

## Appendix C Serum lipid contents

This appendix provides information on the lipid content of the serum samples analysed for organochlorines.

Table C1	Serum lipid content of Maori aged 15–24 years
Table C2	Serum lipid content of non-Maori aged 15–24 years
Table C3	Serum lipid content of Maori aged 25–34 years
Table C4	Serum lipid content of non-Maori aged 25–34 years
Table C5	Serum lipid content of Maori aged 35–49 years
Table C6	Serum lipid content of non-Maori aged 35–49 years
Table C7	Serum lipid content of Maori aged 50–64 years
Table C8	Serum lipid content of non-Maori aged 50–64 years
Table C9	Serum lipid content of Maori aged 65+ years
Table C10	Serum lipid content of non-Maori aged 65+ years

**Table C1 Serum lipid content of Maori aged 15–24 years (% w/v)**

	Maori female				Maori male				National summary: Maori aged 15–24 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	*	0.182	0.191	0.186	*	*	0.200	0.201	0.182	0.201	0.192
Free cholesterol	*	0.040	0.041	0.037	*	*	0.042	0.044	0.037	0.044	0.041
Phospholipids	*	0.205	0.236	0.218	*	*	0.229	0.218	0.205	0.236	0.221
Triglycerides	*	0.123	0.178	0.114	*	*	0.159	0.116	0.114	0.178	0.138
Total lipid	*	0.607	0.706	0.619	*	*	0.695	0.642	0.607	0.706	0.654

\* = Insufficient sample collected for organochlorine analysis therefore no lipid determination carried out

**Table C2 Serum lipid content of non-Maori aged 15–24 years (% w/v)**

	Non-Maori female				Non-Maori male				National summary: non-Maori aged 15–24 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	0.174	0.179	0.199	0.190	0.182	0.190	0.255	0.175	0.174	0.255	0.193
Free cholesterol	0.038	0.038	0.045	0.042	0.040	0.040	0.055	0.038	0.038	0.055	0.042
Phospholipids	0.209	0.208	0.232	0.224	0.209	0.211	0.300	0.207	0.207	0.300	0.225
Triglycerides	0.100	0.109	0.123	0.107	0.141	0.166	0.233	0.148	0.100	0.233	0.141
Total lipid	0.575	0.591	0.658	0.620	0.628	0.668	0.922	0.623	0.575	0.922	0.661

**Table C3 Serum lipid content of Maori aged 25–34 years (% w/v)**

	Maori female				Maori male				National summary: Maori aged 25–34 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	0.199	0.205	0.197	0.196	*	*	0.237	0.216	0.196	0.237	0.208
Free cholesterol	0.044	0.044	0.043	0.042	*	*	0.053	0.047	0.042	0.053	0.046
Phospholipids	0.225	0.239	0.228	0.227	*	*	0.259	0.229	0.225	0.259	0.234
Triglycerides	0.120	0.155	0.143	0.163	*	*	0.273	0.123	0.120	0.273	0.163
Total lipid	0.649	0.708	0.672	0.690	*	*	0.893	0.683	0.649	0.893	0.716

\* = Insufficient sample collected for organochlorine analysis therefore no lipid determination carried out

**Table C4 Serum lipid content of non-Maori aged 25–34 years (% w/v)**

	Non-Maori female				Non-Maori male				National summary: non-Maori aged 25–34 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=3) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Minimum	Maximum	Mean
Total cholesterol	0.202	0.211	0.204	0.206	0.203	0.213	0.272	0.205	0.202	0.272	0.214
Free cholesterol	0.046	0.047	0.047	0.048	0.043	0.047	0.060	0.046	0.043	0.060	0.048
Phospholipids	0.230	0.251	0.233	0.237	0.226	0.240	0.306	0.229	0.226	0.306	0.244
Triglycerides	0.140	0.119	0.127	0.113	0.174	0.135	0.177	0.165	0.113	0.177	0.144
Total lipid	0.677	0.692	0.671	0.662	0.711	0.700	0.898	0.707	0.662	0.898	0.715

<sup>1</sup> = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Appendix A, Section A6)

**Table C5 Serum lipid content of Maori aged 35–49 years (% w/v)**

	Maori female				Maori male				National summary: Maori aged 35–49 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	0.201	0.207	0.211	0.211	*	0.241	0.240	0.238	0.201	0.241	0.221
Free cholesterol	0.044	0.046	0.049	0.045	*	0.054	0.052	0.053	0.044	0.054	0.049
Phospholipids	0.222	0.239	0.235	0.237	*	0.268	0.256	0.246	0.222	0.268	0.243
Triglycerides	0.114	0.170	0.138	0.205	*	0.253	0.249	0.166	0.114	0.253	0.185
Total lipid	0.644	0.724	0.693	0.765	*	0.888	0.871	0.775	0.644	0.888	0.766

\* = Insufficient sample collected for organochlorine analysis therefore no lipid determination carried out

**Table C6 Serum lipid content of non-Maori aged 35–49 years (% w/v)**

	Non-Maori female				Non-Maori male				National summary: non-Maori aged 35–49 years		
	Northland/Auckland (n=2) <sup>1</sup>	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Minimum	Maximum	Mean
Total cholesterol	0.207	0.213	0.224	0.222	0.230	0.243	0.273	0.230	0.207	0.273	0.230
Free cholesterol	0.046	0.049	0.052	0.050	0.051	0.055	0.061	0.052	0.046	0.061	0.052
Phospholipids	0.238	0.253	0.255	0.250	0.249	0.260	0.308	0.252	0.238	0.308	0.258
Triglycerides	0.128	0.136	0.167	0.141	0.234	0.206	0.224	0.199	0.128	0.234	0.179
Total lipid	0.682	0.712	0.762	0.729	0.834	0.836	0.949	0.802	0.682	0.949	0.788

<sup>1</sup> = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Appendix A, Section A6)

**Table C7 Serum lipid content of Maori aged 50–64 years (% w/v)**

	Maori female				Maori male				National summary: Maori aged 50–64 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	*	*	0.229	*	*	*	0.271	*	0.229	0.271	0.250
Free cholesterol	*	*	0.052	*	*	*	0.062	*	0.052	0.062	0.057
Phospholipids	*	*	0.233	*	*	*	0.294	*	0.233	0.294	0.264
Triglycerides	*	*	0.162	*	*	*	0.221	*	0.162	0.221	0.191
Total lipid	*	*	0.743	*	*	*	0.927	*	0.743	0.927	0.835

\* = Insufficient sample collected for organochlorine analysis therefore no lipid determination carried out

**Table C8 Serum lipid content of non-Maori aged 50–64 years (% w/v)**

	Non-Maori female				Non-Maori male				National summary: non-Maori aged 50–64 years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Minimum	Maximum	Mean
Total cholesterol	0.239	0.246	0.246	0.259	0.230	0.234	0.238	0.243	0.230	0.259	0.242
Free cholesterol	0.054	0.057	0.057	0.059	0.051	0.053	0.056	0.056	0.051	0.059	0.055
Phospholipids	0.269	0.286	0.267	0.282	0.248	0.259	0.267	0.264	0.248	0.286	0.268
Triglycerides	0.164	0.177	0.170	0.165	0.202	0.240	0.217	0.206	0.164	0.240	0.192
Total lipid	0.796	0.838	0.810	0.840	0.800	0.855	0.845	0.840	0.796	0.855	0.828

<sup>1</sup> = Mean of two unique sub-samples prepared for this stratum (see Appendix A, Section A6)

**Table C9 Serum lipid content of Maori aged 65+ years (% w/v)**

	Maori female				Maori male				National summary: Maori aged 65+ years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Minimum	Maximum	Mean
Total cholesterol	*	*	*	*	*	*	*	*	-	-	-
Free cholesterol	*	*	*	*	*	*	*	*	-	-	-
Phospholipids	*	*	*	*	*	*	*	*	-	-	-
Triglycerides	*	*	*	*	*	*	*	*	-	-	-
Total lipid	*	*	*	*	*	*	*	*	-	-	-

\* = Insufficient sample collected for organochlorine analysis therefore no lipid determination carried out

**Table C10 Serum lipid content of non-Maori aged 65+ years (% w/v)**

	Non-Maori female				Non-Maori male				National summary: non-Maori aged 65+ years		
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island (n=2) <sup>1</sup>	Minimum	Maximum	Mean
Total cholesterol	0.254	0.257	0.245	0.269	0.218	0.238	0.247	0.232	0.218	0.269	0.245
Free cholesterol	0.060	0.060	0.060	0.063	0.052	0.058	0.060	0.056	0.052	0.063	0.058
Phospholipids	0.284	0.291	0.273	0.291	0.232	0.280	0.268	0.257	0.232	0.291	0.272
Triglycerides	0.188	0.199	0.211	0.205	0.158	0.300	0.190	0.200	0.158	0.300	0.207
Total lipid	0.858	0.880	0.854	0.904	0.720	0.941	0.833	0.809	0.720	0.941	0.850

<sup>1</sup> = Mean of two unique sub-samples prepared for this stratum (see Appendix A, Section A6)

## Appendix D Concentrations of PCDDs and PCDFs in the serum of New Zealanders

This appendix reports the concentrations of PCDDs and PCDFs in the serum of New Zealanders.

Results are provided for all 2,3,7,8-PCDDs and PCDFs. Data for the sum of congeners are reported both excluding LOD values and including half LOD values. PCDD and PCDF TEQ levels are reported both excluding LOD values and including half LOD values using the 1997 WHO TEFs (Van den Berg, *et al.*, 1998). Median and mean concentrations reported in this appendix (under the heading of 'national summary') are unweighted concentrations. That is, they do not take into account the number of individual samples that were combined to prepare each pooled sample, as described in Section B1.9, Appendix B.

PCDD and PCDF data are reported in the following tables:

Table D1	Concentrations in serum from Maori aged 15–24 years
Table D2	Concentrations in serum from non-Maori aged 15–24 years
Table D3	Concentrations in serum from Maori aged 25–34 years
Table D4	Concentrations in serum from non-Maori aged 25–34 years
Table D5	Concentrations in serum from Maori aged 35–49 years
Table D6	Concentrations in serum from non-Maori aged 35–49 years
Table D7	Concentrations in serum from Maori aged 50–64 years
Table D8	Concentrations in serum from non-Maori aged 50–64 years
Table D9	Concentrations in serum from Maori aged 65+ years
Table D10	Concentrations in serum from non-Maori aged 65+ years
Table D11	Concentrations in serum sub-samples from non-Maori aged 25–34 years
Table D12	Concentrations in serum sub-samples from non-Maori aged 35–49 years
Table D13	Concentrations in serum sub-samples from non-Maori aged 50–64 years
Table D14	Concentrations in serum sub-samples from non-Maori aged 65+ years
Table D15	Concentrations in serum on a congener-specific basis

**Table D1 Concentrations of PCDDs and PCDFs in serum from Maori aged 15–24 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 15–24 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
2, 3, 7, 8 TCDD	*	1.1	1.1	1.1	*	*	1.0	< 1	4	< 1	1.1	1.1	0.96
1, 2, 3, 7, 8 PeCDD	*	2.8	2.3	2.3	*	*	2.3	2.6	5	2.3	2.8	2.3	2.5
1, 2, 3, 4, 7, 8 HxCDD	*	1.9	1.2	1.3	*	*	1.4	< 2	4	< 2	1.9	1.3	1.4
1, 2, 3, 6, 7, 8 HxCDD	*	8.5	< 0.7	11.1	*	*	5.6	5.7	4	< 0.7	11.1	5.7	6.3
1, 2, 3, 7, 8, 9 HxCDD	*	3.5	3.0	3.3	*	*	2.4	2.3	5	2.3	3.5	3.0	2.9
1, 2, 3, 4, 6, 7, 8 HpCDD	*	27.0	20.4	27.1	*	*	20.2	< 50	4	< 50	27.1	20.4	23.9
OCDD	*	242	191	339	*	*	170	178	5	170	339	191	224
2, 3, 7, 8 TCDF	*	< 1	< 0.4	< 0.8	*	*	< 0.6	< 1	0	< 0.4	< 1	-	-
1, 2, 3, 7, 8 PeCDF	*	< 2	< 0.4	< 1	*	*	< 0.7	< 1	0	< 0.4	< 2	-	-
2, 3, 4, 7, 8 PeCDF	*	2.1	2.1	2.5	*	*	2.6	2.7	5	2.1	2.7	2.5	2.4
1, 2, 3, 4, 7, 8 HxCDF	*	1.3	1.1	1.5	*	*	1.5	1.7	5	1.1	1.7	1.5	1.4
1, 2, 3, 6, 7, 8 HxCDF	*	1.6	1.4	1.7	*	*	1.7	2.1	5	1.4	2.1	1.7	1.7
2, 3, 4, 6, 7, 8 HxCDF	*	< 2	0.4	0.8	*	*	0.8	< 2	3	< 2	0.8	-	-
1, 2, 3, 7, 8, 9 HxCDF	*	< 1	< 0.5	< 0.6	*	*	< 0.8	< 2	0	< 0.5	< 2	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	*	< 40	< 10	< 20	*	*	< 20	< 30	0	< 10	< 40	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	*	< 2	< 0.6	< 0.9	*	*	< 1	< 2	0	< 0.6	< 2	-	-
OCDF	*	< 5	< 2	< 50	*	*	< 2	< 4	0	< 2	< 50	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	*	319	232	426	*	*	221	246		221	426	246	289
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	*	292	224	392	*	*	210	195		195	392	224	262
PCDD/F TEQ (inc) <sup>1</sup>	*	7.39	5.53	7.10	*	*	6.35	6.49		5.53	7.39	6.49	6.57
PCDD/F TEQ (exc) <sup>2</sup>	*	6.92	5.38	6.92	*	*	6.16	5.15		5.15	6.92	6.16	6.11

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 4 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table D2 Concentrations of PCDDs and PCDFs in serum from non-Maori aged 15–24 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 15–24 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
2, 3, 7, 8 TCDD	1.0	1.2	1.0	1.2	1.4	1.0	0.7	1.1	8	0.7	1.4	1.1	1.1
1, 2, 3, 7, 8 PeCDD	2.5	2.5	2.5	2.9	3.8	2.8	2.0	3.0	8	2.0	3.8	2.7	2.8
1, 2, 3, 4, 7, 8 HxCDD	1.4	1.3	1.2	1.4	< 2	1.3	1.0	1.5	7	< 2	1.5	1.3	1.3
1, 2, 3, 6, 7, 8 HxCDD	9.0	8.9	10.8	10.9	< 2	9.9	7.2	8.7	7	< 2	10.9	9.0	8.3
1, 2, 3, 7, 8, 9 HxCDD	3.0	2.2	2.8	3.4	< 2	2.5	1.7	2.6	7	< 2	3.4	2.6	2.4
1, 2, 3, 4, 6, 7, 8 HpCDD	21.0	< 30	22.3	29.3	21.3	25.4	14.2	20.0	7	< 30	29.3	21.2	21.1
OCDD	203	254	207	366	189	299	143	196	8	143	366	205	232
2, 3, 7, 8 TCDF	< 0.5	< 0.8	< 0.3	< 0.3	< 0.8	< 0.7	< 0.3	0.4	1	< 0.3	0.4	-	-
1, 2, 3, 7, 8 PeCDF	< 0.6	< 1	< 0.3	< 0.3	< 0.9	< 0.9	< 0.3	< 0.4	0	< 0.3	< 1	-	-
2, 3, 4, 7, 8 PeCDF	2.4	1.9	2.2	2.4	3.1	2.3	1.8	2.5	8	1.8	3.1	2.4	2.3
1, 2, 3, 4, 7, 8 HxCDF	1.3	1.1	1.0	1.6	1.6	1.5	0.9	1.5	8	0.9	1.6	1.4	1.3
1, 2, 3, 6, 7, 8 HxCDF	1.5	1.1	1.4	1.8	1.8	1.6	1.1	1.8	8	1.1	1.8	1.6	1.5
2, 3, 4, 6, 7, 8 HxCDF	0.7	< 0.9	0.3	0.5	1.0	0.7	0.4	0.6	7	< 0.9	1.0	0.6	0.6
1, 2, 3, 7, 8, 9 HxCDF	< 0.7	< 0.9	< 0.3	< 0.3	< 1	< 0.6	< 0.3	< 0.5	0	< 0.3	< 1	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	< 20	< 20	< 7	7.2	< 20	< 10	< 7	< 10	1	< 7	7.2	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	< 1	< 1	< 0.4	0.5	< 1	< 0.8	< 0.4	< 0.6	1	< 0.4	0.5	-	-
OCDF	< 2	< 50	< 1	< 70	< 2	< 100	< 1	< 2	0	< 1	< 100	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	259	325	257	465	240	406	178	246		178	465	258	297
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	247	274	253	429	223	348	174	240		174	429	250	273
PCDD/F TEQ (inc) <sup>1</sup>	6.80	6.54	6.67	7.71	7.95	7.15	5.05	7.37		5.05	7.95	6.97	6.90
PCDD/F TEQ (exc) <sup>2</sup>	6.62	6.14	6.59	7.67	7.42	6.98	4.98	7.28		4.98	7.67	6.80	6.71

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table D3 Concentrations of PCDDs and PCDFs in serum from Maori aged 25–34 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 25–34 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
2, 3, 7, 8 TCDD	1.8	1.7	1.4	< 2	*	*	1.4	1.3	5	< 2	1.8	1.4	1.4
1, 2, 3, 7, 8 PeCDD	3.2	4.1	3.2	4.0	*	*	3.3	4.0	6	3.2	4.1	3.7	3.6
1, 2, 3, 4, 7, 8 HxCDD	1.9	2.3	nr	nr	*	*	1.9	2.5	4	1.9	2.5	2.1	2.2
1, 2, 3, 6, 7, 8 HxCDD	20.1	20.2	11.1	12.5	*	*	13.1	16.2	6	11.1	20.2	14.7	15.5
1, 2, 3, 7, 8, 9 HxCDD	3.7	4.5	3.5	3.9	*	*	2.5	2.7	6	2.5	4.5	3.6	3.5
1, 2, 3, 4, 6, 7, 8 HpCDD	42.8	36.9	27.8	51.9	*	*	24.9	30.4	6	24.9	51.9	33.7	35.8
OCDD	387	391	280	912	*	*	231	386	6	231	912	387	431
2, 3, 7, 8 TCDF	< 0.4	< 0.4	< 0.3	< 2	*	*	< 0.4	< 1	0	< 0.3	< 2	-	-
1, 2, 3, 7, 8 PeCDF	< 0.4	< 0.4	< 0.3	< 3	*	*	< 0.8	< 1	0	< 0.3	< 3	-	-
2, 3, 4, 7, 8 PeCDF	2.6	2.8	2.2	2.6	*	*	3.0	4.0	6	2.2	4.0	2.7	2.9
1, 2, 3, 4, 7, 8 HxCDF	1.6	1.6	1.6	2.1	*	*	1.5	2.3	6	1.5	2.3	1.6	1.8
1, 2, 3, 6, 7, 8 HxCDF	2.1	2.0	1.8	2.6	*	*	2.0	2.9	6	1.8	2.9	2.1	2.2
2, 3, 4, 6, 7, 8 HxCDF	0.7	0.6	0.6	1.2	*	*	0.7	< 1	5	< 1	1.2	0.7	0.7
1, 2, 3, 7, 8, 9 HxCDF	< 0.5	< 0.5	< 0.3	< 2	*	*	< 0.5	< 1	0	< 0.3	< 2	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	< 7	< 7	< 9	< 40	*	*	< 10	< 20	0	< 7	< 40	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	0.3	0.4	< 0.5	< 3	*	*	0.3	< 1	3	< 0.5	0.4	-	-
OCDF	< 20	< 30	< 2	< 200	*	*	< 2	< 70	0	< 2	< 200	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	482	487	339	1,120	*	*	295	502		295	1,120	485	538
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	468	468	333	989	*	*	286	452		286	989	460	499
PCDD/F TEQ (inc) <sup>1</sup>	9.87	10.8	7.95	9.48	*	*	8.78	10.7		7.95	10.8	9.67	9.59
PCDD/F TEQ (exc) <sup>2</sup>	9.78	10.7	7.87	8.14	*	*	8.64	10.3		7.87	10.7	9.21	9.24

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 4 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table D4 Concentrations of PCDDs and PCDFs in serum from non-Maori aged 25–34 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 25–34 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=3) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
2, 3, 7, 8 TCDD	2.0	1.5	1.5	1.4	1.4	1.6	1.1	1.2	8	1.1	2.0	1.4	1.4
1, 2, 3, 7, 8 PeCDD	4.2	4.1	3.2	3.1	3.7	4.4	2.8	3.4	8	2.8	4.4	3.5	3.6
1, 2, 3, 4, 7, 8 HxCDD	2.2	2.6	1.9	1.3	2.1	2.5	1.6	1.9	8	1.3	2.6	2.0	2.0
1, 2, 3, 6, 7, 8 HxCDD	20.2	17.9	12.5	13.6	19.7	18.0	13.2	14.9	8	12.5	20.2	16.4	16.2
1, 2, 3, 7, 8, 9 HxCDD	4.3	4.5	3.3	3.4	3.1	3.4	2.0	3.0	8	2.0	4.5	3.4	3.4
1, 2, 3, 4, 6, 7, 8 HpCDD	41.6	40.3	32.7	31.9	41.0	25.0	21.9	28.6	8	21.9	41.6	32.3	32.9
OCDD	400	363	326	366	319	217	209	246	8	209	400	323	306
2, 3, 7, 8 TCDF	0.2	0.3	0.2	< 0.3	< 0.3	< 0.3	< 0.3	< 0.4	3	< 0.3	0.3	-	-
1, 2, 3, 7, 8 PeCDF	0.2	< 0.3	< 0.3	< 0.4	< 0.3	< 0.4	< 0.3	< 0.5	1	< 0.3	0.2	-	-
2, 3, 4, 7, 8 PeCDF	3.4	2.8	2.6	3.1	3.8	3.0	2.6	3.4	8	2.6	3.8	3.0	3.1
1, 2, 3, 4, 7, 8 HxCDF	2.0	1.6	1.4	1.8	1.9	1.9	1.2	1.7	8	1.2	2.0	1.7	1.7
1, 2, 3, 6, 7, 8 HxCDF	2.3	2.2	1.7	2.0	2.5	2.2	1.6	2.4	8	1.6	2.5	2.2	2.1
2, 3, 4, 6, 7, 8 HxCDF	0.7	0.6	0.5	0.7	1.1	0.7	0.8	0.8	8	0.5	1.1	0.7	0.7
1, 2, 3, 7, 8, 9 HxCDF	< 0.4	< 0.3	< 0.4	< 0.4	< 0.4	< 0.3	< 0.3	< 0.6	0	< 0.3	< 0.6	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	5.3	4.1	5.0	5.8	9.4	< 9	< 5	5.8	6	< 5	9.4	5.2	5.3
1, 2, 3, 4, 7, 8, 9 HpCDF	0.4	< 0.3	0.3	0.3	0.5	< 0.5	< 0.3	0.3	5	< 0.3	0.5	-	-
OCDF	< 30	< 20	< 10	< 20	< 20	< 2	< 10	< 2	0	< 2	< 30	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	504	456	399	447	420	286	265	314		265	504	409	386
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	489	446	389	433	409	280	257	309		257	489	399	376
PCDD/F TEQ (inc) <sup>1</sup>	11.6	10.5	8.53	8.76	10.6	10.7	7.42	9.09		7.42	11.6	9.78	9.66
PCDD/F TEQ (exc) <sup>2</sup>	11.6	10.4	8.46	8.69	10.6	10.6	7.36	8.99		7.36	11.6	9.72	9.60

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table D11 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table D5 Concentrations of PCDDs and PCDFs in serum from Maori aged 35–49 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 35–49 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
2, 3, 7, 8 TCDD	2.7	1.9	2.2	2.3	*	2.6	2.1	1.6	7	1.6	2.7	2.2	2.2
1, 2, 3, 7, 8 PeCDD	4.0	5.6	4.1	4.4	*	6.2	4.8	4.1	7	4.0	6.2	4.4	4.7
1, 2, 3, 4, 7, 8 HxCDD	2.5	2.9	2.7	2.7	*	4.1	2.8	3.0	7	2.5	4.1	2.8	3.0
1, 2, 3, 6, 7, 8 HxCDD	13.1	22.7	18.8	17.8	*	29.2	19.2	20.0	7	13.1	29.2	19.2	20.1
1, 2, 3, 7, 8, 9 HxCDD	3.9	4.8	4.1	4.0	*	6.5	3.2	3.2	7	3.2	6.5	4.0	4.2
1, 2, 3, 4, 6, 7, 8 HpCDD	54.7	36.3	38.2	56.3	*	48.1	35.1	32.1	7	32.1	56.3	38.2	43.0
OCDD	689	439	417	961	*	431	308	292	7	292	961	431	505
2, 3, 7, 8 TCDF	< 0.8	< 1	< 0.4	< 0.7	*	0.7	< 0.3	< 0.6	1	< 0.3	0.7	-	-
1, 2, 3, 7, 8 PeCDF	< 0.7	< 1	< 0.5	< 0.7	*	0.7	< 0.4	< 0.6	1	< 0.4	0.7	-	-
2, 3, 4, 7, 8 PeCDF	3.4	3.6	3.5	3.5	*	4.1	4.1	4.0	7	3.4	4.1	3.6	3.7
1, 2, 3, 4, 7, 8 HxCDF	1.8	2.5	2.1	2.1	*	2.9	2.3	1.7	7	1.7	2.9	2.1	2.2
1, 2, 3, 6, 7, 8 HxCDF	2.3	2.7	2.4	2.6	*	3.6	2.7	2.5	7	2.3	3.6	2.6	2.7
2, 3, 4, 6, 7, 8 HxCDF	0.7	0.6	0.6	0.8	*	1.4	0.8	0.8	7	0.6	1.4	0.8	0.8
1, 2, 3, 7, 8, 9 HxCDF	< 1	< 1	< 0.4	< 0.7	*	< 0.8	< 0.4	< 0.7	0	< 0.4	< 1	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	21.7	< 20	< 7	15.7	*	11.5	< 10	< 20	3	< 7	21.7	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	1.2	< 0.9	< 0.4	1.1	*	1.2	< 0.7	< 0.9	3	< 0.4	1.2	-	-
OCDF	< 200	< 40	< 20	< 200	*	< 40	< 1	< 2	0	< 1	< 200	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	897	553	510	1,170	*	574	392	376		376	1,170	553	639
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	797	523	496	1,070	*	554	385	365		365	1,070	523	598
PCDD/F TEQ (inc) <sup>1</sup>	11.8	13.5	11.6	12.4	*	16.4	12.5	11.3		11.3	16.4	12.4	12.8
PCDD/F TEQ (exc) <sup>2</sup>	11.7	13.3	11.5	12.3	*	16.4	12.4	11.2		11.2	16.4	12.3	12.7

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 5 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 5 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table D6 Concentrations of PCDDs and PCDFs in serum from non-Maori aged 35–49 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 35–49 years				
	Northland/Auckland (n=2) <sup>3</sup>	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Northland/Auckland (n=2)	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
2, 3, 7, 8 TCDD	2.3	2.2	2.1	2.0	1.9	1.7	1.4	1.9	8	1.4	2.3	2.0	1.9
1, 2, 3, 7, 8 PeCDD	5.3	4.9	3.8	4.9	5.1	5.1	3.8	4.9	8	3.8	5.3	4.9	4.7
1, 2, 3, 4, 7, 8 HxCDD	3.3	3.5	2.6	2.6	3.4	3.6	2.6	2.8	8	2.6	3.6	3.0	3.0
1, 2, 3, 6, 7, 8 HxCDD	25.2	23.6	20.1	20.1	24.0	26.7	19.2	20.5	8	19.2	26.7	22.1	22.4
1, 2, 3, 7, 8, 9 HxCDD	5.1	4.8	3.9	3.9	4.0	4.2	3.1	3.7	8	3.1	5.1	4.0	4.1
1, 2, 3, 4, 6, 7, 8 HpCDD	48.4	40.5	34.2	37.4	40.5	44.6	32.1	33.0	8	32.1	48.4	38.9	38.8
OCDD	455	420	361	399	373	359	285	325	8	285	455	367	372
2, 3, 7, 8 TCDF	< 0.4	0.3	0.2	0.3	< 0.2	0.2	0.2	< 0.3	5	< 0.2	0.3	-	-
1, 2, 3, 7, 8 PeCDF	0.3	< 0.4	< 0.5	< 0.4	< 0.3	< 0.3	< 0.3	< 0.2	1	< 0.2	0.3	-	-
2, 3, 4, 7, 8 PeCDF	4.6	3.8	3.6	3.7	4.5	5.0	3.8	4.0	8	3.6	5.0	3.9	4.1
1, 2, 3, 4, 7, 8 HxCDF	2.2	2.3	1.8	2.0	2.3	2.4	2.0	2.2	8	1.8	2.4	2.2	2.1
1, 2, 3, 6, 7, 8 HxCDF	2.7	2.8	2.2	2.4	2.6	2.9	2.2	2.6	8	2.2	2.9	2.6	2.5
2, 3, 4, 6, 7, 8 HxCDF	0.8	0.7	0.6	0.7	0.8	1.1	0.7	0.9	8	0.6	1.1	0.8	0.8
1, 2, 3, 7, 8, 9 HxCDF	< 0.4	< 0.3	< 0.3	< 0.3	< 0.2	< 0.3	< 0.3	< 0.2	0	< 0.2	< 0.4	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	6.4	5.1	4.1	5.0	4.8	9.7	5.2	4.8	8	4.1	9.7	5.0	5.6
1, 2, 3, 4, 7, 8, 9 HpCDF	0.4	0.3	0.3	0.3	0.3	0.5	0.3	0.2	8	0.2	0.5	0.3	0.3
OCDF	< 20	< 20	< 20	< 10	< 20	< 30	< 10	< 10	0	< 10	< 30	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	572	525	448	491	478	482	367	414		367	572	480	472
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	559	515	440	482	467	467	361	406		361	559	467	462
PCDD/F TEQ (inc) <sup>1</sup>	14.3	13.3	11.2	12.4	13.5	14.0	10.5	12.5		10.5	14.3	12.9	12.7
PCDD/F TEQ (exc) <sup>2</sup>	14.3	13.3	11.1	12.4	13.5	14.0	10.4	12.5		10.4	14.3	12.9	12.7

