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Description and Results of the 2003 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues

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U.S. Department of Commerce
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DISCLAIMER

Certain commercial equipment or instruments are identified in this report to specify adequately the experimental procedures. Such identification does not imply recommendations or endorsement by the National Institute of Standards and Technology nor does it imply that the equipment or instruments are the best available for the purpose.

ABSTRACT

The National Institute of Standards and Technology (NIST), in support of the National Oceanic and Atmospheric Administration's Marine Mammal Health and Stranding Response Program (NOAA/MMHSRP), conducts annual interlaboratory comparison exercises for the determination of chlorinated pesticides, polychlorinated biphenyl congeners (PCBs), and trace elements in marine mammal tissues. These exercises provide one mechanism for laboratories to evaluate their measurement quality and comparability for these constituents in marine mammal tissues. In the 2003 exercise, 24 laboratories participated in determining the concentrations of selected PCBs and organochlorine pesticides in a homogenized blubber control material "Marine Mammal Quality Assurance Exercise Homogenate VI" (Homogenate VI) and Standard Reference Material (SRM) 1945 Organics in Whale Blubber. This report includes the results reported by the participating laboratories, combined consensus data results, and summary statistics for each analyte in the samples. The numerical indices used to assess laboratory performance are also discussed.

INTRODUCTION

Laboratories measuring organic contaminants in the marine environment must assess the accuracy and precision of their measurements. Quality control of measurements made on marine environmental samples is vital to the accurate assessment of marine pollution and its effects on wildlife and human health. NIST aims to improve the quality of analytical measurements of organic contaminants in marine and environmental matrices by developing improved analytical methods, producing NIST Standard Reference Materials (SRMs) and other control materials, and conducting annual interlaboratory comparison exercises.

Through the NIST National Marine Analytical Quality Assurance Program and with support from the NOAA Marine Mammal Health and Stranding Response Program (MMHSRP), NIST conducts interlaboratory comparison activities to include analyses of marine mammal tissues. The 2003 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues was modeled after previous exercises (Schantz et al., 1996; Schantz et al., 2002; Kucklick et al., 2002). The current exercise was designed to help laboratories assess data comparability and quality relative to other groups providing measurements of organochlorine contaminants in marine mammal tissues and to link these important measurements to a national metrology laboratory. The results of the exercises presented in this report should be useful for both assessing current methodology and reducing the variability of contaminant data reported on marine mammals. Future exercises will allow for the assessment of analytical data quality over time. This report summarizes the 2003 organic contaminant exercise including methods used for analysis, data reported by the laboratories on the intercomparison materials, and numerical indices used to assess laboratory performance. A report describing the 2003 trace element results of this exercise is in preparation.

MATERIALS USED IN THE 2003 EXERCISE

The 2003 NIST/NOAA Interlaboratory Comparison Exercise for Organochlorines in Marine Mammal Tissues (2003 MMQA) used two materials sent out to 30 laboratories. Twenty-four laboratories submitted data for this exercise (Table 1). Participants were asked to make three measurements each on two materials: SRM 1945 "Organics in Whale Blubber" and MMQA-VI (Homogenate VI), the "unknown." The unknown material for the 2003 Organic Intercomparison Exercise was fat from two polar bears (*Ursus maritimus*). Four approximately 150 g samples, 2 samples from each animal, were shipped to the NMMTB as extra material. Both animals were adult males and were collected from Barrow, Alaska. The tissues were homogenized and blended (Zeisler *et al.,* 1983) on February 7, 2002 and partitioned into sixty-three 8 g to 10 g samples to be used as the Unknown QA Material VI. At NIST-Charleston, the blubber tissue was stored in a liquid nitrogen (LN_2) vapor phase freezer at –150 °C until prepared for this exercise. One bottle of this material along with one bottle of SRM 1945 were sent either on dry ice or using a liquid nitrogen cooled biological dry shipper via overnight express to each participating laboratory.

Exercise Requirements and Target Analytes

A suite of analytes was chosen for the exercise based on those used in prior exercises (Schantz et al., 1996; Schantz et al., 2002; Kucklick et al., 2002) and several additional analytes were

included to broaden this list (Table 2). In addition the compounds listed in Table 2, participants were requested to provide, if possible, values for brominated diphenyl ether congeners, coplanar PCB congeners, total toxaphene and toxaphene congeners, chlorinated dioxins and furans and fatty acids. Laboratories were requested to make triplicate measurements of these compounds in each of the materials and report their data using a data template provided by NIST. Results from the exercise were discussed during a workshop held in conjunction with the 2003 Society of Marine Mammology Biennial meeting held in Greensboro, North Carolina on December 16, 2003.

EVALUATION OF THE EXERCISE RESULTS

Determination of Laboratory Means for Compounds in Table 3

Each laboratory reported the results of their analyses (Sample 1, Sample 2, and Sample 3) and the mean for each laboratory was calculated. Non-numerical results were reported as "NA" (not available). None of the target analytes were below the limit of detection for the participating laboratories (Tables 4 - 7 and Appendix A).

Establishment of Consensus Values

The following guidelines were used by NIST for establishing the "consensus values" for the exercise. The consensus values for Homogenate VI were the mean of all the reported laboratory means for a compound after the data were first screened for the presence of outliers by examining box plots. Individual means for the majority of data were log normally distributed, hence the geometric mean was used. Outliers were not included in the mean. Generally, most or all the values were included in the determination of the consensus values (outliers are shown in bold in Tables 4 and 5). The target values for the SRM were the certified values, reference values, or the consensus value determined from data pooled from prior exercises where SRM 1945 was also analyzed (Tables 6 and 7).

Reported Results

Laboratories were assigned a numerical identification code or (alphabetical code for fatty acids) based on the order in which data were received with the exception of NIST Charleston, which was Laboratory 1 and NIST Gaithersburg, which was Laboratory 2. The same code was used for both materials. The results from the analysis of Homogenate VI and SRM 1945 are summarized in Tables 4 through 7. Appendix A shows the tabulated results from the individual laboratories for both materials and the results are shown graphically in Appendix B. Appendix C gives the methods used for analysis by each laboratory and Appendix D shows data for additional analytes.

Table 1: Laboratories Participating in the 2003 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants.

Mississippi State Chemical Lab Mississippi State USA	Geochemical and Environmental Research Group Texas A&M University USA
213 National Food Safety and Toxicology Ctr Michigan State University USA	Fisheries and Oceans Canada Institute of Ocean Sciences Sidney, B.C. Canada
Environmental Research Institute University of Connecticut USA	University of Pennsylvania Toxicology Laboratory USA
National Laboratory for Environmental Testing National Water Research Institute Environment Canada Canada	Skidaway Institute of Oceanography Savannah, Georgia USA
Wadsworth Center, New York State Dept of Health Dept of Environmental Health and Toxicology, SUNY at Albany USA	Center for Marine Environmental studies, Ehime University Japan
Oklahoma Disease Diagnostic Laboratory and Veterinary Pathobiology Laboratory Oklahoma State University USA	University of Barcelona Barcelona Spain
NOAA/National Marine Fisheries Service Highlands, New Jersey USA	NOAA/National Marine Fisheries Service Northwest Fisheries Science Center Seattle, Washington USA
Laboratory of Environmental Toxicology The Norwegian School of Veterinary Science OSLO Norway	NIST Hollings Marine Laboratory Charleston, South Carolina USA
NOAA/National Ocean Service Center for Coastal Environmental Health and Biomolecular Research Charleston, South Carolina USA	NIST Gaithersburg, Maryland USA
Toxicological Center University of Antwerp (UA) Wilrijk Belgium	Separtment of I. A. and Environmental Chemistry General Organic Chemistry Institute, CSIC Madrid Spain
Freshwater Institute Fisheries and Oceans Canada Winnipeg, Manitoba Canada	Department of Biology University of Ottawa Canada
Veterinary Medical Center Michigan State University USA	Mote Marine Laboratory Sarasota, Florida USA
NOAA Auke Bay Laboratory Juneau, Alaska USA	

Table 2: Target Analytes for the NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues.

Pesticides	**PCB Congeners**	**Congener Substitution**
2,4'-DDT	18	2,2',5-trichlorobiphenyl
4,4'-DDT	28	2,4,4'-trichlorobiphenyl
2,4'-DDE	31	2,4',5-trichlorbiphenyl
4,4'-DDE	44	2,2',3,5'-tetrachlorobiphenyl
2,4'-DDD	49	2,2',4,5'-tetrachlorobiphenyl
4,4'-DDD	52	2,2',5,5'-tetrachlorobiphenyl
HCB	66	2,3',4,4'-tetrachlorobiphenyl
α-HCH	87	2,2',3,4,5'-tetrachlorobiphenyl
γ-HCH	95	2,2',3,5',6-tetrachlorobiphenyl
β-HCH	99	2,2',4,4',5-tetrachlorobiphenyl
heptachlor epoxide	101	2,2',4,5,5'-tetrachlorobiphenyl
cis-chlordane	105	2,3,3',4,4'-tetrachlorobiphenyl
trans-chlordane	118	2,3',4,4',5-tetrachlorobiphenyl
oxychlordane	128	2,2',3,3',4,4'-hexachlorbiphenyl
cis-nonachlor	132	2,2',3,3',4,6'-hexachlorbiphenyl
trans-nonachlor	138	2,2',3,4,4',5'-hexachlorbiphenyl
dieldrin	149	2,2',3,4',5',6-hexachlorobiphenyl
mirex	151	2,2',3,5,5',6-hexachlorbiphenyl
	153	2,2',4,4',5,5'-hexachlorbiphenyl
	156	2,3,3',4,4',5-hexachlorbiphenyl
	170	2,2',3,3',4,4',5-heptachlorobiphenyl
	180	2,2',3,4,4',5,5'-heptachlorobiphenyl
	183	2,2',3,4,4',5',6-heptachlorobiphenyl
	187	2,2',3,4',5,5',6-heptachlorobiphenyl
	194	2,2',3,3',4,4',5,5'-octachlorobiphenyl
	195	2,2',3,3',4,4',5,6-octachlorobiphenyl
	201	2,2',3,3',4,5,5',6'-octachlorobiphenyl
	206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl
	209	2,2',3,3',4,4',5,5',6,6'-decachlorobiphenyl

Assignment of z-and p-scores

Performance Scores: Different programs have different data quality needs. The acceptability of the results submitted by a laboratory will be decided by the individual program(s) for which the laboratory provides data. Typically, the program will use these exercise results in conjunction with the laboratory's performance in the analysis of certified reference materials and/or control materials, and of other quality assurance samples. These exercise results are shown in a number of ways in this report to aid in the evaluation of data quality.

IUPAC guidelines (IUPAC 1993) describe the use of "z-scores" and "p-scores" for assessment of accuracy and precision in interlaboratory comparison exercises, such as described in this report. These indices assess the difference between the result of the laboratory and the exercise assigned value, and can be used, with caution, to compare performance on different analytes and on different materials.

Accuracy Assessment (z-score):

$$z = \text{bias estimate} / \text{performance criterion}$$

or

$$z = (x - X)/\sigma$$

where x is the individual laboratory result, X is the "Exercise Assigned Value," and σ is the target value for the standard deviation. As described in the IUPAC guidelines, the choice of σ is dependent upon the data quality objective of a particular program. It can be fixed or determined by reference to validated methodology (*e.g.,* the calculated σ from the exercise data, see Tables 4 through 7). The fixed performance criterion is more useful in the comparison of a laboratory's performance on different materials, while the use of the actual variation may be more useful within a given exercise, for example, if the determination of a particular analyte is more problematic than usual.

The z-scores calculated using both approaches and applied to each laboratory's data are given in Appendix A. The same criterion was adopted for use in this exercise as was used in the former NIST/NOAA/NS&T program, where the target standard deviation was set to 25 % of the exercise assigned value. The z-scores for the Homogenatel VI represent 25 % of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. z-scores are also calculated based on the standard deviation of an analyte in the control material such that z = +1 is one "exercise standard deviation" higher than the assigned value and z = -1 is one "exercise standard deviation" lower than the assigned value and so forth. From a scientific point of view, IUPAC does not recommend the classification of z-scores, but does allow for such classification, *e.g.,*

$|z| \leq 2$ Satisfactory

$2 \leq |z| \leq 3$ Questionable

$|z| \geq 3$ Unsatisfactory

The tables in Appendix A summarize the results and performance indices including the number of analytes that fall within each category for each laboratory.

Precision Assessment (p-score):

$$p = \sigma_{lab} / \sigma_{target} \approx CV_{lab} / CV_{target}$$

where σ_{lab} and σ_{target} are variance estimates for the individual laboratory and the target variance, respectively. The CV_{lab} is the coefficient of variance (or ratio of standard deviation to the mean), while the CV_{target} is a target value chosen by the participants. During the workshop that accompanied this exercise, a target CV of 15% was agreed upon, which is the same value used by other NIST run exercise programs (Schantz et al., 1996; Schantz et al., 2002; Kucklick et al., 2002). Note that the precision that p describes is that which occurs within a batch of analyses. Between-batch variance is likely larger and was not assessed in this exercise.

RESULTS AND DISCUSSION

Summarized results are shown in Tables 4 through 7 for the compounds listed in Table 3 and data for brominated diphenyl ether (BDE) congeners and fatty acids are shown in Tables 8 and 9, respectively. The concentration of certain organochlorine compounds in Homogenate VI was considerably higher than in SRM 1945, especially for PCB 153 and *beta*-HCH. The relative concentrations of organochlorine compounds in the polar bear were very different than SRM 1945, which is pilot whale blubber, and consistent with observations from other studies of polar bears (e.g. Letcher et al., 1998). The consensus value for the sum of PCB congeners in Homogenate VI was 3,580 ng/g wet mass versus 1,350 ng/g wet mass in SRM 1945 (sum of the certified and reference values, Table 6). Likewise the sum of the organochlorine pesticides in Homogenate VI was 2,610 ng/g wet mass versus 1,500 ng/g wet mass in SRM 1945 (sum of the reference values, Table 7). PCB 153 was present in the highest concentration in Homogenate VI samples with a consensus value of 1610 ng/g (522 ng/g (1 SD)) compared to a certified value of 213 ng/g ± 19 ng/g in SRM 1945. *Beta*-HCH was the compound present in the highest concentration in Homogenate VI with a concentration of 1100 ng/g (375 ng/g) versus a reference value of 8.0 ng/g ± 1.4 ng/g in SRM 1945. The mean "total extractable organics" determined in Homogenate VI was 73.1 % (4.3 %) and the average value determined by the participants in SRM 1945 was 73.4 % (7.3 %) relative to the certified value of 74.3 % ± 0.45 % (Table 7).

The relative scatter among the laboratories appeared similar for many of the compounds with some exceptions (Appendix B). As in previous years, this was especially noticeable for PCB congener 201 for both the control material and the SRM. This may be a result of the two nomenclature systems used for this PCB congener (Guitart et al., 1993). High biases (most values exceeding the certified value) were observed among the values determined in the SRM relative to the certified value for the following compounds: PCB 87, PCB 99, PCB 180, PCB 194, PCB 206, PCB 209, and *cis*-nonachlor. Low biases (most values below the certified or

reference value) were observed for PCB 18, PCB 28, PCB 49, PCB 52, PCB 105, PCB 149, PCB 195, 4,4'-DDT, 4,4'-DDD, HCB, and *trans*-nonachlor.

The data reported on the BDE congeners are given in Table 8. Five laboratories submitted data for the BDE congeners for SRM 1945 and four submitted data for Homogenate VI. Data for 19 BDE congeners were reported along with data for brominated biphenyl 153. A consensus mean was derived using the geometric mean of the reported values after screening for outliers using box plots.

The relative proportions and the concentrations of BDE congeners differed between the two materials. The concentrations of BDE congeners were at least ten-fold less in Homogenate VI than in SRM 1945. The lower concentrations in Homogenate VI are not unexpected based on other published BDE measurements in Arctic marine mammals (*e.g.,* Ikonomou et al., 2002). Based on the consensus means, BDE 47 comprised 44 % and 73 % of the total BDEs (sum of congeners 47, 99, 100, 153, and 154) in SRM 1945 and Homogenate VI, respectively.

Table 8 also contains literature values for the concentrations of BDE congeners 47, 99, 100, 153, and 154 in SRM 1945. In general, consensus values agreed with literature values for SRM 1945 within a factor of two; however the literature values were all greater than the consensus values for unknown reasons.

Data for a large number (≈ 100) of individual fatty acids were reported by four laboratories (Tables 9 and 10). However, only the fatty acids listed in Table 9 and 10 were requested; additional fatty acids are listed in Appendix D. A mean value was calculated for laboratories A through C as these results are in mg/g wet mass. Laboratory D's data were not included in this as it appeared their data were in units of fraction (%) of fatty acid to the total fatty acids. Laboratories E and F's data are in fraction (%) of fatty acid to the total fatty acids.

A number of laboratories reported results for analytes in addition to the target compounds (Appendix D). Additional analytes that were reported included other PCB congeners (Labs 1, 2, 4, 6, 7, 8, 19, 22), coplanar PCBs (Labs 5, 6, 8, 13), and other organochlorine pesticides (Labs 1, 2, 4, 6, 14).

The participants used a variety of different methods to analyze the materials in this exercise (Appendix E). Nine laboratories used Soxhlet extraction to extract the materials, eight used pressurized fluid extraction, and the remaining laboratories used other techniques including maceration with solvent and column elution. Of the laboratories that responded, eight laboratories performed a pre-separation on the sample extracts prior to gas chromatographic (GC) analysis (*i.e.*, fractionation), while nine laboratories did not. About half of the laboratories used GC/electron capture detection (ECD) to quantify the compounds and the other half used GC/mass spectrometry detection (MS) or a combination of GC/ECD and GC/MS. Eight laboratories performed a preseparation prior to analysis by GC/MS. Other details are summarized in Appendix E.

CONCLUSIONS

Twenty-four laboratories submitted data for the two exercise materials on a wide variety of organic constituents including PCBs, pesticides, fatty acids, and BDE congeners. The increasing participation in the exercise indicates the value of the exercise to those labs submitting data. A new exercise will be conducted in late 2004 or early 2005 using SRM 1945 and a new unknown material. The exercise coordinators plan to vary the type of control material used to include other species of interest such as a delphinid. NIST is somewhat constrained on the choice of the material as a fairly large quantity (≈ 1 kg) is needed, and this amount of material is not available on a routine basis. SRM 1945 will continue to be the SRM used in this exercise, because it is the only marine mammal tissue available with certified and reference values for organochlorine compounds. The core suite of analytes (Table 3) will remain the same, however data from BDEs, toxaphene and fatty acids will be requested.

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Table 3: Mean polychlorinated biphenyl congener concentrations in Homogenate VI (ng/g wet mass) reported by each laboratory. The values in bold are outliers and were not used to determine the geometric consensus mean. Notes are given in Appendix E.

	Laboratory																							Reported			Consensus			95% Confidence
Compound	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Mean**	**1 SD**	**n**	**Mean**	**1 SD**	**n**	**Half Interval**
18	<2	<5	<8.20	<1.55	NA	6.64	DL	DL	NA	<9.69	6.83	NA	0.204	NA	NA	NA	NA	<0.5	NA	NA	NA	NA	NA	2.10	3.8	3	<5	--	3	--
28	<2	<6	<11.3	<1.56	NA	3.49	8.50	0.280	NA	<9.69	11.5	NA	1.01	NA	0.282	<0.11	13.1	0.433	NA	1.79	NA	NA	3.33	1.98	4.9	10	<5	--	10	--
31	w/28	<5	NA	<1.17	NA	DL	DL	0.143	NA	NA	NA	NA	0.273	NA	1.93	<0.16	NA	<0.5	NA	NA	NA	NA	NA	0.422	1.0	3	<5	--	3	--
44	<2	<5	<10.5	<1.55	NA	6.91	5.64	0.235	1.09	**26.5**	7.33	NA	<0.100	NA	2.10	NA	NA	<0.5	**34.1**	NA	NA	NA	7.50	4.66	12	9	<5	--	7	--
49	<2	22.1	13.3	<1.55	NA	6.93	9.13	0.712	ND	NA	NA	NA	0.321	NA	2.29	NA	NA	0.697	**45.9**	NA	NA	NA	3.62	4.03	14	10	<5	--	9	--
52	<2	8.29	<10.8	1.81	NA	10.6	10.2	1.73	4.19	22.3	**61.7**	NA	0.293	NA	2.89	4.78	4.65	1.63	**105**	7.82	NA	NA	1.92	5.54	28	16	3.78	5.8	14	3.0
66/95	below	below	below	below	NA	8.14	**13.8**	NA	below	NA	3.03	NA	below	NA	2.88	<0.13	NA	below	NA	1.97	NA	NA	NA	4.54	5.0	5	3.44	2.8	4	2.7
87	<2	<10	<9.4	7.82	NA	see notes	DL	6.09	NA	<=105	NA	NA	<0.1	NA	6.92	<0.10	NA	5.67	**30.7**	NA	NA	NA	4.24	7.90	10	6	6.02	1.3	5	1.2
99	347	312	312	319	NA	372	466	397	262	NA	NA	NA	359	NA	335	377	NA	342	**74.9**	NA	NA	NA	435	316	92	14	353	54	13	30
101 (+90)	<10	4.96	17.9	4.86	NA	12.5	27.9	4.29	**176**	11.5	10.9	NA	1.51	NA	4.65	21.5	16.6	4.91	**113**	6.76	NA	NA	12.8	11.8	46	17	8.49	7.5	15	3.8
105	16.3	NA	<15.4	16.7	25.0	18.6	35.5	15.7	14.6	32.6	12.5	NA	19.5	NA	12.1	21.5	18.6	15.9	**42.3**	8.05	NA	NA	22.9	18.9	8.9	17	18.0	7.4	16	3.6
118	60.0	73.4	47.7	60.4	68.9	69.8	101	57.9	61.9	50.6	41.0	NA	77.7	NA	45.3	58.5	**139**	57.9	**135**	38.9	NA	NA	49.7	63.9	28	19	58.4	16	17	7.5
128	9.29	11.2	<55	11.9	NA	12.8	16.8	11.3	11.0	16.0	8.80	NA	12.9	NA	11.6	13.8	13.9	11.3	NA	NA	NA	NA	9.65	12.0	2.3	15	12.0	2.3	15	1.15
132	w/153	<8	NA	NA	NA	see notes	DL	NA	NA	NA	NA	NA	<1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	<8	--	0	--
138 (+163+164)	213	see notes	85.7	286	214	322	**540**	346	237	276	111	NA	205	NA	173	292	241	235	412	250	NA	NA	NA	240	107	17	229	82	17	39
149	2.57	<8	<11.3	2.59	NA	4.55	**261**	2.47	NA	NA	NA	NA	3.91	NA	2.64	1.72	1.93	2.58	**196**	NA	NA	NA	NA	5.97	92	11	2.66	0.90	9	0.59
151	<2	<8	<8.90	<1.56	NA	DL	ND	0.820	0.970	NA	NA	NA	0.215	NA	NA	0.557	3.33	0.927	**58.4**	NA	NA	NA	7.65	1.84	20	8	<8	--	7	--
153	2055	1991	1907	1887	2317	1797	**3944**	NA	1303	1997	936	NA	2029	NA	1007	2250	1345	1808	548	2173	NA	NA	NA	1695	741	17	1607	522	16	256
156	58.7	65.5	48.4	63.9	76.8	78.9	79.2	60.1	70.7	NA	NA	NA	79.0	NA	NA	76.3	63.7	69.1	30.4	49.8	NA	NA	27.9	59.9	16	16	59.9	16	16	7.9
170 (+190)	440	345	172	410	526	505	479	373	363	278	231	NA	347	NA	264	427	249	364	72.5	202	NA	NA	340	309	119	19	309	119	19	53
180	670	see notes	561	734	802	843	**1484**	869	596	606	457	NA	943	NA	440	958	492	752	318	791	NA	NA	723	684	261	18	653	185	17	88
183	20.8	22.0	<18.9	23.4	NA	33.0	50.3	26.5	31.8	NA	NA	NA	21.2	NA	17.7	22.2	23.6	23.4	**87.0**	12.8	NA	NA	28.0	26.4	18	15	24.3	8.8	13	4.8
187	7.40	<10	<14.6	8.75	NA	14.6	8.95	9.49	NA	13.5	5.70	NA	9.60	NA	7.84	5.75	19.6	8.87	**295**	NA	NA	NA	21.4	12.7	76	14	10.1	5.0	13	2.7
194	167	142	124	156	NA	227	301	170	142	228	NA	NA	167	NA	103	219	120	163	198	136	NA	NA	120	163	51	17	163	51	18	24
195	3.27	<15	<7.3	2.59	NA	6.29	7.29	3.37	3.41	4.65	8.93	NA	3.94	NA	2.42	NA	4.53	3.51	**34.2**	NA	NA	NA	NA	4.91	8.4	13	4.18	2.0	12	1.1
201	<2	NA	<5.6	NA	NA	13.3	**86.9**	4.92	5.39	<2.40	NA	NA	5.76	NA	5.04	NA	7.03	NA	**81.0**	NA	NA	NA	NA	12.3	36	8	6.45	3.5	7	2.6
206	37.2	35.1	26.2	38.7	NA	see notes	**68.8**	36.2	34.3	45.4	25.8	NA	34.2	NA	26.0	35.9	31.6	NA	NA	NA	NA	NA	22.5	34.2	11	14	32.4	6.4	13	3.5
209	12.3	12.3	8.97	12.9	NA	**44.9**	**27.8**	13.3	11.8	15.6	16.4	NA	13.0	NA	9.92	12.1	11.9	NA	NA	NA	NA	NA	10.3	14.1	9.2	15	12.3	2.1	13	1.1
66	3.12	<10	<11.7	<1.55	NA	NA	NA	1.06	1.97	<9.69	NA	NA	0.297	NA	NA	NA	NA	0.863	**79.3**	NA	NA	NA	4.49	2.49	29	7	<10	--	6	--
95	<2	<10	<9.70	0.985	NA	NA	NA	0.887	1.32	NA	NA	NA	<0.125	NA	NA	NA	**87.6**	1.47	**53.7**	NA	NA	NA	0.96	3.59	35	7	<10	--	8	--

NA=Not Available below=see below for results prestented individually.

DL=Below Detection Limit

Table 4: Mean organochlorine pesticide and lipid concentrations in Homogenate VI determined by each laboratory (ng/g wet mass and percent (mass fraction), respectively). Notes are given in Appendix E.
The values in bold are outliers and were not used to determine the geometric consensus mean.

	Laboratory																						Reported			Consensus			95% Confidence
Compound	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Mean**	**1 SD**	**n**	**Mean**	**1 SD**	**n**	**Half Interval**
2,4'-DDT	<2	<5	39.5	1.80	<2.2	18.9	5.56	2.92	NA	<2.60	2.13	<5	<2.0	NA	NA	<0.15	34.0	<1.0	NA	NA	NA	NA	2.17	6.56	16	8	<5	--	8	--
4,4'-DDT	4.09	5.40	<137	7.02	NA	16.0	8.35	6.79	6.13	<=516	9.90	<5	10.6	**75.4**	15.7	<0.83	12.7	12.0	6.83	16.6	NA	NA	6.29	10.1	17	16	8.83	4.1	14	2.2
2,4'-DDE	<2	<5	<7.40	<1.54	**NA**	3.20	ND	0.144	NA	23.1	5.70	<5	<2.0	NA	NA	NA	5.64	NA	NA	NA	NA	NA	6.45	5.70	31	7	<5	--	3	--
4,4'-DDE	71.0	59.9	85.2	83.8	87.9	82.2	**159**	86.6	88.9	**7.60**	42.6	67.3	96.0	56.6	77.7	66.5	107	96.4	45.8	55.2	NA	NA	78.7	68.3	29	21	72.3	18	19	8.0
2,4'-DDD	1.58	<5	<15.3	<1.54	<3.5	5.93	ND	0.249	NA	10.9	<1	<5	<2.0	NA	NA	<0.14	NA	<1.0	NA	NA	NA	NA	2.2	2.23	4.3	5	<5	--	4	--
4,4'-DDD	2.51	4.38	<44.5	2.63	**<3.5**	see notes	3.62	2.13	3.89	3.87	1.15	<5	3.36	13.6	7.65	1.23	4.34	5.86	1.90	10.5	NA	NA	5.65	4.75	73	18	3.71	3.3	16	1.6
HCB	251	277	197	270	321	182	432	295	218	324	180	NA	174	NA	245	244	179	248	136	NA	NA	NA	358	242	75	18	242	75	17	36
alpha-HCH	63.5	67.2	54.8	72.4	NA	see notes	109	120	70.2	**9.17**	44.3	<5	60.9	44.6	79.0	52.4	62.5	57.6	48.0	NA	NA	NA	84.2	58.3	25	17	65.4	21	14	11
beta-HCH	1738	869	1197	1190	NA	1092	1964	**2918**	964	1150	688	1065	1081	630	NA	980	675	1650	1283	NA	NA	NA	1465	1164	552	18	1102	375	16	184
gamma-HCH	<2	<15	<1	2.65	NA	4.67	2.86	1.81	2.34	2.17	2.53	<5	2.84	NA	3.14	1.97	5.60	1.44	NA	NA	NA	NA	4.46	2.75	1.2	13	<5	--	12	--
Heptachlor Epoxide	139	77.5	101	99.9	NA	81.4	143	146.3	71.9	107	49.4	92.6	118	66.9	NA	<0.074	NA	NA	NA	NA	NA	NA	103	95.5	29	14	95.5	28	13	15
Cis-Chlordane	<2	25.6	<10.6	<1.54	NA	DL	ND	96.3	1.56	22.9	8.77	<5	<2.0	10.1	NA	81.3	NA	NA	DL	NA	NA	NA	89.1	22.1	40	8	22.1	40	7	29
Trans-Chlordane	27.2	<5	<41.4	2.27	NA	10.2	6.24	9.30	43.7	**142**	1.43	NA	<2.0	NA	NA	3.41	NA	NA	DL	NA	NA	NA	9.61	10.1	43	10	6.02	14	8	10
Oxychlordane	631	402	NA	475	NA	443	656	720	450	706	308	429	467	642	NA	305	NA	508	1172	NA	NA	NA	750	534	215	16	534	215	14	113
Cis-Nonachlor	4.03	6.09	<7.20	6.31	NA	see notes	7.65	6.98	6.84	3.43	4.03	<5	7.56	NA	NA	5.19	NA	NA	3.93	NA	NA	NA	5.26	5.42	1.5	12	5.25	1.4	11	0.84
Trans-Nonachlor	155	156	179	182	NA	150	**318**	214	168	192	97.2	162	193	NA	NA	160	NA	NA	88.9	NA	NA	NA	166	165	52	15	157	34	12	19
Dieldrin	267	151	220	227	NA	see notes	291	177	223	275	122	209	198	**65.0**	219	NA	NA	NA	NA	NA	NA	NA	280	196	64	14	214	49	12	27
Mirex	6.81	15.0	<10.4	11.8	NA	15.5	**155**	8.79	11.2	**66.1**	8.23	<5	14.4	NA	19.8	10.3	NA	NA	NA	NA	NA	NA	6.44	15.5	42	13	11.0	4.2	11	2.5
Lipid	68.8	72.6	71.0	71.1	**57.9**	74.9	71.6	72.2	67.2	73.9	74.5	72.2	66.8	NA	72.5	75.8	72.6	82.3	78.7	80.0	NA	78.2	66.9	72.3	5.3	21	73.1	4.3	20	1.9

NA=Not Available
DL=Below Detection Limit

Table 5: Mean polychlorinated biphenyl congener concentrations in SRM 1945 determined by each laboratory (ng/g we mass). Notes are given in Appendix E.

	Laboratory																					Geometric			Reference			
Congener	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Mean**	**1 SD**	**n**	**Value**		**Uncertainty**	**Comment**
18	4.53	<5	<8.20	3.09	NA	9.17	3.09	1.89	NA	<9.69	2.23	NA	3.82	NA	2.69	NA	NA	2.29	NA	NA	NA	NA	NA	NA	2.2	9	4.48	±	0.88	certified value
28	16.3	14.5	12.4	9.85	NA	23.0	15.1	9.12	NA	8.95	6.03	NA	10.3	NA	9.57	9.84	9.66	11.6	NA	24.1	NA	NA	15.2	12.1	5.0	16	14.10	±	1.4	information value
31	w/28	3.60	nd	4.30	NA	15.1	NA	2.48	NA	NA	NA	NA	4.83	NA	3.92	<0.16	NA	2.85	NA	NA	NA	NA	2.19	4.02	4.2	8	3.12	±	0.69	information value
44	10.7	14.1	<10.5	11.7	NA	20.5	11.3	12.2	9.42	13.7	6.23	NA	11.3	NA	10.2	NA	NA	12.0	NA	NA	NA	NA	13.8	11.7	3.3	13	12.2	±	1.4	certified value
49	17.5	18.9	14.1	16.9	NA	13.9	35.8	16.3	14.5	NA	NA	NA	15.5	NA	13.9	NA	NA	16.7	9.22	NA	NA	NA	20.9	16.4	6.3	13	20.8	±	2.8	certified value
52	36.8	44.6	35.1	38.1	NA	44.2	55.8	37.3	30.6	46.9	96.8	NA	41.7	NA	26.1	36.6	28.3	38.1	25.4	72.2	NA	NA	31.9	40.1	18	18	43.6	±	2.5	certified value
66/95*	below	below	below	below	NA	70.5	87.0	NA	below	NA	21.2	NA	below	NA	37.4	21.1	NA	below	NA	46.5	NA	NA	NA	41.0	27	6	57.4			sum of the cert. values
87	21.4	19.6	19.6	25.3	NA	see notes	33.8	23.6	NA	<=443	NA	NA	24.4	NA	24.3	16.8	NA	23.8	6.91	NA	NA	NA	17.5	20.2	6.4	12	16.7	±	1.4	certified value
99	57.6	51.9	48.2	54.8	NA	66.8	68.0	61.3	54.1	NA	NA	NA	123	NA	94.3	72.2	NA	54.8	204	NA	NA	NA	48.0	68.8	42	14	45.4	±	5.4	certified value
101 (+90)	80.8	71.4	52.0	77.5	NA	120	95.2	88.5	96.3	59.6	72.5	NA	160	NA	54.3	83.2	54.1	77.5	14.1	80.9	NA	NA	42.6	69.5	31	18	65.2	±	5.6	certified value
105	26.9	NA	19.5	27.1	34.9	59.3	29.3	26.3	21.7	26.7	27.1	NA	49.1	NA	18.5	34.3	30.8	26.1	13.3	11.9	NA	NA	15.4	25.6	12	18	30.1	±	2.3	certified value
118	80.7	76.5	67.5	83.8	120	101	157	76.9	71.2	98.9	50.0	NA	103	NA	59.3	72.9	88.7	74.1	52.6	47.5	NA	NA	56.3	77.3	27	19	74.6	±	5.1	certified value
128	20.4	21.9	<55	24.5	NA	41.8	23.8	21.5	18.3	62.0	18.0	NA	30.5	NA	76.6	29.1	26.4	20.5	NA	NA	NA	NA	24.2	27.7	17	15	23.7	±	1.7	certified value
132	w/153	20.0	NA	NA	NA	see notes	27.4	296	13.9	NA	NA	NA	2.94	NA	14.6	NA	NA	17.8	30.6	7.5	NA	NA	NA	19.4	94	9	22.5	±	4.6	consensus past exercises
138 (+163+164)	137	see notes	59.4	183	134	197	273	214	136	209	94.9	NA	161	NA	112	175	154	134	330	138	NA	NA	NA	156	65	17	131.5	±	7.4	certified value
149	71.5	92.1	71.0	85.2	NA	83.8	137	101	66.9	NA	NA	NA	93.6	NA	59.8	55.0	72.3	77.2	15.1	52.1	NA	NA	NA	69.4	27	15	107	±	8.4	certified value
151	24.0	27.9	30.2	27.5	NA	29.5	62.4	31.4	21.4	NA	NA	NA	24.3	NA	NA	22.8	34.6	22.6	DL	NA	NA	NA	20.9	27.9	11	13	28.7	±	5.2	certified value
153	244	238	209	243	297	245	342	NA	171	275	134	NA	240	NA	141	233	216	192	2442	179	NA	NA	NA	252	540	17	213.0	±	19	certified value
156	10.1	10.2	<11.1	12.6	7.9	19.1	16.5	10.0	9.75	NA	NA	NA	23.4	NA	NA	12.7	25.0	10.7	85.4	3.9	NA	NA	6.08	13.0	20	15	10.3	±	1.1	certified value
170 (+190)	47.2	40.6	31.0	50.3	99.4	58.3	73.0	39.2	40.7	32.6	23.2	NA	42.6	NA	34.5	42.9	33.9	37.0	345	20.2	NA	NA	22.0	44.2	72	19	40.6	±	2.6	certified value
180	133	see notes	109	144	139	200	226.3	153	118	129	86.8	NA	162	NA	94.8	164	127	130	854	110	NA	NA	105	147	173	18	106.7	±	5.3	certified value
183	36.6	36.0	31.2	39.6	NA	46.1	81.3	47.5	21.3	NA	NA	NA	53.6	NA	28.0	37.4	35.2	34.8	27.6	20.8	NA	NA	20.1	34.9	15	16	36.6	±	4.1	certified value
187	128	112	94	114	NA	199	118	156	NA	158	82.7	NA	132	NA	81.1	81.9	106	117	13.3	NA	NA	NA	91.7	99.9	41	16	105	±	9.1	certified value
194	59.1	46.3	42.4	60.8	NA	84.3	85.5	60.1	45.6	76.0	NA	NA	54.6	NA	46.3	87.3	63.2	53.6	263	42.2	NA	NA	29.7	61.5	52	17	39.6	±	2.5	certified value
195	10.6	<15	<7.3	11.6	NA	41.1	17.4	15.2	24.9	14.0	12.8	NA	11.9	NA	5.78	NA	15.1	9.03	5.98	NA	NA	NA	NA	13.1	9.3	13	17.7	±	4.3	certified value
201	11.8	NA	10.2	NA	NA	87.9	24.8	88.9	65.9	16.0	NA	NA	126	NA	55.0	NA	69.4	NA	NA	NA	NA	NA	NA	40.5	39	10	16.96	±	0.89	certified value
206	49.8	43.5	34.3	50.6	NA	see notes	79.9	45.8	38.5	68.7	31.4	NA	51.5	NA	34.4	52.3	40.7	NA	NA	NA	NA	NA	19.7	43.4	15	14	31.1	±	2.7	certified value
209	17.8	14.2	12.7	18.5	NA	23.0	31.5	17.8	14.2	21.5	15.0	NA	14.6	NA	15.5	18.6	20.1	NA	NA	NA	NA	NA	10.3	17.1	5.1	15	10.6	±	1.1	certified value
66	22.5	22.5	17.6	22.3	NA	NA	NA	23.4	15.5	41.7	NA	NA	29.4	NA	NA	NA	NA	20.8	10.7	NA	NA	NA	23.0	21.5	7.9	11	23.6	±	1.6	certified value
95	34.4	33.8	30.2	39.9	NA	NA	NA	38.7	24.7	NA	NA	NA	41.4	NA	NA	NA	39.5	36.5	10.8	NA	NA	NA	36.7	31.6	8.9	11	33.8	±	1.7	certified value

NA=Not Available below=see below for results prestented individually.

DL=Below Detection Limit

Table 6: Mean organochlorine pesticide and lipid concentrations in SRM 1945 determined by each laboratory (ng/g wet mass and percent (mass fraction), respectively). Notes are given in Appendix E.

	Laboratory																						Geometric			Reference			
Compound	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**Mean**	**1 SD**	**n**	**Value**		**Uncertainty**	**Comment**
2,4'-DDT	61.8	94.8	69.1	88.7	38.6	116	148	92.6	NA	138	60.6	<5	107	NA	120	77.5	98.8	96.4	NA	NA	NA	NA	55.1	86.4	30	16	106	±	14.0	certified value
4,4'-DDT	210	226	141	257	191	402	415	216	243	<=506	110	138	245	196	309	254	209	297	150	40.4	NA	NA	132	198	92	20	245	±	15	certified value
2,4'-DDE	11.7	12.5	9.40	14.7	NA	26.9	13.3	13.1	NA	14.4	8.97	<5	16.1	NA	NA	NA	8.5	NA	NA	NA	NA	NA	7.97	12.4	5.1	12	12.30	±	0.87	certified value
4,4'-DDE	501	465	442	488	543	514	778	530	395	459	348	359	432	306	525	479	462	551	340	247	NA	NA	464	446	110	21	445.0	±	37	certified value
2,4'-DDD	16.8	18.5	<15.3	21.7	25.3	31.0	30.7	15.8	NA	23.7	40.8	<5	17.9	NA	NA	30.6	NA	7.20	NA	NA	NA	NA	12.0	20.6	9.2	13	18.1	±	2.8	certified value
4,4'-DDD	115	137	64.4	134	112	see notes	198	85.2	104	135	71.2	756	140	134	119	96.1	130	142	126	6.17	NA	NA	78.7	108	149	20	133	±	10	certified value
HCB	26.1	32.4	17.9	27.2	30.7	34.4	44.1	26.3	21.6	32.4	21.1	NA	23.5	NA	28.9	23.9	26.0	28.6	14.8	NA	NA	NA	35.1	26.7	6.9	18	32.9		1.7	certified value
alpha-HCH	13.1	16.6	16.9	16.2	NA	see notes	20.1	23.0	13.6	16.9	9.27	<5	16.2	10.2	11.3	13.9	15.9	14.2	7.39	NA	NA	NA	9.34	13.8	4.1	17	16.2	±	3.4	certified value
beta-HCH	<10	6.2	<59.4	NA	NA	18.2	2.23	3.23	1.73	<9.99	2.00	<10	8.29	9.00	NA	2.66	6.28	1.81	4.8	NA	NA	NA	9.95	4.49	4.7	13	8.0	±	1.4	information value
gamma-HCH	3.6	<10	<1	3.12	NA	17.5	3.48	3.68	2.50	2.6	2.03	<5	3.26	NA	2.19	2.24	3.61	3.37	NA	NA	NA	NA	3.82	3.37	3.9	14	3.3	±	0.81	certified value
Heptachlor Epoxide	10.5	<10	9.70	12.4	NA	16.7	15.1	16.9	8.32	12.2	8.20	<5	15.7	10.6	8.53	<0.074	NA	NA	NA	NA	NA	NA	9.08	11.4	3.2	13	10.8	±	1.3	certified value
Cis-Chlordane	44.2	46.7	40.4	56.9	NA	60.5	76.7	106.1	43.9	66.5	31.3	37.9	55.3	43.9	29.8	61.4	NA	NA	25.6	NA	NA	NA	35.6	47.6	20	17	46.9	±	2.8	certified value
Trans-Chlordane	10.1	11.0	<41.4	12.9	NA	27.3	20.7	17.3	14.5	50.2	<1	NA	10.2	NA	17.8	13.1	NA	NA	6.6	NA	NA	NA	2.24	13.2	12	13	12.1	±	1.4	consensus past exercises
Oxychlordane	22.7	20.1	NA	23.0	NA	22.9	24.0	28.0	16.6	22.9	14.4	24.3	21.5	26.5	NA	12.3	NA	22.2	44.2	NA	NA	NA	23.2	22.2	7.0	16	19.8	±	1.9	certified value
Cis-Nonachlor	49.3	46.1	32.5	58.4	NA	see notes	54.7	68.7	44.8	42.3	35.1	36.3	46.6	NA	NA	45.8	NA	NA	25.7	NA	NA	NA	34.9	43.0	11	14	48.7	±	7.6	certified value
Trans-Nonachlor	157	196	170	182	NA	186	297	250	142	215	105	171	186	NA	NA	166	NA	NA	82.9	NA	NA	NA	129	168	53	15	231	±	11	certified value
Dieldrin	53.3	38.5	<61.9	55.4	NA	see notes	52.6	39.4	46.7	51.0	29.2	519	43.6	37.6	35.0	NA	NA	NA	NA	NA	NA	NA	41.0	51.9	132	13	37.5	±	3.9	information value
Mirex	29.7	28.1	21.3	38.3	NA	50.6	30.9	29.9	28.4	36.7	20.9	<5	28.5	NA	46.7	35.0	NA	NA	NA	NA	NA	NA	15.9	30.2	10	14	28.9	±	2.8	certified value
Lipid	70.9	74.9	71.0	73.5	59.8	73.6	70.1	71.6	66.1	81.0	73.8	73.4	70.3	NA	71.1	74.2	75.0	78.1	74.6	91.0	NA	90.7	63.7	73.4	7.3	21	74.3	±	0.45	certified value

NA=Not Available
DL=Below Detection Limit

Table 7: Values (ng/g wet mass) for polybrominated diphenyl ether (BDE) congeners in the exercise materials compared to published values on SRM 1945. BB is bromobiphenyl.

SRM 1945

	Laboratory					Consensus			Zhu and Hites (2003)		Kucklick et al. (2004)	
Compound	2	7	16	18	22	Mean	1 SD	n	Mean	1SD	Mean	1 SD
BDE 15	NA	NA	NA	NA	0.0252			1				
BDE 17	DL	NA	NA	NA	NA			0				
BDE 28	20.2	NA	NA	1.243	1.018			3				
BDE 71	DL	NA	NA	NA	NA			1				
BDE 47	44.4	39.2	33.0	35.6	33.5	36.9	4.7	5	46.6	2.0	52.9	3.8
BDE 66	DL	NA	NA	NA	NA			1				
BDE 85	4.57	NA	NA	NA	NA			1				
BDE 99	17.9	17.9	16.4	16.9	16.0	17.0	0.9	5	23.0	1.9	32.0	2.3
BDE 100	13.5	7.17	8.57	8.73	8.92	9.17	2.4	5	11.8	0.9	14.0	0.6
BDE 153	8.47	6.39	7.54	7.42	8.04	7.54	0.78	5	10.1	1.0	22.4	1.5
BDE 154	23.1	11.1	10.8	10.7	12.1	12.9	5.4	5	20.8	3.0	28.2	2.0
BDE 138	DL	NA	NA	NA	NA			1				
BDE 183	6.16	NA	NA	1.55	1.66			3				
BDE 190	DL	NA	NA	NA	NA			1				
BDE 196	NA	NA	NA	NA	0.0939			1				
BDE 197	NA	NA	NA	NA	0.422			1				
BDE 206	NA	NA	NA	NA	DL			1				
BDE 207	NA	NA	NA	NA	DL			1				
BDE 209	NA	NA	NA	NA	DL			1				
BB 153	NA	NA	NA	3.18	NA			1				

Homogenate VI

	Laboratory					Consensus		
Compound	2	7	16	18	22	Mean	1 SD	n
BDE 15	NA	NA	NA	NA	DL			0
BDE 17	NA	NA	NA	NA	NA			0
BDE 28	NA	NA	NA	NA	NA			0
BDE 71	NA	NA	NA	NA	NA			0
BDE 47	NA	6.10	4.10	4.48	4.38	4.76	0.90	4
BDE 66	NA	NA	NA	NA	NA			0
BDE 85	NA	NA	NA	NA	NA			0
BDE 99	NA	0.973	0.363	0.413	0.374	0.531	0.30	4
BDE 100	NA	0.294	0.329	0.383	0.263	0.317	0.05	4
BDE 153	NA	0.655	0.703	1.06	0.774	0.799	0.18	4
BDE 154	NA	0.011	<0.15	0.18	0.044			3
BDE 138	NA	NA	NA	NA	NA			0
BDE 183	NA	NA	NA	0.273	NA			1
BDE 190	NA	NA	NA	NA	NA			0
BDE 196	NA	NA	NA	NA	NA			0
BDE 197	NA	NA	NA	NA	NA			0
BDE 206	NA	NA	NA	NA	DL			1
BDE 207	NA	NA	NA	NA	DL			1
BDE 209	NA	NA	NA	NA	0.834			1
BB 153	NA	NA	NA	2.98	NA			1

NA=Not Available
DL=Below Detection Limit

Table 8: Results from the analysis of SRM 1945 for fatty acids. Fatty acids not requested for the exercise are given in Appendix E.

Compound	Laboratory						Mean	1 SD
	A	B	C	D	E	F	A-C only	
	mg/g wet	mg/g wet	mg/g wet	mg/g wet	% of total	% of total	mg/g wet	mg/g wet
C12:0	1.83	1.21	2.91	0.464	0.257	0.421	1.98	0.9
C14:0	35.1	21.7	46.3	4.91	5.11	5.79	34.4	12.3
C15:0	3.42	2.96	4.56	0.511	0.487	0.600	3.65	0.8
C16:0	79.0	33.5	101	10.5	11.8	11.5	71.3	35
C17:0	2.48	1.62	3.47	0.368	0.32	0.37	2.52	0.9
C18:0	14.1	9.6	17.1	1.98	1.92	2.44	13.6	3.8
C20:0	1.29	0.87	1.08	0.257	0.130	NA	1.08	0.2
C16:1(n-7)	64.1	46.6	83.5	8.30	9.19	9.42	64.7	18
C18:1(n-7)	19.8	14.1	27.4	NA	2.74	4.25	20.4	6.7
C18:1(n-9)	152	153	195	17.1	22.2	21.3	167	25
C18:1(n-9)	2.60	2.44	1.18	0.15	NA	NA	2.07	0.8
C20:1(n-7)	NA	NA	NA	NA	0.35	NA	NA	NA
C20:1(n-9)	51.9	30.5	68.7	5.47	6.97	8.16	50.4	19
C:20:1(n-11)	2.68	25.6	NA	NA	4.49	5.32	14.1	16.2
C22:1(n-9)	7.57	4.79	8.70	0.54	0.77	1.41	7.02	2.0
C22:1(n-11)	NA	41.17	NA	NA	6.82	7.67	41.2	NA
C24:1(n-9)	NA	NA	3.05	0.270	0.30	NA	3.05	NA
C18:2(n-6)	8.87	6.21	12.3	1.044	1.18	NA	9.12	3.0
C18:3(n-3)	3.92	6.54	8.08	0.503	0.42	NA	6.18	2.1
C18:3(n-6)	0.211	0.097	0.220	0.044	NA	NA	0.18	0.1
C18:4(n-3)	1.84	NA	NA	NA	0.329	NA	1.84	NA
C20:2(n-6)	2.66	1.50	3.16	NA	0.262	NA	2.44	0.9
C20:3(n-3)	1.81	NA	NA	0.228	0.190	NA	1.81	NA
C20:4(n-6)	2.67	NA	3.391	0.607	0.329	NA	3.03	NA
C20:5(n-3)	12.5	12.5	18.1	2.04	1.67	1.62	14.4	3.2
C22:2(n-6)	0.227	0.138	NA	0.072	NA	NA	0.183	0.06
C22:5(n-3)	9.27	8.10	14.2	1.33	1.28	1.74	10.5	3.3
C22:6(n-3)	41.0	30.9	60.6	5.51	5.19	3.77	44.2	15

Table 9: Results from the analysis of Homogenate VI for fatty acids. Fatty acids not requested for the exercise are given in Appendix E.

Compound	Laboratory						Mean	1 SD
	A	B	C	D	E	F	A-C only	
	mg/g wet	mg/g wet	mg/g wet	mg/g wet	% of total	% of total	mg/g wet	mg/g wet
C12:0	0.485	0.295	0.767	0.520	0.066	0.061	0.516	0.2
C14:0	18.4	13.6	24.5	3.45	2.63	3.05	18.9	5.5
C15:0	2.24	1.73	3.23	0.482	0.314	0.342	2.40	0.8
C16:0	64.6	37.5	85.4	10.2	9.36	9.47	62.5	24
C17:0	2.47	1.65	3.14	0.275	0.305	0.38	2.42	0.7
C18:0	21.5	15.2	28.5	2.39	3.11	3.87	21.7	6.7
C20:0	0.940	0.497	1.08	0.235	0.09	NA	0.840	0.3
C16:1(n-7)	93.3	70.5	125	9.68	13.3	12.4	96.4	28
C18:1(n-7)	55.7	40.9	80.8	NA	7.86	9.83	59.1	20
C18:1(n-9)	166	180	223	21.8	23.2	24.1	190	29
C18:1(n-9)	20.5	5.99	3.14	0.121	NA	NA	9.86	9.3
C20:1(n-7)	NA	NA	NA	NA	2.99	NA	NA	NA
C20:1(n-9)	32.2	21.4	46.6	3.47	4.40	6.11	33.4	13
C:20:1(n-11)	0.688	8.94	NA	NA	2.96	2.80	4.81	5.8
C22:1(n-9)	3.525	2.24	4.69	0.586	0.376	0.389	3.48	1.2
C22:1(n-11)	NA	5.095	NA	NA	0.781	0.823	5.10	NA
C24:1(n-9)	NA	NA	0.800	0.370	0.068	NA	0.800	NA
C18:2(n-6)	7.60	4.96	11.1	0.904	0.942	NA	7.89	3.1
C18:3(n-3)	1.71	1.938	30.8	0.445	0.104	NA	11.48	17
C18:3(n-6)	0.640	0.353	0.709	0.091	NA	NA	0.57	0.2
C18:4(n-3)	1.80	NA	NA	NA	0.190	NA	1.80	NA
C20:2(n-6)	3.10	1.69	2.77	NA	0.324	NA	2.52	0.7
C20:3(n-3)	0.530	NA	NA	0.203	0.039	NA	0.530	NA
C20:4(n-6)	3.87	NA	4.91	0.760	0.45	NA	4.39	NA
C20:5(n-3)	16.7	16.0	24.7	2.23	2.39	2.22	19.1	4.8
C22:2(n-6)	0.130	0.082	NA	0.010	NA	NA	0.106	0.03
C22:5(n-3)	48.3	34.1	78.4	0.799	6.86	6.17	53.6	23
C22:6(n-3)	46.2	34.1	68.4	5.53	6.00	3.94	49.6	17

Appendix A

Tabular results of PCB congener, pesticide, fatty acid, and lipid data reported by all laboratories

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<2	<2	<2	60.4	63.9	61.1	<2		62	3.0	<5	--	**106**	14			
4,4'-DDT	4.0	3.9	4.3	209	210	211	4.09	5.3	210	0.4	8.83	2.2	**245**	15	-2.1	-0.1	0.35
2,4'-DDE	<2	<2	<2	11.6	11.7	11.8	<2		11.7	0.9	<5	--	**12.3**	0.87			
4,4'-DDE	69.9	70.7	72.4	503	507	495	71.0	1.8	501	1.2	72.3	8.0	**445**	37	-0.1	-0.0001	0.12
2,4'-DDD	1.53	1.55	1.67	17.8	15.7	16.9	1.58	4.8	17	6.3	<5	--	**18.1**	2.8			
4,4'-DDD	2.51	2.56	2.45	115	113	116	2.51	2.2	115	0.9	3.71	1.6	**133**	10	-1.3	0.0	0.14
HCB	254	254	246	26.5	26.1	25.9	251	1.8	26.1	1.1	242	36	**32.9**	1.7	0.2	5.5	0.12
α-HCH	61.7	69.4	59.4	13.3	12.8	13.3	63.5	8.3	13.1	2.1	65.4	11	**16.2**	3.4	-0.1	-1.1	0.55
β-HCH	1653	1909	1653	<2	<2	<2	1738	8.5	<2		1102	184	8.00	1.4	2.3	8.5	0.56
γ-HCH	<2	<2	<2	3.41	4.78	2.7	<2		3.61	30	<5	--	**3.30**	0.81			
Heptachlor Epoxide	131	151	136	9.51	11.3	10.6	139	7.5	10.5	8.8	95.5	15	**10.8**	1.3	1.8	1.4	0.50
Cis-Chlordane	<2	<2	<2	45.2	42.8	44.6	<2		44.2	2.9	22.1	29	**46.9**	2.8			
Trans-Chlordane	26.7	27.0	27.8	9.9	10.0	10.4	27.2	1.9	10.1	2.2	6.02	10	12.1	1.4	14.1	1.6	0.13
Oxychlordane	589	665	640	21.2	24.9	22.1	631	6.1	22.7	8.5	534	113	**19.8**	1.9	0.7	7.5	0.41
Cis-Nonachlor	4.1	3.8	4.2	44.4	55.7	47.8	4.03	5.3	49.3	12	5.25	0.8	**48.7**	7.6	-0.9	-0.043	0.35
Trans-Nonachlor	154	159	151	155	162	155	155	2.5	157	2.4	157	19	**231**	11	-0.1	-0.009	0.17
Dieldrin	265	289	248	52.8	51.2	55.8	267	7.7	53.3	4.4	214	27	37.5	3.9	1.0	0.6	0.52
Mirex	6.87	6.82	6.74	29.1	29.9	30.1	6.81	1.0	29.7	1.8	11.0	2.5	**18.9**	2.8	-1.5	-0.3	0.06

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	10	10	13
2 to 3	2	0	0
≥ 3	1	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	66.5	69.7	70.2	70.2	71.7	70.9	68.8	2.92	70.9	1.06	6.4	2.08	74.3	0.45	38.9	30.0	0.19

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<2	<2	<2	4.7	4.8	4.1	<2		4.53	7.5	<5	--	**4.48**	0.88			
28	<2	<2	<2	16.7	16.5	15.8	<2		16.3	2.9	<5	--	14.10	1.4			
31	w/28	w/28	w/28	w/28	w/28	w/28	w/28		w/28		<5	--	3.12	0.69			
44	<2	<2	<2	10.6	10.9	10.6	<2		10.7	1.8	<5	--	**12.2**	1.4			
49	<2	<2	<2	17.4	17.8	17.3	<2		17.5	1.7	<5	--	**20.8**	2.8			
52	<2	<2	<2	36.4	37.3	36.8	<2		36.8	1.3	3.78	3.0	**43.6**	2.5			
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	<2	<2	<2	20.7	21.8	21.6	<2		21.4	2.8	6.02	1.2	**16.7**	1.4			
99	344	345	351	56.7	57.7	58.5	347	1.1	57.6	1.5	353	30	**45.4**	5.4	-0.1	-0.10	0.07
101 (+90)	<10	<10	<10	80.2	80.5	81.8	<10		80.8	1.1	8.49	3.8	**65.2**	5.6			
105	16.5	16.1	16.5	26.8	27.4	26.4	16.3	1.4	26.9	1.8	18.0	3.6	**30.1**	2.3	-0.4	-0.04	0.09
118	60.1	59.6	60.2	80.3	81.7	80.0	60.0	0.6	80.7	1.1	58.4	7.5	**74.6**	5.1	0.1	0.01	0.04
128	9.44	9.19	9.25	20.0	21.1	20.1	9.29	1.4	20.4	3.0	12.0	1.2	**23.7**	1.7	-0.9	-0.05	0.09
132	w/153	w/153	w/153	w/153	w/153	w/153	w/153		w/153		<8	--	22.5	4.6			
138 (+163+164)	218	207	213	136	136	140	213	2.4	137	1.6	229	39.0	**131.5**	7.4			0.16
149	2.6	2.5	2.6	71.2	72.1	71.3	2.57	3.1	71.5	0.7	2.66	0.6	**107**	8.4	-0.1	0.00	0.21
151	<2	<2	<2	23.6	24.1	24.3	<2		24.0	1.5	<8	--	**28.7**	5.2			
153	2058	2038	2068	242	246	243	2055	0.7	244	1.1	1607	256	**213.0**	19	1.1	1.10	0.05
156	58.0	58.6	59.6	10.0	10.5	9.9	58.7	1.4	10.1	3.0	59.9	7.9	**10.3**	1.1	-0.1	-0.06	0.09
170 (+190)	435	439	444	46.9	47.7	47.1	440	1.0	47.2	0.8	309	53	**40.6**	2.6	1.7	2.25	0.07
180	670	668	673	132.2	134.7	132.9	670	0.4	133	1.0	653	88	**107**	5.3	0.1	0.10	0.03
183	20.9	20.3	21.1	36.4	36.8	36.6	20.8	2.0	36.6	0.6	24.3	4.8	**36.6**	4.1	-0.6	-0.06	0.13
187	7.76	7.22	7.21	127	129	128	7.40	4.3	128	0.7	10.1	2.7	**105**	9.1	-1.1	-0.02	0.28
194	167	165	168	58.6	59.5	59.0	167	0.8	59.1	0.8	163	24	**39.6**	2.5	0.1	0.12	0.05
195	3.46	2.99	3.37	10.2	10.8	10.9	3.27	7.6	10.6	3.7	4.18	1.1	**17.7**	4.3	-0.9	-0.06	0.51
201	<2	<2	<2	11.7	11.8	11.9	<2		11.8	0.9	6.45	2.6	**17.0**	0.89			
206	37.3	37.0	37.3	49.4	49.8	50.3	37.2	0.4	49.8	1.0	32.4	3.5	**31.1**	2.7	0.6	0.35	0.03
209	12.5	12.3	12.2	17.7	18.4	17.2	12.3	1	17.8	3.5	12.3	1.1	**10.6**	1.1	0.007	0.002	0.08
66	3.44	2.78	3.13	22.6	23.5	21.5	3.12	11	22.5	4.6	<10	--	23.6	1.6			
95	<2	<2	<2	34.1	34.1	35.1	<2		34.4	1.6	<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	14	14	16
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 2**

SAMPLES: HOMOGENATE VI AND SRM 1945

data are reported as if three figures are significant

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<5	<5	<5	95.1	92.6	96.7	<5		94.8	2.2	<5	--	**106**	14			
4,4'-DDT	5.44	5.36	5.41	222	230	227	5	0.7	226	1.8	8.83	2.2	**245**	15	-1.6	-0.1	0.05
2,4'-DDE	<5	<5	<5	12.7	12.3	12.4	<5		12.5	1.7	<5	--	**12.3**	0.87			
4,4'-DDE	58.2	61.1	60.4	475	457	463	59.9	2.5	465	2.0	72.3	8.0	**445**	37	-0.7	-0.001	0.17
2,4'-DDD	<5	<5	<5	18.6	18.3	18.7	<5		18.5	1.1	<5	--	**18.1**	2.8			
4,4'-DDD	4.26	4.55	4.32	136	142	133	4.38	3.5	137	3.3	3.71	1.6	**133**	10	0.7	0.003	0.23
HCB	278	280	272	31.8	32.6	32.9	277	1.5	32.4	1.8	242	36	**32.9**	1.7	0.6	20.3	0.10
α-HCH	68.3	64.6	68.8	16.9	16.1	16.7	67.2	3.4	16.6	2.5	65.4	11	**16.2**	3.4	0.1	1.0	0.23
β-HCH	862	888	857	6.53	6.12	5.88	869	1.9	6.18	5.3	1102	184	8.00	1.4	-0.8	-3.1	0.13
γ-HCH	<15	<15	<15	<10	<10	<10	<15		<10		<5	--	**3.30**	0.81			
Heptachlor Epoxide	78.6	78.4	75.6	<10	<10	<10	77.5	2.2	<10		95.5	15	**10.8**	1.3	-0.8	-0.6	0.14
Cis-Chlordane	24.8	26.7	25.2	49.6	43.7	46.8	25.6	3.9	46.7	6.3	22.1	29	**46.9**	2.8	0.6	0.3	0.26
Trans-Chlordane	<5	<5	<5	11.0	11.1	10.9	<5		11.0	0.9	6.02	10	12.1	1.4			
Oxychlordane	407	393	407	19.6	20.1	20.6	402	2.0	20.1	2.5	534	113	**19.8**	1.9	-1.0	-10.1	0.13
Cis-Nonachlor	6.01	6.12	6.14	45.2	47.9	45.1	6.09	1.1	46.1	3.4	5.25	0.8	**48.7**	7.6	0.6	0.03	0.08
Trans-Nonachlor	148	163	156	198	189	201	156	4.8	196	3.2	157	19	**231**	11	0.0	-0.01	0.32
Dieldrin	147	156	151	36.4	41.1	38.0	151	3.0	38.5	6.2	214	27	37.5	3.9	-1.2	-0.7	0.20
Mirex	15.6	14.1	15.4	29.7	26.8	27.9	15.0	5.4	28.1	5.2	11.0	2.5	**18.9**	2.8	1.5	0.3	0.36

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	13	10	13
2 to 3	0	0	0
≥ 3	0	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	73.0	73.1	71.7	76.3	73.0	75.5	72.6	1.11	74.9	2.31	73.1	1.87	74.3	0.45	0.0	-0.2	0.07

