RMC ANALYTICAL SERVICES GROUP • GROUP DES SERVICES ANALYTIQUES CMR
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Client : **ASU**
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ASG Login No: 7164
Site: Res. Island
ASU No: 5247
Samples Received: 31-Jul-02
Date of analysis: 07-Aug-02
Method No: ASG 014
Date Reported: 07-Aug-02
Sheet: 1 of 1

RESULTS OF MERCURY IN SOIL ANALYSIS

Sample I.D.	Unit	Mercury
BRI02-001*	µg/g	< 0.1
BRI02-002	µg/g	< 0.1
BRI02-004	µg/g	< 0.1
BRI02-005	µg/g	< 0.1
BRI02-006	µg/g	< 0.1
BRI02-007	µg/g	< 0.1
BRI02-008	µg/g	< 0.1
BRI02-010	µg/g	< 0.1
BRI02-011	µg/g	< 0.1
BRI02-012	µg/g	< 0.1
BRI02-013	µg/g	< 0.1
BRI02-014	µg/g	< 0.1
BRI02-015	µg/g	< 0.1
BRI02-016	µg/g	< 0.1

LABORATORY QA/QC

Duplicate ; BRI02-001	µg/g	< 0.1 ; < 0.1
Blank	µg/g	< 0.1
Control Target	µg/g	6.25
Control	µg/g	4.40

* Averaged result of duplicates

Prepared By: N. Melo
Nelson Melo; Analyst

Authorization:
Steve White; Senior Analyst
Test Report I.D: Hgs7164r1

Analytical Services Unit
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REPORT OF ANALYSIS

ASU #:	5247	Report I.D.:	Bennett ASU5247 PCBTPH
Client:	DIAND	Date Submitted:	25-Jul-02
		Date Analyses Initiated:	12-Aug-02
		Date Reported:	16-Aug-02
		Matrix:	soil
Method:	PCB = Extraction/GC/ECD; TPH = Extraction/GC/FID		

Results :

	Units	BRI 02-001	BRI 02-002	BRI 02-004	BRI 02-005	BRI 02-006
Total PCBs	ug/g	260	370	180	230	2310
Total C_{10}-C_{50}	ug/g	1000	1400	2000	2000	3800

	Units	BRI 02-007	BRI 02-008	BRI 02-010	BRI 02-011	BRI 02-012
Total PCBs	ug/g	95	140	340	640	170
Total C_{10}-C_{50}	ug/g	750	1300	1200	360	<100

	Units	BRI 02-013	BRI 02-014	BRI 02-015	BRI 02-016
Total PCBs	ug/g	210	20	32	330
Total C_{10}-C_{50}	ug/g	8100	<100	110	1500

Laboratory QA/QC:

	Units	Blank	BRI02-010	BRI02-010 Duplicate
Total PCBs	ug/g	<0.5	444	245
Total C_{10}-C_{50}	ug/g	<100	1142	1254

John S. Poland, D. Phil
Director

Prepared by: P. Whitley Authorization:

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	1 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	Blank #1 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.1	Max Possible I-TEQ (pg/g)[2]	0.4
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.0	Max Possible I-TEQ (pg/g)[2]	0.4

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.2	0.2
1,2,3,7,8-PeCDD	ND	<0.3	0.6
1,2,3,4,7,8-HxCDD	ND	<0.07	0.7
1,2,3,6,7,8-HxCDD	0.9	0.09	0.8
1,2,3,7,8,9-HxCDD	NDR	<0.08	0.8
1,2,3,4,6,7,8-HpCDD	ND	<0.005	0.5
OCDD	NDR	<0.0007	0.7

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	97
$^{13}C_{12}$-1,2,3,7,8-PeCDD	96
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	99
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	102
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	126
$^{13}C_{12}$-OCDD	80

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	ND	<0.02	0.2
1,2,3,7,8-PeCDF	ND	<0.035	0.7
2,3,4,7,8-PeCDF	ND	<0.35	0.7
1,2,3,4,7,8-HxCDF	ND	<0.09	0.9
1,2,3,6,7,8-HxCDF	ND	<0.09	0.9
1,2,3,7,8,9-HxCDF	ND	<0.09	0.9
2,3,4,7,8,9-HxCDF	ND	<0.07	0.7
1,2,3,4,6,7,8-HpCDF	ND	<0.007	0.7
1,2,3,4,7,8,9-HpCDF	NDR	<0.006	0.6
OCDF	0.8	0.0008	0.6

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	83
$^{13}C_{12}$-2,3,4,7,8-PeCDF	89
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	74
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	96
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	102
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	95
$^{13}C_{12}$-OCDF	86

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988
NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

Prepared by : D. Kelly
Dr. D. Kelly, Assistant Director

Authorization : E. Ma
Dr. E. Ma, Research Associate

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	2 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	Blank #2	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.1	Max Possible I-TEQ (pg/g)[2]	1.0
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.0	Max Possible I-TEQ (pg/g)[2]	0.8

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.5	0.5
1,2,3,7,8-PeCDD	ND	<0.75	1.5
1,2,3,4,7,8-HxCDD	1.3	0.13	1.1
1,2,3,6,7,8-HxCDD	ND	<0.28	2.8
1,2,3,7,8,9-HxCDD	ND	<0.28	2.8
1,2,3,4,6,7,8-HpCDD	ND	<0.026	2.6
OCDD	ND	<0.0015	1.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	71
$^{13}C_{12}$-1,2,3,7,8-PeCDD	73
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	75
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	81
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	94
$^{13}C_{12}$-OCDD	133

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	ND	<0.07	0.7
1,2,3,7,8-PeCDF	ND	<0.055	1.1
2,3,4,7,8-PeCDF	ND	<0.55	1.1
1,2,3,4,7,8-HxCDF	ND	<0.26	2.6
1,2,3,6,7,8-HxCDF	ND	<0.26	2.6
1,2,3,7,8,9-HxCDF	ND	<0.26	2.6
2,3,4,7,8,9-HxCDF	ND	<0.19	1.9
1,2,3,4,6,7,8-HpCDF	ND	<0.019	1.9
1,2,3,4,7,8,9-HpCDF	ND	<0.013	1.3
OCDF	ND	<0.0013	1.3

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	52
$^{13}C_{12}$-2,3,4,7,8-PeCDF	102
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	97
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	82
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	79
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	128
$^{13}C_{12}$-OCDF	153