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table D12 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table D7 Concentrations of PCDDs and PCDFs in serum from Maori aged 50–64 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 50–64 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median <sup>3</sup>	Mean <sup>4</sup>
2, 3, 7, 8 TCDD	*	*	6.9	*	*	*	2.5	*	2	2.5	6.9	4.7	4.7
1, 2, 3, 7, 8 PeCDD	*	*	7.1	*	*	*	5.4	*	2	5.4	7.1	6.3	6.3
1, 2, 3, 4, 7, 8 HxCDD	*	*	3.9	*	*	*	2.9	*	2	2.9	3.9	3.4	3.4
1, 2, 3, 6, 7, 8 HxCDD	*	*	32.8	*	*	*	25.5	*	2	25.5	32.8	29.2	29.2
1, 2, 3, 7, 8, 9 HxCDD	*	*	6.4	*	*	*	3.2	*	2	3.2	6.4	4.8	4.8
1, 2, 3, 4, 6, 7, 8 HpCDD	*	*	59.9	*	*	*	34.7	*	2	34.7	59.9	47.3	47.3
OCDD	*	*	383	*	*	*	287	*	2	287	383	335	335
2, 3, 7, 8 TCDF	*	*	< 1	*	*	*	< 0.8	*	0	< 0.8	< 1	-	-
1, 2, 3, 7, 8 PeCDF	*	*	< 1	*	*	*	< 0.9	*	0	< 0.9	< 1	-	-
2, 3, 4, 7, 8 PeCDF	*	*	6.2	*	*	*	4.5	*	2	4.5	6.2	5.4	5.4
1, 2, 3, 4, 7, 8 HxCDF	*	*	3.6	*	*	*	3.0	*	2	3.0	3.6	3.3	3.3
1, 2, 3, 6, 7, 8 HxCDF	*	*	3.9	*	*	*	3.1	*	2	3.1	3.9	3.5	3.5
2, 3, 4, 6, 7, 8 HxCDF	*	*	1.0	*	*	*	0.9	*	2	0.9	1.0	1.0	1.0
1, 2, 3, 7, 8, 9 HxCDF	*	*	< 1	*	*	*	< 1	*	0	< 1	< 1	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	*	*	< 30	*	*	*	< 20	*	0	< 20	< 30	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	*	*	< 2	*	*	*	< 1	*	0	< 1	< 2	-	-
OCDF	*	*	< 4	*	*	*	< 2	*	0	< 2	< 4	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	*	*	534	*	*	*	386	*		386	534	460	460
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	*	*	515	*	*	*	373	*		373	515	444	444
PCDD/F TEQ (inc) <sup>1</sup>	*	*	23.2	*	*	*	14.6	*		14.6	23.2	18.9	18.9
PCDD/F TEQ (exc) <sup>2</sup>	*	*	22.9	*	*	*	14.4	*		14.4	22.9	18.6	18.6

1 = Including half LOD values

2 = Excluding LOD values

3 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 2 positive determinations). LODs are included in the median calculation

4 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 2 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table D8 Concentrations of PCDDs and PCDFs in serum from non-Maori aged 50–64 years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 50–64 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
2, 3, 7, 8 TCDD	3.0	3.2	4.0	3.4	3.0	2.4	2.4	2.6	8	2.4	4.0	3.0	3.0
1, 2, 3, 7, 8 PeCDD	5.8	6.5	5.6	5.6	6.2	6.2	4.9	6.1	8	4.9	6.5	6.0	5.9
1, 2, 3, 4, 7, 8 HxCDD	3.5	4.9	3.4	3.2	3.8	4.3	2.9	3.4	8	2.9	4.9	3.5	3.7
1, 2, 3, 6, 7, 8 HxCDD	24.9	35.3	25.2	23.5	31.2	28.4	24.5	25.3	8	23.5	35.3	25.3	27.3
1, 2, 3, 7, 8, 9 HxCDD	5.5	6.7	5.3	4.9	4.5	4.5	4.1	4.6	8	4.1	6.7	4.7	5.0
1, 2, 3, 4, 6, 7, 8 HpCDD	55.2	55.6	53.3	50.0	46.9	47.7	34.1	42.9	8	34.1	55.6	48.8	48.2
OCDD	439	399	497	447	420	406	316	391	8	316	497	413	414
2, 3, 7, 8 TCDF	0.3	0.4	0.4	0.3	< 0.3	0.7	< 0.3	0.3	6	< 0.3	0.7	0.3	0.3
1, 2, 3, 7, 8 PeCDF	0.2	0.2	0.3	0.3	< 0.3	< 0.5	0.3	0.2	6	< 0.3	0.3	0.2	0.2
2, 3, 4, 7, 8 PeCDF	5.1	4.9	4.8	5.2	5.7	5.0	4.9	5.1	8	4.8	5.7	5.0	5.1
1, 2, 3, 4, 7, 8 HxCDF	2.6	3.2	2.7	2.9	2.3	2.9	2.1	2.8	8	2.1	3.2	2.7	2.7
1, 2, 3, 6, 7, 8 HxCDF	3.0	3.5	3.0	3.2	2.9	3.2	2.7	3.7	8	2.7	3.7	3.1	3.1
2, 3, 4, 6, 7, 8 HxCDF	0.9	1.0	1.0	1.0	0.7	0.9	0.9	1.3	8	0.7	1.3	0.9	1.0
1, 2, 3, 7, 8, 9 HxCDF	< 0.3	< 0.3	< 0.3	< 0.4	< 0.3	< 0.4	< 0.4	< 0.3	0	< 0.3	< 0.4	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	< 5	4.7	5.0	3.9	5.0	4.8	4.0	6.2	7	< 5	6.2	4.8	4.5
1, 2, 3, 4, 7, 8, 9 HpCDF	< 0.3	< 0.4	0.4	< 0.4	0.4	0.3	0.3	0.4	5	< 0.3	0.4	-	-
OCDF	< 1	< 1	< 30	< 7	< 20	< 20	< 10	< 20	0	< 1	< 30	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	552	530	624	557	543	528	409	503		409	624	537	531
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	549	529	609	554	533	517	401	495		401	609	531	523
PCDD/F TEQ (inc) <sup>1</sup>	16.1	18.3	16.7	16.1	17.2	16.2	13.9	15.9		13.9	18.3	16.1	16.3
PCDD/F TEQ (exc) <sup>2</sup>	16.0	18.3	16.7	16.0	17.1	16.2	13.8	15.8		13.8	18.3	16.1	16.3

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two unique sub-samples prepared for this stratum (see Table D13 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table D9 Concentrations of PCDDs and PCDFs in serum from Maori aged 65+ years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 65+ years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median	Mean
2, 3, 7, 8 TCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 7, 8 PeCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 4, 7, 8 HxCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 6, 7, 8 HxCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 7, 8, 9 HxCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 4, 6, 7, 8 HpCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
OCDD	*	*	*	*	*	*	*	*	-	-	-	-	-
2, 3, 7, 8 TCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 7, 8 PeCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
2, 3, 4, 7, 8 PeCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 4, 7, 8 HxCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 6, 7, 8 HxCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
2, 3, 4, 6, 7, 8 HxCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 7, 8, 9 HxCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
OCDF	*	*	*	*	*	*	*	*	-	-	-	-	-
Sum of 2,3,7,8-PCDD/Fs (inc)	*	*	*	*	*	*	*	*	-	-	-	-	-
Sum of 2,3,7,8-PCDD/Fs (exc)	*	*	*	*	*	*	*	*	-	-	-	-	-
PCDD/F TEQ (inc)	*	*	*	*	*	*	*	*	-	-	-	-	-
PCDD/F TEQ (exc)	*	*	*	*	*	*	*	*	-	-	-	-	-

\* = Insufficient sample collected for analysis

**Table D10 Concentrations of PCDDs and PCDFs in serum from non-Maori aged 65+ years (ng kg<sup>-1</sup>, lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 65+ years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
2, 3, 7, 8 TCDD	6.3	5.6	7.0	5.0	3.0	3.5	2.9	2.9	8	2.9	7.0	4.3	4.5
1, 2, 3, 7, 8 PeCDD	9.1	9.3	7.1	7.6	6.4	7.7	5.2	6.2	8	5.2	9.3	7.3	7.3
1, 2, 3, 4, 7, 8 HxCDD	5.9	5.7	5.3	4.2	3.5	5.0	3.0	3.7	8	3.0	5.9	4.6	4.5
1, 2, 3, 6, 7, 8 HxCDD	36.8	39.3	36.3	36.1	30.7	39.6	24.3	29.4	8	24.3	39.6	36.2	34.1
1, 2, 3, 7, 8, 9 HxCDD	8.3	7.8	6.8	6.7	4.6	6.1	4.2	4.9	8	4.2	8.3	6.4	6.2
1, 2, 3, 4, 6, 7, 8 HpCDD	85.9	65.9	59.9	56.8	38.6	57.5	30.9	42.6	8	30.9	85.9	57.1	54.8
OCDD	628	527	484	537	304	561	278	382	8	278	628	506	463
2, 3, 7, 8 TCDF	0.4	0.2	0.2	0.3	< 0.4	0.4	0.3	0.3	7	< 0.4	0.4	0.3	0.3
1, 2, 3, 7, 8 PeCDF	< 0.7	nr	< 0.4	0.3	< 0.5	< 0.3	0.2	0.2	3	< 0.3	0.3	-	-
2, 3, 4, 7, 8 PeCDF	8.3	6.8	6.7	6.5	4.4	5.6	4.9	5.6	8	4.4	8.3	6.0	6.1
1, 2, 3, 4, 7, 8 HxCDF	4.2	4.3	3.5	3.6	2.2	3.1	2.4	2.7	8	2.2	4.3	3.3	3.2
1, 2, 3, 6, 7, 8 HxCDF	4.6	4.4	3.8	4.0	2.5	3.7	3.0	3.4	8	2.5	4.6	3.8	3.7
2, 3, 4, 6, 7, 8 HxCDF	1.1	1.0	1.0	1.0	0.7	0.9	0.8	0.9	8	0.7	1.1	1.0	0.9
1, 2, 3, 7, 8, 9 HxCDF	< 0.3	< 0.2	< 0.4	< 0.3	< 0.6	< 0.4	< 0.3	< 0.3	0	< 0.2	< 0.6	-	-
1, 2, 3, 4, 6, 7, 8 HpCDF	5.5	4.3	< 9	4.4	< 10	7.1	< 7	5.2	5	< 7	7.1	-	-
1, 2, 3, 4, 7, 8, 9 HpCDF	0.3	0.2	< 0.5	< 0.6	< 0.7	0.4	< 0.4	0.2	4	< 0.4	0.4	-	-
OCDF	< 20	< 10	< 1	< 1	< 1	< 70	< 1	< 10	0	< 1	< 70	-	-
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>1</sup>	815	687	627	674	408	737	365	499		365	815	650	601
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>2</sup>	805	682	621	673	401	702	360	491		360	805	647	592
PCDD/F TEQ (inc) <sup>1</sup>	26.7	25.3	23.7	22.1	16.6	20.6	14.8	17.1		14.8	26.7	21.4	20.9
PCDD/F TEQ (exc) <sup>2</sup>	26.7	25.3	23.6	22.1	16.4	20.6	14.7	17.1		14.7	26.7	21.3	20.8

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two unique sub-samples prepared for this stratum (see Table D14 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCDD/F congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table D11 Concentrations of PCDDs and PCDFs in serum sub-samples from non-Maori aged 25–34 years (ng kg<sup>-1</sup>, lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island			Female, South Island			Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#3	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2
2, 3, 7, 8 TCDD	1.4	1.7	1.3	1.2	1.2	1.7	1.1	1.0	0.9	1.4
1, 2, 3, 7, 8 PeCDD	3.1	3.6	2.8	3.3	2.8	3.3	3.0	2.5	2.9	3.8
1, 2, 3, 4, 7, 8 HxCDD	1.9	2.0	1.7	2.0	1.5	< 0.6	1.6	1.5	1.6	2.2
1, 2, 3, 6, 7, 8 HxCDD	15.7	12.1	9.7	12.4	10.8	17.7	11.4	15.0	12.8	16.9
1, 2, 3, 7, 8, 9 HxCDD	3.9	3.4	2.7	3.4	2.8	3.9	2.0	1.9	2.6	3.4
1, 2, 3, 4, 6, 7, 8 HpCDD	41.3	29.9	27.0	34.1	21.3	40.4	23.7	20.1	23.4	33.7
OCDD	406	323	249	371	271	457	190	227	218	273
2, 3, 7, 8 TCDF	< 0.3	0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.2	< 0.3	< 0.4
1, 2, 3, 7, 8 PeCDF	< 0.3	< 0.3	< 0.4	< 0.4	< 0.4	< 0.3	< 0.3	< 0.2	< 0.6	< 0.4
2, 3, 4, 7, 8 PeCDF	2.7	3.1	2.1	3.3	2.5	3.4	2.9	2.3	3.1	3.7
1, 2, 3, 4, 7, 8 HxCDF	1.5	1.4	1.2	1.9	1.5	1.9	1.3	1.1	1.5	1.9
1, 2, 3, 6, 7, 8 HxCDF	1.9	1.8	1.4	2.0	1.6	2.3	1.6	1.5	2.1	2.6
2, 3, 4, 6, 7, 8 HxCDF	0.6	0.5	0.5	0.8	0.5	0.8	1.0	0.5	0.6	0.9
1, 2, 3, 7, 8, 9 HxCDF	< 0.3	< 0.5	< 0.3	< 0.6	< 0.3	< 0.4	< 0.4	< 0.2	< 0.6	< 0.6
1, 2, 3, 4, 6, 7, 8 HpCDF	4.9	< 10	< 10	5.9	< 10	6.7	< 6	< 4	< 10	4.8
1, 2, 3, 4, 7, 8, 9 HpCDF	0.3	< 0.5	< 0.6	0.4	< 0.5	nr	< 0.4	< 0.2	< 0.7	0.3
OCDF	< 30	< 2	< 1	< 30	< 1	< 40	< 1	< 20	< 1	< 2
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	501	389	306	457	324	560	244	287	278	350
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	485	383	299	442	318	539	240	274	270	349
PCDD/F TEQ (inc) <sup>2</sup>	8.94	9.41	7.25	8.89	7.45	10.0	7.78	7.06	7.85	10.3
PCDD/F TEQ (exc) <sup>3</sup>	8.90	9.33	7.16	8.84	7.36	9.88	7.70	7.02	7.72	10.3

1 = These data are the results of the analyses of unique sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table D4

2 = Including half LOD values

3 = Excluding LOD values

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table D12 Concentrations of PCDDs and PCDFs in serum sub-samples from non-Maori aged 35–49 years (ng kg<sup>-1</sup>, lipid wt basis)<sup>1</sup>**

Congener	Female, Northland/Auckland		Female, Lower North Island		Female, South Island			Male, Lower North Island		Male, South Island		
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2	SS#3
2, 3, 7, 8 TCDD	2.9	1.6	2.3	1.8	1.5	2.2	2.3	1.3	1.4	1.6	1.8	2.2
1, 2, 3, 7, 8 PeCDD	6.1	4.4	3.8	3.7	3.9	4.4	6.4	3.8	3.8	4.5	5.0	5.3
1, 2, 3, 4, 7, 8 HxCDD	3.8	2.7	2.5	2.7	2.4	2.3	3.0	2.8	2.4	2.3	3.1	2.9
1, 2, 3, 6, 7, 8 HxCDD	31.6	18.7	20.6	19.5	17.4	22.4	20.4	20.2	18.2	19.8	21.9	19.8
1, 2, 3, 7, 8, 9 HxCDD	6.8	3.4	3.6	4.2	3.4	4.3	4.0	3.2	2.9	3.4	3.9	3.7
1, 2, 3, 4, 6, 7, 8 HpCDD	64.3	32.5	32.5	35.9	35.3	44.6	32.2	33.7	30.5	28.8	37.4	32.9
OCDD	566	343	334	388	391	448	357	283	287	276	381	317
2, 3, 7, 8 TCDF	< 0.3	< 0.4	0.3	< 0.3	0.2	0.4	< 0.3	0.2	< 0.2	< 0.2	< 0.3	< 0.3
1, 2, 3, 7, 8 PeCDF	0.3	< 0.6	< 0.3	< 0.6	< 0.3	< 0.3	< 0.5	< 0.2	< 0.3	< 0.2	< 0.3	< 0.2
2, 3, 4, 7, 8 PeCDF	4.8	4.3	3.8	3.4	3.4	4.1	3.5	4.2	3.4	3.5	3.6	4.9
1, 2, 3, 4, 7, 8 HxCDF	2.5	1.8	1.7	1.9	1.9	2.3	1.8	2.1	1.8	2.1	2.0	2.4
1, 2, 3, 6, 7, 8 HxCDF	3.0	2.4	2.1	2.3	2.2	2.7	2.2	2.3	2.0	2.5	2.4	2.8
2, 3, 4, 6, 7, 8 HxCDF	0.9	0.7	0.6	0.6	0.7	0.8	0.7	0.8	0.6	0.9	0.8	0.9
1, 2, 3, 7, 8, 9 HxCDF	< 0.4	< 0.4	< 0.3	< 0.2	< 0.3	< 0.3	< 0.3	< 0.2	< 0.3	< 0.2	< 0.3	< 0.2
1, 2, 3, 4, 6, 7, 8 HpCDF	9.6	< 7	4.2	4.0	5.6	4.5	< 10	5.1	5.2	4.1	5.6	4.7
1, 2, 3, 4, 7, 8, 9 HpCDF	0.5	0.3	0.3	0.2	0.3	0.3	< 0.5	0.3	0.2	< 0.3	< 0.5	0.3
OCDF	< 30	< 10	< 10	< 20	< 20	< 20	< 1	< 10	< 10	< 10	< 3	< 30
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	718	425	418	479	480	554	440	368	365	355	471	415
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	703	416	412	468	469	543	434	363	359	350	469	400
PCDD/F TEQ (inc) <sup>2</sup>	17.1	11.6	11.6	10.8	10.4	12.7	14.1	10.8	10.1	11.3	12.5	13.6
PCDD/F TEQ (exc) <sup>3</sup>	17.1	11.5	11.5	10.8	10.4	12.7	14.0	10.8	10.1	11.3	12.5	13.6

<sup>1</sup> = These data are the results of the analyses of unique sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table D6

<sup>2</sup> = Including half LOD values

<sup>3</sup> = Excluding LOD values

**Table D13 Concentrations of PCDDs and PCDFs in serum sub-samples from non-Maori aged 50–64 years (ng kg<sup>-1</sup>, lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
2, 3, 7, 8 TCDD	4.9	3.1	2.9	3.8	2.3	2.5	2.8	2.3
1, 2, 3, 7, 8 PeCDD	6.3	4.8	5.2	6.0	5.0	4.8	6.6	5.6
1, 2, 3, 4, 7, 8 HxCDD	3.8	3.0	2.9	3.4	2.9	2.8	3.4	3.4
1, 2, 3, 6, 7, 8 HxCDD	26.2	24.2	21.2	25.8	27.4	21.5	24.8	25.8
1, 2, 3, 7, 8, 9 HxCDD	6.1	4.4	4.7	5.0	4.2	4.0	4.9	4.2
1, 2, 3, 4, 6, 7, 8 HpCDD	65.5	41.0	46.7	53.2	37.5	30.7	40.5	45.2
OCDD	658	336	448	446	362	269	350	431
2, 3, 7, 8 TCDF	0.3	0.4	0.3	0.3	< 0.3	< 0.3	0.2	0.3
1, 2, 3, 7, 8 PeCDF	< 0.4	0.3	0.3	0.2	< 0.4	0.3	0.2	< 0.3
2, 3, 4, 7, 8 PeCDF	5.4	4.2	4.5	5.9	5.2	4.5	5.7	4.4
1, 2, 3, 4, 7, 8 HxCDF	3.1	2.2	2.4	3.4	2.4	1.8	2.7	2.8
1, 2, 3, 6, 7, 8 HxCDF	3.4	2.5	2.6	3.8	3.0	2.4	4.1	3.3
2, 3, 4, 6, 7, 8 HxCDF	1.0	0.9	0.8	1.2	0.9	0.9	1.5	1.0
1, 2, 3, 7, 8, 9 HxCDF	< 0.3	< 0.2	< 0.3	< 0.4	< 0.3	< 0.4	< 0.4	< 0.2
1, 2, 3, 4, 6, 7, 8 HpCDF	6.6	< 7	3.6	4.2	4.3	< 7	4.9	7.5
1, 2, 3, 4, 7, 8, 9 HpCDF	0.5	< 0.4	< 0.2	< 0.5	0.3	< 0.4	0.3	0.4
OCDF	< 50	< 1	< 10	< 1	< 20	< 1	< 1	< 30
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	816	431	551	563	468	350	453	552
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	791	427	546	562	457	345	453	537
PCDD/F TEQ (inc) <sup>2</sup>	19.1	14.3	14.4	17.7	14.5	13.3	16.9	14.8
PCDD/F TEQ (exc) <sup>3</sup>	19.1	14.2	14.4	17.7	14.4	13.2	16.9	14.7

<sup>1</sup> = These data are the results of the analyses of unique sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table D8

<sup>2</sup> = Including half LOD values

<sup>3</sup> = Excluding LOD values

**Table D14 Concentrations of PCDDs and PCDFs in serum sub-samples from non-Maori aged 65+ years (ng kg<sup>-1</sup>, lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island		Female, South Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
2, 3, 7, 8 TCDD	6.7	7.2	5.7	4.3	2.7	3.2
1, 2, 3, 7, 8 PeCDD	6.7	7.4	9.0	6.2	6.2	6.3
1, 2, 3, 4, 7, 8 HxCDD	5.7	4.8	5.0	3.4	3.2	4.2
1, 2, 3, 6, 7, 8 HxCDD	38.8	33.8	44.8	27.3	25.1	34.1
1, 2, 3, 7, 8, 9 HxCDD	6.4	7.1	7.5	5.9	4.5	5.4
1, 2, 3, 4, 6, 7, 8 HpCDD	57.4	62.3	62.7	50.8	37.4	48.3
OCDD	497	471	611	462	374	390
2, 3, 7, 8 TCDF	< 0.3	0.3	0.4	< 0.3	0.3	0.4
1, 2, 3, 7, 8 PeCDF	< 0.4	< 0.3	0.2	0.3	< 0.4	0.3
2, 3, 4, 7, 8 PeCDF	6.9	6.4	6.5	6.4	5.2	6.0
1, 2, 3, 4, 7, 8 HxCDF	3.4	3.5	3.6	3.6	2.4	3.1
1, 2, 3, 6, 7, 8 HxCDF	3.9	3.7	4.1	3.9	2.9	3.9
2, 3, 4, 6, 7, 8 HxCDF	1.0	1.0	0.9	1.1	0.8	1.1
1, 2, 3, 7, 8, 9 HxCDF	< 0.4	< 0.4	< 0.3	< 0.3	< 0.3	< 0.4
1, 2, 3, 4, 6, 7, 8 HpCDF	< 9	< 9	4.9	3.8	4.5	5.9
1, 2, 3, 4, 7, 8, 9 HpCDF	< 0.5	< 0.5	< 0.6	< 0.5	0.2	0.3
OCDF	< 1	< 1	< 2	< 1	< 10	< 20
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	640	614	768	580	475	523
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	634	609	766	579	469	513
PCDD/F TEQ (inc) <sup>2</sup>	23.5	24.0	25.3	18.9	15.9	18.3
PCDD/F TEQ (exc) <sup>3</sup>	23.4	23.9	25.3	18.8	15.9	18.3

<sup>1</sup> = These data are the results of the analyses of unique sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table D10

<sup>2</sup> = Including half LOD values

<sup>3</sup> = Excluding LOD values

**Table D15 Concentrations of PCDDs and PCDFs in serum on a congener-specific basis (ng kg<sup>-1</sup>, lipid wt basis)**

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island
2, 3, 7, 8 TCDD	15-24	*	1.1	1.1	1.1	*	*	1.0	< 1	1.0	1.2	1.0	1.2	1.4	1.0	0.7	1.1
	25-34	1.8	1.7	1.4	< 2	*	*	1.4	1.3	2.0	1.5	1.5	1.4	1.4	1.6	1.1	1.2
	35-49	2.7	1.9	2.2	2.3	*	2.6	2.1	1.6	2.3	2.2	2.1	2.0	1.9	1.7	1.4	1.9
	50-64	*	*	6.9	*	*	*	2.5	*	3.0	3.2	4.0	3.4	3.0	2.4	2.4	2.6
	65+	*	*	*	*	*	*	*	*	6.3	5.6	7.0	5.0	3.0	3.5	2.9	2.9
1, 2, 3, 7, 8 PeCDD	15-24	*	2.8	2.3	2.3	*	*	2.3	2.6	2.5	2.5	2.5	2.9	3.8	2.8	2.0	3.0
	25-34	3.2	4.1	3.2	4.0	*	*	3.3	4.0	4.2	4.1	3.2	3.1	3.7	4.4	2.8	3.4
	35-49	4.0	5.6	4.1	4.4	*	6.2	4.8	4.1	5.3	4.9	3.8	4.9	5.1	5.1	3.8	4.9
	50-64	*	*	7.1	*	*	*	5.4	*	5.8	6.5	5.6	5.6	6.2	6.2	4.9	6.1
	65+	*	*	*	*	*	*	*	*	9.1	9.3	7.1	7.6	6.4	7.7	5.2	6.2
1, 2, 3, 4, 7, 8 HxCDD	15-24	*	1.9	1.2	1.3	*	*	1.4	< 2	1.4	1.3	1.2	1.4	< 2	1.3	1.0	1.5
	25-34	1.9	2.3	nr	nr	*	*	1.9	2.5	2.2	2.6	1.9	1.3	2.1	2.5	1.6	1.9
	35-49	2.5	2.9	2.7	2.7	*	4.1	2.8	3.0	3.3	3.5	2.6	2.6	3.4	3.6	2.6	2.8
	50-64	*	*	3.9	*	*	*	2.9	*	3.5	4.9	3.4	3.2	3.8	4.3	2.9	3.4
	65+	*	*	*	*	*	*	*	*	5.9	5.7	5.3	4.2	3.5	5.0	3.0	3.7
1, 2, 3, 6, 7, 8 HxCDD	15-24	*	8.5	< 0.7	11.1	*	*	5.6	5.7	9.0	8.9	10.8	10.9	< 2	9.9	7.2	8.7
	25-34	20.1	20.2	11.1	12.5	*	*	13.1	16.2	20.2	17.9	12.5	13.6	19.7	18.0	13.2	14.9
	35-49	13.1	22.7	18.8	17.8	*	29.2	19.2	20.0	25.2	23.6	20.1	20.1	24.0	26.7	19.2	20.5
	50-64	*	*	32.8	*	*	*	25.5	*	24.9	35.3	25.2	23.5	31.2	28.4	24.5	25.3
	65+	*	*	*	*	*	*	*	*	36.8	39.3	36.3	36.1	30.7	39.6	24.3	29.4
1, 2, 3, 7, 8, 9 HxCDD	15-24	*	3.5	3.0	3.3	*	*	2.4	2.3	3.0	2.2	2.8	3.4	< 2	2.5	1.7	2.6
	25-34	3.7	4.5	3.5	3.9	*	*	2.5	2.7	4.3	4.5	3.3	3.4	3.1	3.4	2.0	3.0
	35-49	3.9	4.8	4.1	4.0	*	6.5	3.2	3.2	5.1	4.8	3.9	3.9	4.0	4.2	3.1	3.7
	50-64	*	*	6.4	*	*	*	3.2	*	5.5	6.7	5.3	4.9	4.5	4.5	4.1	4.6
	65+	*	*	*	*	*	*	*	*	8.3	7.8	6.8	6.7	4.6	6.1	4.2	4.9
1, 2, 3, 4, 6, 7, 8 HpCDD	15-24	*	27.0	20.4	27.1	*	*	20.2	< 50	21.0	< 30	22.3	29.3	21.3	25.4	14.2	20.0
	25-34	42.8	36.9	27.8	51.9	*	*	24.9	30.4	41.6	40.3	32.7	31.9	41.0	25.0	21.9	28.6
	35-49	54.7	36.3	38.2	56.3	*	48.1	35.1	32.1	48.4	40.5	34.2	37.4	40.5	44.6	32.1	33.0
	50-64	*	*	59.9	*	*	*	34.7	*	55.2	55.6	53.3	50.0	46.9	47.7	34.1	42.9
	65+	*	*	*	*	*	*	*	*	85.9	65.9	59.9	56.8	38.6	57.5	30.9	42.6