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 2

data are reported as if three figures are significant

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<5	<5	<5	<5	<5	<5	<5		<5		<5	--	**4.48**	0.88			
28	<6	<6	<6	14.9	14.8	13.9	<6		14.5	3.8	<5	--	14.10	1.4			
31	<5	<5	<5	3.50	3.64	3.65	<5		3.60	2.3	<5	--	3.12	0.69			
44	<5	<5	<5	14.0	13.8	14.4	<5		14.1	2.2	<5	--	**12.2**	1.4			
49	21.8	21.7	22.7	18.7	18.7	19.3	22.1	2.5	18.9	1.8	<5	--	**20.8**	2.8			0.17
52	8.24	8.53	8.11	43.1	45.1	45.6	8.29	2.6	44.6	3.0	3.78	3.0	**43.6**	2.5	4.8	0.26	0.17
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	<10	<10	<10	19.0	19.7	20.1	<10		19.6	2.8	6.02	1.2	**16.7**	1.4			
99	321	309	307	51.9	51.5	52.4	312	2.4	51.9	0.9	353	30	**45.4**	5.4	-0.5	-0.62	0.16
101 (+90)	4.97	5.01	4.89	72.1	70.7	71.4	4.96	1.2	71.4	1.0	8.49	3.8	**65.2**	5.6	-1.7	-0.03	0.08
105	NA	NA	NA	NA	NA	NA	NA		NA		18.0	3.6	**30.1**	2.3			
118	73.7	71.3	75.3	74.0	75.7	79.8	73.4	2.7	76.5	3.9	58.4	7.5	**74.6**	5.1	1.0	0.12	0.18
128	11.3	10.8	11.5	21.6	22.3	21.7	11.2	3.2	21.9	1.7	12.0	1.2	**23.7**	1.7	-0.3	-0.02	0.21
132	<8	<8	<8	19.1	20.3	20.7	<8		20.0	4.2	<8	--	22.5	4.6			
138 (+163+164)	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		229	39.0	**131.5**	7.4			
149	<8	<8	<8	89.4	93.4	93.6	<8		92.1	2.6	2.66	0.6	**107**	8.4			
151	<8	<8	<8	29.3	26.5	27.8	<8		27.9	5.0	<8	--	**28.7**	5.2			
153	2011	1955	2008	224	256	235	1991	1.6	238	6.8	1607	256	**213.0**	19	1.0	0.95	0.11
156	66.3	63.8	66.5	9.92	10.4	10.2	65.5	2.3	10.2	2.4	59.9	7.9	**10.3**	1.1	0.4	0.30	0.15
170 (+190)	354	344	338	40.5	40.9	40.3	345	2.3	40.6	0.8	309	53	**40.6**	2.6	0.5	0.62	0.16
180	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		653	88	**107**	5.3			
183	21.6	22.0	22.3	35.5	36.2	36.3	22.0	1.6	36.0	1.2	24.3	4.8	**36.6**	4.1	-0.4	-0.04	0.11
187	<10	<10	<10	112	115	109	<10		112	2.7	10.1	2.7	**105**	9.1			
194	147	139	140	49.9	42.1	47.0	142	3.1	46.3	8.5	163	24	**39.6**	2.5	-0.5	-0.69	0.20
195	<15	<15	<15	<15	<15	<15	<15		<15		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	36.7	33.9	34.8	45.7	44.1	40.7	35.1	4.1	43.5	5.9	32.4	3.5	**31.1**	2.7	0.3	0.20	0.27
209	12.5	11.9	12.6	14.4	14.4	13.8	12.3	3.1	14.2	2.4	12.3	1.1	**10.6**	1.1	0.013	0.003	0.20
66	<10	<10	<10	21.5	22.5	23.5	<10		22.5	4.4	<10	--	23.6	1.6			
95	<10	<10	<10	33.1	33.8	34.6	<10		33.8	2.2	<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	10	11	13
2 to 3	0	0	0
≥ 3	1	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 3**

SAMPLES: HOMOGENATE VI AND SRM 1945

data are reported as if three figures are significant

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	43	36.8	38.8	70.4	70.3	66.6	40	8.0	69.1	3.1	<5	--	**106**	14			
4,4'-DDT	<137	<137	<137	141	143	139	<137		141	1.4	8.83	2.2	**245**	15			
2,4'-DDE	<7.40	<7.40	<7.40	9.3	9.6	9.3	<7.40		9.40	1.8	<5	--	**12.3**	0.87			
4,4'-DDE	87.6	82.3	85.7	445	442	438	85.2	3.2	442	0.8	72	8.0	**445**	37	0.7	0.001	0.21
2,4'-DDD	<15.3	<15.3	<15.3	<15.3	<15.3	<15.3	<15.3		<15.3		<5	--	**18.1**	2.8			
4,4'-DDD	<44.5	<44.5	<44.5	64.1	63.3	65.9	<44.5		64.4	2.1	3.71	1.6	**133**	10			
HCB	207	200	184	17.6	18.4	17.6	197	6.0	17.9	2.6	242	36	**32.9**	1.7	-0.7	-25.9	0.40
α-HCH	58.4	54.7	51.3	17.9	15.2	17.7	54.8	6.5	16.9	8.9	65.4	11	**16.2**	3.4	-0.6	-6.1	0.43
β-HCH	1200	1190	1200	<59.4	<59.4	<59.4	1197	0.5	<59.4		1102	184	8.00	1.4	0.3	1.3	0.03
γ-HCH	<1	<1	<1	<1	<1	<1	<1		<1		<5	--	**3.30**	0.81			
Heptachlor Epoxide	102	102	98.7	10.4	9.1	9.6	101	1.9	9.70	6.8	95.5	15	**10.8**	1.3	0.2	0.2	0.13
Cis-Chlordane	<10.6	<10.6	<10.6	40.3	40.5	40.3	<10.6		40.4	0.3	22.1	29	**46.9**	2.8			
Trans-Chlordane	<41.4	<41.4	<41.4	<41.4	<41.4	<41.4	<41.4		<41.4		6.02	10	12.1	4.6			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	<7.20	<7.20	<7.20	31.4	32.9	33.1	<7.20		32.5	2.9	5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	182	175	180	170	170	169	179	2.0	170	0.3	157	19	**231**	11	0.6	0.1	0.13
Dieldrin	217	222	220	<61.9	<61.9	<61.9	220	1.1	<61.9		214	27	37.5	3.9	0.1	0.1	0.08
Mirex	<10.4	<10.4	<10.4	21.4	21	21.5	<10.4		21.3	1.2	11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	7	5	7
2 to 3	0	0	0
≥ 3	0	2	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	71.0	71.0	71.0	71.0	71.0	71.0	71.0	0.00	71.0	0.00	73.1	1.87	74.3	0.45	-0.1	-1.0	0.00

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 3

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<8.20	<8.20	<8.20	<8.20	<8.20	<8.20	<8.20		<8.20		<5	--	**4.48**	0.88			
28	<11.3	<11.3	<11.3	11.8	12.6	12.9	<11.3		12.4	4.6	<5	--	14.10	1.4			
31	nd	nd	nd	nd	nd	nd	nd		nd		<5	--	3.12	0.69			
44	<10.5	<10.5	<10.5	<10.5	<10.5	<10.5	<10.5		<10.5		<5	--	**12.2**	1.4			
49	13.5	13.4	13.0	14.5	13.7	14.1	13.3	2.0	14.1	2.8	<5	--	**20.8**	2.8			0.13
52	<10.8	<10.8	<10.8	35.0	34.7	35.6	<10.8		35.1	1.3	3.78	3.0	**43.6**	2.5			
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	<9.4	<9.4	<9.4	19.9	19.3	19.5	<9.4		19.6	1.6	6.02	1.2	**16.7**	1.4			
99	311	314	310	48.1	48.2	48.3	312	0.7	48.2	0.2	353	30	**45.4**	5.4	-0.5	-0.63	0.04
101 (+90)	19.4	16.8	17.5	53.6	52.2	50.3	17.9	7.5	52.0	3.2	8.49	3.8	**65.2**	5.6	4.4	0.09	0.50
105	<15.4	<15.4	<15.4	20.4	18.7	19.4	<15.4		19.5	4.4	18.0	3.6	**30.1**	2.3			
118	49.6	48.4	45.0	69.7	66.4	66.3	47.7	5.0	67.5	2.9	58.4	7.5	**74.6**	5.1	-0.7	-0.08	0.33
128	<55	<55	<55	<55	<55	<55	<55		<55		12.0	1.2	**23.7**	1.7			
132	nd	nd	nd	nd	nd	nd	nd		nd		<8	--	22.2	4.6			
138 (+163+164)	89.2	84.8	83.2	61.7	59.3	57.2	85.7	3.6	59.4	3.8	229	39.0	**131.5**	7.4	-2.5	-0.33	0.24
149	<11.3	<11.3	<11.3	73.9	67.8	71.2	<11.3		71.0	4.3	2.66	0.6	**107**	8.4			
151	<8.90	<8.90	<8.90	32.0	29.5	29.1	<8.90		30.2	5.2	<8	--	**28.7**	5.2			
153	1940	1920	1860	216	203	208	1907	2.2	209	3.1	1607	256	**213.0**	19	0.7	0.74	0.15
156	51.5	50.2	45.3	<11.1	<11.1	<11.1	49.0	6.7	<11.1		59.9	7.9	**10.3**	1.1	-0.7	-0.58	0.44
170 (+190)	174	171	171	31.9	31.5	29.5	172	1.0	31.0	4.2	309	53	**40.6**	2.6	-1.8	-2.37	0.07
180	579	562	542	116	107	105	561	3.3	109	5.4	653	88	**107**	5.3	-0.6	-0.54	0.22
183	<18.9	<18.9	<18.9	33.1	29.6	30.9	<18.9		31.2	5.7	24.3	4.8	**36.6**	4.1			
187	<14.6	<14.6	<14.6	96.5	93.8	92.2	<14.6		94.2	2.3	10.1	2.7	**105**	9.1			
194	125	124	122	42.9	42.4	41.8	124	1.2	42.4	1.3	163	24	**39.6**	2.5	-1.0	-1.28	0.08
195	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3		<7.3		4.18	1.1	**17.7**	4.3			
201	<5.6	<5.6	<5.6	10.9	9.70	10.0	<5.6		10.2	6.1	6.45	2.6	**17.0**	0.89			
206	27.4	26.1	25.1	35.3	34.1	33.4	26.2	4.4	34.3	2.8	32.4	3.5	**31.1**	2.7	-0.8	-0.45	0.29
209	9.40	8.80	8.70	12.4	12.8	12.9	8.97	4.2	12.7	2.1	12.3	1.1	**10.6**	1.1	-1.1	-0.26	0.28
66	<11.7	<11.7	<11.7	18.4	17.2	17.3	<11.7		17.6	3.8	<10	--	23.6	1.6			
95	<9.70	<9.70	<9.70	30.7	28.9	30.9	<9.70		30.2	3.7	<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	10	12
2 to 3	1	0	0
≥ 3	1	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1.74	1.85	1.81	89.1	88.4	88.6	1.80	3.1	89	0.4	<5	--	**106**	14			0.21
4,4'-DDT	6.87	7.29	6.91	259	257	256	7.02	3.3	257	0.6	8.83	2.2	**245**	15	-0.8	-0.044	0.22
2,4'-DDE	<1.54	<1.58	<1.32	14.6	14.4	15.0	<1.54		14.7	2.1	<5	--	**12.3**	0.87			
4,4'-DDE	84.3	84.4	82.7	487	485	492	84	1.1	488	0.7	72	8.0	**445**	37	0.6	0.001	0.08
2,4'-DDD	<1.54	<1.58	<1.32	21.6	21.6	22.0	<1.54		21.7	1.1	<5	--	**18.1**	2.8			
4,4'-DDD	2.62	2.68	2.59	135	133	133	2.63	1.7	134	0.9	3.71	1.6	**133**	10	-1.2	0.0	0.12
HCB	273	271	265	27.2	26.9	27.5	270	1.5	27.2	1.1	242	36	**32.9**	1.7	0.5	16.3	0.10
α-HCH	72.7	73.8	70.8	16.3	15.9	16.4	72.4	2.1	16.2	1.6	65.4	11	**16.2**	3.4	0.4	4.0	0.14
β-HCH	1190	1230	1150	<1.81	<1.73	<1.66	1190	3.4	<1.81		1102	184	8.00	1.4	0.3	1.2	0.22
γ-HCH	2.60	2.26	3.09	3.14	3.28	2.94	2.65	15.7	3.12	5.5	<5	--	**3.30**	0.81			1.05
Heptachlor Epoxide	97.4	103	99.2	12.4	12.3	12.4	100	2.9	12.4	0.5	95.5	15	**10.8**	1.3	0.2	0.1	0.19
Cis-Chlordane	<1.54	<1.58	<1.32	56.8	56.4	57.5	<1.54		56.9	1.0	22.1	29	**46.9**	2.8			0.00
Trans-Chlordane	2.25	2.32	2.24	13.0	12.8	13.0	2.27	1.9	12.9	0.9	6.02	10	12.1	1.4	-2.5	-0.3	0.13
Oxychlordane	483	476	467	24.0	22.2	22.9	475	1.7	23.0	3.9	534	113	**19.8**	1.9	-0.4	-4.5	0.11
Cis-Nonachlor	6.43	6.35	6.16	58.7	58.1	58.4	6.31	2.2	58.4	0.5	5.25	0.8	**48.7**	7.6	0.8	0.0	0.15
Trans-Nonachlor	184	184	179	182	181	183	182	1.6	182	0.5	157	19	**231**	11	0.6	0.1	0.11
Dieldrin	228	233	221	56.6	55.0	54.7	227	2.7	55.4	1.8	214	27	37.5	3.9	0.2	0.1	0.18
Mirex	11.8	12.2	11.5	38.4	38.1	38.5	11.8	3.0	38.3	0.5	11.0	2.5	**18.9**	2.8	0.3	0.1	0.20

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	12	10	16
2 to 3	1	0	0
≥ 3	0	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	72.8	68.6	72.0	73.6	73.2	73.8	71.1	3.14	73.5	0.42	73.1	1.87	74.3	0.45	-0.1	-0.9	0.21

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<1.55	<1.59	<1.33	3.14	3.08	3.04	<1.55		3.1	2	<5	--	**4.48**	0.88			
28	<1.56	<1.60	<1.34	9.84	9.74	9.96	<1.56		9.8	1	<5	--	14.10	1.4			
31	<1.17	<1.20	<1.00	4.38	4.26	4.25	<1.17		4.3	2	<5	--	3.12	0.69			
44	<1.55	<1.59	<1.33	11.8	11.6	11.7	<1.55		11.7	1	<5	--	**12.2**	1.4			
49	<1.55	<1.59	<1.33	16.9	16.8	17.0	<1.55		16.9	1	<5	--	**20.8**	2.8			
52	1.78	1.80	1.84	38.2	38.0	38.2	1.8	1.7	38.1	0	3.78	3.0	**43.6**	2.5	-2.1	-0.11	0.11
66/95*	below	below	below	below	below	below	below		below	#DIV/0!	3.44	2.7	**57.4**	2.5			
87	7.87	7.84	7.75	25.5	25.0	25.5	7.82	0.8	25.3	1	6.02	1.2	**16.7**	1.4	1.2	0.06	0.05
99	320	319	317	54.9	54.5	55.1	319	0.5	54.8	1	353	30	**45.4**	5.4	-0.4	-0.53	0.03
101 (+90)	4.81	4.86	4.92	77.5	76.9	78.1	4.86	1.1	77.5	1	8.49	3.8	**65.2**	5.6	-1.7	-0.03	0.08
105	16.7	16.8	16.5	27.2	26.9	27.2	16.7	0.9	27.1	1	18.0	3.6	**30.1**	2.3	-0.3	-0.03	0.06
118	62.0	59.7	59.6	84.3	83.5	83.5	60.4	2.2	83.8	1	58.4	7.5	**74.6**	5.1	0.1	0.02	0.15
128	11.9	12.0	11.7	24.4	24.5	24.6	11.9	1.3	24.5	0	12.0	1.2	**23.7**	1.7	-0.03	-0.002	0.09
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	288	288	282	183	182	185	286	1.2	183	1	229	39.0	**131.5**	7.4	1.0	0.13	0.08
149	2.59	2.53	2.65	85.6	84.5	85.5	2.59	2.3	85.2	1	2.66	0.6	**107**	8.4	-0.1	0.00	0.15
151	<1.56	<1.60	<1.34	27.4	27.2	27.8	<1.56		27.5	1	<8	--	**28.7**	5.2			
153	1890	1890	1880	244	242	243	1887	0.3	243	0	1607	256	**213.0**	19	0.7	0.69	0.02
156	64.1	64.7	63.0	12.6	12.5	12.7	63.9	1.3	12.6	1	59.9	7.9	**10.3**	1.1	0.3	0.22	0.09
170 (+190)	411	414	404	50.1	50	50.7	409.7	1.3	50.3	1	309	53	**40.6**	2.6	1.3	1.73	0.08
180	733	739	731	144	143	144	734.3	0.6	144	0	653	88	**107**	5.3	0.5	0.47	0.04
183	23.4	23.7	23.1	39.8	39.3	39.8	23.4	1.3	39.6	1	24.3	4.8	**36.6**	4.1	-0.1	-0.02	0.09
187	8.72	8.87	8.65	115	113	115	8.75	1.3	114	1	10.1	2.7	**105**	9.1	-0.5	-0.01	0.09
194	155	158	155	60.7	60.6	61.1	156	1.1	60.8	0	163	24	**39.6**	2.5	-0.2	-0.23	0.07
195	2.57	2.67	2.54	11.7	11.6	11.6	2.59	2.6	11.6	0	4.18	1.1	**17.7**	4.3	-1.5	-0.10	0.17
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	38.8	39.2	38.1	50.3	50.6	50.8	38.7	1.4	50.6	0	32.4	3.5	**31.1**	2.7	0.8	0.46	0.10
209	12.9	12.9	12.8	18.4	18.4	18.6	12.9	0.4	18.5	1	12.3	1.1	**10.6**	1.1	0.2	0.05	0.03
66	<1.55	<1.59	<1.33	21.9	22.1	22.8	<1.55		22.3	2	<10	--	23.6	1.6			
95	0.960	0.984	1.01	40.0	39.7	40.1	0.98	2.5	39.9	1	<10	--	33.8	1.7			0.17

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	17	18	20
2 to 3	1	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 5**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	39.7	36.7	39.5	NA		38.6	4.3	<5	--	**106**	14			
4,4'-DDT	<2.2	<2.3	<2.0	209	183	180	<2.2		191	8.4	8.83	2.2	**245**	15			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	88.2	89.6	85.9	574	548	507	87.9	2.1	543	6.2	72.3	8.0	**445**	37	0.9	0.001	0.14
2,4'-DDD	<1.7	<1.9	<1.6	24.9	27.1	23.8	<1.7		25.3	6.7	<5	--	**18.1**	2.8			
4,4'-DDD	<3.5	<3.8	<3.3	119	106	112	<3.5		112	5.8	3.71	1.6	**133**	10			
HCB	313	327	322	32.0	31.0	29.0	321	2.2	30.7	5.0	242	36	**32.9**	1.7	1.3	45.9	0.15
α-HCH	NA	NA	NA	NA	NA	NA	NA		NA		65.4	11	**16.2**	3.4			
β-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1102	184	8.00	1.4			
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.2	1.4			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	2	1	2
2 to 3	0	0	0
≥ 3	0	1	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	54.3	57.2	62.2	67.4	56.3	55.8	57.9	6.90	59.8	10.96	73.1	1.87	74.3	0.45	-0.8	-7.3	0.46

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: **5**

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	NA	NA	NA	NA	NA	NA	NA		NA		3.78	3.0	**43.6**	2.5			
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	NA	NA	NA	NA	NA	NA	NA		NA		8.49	3.8	**65.2**	5.6			
105	24.4	25.8	24.8	33.3	36.6	34.7	25.0	2.9	34.9	5	18.0	3.6	**30.1**	2.3	1.6	0.17	0.19
118	71.0	69.2	66.6	125	121	115	68.9	3.2	120.3	4	58.4	7.5	**74.6**	5.1	0.7	0.08	0.21
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	211	217	215	130	135	138	214	1.4	134.3	3	229	39.0	**131.5**	7.4	-0.3	-0.03	0.10
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	2270	2350	2330	298	300	292	2317	1.8	297	1	1607	256	**213.0**	19	1.8	1.75	0.12
156	74.2	79.1	77.1	6.90	7.40	9.32	76.8	3.2	7.9	16	59.9	7.9	**10.3**	1.1	1.1	0.90	0.21
170 (+190)	513	536	529	101	103	94.1	526	2.2	99.4	5	309	53	**40.6**	2.6	2.8	3.74	0.15
180	777	820	809	140	141	136	802	2.8	139	2	653	88	**107**	5.3	0.9	0.87	0.19
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	6	6	7
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 6**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	14.7	24.9	16.9	150	96.6	102	18.9	29	116	25	<5	--	**106**	14			1.91
4,4'-DDT	14.7	26.8	6.53	353	434	418	16.0	64	402	11	8.83	2.2	**245**	15	3.3	0.2	4.26
2,4'-DDE	3.20	DL	DL	22.1	28.3	30.4	3.20		26.9	16	<5	--	**12.3**	0.87			
4,4'-DDE	85.4	106	55.7	565	488	489	82.2	31	514	8.6	72	8.0	**445**	37	0.5	0.001	2.03
2,4'-DDD	5.93	DL	DL	35.5	28.6	28.8	5.93		31.0	13	<5	--	**18.1**	2.8			
4,4'-DDD	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		3.71	1.6	**133**	10			
HCB	150	199	196	38.1	38.8	26.4	182	15	34.4	20	242	36	**32.9**	1.7	-1.0	-34.8	1.01
α-HCH	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		65.4	11	**16.2**	3.4			
β-HCH	1060	1450	765	25.6	24.7	4.35	1092	31	18.2	66	1102	184	8.00	1.4	0.0	-0.1	2.10
γ-HCH	4.11	6.85	3.06	24.4	21.7	6.31	4.67	42	17.5	56	<5	--	**3.30**	0.81			2.79
Heptachlor Epoxide	83.4	119	42.3	7.11	19.1	23.9	81.4	47	16.7	52	95.5	15	**10.8**	1.3	-0.6	-0.5	3.12
Cis-Chlordane	DL	DL	DL	62.5	69.0	50.2			60.5	16	22.1	29	**46.9**	2.8	-4.0	-2.2	
Trans-Chlordane	8.43	15.9	6.22	19.0	30.8	31.9	10.2	50	27.3	26	6.02	10	12.1	1.4	2.8	0.3	3.32
Oxychlordane	438	618	272	23.7	25.7	19.5	443	39	22.9	14	534	113	**19.8**	1.9	-0.7	-7.0	2.61
Cis-Nonachlor	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		5.25	0.8	**48.7**	7.6			0.00
Trans-Nonachlor	158	219	72.4	197	201	160	150	49	186	12	157	19	**231**	11	-0.2	-0.026	3.28
Dieldrin	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		214	27	37.5	3.9			
Mirex	16.3	23.6	6.71	62.4	52.0	37.4	15.5	55	50.6	25	11.0	2.5	**18.9**	2.8	1.6	0.4	3.64

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	7	7	3
2 to 3	1	1	4
≥ 3	2	2	5

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	65.4	79.8	79.5	79.6	73.6	67.8	74.9	11.04	73.6	8.03	73.1	1.87	74.3	0.45	0.1	0.9	0.74

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 6

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	6.76	9.81	3.35	DL	DL	9.17	6.64	49	9.2		<5	--	**4.48**	0.88			3.25
28	2.74	5.27	2.47	24.1	16.3	28.6	3.49	44	23.0	27	<5	--	14.10	1.4			2.94
31	DL	DL	DL	13.8	14.6	16.9	DL		15.1	11	<5	--	3.12	0.69			0.00
44	8.51	9.33	2.89	20.6	22.2	18.9	6.91	51	20.5	8.0	<5	--	**12.2**	1.4			3.38
49	7.48	6.83	6.48	5.56	11.6	24.5	6.93	7	13.9	70	<5	--	**20.8**	2.8			0.49
52	11.3	14.3	6.19	51.1	44.0	37.5	10.6	39	44.2	15	3.78	3.0	**43.6**	2.5	7.2	0.39	2.58
66/95*	7.81	9.93	6.67	67.8	74.0	69.7	8.14	20	70.5	4.5	3.44	2.7	**57.4**	2.5	5.5	0.12	1.35
87	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		6.02	1.2	**16.7**	1.4			
99	311	427	377	63.8	72.0	64.6	372	16	66.8	6.7	353	30	**45.4**	5.4	0.2	0.30	1.04
101 (+90)	10.1	17.1	10.3	112	130	119	12.5	32	120	7.7	8.49	3.8	**65.2**	5.6	1.9	0.04	2.15
105	16.5	22.1	17.3	46.0	66.3	65.6	18.6	16	59.3	19	18.0	3.6	**30.1**	2.3	0.2	0.02	1.07
118	62.8	87.4	59.3	99.8	106	98.0	69.8	22	101	4	58.4	7.5	**74.6**	5.1	0.8	0.09	1.47
128	11.9	15.0	11.5	37.7	52.1	35.6	12.8	15	41.8	22	12.0	1.2	**23.7**	1.7	0.3	0.02	1.00
132	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		<8	--	22.5	4.6			
138 (+163+164)	266	356	342	195	208	187	322	15	197	5.4	229	39.0	**131.5**	7.4	1.6	0.21	1.00
149	3.03	5.03	5.60	91.3	83.1	76.9	4.6	30	83.8	8.7	2.66	0.6	**107**	8.4	2.8	0.02	1.98
151	DL	DL	DL	33.4	29.8	25.3	DL		29.5	14	<8	--	**28.7**	5.2			
153	1380	1880	2130	246	255	232	1797	21	245	4.7	1607	256	**213.0**	19	0.5	0.47	1.42
156	72.7	99.4	64.6	17.8	19.5	20.2	78.9	23	19.1	6.4	59.9	7.9	**10.3**	1.1	1.3	1.01	1.54
170 (+190)	524	463	528	56.6	67.0	51.4	505	7	58.3	14	309	53	**40.6**	2.6	2.5	3.38	0.48
180	664	894	972	192	222	186	843	19	200	10	653	88	**107**	5.3	1.2	1.11	1.27
183	27.0	36.5	35.3	50.4	47.1	40.8	33.0	16	46.1	11	24.3	4.8	**36.6**	4.1	1.4	0.15	1.05
187	12.0	16.2	15.6	309	155	132	14.6	16	199	48	10.1	2.7	**105**	9.1	1.8	0.04	1.05
194	190	259	232	81.2	86.8	84.9	227	15	84.3	3.4	163	24	**39.6**	2.5	1.6	2.08	1.02
195	7.27	6.50	5.09	54.1	36.2	32.9	6.29	18	41.1	28	4.18	1.1	**17.7**	4.3	2.0	0.13	1.18
201	10.1	14.5	15.3	101	83.8	79.2	13.3	21	87.9	13	6.45	2.6	**17.0**	0.89	4.2	0.09	1.39
206	see notes	see notes	see notes	see notes	see notes	see notes	see notes		see notes		32.4	3.5	**31.1**	2.7			0.00
209	37.4	51.7	45.6	25.8	21.4	21.7	44.9	16	23.0	11	12.3	1.1	**10.6**	1.1	10.6	2.58	1.07
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	12	16	20
2 to 3	2	2	3
≥ 3	4	0	2

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 7**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	5.19	5.90	5.60	153	156	136	5.56	6.4	148	7.0	<5	--	**106**	14			0.43
4,4'-DDT	7.72	8.61	8.72	449	460	337	8.35	6.6	415	16.4	8.83	2.2	**245**	15	-0.2	-0.01	0.44
2,4'-DDE	ND	ND	ND	14.7	13.0	12.3	ND		13.3	9.5	<5	--	**12.3**	0.87			
4,4'-DDE	152	167	159	829	792	712	159	4.8	778	7.7	72.3	8.0	**445**	37	4.8	0.01	0.32
2,4'-DDD	ND	ND	ND	33.7	30.3	28.0	ND		30.7	9.4	<5	--	**18.1**	2.8			
4,4'-DDD	3.52	3.60	3.75	177	226	190	3.62	3.2	198	13	3.71	1.6	**133**	10	-0.1	-0.0003	0.21
HCB	400	418	478	44.6	45.9	41.8	432	9.4	44.1	4.8	242	36	**32.9**	1.7	3.2	110.4	0.63
a-HCH	105	97	124	21.8	20.4	18.1	109	13	20.1	9.3	65.4	11	**16.2**	3.4	2.6	24.7	0.83
b-HCH	1865	2019	2007	2.01	3.26	1.42	1964	4.4	2.23	42	1102	184	8.00	1.4	3.1	11.5	0.29
g-HCH	2.72	2.83	3.01	3.655	3.639	3.149	2.86	5.2	3.48	8.3	<5	--	**3.30**	0.81			0.34
Heptachlor Epoxide	144	143	143	15.2	15.8	14.2	143	0.4	15.1	5.2	95.5	15	**10.8**	1.3	2.0	1.5	0.02
Cis-Chlordane	ND	ND	ND	81.4	79.8	69.0	ND		76.7	8.8	22.1	29	**46.9**	2.8			
Trans-Chlordane	5.19	6.52	7.00	20.7	21.9	19.5	6.24	15.0	20.7	5.9	6.02	10	12.2	1.4	0.1	0.0	1.00
Oxychlordane	618	675	676	25.4	24.8	21.6	656	5.1	24.0	8.6	534	113	**19.8**	1.9	0.9	9.4	0.34
Cis-Nonachlor	7.40	7.14	8.40	57.6	57.8	48.7	7.65	8.7	54.7	9.5	5.25	0.8	**48.7**	7.6	1.8	0.1	0.58
Trans-Nonachlor	298	309	346	307	316	268	318	8.0	297	8.7	157	19	**231**	11	4.1	0.6	0.53
Dieldrin	271	295	307	52.9	55.7	49.3	291	6.3	52.6	6.0	214	27	37.5	3.9	1.4	0.8	0.42
Mirex	152	146	168	34.7	34.1	24.0	155	7.5	30.9	19.5	11.0	2.5	**18.9**	2.8	52.5	11.9	0.50

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	8	15
2 to 3	2	0	0
≥ 3	5	5	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	71.7	69.3	73.9	74.0	66.9	69.3	71.6	3.21	70.1	5.15	73.1	1.87	74.3	0.45	-0.1	-0.7	0.21

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 7

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	ND	ND	ND	4.30	3.25	1.71	ND		3.09	42	<5	--	**4.48**	0.88			0.00
28	7.15	10.6	7.71	15.9	16.3	13.2	8.50	22	15.1	11	<5	--	14.10	1.4			1.47
31	ND	ND	ND	ND	ND	ND	ND		ND		<5	--	3.12	0.69			
44	5.93	4.91	6.08	13.4	9.62	10.8	5.64	11	11.3	17	<5	--	**12.2**	1.4			0.75
49	11.6	10.3	5.41	35.1	41.0	31.3	9.13	36	35.8	14	<5	--	**20.8**	2.8			2.40
52	9.18	11.9	9.39	55.8	58.9	52.6	10.2	15	55.8	5.6	3.78	3.0	**43.6**	2.5	6.8	0.37	0.99
66/95*	13.6	16.6	11.1	91.2	88.1	81.7	13.8	20	87.0	5.6	3.44	2.7	**57.4**	2.5	12.0	0.26	1.32
87	ND	ND	ND	34.9	35.8	30.7	ND		33.8	8.0	6.02	1.2	**16.7**	1.4			0.00
99	434	489	475	70.2	69.7	64.0	466	6.1	68.0	5.1	353	30	**45.4**	5.4	1.3	1.75	0.41
101 (+90)	26.0	29.3	28.5	98.3	97.5	89.6	27.9	6.1	95.2	5.1	8.49	3.8	**65.2**	5.6	9.2	0.18	0.41
105	33.5	39.7	33.3	32.7	37.9	17.5	35.5	10	29.3	36	18.0	3.6	**30.1**	2.3	3.9	0.42	0.68
118	96.0	103	104	179	186	105	101	4.4	157	29	58.4	7.5	**74.6**	5.1	2.9	0.34	0.29
128	16.0	18.6	15.7	28.7	32.1	10.7	16.8	10	23.8	48	12.0	1.2	**23.7**	1.7	1.6	0.10	0.64
132	ND	ND	ND	31.5	34.2	16.5	ND		27.4	35	<8	--	22.5	4.6			0.00
138 (+163+164)	503	579	537	290	311	219	540	7.0	273	18	229	39.0	**131.5**	7.4	5.4	0.71	0.47
149	245	273	264	156	155	101	261	5.6	137	23	2.66	0.6	**107**	8.4	388	3.02	0.38
151	ND	ND	ND	59.0	80.8	47.3	ND		62.4	27	<8	--	**28.7**	5.2			0.00
153	3603	3897	4332	370	378	278	3944	9.3	342	16	1607	256	**213.0**	19	5.8	5.76	0.62
156	73.3	86.3	78.1	17.5	18.3	13.7	79.2	8.3	16.5	15	59.9	7.9	**10.3**	1.1	1.3	1.03	0.55
170 (+190)	445	476	515	71.8	80.5	66.9	479	7.3	73.0	9.4	309	53	**40.6**	2.6	2.2	2.93	0.49
180	1380	1476	1597	222	249	207	1484	7.3	226	9.4	653	88	**107**	5.3	5.1	4.85	0.49
183	46.9	52.2	51.7	81.9	85.9	76.2	50.3	5.9	81.3	6.0	24.3	4.8	**36.6**	4.1	4.3	0.46	0.39
187	8.50	9.51	8.84	118	127	108	8.95	5.7	117.7	7.8	10.1	2.7	**105**	9.1	-0.5	-0.01	0.38
194	279	323	301	87.1	101	68.6	301	7.2	85.5	19	163	24	**39.6**	2.5	3.4	4.49	0.48
195	6.72	8.65	6.49	19.6	21.9	10.8	7.29	16	17.4	33	4.18	1.1	**17.7**	4.3	3.0	0.20	1.08
201	81.4	94.6	84.7	24.1	26.8	23.5	86.9	7.9	24.8	7	6.45	2.6	**17.0**	0.89	49.9	1.02	0.53
206	65.0	74.0	67.5	85.0	92.1	62.6	68.8	6.8	79.9	19	32.4	3.5	**31.1**	2.7	4.5	2.66	0.45
209	25.8	28.9	28.5	32.4	35.1	26.9	27.8	6.2	31.5	13	12.3	1.1	**10.6**	1.1	5.0	1.22	0.41
66	see above	see above	see above	see above	see above	see above	see above		see above		<10	--	23.6	1.6			
95	see above	see above	see above	see above	see above	see above	see above		see above		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	4	14	26
2 to 3	2	1	1
≥ 3	13	4	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 8**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	2.44	4.17	2.15	91.9	92.6	93.5	2.92	37	92.6	0.9	<5	--	**106**	14			2.50
4,4'-DDT	5.80	8.82	5.73	219	216	213	6.79	26	216	1.4	8.83	2.2	**245**	15	-0.9	-0.050	1.73
2,4'-DDE	0.165	0.151	0.115	13.6	12.5	13.4	0.144	18	13.1	4.5	<5	--	**12.3**	0.87			1.20
4,4'-DDE	86.4	95.4	78.2	527	525	537	86.6	9.9	530	1.1	72.3	8.0	**445**	37	0.8	0.001	0.66
2,4'-DDD	0.233	0.230	0.285	17.1	14.0	16.4	0.249	12	15.8	10	<5	--	**18.1**	2.8			0.83
4,4'-DDD	1.72	2.35	2.31	82.6	81.3	91.6	2.13	16	85.2	6.6	3.71	1.6	**133**	10	-1.7	0.0	1.10
HCB	297	316	273	26.2	26.7	25.9	295	7.3	26.3	1.5	242	36	**32.9**	1.7	0.9	31.2	0.49
a-HCH	112	129	119	21.8	22.7	24.6	120	6.9	23.0	6.4	65.4	11	**16.2**	3.4	3.3	31.2	0.46
b-HCH	2900	3238	2615	4.36	2.81	2.51	2918	11	3.23	31	1102	184	8.00	1.4	6.6	24.1	0.71
g-HCH	1.90	NA	1.72	3.11	3.79	4.15	1.81	7.1	3.68	14	<5	--	**3.30**	0.81			0.47
Heptachlor Epoxide	134	138	167	20.3	16.6	13.7	146	12	16.9	20	95.5	15	**10.8**	1.3	2.1	1.6	0.82
Cis-Chlordane	92.0	101	95.4	125	106	87.2	96.3	4.9	106	18	22.1	29	**46.9**	2.8	13.4	7.4	0.33
Trans-Chlordane	9.60	9.76	8.54	20.9	16.7	14.2	9.30	7.1	17.3	20	6.02	10	12.1	1.4	2.2	0.2	0.47
Oxychlordane	665	708	786	34.6	26.9	22.4	720	8.5	28.0	22	534	113	**19.8**	1.9	1.4	14.3	0.57
Cis-Nonachlor	5.17	8.08	7.68	78.9	70.3	56.7	6.98	23	68.7	16	5.25	0.8	**48.7**	7.6	1.3	0.1	1.51
Trans-Nonachlor	212	223	208	292	245	213	214	3.6	250	16	157	19	**231**	11	1.4	0.2	0.24
Dieldrin	165	183	183	47.8	38.6	32.0	177	5.8	39.4	20	214	27	37.5	3.9	-0.7	-0.4	0.39
Mirex	6.34	9.48	10.5	33.7	30.6	25.5	8.79	25	29.9	14	11.0	2.5	**18.9**	2.8	-0.8	-0.2	1.66

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	9	9	17
2 to 3	2	0	1
≥ 3	3	5	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	72.5	71.9	72.3	71.4	72.1	71.4	72.2	0.46	71.6	0.59	73.1	1.87	74.3	0.45	0.0	-0.4	0.03

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 8**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	DL	DL	0.1	2.30	1.64	1.72	DL		1.89	19	<5	--	**4.48**	0.88			
28	0.336	0.248	0.257	9.33	8.78	9.24	0.280	17	9.1	3.3	<5	--	14.10	1.4			1.15
31	0.186	0.158	0.084	2.82	2.37	2.26	0.143	37	2.5	12	<5	--	3.12	0.69			2.46
44	0.279	0.216	0.209	12.2	12.45	12.1	0.235	16	12.2	1.5	<5	--	**12.2**	1.4			1.10
49	0.763	0.725	0.647	17.0	16.0	15.8	0.712	8.3	16.3	3.8	<5	--	**20.8**	2.8			0.55
52	1.77	1.76	1.65	38.6	36.9	36.5	1.73	4.1	37.3	3.0	3.78	3.0	**43.6**	2.5	-2.2	-0.12	0.27
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			0.00
87	5.40	6.83	6.05	23.0	24.8	23.2	6.09	12	23.6	4.3	6.02	1.2	**16.7**	1.4	0.047	0.002	0.78
99	386	410	395	60.8	63.6	59.4	397	3.0	61.3	3.5	353	30	**45.4**	5.4	0.5	0.69	0.20
101 (+90)	4.33	4.23	4.32	88.4	91.1	85.9	4.29	1.3	88.5	2.9	8.49	3.8	**65.2**	5.6	-2.0	-0.04	0.09
105	16.0	15.8	15.3	27.0	26.0	26.0	15.7	2.3	26.3	2.1	18.0	3.6	**30.1**	2.3	-0.5	-0.05	0.15
118	58.2	57.0	58.6	79.1	75.1	76.6	57.9	1.4	77	2.7	58.4	7.5	**74.6**	5.1	-0.03	-0.003	0.10
128	12.1	10.8	11.2	21.9	21.5	21.0	11.3	5.9	21.5	2.2	12.0	1.2	**23.7**	1.7	-0.2	-0.01	0.39
132	2951	2708	3071	305	286	297	2910	6.4	296.3	3.2	<8	--	22.5	4.6			0.42
138 (+163+164)	350	331	357	219	213	209	346	4.0	214	2.3	229	39.0	**131.5**	7.4	2.0	0.27	0.27
149	2.51	2.44	2.46	107	95	101	2.47	1.3	101	6.1	2.66	0.6	**107**	8.4	-0.3	0.00	0.09
151	0.835	0.782	0.844	33.1	29.4	31.6	0.82	4.1	31.4	6.0	<8	--	**28.7**	5.2			0.27
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	58.5	62.1	59.7	9.95	10.2	9.84	60.1	3.1	10.0	1.6	59.9	7.9	**10.3**	1.1	0.016	0.01	0.21
170 (+190)	338	392	388	38.7	41.1	37.8	373	8.0	39.2	4.4	309	53	**40.6**	2.6	0.8	1.09	0.53
180	882	862	862	150	162	147	869	1.4	153	5.0	653	88	**107**	5.3	1.3	1.26	0.09
183	26.8	28.0	24.8	51.1	46.1	45.3	26.5	6.0	47.5	6.7	24.3	4.8	**36.6**	4.1	0.4	0.04	0.40
187	9.63	10.00	8.84	159	154	156	9.49	6.3	156.5	1.5	10.1	2.7	**105**	9.1	-0.2	-0.01	0.42
194	180	165	165	61.2	63.1	56.1	170	5.1	60.1	6.0	163	24	**39.6**	2.5	0.2	0.22	0.34
195	3.52	3.64	2.97	16.0	15.2	14.4	3.37	11	15.2	5.2	4.18	1.1	**17.7**	4.3	-0.8	-0.05	0.71
201	5.01	4.94	4.82	91.6	89.7	85.3	4.92	2.0	88.9	3.6	6.45	2.6	**17.0**	0.89	-0.9	-0.02	0.13
206	36.1	35.6	36.9	44.9	45.4	47.1	36.2	1.7	45.8	2.6	32.4	3.5	**31.1**	2.7	0.5	0.28	0.12
209	14.0	13.1	12.8	17.8	17.7	17.7	13.3	4.8	17.8	0.3	12.3	1.1	**10.6**	1.1	0.3	0.08	0.32
66	1.07	1.06	1.06	24.2	22.8	23.2	1.06	0.5	23.4	3.1	<10	--	23.6	1.6			0.03
95	0.878	0.946	0.836	39.7	38.4	38.1	0.887	6.3	38.7	2.2	<10	--	33.8	1.7			0.42

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	16	18	27
2 to 3	2	0	1
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 9**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			0.00
4,4'-DDT	6.78	6.53	5.07	183	241	305	6.13	15	243	25	8.83	2.2	**245**	15	-1.2	-0.066	1.01
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			0.00
4,4'-DDE	92.6	95.8	78.4	329	376	479	88.9	10	395	19	72.3	8.0	**445**	37	0.9	0.001	0.69
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			0.00
4,4'-DDD	4.37	3.91	3.39	69.8	113.0	130.0	3.89	13	104	30	3.71	1.6	**133**	10	0.2	0.001	0.84
HCB	212	236	205	18.3	21.4	25.2	218	7.5	21.6	16	242	36	**32.9**	1.7	-0.4	-13.9	0.50
a-HCH	73.3	76.6	60.7	11.1	13.4	16.3	70	12.0	13.6	19	65.4	11	**16.2**	3.4	0.3	2.7	0.80
b-HCH	1000	1000	892	1.45	1.73	2.02	964	6	1.73	16	1102	184	8.00	1.4	-0.5	-1.8	0.43
g-HCH	2.43	2.51	2.08	2.12	2.49	2.90	2.34	9.8	2.50	16	<5	--	**3.30**	0.81			0.65
Heptachlor Epoxide	78.0	67.7	70.1	7.29	7.16	10.5	71.9	7.5	8.3	23	95.5	15	**10.8**	1.3	-1.0	-0.8	0.50
Cis-Chlordane	1.98	1.50	1.20	34.0	43.7	54.1	1.56	25	43.9	23	22.1	29	**46.9**	2.8	-3.7	-2.0	1.68
Trans-Chlordane	45.4	47.0	38.8	10.8	14.0	18.6	43.7	9.9	14.5	27	6.02	10	12.2	1.4	25.1	2.8	0.66
Oxychlordane	517	491	342	14.2	12.3	23.3	450	21	16.6	35	534	113	**19.8**	1.9	-0.6	-6.4	1.40
Cis-Nonachlor	7.26	7.10	6.17	28.4	51.0	55.1	6.84	9	44.8	32	5.25	0.8	**48.7**	7.6	1.2	0.1	0.57
Trans-Nonachlor	181	181	141	114	130	182	168	14	142	25	157	19	**231**	11	0.3	0.0	0.92
Dieldrin	240	233	195	36.0	46.4	57.6	223	11	46.7	23	214	27	37.5	3.9	0.2	0.1	0.72
Mirex	11.1	12.3	10.3	23.2	27.9	34.2	11.2	9	28.4	19	11.0	2.5	**18.9**	2.8	0.1	0.0	0.60

Number by Category			
Category	z (25%)	z (s)	p (15%)
≤ 2	12	9	18
2 to 3	0	3	0
≥ 3	2	2	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	65.2	69.4	67.0	59.2	68.6	70.5	67.2	3.14	66.1	9.10	73.1	1.87	74.3	0.45	-0.3	-2.8	0.21

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 9**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	0.750	1.40	1.13	8.17	9.10	11.0	1.09	30	9.4	15	<5	--	**12.2**	1.4			1.99
49	ND	ND	ND	12.4	13.8	17.2	ND		14.5	17	<5	--	**20.8**	2.8			0.00
52	4.09	4.62	3.86	25.8	29.4	36.5	4.19	9.3	30.6	18	3.78	3.0	**43.6**	2.5	0.4	0.02	0.62
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	259	284	243	46.3	51.1	65.0	262	7.9	54.1	18	353	30	**45.4**	5.4	-1.0	-1.40	0.53
101 (+90)	187	201	141	82.5	87.5	119	176	18	96.3	21	8.49	3.8	**65.2**	5.6	79.1	1.56	1.19
105	13.5	16.7	13.7	17.0	21.1	26.9	14.6	12	21.7	23	18.0	3.6	**30.1**	2.3	-0.7	-0.08	0.82
118	60.4	67.9	57.3	58.3	71.3	84.1	61.9	8.8	71.2	18	58.4	7.5	**74.6**	5.1	0.2	0.03	0.59
128	10.4	12.4	10.3	14.6	18.4	21.8	11.0	10.7	18.3	20	12.0	1.2	**23.7**	1.7	-0.3	-0.02	0.72
132	NA	NA	NA	11.3	14.1	16.3	NA		13.9	18	<8	--	22.5	4.6			
138 (+163+164)	234	258	219	113	134	162	237	8.3	136	18	229	39.0	**131.5**	7.4	0.1	0.02	0.55
149	NA	NA	NA	56.2	64.8	79.8	NA		66.9	18	2.66	0.6	**107**	8.4			
151	0.870	1.110	0.930	18.3	20.6	25.2	0.970	12.9	21.4	16	<8	--	**28.7**	5.2			0.86
153	1301	1413	1195	143	167	204	1303	8.4	171.3	18	1607	256	**213.0**	19	-0.8	-0.75	0.56
156	69.2	78.0	64.8	7.44	10.3	11.5	70.7	9.5	9.75	21	59.9	7.9	**10.3**	1.1	0.722	0.58	0.63
170 (+190)	358	397	334	33.0	39.6	49.6	363	8.8	40.7	21	309	53	**40.6**	2.6	0.7	0.93	0.58
180	592	649	548	95.9	115	142	596	8.5	118	20	653	88	**107**	5.3	-0.3	-0.33	0.57
183	27.6	30.3	37.6	20.7	23.6	19.7	31.8	16	21.3	9.5	24.3	4.8	**36.6**	4.1	1.2	0.13	1.08
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	138	156	132	38.7	39	59.2	142	8.8	45.6	26	163	24	**39.6**	2.5	-0.5	-0.69	0.59
195	3.34	3.75	3.15	21.1	21.9	31.6	3.41	9.0	24.9	24	4.18	1.1	**17.7**	4.3	-0.7	-0.05	0.60
201	5.27	5.95	4.96	54.6	62.2	80.9	5.39	9.4	65.9	21	6.45	2.6	**17.0**	0.89	-0.7	-0.01	0.63
206	33.5	37.5	31.8	32.6	33.2	49.8	34.3	8.5	38.5	25	32.4	3.5	**31.1**	2.7	0.2	0.13	0.57
209	11.6	12.8	10.9	12.7	10.9	19.0	11.8	8.2	14.2	30	12.3	1.1	**10.6**	1.1	-0.2	-0.04	0.54
66	1.99	2.01	1.91	11.7	14.8	20.0	1.97	2.7	15.5	27	<10	--	23.6	1.6			0.18
95	1.09	1.61	1.27	21.8	23.9	28.5	1.32	20	24.7	14	<10	--	33.8	1.7			1.33

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	15	16	22
2 to 3	0	0	0
≥ 3	1	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 10**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<2.60	<2.60	<2.60	120	140	153	<2.60		138	12.1	<5	--	**106**	14			
4,4'-DDT	<=516	<=480	<=468	<=636	<=506	<=555	<=516		<=636		8.83	2.2	**245**	15			
2,4'-DDE	24.4	22.5	22.4	14.5	13.8	15	23	4.9	14.4	4.2	<5	--	**12.3**	0.87			0.33
4,4'-DDE	7.85	7.47	7.47	455	444	478	7.6	2.9	459	3.8	72.3	8.0	**445**	37	-3.6	-0.01	0.19
2,4'-DDD	10.7	10.4	11.5	21.1	25.2	24.8	10.9	5.2	23.7	9.5	<5	--	**18.1**	2.8			0.35
4,4'-DDD	3.33	4.4	<=2.60	89.8	150.1	163.8	3.87	20	135	29	3.71	1.6	**133**	10	0.2	0.0	1.31
HCB	333	326	312	31.3	31.9	34	324	3.3	32.4	4.4	242	36	**32.9**	1.7	1.4	47.6	0.22
α-HCH	9.10	12.2	6.22	17.0	16.8	16.8	9.2	33	16.9	0.7	65.4	11	**16.2**	3.4	-3.4	-32.2	2.17
β-HCH	1240	1210	1000	<9.99	<9.99	<9.99	1150	11	<9.99		1102	184	8.00	1.4	0.2	0.6	0.76
γ-HCH	2.46	2.42	1.63	2.97	2.41	2.37	2.17	22	2.58	13	<5	--	**3.30**	0.81			1.44
Heptachlor Epoxide	117	108	95.0	12.7	11.4	12.5	107	10	12.2	5.7	95.5	15	**10.8**	1.3	0.5	0.4	0.69
Cis-Chlordane	23.2	23.6	21.8	64.2	68.6	66.6	22.9	4.1	66.5	3.3	22.1	29	**46.9**	2.8	0.1	0.1	0.28
Trans-Chlordane	150	147	128	49.6	51.0	50.1	142	8.4	50.2	1.4	6.02	10	12.2	1.4	90.1	10.2	0.56
Oxychlordane	788	725	606	24.3	20.4	24	706	13	22.9	9.5	534	113	**19.8**	1.9	1.3	13.3	0.87
Cis-Nonachlor	2.96	3.65	3.68	30.2	46.3	50.4	3.43	12	42.3	25	5.25	0.8	**48.7**	7.6	-1.4	-0.1	0.79
Trans-Nonachlor	200	186	189	205	213	227	192	3.8	215	5.2	157	19	**231**	11	0.9	0.1	0.26
Dieldrin	287	316	221	51.5	51.4	50.0	275	18	51.0	1.6	214	27	37.5	3.9	1.1	0.6	1.18
Mirex	69.9	63.2	65.2	37.9	39.7	32.5	66.1	5.2	36.7	10	11.0	2.5	**18.9**	2.8	20.0	4.5	0.35

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	9	8	15
2 to 3	0	0	1
≥ 3	4	5	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	76.8	73.8	71.1	81.2	75.3	86.4	73.9	3.88	81.0	6.85	73.1	1.87	74.3	0.45	0.0	0.4	0.26

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 10

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<9.69	<9.69	<9.69	<9.69	<9.69	<9.69	<9.69		<9.69		<5	--	**4.48**	0.88			
28	<9.69	<9.69	<9.69	8.36	8.99	9.51	<9.69		8.95	6.4	<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	26.8	22.3	30.5	13.5	15.2	12.3	26.5	15	13.7	11	<5	--	**12.2**	1.4			1.032
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	19.1	22.7	25.0	49.6	45.7	45.3	22.3	13	46.9	5.1	3.78	3.0	**43.6**	2.5	19.6	1.07	0.890
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	<=105	<=101	<=105	<=455	<=443	<=478	<=105		<=455		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	12.4	16.0	6.01	60.7	57.6	60.4	11.5	44	59.6	2.9	8.49	3.8	**65.2**	5.6	1.4	0.03	2.941
105	32.4	33.4	32.1	25.7	26.8	27.6	32.6	2.1	26.7	3.6	18.0	3.6	**30.1**	2.3	3.3	0.35	0.139
118	51.9	50.2	49.8	92.2	97.4	107	50.6	2.2	98.9	7.6	58.4	7.5	**74.6**	5.1	-0.5	-0.06	0.147
128	13.4	17.4	17.2	60.3	62.1	63.6	16.0	14	62.0	2.7	12.0	1.2	**23.7**	1.7	1.3	0.08	0.939
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	307	278	243	209	207	211	276	12	209	1.0	229	39.0	**131.5**	7.4	0.8	0.11	0.774
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	2100	2010	1880	258	267	301	1997	5.5	275	8.2	1607	256	**213.0**	19	1.0	0.96	0.369
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			0.000
170 (+190)	296	270	268	32	32.3	33.5	278	5.6	32.6	2.4	309	53	**40.6**	2.6	-0.4	-0.54	0.375
180	655	592	572	127	128	132	606	7.1	129	2.1	653	88	**107**	5.3	-0.3	-0.27	0.476
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	16.0	13.1	11.5	151	159	165	13.5	17	158	4.4	10.1	2.7	**105**	9.1	1.4	0.03	1.124
194	237	220	226	70	81	77.1	228	3.8	76.0	7.3	163	24	**39.6**	2.5	1.6	2.10	0.252
195	4.16	6.07	3.72	13.8	14	14.2	4.65	27	14.0	1.4	4.18	1.1	**17.7**	4.3	0.5	0.03	1.791
201	<2.40	<2.40	<2.40	15.6	15.8	16.5	<2.40		16.0	3.0	6.45	2.6	**17.0**	0.89			
206	46.1	45.4	44.6	63.7	71.1	71.2	45.4	1.7	68.7	6.3	32.4	3.5	**31.1**	2.7	1.6	0.94	0.110
209	16.6	16.3	13.9	20.4	22.4	21.6	15.6	9.5	21.5	4.7	12.3	1.1	**10.6**	1.1	1.1	0.26	0.632
66	<9.69	<9.69	<9.69	41.7	39.5	44	<9.69		41.7	5.4	<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	11	12	15
2 to 3	0	1	1
≥ 3	2	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 11**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	3.50	1.10	1.80	70.2	63.5	48.1	2.13	58	60.6	19	<5	--	**106**	14			3.86
4,4'-DDT	9.7	10.1	9.9	148	94	88	9.90	2.0	110	30	8.83	2.2	**245**	15	0.5	0.03	0.13
2,4'-DDE	5.30	5.80	6.00	10.4	7.4	9.1	5.70	6	9.0	17	<5	--	**12.3**	0.87			0.42
4,4'-DDE	43.4	42.8	41.5	396	351	297	42.6	2.3	348	14	72.3	8.0	**445**	37	-1.6	-0.002	0.15
2,4'-DDD	<1	<1	<1	45.5	43.2	33.8	<1		40.8	15	<5	--	**18.1**	2.8			
4,4'-DDD	1.20	1.10	<1	87.2	71.6	54.9	1.15	6.1	71.2	23	3.71	1.6	**133**	10	-2.8	-0.01	0.41
HCB	179	173	189	23.6	20.0	19.8	180	4.5	21.1	10	242	36	**32.9**	1.7	-1.0	-35.5	0.30
α-HCH	44.4	43.0	45.4	10.4	8.4	9.0	44.3	2.7	9.3	11	65.4	11	**16.2**	3.4	-1.3	-12.1	0.18
β-HCH	672	671	720	2.30	2.00	1.70	688	4.1	2.00	15	1102	184	8.00	1.4	-1.5	-5.5	0.27
γ-HCH	2.60	2.90	2.10	2.80	1.90	1.4	2.53	16	2.03	35	<5	--	**3.30**	0.81			1.06
Heptachlor Epoxide	49.2	48.0	51.0	8.80	8.4	7.4	49.4	3.1	8.20	8.8	95.5	15	**10.8**	1.3	-1.9	-1.5	0.20
Cis-Chlordane	8.50	9.00	8.80	35.1	31.5	27.2	8.77	3	31.3	13	22.1	29	**46.9**	2.8	-2.4	-1.3	0.19
Trans-Chlordane	1.50	1.20	1.60	<1	<1	<1	1.43	15	<1		6.02	10	12.1	1.4	-3.0	-0.3	0.97
Oxychlordane	309	298	316	15.8	14.4	13.0	308	2.9	14.4	9.7	534	113	**19.8**	1.9	-1.7	-17.4	0.20
Cis-Nonachlor	4.10	4.20	3.80	39.2	37.0	29.2	4.03	5.2	35.1	15	5.25	0.8	**48.7**	7.6	-0.9	-0.04	0.34
Trans-Nonachlor	97.9	95.2	98.6	118	105	92	97.2	1.8	105	12	157	19	**231**	11	-1.5	-0.2	0.12
Dieldrin	122	118	126	34.4	30.1	23.1	122	3.3	29.2	20	214	27	37.5	3.9	-1.7	-1.0	0.22
Mirex	8.50	9.00	7.20	20.7	19.7	22.2	8.23	11	20.9	6.0	11.0	2.5	**18.9**	2.8	-1.0	-0.2	0.75

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	11	10	16
2 to 3	2	0	0
≥ 3	1	4	1

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	74.0	74.1	75.4	75.6	72.1	73.8	74.5	1.05	73.8	2.37	73.1	1.87	74.3	0.45	0.1	0.7	0.07

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 11**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	5.10	8.50	6.90	2.30	2.60	1.80	6.83	25	2.23	18.1	<5	--	**4.48**	0.88			1.66
28	10.4	11.1	13.1	6.90	5.40	5.80	11.5	12	6.0	12.9	<5	--	14.10	1.4			0.81
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			0.00
44	7.40	8.10	6.50	7.60	5.80	5.30	7.33	11	6.2	19.4	<5	--	**12.2**	1.4			0.73
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			0.00
52	57.3	63.8	64.0	90.8	93.5	106.0	61.7	6	96.8	8.4	3.78	3.0	**43.6**	2.5	61.4	3.35	0.41
66/95*	3.60	3.20	2.30	22.8	22.4	18.3	3.03	22	21.2	11.8	3.44	2.7	**57.4**	2.5	-0.5	-0.01	1.46
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			0.00
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			0.00
101 (+90)	11.3	10.3	11.0	77.5	64.0	76.1	10.9	4.7	72.5	10	8.49	3.8	**65.2**	5.6	1.1	0.02	0.31
105	10.5	12.3	14.7	25.7	29.2	26.4	12.5	17	27.1	6.8	18.0	3.6	**30.1**	2.3	-1.2	-0.13	1.12
118	42.1	38.0	43.0	53.7	53.9	42.5	41.0	6.5	50.0	13	58.4	7.5	**74.6**	5.1	-1.2	-0.14	0.43
128	8.80	8.60	9.00	19.2	19.1	15.6	8.80	2.3	18.0	11	12.0	1.2	**23.7**	1.7	-1.1	-0.06	0.15
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			0.00
138 (+163+164)	110	107	116	124	86	75	111	4.1	94.9	27	229	39.0	**131.5**	7.4	-2.1	-0.27	0.28
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			0.00
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			0.00
153	952	898	958	149	137	117	936	3.5	134	12	1607	256	**213.0**	19	-1.7	-1.66	0.24
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			0.00
170 (+190)	233	232	229	27.8	23.7	18.2	231	0.9	23.2	21	309	53	**40.6**	2.6	-1.0	-1.35	0.06
180	460	450	460	98.2	86.9	75.4	457	1.3	86.8	13	653	88	**107**	5.3	-1.2	-1.15	0.08
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			0.00
187	5.40	5.60	6.10	92	90	66	5.70	6.3	83	17	10.1	2.7	**105**	9.1	-1.7	-0.04	0.42
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			0.00
195	9.50	8.10	9.20	13.9	14.2	10.2	8.93	8.3	12.8	17	4.18	1.1	**17.7**	4.3	4.6	0.30	0.55
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			0.00
206	25.9	26.3	25.3	31.9	32.1	30.3	25.8	1.9	31.4	3.1	32.4	3.5	**31.1**	2.7	-0.8	-0.48	0.13
209	21.4	14.8	13.1	14.5	14.8	15.6	16.4	27	15.0	3.8	12.3	1.1	**10.6**	1.1	1.3	0.33	1.78
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			0.00
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			0.00

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	10	12	30
2 to 3	1	0	0
≥ 3	2	1	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 12**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<5	<5	<5	<5	<5	<5	<5		<5		<5	--	**106**	14			
4,4'-DDT	<5	<5	<5	137	139	139	<5		138	0.83	8.83	2.2	**245**	15			
2,4'-DDE	<5	<5	<5	<5	<5	<5	<5		<5		<5	--	**12.3**	0.87			
4,4'-DDE	68.8	73.1	60.0	321	366	390	67.3	9.9	359	9.8	72.3	8.0	**445**	37	-0.3	-0.0004	0.66
2,4'-DDD	<5	<5	<5	<5	<5	<5	<5		<5		<5	--	**18.1**	2.8			
4,4'-DDD	<5	<5	<5	728	803	738	<5		756	5.4	3.71	1.6	**133**	10			
HCB	NA	NA	NA	NA	NA	NA	NA		NA		242	36	**32.9**	1.7			
α-HCH	<5	<5	<5	<5	<5	<5	<5		<5		65.4	11	**16.2**	3.4			
β-HCH	864	1100	1230	<10	<10	<10	1065	17	1230.0		1102	184	8.00	1.4	-0.1	-0.5	1.16
γ-HCH	<5	<5	<5	<5	<5	<5	<5		<5		<5	--	**3.30**	0.81			
Heptachlor Epoxide	68.9	98.8	110	<5	<5	<5	93	23	110.0		95.5	15	**10.8**	1.3	-0.1	-0.1	1.53
Cis-Chlordane	<5	<5	<5	37.3	35.0	41.4	<5		37.9	8.6	22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	358	424	506	<10	18.7	29.8	429	17	24.3	32	534	113	**19.8**	1.9	-0.8	-8.0	1.15
Cis-Nonachlor	<5	<5	<5	37.2	35.4	36.4	<5		36.3	2.5	5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	172	185	130	169	191	154	162	18	171	11	157	19	**231**	11	0.1	0.02	1.18
Dieldrin	197	199	232	569	434	555	209	9.4	519	14	214	27	37.5	3.9	-0.1	-0.1	0.63
Mirex	<5	<5	<5	<5	<5	<5	<5		<5		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	5	6
2 to 3	0	0	0
≥ 3	0	1	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	69.5	73.4	73.6	71.2	73.4	75.6	72.2	3.2	73.4	3.0	73.1	1.87	74.3	0.45	0.0	-0.4	0.21

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 12

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	NA	NA	NA	NA	NA	NA	NA		NA		3.78	3.0	**43.6**	2.5			
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	NA	NA	NA	NA	NA	NA	NA		NA		8.49	3.8	**65.2**	5.6			
105	NA	NA	NA	NA	NA	NA	NA		NA		18.0	3.6	**30.1**	2.3			
118	NA	NA	NA	NA	NA	NA	NA		NA		58.4	7.5	**74.6**	5.1			
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	NA	NA	NA	NA	NA	NA	NA		NA		229	39.0	**131.5**	7.4			
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			
170 (+190)	NA	NA	NA	NA	NA	NA	NA		NA		309	53	**40.6**	2.6			
180	NA	NA	NA	NA	NA	NA	NA		NA		653	88	**107**	5.3			
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 13**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<2.0	<2.0	<2.0	105	114	102	<2.0		107	5.8	<5	--	**106**	14			
4,4'-DDT	8.94	8.12	14.6	249	241	245	10.6	33.4	245	1.6	8.83	2.2	**245**	15	0.8	0.04	2.23
2,4'-DDE	<2.0	<2.0	<2.0	17.1	15.7	15.5	<2.0		16.1	5.4	<5	--	**12.3**	0.87			
4,4'-DDE	100	104	83.9	444	432	420	96.0	11	432	2.8	72.3	8.0	**445**	37	1.3	0.002	0.74
2,4'-DDD	<2.0	<2.0	<2.0	18.8	18.6	16.4	<2.0		17.9	7.4	<5	--	**18.1**	2.8			
4,4'-DDD	3.21	3.52	3.36	142	142	137	3.36	4.6	140	2.1	3.71	1.6	**133**	10	-0.4	-0.001	0.31
HCB	167	193	161	23.5	24.6	22.5	174	9.8	23.5	4.5	242	36	**32.9**	1.7	-1.1	-39.4	0.65
α-HCH	61.0	65.9	55.7	16.8	16.3	15.5	60.9	8.4	16.2	4.0	65.4	11	**16.2**	3.4	-0.3	-2.6	0.56
β-HCH	1148	1129	966	9.34	8.32	7.22	1081	9.3	8.29	13	1102	184	8.00	1.4	-0.1	-0.3	0.62
γ-HCH	2.60	3.15	2.78	3.49	3.32	2.98	2.84	10	3.26	8.0	<5	--	**3.30**	0.81			0.66
Heptachlor Epoxide	124	127	103	16.4	16.4	14.2	118	11	15.7	8.1	95.5	15	**10.8**	1.3	0.9	0.7	0.74
Cis-Chlordane	<2.0	<2.0	<2.0	59.3	54.8	51.8	<2.0		55.3	6.8	22.1	29	**46.9**	2.8			
Trans-Chlordane	<2.0	<2.0	<2.0	10.7	10.3	9.5	<2.0		10.2	6.0	6.02	10	12.1	1.4			
Oxychlordane	461	505	434	23.3	22.1	19.2	467	7.7	21.5	9.8	534	113	**19.8**	1.9	-0.5	-5.2	0.51
Cis-Nonachlor	8.00	7.87	6.82	46.8	50.3	42.6	7.56	8.6	46.6	8	5.25	0.8	**48.7**	7.6	1.8	0.1	0.57
Trans-Nonachlor	186	218	174	194	186	178	193	12	186	4.3	157	19	**231**	11	0.9	0.1	0.79
Dieldrin	Lost	200	195	39.4	44.1	47.4	198	1.8	43.6	9.2	214	27	37.5	3.9	-0.3	-0.2	0.12
Mirex	12.0	14.0	17.1	27.4	29.7	28.4	14.37	18	28.5	4.0	11.0	2.5	**18.9**	2.8	1.2	0.3	1.19