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

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Prepared by: Dr. D. Kelly, Assistant Director

Authorization : Dr. E. Ma, Research Associate

D&Fs7164r2

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	3 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample Id. :	BR02-001				
Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	28	Max Possible I-TEQ (pg/g)[2]	28
Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	230	Max Possible I-TEQ (pg/g)[2]	230

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	15	15	0.1
1,2,3,7,8-PeCDD	0.4	0.2	0.3
1,2,3,4,7,8-HxCDD	4.1	0.41	0.5
1,2,3,6,7,8-HxCDD	19	1.9	0.7
1,2,3,7,8,9-HxCDD	15	1.5	0.7
1,2,3,4,6,7,8-HpCDD	670	6.7	0.5
OCDD	2700	2.7	0.3

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	1	15	0.1
PeCDD	2	5.1	0.3
HxCDD	6	87	0.7
HpCDD	2	1100	0.5
OCDD	1	2700	0.3

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	93
$^{13}C_{12}$-1,2,3,7,8-PeCDD	110
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	85
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	92
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	133
$^{13}C_{12}$-OCDD	169

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	54	5.4	0.1
1,2,3,7,8-PeCDF	27	1.35	0.5
2,3,4,7,8-PeCDF	130	65	0.5
1,2,3,4,7,8-HxCDF	1000	100	0.7
1,2,3,6,7,8-HxCDF	190	19	0.7
1,2,3,7,8,9-HxCDF	110	11	0.7
2,3,4,7,8,9-HxCDF	71	7.1	0.5
1,2,3,4,6,7,8-HpCDF	1300	13	0.5
1,2,3,4,7,8,9-HpCDF	590	5.9	0.4
OCDF	5200	5.2	0.4

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	9	89	0.1
PeCDF	16	480	0.5
HxCDF	12	3100	0.7
HpCDF	3	4200	0.5
OCDF	1	5200	0.4

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	102
$^{13}C_{12}$-2,3,4,7,8-PeCDF	70
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	91
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	97
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	89
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	122
$^{13}C_{12}$-OCDF	142

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

Prepared by :
Dr. D. Kelly, Assistant Director

Authorization :
Dr. E. Ma, Research Associate

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ASG Login No:	7164
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Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	4 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-002 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	28	Max Possible I-TEQ (pg/g)[2]	28
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	94	Max Possible I-TEQ (pg/g)[2]	94

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	10	10	0.1
1,2,3,7,8-PeCDD	8.6	4.3	0.3
1,2,3,4,7,8-HxCDD	12	1.2	0.4
1,2,3,6,7,8-HxCDD	24	2.4	0.6
1,2,3,7,8,9-HxCDD	37	3.7	0.6
1,2,3,4,6,7,8-HpCDD	500	5	0.5
OCDD	1400	1.4	0.5

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	2	16	0.1
PeCDD	7	15	0.3
HxCDD	6	110	0.6
HpCDD	2	800	0.5
OCDD	1	1400	0.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	93
$^{13}C_{12}$-1,2,3,7,8-PeCDD	110
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	85
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	92
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	133
$^{13}C_{12}$-OCDD	169

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	48	4.8	0.1
1,2,3,7,8-PeCDF	130	6.5	0.4
2,3,4,7,8-PeCDF	71	35.5	0.4
1,2,3,4,7,8-HxCDF	210	21	0.9
1,2,3,6,7,8-HxCDF	40	4	0.9
1,2,3,7,8,9-HxCDF	76	7.6	0.9
2,3,4,7,8,9-HxCDF	79	7.9	1.1
1,2,3,4,6,7,8-HpCDF	190	1.9	1.1
1,2,3,4,7,8,9-HpCDF	470	4.7	0.6
OCDF	520	0.52	0.6

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	8	170	0.1
PeCDF	9	320	0.4
HxCDF	9	810	1.1
HpCDF	3	2000	1.1
OCDF	1	520	0.6

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	110
$^{13}C_{12}$-2,3,4,7,8-PeCDF	120
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	66
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	71
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	109
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	74
$^{13}C_{12}$-OCDF	120

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
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Chlorinated Dioxins and Furans in Soil and Sediment

Sample Id. :	BRI02-004 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	5.7	Max Possible I-TEQ (pg/g)[2]	5.9
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	120	Max Possible I-TEQ (pg/g)[2]	120

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.5	0.5
1,2,3,7,8-PeCDD	2	1	1.0
1,2,3,4,7,8-HxCDD	4.2	0.42	1.0
1,2,3,6,7,8-HxCDD	3.8	0.38	1.8
1,2,3,7,8,9-HxCDD	6.8	0.68	1.8
1,2,3,4,6,7,8-HpCDD	210	2.1	1.2
OCDD	1100	1.1	0.8

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.5	0.5
PeCDD	9	46	1.0
HxCDD	4	26	1.8
HpCDD	2	350	1.2
OCDD	1	1100	0.8

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	83
$^{13}C_{12}$-1,2,3,7,8-PeCDD	121
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	92
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	111
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	137
$^{13}C_{12}$-OCDD	170

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	88	8.8	0.5
1,2,3,7,8-PeCDF	92	4.6	1.0
2,3,4,7,8-PeCDF	27	13.5	1.0
1,2,3,4,7,8-HxCDF	540	54	2.2
1,2,3,6,7,8-HxCDF	100	10	2.2
1,2,3,7,8,9-HxCDF	79	7.9	2.2
2,3,4,7,8,9-HxCDF	51	5.1	1.6
1,2,3,4,6,7,8-HpCDF	760	7.6	1.6
1,2,3,4,7,8,9-HpCDF	400	4	0.9
OCDF	2500	2.5	0.9

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	13	360	0.5
PeCDF	18	240	1.0
HxCDF	9	1200	2.2
HpCDF	3	2300	1.6
OCDF	1	2500	0.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	89
$^{13}C_{12}$-2,3,4,7,8-PeCDF	121
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	83
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	85
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	91
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	108
$^{13}C_{12}$-OCDF	155

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

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ASG Login No:	7164
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Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-005	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	4.8	Max Possible I-TEQ (pg/g)[2]	5.1
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	110	Max Possible I-TEQ (pg/g)[2]	110

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.2	0.2
1,2,3,7,8-PeCDD	ND	<0.25	0.5
1,2,3,4,7,8-HxCDD	3.2	0.32	0.5
1,2,3,6,7,8-HxCDD	7.2	0.72	1.0
1,2,3,7,8,9-HxCDD	4.3	0.43	1.0
1,2,3,4,6,7,8-HpCDD	250	2.5	0.9
OCDD	870	0.87	0.6