Table D15 (cont.) Concentrations of PCDDs and PCDFs in serum on a congener-specific basis (ng kg<sup>-1</sup>, lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island
OCDD	15-24	*	242	191	339	*	*	170	178	203	254	207	366	189	299	143	196
	25-34	387	391	280	912	*	*	231	386	400	363	326	366	319	217	209	246
	35-49	689	439	417	961	*	431	308	292	455	420	361	399	373	359	285	325
	50-64	*	*	383	*	*	*	287	*	439	399	497	447	420	406	316	391
	65+	*	*	*	*	*	*	*	*	628	527	484	537	304	561	278	382
2, 3, 7, 8 TCDF	15-24	*	< 1	< 0.4	< 0.8	*	*	< 0.6	< 1	< 0.5	< 0.8	< 0.3	< 0.3	< 0.8	< 0.7	< 0.3	0.4
	25-34	< 0.4	< 0.4	< 0.3	< 2	*	*	< 0.4	< 1	0.2	0.3	0.2	< 0.3	< 0.3	< 0.3	< 0.3	< 0.4
	35-49	< 0.8	< 1	< 0.4	< 0.7	*	0.7	< 0.3	< 0.6	< 0.4	0.3	0.2	0.3	< 0.2	0.2	0.2	< 0.3
	50-64	*	*	< 1	*	*	*	< 0.8	*	0.3	0.4	0.4	0.3	< 0.3	0.7	< 0.3	0.3
	65+	*	*	*	*	*	*	*	*	0.4	0.2	0.2	0.3	< 0.4	0.4	0.3	0.3
1, 2, 3, 7, 8 PeCDF	15-24	*	< 2	< 0.4	< 1	*	*	< 0.7	< 1	< 0.6	< 1	< 0.3	< 0.3	< 0.9	< 0.9	< 0.3	< 0.4
	25-34	< 0.4	< 0.4	< 0.3	< 3	*	*	< 0.8	< 1	0.2	< 0.3	< 0.3	< 0.4	< 0.3	< 0.4	< 0.3	< 0.5
	35-49	< 0.7	< 1	< 0.5	< 0.7	*	0.7	< 0.4	< 0.6	0.3	< 0.4	< 0.5	< 0.4	< 0.3	< 0.3	< 0.3	< 0.2
	50-64	*	*	< 1	*	*	*	< 0.9	*	0.2	0.2	0.3	0.3	< 0.3	< 0.5	0.3	0.2
	65+	*	*	*	*	*	*	*	*	< 0.7	nr	< 0.4	0.3	< 0.5	< 0.3	0.2	0.2
2, 3, 4, 7, 8 PeCDF	15-24	*	2.1	2.1	2.5	*	*	2.6	2.7	2.4	1.9	2.2	2.4	3.1	2.3	1.8	2.5
	25-34	2.6	2.8	2.2	2.6	*	*	3.0	4.0	3.4	2.8	2.6	3.1	3.8	3.0	2.6	3.4
	35-49	3.4	3.6	3.5	3.5	*	4.1	4.1	4.0	4.6	3.8	3.6	3.7	4.5	5.0	3.8	4.0
	50-64	*	*	6.2	*	*	*	4.5	*	5.1	4.9	4.8	5.2	5.7	5.0	4.9	5.1
	65+	*	*	*	*	*	*	*	*	8.3	6.8	6.7	6.5	4.4	5.6	4.9	5.6
1, 2, 3, 4, 7, 8 HxCDF	15-24	*	1.3	1.1	1.5	*	*	1.5	1.7	1.3	1.1	1.0	1.6	1.6	1.5	0.9	1.5
	25-34	1.6	1.6	1.6	2.1	*	*	1.5	2.3	2.0	1.6	1.4	1.8	1.9	1.9	1.2	1.7
	35-49	1.8	2.5	2.1	2.1	*	2.9	2.3	1.7	2.2	2.3	1.8	2.0	2.3	2.4	2.0	2.2
	50-64	*	*	3.6	*	*	*	3.0	*	2.6	3.2	2.7	2.9	2.3	2.9	2.1	2.8
	65+	*	*	*	*	*	*	*	*	4.2	4.3	3.5	3.6	2.2	3.1	2.4	2.7
1, 2, 3, 6, 7, 8 HxCDF	15-24	*	1.6	1.4	1.7	*	*	1.7	2.1	1.5	1.1	1.4	1.8	1.8	1.6	1.1	1.8
	25-34	2.1	2.0	1.8	2.6	*	*	2.0	2.9	2.3	2.2	1.7	2.0	2.5	2.2	1.6	2.4
	35-49	2.3	2.7	2.4	2.6	*	3.6	2.7	2.5	2.7	2.8	2.2	2.4	2.6	2.9	2.2	2.6
	50-64	*	*	3.9	*	*	*	3.1	*	3.0	3.5	3.0	3.2	2.9	3.2	2.7	3.7
	65+	*	*	*	*	*	*	*	*	4.6	4.4	3.8	4.0	2.5	3.7	3.0	3.4

Table D15 (cont.) Concentrations of PCDDs and PCDFs in serum on a congener-specific basis (ng kg<sup>-1</sup>, lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island
2, 3, 4, 6, 7, 8 HxCDF	15-24	*	< 2	0.4	0.8	*	*	0.8	< 2	0.7	< 0.9	0.3	0.5	1.0	0.7	0.4	0.6
	25-34	0.7	0.6	0.6	1.2	*	*	0.7	< 1	0.7	0.6	0.5	0.7	1.1	0.7	0.8	0.8
	35-49	0.7	0.6	0.6	0.8	*	1.4	0.8	0.8	0.8	0.7	0.6	0.7	0.8	1.1	0.7	0.9
	50-64	*	*	1.0	*	*	*	0.9	*	0.9	1.0	1.0	1.0	0.7	0.9	0.9	1.3
	65+	*	*	*	*	*	*	*	*	1.1	1.0	1.0	1.0	0.7	0.9	0.8	0.9
1, 2, 3, 7, 8, 9 HxCDF	15-24	*	< 1	< 0.5	< 0.6	*	*	< 0.8	< 2	< 0.7	< 0.9	< 0.3	< 0.3	< 1	< 0.6	< 0.3	< 0.5
	25-34	< 0.5	< 0.5	< 0.3	< 2	*	*	< 0.5	< 1	< 0.4	< 0.3	< 0.4	< 0.4	< 0.4	< 0.3	< 0.3	< 0.6
	35-49	< 1	< 1	< 0.4	< 0.7	*	< 0.8	< 0.4	< 0.7	< 0.4	< 0.3	< 0.3	< 0.3	< 0.2	< 0.3	< 0.3	< 0.2
	50-64	*	*	< 1	*	*	*	< 1	*	< 0.3	< 0.3	< 0.3	< 0.4	< 0.3	< 0.4	< 0.4	< 0.3
	65+	*	*	*	*	*	*	*	*	< 0.3	< 0.2	< 0.4	< 0.3	< 0.6	< 0.4	< 0.3	< 0.3
1, 2, 3, 4, 6, 7, 8 HpCDF	15-24	*	< 40	< 10	< 20	*	*	< 20	< 30	< 20	< 20	< 7	7.2	< 20	< 10	< 7	< 10
	25-34	< 7	< 7	< 9	< 40	*	*	< 10	< 20	5.3	4.1	5.0	5.8	9.4	< 9	< 5	5.8
	35-49	21.7	< 20	< 7	15.7	*	11.5	< 10	< 20	6.4	5.1	4.1	5.0	4.8	9.7	5.2	4.8
	50-64	*	*	< 30	*	*	*	< 20	*	< 5	4.7	5.0	3.9	5.0	4.8	4.0	6.2
	65+	*	*	*	*	*	*	*	*	5.5	4.3	< 9	4.4	< 10	7.1	< 7	5.2
1, 2, 3, 4, 7, 8, 9 HpCDF	15-24	*	< 2	< 0.6	< 0.9	*	*	< 1	< 2	< 1	< 1	< 0.4	0.5	< 1	< 0.8	< 0.4	< 0.6
	25-34	0.3	0.4	< 0.5	< 3	*	*	0.3	< 1	0.4	< 0.3	0.3	0.3	0.5	< 0.5	< 0.3	0.3
	35-49	1.2	< 0.9	< 0.4	1.1	*	1.2	< 0.7	< 0.9	0.4	0.3	0.3	0.3	0.3	0.5	0.3	0.2
	50-64	*	*	< 2	*	*	*	< 1	*	< 0.3	< 0.4	0.4	< 0.4	0.4	0.3	0.3	0.4
	65+	*	*	*	*	*	*	*	*	0.3	0.2	< 0.5	< 0.6	< 0.7	0.4	< 0.4	0.2
OCDF	15-24	*	< 5	< 2	< 50	*	*	< 2	< 4	< 2	< 50	< 1	< 70	< 2	< 100	< 1	< 2
	25-34	< 20	< 30	< 2	< 200	*	*	< 2	< 70	< 30	< 20	< 10	< 20	< 20	< 2	< 10	< 2
	35-49	< 200	< 40	< 20	< 200	*	< 40	< 1	< 2	< 20	< 20	< 20	< 10	< 20	< 30	< 10	< 10
	50-64	*	*	< 4	*	*	*	< 2	*	< 1	< 1	< 30	< 7	< 20	< 20	< 10	< 20
	65+	*	*	*	*	*	*	*	*	< 20	< 10	< 1	< 1	< 1	< 70	< 1	< 10

**Table D15 (cont.) Concentrations of PCDDs and PCDFs in serum on a congener specific basis (ng kg<sup>-1</sup>, lipid wt basis)**

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	15-24	*	319	232	426	*	*	221	246	259	325	257	465	240	406	178	246
	25-34	482	487	339	1,120	*	*	295	502	504	456	399	447	420	286	265	314
	35-49	897	553	510	1,170	*	574	392	376	572	525	448	491	478	482	367	414
	50-64	*	*	534	*	*	*	386	*	552	530	624	557	543	528	409	503
	65+	*	*	*	*	*	*	*	*	815	687	627	674	408	737	365	499
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	15-24	*	292	224	392	*	*	210	195	247	274	253	429	223	348	174	240
	25-34	468	468	333	989	*	*	286	452	489	446	389	433	409	280	257	309
	35-49	797	523	496	1,070	*	554	385	365	559	515	440	482	467	467	361	406
	50-64	*	*	515	*	*	*	373	*	549	529	609	554	533	517	401	495
	65+	*	*	*	*	*	*	*	*	805	682	621	673	401	702	360	491
PCDD/F TEQ (inc) <sup>2</sup>	15-24	*	7.39	5.53	7.10	*	*	6.35	6.49	6.80	6.54	6.67	7.71	7.95	7.15	5.05	7.37
	25-34	9.87	10.8	7.95	9.48	*	*	8.78	10.7	11.6	10.5	8.53	8.76	10.6	10.7	7.42	9.09
	35-49	11.8	13.5	11.6	12.4	*	16.4	12.5	11.3	14.3	13.3	11.2	12.4	13.5	14.0	10.5	12.5
	50-64	*	*	23.2	*	*	*	14.6	*	16.1	18.3	16.7	16.1	17.2	16.2	13.9	15.9
	65+	*	*	*	*	*	*	*	*	26.7	25.3	23.7	22.1	16.6	20.6	14.8	17.1
PCDD/F TEQ (exc) <sup>3</sup>	15-24	*	6.92	5.38	6.92	*	*	6.16	5.15	6.62	6.14	6.59	7.67	7.42	6.98	4.98	7.28
	25-34	9.78	10.7	7.87	8.14	*	*	8.64	10.3	11.6	10.4	8.46	8.69	10.6	10.6	7.36	8.99
	35-49	11.7	13.3	11.5	12.3	*	16.4	12.4	11.2	14.3	13.3	11.1	12.4	13.5	14.0	10.4	12.5
	50-64	*	*	22.9	*	*	*	14.4	*	16.0	18.3	16.7	16.0	17.1	16.2	13.8	15.8
	65+	*	*	*	*	*	*	*	*	26.7	25.3	23.6	22.1	16.4	20.6	14.7	17.1

1 = Some data for certain age groups and geographic regions are means of unique sub-samples. Data for individual sub-samples are reported in Tables D11-D14

2 = Including half LOD values

3 = Excluding LOD values

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria



## Appendix E      Concentrations of PCBs in the serum of New Zealanders

This appendix reports the concentrations of PCBs in the serum of New Zealanders.

Results are provided for 42 PCB congeners. Data for the sum of congeners are reported both excluding LOD values and including half LOD values. PCB TEQ levels are reported both excluding LOD values and including half LOD values using the 1997 WHO TEFs (Van den Berg, *et al.*, 1998). Median and mean concentrations reported in this appendix (under the heading of 'national summary') are unweighted concentrations. That is, they do not take into account the number of individual samples that were combined to prepare each pooled sample, as described in Section B1.9, Appendix B.

PCB data are reported in the following tables:

Table E1	Concentrations in serum from Maori aged 15–24 years
Table E2	Concentrations in serum from non-Maori aged 15–24 years
Table E3	Concentrations in serum from Maori aged 25–34 years
Table E4	Concentrations in serum from non-Maori aged 25–34 years
Table E5	Concentrations in serum from Maori aged 35–49 years
Table E6	Concentrations in serum from non-Maori aged 35–49 years
Table E7	Concentrations in serum from Maori aged 50–64 years
Table E8	Concentrations in serum from non-Maori aged 50–64 years
Table E9	Concentrations in serum from Maori aged 65+ years
Table E10	Concentrations in serum from non-Maori aged 65+ years
Table E11	Concentrations in serum sub-samples from non-Maori aged 25–34 years
Table E12	Concentrations in serum sub-samples from non-Maori aged 35–49 years
Table E13	Concentrations in serum sub-samples from non-Maori aged 50–64 years
Table E14	Concentrations in serum sub-samples from non-Maori aged 65+ years
Table E15	Concentrations in serum on a congener-specific basis

**Table E1 Concentrations of PCBs in serum from Maori aged 15–24 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 15–24 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
PCB #77	*	< 0.2	< 0.05	< 0.1	*	*	< 0.09	< 0.2	0	< 0.05	< 0.2	-	-
PCB #81	*	< 0.01	< 0.003	< 0.008	*	*	< 0.006	< 0.01	0	< 0.003	< 0.01	-	-
PCB #126	*	0.012	0.016	0.014	*	*	0.013	0.013	5	0.012	0.016	0.013	0.014
PCB #169	*	0.0076	0.0077	0.0089	*	*	0.0097	0.013	5	0.0076	0.013	0.0089	0.0094
PCB #18	*	< 10	< 10	< 10	*	*	< 10	< 10	0	< 10	< 10	-	-
PCB #28	*	< 20	< 20	< 20	*	*	< 20	< 20	0	< 20	< 20	-	-
PCB #52	*	< 10	< 10	< 20	*	*	< 20	< 20	0	< 10	< 20	-	-
PCB #49	*	< 8	< 10	< 20	*	*	< 10	< 10	0	< 8	< 20	-	-
PCB #44	*	< 10	< 10	< 20	*	*	< 20	< 10	0	< 10	< 20	-	-
PCB #74	*	< 6	< 5	< 6	*	*	< 6	< 6	0	< 5	< 6	-	-
PCB #66	*	< 6	< 5	< 6	*	*	< 6	< 6	0	< 5	< 6	-	-
PCB #101	*	< 6	< 5	< 6	*	*	< 5	< 6	0	< 5	< 6	-	-
PCB #99	*	< 6	< 5	< 6	*	*	< 5	< 6	0	< 5	< 6	-	-
PCB #87	*	< 6	< 5	< 6	*	*	< 5	< 6	0	< 5	< 6	-	-
PCB #110	*	< 6	< 5	< 6	*	*	< 5	< 6	0	< 5	< 6	-	-
PCB #118	*	< 6	< 5	< 6	*	*	< 5	< 5	0	< 5	< 6	-	-
PCB #105	*	< 6	< 5	< 6	*	*	< 5	< 5	0	< 5	< 6	-	-
PCB #151	*	< 6	< 5	< 7	*	*	< 6	< 6	0	< 5	< 7	-	-
PCB #149	*	< 6	< 5	< 7	*	*	< 6	< 6	0	< 5	< 7	-	-
PCB #146	*	< 6	< 6	< 7	*	*	< 6	< 6	0	< 6	< 7	-	-
PCB #153	*	6.1	6.8	6.6	*	*	8.9	9.9	5	6.1	9.9	6.8	7.7
PCB #138 + PCB #158	*	< 6	5.4	< 7	*	*	5.9	7.2	3	< 6	7.2	-	-
PCB #128	*	< 6	< 6	< 8	*	*	< 9	< 7	0	< 6	< 9	-	-
PCB #167	*	< 6	< 6	< 8	*	*	< 10	< 7	0	< 6	< 10	-	-
PCB #156	*	< 6	< 6	< 7	*	*	< 7	< 6	0	< 6	< 7	-	-
PCB #157	*	< 6	< 6	< 7	*	*	< 7	< 6	0	< 6	< 7	-	-
PCB #178	*	< 7	< 6	< 8	*	*	< 8	< 6	0	< 6	< 8	-	-
PCB #187	*	< 9	< 6	< 9	*	*	< 10	< 7	0	< 6	< 10	-	-
PCB #183	*	< 9	< 6	< 9	*	*	< 10	< 7	0	< 6	< 10	-	-
PCB #177	*	< 7	< 7	< 9	*	*	< 9	< 7	0	< 7	< 9	-	-
PCB #172	*	< 7	< 7	< 9	*	*	< 9	< 7	0	< 7	< 9	-	-
PCB #180	*	< 7	< 7	< 9	*	*	6.8	8.0	2	< 7	8.0	-	-
PCB #170	*	< 6	< 7	< 20	*	*	< 7	< 7	0	< 6	< 20	-	-
PCB #189	*	< 7	< 8	< 8	*	*	< 8	< 8	0	< 7	< 8	-	-
PCB #201	*	< 7	< 8	< 20	*	*	< 10	< 8	0	< 7	< 20	-	-
PCB #196 + PCB #203	*	< 7	< 10	< 10	*	*	< 10	< 10	0	< 7	< 10	-	-
PCB #195	*	< 8	< 9	< 10	*	*	< 10	< 10	0	< 8	< 10	-	-
PCB #194	*	< 8	< 9	< 10	*	*	< 10	< 10	0	< 8	< 10	-	-
PCB #206	*	< 10	< 10	< 10	*	*	< 10	< 10	0	< 10	< 10	-	-
PCB #209	*	< 10	< 20	< 20	*	*	< 10	< 20	0	< 10	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	*	138	149	196	*	*	166	167		138	196	166	163
Sum of PCBs (exc) <sup>2</sup>	*	6.12	12.2	6.62	*	*	21.6	25.1		6.12	25.1	12.2	14.3
PCB TEQ (inc) <sup>1</sup>	*	0.0051	0.0054	0.0062	*	*	0.0059	0.0056		0.0051	0.0062	0.0056	0.0056
PCB TEQ (exc) <sup>2</sup>	*	0.0013	0.0016	0.0015	*	*	0.0014	0.0015		0.0013	0.0016	0.0015	0.0015

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 4 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table E2 Concentrations of PCBs in serum from non-Maori aged 15–24 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 15–24 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median <sup>3</sup>	Mean <sup>4</sup>
PCB #77	< 0.08	< 0.1	< 0.04	< 0.05	< 0.1	< 0.09	< 0.04	< 0.05	0	< 0.04	< 0.1	-	-
PCB #81	< 0.005	< 0.01	< 0.002	< 0.003	< 0.007	< 0.007	< 0.002	< 0.003	0	< 0.002	< 0.01	-	-
PCB #126	0.015	0.011	0.015	0.015	0.018	0.017	0.011	0.015	8	0.011	0.018	0.015	0.015
PCB #169	0.0088	0.0086	0.0091	0.0098	0.017	0.014	0.0096	0.013	8	0.0086	0.017	0.0097	0.011
PCB #18	< 10	< 20	< 10	< 10	< 20	< 10	< 8	< 20	0	< 8	< 20	-	-
PCB #28	< 20	< 30	< 20	< 20	< 30	< 20	< 10	< 30	0	< 10	< 30	-	-
PCB #52	< 20	< 20	< 10	< 20	< 20	< 10	< 7	< 30	0	< 7	< 30	-	-
PCB #49	< 10	< 10	< 9	< 10	< 10	< 7	< 5	< 20	0	< 5	< 20	-	-
PCB #44	< 20	< 20	< 10	< 20	< 20	< 9	< 6	< 30	0	< 6	< 30	-	-
PCB #74	< 8	< 8	< 5	< 6	< 6	< 6	< 4	< 8	0	< 4	< 8	-	-
PCB #66	< 8	< 8	< 5	< 6	< 6	< 6	< 4	< 8	0	< 4	< 8	-	-
PCB #101	< 6	< 7	< 6	< 5	< 7	< 5	< 4	< 8	0	< 4	< 8	-	-
PCB #99	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 7	0	< 4	< 7	-	-
PCB #87	< 6	< 8	< 5	< 5	< 6	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #110	< 6	< 8	< 5	< 5	< 6	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #118	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 8	0	< 4	< 8	-	-
PCB #105	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 8	0	< 4	< 8	-	-
PCB #151	< 7	< 7	< 5	< 5	< 6	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #149	< 7	< 7	< 5	< 5	< 6	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #146	< 8	< 7	< 5	< 7	< 6	< 5	< 5	< 9	0	< 5	< 9	-	-
PCB #153	8.6	9.5	7.2	7.8	12.3	12.7	10.7	11.2	8	7.2	12.7	10.1	10.0
PCB #138 + PCB #158	< 7	6.4	5.5	< 6	8.8	8.5	7.2	7.1	6	< 6	8.8	6.8	6.3
PCB #128	< 10	< 8	< 6	< 8	< 7	< 5	< 5	< 10	0	< 5	< 10	-	-
PCB #167	< 10	< 7	< 6	< 6	< 7	< 5	< 5	< 10	0	< 5	< 10	-	-
PCB #156	< 7	< 7	< 5	< 6	< 7	< 5	< 5	< 10	0	< 5	< 10	-	-
PCB #157	< 8	< 7	< 6	< 6	< 7	< 5	< 5	< 10	0	< 5	< 10	-	-
PCB #178	< 8	< 8	< 6	< 7	< 7	< 5	< 5	< 10	0	< 5	< 10	-	-
PCB #187	< 10	< 9	< 6	< 7	< 8	< 5	< 5	< 20	0	< 5	< 20	-	-
PCB #183	< 10	< 9	< 6	< 7	< 8	< 5	< 5	< 20	0	< 5	< 20	-	-
PCB #177	< 10	< 8	< 5	< 7	< 8	< 5	< 6	< 10	0	< 5	< 10	-	-
PCB #172	< 10	< 8	< 5	< 7	< 8	< 5	< 6	< 10	0	< 5	< 10	-	-
PCB #180	6.6	7.6	5.5	7.1	9.2	10.8	9.3	9.6	8	5.5	10.8	8.4	8.2
PCB #170	< 8	< 7	< 6	< 6	< 8	< 5	< 6	< 10	0	< 5	< 10	-	-
PCB #189	< 9	< 8	< 7	< 8	< 9	< 6	< 7	< 10	0	< 6	< 10	-	-
PCB #201	< 10	< 8	< 9	< 9	< 9	< 8	< 7	< 10	0	< 7	< 10	-	-
PCB #196 + PCB #203	< 10	< 10	< 9	< 9	< 10	< 8	< 9	< 20	0	< 8	< 20	-	-
PCB #195	< 10	< 10	< 9	< 10	< 10	< 8	< 9	< 20	0	< 8	< 20	-	-
PCB #194	< 10	< 10	< 9	< 10	< 10	< 8	< 9	< 20	0	< 8	< 20	-	-
PCB #206	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	0	< 10	< 20	-	-
PCB #209	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	0	< 10	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	185	182	140	157	180	145	127	255		127	255	169	171
Sum of PCBs (exc) <sup>2</sup>	15.2	23.5	18.2	14.9	30.3	32.0	27.2	27.9		14.9	32.0	25.4	23.7
PCB TEQ (inc) <sup>1</sup>	0.0066	0.0059	0.0052	0.0055	0.0063	0.0052	0.0047	0.0083		0.0047	0.0083	0.0057	0.0060
PCB TEQ (exc) <sup>2</sup>	0.0016	0.0012	0.0016	0.0016	0.0019	0.0018	0.0012	0.0016		0.0012	0.0019	0.0016	0.0016

1 = Including half LOD values

2 = Excluding LOD values

3 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

4 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table E3 Concentrations of PCBs in serum from Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 25–34 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
PCB #77	< 0.06	< 0.06	< 0.05	< 0.2	*	*	< 0.05	< 0.2	0	< 0.05	< 0.2	-	-
PCB #81	< 0.004	< 0.004	< 0.003	< 0.02	*	*	< 0.005	< 0.01	0	< 0.003	< 0.02	-	-
PCB #126	0.021	0.020	0.019	0.020	*	*	0.018	0.013	6	0.013	0.021	0.019	0.018
PCB #169	0.012	0.014	0.012	0.013	*	*	0.018	0.021	6	0.012	0.021	0.014	0.015
PCB #18	< 10	< 10	< 10	< 10	*	*	< 8	< 10	0	< 8	< 10	-	-
PCB #28	< 20	< 20	< 20	< 20	*	*	< 10	< 20	0	< 10	< 20	-	-
PCB #52	< 10	< 9	< 10	< 9	*	*	< 7	< 20	0	< 7	< 20	-	-
PCB #49	< 9	< 7	< 7	< 7	*	*	< 5	< 10	0	< 5	< 10	-	-
PCB #44	< 10	< 9	< 9	< 9	*	*	< 6	< 10	0	< 6	< 10	-	-
PCB #74	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #66	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #101	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #99	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #87	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #110	< 5	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #118	< 5	< 5	< 6	< 5	*	*	< 4	< 5	0	< 4	< 6	-	-
PCB #105	< 5	< 5	< 5	< 5	*	*	< 4	< 5	0	< 4	< 5	-	-
PCB #151	< 6	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #149	< 6	< 5	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #146	< 6	< 6	< 6	< 5	*	*	< 4	< 6	0	< 4	< 6	-	-
PCB #153	13.4	15.8	11.5	10.1	*	*	15.7	19.4	6	10.1	19.4	14.6	14.3
PCB #138 + PCB #158	9.0	11.0	8.3	7.3	*	*	10.2	12.9	6	7.3	12.9	9.6	9.8
PCB #128	< 8	< 8	< 7	< 6	*	*	< 4	< 7	0	< 4	< 8	-	-
PCB #167	< 9	< 7	< 7	< 6	*	*	< 4	< 7	0	< 4	< 9	-	-
PCB #156	< 6	< 6	< 7	< 6	*	*	< 4	< 6	0	< 4	< 7	-	-
PCB #157	< 6	< 6	< 7	< 6	*	*	< 4	< 7	0	< 4	< 7	-	-
PCB #178	< 7	< 6	< 7	< 5	*	*	< 4	< 7	0	< 4	< 7	-	-
PCB #187	< 9	< 8	< 7	< 6	*	*	< 4	< 8	0	< 4	< 9	-	-
PCB #183	< 9	< 8	< 7	< 6	*	*	< 4	< 8	0	< 4	< 9	-	-
PCB #177	< 8	< 8	< 8	< 5	*	*	< 4	< 7	0	< 4	< 8	-	-
PCB #172	< 8	< 8	< 8	< 5	*	*	< 4	< 7	0	< 4	< 8	-	-
PCB #180	10.0	11.5	8.9	8.5	*	*	14.2	16.7	6	8.5	16.7	10.8	11.6
PCB #170	< 7	5.4	< 8	< 20	*	*	6.7	6.5	3	< 7	6.7	-	-
PCB #189	< 8	< 10	< 9	< 9	*	*	< 6	< 7	0	< 6	< 10	-	-
PCB #201	< 10	< 10	< 9	< 40	*	*	< 30	< 8	0	< 8	< 40	-	-
PCB #196 + PCB #203	< 20	< 10	< 9	< 40	*	*	< 9	< 9	0	< 9	< 40	-	-
PCB #195	< 10	< 10	< 10	< 10	*	*	< 8	< 10	0	< 8	< 10	-	-
PCB #194	< 10	< 10	< 10	< 10	*	*	< 8	< 10	0	< 8	< 10	-	-
PCB #206	< 10	< 20	< 10	< 10	*	*	< 9	< 10	0	< 9	< 20	-	-
PCB #209	< 10	< 20	< 10	< 10	*	*	< 10	< 20	0	< 10	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	173	176	162	178	*	*	144	192		144	192	175	171
Sum of PCBs (exc) <sup>2</sup>	32.4	43.7	28.7	25.9	*	*	46.8	55.5		25.9	55.5	38.1	38.9
PCB TEQ (inc) <sup>1</sup>	0.0064	0.0063	0.0064	0.0060	*	*	0.0048	0.0055		0.0048	0.0064	0.0061	0.0059
PCB TEQ (exc) <sup>2</sup>	0.0022	0.0021	0.0020	0.0021	*	*	0.0019	0.0015		0.0015	0.0022	0.0020	0.0020