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	12	9	12
2 to 3	0	1	1
≥ 3	0	2	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	68.4	68.2	63.9	70.3	70.1	70.4	66.8	3.80	70.3	0.22	73.1	1.87	74.3	0.45	-0.3	-3.0	0.25

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 13**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	0.230	0.230	0.153	3.78	3.81	3.86	0.204	22	3.82	1.1	<5	--	**4.48**	0.88			1.45
28	0.934	1.19	0.920	10.2	10.4	10.3	1.01	15	10.3	1.0	<5	--	14.10	1.4			1.00
31	0.262	0.278	0.278	4.66	4.97	4.86	0.273	3.4	4.83	3.3	<5	--	3.12	0.69			0.23
44	<0.100	<0.100	<0.100	11.4	10.9	11.7	<0.100		11.3	3.6	<5	--	**12.2**	1.4			
49	0.296	0.333	0.333	15.8	15.6	15.2	0.321	6.7	15.5	2.0	<5	--	**20.8**	2.8			0.44
52	0.324	0.278	0.278	41.7	42.3	41.1	0.293	9.1	41.7	1.4	3.78	3.0	**43.6**	2.5	-3.7	-0.20	0.60
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	<0.1	<0.1	<0.1	24.0	26.1	23.0	<0.1		24.4	6.5	6.02	1.2	**16.7**	1.4			
99	311	388	379	126	118	126	359	12	123	3.7	353	30	**45.4**	5.4	0.1	0.10	0.78
101 (+90)	1.29	1.55	1.68	163	171	145	1.51	13	160	8.3	8.49	3.8	**65.2**	5.6	-3.3	-0.06	0.88
105	20.4	19.9	18.2	49.7	49.5	48.0	19.5	5.9	49.1	1.9	18.0	3.6	**30.1**	2.3	0.3	0.04	0.39
118	68.4	84.0	80.6	103	101	105	77.7	11	103	1.9	58.4	7.5	**74.6**	5.1	1.3	0.15	0.70
128	12.4	13.8	12.6	33.1	30.4	27.9	12.9	5.9	30.5	8.5	12.0	1.2	**23.7**	1.7	0.3	0.02	0.39
132	<1.0	<1.0	<1.0	2.99	2.68	3.16	<1.0		2.9	8.3	<8	--	22.5	4.6			
138 (+163+164)	180	218	216	168	136	178	205	10	161	14	229	39.0	**131.5**	7.4	-0.4	-0.06	0.70
149	3.63	4.44	3.67	94.6	93.1	93.2	3.91	12	93.6	0.9	2.66	0.6	**107**	8.4	1.9	0.01	0.78
151	0.182	0.220	0.244	24.4	24.7	23.9	0.215	15	24.3	1.7	<8	--	**28.7**	5.2			0.97
153	2078	1968	2042	245	234	240	2029	2.8	240	2.3	1607	256	**213.0**	19	1.0	1.04	0.18
156	70.5	85.2	81.3	23.8	24.2	22.2	79.0	9.6	23.4	4.5	59.9	7.9	**10.3**	1.1	1.3	1.02	0.64
170 (+190)	306	379	357	43.3	48.8	35.7	347	11	42.6	15	309	53	**40.6**	2.6	0.5	0.65	0.72
180	964	918	947	163	164	159	943	2.5	162	1.6	653	88	**107**	5.3	1.8	1.69	0.16
183	20.6	22.7	20.3	54.8	55.4	50.6	21.2	6.2	53.6	4.9	24.3	4.8	**36.6**	4.1	-0.5	-0.05	0.41
187	9.13	10.30	9.37	134	131	132	9.60	6.4	132	1.2	10.1	2.7	**105**	9.1	-0.2	-0.004	0.43
194	154	178	169	54.9	70.8	38.1	167	7.3	54.6	30	163	24	**39.6**	2.5	0.1	0.13	0.48
195	3.95	3.92	3.94	12.7	12.5	10.4	3.94	0.39	11.9	11	4.18	1.1	**17.7**	4.3	-0.2	-0.02	0.03
201	6.17	5.86	5.25	125	124	129	5.76	8.1	126.0	2.1	6.45	2.6	**17.0**	0.89	-0.4	-0.01	0.54
206	37.4	29.7	35.4	52.7	65.1	36.7	34.2	12	51.5	28	32.4	3.5	**31.1**	2.7	0.2	0.13	0.78
209	14.0	11.3	13.7	14.8	18.2	10.8	13.0	11	14.6	25	12.3	1.1	**10.6**	1.1	0.2	0.06	0.76
66	0.306	0.306	0.278	29.1	31.1	27.9	0.297	5.4	29.4	5.5	<10	--	23.6	1.6			0.36
95	<0.125	<0.125	<0.125	41.5	40.9	41.7	<0.125		41.4	1.0	<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	16	18	25
2 to 3	0	0	0
≥ 3	2	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 14**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			
4,4'-DDT	76.1	69.2	81.0	178	176	234	75.4	7.9	196	17	8.83	2.2	**245**	15	30.2	1.6	0.52
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	58.9	58.1	52.9	342	320	257	56.6	5.8	306	14	72.3	8.0	**445**	37	-0.9	-0.001	0.38
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	13.1	13.1	14.5	138	122	143	13.6	6.0	134	8.2	3.71	1.6	**133**	10	10.6	0.04	0.40
HCB	NA	NA	NA	NA	NA	NA	NA		NA		242	36	**32.9**	1.7			
α-HCH	44.5	44.6	44.8	11.0	10.4	9.3	44.6	0.3	10.2	8.4	65.4	11	**16.2**	3.4	-1.3	-11.9	0.02
β-HCH	606	650	634	10.8	8.90	7.30	630	3.5	9.00	19	1102	184	8.00	1.4	-1.7	-6.3	0.24
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	62.1	57.7	80.9	12.1	10.4	9.4	66.9	18	10.6	13	95.5	15	**10.8**	1.3	-1.2	-0.9	1.23
Cis-Chlordane	9.40	13.2	7.70	44.5	50.7	36.5	10.1	28	43.9	16	22.1	29	**46.9**	2.8	-2.2	-1.2	1.85876
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	654	644	627	28.3	25.6	25.5	642	2.1	26.5	6.0	534	113	**19.8**	1.9	0.8	8.3	0.14
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	63.3	90.3	41.4	37.4	41.8	33.6	65.0	38	37.6	11	214	27	37.5	3.9	-2.8	-1.6	2.51
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	6	8
2 to 3	2	0	1
≥ 3	2	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	NA	NA	NA	NA	NA	NA					73.1	1.87	74.3	0.45			

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 14

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	NA	NA	NA	NA	NA	NA	NA		NA		3.78	3.0	**43.6**	2.5			
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	NA	NA	NA	NA	NA	NA	NA		NA		8.49	3.8	**65.2**	5.6			
105	NA	NA	NA	NA	NA	NA	NA		NA		18.0	3.6	**30.1**	2.3			
118	NA	NA	NA	NA	NA	NA	NA		NA		58.4	7.5	**74.6**	5.1			
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	NA	NA	NA	NA	NA	NA	NA		NA		229	39.0	**131.5**	7.4			
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			
170 (+190)	NA	NA	NA	NA	NA	NA	NA		NA		309	53	**40.6**	2.6			
180	NA	NA	NA	NA	NA	NA	NA		NA		653	88	**107**	5.3			
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 15**

SAMPLES: HOMOGENATE VI AND SRM 1945

data are reported as if three figures are significant

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	117	129	115	NA		120	6.1	<5	--	**106**	14			
4,4'-DDT	13.7	15.8	17.7	328	305	292	15.73	13	309	5.9	8.83	2.2	**245**	15	3.1	0.2	0.84
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			0.00
4,4'-DDE	72.1	81.8	79.1	538	524	513	77.7	6.5	525	2.3	72.3	8.0	**445**	37	0.3	0.0004	0.43
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	14.0	4.31	4.60	126	130	102	7.65	72	119	13	3.71	1.6	**133**	10	4.2	0.01	4.82
HCB	245	239	251	29.7	28.7	28.3	245	2.5	28.9	2.5	242	36	**32.9**	1.7	0.1	1.8	0.16
a-HCH	82.1	77.9	77.1	12.0	12.4	9.42	79.0	3.4	11.3	14	65.4	11	**16.2**	3.4	0.8	7.8	0.22
b-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1102	184	8.00	1.4			
g-HCH	3.15	3.29	2.98	2.33	2.41	1.83	3.1	5.0	2.19	14	<5	--	**3.30**	0.81			0.34
Heptachlor Epoxide	NA	NA	NA	8.91	9.68	6.99	NA		8.5	16	95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	33.5	30.5	25.4	NA		29.8	14	22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	17.4	20.2	16.0	NA		17.8	12	6.02	10	12.1	4.6			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	233	209	214	32.4	39.1	33.6	219	5.7	35.0	10	214	27	37.5	3.9	0.1	0.05	0.38
Mirex	15.4	22.5	21.4	52.3	44.5	43.3	19.77	19	46.7	10	11.0	2.5	**18.9**	2.8	3.2	0.7	1.28

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	4	6	8
2 to 3	0	0	0
≥ 3	3	1	1

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	72.1	71.6	73.7	71.7	71.9	69.9	72.5	1.46	71.1	1.54	73.1	1.87	74.3	0.45	0.0	-0.3	0.10

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 15**

SAMPLES: HOMOGENATE VI AND SRM 1945

data are reported as if three figures are significant

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	2.68	2.73	2.65	NA		2.69	1.5	<5	--	**4.48**	0.88			
28	0.333	0.284	0.231	9.59	9.76	9.37	0.282	18	9.57	2.0	<5	--	14.10	1.4			1.20
31	2.11	1.94	1.74	3.83	4.05	3.86	1.93	10	3.92	3.1	<5	--	3.12	0.69			0.65
44	2.16	2.19	1.94	10.3	10.4	10.0	2.10	6.6	10.2	1.7	<5	--	**12.2**	1.4			0.44
49	2.44	2.22	2.22	14.1	14.1	13.6	2.29	5.6	13.9	2.2	<5	--	**20.8**	2.8			0.38
52	3.08	2.90	2.70	26.4	26.4	25.4	2.89	6.5	26.1	2.3	3.78	3.0	**43.6**	2.5	-0.9	-0.05	0.44
66/95*	3.14	2.91	2.59	37.7	38.1	36.3	2.88	10	37.4	2.5	3.44	2.7	**57.4**	2.5	-0.7	-0.01	0.64
87	7.16	6.75	6.84	24.2	25.2	23.6	6.92	3.1	24.3	3.3	6.02	1.2	**16.7**	1.4	0.6	0.03	0.21
99	353	333	318	93.5	99.1	90.1	335	5.3	94.3	4.8	353	30	**45.4**	5.4	-0.2	-0.28	0.35
101 (+90)	4.78	4.75	4.41	54.9	55.3	52.6	4.65	4.5	54.3	2.6	8.49	3.8	**65.2**	5.6	-1.8	-0.04	0.30
105	12.6	11.8	12.0	18.0	19.2	18.4	12.1	3.3	18.5	3.3	18.0	3.6	**30.1**	2.3	-1.3	-0.14	0.22
118	47.5	44.4	44.2	60.3	59.8	57.8	45.3	4.1	59.3	2.2	58.4	7.5	**74.6**	5.1	-0.9	-0.10	0.27
128	18.0	16.9	NA	78.0	82.8	69.1	17.5	4.5	76.6	9.0	12.0	1.2	**23.7**	1.7	1.8	0.11	0.30
132	NA	NA	NA	15.0	14.9	13.9	NA		14.6	4.1	<8	--	22.5	4.6			
138 (+163+164)	183	169	167	113	113	109	173	5.0	112	1.9	229	39.0	**131.5**	7.4	-1.0	-0.13	0.33
149	2.73	2.42	2.78	60.9	60.7	57.8	2.64	7.4	59.8	2.9	2.66	0.6	**107**	8.4	-0.02	-0.0002	0.49
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	1064	983	974	144	142	136	1007	4.9	141	2.9	1607	256	**213.0**	19	-1.5	-1.48	0.33
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			
170 (+190)	280	256	257	34.5	34.7	34.3	264	5.1	34.5	0.7	309	53	**40.6**	2.6	-0.6	-0.78	0.34
180	465	427	429	96.0	95.6	92.8	440	4.8	94.8	1.9	653	88	**107**	5.3	-1.3	-1.24	0.32
183	18.8	17.3	16.9	29.1	27.9	27.0	17.7	5.5	28.0	3.7	24.3	4.8	**36.6**	4.1	-1.1	-0.12	0.37
187	8.56	7.69	7.28	82.5	81.8	79.0	7.84	8.3	81.1	2.3	10.1	2.7	**105**	9.1	-0.9	-0.02	0.56
194	109	100	101	46.4	46.9	45.7	103	5.1	46.3	1.3	163	24	**39.6**	2.5	-1.5	-1.95	0.34
195	2.47	2.36	2.44	6.05	5.43	5.86	2.42	2.3	5.78	5.5	4.18	1.1	**17.7**	4.3	-1.7	-0.11	0.15
201	5.42	4.81	4.90	55.4	55.3	54.3	5.04	6.6	55.0	1.2	6.45	2.6	**17.0**	0.89	-0.9	-0.02	0.44
206	27.1	25.4	25.5	33.8	35.1	34.4	26.0	3.8	34.4	1.9	32.4	3.5	**31.1**	2.7	-0.8	-0.47	0.25
209	10.0	9.74	10.0	14.4	14.7	17.4	9.92	1.6	15.5	10	12.3	1.1	**10.6**	1.1	-0.8	-0.19	0.11
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	19	19	24
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 16**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<0.15	<0.15	<0.15	NA	79.2	75.8	<0.15		78	3.2	<5	--	**106**	14			
4,4'-DDT	<0.83	<0.83	<0.83	262	253	247	<0.83		254	3.1	8.83	2.2	**245**	15			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	63.6	62.2	73.6	469	469	500	66.5	9.4	479	3.8	72	8.0	**445**	37	-0.3	-0.0005	0.63
2,4'-DDD	<0.14	<0.14	<0.14	NA	33.5	27.6	<0.14		30.6	14	<5	--	**18.1**	2.8			
4,4'-DDD	1.29	1.10	1.30	96.2	95.5	96.8	1.23	9.2	96.1	0.7	3.71	1.6	**133**	10	-2.7	-0.01	0.61
HCB	241	231	260	23.5	24.1	24.2	244	6.0	23.9	1.6	242	36	**32.9**	1.7	0.0	1.5	0.40
α-HCH	51.4	50.0	55.8	13.5	13.9	14.2	52.4	5.7	14	2.7	65.4	11	**16.2**	3.4	-0.8	-7.4	0.38
β-HCH	959	934	1048	3.12	2.6	2.24	980	6.1	2.7	17	1102	184	8.00	1.4	-0.4	-1.6	0.41
γ-HCH	2.07	1.92	1.91	2.23	2.29	2.19	1.97	4.7	2.2	2.2	<5	--	**3.30**	0.81			0.31
Heptachlor Epoxide	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074		<0.074		95.5	15	**10.8**	1.3			
Cis-Chlordane	73.9	80.4	89.6	60.5	62.2	61.4	81.3	10	61.4	1.5	22.1	29	**46.9**	2.8	10.7	5.9	0.65
Trans-Chlordane	3.64	3.2	3.41	12.3	13.4	13.8	3.41	6.6	13.1	6.0	6.02	10	12.1	1.4	-1.7	-0.2	0.44
Oxychlordane	299	292	325	11.7	12.7	12.4	305	5.6	12.3	4.1	534	113	**19.8**	1.9	-1.7	-17.6	0.38
Cis-Nonachlor	5.26	4.62	5.69	NA	45.2	46.3	5.19	10	46	1.7	5.25	0.8	**48.7**	7.6	-0.04	-0.002	0.69
Trans-Nonachlor	146	154	181.1	162	167	168	160	11	166	2.0	157	19	**231**	11	0.1	0.011	0.76
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	10.2	10.0	10.53	35.8	35.4	33.8	10.3	2.4	35.0	3.2	11.0	2.5	**18.9**	2.8	-0.3	-0.1	0.16

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	9	8	12
2 to 3	1	0	0
≥ 3	1	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	75.2	73.4	78.9	73.5	71.2	78.0	75.8	3.72	74.2	4.68	73.1	1.87	74.3	0.45	0.2	1.3	0.25

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 16

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA	NA	NA		<5	--	**4.48**	0.88			
28	<0.11	<0.11	<0.11	9.4	10.0	10.2	<0.11	<0.11	9.8	4.3	<5	--	14.10	1.4			
31	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA	NA	NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA	NA	NA		<5	--	**20.8**	2.8			
52	4.89	4.65	4.81	***	36.8	36.4	4.8	3	36.6	0.9	3.78	3.0	**43.6**	2.5	1.1	0.06	0.17
66/95*	<0.13	<0.13	<0.13	20.4	21.7	21.3	<0.13	<0.13	21.1	3.0	3.44	2.7	**57.4**	2.5			
87	<0.10	<0.10	<0.10	17.0	18.2	15.2	<0.10	<0.10	16.8	9.0	6.02	1.2	**16.7**	1.4			
99	370	358	403	70.6	75.5	70.5	377	6.2	72.2	4.0	353	30	**45.4**	5.4	0.3	0.38	0.41
101 (+90)	23.6	20.5	20.4	82	86	82	21.5	8.5	83.2	3.0	8.49	3.8	**65.2**	5.6	6.1	0.12	0.57
105	21.2	20.3	22.9	34.0	34.8	34.1	21.5	6.3	34.3	1.3	18.0	3.6	**30.1**	2.3	0.8	0.08	0.42
118	57.5	55.3	62.6	71.4	74	73.7	58.5	6.4	72.9	1.8	58.4	7.5	**74.6**	5.1	0.01	0.001	0.43
128	13.6	13.5	14.4	***	29.2	29.0	13.8	3.5	29.1	0.6	12.0	1.2	**23.7**	1.7	0.6	0.04	0.23
132	NA	NA	NA	NA	NA	NA	NA	NA	NA		<8	--	22.5	4.6			
138 (+163+164)	273	267	335	174	176	175	292	13	175	0.5	229	39.0	**131.5**	7.4	1.1	0.14	0.86
149	1.84	1.65	1.68	***	55.7	54.3	1.72	5.7	55.0	1.8	2.66	0.6	**107**	8.4	-1.4	-0.01	0.38
151	0.718	0.515	0.439	22.0	23.3	23.1	0.557	26	22.8	3.0	<8	--	**28.7**	5.2			1.73
153	2165	2150	2434	232	236	230	2250	7.1	233	1.2	1607	256	**213.0**	19	1.6	1.58	0.47
156	75.2	71.9	81.7	***	12.8	12.7	76.3	6.6	12.7	0.2	59.9	7.9	**10.3**	1.1	1.1	0.87	0.44
170 (+190)	410	406	466	42.3	43.7	42.7	427	7.8	42.9	1.7	309	53	**40.6**	2.6	1.5	2.04	0.52
180	924	901	1049	169	164	158	958	8.3	164	3.2	653	88	**107**	5.3	1.9	1.78	0.56
183	22.0	21.0	23.5	37.3	37.6	37.4	22.2	5.7	37.4	0.4	24.3	4.8	**36.6**	4.1	-0.3	-0.04	0.38
187	5.72	5.38	6.16	80.2	83.7	81.9	5.75	6.8	81.9	2.1	10.1	2.7	**105**	9.1	-1.7	-0.04	0.45
194	205	207	245	83.2	88.1	90.7	219	10	87.3	4.3	163	24	**39.6**	2.5	1.4	1.82	0.68
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	35.2	33.6	38.7	52.3	49.2	49.7	36	7.3	50.4	3.4	32.4	3.5	**31.1**	2.7	0.4	0.25	0.49
209	11.6	11.4	13.1	19.0	18.4	18.6	12.1	7.8	18.6	1.5	12.3	1.1	**10.6**	1.1	-0.1	-0.02	0.52
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	15	16	18
2 to 3	0	0	0
≥ 3	1	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 17**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	32.7	34.9	34.4	93.1	118.8	84.4	34.0	3.3	98.8	18	<5	--	**106**	14			0.22
4,4'-DDT	12.3	12.8	12.90	191	257	179	12.7	2.5	209	20	8.83	2.2	**245**	15	1.7	0.1	0.17
2,4'-DDE	5.30	6.4	5.2	7.44	9.60	8.56	5.64	12	8.53	13	<5	--	**12.3**	0.87			0.79
4,4'-DDE	110	112	98.9	418	529	440	107	6.6	462	13	72.3	8.0	**445**	37	1.9	0.003	0.44
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	4.75	4.02	4.27	114	158	117	4.34	8.5	129.6	19	3.71	1.6	**133**	10	0.7	0.002	0.57
HCB	185	196	158	23.0	27.5	27.4	179	11	26.0	10	242	36	**32.9**	1.7	-1.0	-36.1	0.74
α-HCH	63.8	67.3	56.5	14.2	17.7	15.9	62.5	8.8	15.9	11	65.4	11	**16.2**	3.4	-0.2	-1.6	0.59
β-HCH	657	736	634	2.10	10.6	6.13	675	8.0	6.28	68	1102	184	8.00	1.4	-1.5	-5.7	0.53
γ-HCH	5.10	6.50	5.21	3.20	4.02	3.60	5.60	14	3.61	11	<5	--	**3.30**	0.81			0.93
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	4	9
2 to 3	0	0	0
≥ 3	0	2	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	70.2	74.7	72.8	75.0	75.6	74.5	72.6	3.08	75.0	0.69	73.1	1.87	74.3	0.45	0.0	-0.2	0.21

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 17**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	13.5	12.8	12.9	9.27	11.00	8.70	13.1	2.9	9.66	12	<5	--	14.10	1.4			0.19
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	4.90	4.16	4.90	26.4	27.7	30.9	4.65	9.2	28.3	8.1	3.78	3.0	**43.6**	2.5	0.9	0.05	0.61
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	16.4	17.5	16.0	48.3	59.7	54.4	16.6	4.7	54	11	8.49	3.8	**65.2**	5.6	3.8	0.08	0.31
105	19.0	18.8	18.1	29.8	37.4	25.2	18.6	2.5	30.8	20	18.0	3.6	**30.1**	2.3	0.2	0.02	0.17
118	137	148	134	82.2	102	82.0	139	5.5	88.7	13	58.4	7.5	**74.6**	5.1	5.6	0.64	0.36
128	13.8	14.0	13.8	25.7	29.4	24.2	13.9	0.8	26.4	10	12.0	1.2	**23.7**	1.7	0.6	0.04	0.06
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	241	246	237	152	169	142	241	2	154	9.0	229	39.0	**131.5**	7.4	0.2	0.03	0.14
149	0.600	3.20	2.00	66.9	80.2	69.8	1.93	67	72.3	9.7	2.66	0.6	**107**	8.4	-1.1	-0.01	4.49
151	2.80	3.90	3.30	31.3	39.1	33.3	3.33	17	34.6	12	<8	--	**28.7**	5.2			1.10
153	1386	1423	1225	206	245	197	1345	7.8	216	12	1607	256	**213.0**	19	-0.7	-0.65	0.52
156	65.3	63.3	62.5	23.8	28.6	22.6	63.7	2.3	25.0	13	59.9	7.9	**10.3**	1.1	0.3	0.20	0.15
170 (+190)	251	252	243	30.2	40.0	31.4	249	2.1	33.9	16	309	53	**40.6**	2.6	-0.8	-1.05	0.14
180	511	493	471	124	144	113	492	4.1	127	13	653	88	**107**	5.3	-1.0	-0.94	0.27
183	23.8	23.7	23.2	34.6	38.8	32.3	23.6	1.5	35.2	9	24.3	4.8	**36.6**	4.1	-0.1	-0.01	0.10
187	20.2	19.3	19.4	102	118	98	19.6	2.5	106	10	10.1	2.7	**105**	9.1	3.8	0.08	0.16
194	123	120	117	50.3	78.8	60.6	120	2.4	63.2	23	163	24	**39.6**	2.5	-1.1	-1.40	0.16
195	4.70	4.30	4.60	22.0	13.2	10.2	4.53	5	15.1	40	4.18	1.1	**17.7**	4.3	0.3	0.02	0.31
201	6.30	6.20	8.60	65.9	78.9	63.4	7.03	19	69.4	12	6.45	2.6	**17.0**	0.89	0.4	0.01	1.29
206	32.4	32.3	30.2	32.4	52.0	37.8	31.6	3.9	40.7	25	32.4	3.5	**31.1**	2.7	-0.1	-0.06	0.26
209	12.2	11.7	11.7	15.7	26.6	18.0	11.9	2.6	20.1	29	12.3	1.1	**10.6**	1.1	-0.1	-0.04	0.17
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	94.0	85.2	83.6	37.8	39.8	41.0	87.6	6.4	39.5	4	<10	--	33.8	1.7			0.43

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	14	17	20
2 to 3	0	0	0
≥ 3	3	0	1

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 18**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<1.0	<1.0	<1.0	96.2	99.9	93.2	<1.0		96.4	3.5	<5	--	**106**	14			
4,4'-DDT	11.5	11.9	12.60	276	314	301	12.0	4.6	297	6.5	8.83	2.2	**245**	15	1.4	0.1	0.31
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	91	97	101.4	552	556	545	96.4	5.2	551	1.0	72.3	8.0	**445**	37	1.3	0.002	0.35
2,4'-DDD	<1.0	<1.0	<1.0	7.6	6.9	7.1	<1.0		7.20	5.0	<5	--	**18.1**	2.8			
4,4'-DDD	5.98	5.72	5.88	133	148	144	5.86	2.2	142	5.6	3.71	1.6	**133**	10	2.3	0.008	0.15
HCB	244	243	259	28.3	28.3	29.2	248	4	28.6	1.8	242	36	**32.9**	1.7	0.1	4.0	0.25
α-HCH	56.3	58.2	58.3	14.1	14.1	14.5	57.6	2.0	14.2	1.6	65.4	11	**16.2**	3.4	-0.5	-4.5	0.13
β-HCH	1606	1636	1708	1.75	1.9	1.80	1650	3.2	1.81	3.3	1102	184	8.00	1.4	2.0	7.3	0.21
γ-HCH	1.05	2.17	1.09	3.23	3.95	2.92	1.44	44	3.37	16	<5	--	**3.30**	0.81			2.95
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	503	496	526	23.1	20.5	23.0	508	3.1	22.2	6.6	534	113	**19.8**	1.9	-0.2	-1.9	0.21
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	4	7
2 to 3	1	0	1
≥ 3	0	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	82.5	82.1	82.3	77.4	78.1	78.7	82.3	0.24	78.1	0.83	73.1	1.87	74.3	0.45	0.5	4.4	0.02

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 18

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	<0.5	<0.5	<0.5	2.30	2.24	2.33	<0.5		2.29	2.0	<5	--	**4.48**	0.88			
28	0.260	0.670	0.370	10.3	14.1	10.4	0.433	49	11.6	19	<5	--	14.10	1.4			3.26
31	<0.5	<0.5	<0.5	3.1	2.1	3.4	<0.5		2.85	23	<5	--	3.12	0.69			
44	<0.5	<0.5	<0.5	11.6	11.8	12.7	<0.5		12.0	4.9	<5	--	**12.2**	1.4			
49	0.710	0.940	0.440	17.30	16.2	16.7	0.697	36	16.7	3.3	<5	--	**20.8**	2.8			2.39
52	1.60	1.73	1.55	37.5	39.4	37.3	1.63	5.7	38.1	3.0	3.78	3.0	**43.6**	2.5	-2.3	-0.12	0.38
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	6.16	5.32	5.52	24.9	23.0	23.6	5.67	7.7	23.8	4.1	6.02	1.2	**16.7**	1.4	-0.2	-0.01	0.52
99	324	344	358	57.0	53.8	53.5	342	5.0	54.8	3.5	353	30	**45.4**	5.4	-0.1	-0.17	0.33
101 (+90)	4.62	4.78	5.32	76.8	76.8	79.0	4.91	7.5	77.5	1.6	8.49	3.8	**65.2**	5.6	-1.7	-0.03	0.50
105	15.0	16.1	16.6	26.7	25.4	26.1	15.9	5.1	26.1	2.5	18.0	3.6	**30.1**	2.3	-0.5	-0.05	0.34
118	55.0	58.1	60.6	76.0	72.2	74.1	57.9	4.8	74.1	2.6	58.4	7.5	**74.6**	5.1	-0.03	0.00	0.32
128	10.7	11.3	11.8	20.7	20.4	20.5	11.3	4.9	20.5	0.7	12.0	1.2	**23.7**	1.7	-0.2	-0.01	0.33
132	0.520	0.430	0.420	18.2	17.7	17.5	0.457	12	17.8	2.0	<8	--	22.5	4.6			0.80
138 (+163+164)	237	229	238	136	131	134	235	2.1	134	1.9	229	39.0	**131.5**	7.4	0.1	0.01	0.14
149	2.49	2.58	2.66	78.8	75.8	77.1	2.58	3.3	77.2	1.9	2.66	0.6	**107**	8.4	-0.1	-0.001	0.22
151	0.89	0.94	0.95	23.1	22.2	22.6	0.927	3.5	22.6	2.0	<8	--	**28.7**	5.2			0.23
153	1725	1815	1885	191	190	195	1808	4.4	192	1.4	1607	256	**213.0**	19	0.5	0.50	0.30
156	65.5	69.5	72.4	10.8	10.9	10.5	69.1	5.0	10.7	1.9	59.9	7.9	**10.3**	1.1	0.6	0.49	0.33
170 (+190)	369	356	367	36.4	37.6	37.0	364	1.9	37.0	1.6	309	53	**40.6**	2.6	0.7	0.94	0.13
180	759	737	759	131	131	127	752	1.7	130	1.8	653	88	**107**	5.3	0.6	0.58	0.11
183	23.7	22.9	23.6	34.4	35.4	34.6	23.4	1.9	34.8	1.5	24.3	4.8	**36.6**	4.1	-0.1	-0.02	0.12
187	9.00	8.70	8.90	117	118	115	8.87	1.7	117	1.3	10.1	2.7	**105**	9.1	-0.5	-0.01	0.11
194	164	159	165	53.1	53.6	54.2	163	2.0	53.6	1.0	163	24	**39.6**	2.5	0.0	-0.01	0.13
195	2.88	3.18	4.47	8.81	9.43	8.86	3.51	24	9.03	3.8	4.18	1.1	**17.7**	4.3	-0.6	-0.04	1.60
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	0.610	1.18	0.800	20.6	20.9	20.8	0.863	34	20.8	0.736	<10	--	23.6	1.6			2.24
95	1.49	1.54	1.39	36.5	36.4	36.6	1.5	5.2	36.5	0.274	<10	--	33.8	1.7			0.35

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	15	16	20
2 to 3	1	0	2
≥ 3	0	0	1

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 19**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			
4,4'-DDT	6.83	NA	NA	150	NA	NA	6.83		150		8.83	2.2	**245**	15	-0.9	-0.05	
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	45.8	NA	NA	340	NA	NA	45.8		340		72.3	8.0	**445**	37	-1.5	-0.002	
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	1.90	NA	NA	126	NA	NA	1.90		126		3.71	1.6	**133**	10	-1.9	-0.01	
HCB	136	NA	NA	14.8	NA	NA	136		14.8		242	36	**32.9**	1.7	-1.7	-61.1	
α-HCH	48.0	NA	NA	7.39	NA	NA	48.0		7.39		65.4	11	**16.2**	3.4	-1.1	-10.0	
β-HCH	1283	NA	NA	4.79	NA	NA	1283		4.79		1102	184	8.00	1.4	0.7	2.4	
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	DL	NA	NA	25.6	NA	NA	DL		25.6		22.1	29	**46.9**	2.8			
Trans-Chlordane	DL	NA	NA	6.64	NA	NA	DL		6.64		6.02	10	12.1	1.4			
Oxychlordane	1172	NA	NA	44.2	NA	NA	1172		44.2		534	113	**19.8**	1.9	4.8	49.1	
Cis-Nonachlor	3.93	NA	NA	25.7	NA	NA	3.93		25.7		5.25	0.8	**48.7**	7.6	-1.0	0.0	
Trans-Nonachlor	88.9	NA	NA	82.9	NA	NA	88.9		82.9		157	19	**231**	11	-1.7	-0.2	
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	5	0
2 to 3	0	1	0
≥ 3	1	3	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	78.7	NA	NA	74.6	NA	NA	78.7		74.6		73.1	1.87	74.3	0.45	0.3	2.7	0.00

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 19

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	34.1	NA	NA	NA	NA	NA	34.1		NA		<5	--	**12.2**	1.4			
49	45.9	NA	NA	9.22	NA	NA	45.9		9.2		<5	--	**20.8**	2.8			
52	105	NA	NA	25.4	NA	NA	105		25.4		3.78	3.0	**43.6**	2.5	108	5.87	
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	30.7	NA	NA	6.91	NA	NA	31		6.9		6.02	1.2	**16.7**	1.4	16.4	0.78	
99	75	NA	NA	204	NA	NA	75		204		353	30	**45.4**	5.4	-3.2	-4.29	
101 (+90)	113	NA	NA	14.1	NA	NA	113		14		8.49	3.8	**65.2**	5.6	49.4	0.97	
105	42.3	NA	NA	13.3	NA	NA	42.3		13.3		18.0	3.6	**30.1**	2.3	5.4	0.58	
118	135	NA	NA	52.6	NA	NA	135		53		58.4	7.5	**74.6**	5.1	5.3	0.60	
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	92.5	NA	NA	30.6	NA	NA	92.5		30.6		<8	--	22.5	4.6			
138 (+163+164)	412	NA	NA	330	NA	NA	412		330		229	39.0	**131.5**	7.4	3.2	0.42	
149	196	NA	NA	15.1	NA	NA	196		15.1		2.66	0.6	**107**	8.4	291.6	2.27	
151	58.4	NA	NA	DL	NA	NA	58.4		NA		<8	--	**28.7**	5.2			
153	548	NA	NA	2442	NA	NA	548		2442		1607	256	**213.0**	19	-2.6	-2.61	
156	30.4	NA	NA	85.4	NA	NA	30.4		85.4		59.9	7.9	**10.3**	1.1	-2.0	-1.57	
170 (+190)	72.5	NA	NA	345	NA	NA	72.5		345		309	53	**40.6**	2.6	-3.1	-4.09	
180	318	NA	NA	854	NA	NA	318		854		653	88	**107**	5.3	-2.1	-1.96	
183	87.0	NA	NA	27.6	NA	NA	87.0		27.6		24.3	4.8	**36.6**	4.1	10.3	1.10	
187	295	NA	NA	13	NA	NA	295		13		10.1	2.7	**105**	9.1	112.6	2.33	
194	198	NA	NA	263	NA	NA	198		263		163	24	**39.6**	2.5	0.9	1.13	
195	34.2	NA	NA	5.98	NA	NA	34.2		6.0		4.18	1.1	**17.7**	4.3	28.7	1.91	
201	81.0	NA	NA	NA	NA	NA	81.0		NA		6.45	2.6	**17.0**	0.89	46.2	0.94	
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	79.3	NA	NA	10.7	NA	NA	79.3		10.7		<10	--	23.6	1.6			
95	53.7	NA	NA	10.8	NA	NA	53.7		10.8		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	2	11	0
2 to 3	2	3	0
≥ 3	12	2	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 20**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			
4,4'-DDT	16.6	NA	NA	40.4	NA	NA	16.6		40.4		8.83	2.2	**245**	15	3.5	0.2	
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	55.2	NA	NA	247	NA	NA	55.2		247		72.3	8.0	**445**	37	-0.9	-0.001	
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	10.5	NA	NA	6.17	NA	NA	10.5		6.17		3.71	1.6	**133**	10	7.3	0.026	
HCB	NA	NA	NA	NA	NA	NA	NA		NA		242	36	**32.9**	1.7			
α-HCH	NA	NA	NA	NA	NA	NA	NA		NA		65.4	11	**16.2**	3.4			
β-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1102	184	8.00	1.4			
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	1	3	0
2 to 3	0	0	0
≥ 3	2	0	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	80.0	NA	NA	91.0	NA	NA	80.0		91.0		73.1	1.87	74.3	0.45	0.4	3.3	0.00

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 20

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	1.79	NA	NA	24.1	NA	NA	1.79		24.1		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	7.82	NA	NA	72.2	NA	NA	7.82		72.2		3.78	3.0	**43.6**	2.5	4.3	0.23	
66/95*	1.97	NA	NA	46.5	NA	NA	1.97		46.5		3.44	2.7	**57.4**	2.5	-1.7	-0.04	
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	6.76	NA	NA	80.9	NA	NA	6.76		80.9		8.49	3.8	**65.2**	5.6	-0.8	-0.02	
105	8.05	NA	NA	11.9	NA	NA	8.05		11.9		18.0	3.6	**30.1**	2.3	-2.2	-0.24	
118	38.9	NA	NA	47.5	NA	NA	38.9		47.5		58.4	7.5	**74.6**	5.1	-1.3	-0.15	
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	ND	NA	NA	7.47	NA	NA	ND		7.5		<8	--	22.5	4.6			
138 (+163+164)	250	NA	NA	138	NA	NA	250		138		229	39.0	**131.5**	7.4	0.4	0.05	
149	ND	NA	NA	52.1	NA	NA	ND		52.1		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	2173	NA	NA	179	NA	NA	2173		179		1607	256	**213.0**	19	1.4	1.39	
156	49.8	NA	NA	3.85	NA	NA	49.8		3.9		59.9	7.9	**10.3**	1.1	-0.7	-0.54	
170 (+190)	202	NA	NA	20.2	NA	NA	202		20.2		309	53	**40.6**	2.6	-1.4	-1.85	
180	791	NA	NA	110	NA	NA	791		110		653	88	**107**	5.3	0.8	0.81	
183	12.8	NA	NA	20.8	NA	NA	12.8		20.8		24.3	4.8	**36.6**	4.1	-1.9	-0.20	
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	136	NA	NA	42.2	NA	NA	136		42.2		163	24	**39.6**	2.5	-0.7	-0.88	
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	9	11	0
2 to 3	1	0	0
≥ 3	1	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 21**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		8.83	2.2	**245**	15			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		72.3	8.0	**445**	37			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.71	1.6	**133**	10			
HCB	NA	NA	NA	NA	NA	NA	NA		NA		242	36	**32.9**	1.7			
α-HCH	NA	NA	NA	NA	NA	NA	NA		NA		65.4	11	**16.2**	3.4			
β-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1102	184	8.00	1.4			
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))							#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	73.1	1.87	74.3	0.45	#DIV/0!	#DIV/0!	#DIV/0!

[a]Certified values are in bold [b]See text for explanation

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES
SAMPLES: HOMOGENATE VI AND SRM 1945

Laboratory Number: 21

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	NA	NA	NA	NA	NA	NA	NA		NA		3.78	3.0	**43.6**	2.5			
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	NA	NA	NA	NA	NA	NA	NA		NA		8.49	3.8	**65.2**	5.6			
105	NA	NA	NA	NA	NA	NA	NA		NA		18.0	3.6	**30.1**	2.3			
118	NA	NA	NA	NA	NA	NA	NA		NA		58.4	7.5	**74.6**	5.1			
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	NA	NA	NA	NA	NA	NA	NA		NA		229	39.0	**131.5**	7.4			
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			
170 (+190)	NA	NA	NA	NA	NA	NA	NA		NA		309	53	**40.6**	2.6			
180	NA	NA	NA	NA	NA	NA	NA		NA		653	88	**107**	5.3			
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explanation

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 22**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**106**	14			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		8.83	2.2	**245**	15			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.3**	0.87			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		72.3	8.0	**445**	37			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**18.1**	2.8			
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.71	1.6	**133**	10			
HCB	NA	NA	NA	NA	NA	NA	NA		NA		242	36	**32.9**	1.7			
α-HCH	NA	NA	NA	NA	NA	NA	NA		NA		65.4	11	**16.2**	3.4			
β-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1102	184	8.00	1.4			
γ-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**3.30**	0.81			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA	NA		NA		95.5	15	**10.8**	1.3			
Cis-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		22.1	29	**46.9**	2.8			
Trans-Chlordane	NA	NA	NA	NA	NA	NA	NA		NA		6.02	10	12.1	1.4			
Oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		534	113	**19.8**	1.9			
Cis-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		5.25	0.8	**48.7**	7.6			
Trans-Nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		157	19	**231**	11			
Dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		214	27	37.5	3.9			
Mirex	NA	NA	NA	NA	NA	NA	NA		NA		11.0	2.5	**18.9**	2.8			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	NA	85.0	71.4	95.0	94.2	82.9	78.2	12.30	90.7	7.46	73.1	1.87	74.3	0.45	0.3	2.5	0.82

[a]Certified values are in bold [b]See text for explaination

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 22**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	14.10	1.4			
31	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	3.12	0.69			
44	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**12.2**	1.4			
49	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**20.8**	2.8			
52	NA	NA	NA	NA	NA	NA	NA		NA		3.78	3.0	**43.6**	2.5			
66/95*	NA	NA	NA	NA	NA	NA	NA		NA		3.44	2.7	**57.4**	2.5			
87	NA	NA	NA	NA	NA	NA	NA		NA		6.02	1.2	**16.7**	1.4			
99	NA	NA	NA	NA	NA	NA	NA		NA		353	30	**45.4**	5.4			
101 (+90)	NA	NA	NA	NA	NA	NA	NA		NA		8.49	3.8	**65.2**	5.6			
105	NA	NA	NA	NA	NA	NA	NA		NA		18.0	3.6	**30.1**	2.3			
118	NA	NA	NA	NA	NA	NA	NA		NA		58.4	7.5	**74.6**	5.1			
128	NA	NA	NA	NA	NA	NA	NA		NA		12.0	1.2	**23.7**	1.7			
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	NA	NA	NA	NA	NA	NA	NA		NA		229	39.0	**131.5**	7.4			
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	**28.7**	5.2			
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	NA	NA	NA	NA	NA	NA	NA		NA		59.9	7.9	**10.3**	1.1			
170 (+190)	NA	NA	NA	NA	NA	NA	NA		NA		309	53	**40.6**	2.6			
180	NA	NA	NA	NA	NA	NA	NA		NA		653	88	**107**	5.3			
183	NA	NA	NA	NA	NA	NA	NA		NA		24.3	4.8	**36.6**	4.1			
187	NA	NA	NA	NA	NA	NA	NA		NA		10.1	2.7	**105**	9.1			
194	NA	NA	NA	NA	NA	NA	NA		NA		163	24	**39.6**	2.5			
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	NA	NA	NA	NA	NA	NA	NA		NA		32.4	3.5	**31.1**	2.7			
209	NA	NA	NA	NA	NA	NA	NA		NA		12.3	1.1	**10.6**	1.1			
66	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	23.6	1.6			
95	NA	NA	NA	NA	NA	NA	NA		NA		<10	--	33.8	1.7			

[a]Certified values are in bold [b]See text for explaination

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	0	0	0
2 to 3	0	0	0
≥ 3	0	0	0

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 23**

SAMPLES: HOMOGENATE VI AND SRM 1945

PESTICIDE AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	2.17	2.72	3.14	54.3	55.3	55.8	2.68	18	55.1	1.4	<5	--	**106**	14			1.22
4,4'-DDT	7.27	5.93	5.69	142	121	133	6.29	14	132	7.9	8.83	2.2	**245**	15	-1.1	-0.062	0.90
2,4'-DDE	6.45	6.70	8.20	8.04	7.77	8.09	7.12	13	7.97	2.2	<5	--	**12.3**	0.87			0.88
4,4'-DDE	84.7	77.7	73.7	481	400	511	78.7	7.1	464	12	72.3	8.0	**445**	37	0.4	0.001	0.47
2,4'-DDD	2.03	2.15	2.38	13.3	10.4	12.3	2.19	8.2	12.0	12	<5	--	**18.1**	2.8			0.54
4,4'-DDD	4.68	4.85	7.43	79.1	76.3	80.8	5.65	27	78.7	2.9	3.71	1.6	**133**	10	2.1	0.0	1.81
HCB	255	405	414	33.1	34.3	37.8	358	25	35.1	7.0	242	36	**32.9**	1.7	1.9	67.5	1.67
a-HCH	71.4	88.0	93.3	8.96	9.22	9.83	84.2	14	9.34	4.8	65.4	11	**16.2**	3.4	1.2	10.8	0.90
b-HCH	1113	1648	1635	9.95	9.15	6.63	1465	21	8.58	20	1102	184	8.00	1.4	1.3	4.8	1.39
g-HCH	4.46	8.83	6.90	2.88	4.25	4.31	6.73	33	3.82	21	<5	--	**3.30**	0.81			2.17
Heptachlor Epoxide	101	106	101	8.73	8.86	9.64	103	2.9	9.08	5.4	95.5	15	**10.8**	1.3	0.3	0.2	0.19
Cis-Chlordane	89.1	87.4	83.7	31.4	40.7	34.7	86.7	3.2	35.6	13	22.1	29	**46.9**	2.8	11.7	6.5	0.21
Trans-Chlordane	10.5	9.64	8.70	3.07	1.38	2.28	9.61	9.3	2.24	38	6.02	10	12.1	1.4	2.4	0.3	0.62
Oxychlordane	564	854	833	23.0	23.0	23.6	750	22	23.2	1.4	534	113	**19.8**	1.9	1.6	16.6	1.44
Cis-Nonachlor	5.73	4.66	5.40	35.5	32.4	36.7	5.26	10	34.9	6.3	5.25	0.8	**48.7**	7.6	0.0	0.0	0.69
Trans-Nonachlor	179	162	157	133	117	139	166	7.0	129	8.9	157	19	**231**	11	0.2	0.0	0.47
Dieldrin	216	312	311	43.0	37.3	42.6	280	20	41.0	7.8	214	27	37.5	3.9	1.2	0.7	1.31
Mirex	8.20	5.90	5.23	17.9	14.2	15.6	6.44	24	15.9	12	11.0	2.5	**18.9**	2.8	-1.7	-0.4	1.61

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	11	9	17
2 to 3	2	0	1
≥ 3	1	5	0

															z (25%)	z (s)	p (15%)
Lipid (mass fraction (%))	64.8	67.7	68.2	60.6	64.8	65.6	66.9	2.74	63.7	4.22	73.1	1.87	74.3	0.45	-0.3	-3.0	0.18

[a]Certified values are in bold [b]See text for explaination

2003 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 23**

SAMPLES: HOMOGENATE VI AND SRM 1945

PCB CONGENER ANALYSES	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scores[a]		
	Homogenate VI			SRM 1945			Homogenate VI		SRM 1945		Homog. VI		SRM 1945		Homogenate VI		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	Assigned Value	95% CL	Target[b] Value	95% CL	z-score (25%)	z-score (s)	p-score (15%)
18	NA	NA	NA	NA	NA	NA	NA		NA		<5	--	**4.48**	0.88			
28	3.33	6.41	5.90	12.4	16.7	16.4	5.21	32	15.2	16	<5	--	14.10	1.4			2.11
31	NA	NA	NA	2.19	2.40	3.26	NA		2.6	22	<5	--	3.12	0.69			
44	7.50	7.92	6.25	13.6	13.10	14.7	7.22	12	13.8	5.9	<5	--	**12.2**	1.4			0.80
49	3.62	10.6	14.3	17.0	20.2	25.5	9.52	57.1	20.9	21	<5	--	**20.8**	2.8			3.81
52	1.92	2.35	2.81	28.8	32.8	34.0	2.4	19	31.9	8.4	3.78	3.0	**43.6**	2.5	-1.5	-0.08	1.26
66/95*	below	below	below	below	below	below	below		below		3.44	2.7	**57.4**	2.5			
87	4.24	3.96	3.67	17.8	15.1	19.5	4	7	17.5	13	6.02	1.2	**16.7**	1.4	-1.373	-0.066	0.48
99	338	471	496	52.5	41.5	50.1	435	20	48.0	12	353	30	**45.4**	5.4	0.9	1.27	1.31
101 (+90)	12.8	19.9	25.3	40.5	42.1	45.1	19.3	33	42.6	5.5	8.49	3.8	**65.2**	5.6	5.1	0.10	2.17
105	26.3	24.3	18.1	14.9	16.1	15.2	22.9	19	15.4	4.1	18.0	3.6	**30.1**	2.3	1.1	0.12	1.24
118	54.7	49.0	45.6	57.4	53.1	58.3	50	9.3	56	4.9	58.4	7.5	**74.6**	5.1	-0.6	-0.07	0.62
128	10.5	9.4	9.0	26.7	21.1	24.7	9.6	7.8	24.2	12	12.0	1.2	**23.7**	1.7	-0.8	-0.05	0.52
132	NA	NA	NA	NA	NA	NA	NA		NA		<8	--	22.5	4.6			
138 (+163+164)	NA	NA	NA	NA	NA	NA	NA		NA		229	39.0	**131.5**	7.4			
149	NA	NA	NA	NA	NA	NA	NA		NA		2.66	0.6	**107**	8.4			
151	7.65	6.94	6.12	20.0	19.6	23.2	7	11	20.9	9.4	<8	--	**28.7**	5.2			0.74
153	NA	NA	NA	NA	NA	NA	NA		NA		1607	256	**213.0**	19			
156	33.6	26.9	23.1	6.1	6.6	5.6	27.9	19	6.1	8.5	59.9	7.9	**10.3**	1.1	-2.137	-1.70	1.27
170 (+190)	278	374	366	24.7	21.1	20.3	340	16	22.0	11	309	53	**40.6**	2.6	0.4	0.52	1.05
180	593	797	779	122	91	103	723	16	105	15	653	88	**107**	5.3	0.4	0.41	1.04
183	31.9	26.9	25.2	23.9	18.6	17.9	28.0	13	20.1	16	24.3	4.8	**36.6**	4.1	0.6	0.07	0.84
187	24.6	20.5	19.2	100	81.3	94	21.4	13	91.7	11	10.1	2.7	**105**	9.1	4.5	0.09	0.89
194	155	107	98	34.5	26	29.0	120	26	29.7	15	163	24	**39.6**	2.5	-1.1	-1.40	1.71
195	NA	NA	NA	NA	NA	NA	NA		NA		4.18	1.1	**17.7**	4.3			
201	NA	NA	NA	NA	NA	NA	NA		NA		6.45	2.6	**17.0**	0.89			
206	28.8	20.2	18.5	22.4	17.4	19.1	22.5	24	19.7	13	32.4	3.5	**31.1**	2.7	-1.2	-0.72	1.63
209	13.0	9.4	8.4	11.8	8.8	10.2	10.3	24	10.3	15	12.3	1.1	**10.6**	1.1	-0.7	-0.16	1.59
66	4.83	4.11	4.52	27.1	17.2	24.7	4.49	8.1	23.0	22	<10	--	23.6	1.6			0.54
95	0.965	1.61	2.14	35.5	38.0	36.5	1.572	37	36.7	3.5	<10	--	33.8	1.7			2.49

[a]Certified values are in bold [b]See text for explaination

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	11	14	17
2 to 3	1	0	3
≥ 3	2	0	1

Lab A

	Data as Submitted by Laboratory (mg/g wet mass)									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.492	0.478	NA	1.83	1.84	1.83	0.485	2.0	1.83	0.3
C14:0	18.4	18.4	NA	34.8	35.0	35.5	18.4	0.0	35.1	1.0
C15:0	2.25	2.23	NA	3.37	3.40	3.49	2.24	0.6	3.42	1.8
C16:0	64.3	64.9	NA	77.9	78.3	80.9	64.6	0.7	79.0	2.1
C17:0	2.47	2.46	NA	2.45	2.45	2.53	2.47	0.3	2.48	1.9
C18:0	21.4	21.6	NA	13.8	13.90	14.50	21.5	0.7	14.1	2.7
C20:0	0.958	0.921	NA	1.29	1.27	1.32	0.940	2.8	1.29	1.9
C16:1(n-7)	93.0	93.5	NA	63.5	63.5	65.2	93.3	0.4	64.1	1.5
C18:1(n-7)	55.7	55.6	NA	19.4	19.7	20.3	55.65	0.1	19.8	2.3
C18:1(n-9)	165	167	NA	150	150	155	166	0.9	152	1.9
C18:1(n-9)	20.4	20.5	NA	2.56	2.54	2.70	20.5	0.3	2.60	3.4
C20:1(n-7)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:1(n-9)	31.9	32.4	NA	50.7	51.4	53.5	32.2	1.1	51.9	2.8
C:20:1(n-11)	0.696	0.680	NA	2.60	2.68	2.75	0.688	1.6	2.68	2.8
C22:1(n-9)	3.55	3.50	NA	7.37	7.52	7.81	3.53	1.0	7.57	3.0
C22:1(n-11)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C24:1(n-9)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:2(n-6)	7.59	7.60	NA	8.80	8.84	8.97	7.60	0.1	8.87	1.0
C18:3(n-3)	1.72	1.70	NA	3.88	3.93	3.95	1.71	0.8	3.92	0.9
C18:3(n-6)	0.651	0.629	NA	0.212	0.215	0.206	0.64	2.4	0.211	2.2
C18:4(n-3)	1.81	1.78	NA	1.87	1.87	1.79	1.80	1.2	1.84	2.5
C20:2(n-6)	3.10	3.09	NA	2.58	2.67	2.72	3.10	0.2	2.66	2.7
C20:3(n-3)	0.536	0.523	NA	1.84	1.75	1.84	0.530	1.7	1.81	2.9
C20:4(n-6)	3.90	3.84	NA	2.69	2.66	2.66	3.87	1.1	2.67	0.6
C20:5(n-3)	16.6	16.8	NA	12.4	12.6	12.6	16.70	0.8	12.5	0.9
C22:2(n-6)	0.122	0.138	NA	0.223	0.256	0.203	0.130	8.7	0.227	11.8
C22:5(n-3)	48.0	48.5	NA	8.64	10.2	8.97	48.3	0.7	9.27	8.9
C22:6(n-3)	45.8	46.5	NA	40.5	41.6	40.9	46.2	1.1	41.0	1.4
Lipid (mass fraction (%))	72.3	72.3	NA	72.8	74.1	73.4	72.3	0.00	73.4	0.89

Lab B

	Data as Submitted by Laboratory (mg/g wet mass)									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.295	0.279	0.297	1.55	1.07	1.02	0.295	3.4	1.21	24
C14:0	13.6	12.4	11.9	24.8	21.4	18.8	13.6	6.6	21.7	14
C15:0	1.73	1.55	1.57	2.96	2.29	2.25	1.73	5.7	2.96	13
C16:0	37.5	33.6	32.6	35.9	36.8	27.8	37.5	6.9	33.5	15
C17:0	1.65	1.52	1.45	1.93	1.46	1.46	1.65	6.0	1.62	17
C18:0	15.2	14.2	14.1	11.4	8.67	8.67	15.2	3.8	9.57	16
C20:0	0.497	0.493	0.501	0.870	0.657	0.671	0.497	0.8	0.870	14
C16:1(n-7)	70.5	63.6	62.4	56.7	42.0	41.1	70.5	6.2	46.6	19
C18:1(n-7)	43.2	39.5	40.1	16.4	12.9	12.9	40.9	4.9	14.1	14
C18:1(n-9)	180	169	165	181	140	138	180	4.4	153	16
C18:1(n-9)	6.12	6.06	5.80	2.69	2.28	2.36	5.99	2.8	2.4	9
C20:1(n-7)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:1(n-9)	22.6	21.2	20.5	37.8	27.1	26.6	21.4	4.8	30.5	21
C:20:1(n-11)	8.94	8.46	9.01	25.6	22.1	21.7	8.94	3.3	25.6	8
C22:1(n-9)	2.39	2.24	2.09	5.19	4.56	4.63	2.24	6.6	4.79	7.2
C22:1(n-11)	5.14	5.26	4.89	48.0	38.4	37.0	5.10	3.7	41.2	15
C24:1(n-9)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:2(n-6)	5.13	4.83	4.91	7.38	5.59	5.64	4.96	3.0	6.21	16
C18:3(n-3)	1.98	1.92	1.91	7.86	5.92	5.85	1.94	2.0	6.54	17
C18:3(n-6)	0.371	0.338	0.349	0.111	0.090	0.090	0.353	4.8	0.097	12
C18:4(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:2(n-6)	1.77	1.69	1.63	1.84	1.25	1.41	1.69	4.1	1.50	20
C20:3(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:4(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:5(n-3)	15.6	16.7	15.6	15.3	10.7	11.5	16.0	4.2	12.5	20
C22:2(n-6)	0.082	0.065	0.091	0.139	0.135	0.140	0.082	16	0.14	1.9
C22:5(n-3)	34.3	34.0	34.0	9.75	7.30	7.26	34.1	0.5	8.10	18
C22:6(n-3)	34.8	33.5	33.9	35.4	30.1	27.2	34.1	2	30.9	13
Lipid (mass fraction (%))	69.1	69.5	68.8	74.5	72.10	77.4	69.1	0.49	74.6	3.53

Lab C

	Data as Submitted by Laboratory (mg/g wet mass)									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.767	0.760	0.81	2.86	2.93	2.95	0.767	3.4	2.91	1.6
C14:0	24.5	24.5	25.0	45.4	46.7	46.9	24.5	1.0	46.3	1.8
C15:0	3.23	3.23	3.27	4.56	4.68	4.72	3.23	0.7	4.56	1.8
C16:0	85.4	85.3	86.7	99.1	102.2	102.5	85.4	1.0	101	1.9
C17:0	3.14	3.13	3.21	3.47	3.46	3.49	3.14	1.4	3.47	0.5
C18:0	28.5	28.5	29.1	17.0	17.12	17.29	28.5	1.2	17.1	1.0
C20:0	1.08	0.89	0.89	1.08	1.15	1.11	1.08	10	1.08	3.4
C16:1(n-7)	125	125	128	82.5	83.8	84.3	125	1.1	83.5	1.1
C18:1(n-7)	80.4	80.3	81.7	26.9	27.6	27.7	80.8	1.0	27.4	1.6
C18:1(n-9)	223	222	227	191	196	197	223	1.3	195	1.6
C18:1(n-9)	3.09	3.08	3.25	1.14	1.24	1.14	3.14	3.2	1.18	5.0
C20:1(n-7)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:1(n-9)	46.3	46.3	47.2	67.2	69.2	69.6	46.6	1.0	68.7	1.9
C:20:1(n-11)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C22:1(n-9)	4.54	4.71	4.81	8.49	8.78	8.84	4.69	2.9	8.70	2.2
C22:1(n-11)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C24:1(n-9)	0.800	0.748	0.742	3.02	3.08	3.05	0.80	4.0	3.05	1.0
C18:2(n-6)	11.0	11.0	11.3	12.0	12.4	12.5	11.1	1.1	12.3	2.2
C18:3(n-3)	30.6	30.7	31.1	7.91	8.16	8.17	30.8	0.9	8.08	1.8
C18:3(n-6)	0.692	0.713	0.722	0.223	0.231	0.205	0.71	2.2	0.220	6.0
C18:4(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:2(n-6)	2.78	2.78	2.76	3.21	3.15	3.14	2.77	0.4	3.16	1.2
C20:3(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:4(n-6)	4.87	4.91	4.97	3.32	3.42	3.44	4.91	1.0	3.39	1.8
C20:5(n-3)	22.7	25.3	25.9	17.8	18.2	18.2	24.7	6.9	18.1	1.5
C22:2(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C22:5(n-3)	78.0	78.0	79.3	14.4	14.1	14.3	78.4	0.9	14.2	1.1
C22:6(n-3)	68.4	68.1	69.9	59.9	60.8	61.2	68.8	1.4	60.6	1.1

Lab D

	Data as Submitted by Laboratory (ng/g wet mass)									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.520	NA	NA	0.464	NA	NA	0.520	NA	0.464	NA
C14:0	3.45	NA	NA	4.91	NA	NA	3.45	NA	4.91	NA
C15:0	0.482	NA	NA	0.511	NA	NA	0.482	NA	0.511	NA
C16:0	10.2	NA	NA	10.5	NA	NA	10.2	NA	10.5	NA
C17:0	0.27	NA	NA	0.37	NA	NA	0.275	NA	0.368	NA
C18:0	2.39	NA	NA	1.98	NA	NA	2.39	NA	1.98	NA
C20:0	0.235	NA	NA	0.257	NA	NA	0.23	NA	0.257	NA
C16:1(n-7)	9.68	NA	NA	8.30	NA	NA	9.68	NA	8.30	NA
C18:1(n-7)	ND	NA	NA	ND	NA	NA	NA	NA		NA
C18:1(n-9)	21.8	NA	NA	17.1	NA	NA	21.8	NA	17.1	NA
C18:1(n-9)	0.121	NA	NA	0.15	NA	NA	0.12	NA	0.154	NA
C20:1(n-7)	NA	NA	NA	NA	NA	NA	NA	NA		NA
C20:1(n-9)	3.47	NA	NA	5.47	NA	NA	3.47	NA	5.47	NA
C:20:1(n-11)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C22:1(n-9)	0.586	NA	NA	0.544	NA	NA	0.586	NA	0.544	NA
C22:1(n-11)	NA	NA	NA	NA	NA	NA	NA	NA		NA
C24:1(n-9)	0.370	NA	NA	0.27	NA	NA	0.370	NA	0.270	NA
C18:2(n-6)	0.904	NA	NA	1.04	NA	NA	0.904	NA	1.04	NA
C18:3(n-3)	0.445	NA	NA	0.503	NA	NA	0.445	NA	0.503	NA
C18:3(n-6)	0.091	NA	NA	0.044	NA	NA	0.091	NA	0.044	NA
C18:4(n-3)	NA	NA	NA	NA	NA	NA	NA	NA		NA
C20:2(n-6)	NA	NA	NA	NA	NA	NA	NA	NA		NA
C20:3(n-3)	0.203	NA	NA	0.228	NA	NA	0.203	NA	0.228	NA
C20:4(n-6)	0.760	NA	NA	0.607	NA	NA	0.760	NA	0.607	NA
C20:5(n-3)	2.23	NA	NA	2.04	NA	NA	2.23	NA	2.04	NA
C22:2(n-6)	0.010	NA	NA	0.072	NA	NA	0.010	NA	0.072	NA
C22:5(n-3)	0.799	NA	NA	1.33	NA	NA	0.799	NA	1.33	NA
C22:6(n-3)	5.53	NA	NA	5.51	NA	NA	5.53	NA	5.51	NA
Lipid (mass fraction (%))	76.0	NA	NA	73.0	NA	NA	76.0		73.0	

Lab E

	Data as Submitted by Laboratory (fraction of total fatty acids (%))									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.066	0.066	0.066	0.271	0.262	0.238	0.07	0.0	0.26	6.6
C14:0	2.63	2.62	2.62	5.23	5.13	4.97	2.63	0.2	5.11	2.6
C15:0	0.314	0.313	0.313	0.487	0.478	0.474	0.31	0.2	0.49	1.4
C16:0	9.36	9.25	9.24	11.7	12.0	11.6	9.4	0.7	11.8	1.8
C17:0	0.305	0.304	0.306	0.317	0.314	0.319	0.31	0.3	0.32	0.8
C18:0	3.11	3.09	3.10	1.92	1.92	1.92	3.11	0.3	1.92	0.0
C20:0	0.090	0.086	0.093	0.13	0.131	0.132	0.09	3.9	0.13	0.8
C16:1(n-7)	13.3	13.3	13.3	9.31	9.19	9.06	13.3	0.0	9.19	1.4
C18:1(n-7)	7.87	7.85	7.85	2.75	2.75	2.72	7.86	0.1	2.74	0.6
C18:1(n-9)	23.2	23.5	23.8	22.5	22.8	21.3	23.2	1.3	22.2	3.6
C18:1(n-9)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA	NA	NA
C20:1(n-7)	2.94	3.04	3.00	0.341	0.346	0.359	2.99	1.7	0.35	2.7
C20:1(n-9)	4.41	4.38	4.42	6.93	6.93	7.06	4.40	0.5	6.97	1.1
C:20:1(n-11)	2.96	2.94	2.98	4.49	4.55	4.51	2.96	0.7	4.49	0.7
C22:1(n-9)	0.379	0.372	0.376	0.764	0.758	0.782	0.38	0.9	0.77	1.6
C22:1(n-11)	0.782	0.779	0.781	6.68	6.77	7.02	0.78	0.2	6.82	2.6
C24:1(n-9)	0.0676	0.0635	0.064	0.289	0.292	0.318	0.07	3.3	0.30	5.3
C18:2(n-6)	0.946	0.939	0.942	1.18	1.17	1.20	0.94	0.4	1.18	1.3
C18:3(n-3)	0.105	0.103	0.104	0.421	0.424	0.429	0.10	1.0	0.42	1.0
C18:3(n-6)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA	NA	NA
C18:4(n-3)	0.190	0.190	0.190	0.324	0.331	0.333	0.19	0.0	0.33	1.4
C20:2(n-6)	0.330	0.351	0.291	0.261	0.259	0.267	0.32	9.4	0.26	1.6
C20:3(n-3)	0.036	0.042	0.04	0.194	0.187	0.188	0.04	7.8	0.19	2.0
C20:4(n-6)	0.454	0.448	0.451	0.322	0.332	0.333	0.45	0.7	0.33	1.8
C20:5(n-3)	2.38	2.42	2.38	1.64	1.70	1.68	2.39	1.0	1.67	1.8
C22:2(n-6)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	NA	NA	NA
C22:5(n-3)	6.89	6.84	6.86	1.25	1.25	1.34	6.86	0.4	1.28	4.1
C22:6(n-3)	6.02	5.99	6.00	4.94	5.05	5.58	6.00	0.3	5.19	6.6

Lab F

	Data as Submitted by Laboratory (fraction of total fatty acids (%))									
FATTY ACID ANALYSES	**Homogenate VI**			**SRM 1945**			**Homog. VI**		**SRM 1945**	
	Sample 1	**Sample 2**	**Sample 3**	**Sample 1**	**Sample 2**	**Sample 3**	**lab mean**	**lab %RSD**	**lab mean**	**lab %RSD**
C12:0	0.061	0.101	0.091	0.410	0.444	0.410	0.06	34.2	0.42	4.6
C14:0	3.05	2.91	3.14	5.94	5.46	5.98	3.05	3.8	5.79	5.0
C15:0	0.342	0.385	0.337	0.600	0.537	0.565	0.34	7.8	0.60	5.2
C16:0	9.47	10.6	9.70	10.8	12.5	11.2	9.47	6.6	11.5	7.5
C17:0	0.376	0.283	0.344	0.417	0.303	0.387	0.38	12.6	0.37	16.0
C18:0	3.87	3.35	4.22	2.60	2.32	2.39	3.87	11.4	2.44	6.1
C20:0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C16:1(n-7)	12.4	13.7	13.4	8.89	10.3	9.05	12.4	5.5	9.42	8.3
C18:1(n-7)	10.5	9.95	9.09	4.50	4.23	4.03	9.83	7.0	4.25	5.6
C18:1(n-9)	24.1	24.2	26.1	21.3	20.6	21.8	24.1	4.6	21.3	2.8
C18:1(n-9)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:1(n-7)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:1(n-9)	6.19	6.48	5.65	8.17	8.27	8.04	6.11	6.9	8.16	1.4
C:20:1(n-11)	2.80	2.58	2.57	5.32	5.16	5.40	2.80	4.7	5.32	2.3
C22:1(n-9)	0.451	0.366	0.350	1.40	1.42	1.41	0.39	13.9	1.41	0.8
C22:1(n-11)	0.904	0.778	0.787	7.26	8.16	7.59	0.82	8.5	7.67	5.9
C24:1(n-9)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:2(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:3(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:3(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C18:4(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:2(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:3(n-3)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:4(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C20:5(n-3)	2.20	2.17	2.30	1.69	1.41	1.76	2.22	3.0	1.62	11.6
C22:2(n-6)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
C22:5(n-3)	6.78	6.55	5.17	1.81	1.53	1.88	6.17	14.1	1.74	10.6
C22:6(n-3)	4.15	3.77	3.89	3.92	3.49	3.90	3.94	4.9	3.77	6.5
Lipid (mass fraction (%))	72.0	78.0	54.3	73.6	62.84	74.1	68.1	18.06	70.2	9.06

Appendix B

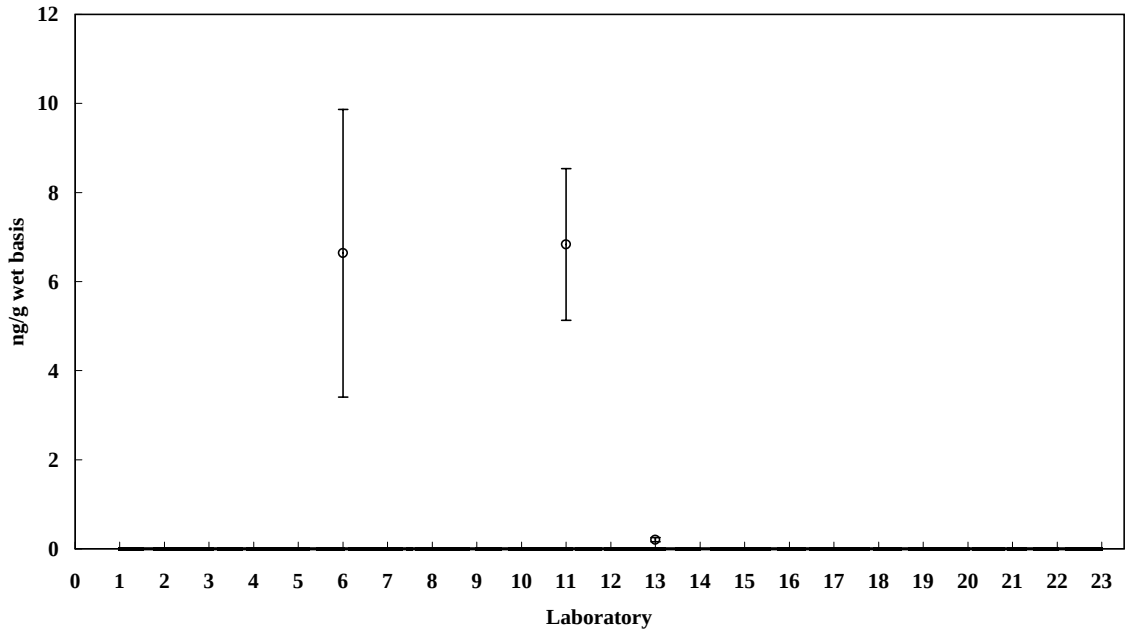
Graphical results of PCB congener and lipid data reported by all laboratories. The z-scores for Homogenate VI represent 25% of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. Error bars are ± 1 standard deviation.

