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2007 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues

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Description and Results of the 2007 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues

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TABLE OF CONTENTS

LIST OF APPENDICES III

LIST OF TABLES IV

ABSTRACT VII

INTRODUCTION 1

MATERIALS USED IN THE 2007 EXERCISE 1

EVALUATION OF THE EXERCISE RESULTS 2

RESULTS AND DISCUSSION 7

CONCLUSIONS AND FUTURE EXERCISES 9

LITERATURE CITED 9

LIST OF APPENDICES

A. Tabular results of PCB congener, pesticide, PBDE congener, and lipid data reported by all laboratories A1-A36

B. Graphical results of PCB congener and lipid data reported by all laboratories. The Z-scores for Homogenate VIII 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. B1-B28

C. Graphical results of pesticide and lipid data reported by all laboratories. The Z-scores for Homogenate VIII 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 C1-C18

D. Graphical results of PBDE congener data reported by all laboratories. The Z-scores for Homogenate VIII 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 D1-D5

E. Tabular summary of methods used for analysis by each laboratory.....E1-E7

F. Additional analyte data and notes reported by individual laboratories.....F1-F8

LIST OF TABLES

Table 1: Laboratories Participating in the NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants 3

Table 2a,b: Target and Optional Analytes for the NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues.....4-5

Table 3: Median organochlorine pesticide and lipid concentrations in Homogenate VIII (Female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).. 11

Table 4: Median PCB congener concentrations in Homogenate VIII (Female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation) 12

Table 5: Median PBDE congener concentrations in Homogenate VIII (Female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation). 13

Table 6: Median organochlorine pesticide and lipid concentrations in SRM 1945 determined by each laboratory (ng/g wet mass and percent (mass fraction), respectively).. 14

Table 7: Table 7: Median PCB congener concentrations in SRM 1945 determined by each laboratory (ng/g wet mass). 15

Table 8: Median PBDE congener concentrations in SRM 1945 determined by each laboratory (ng/g wet mass). 16

Table 9: Results from the analysis of Homogenate VIII (Female pilot whale) for fatty acids. Values are in percent (mass fraction). Fatty acids not requested for the exercise are given in Appendix F.....17

Table 10: Results from the analysis of SRM 1945 for fatty acids. Values are in percent (mass fraction). Fatty acids not requested for the exercise are given in Appendix F. 2003 and 2005 values also shown.... 18

Table 11: Median organochlorine pesticide and lipid concentrations in MMCM-1 Serum (Female pilot whale; pg /g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation)..... 19

Table 12: Median PCB congener concentrations in MMCM-1 Serum (Female pilot whale; pg/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation)..... 20

Table 13: Median PBDE congener concentrations in MMCM-1 Serum (Female pilot whale; pg/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation)..... 21

Table 14: Median organochlorine pesticide and lipid concentrations in SRM 1958 determined by each laboratory (pg/g wet mass and percent (mass fraction), respectively). 22

Table 15: Median PCB congener concentrations in SRM 1958 determined by each laboratory (pg/g wet mass)..... 23

Table 16: Median PBDE congener concentrations in SRM 1958 determined by each laboratory (pg/g wet mass)..... 24

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 2007 exercise, 21 data sets were submitted by 14 laboratories on requested organohalogen compounds in marine mammal blubber and serum or fatty acids in marine mammal blubber. The materials distributed for the 2007 exercise included SRM 1945 Organics in Whale Blubber, SRM 1958 Human Serum (Fortified), a homogenized blubber control material "Marine Mammal Quality Assurance Exercise Homogenate VIII" (Homogenate VIII) from a Female pilot whale and "Marine Mammal Control Material 1-Serum" (MMCM1-serum) also derived from a Female pilot whale . 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 performed on the marine environment 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 2007 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants in Marine Mammal Tissues was modeled after previous exercises (e.g., Schantz et al., 1996; Schantz et al., 2002; Kucklick et al., 2002, Kucklick et al., 2006, Kucklick et al., 2007). The current exercise was designed to help laboratories assess data comparability and quality relative to other groups providing measurements of organochlorine contaminants on 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 2007 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 2007 trace element results of this exercise is also available (contact Steven Christopher, steven.christopher@nist.gov).

MATERIALS USED IN THE 2007 EXERCISE

The 2007 NIST/NOAA Interlaboratory Comparison Exercise for Organochlorines in Marine Mammal Tissues (2007 MMQA) used four materials distributed to 18 laboratories. Twenty-one data sets from 14 laboratories were submitted for this exercise (Table 1). Thirteen data sets were submitted for organohalogen compounds in blubber exercise, five for the organohalogens in serum, and three for fatty acid compounds in blubber. Participants were asked to make three measurements each on two materials: SRM 1945 "Organics in Whale Blubber" and MMQA-VIII (Homogenate VIII), the "unknown." MMQA-VIII was originally designated MMQA-IV, but is relabeled here as MMQA-VIII to be consistent with past exercises. Participants were asked to make three measurements each on two materials: SRM 1945 "Organics in Whale Blubber" and MMQA-VIII the "unknown." The unknown material was prepared from blubber taken from a 350 cm female pilot whale. The animal stranded alive on the beach at Pea Island, NC (35° 69.228' N 75° 48.359' W) and was euthanized on November 18, 1999. Other details on this material are given elsewhere (Kucklick et al., 2002). One bottle of this material containing approximately 10 g 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. In addition to the blubber materials, one bottle of SRM 1958 Human Serum (Fortified) and three vials of Marine Mammal Serum Unknown I (MMCM-1 Serum) were sent to laboratories participating in this portion of the exercise. Each serum vial contained

approximately 5 mL of serum obtained from an adult male sea lion (*Zalophus californianus*). Samples were distributed in the spring of 2007.

Exercise Requirements and Target Analytes

A suite of analytes was chosen for the exercise based on those tested in prior exercises (Schantz et al., 1996; Schantz et al., 2002; Kucklick et al., 2002; Kucklick et al., 2006, Kucklick et al., 2007) and several additional analytes were included to broaden this list (Table 2a). In addition to the compounds listed in Table 2a, participants were requested to provide, if possible, values for polybrominated diphenyl ether (PBDE) congeners, coplanar polychlorinated biphenyl (PCB) congeners, total toxaphene and toxaphene congeners, chlorinated dioxins and furans and fatty acids (Table 2b). Laboratories were requested to make triplicate measurements of these compounds in each of the materials and to report their data using a data template provided by NIST.

EVALUATION OF THE EXERCISE RESULTS

Determination of Laboratory Means and Consensus Values for Homogenate VIII

Each laboratory reported the results of their analyses (Sample 1, Sample 2, and Sample 3) and the mean for each laboratory was calculated. The consensus value was calculated after comparing the results from an individual laboratory's analysis of SRM 1945 and SRM 1958 to the certified or reference value for the target organohalogens compounds given on the Certificate of Analysis for SRMs 1945 and 1958. If the value of a compound from a given laboratory's analysis for the SRM was within 30 % of the reference value, the laboratory's result for the unknown sample was included in the calculation of the consensus value for the unknowns. The median value for each compound was then calculated (Tables x-y).

For the fatty acid portion of the exercise, the consensus value was not derived after screening the data as above as NIST has not determined fatty acids in SRM 1945 and the existing data sets from other laboratories are limited.

Reported Results

Laboratories were assigned a random numerical identification code to shield the identity of the participants with the exception of NIST which is listed as laboratories 1, 2, and 1s. The results from the analysis of Homogenate VIII, SRM 1945, MMCM-1 Serum, and SRM 1958 are summarized in Tables 3 through 16. Appendix A shows the tabulated results from the individual laboratories for all materials and the results are shown graphically in Appendices B, C, and D for blubber only. Graphs were not constructed for the serum portion of the exercise due to the relatively small number of participants (n=5); tabular results are shown in Tables 11 through16. Appendix E gives the methods used for analysis by each laboratory and Appendix F shows data for additional analytes and notes.

Table 1: Laboratories Participating in the 2005 NIST/NOAA Interlaboratory Comparison Exercise Program for Organic Contaminants.

Mississippi State Chemical Lab Mississippi State, Mississippi, USA	Southern California Coastal Water Research Project Costa Mesa, California, USA
NOAA/National Ocean Service Hollings Marine Laboratory Charleston, South Carolina, USA	Institute of Ocean Sciences Fisheries and Oceans Sydney, British Columbia, Canada
NOAA/National Marine Fisheries Service Highlands, New Jersey, USA	NOAA/National Marine Fisheries Service Northwest Fisheries Science Center Seattle, Washington, USA
National Wildlife Research Center Science and Technology Branch Wildlife Toxicology and Disease Division Ottawa, Ontario, Canada	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	CRG Marine Laboratories, Inc Torrance, California, USA
Veterinary Medical Center Michigan State University East Lansing, Michigan, USA	Centre for Environment, Fisheries and Aquaculture Science CEFAS Burnham Laboratory Essex, UK

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

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

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

Compound Subs	titution	Compound Subs	titution
Polybrominated Diphenyl Ethers	**To**	**xaphene**	
PBDE 47	2,2',4,4'	Total toxaphene	
PBDE 99	2,2',4,4',5	Toxaphene Congener 26	2-endo,3-exo,5-endo,6-exo,8,8,10,10-Octachlorobornane
PBDE 100	2,2',4,4,'6	Toxaphene Congener 50	2-endo,3-exo,5-endo,6-exo,8,8,9,10,10-Nonachlorobornane
PBDE 153	2,2',4,4',5,5'	Toxaphene Congener 62	2,2,5,5,8,9,9,10,10-Nonachlorobornane
PBDE 154	2,2',4,4',5,6'		
		Coplanar PCBs	
Fatty Acids		PCB 77	3,3',4,4'
Lauric acid	C12:0	PCB 126	3,3',4,4',5
Myristic acid	C14:0	PCB 169	3,3',4,4',5,5'
Pentadecanoic acid	C15:0		
		Chloro Dioxins and	
Palmitic acid	C16:0	**Furans**	
		Hexabromocyclododecane	
Margaric acid	C17:0	Isomers (α-, β-, and γ)	
Stearic acid	C18:0		
Arachidic acid	C20:0		
Palmitoleic acid	C16:1(n-7)		
Vaccenic acid	C18:1(n-7)		
Oleic acid	C18:1(n-9)		
Elaidic acid	C18:1(n-9)		
	C20:1(n-7)		
Gondoic	C20:1(n-9)		
Gadoleic acid	C:20:1(n-11)		
Erucic acid	C22:1(n-9)		
Cetoleic	C22:1(n-11)		
Nervonic acid	C24:1(n-9)		
Linoleic acid	C18:2(n-6)		
a-Linolenic acid	C18:3(n-3)		
g-linolenic acid	C18:3(n-6)		
Stearidonic acid	C18:4(n-3)		
Homo-gamma-linoleic acid	C20:2(n-6)		
Homo-alpha-linolenic acid	C20:3(n-3)		
Arachidonic acid	C20:4(n-6)		
EPA	C20:5(n-3)		
	C22:2(n-6)		
DPA	C22:5(n-3)		
DHA	C22:6(n-3)		

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 x through y). 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 Homogenate VIII 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 unknown 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

$$|z| \geq 3 \qquad \text{Unsatisfactory}$$

The tables in Appendix A summarize the results and performance indices including the number of analytes that fall within each category for each laboratory for organohalogens in both the serum and blubber portions of the exercise.

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; Kucklick et al., 2006, Kucklick et al., 2007). 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 3 through 16 for the compounds listed in Tables 2a and 2b. Tabular results for individual laboratories are given in Appendix A, graphical results are given in Appendices B, C and D, and methods used by individual laboratories along with additional data and notes are given in Appendices E and F, respectively. Thirteen data sets were submitted for the organohalogens in blubber portion, five sets of results were submitted for the serum samples and three data sets were submitted for the fatty acid portion of the exercise. Thirteen data sets were submitted for pesticides, 12 for PCB congeners, and 12 for the requested PBDE congeners. The number of submissions for the PBDEs in blubber was up from eight data sets in 2005 indicating that the analysis of the PBDEs is becoming more routine. Three laboratories had not participated in the exercise before. For the 2005 exercise, 17 data sets were submitted for the organohalogen portion (PCB congeners and organochlorine pesticides) of the exercise and four data sets were submitted for the fatty acid portion (Kucklick et al., 2007).

The laboratories used a variety of methods to analyze the samples (Appendix E). For extraction, eight laboratories used pressurized fluid extraction, three used Soxhlet extraction, two used a column elution technique. For the serum, laboratories used a variety of extraction techniques including microwave extraction, liquid/liquid extraction, column elution, pressurized fluid extraction, and solid phase extraction (see Appendix E for greater detail). The fatty acid extraction used by laboratories was also variable and included pressurized fluid extraction, homogenization with solvent, and an unspecified method. Most data sets (from serum and blubber) used internal standards (15), three laboratories used external standards, and three laboratory used a combination of internal and external standards. For detection of organohalogen compounds, the most commonly used technique was gas chromatography-mass

spectrometry (GC-MS; 16 data sets), followed by GC-electron capture detection (GC-ECD; two data sets). In the 2005 exercise, seven laboratories used GC-ECD relative to only two in the 2007 exercise indicating more routine use of GC-MS. For fatty acid determination, GC-MS was used in two data sets for quantification and GC-flame ionization detection (GC-FID) was used by one lab. All laboratories employing GC used capillary columns ranging in length form 25 m to 60 m. For organohalogen analysis, the most commonly used column was a 5 % phenyl methyl polysiloxane phase.

Based on the consensus values, Homogenate VIII had considerably higher concentrations of total pesticides, PCBs, and PBDE congeners relative to SRM 1945 (Tables 3-8; Appendices B through D). The factor differences between Homogenate VIII and SRM 1945 (i.e., Homogenate VIII concentration/SRM 1945 concentration) were 19.8, 20.9, and 2.5 for the total organochlorine pesticides, total PCB congeners, and PBDE congeners, respectively, listed on Tables 3-8. The difference are most likely due to the reproductive status of the two animals used; SRM 1945 was collected from a mature female pilot whale while Homogenate VIII female pilot whale which may not have had offspring thereby maintain a relatively larger contaminant concentration. For the serum, the factor differences of total pesticides, PCBs, and PBDEs of MMCM-1 Serum relative to SRM 1958 were 3.23, 4.61, and 7.7, respectively, indicating much greater concentrations of the organohalogen compounds in the marine mammal serum than in the amended human serum SRM.

The relative scatter of reported values seemed similar among compounds with some exceptions. The reported values for lipid (See Appendix C) were less than for the organohalogen compounds. PCB congener 201 showed somewhat of a bimodal distribution of values (Appendix A). For SRM 1945, the certified value for this compound is 16.8 ng/g ± 1.3 ng/g. However, most laboratories reported much greater values near to 80 ng/g for this compound. As in previous exercise, it is likely that the laboratories were using the Zell and Ballschmiter nomenclature (Guitart et al., 1993) and are actually reporting the value for IUPAC congener 199 that has a reference value of 84.8 ng/g ± 2.2 ng/g in SRM 1945. For the 2007 exercise, 10 laboratories submitted data for the PBDEs which is two more laboratories than in 2005 (Kucklick et al., 2006). Relative to past exercises, the agreement among laboratories for the measurement of PBDE congeners appears to be improving. However, there is still a great deal of scatter in the reported values of PBDE 47 and 154 (Appendix D). The scatter for PBDE 47 among laboratories is surprising as this is the most abundant PBDE present in the materials. With regard to PBDE 154, an overestimation of the PBDE 154 concentration can result if laboratories are not separating this congener from polybrominated biphenyl 153.

This is the third exercise in which fatty acid analysis was requested. The values for individual fatty acids in SRM 1945 were on average within 3 % of the median of the 2003 and 2005 results. The largest deviations were for α-linolenic and gadoleic acids which were reported to be 16 % lower and 15 % lower in this exercise relative to the 2003 and 2005 exercises.

CONCLUSIONS AND FUTURE EXERCISES

Fourteen-one laboratories submitted data for exercise materials reporting data on a wide variety of organic constituents including PCBs, pesticides, fatty acids, and PBDE congeners. The repeated participation of many laboratories in the exercise suggests that the exercise has been a useful tool for assessing their analytical performance. A new exercise will be conducted in 2009 using SRM 1945 and a new unknown material. If possible, serum will also be distributed. However the collection of serum is more difficult than of blubber. The materials will be distributed in the spring of 2009 with the data due at the end of 2009.

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Table 3: Median organochlorine pesticide and lipid concentrations in Homogenate VIII (female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

Compound	1	2	3	4	5	6	7	8	9	10	11	12	13	Median	1 SD	n	Consensus Value	1 SD	n
2,4'-DDT	1372	1355	1007	1293.3	**968**	no data	1193	**2510**	1206.7	**1033**	1115	1107	no data	1193	428	11	1200	128	8
4,4'-DDT	1991	2043	2017	**1327**	1915	2161	2753	**5875**	2177	1761	2432	2113	**72.0**	2043	1276	13	2078	280	10
2,4'-DDE	410	439	379	305	560	no data	459	400	547	382	389	503	no data	410	78	11	410	78	11
4,4'-DDE	23820	23356	19500	21567	25259	21140	**29200**	18639	24000	16700	23983	22633	**841**	22633	6783	13	22633	2655	11
2,4'-DDD	444	433	342	443	250	no data	381	324	472	**437**	297	385	no data	385	71	11	383	73	10
4,4'-DDD	1738	1804	1417	Interference	**1271**	1780	1783	1533	2230	1530	1630	1677	<10	1677	250	11	1708	223	10
HCB	285	270	249	197	380.6	250	343	262	354	156	256	no data	no data	262	66	11	262	66	11
alpha-HCH	9.42	8.56	5.72	Interference	<2.06	**21.9**	6.75	no data	13.4	8.73	5.27	no data	<10	8.65	5.5	8	8.56	2.8	7
beta-HCH	38.4	38.8	39.3	**43.8**	<1.20	no data	37.8	47.6	48.0	**44.2**	**33.9**	no data	<10	39.3	4.8	9	39.1	4.8	6
gamma-HCH	5.94	5.70	3.73	DL	<1.91	**21.4**	4.03	57.3	<6.4	**7.73**	3.70	no data	<10	5.82	19	8	4.87	20	6
Heptachlor Epoxide	12.9	14.1	69.4	**12.2**	**118**	no data	no data	68.9	**111**	**67.5**	no data	no data	<10	68.2	43	8	41.5	32	4
Cis-Chlordane	90.5	90.7	109	**49.3**	**88.3**	no data	**149**	93.4	141	58.3	no data	no data	<10	90.7	33	9	92.0	27	6
Trans-Chlordane	22.5	20.6	8.73	32.8	**12.5**	no data	9.39	7.30	10.2	9.95	no data	no data	<10	10.2	8.6	9	10.1	9.1	8
Oxychlordane	77.9	79.7	61.9	54.4	76.1	no data	no data	59.0	90.1	55.3	**39.0**	no data	no data	61.9	16	9	69.0	13	8
Cis-Nonachlor	90.5	137	194	Interference	102	no data	174	167	233	143	no data	no data	no data	155	47	8	155	47	8
Trans-Nonachlor	390	391	441	**378**	729	no data	409	436	624	500	**294**	no data	no data	423	128	10	439	124	8
Dieldrin	389	411	395	Interference	1008	327	426	410	603	**43.2**	no data	no data	<10	410	256	9	411	221	8
Mirex	55.3	56.0	62.2	Interference	35.0	no data	44.7	43.8	67.7	28.9	no data	no data	no data	50.0	13	8	50.0	13	8
Lipid	65.9	68.6	67.7	66.2	65.0	68.0	75.6	73.7	70.4	68.1	71.4	71.0	no data	68.3	3.2	12	68.1	3.5	15

Table 4: Median PCB congener concentrations in Homogenate VIII (female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

																Consensus				
Compound	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**Median**	**1 SD**	**n**	**Value**	**1 SD**	**n**
18	13.5	13.6	**9.40**	29.2	**10.8**	**19**	**6.48**	**11.0**	13.7	**10.4**	8.83	no data	no data	11.0	6.2	11	13.6	7.8	5
28	25.3	25.5	24.5	**16.0**	Interference	**15.0**	20.4	**15.5**	32.1	18.4	21.6	no data	no data	21.0	5.5	10	24.5	4.5	7
31	<1	3.76	1.72	**10.0**	Interference	4.15	0.63	no data	no data	**8.04**	no data	no data	no data	3.95	3.6	6	2.74	1.7	4
44	36.0	35.9	32.1	56.2	**47.1**	43.3	30.9	**24.6**	40.6	30.7	31.5	no data	no data	35.9	9.0	11	36	8.3	9
49	103	103	91	108	107	111	no data	69.6	92.9	96.7	92.1	no data	no data	99.7	12	10	100	12	10
52	343	341	285	327	340.9	272	271	**220.0**	317	292	302	no data	no data	302	38	11	309	29	10
66/95*	see below	below	see below	**658.7**	Interference	130	see below	see below	see below	see below	see below	no data	no data	395	374	2	130		1
87	263	232	218	Interference	Interference	no data	241	181	451	106	236	no data	no data	234	98	8	234	98	8
99	897	878	671	695	700	no data	861	482	1293	684	697	no data	no data	699	217	10	699	217	10
101 (+90)	1482	1416	1043	Interference	Interference	1163	no data	880	2197	1060	1220	no data	no data	1192	410	8	1192	410	8
105	378	376	377	**282**	346	366	314	245	760	**494**	389	no data	no data	376	138	11	376	144	9
118	1135	1198	1240	1380	Interference	1246	1357	996	2567	1323	1283	no data	no data	1264	435	10	1264	435	10
128	474	475	473	301	Interference	563	436	395	950	527	512	no data	no data	474	171	10	474	171	11
132	w/153	791	no data	w/153	Interference	no data	431	no data	no data	251	481	no data	no data	456	225	4	456	225	4
138 (+163+164)	4503	4505	**4990**	**3177**	**8140**	4414	**6137**	3983	6990	3493	4137	no data	no data	4503	1526	11	4414	1124	7
149	3133	3124	2877	**2413**	2519	2218	2430	**1880**	4633	2443	2610	no data	no data	2519	726	11	2610	727	9
151	1003	1013	802	**798**	673	736	801	554	1380	697	806	no data	no data	801	222	11	802	234	10
153	8625	7620	6967	**4260**	Interference	6709	5393	5650	13567	6540	7517	no data	no data	6838	2534	10	6967	2440	9
156	208	213	220	**118**	**211**	236	230	**151**	371	**397**	237	no data	no data	220	82	11	230	57	7
170 (+190)	1553	1070	1300	**810**	1105	1520	1303	1172	2460	1320	1219	no data	no data	1300	423	11	1302	404	10
180	3922	3781	3360	**2350**	Interference	3754	3613	2776	7120	3507	4116	no data	no data	3684	1274	10	3754	1233	9
183	948	926	932	**521**	**778**	852	701	675	1583	783	856	no data	no data	852	270	11	856	268	9
187	2955	2879	2527	**1777**	2718	2674	2370	1972	4997	2493	2843	no data	no data	2674	833	11	2696	810	10
194	356	353	312	**242**	309	320	334	253	504	323	311	no data	no data	320	68	11	321	65	10
195	111	110	95.7	**231**	86.1	no data	**94.0**	**65.3**	no data	129	**92.7**	no data	no data	95.7	48	9	110	24	5
201	87.5	93.8	no data	**282**	**421**	no data	**439**	**48.2**	148	**390**	**456**	no data	no data	282	169	9	93.8	34	3
206	35.0	34.8	**38.5**	**28.3**	32.8	no data	**25.5**	**22.1**	51.7	36.2	34.4	no data	no data	34.6	8.1	10	34.9	7.1	6
209	13.8	14.4	13.3	**12.8**	13.8	no data	12.0	no data	**10.8**	**7.99**	12.8	no data	no data	12.8	2.0	9	13.6	2.2	6
66	151	248	117	see above	162	no data	99.2	111	217.0	253	no data	no data	no data	157	62	8	157	67	7
95	682	656	518	see above	Interference	no data	532	385	no data	382	534	no data	no data	532	117	7	532	117	6

Table 5: Median PBDE congener concentrations in Homogenate VIII (female pilot whale; ng/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

Compound	1	2	3	4	5	6	7	8	9	10	11	12	13	Median	1 SD	n	Consensus Value	1 SD	n
PBDE 47	150	150	208	155	**184**	147	142	**61.6**	107	**228**	143	100	no data	149	45.5	12	147	31	9
PBDE 99	20.6	21.1	26.8	no data	22.4	22.7	24.8	49.5	22.8	**10.8**	20.1	20.6	no data	22.4	9.4	11	22.5	8.8	10
PBDE 100	28.6	28.8	32.8	no data	27.6	24.7	28.9	**26.7**	30.9	**33.4**	25.3	21.5	no data	28.6	3.5	11	28.6	3.4	9
PBDE 153	7.16	7.19	6.04	no data	6.97	7.80	7.16	10.73	6.47	**<0.5**	7.27	6.20	no data	7.16	1.3	10	7.16	1.3	10
PBDE 154	21.5	no data	23.2	no data	**30.4**	23.0	21.8	25.4	18.0	**43.2**	20.7	11.3	no data	22.4	8.4	10	21.6	4.3	8

Table 6: Median organochlorine pesticide and lipid concentrations in SRM 1945 determined by each laboratory (ng/g wet mass and percent (mass fraction), respectively).