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 4 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table E4 Concentrations of PCBs in serum from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 25–34 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=3) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
PCB #77	< 0.04	< 0.05	< 0.05	< 0.05	< 0.05	< 0.04	< 0.03	< 0.05	0	< 0.03	< 0.05	-	-
PCB #81	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.002	< 0.003	0	< 0.002	< 0.003	-	-
PCB #126	0.029	0.023	0.019	0.017	0.023	0.018	0.012	0.016	8	0.012	0.029	0.019	0.020
PCB #169	0.016	0.015	0.013	0.012	0.021	0.024	0.016	0.017	8	0.012	0.024	0.016	0.017
PCB #18	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	0	< 10	< 10	-	-
PCB #28	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	0	< 20	< 20	-	-
PCB #52	< 10	< 10	< 20	< 10	< 20	< 9	< 10	< 20	0	< 9	< 20	-	-
PCB #49	< 7	< 8	< 10	< 10	< 10	< 6	< 9	< 10	0	< 6	< 10	-	-
PCB #44	< 9	< 10	< 20	< 10	< 20	< 8	< 10	< 20	0	< 8	< 20	-	-
PCB #74	< 5	< 5	< 6	< 6	< 6	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #66	< 5	< 5	< 6	< 6	< 6	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #101	< 5	< 6	< 6	< 5	< 5	< 5	< 5	< 6	0	< 5	< 6	-	-
PCB #99	< 5	< 6	< 6	< 5	< 5	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #87	< 5	< 6	< 6	< 6	< 5	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #110	< 5	< 6	< 6	< 6	< 5	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #118	< 5	< 6	< 6	< 5	< 5	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #105	< 5	< 6	< 5	< 5	< 5	< 5	< 4	< 5	0	< 4	< 6	-	-
PCB #151	< 5	< 6	< 6	< 6	< 6	< 5	< 5	< 5	0	< 5	< 6	-	-
PCB #149	< 5	< 6	< 6	< 6	< 6	< 5	< 5	< 5	0	< 5	< 6	-	-
PCB #146	< 6	< 6	< 6	< 6	< 7	< 5	< 5	< 6	0	< 5	< 7	-	-
PCB #153	19.5	14.8	13.2	15.3	21.2	25.2	17.8	15.9	8	13.2	25.2	16.8	17.9
PCB #138 + PCB #158	13.5	10.2	8.7	9.8	11.8	15.6	11.2	10.7	8	8.7	15.6	10.9	11.4
PCB #128	< 6	< 6	< 7	< 6	< 6	< 6	< 5	< 7	0	< 5	< 7	-	-
PCB #167	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 7	0	< 6	< 7	-	-
PCB #156	< 6	< 6	< 6	< 5	< 6	< 6	< 5	< 6	0	< 5	< 6	-	-
PCB #157	< 6	< 6	< 6	< 5	< 6	< 6	< 5	< 6	0	< 5	< 6	-	-
PCB #178	< 6	< 6	< 6	< 6	< 7	< 5	< 5	< 6	0	< 5	< 7	-	-
PCB #187	< 7	< 6	< 7	< 7	< 8	6.3	3.4	< 8	2	< 6	6.3	-	-
PCB #183	< 7	< 6	< 7	< 7	< 8	< 5	< 6	< 8	0	< 5	< 8	-	-
PCB #177	< 7	< 6	< 7	< 6	< 8	< 6	< 6	< 6	0	< 6	< 8	-	-
PCB #172	< 7	< 6	< 7	< 6	< 8	< 6	< 6	< 6	0	< 6	< 8	-	-
PCB #180	14.2	12.0	10.7	11.5	17.5	27.1	16.9	14.1	8	10.7	27.1	14.1	15.5
PCB #170	5.8	5.5	< 6	< 6	7.1	12.9	6.9	6.3	6	< 6	12.9	6.1	6.3
PCB #189	< 9	< 7	< 8	< 6	< 8	nr	< 6	< 7	0	< 6	< 9	-	-
PCB #201	< 8	< 9	< 8	< 6	< 8	< 40	< 7	< 9	0	< 6	< 40	-	-
PCB #196 + PCB #203	< 9	< 8	< 10	< 7	< 10	< 40	< 9	< 9	0	< 7	< 40	-	-
PCB #195	< 10	< 9	< 9	< 8	< 10	< 10	< 7	< 9	0	< 7	< 10	-	-
PCB #194	< 10	< 9	< 9	< 8	< 10	5.3	< 7	< 9	1	< 7	5.3	-	-
PCB #206	< 10	< 10	< 10	< 9	< 10	< 10	< 9	< 10	0	< 9	< 10	-	-
PCB #209	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	0	< 10	< 10	-	-
Sum of PCBs (inc) <sup>1</sup>	173	163	173	161	194	225	160	178		160	225	173	179
Sum of PCBs (exc) <sup>2</sup>	53.0	42.5	32.7	36.5	57.6	92.4	54.6	46.9		32.7	92.4	50.0	52.0
PCB TEQ (inc) <sup>1</sup>	0.0071	0.0063	0.0060	0.0054	0.0064	0.0055	0.0045	0.0055		0.0045	0.0071	0.0058	0.0058
PCB TEQ (exc) <sup>2</sup>	0.0031	0.0025	0.0021	0.0019	0.0025	0.0020	0.0014	0.0018		0.0014	0.0031	0.0020	0.0022

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table E11 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table E5 Concentrations of PCBs in serum from Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 35–49 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
PCB #77	< 0.1	< 0.1	< 0.06	< 0.1	*	< 0.1	< 0.05	< 0.1	0	< 0.05	< 0.1	-	-
PCB #81	< 0.008	< 0.008	< 0.004	< 0.006	*	< 0.006	< 0.003	< 0.006	0	< 0.003	< 0.008	-	-
PCB #126	0.022	0.022	0.022	0.026	*	0.030	0.021	0.021	7	0.021	0.030	0.022	0.023
PCB #169	0.017	0.018	0.017	0.017	*	0.032	0.026	0.027	7	0.017	0.032	0.018	0.022
PCB #18	< 10	< 20	< 10	< 10	*	< 10	< 9	< 9	0	< 9	< 20	-	-
PCB #28	< 20	< 30	< 20	< 20	*	< 20	< 10	< 20	0	< 10	< 30	-	-
PCB #52	< 20	< 20	< 10	< 8	*	< 10	< 7	< 10	0	< 7	< 20	-	-
PCB #49	< 10	< 20	< 8	< 6	*	< 8	< 5	< 8	0	< 5	< 20	-	-
PCB #44	< 20	< 20	< 10	< 8	*	< 10	< 7	< 10	0	< 7	< 20	-	-
PCB #74	< 6	7.1	< 6	< 5	*	< 5	< 5	< 4	1	< 4	7.1	-	-
PCB #66	< 6	< 8	< 6	< 5	*	< 5	< 5	< 4	0	< 4	< 8	-	-
PCB #101	< 5	< 8	< 6	< 5	*	< 5	< 4	< 4	0	< 4	< 8	-	-
PCB #99	< 5	< 8	< 6	< 5	*	< 5	< 4	< 4	0	< 4	< 8	-	-
PCB #87	< 5	< 10	< 6	< 5	*	< 5	< 4	< 4	0	< 4	< 10	-	-
PCB #110	< 5	< 10	< 6	< 5	*	< 5	< 4	< 4	0	< 4	< 10	-	-
PCB #118	< 5	6.2	< 6	< 5	*	< 4	< 5	< 4	1	< 4	6.2	-	-
PCB #105	< 5	< 6	< 5	< 5	*	< 4	< 4	< 4	0	< 4	< 6	-	-
PCB #151	< 6	< 10	< 6	< 5	*	< 5	< 5	< 4	0	< 4	< 10	-	-
PCB #149	< 6	< 10	< 6	< 5	*	< 5	< 5	< 4	0	< 4	< 10	-	-
PCB #146	< 6	< 7	< 6	< 6	*	< 5	< 5	< 4	0	< 5	< 7	-	-
PCB #153	20.9	36.4	19.1	20.8	*	28.1	32.9	27.0	7	19.1	36.4	27.0	26.5
PCB #138 + PCB #158	13.2	23.0	13.0	13.4	*	18.5	22.5	17.1	7	13.0	23.0	17.1	17.2
PCB #128	< 6	< 10	< 6	< 7	*	< 5	< 5	< 6	0	< 5	< 10	-	-
PCB #167	< 6	< 8	< 6	< 8	*	< 5	< 6	< 6	0	< 5	< 8	-	-
PCB #156	< 6	< 6	< 6	< 6	*	< 5	< 6	< 6	0	< 5	< 6	-	-
PCB #157	< 6	< 5	< 6	< 6	*	< 5	< 6	< 6	0	< 5	< 6	-	-
PCB #178	< 6	< 7	< 6	< 6	*	< 5	< 6	< 6	0	< 5	< 7	-	-
PCB #187	< 7	6.9	< 6	< 7	*	6.6	7.5	6.5	4	< 6	7.5	-	-
PCB #183	< 7	< 8	< 6	< 7	*	< 5	< 6	< 7	0	< 5	< 8	-	-
PCB #177	< 8	< 6	< 6	< 8	*	< 5	< 8	< 7	0	< 5	< 8	-	-
PCB #172	< 8	< 6	< 6	< 8	*	< 5	< 8	< 7	0	< 5	< 8	-	-
PCB #180	15.2	27.9	14.4	14.8	*	26.1	27.1	25.8	7	14.4	27.9	25.8	21.6
PCB #170	6.4	9.9	6.2	6.2	*	15.9	10.5	10.2	7	6.2	15.9	9.9	9.3
PCB #189	< 8	< 5	< 6	< 10	*	< 6	< 8	< 10	0	< 5	< 10	-	-
PCB #201	< 8	< 8	< 20	< 10	*	< 6	< 8	< 8	0	< 6	< 20	-	-
PCB #196 + PCB #203	< 10	< 10	< 7	< 20	*	< 6	< 10	< 9	0	< 6	< 20	-	-
PCB #195	< 10	< 7	< 8	< 10	*	< 7	< 9	< 10	0	< 7	< 10	-	-
PCB #194	< 10	< 7	< 8	< 10	*	4.0	4.4	< 10	2	< 7	4.4	-	-
PCB #206	< 10	< 7	< 7	< 10	*	< 8	< 10	< 10	0	< 7	< 10	-	-
PCB #209	< 20	< 8	< 9	< 20	*	< 7	< 10	< 10	0	< 7	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	190	268	176	183	*	192	205	203		176	268	192	202
Sum of PCBs (exc) <sup>2</sup>	55.7	117	52.7	55.2	*	99.3	105	86.6		52.7	117	86.6	81.7
PCB TEQ (inc) <sup>1</sup>	0.0061	0.0064	0.0061	0.0068	*	0.0064	0.0064	0.0062		0.0061	0.0068	0.0064	0.0064
PCB TEQ (exc) <sup>2</sup>	0.0024	0.0030	0.0024	0.0027	*	0.0033	0.0024	0.0023		0.0023	0.0033	0.0024	0.0026

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 5 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 5 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table E6 Concentrations of PCBs in serum from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 35–49 years				
	Northland/ Auckland (n=2) <sup>3</sup>	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=3) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
PCB #77	< 0.05	< 0.04	< 0.04	< 0.05	< 0.03	< 0.04	< 0.03	< 0.04	0	< 0.03	< 0.05	-	-
PCB #81	< 0.004	< 0.003	< 0.003	< 0.003	< 0.002	< 0.002	< 0.002	< 0.002	0	< 0.002	< 0.004	-	-
PCB #126	0.028	0.021	0.025	0.023	0.030	0.021	0.016	0.021	8	0.016	0.030	0.022	0.023
PCB #169	0.021	0.018	0.020	0.018	0.030	0.032	0.023	0.026	8	0.018	0.032	0.022	0.023
PCB #18	< 20	< 10	< 20	< 10	< 10	< 10	< 10	< 10	0	< 10	< 20	-	-
PCB #28	< 30	< 20	< 30	< 20	< 20	< 20	< 20	< 20	0	< 20	< 30	-	-
PCB #52	< 20	< 10	< 20	< 10	< 7	< 10	< 20	< 10	0	< 7	< 20	-	-
PCB #49	< 10	< 10	< 10	< 10	< 5	< 9	< 10	< 8	0	< 5	< 10	-	-
PCB #44	< 20	< 10	< 20	< 10	< 7	< 10	< 20	< 10	0	< 7	< 20	-	-
PCB #74	4.9	< 6	< 7	3.5	< 4	< 5	4.1	< 4	3	< 4	4.9	-	-
PCB #66	< 10	< 6	< 7	< 5	< 4	< 5	< 7	< 4	0	< 4	< 10	-	-
PCB #101	< 10	< 6	< 9	< 5	< 4	< 5	< 6	< 4	0	< 4	< 10	-	-
PCB #99	< 10	< 6	< 8	< 5	< 4	< 5	< 6	< 4	0	< 4	< 10	-	-
PCB #87	< 10	< 6	< 10	< 5	< 4	< 5	< 6	< 4	0	< 4	< 10	-	-
PCB #110	< 10	< 6	< 10	< 5	< 4	< 5	< 6	< 4	0	< 4	< 10	-	-
PCB #118	4.6	< 5	< 7	< 5	4.3	< 5	3.3	< 5	3	< 5	4.6	-	-
PCB #105	< 10	< 5	< 7	< 5	< 4	< 4	< 6	< 4	0	< 4	< 10	-	-
PCB #151	< 20	< 6	< 10	< 6	< 4	< 5	< 9	< 5	0	< 4	< 20	-	-
PCB #149	< 20	< 6	< 10	< 6	< 4	< 5	< 9	< 5	0	< 4	< 20	-	-
PCB #146	< 10	< 6	< 7	< 6	< 5	< 5	3.2	< 5	1	< 5	3.2	-	-
PCB #153	25.7	23.2	20.7	19.4	32.2	31.9	30.6	24.6	8	19.4	32.2	25.1	26.0
PCB #138 + PCB #158	16.1	15.3	13.9	12.6	18.6	18.8	18.1	15.8	8	12.6	18.8	15.9	16.1
PCB #128	< 20	< 6	< 10	< 6	< 4	< 6	< 7	< 5	0	< 4	< 20	-	-
PCB #167	< 10	< 6	< 8	< 6	< 5	< 7	< 6	< 5	0	< 5	< 10	-	-
PCB #156	< 9	< 5	< 6	< 7	< 5	< 6	3.6	< 5	1	< 5	3.6	-	-
PCB #157	< 8	< 6	< 6	< 7	< 5	< 6	< 7	< 5	0	< 5	< 8	-	-
PCB #178	< 10	< 7	< 8	< 6	< 4	< 6	< 9	< 5	0	< 4	< 10	-	-
PCB #187	4.4	< 9	4.3	< 7	7.5	7.6	7.1	5.2	6	< 7	7.6	4.8	5.5
PCB #183	< 10	< 9	< 9	< 7	< 4	< 7	< 10	< 6	0	< 4	< 10	-	-
PCB #177	< 9	< 6	< 6	< 8	< 5	< 7	< 7	< 5	0	< 5	< 9	-	-
PCB #172	< 9	< 6	< 6	< 8	< 5	< 7	< 7	< 5	0	< 5	< 9	-	-
PCB #180	20.6	19.9	16.6	17.1	26.8	32.2	27.3	24.7	8	16.6	32.2	22.6	23.1
PCB #170	9.5	7.9	7.5	7.2	10.7	14.9	9.3	10.2	8	7.2	14.9	9.4	9.6
PCB #189	< 6	< 6	< 6	< 7	< 7	< 7	< 5	< 6	0	< 5	< 7	-	-
PCB #201	< 10	< 7	< 20	< 20	< 6	4.8	3.5	< 6	2	< 6	4.8	-	-
PCB #196 + PCB #203	< 20	< 8	< 10	< 20	< 7	4.4	3.6	< 7	2	< 7	4.4	-	-
PCB #195	< 10	< 9	< 10	< 10	< 8	< 9	< 6	< 8	0	< 6	< 10	-	-
PCB #194	< 10	< 9	< 10	< 10	5.0	6.9	5.1	4.7	4	< 9	6.9	-	-
PCB #206	< 10	< 10	< 9	< 10	< 10	< 10	< 5	< 10	0	< 5	< 10	-	-
PCB #209	< 10	< 10	< 10	< 10	< 10	< 20	< 5	< 10	0	< 5	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	286	191	230	194	193	225	222	182		182	286	208	216
Sum of PCBs (exc) <sup>2</sup>	81.9	66.3	61.3	58.0	105	122	111	83.3		58.0	122	82.6	86.0
PCB TEQ (inc) <sup>1</sup>	0.0086	0.0059	0.0066	0.0069	0.0067	0.0064	0.0063	0.0055		0.0055	0.0086	0.0065	0.0066
PCB TEQ (exc) <sup>2</sup>	0.0033	0.0023	0.0027	0.0024	0.0037	0.0024	0.0031	0.0024		0.0023	0.0037	0.0025	0.0028

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table E12 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table E7 Concentrations of PCBs in serum from Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 50–64 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>3</sup>	Median <sup>4</sup>	Mean <sup>5</sup>
PCB #77	*	*	< 0.1	*	*	*	< 0.1	*	0	< 0.1	< 0.1	-	-
PCB #81	*	*	< 0.009	*	*	*	< 0.006	*	0	< 0.006	< 0.009	-	-
PCB #126	*	*	0.061	*	*	*	0.033	*	2	0.033	0.061	0.047	0.047
PCB #169	*	*	0.035	*	*	*	0.031	*	2	0.031	0.035	0.033	0.033
PCB #18	*	*	< 10	*	*	*	< 8	*	0	< 8	< 10	-	-
PCB #28	*	*	< 20	*	*	*	< 10	*	0	< 10	< 20	-	-
PCB #52	*	*	< 10	*	*	*	< 6	*	0	< 6	< 10	-	-
PCB #49	*	*	< 10	*	*	*	< 5	*	0	< 5	< 10	-	-
PCB #44	*	*	< 10	*	*	*	< 6	*	0	< 6	< 10	-	-
PCB #74	*	*	6.5	*	*	*	4.7	*	2	4.7	6.5	5.6	5.6
PCB #66	*	*	< 5	*	*	*	< 5	*	0	< 5	< 5	-	-
PCB #101	*	*	< 6	*	*	*	< 4	*	0	< 4	< 6	-	-
PCB #99	*	*	< 6	*	*	*	< 4	*	0	< 4	< 6	-	-
PCB #87	*	*	< 8	*	*	*	< 4	*	0	< 4	< 8	-	-
PCB #110	*	*	< 8	*	*	*	< 4	*	0	< 4	< 8	-	-
PCB #118	*	*	8.6	*	*	*	5.1	*	2	5.1	8.6	6.9	6.9
PCB #105	*	*	< 6	*	*	*	< 4	*	0	< 4	< 6	-	-
PCB #151	*	*	< 6	*	*	*	< 4	*	0	< 4	< 6	-	-
PCB #149	*	*	< 6	*	*	*	< 4	*	0	< 4	< 6	-	-
PCB #146	*	*	5.5	*	*	*	6.1	*	2	5.5	6.1	5.8	5.8
PCB #153	*	*	45.0	*	*	*	46.8	*	2	45.0	46.8	45.9	45.9
PCB #138 + PCB #158	*	*	31.4	*	*	*	31.5	*	2	31.4	31.5	31.5	31.5
PCB #128	*	*	< 7	*	*	*	< 4	*	0	< 4	< 7	-	-
PCB #167	*	*	< 6	*	*	*	< 5	*	0	< 5	< 6	-	-
PCB #156	*	*	4.8	*	*	*	5.2	*	2	4.8	5.2	5.0	5.0
PCB #157	*	*	< 6	*	*	*	< 5	*	0	< 5	< 6	-	-
PCB #178	*	*	< 6	*	*	*	< 5	*	0	< 5	< 6	-	-
PCB #187	*	*	10.2	*	*	*	15.3	*	2	10.2	15.3	12.8	12.8
PCB #183	*	*	< 7	*	*	*	4.2	*	1	< 7	4.2	-	-
PCB #177	*	*	< 6	*	*	*	3.9	*	1	< 6	3.9	-	-
PCB #172	*	*	< 6	*	*	*	< 5	*	0	< 5	< 6	-	-
PCB #180	*	*	34.1	*	*	*	42.2	*	2	34.1	42.2	38.2	38.2
PCB #170	*	*	14.9	*	*	*	14.5	*	2	14.5	14.9	14.7	14.7
PCB #189	*	*	< 8	*	*	*	< 5	*	0	< 5	< 8	-	-
PCB #201	*	*	< 10	*	*	*	5.8	*	1	< 10	5.8	-	-
PCB #196 + PCB #203	*	*	< 9	*	*	*	5.0	*	1	< 9	5.0	-	-
PCB #195	*	*	< 9	*	*	*	< 6	*	0	< 6	< 9	-	-
PCB #194	*	*	5.4	*	*	*	6.6	*	2	5.4	6.6	6.0	6.0
PCB #206	*	*	< 10	*	*	*	< 6	*	0	< 6	< 10	-	-
PCB #209	*	*	< 10	*	*	*	< 8	*	0	< 8	< 10	-	-
Sum of PCBs (inc) <sup>1</sup>	*	*	277	*	*	*	256	*		256	277	266	266
Sum of PCBs (exc) <sup>2</sup>	*	*	166	*	*	*	197	*		166	197	182	182
PCB TEQ (inc) <sup>1</sup>	*	*	0.012	*	*	*	0.0083	*		0.0083	0.012	0.010	0.010
PCB TEQ (exc) <sup>2</sup>	*	*	0.0097	*	*	*	0.0067	*		0.0067	0.0097	0.0082	0.0082

1 = Including half LOD values

2 = Excluding LOD values

3 = Excludes any LOD value which is greater than a maximum measured value for that congener

4 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 2 positive determinations). LODs are included in the median calculation

5 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 2 positive determinations). For any individual congener, calculation of the mean includes half LOD values

\* = Insufficient sample collected for analysis

**Table E8 Concentrations of PCBs in serum from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 50–64 years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
PCB #77	< 0.03	< 0.04	< 0.04	< 0.04	< 0.05	< 0.04	< 0.04	< 0.05	0	< 0.03	< 0.05	-	-
PCB #81	< 0.002	< 0.002	0.0029	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	1	< 0.002	0.0029	-	-
PCB #126	0.035	0.035	0.034	0.037	0.043	0.050	0.028	0.028	8	0.028	0.050	0.035	0.036
PCB #169	0.024	0.024	0.022	0.023	0.035	0.031	0.031	0.029	8	0.022	0.035	0.027	0.027
PCB #18	< 10	< 9	< 10	< 10	< 9	< 10	< 10	< 20	0	< 9	< 20	-	-
PCB #28	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 30	0	< 10	< 30	-	-
PCB #52	< 10	< 10	< 9	< 10	< 10	< 10	< 10	< 20	0	< 9	< 20	-	-
PCB #49	< 7	< 10	< 7	< 8	< 8	< 7	< 9	< 20	0	< 7	< 20	-	-
PCB #44	< 10	< 10	< 9	< 10	< 10	< 9	< 10	< 20	0	< 9	< 20	-	-
PCB #74	5.5	5.1	6.1	5.4	6.2	5	4	5.0	6	4	6.2	5.3	4.7
PCB #66	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 8	0	< 4	< 8	-	-
PCB #101	< 4	< 4	< 5	< 5	< 4	< 5	< 4	< 7	0	< 4	< 7	-	-
PCB #99	< 4	< 4	< 5	< 4	< 5	< 5	< 4	< 7	0	< 4	< 7	-	-
PCB #87	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #110	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 9	0	< 4	< 9	-	-
PCB #118	7.1	6.1	5.8	5.5	5.7	6.1	4	5	6	4	7.1	5.8	5.1
PCB #105	< 4	< 4	< 5	< 4	< 4	< 4	< 4	< 5	0	< 4	< 5	-	-
PCB #151	< 4	< 4	< 5	< 5	< 5	< 5	< 5	< 9	0	< 4	< 9	-	-
PCB #149	< 4	< 4	< 5	< 5	< 5	< 5	< 5	< 9	0	< 4	< 9	-	-
PCB #146	< 5	< 4	< 5	< 5	< 5	5.6	5	6	1	4	5.6	-	-
PCB #153	34.9	36.0	26.4	26.9	34.5	49.9	29.6	32.0	8	26.4	49.9	33.3	33.8
PCB #138 + PCB #158	21.9	21.1	17.5	17.7	20.3	36.2	18.4	19.7	8	17.5	36.2	20.0	21.6
PCB #128	< 5	< 6	< 5	< 5	< 6	< 5	< 5	< 7	0	< 5	< 7	-	-
PCB #167	< 5	< 6	< 5	< 5	< 6	< 5	< 5	< 5	0	< 5	< 6	-	-
PCB #156	< 5	< 4	< 5	< 6	4.8	5.5	5	3.5	3	4	5.5	-	-
PCB #157	< 5	< 4	< 5	< 4	< 6	< 5	< 5	< 5	0	< 4	< 6	-	-
PCB #178	< 5	< 5	< 5	< 5	< 6	< 5	< 5	< 6	0	< 5	< 6	-	-
PCB #187	7.3	7.6	5.5	5.3	7.3	12.0	6.4	7.8	8	5.3	12.0	7.3	7.4
PCB #183	< 6	< 7	< 6	< 5	< 7	5.3	6	6	1	5	5.3	-	-
PCB #177	< 7	< 5	< 5	< 5	< 7	4.4	5	6	1	5	4.4	-	-
PCB #172	< 7	< 5	< 5	< 5	< 7	5	5	6	0	5	7	-	-
PCB #180	26.7	30.4	20.0	21.4	29.1	44.6	28.3	31.7	8	20.0	44.6	28.7	29.0
PCB #170	11.5	11.9	8.6	9.4	13.7	18.6	11.4	11.9	8	8.6	18.6	11.7	12.1
PCB #189	< 8	< 6	< 5	< 5	< 8	5	6	6	0	5	8	-	-
PCB #201	< 7	< 7	< 20	< 10	< 7	5.9	20	4.4	2	7	5.9	-	-
PCB #196 + PCB #203	< 10	< 6	< 6	< 7	< 10	5.6	20	4.0	2	6	5.6	-	-
PCB #195	< 9	< 7	< 6	< 7	< 10	6	10	7	0	6	10	-	-
PCB #194	4.8	5.0	< 6	< 7	5.9	8.5	6.1	6.3	6	6	8.5	5.5	5.4
PCB #206	< 10	< 8	< 7	< 8	< 10	6	9	7	0	6	10	-	-
PCB #209	< 20	< 8	< 8	< 10	< 20	7	10	8	0	7	20	-	-
Sum of PCBs (inc) <sup>1</sup>	222	214	184	188	229	279	209	251		184	279	218	222
Sum of PCBs (exc) <sup>2</sup>	120	123	89.7	91.5	128	208	100	122		89.7	208	121	123
PCB TEQ (inc) <sup>1</sup>	0.0077	0.0070	0.0071	0.0076	0.0098	0.010	0.0062	0.0069		0.0062	0.010	0.0073	0.0078
PCB TEQ (exc) <sup>2</sup>	0.0044	0.0043	0.0042	0.0045	0.0076	0.0087	0.0031	0.0042		0.0031	0.0087	0.0044	0.0051