PCB 18

Assigned value = <5 ng/g (wet basis)

Reported Results: 3 Quantitative Results: 3

Homogenate VI (MMQAVI)



PCB 18

Value = 4.48 ng/g ± 0.88 ng/g (wet basis)

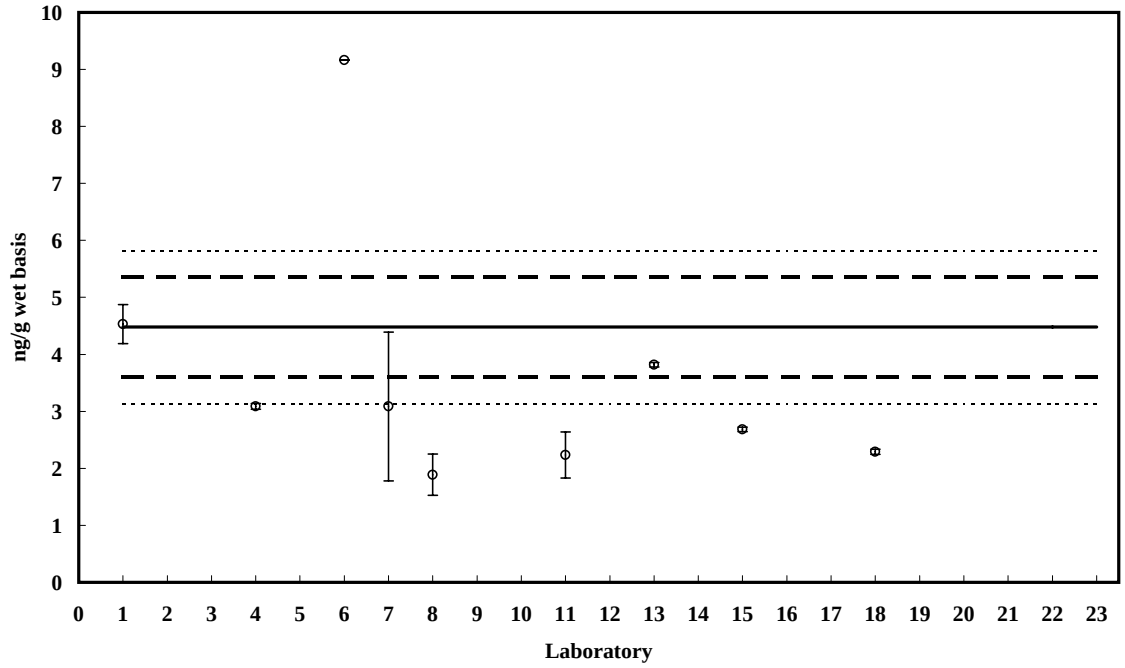
Reported Results: 9

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

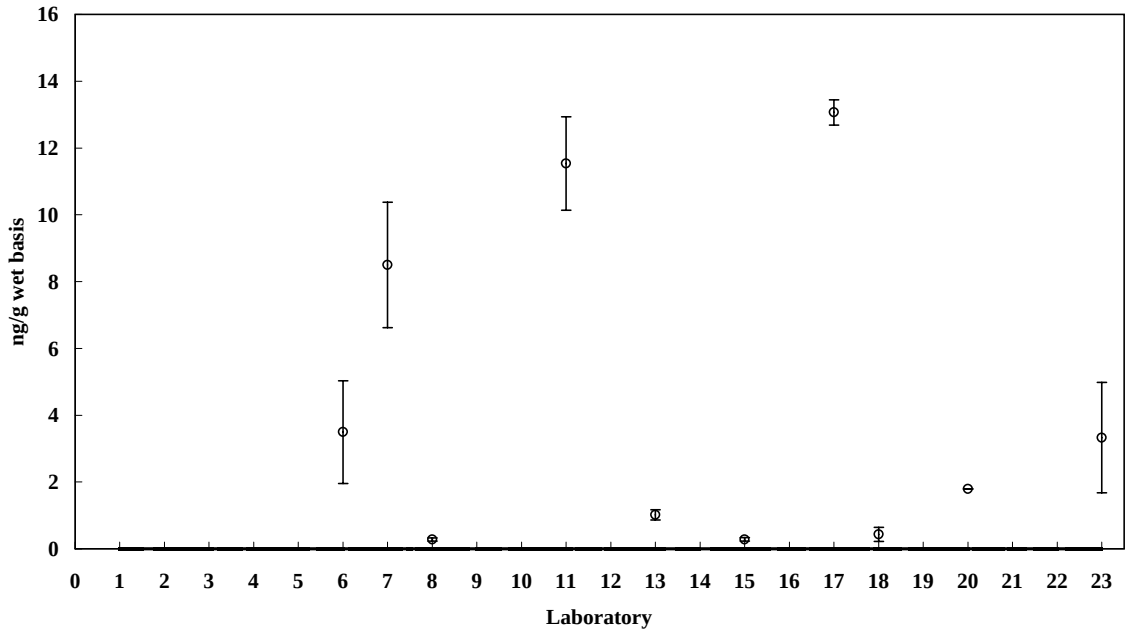


PCB 28

Assigned value = <5 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 10

Homogenate VI (MMQAVI)



PCB 28

Value = 14.1 ng/g ± 1.4 ng/g (wet basis)

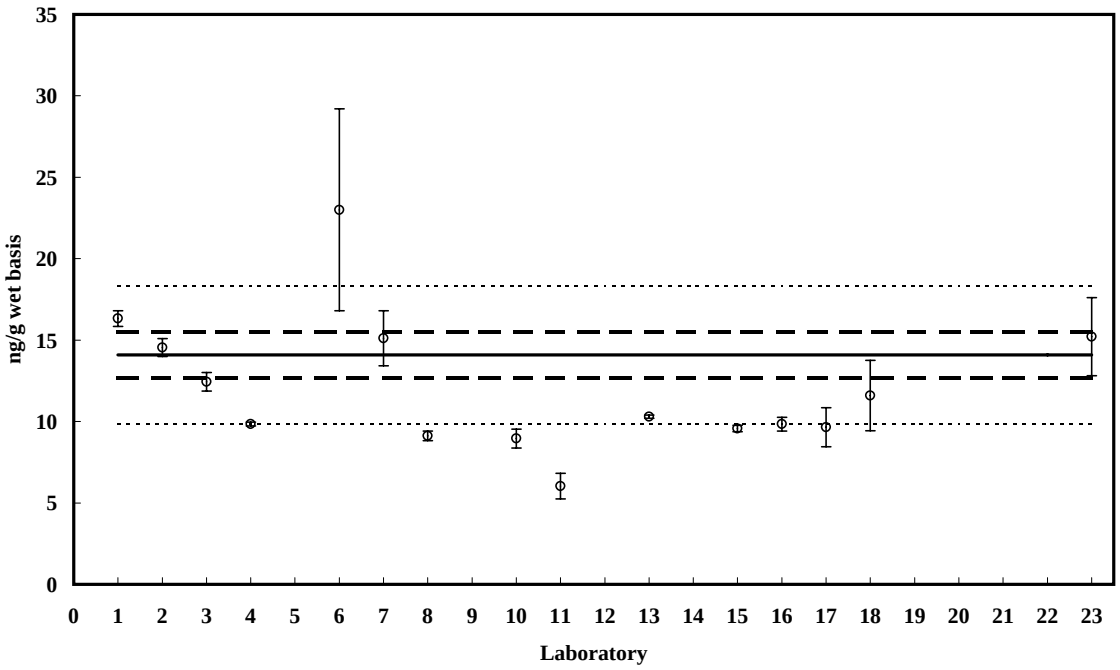
Reported Results: 16

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

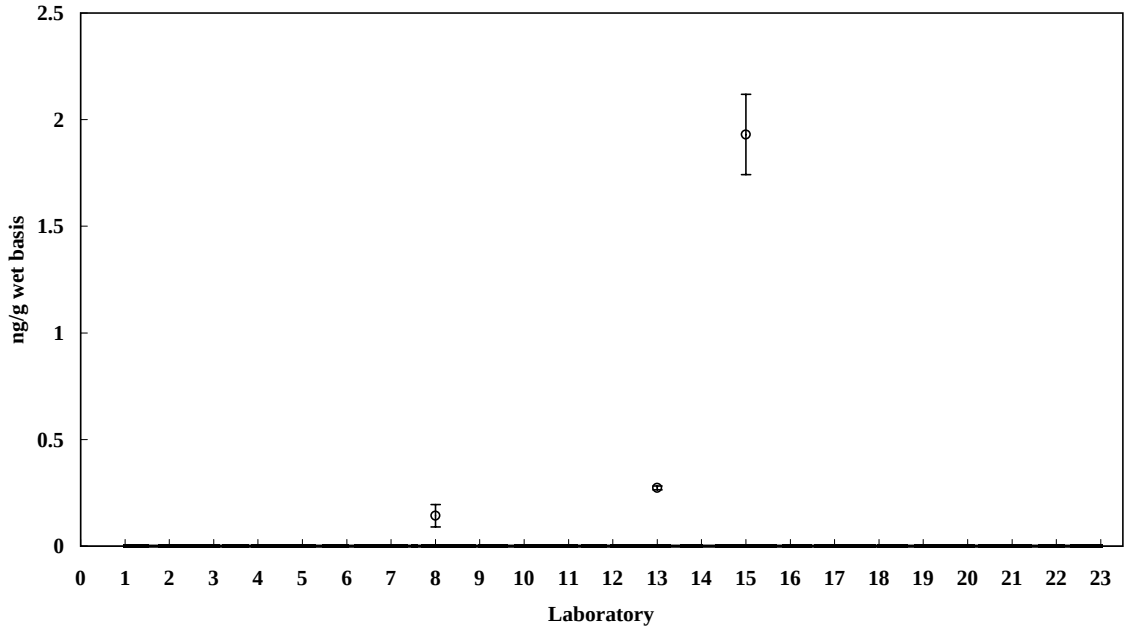


PCB 31

Assigned value = <5 ng/g (wet basis)

Reported Results: 3 Quantitative Results: 3

Homogenate VI (MMQAVI)



PCB 31

Value = 3.12 ng/g ± 0.69 ng/g (wet basis)

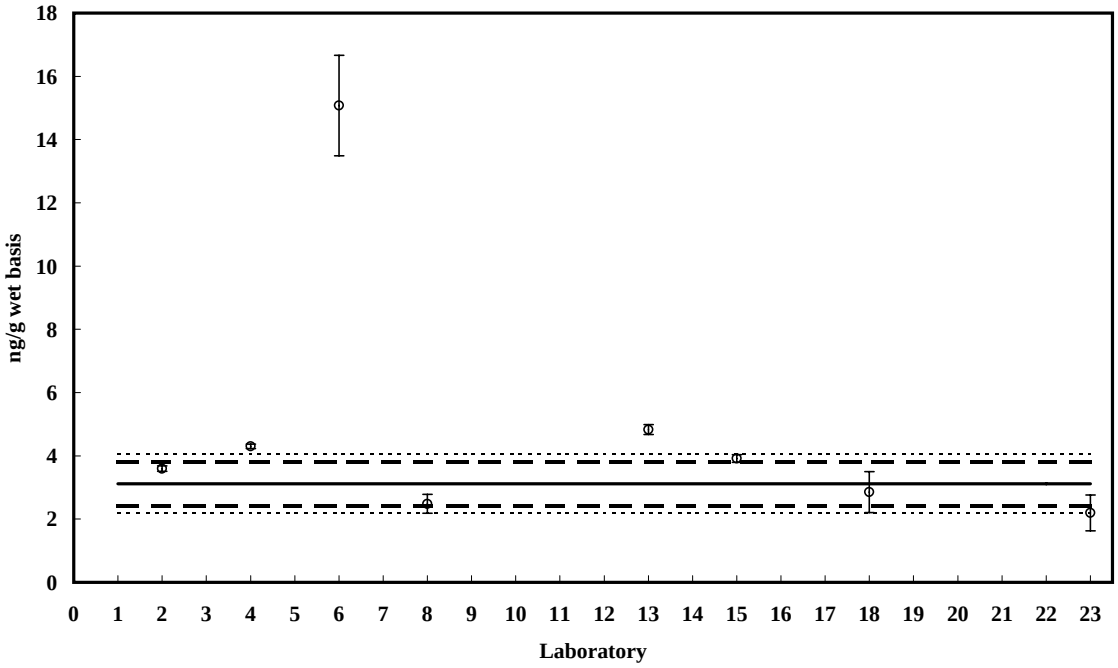
Reported Results: 8

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

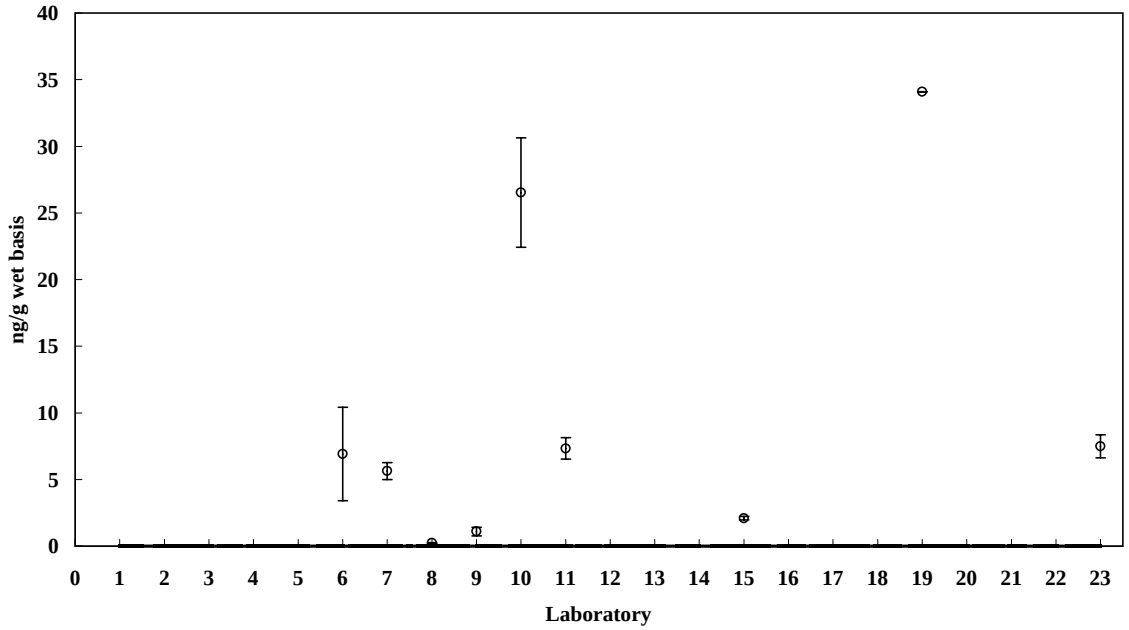


PCB 44

Assigned value = <5 ng/g (wet basis)

Reported Results: 9 Quantitative Results: 7

Homogenate VI (MMQAVI)



PCB 44

Value = 12.2 ng/g ± 1.4 ng/g (wet basis)

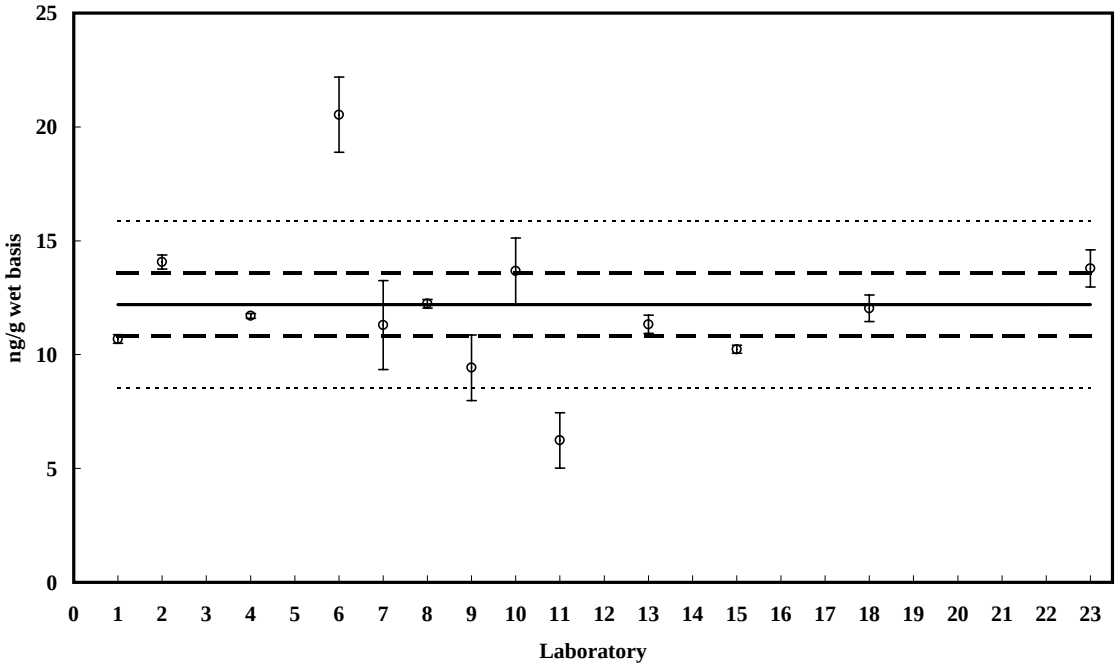
Reported Results: 13

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

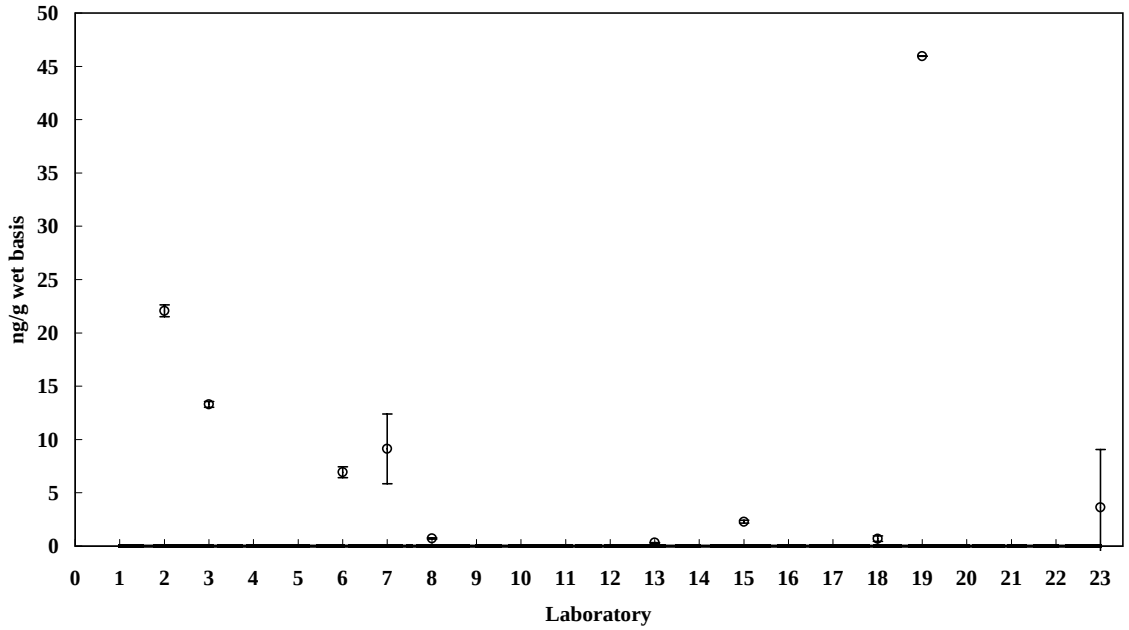


PCB 49

Assigned value = <5 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 9

Homogenate VI (MMQAVI)



PCB 49

Value = 20.8 ng/g ± 2.8 ng/g (wet basis)

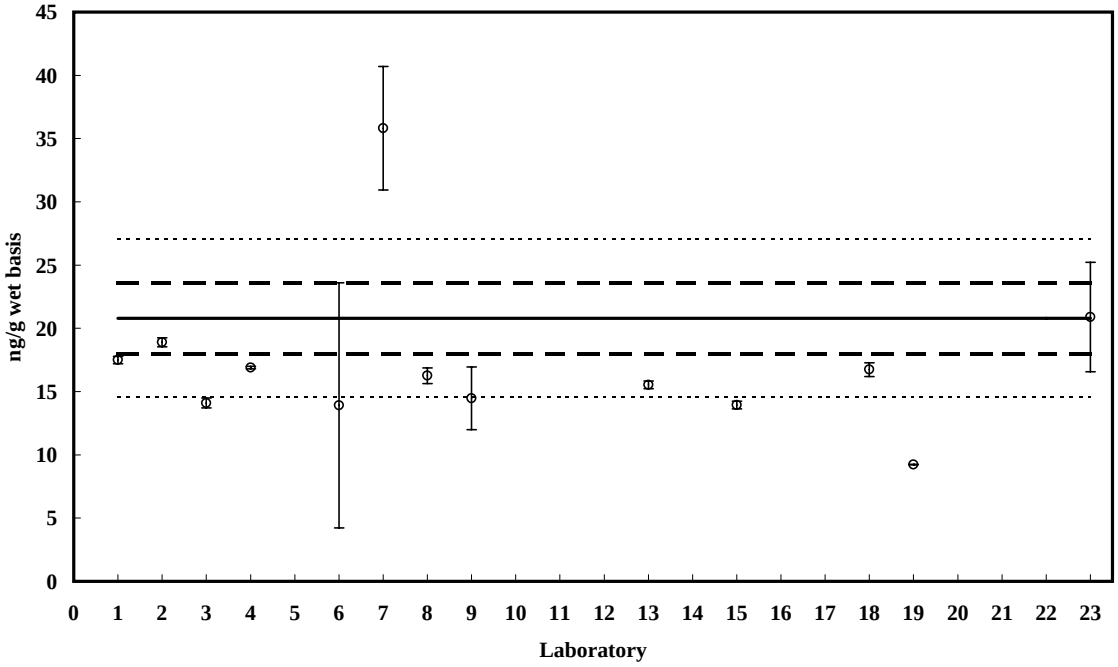
Reported Results: 13

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value



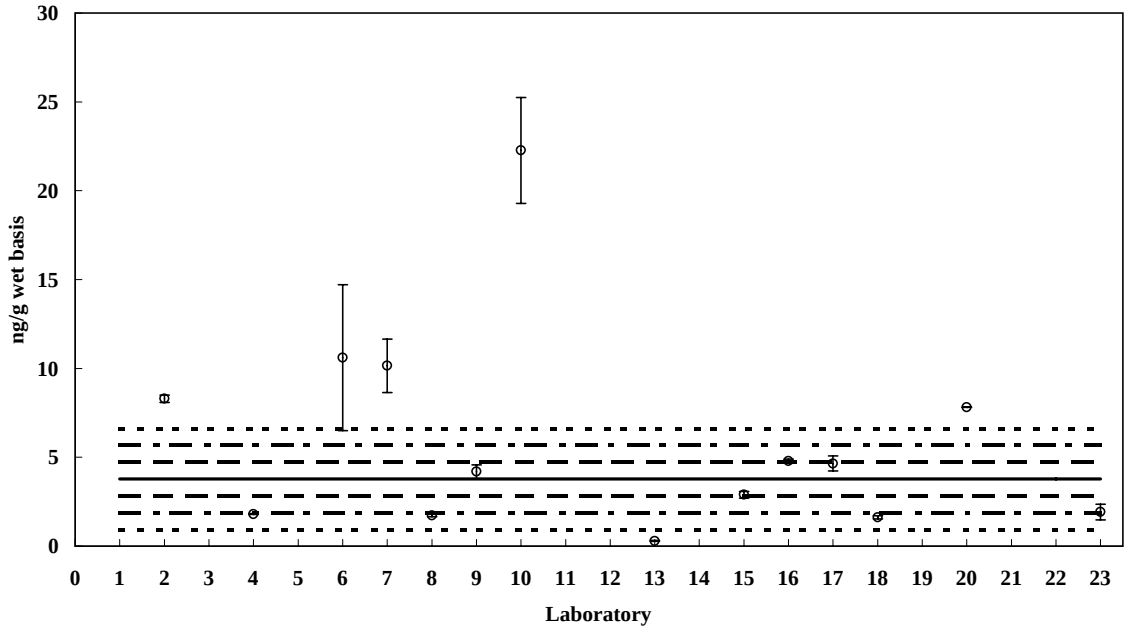
PCB 52

Assigned value = 3.78 ng/g s = 5.8 ng/g 95% CL = ± 3.0 ng/g (wet basis)

Reported Results: 16 Quantitative Results: 14

Homogenate VI (MMQAVI)

Assigned Value
± 1 Z
± 2 Z
± 3 Z



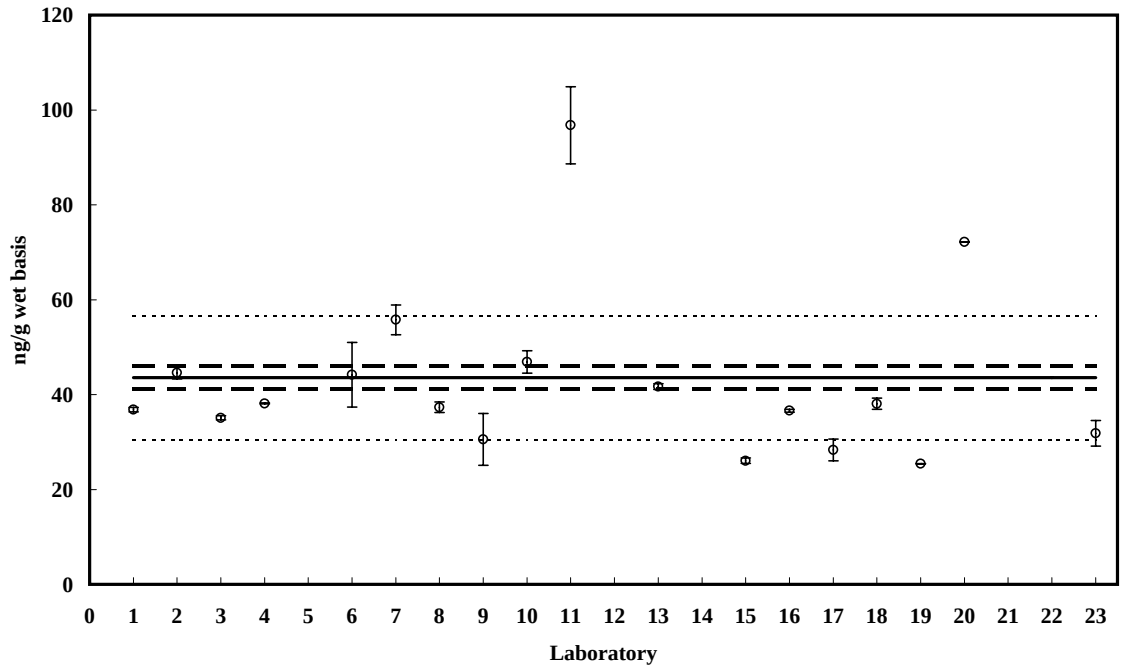
PCB 52

Value = 43.6 ng/g ± 2.5 ng/g (wet basis)

Reported Results: 18

SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

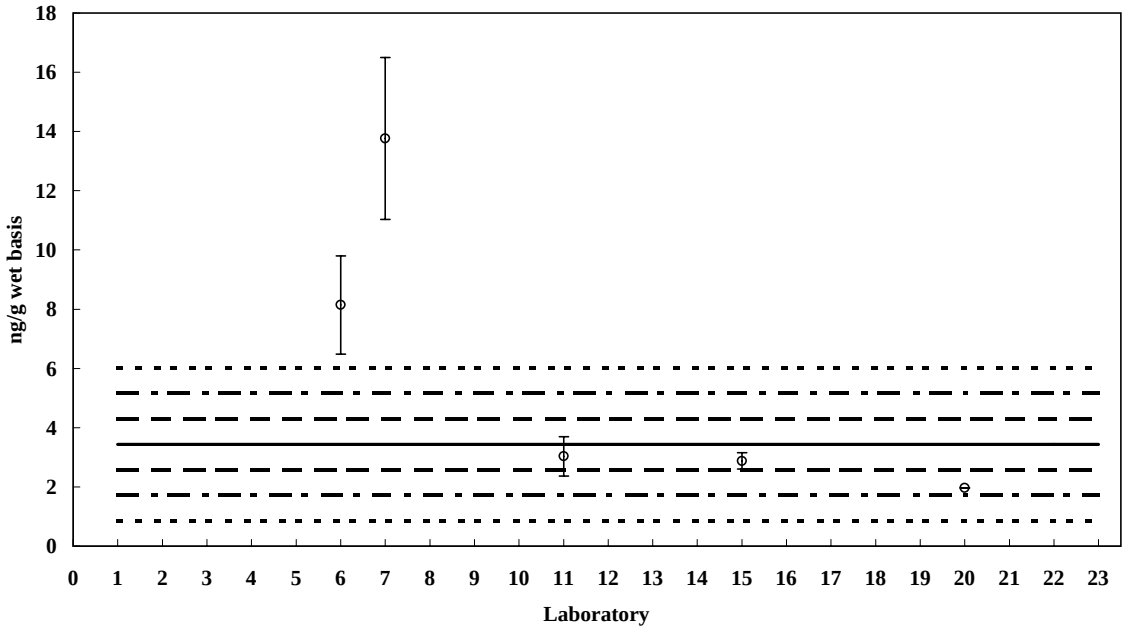


PCB 66/95

Assigned value = 3.44 ng/g s = 2.8 ng/g 95% CL = ± 2.7 ng/g (wet basis)

Reported Results: 5 Quantitative Results: 4

Homogenate VI (MMQAVI)

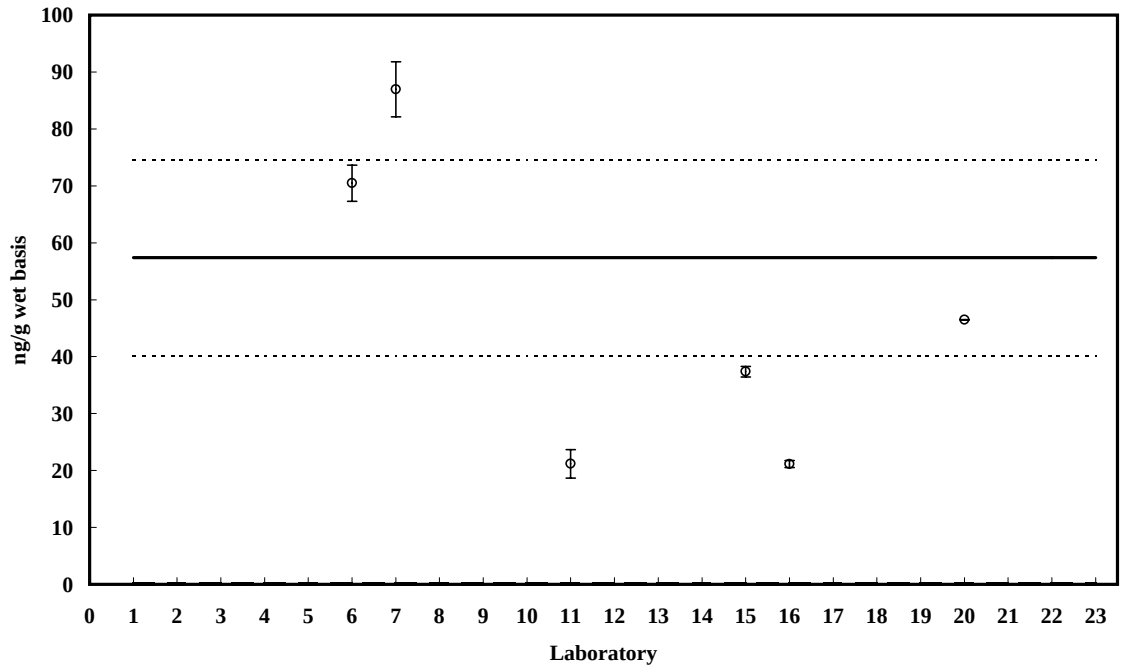


PCB 66/95

Value = 57.4 ng/g (wet basis)

Reported Results: 6

SRM 1945

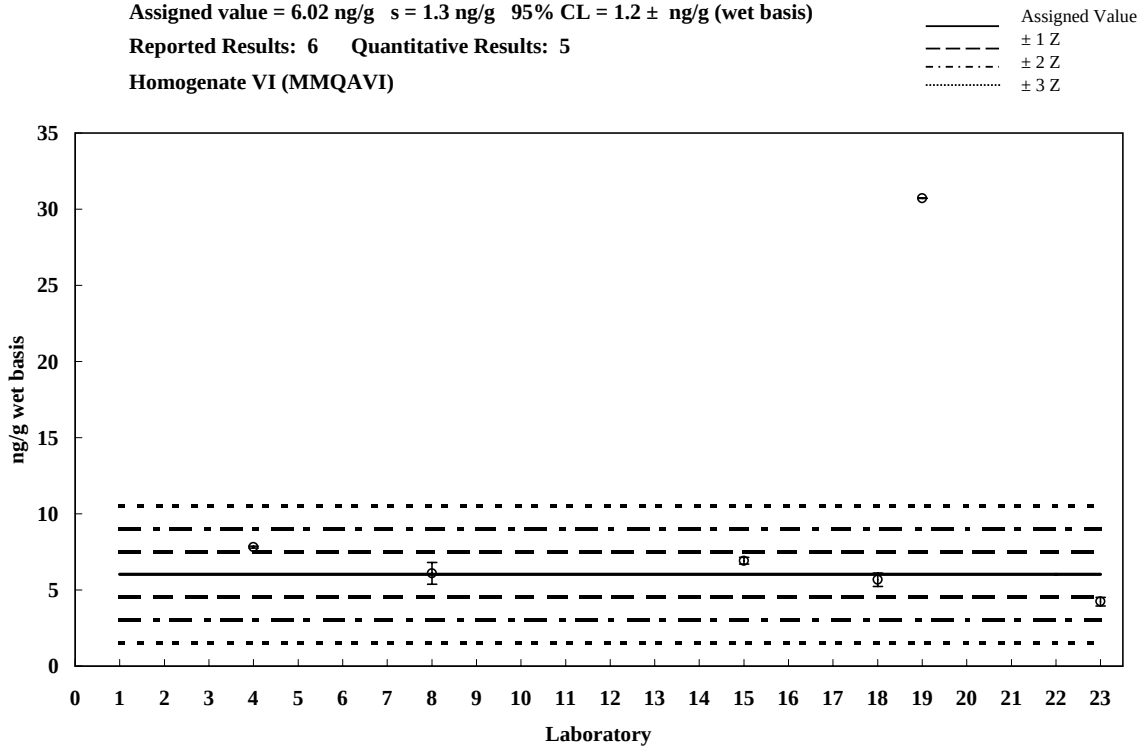


PCB 87

Assigned value = 6.02 ng/g s = 1.3 ng/g 95% CL = 1.2 ± ng/g (wet basis)

Reported Results: 6 Quantitative Results: 5

Homogenate VI (MMQAVI)

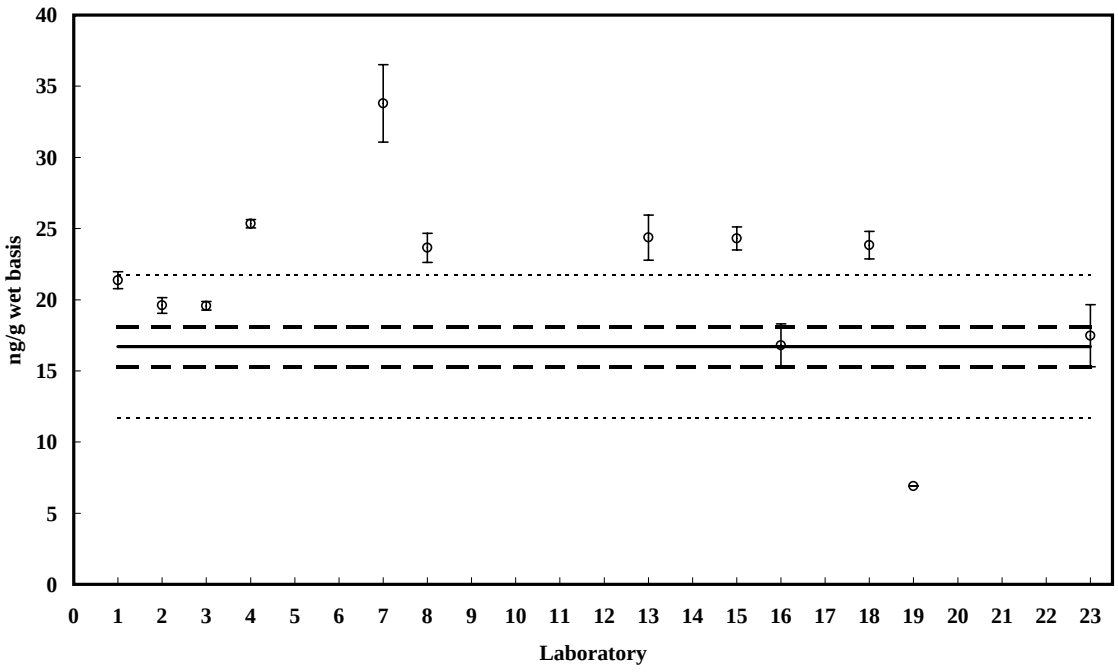


PCB 87

Value = 16.7 ng/g ± 1.4 ng/g (wet basis)

Reported Results: 12

SRM 1945

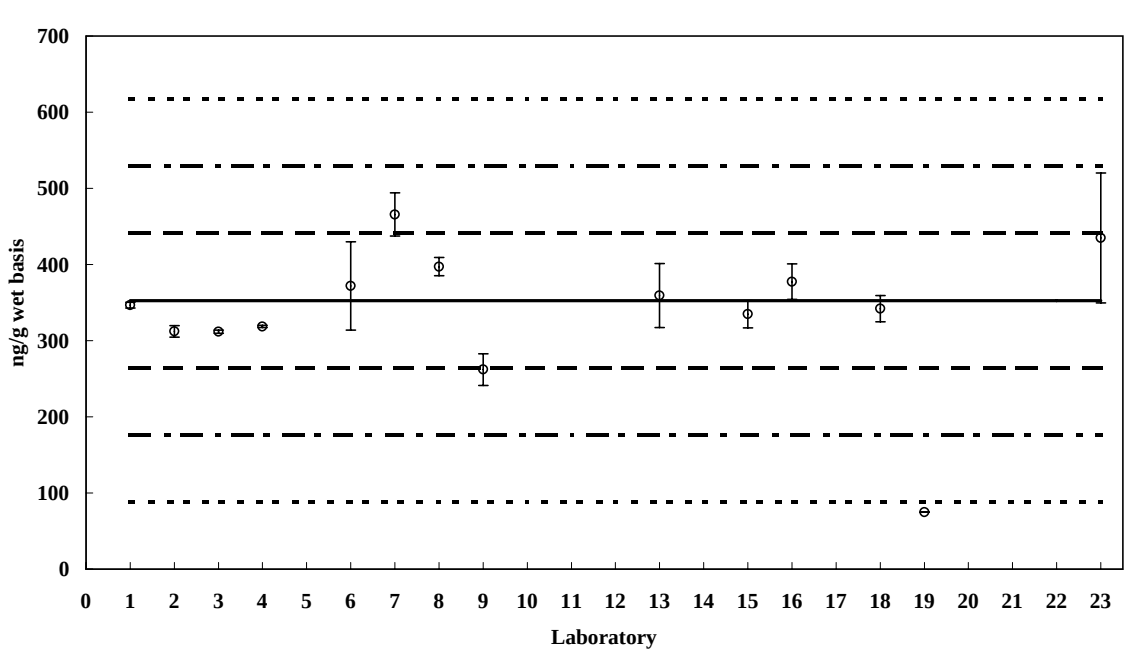


PCB 99

Assigned value = 353 ng/g s = 54 ng/g 95% CL = ± 30 ng/g (wet basis)

Reported Results: 14 Quantitative Results: 13

Homogenate VI (MMQAVI)

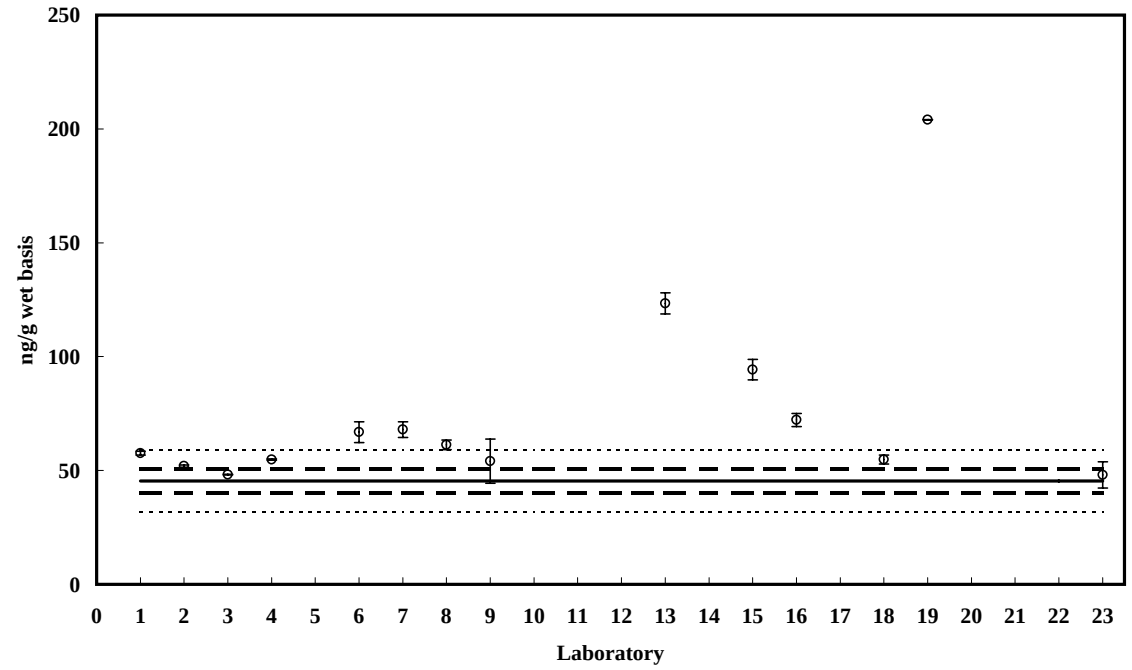


PCB 99

Value = 45.4 ng/g ± 5.4 ng/g (wet basis)

Reported Results: 14

SRM 1945

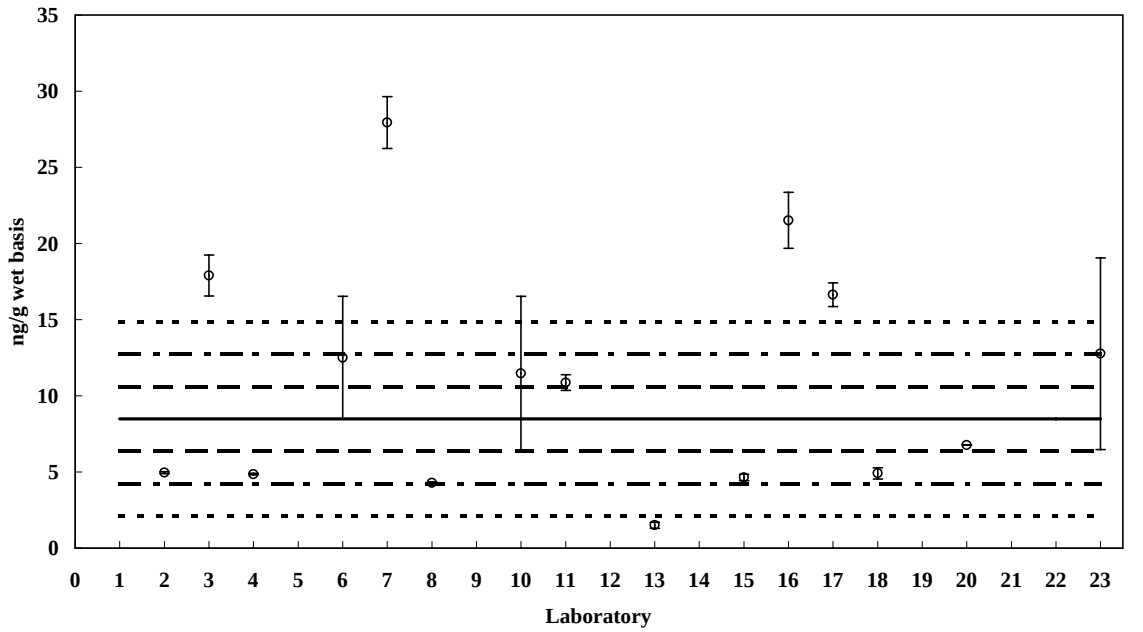


PCB 101 (+90)

Assigned value = 8.49 ng/g s = 7.5 ng/g 95% CL = ± 3.8 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 15

Homogenate VI (MMQAVI)

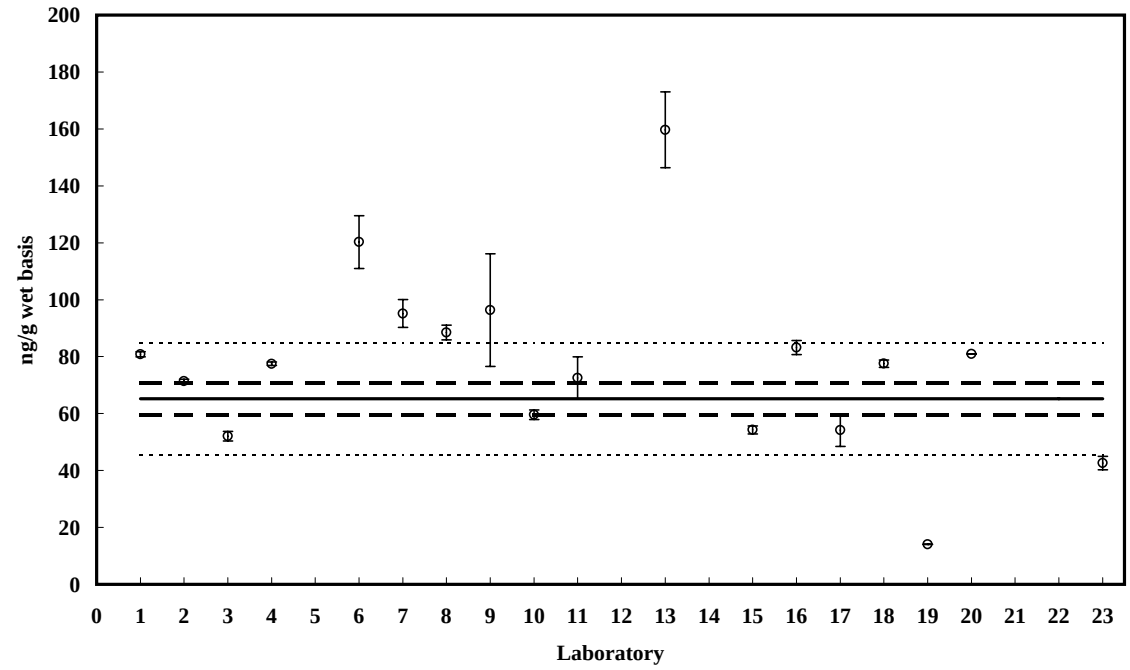


PCB 101 (+90)

Value = 65.2 ng/g ± 5.6 ng/g (wet basis)

Reported Results: 18

SRM 1945

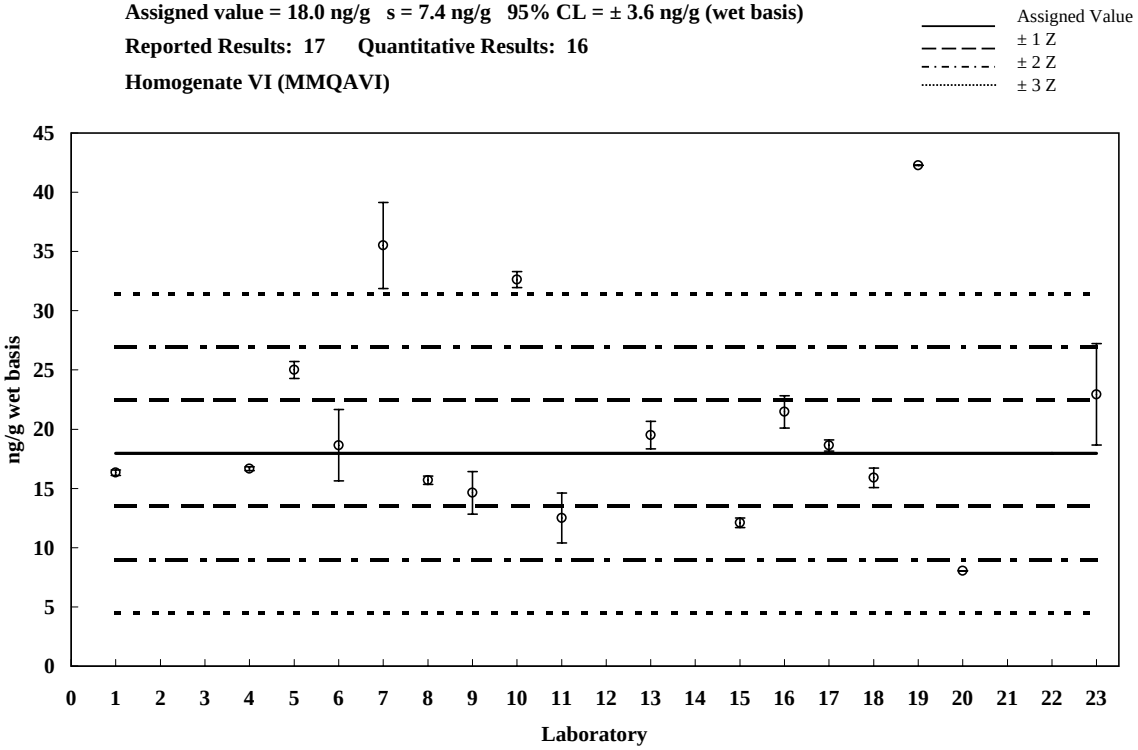


PCB 105

Assigned value = 18.0 ng/g s = 7.4 ng/g 95% CL = ± 3.6 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 16

Homogenate VI (MMQAVI)

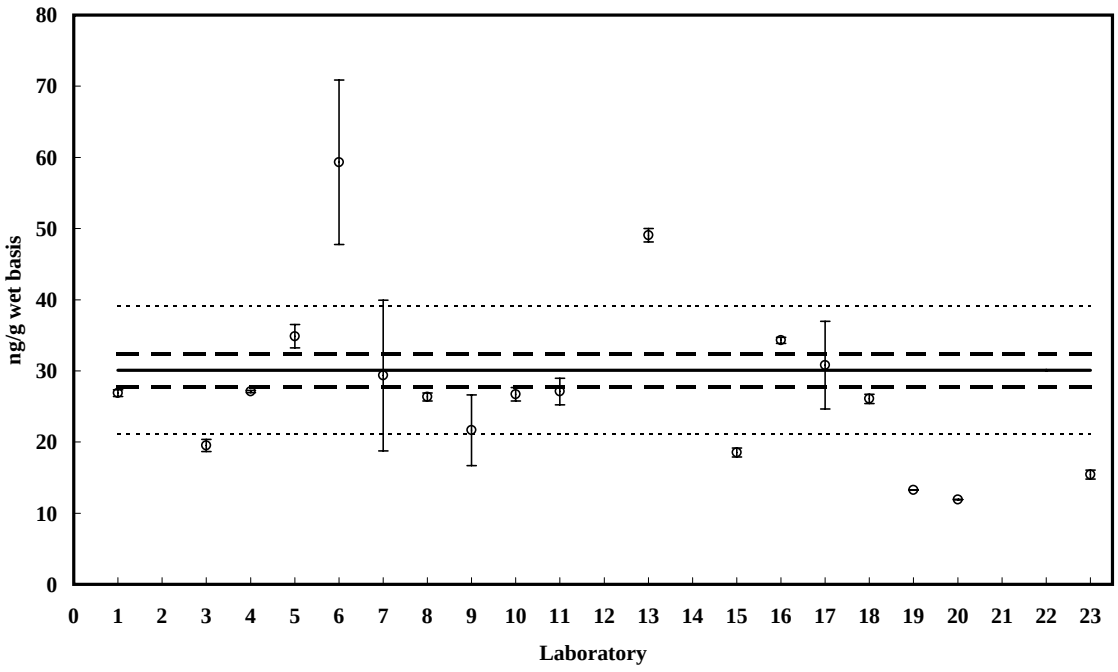


PCB 105

Value = 30.1 ng/g ± 2.3 ng/g (wet basis)

Reported Results: 18

SRM 1945

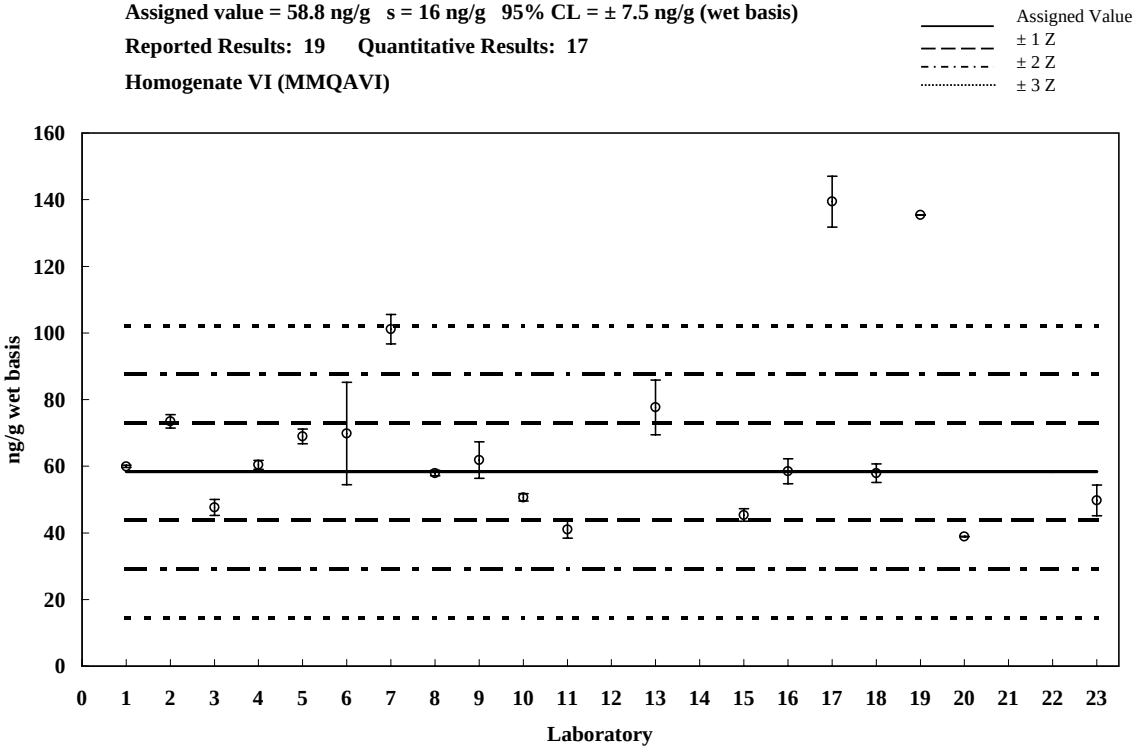


PCB 118

Assigned value = 58.8 ng/g s = 16 ng/g 95% CL = ± 7.5 ng/g (wet basis)

Reported Results: 19 Quantitative Results: 17

Homogenate VI (MMQAVI)

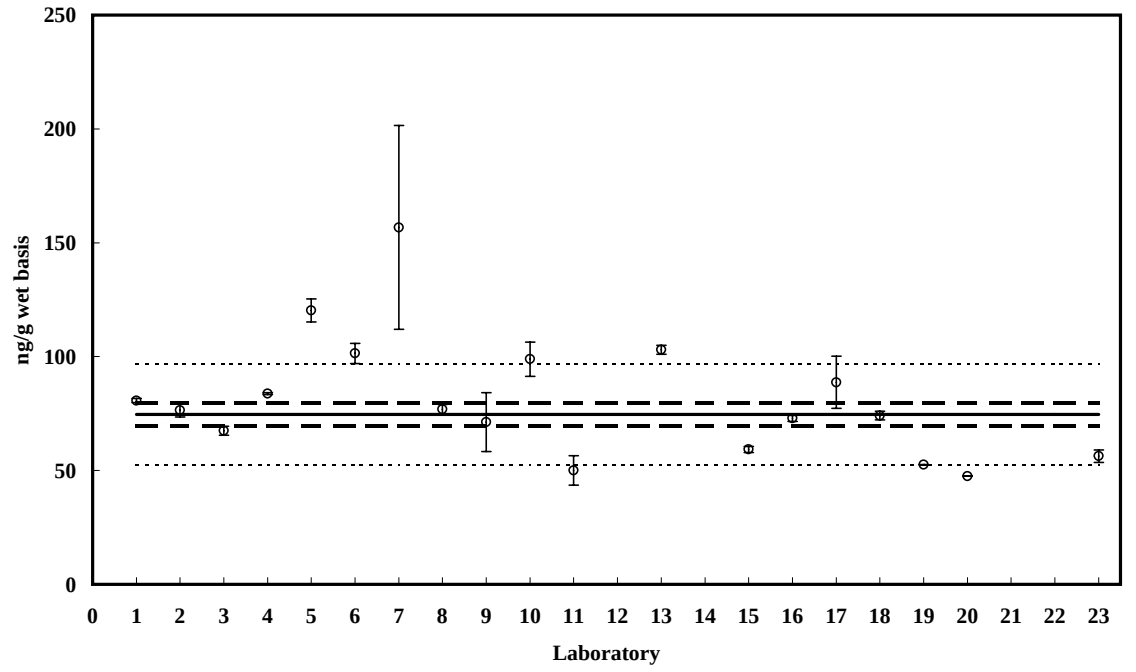


PCB 118

Value = 74.6 ng/g ± 5.1 ng/g (wet basis)

Reported Results: 19

SRM 1945

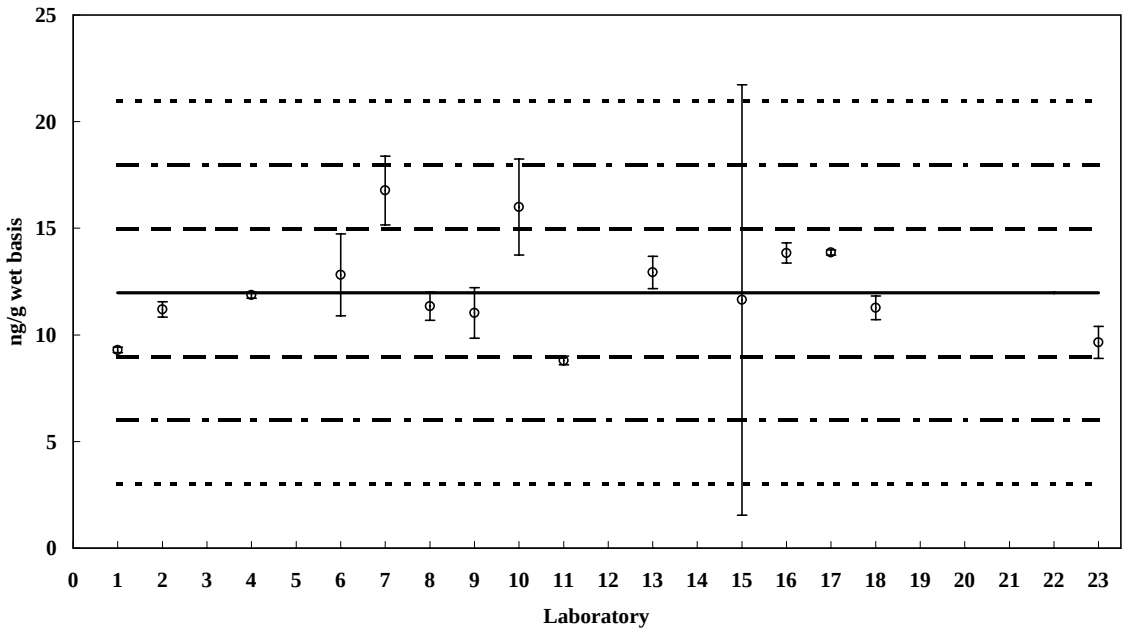


PCB 128

Assigned value = 12.0 ng/g s = 2.3 ng/g 95% CL = ± 1.2 ng/g (wet basis)