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.2	0.2
PeCDD	0	<0.25	0.5
HxCDD	4	82	1.0
HpCDD	2	280	0.9
OCDD	1	870	0.6

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	98
$^{13}C_{12}$-1,2,3,7,8-PeCDD	112
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	107
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	141
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	107
$^{13}C_{12}$-OCDD	128

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	58	5.8	0.2
1,2,3,7,8-PeCDF	21	1.05	0.5
2,3,4,7,8-PeCDF	58	29	0.5
1,2,3,4,7,8-HxCDF	420	42	1.1
1,2,3,6,7,8-HxCDF	91	9.1	1.1
1,2,3,7,8,9-HxCDF	66	6.6	1.1
2,3,4,7,8,9-HxCDF	27	2.7	1.0
1,2,3,4,6,7,8-HpCDF	650	6.5	1.0
1,2,3,4,7,8,9-HpCDF	400	4	0.7
OCDF	2500	2.5	0.7

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	9	220	0.2
PeCDF	12	160	0.5
HxCDF	9	970	1.1
HpCDF	4	2200	1.0
OCDF	1	2500	0.7

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	100
$^{13}C_{12}$-2,3,4,7,8-PeCDF	111
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	99
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	86
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	135
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	95
$^{13}C_{12}$-OCDF	123

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Method No:	ASG032
Date Reported:	21-Aug-02
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Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-006 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	70	Max Possible I-TEQ (pg/g)[2]	70
	(Average of duplicate values) Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	1400	Max Possible I-TEQ (pg/g)[2]	1400

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	7.1	7.1	0.3
1,2,3,7,8-PeCDD	5.7	2.85	1.1
1,2,3,4,7,8-HxCDD	21	2.1	1.2
1,2,3,6,7,8-HxCDD	75	7.5	1.8
1,2,3,7,8,9-HxCDD	55	5.5	1.8
1,2,3,4,6,7,8-HpCDD	2900	29	2.0
OCDD	16000	16	1.4

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	360	36	0.4
1,2,3,7,8-PeCDF	1300	65	1.2
2,3,4,7,8-PeCDF	400	200	1.2
1,2,3,4,7,8-HxCDF	7300	730	2.3
1,2,3,6,7,8-HxCDF	1000	100	2.3
1,2,3,7,8,9-HxCDF	570	57	2.3
2,3,4,7,8,9-HxCDF	630	63	1.8
1,2,3,4,6,7,8-HpCDF	7400	74	1.8
1,2,3,4,7,8,9-HpCDF	4600	46	0.9
OCDF	29000	29	0.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

[1] Reported as ND/NDR = 0*DL
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ASG Login No:	7164
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Method No:	ASG032
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Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-006* Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	70	Max Possible I-TEQ (pg/g)[2]	70
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	1300	Max Possible I-TEQ (pg/g)[2]	1300

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.3	0.3
1,2,3,7,8-PeCDD	7.1	3.55	1.1
1,2,3,4,7,8-HxCDD	19	1.9	1.2
1,2,3,6,7,8-HxCDD	75	7.5	1.8
1,2,3,7,8,9-HxCDD	54	5.4	1.8
1,2,3,4,6,7,8-HpCDD	3200	32	2.0
OCDD	15000	15	1.4

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.3	0.3
PeCDD	3	24	1.1
HxCDD	5	3500	1.8
HpCDD	2	2000	2.0
OCDD	1	15000	1.4

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	130
$^{13}C_{12}$-1,2,3,7,8-PeCDD	116
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	120
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	155
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	124
$^{13}C_{12}$-OCDD	152

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	370	37	0.4
1,2,3,7,8-PeCDF	200	10	1.2
2,3,4,7,8-PeCDF	380	190	1.2
1,2,3,4,7,8-HxCDF	7100	710	2.3
1,2,3,6,7,8-HxCDF	1000	100	2.3
1,2,3,7,8,9-HxCDF	ND	<0.23	2.3
2,3,4,7,8,9-HxCDF	580	58	1.8
1,2,3,4,6,7,8-HpCDF	7500	75	1.8
1,2,3,4,7,8,9-HpCDF	4400	44	0.9
OCDF	27000	27	0.9

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	11	2400	0.4
PeCDF	10	1100	1.2
HxCDF	7	1200	2.3
HpCDF	3	24000	1.8
OCDF	1	27000	0.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	116
$^{13}C_{12}$-2,3,4,7,8-PeCDF	107
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	109
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	99
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	108
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	138
$^{13}C_{12}$-OCDF	221

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

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Method No:	ASG032
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Chlorinated Dioxins and Furans in Soil and Sediment

Sample i.d. :	BRI02-006D	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	70	Max Possible I-TEQ (pg/g)[2]	70
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	1500	Max Possible I-TEQ (pg/g)[2]	1500

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	NDR	<0.2	0.2
1,2,3,7,8-PeCDD	4.3	2.15	0.5
1,2,3,4,7,8-HxCDD	22	2.2	0.6
1,2,3,6,7,8-HxCDD	75	7.5	1.3
1,2,3,7,8,9-HxCDD	56	5.6	1.3
1,2,3,4,6,7,8-HpCDD	2500	25	0.9
OCDD	17000	17	0.9

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.2	0.2
PeCDD		110	0.5
HxCDD		440	1.3
HpCDD	3	7400	0.9
OCDD	1	17000	0.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	113
$^{13}C_{12}$-1,2,3,7,8-PeCDD	115
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	91
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	91
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	130
$^{13}C_{12}$-OCDD	105

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	350	35	0.2
1,2,3,7,8-PeCDF	2300	115	0.6
2,3,4,7,8-PeCDF	420	210	0.6
1,2,3,4,7,8-HxCDF	7500	750	1.2
1,2,3,6,7,8-HxCDF	1000	100	1.2
1,2,3,7,8,9-HxCDF	570	57	1.2
2,3,4,7,8,9-HxCDF	670	67	0.9
1,2,3,4,6,7,8-HpCDF	7300	73	0.9
1,2,3,4,7,8,9-HpCDF	4800	48	0.7
OCDF	30000	30	0.7

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	9	1700	0.2
PeCDF	8	4700	0.6
HxCDF	7	14000	1.2
HpCDF	3	20000	0.9
OCDF	1	30000	0.7