Compound	1	2	3	4	5	6	7	8	9	10	11	12	13	Median	1 SD	± 95% CI	n	Reference Value	Uncertainty	Comment
2,4'-DDT	101	92.6	85.1	67.7	**118.4**	no data	89	**135**	79.9	**122**	68.2	69.4	no data	88.7	23	14	11	90.9	13.47	certified value
4,4'-DDT	238	240	240	**117**	223	225	302	**416.3**	239	225	226	186	no data	232	70	40	12	232.9	8.02	certified value
2,4'-DDE	13.3	13.7	14.0	10.8	15.9	no data	15.2	14.5	15.3	13.0	12.6	13.5	no data	13.7	1.4	0.8	11	14.2	1.39	certified value
4,4'-DDE	513	507	508	413	583	481	**693**	509	551	466	460	399	**21.7**	507	154	84	13	497.1	19.5	certified value
2,4'-DDD	20.0	20.0	20.0	19.1	19.9	no data	20.9	22.9	22.3	**11.7**	15.9	17.9	no data	20.0	3.1	1.8	11	19.5	1.18	certified value
4,4'-DDD	120	122	150	Interference	**162**	116	125	104	133	121	103	115	no data	121	18	11	11	119.9	4.87	certified value
HCB	30.6	30.4	26.7	24.9	35.9	26.7	37.2	27.8	39.1	30.6	23.6	no data	no data	30.4	5.1	3.0	11	30.6	1.45	certified value
alpha-HCH	16.3	16.2	15.0	Interference	13.0	**30.4**	18.4	no data	19.1	16.1	13.5	14.6	no data	16.2	5.0	3.1	10	16.9	1.41	certified value
beta-HCH	<5	<4	Interference	**8.61**	**8.75**	no data	**2.04**	no data	<10	**9.36**	**1.63**	no data	no data	8.61	3.9	3.4	5			
gamma-HCH	3.14	2.99	2.48	DL	<1.91	**28.7**	3.05	no data	<2.9	**5.17**	3.27	3.10	no data	3.12	9.0	6.2	8	3.18	0.01	certified value
Heptachlor Epoxide	10.7	10.2	10.2	**4.37**	**14.5**	no data	no data	11.8	**15.8**	**14.3**	no data	**7.33**	no data	10.7	3.6	2.4	9	10.7	0.09	certified value
Cis-Chlordane	48.5	48.9	56.5	**32.4**	**26.5**	no data	**78.8**	49.0	59.3	36.8	no data	**11.3**	no data	48.7	18.9	11.7	10	48.1	1.58	certified value
Trans-Chlordane	12.1	11.8	12.0	13.8	**3.1**	no data	12.4	10.4	10.7	13.7	no data	**34.5**	no data	12.0	8.0	5.0	10	11.8	0.54	certified value
Oxychlordane	22.2	21.9	20.0	15.7	17.9	no data	no data	19.7	23.1	20.7	**13.7**	17.6	no data	19.9	3.0	1.9	10	21.2	1.06	certified value
Cis-Nonachlor	48.5	46.8	58.3	Interference	41.1	no data	54.3	49.3	51.0	51.2	no data	37.9	no data	49.3	6.3	4.1	9	45.8	3.29	certified value
Trans-Nonachlor	199	203	181	**125.7**	213.4	no data	222	166	189	171	**123**	205	no data	189	33	20	11	198	15.5	certified value
Dieldrin	50.7	50.5	52.0	Interference	44.3	44.3	60.1	48.2	57.5	**32.3**	no data	50.4	no data	50.5	7.7	5	10	50.1	4.05	certified value
Mirex	34.5	33.6	40.1	Interference	22.7	no data	32.8	31.2	<50	22.3	no data	36.5	no data	33.2	6.3	4.4	8	31.0	3.35	certified value
Lipid	70.7	71.2	72.9	70.9	72.7	72.2	82.2	74.8	69.4	72.2	68.9	78.2	no data	72.2	3.7	1.9	15	71.9	1.27	certified value

Table 7: Median PCB congener concentrations in SRM 1945 determined by each laboratory (ng/g wet mass).

Congener	1	2	3	4	5	6	7	8	9	10	11	12	13	Median	1 SD	± 95% CI	n	Reference Value	Uncertainty	Comment
18	3.88	3.98	**2.64**	4.37	**6.44**	**2.77**	**1.88**	**2.37**	<8.5	**2.96**	3.10	**8.63**	no data	3.10	2.0	1.2	11	4.35	0.56	certified value
28	12.3	12.5	11.5	**6.72**	Interference	**5.35**	10.1	**4.30**	14.9	11.3	9.67	11.2	no data	11.2	3.2	1.9	11	13.1	1.07	certified value
31	3.39	3.41	3.45	**2.34**	Interference	4.25	3.04	3.53	no data	**7.57**	no data	3.63	no data	3.45	1.5	1.0	9	3.56	0.36	certified value
44	11.7	11.9	12.1	13.7	**20.7**	9.2	10.7	**8.3**	15.6	11.8	11.1	15.3	no data	11.8	3.3	1.9	12	12.1	0.51	certified value
49	18.2	18.2	17.5	15.5	23.0	18.5	no data	12.1	18.1	19.7	16.8	15.5	no data	18.1	2.7	1.6	11	18.3	0.04	certified value
52	41.4	42.3	40.8	31.7	42.4	40.4	33.8	**26.9**	39.5	35.8	37.3	38.4	no data	38.9	4.8	2.7	12	40.7	1.30	certified value
66/95*	see below	below	see below	**48.5**	Interference	**21.1**	see below	see below	see below	see below	see below	see below	no data	34.8	19		2			
87	22.8	20.6	23.6	Interference	Interference	no data	22.2	18.8	17.6	15.6	20.6	18.7	no data	20.6	2.6	1.7	9	20.6	2.55	certified value
99	63.5	61.5	56.3	47.7	56.8	no data	64.5	43.5	46.1	57.8	49.5	43.1	no data	56.3	8.0	5	11	58.5	5.17	certified value
101 (+90)	86.7	84.6	87.5	Interference	Interference	79.7	no data	62.9	66.9	74.4	77.5	67.1	no data	77.5	9.2	6	9	78.2	12.4	certified value
105	28.6	28.6	28.7	**12.8**	26.8	29.7	22.0	**18.9**	27.2	**48.2**	27.1	26.8	no data	27.1	8.3	4.7	12	28.6	1.16	certified value
118	75.1	76.3	86.2	70.0	Interference	84.1	82.8	65.9	74.3	88.5	77.5	71.5	no data	76.3	7.1	4	11	76.5	2.87	certified value
128	22.1	22.5	25.2	18.2	Interference	29.9	18.3	20.3	21.1	29.3	21.8	21.5	no data	21.8	3.9	2.3	11	23.0	1.06	certified value
132	w/153	21.4	no data	w/153	Interference	no data	15.9	no data	no data	21.3	17.5	**10.6**	no data	17.5	4.5	4	5	21.1	4.75	reference value
138 (+163+164)	146	150	**192**	**92.7**	**269**	160	**192**	136	108	130	124	133	no data	141	47	27	12	146	12.9	certified value
149	92.1	93.2	89.9	71.4	83.4	78.8	70.8	**60.9**	68.6	88.9	79.2	70.9	no data	79.0	11	6	12	89.0	6.94	certified value
151	29.4	29.1	27.2	23.2	31.2	21	23	20.9	20.3	27.6	23.8	22.9	no data	23.5	3.8	2.1	12	28.6	1.33	certified value
153	268	223	260	**119.7**	Interference	208	195	201	186	207	201	210	no data	207	39	23	11	228	9.75	certified value
156	11.1	11.2	13.2	**5.22**	**20.1**	10.9	10.2	**6.83**	8.93	**25.7**	11.2	8.03	no data	11.0	5.7	3	12	11.4	0.95	certified value
170 (+190)	43.4	43.0	45.5	**20.8**	35.6	50.2	42.1	37.2	39.1	45.7	34.4	35.2	no data	40.6	7.6	4	12	42.6	2.18	certified value
180	140	138	166	**91.6**	Interference	161	149	112	137	156	148	123	no data	140	22.2	13	11	138.3	9.70	certified value
183	38.7	39.1	42.1	**20.0**	**24.7**	41.4	31.0	29.5	32.0	41.4	34.2	31.6	no data	33.1	7.0	4.0	12	38.0	1.83	certified value
187	132	127	145	**75**	123	118	107	91	109	128	121	112	no data	120	18.8	11	12	121.5	11.1	certified value
194	58.2	53.0	66.9	**33.8**	52.1	61.2	56.6	43.4	43.7	66.3	53.3	43.4	no data	53.2	10.1	6	12	53.5	5.18	certified value
195	13.5	13.9	11.1	**19.3**	11.3	no data	**8.60**	**6.37**	no data	15.5	**8.77**	13.1	no data	12.2	3.8	2.3	10	14.3	2.17	certified value
201	16.8	16.7	no data	**36.5**	**73.4**	no data	**75.6**	**8.87**	14.7	**89.97**	**80.0**	12.0	no data	26.6	33	21	10	16.8	1.30	certified value
206	48.9	47.1	**62.2**	**29.0**	50.4	no data	**71.2**	**30.9**	41.5	52.6	50.0	43.4	no data	48.9	12	7.2	11	44.9	4.23	certified value
209	18.4	18.1	20.1	13.6	17.5	no data	17.7	no data	**12.0**	**10.5**	18.0	13.6	no data	17.6	3.2	2.0	10	17.2	1.86	certified value
66	21.9	22.1	22.6	see above	24.7	no data	17.5	21.4	24.6	25.6	no data	22.1	no data	22.1	2.4	1.6	9	22.4	0.51	certified value
95	33.1	33.8	37.1	see above	Interference	no data	36.2	26.8	no data	30.6	34.6	29.9	no data	33.4	3.5	2.4	8	33.9	0.51	certified value

Table 8: Median PBDE congener concentrations in SRM 1945 determined by each laboratory (ng/g wet mass).

Congener	1	2	3	4	5	6	7	8	9	10	11	12	13	Median	1 SD	± 95% CI	n	Reference Value	Uncertainty	Comment
PBDE 47	39.5	38.9	42.1	44.1	**53.2**	39.0	41.3	**26.1**	42.9	**64.9**	39.7	33.1	no data	40.5	9.6	5.4	12	39.6	0.18	certified value
PBDE 99	17.9	18.1	21.2	19.5	17.8	18.7	22.4	16.2	18.5	**6.92**	18.0	15.9	no data	18.0	3.8	2.2	12	18.9	2.32	certified value
PBDE 100	9.75	9.89	12.3	10.4	10.4	9.23	11.4	**5.08**	12.7	**23.0**	9.80	10.7	no data	10.4	4.2	2.4	12	10.3	1.13	certified value
PBDE 153	8.68	8.51	7.36	non detect	8.9	9.7	9.6	7.29	9.82	**21.4**	9.53	7.90	no data	8.94	3.9	2.3	11	8.34	0.55	certified value
PBDE 154	13.0	w/PBB 153	14.5	non detect	**22.4**	15.7	13.8	16.5	13.7	**22.3**	12.8	12.7	no data	14.2	3.7	2.3	10	13.3	1.73	certified value

Table 9: Results from the analysis of Homogenate VIII (female pilot whale) for fatty acids. Values are in percent (mass fraction).

Fatty Acid			Lab 1fa	Lab 2a	Lab 3fa	Median	1 SD
Lauric acid	**Dodecanoic acid**	**C12:0**	0.130	0.107	0.255	0.130	0.08
Myristic acid	**Tetradecanoic acid**	**C14:0**	2.65	2.31	2.50	2.50	0.17
Pentadecanoic acid	**Pentadecanoic acid**	**C15:0**	0.330	0.287	0.318	0.318	0.02
Palmitic acid	**Hexadecanoic acid**	**C16:0**	8.27	7.46	7.97	7.97	0.41
Margaric acid	**Heptadecanoic acid**	**C17:0**	0.272	0.267	0.605	0.272	0.19
Stearic acid	**Octadecanoic acid**	**C18:0**	1.60	1.51	1.60	1.60	0.05
Arachidic acid	**Eicosanoic acid**	**C20:0**	0.102	0.091	0.117	0.102	0.01
Palmitoleic acid	**(Z)-9-Hexadecanoic acid**	**C16:1(n-7)**	7.23	6.27	7.41	7.23	0.61
Vaccenic acid	**(Z)-11-Octadecenoic acid**	**C18:1(n-7)**	1.71	1.56	no data	1.64	
Oleic acid	**(Z)-9-Octadecanoic acid**	**C18:1(n-9)**	17.0	15.7	17.8	17.0	1.06
Elaidic acid	**(E)-9-Octadecenoic acid**	**C18:1(n-9)**	no data	no data	0.12	0.12	
	(Z)-13-eicosenoic acid	**C20:1(n-7)**	0.18	0.19	no data	0.19	
Gondoic	**(Z)-11-eicosenoic acid**	**C20:1(n-9)**	3.24	3.07	3.39	3.24	0.16
Gadoleic acid	**(Z)-9-Eicosenoic acid**	**C:20:1(n-11)**	1.04	1.06	no data	1.05	
Erucic acid	**(Z)-13-Docosenoic acid**	**C22:1(n-9)**	0.430	0.370	0.472	0.430	0.05
Cetoleic	**(Z)-11-docosenoic acid**	**C22:1(n-11)**	2.15	2.09	no data	2.12	
Nervonic acid	**(Z)-15-Tetracosenoic acid**	**C24:1(n-9)**	0.179	0.139	0.229	0.179	0.04
Linoleic acid	**(Z,Z)-9,12-Octadecadienoic acid**	**C18:2(n-6)**	0.679	0.584	0.784	0.679	0.10
a-Linolenic acid	**(Z,Z,Z)-9,12,15-Octadecatrienoic acid**	**C18:3(n-3)**	0.277	0.236	0.288	0.277	0.03
g-linolenic acid	**(Z,Z,Z)-6,9,12-Octadecatetraenoic acid**	**C18:3(n-6)**	0.019	no data	0.02	0.02	
Stearidonic acid	**(Z,Z,Z,Z,)-6,9,12,15-Octadecatetraenoic acid**	**C18:4(n-3)**	0.144	0.225	no data	0.185	
Homo-gamma-linoleic acid	**(Z,Z)-11,14-Eicosadienoic acid**	**C20:2(n-6)**	0.214	0.170	0.203	0.203	0.02
Homo-alpha-linolenic acid	**(Z,Z,Z)-11,14,17-Eicosatrienoic acid**	**C20:3(n-3)**	0.150	0.121	0.162	0.150	0.02
Arachidonic acid	**(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid**	**C20:4(n-6)**	0.347	0.314	0.516	0.347	0.11
EPA	**(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid**	**C20:5(n-3)**	1.70	1.60	2.02	1.70	0.22
	(Z,Z)-13,16-Docosadienoic acid	**C22:2(n-6)**	0.021	no data	no data	0.021	
DPA	**(Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic acid**	**C22:5(n-3)**	0.59	0.55	0.78	0.59	0.12
DHA	**(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid**	**C22:6(n-3)**	4.44	3.91	6.27	4.44	1.24

Table 10: Results from the analysis of SRM 1945 for fatty acids. Values are in percent (mass fraction). Fatty acids not requested for the exercise are given in Appendix F. 2003 and 2005 values also shown.

Fatty Acid			Lab 1fa	Lab 2fa	Lab 3fa	Median	1 SD	2003 Values (n=3) Median	2003 Values (n=3) 1 SD	2005 Values (n=4) Median	2005 Values (n=4) 1 SD
Lauric acid	**Dodecanoic acid**	**C12:0**	0.181	0.155	0.226	0.181	0.04	0.198	0.09	0.16	0.03
Myristic acid	**Tetradecanoic acid**	**C14:0**	3.49	3.12	3.32	3.32	0.18	3.44	1.23	2.59	1.20
Pentadecanoic acid	**Pentadecanoic acid**	**C15:0**	0.331	0.301	0.316	0.316	0.02	0.365	0.08	0.283	0.06
Palmitic acid	**Hexadecanoic acid**	**C16:0**	7.69	7.43	7.47	7.47	0.14	7.13	3.45	5.52	2.96
Margaric acid	**Heptadecanoic acid**	**C17:0**	0.214	0.241	0.539	0.241	0.18	0.252	0.09	0.201	0.05
Stearic acid	**Octadecanoic acid**	**C18:0**	1.26	1.25	1.32	1.26	0.03	1.36	0.38	1.16	0.25
Arachidic acid	**Eicosanoic acid**	**C20:0**	0.093	0.092	0.111	0.093	0.01	0.108	0.02	0.10	0.03
Palmitoleic acid	**(Z)-9-Hexadecanoic acid**	**C16:1(n-7)**	6.36	5.73	6.52	6.36	0.42	6.47	1.85	5.45	0.85
Vaccenic acid	**(Z)-11-Octadecenoic acid**	**C18:1(n-7)**	1.89	1.81	no data	1.85		2.04	0.67	1.75	0.19
Oleic acid	**(Z)-9-Octadecanoic acid**	**C18:1(n-9)**	14.3	14.2	14.8	14.3	0.31	16.7	2.46	14.4	2.83
Elaidic acid	**(E)-9-Octadecenoic acid**	**C18:1(n-9)**	no data	no data	0.08	0.08		0.207	0.08		
	(Z)-13-eicosenoic acid	**C20:1(n-7)**	0.22	0.24	no data	0.23				0.228	0.04
Gondoic	**(Z)-11-eicosenoic acid**	**C20:1(n-9)**	4.74	4.73	5.15	4.74	0.24	5.04	1.91	4.43	0.73
Gadoleic acid	**(Z)-9-Eicosenoic acid**	**C:20:1(n-11)**	2.90	3.01	no data	2.96		1.41	1.62	2.93	0.33
Erucic acid	**(Z)-13-Docosenoic acid**	**C22:1(n-9)**	0.584	0.535	0.675	0.584	0.07	0.702	0.20	0.556	0.17
Cetoleic	**(Z)-11-docosenoic acid**	**C22:1(n-11)**	4.36	4.59	no data	4.47		4.12		4.56	0.86
Nervonic acid	**(Z)-15-Tetracosenoic acid**	**C24:1(n-9)**	0.213	0.185	0.265	0.213	0.04	0.305		0.235	0.08
Linoleic acid	**(Z,Z)-9,12-Octadecadienoic acid**	**C18:2(n-6)**	0.824	0.754	0.930	0.824	0.09	0.912	0.30	0.631	0.36
a-Linolenic acid	**(Z,Z,Z)-9,12,15-Octadecatrienoic acid**	**C18:3(n-3)**	0.352	0.317	0.393	0.352	0.04	0.618	0.21	0.359	0.04
g-linolenic acid	**(Z,Z,Z)-6,9,12-Octadecatetraenoic acid**	**C18:3(n-6)**	0.016	no data	no data	0.02		0.018	0.01	0.021	0.00
Stearidonic acid	**(Z,Z,Z,Z,)-6,9,12,15-Octadecatetraenoic acid**	**C18:4(n-3)**	0.149	0.230	no data	0.189		0.184		0.213	0.02
Homo-gamma-linoleic acid	**(Z,Z)-11,14-Eicosadienoic acid**	**C20:2(n-6)**	0.226	0.183	0.213	0.213	0.02	0.244	0.09	0.141	0.10
Homo-alpha-linolenic acid	**(Z,Z,Z)-11,14,17-Eicosatrienoic acid**	**C20:3(n-3)**	0.148	0.126	0.183	0.148	0.03	0.181		0.155	0.03
Arachidonic acid	**(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid**	**C20:4(n-6)**	0.231	0.221	0.356	0.231	0.08	0.303		0.211	0.10
EPA	**(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid**	**C20:5(n-3)**	1.16	1.12	1.38	1.16	0.14	1.44	0.32	1.00	0.32
	(Z,Z)-13,16-Docosadienoic acid	**C22:2(n-6)**	0.019	no data	no data	0.019		0.02	0.01	0.03	0.01
DPA	**(Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic acid**	**C22:5(n-3)**	0.86	0.89	1.16	0.89	0.16	1.05	0.33	0.83	0.23
DHA	**(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid**	**C22:6(n-3)**	3.87	3.50	5.47	3.87	1.05	4.42	1.51	3.06	1.51

Table 11: Median organochlorine pesticide and lipid concentrations in MMCM-1 Serum (female pilot whale; pg/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

Compounon detect	1s	2s	3s	4s	5s	Median	1 SD	n	Consensus	1 SD	n
2,4'-DDT	144	no data	<531	**30.4**	**180**	144	78	3	144	--	1
4,4'-DDT	1189	24131	894	**234**	1423	1189	10383	5	1306	11483	4
2,4'-DDE	490	no data	<536	**100**	410	410	206	3	450	--	2
4,4'-DDE	177313	non detect	201667	**47767**	209500	189490	75452	4	201667	16785	3
2,4'-DDD	77.2	no data	**<535**	**19.4**	<100	48.3	41	2	77	--	1
4,4'-DDD	3501	17822	2493	**585**	2950	2950	6992	5	3226	7432	4
HCB	<25	**non detect**	<533	**21.0**	<50	21.0		1			
alpha-HCH	<25	non detect	<561	**23.7**	46.7	35.2	16	2	47	--	1
beta-HCH	<25	non detect	1623	**1400**	1940	1623	271	3	1940	--	2
gamma-HCH	<25	non detect	<380	**30.9**	53.3	42.1	16	2	53	--	1
Heptachlor Epoxide	no data	510	<380	**no data**	no data	510		1	510	--	1
Cis-Chlordane	656	**519**	<380	**197**	no data	519	235	3	656	--	1
Trans-Chlordane	123	**45.5**	5423	**11.7**	no data	84.0	2682	4	2773	--	2
Oxychlordane	454	511	<1280	**no data**	447	454	35	3	454	35	3
Cis-Nono datachlor	1725	1804	1453	**321**	no data	1589	686	4	1725	184	3
Trans-Nono datachlor	6746	6195	5423	**1056**	5103	5423	2246	5	5809	744	4
Dieldrin	no data	non detect	998	**271**	no data	635	514	2	998	--	1
Mirex	245	non detect	<540	**22.9**	no data	134	157	2	245	--	1

Table 12: Median PCB congener concentrations in MMCM-1 Serum (female pilot whale; pg/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

Congener	1s	2s	3s	4s	5s	Median	1 SD	n	Consensus Value	1 SD	n
18	30.5	non detect	<539	**9.9**	<50	20	15	2	30.5	--	1
28	<25	**405**	<540	**21.0**	<50	213	271	2			
31	w/28	non detect	<407	**8.6**	<50	9		1			
44	104	**non detect**	<539	**23.7**	<50	64	56	2	104	--	1
49	317	210	<537	**no data**	**397**	317	93	3	264	--	2
52	599	690	561	**110**	660	599	237	5	629	58	4
66/95*	see below	see below	see below	**see below**	see below						
87	657	non detect	640	**133**	720.0	649	272	4	657	42	3
99	2497	1885	2320	**578**	2647	2320	837	5	2408	329	4
101 (+90)	2045	1527	2087	**no data**	2500	2066	399	4	2066	399	4
105	1178	non detect	1357	**235**	1193	1185	510	4	1193	99	3
118	4059	non detect	3633	**782**	3873	3753	1546	4	3873	213	3
128	1203	non detect	1207	**199**	1453	1205	557	4	1207	143	3
132	w/153	no data	no data	**75.0**	533	304	324	2	533	--	1
138 (+163+164)	7261	non detect	9747	**1750**	7743	7502	3424	4	7743	1318	3
149	1434	271	1460	**204**	1643	1434	703	5	1447	628	4
151	331	non detect	<420	**44.0**	517	331	238	3	424	--	2
153	13136	**1395**	1423	**1920**	13532	1920	6443	5	13136	6879	3
156	68.4	**non detect**	<136	**10.9**	<40	40	41	2	68.4	--	1
170 (+190)	1575	**1726**	1603	**240**	1822	1603	652	5	1603	135	3
180	5754	**6025**	6003	**821**	6285	6003	2331	5	6003	265	3
183	1328	113	1317	**181**	1500	1317	681	5	1322	640	4
187	2158	480	1937	**269**	2445	1937	1008	5	2047	875	4
194	1060	1075	907	**129**	1033	1033	403	5	1046	82	4
195	222	316	<543	**29.8**	247	235	123	4	247	49	3
201	203	non detect	no data	**155**	1450	203	734	3			
206	453	387	<541	**47.2**	433	410	191	4	433	34	3
209	216	no data	<541	**25.4**	no data	121	135	2	216	--	1
66	343	319	<537	**74.3**	no data	319	149	3	331	--	2
95	451	431	410	**92.3**	523	431	167	5	441	49	4

Table 13: Median PBDE congener concentrations in MMCM-1 Serum (female pilot whale; pg/g wet mass) reported by each laboratory. The values in bold were not used to derive the consensus value (see text for explanation).