Reported Results: 15 Quantitative Results: 15

Homogenate VI (MMQAVI)

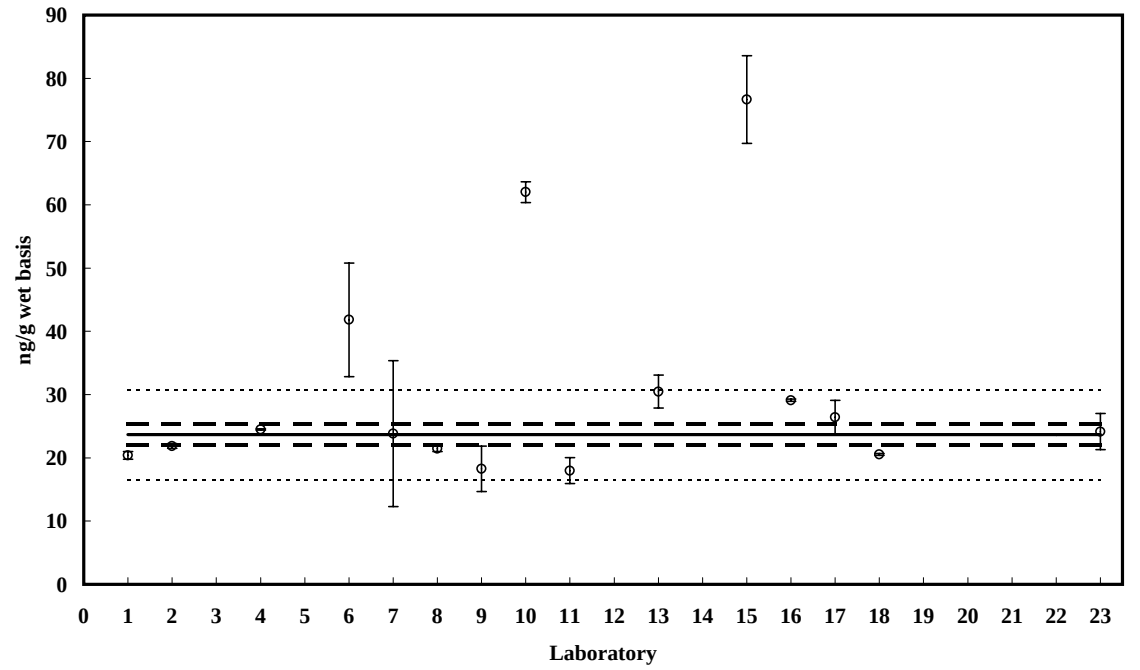


PCB 128

Value = 23.7 ng/g ± 1.7 ng/g (wet basis)

Reported Results: 15

SRM 1945

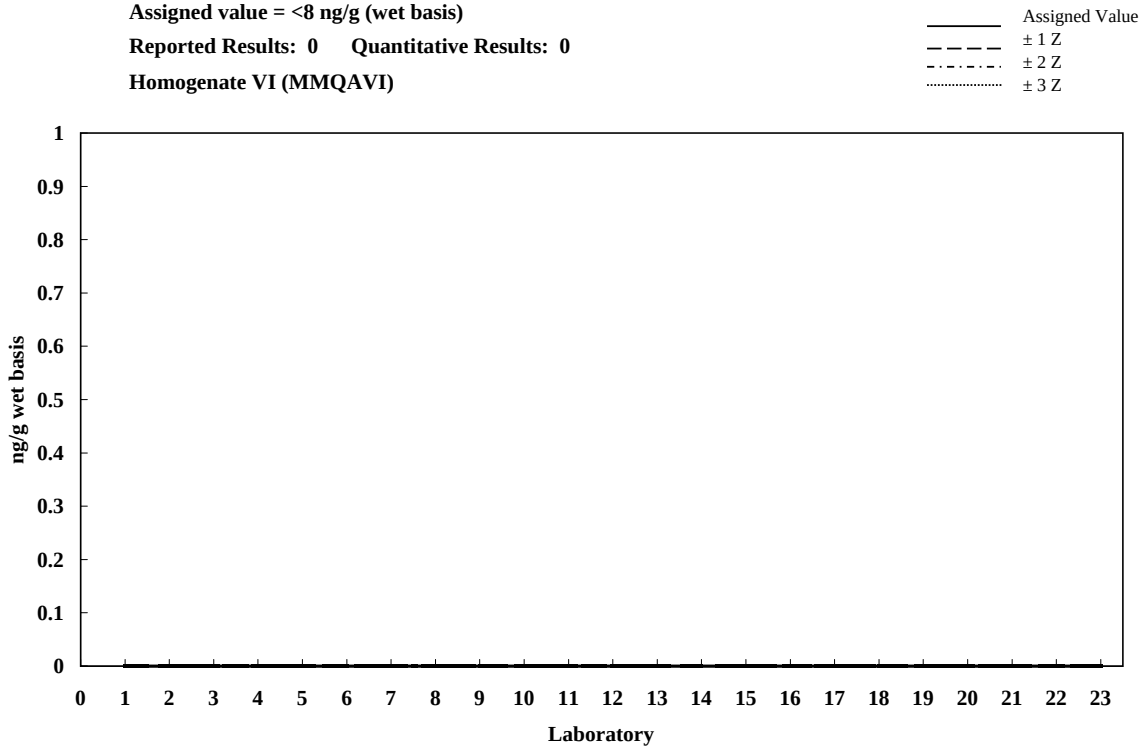


PCB 132

Assigned value = <8 ng/g (wet basis)

Reported Results: 0 Quantitative Results: 0

Homogenate VI (MMQAVI)

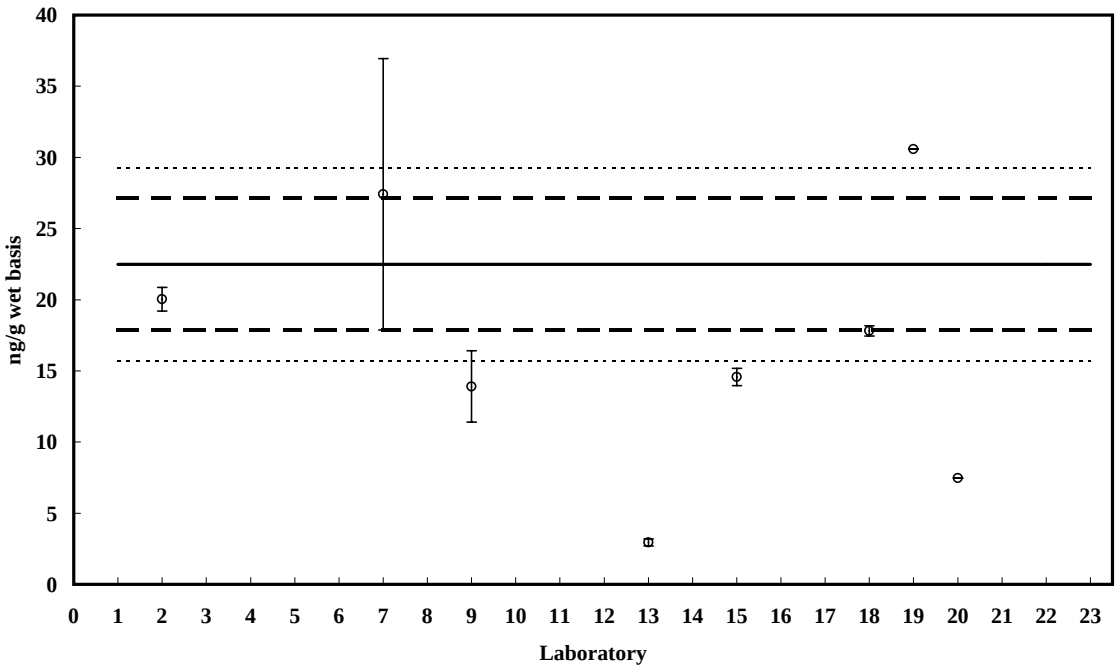


PCB 132

Value = 22.5 ng/g ± 4.6 ng/g (wet basis)

Reported Results: 9

SRM 1945



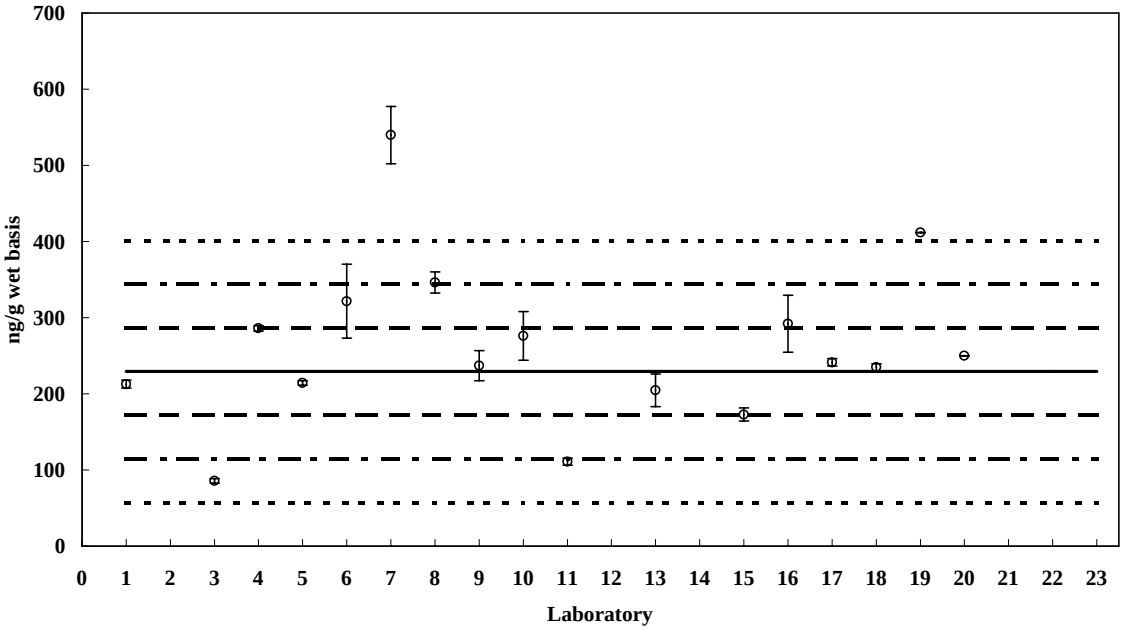
PCB 138 (+163+164)

Assigned value = 229 ng/g s = 82 ng/g 95% CL = ± 39 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 17

Homogenate VI (MMQAVI)

Assigned Value
± 1 Z
± 2 Z
± 3 Z



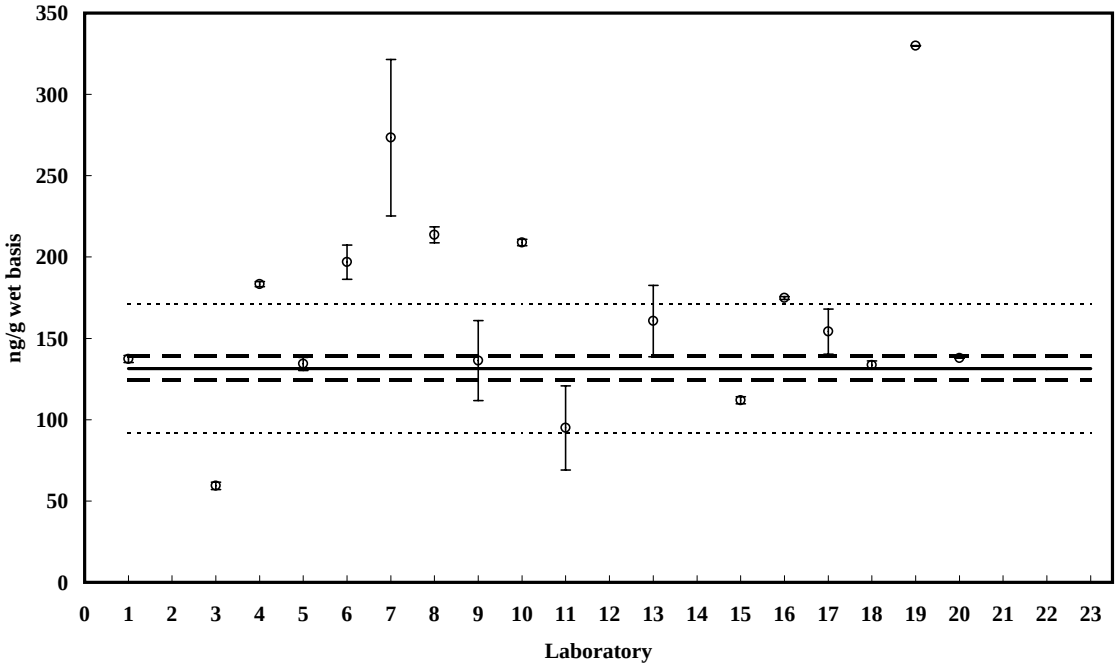
PCB 138 (+163+164)

Value = 132 ng/g ± 7.4 ng/g (wet basis)

Reported Results: 17

SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

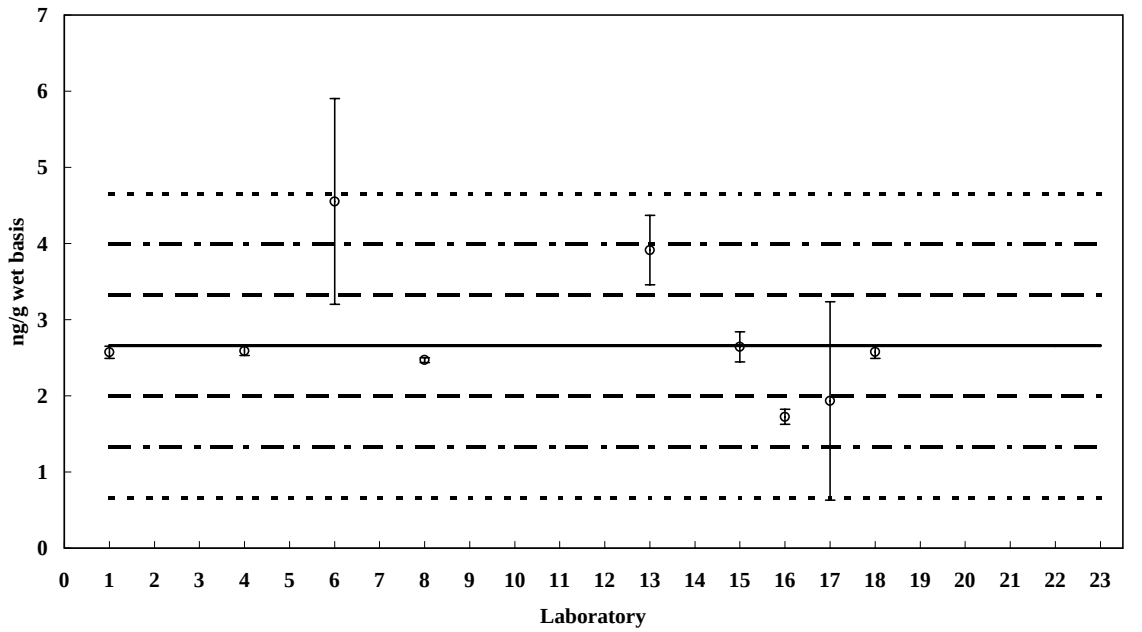


PCB 149

Assigned value = 2.66 ng/g s = 0.90 ng/g 95% CL = ± 0.59 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 9

Homogenate VI (MMQAVI)

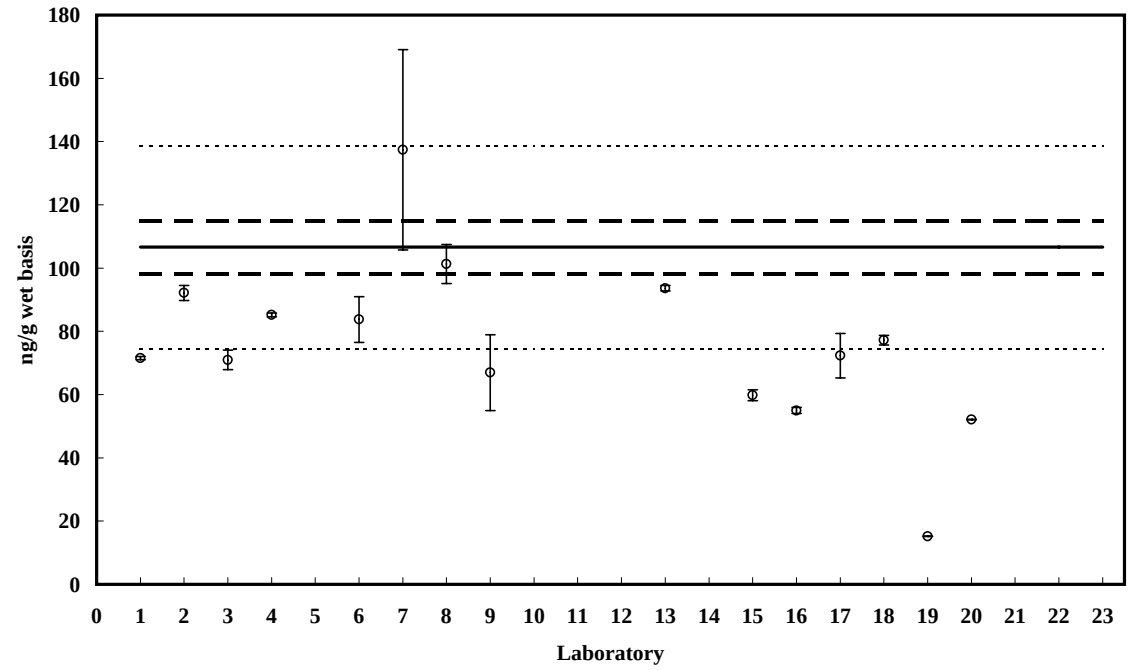


PCB 149

Value = 107 ng/g ± 8.4 ng/g (wet basis)

Reported Results: 15

SRM 1945

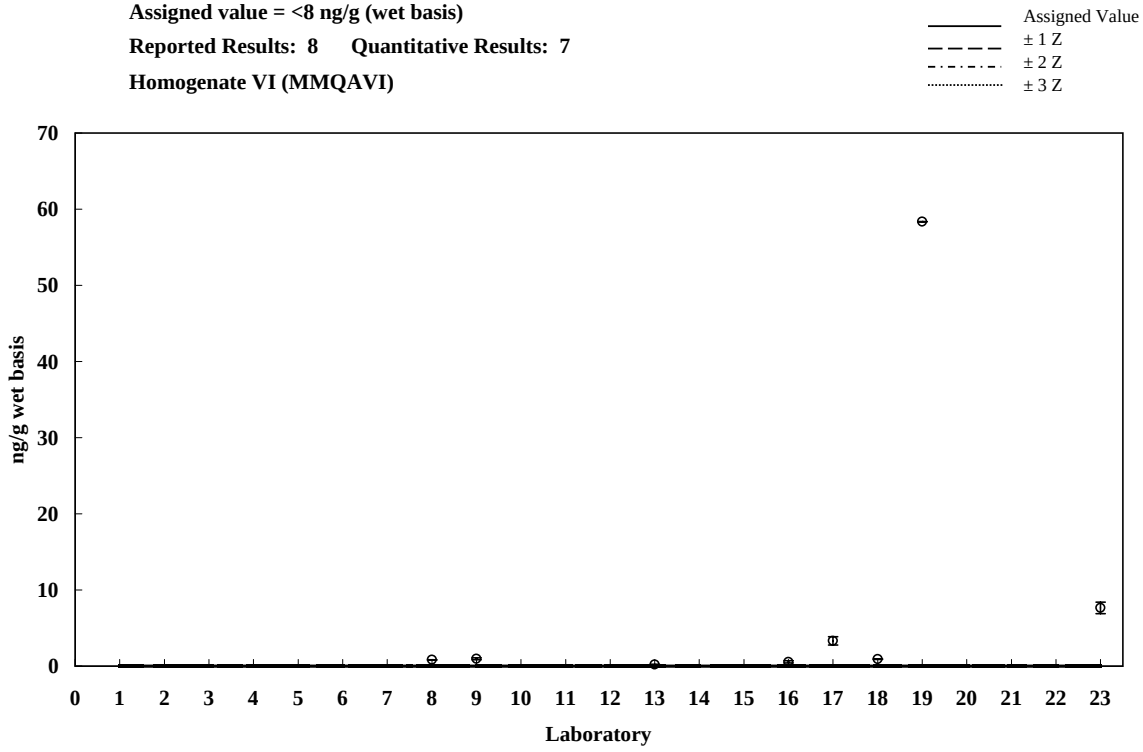


PCB 151

Assigned value = <8 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 7

Homogenate VI (MMQAVI)

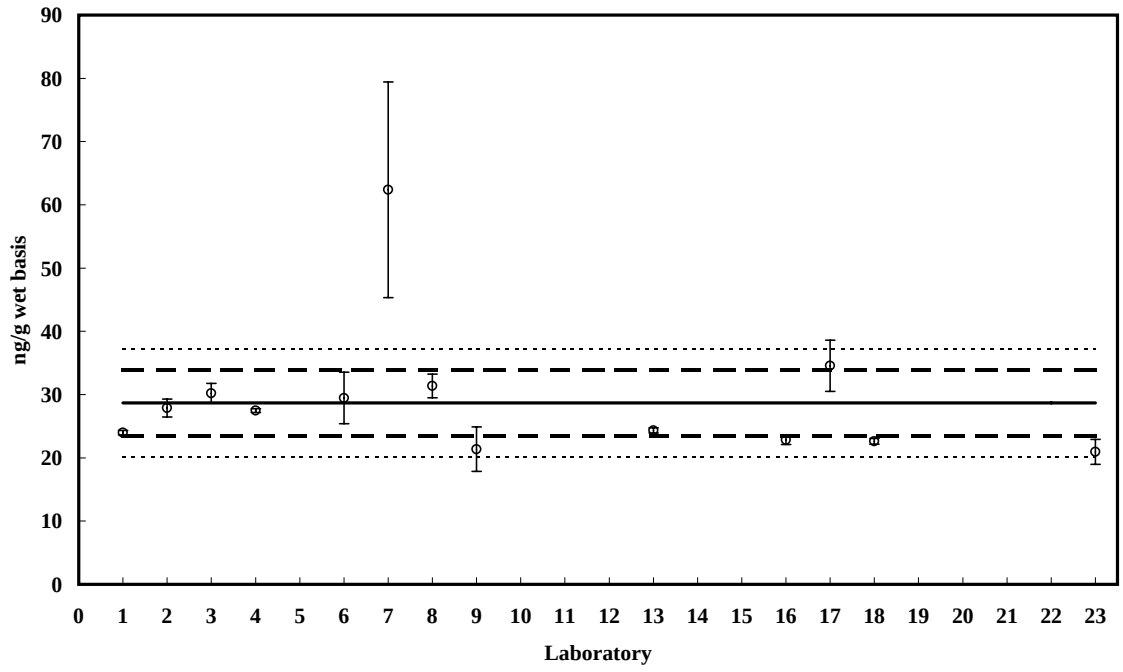


PCB 151

Value = 28.7 ng/g ± 5.2 ng/g (wet basis)

Reported Results: 13

SRM 1945

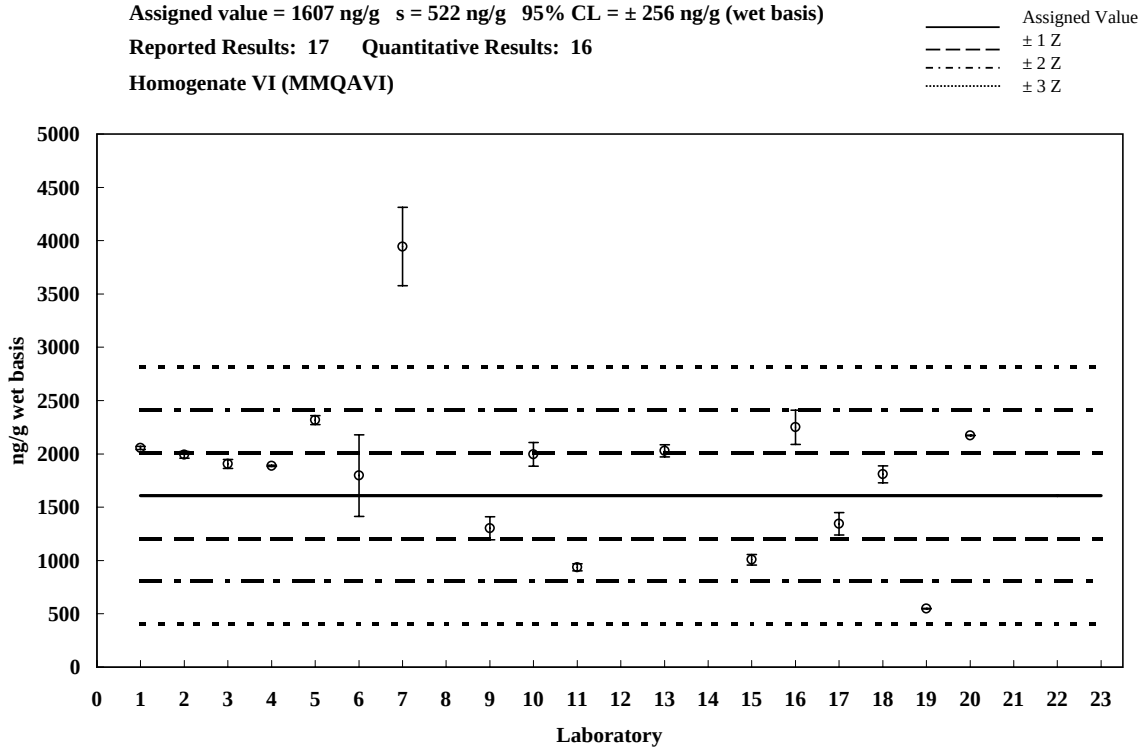


PCB 153

Assigned value = 1607 ng/g s = 522 ng/g 95% CL = ± 256 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 16

Homogenate VI (MMQAVI)

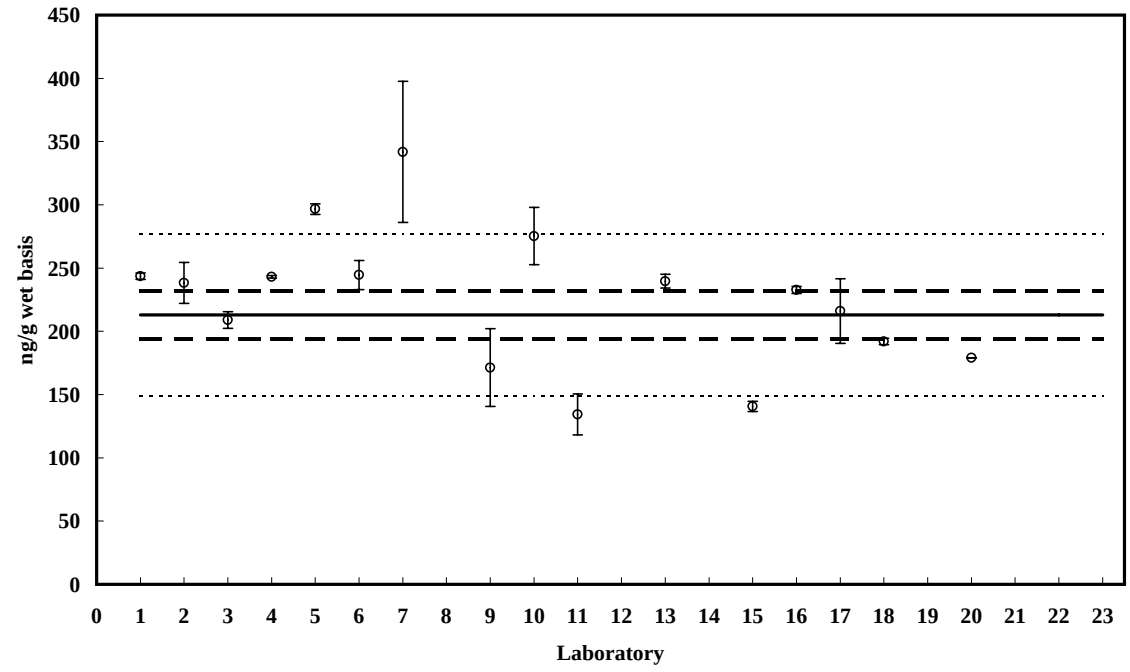


PCB 153

Value = 213 ng/g ± 19 ng/g (wet basis)

Reported Results: 17

SRM 1945

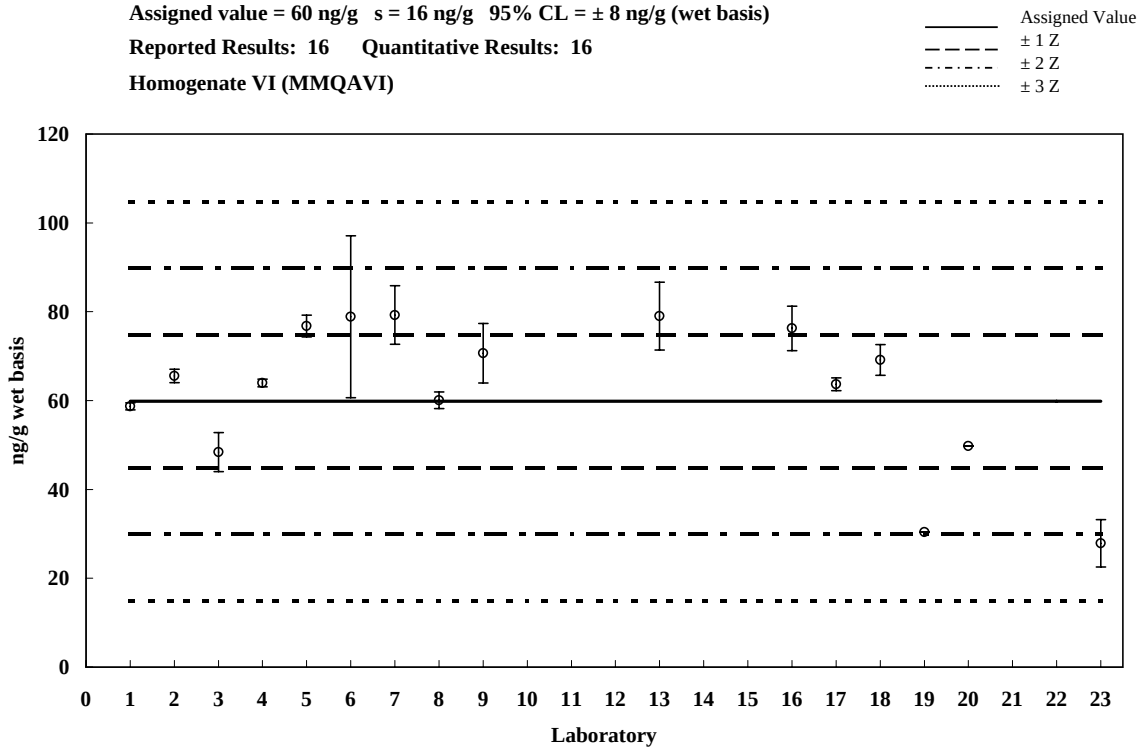


PCB 156

Assigned value = 60 ng/g s = 16 ng/g 95% CL = ± 8 ng/g (wet basis)

Reported Results: 16 Quantitative Results: 16

Homogenate VI (MMQAVI)

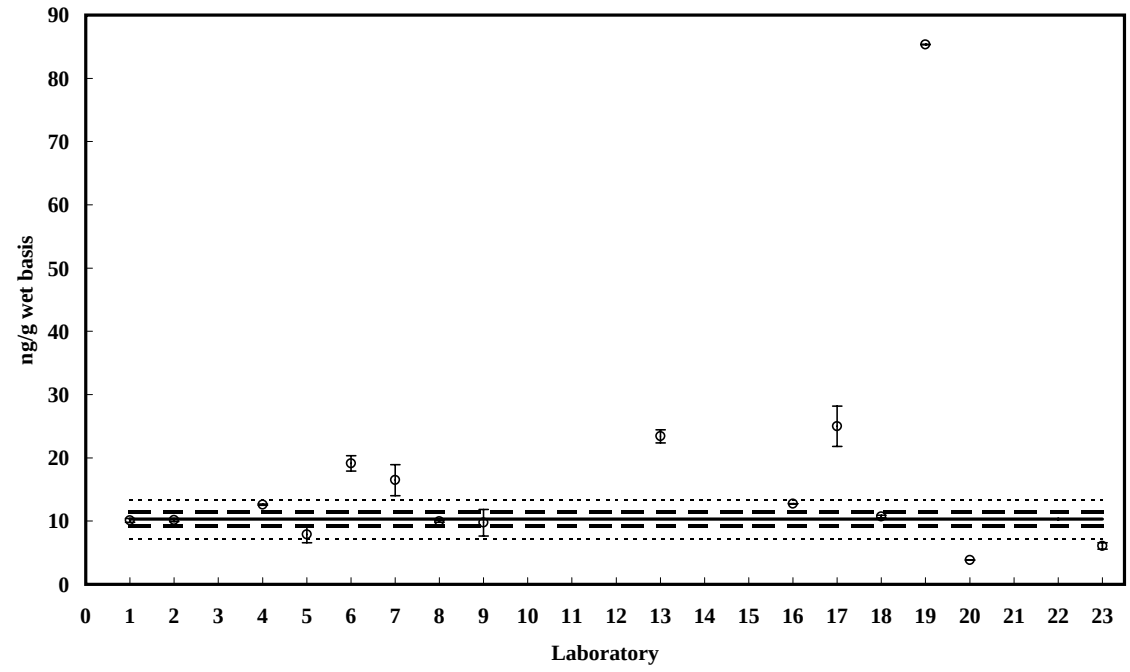


PCB 156

Value = 10 ng/g ± 1 ng/g (wet basis)

Reported Results: 15

SRM 1945

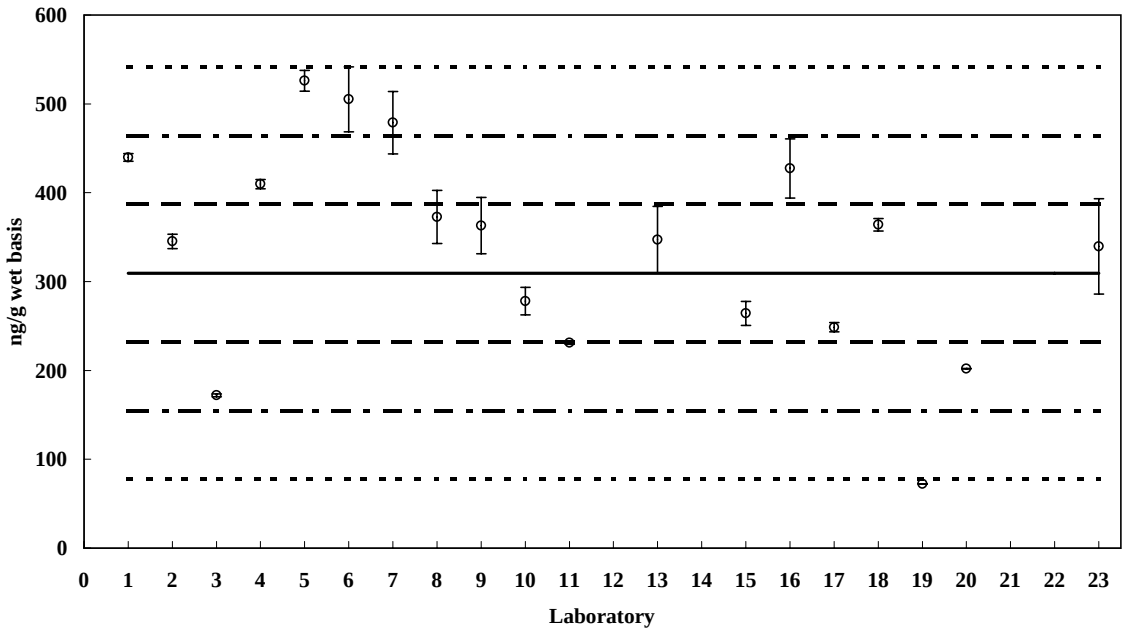


PCB 170 (+190)

Assigned value = 309 ng/g s = 119 ng/g 95% CL = ± 53 ng/g (wet basis)

Reported Results: 19 Quantitative Results: 19

Homogenate VI (MMQAVI)

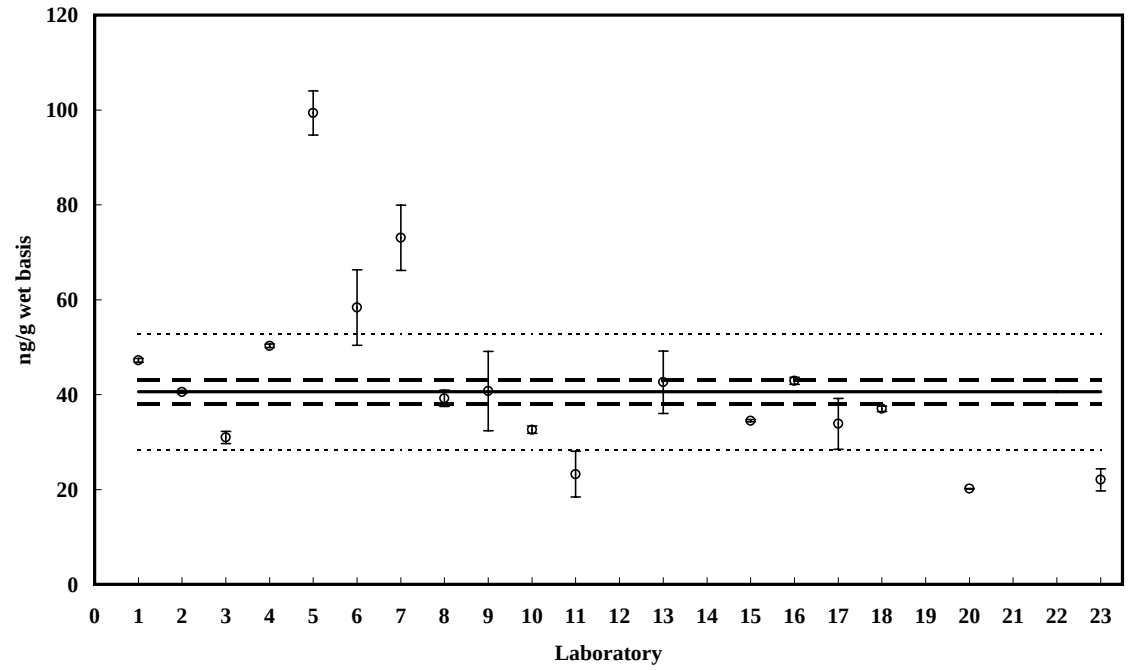


PCB 170 (+190)

Value = 40.6 ± 2.6 ng/g (wet basis)

Reported Results: 19

SRM 1945

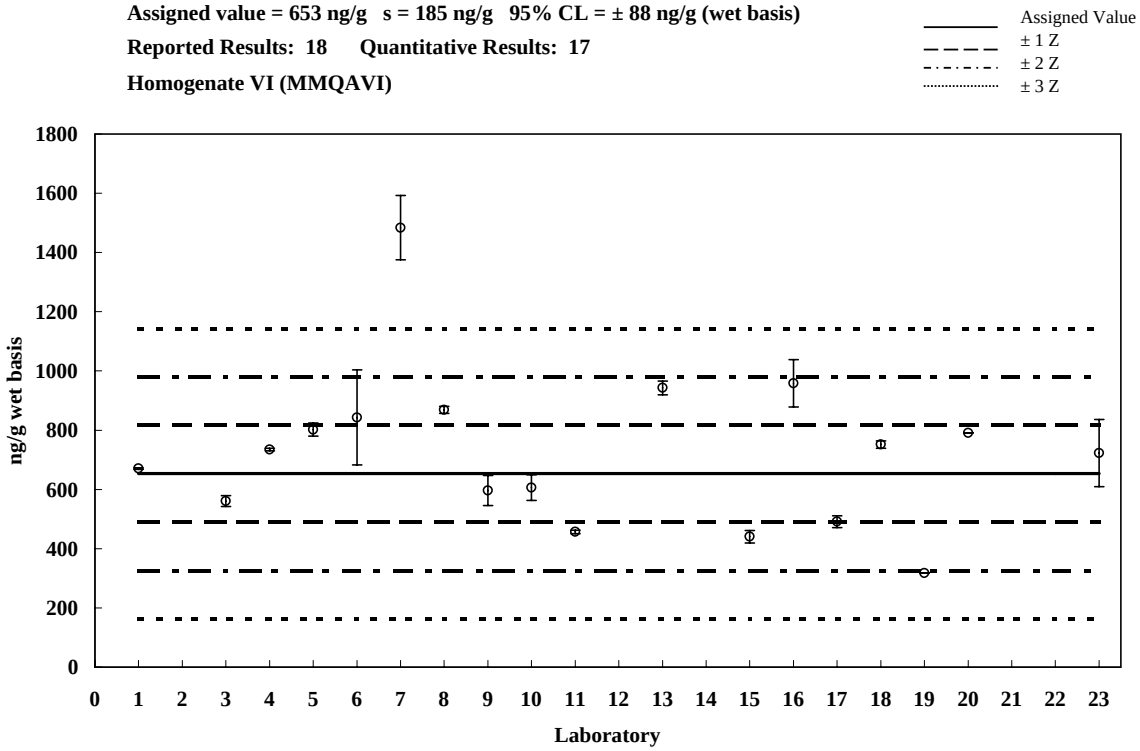


PCB 180

Assigned value = 653 ng/g s = 185 ng/g 95% CL = ± 88 ng/g (wet basis)

Reported Results: 18 Quantitative Results: 17

Homogenate VI (MMQAVI)

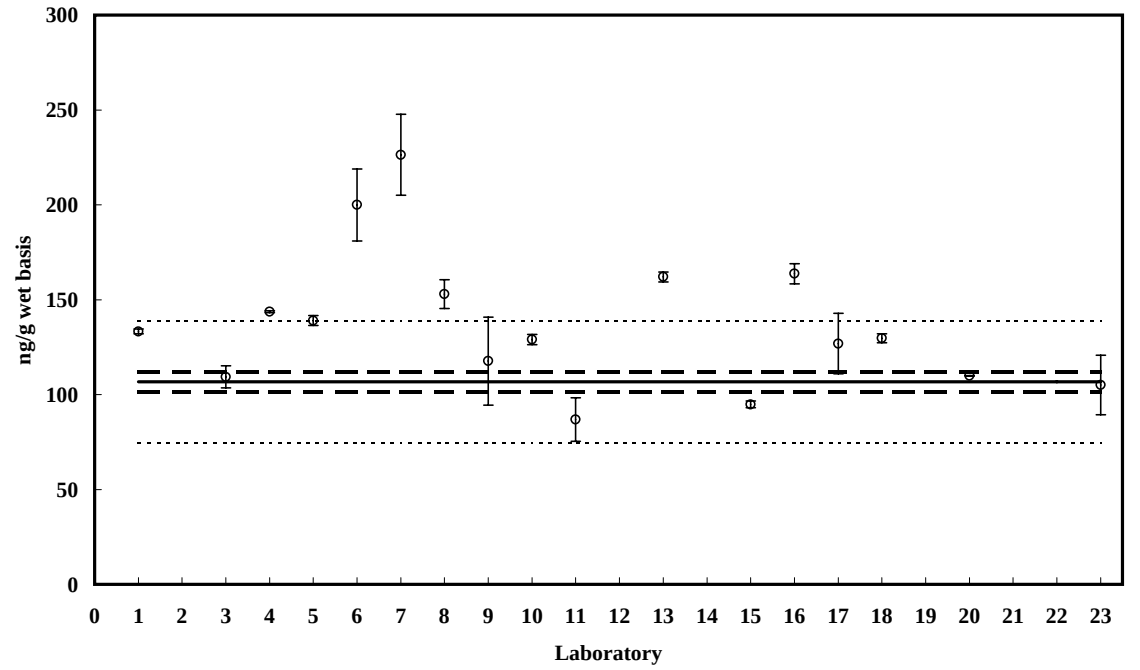


PCB 180

Value = 107 ng/g ± 5.3 ng/g (wet basis)

Reported Results: 18

SRM 1945

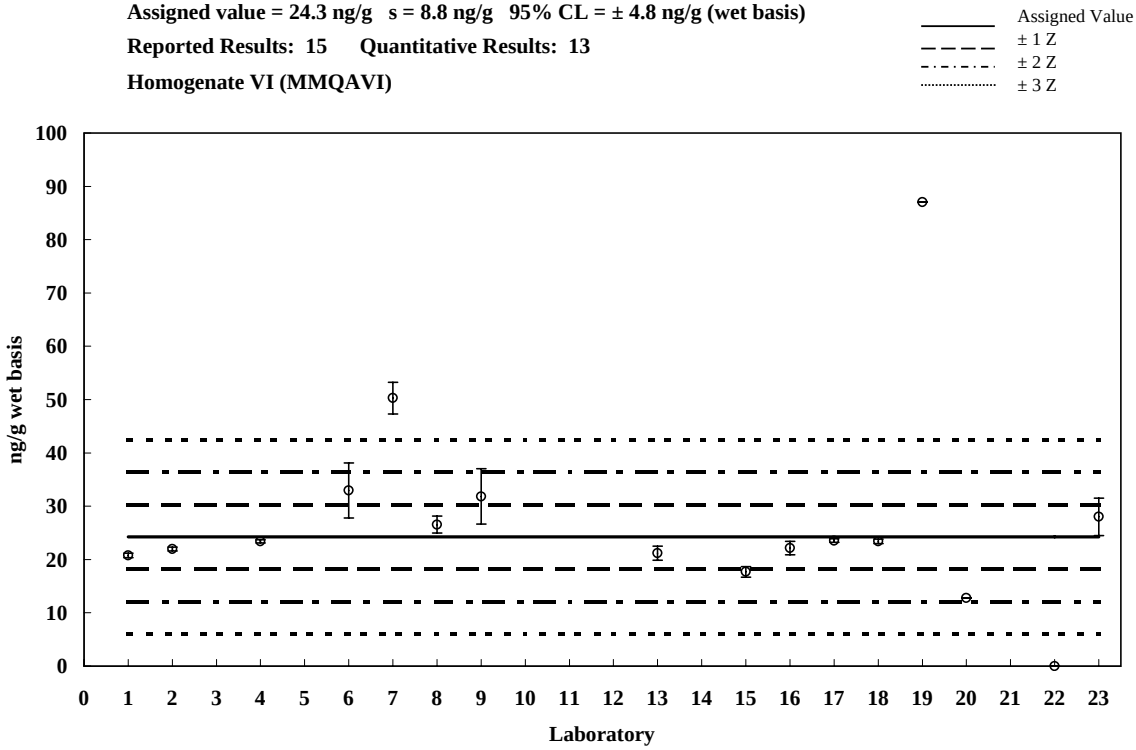


PCB 183

Assigned value = 24.3 ng/g s = 8.8 ng/g 95% CL = ± 4.8 ng/g (wet basis)

Reported Results: 15 Quantitative Results: 13

Homogenate VI (MMQAVI)

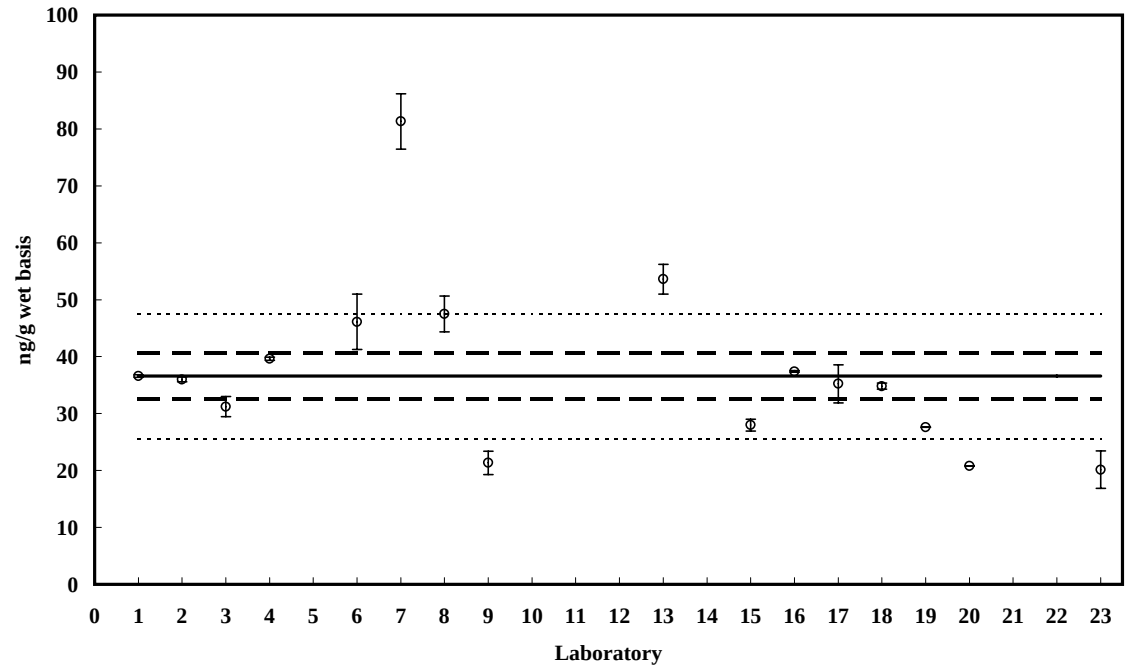


PCB 183

Value = 36.6 ng/g ± 4.1 ng/g (wet basis)

Reported Results: 16

SRM 1945



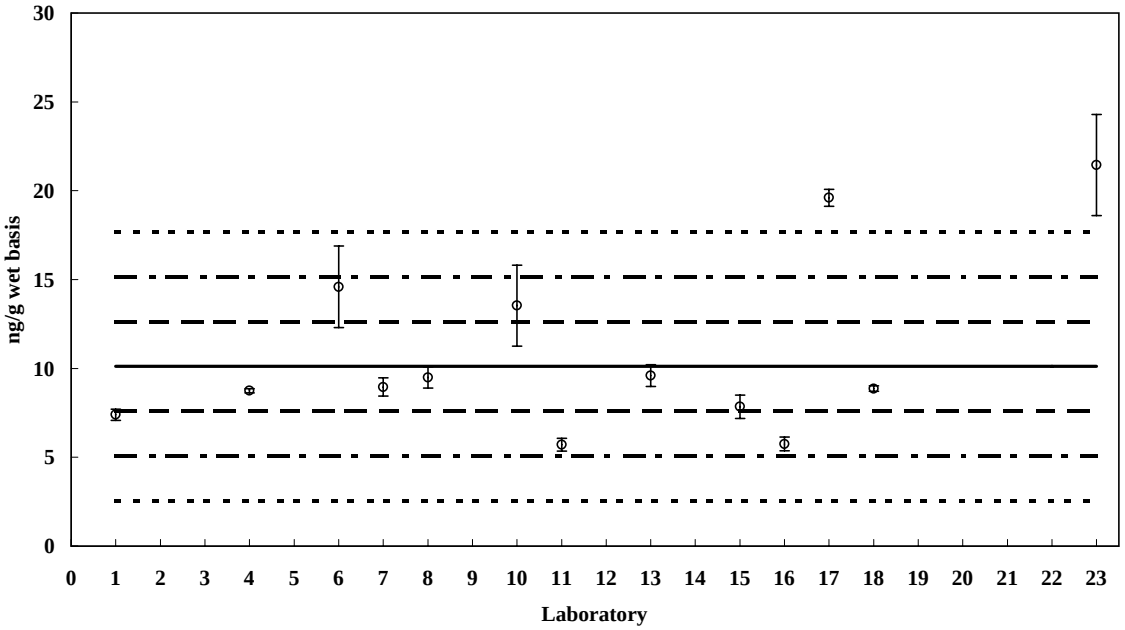
PCB 187

Assigned value = 10.1 ng/g s = 5.0 ng/g 95% CL = ± 2.7 ng/g (wet basis)

Reported Results: 14 Quantitative Results: 13

Homogenate VI (MMQAVI)

Assigned Value
± 1 Z
± 2 Z
± 3 Z



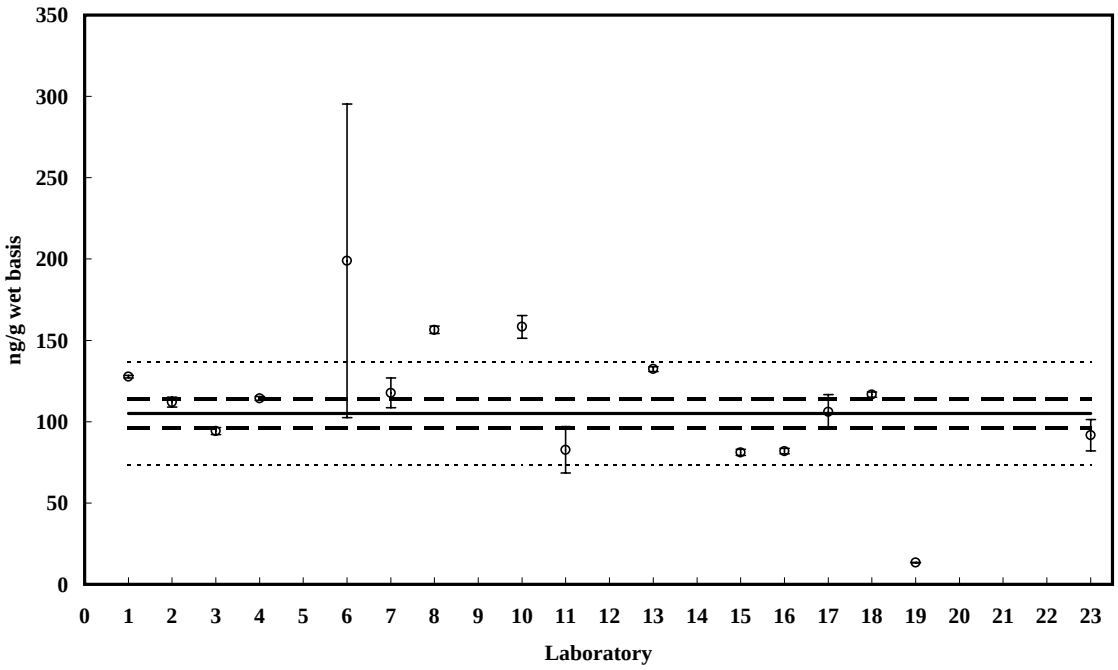
PCB 187

Value = 105 ng/g ± 9.1 ng/g (wet basis)

Reported Results: 16

SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

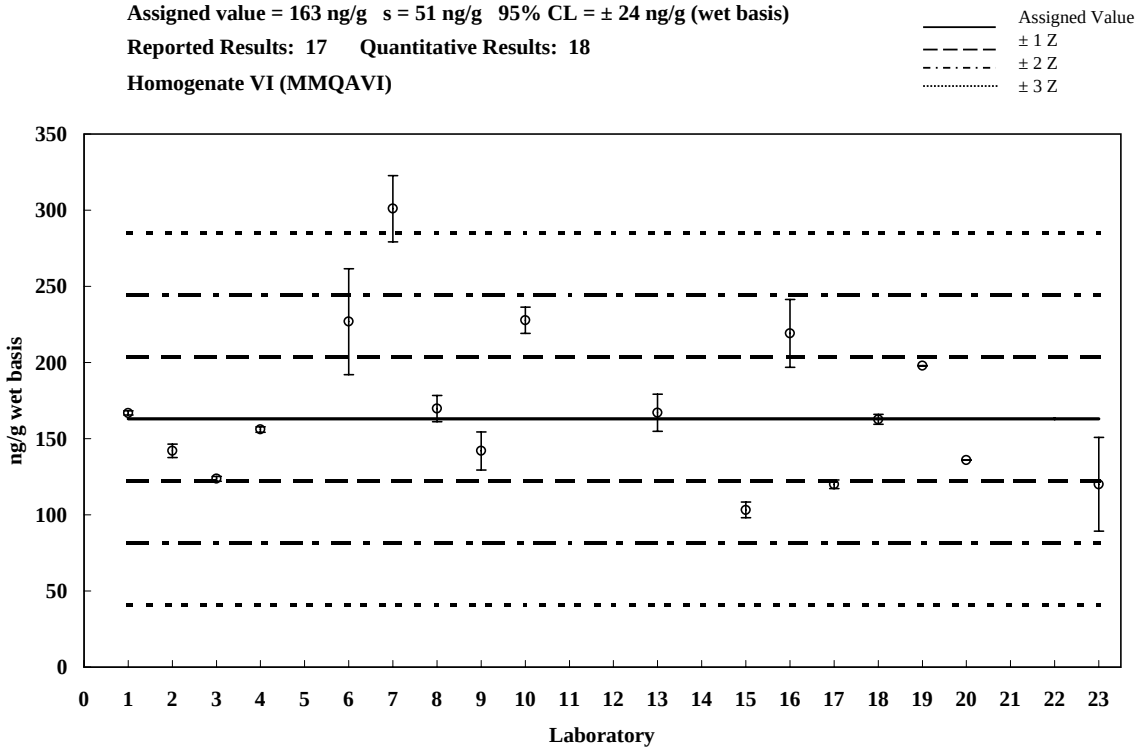


PCB 194

Assigned value = 163 ng/g s = 51 ng/g 95% CL = ± 24 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 18

Homogenate VI (MMQAVI)

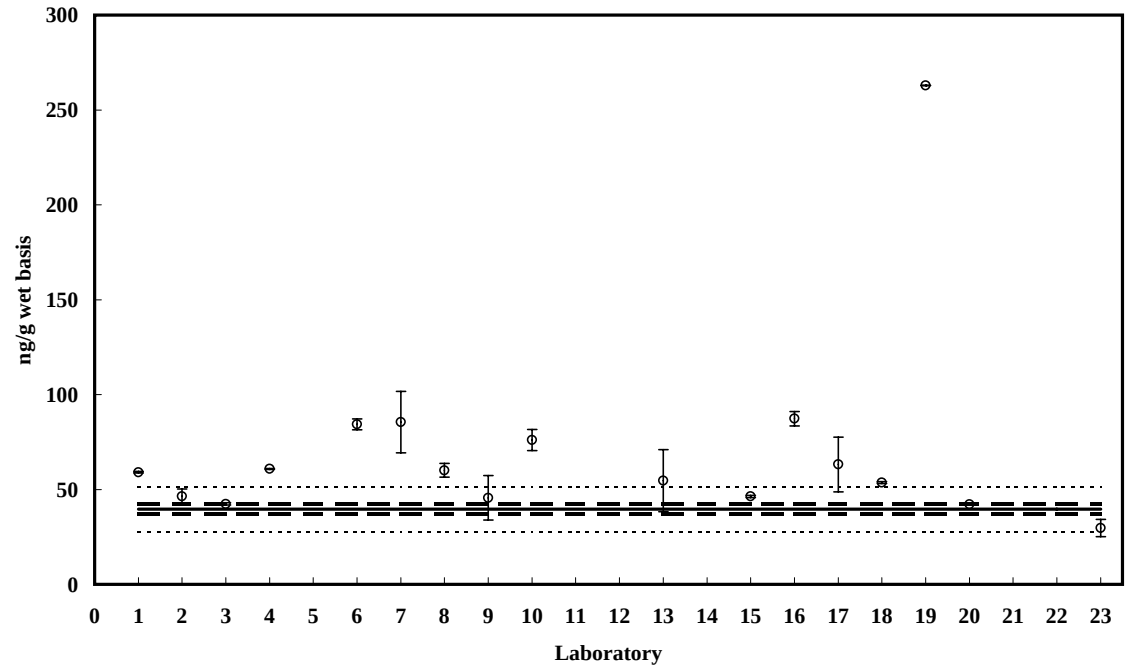


PCB 194

Value = 39.6 ng/g ± 2.5 ng/g (wet basis)

Reported Results: 17

SRM 1945



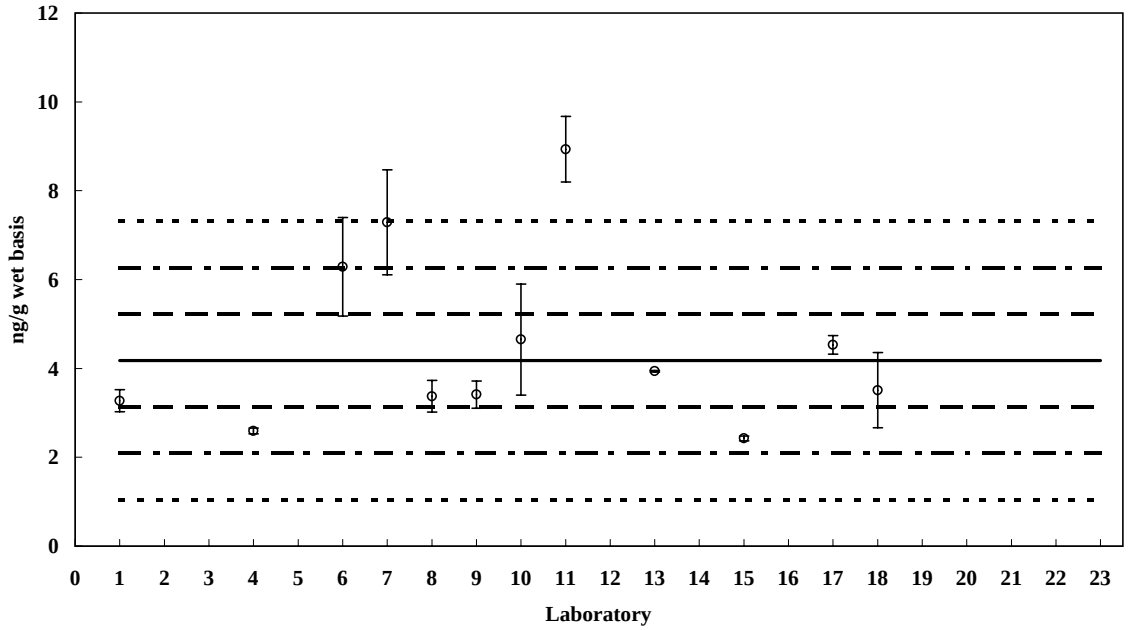
PCB 195

Assigned value = 4.18 ng/g s = 2.0 ng/g 95% CL = ± 1.1 ng/g (wet basis)

Reported Results: 13 Quantitative Results: 12

Homogenate VI (MMQAVI)

Assigned Value
± 1 Z
± 2 Z
± 3 Z



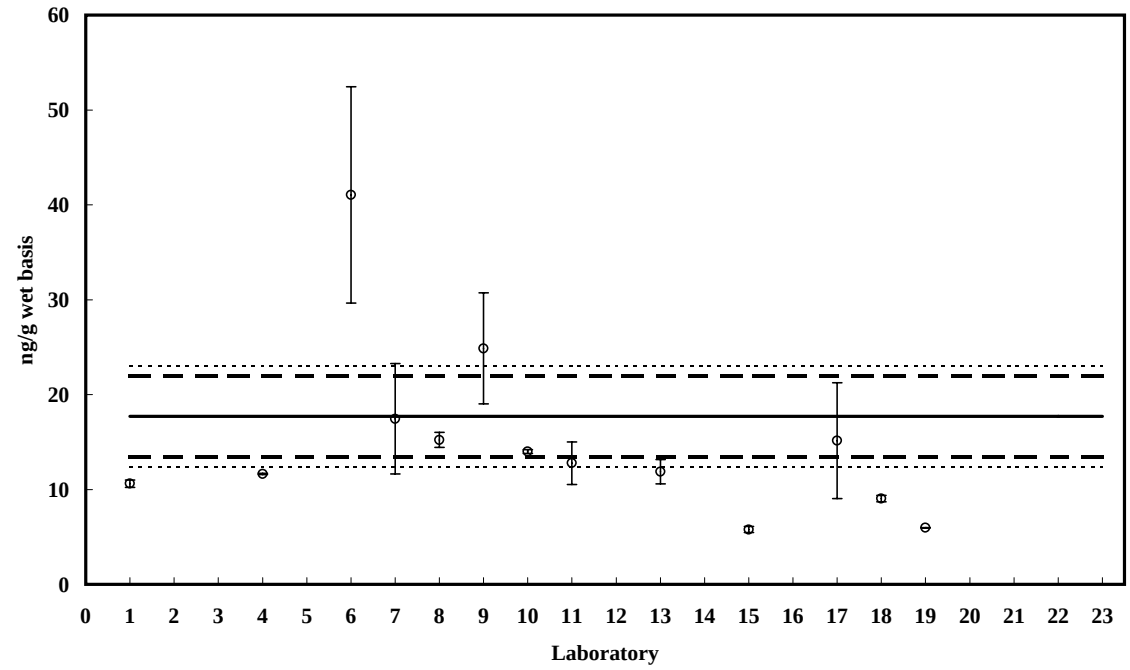
PCB 195

Value = 17.7 ng/g ± 4.3 ng/g (wet basis)