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	106
$^{13}C_{12}$-2,3,4,7,8-PeCDF	103
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	123
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	69
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	96
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	125
$^{13}C_{12}$-OCDF	129

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Method No:	ASG032
Date Reported:	21-Aug-02
Page:	10 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-007 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	8.9	Max Possible I-TEQ (pg/g)[2]	9.1
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	80	Max Possible I-TEQ (pg/g)[2]	80

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.2	0.2
1,2,3,7,8-PeCDD	ND	<0.2	0.4
1,2,3,4,7,8-HxCDD	7.7	0.77	0.5
1,2,3,6,7,8-HxCDD	10	1	0.9
1,2,3,7,8,9-HxCDD	12	1.2	0.9
1,2,3,4,6,7,8-HpCDD	410	4.1	0.7
OCDD	1800	1.8	0.5

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.2	0.2
PeCDD	0	<0.4	0.4
HxCDD	8	41	0.9
HpCDD	2	630	0.7
OCDD	1	1800	0.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	100
$^{13}C_{12}$-1,2,3,7,8-PeCDD	123
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	98
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	120
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	119
$^{13}C_{12}$-OCDD	148

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	29	2.9	0.1
1,2,3,7,8-PeCDF	49	2.45	0.5
2,3,4,7,8-PeCDF	52	26	0.5
1,2,3,4,7,8-HxCDF	270	27	1.1
1,2,3,6,7,8-HxCDF	56	5.6	1.1
1,2,3,7,8,9-HxCDF	46	4.6	1.1
2,3,4,7,8,9-HxCDF	31	3.1	0.9
1,2,3,4,6,7,8-HpCDF	480	4.8	0.9
1,2,3,4,7,8,9-HpCDF	200	2	0.6
OCDF	1800	1.8	0.6

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	14	110	0.1
PeCDF	13	1000	0.5
HxCDF	11	680	1.1
HpCDF	3	1800	0.6
OCDF	1	1800	0.6

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	137
$^{13}C_{12}$-2,3,4,7,8-PeCDF	104
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	99
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	74
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	108
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	91
$^{13}C_{12}$-OCDF	130

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Date Reported:	21-Aug-02
Page:	11 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-008 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	6.3	Max Possible I-TEQ (pg/g)[2]	6.8
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	70	Max Possible I-TEQ (pg/g)[2]	70

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.5	0.5
1,2,3,7,8-PeCDD	ND	<0.55	1.1
1,2,3,4,7,8-HxCDD	3.2	0.32	1.0
1,2,3,6,7,8-HxCDD	8.8	0.88	2.3
1,2,3,7,8,9-HxCDD	7.8	0.78	2.3
1,2,3,4,6,7,8-HpCDD	300	3	1.9
OCDD	1300	1.3	1.2

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.5	0.5
PeCDD	0	<1.1	1.1
HxCDD	6	61	2.3
HpCDD	2	460	1.9
OCDD	1	1300	1.2

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	77
$^{13}C_{12}$-1,2,3,7,8-PeCDD	98
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	80
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	81
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	118
$^{13}C_{12}$-OCDD	156

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	20	2	0.4
1,2,3,7,8-PeCDF	44	2.2	1.0
2,3,4,7,8-PeCDF	49	24.5	1.0
1,2,3,4,7,8-HxCDF	270	27	2.3
1,2,3,6,7,8-HxCDF	43	4.3	2.3
1,2,3,7,8,9-HxCDF	16	1.6	2.3
2,3,4,7,8,9-HxCDF	2.1	0.21	2.0
1,2,3,4,6,7,8-HpCDF	420	4.2	2.0
1,2,3,4,7,8,9-HpCDF	150	1.5	1.0
OCDF	1100	1.1	1.0

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	8	60	0.4
PeCDF	10	250	1.0
HxCDF	7	480	2.3
HpCDF	3	1400	2.0
OCDF	1	1100	1.0

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	90
$^{13}C_{12}$-2,3,4,7,8-PeCDF	114
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	79
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	79
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	85
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	112
$^{13}C_{12}$-OCDF	188

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	12 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-010	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	7.3	Max Possible I-TEQ (pg/g)[2]	7.8
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	140	Max Possible I-TEQ (pg/g)[2]	140

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.3	0.3
1,2,3,7,8-PeCDD	ND	<0.55	1.1
1,2,3,4,7,8-HxCDD	5.8	0.58	1.0
1,2,3,6,7,8-HxCDD	ND	<0.24	2.4
1,2,3,7,8,9-HxCDD	11	1.1	2.4
1,2,3,4,6,7,8-HpCDD	370	3.7	2.3
OCDD	1900	1.9	2.0

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.3	1.0
PeCDD	0	<1.1	1.1
HxCDD	4	32	1.0
HpCDD	2	620	1.0
OCDD	1	1900	2.0

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	118
$^{13}C_{12}$-1,2,3,7,8-PeCDD	107
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	138
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	169
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	110
$^{13}C_{12}$-OCDD	109

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	59	5.9	0.4
1,2,3,7,8-PeCDF	110	5.5	1.0
2,3,4,7,8-PeCDF	66	33	1.0
1,2,3,4,7,8-HxCDF	600	60	2.6
1,2,3,6,7,8-HxCDF	48	4.8	2.6
1,2,3,7,8,9-HxCDF	77	7.7	2.6
2,3,4,7,8,9-HxCDF	3	0.3	2.7
1,2,3,4,6,7,8-HpCDF	870	8.7	2.7
1,2,3,4,7,8,9-HpCDF	560	5.6	1.9
OCDF	3800	3.8	1.9

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	8	120	0.4
PeCDF	10	350	1.0
HxCDF	6	1100	2.7
HpCDF	3	3400	2.7
OCDF	1	3800	1.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	108
$^{13}C_{12}$-2,3,4,7,8-PeCDF	114
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	133
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	136
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	162
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	94
$^{13}C_{12}$-OCDF	109

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Page:	13 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-011 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	90.0	Max Possible I-TEQ (pg/g)[2]	90
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	530	Max Possible I-TEQ (pg/g)[2]	530

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.4	0.4
1,2,3,7,8-PeCDD	20	10	1.4
1,2,3,4,7,8-HxCDD	31	3.1	1.4
1,2,3,6,7,8-HxCDD	110	11	3.4
1,2,3,7,8,9-HxCDD	84	8.4	3.4
1,2,3,4,6,7,8-HpCDD	4100	41	3.0
OCDD	17000	17	1.9