Congener	1s	2s	3s	4s	5s	Median	1 SD	n	Consensus Value	1 SD	n
PBDE 47	9256	10056	7217	**1960**	9960	9256	3401	5	9608	1319	4
PBDE 99	1868	2837	2097	**397**	2093	2093	895	5	2095	423	4
PBDE 100	3499	4153	3593	**636**	3617	3593	1401	5	3605	296	4
PBDE 153	739	1272	<1010	**110**	642	690	476	4	739	339	3
PBDE 154	**652**	1298	<1010	**100**	w/PBB153	652	599	3	1298	--	1

Table 14: Median organochlorine pesticide and lipid concentrations in SRM 1958 determined by each laboratory (pg/g wet mass and percent (mass fraction), respectively).

Compound	1s	2s	3s	4s	5s	Median	1 SD	± 95% CI	n	Reference Value	Reference Uncertainty	Reference Comment
2,4'-DDT	357	no data	<409	no data	**430**	393	52	72	2	321	58	reference
4,4'-DDT	238	non detect	<411	no data	270	254	22	31	2	296	24	certified value
2,4'-DDE	540	NA	426.0	no data	513	513	60	67	3	464	21	certified value
4,4'-DDE	1056	non detect	1117	no data	1387	1117	176	199	3	1280	110	certified value
2,4'-DDD	421	NA	**451.7**	no data	430	430	16	18	3	344	32	certified value
4,4'-DDD	411	non detect	<416	no data	363	387	34	47	2	417	11	certified value
HCB	462	**263**	<411	no data	393	393	101	114	3	450	45	certified value
alpha-HCH	<25	non detect	<432	no data	242	242	--	--	1	266	48	reference
beta-HCH	<25	non detect	<429	no data	235	235	--	--	1	284	49	reference
gamma-HCH	<25	non detect	<412	no data	313	313	--	--	1	322	49	reference
Heptachlor Epoxide	no data	non detect	<413	no data	NA	--	--	--	0	--	--	certified value
Cis-Chlordane	439	**280**	<412	no data	NA	360	113	156	2	420	28	certified value
Trans-Chlordane	422	**293**	<415	no data	NA	358	91	126	2	422	21	certified value
Oxychlordane	249	non detect	<1100	no data	193	221	39	55	2	230	46	reference
Cis-Nonachlor	422	355	<422	no data	NA	389	47	66	2	431	35	certified value
Trans-Nonachlor	473	358	<415	no data	370	370	63	71	3	479	14	certified value
Dieldrin	NA	non detect	430.0	no data	NA	430	--	--	1	--	--	certified value
Mirex	374	468.0	<415	no data	NA	421	67	93	2	389	54	certified value

Table 15: Median PCB congener concentrations in SRM 1958 determined by each laboratory (pg/g wet mass).

Congener	1s	2s	3s	4s	5s	Median	1 SD	± 95% CI	n	Reference Value	Uncertainty	Comment
18	394	non detect	483.7	no data	no data	439	63.6	88.1	2	387	79	reference value
28	518	**587**	501.3	no data	no data	518	45.5	51.5	3	415	17	certified value
31	w/28	non detect	<313	no data	no data	--	--	--	0	--	--	certified value
44	383	**575**	422.0	no data	397	409	88.9	87.2	4	417	17	certified value
49	416	428	408.0	no data	**603**	422	93.4	91.5	4	426	17	certified value
52	406	377	439.0	no data	500	422	52.9	51.9	4	407	22	certified value
66/95*	see below	see below	see below	no data	see below	--	--	--	0			
87	336	non detect	373.0	no data	427	373	45.7	51.7	3	406	41	certified value
99	359	380	<413	no data	383	380	13.3	15	3	391	28	certified value
101 (+90)	338	372	416.5	no data	393	383	33.3	33	4	415	23	certified value
105	376	non detect	362.7	no data	373	373	7.1	8.0	3	425	26	certified value
118	468	non detect	494.3	no data	410	468	43.1	49	3	418	32	certified value
128	345	391	383.0	no data	400	387	23.9	23.5	4	427	6	certified value
132	w/153	non detect	no data	no data	<20	--	--	--	0	--	--	reference value
138 (+163+164)	481	545	544.0	no data	448	513	48.1	47	4	474	56	certified value
149	363	321	428.0	no data	457	395	61.7	60	4	379	11	certified value
151	356	non detect	<420	no data	380	368	17.2	23.8	2	388	14	certified value
153	474	**648**	<623	no data	413	474	122	138	3	468	18	certified value
156	337	**288**	<105	no data	483	337	101	115	3	424	27	certified value
170 (+190)	359	**267**	<413	no data	348	348	50.5	57	3	429	22	certified value
180	399	**322**	413	no data	398	399	41.4	41	4	470	27	certified value
183	310	292	<413	no data	315	310	12.0	13.6	3	412	30	certified value
187	365	335	<414	no data	357	357	15.6	18	3	417	32	certified value
194	337	320	<418	no data	333	333	8.6	10	3	393	15	certified value
195	304	340	<419	no data	no data	322	25.4	35.1	2	392	23	certified value
201	<25	non detect	no data	no data	356.7	357	--	--	1	397	6	certified value
206	325	277	<420	no data	<50	301	33.7	46.7	2	373	16	certified value
209	295	no data	<413	no data	no data	295	--	--	1	344	23	certified value
66	355	396.0	<414	no data	no data	375	29.1	40.4	2	424	22	certified value
95	<25	non detect	<209	no data	<20	--	--	--	0	--	--	certified value

Table 16: Median PBDE congener concentrations in SRM 1958 determined by each laboratory (pg/g wet mass).

Congener	1s	2s	3s	4s	5s	Median	1 SD	± 95% CI	n	Reference Value	Uncertainty	Comment
PBDE 47	580	857	<818	no data	580	580	160	181	3	661	31	certified value
PBDE 99	451	657	<817	no data	413	451	131	148	3	499	11	certified value
PBDE 100	470	540	<817	no data	397	470	71.8	81.3	3	482	24	certified value
PBDE 153	432	613	<814	no data	358	432	131	149	3	460	54	certified value
PBDE 154	**312**	938	<821	no data	no data	625	no data	no data	2	450	33	certified value

Appendix A

Tabular results of PCB congeners, pesticides, PBDE congeners, lipid, and fatty acids reported by all laboratories

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
Date(s) of measurements	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1374	1367	1374	106	108	90	1372	0.3	101	9.9	1200	89	90.9	13	0.6	1.3	0.02
4,4'-DDT	2066	1983	1925	238	237	241	1991	3.6	238	0.9	2078	173	233	8.0	-0.2	-0.3	0.24
2,4'-DDE	421	422	386	13.5	12.9	13.6	410	5.0	13	2.7	410	46	14.2	1.4	0.0	0.0	0.33
4,4'-DDE	23589	23844	24028	515	517	507	23820	0.9	513	1.0	22633	1569	497	19	0.2	0.4	0.06
2,4'-DDD	443	438	452	19.2	21.0	19.8	444	1.5	20	4.7	383	45	19.5	1.2	0.6	0.8	0.10
4,4'-DDD	1874	1725	1616	120	110	131	1738	7.4	120	8.5	1708	138	120	4.9	0.1	0.1	0.50
HCB	286	283	288	30.9	30.9	29.9	285	0.9	31	1.9	262	39	30.6	1.5	0.4	0.4	0.06
α–HCH	8.77	9.68	9.82	16.2	16.6	16.0	9.42	6.1	16	2.0	8.56	2.1	16.9	1.4	0.4	0.3	0.40
β–HCH	38.1	40.6	36.6	<LOD	<LOD	<LOD	38.4	5.2			39.1	3.8			-0.1	-0.1	0.35
γ–HCH	6.03	5.94	5.85	3.18	3.06	3.19	5.94	1.5	3	2.4	4.87	16	3.18	0.01	0.9	0.1	0.10
Heptachlor Epoxide	13.6	11.9	13.1	10.7	10.7	10.8	12.9	6.6	11	0.5	41.5	31	10.7	0.09	-2.8	-0.9	0.44
Cis-Chlordane	91.3	86.0	94.3	48.3	49.8	47.5	90.5	4.6	49	2.4	92.0	22	48.1	1.6	-0.1	-0.1	0.31
Trans-Chlordane	21.0	24.4	22.1	12.5	11.5	12.4	22.5	7.8	12	4.5	10.1	6.3	11.8	0.54	4.9	1.4	0.52
Oxychlordane	71.6	82.0	80.0	22.6	22.2	21.8	77.9	7.1	22	1.8	69.0	9.2	21.2	1.1	0.5	0.7	0.47
Cis-Nonachlor	91.3	86.0	94.3	48.3	49.8	47.5	90.5	4.6	49	2.4	155	33	45.8	3.3	-1.7	-1.4	0.31
Trans-Nonachlor	400	395	376	208	198	192	390	3.3	199	3.9	439	86	198	16	-0.4	-0.4	0.22
Dieldrin	411	405	352	49.1	49.3	53.7	389	8.3	51	5.1	411	153	50.1	4.1	-0.2	-0.1	0.55
Mirex	54.7	56.0	55.3	34.1	36.3	33.2	55.3	1.1	35	4.6	50.0	9.3	31.0	3.3	0.4	0.4	0.08
PBDE 47	149	152	151	39.6	39.4	39.5	150	0.9	40	0.3	147	20	39.6	0.18	0.1	0.1	0.06
PBDE 99	19.8	20.8	21.0	18.6	17.1	18.1	20.6	3.1	18	4.2	22.5	5.5	18.9	2.3	-0.4	-0.2	0.21
PBDE 100	27.0	30.4	28.5	9.90	9.76	9.57	28.6	6.1	10	1.7	28.6	2.2	10.3	1.1	0.0	0.0	0.41
PBDE 153	7.31	6.79	7.37	8.69	8.67	8.67	7.16	4.5	9	0.1	7.16	0.8	8.34	0.55	0.0	0.0	0.30
PBDE 154	21.7	21.4	21.3	13.2	12.8	12.9	21.5	1.0	13	1.5	21.6	3.0	13.3	1.7	0.0	0.0	0.07
Lipid (mass fraction (%))	65.7	66.4	65.5	70.4	70.8	70.9	65.9	0.7	71	0.4	68.1	1.8	71.9	1.3	-0.1	-0.6	0.05

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	22	24	24
2 to 3	1	0	0
≥ 3	1	0	0
	z (25%)	z (s)	p (15%)

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1**

SAMPLES: Homogenate VIII AND SRM 1945

PCB CONGENER	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	13.2	14.1	13.2	3.73	3.75	4.17	13.5	3.8	3.88	6.3	13.6	6.8	4.35	0.56	0.0	0.0	0.25
28	25.3	25.4	25.0	12.8	11.7	12.3	25.3	0.8	12.3	4.4	24.5	3.3	13.1	1.1	0.1	0.2	0.06
31	<1	<1	<1	3.42	3.29	3.46			3.39	2.5	2.7	1.6	3.56	0.36			
44	36.0	36.2	35.8	11.5	11.8	11.6	36.0	0.6	11.7	1.2	35.9	5.4	12.1	0.51	0.0	0.0	0.04
49	101	104	103	18.2	18.3	18.2	103	1.4	18.2	0.4	99.7	7.4	18.3	0.04	0.1	0.3	0.10
52	341	348	341	41.8	41.1	41.2	343	1.2	41.4	0.9	309	18	40.7	1.3	0.4	1.2	0.08
66/95*	see below	see below	see below	see below	see below	see below					130						
87	259	265	264	23.3	22.8	22.2	263	1.3	22.8	2.5	234	68	20.6	2.6	0.5	0.3	0.09
99	883	913	895	62.6	65.0	63.0	897	1.7	63.5	2.0	699	134	58.5	5.2	1.1	0.9	0.11
101 (+90)	1478	1480	1487	86.9	84.1	89.0	1482	0.3	86.7	2.9	1192	284	78.2	12	1.0	0.7	0.02
105	371	382	382	29.5	28.4	27.9	378	1.7	28.6	2.9	376	94	28.6	1.2	0.0	0.0	0.11
118	1121	1145	1139	78.2	74.8	72.2	1135	1.1	75.1	4.0	1264	269	76.5	2.9	-0.4	-0.3	0.07
128	467	478	477	22.0	22.3	21.9	474	1.2	22.1	0.9	474	101	23.0	1.1	0.0	0.0	0.08
132	w/153	w/153	w/153	w/153	w/153	w/153					456	220	21.1	4.8			
138 (+163+164)	4449	4517	4542	147	147	143	4503	1.1	146	1.7	4414	833	146	13	0.1	0.1	0.07
149	3145	3106	3150	93.1	94.8	88.5	3133	0.8	92.1	3.5	2610	475	89.0	6.9	0.8	0.7	0.05
151	1001	1014	992	29.8	30.3	28.3	1003	1.1	29.4	3.6	802	145	28.6	1.3	1.0	0.9	0.07
153	8520	8670	8686	274	279	252	8625	1.1	268	5.5	6967	1594	228	9.8	1.0	0.7	0.07
156	204	210	211	11.4	11.3	10.5	208	1.9	11.1	4.4	230	42	11.4	0.95	-0.4	-0.4	0.13
170 (+190)	1534	1559	1565	43.3	44.3	42.6	1553	1.1	43.4	2.0	1302	250	42.6	2.2	0.8	0.6	0.07
180	3889	3943	3934	143	145	132	3922	0.7	140	5.1	3754	806	138	9.7	0.2	0.1	0.05
183	937	951	956	37.0	40.5	38.6	948	1.0	38.7	4.5	856	175	38.0	1.8	0.4	0.3	0.07
187	2919	2974	2973	133	132	131	2955	1.1	132	0.5	2696	502	121	11	0.4	0.3	0.07
194	356	355	358	57.4	61.0	56.2	356	0.5	58.2	4.3	321	40	53.5	5.2	0.4	0.5	0.03
195	111	110	111	14.0	13.5	13.1	111	0.5	13.5	3.1	110	21	14.3	2.2	0.0	0.0	0.04
201	86.2	87.9	88.3	16.5	17.6	16.1	87.5	1.3	16.8	4.8	93.8	38	16.8	1.3	-0.3	-0.2	0.09
206	34.5	35.4	35.2	48.9	48.9	48.8	35.0	1.4	48.9	0.1	34.9	5.6	44.9	4.2	0.0	0.0	0.10
209	13.3	13.9	14.3	18.3	19.0	18.1	13.8	3.7	18.4	2.5	13.6	1.7	17.2	1.9	0.1	0.1	0.25
66	151	152	151	22.6	21.4	21.8	151	0.2	21.9	2.9	157	50	22.4	0.51	-0.1	-0.1	0.01
95	677	685	683	32.8	33.7	32.7	682	0.6	33.1	1.7	532	94	33.9	0.51	1.1	1.3	0.04

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 2**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1377	1333	1354	92	93	94	1355	1.6	93	1.2	1200	89	90.9	13	0.5	1.2	0.11
4,4'-DDT	2099	1985	2045	235	241	244	2043	2.8	240	1.9	2078	173	233	8.0	-0.1	-0.1	0.19
2,4'-DDE	422	451	444	13.9	13.5	13.8	439	3.4	14	1.5	410	46	14.2	1.4	0.3	0.4	0.23
4,4'-DDE	23567	23044	23457	507	500	515	23356	1.2	507	1.5	22633	1569	497	19	0.1	0.3	0.08
2,4'-DDD	425	444	431	19.6	20.5	19.9	433	2.2	20	2.3	383	45	19.5	1.2	0.5	0.7	0.15
4,4'-DDD	1807	1818	1788	125	122	119	1804	0.8	122	2.5	1708	138	120	4.9	0.2	0.4	0.06
HCB	265	266	279	29.8	30.4	31.1	270	2.9	30	2.1	262	39	30.6	1.5	0.1	0.1	0.19
α–HCH	8.35	8.88	8.45	16.4	15.9	16.2	8.56	3.3	16	1.6	8.56	2.1	16.9	1.4	0.0	0.0	0.22
β–HCH	38.7	39.1	38.7	<4	<4	<4	38.8	0.6			39.1	3.8			0.0	0.0	0.04
γ–HCH	5.88	5.55	5.67	3.09	3.01	2.87	5.70	2.9	3	3.7	4.87	16	3.18	0.01	0.7	0.0	0.20
Heptachlor Epoxide	13.3	15.4	13.7	10.0	10.5	10.1	14.1	7.9	10	2.6	41.5	31	10.7	0.09	-2.6	-0.9	0.53
Cis-Chlordane	91.8	90.5	89.7	49.7	48.7	48.4	90.7	1.2	49	1.4	92.0	22	48.1	1.6	-0.1	0.0	0.08
Trans-Chlordane	19.9	20.5	21.4	12.1	11.5	11.9	20.6	3.7	12	2.6	10.1	6.3	11.8	0.54	4.2	1.2	0.24
Oxychlordane	79.8	81.7	77.5	21.5	22.2	22.1	79.7	2.6	22	1.7	69.0	9.2	21.2	1.1	0.6	0.8	0.18
Cis-Nonachlor	144	135	133	45.5	47.7	47.1	137	4.3	47	2.4	155	33	45.8	3.3	-0.5	-0.4	0.28
Trans-Nonachlor	401	388	385	201	210	199	391	2.2	203	2.9	439	86	198	16	-0.4	-0.4	0.14
Dieldrin	405	411	418	49.9	50.4	51.1	411	1.6	50	1.2	411	153	50.1	4.1	0.0	0.0	0.11
Mirex	55.5	56.7	55.7	33.3	34.5	33.1	56.0	1.1	34	2.3	50.0	9.3	31.0	3.3	0.5	0.4	0.08
PBDE 47	149	152	151	39.6	39.4	39.5	150	0.9	40	0.3	147	20	39.6	0.18	0.1	0.1	0.06
PBDE 99	19.8	20.8	21.0	18.6	17.1	18.1	20.6	3.1	18	4.2	22.5	5.5	18.9	2.3	-0.4	-0.2	0.21
PBDE 100	27.0	30.4	28.5	9.90	9.76	9.57	28.6	6.1	10	1.7	28.6	2.2	10.3	1.1	0.0	0.0	0.41
PBDE 153	7.31	6.79	7.37	8.69	8.67	8.67	7.16	4.5	9	0.1	7.16	0.8	8.34	0.55	0.0	0.0	0.30
PBDE 154	21.7	21.4	21.3	13.2	12.8	12.9	21.5	1.0	13	1.5	21.6	3.0	13.3	1.7	0.0	0.0	0.07
Lipid (mass fraction (%))	68.1	68.5	69.1	71.5	70.9	71.1	68.6	0.7	71	0.4	68.1	1.8	71.9	1.3	0.0	0.1	0.05

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	22	24	24
2 to 3	1	0	0
≥ 3	1	0	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 2**

SAMPLES: Homogenate VIII AND SRM 1945

PCB CONGENER RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
	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	1/2 95% CI	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	13.3	13.5	14.1	4.01	3.99	3.94	13.6	3.1	3.98	0.9	13.6	6.8	4.35	0.56	0.0	0.0	0.20
28	25.5	26.1	24.8	12.8	12.5	12.2	25.5	2.6	13	2.4	24.5	3.3	13.1	1.1	0.2	0.2	0.17
31	3.44	3.98	3.85	3.22	3.55	3.45	3.8	7.5	3.41	5.0	2.7	1.6	3.56	0.36	1.5	0.6	0.50
44	36.5	35.8	35.5	12.1	11.8	11.8	35.9	1.4	11.9	1.5	35.9	5.4	12.1	0.51	0.0	0.0	0.10
49	105	101	103	18.1	18.3	18.3	103	1.9	18.2	0.6	99.7	7.4	18.3	0.04	0.1	0.3	0.13
52	338	341	345	41.6	42.1	43.1	341	1.0	42.3	1.8	309	18	40.7	1.3	0.4	1.1	0.07
66/95*	see below	see below	see below	see below	see below	see below					130						
87	234	233	229	20.2	20.6	21.1	232	1.1	20.6	2.2	234	68	20.6	2.6	0.0	0.0	0.08
99	868	878	888	61.5	62.4	60.7	878	1.1	61.5	1.4	699	134	58.5	5.2	1.0	0.8	0.08
101 (+90)	1444	1398	1405	84.1	83.9	85.7	1416	1.8	84.6	1.2	1192	284	78.2	12	0.8	0.5	0.12
105	381	378	369	29.1	28.5	28.1	376	1.7	28.6	1.8	376	94	28.6	1.2	0.0	0.0	0.11
118	1112	1254	1227	77.7	75.5	75.7	1198	6.3	76.3	1.6	1264	269	76.5	2.9	-0.2	-0.2	0.42
128	488	475	461	22.3	22.7	22.5	475	2.8	22.5	0.9	474	101	23.0	1.1	0.0	0.0	0.19
132	801	798	775	20.5	21.5	22.2	791	1.8	21.4	4.0	456	220	21.1	4.8	2.9	1.5	0.12
138 (+163+164)	4544	4449	4521	149	151	149	4505	1.1	150	0.8	4414	833	146	13	0.1	0.1	0.07
149	3154	3111	3107	91.5	94.4	93.7	3124	0.8	93.2	1.6	2610	475	89.0	6.9	0.8	0.7	0.06
151	1005	1014	1021	30.5	28.8	27.9	1013	0.8	29.1	4.5	802	145	28.6	1.3	1.1	0.9	0.05
153	7545	7705	7611	221	228	219	7620	1.1	223	2.1	6967	1594	228	9.8	0.4	0.3	0.07
156	212	222	205	11.9	10.5	11.1	213	4.0	11.2	6.3	230	42	11.4	0.95	-0.3	-0.3	0.27
170 (+190)	155	1534	1521	44.5	42.1	42.5	1070	74.1	43.0	3.0	1302	250	42.6	2.2	-0.7	-0.6	4.94
180	3788	3801	3754	144	138	133	3781	0.6	138	4.0	3754	806	138	9.7	0.0	0.0	0.04
183	901	933	945	40.5	38.8	38.1	926	2.5	39.1	3.2	856	175	38.0	1.8	0.3	0.3	0.16
187	2887	2904	2845	131	128	122	2879	1.1	127	3.6	2696	502	121	11	0.3	0.2	0.07
194	345	361	354	50.4	55.5	53.2	353	2.3	53	4.8	321	40	53.5	5.2	0.4	0.5	0.15
195	113	115	102	13.5	13.9	14.4	110	6.4	13.9	3.2	110	21	14.3	2.2	0.0	0.0	0.42
201	99.8	89.4	92.1	17.2	16.5	16.4	93.8	5.8	16.7	2.6	93.8	38	16.8	1.3	0.0	0.0	0.38
206	33.9	35.1	35.5	46.5	48.1	46.7	34.8	2.4	47.1	1.9	34.9	5.6	44.9	4.2	0.0	0.0	0.16
209	14.5	13.9	14.7	18.1	17.9	18.2	14.4	2.9	18.1	0.8	13.6	1.7	17.2	1.9	0.2	0.4	0.19
66	149	444	151	22.5	21.8	22.1	248	68.4	22.1	1.6	157	50	22.4	0.51	2.3	1.4	4.56
95	655	648	666	33.9	34.1	33.4	656	1.4	33.8	1.1	532	94	33.9	0.51	0.9	1.1	0.09

Category	Number by Category z (25%)	z (s)	p (15%)
≤2	27	29	27
2 to 3	2	0	0
≥3	0	0	2

