

Appendix 3-F

Dioxin data and TEQ calculations for *Dioxin in Soils*

Sample Name	Forested west non-commercial					
Sample Number	98308000					
Date	7/23/98					
Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener		TEF				
1	2,3,7,8-TCDD	1	1.10 U	0.00	0.55	1.10
2	1,2,3,7,8-PCDD	0.5	2.6	1.30	1.30	1.30
3	1,2,3,4,7,8-HxCD	0.1	2.5 J	0.25	0.25	0.25
4	1,2,3,6,7,8-HxCD	0.1	3.7 J	0.37	0.37	0.37
5	1,2,3,7,8,9-HxCD	0.1	5.2	0.52	0.52	0.52
6	1,2,3,4,6,7,8-HpC	0.01	20.0	0.20	0.20	0.20
7	OCDD	0.001	76.0	0.08	0.08	0.08
8	2,3,7,8-TCDF	0.1	4.50	0.45	0.45	0.45
9	1,2,3,7,8-PCDF	0.05	6.00 U	0.00	0.15	0.30
10	2,3,4,7,8-PCDF	0.5	2.8 J	1.40	1.40	1.40
11	1,2,3,4,7,8-HxCD	0.1	1.2 J	0.12	0.12	0.12
12	1,2,3,6,7,8-HxCD	0.1	1.3 J	0.13	0.13	0.13
13	2,3,4,6,7,8-HxCD	0.1	1.1 J	0.11	0.11	0.11
14	1,2,3,7,8,9-HxCD	0.1	0.51 U	0.00	0.03	0.05
15	1,2,3,4,6,7,8-HpC	0.01	6.50 U	0.00	0.03	0.07
16	1,2,3,4,7,8,9-HpC	0.01	1.60 U	0.00	0.01	0.02
17	OCDF	0.001	2.8 J	0.00	0.00	0.00
EPA TEQ				**4.9**	**5.7**	**6.5**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Open west rangeland grazed					
Sample Number	98308004					
Date	36000					
Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.33 U	0.00	0.17	0.33
2	1,2,3,7,8-PCDD	0.5	0.6 U	0.00	0.15	0.31
3	1,2,3,4,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
4	1,2,3,6,7,8-HxCD	0.1	1.0 J	0.10	0.10	0.10
5	1,2,3,7,8,9-HxCD	0.1	1.0 J	0.10	0.10	0.10
6	1,2,3,4,6,7,8-HpC	0.01	11.0	0.11	0.11	0.11
7	OCDD	0.001	59.0	0.06	0.06	0.06
8	2,3,7,8-TCDF	0.1	1.30 U	0.00	0.07	0.13
9	1,2,3,7,8-PCDF	0.05	3.70 U	0.00	0.09	0.19
10	2,3,4,7,8-PCDF	0.5	0.4 U	0.00	0.09	0.18
11	1,2,3,4,7,8-HxCD	0.1	0.7 J	0.07	0.07	0.07
12	1,2,3,6,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
13	2,3,4,6,7,8-HxCD	0.1	0.8 J	0.08	0.08	0.08
14	1,2,3,7,8,9-HxCD	0.1	0.69 U	0.00	0.03	0.07
15	1,2,3,4,6,7,8-HpC	0.01	36.00 U	0.00	0.18	0.36
16	1,2,3,4,7,8,9-HpC	0.01	1.00 U	0.00	0.01	0.01
17	OCDF	0.001	3.3 J	0.00	0.00	0.00
EPA TEQ				**0.62**	**1.4**	**2.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Seattle 1
Sample Number 98318230
Date 7/27/98

	Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.23 U	0.00	0.12	0.23
2	1,2,3,7,8-PCDD	0.5	0.3 U	0.00	0.09	0.17
3	1,2,3,4,7,8-HxCD	0.1	0.6 U	0.00	0.03	0.06
4	1,2,3,6,7,8-HxCD	0.1	0.6 U	0.00	0.03	0.06
5	1,2,3,7,8,9-HxCD	0.1	0.5 U	0.00	0.02	0.05
6	1,2,3,4,6,7,8-HpC	0.01	1.8 J	0.02	0.02	0.02
7	OCDD	0.001	14.0	0.01	0.01	0.01
8	2,3,7,8-TCDF	0.1	0.17 U	0.00	0.01	0.02
9	1,2,3,7,8-PCDF	0.05	0.46 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.3 U	0.00	0.06	0.13
11	1,2,3,4,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
12	1,2,3,6,7,8-HxCD	0.1	0.2 J	0.02	0.02	0.02
13	2,3,4,6,7,8-HxCD	0.1	0.6 J	0.06	0.06	0.06
14	1,2,3,7,8,9-HxCD	0.1	0.38 U	0.00	0.02	0.04
15	1,2,3,4,6,7,8-HpC	0.01	15.00	0.15	0.15	0.15
16	1,2,3,4,7,8,9-HpC	0.01	0.39 U	0.00	0.00	0.00
17	OCDF	0.001	1.8 U	0.00	0.00	0.00
	EPA TEQ			**0.31**	**0.70**	**1.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Seattle 4
Sample Number 98318231
Date 7/27/98

	Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.25 U	0.00	0.13	0.25
2	1,2,3,7,8-PCDD	0.5	0.6 U	0.00	0.14	0.28
3	1,2,3,4,7,8-HxCD	0.1	0.5 U	0.00	0.03	0.05
4	1,2,3,6,7,8-HxCD	0.1	0.7 U	0.00	0.03	0.07
5	1,2,3,7,8,9-HxCD	0.1	0.4 U	0.00	0.02	0.04
6	1,2,3,4,6,7,8-HpC	0.01	0.9 U	0.00	0.00	0.01
7	OCDD	0.001	5.3 U	0.00	0.00	0.01
8	2,3,7,8-TCDF	0.1	0.26 U	0.00	0.01	0.03
9	1,2,3,7,8-PCDF	0.05	1.40 U	0.00	0.04	0.07
10	2,3,4,7,8-PCDF	0.5	0.3 U	0.00	0.07	0.13
11	1,2,3,4,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
12	1,2,3,6,7,8-HxCD	0.1	0.3 J	0.03	0.03	0.03
13	2,3,4,6,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
14	1,2,3,7,8,9-HxCD	0.1	0.28 U	0.00	0.01	0.03
15	1,2,3,4,6,7,8-HpC	0.01	5.40 U	0.00	0.03	0.05
16	1,2,3,4,7,8,9-HpC	0.01	0.36 U	0.00	0.00	0.00
17	OCDF	0.001	0.3 U	0.00	0.00	0.00
	EPA TEQ			**0.13**	**0.64**	**1.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 6				
Sample Number	98318232				
Date	7/27/98				
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.42 U	0.00	0.21	0.42
2 1,2,3,7,8-PCDD	0.5	0.8 U	0.00	0.21	0.42
3 1,2,3,4,7,8-HxCD	0.1	1.5 U	0.00	0.08	0.15
4 1,2,3,6,7,8-HxCD	0.1	2.1 J	0.21	0.21	0.21
5 1,2,3,7,8,9-HxCD	0.1	1.9 J	0.19	0.19	0.19
6 1,2,3,4,6,7,8-HpC	0.01	50.0	0.50	0.50	0.50
7 OCDD	0.001	280.0	0.28	0.28	0.28
8 2,3,7,8-TCDF	0.1	0.77 U	0.00	0.04	0.08
9 1,2,3,7,8-PCDF	0.05	4.30 U	0.00	0.11	0.22
10 2,3,4,7,8-PCDF	0.5	1.1 J	0.55	0.55	0.55
11 1,2,3,4,7,8-HxCD	0.1	1.4 J	0.14	0.14	0.14
12 1,2,3,6,7,8-HxCD	0.1	0.9 U	0.00	0.05	0.09
13 2,3,4,6,7,8-HxCD	0.1	2.1 J	0.21	0.21	0.21
14 1,2,3,7,8,9-HxCD	0.1	1.30 U	0.00	0.07	0.13
15 1,2,3,4,6,7,8-HpC	0.01	32.00 U	0.00	0.16	0.32
16 1,2,3,4,7,8,9-HpC	0.01	2.00 U	0.00	0.01	0.02
17 OCDF	0.001	17.0	0.02	0.02	0.02
EPA TEQ			**2.1**	**3.0**	**3.9**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 7				
Sample Number	98318233				
Date	7/27/98				
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.42 U	0.00	0.21	0.42
2 1,2,3,7,8-PCDD	0.5	0.8 U	0.00	0.20	0.40
3 1,2,3,4,7,8-HxCD	0.1	0.6 J	0.06	0.06	0.06
4 1,2,3,6,7,8-HxCD	0.1	1.2 J	0.12	0.12	0.12
5 1,2,3,7,8,9-HxCD	0.1	0.9 J	0.09	0.09	0.09
6 1,2,3,4,6,7,8-HpC	0.01	18.0	0.18	0.18	0.18
7 OCDD	0.001	170.0	0.17	0.17	0.17
8 2,3,7,8-TCDF	0.1	0.33 U	0.00	0.02	0.03
9 1,2,3,7,8-PCDF	0.05	3.80 U	0.00	0.10	0.19
10 2,3,4,7,8-PCDF	0.5	0.5 U	0.00	0.13	0.27
11 1,2,3,4,7,8-HxCD	0.1	0.4 J	0.04	0.04	0.04
12 1,2,3,6,7,8-HxCD	0.1	0.4 U	0.00	0.02	0.04
13 2,3,4,6,7,8-HxCD	0.1	0.7 J	0.07	0.07	0.07
14 1,2,3,7,8,9-HxCD	0.1	0.68 U	0.00	0.03	0.07
15 1,2,3,4,6,7,8-HpC	0.01	15.00 U	0.00	0.08	0.15
16 1,2,3,4,7,8,9-HpC	0.01	0.99 U	0.00	0.00	0.01
17 OCDF	0.001	6.5 J	0.01	0.01	0.01
EPA TEQ			**0.73**	**1.5**	**2.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 8				
Sample Number	98318234				
Date	7/28/98				
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.24 J	0.24	0.24	0.24
2 1,2,3,7,8-PCDD	0.5	1.8 J	0.90	0.90	0.90
3 1,2,3,4,7,8-HxCD	0.1	2.6 J	0.26	0.26	0.26
4 1,2,3,6,7,8-HxCD	0.1	8.5	0.85	0.85	0.85
5 1,2,3,7,8,9-HxCD	0.1	4.5 J	0.45	0.45	0.45
6 1,2,3,4,6,7,8-HpC	0.01	140.0	1.40	1.40	1.40
7 OCDD	0.001	890.0	0.89	0.89	0.89
8 2,3,7,8-TCDF	0.1	0.58 U	0.00	0.03	0.06
9 1,2,3,7,8-PCDF	0.05	6.20 U	0.00	0.16	0.31
10 2,3,4,7,8-PCDF	0.5	1.0 J	0.49	0.49	0.49
11 1,2,3,4,7,8-HxCD	0.1	1.3 J	0.13	0.13	0.13
12 1,2,3,6,7,8-HxCD	0.1	1.1 J	0.11	0.11	0.11
13 2,3,4,6,7,8-HxCD	0.1	2.1 J	0.21	0.21	0.21
14 1,2,3,7,8,9-HxCD	0.1	0.55 U	0.00	0.03	0.06
15 1,2,3,4,6,7,8-HpC	0.01	27.00 U	0.00	0.14	0.27
16 1,2,3,4,7,8,9-HpC	0.01	1.10 J	0.01	0.01	0.01
17 OCDF	0.001	23.0	0.02	0.02	0.02
EPA TEQ			**6.0**	**6.3**	**6.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Seattle 5
Sample Number 98318235
Date 7/28/98

	Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	0.25 J	0.25	0.25	0.25
2	1,2,3,7,8-PCDD	0.5	1.0 U	0.00	0.25	0.50
3	1,2,3,4,7,8-HxCD	0.1	0.7 U	0.00	0.03	0.07
4	1,2,3,6,7,8-HxCD	0.1	1.3 J	0.13	0.13	0.13
5	1,2,3,7,8,9-HxCD	0.1	0.5 J	0.05	0.05	0.05
6	1,2,3,4,6,7,8-HpC	0.01	8.3	0.08	0.08	0.08
7	OCDD	0.001	55.0	0.06	0.06	0.06
8	2,3,7,8-TCDF	0.1	0.29 U	0.00	0.01	0.03
9	1,2,3,7,8-PCDF	0.05	0.38 U	0.00	0.01	0.02
10	2,3,4,7,8-PCDF	0.5	0.2 J	0.09	0.09	0.09
11	1,2,3,4,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
12	1,2,3,6,7,8-HxCD	0.1	0.3 J	0.03	0.03	0.03
13	2,3,4,6,7,8-HxCD	0.1	0.7 J	0.07	0.07	0.07
14	1,2,3,7,8,9-HxCD	0.1	0.38 U	0.00	0.02	0.04
15	1,2,3,4,6,7,8-HpC	0.01	16.00 U	0.00	0.08	0.16
16	1,2,3,4,7,8,9-HpC	0.01	0.56 U	0.00	0.00	0.01
17	OCDF	0.001	3.2 J	0.00	0.00	0.00
	EPA TEQ			**0.80**	**1.2**	**1.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 3					
Sample Number	98318236					
Date	7/28/98					
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)	
Congener	TEF					
1 2,3,7,8-TCDD	1	0.59 U	0.00	0.30	0.59	
2 1,2,3,7,8-PCDD	0.5	1.6 U	0.00	0.40	0.80	
3 1,2,3,4,7,8-HxCD	0.1	1.5 J	0.15	0.15	0.15	
4 1,2,3,6,7,8-HxCD	0.1	3.3 J	0.33	0.33	0.33	
5 1,2,3,7,8,9-HxCD	0.1	2.5 J	0.25	0.25	0.25	
6 1,2,3,4,6,7,8-HpC	0.01	36.0	0.36	0.36	0.36	
7 OCDD	0.001	330.0	0.33	0.33	0.33	
8 2,3,7,8-TCDF	0.1	18.00	1.80	1.80	1.80	
9 1,2,3,7,8-PCDF	0.05	6.80 U	0.00	0.17	0.34	
10 2,3,4,7,8-PCDF	0.5	2.2 J	1.10	1.10	1.10	
11 1,2,3,4,7,8-HxCD	0.1	1.2 J	0.12	0.12	0.12	
12 1,2,3,6,7,8-HxCD	0.1	1.0 J	0.10	0.10	0.10	
13 2,3,4,6,7,8-HxCD	0.1	1.7 J	0.17	0.17	0.17	
14 1,2,3,7,8,9-HxCD	0.1	0.86 U	0.00	0.04	0.09	
15 1,2,3,4,6,7,8-HpC	0.01	29.00 U	0.00	0.15	0.29	
16 1,2,3,4,7,8,9-HpC	0.01	1.40 U	0.00	0.01	0.01	
17 OCDF	0.001	15.0	0.02	0.02	0.02	
EPA TEQ			**4.7**	**5.8**	**6.8**	