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.4	0.4
PeCDD	5	77	1.4
HxCDD	6	540	3.4
HpCDD	3	7300	3.0
OCDD	1	17000	1.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	120
$^{13}C_{12}$-1,2,3,7,8-PeCDD	84
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	71
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	99
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	95
$^{13}C_{12}$-OCDD	128

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	190	19	0.4
1,2,3,7,8-PeCDF	810	40.5	1.4
2,3,4,7,8-PeCDF	210	105	1.4
1,2,3,4,7,8-HxCDF	2400	240	3.1
1,2,3,6,7,8-HxCDF	330	33	3.1
1,2,3,7,8,9-HxCDF	230	23	3.1
2,3,4,7,8,9-HxCDF	4.4	0.44	2.6
1,2,3,4,6,7,8-HpCDF	3400	34	2.6
1,2,3,4,7,8,9-HpCDF	1800	18	1.5
OCDF	15000	15	1.5

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	6	320	0.4
PeCDF	10	17000	1.4
HxCDF	8	4900	3.1
HpCDF	3	14000	1.0
OCDF	1	15000	1.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	96
$^{13}C_{12}$-2,3,4,7,8-PeCDF	84
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	103
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	83
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	92
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109
$^{13}C_{12}$-OCDF	157

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	14 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-012 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.9	Max Possible I-TEQ (pg/g)[2]	1.1
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	73	Max Possible I-TEQ (pg/g)[2]	73

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.5	0.5
1,2,3,7,8-PeCDD	ND	<0.5	1.0
1,2,3,4,7,8-HxCDD	ND	<0.1	1.0
1,2,3,6,7,8-HxCDD	ND	<0.22	2.2
1,2,3,7,8,9-HxCDD	ND	<0.22	2.2
1,2,3,4,6,7,8-HpCDD	20	0.2	1.4
OCDD	110	0.11	0.9

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.5	0.5
PeCDD	0	<1.0	1.0
HxCDD	0	<2.2	2.2
HpCDD	2	46	1.4
OCDD	1	110	0.9

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	60
$^{13}C_{12}$-1,2,3,7,8-PeCDD	86
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	87
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	112
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	115
$^{13}C_{12}$-OCDD	143

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	48	4.8	0.4
1,2,3,7,8-PeCDF	6.2	0.31	1.0
2,3,4,7,8-PeCDF	44	22	1.0
1,2,3,4,7,8-HxCDF	270	27	2.0
1,2,3,6,7,8-HxCDF	74	7.4	2.0
1,2,3,7,8,9-HxCDF	37	3.7	2.0
2,3,4,7,8,9-HxCDF	ND	<0.17	1.7
1,2,3,4,6,7,8-HpCDF	560	5.6	1.7
1,2,3,4,7,8,9-HpCDF	150	1.5	1.3
OCDF	920	0.92	1.3

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	8	140	0.4
PeCDF	8	120	1.0
HxCDF	5	600	2.0
HpCDF	3	1000	1.7
OCDF	1	920	1.3

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	78
$^{13}C_{12}$-2,3,4,7,8-PeCDF	85
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	93
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	92
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	148
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	97
$^{13}C_{12}$-OCDF	104

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Method No:	ASG032
Date Reported:	21-Aug-02
Page:	15 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-013 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	0.9	Max Possible I-TEQ (pg/g)[2]	1.4
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	13	Max Possible I-TEQ (pg/g)[2]	13

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.3	0.3
1,2,3,7,8-PeCDD	ND	<0.35	0.7
1,2,3,4,7,8-HxCDD	1.8	0.18	0.6
1,2,3,6,7,8-HxCDD	ND	<0.13	1.3
1,2,3,7,8,9-HxCDD	ND	<0.13	1.3
1,2,3,4,6,7,8-HpCDD	49	0.49	0.9
OCDD	230	0.23	1.0

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.3	0.3
PeCDD	0	<0.7	0.7
HxCDD	1	1.8	1.3
HpCDD	3	130	0.9
OCDD	1	230	1.0

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	56
$^{13}C_{12}$-1,2,3,7,8-PeCDD	69
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	90
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	83
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	73
$^{13}C_{12}$-OCDD	55

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	11	1.1	0.3
1,2,3,7,8-PeCDF	9.3	0.465	0.6
2,3,4,7,8-PeCDF	9.1	4.55	0.6
1,2,3,4,7,8-HxCDF	40	4	1.0
1,2,3,6,7,8-HxCDF	7.7	0.77	1.0
1,2,3,7,8,9-HxCDF	2.2	0.22	1.0
2,3,4,7,8,9-HxCDF	ND	<0.14	1.4
1,2,3,4,6,7,8-HpCDF	130	1.3	1.4
1,2,3,4,7,8,9-HpCDF	51	0.51	1.1
OCDF	310	0.31	1.1

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	11	58	0.3
PeCDF	11	99	0.6
HxCDF	5	99	1.4
HpCDF	3	350	1.4
OCDF	1	310	1.1

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	57
$^{13}C_{12}$-2,3,4,7,8-PeCDF	81
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	82
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	76
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	200
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	50
$^{13}C_{12}$-OCDF	53

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
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Method No:	ASG032
Date Reported:	21-Aug-02
Page:	16 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-014	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	1.4	Max Possible I-TEQ (pg/g)[2]	1.8
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	13	Max Possible I-TEQ (pg/g)[2]	14

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	ND	<0.4	0.4
1,2,3,7,8-PeCDD	ND	<0.55	1.1
1,2,3,4,7,8-HxCDD	3.4	0.34	1.0
1,2,3,6,7,8-HxCDD	2.1	0.21	2.0
1,2,3,7,8,9-HxCDD	2.7	0.27	2.0
1,2,3,4,6,7,8-HpCDD	41	0.41	1.3
OCDD	130	0.13	1.4

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	0	<0.4	0.4
PeCDD	0	<1.1	1.1
HxCDD	3	8.1	2.0
HpCDD	2	72	1.3
OCDD	1	130	1.4

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	101
$^{13}C_{12}$-1,2,3,7,8-PeCDD	112
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	95
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	113
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	131
$^{13}C_{12}$-OCDD	107