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 3**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	992	1010	1020	84	85	86	1007	1.4	85.1	1.1	1200	89	90.9	13	-0.6	-1.5	0.09
4,4'-DDT	1990	2020	2040	244	236	239	2017	1.2	240	1.7	2078	173	233	8.0	-0.1	-0.2	0.08
2,4'-DDE	375	379	383	13.9	14.0	14.1	379	1.1	14.0	0.7	410	46	14.2	1.4	-0.3	-0.4	0.07
4,4'-DDE	19200	19600	19700	509	505	509	19500	1.4	508	0.5	22633	1569	497	19	-0.6	-1.2	0.09
2,4'-DDD	338	340	349	19.7	19.9	20.4	342	1.7	20.0	1.8	383	45	19.5	1.2	-0.4	-0.6	0.11
4,4'-DDD	1400	1420	1430	148	150	151	1417	1.1	150	1.0	1708	138	120	4.9	-0.7	-1.3	0.07
HCB	245	251	251	26.7	26.6	26.7	249	1.4	26.7	0.2	262	39	30.6	1.5	-0.2	-0.2	0.09
α-HCH	5.84	5.57	5.76	14.7	15.1	15.2	5.72	2.4	15.0	1.8	8.56	2.1	16.9	1.4	-1.3	-1.0	0.16
β-HCH	38.6	39.8	39.5	interference	interference	interference	39.3	1.6			39.1	3.8			0.0	0.0	0.11
γ-HCH	3.75	3.69	3.76	2.54	2.47	2.42	3.73	1.0	2.48	2.4	4.87	16	3.18	0.01	-0.9	-0.1	0.07
Heptachlor Epoxide	70.1	68.4	69.8	10.1	10.1	10.3	69.4	1.3	10.2	1.1	41.5	31	10.7	0.09	2.7	0.9	0.09
Cis-Chlordane	108.0	109.0	110.0	55.4	57.0	57.0	109.0	0.9	56.5	1.6	92.0	22	48.1	1.6	0.7	0.6	0.06
Trans-Chlordane	8.53	8.70	8.96	11.8	12.0	12.2	8.73	2.5	12.0	1.7	10.1	6.3	11.8	0.54	-0.5	-0.1	0.17
Oxychlordane	60.2	62.5	63.0	19.3	20.2	20.6	61.9	2.4	20.0	3.3	69.0	9.2	21.2	1.1	-0.4	-0.5	0.16
Cis-Nonachlor	192	194	195	56.9	58.8	59.3	194	0.8	58.3	2.2	155	33	45.8	3.3	1.0	0.8	0.05
Trans-Nonachlor	437	440	446	182	180	182	441	1.0	181	0.6	439	86	198	16	0.0	0.0	0.07
Dieldrin	395	406	384	51.5	52.0	52.6	395	2.8	52.0	1.1	411	153	50.1	4.1	-0.2	-0.1	0.19
Mirex	62.1	62.2	62.3	37.4	41.4	41.6	62.2	0.2	40.1	5.9	50.0	9.3	31.0	3.3	1.0	0.9	0.01
PBDE 47	208	208	208	41.3	42.2	42.8	208	0.0	42.1	1.8	147	20	39.6	0.18	1.7	2.0	0.00
PBDE 99	26.3	27.0	27.1	21.6	20.7	21.4	26.8	1.6	21.2	2.2	22.5	5.5	18.9	2.3	0.8	0.5	0.11
PBDE 100	32.5	32.8	33.1	12.4	12.0	12.5	32.8	0.9	12.3	2.2	28.6	2.2	10.3	1.1	0.6	1.2	0.06
PBDE 153	6..06	6.02	6.05	7.23	7.44	7.40	6.04	0.4	7.36	1.5	7.16	0.8	8.34	0.55	-0.6	-0.9	0.02
PBDE 154	22.7	23.5	23.4	14.5	14.5	14.5	23.2	1.9	14.5	0.0	21.6	3.0	13.3	1.7	0.3	0.5	0.13
Lipid (mass fraction (%))	68.0	68.3	66.7	72.9	72.4	73.3	67.7	1.3	72.9	0.6	68.1	1.8	71.9	1.3	0.0	-0.1	0.08

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	23	24	24
2 to 3	1	0	0
≥ 3	0	0	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 3**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	9.3	9.4	9.5	2.70	2.65	2.58	9.4	0.8	2.64	2.3	13.6	6.8	4.35	0.56	-1.2	-0.5	0.06
28	24.5	24.6	24.3	11.4	11.7	11.4	24.5	0.6	11.5	1.5	24.5	3.3	13.1	1.1	0.0	0.0	0.04
31	1.80	1.65	1.72	3.55	3.18	3.62	1.7	4.4	3.45	6.9	2.7	1.6	3.56	0.36	-1.5	-0.6	0.29
44	31.7	32.3	32.3	12.1	12.0	12.2	32.1	1.1	12.1	0.8	35.9	5.4	12.1	0.51	-0.4	-0.5	0.07
49	90	91	92	17.4	17.5	17.5	91	1.3	17.5	0.3	99.7	7.4	18.3	0.04	-0.4	-0.7	0.08
52	281	287	286	40.8	40.6	40.9	285	1.1	40.8	0.4	309	18	40.7	1.3	-0.3	-0.9	0.08
66/95*	see below	see below	see below	see below	see below	see below					130						
87	217	219	219	23.6	23.6	23.6	218	0.5	23.6	0.0	234	68	20.6	2.6	-0.3	-0.2	0.04
99	665	675	672	56.1	56.4	56.4	671	0.8	56.3	0.3	699	134	58.5	5.2	-0.2	-0.1	0.05
101 (+90)	1040	1050	1040	87.9	87.2	87.5	1043	0.6	87.5	0.4	1192	284	78.2	12	-0.5	-0.4	0.04
105	373	377	380	28.6	28.7	28.8	377	0.9	28.7	0.3	376	94	28.6	1.2	0.0	0.0	0.06
118	1230	1250	1240	86.5	85.8	86.2	1240	0.8	86.2	0.4	1264	269	76.5	2.9	-0.1	-0.1	0.05
128	471	475	474	25.0	25.2	25.3	473	0.4	25.2	0.6	474	101	23.0	1.1	0.0	0.0	0.03
132	no data	no data	no data	no data	no data	no data					456	220	21.1	4.8			
138 (+163+164)	4950	5020	5000	195	190	192	4990	0.7	192	1.3	4414	833	146	13	0.5	0.5	0.05
149	2860	2890	2880	89.7	89.6	90.4	2877	0.5	89.9	0.5	2610	475	89.0	6.9	0.4	0.4	0.04
151	795	804	806	26.9	27.2	27.4	802	0.7	27.2	0.9	802	145	28.6	1.3	0.0	0.0	0.05
153	6900	7010	6990	262	258	260	6967	0.8	260	0.8	6967	1594	228	9.8	0.0	0.0	0.06
156	220	221	219	13.0	13.2	13.3	220	0.5	13.2	1.2	230	42	11.4	0.95	-0.2	-0.2	0.03
170 (+190)	1280	1310	1310	45.1	45.6	45.9	1300	1.3	45.5	0.9	1302	250	42.6	2.2	0.0	0.0	0.09
180	3340	3370	3370	166	165	167	3360	0.5	166	0.6	3754	806	138	9.7	-0.4	-0.3	0.03
183	929	933	934	41.8	42.2	42.4	932	0.3	42.1	0.7	856	175	38.0	1.8	0.4	0.3	0.02
187	2510	2530	2540	145	144	145	2527	0.6	145	0.4	2696	502	121	11	-0.3	-0.2	0.04
194	312	314	311	63.9	68.3	68.4	312	0.5	66.9	3.8	321	40	53.5	5.2	-0.1	-0.1	0.03
195	95	95	96	11.0	11.3	10.9	96	0.5	11.1	1.9	110	21	14.3	2.2	-0.5	-0.6	0.03
201	no data	no data	no data	no data	no data	no data					93.8	38	16.8	1.3			
206	37.6	39.7	38.1	60.0	63.4	63.3	38.5	2.9	62.2	3.1	34.9	5.6	44.9	4.2	0.4	0.5	0.19
209	13.2	13.4	13.4	19.8	20.1	20.4	13.3	0.9	20.1	1.5	13.6	1.7	17.2	1.9	-0.1	-0.1	0.06
66	114	119	117	22.6	22.6	22.7	117	2.2	22.6	0.3	157	50	22.4	0.51	-1.0	-0.6	0.14
95	515	522	518	36.9	37.0	37.5	518	0.7	37.1	0.9	532	94	33.9	0.51	-0.1	-0.1	0.05

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1280	1310	1290	66	69	68	1293	1.2	67.7	2.3	1200	89	90.9	13	0.3	0.7	0.08
4,4'-DDT	1340	1340	1300	113	122	117	1327	1.7	117	3.8	2078	173	233	8.0	-1.4	-2.7	0.12
2,4'-DDE	299	309	307	8.6	11.5	12.2	305	1.7	10.8	18	410	46	14.2	1.4	-1.0	-1.3	0.12
4,4'-DDE	21200	22000	21500	378	433	428	21567	1.9	413	7.4	22633	1569	497	19	-0.2	-0.4	0.12
2,4'-DDD	443	447	439	19.0	19.3	19.1	443	0.9	19.1	0.8	383	45	19.5	1.2	0.6	0.8	0.06
4,4'-DDD	Interference	Interference	Interference	Interference	Interference	Interference					1708	138	120	4.9			
HCB	190	205	195	22.6	26.4	25.8	197	3.9	24.9	8.2	262	39	30.6	1.5	-1.0	-1.0	0.26
α-HCH	Interference	Interference	Interference	Interference	Interference	Interference					8.56	2.1	16.9	1.4			
β-HCH	37.2	42.4	51.8	8.10	7.95	9.79	43.8	16.9	9	12	39.1	3.8			0.5	1.0	1.13
γ-HCH	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD					4.87	16	3.18	0.01			
Heptachlor Epoxide	12.7	8.4	15.6	3.4	5.5	4.2	12.2	29.9	4.4	24.0	41.5	31	10.7	0.09	-2.8	-0.9	1.99
Cis-Chlordane	49.0	50.8	48.0	30.7	33.6	32.8	49.3	2.9	32.4	4.6	92.0	22	48.1	1.6	-1.9	-1.6	0.19
Trans-Chlordane	38.00	28.70	31.60	13.2	14.6	13.7	32.77	14.5	13.8	5.1	10.1	6.3	11.8	0.54	9.0	2.5	0.97
Oxychlordane	48.7	56.7	57.7	15.4	15.9	15.9	54.4	9.1	15.7	1.8	69.0	9.2	21.2	1.1	-0.8	-1.1	0.60
Cis-Nonachlor	Interference	Interference	Interference	Interference	Interference	Interference					155	33	45.8	3.3			
Trans-Nonachlor	376	383	374	117	130	130	378	1.3	126	6.0	439	86	198	16	-0.6	-0.5	0.08
Dieldrin	Interference	Interference	Interference	Interference	Interference	Interference					411	153	50.1	4.1			
Mirex	Interference	Interference	Interference	Interference	Interference	Interference					50.0	9.3	31.0	3.3			
PBDE 47	160	143	162	42.1	43.2	47.1	155	6.7	44.1	6.0	147	20	39.6	0.18	0.2	0.3	0.45
PBDE 99	no data	no data	no data	19.9	16.0	22.7			19.5	17	22.5	5.5	18.9	2.3			
PBDE 100	no data	no data	no data	9.50	10.5	11.3			10.4	8.4	28.6	2.2	10.3	1.1			
PBDE 153	no data	no data	no data	<LOD	<LOD	<LOD					7.16	0.8	8.34	0.55			
PBDE 154	no data	no data	no data	<LOD	<LOD	<LOD					21.6	3.0	13.3	1.7			
Lipid (mass fraction (%))	69.0	66.2	63.3	71.4	65.5	75.7	66.2	4.3	70.9	7.2	68.1	1.8	71.9	1.3	-0.1	-0.6	0.29

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	12	12	14
2 to 3	1	2	0
≥ 3	1	0	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	36.4	28.1	23.1	4.26	2.51	6.33	29.2	23.0	4.37	43.8	13.6	6.8	4.35	0.56	4.6	2.0	1.53
28	16.0	<LOD	<LOD	5.73	7.58	6.84	16.0		6.72	13.8	24.5	3.3	13.1	1.1	-1.4	-1.9	#DIV/0!
31	10.0	<LOD	<LOD	2.65	2.08	2.30	10.0		2.34	12.1	2.7	1.6	3.56	0.36	10.6	4.3	#DIV/0!
44	39.9	56.9	71.7	16.9	12.3	12.0	56.2	28.3	13.7	20.0	35.9	5.4	12.1	0.51	2.3	2.4	1.89
49	103	118	102	13.9	16.2	16.5	108	8.3	15.5	9.2	99.7	7.4	18.3	0.04	0.3	0.7	0.55
52	321	338	322	29.0	33.1	32.9	327	2.9	31.7	7.3	309	18	40.7	1.3	0.2	0.6	0.19
66/95*	654	671	651	47.6	49.2	48.8	659	1.6	48.5	1.7	130				16.2		0.11
87	Interference	Interference	Interference	Interference	Interference	Interference					234	68	20.6	2.6			
99	685	718	682	46.4	48.3	48.3	695	2.9	47.7	2.3	699	134	58.5	5.2	0.0	0.0	0.19
101 (+90)	Interference	Interference	Interference	Interference	Interference	Interference					1192	284	78.2	12			
105	299	269	279	14.2	13.2	11.1	282	5.4	12.8	12.3	376	94	28.6	1.2	-1.0	-0.6	0.36
118	1410	1390	1340	67.6	71.2	71.3	1380	2.6	70.0	3.0	1264	269	76.5	2.9	0.4	0.3	0.17
128	306	305	293	17.7	19.0	17.9	301	2.4	18.2	3.8	474	101	23.0	1.1	-1.5	-1.0	0.16
132	w/153	w/153	w/153	w/153	w/153	w/153					456	220	21.1	4.8			
138 (+163+164)	3260	3190	3080	92.0	94.1	92.1	3177	2.9	92.7	1.3	4414	833	146	13	-1.1	-1.1	0.19
149	2420	2440	2380	70.2	71.8	72.3	2413	1.3	71.4	1.5	2610	475	89.0	6.9	-0.3	-0.3	0.08
151	799	809	787	22.7	23.5	23.3	798	1.4	23.2	1.8	802	145	28.6	1.3	0.0	0.0	0.09
153	4390	4290	4100	122	119	118	4260	3.5	120	1.7	6967	1594	228	9.8	-1.6	-1.1	0.23
156	121	117	116	4.8	5.5	5.3	118	2.2	5.2	6.7	230	42	11.4	0.95	-2.0	-2.0	0.15
170 (+190)	850	770	809	19.7	21.8	21.0	810	4.9	20.8	5.1	1302	250	42.6	2.2	-1.5	-1.2	0.33
180	2420	2340	2290	90	93	91	2350	2.8	91.6	1.6	3754	806	138	9.7	-1.5	-1.1	0.19
183	536	520	506	19.8	20.4	19.8	521	2.9	20.0	1.7	856	175	38.0	1.8	-1.6	-1.2	0.19
187	1840	1770	1720	75.5	75.7	73.5	1777	3.4	75	1.6	2696	502	121	11	-1.4	-1.1	0.23
194	258	238	231	33.6	34.3	33.4	242	5.8	33.8	1.4	321	40	53.5	5.2	-1.0	-1.2	0.39
195	232	213	249	20.0	20.2	17.8	231	7.8	19.3	6.9	110	21	14.3	2.2	4.4	5.1	0.52
201	293.0	278.0	275.0	36.7	36.8	35.9	282.0	3.4	36.5	1.4	93.8	38	16.8	1.3	8.0	5.6	0.23
206	29.7	27.7	27.6	28.4	29.7	29.0	28.3	4.2	29.0	2.2	34.9	5.6	44.9	4.2	-0.8	-0.9	0.28
209	16.2	11.0	11.1	12.8	14.2	13.7	12.8	23.3	13.6	5.2	13.6	1.7	17.2	1.9	-0.2	-0.4	1.55
66	see above	see above	see above	see above	see above	see above					157	50	22.4	0.51			
95	see above	see above	see above	see above	see above	see above					532	94	33.9	0.51			

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	19	20	23
2 to 3	1	1	0
≥ 3	5	3	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 5**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
4,4'-DDT	1975	1939	1831	266	207	197	1915	3.9	223	16.7	2078	173	233	8.0	-0.3	-0.6	0.26
2,4'-DDE	551	584	547	16.7	15.5	15.5	560	3.6	16	4.5	410	46	14.2	1.4	1.5	1.9	0.24
4,4'-DDE	24006	26986	24784	565	595	590	25259	6.1	583	2.8	22633	1569	497	19	0.5	1.0	0.41
2,4'-DDD	231	255	263	17.8	18.6	23.4	250	6.8	20	15.3	383	45	19.5	1.2	-1.4	-1.8	0.45
4,4'-DDD	1166	1430	1218	161	163	163	1271	11.0	162	0.8	1708	138	120	4.9	-1.0	-2.0	0.73
HCB	382	391	368	36.6	35.8	35.4	381	3.1	36	1.7	262	39	30.6	1.5	1.8	1.8	0.20
α-HCH	<2.06	<2.06	<2.06	15.6	12.8	10.7			13	18.8	8.56	2.1	16.9	1.4			
β-HCH	<1.20	<1.20	<1.20	8.55	8.69	9.00			9	2.6	39.1	3.8					
γ-HCH	<1.91	<1.91	<1.91	<1.91	<1.91	<1.91					4.87	16	3.18	0.01			
Heptachlor Epoxide	116.7	121.6	116.3	14.0	15.1	14.5	118.2	2.5	15	3.9	41.5	31	10.7	0.09	7.4	2.4	0.17
Cis-Chlordane	90.7	93.1	81.1	34.5	23.6	21.5	88.3	7.2	27	26.3	92.0	22	48.1	1.6	-0.2	-0.1	0.48
Trans-Chlordane	15.3	12.9	9.2	1.3	5.2	2.8	12.5	24.7	3	62.7	10.1	6.3	11.8	0.54	0.9	0.3	1.65
Oxychlordane	75.6	76.2	76.5	17.6	17.1	19.0	76.1	0.6	18	5.5	69.0	9.2	21.2	1.1	0.4	0.5	0.04
Cis-Nonachlor	101	103	102	40.2	41.4	41.6	102	1.0	41	1.9	155	33	45.8	3.3	-1.4	-1.1	0.07
Trans-Nonachlor	726	753	709	214	213	213	729	3.1	213	0.2	439	86	198	16	2.6	2.4	0.20
Dieldrin	1004	1068	953	40.6	45.2	47.1	1008	5.7	44	7.5	411	153	50.1	4.1	5.8	2.7	0.38
Mirex	34.2	35.0	35.9	25.0	22.1	21.0	35.0	2.4	23	9.0	50.0	9.3	31.0	3.3	-1.2	-1.1	0.16
PBDE 47	178	190	184	52.5	53.7	53.5	184	3.2	53	1.3	147	20	39.6	0.18	1.0	1.2	0.21
PBDE 99	22.2	23.4	21.6	18.1	17.6	17.7	22.4	4.0	18	1.3	22.5	5.5	18.9	2.3	0.0	0.0	0.27
PBDE 100	27.0	28.9	26.9	10.46	10.46	10.35	27.6	4.2	10	0.6	28.6	2.2	10.3	1.1	-0.1	-0.3	0.28
PBDE 153	7.04	7.11	6.76	9.47	8.63	8.72	6.97	2.7	9	5.2	7.16	0.8	8.34	0.55	-0.1	-0.1	0.18
PBDE 154	29.6	31.5	30.1	22.8	22.1	22.4	30.4	3.1	22	1.6	21.6	3.0	13.3	1.7	1.6	2.5	0.21
Lipid (mass fraction (%))	67.0	67.0	61.0	73.0	72.0	73.0	65.0	5.3	73	0.8	68.1	1.8	71.9	1.3	-0.2	-0.9	0.36

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	18	17	21
2 to 3	1	3	0
≥ 3	2	0	0
	z (25%)	z (s)	p (15%)

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 5**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	10.3	12.0	10.3	6.42	6.29	6.62	10.8	8.8	6.44	2.6	13.6	6.8	4.35	0.56	-0.8	-0.4	0.59
28	Interference	Interference	Interference	Interference	Interference	Interference					24.5	3.3	13.1	1.1			
31	Interference	Interference	Interference	Interference	Interference	Interference					2.74	1.6	3.56	0.36			
44	45.7	48.7	46.8	20.5	20.3	21.1	47.1	3.2	20.7	2.0	35.9	5.4	12.1	0.51	1.2	1.3	0.22
49	106	114	101	23.4	22.2	23.3	107	6.3	23.0	3.0	99.7	7.4	18.3	0.04	0.3	0.6	0.42
52	341	359	323	43.0	41.3	42.8	341	5.4	42.4	2.2	309	18	40.7	1.3	0.4	1.1	0.36
66/95*	Interference	Interference	Interference	Interference	Interference	Interference					130		0.00	0.00			
87	Interference	Interference	Interference	Interference	Interference	Interference					234	68	20.6	2.6			
99	694	755	651	55.6	59.3	55.4	700	7.5	56.8	3.9	699	134	58.5	5.2	0.0	0.0	0.50
101 (+90)	Interference	Interference	Interference	Interference	Interference	Interference					1192	284	78.2	12			
105	341	378	317	25.8	28.1	26.5	346	8.9	26.8	4.3	376	94	28.6	1.2	-0.3	-0.2	0.59
118	Interference	Interference	Interference	Interference	Interference	Interference					1264	269	76.5	2.9			
128	Interference	Interference	Interference	Interference	Interference	Interference					474	101	23.0	1.1			
132	Interference	Interference	Interference	Interference	Interference	Interference					456	220	21.1	4.8			
138 (+163+164)	8075	8249	8094	267	279	262	8140	1.2	269	3.2	4414	833	146	13	3.4	3.3	0.08
149	2497	2675	2385	85.2	83.7	81.2	2519	5.8	83.4	2.5	2610	475	89.0	6.9	-0.1	-0.1	0.39
151	665	712	642	31.7	31.1	30.7	673	5.3	31.2	1.6	802	145	28.6	1.3	-0.6	-0.5	0.36
153	Interference	Interference	Interference	Interference	Interference	Interference					6967	1594	228	9.8			
156	205	223	205	20.1	19.8	20.4	211	4.9	20.1	1.5	230	42	11.4	0.95	-0.3	-0.3	0.33
170 (+190)	1066	1169	1081	38.4	34.3	34.0	1105	5.0	35.6	6.9	1302	250	42.6	2.2	-0.6	-0.5	0.34
180	Interference	Interference	Interference	Interference	Interference	Interference					3754	806	138	9.7			
183	786	746	800	27.2	24.2	22.6	778	3.6	24.7	9.5	856	175	38.0	1.8	-0.4	-0.3	0.24
187	2643	2799	2711	127	120	121	2718	2.9	123	3.2	2696	502	121	11	0.0	0.0	0.19
194	313	316	298	49.8	51.3	55.2	309	3.1	52	5.4	321	40	53.5	5.2	-0.2	-0.2	0.21
195	87	85	87	13.6	12.0	8.4	86	1.6	11.3	23.7	110	21	14.3	2.2	-0.9	-1.0	0.11
201	431.6	413.8	418.3	78.9	71.3	70.1	421.2	2.2	73.4	6.5	93.8	38	16.8	1.3	14.0	9.8	0.15
206	32.5	33.8	32.1	50.8	49.6	50.8	32.8	2.8	50.4	1.4	34.9	5.6	44.9	4.2	-0.2	-0.3	0.18
209	13.9	14.2	13.4	17.5	16.3	18.6	13.8	2.7	17.5	6.5	13.6	1.7	17.2	1.9	0.1	0.1	0.18
66	161	171	152	26.5	19.9	27.5	162	5.9	24.7	16.8	157	50	22.4	0.51	0.1	0.1	0.39
95	Interference	Interference	Interference	Interference	Interference	Interference					532	94	33.9	0.51			