Reported Results: 13

SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

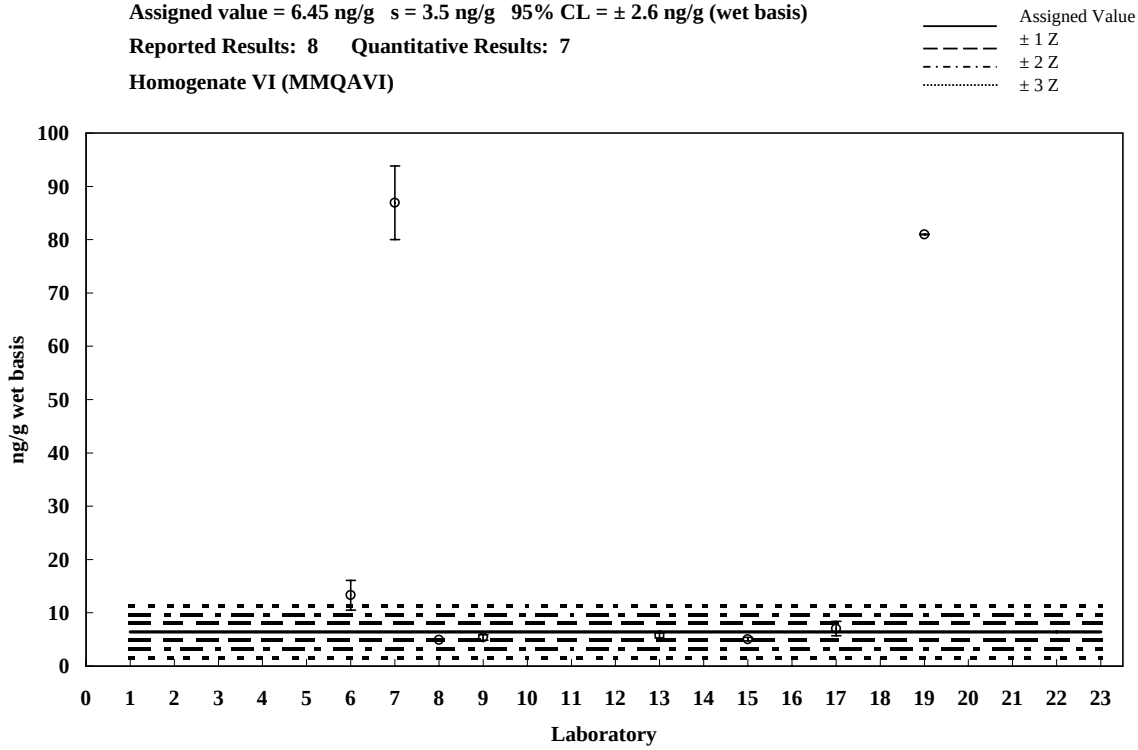


PCB 201

Assigned value = 6.45 ng/g s = 3.5 ng/g 95% CL = ± 2.6 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 7

Homogenate VI (MMQAVI)

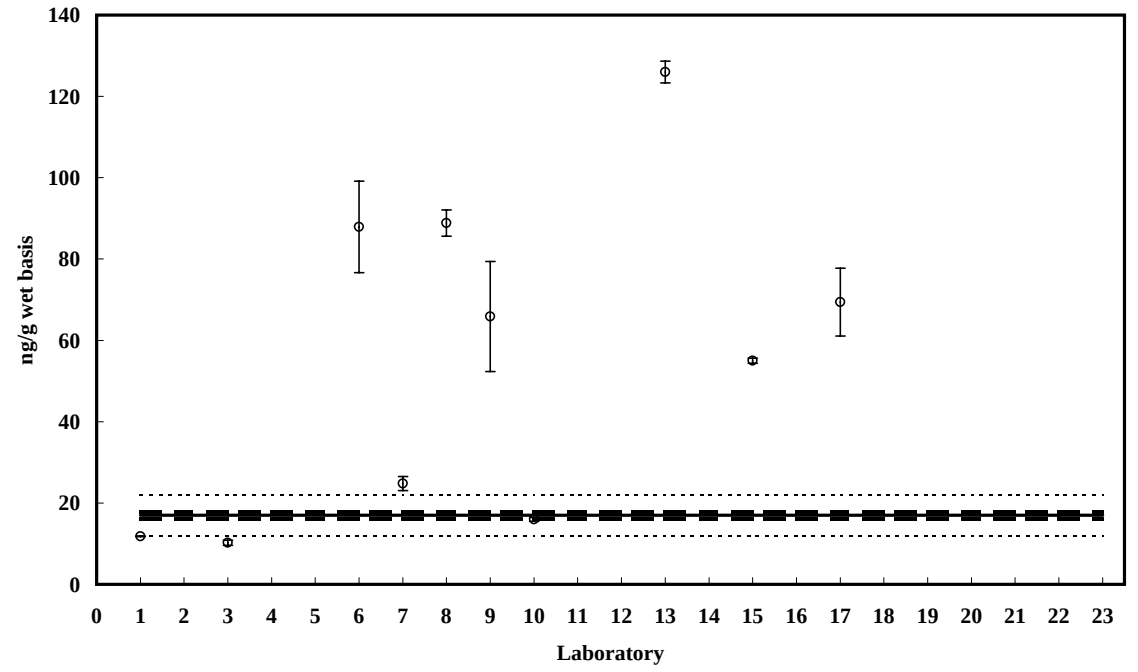


PCB 201

Value = 17.0 ng/g ± 0.89 ng/g (wet basis)

Reported Results: 10

SRM 1945

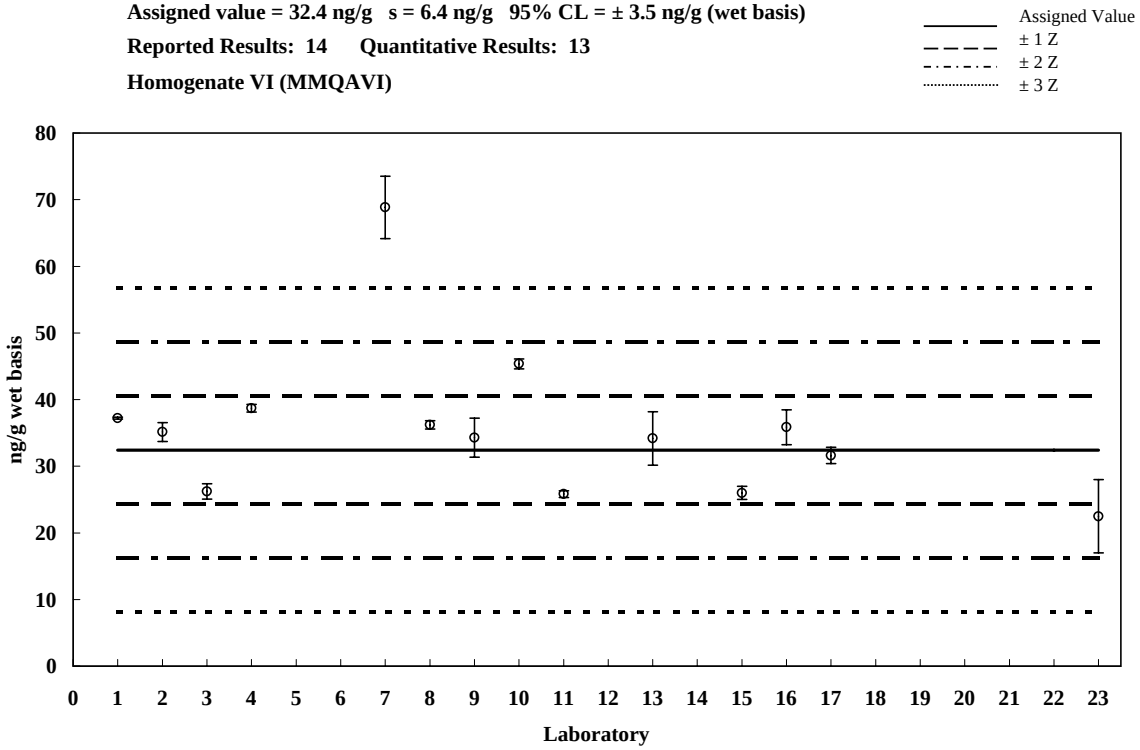


PCB 206

Assigned value = 32.4 ng/g s = 6.4 ng/g 95% CL = ± 3.5 ng/g (wet basis)

Reported Results: 14 Quantitative Results: 13

Homogenate VI (MMQAVI)

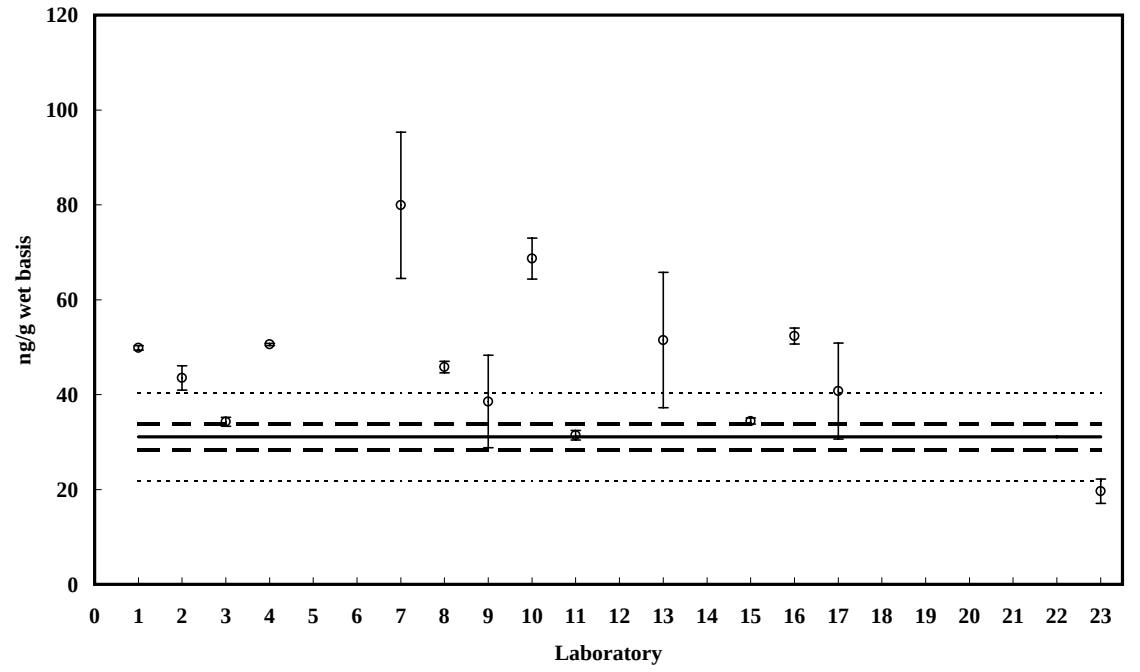


PCB 206

Value = 31.1 ng/g ± 2.7 ng/g (wet basis)

Reported Results: 14

SRM 1945



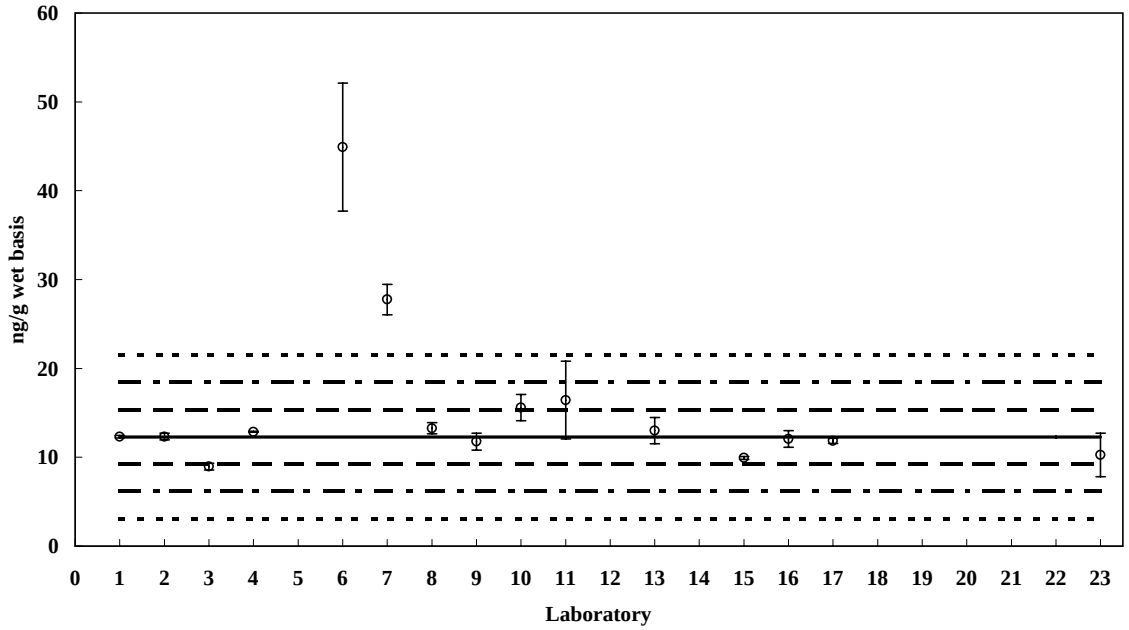
PCB 209

Assigned value = 12.3 ng/g s = 2.1 ng/g 95% CL = ± 1.1 ng/g (wet basis)

Reported Results: 15 Quantitative Results: 13

Homogenate VI (MMQAVI)

Assigned Value
± 1 Z
± 2 Z
± 3 Z



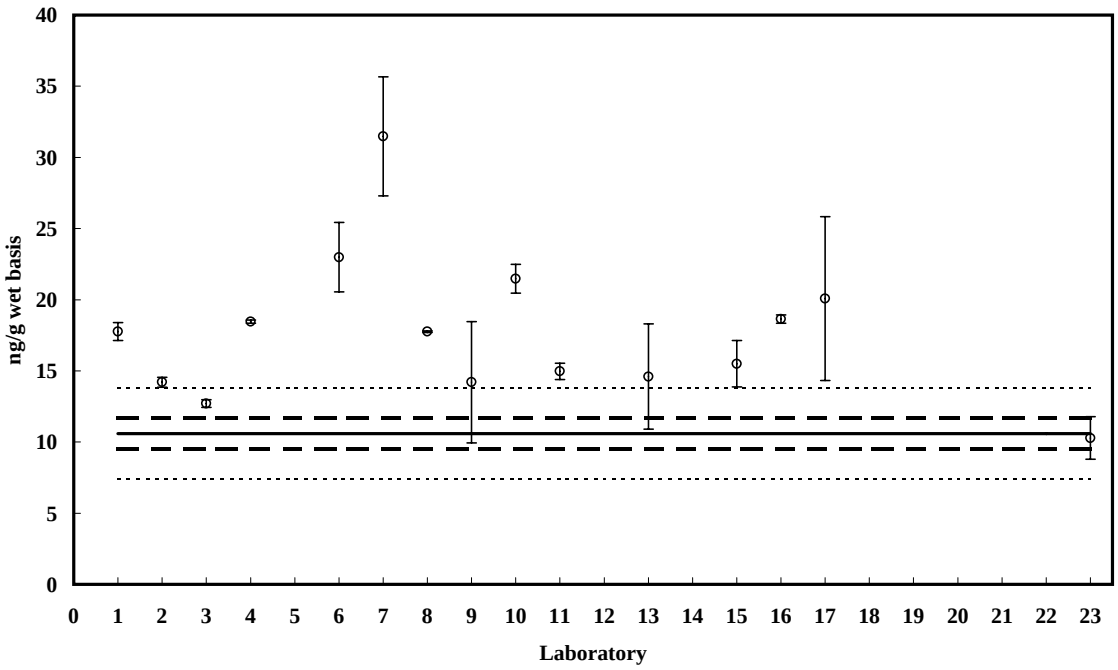
PCB 209

Value = 10.6 ng/g ± 1.1 ng/g (wet basis)

Reported Results: 15

SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

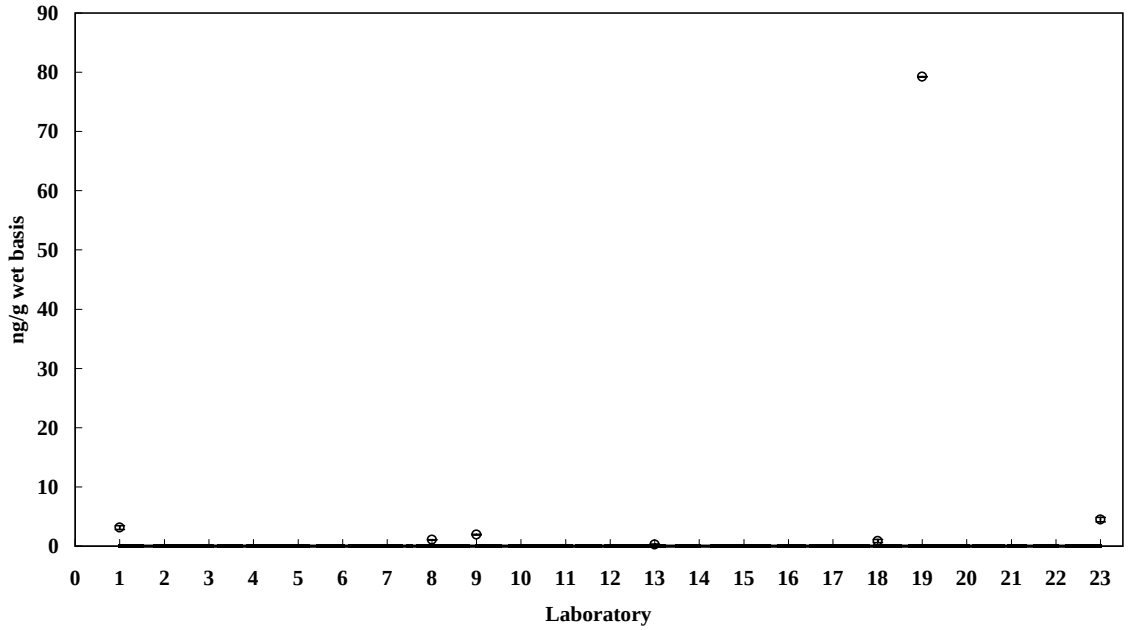


PCB 66

Assigned value = <10 ng/g (wet basis)

Reported Results: 7 Quantitative Results: 6

Homogenate VI (MMQAVI)



PCB 66

Value = 23.6 ng/g ± 1.6 ng/g (wet basis)

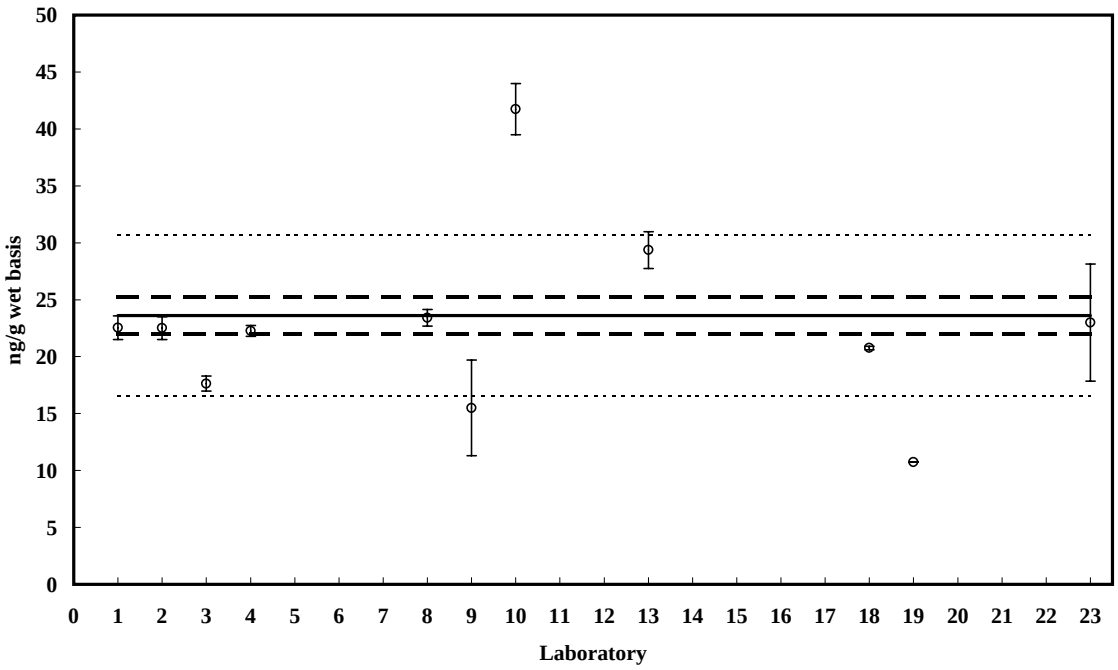
Reported Results: 11

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

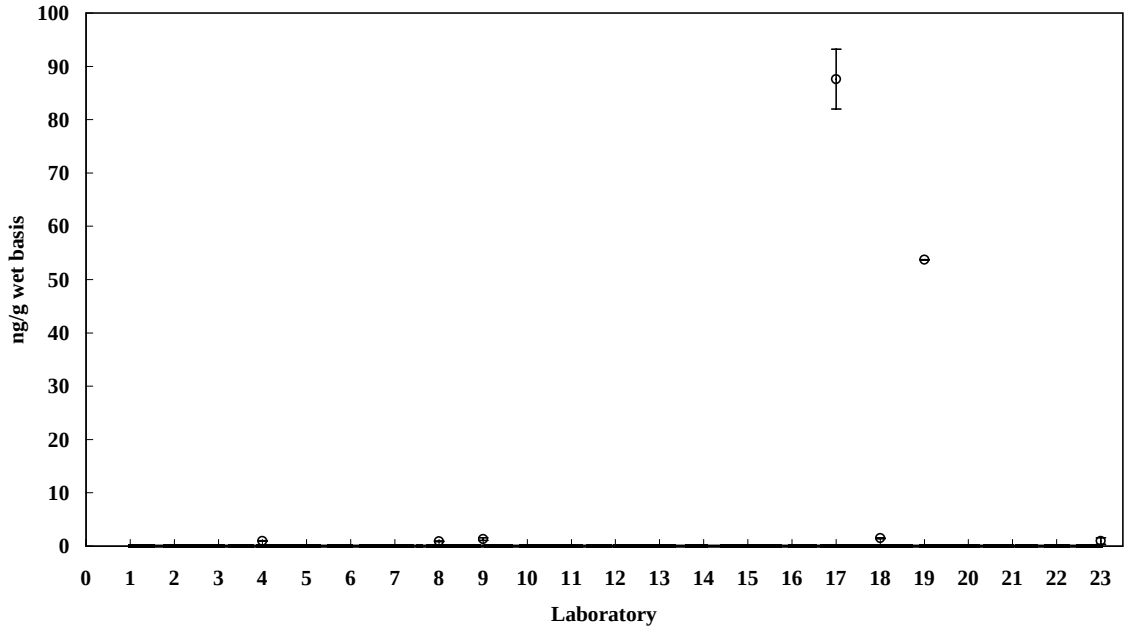


PCB 95

Assigned value = <10 ng/g (wet basis)

Reported Results: 7 Quantitative Results: 8

Homogenate VI (MMQAVI)



PCB 95

Value = 33.8 ng/g ± 1.7 ng/g (wet basis)

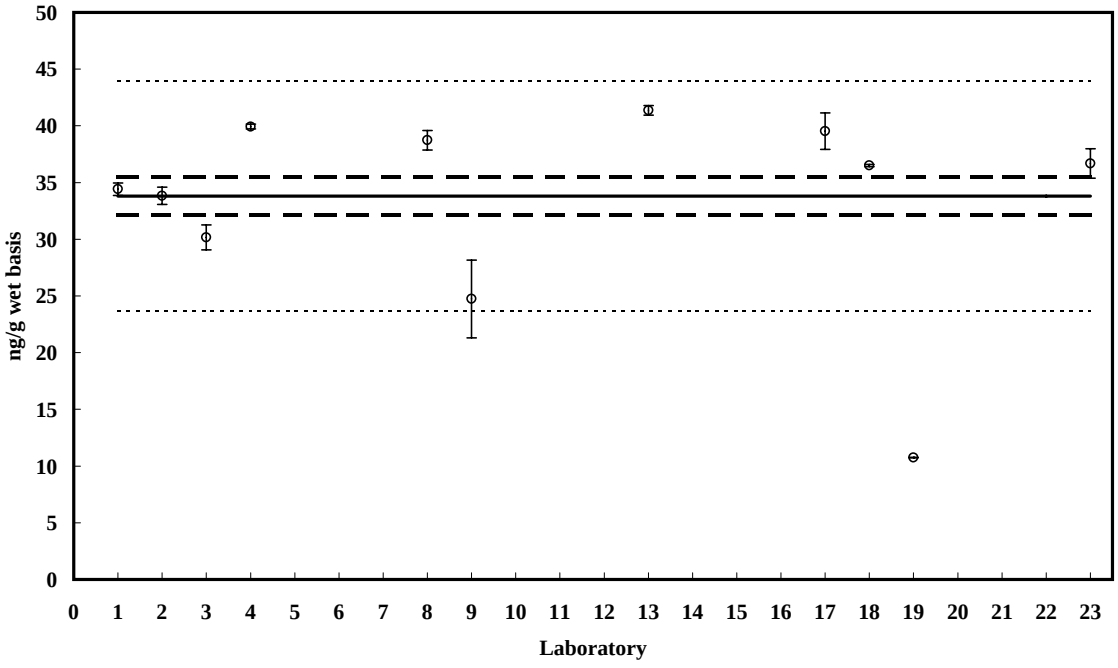
Reported Results: 11

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value



Appendix C

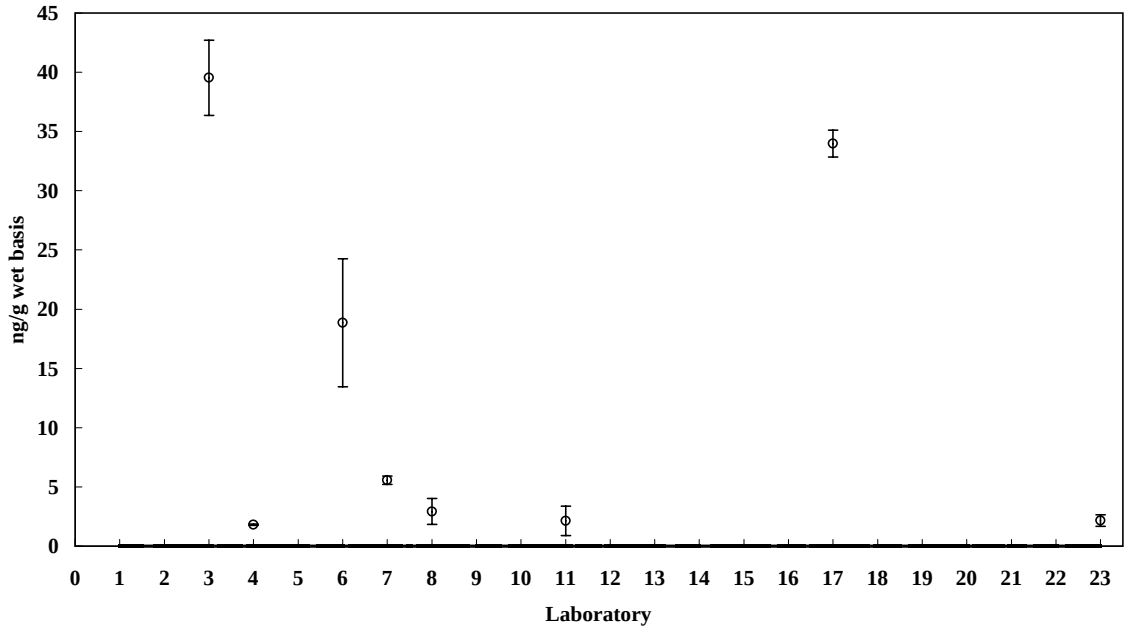
Graphical results of pesticide and lipid data reported by all laboratories. The z-scores for Homogenate VI represent 25% of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. Error bars are ± 1 standard deviation.

2,4'-DDT

Assigned value = <5 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 8

Homogenate VI (MMQAVI)



2,4'-DDT

Value = 106 ng/g ± 14 ng/g (wet basis)

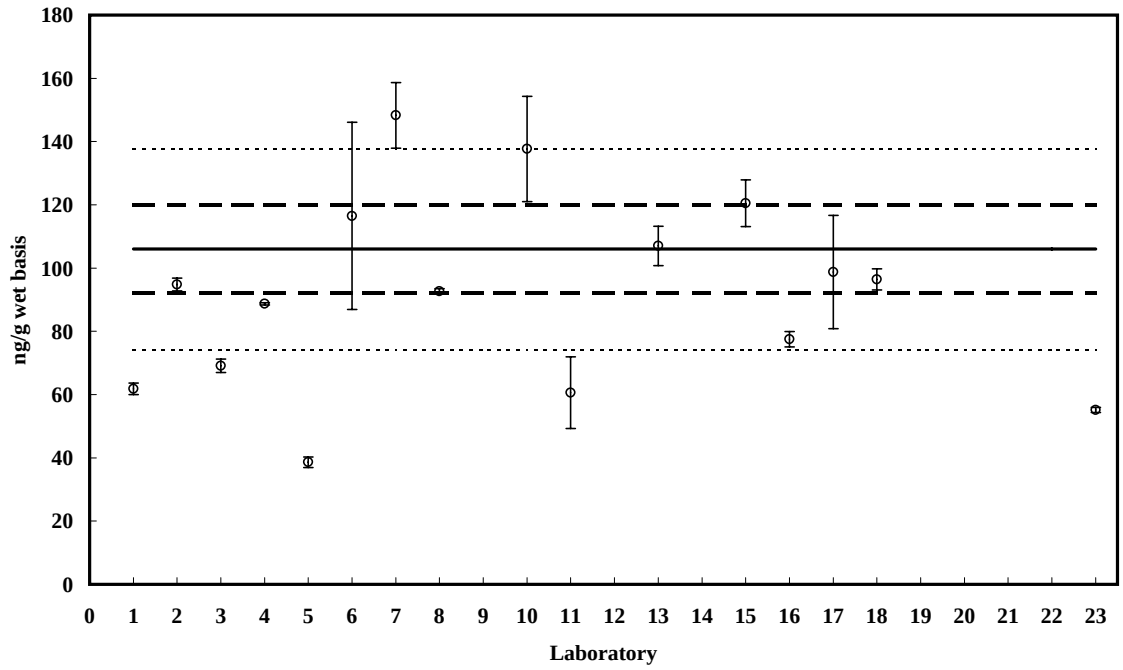
Reported Results: 16

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

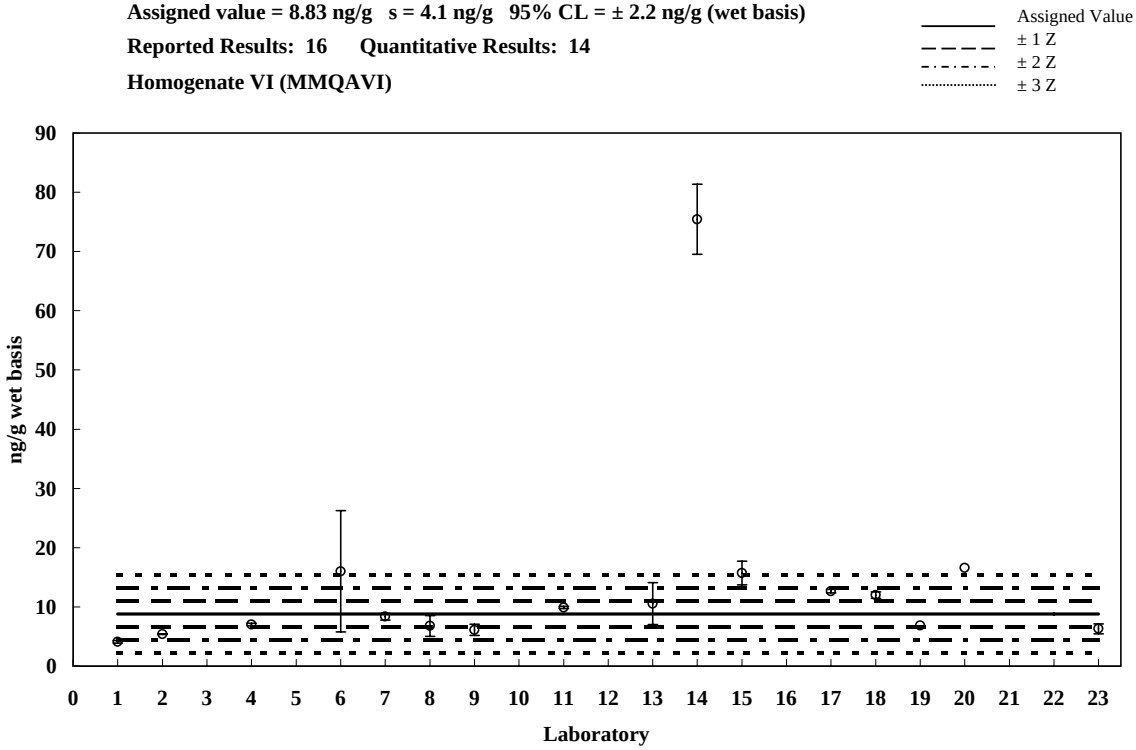


4,4'-DDT

Assigned value = 8.83 ng/g s = 4.1 ng/g 95% CL = ± 2.2 ng/g (wet basis)

Reported Results: 16 Quantitative Results: 14

Homogenate VI (MMQAVI)

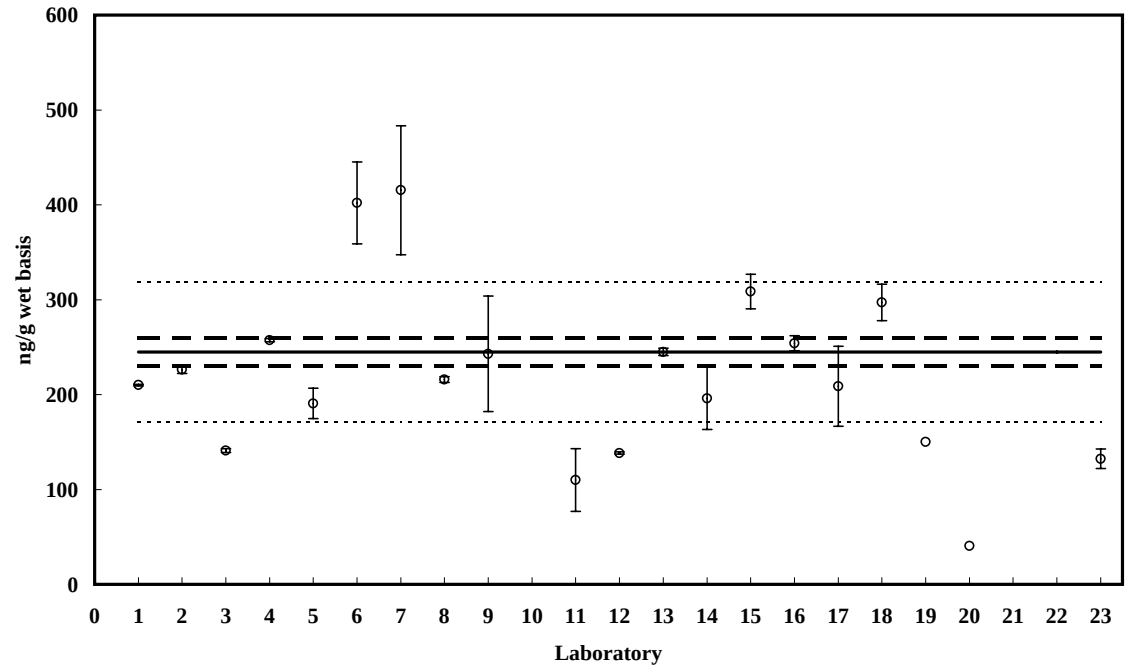


4,4'-DDT

Value = 245 ng/g ± 15 ng/g (wet basis)

Reported Results: 20

SRM 1945

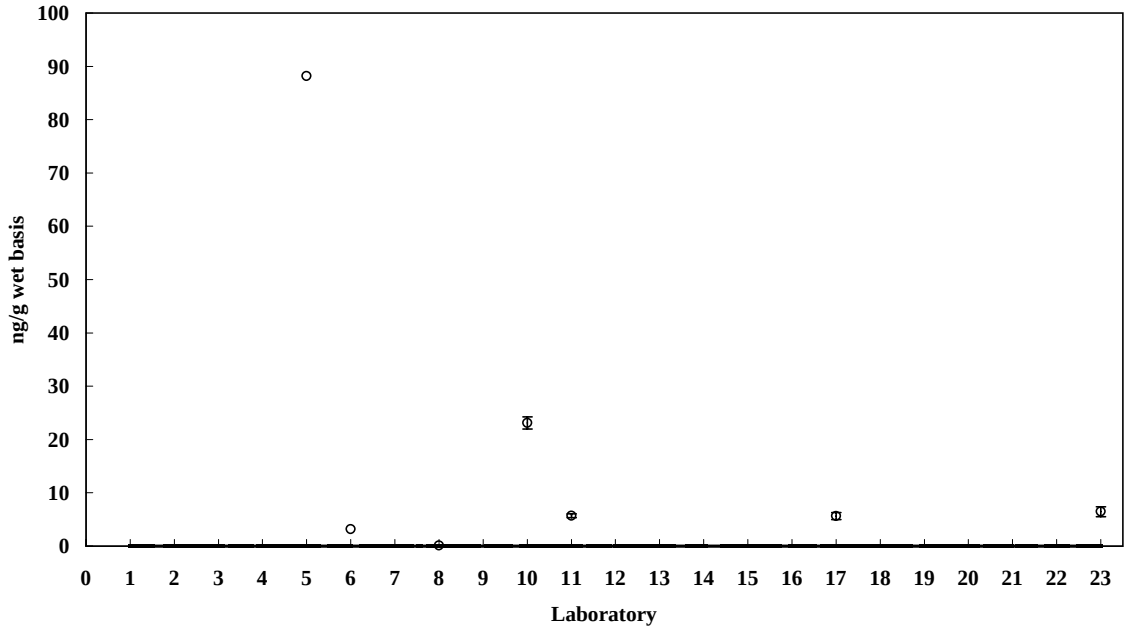


2,4'-DDE

Assigned value = <5 ng/g (wet basis)

Reported Results: 7 Quantitative Results: 3

Homogenate VI (MMQAVI)



2,4'-DDE

Value = 12.3 ng/g ± 0.87 ng/g (wet basis)

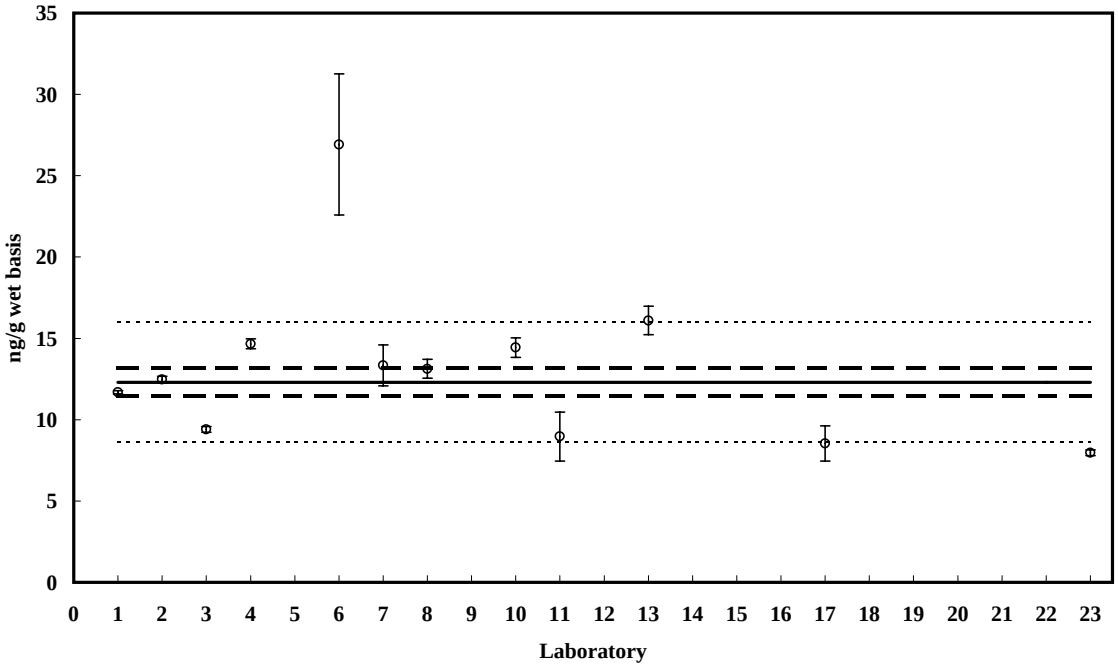
Reported Results: 12

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

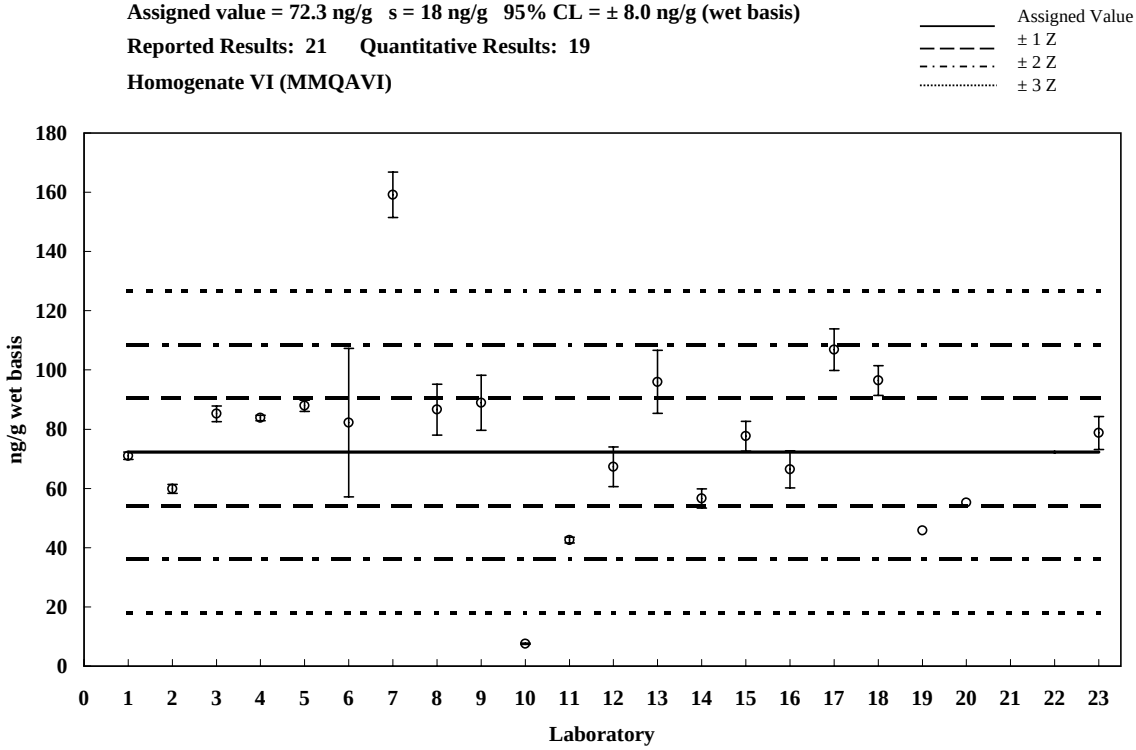


4,4'-DDE

Assigned value = 72.3 ng/g s = 18 ng/g 95% CL = ± 8.0 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 19

Homogenate VI (MMQAVI)

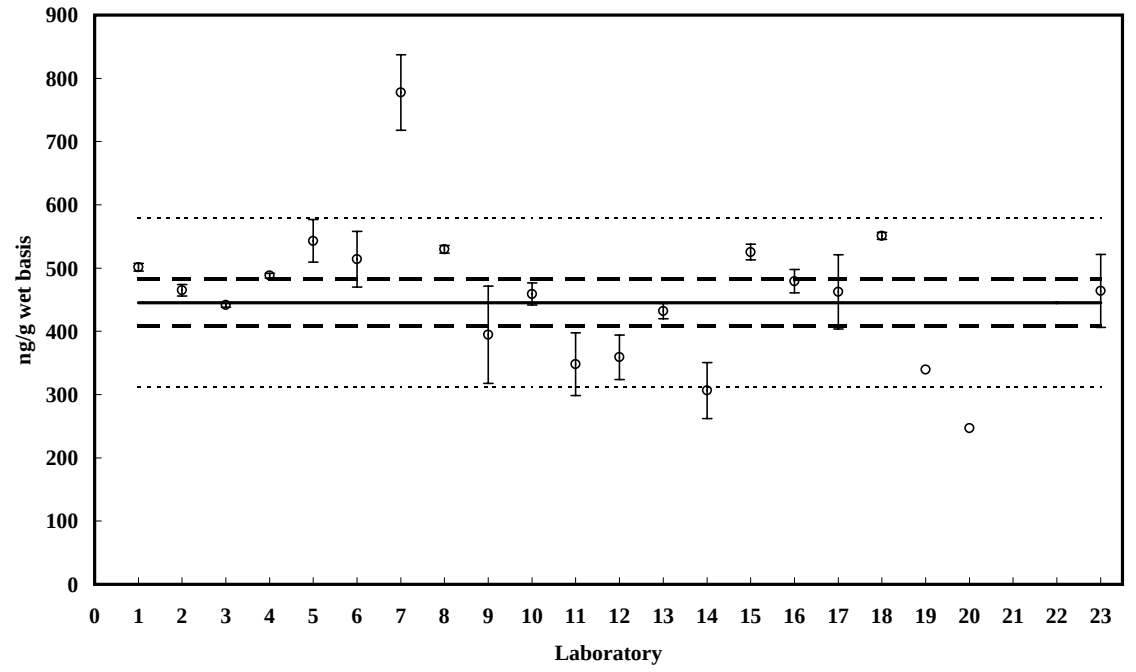


4,4'-DDE

Value = 445 ng/g ± 37 ng/g (wet basis)

Reported Results: 21

SRM 1945

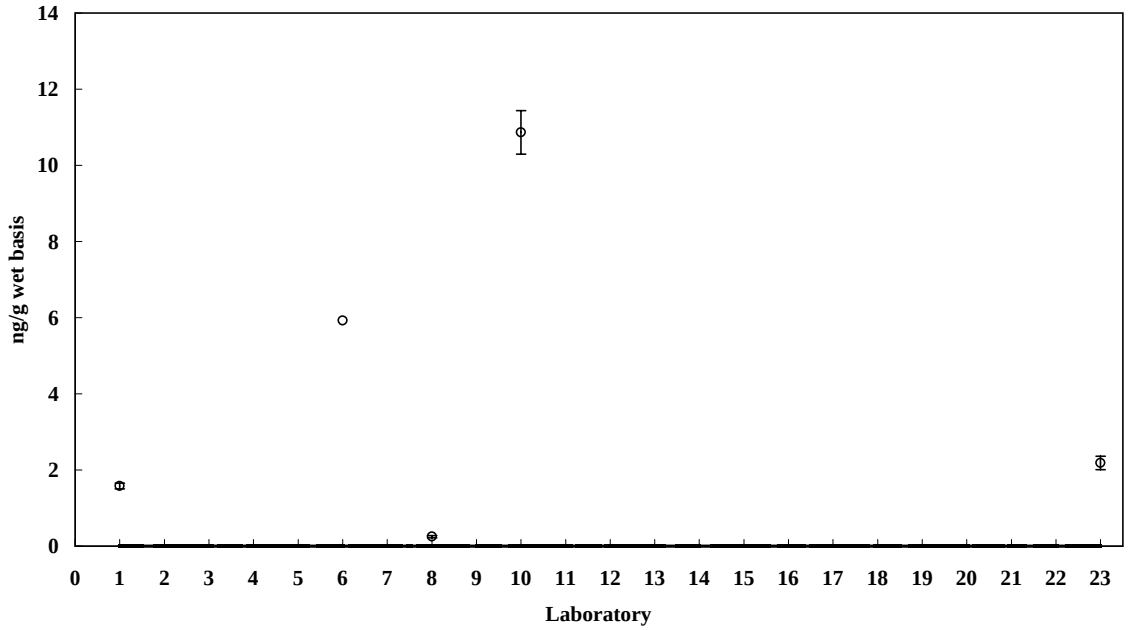


2,4'-DDD

Assigned value = <5 ng/g (wet basis)

Reported Results: 5 Quantitative Results: 4

Homogenate VI (MMQAVI)



2,4'-DDD

Value = 18.1 ng/g ± 2.8 ng/g (wet basis)

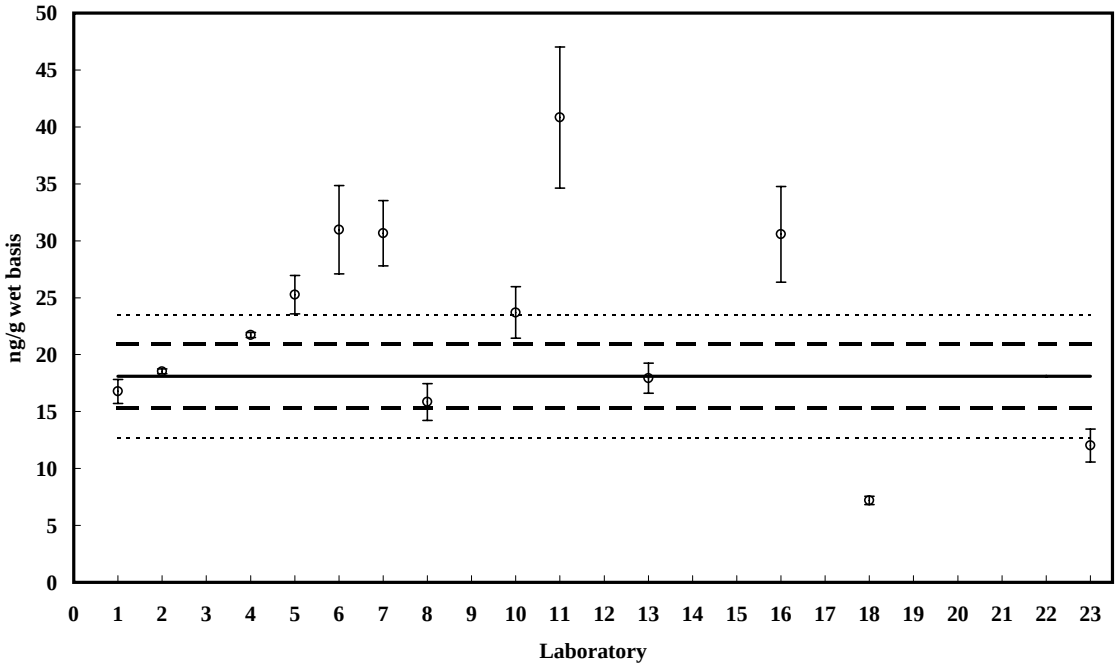
Reported Results: 13

SRM 1945

Certified or Reference Value

± Uncertainty

± 30 % of Ceritfied or Reference Value

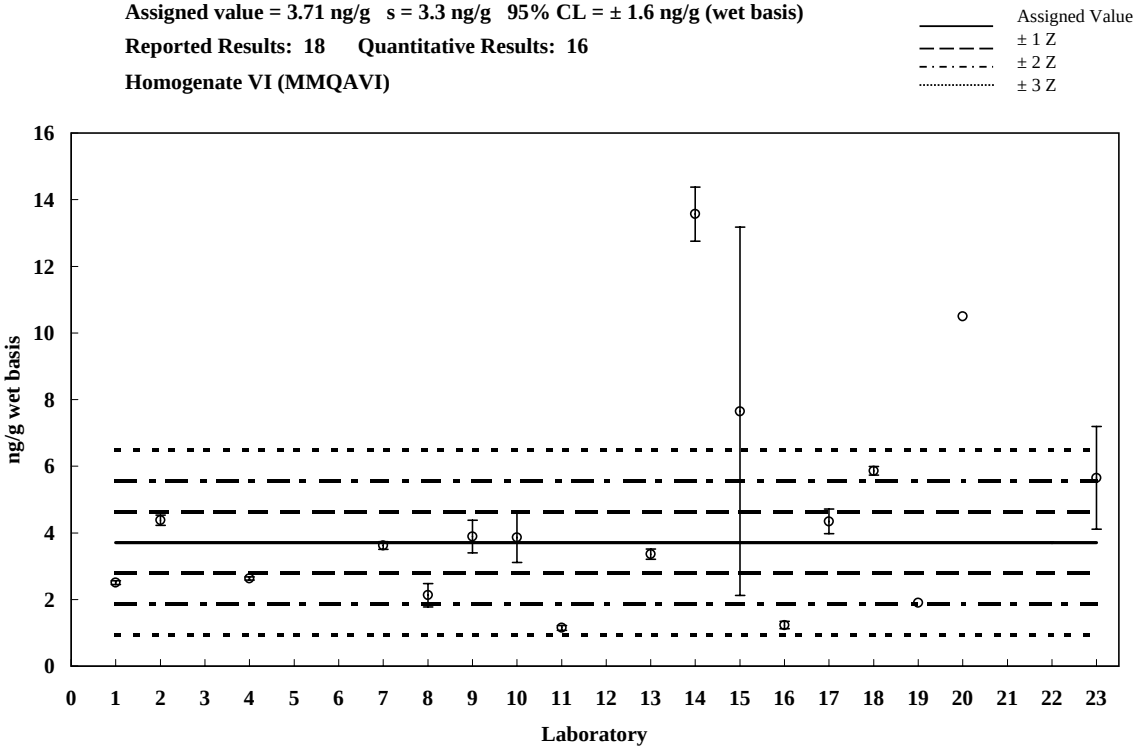


4,4'-DDD

Assigned value = 3.71 ng/g s = 3.3 ng/g 95% CL = ± 1.6 ng/g (wet basis)

Reported Results: 18 Quantitative Results: 16

Homogenate VI (MMQAVI)

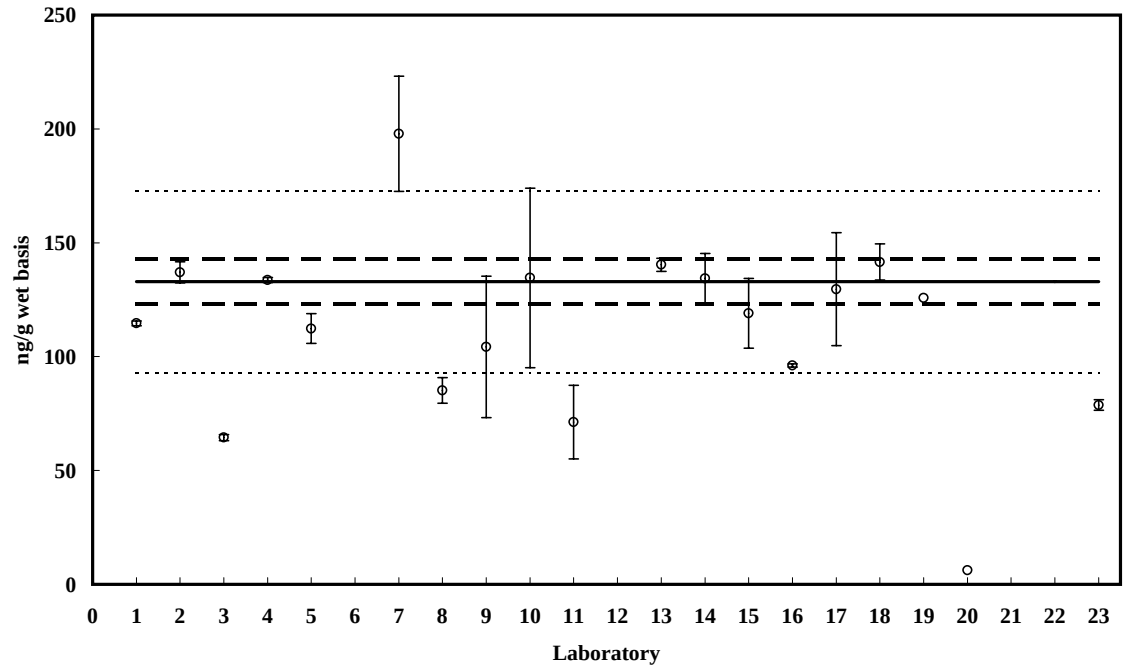


4,4'-DDD

Value = 133 ng/g ± 10 ng/g (wet basis)

Reported Results: 20

SRM 1945

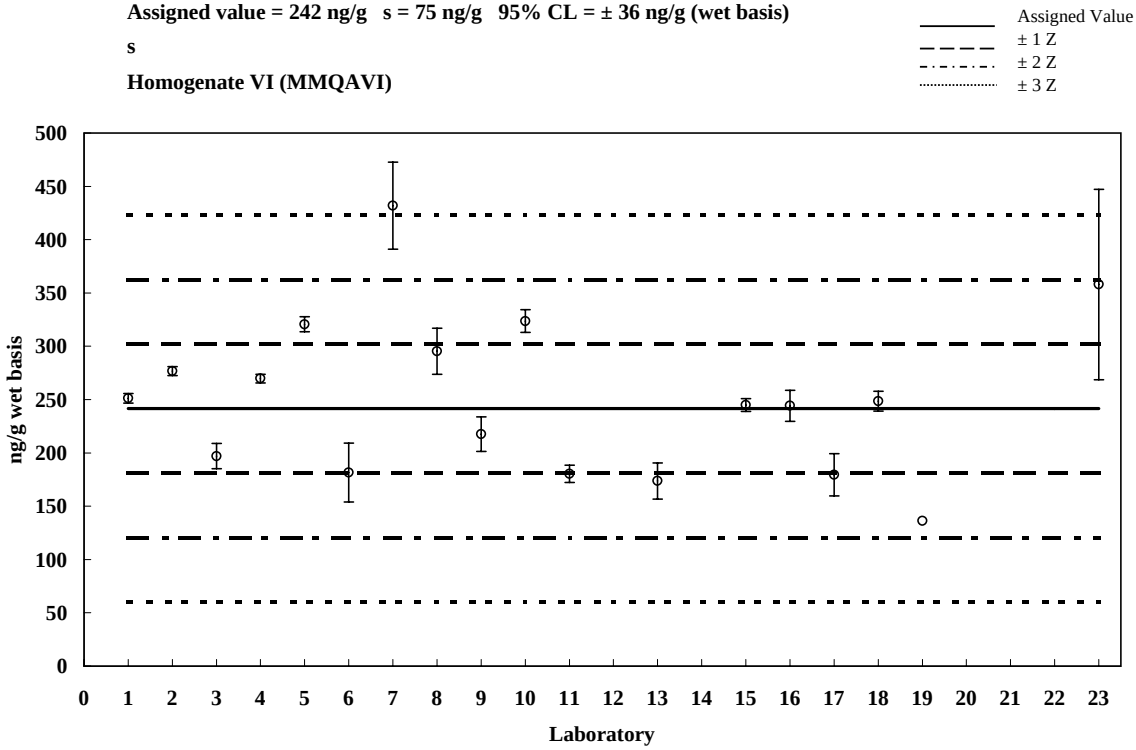


HCB

Assigned value = 242 ng/g s = 75 ng/g 95% CL = ± 36 ng/g (wet basis)

s

Homogenate VI (MMQAVI)

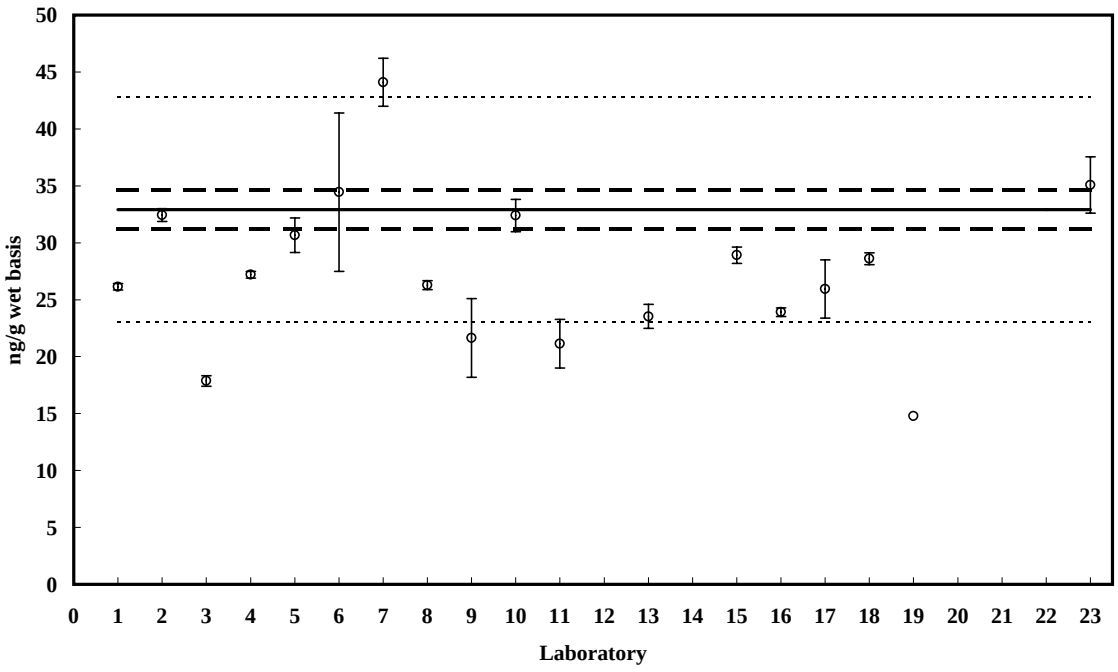


HCB

Value = 32.9 ng/g ± 1.7 ng/g (wet basis)

Reported Results: 18

SRM 1945

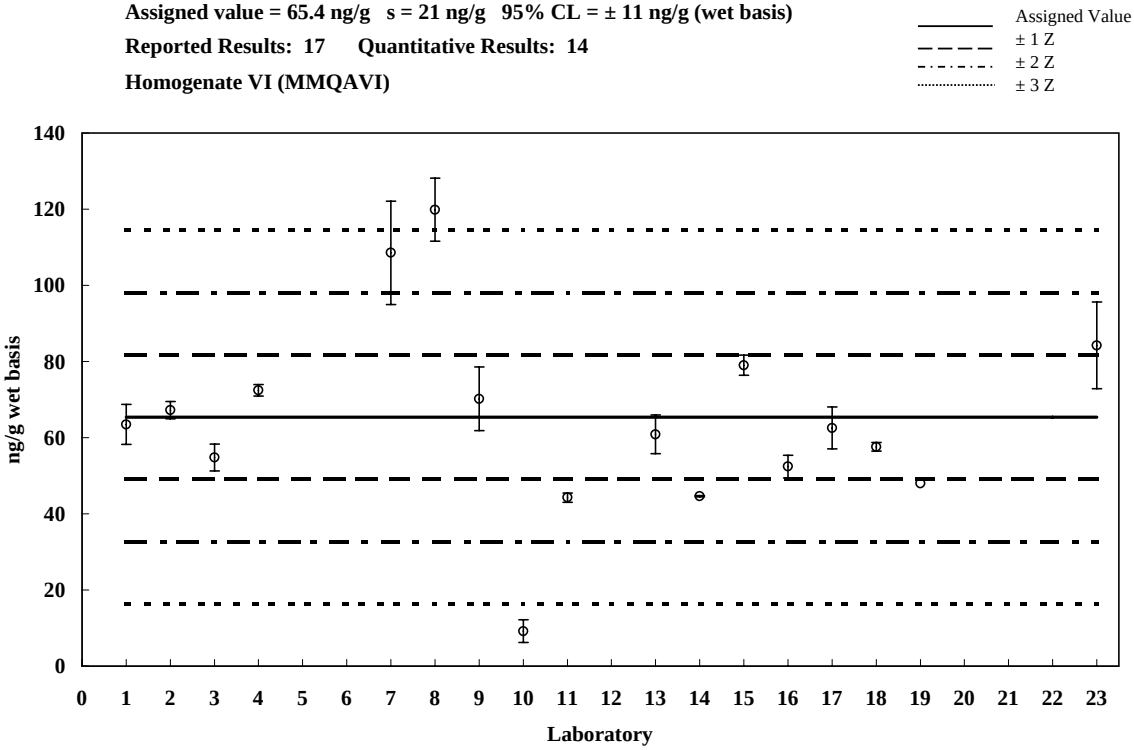


alpha-HCH

Assigned value = 65.4 ng/g s = 21 ng/g 95% CL = ± 11 ng/g (wet basis)

Reported Results: 17 Quantitative Results: 14

Homogenate VI (MMQAVI)