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two unique sub-samples prepared for this stratum (see Table E13 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table E9 Concentrations of PCBs in serum from Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Maori female				Maori male				National summary for Maori aged 65+ years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median	Mean
PCB #77	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #81	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #126	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #169	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #18	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #28	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #52	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #49	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #44	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #74	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #66	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #101	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #99	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #87	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #110	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #118	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #105	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #151	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #149	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #146	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #153	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #138 + PCB #158	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #128	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #167	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #156	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #157	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #178	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #187	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #183	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #177	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #172	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #180	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #170	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #189	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #201	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #196 + PCB #203	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #195	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #194	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #206	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB #209	*	*	*	*	*	*	*	*	-	-	-	-	-
Sum of PCBs (inc)	*	*	*	*	*	*	*	*	-	-	-	-	-
Sum of PCBs (exc)	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB TEQ (inc)	*	*	*	*	*	*	*	*	-	-	-	-	-
PCB TEQ (exc)	*	*	*	*	*	*	*	*	-	-	-	-	-

\* = Insufficient sample collected for analysis

**Table E10 Concentrations of PCBs in serum from non-Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener	Non-Maori female				Non-Maori male				National summary for non-Maori aged 65+ years				
	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island (n=2) <sup>3</sup>	South Island (n=2) <sup>3</sup>	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island (n=2) <sup>3</sup>	Number of positives	Minimum	Maximum <sup>4</sup>	Median <sup>5</sup>	Mean <sup>6</sup>
PCB #77	< 0.06	< 0.03	< 0.04	< 0.04	< 0.06	< 0.05	< 0.04	< 0.05	0	< 0.03	< 0.06	-	-
PCB #81	< 0.005	< 0.002	< 0.002	< 0.003	< 0.003	0.0027	< 0.003	0.0024	2	< 0.002	0.0027	-	-
PCB #126	0.065	0.057	0.053	0.043	0.028	0.057	0.031	0.034	8	0.028	0.065	0.048	0.046
PCB #169	0.035	0.026	0.030	0.026	0.028	0.038	0.032	0.032	8	0.026	0.038	0.031	0.031
PCB #18	< 9	< 9	< 10	< 8	< 10	< 9	< 9	< 20	0	< 8	< 20	-	-
PCB #28	< 10	< 10	< 20	< 10	< 20	< 10	< 10	< 30	0	< 10	< 30	-	-
PCB #52	< 7	< 10	< 10	< 8	< 20	< 10	< 10	< 20	0	< 7	< 20	-	-
PCB #49	< 5	< 9	< 7	< 6	< 10	< 7	< 8	< 10	0	< 5	< 10	-	-
PCB #44	< 7	< 10	< 9	< 7	< 20	< 9	< 10	< 20	0	< 7	< 20	-	-
PCB #74	8.8	6.0	10.9	8.4	5.7	6.3	5.3	6.6	8	5.3	10.9	6.4	7.2
PCB #66	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 9	0	< 4	< 9	-	-
PCB #101	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 9	0	< 4	< 9	-	-
PCB #99	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 9	0	< 4	< 9	-	-
PCB #87	< 4	< 4	< 4	< 4	< 5	< 4	< 5	< 10	0	< 4	< 10	-	-
PCB #110	< 4	< 4	< 4	< 4	< 5	< 4	< 5	< 10	0	< 4	< 10	-	-
PCB #118	10.0	8.4	9.2	7.3	5.6	6.2	5.9	3.9	8	3.9	10.0	6.8	7.1
PCB #105	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 8	0	< 4	< 8	-	-
PCB #151	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 10	0	< 4	< 10	-	-
PCB #149	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 10	0	< 4	< 10	-	-
PCB #146	5.3	< 5	3.6	< 4	5.3	6.1	< 4	< 8	4	< 4	6.1	-	-
PCB #153	44.0	35.8	37.0	30.1	44.6	46.3	38.2	32.2	8	30.1	46.3	37.6	38.5
PCB #138 + PCB #158	29.3	24.3	25.8	20.6	28.8	29.8	23.2	20.7	8	20.6	29.8	25.0	25.3
PCB #128	< 4	< 6	< 5	< 5	< 9	< 6	< 6	< 10	0	< 4	< 10	-	-
PCB #167	< 4	< 7	< 5	< 6	< 10	< 6	< 5	< 7	0	< 4	< 10	-	-
PCB #156	4.8	< 7	3.6	< 5	< 7	5.0	4.6	4.0	5	< 5	5.0	-	-
PCB #157	< 4	< 6	< 5	< 5	< 7	< 4	< 5	< 6	0	< 4	< 7	-	-
PCB #178	< 4	< 6	< 5	< 5	< 7	< 5	< 5	< 9	0	< 4	< 9	-	-
PCB #187	9.7	7.5	8.2	6.4	10.5	11.1	11.0	7.2	8	6.4	11.1	9.0	8.9
PCB #183	< 4	< 7	< 5	< 5	< 9	< 6	< 7	< 10	0	< 4	< 10	-	-
PCB #177	< 4	< 8	< 6	< 6	< 8	4.5	< 5	< 6	1	< 4	4.5	-	-
PCB #172	< 4	< 8	< 6	< 6	< 8	< 6	< 5	< 6	0	< 4	< 8	-	-
PCB #180	33.0	25.6	27.7	23.2	39.6	41.7	40.3	29.6	8	23.2	41.7	31.3	32.6
PCB #170	16.1	12.3	11.1	9.5	15.7	17.1	15.2	11.6	8	9.5	17.1	13.8	13.6
PCB #189	< 6	< 8	< 7	< 6	< 8	< 5	< 5	< 5	0	< 5	< 8	-	-
PCB #201	4.3	< 8	< 7	< 6	< 10	4.9	7.3	< 7	3	< 6	7.3	-	-
PCB #196 + PCB #203	4.3	< 10	< 7	< 7	< 8	4.5	6.0	< 7	3	< 7	6.0	-	-
PCB #195	< 8	< 10	< 8	< 8	< 9	< 6	< 7	< 7	0	< 6	< 10	-	-
PCB #194	5.7	< 10	4.7	4.0	6.6	6.9	9.2	6.1	7	< 10	9.2	5.9	6.0
PCB #206	< 9	< 10	< 9	< 8	< 10	< 7	< 9	< 7	0	< 7	< 10	-	-
PCB #209	< 10	< 20	< 9	< 9	< 10	< 8	< 9	< 8	0	< 8	< 20	-	-
Sum of PCBs (inc) <sup>1</sup>	243	235	227	192	280	259	245	260		192	280	244	243
Sum of PCBs (exc) <sup>2</sup>	175	120	139	107	162	190	166	119		107	190	151	148
PCB TEQ (inc) <sup>1</sup>	0.012	0.011	0.010	0.0083	0.0076	0.011	0.0080	0.0082		0.0076	0.012	0.0092	0.0094
PCB TEQ (exc) <sup>2</sup>	0.010	0.0067	0.0077	0.0054	0.0037	0.0092	0.0063	0.0051		0.0037	0.010	0.0065	0.0068

1 = Including half LOD values

2 = Excluding LOD values

3 = Mean of two unique sub-samples prepared for this stratum (see Table E14 and Appendix A, Section A6)

4 = Excludes any LOD value which is greater than a maximum measured value for that congener

5 = Median concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

6 = Mean concentration reported only if a PCB congener detected on more than 66% of occasions (minimum of 6 positive determinations). For any individual congener, calculation of the mean includes half LOD values

**Table E11 Concentrations of PCBs in serum sub-samples from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island			Female, South Island			Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#3	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2
PCB #77	< 0.04	< 0.05	< 0.05	< 0.055	< 0.04	< 0.06	< 0.04	< 0.03	< 0.04	< 0.05
PCB #81	< 0.002	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.002	< 0.002	< 0.003	< 0.003
PCB #126	0.017	0.022	0.018	0.019	0.013	0.020	0.013	0.012	0.013	0.019
PCB #169	0.014	0.014	0.011	0.014	0.0098	0.013	0.017	0.015	0.015	0.019
PCB #18	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 8	< 10	< 10
PCB #28	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 10	< 20	< 20
PCB #52	< 30	< 20	< 10	< 20	< 10	< 10	< 20	< 9	< 20	< 20
PCB #49	< 20	< 10	< 8	< 10	< 8	< 10	< 10	< 6	< 10	< 10
PCB #44	< 20	< 10	< 10	< 20	< 10	< 10	< 10	< 9	< 10	< 20
PCB #74	< 6	< 5	< 6	< 7	< 5	< 6	< 5	< 4	< 5	< 6
PCB #66	< 6	< 5	< 6	< 7	< 5	< 6	< 5	< 4	< 5	< 6
PCB #101	< 6	< 6	< 6	< 6	< 5	< 5	< 5	< 4	< 6	< 6
PCB #99	< 6	< 5	< 6	< 6	< 5	< 5	< 5	< 4	< 5	< 5
PCB #87	< 6	< 5	< 6	< 7	< 5	< 5	< 5	< 4	< 5	< 5
PCB #110	< 6	< 5	< 6	< 7	< 5	< 5	< 5	< 4	< 5	< 5
PCB #118	< 6	< 5	< 6	< 5	< 5	< 5	< 5	< 4	< 5	< 5
PCB #105	< 6	< 5	< 6	< 5	< 5	< 5	< 4	< 4	< 5	< 5
PCB #151	< 6	< 6	< 6	< 8	< 5	< 6	< 5	< 4	< 5	< 5
PCB #149	< 6	< 6	< 6	< 8	< 5	< 6	< 5	< 4	< 5	< 5
PCB #146	< 7	< 6	< 6	< 6	< 5	< 6	< 5	< 5	< 5	< 7
PCB #153	13.9	13.1	12.6	16.1	14.3	15.4	18.2	17.3	17.4	14.4
PCB #138 + PCB #158	9.5	8.6	8.1	9.7	10.1	9.5	11.5	10.8	11.6	9.7
PCB #128	< 8	< 6	< 6	< 6	< 5	< 6	< 5	< 6	< 7	< 7
PCB #167	< 7	< 6	< 6	< 5	< 6	< 6	< 5	< 6	< 8	< 6
PCB #156	< 6	< 6	< 6	< 5	< 5	< 6	< 5	< 5	< 5	< 6
PCB #157	< 7	< 6	< 6	< 5	< 5	< 6	< 5	< 5	< 6	< 6
PCB #178	< 7	< 6	< 6	< 5	< 6	< 6	< 5	< 5	< 5	< 7
PCB #187	< 9	< 6	< 6	< 6	< 8	< 7	< 6	4	< 7	< 8
PCB #183	< 9	< 6	< 6	< 6	< 8	< 7	< 6	< 6	< 7	< 8
PCB #177	< 8	< 6	< 7	< 5	< 5	< 8	< 6	< 6	< 5	< 8
PCB #172	< 8	< 6	< 7	< 5	< 5	< 8	< 6	< 6	< 5	< 8
PCB #180	10.9	10.2	11.0	12.2	10.2	12.0	17.0	16.7	15.8	12.3
PCB #170	< 6	< 6	< 6	< 5	< 6	< 6	7.3	6.4	7.1	5.4
PCB #189	< 9	< 7	< 6	< 5	< 6	< 8	< 6	< 6	< 6	< 8
PCB #201	< 10	< 7	< 7	< 10	< 6	< 8	< 6	< 7	< 8	< 10
PCB #196 + PCB #203	< 10	< 10	< 7	< 6	< 7	< 9	< 9	< 9	< 8	< 10
PCB #195	< 10	< 8	< 7	< 5	< 8	< 10	< 7	< 7	< 8	< 10
PCB #194	< 10	< 8	< 7	< 5	< 8	< 10	< 7	< 7	< 8	< 10
PCB #206	< 20	< 10	< 8	< 5	< 10	< 10	< 9	< 8	< 10	< 10
PCB #209	< 20	< 10	< 9	< 5	< 10	< 20	< 20	< 9	< 10	< 10
Sum of PCBs (inc) <sup>2</sup>	205	163	152	159	148	177	172	148	174	181
Sum of PCBs (exc) <sup>3</sup>	34.3	31.9	31.7	38.0	34.6	36.9	54.0	55.2	51.9	41.8
PCB TEQ (inc) <sup>2</sup>	0.0062	0.0060	0.0058	0.0052	0.0047	0.0061	0.0047	0.0043	0.0050	0.0060
PCB TEQ (exc) <sup>3</sup>	0.0019	0.0024	0.0019	0.0020	0.0014	0.0021	0.0015	0.0013	0.0015	0.0021

1 = These data are the results of the analyses of unique sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table E4

2 = Including half LOD values

3 = Excluding LOD values

**Table E12 Concentrations of PCBs in serum sub-samples from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Congener	Female, Northland/Auckland		Female, Lower North Island		Female, South Island			Male, Lower North Island		Male, South Island		
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2	SS#3
PCB #77	< 0.05	< 0.05	< 0.04	< 0.04	< 0.05	< 0.05	< 0.04	< 0.03	< 0.03	< 0.03	< 0.04	< 0.04
PCB #81	< 0.003	< 0.004	< 0.002	< 0.003	< 0.003	< 0.003	< 0.004	< 0.002	< 0.003	< 0.002	< 0.003	< 0.002
PCB #126	0.034	0.022	0.031	0.019	0.020	0.029	0.019	0.017	0.016	0.017	0.020	0.026
PCB #169	0.023	0.020	0.022	0.017	0.018	0.018	0.019	0.023	0.023	0.021	0.027	0.029
PCB #18	< 30	< 10	< 20	< 10	< 10	< 9	< 10	< 10	< 10	< 10	< 10	< 9
PCB #28	< 50	< 20	< 40	< 20	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 10
PCB #52	< 30	< 8	< 30	< 10	< 10	< 10	< 20	< 20	< 20	< 8	< 10	< 10
PCB #49	< 20	< 6	< 20	< 8	< 10	< 10	< 10	< 10	< 10	< 6	< 9	< 10
PCB #44	< 30	< 8	< 30	< 10	< 10	< 10	< 20	< 10	< 20	< 8	< 10	< 10
PCB #74	7.3	< 5	< 9	< 6	< 5	5.1	< 6	6.1	< 4	< 5	< 4	< 4
PCB #66	< 20	< 5	< 9	< 6	< 5	< 5	< 6	< 9	< 4	< 5	< 4	< 4
PCB #101	< 20	< 5	< 10	< 6	< 5	< 4	< 5	< 8	< 4	< 5	< 4	< 4
PCB #99	< 20	< 5	< 10	< 6	< 5	< 4	< 5	< 8	< 4	< 5	< 4	< 4
PCB #87	< 20	< 5	< 20	< 6	< 5	< 4	< 5	< 9	< 4	< 5	< 5	< 4
PCB #110	< 20	< 5	< 20	< 6	< 5	< 4	< 5	< 9	< 4	< 5	< 5	< 4
PCB #118	6.7	< 5	< 8	< 6	< 5	< 4	< 6	4.6	< 4	< 5	< 5	< 4
PCB #105	< 20	< 5	< 9	< 6	< 5	< 4	< 6	< 7	< 4	< 5	< 5	< 4
PCB #151	< 30	< 5	< 10	< 6	< 5	< 5	< 7	< 10	< 5	< 5	< 6	< 4
PCB #149	< 30	< 5	< 10	< 6	< 5	< 5	< 7	< 10	< 5	< 5	< 6	< 4
PCB #146	< 20	< 5	< 8	< 6	< 6	< 6	< 7	3.8	< 5	< 5	< 5	< 5
PCB #153	30.6	20.7	21.7	19.6	18.0	21.9	18.4	37.9	23.2	20.7	23.3	29.7
PCB #138 + PCB #158	19.7	12.4	15.2	12.6	11.8	14.4	11.6	22.1	14.1	13.3	13.7	20.4
PCB #128	< 40	< 5	< 20	< 6	< 7	< 6	< 7	< 9	< 5	< 5	< 5	< 6
PCB #167	< 20	< 5	< 10	< 6	< 7	< 5	< 7	< 6	< 7	< 5	< 5	< 5
PCB #156	< 10	< 5	< 6	< 6	< 10	< 5	< 6	4.0	< 6	< 5	< 5	< 5
PCB #157	< 10	< 5	< 6	< 6	< 9	< 5	< 6	< 9	< 5	< 5	< 5	< 5
PCB #178	< 20	< 5	< 9	< 6	< 6	< 6	< 7	< 10	< 8	< 5	< 5	< 5
PCB #187	6.4	< 5	5.2	< 7	< 7	< 7	< 8	8.6	5.6	< 5	5.0	8.0
PCB #183	< 20	< 5	< 10	< 7	< 7	< 7	< 8	< 10	< 9	< 5	< 6	< 7
PCB #177	< 10	< 5	< 7	< 6	< 8	< 8	< 7	< 8	< 6	< 5	< 5	< 6
PCB #172	< 10	< 5	< 7	< 6	< 8	< 8	< 7	< 8	< 6	< 5	< 5	< 6
PCB #180	24.2	16.9	16.9	16.3	16.7	17.5	17.1	31.8	22.8	19.1	23.6	31.5
PCB #170	10.7	8.2	8.1	6.9	7.9	7.1	6.5	10.0	8.6	8.0	9.2	13.4
PCB #189	< 7	< 6	< 5	< 6	< 8	< 7	< 6	< 4	< 5	< 5	< 5	< 7
PCB #201	< 20	< 8	< 10	< 30	< 8	< 7	< 30	4.1	< 6	< 5	< 6	< 7
PCB #196 + PCB #203	< 20	< 7	< 20	< 10	< 10	< 8	< 40	3.8	< 7	< 6	< 6	< 9
PCB #195	< 20	< 8	< 10	< 8	< 10	< 10	< 10	< 5	< 6	< 6	< 7	< 10
PCB #194	< 20	< 8	< 10	< 8	< 10	< 10	< 10	5.9	4.3	< 6	4.6	6.3
PCB #206	< 10	< 9	< 10	< 7	< 10	< 10	< 10	< 4	< 6	< 8	< 8	< 10
PCB #209	< 10	< 10	< 10	< 9	< 20	< 10	< 10	< 3	< 7	< 9	< 10	< 10
Sum of PCBs (inc) <sup>2</sup>	413	160	271	188	188	180	214	256	189	154	176	217
Sum of PCBs (exc) <sup>3</sup>	106	58.2	67.2	55.4	54.4	66.0	53.6	143	78.6	61.1	79.4	109
PCB TEQ (inc) <sup>2</sup>	0.012	0.0056	0.0074	0.0058	0.0080	0.0066	0.0061	0.0073	0.0053	0.0049	0.0054	0.0062
PCB TEQ (exc) <sup>3</sup>	0.0043	0.0024	0.0033	0.0020	0.0022	0.0031	0.0021	0.0044	0.0018	0.0019	0.0023	0.0029

1 = These data are the results of the analyses of different sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table E6

2 = Including half LOD values

3 = Excluding LOD values

**Table E13 Concentrations of PCBs in serum sub-samples from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
PCB #77	< 0.04	< 0.03	< 0.03	< 0.04	< 0.04	< 0.04	< 0.06	< 0.04
PCB #81	< 0.003	0.0043	< 0.003	< 0.003	< 0.003	< 0.003	< 0.004	< 0.003
PCB #126	0.037	0.030	0.030	0.044	0.027	0.029	0.030	0.026
PCB #169	0.025	0.020	0.021	0.026	0.034	0.028	0.031	0.027
PCB #18	< 10	< 9	< 10	< 10	< 10	< 9	< 10	< 30
PCB #28	< 20	< 10	< 20	< 20	< 20	< 10	< 20	< 40
PCB #52	< 10	< 9	< 9	< 10	< 10	< 10	< 10	< 30
PCB #49	< 7	< 6	< 6	< 9	< 8	< 10	< 8	< 20
PCB #44	< 10	< 8	< 8	< 10	< 10	< 10	< 10	< 30
PCB #74	5.4	6.8	5.3	5.4	< 5	< 4	4.4	5.5
PCB #66	< 5	< 4	< 5	< 4	< 5	< 4	< 5	< 10
PCB #101	< 6	< 4	< 5	< 5	< 5	< 4	< 4	< 10
PCB #99	< 5	< 4	< 5	< 4	< 5	< 4	< 4	< 9
PCB #87	< 5	< 4	< 5	< 4	< 5	< 4	< 4	< 10
PCB #110	< 5	< 4	< 5	< 4	< 5	< 4	< 4	< 10
PCB #118	5.6	5.9	4.8	6.2	< 5	< 4	< 4	< 6
PCB #105	< 5	< 4	< 5	< 4	< 5	< 4	< 4	< 7
PCB #151	< 6	< 4	< 5	< 4	< 5	< 5	< 4	< 10
PCB #149	< 6	< 4	< 5	< 4	< 5	< 5	< 4	< 10
PCB #146	< 5	< 4	< 5	< 4	< 5	< 5	< 5	< 7
PCB #153	25.7	27.0	23.4	30.3	29.9	29.2	33.2	30.8
PCB #138 + PCB #158	17.5	17.4	15.4	19.9	18.4	18.3	21.7	17.7
PCB #128	< 6	< 4	< 5	< 4	< 5	< 5	< 5	< 9
PCB #167	< 6	< 4	< 5	< 5	< 5	< 5	< 5	< 5
PCB #156	< 5	< 4	< 5	< 7	< 5	< 5	4.4	< 5
PCB #157	< 5	< 4	< 5	< 4	< 5	< 5	< 5	< 5
PCB #178	< 5	< 5	< 5	< 4	< 6	< 5	< 5	< 7
PCB #187	5.5	5.4	4.8	5.8	6.6	6.1	8.7	6.9
PCB #183	< 6	< 6	< 5	< 5	< 8	< 5	< 5	< 8
PCB #177	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 7
PCB #172	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 7
PCB #180	19.9	20.1	19.1	23.7	30.3	26.3	34.1	29.3
PCB #170	8.3	8.8	8.1	10.7	11.7	11.1	13.7	10.1
PCB #189	< 6	< 4	< 5	< 6	< 6	< 5	< 6	< 5
PCB #201	< 30	< 5	< 20	< 6	< 7	< 20	5.7	< 6
PCB #196 + PCB #203	< 7	< 5	< 6	< 8	< 8	< 30	4.8	< 6
PCB #195	< 7	< 6	< 6	< 7	< 10	< 7	< 7	< 7
PCB #194	< 7	< 6	< 6	< 7	7.0	5.2	7.1	5.5
PCB #206	< 7	< 7	< 6	< 10	< 10	< 8	< 8	< 7
PCB #209	< 8	< 8	< 7	< 10	< 10	< 10	< 7	< 8
Sum of PCBs (inc) <sup>2</sup>	195	173	174	201	208	210	220	282
Sum of PCBs (exc) <sup>3</sup>	88.0	91.5	81.0	102	104	96.3	138	106
PCB TEQ (inc) <sup>2</sup>	0.0078	0.0064	0.0066	0.0086	0.0063	0.0062	0.0074	0.0064
PCB TEQ (exc) <sup>3</sup>	0.0046	0.0038	0.0037	0.0052	0.0030	0.0032	0.0055	0.0029

1 = These data are the results of the analyses of different sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).  
Mean data for sub-samples reported in Table E8

2 = Including half LOD values

3 = Excluding LOD values

**Table E14 Concentrations of PCBs in serum sub-samples from non-Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Congener	Female, Lower North Island		Female, South Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
PCB #77	< 0.04	< 0.03	< 0.05	< 0.03	< 0.04	< 0.05
PCB #81	< 0.003	< 0.002	< 0.003	< 0.002	< 0.003	0.0031
PCB #126	0.051	0.056	0.045	0.042	0.028	0.040
PCB #169	0.031	0.029	0.027	0.024	0.030	0.034
PCB #18	< 9	< 10	< 8	< 8	< 10	< 20
PCB #28	< 10	< 20	< 10	< 10	< 20	< 30
PCB #52	< 7	< 10	< 6	< 9	< 20	< 20
PCB #49	< 5	< 9	< 5	< 7	< 10	< 10
PCB #44	< 7	< 10	< 6	< 9	< 20	< 20
PCB #74	12.1	9.7	8.5	8.3	4.7	8.6
PCB #66	< 5	< 4	< 4	< 4	< 5	< 10
PCB #101	< 4	< 4	< 4	< 4	< 5	< 10
PCB #99	< 4	< 4	< 4	< 4	< 5	< 10
PCB #87	< 4	< 4	< 4	< 4	< 5	< 20
PCB #110	< 4	< 4	< 4	< 4	< 5	< 20
PCB #118	8.8	9.6	6.5	8.1	< 4	5.8
PCB #105	< 4	< 4	< 4	< 4	< 5	< 10
PCB #151	< 5	< 4	< 4	< 4	< 5	< 20
PCB #149	< 5	< 4	< 4	< 4	< 5	< 20
PCB #146	< 5	4.7	< 4	< 4	< 6	< 10
PCB #153	36.3	37.6	27.8	32.4	29.2	35.5
PCB #138 + PCB #158	25.2	26.3	19.2	21.9	18.5	23.1
PCB #128	< 5	< 5	< 4	< 6	< 6	< 20
PCB #167	< 6	< 5	< 5	< 7	< 8	< 6
PCB #156	< 6	4.4	< 5	< 5	< 7	4.7
PCB #157	< 6	< 5	< 5	< 5	< 6	< 6
PCB #178	< 5	< 5	< 5	< 5	< 6	< 10
PCB #187	8.2	8.2	6.1	6.6	6.6	7.9
PCB #183	< 6	< 5	< 5	< 6	< 9	< 10
PCB #177	< 7	< 5	< 7	< 6	< 7	< 6
PCB #172	< 7	< 5	< 7	< 6	< 7	< 6
PCB #180	27.8	27.5	22.9	23.5	27.3	32.0
PCB #170	10.8	11.4	9.0	9.9	10.7	12.6
PCB #189	< 8	< 5	< 7	< 6	< 6	< 4
PCB #201	< 8	< 6	< 7	< 6	< 7	< 7
PCB #196 + PCB #203	< 9	< 6	< 8	< 6	< 7	< 7
PCB #195	< 9	< 6	< 7	< 8	< 7	< 7
PCB #194	4.8	4.6	4.1	< 8	5.7	6.5
PCB #206	< 10	< 8	< 9	< 8	< 7	< 7
PCB #209	< 10	< 7	< 10	< 9	< 8	< 8
Sum of PCBs (inc) <sup>2</sup>	226	227	185	200	217	308
Sum of PCBs (exc) <sup>3</sup>	134	144	104	111	103	137
PCB TEQ (inc) <sup>2</sup>	0.0098	0.011	0.0084	0.0082	0.0069	0.0095
PCB TEQ (exc) <sup>3</sup>	0.0063	0.0091	0.0055	0.0053	0.0031	0.0073

1 = These data are the results of the analyses of different sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table E10