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤2	17	17	19
2 to 3	0	0	0
≥3	2	2	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 6**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	no data	no data	no data	no data	no data	no data					1200	89	90.9	13			
4,4'-DDT	2051	2437	1996	224	224	228	2161	11	225	1.1	2078	173	233	8.0	0.2	0.3	0.74
2,4'-DDE	no data	no data	no data	no data	no data	no data					410	46	14.2	1.4			
4,4'-DDE	21172	21580	20667	509	488	446	21140	2.2	481	6.6	22633	1569	497	19	-0.3	-0.6	0.14
2,4'-DDD	no data	no data	no data	no data	no data	no data					383	45	19.5	1.2			
4,4'-DDD	1536	1805	1998	109	128	109	1780	13	116	9.6	1708	138	120	4.9	0.2	0.3	0.87
HCB	244	245	262	23.4	29.5	27.1	250	4.1	27	11.5	262	39	30.6	1.5	-0.2	-0.2	0.28
α-HCH	16.0	26.4	23.4	24.6	39.9	26.7	21.9	24	30	27.3	8.56	2.1	16.9	1.4	6.2	4.8	1.63
β-HCH	no data	no data	no data	no data	no data	no data					39.1	3.8					
γ-HCH	20.4	22.8	21.1	29.7	30.9	25.4	21.4	5.7	29	10.1	4.87	16	3.18	0.01	13.6	0.8	0.38
Heptachlor Epoxide	no data	no data	no data	no data	no data	no data					41.5	31	10.7	0.09			
Cis-Chlordane	no data	no data	no data	no data	no data	no data					92.0	22	48.1	1.6			
Trans-Chlordane	no data	no data	no data	no data	no data	no data					10.1	6.3	11.8	0.54			
Oxychlordane	no data	no data	no data	no data	no data	no data					69.0	9.2	21.2	1.1			
Cis-Nonachlor	no data	no data	no data	no data	no data	no data					155	33	45.8	3.3			
Trans-Nonachlor	no data	no data	no data	no data	no data	no data					439	86	198	16			
Dieldrin	41.5	448	492	8.7	67.8	56.4	327	76	44	70.8	411	153	50.1	4.1	-0.8	-0.4	5.06
Mirex	no data	no data	no data	no data	no data	no data					50.0	9.3	31.0	3.3			
PBDE 47	160	150	130	43.0	39.0	35.0	147	10	39	10.3	147	20	39.6	0.18	0.0	0.0	0.69
PBDE 99	26.0	21.0	21.0	22.0	18.0	16.0	22.7	13	19	16.4	22.5	5.5	18.9	2.3	0.0	0.0	0.85
PBDE 100	28.0	22.0	24.0	10.00	8.80	8.90	24.7	12	9	7.2	28.6	2.2	10.3	1.1	-0.6	-1.2	0.83
PBDE 153	7.70	8.60	7.10	9.90	10.00	9.10	7.80	9.7	10	5.1	7.16	0.8	8.34	0.55	0.4	0.5	0.65
PBDE 154	23.0	23.0	23.0	16.0	16.0	15.0	23.0	0.0	16	3.7	21.6	3.0	13.3	1.7	0.3	0.4	0.00
Lipid (mass fraction (%))	67.9	68.0	68.0	71.7	72.5	72.5	68.0	0.1	72	0.6	68.1	1.8	71.9	1.3	0.0	0.0	0.01

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 6**

SAMPLES: Homogenate VIII AND SRM 1945

PCB CONGENER RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
	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	1/2 95% CI	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	16.5	16.3	23.5	3.00	2.40	2.90	18.8	22	2.77	12	13.6	6.8	4.35	0.56	1.5	0.7	1.45
28	11.2	17.1	16.7	<1	4.3	6.4	15.0	22	5.4	28	24.5	3.3	13.1	1.1	-1.5	-2.1	1.47
31	2.80	<1	5.49	4.10	<1	4.40	4.1	46	4.25	5.0	2.7	1.6	3.56	0.36	2.1	0.8	3.06
44	30.6	45.0	54.4	<1	3.2	15.2	43.3	28	9.2	92	35.9	5.4	12.1	0.51	0.8	0.9	1.84
49	109	102	122	28.1	4.3	23.1	111	9.2	18.5	68	99.7	7.4	18.3	0.04	0.4	0.9	0.62
52	258	284	274	43.1	38.9	39.3	272	4.9	40.4	5.7	309	18	40.7	1.3	-0.5	-1.3	0.32
66/95*	133.63	132	125.7	23.4	18.6	21.2	130	3.2	21	11	130						0.21
87	no data	no data	no data	no data	no data	no data					234	68	20.6	2.6			
99	no data	no data	no data	no data	no data	no data					699	134	58.5	5.2			
101 (+90)	1192	1199	1098	78.5	83.0	77.5	1163	4.8	79.7	3.7	1192	284	78.2	12	-0.1	-0.1	0.32
105	352	390	357	26.8	32.8	29.4	366	5.7	29.7	10	376	94	28.6	1.2	-0.1	-0.1	0.38
118	1240	1248	1249	90.1	75.9	86.3	1246	0.4	84.1	8.7	1264	269	76.5	2.9	-0.1	0.0	0.02
128	517	591	580	27.2	28.6	33.8	563	7.0	29.9	12	474	101	23.0	1.1	0.7	0.5	0.47
132	no data	no data	no data	no data	no data	no data					456	220	21.1	4.8			
138 (+163+164)	4393	4529	4319	175	149	157	4414	2.4	160	8.4	4414	833	146	13	0.0	0.0	0.16
149	2169	2289	2196	90.6	68.6	77.3	2218	2.8	78.8	14	2610	475	89.0	6.9	-0.6	-0.5	0.19
151	739	762	707	17.0	23.2	21.9	736	3.8	20.7	16	802	145	28.6	1.3	-0.3	-0.3	0.25
153	6357	6886	6885	223	188	215	6709	4.6	208	8.8	6967	1594	228	9.8	-0.1	-0.1	0.30
156	240	249	218	13.7	7.8	11.3	236	6.8	10.9	27	230	42	11.4	0.95	0.1	0.1	0.45
170 (+190)	1547	1565	1449	60.6	41.7	48.3	1520	4.1	50.2	19	1302	250	42.6	2.2	0.7	0.5	0.27
180	3806	3790	3668	177	156	150	3754	2.0	161	8.6	3754	806	138	9.7	0.0	0.0	0.13
183	889	821	845	44.0	38.9	41.3	852	4.0	41.4	6.2	856	175	38.0	1.8	0.0	0.0	0.27
187	2559	2805	2657	113	115	127	2674	4.6	118	6.5	2696	502	121	11	0.0	0.0	0.31
194	326	336	297	67.9	59.7	56.0	320	6.4	61.2	10	321	40	53.5	5.2	0.0	0.0	0.42
195	no data	no data	no data	no data	no data	no data					110	21	14.3	2.2			
201	no data	no data	no data	no data	no data	no data					93.8	38	16.8	1.3			
206	no data	no data	no data	no data	no data	no data					34.9	5.6	44.9	4.2			
209	no data	no data	no data	no data	no data	no data					13.6	1.7	17.2	1.9			
66	no data	no data	no data	no data	no data	no data					157	50	22.4	0.51			
95	no data	no data	no data	no data	no data	no data					532	94	33.9	0.51			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	20	19	20
2 to 3	1	1	0
≥ 3	0	0	1

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 7**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1190	1200	1190	91.1	84.4	90.6	1193	0.5	89	4.2	1200	89	90.9	13	0.0	-0.1	0.03
4,4'-DDT	2690	2790	2780	297	307	301	2753	2.0	302	1.7	2078	173	233	8.0	1.3	2.4	0.13
2,4'-DDE	445	465	467	14.4	15.9	15.3	459	2.7	15.2	5.0	410	46	14.2	1.4	0.5	0.6	0.18
4,4'-DDE	32500	26900	28200	683	696	699	29200	10.0	693	1.2	22633	1569	497	19	1.2	2.5	0.67
2,4'-DDD	355	408	380	20.0	19.8	22.8	381	7.0	20.9	8.0	383	45	19.5	1.2	0.0	0.0	0.46
4,4'-DDD	1650	1800	1900	130	112	132	1783	7.1	125	8.8	1708	138	120	4.9	0.2	0.3	0.47
HCB	338	341	350	36.3	38.8	36.6	343	1.8	37.2	3.7	262	39	30.6	1.5	1.2	1.2	0.12
α-HCH	6.70	6.71	6.83	18.9	18.2	18.0	6.75	1.1	18.4	2.6	8.56	2.1	16.9	1.4	-0.8	-0.7	0.07
β-HCH	37.8	38.1	37.6	1.93	2.10	2.09	37.8	0.7	2.04	4.7	39.1	3.8			-0.1	-0.3	0.04
γ-HCH	3.94	4.01	4.15	3.10	3.08	2.98	4.03	2.7	3.05	2.1	4.87	16	3.18	0.01	-0.7	0.0	0.18
Heptachlor Epoxide	no data	no data	no data	no data	no data	no data					41.5	31	10.7	0.09			
Cis-Chlordane	145.0	152.0	150.0	80.8	75.6	80.0	149.0	2.4	78.8	3.6	92.0	22	48.1	1.6	2.5	2.1	0.16
Trans-Chlordane	9.72	9.50	8.95	11.80	12.00	13.30	9.4	4.2	12.4	6.6	10.1	6.3	11.8	0.54	-0.3	-0.1	0.28
Oxychlordane	no data	no data	no data	no data	no data	no data					69.0	9.2	21.2	1.1			
Cis-Nonachlor	172	169	180	56.5	53.1	53.3	173.7	3.3	54.3	3.5	155	33	45.8	3.3	0.5	0.4	0.22
Trans-Nonachlor	195	523	508	220	218	229	409	45	222	2.6	439	86	198	16	-0.3	-0.2	3.02
Dieldrin	421	416	440	59.4	59.4	61.5	426	3.0	60.1	2.0	411	153	50.1	4.1	0.1	0.1	0.20
Mirex	45.0	44.0	45.2	33.1	32.7	32.6	44.7	1.4	32.8	0.8	50.0	9.3	31.0	3.3	-0.4	-0.4	0.10
PBDE 47	139	145	142	39.8	41.0	43.1	142	2.1	41.3	4.0	147	20	39.6	0.18	-0.1	-0.2	0.14
PBDE 99	23.7	24.6	26.0	21.8	22.5	22.8	24.8	4.7	22.4	2.3	22.5	5.5	18.9	2.3	0.4	0.3	0.31
PBDE 100	28.6	28.9	29.2	11.20	11.30	11.60	28.9	1.0	11.4	1.8	28.6	2.2	10.3	1.1	0.0	0.1	0.07
PBDE 153	6.99	7.05	7.45	9.39	9.80	9.67	7.16	3.5	9.6	2.2	7.16	0.8	8.34	0.55	0.0	0.0	0.23
PBDE 154	22.2	21.4	21.7	13.8	13.7	14.0	21.8	1.9	13.8	1.1	21.6	3.0	13.3	1.7	0.0	0.0	0.12
Lipid (mass fraction (%))	74.5	77.2	75.0	80.7	81.8	84.1	75.6	1.9	82.2	2.1	68.1	1.8	71.9	1.3	0.4	2.1	0.13

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	21	18	21
2 to 3	1	3	0
≥ 3	0	0	1
	z (25%)	z (s)	p (15%)

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 7**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	6.15	6.68	6.61	1.87	1.84	1.92	6.48	4.4	1.88	2.2	13.6	6.8	4.35	0.56	-2.1	-0.9	0.30
28	20.1	20.3	20.7	10.1	9.94	10.3	20.4	1.5	10.1	1.8	24.5	3.3	13.1	1.1	-0.7	-0.9	0.10
31	0.61	0.68	0.61	2.74	3.11	3.27	0.63	6.3	3.04	8.9	2.7	1.6	3.56	0.36	-3.1	-1.3	0.42
44	30.1	32.2	30.5	10.3	10.8	11.1	30.9	3.6	10.7	3.8	35.9	5.4	12.1	0.51	-0.6	-0.6	0.24
49	no data	no data	no data	no data	no data	no data					99.7	7.4	18.3	0.04			
52	273	279	262	33.4	33.3	34.6	271	3.2	33.8	2.1	309	18		1.3	-0.5	-1.3	0.21
66/95*	see below	see below	see below	see below	see below	see below					130		0.00				
87	237	238	248	21.3	22.5	22.7	241	2.5	22.2	3.4	234	68	20.6	2.6	0.1	0.1	0.17
99	845	848	889	63.1	64.3	66.0	861	2.9	64.5	2.3	699	134	58.5	5.2	0.9	0.7	0.19
101 (+90)	no data	no data	no data	no data	no data	no data					1192	284	78.2	12			
105	303	307	332	21.6	21.8	22.7	314	5.0	22.0	2.7	376	94	28.6	1.2	-0.7	-0.4	0.33
118	1310	1330	1430	81.4	82.1	84.9	1357	4.7	82.8	2.2	1264	269	76.5	2.9	0.3	0.2	0.32
128	425	429	455	17.7	18.1	19.0	436	3.7	18.3	3.6	474	101	23.0	1.1	-0.3	-0.2	0.25
132	423	429	440	15.4	15.9	16.5	431	2.0	15.9	3.5	456	220	21.1	4.8	-0.2	-0.1	0.13
138 (+163+164)	6160	6220	6030	184	191	200	6137	1.6	192	4.2	4414	833	146	13	1.6	1.5	0.11
149	2400	2500	2390	70.3	69.2	73.0	2430	2.5	70.8	2.8	2610	475	89.0	6.9	-0.3	-0.2	0.17
151	782	826	796	23.2	22.4	23.9	801	2.8	23.2	3.2	802	145	28.6	1.3	0.0	0.0	0.19
153	5090	5390	5700	189	194	203	5393	5.7	195	3.6	6967	1594	228	9.8	-0.9	-0.6	0.38
156	232	232	227	9.79	10.2	10.7	230	1.3	10.2	4.5	230	42	11.4	0.95	0.0	0.0	0.08
170 (+190)	1350	1310	1250	41.2	41.7	43.5	1303	3.9	42.1	2.9	1302	250	42.6	2.2	0.0	0.0	0.26
180	3650	3670	3520	146	147	154	3613	2.3	149	3.0	3754	806	138	9.7	-0.2	-0.1	0.15
183	738	680	685	30.1	30.7	32.3	701	4.6	31.0	3.7	856	175	38.0	1.8	-0.7	-0.6	0.31
187	2400	2360	2350	105	105	111	2370	1.1	107	3.1	2696	502	121	11	-0.5	-0.4	0.07
194	330	338	334	55.8	56.4	57.7	334	1.2	56.6	1.7	321	40	53.5	5.2	0.2	0.2	0.08
195	91.5	95.7	94.8	8.58	8.31	8.92	94.0	2.4	8.6	3.6	110	21	14.3	2.2	-0.6	-0.7	0.16
201	424	452	442	75.3	73.7	77.9	439.3	3.2	75.6	2.8	93.8	38	16.8	1.3	14.7	10.3	0.22
206	26.4	25.9	24.1	60.3	99.8	53.4	25.5	4.8	71.2	35.2	34.9	5.6	44.9	4.2	-1.1	-1.3	0.32
209	11.8	12.1	12.1	17.3	17.5	18.2	12.0	1.4	17.7	2.7	13.6	1.7	17.2	1.9	-0.5	-0.7	0.10
66	97.1	100	101	17.2	16.9	18.4	99.2	2.0	17.5	4.5	157	50	22.4	0.51	-1.5	-0.9	0.13
95	523	523	550	35.1	36.0	37.6	532	2.9	36.2	3.5	532	94	33.9	0.51	0.0	0.0	0.20

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤2	24	26	27
2 to 3	1	0	0
≥3	2	1	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 8**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	2508	2445	2578	133.0	137.0	136.0	2510	2.7	135	1.5	1200	89	90.9	13	4.4	10.2	0.18
4,4'-DDT	5724	5594	6306	411	433	405	5875	6.5	416	3.5	2078	173	233	8.0	7.3	13.6	0.43
2,4'-DDE	399	396	406	13.9	15.4	14.3	400	1.3	14.5	5.3	410	46	14.2	1.4	-0.1	-0.1	0.09
4,4'-DDE	18497	18588	18832	475	537	514	18639	1	509	6.2	22633	1569	497	19	-0.7	-1.5	0.06
2,4'-DDD	319	324	329	21.0	24.4	23.4	324	1.5	22.9	7.6	383	45	19.5	1.2	-0.6	-0.8	0.10
4,4'-DDD	1535	1486	1579	98	110	105	1533	3.0	104	5.8	1708	138	120	4.9	-0.4	-0.8	0.20
HCB	269	256	261	25.5	31.9	26.1	262	2.5	27.8	12.7	262	39	30.6	1.5	0.0	0.0	0.17
α-HCH	no data	no data	no data	no data	no data	no data					8.56	2.1	16.9	1.4			
β-HCH	46.9	49.8	46.0	no data	no data	no data	47.6	4.2			39.1	3.8			0.9	1.8	0.28
γ-HCH	58.50	59.10	54.40	no data	no data	no data	57.33	4.5			4.87	16	3.18	0.01	43.1	2.7	0.30
Heptachlor Epoxide	69.3	67.3	70.0	10.8	12.1	12.6	68.9	2.0	12	7.9	41.5	31	10.7	0.09	2.6	0.9	0.14
Cis-Chlordane	95.2	91.2	93.7	46.5	52.5	48.1	93.4	2.2	49.0	6.3	92.0	22	48.1	1.6	0.1	0.0	0.14
Trans-Chlordane	7.30	7.30	7.30	9.91	10.90	10.30	7.30	0.0	10.4	4.8	10.1	6.3	11.8	0.54	-1.1	-0.3	0.00
Oxychlordane	58.8	58.1	60.0	17.9	21.6	19.5	59.0	1.6	20	9.4	69.0	9.2	21.2	1.1	-0.6	-0.8	0.11
Cis-Nonachlor	168	165	167	46.2	52.9	48.7	167	0.9	49.3	6.9	155	33	45.8	3.3	0.3	0.3	0.06
Trans-Nonachlor	440	427	442	157	178	164	436	2	166	6.4	439	86	198	16	0.0	0.0	0.12
Dieldrin	414	399	416	48.1	47.7	48.7	410	2.3	48.2	1.0	411	153	50.1	4.1	0.0	0.0	0.15
Mirex	44.6	42.4	44.5	29.4	31.9	32.2	43.8	2.8	31.2	4.9	50.0	9.3	31.0	3.3	-0.5	-0.5	0.19
PBDE 47	60.6	62.1	62.2	24.2	23.2	30.8	61.6	1.5	26.1	15.8	147	20	39.6	0.18	-2.3	-2.8	0.10
PBDE 99	47.7	53.4	47.3	16.7	15.6	16.4	49.5	6.9	16.2	3.5	22.5	5.5	18.9	2.3	4.8	3.1	0.46
PBDE 100	24.6	26.9	28.7	4.99	5.21	5.03	26.7	7.7	5.08	2.3	28.6	2.2	10.3	1.1	-0.3	-0.6	0.51
PBDE 153	10.5	10.6	11.1	9.46.	7.65	6.93	10.7	3.0	7.29	7.0	7.16	0.8	8.34	0.55	2.0	2.7	0.20
PBDE 154	25.7	23.8	26.7	16.8	15.7	16.9	25.4	5.8	16.5	4.0	21.6	3.0	13.3	1.7	0.7	1.1	0.39
Lipid (mass fraction (%))	73.3	74.2	73.6	76.8	73.3	74.2	73.7	0.6	74.8	2.4	68.1	1.8	71.9	1.3	0.3	1.6	0.04

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	17	23
2 to 3	1	1	0
≥ 3	3	2	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 8**

SAMPLES: Homogenate VIII AND SRM 1945

PCB CONGENER RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
	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	1/2 95% CI	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	10.7	11.3	11.0	2.40	2.00	2.70	11.00	2.7	2.37	14.8	13.6	6.8	4.35	0.56	-0.8	-0.3	0.18
28	16.0	15.1	15.4	4.40	4.00	4.50	15.5	3.0	4.30	6.2	24.5	3.3	13.1	1.1	-1.5	-2.0	0.20
31	no data	no data	no data	3.50	3.60	3.50			3.53	1.6	2.74	1.6	3.56	0.36			
44	25.8	23.5	24.5	8.40	7.90	8.60	24.6	4.7	8.30	4.3	35.9	5.4	12.1	0.51	-1.3	-1.4	0.31
49	72.9	66.9	68.9	12.5	12.0	11.8	69.6	4.4	12.1	3.0	99.7	7.4	18.3	0.04	-1.2	-2.5	0.29
52	229	211	220	27.1	27.4	26.1	220	4.1	26.9	2.5	309	18	40.7	1.3	-1.2	-3.1	0.27
66/95*	see below	see below	see below	see below	see below	see below					130		56.30				
87	186	175	181	18.7	19.5	18.1	181	3.0	18.8	3.7	234	68	20.6	2.6	-0.9	-0.5	0.20
99	485	469	492	43.1	48.1	39.2	482	2.4	43.5	10.3	699	134	58.5	5.2	-1.2	-1.0	0.16
101 (+90)	891	863	885	61.1	68.3	59.2	880	1.7	62.9	7.6	1192	284	78.2	12	-1.0	-0.8	0.11
105	252	233	249	18.7	19.8	18.2	245	4.2	18.9	4.3	376	94	28.6	1.2	-1.4	-0.9	0.28
118	1003	971	1014	64.5	70.7	62.6	996	2.2	65.9	6.4	1264	269	76.5	2.9	-0.8	-0.6	0.15
128	404	382	400	20.1	21.7	19.1	395	3.0	20.3	6.5	474	101	23.0	1.1	-0.7	-0.5	0.20
132	no data	no data	no data	no data	no data	no data					456	220	21.1	4.8			
138 (+163+164)	4102	3841	4006	133	139	136	3983	3.3	136	2.2	4414	833	146	13	-0.4	-0.4	0.22
149	1923	1816	1902	59.3	63.3	60.1	1880	3.0	60.9	3.5	2610	475	89.0	6.9	-1.1	-1.0	0.20
151	570	535	558	18.6	25.4	18.7	554	3.2	20.9	18.6	802	145	28.6	1.3	-1.2	-1.1	0.21
153	5712	5473	5765	196	208	198	5650	2.8	201	3.2	6967	1594	228	9.8	-0.8	-0.5	0.18
156	156	145	151	6.30	7.8	6.4	151	3.7	6.83	12.3	230	42	11.4	0.95	-1.4	-1.4	0.24
170 (+190)	1201	1131	1184	36.0	37.7	38.0	1172	3.1	37.2	2.9	1302	250	42.6	2.2	-0.4	-0.3	0.21
180	2804	2686	2837	109	114	113	2776	2.9	112	2.4	3754	806	138	9.7	-1.0	-0.8	0.19
183	692	649	684	28.0	31.6	29.0	675	3.4	29.5	6.3	856	175	38.0	1.8	-0.8	-0.7	0.23
187	2014	1907	1996	88.9	92.0	91.1	1972	2.9	90.7	1.8	2696	502	121	11	-1.1	-0.9	0.19
194	260	242	257	42.5	43.7	44.0	253	3.8	43.4	1.8	321	40	53.5	5.2	-0.9	-1.1	0.25
195	66.5	62.7	66.6	6.20	6.70	6.20	65.3	3.4	6.37	4.5	110	21	14.3	2.2	-1.6	-1.9	0.23
201	49.0	48.8	46.8	8.80	8.80	9.00	48.2	2.5	8.87	1.3	93.8	38	16.8	1.3	-1.9	-1.4	0.17
206	23.1	20.7	22.6	31.7	28.9	32.0	22.1	5.7	30.9	5.5	34.9	5.6	44.9	4.2	-1.5	-1.8	0.38
209	no data	no data	no data	no data	no data	no data					13.6	1.7	17.2	1.9			
66	115.0	108	111	22.2	21.0	21.0	111	3.2	21.4	3.2	157	50	22.4	0.51	-1.2	-0.7	0.21
95	394	366	394	26.0	29.4	25.1	385	4.2	26.8	8.5	532	94	33.9	0.51	-1.1	-1.3	0.28