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	12	1.2	0.5
1,2,3,7,8-PeCDF	ND	<0.05	1.0
2,3,4,7,8-PeCDF	15	7.5	1.0
1,2,3,4,7,8-HxCDF	23	2.3	2.1
1,2,3,6,7,8-HxCDF	8	0.8	2.1
1,2,3,7,8,9-HxCDF	8.8	0.88	2.1
2,3,4,7,8,9-HxCDF	ND	<0.17	1.7
1,2,3,4,6,7,8-HpCDF	48	0.48	1.7
1,2,3,4,7,8,9-HpCDF	10	0.1	1.5
OCDF	110	0.11	1.5

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	8	55	0.5
PeCDF	2	70	1.0
HxCDF	4	160	2.1
HpCDF	3	110	1.7
OCDF	1	110	1.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	80
$^{13}C_{12}$-2,3,4,7,8-PeCDF	120
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	102
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	87
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	112
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	104
$^{13}C_{12}$-OCDF	101

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988
NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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Site:	Res Island
Samples Received:	31-Jul-02
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Page:	17 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-015 Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	34	Max Possible I-TEQ (pg/g)[2]	34
	Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	44	Max Possible I-TEQ (pg/g)[2]	44

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	1.5	1.5	0.2
1,2,3,7,8-PeCDD	21	10.5	0.5
1,2,3,4,7,8-HxCDD	24	2.4	0.5
1,2,3,6,7,8-HxCDD	33	3.3	0.9
1,2,3,7,8,9-HxCDD	29	2.9	0.9
1,2,3,4,6,7,8-HpCDD	900	9	0.7
OCDD	4200	4.2	0.4

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	1	1.5	0.2
PeCDD	1	21	0.5
HxCDD	6	180	0.9
HpCDD	2	1400	0.7
OCDD	1	4200	0.4

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	92
$^{13}C_{12}$-1,2,3,7,8-PeCDD	88
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	109
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	102
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	120
$^{13}C_{12}$-OCDD	162

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	15	1.5	0.2
1,2,3,7,8-PeCDF	30	1.5	0.5
2,3,4,7,8-PeCDF	38	19	0.5
1,2,3,4,7,8-HxCDF	78	7.8	1.0
1,2,3,6,7,8-HxCDF	31	3.1	1.0
1,2,3,7,8,9-HxCDF	40	4	1.0
2,3,4,7,8,9-HxCDF	24	2.4	0.9
1,2,3,4,6,7,8-HpCDF	280	2.8	0.9
1,2,3,4,7,8,9-HpCDF	72	0.72	0.6
OCDF	1500	1.5	0.6

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	7	48	0.2
PeCDF	8	150	0.5
HxCDF	8	490	1.0
HpCDF	3	1300	0.9
OCDF	1	1500	0.6

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	68
$^{13}C_{12}$-2,3,4,7,8-PeCDF	98
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	77
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	87
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	112
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	96
$^{13}C_{12}$-OCDF	116

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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D&Fs7164r17

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Client: **ASU**
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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	18 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. :	BRI02-016	Dioxins as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	34	Max Possible I-TEQ (pg/g)[2]	34
		Furans as 2,3,7,8-TCDD equivalent (I-TEQ)	Detected I-TEQ. (pg/g)[1]	180	Max Possible I-TEQ (pg/g)[2]	180

Chlorinated Dioxins	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	0.3	0.3	0.2
1,2,3,7,8-PeCDD	10	5	0.4
1,2,3,4,7,8-HxCDD	20	2	0.4
1,2,3,6,7,8-HxCDD	43	4.3	0.8
1,2,3,7,8,9-HxCDD	39	3.9	0.8
1,2,3,4,6,7,8-HpCDD	1400	14	0.8
OCDD	4100	4.1	0.5

Dioxin Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDD	1	0.3	0.2
PeCDD	9	70	0.4
HxCDD	8	260	0.8
HpCDD	3	2500	0.8
OCDD	1	4100	0.5

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	96
$^{13}C_{12}$-1,2,3,7,8-PeCDD	96
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	86
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	83
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	110
$^{13}C_{12}$-OCDD	137

Chlorinated Furans	Conc.[3]	Toxic Equ. Conc.[4]	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	180	18	0.2
1,2,3,7,8-PeCDF	34	1.7	0.4
2,3,4,7,8-PeCDF	160	80	0.4
1,2,3,4,7,8-HxCDF	420	42	0.9
1,2,3,6,7,8-HxCDF	120	12	0.9
1,2,3,7,8,9-HxCDF	100	10	0.9
2,3,4,7,8,9-HxCDF	2.3	0.23	0.8
1,2,3,4,6,7,8-HpCDF	1300	13	0.8
1,2,3,4,7,8,9-HpCDF	180	1.8	0.7
OCDF	2200	2.2	0.7

Furan Homologues	Number Peaks	Conc.	Detection Limit
Group		pg/g	pg/g
TCDF	10	660	0.2
PeCDF	15	950	0.4
HxCDF	7	1700	0.9
HpCDF	3	3000	0.8
OCDF	1	2200	0.7

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	86
$^{13}C_{12}$-2,3,4,7,8-PeCDF	115
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	77
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	70
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	100
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	109
$^{13}C_{12}$-OCDF	114

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988

NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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Authorization : Dr. E. Ma, Research Associate

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ASG Login No:	7164
Site:	Res Island
Samples Received:	31-Jul-02
Date of Analysis:	08-Aug-02
Method No:	ASG032
Date Reported:	21-Aug-02
Page:	19 of 19

Chlorinated Dioxins and Furans in Soil and Sediment

Sample I.d. : Control Sample
Chlorinated Dioxins and Furans as 2,3,7,8-TCDD equivalent (I-TEQ)

Chlorinated Dioxins	Conc.[3]	Control Target	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDD	25	40	0.3
1,2,3,7,8-PeCDD	1.7	40	0.8
1,2,3,4,7,8-HxCDD	2.3	40	0.9
1,2,3,6,7,8-HxCDD	2.1	40	2.0
1,2,3,7,8,9-HxCDD	6	160	2.0
1,2,3,4,6,7,8-HpCDD	52	80	1.4
OCDD	140	80	1.1

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDD	1
1,2,3,7,8-PeCDD	0.5
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,6,7,8-HpCDD	0.01
OCDD	0.001

Dioxin Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDD	69
$^{13}C_{12}$-1,2,3,7,8-PeCDD	79
$^{13}C_{12}$-1,2,3,4,7,8-HxCDD	72
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	91
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	143
$^{13}C_{12}$-OCDD	151