2 = Including half LOD values

3 = Excluding LOD values

**Table E15 Concentrations of PCBs in serum on a congener-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island
PCB #77	15-24	*	< 0.2	< 0.05	< 0.1	*	*	< 0.09	< 0.2	< 0.08	< 0.1	< 0.04	< 0.05	< 0.1	< 0.09	< 0.04	< 0.05
	25-34	< 0.06	< 0.06	< 0.05	< 0.2	*	*	< 0.05	< 0.2	< 0.04	< 0.05	< 0.05	< 0.05	< 0.05	< 0.04	< 0.03	< 0.05
	35-49	< 0.1	< 0.1	< 0.06	< 0.1	*	< 0.1	< 0.05	< 0.1	< 0.05	< 0.04	< 0.04	< 0.05	< 0.03	< 0.04	< 0.03	< 0.04
	50-64	*	*	< 0.1	*	*	*	< 0.1	*	< 0.03	< 0.04	< 0.04	< 0.04	< 0.05	< 0.04	< 0.04	< 0.05
	65+	*	*	*	*	*	*	*	*	< 0.06	< 0.03	< 0.04	< 0.04	< 0.06	< 0.05	< 0.04	< 0.05
PCB #81	15-24	*	< 0.01	< 0.003	< 0.008	*	*	< 0.006	< 0.01	< 0.005	< 0.01	< 0.002	< 0.003	< 0.007	< 0.007	< 0.002	< 0.003
	25-34	< 0.004	< 0.004	< 0.003	< 0.02	*	*	< 0.005	< 0.01	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.002	< 0.003
	35-49	< 0.008	< 0.008	< 0.004	< 0.006	*	< 0.006	< 0.003	< 0.006	< 0.004	< 0.003	< 0.003	< 0.003	< 0.002	< 0.002	< 0.002	< 0.002
	50-64	*	*	< 0.009	*	*	*	< 0.006	*	< 0.002	< 0.002	0.0029	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
	65+	*	*	*	*	*	*	*	*	< 0.005	< 0.002	< 0.002	< 0.003	< 0.003	0.0027	< 0.003	0.0024
PCB #126	15-24	*	0.012	0.016	0.014	*	*	0.013	0.013	0.015	0.011	0.015	0.015	0.018	0.017	0.011	0.015
	25-34	0.021	0.020	0.019	0.020	*	*	0.018	0.013	0.029	0.023	0.019	0.017	0.023	0.018	0.012	0.016
	35-49	0.022	0.022	0.022	0.026	*	0.030	0.021	0.021	0.028	0.021	0.025	0.023	0.030	0.021	0.016	0.021
	50-64	*	*	0.061	*	*	*	0.033	*	0.035	0.035	0.034	0.037	0.043	0.050	0.028	0.028
	65+	*	*	*	*	*	*	*	*	0.065	0.057	0.053	0.043	0.028	0.057	0.031	0.034
PCB #169	15-24	*	0.0076	0.0077	0.0089	*	*	0.0097	0.013	0.0088	0.0086	0.0091	0.010	0.017	0.014	0.010	0.013
	25-34	0.012	0.014	0.012	0.013	*	*	0.018	0.021	0.016	0.015	0.013	0.012	0.021	0.024	0.016	0.017
	35-49	0.017	0.018	0.017	0.017	*	0.032	0.026	0.027	0.021	0.018	0.020	0.018	0.030	0.032	0.023	0.026
	50-64	*	*	0.035	*	*	*	0.031	*	0.024	0.024	0.022	0.023	0.035	0.031	0.031	0.029
	65+	*	*	*	*	*	*	*	*	0.035	0.026	0.030	0.026	0.028	0.038	0.032	0.032
PCB #18	15-24	*	< 10	< 10	< 10	*	*	< 10	< 10	< 10	< 20	< 10	< 10	< 20	< 10	< 8	< 20
	25-34	< 10	< 10	< 10	< 10	*	*	< 8	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	35-49	< 10	< 20	< 10	< 10	*	< 10	< 9	< 9	< 20	< 10	< 20	< 10	< 10	< 10	< 10	< 10
	50-64	*	*	< 10	*	*	*	< 8	*	< 10	< 9	< 10	< 10	< 9	< 10	< 10	< 20
	65+	*	*	*	*	*	*	*	*	< 9	< 9	< 10	< 8	< 10	< 9	< 9	< 20
PCB #28	15-24	*	< 20	< 20	< 20	*	*	< 20	< 20	< 20	< 30	< 20	< 20	< 30	< 20	< 10	< 30
	25-34	< 20	< 20	< 20	< 20	*	*	< 10	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	35-49	< 20	< 30	< 20	< 20	*	< 20	< 10	< 20	< 30	< 20	< 30	< 20	< 20	< 20	< 20	< 20
	50-64	*	*	< 20	*	*	*	< 10	*	< 20	< 10	< 20	< 20	< 20	< 20	< 20	< 30
	65+	*	*	*	*	*	*	*	*	< 10	< 10	< 20	< 10	< 20	< 10	< 10	< 30
PCB #52	15-24	*	< 10	< 10	< 20	*	*	< 20	< 20	< 20	< 20	< 10	< 20	< 20	< 10	< 7	< 30
	25-34	< 10	< 9	< 10	< 9	*	*	< 7	< 20	< 10	< 10	< 20	< 10	< 20	< 9	< 10	< 20
	35-49	< 20	< 20	< 10	< 8	*	< 10	< 7	< 10	< 20	< 10	< 20	< 10	< 7	< 10	< 20	< 10
	50-64	*	*	< 10	*	*	*	< 6	*	< 10	< 10	< 9	< 10	< 10	< 10	< 10	< 20
	65+	*	*	*	*	*	*	*	*	< 7	< 10	< 10	< 8	< 20	< 10	< 10	< 20
PCB #49	15-24	*	< 8	< 10	< 20	*	*	< 10	< 10	< 10	< 10	< 9	< 10	< 10	< 7	< 5	< 20
	25-34	< 9	< 7	< 7	< 7	*	*	< 5	< 10	< 7	< 8	< 10	< 10	< 10	< 6	< 9	< 10
	35-49	< 10	< 20	< 8	< 6	*	< 8	< 5	< 8	< 10	< 10	< 10	< 10	< 5	< 9	< 10	< 8
	50-64	*	*	< 10	*	*	*	< 5	*	< 7	< 10	< 7	< 8	< 8	< 7	< 9	< 20
	65+	*	*	*	*	*	*	*	*	< 5	< 9	< 7	< 6	< 10	< 7	< 8	< 10
PCB #44	15-24	*	< 10	< 10	< 20	*	*	< 20	< 10	< 20	< 20	< 10	< 20	< 20	< 9	< 6	< 30
	25-34	< 10	< 9	< 9	< 9	*	*	< 6	< 10	< 9	< 10	< 20	< 10	< 20	< 8	< 10	< 20
	35-49	< 20	< 20	< 10	< 8	*	< 10	< 7	< 10	< 20	< 10	< 20	< 10	< 7	< 10	< 20	< 10
	50-64	*	*	< 10	*	*	*	< 6	*	< 10	< 10	< 9	< 10	< 10	< 9	< 10	< 20
	65+	*	*	*	*	*	*	*	*	< 7	< 10	< 9	< 7	< 20	< 9	< 10	< 20

Table E15 (cont.) Concentrations of PCBs in serum on a congener-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island
PCB #74	15-24	*	< 6	< 5	< 6	*	*	< 6	< 6	< 8	< 8	< 5	< 6	< 6	< 6	< 4	< 8
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 5	< 6	< 6	< 6	< 5	< 4	< 5
	35-49	< 6	7.1	< 6	< 5	*	< 5	< 5	< 4	4.9	< 6	< 7	3.5	< 4	< 5	4.1	< 4
	50-64	*	*	6.5	*	*	*	4.7	*	5.5	5.1	6.1	5.4	6.2	< 5	< 4	5.0
	65+	*	*	*	*	*	*	*	*	8.8	6.0	10.9	8.4	5.7	6.3	5.3	6.6
PCB #66	15-24	*	< 6	< 5	< 6	*	*	< 6	< 6	< 8	< 8	< 5	< 6	< 6	< 6	< 4	< 8
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 5	< 6	< 6	< 5	< 4	< 5	
	35-49	< 6	< 8	< 6	< 5	*	< 5	< 5	< 4	< 10	< 6	< 7	< 5	< 4	< 5	< 7	< 4
	50-64	*	*	< 5	*	*	*	< 5	*	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 8
	65+	*	*	*	*	*	*	*	*	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 9
PCB #101	15-24	*	< 6	< 5	< 6	*	*	< 5	< 6	< 6	< 7	< 6	< 5	< 7	< 5	< 4	< 8
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 5	< 5	< 5	< 6	< 6
	35-49	< 5	< 8	< 6	< 5	*	< 5	< 4	< 4	< 10	< 6	< 9	< 5	< 4	< 5	< 6	< 4
	50-64	*	*	< 6	*	*	*	< 4	*	< 4	< 4	< 5	< 5	< 4	< 5	< 4	< 7
	65+	*	*	*	*	*	*	*	*	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 9
PCB #99	15-24	*	< 6	< 5	< 6	*	*	< 5	< 6	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 7
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 5	< 5	< 5	< 4	< 5
	35-49	< 5	< 8	< 6	< 5	*	< 5	< 4	< 4	< 10	< 6	< 8	< 5	< 4	< 5	< 6	< 4
	50-64	*	*	< 6	*	*	*	< 4	*	< 4	< 4	< 5	< 4	< 5	< 5	< 4	< 7
	65+	*	*	*	*	*	*	*	*	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 9
PCB #87	15-24	*	< 6	< 5	< 6	*	*	< 5	< 6	< 6	< 8	< 5	< 5	< 6	< 5	< 4	< 9
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 6	< 5	< 5	< 4	< 5
	35-49	< 5	< 10	< 6	< 5	*	< 5	< 4	< 4	< 10	< 6	< 10	< 5	< 4	< 5	< 6	< 4
	50-64	*	*	< 8	*	*	*	< 4	*	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 9
	65+	*	*	*	*	*	*	*	*	< 4	< 4	< 4	< 4	< 5	< 4	< 5	< 10
PCB #110	15-24	*	< 6	< 5	< 6	*	*	< 5	< 6	< 6	< 8	< 5	< 5	< 6	< 5	< 4	< 9
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 6	< 5	< 5	< 4	< 5
	35-49	< 5	< 10	< 6	< 5	*	< 5	< 4	< 4	< 10	< 6	< 10	< 5	< 4	< 5	< 6	< 4
	50-64	*	*	< 8	*	*	*	< 4	*	< 4	< 4	< 5	< 4	< 4	< 5	< 4	< 9
	65+	*	*	*	*	*	*	*	*	< 4	< 4	< 4	< 4	< 5	< 4	< 5	< 10
PCB #118	15-24	*	< 6	< 5	< 6	*	*	< 5	< 5	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 8
	25-34	< 5	< 5	< 6	< 5	*	*	< 4	< 5	< 5	< 6	< 6	< 5	< 5	< 5	< 4	< 5
	35-49	< 5	6.2	< 6	< 5	*	< 4	< 5	< 4	4.6	< 5	< 7	< 5	4.3	< 5	3.3	< 5
	50-64	*	*	8.6	*	*	*	5.1	*	7.1	6.1	5.8	5.5	5.7	6.1	< 4	< 5
	65+	*	*	*	*	*	*	*	*	10.0	8.4	9.2	7.3	5.6	6.2	5.9	3.9
PCB #105	15-24	*	< 6	< 5	< 6	*	*	< 5	< 5	< 6	< 7	< 5	< 5	< 6	< 5	< 4	< 8
	25-34	< 5	< 5	< 5	< 5	*	*	< 4	< 5	< 5	< 6	< 5	< 5	< 5	< 5	< 4	< 5
	35-49	< 5	< 6	< 5	< 5	*	< 4	< 4	< 4	< 10	< 5	< 7	< 5	< 4	< 4	< 6	< 4
	50-64	*	*	< 6	*	*	*	< 4	*	< 4	< 4	< 5	< 4	< 4	< 4	< 4	< 5
	65+	*	*	*	*	*	*	*	*	< 4	< 4	< 4	< 4	< 5	< 4	< 4	< 8
PCB #151	15-24	*	< 6	< 5	< 7	*	*	< 6	< 6	< 7	< 7	< 5	< 5	< 6	< 5	< 4	< 9
	25-34	< 6	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 6	< 6	< 5	< 5	< 5
	35-49	< 6	< 10	< 6	< 5	*	< 5	< 5	< 4	< 20	< 6	< 10	< 6	< 4	< 5	< 9	< 5
	50-64	*	*	< 6	*	*	*	< 4	*	< 4	< 4	< 5	< 5	< 5	< 5	< 5	< 9
	65+	*	*	*	*	*	*	*	*	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 10

Table E15 (cont.) Concentrations of PCBs in serum on a congener-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island
PCB #149	15-24	*	< 6	< 5	< 7	*	*	< 6	< 6	< 7	< 7	< 5	< 5	< 6	< 5	< 4	< 9
	25-34	< 6	< 5	< 6	< 5	*	*	< 4	< 6	< 5	< 6	< 6	< 6	< 6	< 5	< 5	< 5
	35-49	< 6	< 10	< 6	< 5	*	< 5	< 5	< 4	< 20	< 6	< 10	< 6	< 4	< 5	< 9	< 5
	50-64	*	*	< 6	*	*	*	< 4	*	< 4	< 4	< 5	< 5	< 5	< 5	< 5	< 9
	65+	*	*	*	*	*	*	*	*	< 4	< 5	< 5	< 4	< 6	< 4	< 4	< 10
PCB #146	15-24	*	< 6	< 6	< 7	*	*	< 6	< 6	< 8	< 7	< 5	< 7	< 6	< 5	< 5	< 9
	25-34	< 6	< 6	< 6	< 5	*	*	< 4	< 6	< 6	< 6	< 6	< 7	< 5	< 5	< 6	
	35-49	< 6	< 7	< 6	< 6	*	< 5	< 5	< 5	< 10	< 6	< 7	< 6	< 5	< 5	3.2	< 5
	50-64	*	*	5.5	*	*	*	6.1	*	< 5	< 4	< 5	< 5	< 5	5.6	< 5	< 6
	65+	*	*	*	*	*	*	*	*	5.3	< 5	3.6	< 4	5.3	6.1	< 4	< 8
PCB #153	15-24	*	6.1	6.8	6.6	*	*	8.9	9.9	8.6	9.5	7.2	7.8	12.3	12.7	10.7	11.2
	25-34	13.4	15.8	11.5	10.1	*	*	15.7	19.4	19.5	14.8	13.2	15.3	21.2	25.2	17.8	15.9
	35-49	20.9	36.4	19.1	20.8	*	28.1	32.9	27.0	25.7	23.2	20.7	19.4	32.2	31.9	30.6	24.6
	50-64	*	*	45.0	*	*	*	46.8	*	34.9	36.0	26.4	26.9	34.5	49.9	29.6	32.0
	65+	*	*	*	*	*	*	*	*	44.0	35.8	37.0	30.1	44.6	46.3	38.2	32.2
PCB #138 + PCB #158	15-24	*	< 6	5.4	< 7	*	*	5.9	7.2	< 7	6.4	5.5	< 6	8.8	8.5	7.2	7.1
	25-34	9.0	11.0	8.3	7.3	*	*	10.2	12.9	13.5	10.2	8.7	9.8	11.8	15.6	11.2	10.7
	35-49	13.2	23.0	13.0	13.4	*	18.5	22.5	17.1	16.1	15.3	13.9	12.6	18.6	18.8	18.1	15.8
	50-64	*	*	31.4	*	*	*	31.5	*	21.9	21.1	17.5	17.7	20.3	36.2	18.4	19.7
	65+	*	*	*	*	*	*	*	*	29.3	24.3	25.8	20.6	28.8	29.8	23.2	20.7
PCB #128	15-24	*	< 6	< 6	< 8	*	*	< 9	< 7	< 10	< 8	< 6	< 8	< 7	< 5	< 5	< 10
	25-34	< 8	< 8	< 7	< 6	*	*	< 4	< 7	< 6	< 6	< 7	< 6	< 6	< 6	< 5	< 7
	35-49	< 6	< 10	< 6	< 7	*	< 5	< 5	< 6	< 20	< 6	< 10	< 6	< 4	< 6	< 7	< 5
	50-64	*	*	< 7	*	*	*	< 4	*	< 5	< 6	< 5	< 5	< 6	< 5	< 5	< 7
	65+	*	*	*	*	*	*	*	*	< 4	< 6	< 5	< 5	< 9	< 6	< 6	< 10
PCB #167	15-24	*	< 6	< 6	< 8	*	*	< 10	< 7	< 10	< 7	< 6	< 6	< 7	< 5	< 5	< 10
	25-34	< 9	< 7	< 7	< 6	*	*	< 4	< 7	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 7
	35-49	< 6	< 8	< 6	< 8	*	< 5	< 6	< 6	< 10	< 6	< 8	< 6	< 5	< 7	< 6	< 5
	50-64	*	*	< 6	*	*	*	< 5	*	< 5	< 6	< 5	< 5	< 6	< 5	< 5	< 5
	65+	*	*	*	*	*	*	*	*	< 4	< 7	< 5	< 6	< 10	< 6	< 5	< 7
PCB #156	15-24	*	< 6	< 6	< 7	*	*	< 7	< 6	< 7	< 7	< 5	< 6	< 7	< 5	< 5	< 10
	25-34	< 6	< 6	< 7	< 6	*	*	< 4	< 6	< 6	< 6	< 5	< 5	< 6	< 6	< 5	< 6
	35-49	< 6	< 6	< 6	< 6	*	< 5	< 6	< 6	< 9	< 5	< 6	< 7	< 5	< 6	3.6	< 5
	50-64	*	*	4.8	*	*	*	5.2	*	< 5	< 4	< 5	< 6	4.8	5.5	< 5	3.5
	65+	*	*	*	*	*	*	*	*	4.8	< 7	3.6	< 5	< 7	5.0	4.6	4.0
PCB #157	15-24	*	< 6	< 6	< 7	*	*	< 7	< 6	< 8	< 7	< 6	< 6	< 7	< 5	< 5	< 10
	25-34	< 6	< 6	< 7	< 6	*	*	< 4	< 7	< 6	< 6	< 6	< 5	< 6	< 6	< 5	< 6
	35-49	< 6	< 5	< 6	< 6	*	< 5	< 6	< 6	< 8	< 6	< 6	< 6	< 5	< 6	< 7	< 5
	50-64	*	*	< 6	*	*	*	< 5	*	< 5	< 4	< 5	< 4	< 6	< 5	< 5	< 5
	65+	*	*	*	*	*	*	*	*	< 4	< 6	< 5	< 5	< 7	< 4	< 5	< 6
PCB #178	15-24	*	< 7	< 6	< 8	*	*	< 8	< 6	< 8	< 8	< 6	< 7	< 7	< 5	< 5	< 10
	25-34	< 7	< 6	< 7	< 5	*	*	< 4	< 7	< 6	< 6	< 6	< 6	< 7	< 5	< 5	< 6
	35-49	< 6	< 7	< 6	< 6	*	< 5	< 6	< 6	< 10	< 7	< 8	< 6	< 4	< 6	< 9	< 5
	50-64	*	*	< 6	*	*	*	< 5	*	< 5	< 5	< 5	< 5	< 6	< 5	< 5	< 6
	65+	*	*	*	*	*	*	*	*	< 4	< 6	< 5	< 5	< 7	< 5	< 5	< 9

Table E15 (cont.) Concentrations of PCBs in serum on a congener-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island
PCB #187	15-24	*	< 9	< 6	< 9	*	*	< 10	< 7	< 10	< 9	< 6	< 7	< 8	< 5	< 5	< 20
	25-34	< 9	< 8	< 7	< 6	*	*	< 4	< 8	< 7	< 6	< 7	< 8	6.3	3.4	< 8	
	35-49	< 7	6.9	< 6	< 7	*	6.6	7.5	6.5	4.4	< 9	4.3	< 7	7.5	7.6	7.1	5.2
	50-64	*	*	10.2	*	*	*	15.3	*	7.3	7.6	5.5	5.3	7.3	12.0	6.4	7.8
	65+	*	*	*	*	*	*	*	*	9.7	7.5	8.2	6.4	10.5	11.1	11.0	7.2
PCB #183	15-24	*	< 9	< 6	< 9	*	*	< 10	< 7	< 10	< 9	< 6	< 7	< 8	< 5	< 5	< 20
	25-34	< 9	< 8	< 7	< 6	*	*	< 4	< 8	< 7	< 6	< 7	< 8	< 5	< 6	< 8	
	35-49	< 7	< 8	< 6	< 7	*	< 5	< 6	< 7	< 10	< 9	< 9	< 7	< 4	< 7	< 10	< 6
	50-64	*	*	< 7	*	*	*	4.2	*	< 6	< 7	< 6	< 5	< 7	5.3	< 6	< 6
	65+	*	*	*	*	*	*	*	*	< 4	< 7	< 5	< 5	< 9	< 6	< 7	< 10
PCB #177	15-24	*	< 7	< 7	< 9	*	*	< 9	< 7	< 10	< 8	< 5	< 7	< 8	< 5	< 6	< 10
	25-34	< 8	< 8	< 8	< 5	*	*	< 4	< 7	< 7	< 6	< 7	< 8	< 6	< 6	< 6	
	35-49	< 8	< 6	< 6	< 8	*	< 5	< 8	< 7	< 9	< 6	< 6	< 8	< 5	< 7	< 7	< 5
	50-64	*	*	< 6	*	*	*	3.9	*	< 7	< 5	< 5	< 5	< 7	4.4	< 5	< 6
	65+	*	*	*	*	*	*	*	*	< 4	< 8	< 6	< 6	< 8	4.5	< 5	< 6
PCB #172	15-24	*	< 7	< 7	< 9	*	*	< 9	< 7	< 10	< 8	< 5	< 7	< 8	< 5	< 6	< 10
	25-34	< 8	< 8	< 8	< 5	*	*	< 4	< 7	< 7	< 6	< 7	< 8	< 6	< 6	< 6	
	35-49	< 8	< 6	< 6	< 8	*	< 5	< 8	< 7	< 9	< 6	< 6	< 8	< 5	< 7	< 7	< 5
	50-64	*	*	< 6	*	*	*	< 5	*	< 7	< 5	< 5	< 5	< 7	< 5	< 5	< 6
	65+	*	*	*	*	*	*	*	*	< 4	< 8	< 6	< 6	< 8	< 6	< 5	< 6
PCB #180	15-24	*	< 7	< 7	< 9	*	*	6.8	8.0	6.6	7.6	5.5	7.1	9.2	10.8	9.3	9.6
	25-34	10.0	11.5	8.9	8.5	*	*	14.2	16.7	14.2	12.0	10.7	11.5	17.5	27.1	16.9	14.1
	35-49	15.2	27.9	14.4	14.8	*	*	26.1	25.8	20.6	19.9	16.6	17.1	26.8	32.2	27.3	24.7
	50-64	*	*	34.1	*	*	*	42.2	*	26.7	30.4	20.0	21.4	29.1	44.6	28.3	31.7
	65+	*	*	*	*	*	*	*	*	33.0	25.6	27.7	23.2	39.6	41.7	40.3	29.6
PCB #170	15-24	*	< 6	< 7	< 20	*	*	< 7	< 7	< 8	< 7	< 6	< 6	< 8	< 5	< 6	< 10
	25-34	< 7	5.4	< 8	< 20	*	*	6.7	6.5	5.8	5.5	< 6	< 6	7.1	12.9	6.9	6.3
	35-49	6.4	9.9	6.2	6.2	*	15.9	10.5	10.2	9.5	7.9	7.5	7.2	10.7	14.9	9.3	10.2
	50-64	*	*	14.9	*	*	*	14.5	*	11.5	11.9	8.6	9.4	13.7	18.6	11.4	11.9
	65+	*	*	*	*	*	*	*	*	16.1	12.3	11.1	9.5	15.7	17.1	15.2	11.6
PCB #189	15-24	*	< 7	< 8	< 8	*	*	< 8	< 8	< 9	< 8	< 7	< 8	< 9	< 6	< 7	< 10
	25-34	< 8	< 10	< 9	< 9	*	*	< 6	< 7	< 9	< 7	< 8	< 6	< 8	nr	< 6	< 7
	35-49	< 8	< 5	< 6	< 10	*	< 6	< 8	< 10	< 6	< 6	< 6	< 7	< 7	< 7	< 5	< 6
	50-64	*	*	< 8	*	*	*	< 5	*	< 8	< 6	< 5	< 5	< 8	< 5	< 6	< 6
	65+	*	*	*	*	*	*	*	*	< 6	< 8	< 7	< 6	< 8	< 5	< 5	< 5
PCB #201	15-24	*	< 7	< 8	< 20	*	*	< 10	< 8	< 10	< 8	< 9	< 9	< 9	< 8	< 7	< 10
	25-34	< 10	< 10	< 9	< 40	*	*	< 30	< 8	< 8	< 9	< 8	< 6	< 8	< 40	< 7	< 9
	35-49	< 8	< 8	< 20	< 10	*	< 6	< 8	< 8	< 10	< 7	< 20	< 20	< 6	4.8	3.5	< 6
	50-64	*	*	< 10	*	*	*	5.8	*	< 7	< 7	< 20	< 10	< 7	5.9	< 20	4.4
	65+	*	*	*	*	*	*	*	*	4.3	< 8	< 7	< 6	< 10	4.9	7.3	< 7
PCB #196 + PCB #203	15-24	*	< 7	< 10	< 10	*	*	< 10	< 10	< 10	< 10	< 9	< 9	< 10	< 8	< 9	< 20
	25-34	< 20	< 10	< 9	< 40	*	*	< 9	< 9	< 9	< 8	< 10	< 7	< 10	< 40	< 9	< 9
	35-49	< 10	< 10	< 7	< 20	*	< 6	< 10	< 9	< 20	< 8	< 10	< 20	< 7	4.4	3.6	< 7
	50-64	*	*	< 9	*	*	*	5	*	< 10	< 6	< 6	< 7	< 10	5.6	< 20	4.0
	65+	*	*	*	*	*	*	*	*	4.3	< 10	< 7	< 7	< 8	4.5	6.0	< 7

Table E15 (cont.) Concentrations of PCBs in serum on a congener-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)

Congener		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island	Northland/ Auckland	Waikato/ Bay of Plenty	Lower North Island	South Island
PCB #195	15-24	*	< 8	< 9	< 10	*	*	< 10	< 10	< 10	< 10	< 9	< 10	< 10	< 8	< 9	< 20
	25-34	< 10	< 10	< 10	< 10	*	*	< 8	< 10	< 10	< 9	< 8	< 10	< 10	< 10	< 7	< 9
	35-49	< 10	< 7	< 8	< 10	*	< 7	< 9	< 10	< 10	< 9	< 10	< 10	< 8	< 9	< 6	< 8
	50-64	*	*	< 9	*	*	*	< 6	*	< 9	< 7	< 6	< 7	< 10	< 6	< 10	< 7
	65+	*	*	*	*	*	*	*	*	< 8	< 10	< 8	< 8	< 9	< 6	< 7	< 7
PCB #194	15-24	*	< 8	< 9	< 10	*	*	< 10	< 10	< 10	< 10	< 9	< 10	< 10	< 8	< 9	< 20
	25-34	< 10	< 10	< 10	< 10	*	*	< 8	< 10	< 10	< 9	< 8	< 10	< 10	5.3	< 7	< 9
	35-49	< 10	< 7	< 8	< 10	*	4.0	4.4	< 10	< 10	< 9	< 10	< 10	5.0	6.9	5.1	4.7
	50-64	*	*	5.4	*	*	*	6.6	*	4.8	5.0	< 6	< 7	5.9	8.5	6.1	6.3
	65+	*	*	*	*	*	*	*	*	5.7	< 10	4.7	4.0	6.6	6.9	9.2	6.1
PCB #206	15-24	*	< 10	< 10	< 10	*	*	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20
	25-34	< 10	< 20	< 10	< 10	*	*	< 9	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 9	< 10
	35-49	< 10	< 7	< 7	< 10	*	< 8	< 10	< 10	< 10	< 10	< 9	< 10	< 10	< 10	< 5	< 10
	50-64	*	*	< 10	*	*	*	< 6	*	< 10	< 8	< 7	< 8	< 10	< 6	< 9	< 7
	65+	*	*	*	*	*	*	*	*	< 9	< 10	< 9	< 8	< 10	< 7	< 9	< 7
PCB #209	15-24	*	< 10	< 20	< 20	*	*	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20
	25-34	< 10	< 20	< 10	< 10	*	*	< 10	< 20	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	35-49	< 20	< 8	< 9	< 20	*	< 7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 5	< 10
	50-64	*	*	< 10	*	*	*	< 8	*	< 20	< 8	< 8	< 10	< 20	< 7	< 10	< 8
	65+	*	*	*	*	*	*	*	*	< 10	< 20	< 9	< 9	< 10	< 8	< 9	< 8
Sum of PCBs (inc) <sup>2</sup>	15-24	*	138	149	196	*	*	166	167	185	182	140	157	180	145	127	255
	25-34	173	176	162	178	*	*	144	192	173	163	173	161	194	225	160	178
	35-49	190	268	176	183	*	192	205	203	286	191	230	194	193	225	222	182
	50-64	*	*	277	*	*	*	256	*	222	214	184	188	229	279	209	251
	65+	*	*	*	*	*	*	*	*	243	235	227	192	280	259	245	260
Sum of PCBs (exc) <sup>3</sup>	15-24	*	6.12	12.2	6.62	*	*	21.6	25.1	15.2	23.5	18.2	14.9	30.3	32.0	27.2	27.9
	25-34	32.4	43.7	28.7	25.9	*	*	46.8	55.5	53.0	42.5	32.7	36.5	57.6	92.4	54.6	46.9
	35-49	55.7	117	52.7	55.2	*	99.3	105	86.6	81.9	66.3	61.3	58.0	105	122	111	83.3
	50-64	*	*	166	*	*	*	197	*	120	123	89.7	91.5	128	208	100	122
	65+	*	*	*	*	*	*	*	*	175	120	139	107	162	190	166	119
PCB TEQ (inc) <sup>2</sup>	15-24	*	0.0051	0.0054	0.0062	*	*	0.0059	0.0056	0.0066	0.0059	0.0052	0.0055	0.0063	0.0052	0.0047	0.0083
	25-34	0.0064	0.0063	0.0064	0.0060	*	*	0.0048	0.0055	0.0071	0.0063	0.0060	0.0054	0.0064	0.0055	0.0045	0.0055
	35-49	0.0061	0.0064	0.0061	0.0068	*	0.0064	0.0064	0.0062	0.0086	0.0059	0.0066	0.0069	0.0067	0.0064	0.0063	0.0055
	50-64	*	*	0.012	*	*	*	0.0083	*	0.0077	0.0070	0.0071	0.0076	0.0098	0.010	0.0062	0.0069
	65+	*	*	*	*	*	*	*	*	0.012	0.011	0.010	0.0083	0.0076	0.011	0.0080	0.0082
PCB TEQ (exc) <sup>3</sup>	15-24	*	0.0013	0.0016	0.0015	*	*	0.0014	0.0015	0.0016	0.0012	0.0016	0.0016	0.0019	0.0018	0.0012	0.0016
	25-34	0.0022	0.0021	0.0020	0.0021	*	*	0.0019	0.0015	0.0031	0.0025	0.0021	0.0019	0.0025	0.0020	0.0014	0.0018
	35-49	0.0024	0.0030	0.0024	0.0027	*	0.0033	0.0024	0.0023	0.0033	0.0023	0.0027	0.0024	0.0037	0.0024	0.0031	0.0024
	50-64	*	*	0.0097	*	*	*	0.0067	*	0.0044	0.0043	0.0042	0.0045	0.0076	0.0087	0.0031	0.0042
	65+	*	*	*	*	*	*	*	*	0.010	0.0067	0.0077	0.0054	0.0037	0.0092	0.0063	0.0051

1 = Some data for certain age groups and geographic regions are means of unique sub-samples. Data for individual sub-samples are reported in Tables E11-E14

2 = Including half LOD values

3 = Excluding LOD values

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

## Appendix F      Concentrations of organochlorine pesticides in the serum of New Zealanders

This appendix reports the concentrations of selected organochlorine pesticides and pesticide degradation products in the serum of New Zealanders.