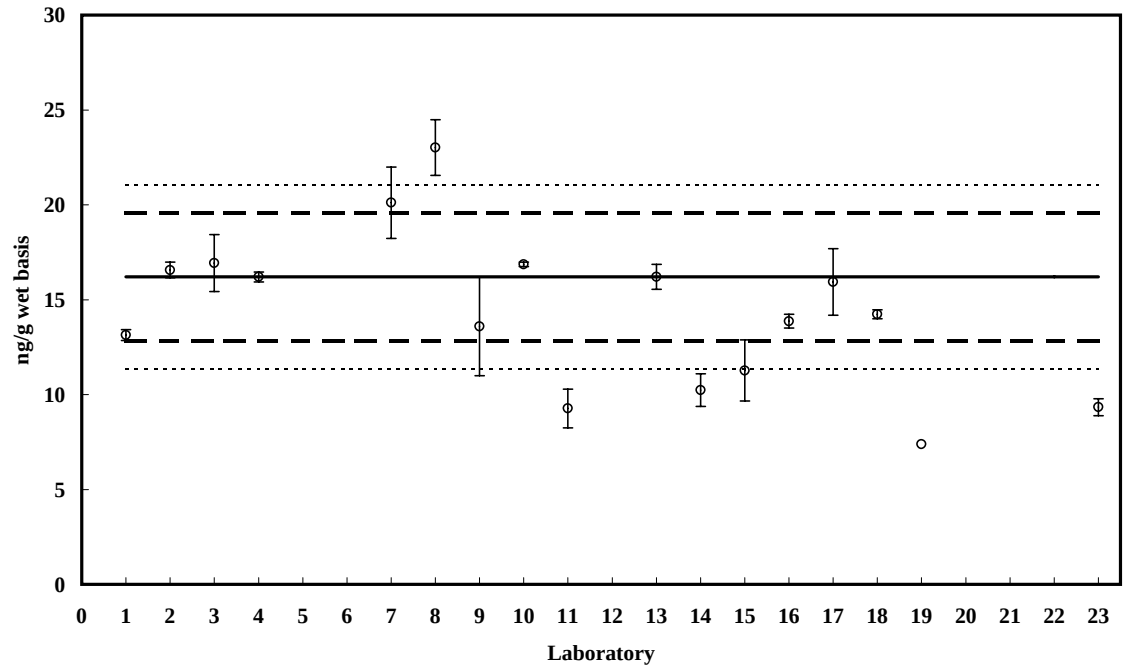


alpha-HCH

Value = 16.2 ng/g ± 3.4 ng/g (wet basis)

Reported Results: 17

SRM 1945

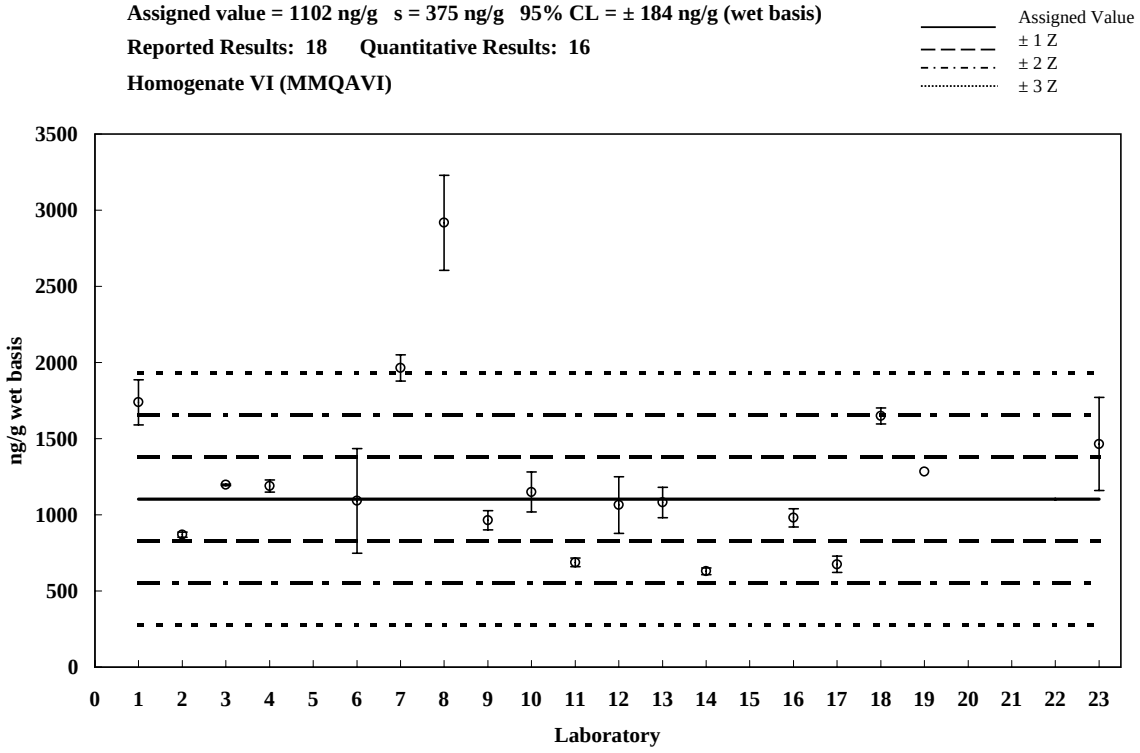


beta-HCH

Assigned value = 1102 ng/g s = 375 ng/g 95% CL = ± 184 ng/g (wet basis)

Reported Results: 18 Quantitative Results: 16

Homogenate VI (MMQAVI)

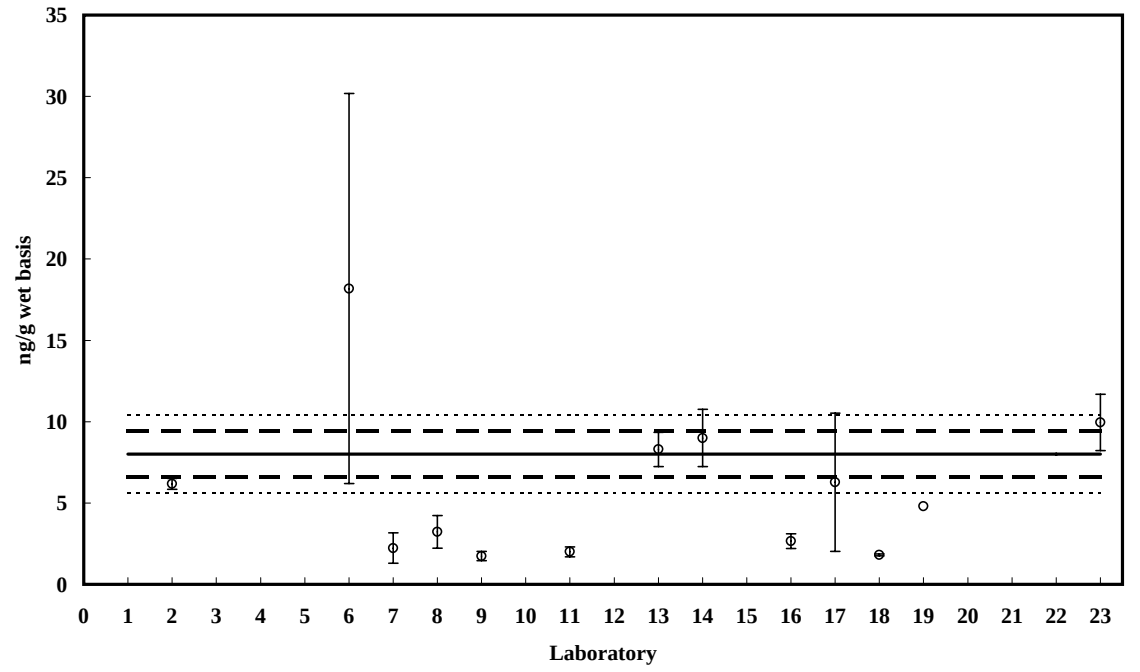


beta-HCH

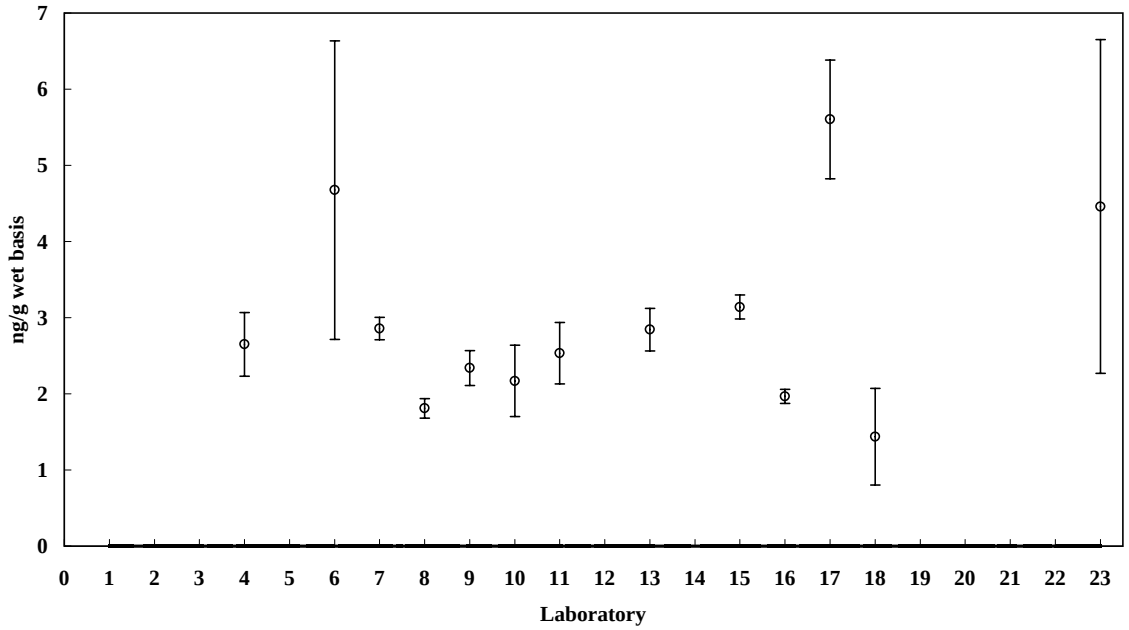
Value = 8.0 ng/g ± 1.4 ng/g (wet basis)

Reported Results: 13

SRM 1945

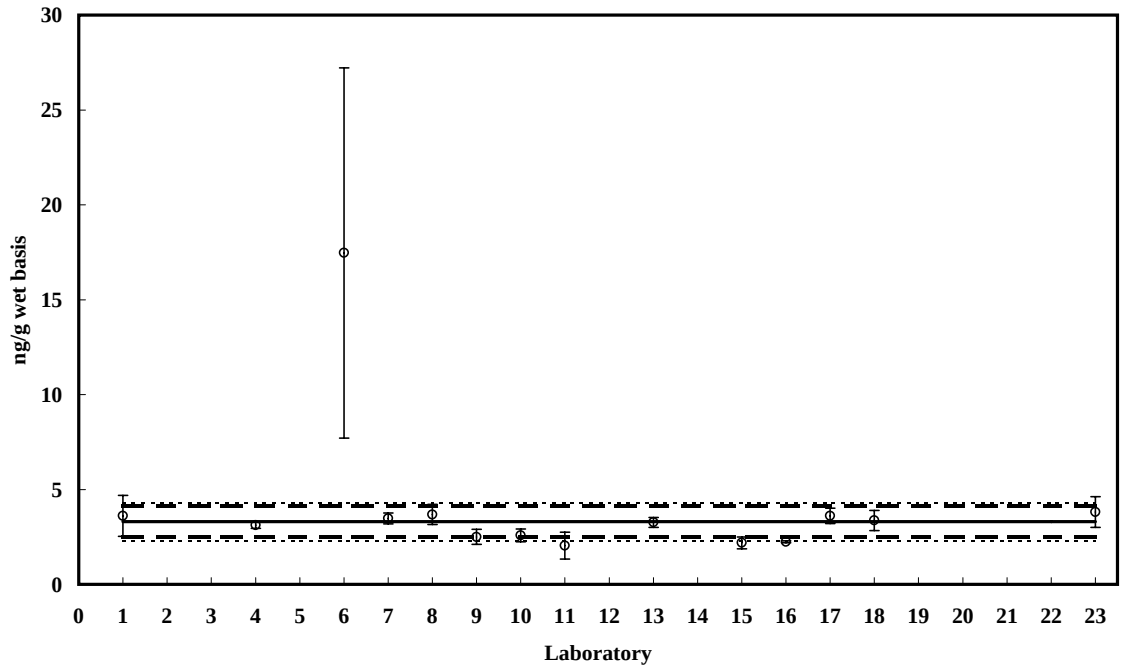


gamma-HCH
Assigned value = <5 ng/g (wet basis)
Reported Results: 13 Quantitative Results: 12
Homogenate VI (MMQAVI)



gamma-HCH
Value = 3.3 ng/g ± 0.81 ng/g (wet basis)
Reported Results: 14
SRM 1945

Certified or Reference Value
± Uncertainty
± 30 % of Ceritfied or Reference Value

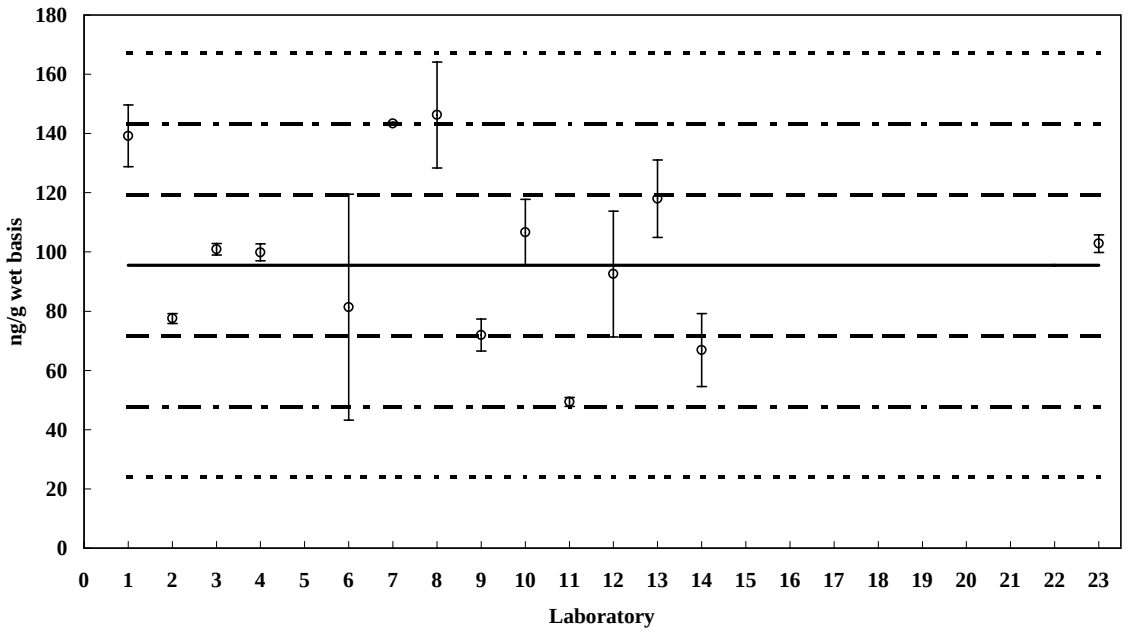


Heptachlor Epoxide

Assigned value = 95.5 ng/g s = 28 ng/g 95% CL = ± 15 ng/g (wet basis)

Reported Results: 14 Quantitative Results: 13

Homogenate VI (MMQAVI)

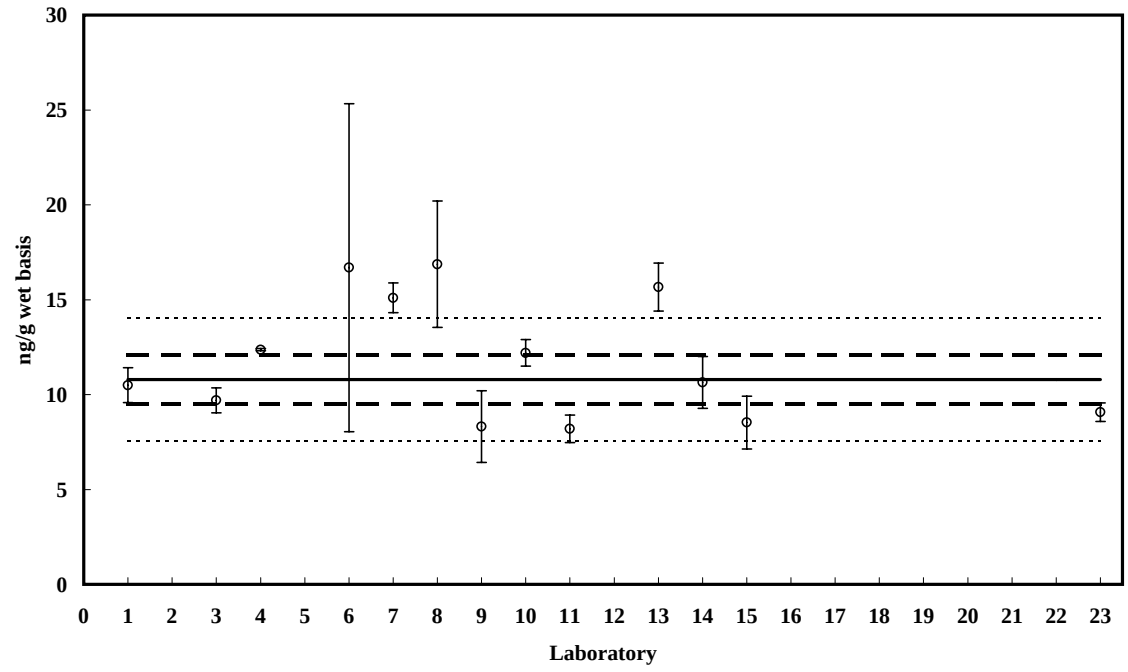


Heptachlor Epoxide

Value = 10.8 ng/g ± 1.3 ng/g (wet basis)

Reported Results: 13

SRM 1945

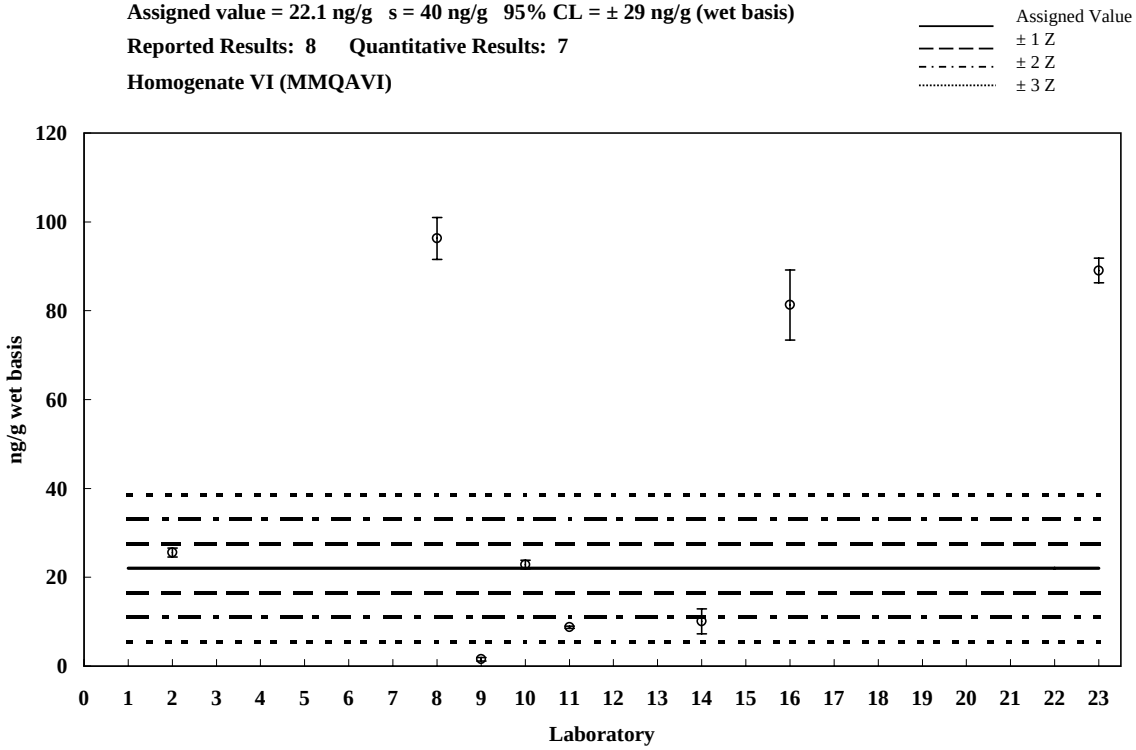


Cis-Chlordane

Assigned value = 22.1 ng/g s = 40 ng/g 95% CL = ± 29 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 7

Homogenate VI (MMQAVI)

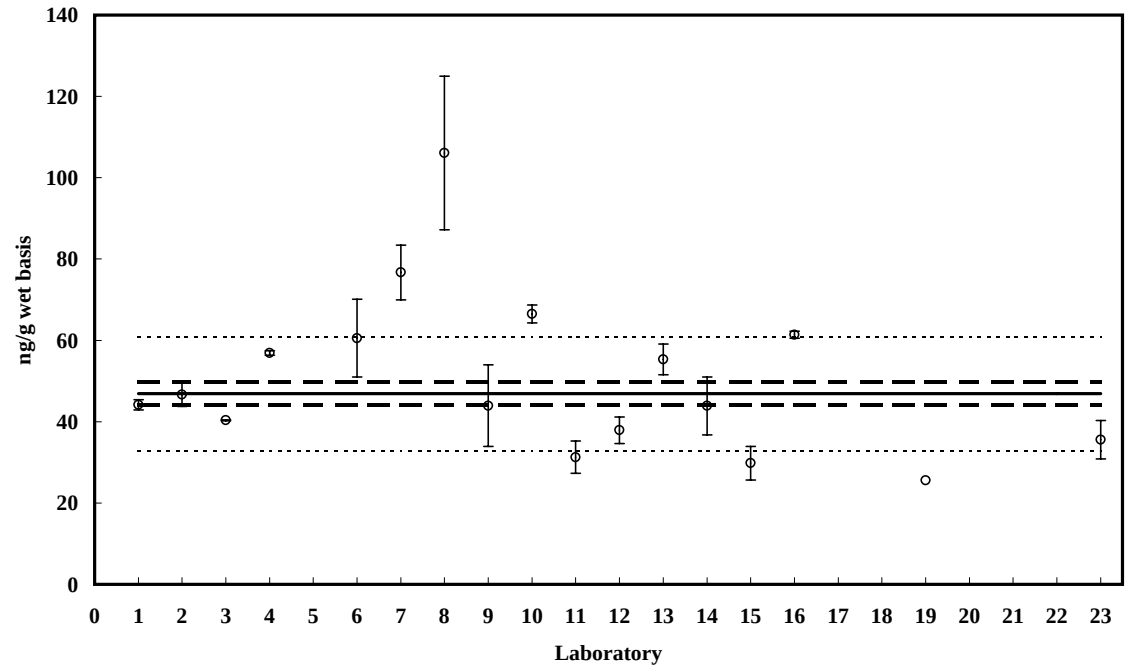


Cis-Chlordane

Value = 46.9 ng/g ± 2.8 ng/g (wet basis)

Reported Results: 17

SRM 1945

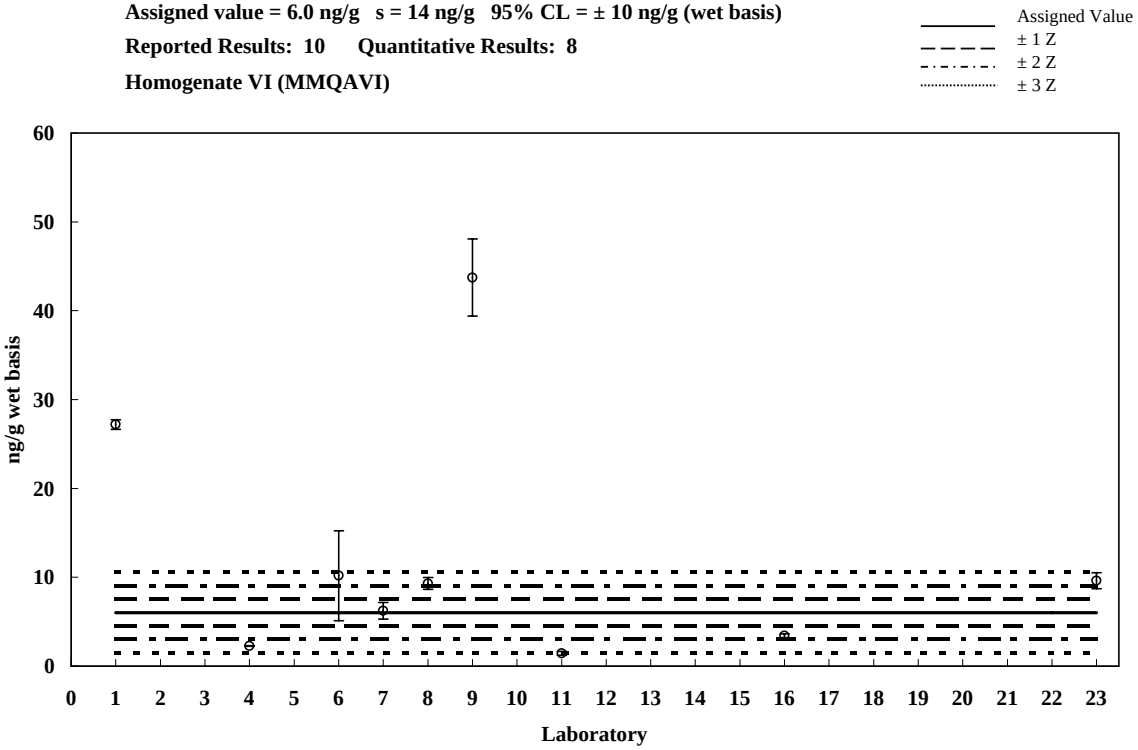


Trans-Chlordane

Assigned value = 6.0 ng/g s = 14 ng/g 95% CL = ± 10 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 8

Homogenate VI (MMQAVI)

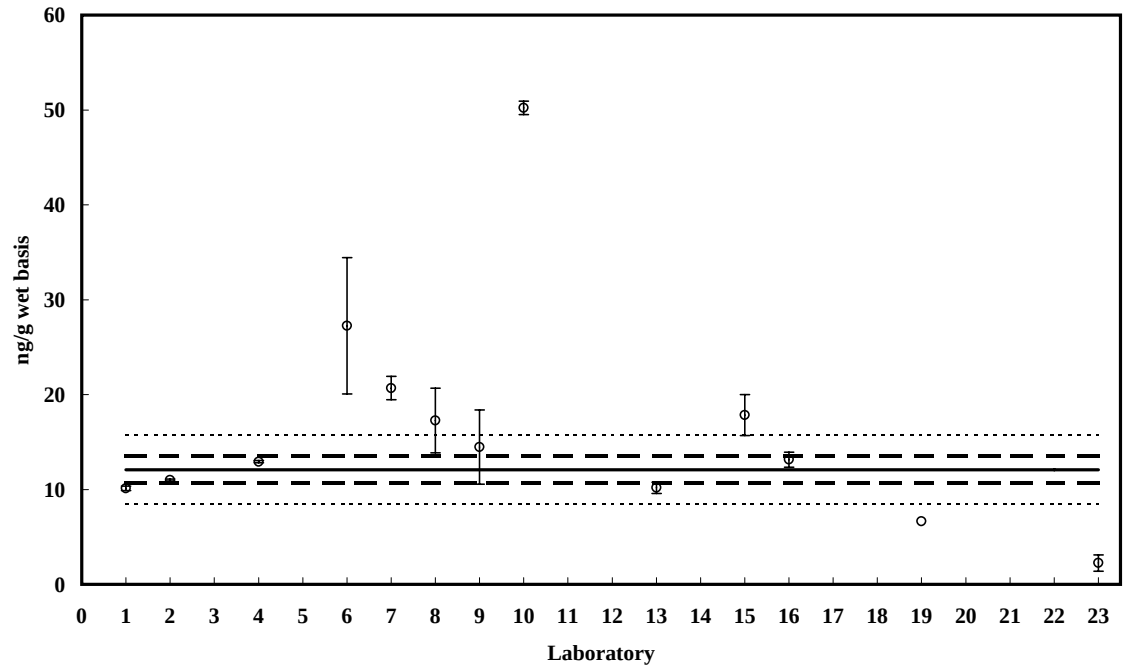


Trans-Chlordane

Value = 12.1 ng/g ± 1.14 ng/g (wet basis)

Reported Results: 13

SRM 1945

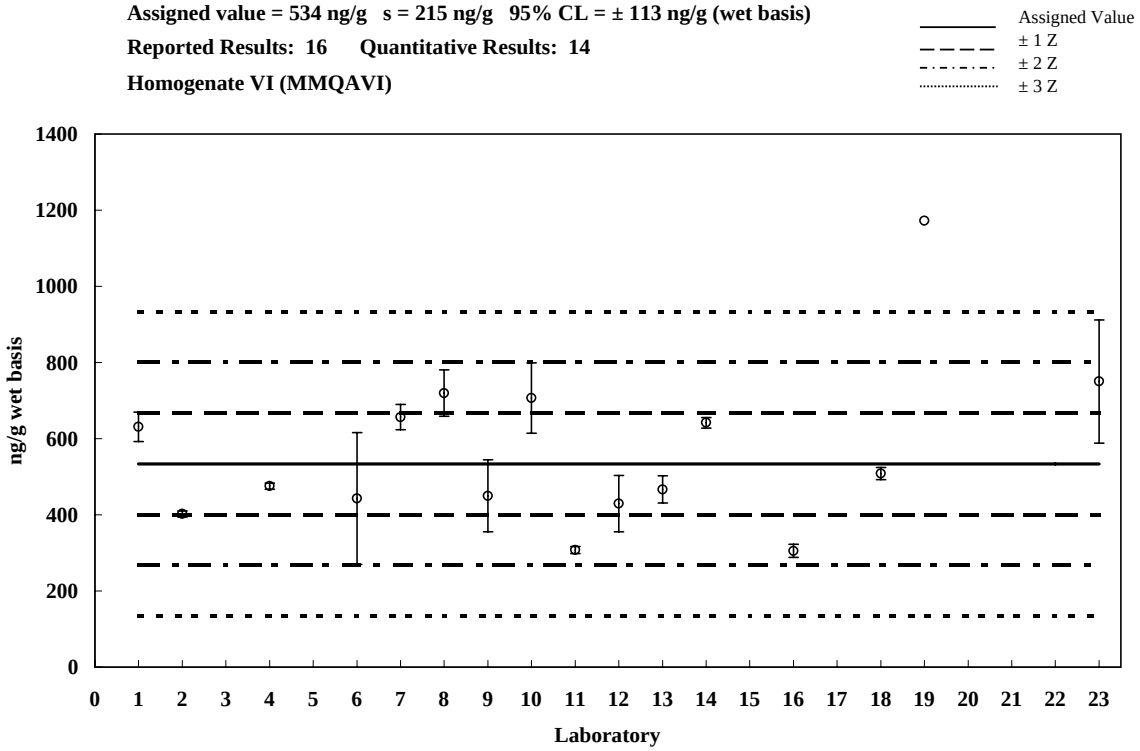


Oxychlordane

Assigned value = 534 ng/g s = 215 ng/g 95% CL = ± 113 ng/g (wet basis)

Reported Results: 16 Quantitative Results: 14

Homogenate VI (MMQAVI)

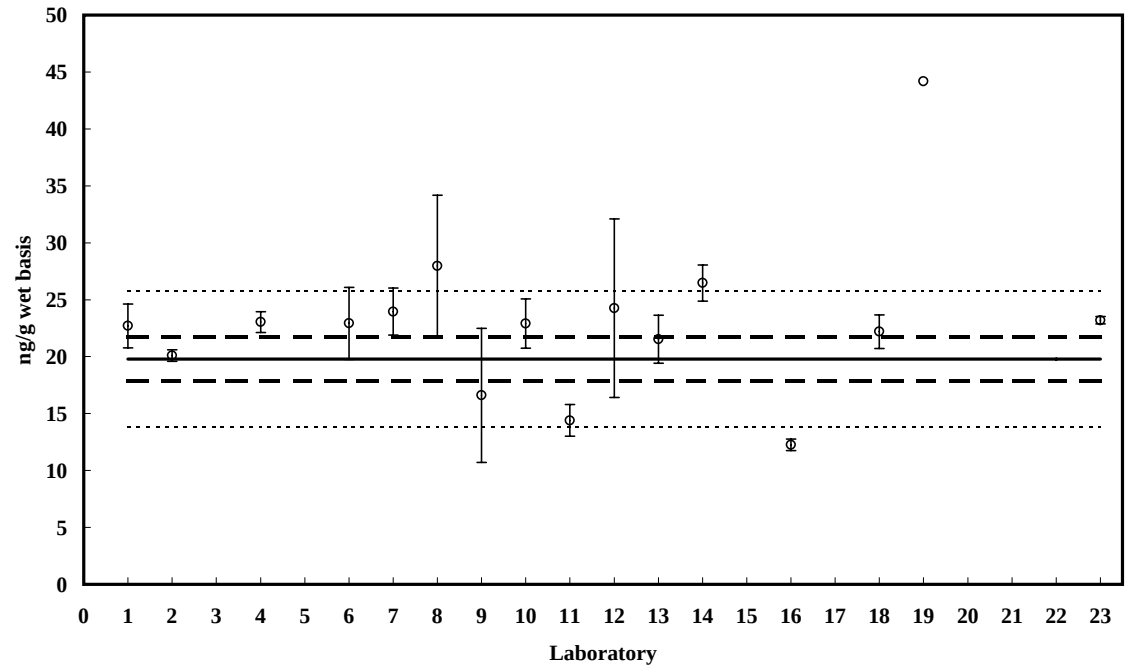


Oxychlordane

Value = 19.8 ng/g ± 1.9 ng/g (wet basis)

Reported Results: 16

SRM 1945

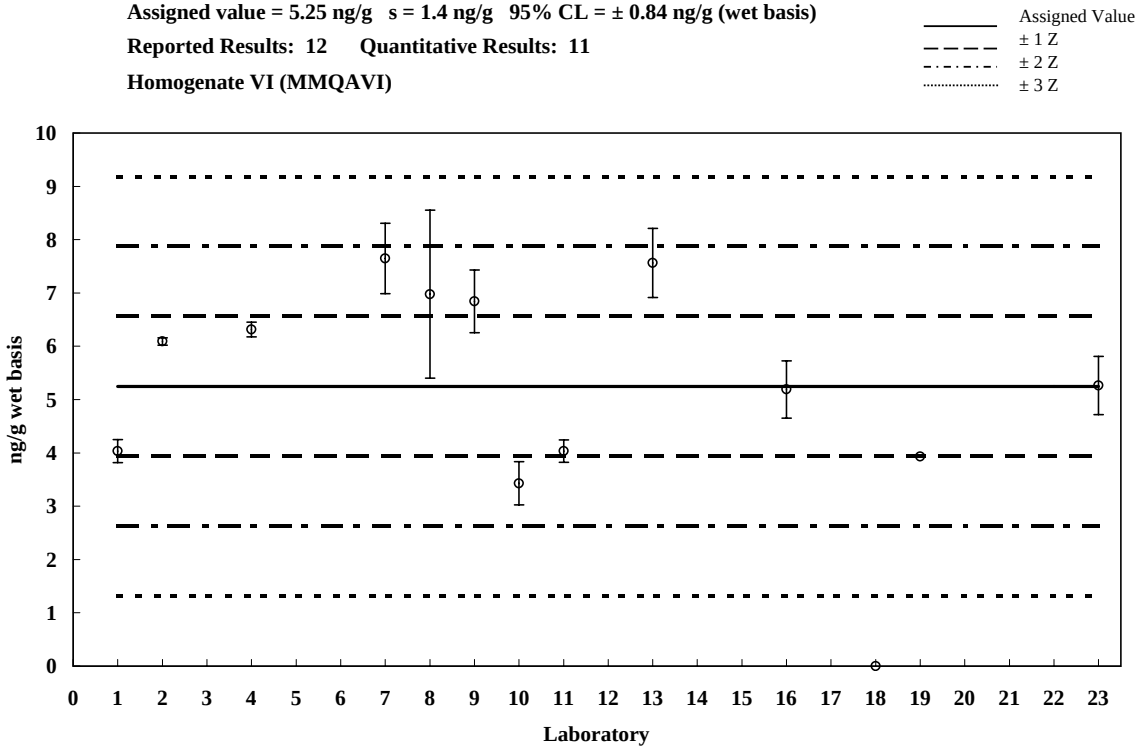


Cis-Nonachlor

Assigned value = 5.25 ng/g s = 1.4 ng/g 95% CL = ± 0.84 ng/g (wet basis)

Reported Results: 12 Quantitative Results: 11

Homogenate VI (MMQAVI)

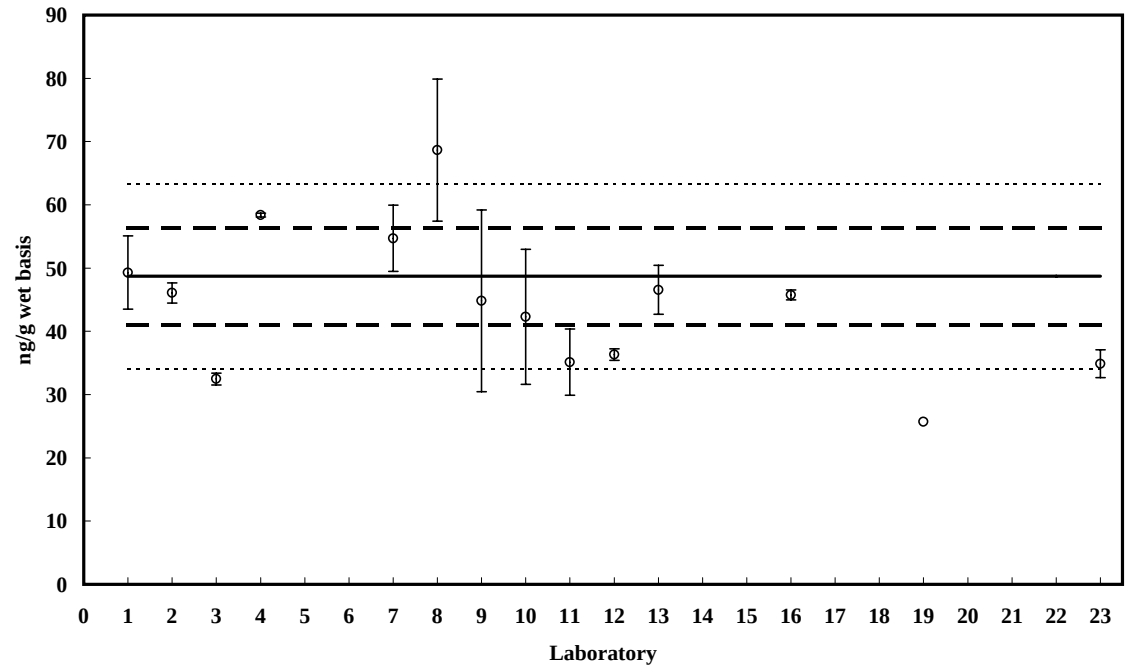


Cis-Nonachlor

Value = 48.7 ng/g ± 7.6 ng/g (wet basis)

Reported Results: 14

SRM 1945

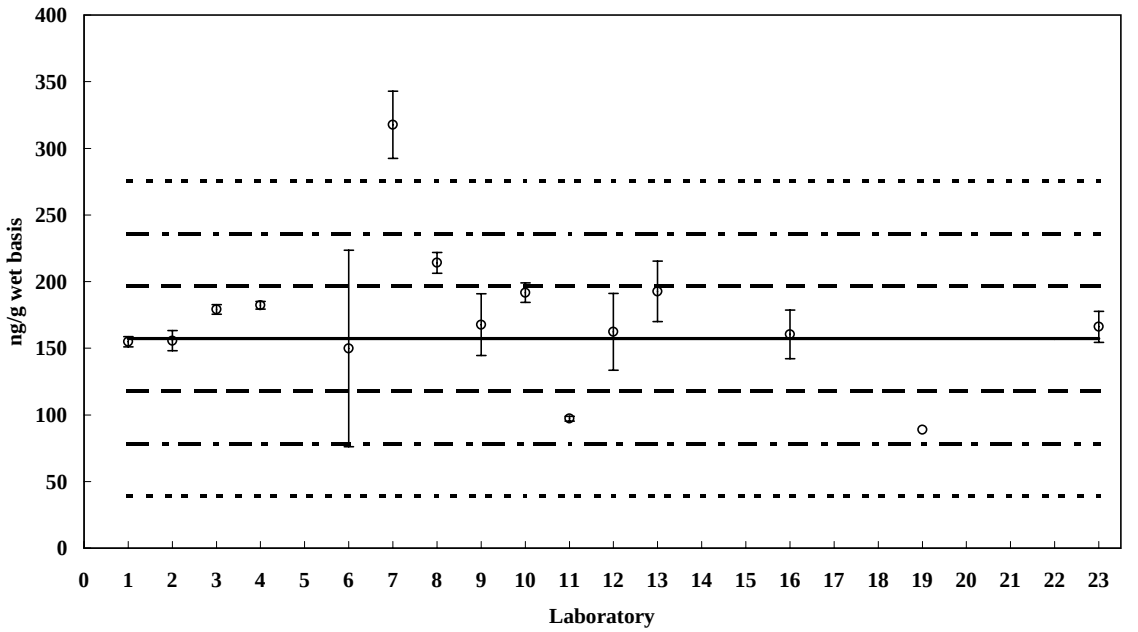


Trans-Nonachlor

Assigned value = 157 ng/g s = 34 ng/g 95% CL = ± 19 ng/g (wet basis)

Reported Results: 15 Quantitative Results: 12

Homogenate VI (MMQAVI)

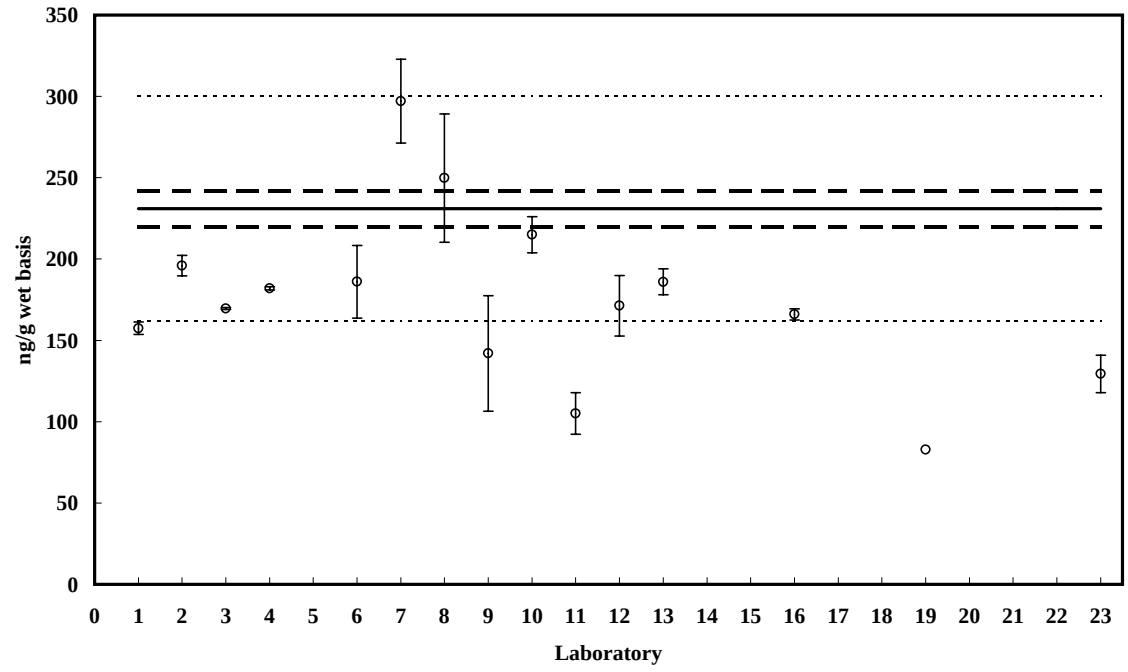


Trans-Nonachlor

Value = 231 ng/g ± 11 ng/g (wet basis)

Reported Results: 15

SRM 1945

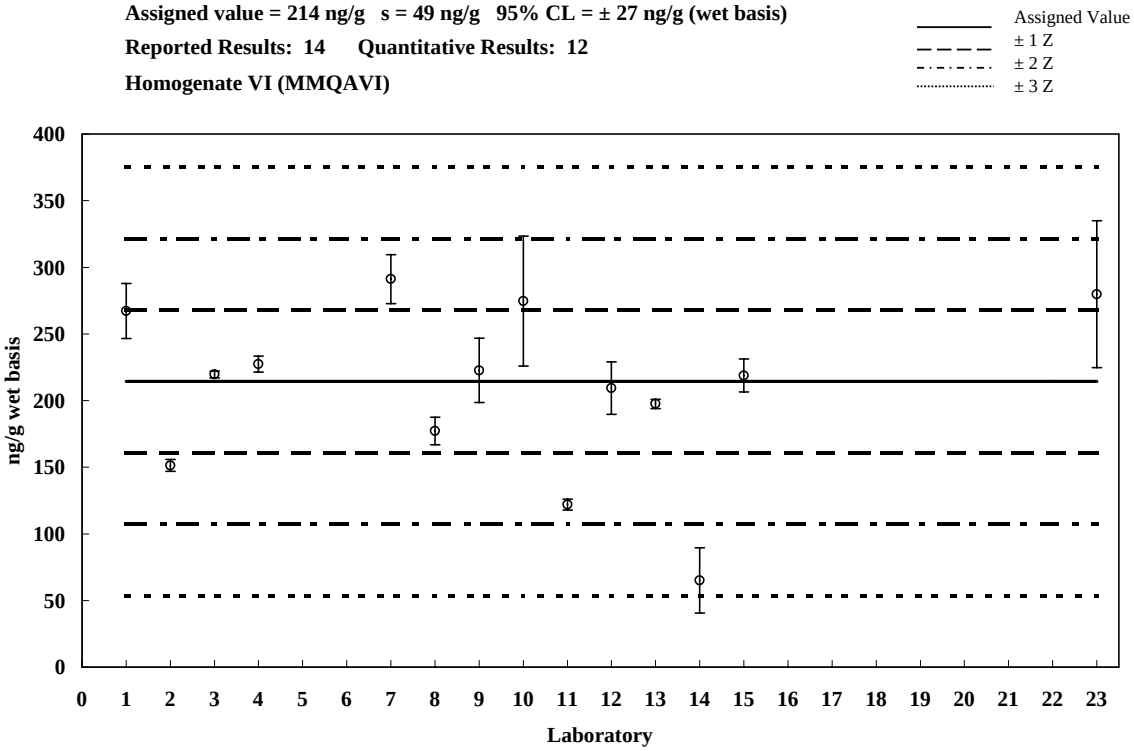


Dieldrin

Assigned value = 214 ng/g s = 49 ng/g 95% CL = ± 27 ng/g (wet basis)

Reported Results: 14 Quantitative Results: 12

Homogenate VI (MMQAVI)

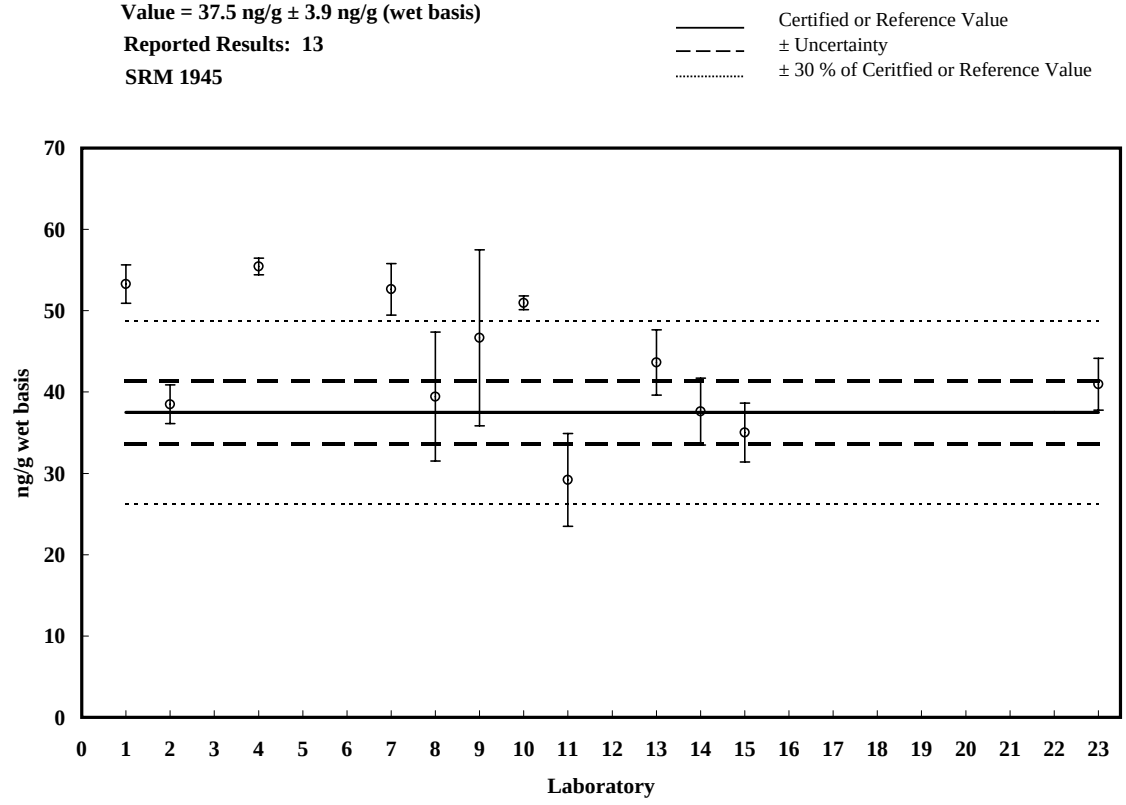


Dieldrin

Value = 37.5 ng/g ± 3.9 ng/g (wet basis)

Reported Results: 13

SRM 1945

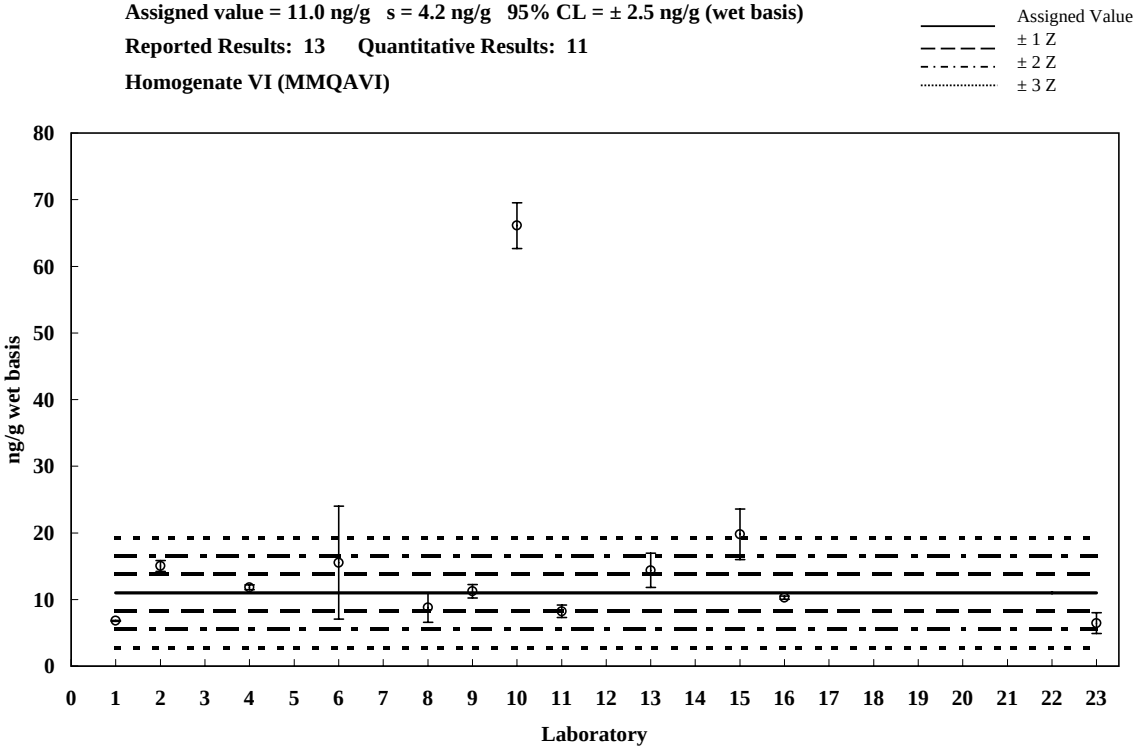


Mirex

Assigned value = 11.0 ng/g s = 4.2 ng/g 95% CL = ± 2.5 ng/g (wet basis)

Reported Results: 13 Quantitative Results: 11

Homogenate VI (MMQAVI)

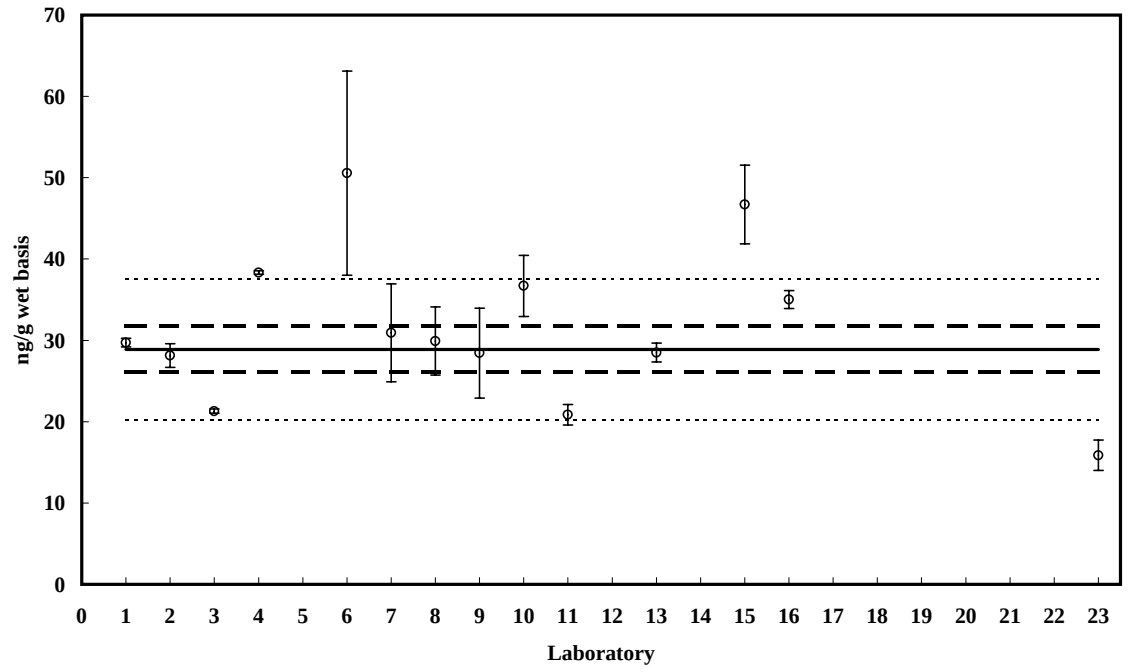


Mirex

Value = 28.9 ng/g ± 2.8 ng/g (wet basis)

Reported Results: 14

SRM 1945

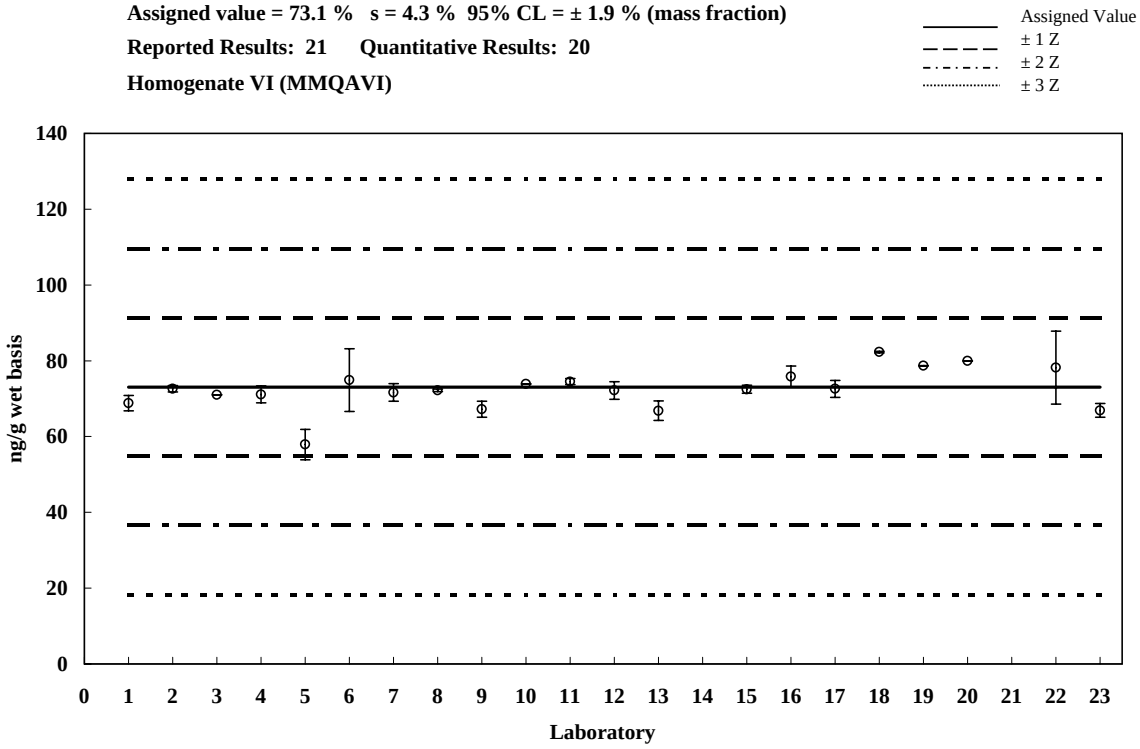


Lipid

Assigned value = 73.1 % s = 4.3 % 95% CL = ± 1.9 % (mass fraction)

Reported Results: 21 Quantitative Results: 20

Homogenate VI (MMQAVI)

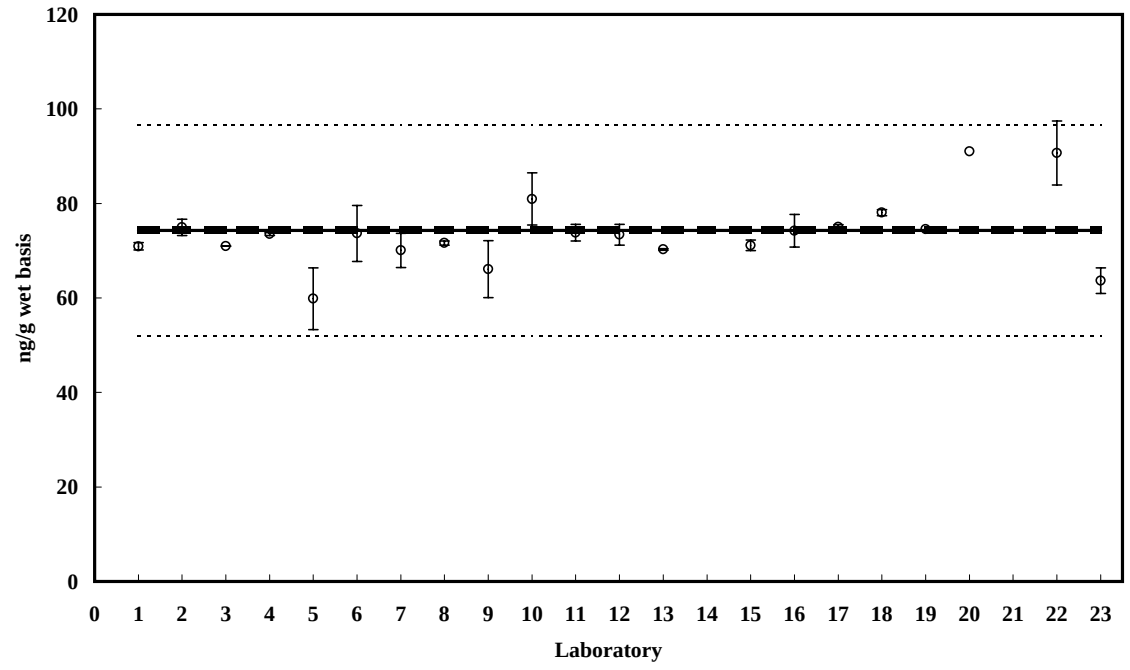


Lipid

Value = 74.3 % ± 0.45 % (mass fraction)

Reported Results: 21

SRM 1945



Appendix D

Tabular summary of methods used for analysis by each laboratory

Summary of Methods Used

Laboratory	Approximate mass of sample extracted (g): SRM 1945	Homog. VI	Procedure used to measure Lipid	Were "wet" or "dry" samples extracted? SRM 1945	Homog. VI
1	1	1	Subsampled the dichloromethane extract, evaporated the solvent and weighed the remaining residue.	wet	wet
2	1	1	PFE hexane:acetone 4:1; repeated extraction, combined extracts; repeat drying 30 min @ 100-101° C until plateau.	wet	wet
3	1	1	Gravimetric. After extraction, a 5 mL aliquote of a 100 mL volume is dried to determine lipid percent.	wet	wet
4	1	1	Gravimetric; ASE extraction using dichloromethane, followed by evaporation of solvent. Lipid determined as total extractable organics.	wet	wet
5	0.29	0.31	Pentane/hexane extraction and quantitation by thin-layer chromatagraphy with flame ionization detection (TLC/FID).	wet	wet
6	1.6 to 2.9	4.0 to 5.8	After extraction with dichloromethane, each extract was concentrated to 10 mL. 2 mL of this extract was added to a previously weighed and dried aluminum pan. The contents were allowed to evaporate, and the pan was reweighed.	dry	dry
7	1.37 to 1.40	1.31-1.50	Gravimetric, 10% of extract.	wet	wet
8	0.3	0.2	Determined % lipid in the process of sample extraction, i.e., did not use separate sample for lipid. Mortar pestle / sodium sulfate / gravity column extraction with 1:1 DCM:HEX collected extract / evaporated by roto vap and nitrogen .	dry	dry
9	1	1	Gravimetric	wet	wet
10	0.9 to 1 g	0.8 to 1 g	Removed 1mL aliquot from 10 mL sample extract and placed in small preweighed glass vial. Evaporated DCM in the hood for a total of 24 hours. Weighed individual vials after 12 and 24 hours. Averaged the masses and calculated a percent lipid (n=3 for each sample).	wet	wet
11	0.9	0.9	An aliquot of total extract was dried and weighed	wet	wet
12	2	2	Sample extracted with ethyl ether/petroleum ether (1:1). Evaporate the solvent and record the weight that stays in container.	wet	wet

Summary of Methods Used

Laboratory	Approximate mass of sample extracted (g):		Procedure used to measure Lipid	Were "wet" or "dry" samples extracted?	
	SRM 1945	Homog. VI		SRM 1945	Homog. VI
13	2	2	Gravametric on whole sample	wet	wet
14	1	1	*NA	wet	wet
15	0.55	0.51	Dionex PFE (ASE) method # 342. Preheat 1 min, heat 6 min, static 3 min, methylene chloride, oven temp 125 °C 2000 psi, 3 cycles, 60 % vol. flush, 120 sec. purge. Samples extracted for lipids, evaporated and extracts dried at 70 °C.	wet	wet
16	1.5 to 2.5	1.5 to 2.5	Gravimetric determination after extraction with cyclohexsane and acetone. The lipide xtract was dried at least 24 hours at 40 °C in a sand bath then weighted untill constant weight.	wet	wet
17	2.2	3.1	It was determined gravimetrically from an aliquot of the Soxhlet extraction.	wet	wet
18	0.27	0.3	Samples were mixed with sodium sulphate and Soxhlet extracted. Lipids were determined on an aliquot of the extract (~1/6) after solvent evaporation at 105 °C for 1h.	wet	wet
19	3	2.1	Gravimetrc analysis	wet	wet
20	5.1	5.5	see Smedes, Foppe. Determination of total lipid using non-chlorinated solvents. Analyst (Cambridge, United Kingdom) (1999), 124(11), 1711-1718	wet	wet
21	2	2	*NA	wet	wet
22	1.04 to 1.8	1.6 to 2.1	Gravimetric determination from portion of the Soxhlet extraction.	wet	wet
23	0.9	1.0	weigh aliquat of extract	wet	wet
A	1	1	Gravimetric; PFE extraction using dichloromethane, followed by evaporation of solvent. Lipid determined as total extractable organics.	wet	wet
B	NA	NA	NA	NA	NA
C	1.2	0.8	ASE hexane:acetone 4:1, eepeated extraction, combined extracts; Repeat drying 30 min @ 100 ° C to 101 ° C until plateau.	wet	wet
D	NA	NA	NA	NA	NA
E	1	1	Sample extraction: tissue was macerated with anhydrous sodium sulfate and extracted with hexane using sonication at room temperature.	wet	wet
F	2.6	3.9	NOAA Sampling an Analytical Method of the National Status and Trends Program NOAA Technical Memorandum NOS ORCA 130.	wet	wet

***NA Not applicable or data not reported**

Summary of Methods Used

Laboratory	Extraction Method	Extraction Solvent	Extraction Time	Extraction Other	Sample Extract Cleanup Method
1	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	15 min	Sample dried with 45 g sodium sulfate, then packed into a 33 mL PFE cell. PFE Conditions: cell temp 100 °C. equilibration 5 min, static time 5 min, cell pressure 2000 psi and there were three cylces. Samples were first run through a Gel Permeation chrom	Samples were first run through a Gel Permeation chromatogramphy column (PL Gel 600 mm) using DCM as the mobile phase. Eluent containing orgaonochlorines was cleaned up by automated SPE using a 1 g Florisil column then fractionated on a silicic acid colum
2	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	15 min	100 °C; 2000 psi, 3 cycles; 90 s	SEC - collect 70 mL fraction; conc with solvent change to hexane NH2 Sep Pak - condition and elute with 15 mL of 10% dichloromethane in hexane concentrate for GC/MS.
3	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	40 min		A 1 gram sample is extracted using a Dionex Accelerated Solvent Extractor at 110 degrees Celsius and 1300 psi. The solvent is reduced and the oil is removed by size exclusion chromatography using SX-3 Bio-beads. The sample is then passed through a florisil 1 gram disposable cartridge on a Zymark Rapid Trace SPE workstation.
4	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	16 min	ASE Conditions: Pressure = 2000 psi, temp = 100 °C	Gravity flow column with silca and neutral alumina, followed by HPLC-SEC to elute AH/CH fraction.
5	See Krahn et al. 1994 Chemosphere	Pentane/hexane (50:50; v/v)	4 min		Acidic/basic/neutral silica gel column (see Krahn et al. 1994 Chemosphere).
6	Soxhlet extraction	dichloromethane	18 h		After lipid determination was completed, each extract was eluted through a glass chromatography column packed with florisil, alumina, and silica and was concentrated to 10mL. Two 1 mL portions of this eluate were each diluted to 5 mL with methylene chlo
7	Ball Mill	Hexane	2 x 10 min		Florisil (1.2% deactivated) fractionation and clean up for OC Pesticides, PCBs F1-hexane, F2-15/85 DCM/Hexane, F3-50/50 DCM/Hexane.