Category	Number by Category z (25%)	z (s)	p (15%)
≤2	26	23	26
2 to 3	0	2	0
≥3	0	1	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 9**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1190	1180	1250	78	90	71	1207	3.1	80	12.0	1200	89	90.9	13	0.0	0.1	0.21
4,4'-DDT	2110	2230	2190	253	237	228	2177	2.8	239	5.5	2078	173	233	8.0	0.2	0.4	0.19
2,4'-DDE	538	544	560	16.9	14.8	14.2	547	2.1	15	9.2	410	46	14.2	1.4	1.3	1.8	0.14
4,4'-DDE	23100	25100	23800	523	603	526	24000	4.2	551	8.2	22633	1569	497	19	0.2	0.5	0.28
2,4'-DDD	457	480	479	22.4	23.6	21.1	472	2.7	22	5.4	383	45	19.5	1.2	0.9	1.2	0.18
4,4'-DDD	2110	2250	2330	136	125	140	2230	5.0	133	5.8	1708	138	120	4.9	1.2	2.3	0.33
HCB	356	349	356	41.8	40.8	34.8	354	1.2	39	9.6	262	39	30.6	1.5	1.4	1.4	0.08
α-HCH	11.8	<9.6	15.1	15.7	22.7	18.9	13.4	17.6	19	18.6	8.56	2.1	16.9	1.4	2.3	1.8	1.17
β-HCH	52.9	45.4	45.6	<10.0	<10.0	<10.0	48.0	8.9			39.1	3.8			0.9	1.9	0.60
γ-HCH	<5.4	<10	<3.8	<3.1	<3.1	<2.6					4.87	16	3.18	0.01			
Heptachlor Epoxide	111.6	117.3	105.1	14.1	17.3	16.0	111	5.5	16	10.4	41.5	31	10.7	0.09	6.7	2.2	0.37
Cis-Chlordane	142.6	143.7	136.2	60.4	62.4	55.0	141	2.9	59	6.5	92.0	22	48.1	1.6	2.1	1.8	0.19
Trans-Chlordane	<6.7	<8.1	10.2	10.7	<8.6	10.6	10.2		11	0.4	10.1	6.3	11.8	0.54	0.1	0.0	
Oxychlordane	86.7	93.8	89.7	22.0	25.5	21.9	90.1	3.9	23	8.7	69.0	9.2	21.2	1.1	1.2	1.6	0.26
Cis-Nonachlor	218	243	236	50.9	52.9	49.2	233	5.5	51	3.6	155	33	45.8	3.3	2.0	1.7	0.37
Trans-Nonachlor	634	630	608	187	206	175	624	2.3	189	8.3	439	86	198	16	1.7	1.5	0.15
Dieldrin	637	584	587	50.3	64.6	57.6	603	4.9	57	12.4	411	153	50.1	4.1	1.9	0.9	0.33
Mirex	68.6	60.9	73.7	<50.0	<50.0	<50.0	67.7	9.6			50.0	9.3	31.0	3.3	1.4	1.3	0.64
PBDE 47	114	107	101	44.5	40.5	43.7	107	6.0	43	4.9	147	20	39.6	0.18	-1.1	-1.3	0.40
PBDE 99	24.6	23.2	20.6	20.5	17.9	17.1	22.8	8.9	19	9.6	22.5	5.5	18.9	2.3	0.0	0.0	0.60
PBDE 100	27.5	33.3	31.8	14.1	12.0	12.00	30.9	9.7	13	9.3	28.6	2.2	10.3	1.1	0.3	0.7	0.65
PBDE 153	6.59	6.90	5.91	12.1	10.2	7.11	6.47	7.8	10	25.8	7.16	0.8	8.34	0.55	-0.4	-0.5	0.52
PBDE 154	15.1	20.2	18.6	14.6	14.4	11.9	18.0	14.7	14	11.3	21.6	3.0	13.3	1.7	-0.7	-1.0	0.98
Lipid (mass fraction (%))	69.4	69.8	71.9	67.8	68.8	71.6	70.4	1.9	69	2.9	68.1	1.8	71.9	1.3	0.1	0.7	0.13

Category	Number by Category z (25%)	z (s)	p (15%)
≤2	19	21	22
2 to 3	3	2	0
≥3	1	0	0
	z (25%)	z (s)	p (15%)

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 9**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	11.8	15.2	14.2	<6.7	<9.2	<=9.67	13.7	13			13.6	6.8	4.35	0.56	0.0	0.0	0.86
28	31.4	30.7	34.2	13.2	14.4	16.9	32.1	5.8	14.9	13	24.5	3.3	13.1	1.1	1.2	1.7	0.38
31	no data	no data	no data	no data	no data	no data					2.7	1.6	3.56	0.36			
44	42.7	41.1	37.9	14.7	15.4	16.8	40.6	6.1	15.6	7.0	35.9	5.4	12.1	0.51	0.5	0.6	0.41
49	94.0	96.1	88.8	18.7	18.6	17.0	92.9	4.1	18.1	5.3	99.7	7.4	18.3	0.04	-0.3	-0.6	0.27
52	321	328	302	39.5	40.9	38.2	317	4.3	39.5	3.5	309	18	40.7	1.3	0.1	0.3	0.28
66/95*	see below	see below	see below	see below	see below	see below					130		56.30				
87	432	465	457	17.1	17.6	18.1	451	3.8	17.6	2.7	234	68	20.6	2.6	3.7	2.2	0.25
99	1180	1380	1320	47.7	46.3	44.2	1293	7.9	46.1	3.9	699	134	58.5	5.2	3.4	2.7	0.53
101 (+90)	2030	2300	2260	64.5	68.3	67.9	2197	6.6	66.9	3.1	1192	284	78.2	12	3.4	2.5	0.44
105	711	822	746	27.1	27.6	26.8	760	7.5	27.2	1.4	376	94	28.6	1.2	4.1	2.7	0.50
118	2440	2640	2620	72.5	74.4	76.2	2567	4.3	74.3	2.5	1264	269	76.5	2.9	4.1	3.0	0.29
128	882	1050	918	22.2	20.8	20.4	950	9.3	21.1	4.7	474	101	23.0	1.1	4.0	2.8	0.62
132	no data	no data	no data	no data	no data	no data					456	220	21.1	4.8			
138 (+163+164)	6650	7660	6660	113	107	105	6990	8.3	108	3.9	4414	833	146	13	2.3	2.3	0.55
149	4320	4910	4670	72.6	68.6	64.7	4633	6.4	68.6	5.8	2610	475	89.0	6.9	3.1	2.8	0.43
151	1280	1460	1400	19.9	20.2	20.7	1380	6.6	20.3	2.0	802	145	28.6	1.3	2.9	2.5	0.44
153	12800	14300	13600	188	184	187	13567	5.5	186	1.1	6967	1594	228	9.8	3.8	2.7	0.37
156	345	422	347	9.13	8.86	8.80	371	12	8.9	2.0	230	42	11.4	0.95	2.4	2.5	0.79
170 (+190)	2260	2790	2330	42.6	37.5	37.1	2460	12	39.1	7.9	1302	250	42.6	2.2	3.6	2.9	0.78
180	6660	7860	6840	141	135	135	7120	9.1	137	2.5	3754	806	138	9.7	3.6	2.7	0.61
183	1480	1710	1560	33.3	31.1	31.7	1583	7.4	32.0	3.5	856	175	38.0	1.8	3.4	2.7	0.49
187	4660	5400	4930	109	109	109	4997	7.5	109	0.5	2696	502	121	11	3.4	2.8	0.50
194	453	577	481	42.2	44.6	44.4	504	13	43.7	3.1	321	40	53.5	5.2	2.3	2.8	0.86
195	no data	no data	no data	no data	no data	no data					110	21	14.3	2.2			
201	138	161	146	14.8	14.5	14.8	148.4	7.9	14.7	1.1	93.8	38	16.8	1.3	2.3	1.6	0.53
206	46.8	60.7	47.6	39.9	42.8	41.7	51.7	15	41.5	3.6	34.9	5.6	44.9	4.2	1.9	2.4	1.01
209	10.3	10.5	11.7	10.8	13.7	11.5	10.8	7.0	12.0	13	13.6	1.7	17.2	1.9	-0.8	-1.3	0.47
66	223	231	198	18.5	26.5	28.8	217	7.9	24.6	22	157	50	22.4	0.51	1.5	0.9	0.53
95	no data	no data	no data	no data	no data	no data	#DIV/0!				532	94	33.9	0.51			

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤2	8	8	25
2 to 3	5	17	0
≥3	12	0	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 10**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	960	1100	1040	126	116	123	1033	6.8	122	4.2	1200	89	90.9	13	-0.6	-1.3	0.45
4,4'-DDT	1643	1870	1769	234	213	228	1761	6.5	225	4.8	2078	173	233	8.0	-0.6	-1.1	0.43
2,4'-DDE	356	414	377	13.6	11.8	13.6	382	7.7	13	8.0	410	46	14.2	1.4	-0.3	-0.4	0.51
4,4'-DDE	16400	18400	15300	465	447	486	16700	9.4	466	4.2	22633	1569	497	19	-1.0	-2.2	0.63
2,4'-DDD	423	457	431	12.3	10.5	12.3	437	4.1	12	8.9	383	45	19.5	1.2	0.6	0.7	0.27
4,4'-DDD	1430	1640	1520	127	121	114	1530	6.9	121	5.4	1708	138	120	4.9	-0.4	-0.8	0.46
HCB	167	154	147	33.7	29.0	29.2	156	6.5	31	8.7	262	39	30.6	1.5	-1.6	-1.6	0.43
α-HCH	7.65	9.60	8.95	15.5	15.5	17.4	8.73	11.4	16	6.8	8.56	2.1	16.9	1.4	0.1	0.1	0.76
β-HCH	40.7	49.7	42.2	12.10	7.59	8.38	44.2	10.9	9	25.7	39.1	3.8			0.5	1.1	0.73
γ-HCH	7.68	8.06	7.46	5.51	5.28	4.72	7.73	3.9	5	7.9	4.87	16	3.18	0.01	2.4	0.1	0.26
Heptachlor Epoxide	63.1	73.2	66.1	14.4	14.6	13.9	67.5	7.7	14	2.5	41.5	31	10.7	0.09	2.5	0.8	0.51
Cis-Chlordane	53.8	62.0	59.1	37.5	34.1	38.7	58.3	7.1	37	6.5	92.0	22	48.1	1.6	-1.5	-1.2	0.48
Trans-Chlordane	11.3	9.2	9.3	13.4	14.2	13.4	10.0	11.8	14	3.4	10.1	6.3	11.8	0.54	-0.1	0.0	0.78
Oxychlordane	51.2	59.0	55.6	19.8	20.0	22.2	55.3	7.1	21	6.4	69.0	9.2	21.2	1.1	-0.8	-1.0	0.47
Cis-Nonachlor	135.0	151.0	143.0	52.2	49.3	52.0	143.0	5.6	51	3.2	155	33	45.8	3.3	-0.3	-0.3	0.37
Trans-Nonachlor	465	541	495	181	172	160	500	7.7	171	6.2	439	86	198	16	0.6	0.5	0.51
Dieldrin	44.3	40.1	45.1	26.3	33.6	36.9	43	6.2	32	16.8	411	153	50.1	4.1	-3.6	-1.7	0.41
Mirex	27.0	29.8	29.9	24.2	21.3	21.3	28.9	5.7	22	7.5	50.0	9.3	31.0	3.3	-1.7	-1.6	0.38
PBDE 47	215	244	224	70.3	62.7	61.8	228	6.5	65	7.2	147	20	39.6	0.18	2.2	2.6	0.43
PBDE 99	11.7	10.3	10.3	5.7	7.5	7.6	10.8	7.5	7	15.3	22.5	5.5	18.9	2.3	-2.1	-1.3	0.50
PBDE 100	33.2	36.2	30.9	24.8	20.6	23.6	33.4	7.9	23	9.4	28.6	2.2	10.3	1.1	0.7	1.4	0.53
PBDE 153	<0.500	<0.500	<0.500	21.8	18.6	23.9			21	12.5	7.16	0.8	8.34	0.55			
PBDE 154	41.8	47.1	40.7	23.6	21.1	22.1	43.2	7.9	22	5.7	21.6	3.0	13.3	1.7	4.0	6.2	0.53
Lipid (mass fraction (%))	68.0	68.9	67.4	71.9	72.5	72.2	68.1	1.1	72	0.4	68.1	1.8	71.9	1.3	0.0	0.0	0.07

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	20	23
2 to 3	2	1	0
≥ 3	1	0	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 10**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	11.2	10.8	9.2	3.14	2.78	2.96	10.4	10	2.96	6.1	13.6	6.8	4.35	0.56	-0.9	-0.4	0.67
28	17.7	15.5	21.9	11.8	11.2	10.9	18.4	18	11.3	4.1	24.5	3.3	13.1	1.1	-1.0	-1.4	1.18
31	8.62	7.74	7.77	8.06	6.74	7.92	8.04	6.2	7.57	9.6	2.7	1.6	3.56	0.36	7.7	3.2	0.41
44	33.2	30.1	28.9	12.0	11.3	12.0	30.7	7.2	11.8	3.4	35.9	5.4	12.1	0.51	-0.6	-0.6	0.48
49	110	93	88	20.1	18.9	20.2	97	12	19.7	3.7	99.7	7.4	18.3	0.04	-0.1	-0.3	0.81
52	335	276	265	36.2	34.2	36.9	292	13	35.8	3.9	309	18	40.7	1.3	-0.2	-0.6	0.86
66/95*	see below	see below	see below	see below	see below	see below					130						
87	89.3	107	123	15.1	17.5	14.3	106	16	15.6	11	234	68	20.6	2.6	-2.2	-1.3	1.06
99	641	663	747	53.6	56.1	63.6	684	8.2	57.8	9.0	699	134	58.5	5.2	-0.1	-0.1	0.55
101 (+90)	1090	1030	1060	69.8	72.3	81.1	1060	2.8	74.4	8.0	1192	284	78.2	12	-0.4	-0.3	0.19
105	469	483	530	48.0	45.8	50.8	494	6.5	48.2	5.2	376	94	28.6	1.2	1.3	0.8	0.43
118	1320	1310	1340	82.4	85.0	98.1	1323	1.2	88.5	9.5	1264	269	76.5	2.9	0.2	0.1	0.08
128	497	512	572	28.3	28.6	31.1	527	7.5	29.3	5.2	474	101	23.0	1.1	0.4	0.3	0.50
132	243	235	276	20.4	20.4	23	251	8.6	21.3	7.1	456	220	21.1	4.8	-1.8	-0.9	0.58
138 (+163+164)	3500	3430	3550	124	126	140	3493	1.7	130	6.7	4414	833	146	13	-0.8	-0.8	0.12
149	2400	2440	2490	83.1	86.5	97.0	2443	1.8	88.9	8.2	2610	475	89.0	6.9	-0.3	-0.2	0.12
151	653	677	762	25.9	26.6	30.4	697	8.2	27.6	8.8	802	145	28.6	1.3	-0.5	-0.4	0.55
153	6500	6460	6660	196	200	224	6540	1.6	207	7.3	6967	1594	228	9.8	-0.2	-0.2	0.11
156	378	388	425	23.7	24.8	28.7	397	6.2	25.7	10.2	230	42	11.4	0.95	2.9	2.9	0.42
170 (+190)	1320	1300	1340	43.9	44.0	49.1	1320	1.5	45.7	6.5	1302	250	42.6	2.2	0.1	0.0	0.10
180	3520	3450	3550	147	150	170	3507	1.5	156	8.0	3754	806	138	9.7	-0.3	-0.2	0.10
183	740	761	848	39.0	40.6	44.5	783	7.3	41.4	6.8	856	175	38.0	1.8	-0.3	-0.3	0.49
187	2480	2460	2540	121	124	139	2493	1.7	128	7.5	2696	502	121	11	-0.3	-0.2	0.11
194	309	315	345	61.3	66.1	71.5	323	6.0	66.3	7.7	321	40	53.5	5.2	0.0	0.0	0.40
195	124	127	137	14.5	14.6	17.3	129	5.3	15.5	10.3	110	21	14.3	2.2	0.7	0.8	0.35
201	375.0	377.0	417.0	83.8	87.3	98.8	389.7	6.1	90.0	8.7	93.8	38	16.8	1.3	12.6	8.8	0.41
206	35.7	35.6	37.3	49.4	51.0	57.5	36.2	2.6	52.6	8.2	34.9	5.6	44.9	4.2	0.1	0.2	0.18
209	8.99	7.88	7.10	9.4	10.2	11.8	8.0	12	10.5	11.6	13.6	1.7	17.2	1.9	-1.6	-2.6	0.79
66	241	247	271	23.7	24.9	28.3	253	6.3	25.6	9.3	157	50	22.4	0.51	2.5	1.4	0.42
95	351	371	423	28.6	29.5	33.6	382	9.7	30.6	8.7	532	94	33.9	0.51	-1.1	-1.3	0.65

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤2	24	25	29
2 to 3	3	2	0
≥3	2	2	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 11**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1115	1110	1120	68	67	69	1115	0.4	68	1.5	1200	89	90.9	13	-0.3	-0.7	0.03
4,4'-DDT	2426	2417	2453	226	226	226	2432	0.8	226	0.0	2078	173	233	8.0	0.7	1.3	0.05
2,4'-DDE	393	380	393	12.9	12.4	12.6	389	1.9	12.6	2.0	410	46	14.2	1.4	-0.2	-0.3	0.13
4,4'-DDE	23750	24530	23670	455	467	458	23983	2.0	460	1.4	22633	1569	497	19	0.2	0.5	0.13
2,4'-DDD	296	295	299	15.6	16.5	15.6	297	0.7	15.9	3.3	383	45	19.5	1.2	-0.9	-1.2	0.05
4,4'-DDD	1620	1626	1643	102	104	102	1630	0.7	103	1.1	1708	138	120	4.9	-0.2	-0.3	0.05
HCB	254	260	253	23.3	23.5	24.0	256	1.5	23.6	1.5	262	39	30.6	1.5	-0.1	-0.1	0.10
α-HCH	5.20	5.50	5.10	12.7	14.3	13.4	5.27	4.0	13.5	6.0	8.56	2.1	16.9	1.4	-1.5	-1.2	0.26
β-HCH	34.3	33.9	33.4	1.60	1.70	1.60	33.9	1.3	1.63	3.5	39.1	3.8			-0.5	-1.1	0.09
γ-HCH	4.00	3.60	3.50	3.80	3.40	2.60	3.70	7.2	3.27	18.7	4.87	16	3.18	0.01	-1.0	-0.1	0.48
Heptachlor Epoxide	no data	no data	no data	no data	no data	no data					41.5	31	10.7	0.09			
Cis-Chlordane	no data	no data	no data	no data	no data	no data					92.0	22	48.1	1.6			
Trans-Chlordane	no data	no data	no data	no data	no data	no data					10.1	6.3	11.8	0.54			
Oxychlordane	40.1	38.9	37.9	14.0	14.0	13.0	39.0	2.8	13.7	4.2	69.0	9.2	21.2	1.1	-1.7	-2.3	0.19
Cis-Nonachlor	no data	no data	no data	no data	no data	no data					155	33	45.8	3.3			
Trans-Nonachlor	300	296	287	123	126	120	294	2.3	123	2.4	439	86	198	16	-1.3	-1.2	0.15
Dieldrin	no data	no data	no data	no data	no data	no data					411	153	50.1	4.1			
Mirex	no data	no data	no data	no data	no data	no data					50.0	9.3	31.0	3.3			
PBDE 47	141	146	142	39.7	40.2	39.1	143	1.9	39.7	1.4	147	20	39.6	0.18	-0.1	-0.1	0.12
PBDE 99	20.0	21.0	19.3	18.1	18.0	17.8	20.1	4.3	18.0	0.9	22.5	5.5	18.9	2.3	-0.4	-0.3	0.28
PBDE 100	24.9	25.6	25.4	9.90	10.10	9.40	25.3	1.4	9.8	3.7	28.6	2.2	10.3	1.1	-0.5	-1.0	0.10
PBDE 153	7.20	7.40	7.20	9.20	9.90	9.50	7.27	1.6	9.5	3.7	7.16	0.8	8.34	0.55	0.1	0.1	0.11
PBDE 154	20.4	21.1	20.7	13.1	12.9	12.3	20.7	1.7	12.8	3.3	21.6	3.0	13.3	1.7	-0.2	-0.3	0.11
Lipid (mass fraction (%))	72.1	69.3	72.8	67.3	69.3	70.1	71.4	2.6	68.9	2.1	68.1	1.8	71.9	1.3	0.2	1.0	0.17

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 11**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	9.0	8.9	8.6	3.30	3.00	3.00	8.83	2.4	3.10	5.6	13.6	6.8	4.35	0.56	-1.4	-0.6	0.16
28	21.6	22.2	20.9	9.7	9.7	9.6	21.6	3.0	9.67	0.6	24.5	3.3	13.1	1.1	-0.5	-0.6	0.20
31	no data	no data	no data	no data	no data	no data					2.7	1.6	3.56	0.36			
44	31.1	31.9	31.5	10.2	11.4	11.6	31.5	1.3	11.1	6.8	35.9	5.4	12.1	0.51	-0.5	-0.5	0.08
49	92.3	92.3	91.7	16.2	17.6	16.6	92.1	0.4	16.8	4.3	99.7	7.4	18.3	0.04	-0.3	-0.6	0.03
52	304	303	299	37.6	37.3	37.0	302	0.9	37.3	0.8	309	18	40.7	1.3	-0.1	-0.3	0.06
66/95*	see below	see below	see below	see below	see below	see below					130		0.00	0.00			
87	233	237	237	20.6	21.1	20.2	236	1.0	20.6	2.2	234	68	20.6	2.6	0.0	0.0	0.07
99	693	703	695	49.1	50.4	49.0	697	0.8	49.5	1.6	699	134	58.5	5.2	0.0	0.0	0.05
101 (+90)	1217	1225	1218	77.1	77.9	77.6	1220	0.4	77.5	0.5	1192	284	78.2	12	0.1	0.1	0.02
105	387	388	391	26.8	27.3	27.2	389	0.5	27.1	1.0	376	94	28.6	1.2	0.1	0.1	0.04
118	1273	1296	1279	76.7	78.9	76.9	1283	0.9	77.5	1.6	1264	269	76.5	2.9	0.1	0.0	0.06
128	506	516	515	21.8	22.1	21.5	512	1.1	21.8	1.4	474	101	23.0	1.1	0.3	0.2	0.07
132	462	484	496	17.3	17.6	17.6	481	3.6	17.5	1.0	456	220	21.1	4.8	0.2	0.1	0.24
138 (+163+164)	4070	4241	4100	123	126	123	4137	2.2	124	1.4	4414	833	146	13	-0.3	-0.2	0.15
149	2569	2660	2600	78.5	80.6	78.5	2610	1.8	79.2	1.5	2610	475	89.0	6.9	0.0	0.0	0.12
151	797	818	803	23.5	24.0	23.8	806	1.3	23.8	1.1	802	145	28.6	1.3	0.0	0.0	0.09
153	7369	7680	7502	200	202	200	7517	2.1	201	0.6	6967	1594	228	9.8	0.3	0.2	0.14
156	233	240	237	11.4	11.2	10.9	237	1.5	11.2	2.3	230	42	11.4	0.95	0.1	0.1	0.10
170 (+190)	1193	1239	1225	34.2	35.2	33.7	1219	1.9	34.4	2.2	1302	250	42.6	2.2	-0.3	-0.2	0.13
180	4033	4195	4120	150	146	149	4116	2.0	148	1.4	3754	806	138	9.7	0.4	0.3	0.13
183	838	871	858	33.7	34.9	34.0	856	1.9	34.2	1.8	856	175	38.0	1.8	0.0	0.0	0.13
187	2783	2908	2837	119	124	121	2843	2.2	121	1.8	2696	502	121	11	0.2	0.2	0.15
194	304	315	313	52.5	54.6	52.8	311	1.9	53.3	2.1	321	40	53.5	5.2	-0.1	-0.2	0.13
195	90.6	94.5	93.0	9.30	8.60	8.40	92.7	2.1	8.77	5.4	110	21	14.3	2.2	-0.6	-0.7	0.14
201	445.0	467.0	456.0	79.1	81.1	79.7	456.0	2.4	80.0	1.3	93.8	38	16.8	1.3	15.5	10.8	0.16
206	34.4	34.1	34.6	50.1	49.4	50.6	34.4	0.7	50.0	1.2	34.9	5.6	44.9	4.2	-0.1	-0.1	0.05
209	12.8	12.8	12.9	17.9	18.0	18.2	12.8	0.4	18.0	0.8	13.6	1.7	17.2	1.9	-0.2	-0.3	0.03
66	no data	no data	no data	no data	no data	no data					157	50	22.4	0.51			
95	531	537	533	34.4	35.2	34.2	534	0.6	34.6	1.5	532	94	33.9	0.51	0.0	0.0	0.04