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 9
Sample Number	98318237
Date	7/28/98

Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.29 U	0.00	0.15	0.29
2 1,2,3,7,8-PCDD	0.5	0.6 U	0.00	0.14	0.29
3 1,2,3,4,7,8-HxCD	0.1	0.6 J	0.06	0.06	0.06
4 1,2,3,6,7,8-HxCD	0.1	2.0 J	0.20	0.20	0.20
5 1,2,3,7,8,9-HxCD	0.1	1.1 J	0.11	0.11	0.11
6 1,2,3,4,6,7,8-HpC	0.01	39.0	0.39	0.39	0.39
7 OCDD	0.001	320.0	0.32	0.32	0.32
8 2,3,7,8-TCDF	0.1	0.58 U	0.00	0.03	0.06
9 1,2,3,7,8-PCDF	0.05	27.00 U	0.00	0.68	1.35
10 2,3,4,7,8-PCDF	0.5	1.2 U	0.00	0.30	0.60
11 1,2,3,4,7,8-HxCD	0.1	0.6 J	0.06	0.06	0.06
12 1,2,3,6,7,8-HxCD	0.1	0.7 J	0.07	0.07	0.07
13 2,3,4,6,7,8-HxCD	0.1	1.3 J	0.13	0.13	0.13
14 1,2,3,7,8,9-HxCD	0.1	0.27 U	0.00	0.01	0.03
15 1,2,3,4,6,7,8-HpC	0.01	28.00 U	0.00	0.14	0.28
16 1,2,3,4,7,8,9-HpC	0.01	0.92 U	0.00	0.00	0.01
17 OCDF	0.001	24.0	0.02	0.02	0.02
EPA TEQ			**1.4**	**2.8**	**4.3**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Seattle 2				
Sample Number	98318238				
Date	7/29/98				
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.24 J	0.24	0.24	0.24
2 1,2,3,7,8-PCDD	0.5	2.0 J	1.00	1.00	1.00
3 1,2,3,4,7,8-HxCD	0.1	3.0 J	0.30	0.30	0.30
4 1,2,3,6,7,8-HxCD	0.1	6.6	0.66	0.66	0.66
5 1,2,3,7,8,9-HxCD	0.1	7.3	0.73	0.73	0.73
6 1,2,3,4,6,7,8-HpC	0.01	82.0	0.82	0.82	0.82
7 OCDD	0.001	570.0	0.57	0.57	0.57
8 2,3,7,8-TCDF	0.1	0.47 U	0.00	0.02	0.05
9 1,2,3,7,8-PCDF	0.05	5.90 U	0.00	0.15	0.30
10 2,3,4,7,8-PCDF	0.5	0.4 J	0.19	0.19	0.19
11 1,2,3,4,7,8-HxCD	0.1	1.5 J	0.15	0.15	0.15
12 1,2,3,6,7,8-HxCD	0.1	1.7 J	0.17	0.17	0.17
13 2,3,4,6,7,8-HxCD	0.1	2.2 J	0.22	0.22	0.22
14 1,2,3,7,8,9-HxCD	0.1	0.33 J	0.03	0.03	0.03
15 1,2,3,4,6,7,8-HpC	0.01	33.00 U	0.00	0.17	0.33
16 1,2,3,4,7,8,9-HpC	0.01	1.30 J	0.01	0.01	0.01
17 OCDF	0.001	43.0	0.04	0.04	0.04
EPA TEQ			**5.1**	**5.5**	**5.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Tacoma 1
Sample Number	98318239
Date	7/29/98

	Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	3.00	3.00	3.00	3.00
2	1,2,3,7,8-PCDD	0.5	6.2	3.10	3.10	3.10
3	1,2,3,4,7,8-HxCD	0.1	7.4	0.74	0.74	0.74
4	1,2,3,6,7,8-HxCD	0.1	14.0	1.40	1.40	1.40
5	1,2,3,7,8,9-HxCD	0.1	13.0	1.30	1.30	1.30
6	1,2,3,4,6,7,8-HpC	0.01	140.0	1.40	1.40	1.40
7	OCDD	0.001	820.0	0.82	0.82	0.82
8	2,3,7,8-TCDF	0.1	13.00	1.30	1.30	1.30
9	1,2,3,7,8-PCDF	0.05	91.00 U	0.00	2.28	4.55
10	2,3,4,7,8-PCDF	0.5	10.0	5.00	5.00	5.00
11	1,2,3,4,7,8-HxCD	0.1	3.3 J	0.33	0.33	0.33
12	1,2,3,6,7,8-HxCD	0.1	4.3 J	0.43	0.43	0.43
13	2,3,4,6,7,8-HxCD	0.1	5.3	0.53	0.53	0.53
14	1,2,3,7,8,9-HxCD	0.1	0.93 J	0.09	0.09	0.09
15	1,2,3,4,6,7,8-HpC	0.01	38.00 U	0.00	0.19	0.38
16	1,2,3,4,7,8,9-HpC	0.01	1.50 J	0.02	0.02	0.02
17	OCDF	0.001	31.0	0.03	0.03	0.03
	EPA TEQ			**19**	**22**	**24**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Tacoma 2					
Sample Number	98318240					
Date	7/29/98					
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)	
Congener	TEF					
1 2,3,7,8-TCDD	1	1.20	1.20	1.20	1.20	
2 1,2,3,7,8-PCDD	0.5	3.9 U	0.00	0.98	1.95	
3 1,2,3,4,7,8-HxCD	0.1	3.5 J	0.35	0.35	0.35	
4 1,2,3,6,7,8-HxCD	0.1	6.5	0.65	0.65	0.65	
5 1,2,3,7,8,9-HxCD	0.1	5.2	0.52	0.52	0.52	
6 1,2,3,4,6,7,8-HpC	0.01	85.0	0.85	0.85	0.85	
7 OCDD	0.001	580.0	0.58	0.58	0.58	
8 2,3,7,8-TCDF	0.1	9.30	0.93	0.93	0.93	
9 1,2,3,7,8-PCDF	0.05	46.00 U	0.00	1.15	2.30	
10 2,3,4,7,8-PCDF	0.5	5.8	2.90	2.90	2.90	
11 1,2,3,4,7,8-HxCD	0.1	2.5 J	0.25	0.25	0.25	
12 1,2,3,6,7,8-HxCD	0.1	3.0 J	0.30	0.30	0.30	
13 2,3,4,6,7,8-HxCD	0.1	5.0	0.50	0.50	0.50	
14 1,2,3,7,8,9-HxCD	0.1	2.10 U	0.00	0.11	0.21	
15 1,2,3,4,6,7,8-HpC	0.01	40.00	0.40	0.40	0.40	
16 1,2,3,4,7,8,9-HpC	0.01	1.30 J	0.01	0.01	0.01	
17 OCDF	0.001	30.0	0.03	0.03	0.03	
EPA TEQ			**9.5**	**12**	**14**	