Chlorinated Furans	Conc.[3]	Control Target	Detection Limit
Congener	pg/g	pg/g	pg/g
2,3,7,8-TCDF	26	40	0.5
1,2,3,7,8-PeCDF	11	40	0.9
2,3,4,7,8-PeCDF	21	40	0.9
1,2,3,4,7,8-HxCDF	36	40	2.0
1,2,3,6,7,8-HxCDF	10	40	2.0
1,2,3,7,8,9-HxCDF	10	40	2.0
2,3,4,7,8,9-HxCDF	3.3	40	1.3
1,2,3,4,6,7,8-HpCDF	47	80	1.3
1,2,3,4,7,8,9-HpCDF	15	80	1.3
OCDF	110	80	1.3

International Toxic Equivalency Factors[4]	TEQ
Congener	(I-TEF)
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
2,3,4,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDF	0.001

Furan Surrogate Extraction Recovery	Recovery
$^{13}C_{12}$ Congener	%
$^{13}C_{12}$-2,3,7,8-TCDF	49
$^{13}C_{12}$-2,3,4,7,8-PeCDF	70
$^{13}C_{12}$-1,2,3,4,7,8-HxCDF	81
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	85
$^{13}C_{12}$-2,3,4,6,7,8-HxCDF	86
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	162
$^{13}C_{12}$-OCDF	134

[1] Reported as ND/NDR = 0*DL
[2] Reported as ND/NDR = 0.5*DL
[3] Results reported on dry weight basis
[4] NATO 1988
NDR = Detected peak with isotope ratio outside quantitation criteria
ND = Not detected
DL = Detection limit

The results reported here relate only to the items tested.

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01 August 2002

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RESOLUTION ISLAND 2002 – PROGRESS REPORT #1

Dear Natalie,

Four members of the Queens Analytical Services Unit team arrived in Iqaluit on 15 July and were on site on 16 July. The laboratory was set up ahead of schedule and was ready to receive samples by 18 July. The mobile laboratory and equipment therein were in excellent shape and the only significant items requiring repair were the water pump and piping. They were repaired rapidly with the assistance of an on-site plumber. To date, we are fully functional and capable of analyzing PCBs in soil, water and oil and TPH as required. The analysis of PCBs in soil by GC/ECD is proceeding smoothly and efficiently.

Excavation of CEPA Soils

A major priority of the ASU was to extend the grid (set up in 2001) to encompass the remainder of the PCB CEPA locations in the S1/S4 buildings and valley area. The GPS work was completed 4 days after arrival on site. Approximately 25 grids were marked on the ground with flags indicating the bottom right hand corner of each and several grid markers were repaired. Grid locations were recorded on each flag and also sprayed on debris/rock etc so as to provide a convenient reference point for the workers and provide the scientific team with an accurate method of documenting the cleanup process.

Confirmatory samples were taken in the S1/S4 area (grid ref K16-K17) shortly after arrival on site. Results showed that the area, which was excavated and in the process of being vacuumed at the end of the 2001 season, was now TIER II. Runoff from the spring melt had presumably washed the remaining CEPA into a lower grid. The berm constructed at the end of the 2001 season worked well and helped prevent the migration of CEPA from grids J15-K15 into the adjoining areas.

A member of the ASU has been overseeing the excavation work in the valley at all times. Progress in the S1/S4 valley has been steady so far and has been aided by the

relatively fog free weather. Several CEPA areas in grids K14, 15, 16, 17 and L17 have been brought into compliance by the excavation to a depth of 30 cm of soil. This often resulted in excavation to bedrock. Vacuuming was required all along the ridge (grids K15, 16 and 17) and access was provided by the construction of new roads. Containerization of the > 2000 ppm soil (from grids K14 -15 and J14) was essentially complete at the time of writing this report and 29, 3.1 m^3 flowerpots had been filled and labelled.

Thirty centimeters of CEPA soil was excavated from the PCL dump and the remaining soil tested as TIER II. The area was easily accessible to the excavator and excavation was undertaken from a clean location, which meant that only the bucket had to be decontaminated afterwards. The volume of soil excavated ($12m^3$) agreed with the ASU estimate for this area.

Sampling and Analysis of Barrel Contents

Fifty DND barrels were opened and sampled from the incinerator area. This resulted in 36 samples (after taking composite samples for several of the barrels). These samples were sent south for analysis on the 12 July. To date, 4 barrels stored in the Non-PCB Hazardous Waste Facility were sampled, as were 2 barrels in the location of the Beach Dump. These 2 barrels were filled from spill palettes used to contain the oil from leaky barrels excavated during the debris cleanup from the dump opposite the Beach Dump. Results for all but the last two samples are now available and have been provided to QC personnel at Resolution Island.

Other Activities

Sixteen samples were taken of CEPA contaminated soil for analysis in order to provide data for the Waste Profile Questionnaire for Bennett Environmental. These samples were taken from soil stored in the Main PCB Storage Facility, from containerized >2000 ppm CEPA soil, directly from a delineated >2000 ppm PCB CEPA area and from a 50-2000 ppm PCB CEPA area. The samples were containerized and stored according to the requested tests and shipped south on 22 July for analyses of a detailed series of analytical parameters. Fourteen of the samples will be analysed initially.

Six samples were taken from the oily/greasy soil areas behind the collapsed tank, at the cotton grass area and at the former barrel cache valley. Sampling locations were photographed, tagged and positions recorded by GPS. Samples were sent south for analysis of degreasers.

The entire perimeter of the contaminated Airstrip Dump has been roped off, as has the smaller CEPA area located within. The positioning of the ropes has been recorded by GPS, photographed and maps will be updated in this year's report.

The PCB (non-soil) registered facility at the beach was reorganized and all the red DND vaults were moved closer to the westerly POL tank and away from the facility. The

new location of the vaults and the position of existing PCB contaminated material containers will be recorded at the end of the 2002 season and a map provided to DIAND.

Plant samples were taken from the officers mess, the imploded tank, near to the beach dump stream, the drinking water lakeside, beside the airstrip dump and 100 m distant along the drainage path and on the north-east slope near the main PCB storage facility. These samples will be analysed for PCBs and may provide an estimate on how aerial transport is affecting vegetation away from the main contaminated areas.

The camp water was sampled on 31 July and is currently being analyzed. pH is being tested daily and the pH adjustment as mediated by the engineering component of the project, monitored.