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	26	26	27
2 to 3	0	0	0
≥ 3	1	1	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 12**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	1040	1100	1180	64.9	74.3	68.9	1107	6.3	69.4	6.8	1200	89	90.9	13	-0.3	-0.7	0.42
4,4'-DDT	1980	2210	2150	198	179	181	2113	5.6	186	5.6	2078	173	233	8.0	0.1	0.1	0.38
2,4'-DDE	499	524	487	17.8	12.2	10.6	503	3.8	13.5	28	410	46	14.2	1.4	0.9	1.2	0.25
4,4'-DDE	22400	21900	23600	383	402	411	22633	3.9	399	3.6	22633	1569	497	19	0.0	0.0	0.26
2,4'-DDD	387	366	401	16.7	19.5	17.5	385	4.6	17.9	8.1	383	45	19.5	1.2	0.0	0.0	0.31
4,4'-DDD	1760	1590	1680	122	114	109	1677	5.1	115	5.7	1708	138	120	4.9	-0.1	-0.1	0.34
HCB	no data	no data	no data	no data	no data	no data					262	39	30.6	1.5			
α-HCH	no data	no data	no data	14.0	15.1	14.7			14.6	3.8	8.56	2.1	16.9	1.4			
β-HCH	no data	no data	no data	no data	no data	no data					39.1	3.8					
γ-HCH	no data	no data	no data	2.70	3.50	3.10			3.10	12.9	4.87	16	3.18	0.01			
Heptachlor Epoxide	no data	no data	no data	5.20	6.70	10.1			7.33	34	41.5	31	10.7	0.09			
Cis-Chlordane	no data	no data	no data	12.2	10.6	11.1			11.3	7.2	92.0	22	48.1	1.6			
Trans-Chlordane	no data	no data	no data	29.3	33.4	40.9			34.5	17.0	10.1	6.3	11.8	0.54			
Oxychlordane	no data	no data	no data	16.8	18.3	17.6			17.6	4.3	69.0	9.2	21.2	1.1			
Cis-Nonachlor	no data	no data	no data	34.7	37.7	41.2			37.9	8.6	155	33	45.8	3.3			
Trans-Nonachlor	no data	no data	no data	189	203	222			205	8.1	439	86	198	16			
Dieldrin	no data	no data	no data	53.6	49.9	47.8			50.4	5.8	411	153	50.1	4.1			
Mirex	no data	no data	no data	36.4	37.4	35.8			36.5	2.2	50.0	9.3	31.0	3.3			
PBDE 47	94.2	101	105	34.1	29.3	36.0	100	5.5	33.1	10	147	20	39.6	0.18	-1.3	-1.5	0.36
PBDE 99	18.8	20.7	22.4	14.6	17.1	15.9	20.6	8.7	15.9	7.9	22.5	5.5	18.9	2.3	-0.3	-0.2	0.58
PBDE 100	23.6	19.4	21.4	12.1	9.10	11.0	21.5	9.8	10.7	14.1	28.6	2.2	10.3	1.1	-1.0	-2.1	0.65
PBDE 153	7.10	5.60	5.90	8.60	7.20	7.90	6.20	12.8	7.90	8.9	7.16	0.8	8.34	0.55	-0.5	-0.7	0.85
PBDE 154	14.9	9.3	9.8	12.6	13.7	11.9	11.3	27	12.7	7.1	21.6	3.0	13.3	1.7	-1.9	-3.0	1.82
Lipid (mass fraction (%))	72.1	69.3	72.8	67.3	69.3	70.1	71.4	2.6	68.9	2.1	68.1	1.8	71.9	1.3	0.2	1.0	0.17

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 12**

SAMPLES: Homogenate VIII AND SRM 1945

PCB CONGENER RESULTS Date(s) of measurements	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945		Homog VIII		
	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	1/2 95% CI	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	9.00	8.90	8.60	3.30	3.00	3.00	8.83	2.4	3.10	5.6	13.6	6.8	4.35	0.56	-1.4	-0.6	0.16
28	21.6	22.2	20.9	9.70	9.70	9.60	21.6	3.0	9.67	0.6	24.5	3.3	13.1	1.1	-0.5	-0.6	0.20
31	no data	no data	no data	no data	no data	no data					2.74	1.6	3.56	0.36			
44	31.1	31.9	31.5	10.2	11.4	11.6	31.5	1.3	11.1	6.8	35.9	5.4	12.1	0.51	-0.5	-0.5	0.08
49	92.3	92.3	91.7	16.2	17.6	16.6	92.1	0.4	16.8	4.3	99.7	7.4	18.3	0.04	-0.3	-0.6	0.03
52	304	303	299	37.6	37.3	37.0	302	0.9	37.3	0.8	309	18	40.7	1.3	-0.1	-0.3	0.06
66/95*	see below	see below	see below	see below	see below	see below					130						
87	233	237	237	20.6	21.1	20.2	236	1.0	20.6	2.2	234	68	20.6	2.6	0.0	0.0	0.07
99	693	703	695	49.1	50.4	49.0	697	0.8	49.5	1.6	699	134	58.5	5.2	0.0	0.0	0.05
101 (+90)	1217	1225	1218	77.1	77.9	77.6	1220	0.4	77.5	0.5	1192	284	78.2	12	0.1	0.1	0.02
105	387	388	391	26.8	27.3	27.2	389	0.5	27.1	1.0	376	94	28.6	1.2	0.1	0.1	0.04
118	1273	1296	1279	76.7	78.9	76.9	1283	0.9	77.5	1.6	1264	269	76.5	2.9	0.1	0.0	0.06
128	506	516	515	21.8	22.1	21.5	512	1.1	21.8	1.4	474	101	23.0	1.1	0.3	0.2	0.07
132	462	484	496	17.3	17.6	17.6	481	3.6	17.5	1.0	456	220	21.1	4.8	0.2	0.1	0.24
138 (+163+164)	4070	4241	4100	123	126	123	4137	2.2	124	1.4	4414	833	146	13	-0.3	-0.2	0.15
149	2569	2660	2600	78.5	80.6	78.5	2610	1.8	79.2	1.5	2610	475	89.0	6.9	0.0	0.0	0.12
151	797	818	803	23.5	24.0	23.8	806	1.3	23.8	1.1	802	145	28.6	1.3	0.0	0.0	0.09
153	7369	7680	7502	200	202	200	7517	2.1	201	0.6	6967	1594	228	9.8	0.3	0.2	0.14
156	233	240	237	11.4	11.2	10.9	237	1.5	11.2	2.3	230	42	11.4	0.95	0.1	0.1	0.10
170 (+190)	1193	1239	1225	34.2	35.2	33.7	1219	1.9	34.4	2.2	1302	250	42.6	2.2	-0.3	-0.2	0.13
180	4033	4195	4120	150	146	149	4116	2.0	148	1.4	3754	806	138	9.7	0.4	0.3	0.13
183	838	871	858	33.7	34.9	34.0	856	1.9	34.2	1.8	856	175	38.0	1.8	0.0	0.0	0.13
187	2783	2908	2837	119	124	121	2843	2.2	121	1.8	2696	502	121	11	0.2	0.2	0.15
194	304	315	313	52.5	54.6	52.8	311	1.9	53.3	2.1	321	40	53.5	5.2	-0.1	-0.2	0.13
195	90.6	94.5	93.0	9.30	8.60	8.40	92.7	2.1	8.77	5.4	110	21	14.3	2.2	-0.6	-0.7	0.14
201	445.0	467.0	456.0	79.1	81.1	79.7	456.0	2.4	80.0	1.3	93.8	38	16.8	1.3	15.5	10.8	0.16
206	34.4	34.1	34.6	50.1	49.4	50.6	34.4	0.7	50.0	1.2	34.9	5.6	44.9	4.2	-0.1	-0.1	0.05
209	12.8	12.8	12.9	17.9	18.0	18.2	12.8	0.4	18.0	0.8	13.6	1.7	17.2	1.9	-0.2	-0.3	0.03
66	no data	no data	no data	no data	no data	no data					157	50	22.4	0.51			
95	531	537	533	34.4	35.2	34.2	534	0.6	34.6	1.5	532	94	33.9	0.51	0.0	0.0	0.04

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	26	26	27
2 to 3	0	0	0
≥ 3	1	1	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 13**

SAMPLES: Homogenate VIII AND SRM 1945

PESTICIDE, PBDE, AND LIPID RESULTS	Data as Submitted by Laboratory (ng/g wet mass)										Material Reference Values (ng/g wet mass)				Performance Scoresa		
	Homog VIII			SRM 1945			Homog VIII		SRM 1945		Homog VIII		SRM 1945			Homog VIII	
Date(s) of measurements	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 Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	no data	no data	no data	no data	no data	no data					1200	89	90.9	13			
4,4'-DDT	121	49	46	<10	<10	<10	72	59.0			2078	173	233	8.0	-3.9	-7.2	3.93
2,4'-DDE	no data	no data	no data	no data	no data	no data					410	46	14.2	1.4			
4,4'-DDE	850	947	725	24	20	21	841	13.2	22	9.6	22633	1569	497	19	-3.9	-8.2	0.88
2,4'-DDD	no data	no data	no data	no data	no data	no data					383	45	19.5	1.2			
4,4'-DDD	<10	<10	<10	<10	<10	<10					1708	138	120	4.9			
HCB	no data	no data	no data	no data	no data	no data					262	39	30.6	1.5			
α-HCH	<10	<10	<10	<10	<10	<10					8.56	2.1	16.9	1.4			
β-HCH	<10	<10	<10	<10	<10	<10					39.1	3.8					
γ-HCH	<10	<10	<10	<10	<10	<10					4.87	16	3.18	0.01			
Heptachlor Epoxide	<10	<10	<10	<10	<10	<10					41.5	31	10.7	0.09			
Cis-Chlordane	<10	<10	<10	<10	<10	<10					92.0	22	48.1	1.6			
Trans-Chlordane	<10	<10	<10	<10	<10	<10					10.1	6.3	11.8	0.54			
Oxychlordane	no data	no data	no data	no data	no data	no data					69.0	9.2	21.2	1.1			
Cis-Nonachlor	no data	no data	no data	no data	no data	no data					155	33	45.8	3.3			
Trans-Nonachlor	no data	no data	no data	no data	no data	no data					439	86	198	16			
Dieldrin	<10	<10	<10	<10	<10	<10					411	153	50.1	4.1			
Mirex	no data	no data	no data	no data	no data	no data					50.0	9.3	31.0	3.3			
PBDE 47	no data	no data	no data	no data	no data	no data					147	20	39.6	0.18			
PBDE 99	no data	no data	no data	no data	no data	no data					22.5	5.5	18.9	2.3			
PBDE 100	no data	no data	no data	no data	no data	no data					28.6	2.2	10.3	1.1			
PBDE 153	no data	no data	no data	no data	no data	no data					7.16	0.8	8.34	0.55			
PBDE 154	no data	no data	no data	no data	no data	no data					21.6	3.0	13.3	1.7			
Lipid (mass fraction (%))	NA	NA	NA	NA	NA	NA					68.1	1.8	71.9	1.3			

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 13**

SAMPLES: Homogenate VIII AND SRM 1945

	Data as Submitted by Laboratory (ng/g wet mass)								Material Reference Values (ng/g wet mass)				Performance Scoresa		
PCB CONGENER	Homog VIIII			SRM 1945			Homog VIII		SRM 1945		Homog VIIII		SRM 1945		Homog VIII		
RESULTS	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean	lab	lab mean	lab	Assigned	1/2 95% CI	Target	Uncert	z-score	z-score	p-score
Date(s) of measurements							ng/g wet	%RSD	ng/g wet	%RSD	Value		Value		(25%)	(s)	(15%)
18	no data	no data	no data	no data	no data	no data					13.6	6.8	4.35	0.56			
28	no data	no data	no data	no data	no data	no data					24.5	3.3	13.1	1.1			
31	no data	no data	no data	no data	no data	no data					2.7	1.6	3.56	0.36			
44	no data	no data	no data	no data	no data	no data					35.9	5.4	12.1	0.51			
49	no data	no data	no data	no data	no data	no data					99.7	7.4	18.3	0.04			
52	no data	no data	no data	no data	no data	no data					309	18	40.7	1.3			
66/95*	no data	no data	no data	no data	no data	no data					130						
87	no data	no data	no data	no data	no data	no data					234	68	20.6	2.6			
99	no data	no data	no data	no data	no data	no data					699	134	58.5	5.2			
101 (+90)	no data	no data	no data	no data	no data	no data					1192	284	78.2	12			
105	no data	no data	no data	no data	no data	no data					376	94	28.6	1.2			
118	no data	no data	no data	no data	no data	no data					1264	269	76.5	2.9			
128	no data	no data	no data	no data	no data	no data					474	101	23.0	1.1			
132	no data	no data	no data	no data	no data	no data					456	220	21.1	4.8			
138 (+163+164)	no data	no data	no data	no data	no data	no data					4414	833	146	13			
149	no data	no data	no data	no data	no data	no data					2610	475	89.0	6.9			
151	no data	no data	no data	no data	no data	no data					802	145	28.6	1.3			
153	no data	no data	no data	no data	no data	no data					6967	1594	228	9.8			
156	no data	no data	no data	no data	no data	no data					230	42	11.4	0.95			
170 (+190)	no data	no data	no data	no data	no data	no data					1302	250	42.6	2.2			
180	no data	no data	no data	no data	no data	no data					3754	806	138	9.7			
183	no data	no data	no data	no data	no data	no data					856	175	38.0	1.8			
187	no data	no data	no data	no data	no data	no data					2696	502	121	11			
194	no data	no data	no data	no data	no data	no data					321	40	53.5	5.2			
195	no data	no data	no data	no data	no data	no data					110	21	14.3	2.2			
201	no data	no data	no data	no data	no data	no data					93.8	38	16.8	1.3			
206	no data	no data	no data	no data	no data	no data					34.9	5.6	44.9	4.2			
209	no data	no data	no data	no data	no data	no data					13.6	1.7	17.2	1.9			
66	no data	no data	no data	no data	no data	no data					157	50	22.4	0.51			
95	no data	no data	no data	no data	no data	no data					532	94	33.9	0.51			

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

Fatty Acid			Homog VIII Analysis A (mass percent)	Homog VIII Analysis B (mass percent)	Homog VIII Analysis C (mass percent)	SRM 1945 Analysis A (mass percent)	SRM 1945 Analysis B (mass percent)	SRM 1945 Analysis C (mass percent)	Homog VIII Mean	1sd	SRM 1945 Mean	1 SD
Lauric acid	**Dodecanoic acid**	**C12:0**	0.133	0.129	0.127	0.181	0.183	0.180	0.130	0.003	0.181	0.002
Myristic acid	**Tetradecanoic acid**	**C14:0**	2.72	2.64	2.60	3.49	3.55	3.43	2.65	0.061	3.49	0.060
Pentadecanoic acid	**Pentadecanoic acid**	**C15:0**	0.338	0.328	0.325	0.331	0.339	0.322	0.33	0.007	0.331	0.009
Palmitic acid	**Hexadecanoic acid**	**C16:0**	8.40	8.18	8.24	7.73	7.88	7.47	8.27	0.114	7.69	0.207
Margaric acid	**Heptadecanoic acid**	**C17:0**	0.277	0.269	0.271	0.216	0.221	0.205	0.27	0.004	0.214	0.008
Stearic acid	**Octadecanoic acid**	**C18:0**	1.63	1.57	1.60	1.27	1.32	1.20	1.60	0.030	1.263	0.060
Arachidic acid	**Eicosanoic acid**	**C20:0**	0.103	0.0993	0.104	0.0940	0.0981	0.0871	0.102	0.002	0.093	0.006
Palmitoleic acid	**(Z)-9-Hexadecanoic acid**	**C16:1(n-7)**	7.38	7.20	7.12	6.36	6.49	6.23	7.23	0.133	6.36	0.130
Vaccenic acid	**(Z)-11-Octadecenoic acid**	**C18:1(n-7)**	1.74	1.70	1.69	1.91	1.94	1.83	1.71	0.026	1.89	0.057
Oleic acid	**(Z)-9-Octadecanoic acid**	**C18:1(n-9)**	17.3	16.8	17.0	14.4	14.8	13.8	17.0	0.252	14.3	0.503
Elaidic acid	**(E)-9-Octadecenoic acid**	**C18:1(n-9)**	not measured	not measured	not measured	not measured	not measured	not measured				
	(Z)-13-eicosenoic acid	**C20:1(n-7)**	0.185	0.178	0.182	0.226	0.233	0.210	0.182	0.004	0.223	0.012
Gondoic	**(Z)-11-eicosenoic acid**	**C20:1(n-9)**	3.28	3.17	3.26	4.80	4.94	4.49	3.24	0.059	4.74	0.230
Gadoleic acid	**(Z)-9-Eicosenoic acid**	**C:20:1(n-11)**	1.04	1.03	1.04	2.94	3.02	2.75	1.04	0.006	2.903	0.139
Erucic acid	**(Z)-13-Docosenoic acid**	**C22:1(n-9)**	0.429	0.426	0.435	0.605	0.607	0.541	0.430	0.005	0.584	0.038
Cetoleic	**(Z)-11-docosenoic acid**	**C22:1(n-11)**	2.18	2.09	2.18	4.41	4.63	4.03	2.15	0.052	4.36	0.304
Nervonic acid	**(Z)-15-Tetracosenoic acid**	**C24:1(n-9)**	0.181	0.172	0.185	0.216	0.228	0.195	0.179	0.007	0.213	0.017
Linoleic acid	**(Z,Z)-9,12-Octadecadienoic acid**	**C18:2(n-6)**	0.693	0.670	0.673	0.834	0.839	0.798	0.679	0.013	0.824	0.022
a-Linolenic acid	**(Z,Z,Z)-9,12,15-Octadecatrienoic acid**	**C18:3(n-3)**	0.281	0.274	0.275	0.355	0.360	0.341	0.277	0.004	0.352	0.010
g-linolenic acid	**(Z,Z,Z)-6,9,12-Octadecatetraenoic acid**	**C18:3(n-6)**	0.0184	0.0193	0.0190	0.0168	0.0156	0.0157	0.019	0.000	0.016	0.001
Stearidonic acid	**(Z,Z,Z,Z,)-6,9,12,15-Octadecatetraenoic acid**	**C18:4(n-3)**	0.146	0.144	0.143	0.147	0.154	0.145	0.144	0.002	0.149	0.005
Homo-gamma-linoleic acid	**(Z,Z)-11,14-Eicosadienoic acid**	**C20:2(n-6)**	0.218	0.210	0.215	0.232	0.233	0.212	0.214	0.004	0.226	0.012
Homo-alpha-linolenic acid	**(Z,Z,Z)-11,14,17-Eicosatrienoic acid**	**C20:3(n-3)**	0.154	0.149	0.148	0.152	0.150	0.141	0.150	0.003	0.148	0.006
Arachidonic acid	**(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid**	**C20:4(n-6)**	0.351	0.342	0.349	0.236	0.235	0.223	0.347	0.005	0.231	0.007
EPA	**(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid**	**C20:5(n-3)**	1.72	1.67	1.70	1.19	1.17	1.11	1.70	0.025	1.16	0.042
	(Z,Z)-13,16-Docosadienoic acid	**C22:2(n-6)**	0.0206	0.0204	0.0220	0.0196	0.0207	0.0171	0.021	0.001	0.019	0.002
DPA	**(Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic acid**	**C22:5(n-3)**	0.601	0.583	0.600	0.888	0.884	0.820	0.59	0.010	0.864	0.038
DHA	**(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acid**	**C22:6(n-3)**	4.48	4.34	4.50	3.98	3.94	3.69	4.44	0.087	3.87	0.157

Marine Mammal Interlaboratory Comparison Exericise 2007-- Fatty Acids **Lab 2fa**

Fatty Acid			Homog VIII Analysis A (mg/g wet wt)	Homog VIII Analysis B (mg/g wet wt)	Homog VIII Analysis C (mg/g wet wt)	SRM 1945 Analysis A (mg/g wet wt)	SRM 1945 Analysis B (mg/g wet wt)	SRM 1945 Analysis C (mg/g wet wt)	Homog VIII Mean	1sd	SRM 1945 Mean	1 SD
Lauric acid	Dodecanoic acid	C12:0	0.106	0.109	0.107	0.155	0.160	0.149	0.107	0.00	0.155	0.01
Myristic acid	Tetradecanoic acid	C14:0	2.32	2.34	2.26	3.09	3.25	3.03	2.31	0.04	3.12	0.11
Pentadecanoic acid	Pentadecanoic acid	C15:0	0.288	0.292	0.281	0.297	0.311	0.294	0.287	0.01	0.301	0.01
Palmitic acid	Hexadecanoic acid	C16:0	7.53	7.55	7.29	7.37	7.71	7.21	7.46	0.14	7.43	0.26
Margaric acid	Heptadecanoic acid	C17:0	0.271	0.267	0.263	0.240	0.252	0.230	0.267	0.004	0.241	0.01
Stearic acid	Octadecanoic acid	C18:0	1.54	1.53	1.47	1.25	1.30	1.21	1.51	0.04	1.25	0.05
Arachidic acid	Eicosanoic acid	C20:0	0.09	0.09	0.09	0.09	0.10	0.09	0.09	0.002	0.09	0.01
Palmitoleic acid	(Z)-9-Hexadecanoic acid	C16:1(n-7)	6.30	6.34	6.18	5.67	5.94	5.58	6.27	0.08	5.73	0.19
Vaccenic acid	(Z)-11-Octadecenoic acid	C18:1(n-7)	1.58	1.58	1.52	1.79	1.88	1.75	1.56	0.03	1.81	0.07
Oleic acid	(Z)-9-Octadecanoic acid	C18:1(n-9)	15.8	15.9	15.5	14.0	14.7	13.8	15.7	0.21	14.2	0.47
Elaidic acid	(E)-9-Octadecenoic acid	C18:1(n-9)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
	(Z)-13-eicosenoic acid	C20:1(n-7)	0.198	0.193	0.191	0.239	0.248	0.230	0.194	0.00	0.239	0.01
Gondoic	(Z)-11-eicosenoic acid	C20:1(n-9)	3.15	3.09	2.96	4.70	4.94	4.56	3.07	0.10	4.73	0.19
Gadoleic acid	(Z)-9-Eicosenoic acid	C:20:1(n-11)	1.09	1.07	1.03	2.99	3.14	2.91	1.06	0.03	3.01	0.12
Erucic acid	(Z)-13-Docosenoic acid	C22:1(n-9)	0.38	0.37	0.36	0.56	0.55	0.50	0.37	0.01	0.535	0.03
Cetoleic	(Z)-11-docosenoic acid	C22:1(n-11)	2.12	2.12	2.03	4.56	4.81	4.40	2.09	0.05	4.59	0.21
Nervonic acid	(Z)-15-Tetracosenoic acid	C24:1(n-9)	0.151	0.139	0.128	0.183	0.194	0.179	0.139	0.01	0.185	0.01
Linoleic acid	(Z,Z)-9,12-Octadecadienoic acid	C18:2(n-6)	0.592	0.589	0.570	0.746	0.785	0.732	0.584	0.01	0.754	0.03
a-Linolenic acid	(Z,Z,Z)-9,12,15-Octadecatrienoic acid	C18:3(n-3)	0.237	0.240	0.230	0.313	0.330	0.308	0.236	0.01	0.317	0.01
g-linolenic acid	(Z,Z,Z)-6,9,12-Octadecatetraenoic acid	C18:3(n-6)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Stearidonic acid	(Z,Z,Z,Z,)-6,9,12,15-Octadecatetraenoic acid	C18:4(n-3)	0.227	0.228	0.220	0.226	0.241	0.223	0.225	0.004	0.230	0.01
Homo-gamma-linoleic aci	(Z,Z)-11,14-Eicosadienoic acid	C20:2(n-6)	0.175	0.173	0.162	0.195	0.187	0.168	0.170	0.01	0.183	0.01
Homo-alpha-linolenic aci	(Z,Z,Z)-11,14,17-Eicosatrienoic acid	C20:3(n-3)	0.126	0.122	0.115	0.123	0.134	0.120	0.121	0.01	0.126	0.01
Arachidonic acid	(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid	C20:4(n-6)	0.319	0.316	0.306	0.218	0.230	0.216	0.314	0.01	0.221	0.01
EPA	(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid	C20:5(n-3)	1.63	1.61	1.55	1.10	1.17	1.08	1.60	0.04	1.12	0.05
	(Z,Z)-13,16-Docosadienoic acid	C22:2(n-6)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
DPA	(Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic acid	C22:5(n-3)	0.569	0.552	0.535	0.853	0.901	0.926	0.552	0.02	0.893	0.04
DHA	(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Aci	C22:6(n-3)	4.03	3.92	3.79	3.44	3.69	3.36	3.91	0.12	3.50	0.17

Marine Mammal Interlaboratory Comparison Exericise 2007-- Fatty Acids **Lab 3 fa**