Median and mean concentrations reported in this appendix (under the heading of 'national summary') are unweighted concentrations. That is, they do not take into account the number of individual samples that were combined to prepare each pooled sample, as described in Section B1.9, Appendix B.

Organochlorine pesticide data are reported in the following tables:

Table F1	Concentrations in serum from Maori aged 15–24 years
Table F2	Concentrations in serum from non-Maori aged 15–24 years
Table F3	Concentrations in serum from Maori aged 25–34 years
Table F4	Concentrations in serum from non-Maori aged 25–34 years
Table F5	Concentrations in serum from Maori aged 35–49 years
Table F6	Concentrations in serum from non-Maori aged 35–49 years
Table F7	Concentrations in serum from Maori aged 50–64 years
Table F8	Concentrations in serum from non-Maori aged 50–64 years
Table F9	Concentrations in serum from Maori aged 65+ years
Table F10	Concentrations in serum from non-Maori aged 65+ years
Table F11	Concentrations in serum sub-samples from non-Maori aged 25–34 years
Table F12	Concentrations in serum sub-samples from non-Maori aged 35–49 years
Table F13	Concentrations in serum sub-samples from non-Maori aged 50–64 years
Table F14	Concentrations in serum sub-samples from non-Maori aged 65+ years
Table F15	Concentrations in serum on a pesticide-specific basis

**Table F1 Concentrations of organochlorine pesticides in serum from Maori aged 15–24 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				National summary for Maori aged 15–24 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>1</sup>	Median <sup>2</sup>	Mean <sup>3</sup>
$\beta$ -HCH	*	< 10	< 10	< 9	*	*	< 7	< 10	0	< 7	< 10	-	-
$\gamma$ -HCH	*	< 10	< 20	< 10	*	*	< 7	< 10	0	< 7	< 20	-	-
HCB	*	< 30	< 30	< 30	*	*	< 20	< 20	0	< 20	< 30	-	-
Aldrin	*	< 5	< 4	< 5	*	*	< 4	< 5	0	< 4	< 5	-	-
Dieldrin	*	< 8	9.4	10.1	*	*	10.6	8.6	4	< 8	10.6	9.4	9.7
Endrin	*	< 8	< 7	< 8	*	*	< 7	< 8	0	< 7	< 8	-	-
Heptachlor epoxide	*	< 5	< 4	< 5	*	*	< 4	< 5	0	< 4	< 5	-	-
Oxychlorane	*	< 5	< 4	< 5	*	*	< 4	< 5	0	< 4	< 5	-	-
t-Nonachlor	*	< 8	< 7	< 8	*	*	< 7	< 8	0	< 7	< 8	-	-
pp-DDE	*	413	513	694	*	*	652	965	5	413	965	652	647
op-DDT	*	< 20	< 10	< 20	*	*	< 10	< 20	0	< 10	< 20	-	-
pp-DDT	*	< 20	< 20	< 20	*	*	< 20	< 20	0	< 20	< 20	-	-
Mirex	*	< 10	< 10	< 9	*	*	< 7	< 10	0	< 7	< 10	-	-

1 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

2 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

3 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are excluded from the mean calculation

\* = Insufficient sample collected for analysis

**Table F2 Concentrations of organochlorine pesticides in serum from non-Maori aged 15–24 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Non-Maori female				Non-Maori male				National summary for non-Maori aged 15–24 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>1</sup>	Median <sup>2</sup>	Mean <sup>3</sup>
$\beta$ -HCH	< 9	< 20	< 8	< 8	< 10	8.8	7.5	< 10	2	< 8	8.8	-	-
$\gamma$ -HCH	< 9	< 20	< 8	< 8	< 8	< 8	< 10	< 10	0	< 8	< 20	-	-
HCB	< 30	< 40	< 20	< 20	< 30	< 20	< 30	< 30	0	< 20	< 40	-	-
Aldrin	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5	0	< 4	< 5	-	-
Dieldrin	< 9	< 8	10.5	10.8	11.6	8.8	9.7	13.3	6	< 8	13.3	10.1	10.8
Endrin	< 9	< 9	< 8	< 8	< 8	< 8	nr	< 8	0	< 8	< 9	-	-
Heptachlor epoxide	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5	0	< 4	< 5	-	-
Oxychlorane	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5	0	< 4	< 5	-	-
t-Nonachlor	< 9	< 9	< 8	< 8	< 8	< 8	< 7	< 8	0	< 7	< 9	-	-
pp-DDE	432	522	585	605	535	548	718	859	8	432	859	566	600
op-DDT	< 20	< 20	< 20	< 10	< 20	< 10	< 10	< 20	0	< 10	< 20	-	-
pp-DDT	33.2	< 30	< 20	< 20	< 20	< 20	15.0	< 20	2	< 20	33.2	-	-
Mirex	< 9	< 10	< 7	< 5	< 6	< 5	< 9	< 10	0	< 5	< 10	-	-

1 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

2 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

3 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are excluded from the mean calculation

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F3 Concentrations of organochlorine pesticides in serum from Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				National summary for Maori aged 25–34 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>1</sup>	Median <sup>2</sup>	Mean <sup>3</sup>
$\beta$ -HCH	< 10	7.8	< 20	< 7	*	*	< 7	< 9	1	< 7	7.8	-	-
$\gamma$ -HCH	< 10	< 7	< 20	< 10	*	*	< 10	< 10	0	< 7	< 20	-	-
HCB	< 30	< 20	< 50	< 20	*	*	< 20	< 20	0	< 20	< 50	-	-
Aldrin	< 5	< 4	< 6	< 4	*	*	< 4	< 4	0	< 4	< 6	-	-
Dieldrin	9.6	14.6	24.1	9.2	*	*	10.7	10.1	6	9.2	24.1	10.4	13.1
Endrin	< 8	< 7	nr	< 7	*	*	< 7	< 7	0	< 7	< 8	-	-
Heptachlor epoxide	< 5	< 4	< 6	< 4	*	*	< 4	< 4	0	< 4	< 6	-	-
Oxychlorane	< 5	< 4	< 6	< 4	*	*	< 4	< 4	0	< 4	< 6	-	-
t-Nonachlor	< 8	< 7	< 10	< 7	*	*	< 7	< 7	0	< 7	< 10	-	-
pp-DDE	504	667	864	799	*	*	905	1,340	6	504	1,340	832	847
op-DDT	< 20	< 10	< 20	< 20	*	*	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	< 20	< 20	< 30	< 20	*	*	< 20	< 20	0	< 20	< 30	-	-
Mirex	< 8	< 4	< 10	< 6	*	*	< 5	< 7	0	< 4	< 10	-	-

1 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

2 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are included in the median calculation

3 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 4 positive determinations). LODs are excluded from the mean calculation

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F4 Concentrations of organochlorine pesticides in serum from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Non-Maori female				Non-Maori male				National summary for non-Maori aged 25–34 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=3) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Number of positives	Minimum	Maximum <sup>2</sup>	Median <sup>3</sup>	Mean <sup>4</sup>
$\beta$ -HCH	29.1	< 7	8.1	9.3	7.8	7.5	10.2	10.7	7	< 7	29.1	8.7	11.8
$\gamma$ -HCH	< 7	< 8	< 20	< 10	< 8	< 8	< 8	< 9	0	< 7	< 20	-	-
HCB	< 20	< 20	< 50	< 30	< 20	< 20	< 20	< 20	0	< 20	< 50	-	-
Aldrin	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4	0	< 3	< 8	-	-
Dieldrin	9.4	9.9	10.3	11.1	11.3	10.3	9.8	11.5	8	9.4	11.5	10.3	10.5
Endrin	< 7	< 7	< 8	< 7	< 7	< 7	< 6	< 7	0	< 6	< 8	-	-
Heptachlor epoxide	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4	0	< 3	< 8	-	-
Oxychlorane	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4	0	< 3	< 8	-	-
t-Nonachlor	< 7	< 7	< 10	< 7	< 7	< 7	< 6	< 7	0	< 6	< 10	-	-
pp-DDE	564	705	736	755	450	622	803	1,170	8	450	1,170	720	726
op-DDT	< 10	< 10	< 20	< 10	< 10	< 10	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	< 20	< 20	< 30	< 30	< 20	< 20	< 20	23.9	1	< 20	23.9	-	-
Mirex	< 4	< 5	< 10	< 9	< 6	< 5	< 5	< 7	0	< 4	< 10	-	-

1 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table F11 and Appendix A, Section A6)

2 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

3 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

4 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are excluded from the mean calculation

**Table F5 Concentrations of organochlorine pesticides in serum from Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				National summary for Maori aged 35–49 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum <sup>1</sup>	Median <sup>2</sup>	Mean <sup>3</sup>
$\beta$ -HCH	< 8	nr	< 7	9.4	*	25.3	9.7	17.1	4	< 7	25.3	-	-
$\gamma$ -HCH	< 9	nr	< 7	< 20	*	< 6	< 10	< 6	0	< 6	< 20	-	-
HCB	< 20	< 20	< 20	< 30	*	< 20	< 30	< 20	0	< 20	< 30	-	-
Aldrin	< 5	nr	< 4	< 4	*	< 3	< 4	< 4	0	< 3	< 5	-	-
Dieldrin	15.3	15.9	9.6	16.8	*	15.8	25.9	11.0	7	9.6	25.9	15.8	15.8
Endrin	< 8	nr	< 7	< 7	*	< 6	nr	< 6	0	< 6	< 8	-	-
Heptachlor epoxide	< 5	nr	< 4	< 4	*	< 3	< 4	< 4	0	< 3	< 5	-	-
Oxychlorane	< 5	nr	< 4	< 4	*	< 3	< 4	< 4	0	< 3	< 5	-	-
t-Nonachlor	< 8	nr	< 7	< 7	*	< 6	< 7	< 6	0	< 6	< 8	-	-
pp-DDE	547	1,810	1,270	1,740	*	902	1,590	1,280	7	547	1,810	1,280	1,310
op-DDT	< 10	nr	< 10	< 20	*	< 10	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	< 20	< 60	< 20	27.1	*	< 20	20.5	< 20	2	< 20	27.1	-	-
Mirex	< 9	< 6	< 4	< 8	*	< 3	< 10	< 5	0	< 3	< 10	-	-

1 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

2 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 5 positive determinations). LODs are included in the median calculation

3 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 5 positive determinations). LODs are excluded from the mean calculation

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F6 Concentrations of organochlorine pesticides in serum from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Non-Maori female				Non-Maori male				National summary for non-Maori aged 35–49 years				
	Northland/Auckland (n=2) <sup>1</sup>	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=3) <sup>1</sup>	Number of positives	Minimum	Maximum <sup>2</sup>	Median <sup>3</sup>	Mean <sup>4</sup>
$\beta$ -HCH	73.1	10.4	12.2	9.5	38.4	10.4	44.7	34.1	8	9.5	73.1	23.2	29.1
$\gamma$ -HCH	< 8	< 10	< 10	< 7	< 8	< 6	< 7	< 9	0	< 6	< 10	-	-
HCB	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	0	< 20	< 20	-	-
Aldrin	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0	< 4	< 4	-	-
Dieldrin	14.9	9.4	11.3	11.0	11.2	8.5	14.3	11.7	8	8.5	14.9	11.3	11.5
Endrin	< 7	< 7	< 7	< 7	< 6	< 6	< 6	< 6	0	< 6	< 7	-	-
Heptachlor epoxide	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0	< 4	< 4	-	-
Oxychlorane	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	0	< 4	< 4	-	-
t-Nonachlor	< 7	< 7	< 7	< 7	< 6	< 6	< 6	< 6	0	< 6	< 7	-	-
pp-DDE	756	809	839	1,040	1,030	709	1,380	1,330	8	709	1,380	935	987
op-DDT	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	27.1	< 20	< 50	< 20	32.4	< 20	< 40	< 20	2	< 20	32.4	-	-
Mirex	< 10	< 7	< 8	< 4	< 6	< 4	< 10	< 6	0	< 4	< 10	-	-

1 = Mean of two (n=2) or three (n=3) unique sub-samples prepared for this stratum (see Table F12 and Appendix A, Section A6)

2 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

3 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

4 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are excluded from the mean calculation

**Table F7 Concentrations of organochlorine pesticides in serum from Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				National summary for Maori aged 50–64 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median <sup>1</sup>	Mean <sup>2</sup>
$\beta$ -HCH	*	*	17.5	*	*	*	12.6	*	2	12.6	17.5	15.1	15.1
$\gamma$ -HCH	*	*	< 7	*	*	*	< 20	*	0	< 7	< 20	-	-
HCB	*	*	53.6	*	*	*	< 40	*	1	< 40	53.6	-	-
Aldrin	*	*	< 4	*	*	*	< 4	*	0	< 4	< 4	-	-
Dieldrin	*	*	17.1	*	*	*	26.3	*	2	17.1	26.3	21.7	21.7
Endrin	*	*	< 7	*	*	*	nr	*	0	< 7	< 7	-	-
Heptachlor epoxide	*	*	< 4	*	*	*	< 4	*	0	< 4	< 4	-	-
Oxychlorane	*	*	< 4	*	*	*	< 4	*	0	< 4	< 4	-	-
t-Nonachlor	*	*	< 7	*	*	*	< 7	*	0	< 7	< 7	-	-
pp-DDE	*	*	2,780	*	*	*	2,050	*	2	2,050	2,780	2,420	2,420
op-DDT	*	*	< 10	*	*	*	< 10	*	0	< 10	< 10	-	-
pp-DDT	*	*	44.1	*	*	*	24.6	*	2	24.6	44.1	34.4	34.4
Mirex	*	*	< 5	*	*	*	< 7	*	0	< 5	< 7	-	-

<sup>1</sup> = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 2 positive determinations). LODs are included in the median calculation

<sup>2</sup> = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 2 positive determinations). LODs are excluded from the mean calculation

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F8 Concentrations of organochlorine pesticides in serum from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Non-Maori female				Non-Maori male				National summary for non-Maori aged 50–64 years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Number of positives	Minimum	Maximum <sup>2</sup>	Median <sup>3</sup>	Mean <sup>4</sup>
$\beta$ -HCH	20.0	13.6	19.2	27.7	23.5	15.4	11.6	12.2	8	11.6	27.7	17.3	17.9
$\gamma$ -HCH	< 9	< 6	91.1	< 8	< 6	< 6	< 8	< 6	1	< 6	91.1	-	-
HCB	< 20	< 20	< 20	52.8	< 20	< 20	< 20	< 20	1	< 20	52.8	-	-
Aldrin	< 4	< 4	< 4	< 3	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
Dieldrin	15.7	13.7	12.3	20.6	14.5	15.8	12.7	19.8	8	12.3	20.6	15.1	15.6
Endrin	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	0	< 6	< 6	-	-
Heptachlor epoxide	< 4	< 4	< 4	< 3	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
Oxychlorane	< 4	< 4	< 4	< 3	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
t-Nonachlor	7.6	< 6	< 6	< 6	< 6	< 6	< 6	< 6	1	< 6	7.6	-	-
pp-DDE	1,100	919	1,530	1,520	605	876	1,210	1,540	8	605	1,540	1,160	1,160
op-DDT	< 10	< 10	< 20	< 10	< 10	< 10	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	29.4	< 20	24.5	21.9	< 20	< 20	16.7	< 60	4	< 20	29.4	-	-
Mirex	< 7	< 6	< 6	< 5	< 4	< 3	< 5	< 7	0	< 3	< 7	-	-

1 = Mean of two unique sub-samples prepared for this stratum (see Table F13 and Appendix A, Section A6)

2 = Excludes any LOD value which is greater than a maximum measured value for that pesticide

3 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

4 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are excluded from the mean calculation

**Table F9 Concentrations of organochlorine pesticides in serum from Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				National summary for Maori aged 65+ years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Number of positives	Minimum	Maximum	Median	Mean
$\beta$ -HCH	*	*	*	*	*	*	*	*	-	-	-	-	-
$\gamma$ -HCH	*	*	*	*	*	*	*	*	-	-	-	-	-
HCB	*	*	*	*	*	*	*	*	-	-	-	-	-
Aldrin	*	*	*	*	*	*	*	*	-	-	-	-	-
Dieldrin	*	*	*	*	*	*	*	*	-	-	-	-	-
Endrin	*	*	*	*	*	*	*	*	-	-	-	-	-
Heptachlor epoxide	*	*	*	*	*	*	*	*	-	-	-	-	-
Oxychlorane	*	*	*	*	*	*	*	*	-	-	-	-	-
t-Nonachlor	*	*	*	*	*	*	*	*	-	-	-	-	-
pp-DDE	*	*	*	*	*	*	*	*	-	-	-	-	-
op-DDT	*	*	*	*	*	*	*	*	-	-	-	-	-
pp-DDT	*	*	*	*	*	*	*	*	-	-	-	-	-
Mirex	*	*	*	*	*	*	*	*	-	-	-	-	-

\* = Insufficient sample collected for analysis

**Table F10 Concentrations of organochlorine pesticides in serum from non-Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Non-Maori female				Non-Maori male				National summary for non-Maori aged 65+ years				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island (n=2) <sup>1</sup>	South Island (n=2) <sup>1</sup>	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island (n=2) <sup>1</sup>	Number of positives	Minimum	Maximum	Median <sup>2</sup>	Mean <sup>3</sup>
$\beta$ -HCH	31.2	22.8	29.1	29.9	24.2	15.9	14.5	19.4	8	14.5	31.2	23.5	23.4
$\gamma$ -HCH	< 9	< 6	< 10	< 9	< 7	< 5	< 9	< 8	0	< 5	< 10	-	-
HCB	< 20	< 20	28.8	24.3	< 20	< 20	< 20	< 20	2	< 20	28.8	-	-
Aldrin	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
Dieldrin	25.1	23.3	28.4	21.5	18.1	27.6	17.7	19.1	8	17.7	28.4	22.4	22.6
Endrin	< 6	< 6	< 6	< 6	< 7	< 5	< 6	< 6	0	< 5	< 7	-	-
Heptachlor epoxide	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
Oxychlorane	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4	0	< 3	< 4	-	-
t-Nonachlor	8.4	< 6	< 7	< 6	8.3	< 5	< 6	< 6	2	< 5	8.4	-	-
pp-DDE	1,090	1,880	2,740	2,100	950	1,220	1,310	1,650	8	950	2,740	1,480	1,620
op-DDT	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10	0	< 10	< 20	-	-
pp-DDT	17.1	26.7	49.2	30.9	< 20	20.5	< 20	< 40	5	< 20	49.2	-	-
Mirex	< 6	< 5	< 7	< 7	< 7	< 3	< 8	< 6	0	< 3	< 8	-	-

1 = Mean of two unique sub-samples prepared for this stratum (see Table F14 and Appendix A, Section A6)

2 = Median concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are included in the median calculation

3 = Mean concentration reported only if a pesticide detected on more than 66% of occasions (minimum of 6 positive determinations). LODs are excluded from the mean calculation

**Table F11 Concentrations of organochlorine pesticides in serum sub-samples from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Pesticide	Female, Lower North Island			Female, South Island			Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#3	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2
$\beta$ -HCH	8.1	< 10	8.0	nr	9.3	< 10	12.0	8.4	10.9	10.5
$\gamma$ -HCH	< 10	< 10	< 40	nr	< 10	< 10	< 6	< 10	< 10	< 7
HCB	< 30	< 30	< 80	< 30	< 20	< 20	< 20	< 20	< 20	< 20
Aldrin	< 5	< 5	< 10	nr	< 4	< 5	< 3	< 4	< 4	< 4
Dieldrin	< 8	8.4	12.2	14.0	9.8	9.4	10.4	9.2	12.3	10.6
Endrin	< 8	< 8	nr	nr	< 7	< 8	< 6	< 6	< 7	< 7
Heptachlor epoxide	< 5	< 5	< 10	nr	< 4	< 5	< 3	< 4	< 4	< 4
Oxychlorane	< 5	< 5	< 10	nr	< 4	< 5	< 3	< 4	< 4	< 4
t-Nonachlor	< 8	< 8	< 20	nr	< 7	< 8	< 6	< 6	< 7	< 7
pp-DDE	610	733	864	710	803	752	817	790	927	1,420
op-DDT	< 20	< 20	< 30	nr	< 10	< 20	< 10	< 10	< 10	< 10
pp-DDT	< 20	< 20	< 40	< 60	< 20	< 20	< 20	< 20	< 20	23.9
Mirex	< 9	< 10	< 20	< 9	< 8	< 10	< 3	< 7	< 10	< 4

<sup>1</sup> = These data are the results of the analyses of unique sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table F4

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F12 Concentrations of organochlorine pesticides in serum sub-samples from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Pesticide	Female, Northland/Auckland		Female, Lower North Island		Female, South Island			Male, Lower North Island		Male, South Island		
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#3	SS#1	SS#2	SS#1	SS#2	SS#3
$\beta$ -HCH	nr	73.1	nr	12.2	7.9	10.9	9.7	nr	44.7	62.2	14.3	25.8
$\gamma$ -HCH	nr	< 8	nr	< 10	< 7	< 6	< 7	nr	< 7	< 10	< 10	< 6
HCB	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Aldrin	nr	< 4	nr	< 4	< 4	< 4	< 4	nr	< 4	< 4	< 4	< 4
Dieldrin	14.9	< 8	11.9	10.7	10.1	13	9.9	17.7	10.9	10.6	11.2	13.3
Endrin	nr	< 7	nr	< 7	< 7	< 6	< 7	nr	< 6	< 7	< 6	< 6
Heptachlor epoxide	nr	< 4	nr	< 4	< 4	< 4	< 4	nr	< 4	< 4	< 4	< 4
Oxychlorane	nr	< 4	nr	< 4	< 4	< 4	< 4	nr	< 4	< 4	< 4	< 4
t-Nonachlor	nr	< 7	nr	< 7	< 7	< 6	< 7	nr	< 6	< 7	< 6	< 6
pp-DDE	882	630	749	929	755	1,140	1,210	1,650	1,100	1,120	1,530	1,350
op-DDT	nr	< 10	nr	< 10	< 10	< 10	< 10	nr	< 10	< 10	< 10	< 10
pp-DDT	< 80	27.1	< 90	< 20	< 20	< 20	< 20	< 70	< 20	< 20	< 20	< 20
Mirex	< 20	< 6	< 10	< 5	< 4	< 4	< 4	< 20	< 6	< 7	< 6	< 4

<sup>1</sup> = These data are the results of the analyses of different sub-samples (SS#1, SS#2, SS#3) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table F6

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F13 Concentrations of organochlorine pesticides in serum sub-samples from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Pesticide	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
$\beta$ -HCH	15.3	23.1	31.3	24.1	12.3	10.8	12.2	nr
$\gamma$ -HCH	91.1	< 10	< 7	< 10	< 10	< 6	< 6	nr
HCB	< 20	< 20	< 20	52.8	< 20	< 20	< 20	< 20
Aldrin	< 4	< 4	< 4	< 3	< 4	< 3	< 4	nr
Dieldrin	11.4	13.1	18.0	23.1	13.5	11.9	14.6	24.9
Endrin	< 6	< 6	< 6	< 6	< 6	< 5	< 6	nr
Heptachlor epoxide	< 4	< 4	< 4	< 3	< 4	< 3	< 4	nr
Oxychlorane	< 4	< 4	< 4	< 3	< 4	< 3	< 4	nr
t-Nonachlor	< 6	< 6	< 6	< 6	< 6	< 5	< 6	nr
pp-DDE	1,420	1,630	1,350	1,690	1,160	1,260	1,500	1,580
op-DDT	< 20	< 20	< 10	< 10	< 10	< 10	< 10	nr
pp-DDT	17.6	31.5	21.9	21.9	< 20	16.7	< 20	< 100
Mirex	< 4	< 7	< 4	< 7	< 6	< 4	< 4	< 10

<sup>1</sup> = These data are the results of the analyses of different sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table F8

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F14 Concentrations of organochlorine pesticides in serum sub-samples from non-Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid wt basis)<sup>1</sup>**

Pesticide	Female, Lower North Island		Female, South Island		Male, South Island	
	SS#1	SS#2	SS#1	SS#2	SS#1	SS#2
$\beta$ -HCH	27.3	30.8	26.9	32.8	19.4	nr
$\gamma$ -HCH	< 20	< 6	< 10	< 6	< 8	nr
HCB	27.8	29.7	25.4	23.1	< 20	< 20
Aldrin	< 5	< 4	< 4	< 3	< 4	nr
Dieldrin	25.1	31.7	22.1	20.9	13.3	25.3
Endrin	nr	< 6	nr	< 6	< 6	nr
Heptachlor epoxide	< 5	< 4	< 4	< 3	< 4	nr
Oxychlorane	< 5	< 4	< 4	< 3	< 4	nr
t-Nonachlor	< 8	< 6	< 7	< 6	< 6	nr
pp-DDE	3,160	2,320	2,360	1,840	1,230	2,070
op-DDT	< 20	< 10	< 10	< 20	< 10	nr
pp-DDT	68.6	29.8	37.4	24.4	< 20	< 50
Mirex	< 10	< 4	< 10	< 4	< 5	< 8

<sup>1</sup> = These data are the results of the analyses of different sub-samples (SS#1, SS#2) prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6).