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Forested west non-commercial
Sample Number 98318241
Date 7/29/98

	Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF				
1	2,3,7,8-TCDD	1	1.30 U	0.00	0.65	1.30
2	1,2,3,7,8-PCDD	0.5	2.7 U	0.00	0.68	1.35
3	1,2,3,4,7,8-HxCD	0.1	2.4 J	0.24	0.24	0.24
4	1,2,3,6,7,8-HxCD	0.1	4.2 J	0.42	0.42	0.42
5	1,2,3,7,8,9-HxCD	0.1	2.8 J	0.28	0.28	0.28
6	1,2,3,4,6,7,8-HpC	0.01	16.0	0.16	0.16	0.16
7	OCDD	0.001	89.0	0.09	0.09	0.09
8	2,3,7,8-TCDF	0.1	2.30	0.23	0.23	0.23
9	1,2,3,7,8-PCDF	0.05	12.00 U	0.00	0.30	0.60
10	2,3,4,7,8-PCDF	0.5	2.3 J	1.15	1.15	1.15
11	1,2,3,4,7,8-HxCD	0.1	2.8 U	0.00	0.14	0.28
12	1,2,3,6,7,8-HxCD	0.1	2.9 U	0.00	0.15	0.29
13	2,3,4,6,7,8-HxCD	0.1	3.2 U	0.00	0.16	0.32
14	1,2,3,7,8,9-HxCD	0.1	1.20 U	0.00	0.06	0.12
15	1,2,3,4,6,7,8-HpC	0.01	28.00 U	0.00	0.14	0.28
16	1,2,3,4,7,8,9-HpC	0.01	3.40 U	0.00	0.02	0.03
17	OCDF	0.001	3.8 U	0.00	0.00	0.00
	EPA TEQ			**2.6**	**4.9**	**7.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Open west non-grazed
Sample Number	98318242
Date	7/29/98

Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.30 U	0.00	0.15	0.30
2 1,2,3,7,8-PCDD	0.5	1.0 U	0.00	0.24	0.48
3 1,2,3,4,7,8-HxCD	0.1	0.7 U	0.00	0.04	0.07
4 1,2,3,6,7,8-HxCD	0.1	0.6 J	0.06	0.06	0.06
5 1,2,3,7,8,9-HxCD	0.1	1.0 J	0.10	0.10	0.10
6 1,2,3,4,6,7,8-HpC	0.01	5.1	0.05	0.05	0.05
7 OCDD	0.001	25.0	0.03	0.03	0.03
8 2,3,7,8-TCDF	0.1	1.40 U	0.00	0.07	0.14
9 1,2,3,7,8-PCDF	0.05	0.65 U	0.00	0.02	0.03
10 2,3,4,7,8-PCDF	0.5	0.4 U	0.00	0.10	0.20
11 1,2,3,4,7,8-HxCD	0.1	0.3 J	0.03	0.03	0.03
12 1,2,3,6,7,8-HxCD	0.1	0.2 J	0.02	0.02	0.02
13 2,3,4,6,7,8-HxCD	0.1	0.5 J	0.05	0.05	0.05
14 1,2,3,7,8,9-HxCD	0.1	0.57 U	0.00	0.03	0.06
15 1,2,3,4,6,7,8-HpC	0.01	22.00 U	0.00	0.11	0.22
16 1,2,3,4,7,8,9-HpC	0.01	1.50 U	0.00	0.01	0.02
17 OCDF	0.001	1.9 U	0.00	0.00	0.00
EPA TEQ			**0.33**	**1.1**	**1.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Forested east commercial
Sample Number 98318243
Date 8/1/98

	Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	1.50	U	0.00	0.75	1.50
2	1,2,3,7,8-PCDD	0.5	2.70	U	0.00	0.68	1.35
3	1,2,3,4,7,8-HxCD	0.1	4.50	U	0.00	0.23	0.45
4	1,2,3,6,7,8-HxCD	0.1	4.20	U	0.00	0.21	0.42
5	1,2,3,7,8,9-HxCD	0.1	2.50	J	0.25	0.25	0.25
6	1,2,3,4,6,7,8-HpC	0.01	12.00		0.12	0.12	0.12
7	OCDD	0.001	51.00		0.05	0.05	0.05
8	2,3,7,8-TCDF	0.1	0.89	J	0.09	0.09	0.09
9	1,2,3,7,8-PCDF	0.05	13.00	U	0.00	0.33	0.65
10	2,3,4,7,8-PCDF	0.5	2.20	U	0.00	0.55	1.10
11	1,2,3,4,7,8-HxCD	0.1	0.90	J	0.09	0.09	0.09
12	1,2,3,6,7,8-HxCD	0.1	1.10	J	0.11	0.11	0.11
13	2,3,4,6,7,8-HxCD	0.1	1.80	J	0.18	0.18	0.18
14	1,2,3,7,8,9-HxCD	0.1	3.20	U	0.00	0.16	0.32
15	1,2,3,4,6,7,8-HpC	0.01	2.40	J	0.02	0.02	0.02
16	1,2,3,4,7,8,9-HpC	0.01	4.70	U	0.00	0.02	0.05
17	OCDF	0.001	9.80	U	0.00	0.00	0.01
	EPA TEQ				**0.91**	**3.8**	**6.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Open west non-grazed
Sample Number	98328330
Date	8/4/98

Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.40 U	0.00	0.20	0.40
2 1,2,3,7,8-PCDD	0.5	0.9 J	0.43	0.43	0.43
3 1,2,3,4,7,8-HxCD	0.1	1.1 J	0.11	0.11	0.11
4 1,2,3,6,7,8-HxCD	0.1	3.1 J	0.31	0.31	0.31
5 1,2,3,7,8,9-HxCD	0.1	4.3 J	0.43	0.43	0.43
6 1,2,3,4,6,7,8-HpC	0.01	26.0	0.26	0.26	0.26
7 OCDD	0.001	130.0	0.13	0.13	0.13
8 2,3,7,8-TCDF	0.1	0.71 U	0.00	0.04	0.07
9 1,2,3,7,8-PCDF	0.05	4.70 U	0.00	0.12	0.24
10 2,3,4,7,8-PCDF	0.5	0.8 J	0.41	0.41	0.41
11 1,2,3,4,7,8-HxCD	0.1	0.8 J	0.08	0.08	0.08
12 1,2,3,6,7,8-HxCD	0.1	0.8 J	0.08	0.08	0.08
13 2,3,4,6,7,8-HxCD	0.1	1.0 J	0.10	0.10	0.10
14 1,2,3,7,8,9-HxCD	0.1	0.42 J	0.04	0.04	0.04
15 1,2,3,4,6,7,8-HpC	0.01	29.00 U	0.00	0.15	0.29
16 1,2,3,4,7,8,9-HpC	0.01	0.99 U	0.00	0.00	0.01
17 OCDF	0.001	3.0 J	0.00	0.00	0.00
EPA TEQ			**2.4**	**2.9**	**3.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Open west rangeland grazed					
Sample Number	98328331					
Date	8/4/98					
Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF					
1 2,3,7,8-TCDD	1	0.38 J		0.38	0.38	0.38
2 1,2,3,7,8-PCDD	0.5	0.7 J		0.36	0.36	0.36
3 1,2,3,4,7,8-HxCD	0.1	1.0 J		0.10	0.10	0.10
4 1,2,3,6,7,8-HxCD	0.1	8.5		0.85	0.85	0.85
5 1,2,3,7,8,9-HxCD	0.1	2.4 J		0.24	0.24	0.24
6 1,2,3,4,6,7,8-HpC	0.01	130.0		1.30	1.30	1.30
7 OCDD	0.001	1000.0		1.00	1.00	1.00
8 2,3,7,8-TCDF	0.1	0.39 U		0.00	0.02	0.04
9 1,2,3,7,8-PCDF	0.05	17.00 U		0.00	0.43	0.85
10 2,3,4,7,8-PCDF	0.5	1.0 U		0.00	0.25	0.50
11 1,2,3,4,7,8-HxCD	0.1	6.1 U		0.00	0.31	0.61
12 1,2,3,6,7,8-HxCD	0.1	0.8 J		0.08	0.08	0.08
13 2,3,4,6,7,8-HxCD	0.1	1.7 J		0.17	0.17	0.17
14 1,2,3,7,8,9-HxCD	0.1	0.83 U		0.00	0.04	0.08
15 1,2,3,4,6,7,8-HpC	0.01	48.00 U		0.00	0.24	0.48
16 1,2,3,4,7,8,9-HpC	0.01	1.80 J		0.02	0.02	0.02
17 OCDF	0.001	93.0		0.09	0.09	0.09
EPA TEQ				**4.6**	**5.9**	**7.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Forest west commercial				
Sample Number	98328332				
Date	8/3/98				
Units		ng/kg	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF				
1 2,3,7,8-TCDD	1	0.64 U	0.00	0.32	0.64
2 1,2,3,7,8-PCDD	0.5	0.8 J	0.41	0.41	0.41
3 1,2,3,4,7,8-HxCD	0.1	1.7 J	0.17	0.17	0.17
4 1,2,3,6,7,8-HxCD	0.1	2.0 J	0.20	0.20	0.20
5 1,2,3,7,8,9-HxCD	0.1	2.4 J	0.24	0.24	0.24
6 1,2,3,4,6,7,8-HpC	0.01	28.0	0.28	0.28	0.28
7 OCDD	0.001	150.0	0.15	0.15	0.15
8 2,3,7,8-TCDF	0.1	0.38 U	0.00	0.02	0.04
9 1,2,3,7,8-PCDF	0.05	1.00 J	0.05	0.05	0.05
10 2,3,4,7,8-PCDF	0.5	0.7 J	0.33	0.33	0.33
11 1,2,3,4,7,8-HxCD	0.1	1.1 U	0.00	0.06	0.11
12 1,2,3,6,7,8-HxCD	0.1	0.9 J	0.09	0.09	0.09
13 2,3,4,6,7,8-HxCD	0.1	1.0 J	0.10	0.10	0.10
14 1,2,3,7,8,9-HxCD	0.1	0.75 U	0.00	0.04	0.08
15 1,2,3,4,6,7,8-HpC	0.01	49.00 U	0.00	0.25	0.49
16 1,2,3,4,7,8,9-HpC	0.01	1.30 U	0.00	0.01	0.01
17 OCDF	0.001	3.8 J	0.00	0.00	0.00
EPA TEQ			**2.0**	**2.7**	**3.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

	Sample Name	Urban Spokane					
	Sample Number	98328333					
	Date	8/3/98					
	Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	1.10	U	0.00	0.55	1.10
2	1,2,3,7,8-PCDD	0.5	1.20	U	0.00	0.30	0.60
3	1,2,3,4,7,8-HxCD	0.1	0.91	U	0.00	0.05	0.09
4	1,2,3,6,7,8-HxCD	0.1	1.30	U	0.00	0.07	0.13
5	1,2,3,7,8,9-HxCD	0.1	1.70	U	0.00	0.09	0.17
6	1,2,3,4,6,7,8-HpC	0.01	11.00		0.11	0.11	0.11
7	OCDD	0.001	67.00		0.07	0.07	0.07
8	2,3,7,8-TCDF	0.1	0.63	J	0.06	0.06	0.06
9	1,2,3,7,8-PCDF	0.05	28.00	U	0.00	0.70	1.40
10	2,3,4,7,8-PCDF	0.5	1.10	J	0.55	0.55	0.55
11	1,2,3,4,7,8-HxCD	0.1	1.40	U	0.00	0.07	0.14
12	1,2,3,6,7,8-HxCD	0.1	2.10	U	0.00	0.11	0.21
13	2,3,4,6,7,8-HxCD	0.1	1.50	J	0.15	0.15	0.15
14	1,2,3,7,8,9-HxCD	0.1	1.60	U	0.00	0.08	0.16
15	1,2,3,4,6,7,8-HpC	0.01	3.70	J	0.04	0.04	0.04
16	1,2,3,4,7,8,9-HpC	0.01	2.20	U	0.00	0.01	0.02
17	OCDF	0.001	6.80	J	0.01	0.01	0.01
	EPA TEQ				**1.0**	**3.0**	**5.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Spokane duplicate
Sample Number 98328334
Date 8/3/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.68	U	0.00	0.34	0.68
2 1,2,3,7,8-PCDD	0.5	3.60	U	0.00	0.90	1.80
3 1,2,3,4,7,8-HxCD	0.1	2.80	U	0.00	0.14	0.28
4 1,2,3,6,7,8-HxCD	0.1	2.60	U	0.00	0.13	0.26
5 1,2,3,7,8,9-HxCD	0.1	5.50	U	0.00	0.28	0.55
6 1,2,3,4,6,7,8-HpC	0.01	9.50		0.10	0.10	0.10
7 OCDD	0.001	70.00		0.07	0.07	0.07
8 2,3,7,8-TCDF	0.1	1.30		0.13	0.13	0.13
9 1,2,3,7,8-PCDF	0.05	27.00	U	0.00	0.68	1.35
10 2,3,4,7,8-PCDF	0.5	4.10	U	0.00	1.03	2.05
11 1,2,3,4,7,8-HxCD	0.1	1.60	U	0.00	0.08	0.16
12 1,2,3,6,7,8-HxCD	0.1	3.00	U	0.00	0.15	0.30
13 2,3,4,6,7,8-HxCD	0.1	3.60	U	0.00	0.18	0.36
14 1,2,3,7,8,9-HxCD	0.1	2.50	U	0.00	0.13	0.25
15 1,2,3,4,6,7,8-HpC	0.01	2.40	J	0.02	0.02	0.02
16 1,2,3,4,7,8,9-HpC	0.01	2.10	U	0.00	0.01	0.02
17 OCDF	0.001	6.60	J	0.01	0.01	0.01
EPA TEQ				**0.33**	**4.4**	**8.4**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Open east non-grazed
Sample Number	98328335
Date	8/3/98

	Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	0.33	U	0.00	0.17	0.33
2	1,2,3,7,8-PCDD	0.5	0.39	U	0.00	0.10	0.20
3	1,2,3,4,7,8-HxCD	0.1	0.37	U	0.00	0.02	0.04
4	1,2,3,6,7,8-HxCD	0.1	0.44	U	0.00	0.02	0.04
5	1,2,3,7,8,9-HxCD	0.1	0.62	U	0.00	0.03	0.06
6	1,2,3,4,6,7,8-HpC	0.01	1.10	J	0.01	0.01	0.01
7	OCDD	0.001	5.6	U	0.00	0.00	0.01
8	2,3,7,8-TCDF	0.1	0.35	J	0.04	0.04	0.04
9	1,2,3,7,8-PCDF	0.05	0.65	U	0.00	0.02	0.03
10	2,3,4,7,8-PCDF	0.5	0.29	U	0.00	0.07	0.15
11	1,2,3,4,7,8-HxCD	0.1	0.72	U	0.00	0.04	0.07
12	1,2,3,6,7,8-HxCD	0.1	0.37	U	0.00	0.02	0.04
13	2,3,4,6,7,8-HxCD	0.1	0.49	U	0.00	0.02	0.05
14	1,2,3,7,8,9-HxCD	0.1	0.55	U	0.00	0.03	0.06
15	1,2,3,4,6,7,8-HpC	0.01	10.00	UJ	0.00	0.05	0.10
16	1,2,3,4,7,8,9-HpC	0.01	0.51	U	0.00	0.00	0.01
17	OCDF	0.001	1.50	U	0.00	0.00	0.00
	EPA TEQ				**0.046**	**0.63**	**1.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name	Open east rangeland grazed
Sample Number	9.8E+07
Date	8/5/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.44	U	0.00	0.22	0.44
2 1,2,3,7,8-PCDD	0.5	1.50	U	0.00	0.38	0.75
3 1,2,3,4,7,8-HxCD	0.1	0.87	U	0.00	0.04	0.09
4 1,2,3,6,7,8-HxCD	0.1	1.80	U	0.00	0.09	0.18
5 1,2,3,7,8,9-HxCD	0.1	1.00	U	0.00	0.05	0.10
6 1,2,3,4,6,7,8-HpC	0.01	0.80	J	0.01	0.01	0.01
7 OCDD	0.001	7.0	U	0.00	0.00	0.01
8 2,3,7,8-TCDF	0.1	0.32	J	0.03	0.03	0.03
9 1,2,3,7,8-PCDF	0.05	0.90	U	0.00	0.02	0.05
10 2,3,4,7,8-PCDF	0.5	1.00	U	0.00	0.25	0.50
11 1,2,3,4,7,8-HxCD	0.1	0.84	U	0.00	0.04	0.08
12 1,2,3,6,7,8-HxCD	0.1	0.87	U	0.00	0.04	0.09
13 2,3,4,6,7,8-HxCD	0.1	0.77	U	0.00	0.04	0.08
14 1,2,3,7,8,9-HxCD	0.1	1.40	U	0.00	0.07	0.14
15 1,2,3,4,6,7,8-HpC	0.01	2.10	U	0.00	0.01	0.02
16 1,2,3,4,7,8,9-HpC	0.01	2.60	U	0.00	0.01	0.03
17 OCDF	0.001	2.80	U	0.00	0.00	0.00
EPA TEQ				**0.040**	**1.3**	**2.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name	Urban Richland						
Sample Number	98328337						
Date	8/5/98						
				TEQ ng/kg	TEQ ng/kg	TEQ ng/kg	
Units		ng/kg		(ND=0)	(ND=1/2DL)	(ND=DL)	
Congener	TEF		Qualifier				
1 2,3,7,8-TCDD	1	0.60	U	0.00	0.30	0.60	
2 1,2,3,7,8-PCDD	0.5	0.81	U	0.00	0.20	0.41	
3 1,2,3,4,7,8-HxCD	0.1	0.86	U	0.00	0.04	0.09	
4 1,2,3,6,7,8-HxCD	0.1	2.70	J	0.27	0.27	0.27	
5 1,2,3,7,8,9-HxCD	0.1	1.60	J	0.16	0.16	0.16	
6 1,2,3,4,6,7,8-HpC	0.01	53.00		0.53	0.53	0.53	
7 OCDD	0.001	430.00		0.43	0.43	0.43	
8 2,3,7,8-TCDF	0.1	0.55	J	0.06	0.06	0.06	
9 1,2,3,7,8-PCDF	0.05	72.00	U	0.00	1.80	3.60	
10 2,3,4,7,8-PCDF	0.5	4.30	J	2.15	2.15	2.15	
11 1,2,3,4,7,8-HxCD	0.1	1.80	J	0.18	0.18	0.18	
12 1,2,3,6,7,8-HxCD	0.1	1.90	J	0.19	0.19	0.19	
13 2,3,4,6,7,8-HxCD	0.1	3.70	J	0.37	0.37	0.37	
14 1,2,3,7,8,9-HxCD	0.1	1.60	J	0.16	0.16	0.16	
15 1,2,3,4,6,7,8-HpC	0.01	19.00		0.19	0.19	0.19	
16 1,2,3,4,7,8,9-HpC	0.01	0.63	J	0.01	0.01	0.01	
17 OCDF	0.001	55.00		0.06	0.06	0.06	
EPA TEQ				**4.7**	**7.1**	**9.4**	