8		1 : 1 DCM : HEXANE		Sample was weighed, spiked with internal stds., pulverized with 50 g of anhydrous sodium sulfate using a mortar/pestle, transferred quantitatively to glass column,1:1 DCM:HEX was added 325 mL of solvent percolated through column (ie gravity column extract	PCBs: Single column of layers; from top (neutral silica / acidic silica / neutral silica / basic silica) (sample added in 1:1 DCM : HEXANE and eluted with same) Further cleanup on neutral alumina (sample added in hexane, hexane added to column, discar
9	Soxhlet	Dichloromethane	12 h		GPC, activated silica
10	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	1 h 45 min		Gel Permeation Chromatography (GPC) with Biobeads (SX-3) followed by florisil column chromatography GPC-- F1 100 ml 50 % DCM in Hexane (discard); F2 200 ml 50 % DCM in Hexane. Evaporate to 1 ml for florisil. Florisil-- 18 g deactivated florisil (1%) wash
11	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	5 min x 3	$NaSO_4$	Silica gel column followed by GPC

Summary of Methods Used

Laboratory	Extraction Method	Extraction Solvent	Extraction Time	Extraction Other	Sample Extract Cleanup Method
12	Sample mixed with anhydrous sodium sulfate and extracted three times with organic solvent	ethyl ether/petroleum ether (1:1)	1 h		Silica gel 60 column clean up. Elute with hexane first followed by benzene.
13	ASE	Dichloromethane	11 minues	1/10 of the extracted fat was used to go through cleanup and analysis.	Preheat 0; Heat 5 min; Static 2 min; Flush 100%; Purge 30 sec; Cycles 2; Pressure 1500 psi; Temp 100C; Cell size 22 ml
14	Liquid/Liquid	Pentane	15 min		Florisil SPE, sodium sulfate, extract with dichoromethane/hexane.
15	Tissue lightly ground with sodium sulfate, wet packed in hexane in a 35cm long x 3.1cm ID column with 300ml reservoir.	Dichloromethane: hexane 1:1	30 min	100 ^{o}C, 2000 psi, 3 cycles	Extract evaporated to 8 mL and injected on gel permeation chromatograph to remove lipids, using 1:1 dichloromethane:hexane. Extract evaporated to 1 mL and separated on a 8 g activated silica gel column. 30 cm long column x 1 cm ID, with 250 mL reservoir
16	Ultrasonication	Cyclohexane and acetone	3 min		Sulfuric acid
17	Soxhlet	Hexane	5 h	Mixed with sulfuric acid	Sulfuric acid
18	Hot Soxhlet	Hexane:Acetone=3: 1 (v/v)	2 h		Column chromatography on silica/acid silica elution with 15 ml hexane and 10 ml dichloromethane.
19	Soxhlet	dichloromethane & hexane (3:1)	16 h		Sulfuric acid treatment followed by Florisil cleanup.
20	Dialysis	300 mL hexane	60 h		(1) Multilayer: Silica gel // Silica gel-H2SO4 (44 %, w:w) // Silica gel-H_2SO_4 (22 %, w:w); (2) Multilayer: Silica gel // Silica gel-KOH // Silica gel-H2SO4 (44 %, w.w); and (3) Fractionation: ENVI-Carb SPE.
21		5% ethanol in ethyl acetate, 50 mL	homogenize for 2 min		25 g anyhydrous sodium sulfate + 50 mL 5 % ethanol in ethyl acetate were added to each sample. Following homogenization, samples were centrifuged and the supernatant was pulled off. A silica SPE cartridge was used for sample cleanup. Following SPE extraction, the samples were evaporated under a stream of nitrogen, and then reconstituted with 1mL of toluene.

22	Soxhlet	Mixture of hexane: diethylether (1:3)	8 h	Sample was ground with anhydrous sodium sulfate.	Silica-gel column chromatography (activated by 3-6hours at 130 ^{o}C., 1.5 g, cloumn i.d.: 10mm.) after gel permeation chromatography (GPC) (Gel: Bio-bead S-X3, Column: 2 cm i.d. 50 cm length).
23	grinding with sodium su	dichloromethane	3 x 3 min		Slica gel/alumina and phenogel; aliquot of the extract was cleaned up further in order to sparate the planar PCBs from the other anlytes on a charcoal column.
A	Accelerated solvent extraction (ASE)	Dichloromethane	~16 min.	ASE Conditions: Pressure = 2000 psi, temp = 100 °C	
B	NA	NA	NA	NA	NA
C	Accelerated solvent extraction (ASE)	Hexane: acetone 4:1	3 static cycles, 6 minutes each	1500 psig, 125 C, 100% flush.	Transesterification via NaOH and BF3/MeOH
D	NA	NA	NA	NA	NA
E	Sonication with sodium sulfate at room temperature.	Hexane			Derivatization: fatty acid methyl esters (FAMEs) were prepared using methanolic KOH at room temperature. (Christopherson, S. W. and Glass, R. L., 1969. Preparation of milk fat methyl esters by alcoholysis in an essentially nonalcoholic solution. J. Dairy
F	Modfied NOAA Status and Trends for Extraction of Biological Tissues for Trace Organics.	dichloromethane:MEOH (3:1 v/v)- 0.01 %BHT added as preservative	10 minutes sonication		Florisil column used post derivatization.

Summary of Methods Used

Laboratory		Instrument	Column Phase	Length (m)	Column i.d. (mm)	Film Thickness (µm)	Points	Conc. Range	Analytes Outside of Calibration Range
1	**Pest.**	GC-MS	DB-5ms	60	0.25	0.25	5	2-1000 ng/mL	no
	PCB	GC-MS	DB-5ms	60	0.25	0.25	5	2-1000 ng/mL	no
2	**Pest.**	GC/MS EI	DB-17	60	0.25	0.25	6	10 ng/g to 500 ng/g	
	PCB		DB-17	60	0.25	0.25	6	10 ng/g to 500 ng/g	PCB 153 in Homogenate VI
3	**Pest.**	GC-MS (SIM)	DB-5	30	0.25	0.25	5	0.2-15 ng/µL	
	PCB	GC-MS (SIM)	DB-5	30	0.25	0.25	5	0.05-15 ng/µL	
4	**Pest.**	GC-MS	DB-5	60	0.25	0.25	5 to 8	0.003-10 ng/µL	
	PCB	GC-MS	DB-5	60	0.25	0.25	5 to 8	0.003-10 ng/µL	CB 194 in Homogenate VI
5	**Pest.**	HPLC/PDA	2-(5-PYE) analytical columns, in series	0.25	4.6	5 µm particles	1	0.322 ng/µL	
	PCB	HPLC/PDA	2-(5-PYE) analytical columns, in series	0.25	4.6	5 µm particles	1	0.322 ng/µL	
6	**Pest.**	GC-ECD	DB-5	60	0.25	0.25	1	100 ng/ml	4,4'-DDE (All SRM 1945 analyses)
	PCB	GC-ECD	DB-5	60	0.25	0.25	1	100 ng/ml	PCB 153 (All Homog VI analyses); PCBs 138, 170, & 180 (Homog VI analysis C)
7	**Pest.**	GC-ECD	DB-5	60	0.25	0.25		5-80 ng/µL	
	PCB	GC-ECD	DB-5	60	0.25	0.25			
8	**Pest.**	VG Autospec	DB 5	54.3	0.25	0.1	5	2 pg/ul to 500 pg/µL	no
	PCB	VG Autospec/ Micromass Ultima(HRGC-HRMS) Electron Impact Ionization	DB-5	60	0.25	0.1	4	0.5 pg/ul to 200 pg/µL	no
9	**Pest.**	GC-ECD	HP-5	30	0.25	0.25	4	5-100 pg/«L	
	PCB	GC-ECD	HP-5	30	0.25	0.25	4	0.6-120 pg/µL	
10	**Pest.**	GC-ECD/GC-NCIMS	DB-XLB	30	0.25	0.25	6	2.6-106 ng/ml	no
	PCB	GC-ECD/GC-NCIMS	DB-XLB	30	0.25	0.25	6	2.4 - 97 ng/ml	no
11	**Pest.**	GC/ECD	DB-XLB; DB-5	60; 60	0.25 ;0.25	0.25 ;0.25	5	2.5 - 200 ng/mL	yes
	PCB	GC/ECD	DB-XLB; DB-5	60; 60	0.25; 0.25	0.25; 0.25	5	2.5 - 200 ng/mL	yes

Summary of Methods Used

Laboratory		Instrument	Column Phase	Length (m)	Column i.d. (mm)	Film Thickness (µm)	Points	Conc. Range	Analytes Outside of Calibration Range
12	**Pest.**	Varian 3400		15	0.32	0.25	6	1.00 to 500 ng/mL	
	PCB								
13	**Pest.**	GC-ECD	DB-608	30	0.53	0.83	3	2 to 250 pg/µL	no
	Pest.	GC-ECD	DB-5	30	0.53	1.5			
	PCB	GC-ECD	DB-XLB	60	0.25	0.25	5	1 to 200 pg/µL	no
14	**Pest.**	GC-ECD	50% PHMESiloxane	30	0.25	0.25	4	10-250 ppb, 250-1000 ppb	no
	PCB	GC-ECD	50% PHMESiloxane	30	0.25	0.25	4	50-500 ppb	no
15	**Pest.**	GC/uECD	5% Ph Me Siloxane	60	0.25	0.25	5	0.9-155 pg/µL	For SRM 1945 only p,p'DDE
	PCB	GC/uECD	5% Ph Me Siloxane	60	0.25	0.25	5	1.5-203.5 pg/µL	For Homogenate VI only 99, 153, 180,170-190
16	**Pest.**	GC-ECD	SPB-5 and SPB·1701 (supelco Inc)	60	0.25	0.25	5	0.48-104 ng/mL (varies for the different compounds)	
	PCB	GC-ECD	SPB-5 and SPB·1701 (supelco Inc)	60	0.25	0.25	5	0.63-100 ng/mL (varies for the different compounds)	
17	**Pest.**	Hewlet Packard 3365	SPB-5	60	0.25	25	2		
	PCB	Hewlet Packard 3365	SPB-5	60	0.25	25	2		
18	**Pest.**	GC/MS (ECNI)	HT-8	25	0.22	0.25	8		no
	PCB	GC/MS (EI)	DB-1	30	0.25	0.25	8		no
19	**Pest.**	GC-ECD	Phenomenex ZB-5	30	0.25	0.25			
	PCB	GC-MS	J&W DB-1	30	0.25	0.25			
20	**Pest.**	GC-µECD	DB-5	60	0.25	0.25	7	10-1000 pg/µL	
	PCB								
21	**Pest.**	GC-MS	VF-5ms	30	0.25	0.25			
	PCB	GC-MS	VF-5ms	30	0.25	0.25			
22	**mono-hepta BDEs**	GC-EI-MSD	DB-1	30	0.25	0.25	8	4-1000 ng/ml	no
	octa-deca BDEs	GC-EI-MSD	DB-1	15	0.25	0.10			
23	**Pest.**	GC-ECD	DB 5	30	0.25	0.25	4	5 to 200 ng/µL	dilution
	PCB	GC-ECD	DB 5	30	0.25	0.25	4	5 to 200 ng/µL	dilution
A	**Fatty Acid**	GC-MS (EI; SIM)	DB-23	60	0.25	0.25	8	0.005-40 ng/µL (as FAMEs)	None
B	**Fatty Acid**								
C	**Fatty Acid**	GC-FID	SP2560	100	0.25	0.2			
D	**Fatty Acid**								
E	**Fatty Acid**	GC-MS/GC-FID	HP-225	30	0.25	0.25			
F	**Fatty Acid**	GC/MS-MS	DB 5	30	0.25	0.25			

Summary of Methods Used

Laboratory		Method of Quantitation	Added Prior to Extraction	Indentity of Internal Standards Added Prior to Chromatographic Analysis
1	Pest.	IS	Deuterated 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, endosulfan I; ^{13}C-cis chlordane	
	PCB	IS	^{13}C labeled PCBs 28, 52, 118, 153, 180, 194, 206, and 209	
2	Pest.	IS	Deuterated 4,4'-DDD and Carbon-13 labeled 4,4'-DDT, 4,4'-DDE, lindane, and trans-nonachlor	
	PCB	IS	PCB 103, PCB 198, and Carbon-13 labeled PCB 28, PCB 101, PCB 105, PCB 153, and PCB 170	
3	Pest.	IS	PCB 103,198	deuterated phenanthrene, chrysene
	PCB	IS	PCB 103,198	deuterated phenanthrene, chrysene
4	Pest.	IS	CB 103	tetrachloro-o-xylene
	PCB	IS	CB 103	tetrachloro-o-xylene
5	Pest.	IS	1,2,3,4-tetrachloro-*p*-dibenzodioxin	1,7,8-trichloro-*p*-dibenzodioxin
	PCB	IS	1,2,3,4-tetrachloro-*p*-dibenzodioxin	1,7,8-trichloro-*p*-dibenzodioxin
6	Pest.		Ronnel	Tetrachloro-m-xylene (TCMX)
	PCB	IS	4,4' Dibromooctafluorobiphenyl (DOB), PCB 198	PCB 103.
7	Pest.	IS		
	PCB	IS		
8	Pest.	IS	^{13}C6 Chlorobenzene; ^{13}C6 1, 4 Dichlorobenzene; ^{13}C6 1,2,3 Trichlorobenzene; ^{13}C6 1234 Tetrachlorobenzene; ^{13}C6 Pentachlorobenzene; ^{13}C6 Hexachlorobenzene; ^{13}C6 Lindane; ^{13}C12 p,p'-DDE; ^{13}C12 p,p'-DDT; d_4 alpha Endosulphan	^{13}C PCB 153
	PCB	IS	Deuterated PCB 38, C-13 labeled PCBs 15, 77, 126, 169, 28, 118, 105, 156, 52, 101, 128, 180, 194, 208, 209	^{13}C PCB 111(for Diortho PCB analysis), ^{13}C 101(for Mono Ortho & Non Ortho PCB analysis)
9	Pest.	ES	1,3-DBB, Endrin Ketone	
	PCB	ES	PCB 30 and 204	
10	Pest.	ES	Endrin	
	PCB	ES	DBOFB	
11	Pest.	IS	Dibromooctafluorobiphenyl and octachloronaphthalene	1-bromo-2-nitrobenzene
	PCB	IS	the same as the above	the same as the above
12	Pest.	ES		
	PCB	NA		
13	Pest.	ES		
	PCB	ES		
14	Pest.	ES		
	PCB	ES		
15	Pest.	IS	1,3,5 TBB, 1,2,4,5 TTBB, d-HCH, 1,3 DBB, Endrin Ketone	Octachloronapthalene
	PCB	IS	Congener 30, 204	Octachloronapthalene
19	Pest.	IS	PCB 29 and PCB 112	
	PCB	IS	PCB 29 and PCB 112	
17	Pest.	IS	Heptachlor	
	PCB	IS	PCB 199	
18	Pest.	IS	ε-HCH, PCB 46, PCB 143	
	PCB	IS	PCB 46, PCB 143	
19	Pest.	ES		
	PCB	IS		
20	Pest.	IS		TCN (tetrachloronaphtalene)
	PCB	IS	labeled PCBs 77, 126, 169	TCN, labelled PCBs 70*, 111*, 138*, 170*
21	Pest.	NA*		
	PCB	NA		
22	PBDE	IS	(All ^{13}C12-PBDEs) BDE-3, BDE-15, BDE-28, BDE-47, BDE-99, BDE-153, BDE-154, BDE-183, BDE-197, BDE-207, BDE-209	^{13}C12-BDE-139
23	Pest.	IS	PCBs 103 and 198, DBOFBP	TCMX
	PCB	IS	PCBs 103 and 198, DBOFBP	TCMX
A	Fatty Acid	IS	C13:0 Fatty Acid	C13:1 Fatty Acid
B	Fatty Acid			
C	Fatty Acid		C19:0	
D	Fatty Acid			
E	Fatty Acid			
F	Fatty Acid	IS		

*NA: Not stated

Summary of Methods Used

Laboratory		Any Other Internal Standards?	Added When?	IS Surrogate Standards Used for Quantitation Were Added:	If the IS/surrogates Added After Extraction/Cleanup, Were Results Corrected for Recovery?
1	Pest.			Prior to extraction	No
	PCB				
2	Pest.			Prior to extraction	No
	PCB				
3	Pest.			Prior to extraction	No
	PCB				
4	Pest.	tetrachloro-m-xylene	Just before HPLC-SEC separation.	Prior to extraction	
	PCB	tetrachloro-m-xylene			
5	Pest.			Prior to extraction	
	PCB				
6	Pest.	1,2,3-Trichlorobenzene (123-TCB)	Before HPLC cleanup	After extraction/cleanup prior to GC analysis	No
	PCB	PCB 192			
7	Pest.			PCB-30 / OCN prior to extraction, aldrin prior to analysis	No
	PCB				
8	Pest.			Prior to extraction	Yes
	PCB				Yes
9	Pest.	1,3,5-TBB,1,2,4,5-TTBB,d-HCH,			No
	PCB				
10	Pest.			Prior to extraction	
	PCB				
11	Pest.			After extraction/cleanup prior to GC analysis	No
	PCB				
12	Pest.				
	PCB				
13	Pest.				
	PCB				
14	Pest.				
	PCB				
15	Pest.			After extraction/cleanup prior to GC analysis	Yes
	PCB				
16	Pest.			Prior to extraction	
	PCB				
17	Pest.			those added after extraction/cleanup and just prior to chromatographic analysis	No
	PCB				
18	Pest.			Prior to extraction	
	PCB				
19	Pest.				
	PCB				
20	Pest.				
	PCB			Prior to extraction for non-ortho PCBs; after extraction for the rest of PCBs	
21	Pest.				
	PCB				
22	PBDEs			After extraction just prior to GPC	Yes
23	Pest.				
	PCB	PBB 77	Prior to extraction		Yes - PBB 77
A	Fatty Acid	Fatty Acid C11:1		Prior to Extraction	88-109%
B	Fatty Acid				
C	Fatty Acid				
D	Fatty Acid				
E	Fatty Acid				
F	Fatty Acid				

Summary of Methods Used

Laboratory		Recovery Range (%)	Were PCBs Separated From Pesticides Prior to GC?	Does PCB 132 coelute with PCB 153 or with PCB 105 or is it separated from both?	Please Note Any Differences in Procedures Used for SRM 1945 Analyses from Those Used for Homog. V
1	**Pest.** **PCB**		Yes	132 Coelutes with 153, Resolved from 105	
2	**Pest.** **PCB**		No	Separated	
3	**Pest.** **PCB**		No		
4	**Pest.** **PCB**	101-109 101-109	No	Coelutes with 153	
5	**Pest.** **PCB**	83-95 83-95	No	PCB 153 coelutes with other PCBs but not PCB 132	
6	**Pest.** **PCB**	Ronnel: Homog. V (105 ± 44), SRM1945 (116 ± 4); 123-TCB: Homog. V (64 ± 12), SRM1945 (78 ± 24) DOB: Homog. V (122 ± 60), SRM1945 (121 ± 4); PCB 198: Homog. V (169 ± 25), SRM1945 (140 ± 6); PCB 192: Homog. V (124 ± 13), SRM1945 (124 ± 10)	No	132 Coelutes with 153, Resolved from 105	
7	**Pest.** **PCB**	PCB-30 (61-80)	Yes	Separated	
8	**Pest.** **PCB**	60 to 120 40 to 100	No	132 Coelutes with 153, Resolved from 105	
9	**Pest.** **PCB**		Yes	Separated	
10	**Pest.** **PCB**	86-140 81-87	Yes	Coelutes with 105	
11	**Pest.** **PCB**	54-85 54-85	No	Unknown	
12	**Pest.** **PCB**		Yes		
13	**Pest.** **PCB**		Yes	Separated	
14	**Pest.** **PCB**		No	Quantitate only total Arochlor 1260	
15	**Pest.** **PCB**	32-80 52-80	Yes		
16	**Pest.** **PCB**	85 -111 85 -111	No	Separated	
17	**Pest.** **PCB**		No	Separated	
18	**Pest.** **PCB**	70-85 75-90	No	Separated	
19	**Pest.** **PCB**	83-128	Yes	Separated	
20	**Pest.** **PCB**		No	Separated	
21	**Pest.** **PCB**		No	Unknown	
22	**PBDES**	50-120			
23	**Pest.** **PCB**	40-120 40-120	Only the Planar PCBs	Coelutes	

Appendix E

Additional analyte data and notes reported by individual laboratories

Additional Data and Notes

Lab 1

Compound	Homog V Sample 1 (ng/g wet mass)	Homog V Sample 2 (ng/g wet mass)	Homog V Sample 3 (ng/g wet mass)	SRM 1945 Sample 1 (ng/g wet mass)	SRM 1945 Sample 2 ng/g wet mass	SRM 1945 Sample 3 (ng/g wet mass)
PCB 8	<2	<2	<2	<2	<2	<2
PCB 29	<2	<2	<2	<2	<2	<2
PCB 45	<2	<2	<2	<2	<2	<2
PCB 63	<2	<2	<2	<2	<2	<2
PCB 74	11.6	10.9	11.3	13.5	13.9	12.8
PCB 70	3.2	2.9	3.1	11.1	11.9	10.3
PCB 56	<2	<2	<2	7.6	8.6	7.3
PCB 92	<2	<2	<2	17.4	17.6	17.9
PCB 110	<2	<2	<2	32.0	32.6	32.2
PCB 154	<2	<2	<2	0.8	0.7	1.1
PCB 82	<2	<2	<2	1.2	1.7	2.0
PCB 107	<2	<2	<2	4.9	5.3	5.3
PCB 146	19.7	19.5	19.9	31.9	32.5	32.7
PCB 158	47.3	47.9	48.5	30.2	30.9	30.4
PCB 163	2.4	2.1	2.8	7.1	6.4	7.3
PCB 174	<2	<2	<2	16.6	16.7	16.5
PCB 157	32.6	32.7	33.4	2.6	2.5	2.2
heptachlor	<2	<2	<2	<2	<2	<2

Lab 2

Compound	Homog V Sample 1 (ng/g wet mass)	Homog V Sample 2 (ng/g wet mass)	Homog V Sample 3 (ng/g wet mass)	SRM 1945 Sample 1 (ng/g wet mass)	SRM 1945 Sample 2 ng/g wet mass	SRM 1945 Sample 3 (ng/g wet mass)
PCB 138 & 158	190	189	182	115	117	116
PCB 180 & 193	691	679	665	140	129	139

Lab 4

Compound	Homog VI Sample 1 (ng/g wet mass)	Homog VI Sample 2 (ng/g wet mass)	Homog VI Sample 3 (ng/g wet mass)	SRM 1945 Sample 1 (ng/g wet mass)	SRM 1945 Sample 2 ng/g wet mass	SRM 1945 Sample 3 (ng/g wet mass)
17	<0.387	<0.397	<0.332	1.85	1.81	1.82
33	<1.55	<1.59	<1.33	<1.76	<1.68	<1.61
70	<1.55	<1.59	<1.33	10.1	10.1	10.1
74	13.0	12.9	12.8	16.9	16.6	16.8
82	<0.388	<0.398	<0.332	3.85	3.89	3.83
110	<1.56	<1.60	<1.34	34.9	34.5	34.9
171	2.96	3.06	3.08	12.2	12.1	12.2
177	<1.56	<1.60	<1.34	30.8	30.7	31.0
191	2.98	3.10	2.98	<1.78	<1.70	<1.63
199	5.51	5.59	5.41	82.8	82.0	82.7
205	9.75	9.94	9.49	1.83	1.8	1.83
208	<1.56	<1.60	<1.34	25.5	25.5	25.8
aldrin	<1.55	<1.59	<1.33	2.02	1.98	2.32
endosulfan I	<1.56	<1.60	<1.34	<1.78	<1.70	<1.63
endosulfan II	11.9	11.9	11.9	<1.81	<1.73	<1.66
endosulfan sulfate	<1.57	<1.61	<1.34	<1.79	<1.71	<1.63

Please see supplemental worksheet for Fatty Acid analysis results.

Lab 5

I o,p'-DDT coleutes with PCBs and could not be quantitated in the Homogenate samples.
Only one level of calibration standard is used for quantitation, due to the extended linear response range of the detector (photodiode array).

REPORT ADDITIONAL ANALYT	Homog VI	Homog VI	Homog VI	SRM 1945	SRM 1945	SRM 1945
PCB 77	<1.1	<1.4	<1.2	<1.2	<1.3	<1.5
PCB 126	<0.92	<0.98	<0.86	<0.80	<0.90	<1.0
PCB 189:	10.2	9.76	11	< 0.61	< 0.66	< 0.74
∑PCBs	4900	5000	5000	1700	1500	1700
∑DDTs (I)	95	98	93	970	900	860

I o,p'-DDT coleutes with PCBs and could not be quantitated in the Homogenate samples.

Lipid Classes:	Homog VI	Homog VI	Homog VI	SRM 1945	SRM 1945	SRM 1945
Wax esters	0	0	0	1.72	2.14	1.66
Triglycerides	100	100	100	98.3	97.9	98.3
Free fatty acids	0	0	0	0	0	0
Cholesterol	0	0	0	0	0	0
Phospholipids	0	0	0	0	0	0

Lipid classes are reported as percent of total lipid fraction.

Lab 6

REPORT ADDITIONAL ANALYTICAL RESULTS INCLUDING OPTIONAL ANALYES IN THE SPACE BELOW

Notes:

1. Two other candidate standards were added to each sample: octachloronapthalene (OCN) and 3,3',4,4'-tetrabromobiphenyl (TBB) to assess their utility as GC internal standards in the final chromatographic analysis. Using our gas chromatographic conditions, PCB 206 elutes very near the OCN peak. Unfortunately, too much OCN was added to each sample that made the identification and quantification of PCB 206 very difficult. The responses for TBB in each sample were reduced from those observed in our calibraiton solutions, which made it an unreliable standard for chromatographic analysis. We speculate that the reduced response of TBB may be related to matrix effects. In summary, we did not find either standard suitable for these particular analyses.

2. To prepare the calibration solutions for this intercomparison exercise, we used these solutions: SRM 2261 and SRM 2274 from NIST as the sources for the chlorinated pesticides. From Accustandard, Inc, New Haven, CT., we purchased the 20 PCB mixture C-CCSEC and the individual PCBs: 87, 132, and 201. We also purchased the supplementary PCB solution SRM 2275 from NIST.

Additional Data and Notes

3. We used hydrogen gas as the carrier gas at a linear velocity of 40 cm/min. For the analyses of PCBs and pesticides, 1 microliter of sample was injected into the GC-ECD.

4. Using our gas chromatographic conditions, PCB 153 and PCB 132 elute very closely to each other when a calibration solution is run. In the samples, the peak in this region of the chromatogram is very broad making identification and quantification of PCB 132 very difficult. PCB 105 is separated from both PCB 153 and PCB 132.

Other: We found the following pairs of analytes coelute from our DB-5 column:

Other[A] : 4,4'-DDD and cis-Nonachlor

Other[B] : PCB 8 and alpha-HCH

Other[C] : PCB 87 and dieldrin

Other[D] : PCBs 132 and 153 elute closely to each other. Conservatively, the concentration of PCB 153 given in the table should be treated as the sum of PCB 153 and PCB 132.

Other[E] : PCB 206 and the internal standard octachloronaphthalene

General Comment:
We use a nitrogen generator as the source of the make-up gas for the ECD. This nitrogen supply was interrupted during the analyses of the SRM samples. These analyses were resumed after the plumbing for the air supply for the generator was repaired. The ECD baseline for the SRM samples was elevated and very noisy compared to the baseline for the Homogenate VI samples.

Report Additional Analyte Results Below

Additional Pesticides and PCBs	Homog VI Sample 1 (ng/g wet wt)	Homog VI Sample 2 (ng/g wet wt)	Homog VI Sample 3 (ng/g wet wt)	SRM 1945 Sample 1 (ng/g wet wt)	SRM 1945 Sample 2 (ng/g wet wt)	SRM 1945 Sample 3 (ng/g wet wt)
Heptachlor	0.0	2.47	2.00	DL	DL	10.9
Aldrin	DL	DL	DL	DL	DL	5.91
Endrin	DL	DL	DL	31.9	15.6	30.4
Endosulfan I	3.70	5.63	DL	DL	DL	DL
Endosulfan II	31.0	43.8	13.0	DL	17.3	12.7
Endosulfan Sulfate	8.18	9.37	2.08	21.8	24.3	20.6
PCB 8	Other[B]	Other[B]	Other[B]	Other[B]	Other[B]	Other[B]
PCB 77	Other[F]	Other[F]	Other[F]	Other[F]	Other[F]	Other[F]
PCB 110	Other[F]	Other[F]	Other[F]	Other[F]	Other[F]	Other[F]
PCB 126	DL	DL	DL	DL	DL	26.5
PCB 169	DL	DL	DL	14.4	58.7	19.4

Other: We found the following pairs of analytes coelute from our DB-5 column:

Other[B] : PCB 8 and alpha-HCH

Other[F] : Since PCB 77and PCB 110 coelute from our column and the response of each congener vary from each other, the relative ratios of two congeners can not be determined. We do not report the concentrations of either PCB 77 or PCB 110.

Other comments:
PCB 126 was detected in only one SRM 1945 sample.

7 **PBDE CONGENER ANALYSES**

Aproximately 1.5 grams extracted with hexane using a ball mill. % lipid determined gravimetrically using 10% of extract. Lipid removed from 80% of extract by GPC, further cleaned on 1.2% deactivated Florisil. Analysed by GC-HRMS using 30 m DB-5MS (0.25 mm ID, 0.1 um film) HRMS at RP = 10,000, EI mode.

Congener	Homog VI Sample 1 (ng/g wet wt)	Homog VI Sample 2 (ng/g wet wt)	Homog VI Sample 3 (ng/g wet wt)	SRM 1945 Sample 1 (ng/g wet wt)	SRM 1945 Sample 2 (ng/g wet wt)	SRM 1945 Sample 3 (ng/g wet wt)
47	6.67	5.81	5.81	38.1	40.1	39.5
99	1.86	0.56	0.501	17.3	18.8	17.7
100	0.377	0.247	0.258	6.83	7.24	7.45
153	0.609	0.795	0.561	6.50	6.40	6.27
154	0.0209	0.0098	0.0032	11.3	11.0	11.0

8 *** PCB 132 co elutes with PCB 153. PCBs 160/163/164/138 co elute. PCBs 187/182 co elute. PCBs 87/115 co elute**
PCB 52 co elutes with PCB 73

Congener	Homog VI Sample 1 (ng/g wet wt)	Homog VI Sample 2 (ng/g wet wt)	Homog VI Sample 3 (ng/g wet wt)	SRM 1945 Sample 1 (ng/g wet wt)	SRM 1945 Sample 2 (ng/g wet wt)	SRM 1945 Sample 3 (ng/g wet wt)
PCB 4/10	DL	DL	DL	DL	DL	DL
PCB 8/5	0.132	0.095	0.095	0.185	0.171	0.201
PCB 6	DL	DL	DL	DL	DL	DL
PCB 7/9	DL	DL	DL	DL	DL	DL
PCB 11	0.95	0.115	0.117	0.125	0.144	0.156
PCB 12	DL	DL	DL	DL	DL	DL
PCB 13	DL	DL	DL	0.056	DL	0.03
PCB 14	DL	DL	DL	DL	DL	DL
PCB 15	DL	0.071	0.064	0.15	0.162	0.18
PCB 16/32	ND	0.134	0.13	1.63	1.28	1.15
PCB 17	DL	DL	DL	1.04	0.641	0.841
PCB 19	DL	DL	DL	0.221	DL	DL

Additional Data and Notes

	PCB 33/20	0.109	0.094	0.080	0.846	0.709	0.686
	PCB 21	DL	DL	DL	DL	DL	DL
	PCB 22	0.088	0.052	0.04	0.192	0.084	0.093
	PCB 23/34	DL	DL	DL	DL	DL	DL
	PCB 27/24	DL	DL	DL	0.311	0.235	0.223
	PCB 25	DL	DL	DL	0.097	0.054	0.071
	PCB 26	DL	DL	DL	0.426	0.385	0.363
	PCB 29	DL	DL	DL	DL	DL	DL
	PCB 30	DL	DL	DL	DL	DL	DL
	PCB 35	DL	DL	DL	DL	DL	DL
	PCB 36	DL	DL	DL	DL	DL	DL
	PCB 37	0.042	0.031	0.027	0.481	0.442	0.516
	PCB 38	DL	DL	DL	DL	DL	DL
	PCB 39	0.013	0.006	0.007	0.009	0.011	0.013
	PCB 40	DL	DL	DL	1.218	1.318	1.28
	PCB 71/41/64	0.135	0.183	0.211	7.30	7.51	7.09
	PCB 59/42	DL	DL	DL	4.74	4.892	5.01
	PCB 43	DL	DL	DL	DL	DL	DL
	PCB 45	DL	DL	DL	1.02	0.802	0.949
	PCB 46	DL	DL	DL	0.322	0.227	0.314
	PCB 47/75/48	11.405	10.776	10.489	11.3	10.5	10.5
	PCB 50	DL	DL	DL	DL	DL	DL
	PCB 51	DL	DL	DL	0.322	0.211	0.242
	PCB 73/52	1.773	1.762	1.645	38.6	36.9	36.5
	PCB 53	DL	DL	DL	0.628	0.573	0.611
	PCB 54	DL	DL	DL	DL	DL	DL
	PCB 55	DL	DL	DL	DL	DL	DL
	PCB 56/60	0.351	0.352	0.334	5.83	5.77	5.77
	PCB 57	DL	DL	DL	DL	DL	DL
	PCB 58	DL	DL	DL	DL	DL	DL
	PCB 61/74	13.72	15.701	15.47	17.8	17.4	17.7
	PCB 62	DL	DL	DL	DL	DL	DL
	PCB 63	0.055	0.063	0.062	0.165	0.185	0.16
	PCB 65	DL	DL	DL	DL	DL	DL
	PCB 67	DL	DL	DL	DL	0.038	0.028
	PCB 68	DL	DL	DL	0.216	0.13	0.082
	PCB 69	DL	DL	DL	DL	DL	DL
	PCB 70/76	0.228	0.316	0.283	10.0	9.49	9.98
	PCB 72	DL	DL	DL	0.478	0.486	0.444
	PCB 77	0.02	0.011	0.016	0.4	0.351	0.353
	PCB 78	DL	DL	DL	DL	DL	DL
	PCB 79	DL	DL	DL	DL	DL	DL
	PCB 80-see below	**other**	**other**	**other**	**other**	**other**	**other**
	PCB 81	DL	DL	DL	0.035	0.047	0.042
	PCB 82	DL	DL	DL	3.26	3.56	3.22
	PCB 109/83	DL	DL	DL	2.44	2.30	2.19
	PCB 92/84	0.581	0.509	0.500	16.4	16.1	15.6
	PCB 85	17.8	19.2	17.3	13.3	14.9	13.1
	PCB 97/86	DL	DL	DL	11.5	12.4	11.4
	PCB 115/87	5.40	6.83	6.05	23.0	24.8	23.2
	PCB 88	ND	0.102	ND	0.414	0.515	0.343
	PCB 89	DL	DL	DL	7.409	7.331	6.387
	PCB 101/90	4.33	4.23	4.32	88.4	91.1	85.9
	PCB 94	DL	DL	DL	0.222	0.193	0.22
	PCB 96	DL	DL	DL	0.250	0.247	0.278
	PCB 98	DL	DL	DL	DL	DL	DL
	PCB 100	DL	DL	DL	0.679	0.716	0.696
	PCB 103	DL	DL	DL	0.654	0.581	0.633
	PCB 104	DL	DL	DL	DL	DL	DL
	PCB 108/107	0.713	0.764	0.69	3.85	3.31	3.31
	PCB 110	0.484	0.848	0.692	24.1	32.0	27.1
	PCB 111	ND	0.381	0.285	0.327	0.193	0.216
	PCB 112	DL	DL	DL	DL	DL	DL
	PCB 113	DL	DL	DL	DL	DL	DL
	PCB 114	1.78	1.74	1.84	1.77	1.83	1.78
	PCB 116/125/117	3.47	3.297	3.265	ND	0.203	0.149
	PCB 119	0.618	1.29	1.43	3.87	4.60	4.19
	PCB 120	NA	0.629	0.537	NA	0.538	0.711
	PCB 121	DL	DL	DL	DL	DL	DL
	PCB 122	DL	DL	DL	DL	DL	DL
	PCB 123	ND	ND	ND	1.08	0.900	0.981
	PCB 124	DL	DL	DL	0.384	0.338	0.303
	PCB 126	0.011	0.021	0.023	0.160	0.145	0.143
	PCB 127	DL	DL	DL	DL	DL	DL
	PCB 129	0.213	0.2	ND	1.37	1.27	2.91
	PCB 130	4.21	4.17	4.12	21.9	19.9	20.8
	PCB 142/131	NA	3.32	3.81	0.449	0.447	0.623
	PCB 132/153	2906	2708	3071	305	286	297
	PCB 133	DL	DL	DL	DL	DL	DL
	PCB 143/134	DL	DL	DL	3.10	3.03	3.03
	PCB 135/144	0.405	0.397	0.399	18.1	16.9	17.5
	PCB 136	0.212	0.17	0.112	10.9	10.6	10.7
	PCB 137	27.1	25.2	26.1	8.12	8.02	8.22
	PCB 160/163/164/138	350	331	357	219	213	209

Additional Data and Notes

	PCB 139/140	DL	0.025	0.029	0.925	0.835	0.964
	PCB 141	DL	DL	0.358	18.3	17.7	17.8
	PCB 145	DL	DL	DL	DL	DL	DL
	PCB 146/161	33.3	32.3	32.0	53.2	50.6	54.4
	PCB 147	0.193	0.156	0.168	3.19	3.10	3.30
	PCB 148	DL	DL	DL	0.538	0.351	0.471
	PCB 150	DL	DL	DL	0.348	0.364	0.279
	PCB 152	DL	DL	DL	0.09	0.05	0.081
	PCB 154	0.148	0.13	0.143	4.09	3.56	3.91
	PCB 155	DL	DL	DL	0.666	0.708	0.822
	PCB 157	37.0	37.8	38.3	2.71	2.92	2.83
	PCB 158	3.16	3.74	4.48	8.19	8.06	8.30
	PCB 159	DL	DL	DL	0.141	0.073	0.103
	PCB 162	0.369	0.249	0.179	0.866	0.704	0.765
	PCB 165	NA	0.766	0.597	DL	DL	DL
	PCB 166	5.18	5.78	5.76	0.659	0.781	0.579
	PCB 167	1.389	1.719	1.541	4.53	5.12	5.15
	PCB 168	DL	DL	DL	20.4	18.3	19.7
	PCB 169	0.442	0.449	0.441	0.12	0.127	0.133
	PCB 171	3.35	3.47	2.98	12.0	12.0	12.2
	PCB 192/172	4.04	3.96	3.41	13.5	13.9	12.5
	PCB 173	DL	DL	DL	0.579	0.537	0.334
	PCB 174/181	0.608	0.619	0.515	30.5	29.5	28.0
	PCB 175	ND	0.102	0.104	3.36	2.83	2.95
	PCB 176	DL	DL	DL	8.12	7.50	8.03
	PCB 177	0.767	0.707	0.63	30.9	30.2	30.2
	PCB 178	4.13	3.65	3.16	20.0	20.3	19.3
	PCB 179	0.282	0.235	0.225	18.0	17.6	17.9
	PCB 180	882	862	862	150	162	147
	PCB 187/182	9.63	10.00	8.84	159	154	156
	PCB 184	DL	DL	DL	1.1	0.839	0.931
	PCB 185	DL	DL	DL	4.06	3.53	3.87
	PCB 186	DL	DL	DL	DL	DL	DL
	PCB 188	DL	DL	DL	1.07	0.819	0.930
	PCB 189	4.25	4.74	2.99	0.919	0.964	1.155
	PCB 191	1.87	2.81	2.43	0.881	0.865	0.891
	PCB 193	14.4	12.2	13.3	7.81	7.38	6.71
	PCB 203/196	12.8	11.6	10.7	104	101	98.5
	PCB 197	0.142	0.142	0.163	7.01	5.83	6.20
	PCB 198	0.113	0.118	0.089	3.04	2.67	2.85
	PCB 199	DL	DL	DL	5.05	4.63	4.66
	PCB 200	0.389	0.427	0.286	34.2	31.4	33.1
	PCB 202	3.25	2.902	2.498	41.3	39.5	39.4
	PCB 204	DL	DL	DL	DL	DL	DL
	PCB 205	0.689	3.393	1.633	0.441	0.322	0.438
	PCB 207	0.270	0.212	0.23	14.6	14.0	15.1
	PCB 208	0.420	0.331	0.373	22.2	21.8	22.4
	Note PCB 80/66 co elute						

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We don't do individual PCB congeners. We do screen for Arochlor series. For SRM 1945, we found Arochlor 1260 at 1260, 1640 and 1860 ng/g respectively for the triplicates.

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Compound	Homog VI Sample 1 (ng/g wet wt)	Homog VI Sample 2 (ng/g wet wt)	Homog VI Sample 3 (ng/g wet wt)	SRM 1945 Sample 1 (ng/g wet wt)	SRM 1945 Sample 2 (ng/g wet wt)	SRM 1945 Sample 3 (ng/g wet wt)
PCB 77	<0.100	0.329	0.324	0.776	0.814	0.655
PCB 126	0.478	0.61	0.513	0.847	0.737	0.719
PCB 169	0.682	0.758	0.845	0.340	0.323	0.256

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Compound	Homog VI Analysis A (ng/g wet wt)	Homog VI Analysis B (ng/g wet wt)	Homog VI Analysis C (ng/g wet wt)	SRM 1945 Analysis A (ng/g wet wt)	SRM 1945 Analysis B (ng/g wet wt)	SRM 1945 Analysis C (ng/g wet wt)
Aldrin	2.90	5.00	3.70	8.00	5.20	4.90
Endrin	10.6	9.50	12.8	40.5	45.5	35.4
Heptachlor	2.60	3.70	2.80	4.80	4.70	4.30
Lindane	2.80	3.20	3.20	3.60	3.00	3.50
Arochlor 1260 (Total)	1779	1583	1493	711	807	669

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Please note that our lab has a coelution issue with the following congeners: 49-43, 87-81, 128-167, 187-182. The values reported above for these coeluting congeners may be overestimated.

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*** Due computer problems where we not able to calculate this compounds.

Polybrominated Diphenyl Ethers	Homog VI Sample 1	Homog VI Sample 2	Homog VI Sample 3	SRM 1945 Sample 1	SRM 1945 Sample 2	SRM 1945 Sample 3
Date(s) of measurements (m/d/yr)	10.30.03	10.30.03	10.30.03	10.30.03	10.30.03	10.30.03
PBDE 47	4.34	3.82	4.15	32.19	32.95	34.01
PBDE 99	0.36	0.34	0.40	16.63	16.34	16.12

Additional Data and Notes

	PBDE 100	0.32	0.29	0.38	8.52	8.54	8.65
	PBDE 153	0.68	0.77	0.66	7.70	7.81	7.10
	PBDE 154	<0.15	<0.15	<0.15	11.37	10.77	10.35

Comments:

We are surprised by the patterns of PCB/pesticide in the two samples. We would like to know the lokations from where the samples are taken and/or if they are spiked.

The pesticides and the PCBs are analyzed on the two different columns listed earlier. The results given are selected from the column with the best recovery and best seperation.

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PCB CONGENER ANALYSES	Homog VI	Homog VI	Homog VI	SRM 1945	SRM 1945	SRM 1945
Congener	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)
47	17.4	18.3	18.8	14.8	14.1	13.8
74	12.5	12.8	13.4	13.9	15.1	14.7
110	0.78	0.63	0.64	32.6	30	31
157	44.3	43	44.2	7.75	8.11	7.76
167	2.21	2.3	2.39	6.77	6.79	6.96
174	0.57	0.69	0.79	23.7	22.9	23.6
177	0.83	0.97	0.94	26.6	25.5	26.1
190	82.7	79.6	83.3	7.97	7.97	7.96
196	10.5	10.5	10.9	76.5	75	76.2
199	5.43	4.98	4.9	75.1	76.5	76.7
Octachlorostyrene	4.01	3.95	5.09	12.7	9.45	8.7

PBDEs-PBBs

Analytical method used (e.g., GC-MS (include ionization type), GC-ECD):

	Analyt. Instr.	Column Phase	Col. Length, m	Col. i.d., mm	Col. film thickness, µm
PBDEs-PBBs	GC/MS (ECNI)	HT-8	25	0.22	0.25

Method of quantitation (IS = internal standard, ES = external standard):

PBDEs-PBBs IS

IF internal standard method was used, please complete the following section:

Identity of internal standards/surrogates used that were added PRIOR to extraction of sample:

PBDEs-PBBs BB103 and BB 155

Added after extraction/cleanup and JUST PRIOR to chromatographic analysis:

PBDEs-PBBs -

IS/surrogate standards used for quantitation calculations were:

Yes those added prior to extraction

No those added after extraction/cleanup and just prior to chromatographic analysis

Calibration Curve

	Points	Conc. Range	Analytes outside of calibration curve calibration range
PBDEs-PBBs	8	_____	none

RESULTS:

PERCENT LIPID (List each result if determined more than once. Enter results as a number, for example 90.0. DO NOT change format of cell to percent.)

PBDE-PBB ANALYSES	Homog VI	Homog VI	Homog VI	SRM 1945	SRM 1945	SRM 1945
PBDE-PBB	Analysis A	Analysis B	Analysis C	Analysis A	Analysis B	Analysis C
	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)	(ng/g wet wt)
BDE 28	<0.05	<0.05	<0.05	1.23	1.25	1.25
BDE 47	4.51	4.49	4.44	35	35.6	36.1
BDE 99	0.25	0.44	0.55	16.8	16.8	17.2
BDE 100	0.43	0.35	0.37	8.56	8.72	8.9
BDE 153	0.98	1.03	1.18	7.5	7.26	7.5
BDE 154	0.23	0.19	0.12	10.8	10.4	10.9
BDE 183	0.24	0.22	0.36	1.56	1.53	1.55
BB 153	3.13	2.85	2.96	3.24	3.09	3.22

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Analytical method used (e.g., GC-MS (include ionization type), GC-ECD):

	Analyt. Instr.	Column Phase	Col. Length, m	Col. i.d., mm	film thickness, µm
non-ortho PCBs	GC-MS(ITD)	BPX-5	60	0.25	0.25
mono-ortho PCBs + 149+132	MDGC-ECD	DB-5 / HT-8	30 / 30	0,25 / 0,25	0,25 / 0,25
"rest" PCBs	GC-µECD	DB-5	60	0.25	0.25

Calibration Curve

	Points	Conc. Range	Analytes outside of calibration curve calibration range
non-ortho PCBs	7	0,1-800 pg/µl	_____
mono-ortho PCBs + 149+132	7	1,0-250 pg/µl	_____
"rest" PCBs	7	0,5-100 pg/µl	_____

Additional Data and Notes

Congener	Homog VI Sample 1 (ng/g wet wt)	Homog VI Sample 2 (ng/g wet wt)	Homog VI Sample 3 (ng/g wet wt)	SRM 1945 Sample 1 (ng/g wet wt)	SRM 1945 Sample 2 (ng/g wet wt)	SRM 1945 Sample 3 (ng/g wet wt)
81	<0.000401	_____	_____	0.0468	_____	_____
77	0.0171	_____	_____	0.279	_____	_____
126	0.0323	_____	_____	0.161	_____	_____
169	0.314	_____	_____	0.0808	_____	_____
114	1.75	_____	_____	ND	_____	_____
157	34.8	_____	_____	0.465	_____	_____
167	ND	_____	_____	0.471	_____	_____
189	6.77	_____	_____	1.39	_____	_____

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Sample Preparation

2.04 grams of Marine Mammal Blubber Control Material VI and 2.07 grams of Standard Reference Material 1945 "Organics in Whale Blubber" were respectively placed in separate 250 mL Erlenmeyer flasks. 25 grams of anyhydrous sodium sulfate were added to each flask. 50 mL of 5% ethanol in ethyl acetate was added to each flask, and then the samples were homogenized for 2 minutes. Following centrifugation, the supernatant from each sample was collected. The samples were passed through separate silica gel solid phase extraction columns, and an additional 6 mL of 5% ethanol in ethyl acetate was poured through each column.
The collected samples were then evaporated to dryness under a stream of nitrogen, and were reconstituted with 1 mL of toluene.

Chromatographic Analysis

Samples were analyzed on a Varian 3800 GC with Saturn 2000 MS/MS detector. Splitless injection of 1 microliter sample was performed.
Low – High Mass Range: 40 – 450 m/z
Injector Temp: 325
Hold Time: 30.95 min
Pressure: 25.0 psi

Blubber Sample: Marine Mammal Blubber Control Material VI

No organochlorine pesticides detected.

From Table 2, *optional compounds* , the following fatty acids were detected:

(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid (Gadoleic Acid)
Tetradecanoic acid (Myristic Acid)
(Z)-9-Octadecanoic acid (Oleic Acid)
Pentadecanoic acid (Lauric Acid)
Eicosanoic acid (Arachidic Acid)
(Z)-9-Hexadecanoic acid (Palmitoleic Acid)
Hexadecanoic acid (Palmitic Acid)
(E)-9-Octadecenoic acid (Elaidic Acid)
(Z,Z,Z,Z)-5,8,11,14-Eicosatrienoic acid (Arachidonic Acid)

Miscellaneous compounds detected:

Niacinamide
Vitamin E
Cholesterol
Squalene

Blubber Sample: Standard Reference Material 1945 "Organics in Whale Blubber"

From Table 2, *optional compounds* , the following fatty acids were detected:

Dodecanoic acid (Lauric Acid)
Tetradecanoic acid (Myristic Acid)
Pentadecanoic acid (Lauric Acid)
(Z)-9-Hexadecanoic acid (Palmitoleic Acid)
(Z)-9-Octadecanoic acid (Oleic Acid)
(E)-9-Octadecenoic acid (Elaidic Acid)
Heptadecanoic acid (Margaric Acid)
(Z)-13-Docosenoic acid (Erucic Acid)
(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid (Arachidonic Acid)
(Z)-11-Eicosenoic acid (Nervonic Acid)
(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid (Gadoleic Acid)
(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid (Gadoleic Acid)

Detected the following furans:
2,5-dimethyl-2-(tetrahydrofuryl)tetrahydrofuran
2-propylfuran

Miscellaneous compounds detected:
Vanillin
4-chloro-3-n-hexyltetrahydropyrane
Retinol
Vitamin A aldehyde
Cholesterol
Squalene
Vitamin E

Standard Analysis
Pesticide Standard Mix A was purchased from Restek. A chromatogram yielding the following pesticides was generated and compared to the blubber chromatograms:
2,4,5,6-Tetrachloro-m-xylene
alpha-BHC
gamma-BHC (lindane)
Heptachlor
Endosulfan I
Dieldrin
Endrin
4,4'-DDD
4,4'-DDT
Methoxychlor
Comparative analysis confirmed the absence of pesticides in the blubber samples.

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PBDEs	Homog VI Analysis A (ng/g wet wt)	Homog VI Analysis B (ng/g wet wt)	Homog VI Analysis C (ng/g wet wt)	SRM 1945 Analysis A (ng/g wet wt)	SRM 1945 Analysis B (ng/g wet wt)	SRM 1945 Analysis C (ng/g wet wt)
BDE15	DL	DL	DL	0.0248	0.0232	0.0277
BDE28	DL	DL	DL	1.02	0.974	1.06
BDE47	4.78	4.09	4.27	33.0	32.7	34.9
BDE99	0.396	0.351	0.376	15.7	15.5	16.7
BDE100	0.310	0.223	0.257	8.77	8.65	9.33
BDE153	0.876	0.684	0.763	7.87	7.91	8.33
BDE154	0.0468	DL	0.0406	11.8	12.2	12.3
BDE183	DL	DL	DL	1.64	1.61	1.72
BDE196	DL	DL	DL	0.0917	0.0934	0.0966
BDE197	DL	DL	DL	0.394	0.410	0.462
BDE206	DL	DL	DL	DL	DL	DL
BDE207	DL	DL	DL	DL	DL	DL
BDE209	1.02	0.709	0.772	DL	DL	DL
Total PBDEs	7.43	6.06	6.47	80.2	80.0	85.0

A

C20:1n15	0.277	0.272	0.153	0.139	0.144
C20:3n6	1.46	1.44	0.468	0.459	0.517
C22:0 (behenic acid)	0.117	0.101	0.268	0.288	0.283
C22:4n6	3.05	3.06	0.82	0.932	<0.1
C22:3n3	<0.2	<0.2	<0.2	<0.2	<0.2
C24:0	0.145	0.141	0.166	0.19	0.167

These fatty acids are tentative IDs and are quantified using response factors from an equivalent isomer from the list above, reported as a mass fraction percent on a wet weight basis (as FAMEs).

	Homog VI Analysis A (g/g wet wt x 100)	Homog VI Analysis B (g/g wet wt x 100)	SRM 1945 Analysis A (g/g wet wt x 100)	SRM 1945 Analysis B (g/g wet wt x 100)	SRM 1945 Analysis C /g wet wt x 100)
C14:1n9	< 0.00927	< 0.00925	0.102	0.102	0.103
4,8,12-trimethyl-C13:0	0.0124	0.0118	0.0291	0.0283	0.0301
C14:1n7	0.0342	0.0334	0.130	0.130	0.131
11-methyl-C14:0	< 0.00502	< 0.00501	0.00533	< 0.00543	< 0.00595
anteiso-C15:0	0.0391	0.0379	0.0648	0.0656	0.0676
anteiso-C16:0	0.00629	0.00692	< 0.00449	< 0.00477	< 0.00522
2,6,10,14-tetramethyl-C15:0	0.0254	0.0248	0.0715	0.0724	0.0712
C16:1n11	0.170	0.168	0.184	0.179	0.182
C16:1n9	0.324	0.321	2.01	2.03	2.08
C16:1n5	0.135	0.135	0.205	0.207	0.214
7-methyl-C16:1n?	0.0209	0.0203	0.0671	0.0666	0.0669
C16:2n6	0.0398	0.0390	0.0275	0.0233	0.0254
anteiso-C17:0	0.125	0.124	0.0709	0.0719	0.0748
7,8-dimethyl-C16:1n?	< 0.00804	< 0.00802	< 0.00818	< 0.00870	< 0.00953
C16:2n4	0.278	0.276	0.172	0.171	0.174
C16:3n6	0.0314	0.0355	< 0.0189	< 0.02	< 0.022
C16:3n4	0.0545	0.0593	0.0334	0.0348	0.0314
C17:1n?	0.302	0.298	0.392	0.390	0.403
C16:4n3	0.0497	0.0484	0.155	0.156	0.150
anteiso-C18:0	0.0170	0.0168	0.00442	0.00477	0.00494
C16:4n1	0.0719	0.0699	< 0.0298	< 0.0316	< 0.0346
C18:1n13	0.111	0.116	0.0548	0.0491	0.0513
C18:1n11	1.03	1.02	2.54	2.56	2.66
C18:1n5	0.324	0.323	0.256	0.261	0.267
C18:2n7	0.121	0.120	0.0277	0.0304	0.0338
C18:2n4	0.176	0.170	0.0559	0.0565	0.0585
C18:3n4	0.240	0.242	0.0307	0.0294	0.0269
C18:3n1	< 0.0185	< 0.0185	< 0.0189	< 0.0200	< 0.0220
C18:4n1	0.0950	0.0953	< 0.0298	< 0.0316	< 0.0346
C20:1n5	0.0982	0.0968	0.0491	0.0485	0.0506
C20:1n11	1.19	1.33	3.15	3.14	3.26
C20:2n11	0.178	0.200	0.156	0.180	0.175
C20:2n9	0.0565	0.0576	< 0.00943	< 0.0100	< 0.0110
C20:4n3	0.299	0.296	0.200	0.194	0.196
C22:1n11	0.606	0.604	3.92	3.93	3.98
C22:1n7	0.118	0.119	0.103	0.105	0.108
C22:1n5	< 0.0185	< 0.0185	< 0.0189	< 0.0200	< 0.0220
C21:5n3	0.371	0.367	0.106	< 0.0865	0.104
C22:4n3	0.103	0.0982	< 0.0814	< 0.0865	< 0.0948

B

Fatty Acid Analyses

Co mpound	Homog VI Analysis A mg/g wet	Homog VI Analysis B mg/g wet	Homog VI Analysis C mg/g wet	SRM 1945 Analysis A mg/g wet	SRM 1945 Analysis B mg/g wet	SRM 1945 Analysis C mg/g wet
C13:0	0.069	0.065	0.065	0.229	0.174	0.171
Iso-C15:0	0.919	0.814	0.794	2.052	1.559	1.540
C14:1n5	2.830	2.611	2.495	4.074	3.056	3.028
Ante-C15:0	0.941	0.834	0.791	1.446	1.081	1.099
C15:1n5	0.000	0.000	0.000	0.000	0.000	0.000
C17:1n7	0.000	0.000	0.000	0.000	0.000	0.000
C18:1n11	9.686	6.645	6.300	20.898	17.330	21.514

Additional Data and Notes

	C18:2n6t	0.000	0.000	0.000	0.300	0.242	0.230
	C20:3n6	0.969	0.940	0.949	0.335	0.207	0.263
	C22:0	0.000	0.000	0.000	0.000	0.000	0.000
	C24:0	0.000	0.000	0.000	0.059	0.040	0.069
	Sats	0.014	0.014	0.013	0.025	0.017	0.012
	Mono	0.068	0.067	0.067	0.060	0.069	0.076
	PUFA	0.018	0.019	0.020	0.051	0.014	0.012
	w3	0.017	0.018	0.018	0.004	0.012	0.010
	w6	0.002	0.002	0.002	0.011	0.002	0.002
	w3/w6	0.010	0.011	0.011	0.000	0.007	0.007
	trans	0.001	0.001	0.001	0.009	0.001	0.001

C	**Compound**	values expressed mg/g wet tissue					
		MM VI AA4	MM VI AA5	MM VI AA6	1945 AA1	1945 AA2	1945 AA3
	C 13:0	<0.17	<0.17	<0.17	0.36	0.36	0.40
	C14:1	4.92	4.91	5.04	6.11	6.27	6.37
	C20:3	0.36	0.45	0.43	1.96	2.39	2.42
	C 22:4	3.73	3.59	3.75	0.94	0.88	0.98
	sum	870	829	916	713	730	735

D			
		values expressed mg/g wet tissue	
	Compound	Homogenate VI	SRM 1945
		mg/g	mg/g
	C6:0	0.000	0.000
	C8:0	0.000	0.000
	C10:0	0.039	0.052
	C11:0	0.065	0.186
	C13:0	0.186	0.055
	C14:1n5	0.645	0.773
	C15:1	0.000	0.004
	C17:1	0.586	0.441
	C18:1	ND	ND
	C18:2n6t	0.041	0.070
	C20:0	0.183	0.185
	C21:0	0.000	0.000
	C22:0	0.065	0.075
	C20:3n6	2.614	6.587
	C23:0	0.000	0.000
	C24:0	0.012	0.130
	C26:0	ND	ND
	Σω3	9.50	9.61
	Σω6	4.41	8.35
	ΣSAFA	17.8	19.4
	ΣMUFA	37.2	33.1
	ΣPUFA	15.7	18.3

E							
	Compound	Expressed as percent of total Fas					
	iso + antiso C5:0	Homog VI	Homog VI	Homog VI	1945-1	1945-2	1945-3
	4,8,12-trimethyltridecanoic acid (TMTD)	<0.01	<0.01	<0.01	1.69	1.66	1.48
	(Z)-9-tetradecenoic acid (14:1n-5)	0.057	0.055	0.056	0.119	0.116	0.114
	iso 15:0	0.501	0.496	0.5	0.663	0.648	0.643
	antiso 15:0	0.174	0.173	0.173	0.329	0.325	0.315
	(Z)-7-hexadecenoic acid (16:1n-9)	0.0682	0.067	0.0695	0.126	0.121	0.123
	(Z,Z)-6,9-Hexadecadieonic acid (16:2n-7)	0.445	0.433	0.435	2.83	2.75	2.65
	(Z,Z)-9,12-Hexadecadieonic acid (16:2n 4)	0.0571	0.0567	0.0547	0.0565	0.0563	0.0564
	Iso17	0.14	0.137	0.138	0.207	0.206	0.212
	antiso17:0	0.279	0.279	0.28	0.171	0.169	0.172
	7-methyl-7-hexadecenoic acid (7M7H)	0.473	0.47	0.47	0.098	0.097	0.099
	phytanate	0.171	0.168	0.168	0.565	0.546	0.574
	(Z)-9-heptadecenoic acid (17:1n-8)	0.112	0.107	0.113	0.123	0.108	0.088
	(Z)-7-octadecenoic acid (18:1n-11)	0.385	0.404	0.396	0.519	0.502	0.514
	(Z)-13-octadecenoic acid (18:1n-5)	1.59	1.57	1.24	3.17	2.92	4.06
	(Z,Z)-11,14-Octadecadienoic acid (18:2n-4)	0.456	0.451	0.454	0.352	0.353	0.355
	(Z,Z,Z)-8,11,14-Eicosatrienoic acid (20:3n-6)	0.284	0.293	0.281	0.0926	0.0896	0.0896

F	**Compound**	Expressed as percent of total Fas					
		Homog VI	Homog VI	Homog VI	**1945-1**	**1945-2**	**1945-3**
	13:0				0.17%	0.15%	0.14%
	14:1n10				0.14%	0.17%	0.16%
	14:1n7	0.55%	0.50%	0.58%	0.21%	0.23%	0.22%
	14:1n5				0.78%	0.71%	0.77%
	6-me 15:0	0.00%	0.00%	0.00%	0.18%	0.18%	0.20%

Additional Data and Notes

	iso 15	0.19%	0.19%	0.18%	0.38%	0.34%	0.40%
	anteiso 15	0.06%	0.10%	0.08%	0.13%	0.14%	0.18%
	16:1n9	0.44%	0.33%	0.55%	3.29%	3.12%	3.29%
	Iso 16	0.20%	0.15%	0.24%			
	16:2n4	0.48%	0.53%	0.55%			
	16:1n5				0.31%	0.25%	0.32%
	17:1n10	0.21%	0.16%	0.21%	0.80%	0.65%	0.76%
	iso 17:0	0.30%	0.26%	0.34%	0.35%	0.24%	0.27%
	17:1n8	0.43%	0.36%	0.51%	0.69%	0.58%	0.66%
	Anteiso 17	0.25%	0.27%	0.28%			
	3,7,11, 15-tetra methyl 20:0	0.23%	0.26%	0.23%	0.54%	0.42%	0.46%
	18:1n11	2.92%	2.43%	2.58%	5.67%	5.49%	5.38%
	18:1n5	0.51%	0.36%	0.63%	0.53%	0.48%	0.28%
	20:4n6	0.40%	0.36%	0.40%			
	20:1n13	1.27%	1.39%	1.53%			
	20:1n5	3.92%	4.19%	3.98%	0.77%	0.71%	0.70%