Mean data for sub-samples reported in Table F10

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria

**Table F15 Concentrations of organochlorine pesticides in serum on a pesticide-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)**

Pesticide	Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>				
	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	
$\beta$ -HCH	15-24	*	< 10	< 10	< 9	*	*	< 7	< 10	< 9	< 20	< 8	< 8	< 10	8.8	7.5	< 10
	25-34	< 10	7.8	< 20	< 7	*	*	< 7	< 9	29.1	< 7	8.1	9.3	7.8	7.5	10.2	10.7
	35-49	< 8	nr	< 7	9.4	*	25.3	9.7	17.1	73.1	10.4	12.2	9.5	38.4	10.4	44.7	34.1
	50-64	*	*	17.5	*	*	*	12.6	*	20.0	13.6	19.2	27.7	23.5	15.4	11.6	12.2
	65+	*	*	*	*	*	*	*	*	31.2	22.8	29.1	29.9	24.2	15.9	14.5	19.4
$\gamma$ -HCH	15-24	*	< 10	< 20	< 10	*	*	< 7	< 10	< 9	< 20	< 8	< 8	< 8	< 8	< 10	< 10
	25-34	< 10	< 7	< 20	< 10	*	*	< 10	< 10	< 7	< 8	< 20	< 10	< 8	< 8	< 8	< 9
	35-49	< 9	nr	< 7	< 20	*	< 6	< 10	< 6	< 8	< 10	< 10	< 7	< 8	< 6	< 7	< 9
	50-64	*	*	< 7	*	*	< 20	*	*	< 9	< 6	91.1	< 8	< 6	< 6	< 8	< 6
	65+	*	*	*	*	*	*	*	*	< 9	< 6	< 10	< 9	< 7	< 5	< 9	< 8
HCB	15-24	*	< 30	< 30	< 30	*	*	< 20	< 20	< 30	< 40	< 20	< 20	< 30	< 20	< 30	< 30
	25-34	< 30	< 20	< 50	< 20	*	*	< 20	< 20	< 20	< 20	< 50	< 30	< 20	< 20	< 20	< 20
	35-49	< 20	< 20	< 20	< 30	*	< 20	< 30	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
	50-64	*	*	53.6	*	*	< 40	*	*	< 20	< 20	< 20	52.8	< 20	< 20	< 20	< 20
	65+	*	*	*	*	*	*	*	*	< 20	< 20	28.8	24.3	< 20	< 20	< 20	< 20
Aldrin	15-24	*	< 5	< 4	< 5	*	*	< 4	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5
	25-34	< 5	< 4	< 6	< 4	*	*	< 4	< 4	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4
	35-49	< 5	nr	< 4	< 4	*	< 3	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
	50-64	*	*	< 4	*	*	*	< 4	*	< 4	< 4	< 4	< 3	< 4	< 3	< 4	< 4
	65+	*	*	*	*	*	*	*	*	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4
Dieldrin	15-24	*	< 8	9.4	10.1	*	*	10.6	8.6	< 9	< 8	10.5	10.8	11.6	8.8	9.7	13.3
	25-34	9.6	14.6	24.1	9.2	*	*	10.7	10.1	9.4	9.9	10.3	11.1	11.3	10.3	9.8	11.5
	35-49	15.3	15.9	9.6	16.8	*	15.8	25.9	11.0	14.9	9.4	11.3	11.0	11.2	8.5	14.3	11.7
	50-64	*	*	17.1	*	*	*	26.3	*	15.7	13.7	12.3	20.6	14.5	15.8	12.7	19.8
	65+	*	*	*	*	*	*	*	*	25.1	23.3	28.4	21.5	18.1	27.6	17.7	19.1
Endrin	15-24	*	< 8	< 7	< 8	*	*	< 7	< 8	< 9	< 9	< 8	< 8	< 8	< 8	nr	< 8
	25-34	< 8	< 7	nr	< 7	*	*	< 7	< 7	< 7	< 7	< 8	< 7	< 7	< 7	< 6	< 7
	35-49	< 8	nr	< 7	< 7	*	< 6	nr	< 6	< 7	< 7	< 7	< 7	< 6	< 6	< 6	< 6
	50-64	*	*	< 7	*	*	*	nr	*	< 6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
	65+	*	*	*	*	*	*	*	*	< 6	< 6	< 6	< 6	< 7	< 5	< 6	< 6
Heptachlor epoxide	15-24	*	< 5	< 4	< 5	*	*	< 4	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5
	25-34	< 5	< 4	< 6	< 4	*	*	< 4	< 4	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4
	35-49	< 5	nr	< 4	< 4	*	< 3	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
	50-64	*	*	< 4	*	*	*	< 4	*	< 4	< 4	< 4	< 3	< 4	< 3	< 4	< 4
	65+	*	*	*	*	*	*	*	*	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4

Table F15 (cont.) Concentrations of organochlorine pesticides in serum on a pesticide-specific basis ( $\mu\text{g kg}^{-1}$ , lipid wt basis)

Pesticide		Maori female				Maori male				Non-Maori female <sup>1</sup>				Non-Maori male <sup>1</sup>			
		Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island	Northland/Auckland	Waikato/Bay of Plenty	Lower North Island	South Island
Oxychlorane	15-24	*	< 5	< 4	< 5	*	*	< 4	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 4	< 5
	25-34	< 5	< 4	< 6	< 4	*	*	< 4	< 4	< 4	< 4	< 8	< 4	< 4	< 4	< 3	< 4
	35-49	< 5	nr	< 4	< 4	*	*	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4	< 4
	50-64	*	*	< 4	*	*	*	< 4	*	< 4	< 4	< 4	< 4	< 4	< 3	< 4	< 4
	65+	*	*	*	*	*	*	*	*	< 3	< 3	< 4	< 4	< 4	< 3	< 4	< 4
t-Nonachlor	15-24	*	< 8	< 7	< 8	*	*	< 7	< 8	< 9	< 9	< 8	< 8	< 8	< 8	< 7	< 8
	25-34	< 8	< 7	< 10	< 7	*	*	< 7	< 7	< 7	< 7	< 10	< 7	< 7	< 6	< 6	< 7
	35-49	< 8	nr	< 7	< 7	*	*	< 7	< 6	< 7	< 7	< 7	< 6	< 6	< 6	< 6	< 6
	50-64	*	*	< 7	*	*	*	< 7	*	7.6	< 6	< 6	< 6	< 6	< 6	< 6	< 6
	65+	*	*	*	*	*	*	*	*	8.4	< 6	< 7	< 6	8.3	< 5	< 6	< 6
pp-DDE	15-24	*	413	513	694	*	*	652	965	432	522	585	605	535	548	718	859
	25-34	504	667	864	799	*	*	905	1,340	564	705	736	755	450	622	803	1,170
	35-49	547	1,810	1,270	1,740	*	*	902	1,590	756	809	839	1,040	1,030	709	1,380	1,330
	50-64	*	*	2,780	*	*	*	2,050	*	1,100	919	1,530	1,520	605	876	1,210	1,540
	65+	*	*	*	*	*	*	*	*	1,090	1,880	2,740	2,100	950	1,220	1,310	1,650
op-DDT	15-24	*	< 20	< 10	< 20	*	*	< 10	< 20	< 20	< 20	< 20	< 10	< 20	< 10	< 10	< 20
	25-34	< 20	< 10	< 20	< 20	*	*	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 10	< 10	< 10
	35-49	< 10	nr	< 10	< 20	*	*	< 10	< 10	< 10	< 10	< 10	< 10	< 20	< 10	< 10	< 10
	50-64	*	*	< 10	*	*	*	< 10	*	< 10	< 10	< 20	< 10	< 10	< 10	< 10	< 10
	65+	*	*	*	*	*	*	*	*	< 10	< 10	< 20	< 20	< 10	< 10	< 10	< 10
pp-DDT	15-24	*	< 20	< 20	< 20	*	*	< 20	< 20	33.2	< 30	< 20	< 20	< 20	< 20	15.0	< 20
	25-34	< 20	< 20	< 30	< 20	*	*	< 20	< 20	< 20	< 20	< 30	< 30	< 20	< 20	< 20	23.9
	35-49	< 20	< 60	< 20	27.1	*	*	< 20	20.5	27.1	< 20	< 50	< 20	32.4	< 20	< 40	< 20
	50-64	*	*	44.1	*	*	*	24.6	*	29.4	< 20	24.5	21.9	< 20	< 20	16.7	< 60
	65+	*	*	*	*	*	*	*	*	17.1	26.7	49.2	30.9	< 20	20.5	< 20	< 40
Mirex	15-24	*	< 10	< 10	< 9	*	*	< 7	< 10	< 9	< 10	< 7	< 5	< 6	< 5	< 9	< 10
	25-34	< 8	< 4	< 10	< 6	*	*	< 5	< 7	< 4	< 5	< 10	< 9	< 6	< 5	< 5	< 7
	35-49	< 9	< 6	< 4	< 8	*	*	< 10	< 5	< 10	< 7	< 8	< 4	< 6	< 4	< 10	< 6
	50-64	*	*	< 5	*	*	*	< 7	*	< 7	< 6	< 6	< 5	< 4	< 3	< 5	< 7
	65+	*	*	*	*	*	*	*	*	< 6	< 5	< 7	< 7	< 7	< 3	< 8	< 6

<sup>1</sup> = Some data for certain age groups and geographic regions are means of unique sub-samples. Data for individual sub-samples are reported in Tables F11-F14

\* = Insufficient sample collected for analysis

nr = Result cannot be reported because one or more of the quality assurance or quality control parameters did not meet the specified QA/QC criteria



## Appendix G Standard error estimates

This appendix reports the standard error estimates for the analysis of the serum sub-samples for organochlorines.

Table G1	Standard errors of PCDD/F analysis, non-Maori aged 25–34 years
Table G2	Standard errors of PCDD/F analysis, non-Maori aged 35–49 years
Table G3	Standard errors of PCDD/F analysis, non-Maori aged 50–64 years
Table G4	Standard errors of PCDD/F analysis, non-Maori aged 65+ years
Table G5	Standard errors of PCB analysis, non-Maori aged 25–34 years
Table G6	Standard errors of PCB analysis, non-Maori aged 35–49 years
Table G7	Standard errors of PCB analysis, non-Maori aged 50–64 years
Table G8	Standard errors of PCB analysis, non-Maori aged 65+ years
Table G9	Standard errors of organochlorine pesticide analysis, non-Maori aged 25–34 years
Table G10	Standard errors of organochlorine pesticide analysis, non-Maori aged 35–49 years
Table G11	Standard errors of organochlorine pesticide analysis, non-Maori aged 50–64 years
Table G12	Standard errors of organochlorine pesticide analysis, non-Maori aged 65+ years

**Table G1 Standard errors of PCDD and PCDF analysis of serum sub-samples from non-Maori aged 25–34 years (ng kg<sup>-1</sup>, lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
2, 3, 7, 8 TCDD	1.5	0.12	1.4	0.17	1.1	0.050	1.2	0.25
1, 2, 3, 7, 8 PeCDD	3.2	0.23	3.1	0.17	2.8	0.25	3.4	0.45
1, 2, 3, 4, 7, 8 HxCDD	1.9	0.088	1.3	nc	1.6	0.050	1.9	0.30
1, 2, 3, 6, 7, 8 HxCDD	12.5	1.7	13.6	2.1	13.2	1.8	14.9	2.1
1, 2, 3, 7, 8, 9 HxCDD	3.3	0.35	3.4	0.32	2.0	0.050	3.0	0.40
1, 2, 3, 4, 6, 7, 8 HpCDD	32.7	4.4	31.9	5.6	21.9	1.8	28.6	5.2
OCDD	326	45.3	366	53.7	209	18.5	246	27.5
2, 3, 7, 8 TCDF	0.2	nc	< 0.3	nc	< 0.3	nc	< 0.4	nc
1, 2, 3, 7, 8 PeCDF	< 0.3	nc	< 0.4	nc	< 0.3	nc	< 0.5	nc
2, 3, 4, 7, 8 PeCDF	2.6	0.29	3.1	0.28	2.6	0.30	3.4	0.30
1, 2, 3, 4, 7, 8 HxCDF	1.4	0.088	1.8	0.13	1.2	0.10	1.7	0.20
1, 2, 3, 6, 7, 8 HxCDF	1.7	0.15	2.0	0.20	1.6	0.050	2.4	0.25
2, 3, 4, 6, 7, 8 HxCDF	0.5	0.033	0.7	0.10	0.8	0.25	0.8	0.15
1, 2, 3, 4, 6, 7, 8 HpCDF	5.0	nc	5.8	nc	< 5	nc	5.8	nc
1, 2, 3, 4, 7, 8, 9 HpCDF	0.3	nc	0.3	nc	< 0.3	nc	0.3	nc
OCDF	< 10	nc	< 20	nc	< 10	nc	< 2	nc
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	399	57	447	68	265	22	314	36
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	389	54	433	64	257	17	309	40
PCDD/F TEQ (inc) <sup>2</sup>	8.54	0.66	8.76	0.73	7.42	0.36	9.09	1.2
PCDD/F TEQ (exc) <sup>3</sup>	8.46	0.66	8.69	0.73	7.36	0.34	8.99	1.3

1 = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G2 Standard errors of PCDD and PCDF analysis of serum sub-samples from non-Maori aged 35–49 years (ng kg<sup>-1</sup>, lipid weight basis)**

Congener	Female, Northland/Auckland		Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error
2, 3, 7, 8 TCDD	2.3	0.65	2.1	0.25	2.0	0.25	1.4	0.050	1.9	0.18
1, 2, 3, 7, 8 PeCDD	5.3	0.85	3.8	0.050	4.9	0.76	3.8	0	4.9	0.23
1, 2, 3, 4, 7, 8 HxCDD	3.3	0.55	2.6	0.10	2.6	0.22	2.6	0.20	2.8	0.24
1, 2, 3, 6, 7, 8 HxCDD	25.2	6.5	20.1	0.55	20.1	1.5	19.2	1.0	20.5	0.70
1, 2, 3, 7, 8, 9 HxCDD	5.1	1.7	3.9	0.30	3.9	0.26	3.1	0.15	3.7	0.15
1, 2, 3, 4, 6, 7, 8 HpCDD	48.4	15.9	34.2	1.7	37.4	3.7	32.1	1.6	33.0	2.5
OCDD	455	112	361	27.0	399	26.5	285	2.0	325	30.6
2, 3, 7, 8 TCDF	< 0.4	nc	0.2	nc	0.3	nc	0.2	nc	< 0.3	nc
1, 2, 3, 7, 8 PeCDF	0.3	nc	< 0.5	nc	< 0.4	nc	< 0.3	nc	< 0.2	nc
2, 3, 4, 7, 8 PeCDF	4.6	0.25	3.6	0.20	3.7	0.22	3.8	0.40	4.0	0.45
1, 2, 3, 4, 7, 8 HxCDF	2.2	0.35	1.8	0.10	2.0	0.15	2.0	0.15	2.2	0.12
1, 2, 3, 6, 7, 8 HxCDF	2.7	0.30	2.2	0.10	2.4	0.17	2.2	0.15	2.6	0.12
2, 3, 4, 6, 7, 8 HxCDF	0.8	0.10	0.6	0	0.7	0.033	0.7	0.10	0.9	0.033
1, 2, 3, 4, 6, 7, 8 HpCDF	6.4	nc	4.1	0.10	5.0	nc	5.2	0.050	4.8	0.44
1, 2, 3, 4, 7, 8, 9 HpCDF	0.4	0.10	0.3	0.050	0.3	nc	0.3	0.050	0.2	nc
OCDF	< 20	nc	< 20	nc	< 20	nc	< 10	nc	< 10	nc
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	572	128	448	29	491	34	367	2.4	414	33
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	559	144	440	28	482	32	361	1.8	406	35
PCDD/F TEQ (inc) <sup>2</sup>	14.3	2.8	11.2	0.38	12.4	1.1	10.5	0.34	12.5	0.67
PCDD/F TEQ (exc) <sup>3</sup>	14.3	2.8	11.1	0.39	12.4	1.1	10.4	0.35	12.5	0.66

1 = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G3 Standard errors of PCDD and PCDF analysis of serum sub-samples from non-Maori aged 50–64 years (ng kg<sup>-1</sup>, lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
2, 3, 7, 8 TCDD	4.0	0.90	3.4	0.45	2.4	0.10	2.6	0.25
1, 2, 3, 7, 8 PeCDD	5.6	0.75	5.6	0.40	4.9	0.10	6.1	0.50
1, 2, 3, 4, 7, 8 HxCDD	3.4	0.40	3.2	0.25	2.9	0.050	3.4	0
1, 2, 3, 6, 7, 8 HxCDD	25.2	1.0	23.5	2.3	24.5	2.9	25.3	0.50
1, 2, 3, 7, 8, 9 HxCDD	5.3	0.85	4.9	0.15	4.1	0.10	4.6	0.35
1, 2, 3, 4, 6, 7, 8 HpCDD	53.3	12.3	50.0	3.3	34.1	3.4	42.9	2.3
OCDD	497	161	447	1.0	316	46.5	391	40.5
2, 3, 7, 8 TCDF	0.4	0.050	0.3	0	< 0.3	nc	0.3	0.050
1, 2, 3, 7, 8 PeCDF	0.3	nc	0.3	0.050	0.3	nc	0.2	nc
2, 3, 4, 7, 8 PeCDF	4.8	0.60	5.2	0.70	4.9	0.35	5.1	0.65
1, 2, 3, 4, 7, 8 HxCDF	2.7	0.45	2.9	0.50	2.1	0.30	2.8	0.050
1, 2, 3, 6, 7, 8 HxCDF	3.0	0.45	3.2	0.60	2.7	0.30	3.7	0.40
2, 3, 4, 6, 7, 8 HxCDF	1.0	0.050	1.0	0.20	0.9	0	1.3	0.25
1, 2, 3, 4, 6, 7, 8 HpCDF	5.0	nc	3.9	0.30	4.0	nc	6.2	1.3
1, 2, 3, 4, 7, 8, 9 HpCDF	0.4	nc	< 0.4	nc	0.3	nc	0.4	0.050
OCDF	< 30	nc	< 7	nc	< 10	nc	< 20	nc
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	624	193	557	5.3	409	59	503	51
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	609	182	554	8.0	401	56	495	42
PCDD/F TEQ (inc) <sup>2</sup>	16.7	2.4	16.1	1.6	13.9	0.58	15.9	1.1
PCDD/F TEQ (exc) <sup>3</sup>	16.7	2.4	16.0	1.6	13.8	0.60	15.8	1.1

1 = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G4 Standard errors of PCDD and PCDF analysis of serum sub-samples from non-Maori aged 65+ years (ng kg<sup>-1</sup>, lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
2, 3, 7, 8 TCDD	7.0	0.25	5.0	0.70	2.9	0.25
1, 2, 3, 7, 8 PeCDD	7.1	0.35	7.6	1.4	6.2	0.050
1, 2, 3, 4, 7, 8 HxCDD	5.3	0.45	4.2	0.80	3.7	0.50
1, 2, 3, 6, 7, 8 HxCDD	36.3	2.5	36.1	8.8	29.4	4.5
1, 2, 3, 7, 8, 9 HxCDD	6.8	0.35	6.7	0.80	4.9	0.45
1, 2, 3, 4, 6, 7, 8 HpCDD	59.9	2.5	56.8	6.0	42.6	5.5
OCDD	484	13.0	537	74.5	382	8.0
2, 3, 7, 8 TCDF	0.2	nc	0.3	nc	0.3	0.050
1, 2, 3, 7, 8 PeCDF	< 0.4	nc	0.3	0.050	0.2	nc
2, 3, 4, 7, 8 PeCDF	6.7	0.25	6.5	0.050	5.6	0.40
1, 2, 3, 4, 7, 8 HxCDF	3.5	0.050	3.6	0	2.7	0.35
1, 2, 3, 6, 7, 8 HxCDF	3.8	0.10	4.0	0.10	3.4	0.50
2, 3, 4, 6, 7, 8 HxCDF	1.0	0	1.0	0.10	0.9	0.15
1, 2, 3, 4, 6, 7, 8 HpCDF	< 9	nc	4.4	0.55	5.2	0.70
1, 2, 3, 4, 7, 8, 9 HpCDF	< 0.5	nc	< 0.6	nc	0.2	0.050
OCDF	< 1	nc	< 1	nc	< 10	nc
Sum of 2,3,7,8-PCDD/Fs (inc) <sup>2</sup>	627	13	674	94	499	22
Sum of 2,3,7,8-PCDD/Fs (exc) <sup>3</sup>	621	13	673	94	490	22
PCDD/F TEQ (inc) <sup>2</sup>	23.7	0.24	22.1	3.2	17.1	1.2
PCDD/F TEQ (exc) <sup>3</sup>	23.6	0.25	22.1	3.2	17.1	1.2

1 = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G5 Standard errors of PCB analysis of serum sub-samples from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
PCB #126	0.019	0.0015	0.017	0.0022	0.012	0.0010	0.016	0.0028
PCB #169	0.013	0.00099	0.012	0.0012	0.016	0.0011	0.017	0.0019
PCB #74	< 6	nc	< 6	nc	< 4	nc	< 5	nc
PCB #118	< 6	nc	< 5	nc	< 4	nc	< 5	nc
PCB #153	13.2	0.38	15.3	0.52	17.8	0.45	15.9	1.5
PCB #138 + PCB #158	8.7	0.41	9.8	0.18	11.2	0.35	10.7	0.95
PCB #187	< 7	nc	< 7	nc	3.4	nc	< 8	nc
PCB #180	10.7	0.25	11.5	0.64	16.9	0.15	14.1	1.8
PCB #170	< 6	nc	< 6	nc	6.9	0.45	6.3	0.85
PCB #194	< 9	nc	< 8	nc	< 7	nc	< 9	nc
Sum of PCBs (inc) <sup>2</sup>	173	16	161	8.3	160	12	178	3.5
Sum of PCBs (exc) <sup>3</sup>	32.7	0.83	36.5	1.0	54.6	0.60	46.9	5.0
PCB TEQ (inc) <sup>2</sup>	0.0060	0.00012	0.0054	0.00040	0.0045	0.00018	0.0055	0.00050
PCB TEQ (exc) <sup>3</sup>	0.0021	0.00016	0.0019	0.00023	0.0014	0.00010	0.0018	0.00030

1 = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G6 Standard errors of PCB analysis of serum sub-samples from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Congener	Female, Northland/Auckland		Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error
PCB #126	0.028	0.0060	0.025	0.0060	0.023	0.0033	0.016	0.00035	0.021	0.0029
PCB #169	0.021	0.0014	0.020	0.0022	0.018	0.0002	0.023	0	0.026	0.0024
PCB #74	4.9	nc	< 7	nc	3.5	nc	4.1	nc	< 4	nc
PCB #118	4.6	nc	< 7	nc	< 5	nc	3.3	nc	< 5	nc
PCB #153	25.7	5.0	20.7	1.1	19.4	1.2	30.6	7.4	24.6	2.7
PCB #138 + PCB #158	16.1	3.7	13.9	1.3	12.6	0.90	18.1	4.0	15.8	2.3
PCB #187	4.4	nc	4.3	nc	< 7	nc	7.1	1.5	5.2	nc
PCB #180	20.6	3.7	16.6	0.30	17.1	0.23	27.3	4.5	24.7	3.6
PCB #170	9.5	1.3	7.5	0.60	7.2	0.41	9.3	0.70	10.2	1.6
PCB #194	< 10	nc	< 10	nc	< 10	nc	5.1	0.80	4.7	nc
Sum of PCBs (inc) <sup>2</sup>	286	127	230	42	194	10	222	33	182	18
Sum of PCBs (exc) <sup>3</sup>	81.9	24	61.3	5.9	58.0	4.0	111	32	83.3	14
PCB TEQ (inc) <sup>2</sup>	0.0086	0.0030	0.0066	0.00081	0.0069	0.00057	0.0063	0.0010	0.0055	0.00039
PCB TEQ (exc) <sup>3</sup>	0.0033	0.00096	0.0027	0.00062	0.0024	0.00033	0.0031	0.0013	0.0024	0.00031

1 = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G7 Standard errors of PCB analysis of serum sub-samples from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
PCB #126	0.034	0.0039	0.037	0.0070	0.028	0.00090	0.028	0.0018
PCB #169	0.022	0.0025	0.023	0.0029	0.031	0.0030	0.029	0.0022
PCB #74	6.1	0.70	5.4	0.050	< 4	nc	5.0	0.55
PCB #118	5.8	0.15	5.5	0.70	< 4	nc	< 5	nc
PCB #153	26.4	0.65	26.9	3.4	29.6	0.35	32.0	1.2
PCB #138 + PCB #158	17.5	0.050	17.7	2.3	18.4	0.050	19.7	2.0
PCB #187	5.5	0.050	5.3	0.50	6.4	0.25	7.8	0.90
PCB #180	20.0	0.10	21.4	2.3	28.3	2.0	31.7	2.4
PCB #170	8.6	0.25	9.4	1.3	11.4	0.30	11.9	1.8
PCB #194	< 6	nc	< 7	nc	6.1	0.90	6.3	0.80
Sum of PCBs (inc) <sup>2</sup>	184	11	188	14	209	1.2	251	31
Sum of PCBs (exc) <sup>3</sup>	89.7	1.7	91.5	11	100	3.9	122	16
PCB TEQ (inc) <sup>2</sup>	0.0071	0.00071	0.0076	0.0010	0.0062	0.000067	0.0069	0.00046
PCB TEQ (exc) <sup>3</sup>	0.0042	0.00041	0.0045	0.00077	0.0031	0.000060	0.0042	0.0013

1 = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G8 Standard errors of PCB analysis of serum sub-samples from non-Maori aged 65+ years  
( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Congener	Female, Lower North Island		Female, South Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
PCB #126	0.053	0.0025	0.043	0.0013	0.034	0.0061
PCB #169	0.030	0.0010	0.026	0.0014	0.032	0.0020
PCB #74	10.9	1.2	8.4	0.10	6.6	2.0
PCB #118	9.2	0.40	7.3	0.80	3.9	nc
PCB #153	37.0	0.65	30.1	2.3	32.2	3.1
PCB #138 + PCB #158	25.8	0.55	20.6	1.4	20.7	2.3
PCB #187	8.2	0	6.4	0.25	7.2	0.65
PCB #180	27.7	0.15	23.2	0.30	29.6	2.4
PCB #170	11.1	0.30	9.5	0.45	11.6	0.95
PCB #194	4.7	0.10	4.0	nc	6.1	0.40
Sum of PCBs (inc) <sup>2</sup>	227	0.20	192	7.3	260	45
Sum of PCBs (exc) <sup>3</sup>	139	5.0	107	3.3	119	17
PCB TEQ (inc) <sup>2</sup>	0.010	0.00046	0.0083	0.00012	0.0082	0.0013
PCB TEQ (exc) <sup>3</sup>	0.0077	0.0014	0.0054	0.00010	0.0051	0.0021

1 = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)

2 = Including half LOD values

3 = Excluding LOD values

nc = Not calculated due to values for some sub-samples being below detection limits

**Table G9 Standard errors of organochlorine pesticide analysis of serum sub-samples from non-Maori aged 25–34 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Pesticide	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
$\beta$ -HCH	8.1	nc	9.3	nc	10.2	1.8	10.7	0.20
HCB	< 50	nc	< 30	nc	< 20	nc	< 20	nc
Dieldrin	10.3	nc	11.1	1.5	9.8	0.60	11.5	0.85
pp-DDE	736	73.3	755	26.9	803	13.5	1,170	245
pp-DDT	< 30	nc	< 30	nc	< 20	nc	23.9	nc

<sup>1</sup> = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)  
nc = Not calculated due to values for some sub-samples being below detection limits

**Table G10 Standard errors of organochlorine pesticide analysis of serum sub-samples from non-Maori aged 35–49 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Pesticide	Female, Northland/Auckland		Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=3) <sup>1</sup>	Std Error
$\beta$ -HCH	73.1	nc	12.2	nc	9.5	0.87	44.7	nc	34.1	14.4
HCB	< 20	nc	< 20	nc	< 20	nc	< 20	nc	< 20	nc
Dieldrin	14.9	nc	11.3	0.60	11.0	1.0	14.3	3.4	11.7	0.82
pp-DDE	756	126	839	89.8	1,030	143	1,380	273	1,330	118
pp-DDT	27.1	nc	< 50	nc	< 20	nc	< 40	nc	< 20	nc

<sup>1</sup> = Mean concentration calculated from the analysis of two (n=2) or three (n=3) unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)  
nc = Not calculated due to values for some sub-samples being below detection limits

**Table G11 Standard errors of organochlorine pesticide analysis of serum sub-samples from non-Maori aged 50–64 years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Pesticide	Female, Lower North Island		Female, South Island		Male, Lower North Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
$\beta$ -HCH	19.2	3.9	27.7	3.6	11.6	0.75	12.2	nc
HCB	< 20	nc	52.8	nc	< 20	nc	< 20	nc
Dieldrin	12.3	0.85	20.6	2.6	12.7	0.80	19.8	5.1
pp-DDE	1,530	108	1,520	169	1,210	52.7	1,540	40.5
pp-DDT	24.5	7.0	21.9	0	16.7	nc	< 60	nc

<sup>1</sup> = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)  
nc = Not calculated due to values for some sub-samples being below detection limits

**Table G12 Standard errors of organochlorine pesticide analysis of serum sub-samples from non-Maori aged 65+ years ( $\mu\text{g kg}^{-1}$ , lipid weight basis)**

Pesticide	Female, Lower North Island		Female, South Island		Male, South Island	
	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error	Mean (n=2) <sup>1</sup>	Std Error
$\beta$ -HCH	29.1	1.8	29.9	3.0	19.4	nc
HCB	28.8	0.95	24.3	1.2	< 20	nc
Dieldrin	28.4	3.3	21.5	0.60	19.1	6.0
pp-DDE	2,740	419	2,100	263	1,650	419
pp-DDT	49.2	19.4	30.9	6.5	< 40	nc

<sup>1</sup> = Mean concentration calculated from the analysis of two unique sub-samples prepared from within a stratum for the purposes of assessing inter-individual sample variance (see Appendix A, Section A6)  
nc = Not calculated due to values for some sub-samples being below detection limits