Air monitoring samples have, to date, been collected for chlorobenzenes and for PCB in the valley (close to where equipment is working) and also in the main PCB storage facility.

G. Cairns

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16 August 2002

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RESOLUTION ISLAND 2002 – PROGRESS REPORT #2

Dear Natalie,

Good progress has been made on all our tasks due to the better than average weather at Resolution Island and the fact that all our equipment in the mobile laboratory is functioning well.

Excavation of CEPA Soils

Our main task continues to be the confirmatory testing, marking areas, and maintaining the grid paperwork for the excavation in the S1/S4 valley. Steady progress has been made in the valley. Grids L14, L15, L16, K16 and K17 have been signed off. Excavation and vacuuming are ongoing in quadrants J14, J15, K15 and K14. The entire area with PCB concentrations greater than 2000 ppm (K14, K15) has required vacuuming which is very time consuming. A clean road is gradually being constructed in grids K14 and K15 as the vacuuming is completed to allow further access for the vacuum truck. Excavation has started in grid J13 on the final area with PCB concentrations greater than 2000 ppm. The small CEPA area in I9 and I10 has been removed and Tier II rocks from the screener will be used to construct an access road into the valley at this point.

The filling of the flowerpots is going well with 15 to 20 pots being filled each day at the Main PCB Storage Facility. To date, 121 pots have been filled and labelled with both RI numbers and PCB labels and are at the staging area in the vicinity of the Hazardous Waste Facility. Approximately 150 containers in total are filled.

Sampling and Analysis of Barrel Contents

The 36 samples from the DND barrels and the 4 barrels from the Hazardous Waste Facility have been reported. A further 15 DND barrel samples and 4 samples from the Hazardous Waste Facility have been completed. Analysis is ongoing on two barrels pumped from leaky barrels from the small dump opposite the Lead Beach Dump, the final barrel sample from the Hazardous waste facility which previously could not be

opened and three barrel samples from unlabelled containers found in a barrel in the Hazardous Waste Facility.

Other Activities

The camp water was sampled again on 12 August and the lake water was sampled on 11 August. Background water samples, which will be analyzed for metals and PCBs were taken from the officers mess, the imploded tank, the Lead Beach dump stream, the stream on the way to the S1/S4 beach. A water samples were taken in the S1/S4 valley and three water samples were taken of water flowing from the S1/S4 beach into the ocean. Samples of Tier II metal and wood were taken. These samples will be used for research into leaching of these materials from the Tier II landfill. At the barrel cache valley, four waste wranglers and two small flower pots full of oily soil from the spill at the incinerator were labelled as oily soil.

The roping of the S1/S4 beach area has started. The west side has been roped off with yellow rope. Confirmatory samples were taken and are being analyzed on site. The ropes will be adjusted if necessary and the rope positions mapped with GPS once all roping is completed in the area. Samples were taken for the environmental assessment of the airstrip dump. A total of 24 samples were taken, 12 depth and 12 surface samples. The sampling locations were recorded by GPS and the samples will be analyzed for low level PCBs. The thermistor tubes in the landfill by the camp were inspected and have been damaged as the landfill was constructed. If possible new tubing will be attached to the broken tubes. Some debris has been excavated in the Lead Beach Dump and this was monitored, however permafrost has now been reached and excavation halted. The analysis of soils, as required for the Bennett contract, has been completed.

Allison Rutter

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2 September 2002

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RESOLUTION ISLAND 2002 – PROGRESS REPORT #3

Dear Natalie,

The Queen's Analytical Services Unit team departed from the site on 26 August and the camp on Resolution Island was closed on Wednesday 27 August 2002. At this time the ASU had analysed or shipped south for analysis, approximately 200 soil samples, 80 barrel samples, 10 water samples, 8 plant samples, 6 air samples, and 20 samples of miscellaneous materials. The 14 samples taken for characterization of the CEPA soil have been analysed and the results passed to Bennett Environmental.

S1/S4 Valley and Building Area Excavation

This season, soil contaminated with PCBs above the CEPA criteria was completely removed from 15 (20m x 20m) grid locations (G15, I9, I10, J11, J14, J15, K12, K13, K14, K15, K16, K17, L14, L15, L16). This included the remainder of soil contaminated with PCBs at a level > 2000 ppm. Unfortunately the camp closed before the excavation of grids J12, J13 and I12 could be completed. The cleanup process was overseen by a Queen's representative and paperwork presented to the site supervisor, and an engineering representative for co-signing. A table and a map detailing the progression of the excavation process have been created and an updated map showing the locations of this years 'signed off' grids will be provided to DIAND as part of our 2002 report. With the completion of this second year of excavation in the S1/S4 area, 36 grids in total have now been brought into compliance.

In preparation for shipping the PCB contaminated soil off site, 234 3.1 m^3 flowerpots were filled by the end of the 2002 season. The containers were individually labelled with an Environment Canada PCB number and also with an RI number. All the containers were moved to the staging area opposite the new beach PCB storage facility and were supported on wooden beams as specified in the EIS. An inventory for all 234 containers was taken.

S1/S4 Beach Area

In preparation for continued excavation in the 2003 season, roping at the S1/S4 beach area was completed and 15 confirmatory samples were taken from the east side of the contaminated area to confirm the CEPA boundary lines. In the several years since the initial assessment, most of the previous sample tags were lost due to the summer runoff down the steep slopes but their positions are accurately known through GPS. In total, approximately 40 samples were taken, sampling positions tagged and the samples were analyzed for PCBs on-site. Autocad work concerning the set-up of a grid system similar to that used successfully in the S1/S4 valley area was also completed.

Barrels

This season 79 barrel samples were taken. Analytical results were quickly obtained for all the samples and all the required tests were completed by 10 August. The results were given to QC personnel and the on-site engineer as they became available.

Registered PCB Storage and Hazardous Waste Facilities

An updated inventory of all the PCB storage facilities and the hazardous waste building was completed. A report will be sent to you within the next two weeks detailing the current status of the PCB storage facilities that should be forwarded to Environment Canada for their records. Unfortunately, their inspector was unable to make it to the site this year.

Other Work

On the 24 August, the two members of the UMA team arrived on site. The Analytical Services Unit provided assistance with the set-up of GPS equipment, surveying and with associated Autocad/Reliance/Surfur data downloads. This work was performed with regard to finding the most suitable site for a TIER II landfill.

Dr. John S. Poland