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Duplicate Richland
Sample Number 98328338
Date 8/5/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	1.2	U	0.00	0.60	1.20
2 1,2,3,7,8-PCDD	0.5	4.7	U	0.00	1.18	2.35
3 1,2,3,4,7,8-HxCD	0.1	2.7	U	0.00	0.14	0.27
4 1,2,3,6,7,8-HxCD	0.1	2.60	J	0.26	0.26	0.26
5 1,2,3,7,8,9-HxCD	0.1	2.30	J	0.23	0.23	0.23
6 1,2,3,4,6,7,8-HpC	0.01	50.00		0.50	0.50	0.50
7 OCDD	0.001	400.00		0.40	0.40	0.40
8 2,3,7,8-TCDF	0.1	0.85	J	0.09	0.09	0.09
9 1,2,3,7,8-PCDF	0.05	73.0	U	0.00	1.83	3.65
10 2,3,4,7,8-PCDF	0.5	4.00	J	2.00	2.00	2.00
11 1,2,3,4,7,8-HxCD	0.1	1.80	J	0.18	0.18	0.18
12 1,2,3,6,7,8-HxCD	0.1	2.00	J	0.20	0.20	0.20
13 2,3,4,6,7,8-HxCD	0.1	2.80	J	0.28	0.28	0.28
14 1,2,3,7,8,9-HxCD	0.1	1.80	J	0.18	0.18	0.18
15 1,2,3,4,6,7,8-HpC	0.01	14.00		0.14	0.14	0.14
16 1,2,3,4,7,8,9-HpC	0.01	5.1	U	0.00	0.03	0.05
17 OCDF	0.001	49.00		0.05	0.05	0.05
EPA TEQ				**4.5**	**8.3**	**12.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit

Sample Name Urban Kennewick
Sample Number 98328339
Date 8/6/98

	Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	0.51	U	0.00	0.26	0.51
2	1,2,3,7,8-PCDD	0.5	0.73	U	0.00	0.18	0.37
3	1,2,3,4,7,8-HxCD	0.1	0.88	J	0.09	0.09	0.09
4	1,2,3,6,7,8-HxCD	0.1	0.67	J	0.07	0.07	0.07
5	1,2,3,7,8,9-HxCD	0.1	1.10	U	0.00	0.06	0.11
6	1,2,3,4,6,7,8-HpC	0.01	15.00		0.15	0.15	0.15
7	OCDD	0.001	130.0		0.13	0.13	0.13
8	2,3,7,8-TCDF	0.1	0.49	U	0.00	0.02	0.05
9	1,2,3,7,8-PCDF	0.05	11.00	U	0.00	0.28	0.55
10	2,3,4,7,8-PCDF	0.5	0.68	J	0.34	0.34	0.34
11	1,2,3,4,7,8-HxCD	0.1	0.96	J	0.10	0.10	0.10
12	1,2,3,6,7,8-HxCD	0.1	0.42	J	0.04	0.04	0.04
13	2,3,4,6,7,8-HxCD	0.1	1.10	J	0.11	0.11	0.11
14	1,2,3,7,8,9-HxCD	0.1	0.84	U	0.00	0.04	0.08
15	1,2,3,4,6,7,8-HpC	0.01	4.90	J	0.05	0.05	0.05
16	1,2,3,4,7,8,9-HpC	0.01	0.59	U	0.00	0.00	0.01
17	OCDF	0.001	12.00		0.01	0.01	0.01
	EPA TEQ				**1.1**	**1.9**	**2.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name	Open east non-grazed					
Sample Number	98328340					
Date	8/6/98					
Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.74	U	0.00	0.37	0.74
2 1,2,3,7,8-PCDD	0.5	0.97	U	0.00	0.24	0.49
3 1,2,3,4,7,8-HxCD	0.1	0.92	U	0.00	0.05	0.09
4 1,2,3,6,7,8-HxCD	0.1	1.20	U	0.00	0.06	0.12
5 1,2,3,7,8,9-HxCD	0.1	0.74	U	0.00	0.04	0.07
6 1,2,3,4,6,7,8-HpC	0.01	5.3		0.05	0.05	0.05
7 OCDD	0.001	28.00		0.03	0.03	0.03
8 2,3,7,8-TCDF	0.1	0.93	U	0.00	0.05	0.09
9 1,2,3,7,8-PCDF	0.05	2.80	U	0.00	0.07	0.14
10 2,3,4,7,8-PCDF	0.5	0.53	U	0.00	0.13	0.27
11 1,2,3,4,7,8-HxCD	0.1	0.90	U	0.00	0.05	0.09
12 1,2,3,6,7,8-HxCD	0.1	0.95	U	0.00	0.05	0.10
13 2,3,4,6,7,8-HxCD	0.1	0.69	U	0.00	0.03	0.07
14 1,2,3,7,8,9-HxCD	0.1	0.78	U	0.00	0.04	0.08
15 1,2,3,4,6,7,8-HpC	0.01	20.00	UJ	0.00	0.10	0.20
16 1,2,3,4,7,8,9-HpC	0.01	1.70	U	0.00	0.01	0.02
17 OCDF	0.001	2.4	J	0.00	0.00	0.00
EPA TEQ				**0.083**	**1.4**	**2.6**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name Forested east non-commercial
Sample Number 98328341
Date 8/3/98

	Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
	Congener	TEF		Qualifier			
1	2,3,7,8-TCDD	1	0.41	U	0.00	0.21	0.41
2	1,2,3,7,8-PCDD	0.5	2.60	J	1.30	1.30	1.30
3	1,2,3,4,7,8-HxCD	0.1	1.50	J	0.15	0.15	0.15
4	1,2,3,6,7,8-HxCD	0.1	17.00		1.70	1.70	1.70
5	1,2,3,7,8,9-HxCD	0.1	11.00		1.10	1.10	1.10
6	1,2,3,4,6,7,8-HpC	0.01	31.00		0.31	0.31	0.31
7	OCDD	0.001	43.00		0.04	0.04	0.04
8	2,3,7,8-TCDF	0.1	0.60	U	0.00	0.03	0.06
9	1,2,3,7,8-PCDF	0.05	3.20	U	0.00	0.08	0.16
10	2,3,4,7,8-PCDF	0.5	0.65	J	0.33	0.33	0.33
11	1,2,3,4,7,8-HxCD	0.1	0.72	J	0.07	0.07	0.07
12	1,2,3,6,7,8-HxCD	0.1	0.73	J	0.07	0.07	0.07
13	2,3,4,6,7,8-HxCD	0.1	1.00	U	0.00	0.05	0.10
14	1,2,3,7,8,9-HxCD	0.1	0.21	J	0.02	0.02	0.02
15	1,2,3,4,6,7,8-HpC	0.01	20.00	UJ	0.00	0.10	0.20
16	1,2,3,4,7,8,9-HpC	0.01	0.66	U	0.00	0.00	0.01
17	OCDF	0.001	4.50	J	0.00	0.00	0.00
	EPA TEQ				**5.1**	**5.6**	**6.0**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name Forested east commercial
Sample Number 98338330
Date 8/10/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.50	U	0.00	0.25	0.50
2 1,2,3,7,8-PCDD	0.5	0.78	U	0.00	0.20	0.39
3 1,2,3,4,7,8-HxCD	0.1	0.84	U	0.00	0.04	0.08
4 1,2,3,6,7,8-HxCD	0.1	1.30	U	0.00	0.07	0.13
5 1,2,3,7,8,9-HxCD	0.1	1.90	U	0.00	0.10	0.19
6 1,2,3,4,6,7,8-HpC	0.01	2.30	J	0.02	0.02	0.02
7 OCDD	0.001	10.00		0.01	0.01	0.01
8 2,3,7,8-TCDF	0.1	0.57	U	0.00	0.03	0.06
9 1,2,3,7,8-PCDF	0.05	0.99	U	0.00	0.02	0.05
10 2,3,4,7,8-PCDF	0.5	0.41	U	0.00	0.10	0.21
11 1,2,3,4,7,8-HxCD	0.1	0.46	U	0.00	0.02	0.05
12 1,2,3,6,7,8-HxCD	0.1	0.45	U	0.00	0.02	0.05
13 2,3,4,6,7,8-HxCD	0.1	0.88	U	0.00	0.04	0.09
14 1,2,3,7,8,9-HxCD	0.1	0.81	U	0.00	0.04	0.08
15 1,2,3,4,6,7,8-HpC	0.01	15.00	UJ	0.00	0.08	0.15
16 1,2,3,4,7,8,9-HpC	0.01	1.10	U	0.00	0.01	0.01
17 OCDF	0.001	2.10	U	0.00	0.00	0.00
EPA TEQ				**0.033**	**1.0**	**2.1**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name Forested east non-commercial
Sample Number 98338331
Date 8/26/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.37	U	0.00	0.19	0.37
2 1,2,3,7,8-PCDD	0.5	0.76	U	0.00	0.19	0.38
3 1,2,3,4,7,8-HxCD	0.1	0.77	U	0.00	0.04	0.08
4 1,2,3,6,7,8-HxCD	0.1	1.50	U	0.00	0.08	0.15
5 1,2,3,7,8,9-HxCD	0.1	7.60	UJ	0.00	0.38	0.76
6 1,2,3,4,6,7,8-HpC	0.01	8.90		0.09	0.09	0.09
7 OCDD	0.001	33.00		0.03	0.03	0.03
8 2,3,7,8-TCDF	0.1	0.87	J	0.09	0.09	0.09
9 1,2,3,7,8-PCDF	0.05	1.40	U	0.00	0.04	0.07
10 2,3,4,7,8-PCDF	0.5	0.48	J	0.24	0.24	0.24
11 1,2,3,4,7,8-HxCD	0.1	0.75	U	0.00	0.04	0.08
12 1,2,3,6,7,8-HxCD	0.1	0.93	U	0.00	0.05	0.09
13 2,3,4,6,7,8-HxCD	0.1	1.10	U	0.00	0.06	0.11
14 1,2,3,7,8,9-HxCD	0.1	1.40	U	0.00	0.07	0.14
15 1,2,3,4,6,7,8-HpC	0.01	4.50	UJ	0.00	0.02	0.05
16 1,2,3,4,7,8,9-HpC	0.01	3.90	UJ	0.00	0.02	0.04
17 OCDF	0.001	1.40	U	0.00	0.00	0.00
EPA TEQ				**0.45**	**1.6**	**2.8**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name Open rangeland grazed
Sample Number 98338332
Date 8/12/98

Units		ng/kg		TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
Congener	TEF		Qualifier			
1 2,3,7,8-TCDD	1	0.23	U	0.00	0.12	0.23
2 1,2,3,7,8-PCDD	0.5	0.78	U	0.00	0.20	0.39
3 1,2,3,4,7,8-HxCD	0.1	1.10	U	0.00	0.06	0.11
4 1,2,3,6,7,8-HxCD	0.1	1.10	U	0.00	0.06	0.11
5 1,2,3,7,8,9-HxCD	0.1	1.00	U	0.00	0.05	0.10
6 1,2,3,4,6,7,8-HpC	0.01	1.10	J	0.01	0.01	0.01
7 OCDD	0.001	9.10	J	0.01	0.01	0.01
8 2,3,7,8-TCDF	0.1	0.23	J	0.02	0.02	0.02
9 1,2,3,7,8-PCDF	0.05	0.80	U	0.00	0.02	0.04
10 2,3,4,7,8-PCDF	0.5	0.64	U	0.00	0.16	0.32
11 1,2,3,4,7,8-HxCD	0.1	0.56	U	0.00	0.03	0.06
12 1,2,3,6,7,8-HxCD	0.1	0.41	U	0.00	0.02	0.04
13 2,3,4,6,7,8-HxCD	0.1	1.30	U	0.00	0.07	0.13
14 1,2,3,7,8,9-HxCD	0.1	0.43	U	0.00	0.02	0.04
15 1,2,3,4,6,7,8-HpC	0.01	12.00	UJ	0.00	0.06	0.12
16 1,2,3,4,7,8,9-HpC	0.01	0.43	U	0.00	0.00	0.00
17 OCDF	0.001	1.40	U	0.00	0.00	0.00
EPA TEQ				**0.043**	**0.89**	**1.7**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

UJ - The analyte was not detected at or above the reported estimated result.

ND - Non-detect

DL - Detection Limit

Sample Name Forested west commercial
Sample Number 98338333
Date 8/12/98

	Congener	TEF	Units ng/kg Qualifier	TEQ ng/kg (ND=0)	TEQ ng/kg (ND=1/2DL)	TEQ ng/kg (ND=DL)
1	2,3,7,8-TCDD	1	0.35 U	0.00	0.18	0.35
2	1,2,3,7,8-PCDD	0.5	0.77 J	0.39	0.39	0.39
3	1,2,3,4,7,8-HxCD	0.1	1.20 J	0.12	0.12	0.12
4	1,2,3,6,7,8-HxCD	0.1	1.70 J	0.17	0.17	0.17
5	1,2,3,7,8,9-HxCD	0.1	2.10 J	0.21	0.21	0.21
6	1,2,3,4,6,7,8-HpC	0.01	22.00	0.22	0.22	0.22
7	OCDD	0.001	160.00	0.16	0.16	0.16
8	2,3,7,8-TCDF	0.1	1.20	0.12	0.12	0.12
9	1,2,3,7,8-PCDF	0.05	6.10 U	0.00	0.15	0.31
10	2,3,4,7,8-PCDF	0.5	1.00 J	0.50	0.50	0.50
11	1,2,3,4,7,8-HxCD	0.1	0.92 J	0.09	0.09	0.09
12	1,2,3,6,7,8-HxCD	0.1	0.66 J	0.07	0.07	0.07
13	2,3,4,6,7,8-HxCD	0.1	0.95 J	0.10	0.10	0.10
14	1,2,3,7,8,9-HxCD	0.1	0.89 U	0.00	0.04	0.09
15	1,2,3,4,6,7,8-HpC	0.01	28.00 J	0.28	0.28	0.28
16	1,2,3,4,7,8,9-HpC	0.01	0.91 U	0.00	0.00	0.01
17	OCDF	0.001	3.30 J	0.00	0.00	0.00
	EPA TEQ			**2.4**	**2.8**	**3.2**

U - The analyte was not detected at or above the reported result.

J - The analyte was positively identified. The associated numerical result is an estimate.

ND - Non-detect

DL - Detection Limit