Fatty Acid			Homog VIII Analysis A (mg/g wet wt)	Homog VIII Analysis B (mg/g wet wt)	Homog VIII Analysis C (mg/g wet wt)	SRM 1945 Analysis A (mg/g wet wt)	SRM 1945 Analysis B (mg/g wet wt)	SRM 1945 Analysis C (mg/g wet wt)	Homog VIII Mean	1sd	SRM 1945 Mean	1 SD
Lauric acid	Dodecanoic acid	C12:0	0.252	0.259	0.253	0.223	0.230	0.225	0.255	0.004	0.23	0.003
Myristic acid	Tetradecanoic acid	C14:0	2.46	2.55	2.49	3.28	3.38	3.30	2.50	0.05	3.32	0.05
Pentadecanoic acid	Pentadecanoic acid	C15:0	0.312	0.323	0.318	0.311	0.321	0.316	0.318	0.01	0.32	0.005
Palmitic acid	Hexadecanoic acid	C16:0	7.83	8.11	7.97	7.41	7.56	7.44	7.97	0.14	7.47	0.08
Margaric acid	Heptadecanoic acid	C17:0	0.593	0.617	0.603	0.534	0.545	0.538	0.605	0.01	0.54	0.01
Stearic acid	Octadecanoic acid	C18:0	1.58	1.63	1.60	1.31	1.32	1.31	1.60	0.02	1.32	0.01
Arachidic acid	Eicosanoic acid	C20:0	0.116	0.118	0.116	0.111	0.111	0.110	0.117	0.00	0.11	0.001
Palmitoleic acid	(Z)-9-Hexadecanoic acid	C16:1(n-7)	7.23	7.57	7.42	6.46	6.59	6.51	7.41	0.17	6.52	0.07
Vaccenic acid	(Z)-11-Octadecenoic acid	C18:1(n-7)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Oleic acid	(Z)-9-Octadecanoic acid	C18:1(n-9)	17.4	18.1	17.9	14.6	14.8	14.8	17.8	0.35	14.8	0.11
Elaidic acid	(E)-9-Octadecenoic acid	C18:1(n-9)	0.132	0.110	0.110	0.080	0.078	0.078	0.117	0.01	0.08	0.0012
	(Z)-13-eicosenoic acid	C20:1(n-7)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Gondoic	(Z)-11-eicosenoic acid	C20:1(n-9)	3.33	3.44	3.40	5.14	5.16	5.15	3.39	0.05	5.15	0.01
Gadoleic acid	(Z)-9-Eicosenoic acid	C:20:1(n-11)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Erucic acid	(Z)-13-Docosenoic acid	C22:1(n-9)	0.46	0.48	0.47	0.68	0.67	0.67	0.47	0.01	0.68	0.0028
Cetoleic	(Z)-11-docosenoic acid	C22:1(n-11)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Nervonic acid	(Z)-15-Tetracosenoic acid	C24:1(n-9)	0.221	0.236	0.230	0.263	0.266	0.267	0.229	0.01	0.27	0.00
Linoleic acid	(Z,Z)-9,12-Octadecadienoic acid	C18:2(n-6)	0.769	0.795	0.787	0.922	0.936	0.931	0.784	0.01	0.93	0.01
a-Linolenic acid	(Z,Z,Z)-9,12,15-Octadecatrienoic acid	C18:3(n-3)	0.273	0.298	0.294	0.390	0.395	0.394	0.288	0.01	0.39	0.003
g-linolenic acid	(Z,Z,Z)-6,9,12-Octadecatetraenoic acid	C18:3(n-6)	0.019	0.019	0.020	0.019	0.019	0.019	0.020	0.001	0.02	0.0003
Stearidonic acid	(Z,Z,Z,Z,)-6,9,12,15-Octadecatetraenoic acid	C18:4(n-3)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
Homo-gamma-linoleic acid	(Z,Z)-11,14-Eicosadienoic acid	C20:2(n-6)	0.200	0.205	0.204	0.212	0.214	0.213	0.203	0.003	0.21	0.001
Homo-alpha-linolenic acid	(Z,Z,Z)-11,14,17-Eicosatrienoic acid	C20:3(n-3)	0.159	0.164	0.164	0.183	0.183	0.183	0.162	0.003	0.18	0.0002
Arachidonic acid	(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid	C20:4(n-6)	0.504	0.525	0.520	0.353	0.357	0.358	0.516	0.01	0.36	0.003
EPA	(Z,Z,Z,Z,Z)-5,8,11,14,17-Eicosapentaenoic acid	C20:5(n-3)	1.96	2.08	2.03	1.38	1.38	1.38	2.02	0.06	1.38	0.0004
	(Z,Z)-13,16-Docosadienoic acid	C22:2(n-6)	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured	not measured
DPA	(Z,Z,Z,Z,Z)-7,10,13,16,19-Docosapentaenoic acid	C22:5(n-3)	0.756	0.802	0.783	1.16	1.16	1.17	0.78	0.02	1.16	0.01
DHA	(Z,Z,Z,Z,Z,Z)-4,7,10,13,16,19-Docosahexaenoic Acic	C22:6(n-3)	6.02	6.45	6.34	5.47	5.45	5.48	6.27	0.22	5.47	0.01

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1s**
SAMPLES: MMCM-1 and SRM 1958

PESTICIDE, PBDE, AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	128	159	147	349	373	349	144	10.8	357	3.8	144	--	321	58	0.0	0.0	0.72
4,4'-DDT	1203	1177	1187	239	237	239	1189	1.1	238	0.6	1306	11253	296	24	-0.4	-0.4	0.07
2,4'-DDE	486	489	496	539	544	538	490	1.0	540	0.6	450	--	464	21	0.4	0.5	0.07
4,4'-DDE	175192	176438	180308	1052	1066	1051	177313	1.5	1056	0.8	201667	18994	1280	110	-0.5	-9.2	0.10
2,4'-DDD	71.4	76.1	84.2	411	438	414	77	8.3	421	3.6	77	--	344	32	0.0	0.0	0.56
4,4'-DDD	3473	3440	3591	410	414	409	3501	2.3	411	0.5	3226	7283	417	11	0.3	1.2	0.15
HCB	<25	<25	<25	470	447	469			462	2.8			450	45			
α–HCH	<25	<25	<25	<25	<25	<25					47	--	266	48			
β–HCH	<25	<25	<25	<25	<25	<25					1940	--	284	49			
γ–HCH	<25	<25	<25	<25	<25	<25					53	--	322	49			
Heptachlor Epoxide	NA	NA	NA	NA	NA	NA					510	--	--	--			
Cis-Chlordane	652	638	677	444	426	448	656	3.0	439	2.7	656	--	420	28	0.0	0.0	0.20
Trans-Chlordane	120	122	125	424	420	422	123	1.8	422	0.5	2773	--	422	21	-3.8	-290.9	0.12
Oxychlordane	445	473	443	238	249	260	454	3.7	249	4.4	454	40	230	46	0.0	0.0	0.24
Cis-Nonachlor	1734	1770	1670	407	412	448	1725	3.0	422	5.3	1725	208	431	35	0.0	0.0	0.20
Trans-Nonachlor	6719	6659	6860	473	473	473	6746	1.5	473	0.0	5809	729	479	14	0.6	7.6	0.10
Dieldrin	NA	NA	NA	NA	NA	NA					998	--	--	--			
Mirex	255	243	236	379	364	378	245	4.0	374	2.2	245	--	389	54	0.0	0.0	0.27
PBDE 47	9221	9210	9337	579	584	578	9256	0.8	580	0.6	9608	1293	661	31	-0.1	-11.4	0.05
PBDE 99	1901	1856	1847	482	439	433	1868	1.6	451	5.9	2095	414	499	11	-0.4	-25.8	0.10
PBDE 100	3478	3499	3520	510	447	454	3499	0.6	470	7.4	3605	290	482	24	-0.1	-31.1	0.04
PBDE 153	754	697	766	455	421	419	739	5.0	432	4.7	739	384	460	54	0.0	0.0	0.33
PBDE 154	654	648	655	340	296	299	652	0.6	312	8.0	1298	--	450	33	-2.0	-186.1	0.04

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	16	10	17
2 to 3	0	0	0
≥ 3	1	3	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 1s**
SAMPLES: MMCM-1 and SRM 1958

PCB CONGENER ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	29.6	30.0	31.9	400	382	399	30	4.0	394	2.6	30	--	387	79	0.0	0.0	0.27
28	<25	<25	<25	549	455	548			518	10.5			415	17			
31	w/28	w/28	w/28	w/28	w/28	w/28							--	--			
44	114	98	98	382	386	381	104	8.9	383	0.7	104	--	417	17	0.0	0.0	0.59
49	343	304	304	416	417	415	317	7.2	416	0.2	264	--	426	17	0.8	4.4	0.48
52	613	593	590	404	411	403	599	2.1	406	1.1	629	57	407	22	-0.2	-1.1	0.14
66/95*	see below	see below	see below	see below	see below	see below											
87	659	663	649	335	337	335	657	1.1	336	0.4	657	48	406	41	0.0	0.0	0.07
99	2515	2504	2471	359	360	358	2497	0.9	359	0.3	2408	323	391	28	0.1	0.4	0.06
101 (+90)	2056	2060	2020	339	336	339	2045	1.1	338	0.5	2066	391	415	23	0.0	-0.1	0.07
105	1198	1174	1161	381	366	381	1178	1.6	376	2.3	1193	112	425	26	-0.1	-0.1	0.11
118	4392	4178	3608	473	457	472	4059	10.0	468	2.0	3873	242	418	32	0.2	0.4	0.67
128	1227	1182	1200	350	337	349	1203	1.9	345	2.0	1207	162	427	6	0.0	0.0	0.13
132	w/153	w/153	w/153	w/153	w/153	w/153					533	--	--	--			
138 (+163+164)	7162	7362	7259	480	485	479	7261	1.4	481	0.7	7743	1492	474	56	-0.2	-0.4	0.09
149	1452	1495	1355	367	356	366	1434	5.0	363	1.7	1447	615	379	11	0.0	0.0	0.33
151	299	360	332	359	349	359	331	9.3	356	1.6	424	--	388	14	-0.9	-0.4	0.62
153	13033	13168	13208	471	481	470	13136	0.7	474	1.3	13136	7785	468	18	0.0	0.0	0.05
156	70.2	67.6	67.3	340	333	339	68	2.3	337	1.2	68	--	424	27	0.0	0.0	0.15
170 (+190)	1649	1556	1520	364	351	363	1575	4.2	359	2.1	1603	153	429	22	-0.1	-0.1	0.28
180	5760	5657	5846	399	399	398	5754	1.6	399	0.1	6003	300	470	27	-0.2	-0.2	0.11
183	1340	1298	1346	312	307	312	1328	2.0	310	1.0	1322	627	412	30	0.0	0.0	0.13
187	2185	2109	2181	367	362	366	2158	2.0	365	0.8	2047	858	417	32	0.2	0.1	0.13
194	1058	1058	1063	337	336	336	1060	0.3	337	0.1	1046	80	393	15	0.1	0.2	0.02
195	226	224	218	307	300	307	222	1.9	304	1.4	247	55	392	23	-0.4	-1.0	0.13
201	201	202	206	<25	<25	<25	203	1.3					397	6		6.1	0.09
206	450	454	457	327	322	326	453	0.8	325	0.9	433	39	373	16	0.2	2.8	0.05
209	211	216	222	296	293	295	216	2.6	295	0.6	216	--	344	23	0.0	0.0	0.17
66	356	343	331	357	351	356	343	3.6	355	0.9	331	--	424	22	0.1	0.2	0.24
95	456	452	446	<25	<25	<25	451	1.1			441	48	--	--	0.1	0.1	0.07

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	25	23	26
2 to 3	0	1	0
≥ 3	0	2	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 2s**
SAMPLES: MMCM-1 and SRM 1958

PESTICIDE, PBDE, AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	n/a	n/a	n/a	n/a	n/a	n/a					144	--	321	58			
4,4'-DDT	22614	23600	26179	ND	ND	ND	24131	7.6			1306	11253	296	24	69.9	81.5	0.51
2,4'-DDE	n/a	n/a	n/a	n/a	n/a	n/a					450	--	464	21			
4,4'-DDE	ND	ND	ND	ND	ND	ND					201667	18994	1280	110			
2,4'-DDD	n/a	n/a	n/a	n/a	n/a	n/a					77	--	344	32			
4,4'-DDD	17165	17700	18602	ND	ND	ND	17822	4.1			3226	7283	417	11	18.1	65.5	0.27
HCB	ND	ND	ND	282	288	218			263	14.8			450	45			
α–HCH	ND	ND	ND	ND	ND	ND					47	--	266	48			
β–HCH	ND	ND	ND	ND	ND	ND					1940	--	284	49			
γ–HCH	ND	ND	ND	ND	ND	ND					53	--	322	49			
Heptachlor Epoxide	402.8	540.4	585.7	ND	ND	ND	510	18.7			510	--	--	--	0.0	0.0	1.25
Cis-Chlordane	474	530	551	247	274	319	519	7.7	280	13.0	656	--	420	28	-0.8	-5.1	0.51
Trans-Chlordane	40.3	51.5	44.6	270	263	347	45	12.4	293	15.9	2773	--	422	21	-3.9	-299.4	0.83
Oxychlordane	431	575	528	ND	ND	ND	511	14.4			454	40	230	46	0.5	4.3	0.96
Cis-Nonachlor	1527	1923	1962	271	319	476	1804	13.4	355	30.2	1725	208	431	35	0.2	1.7	0.89
Trans-Nonachlor	5452	6555	6579	279	323	471	6195	10.4	358	28.1	5809	729	479	14	0.3	3.1	0.69
Dieldrin	ND	ND	ND	ND	ND	ND					998	--	--	--			
Mirex	ND	ND	ND	319	374	711			468	45.3	245	--	389	54			
PBDE 47	9616	10597	9954	948	934	688	10056	5.0	857	17.1	9608	1293	661	31	0.2	14.5	0.33
PBDE 99	2805	2991	2717	716	672	583	2837	4.9	657	10.3	2095	414	499	11	1.4	84.4	0.33
PBDE 100	4081	4357	4022	612	536	473	4153	4.3	540	12.9	3605	290	482	24	0.6	160.5	0.29
PBDE 153	1299	1330	1185	661	636	543	1272	6.0	613	10.1	739	384	460	54	2.9	403.3	0.40
PBDE 154	1312	1366	1215	971	938	905	1298	5.9	938	3.5	1298	--	450	33	0.0	0.0	0.39

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	9	3	13
2 to 3	0	0	0
≥ 3	3	6	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 2s**
SAMPLES: MMCM-1 and SRM 1958

PCB CONGENER ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	ND	ND	ND	ND	ND	ND					30	--	387	79			
28	481	394	339	547	492	722	405	17.7	587	20.5			415	17		90.3	1.18
31	ND	ND	ND	ND	ND	ND							--	--			
44	ND	ND	ND	571	540	615			575	6.6	104	--	417	17			
49	284	199	148	447	456	382	210	32.7	428	9.5	264	--	426	17	-0.8	-4.4	2.18
52	833	612	626	333	415	382	690	17.9	377	11.0	629	57	407	22	0.4	2.1	1.20
66/95*	see below	see below	see below	see below	see below	see below											
87	ND	ND	ND	ND	ND	ND					657	48	406	41			
99	2444	1459	1753	380	345	416	1885	26.8	380	9.3	2408	323	391	28	-0.9	-2.4	1.79
101 (+90)	1997	1436	1148	217	321	578	1527	28.3	372	50.0	2066	391	415	23	-1.0	-1.3	1.88
105	ND	ND	ND	ND	ND	ND					1193	112	425	26			
118	ND	ND	ND	ND	ND	ND					3873	242	418	32			
128	ND	ND	ND	330	342	500			391	24.3	1207	162	427	6			
132	NA	NA	NA	NA	NA	NA					533	--	--	--			
138 (+163+164)	ND	ND	ND	392	459	783			545	38.4	7743	1492	474	56			
149	323	262	227	241	263	458	271	17.9	321	37.2	1447	615	379	11	-3.3	-1.6	1.20
151	ND	ND	ND	ND	ND	ND					424	--	388	14			
153	1647	1231	1306	419	475	1050	1395	15.9	648	53.9	13136	7785	468	18	-3.6	-4.8	1.06
156	ND	ND	ND	277	259	329			288	12.6	68	--	424	27			
170 (+190)	2091	1586	1501	297	297	206	1726	18.5	267	19.7	1603	153	429	22	0.3	0.3	1.23
180	7395	5441	5238	339	359	267	6025	19.8	322	15.0	6003	300	470	27	0.0	0.0	1.32
183	138	96	104	261	292	324	113	19.8	292	10.8	1322	627	412	30	-3.7	-4.5	1.32
187	595	433	412	277	290	437	480	20.9	335	26.6	2047	858	417	32	-3.1	-1.9	1.39
194	1246	891	1089	264	315	382	1075	16.5	320	18.5	1046	80	393	15	0.1	0.4	1.10
195	279	431	238	284	295	442	316	32.2	340	25.9	247	55	392	23	1.1	2.9	2.15
201	ND	ND	ND	ND	ND	ND							397	6			
206	438	364	359	252	252	328	387	11.4	277	15.8	433	39	373	16	-0.4	-6.6	0.76
209	NA	NA	NA	NA	NA	NA					216	--	344	23			
66	334	323	299	259	361	568	319	5.6	396	39.8	331	--	424	22	-0.1	-0.2	0.37
95	478	415	399	ND	ND	ND	431	9.7			441	48	--	--	-0.1	-0.1	0.65

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	11	8	14
2 to 3	0	3	2
≥ 3	4	5	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 3s**
SAMPLES: MMCM-1 and SRM 1958

PESTICIDE, PBDE, AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	<524	<541	<527	<362	<402	<462					144	--	321	58			
4,4'-DDT	870	932	880	<364	<404	<464	894	3.7			1306	11253	296	24	-1.3	-1.5	0.25
2,4'-DDE	<529	<546	<532	436	416	<466			426	3.3	450	--	464	21			
4,4'-DDE	202000	204000	199000	1120	1090	1140	201667	1.2	1117	2.3	201667	18994	1280	110	0.0	0.0	0.08
2,4'-DDD	<528	<545	<531	424	455	476			452	5.8	77	--	344	32			
4,4'-DDD	2520	2540	2420	<369	<409	<470	2493	2.6			3226	7283	417	11	-0.9	-3.3	0.17
HCB	<527	<544	<529	<364	<405	<464							450	45			
α–HCH	<554	<572	<557	<383	<425	<488					47	--	266	48			
β–HCH	1660.00	1620.00	1590.00	<380	<422	<484	1623	2.2			1940	--	284	49	-0.7	-66.5	0.14
γ–HCH	<528	<545	<530	<365	<405	<465					53	--	322	49			
Heptachlor Epoxide	<529	<546	<532	<366	<406	<466					510	--	--	--			
Cis-Chlordane	<528	<545	<530	<365	<405	<465					656	--	420	28			
Trans-Chlordane	5450	5430	5390	<368	<408	<469	5423	0.6			2773	--	422	21	3.8	290.9	0.04
Oxychlordane	<1410	<1450	<1410	<973	<1080	<1240					454	40	230	46			
Cis-Nonachlor	1450	1470	1440	<374	<416	<477	1453	1.1			1725	208	431	35	-0.6	-5.8	0.07
Trans-Nonachlor	5450	5430	5390	<368	<408	<469	5423	0.6			5809	729	479	14	-0.3	-3.1	0.04
Dieldrin	898	1140	955	420	440	<465	998	12.7	430	3.3	998	--	--	--	0.0	0.0	0.85
Mirex	<533	<550	<536	<369	<409	<470					245	--	389	54			
PBDE 47	7270	7220	7160	<782	<823	<850	7217	0.8			9608	1293	661	31	-1.0	-77.7	0.05
PBDE 99	2140	2090	2060	<781	<821	<848	2097	1.9			2095	414	499	11	0.0	0.2	0.13
PBDE 100	3680	3630	3470	<781	<821	<848	3593	3.1			3605	290	482	24	0.0	-3.4	0.20
PBDE 153	<986	<1020	<1030	<778	<819	<845					739	384	460	54			
PBDE 154	<995	<1020	<1040	<785	<826	<853					1298	--	450	33			

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	10	4	11
2 to 3	0	0	0
≥ 3	1	5	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 3s**
SAMPLES: MMCM-1 and SRM 1958

PCB CONGENER ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958				
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	MMCM-1 z-score (s)	p-score (15%)
18	<533	<550	<535	491	466	494			484	3.2	30	--	387	79			
28	<534	<551	<536	526	483	495			501	4.4			415	17			
31	<402	<414	<404	<278	<308	<354							--	--			
44	<532	<549	<535	428	416	<469			422	2.0	104	--	417	17			
49	<530	<547	<533	408	<407	<468			408		264	--	426	17			
52	561	<547	<533	444	434	<468	561		439	1.6	629	57	407	22	-0.4	-2.4	
66/95*	no data	no data	no data	no data	no data	no data											
87	663	620	638	373	<410	<470	640	3.4	373		657	48	406	41	-0.1	-0.2	0.22
99	2280	2380	2300	<366	<407	<467	2320	2.3			2408	323	391	28	-0.1	-0.4	0.15
101 (+90)	2120	2100	2040	422	411	<471	2087	2.0	417	1.9	2066	391	415	23	0.0	0.1	0.13
105	1390	1330	1350	392	355	341	1357	2.3	363	7.3	1193	112	425	26	0.5	1.1	0.15
118	3620	3780	3500	500	479	504	3633	3.9	494	2.7	3873	242	418	32	-0.2	-0.6	0.26
128	1240	1200	1180	383	<413	<474	1207	2.5	383		1207	162	427	6	0.0	0.0	0.17
132	no data	no data	no data	no data	no data	no data					533	--	--	--			
138 (+163+164)	9760	9920	9560	563	507	562	9747	1.9	544	5.9	7743	1492	474	56	1.0	1.8	0.12
149	1450	1490	1440	428	<409	<470	1460	1.8	428		1447	615	379	11	0.0	0.0	0.12
151	<538	<555	<540	<372	<413	<474					424	--	388	14			
153	1420	1450	1400	<552	<613	<703	1423	1.8			13136	7785	468	18	-3.6	-4.8	0.12
156	<134	<139	<135	<92.8	<103	<118					68	--	424	27			
170 (+190)	1600	1670	1540	<366	<407	<467	1603	4.1			1603	153	429	22	0.0	0.0	0.27
180	6130	6050	5830	413	<410	<470	6003	2.6	413		6003	300	470	27	0.0	0.0	0.17
183	1320	1330	1300	<366	<407	<467	1317	1.2			1322	627	412	30	0.0	0.0	0.08
187	1970	1940	1900	<367	<408	<468	1937	1.8			2047	858	417	32	-0.2	-0.1	0.12
194	983	904	834	<370	<411	<472	907	8.2			1046	80	393	15	-0.5	-2.1	0.55
195	<536	<553	<539	<371	<412	<473					247	55	392	23			
201	no data	no data	no data	no data	no data	no data							397	6			
206	<538	<555	<541	<372	<413	<474					433	39	373	16			
209	<534	<552	<537	<369	<410	<471					216	--	344	23			
66	<530	<547	<533	<367	<407	<468					331	--	424	22			
95	404	441	386	<185	<206	<236	410	6.8			441	48	--	--	-0.3	-0.3	0.46

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

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4s**
SAMPLES: MMCM-1 and SRM 1958

PESTICIDE, PBDE, AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	25	38	28	no data	no data		30	21.3			144	--	321	58	-3.2	-0.9	1.42
4,4'-DDT	193	258	250	no data	no data		234	15.2			1306	11253	296	24	-3.3	-3.8	1.01
2,4'-DDE	80	119	102	no data	no data		100	19.3			450	--	464	21	-3.1	-4.5	1.28
4,4'-DDE	36400	56800	50100	no data	no data		47767	21.8			201667	18994	1280	110	-3.1	-58.0	1.45
2,4'-DDD	17.1	22.5	18.6	no data	no data		19	14.4			77	--	344	32	-3.0	-0.8	0.96
4,4'-DDD	491	681	584	no data	no data		585	16.2			3226	7283	417	11	-3.3	-11.8	1.08
HCB	30.70	15.80	16.40	no data	no data		21	40.2					450	45		0.3	2.68
α–HCH	23.10	20.90	27.20	no data	no data		24	13.5			47	--	266	48	-2.0	-8.3	0.90
β–HCH	1370.00	1350.00	1480.00	no data	no data		1400	5.0			1940	--	284	49	-1.1	-113.4	0.33
γ–HCH	27.90	28.20	36.50	no data	no data		31	15.8			53	--	322	49	-1.7	-1.1	1.05
Heptachlor Epoxide	NA	NA	NA	no data	no data						510	--	--	--			
Cis-Chlordane	126	270	196	no data	no data		197	36.5			656	--	420	28	-2.8	-16.9	2.43
Trans-Chlordane	6	11	18	no data	no data		12	51.0			2773	--	422	21	-4.0	-303.1	3.40
Oxychlordane	NA	NA	NA	no data	no data						454	40	230	46			
Cis-Nonachlor	232	398	334	no data	no data		321	26.1			1725	208	431	35	-3.3	-29.9	1.74
Trans-Nonachlor	798	1330	1040	no data	no data		1056	25.2			5809	729	479	14	-3.3	-38.5	1.68
Dieldrin	262	300	252	no data	no data		271	9.3			998	--	--	--	-2.9	-3.3	0.62
Mirex	15	30	24	no data	no data		23	32.5			245	--	389	54	-3.6	-16.5	2.17
PBDE 47	7270	7220	7160	<782	<823	<850	7217	0.8			9608	1293	661	31	-1.0	-77.7	0.05
PBDE 99	2140	2090	2060	<781	<821	<848	2097	1.9			2095	414	499	11	0.0	0.2	0.13
PBDE 100	3680	3630	3470	<781	<821	<848	3593	3.1			3605	290	482	24	0.0	-3.4	0.20
PBDE 153	<986	<1020	<1030	<778	<819	<845					739	384	460	54			
PBDE 154	<995	<1020	<1040	<785	<826	<853					1298	--	450	33			

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	6	5	15
2 to 3	3	0	3
≥ 3	9	12	1
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 4s**
SAMPLES: MMCM-1 and SRM 1958

PCB CONGENER ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
18	9.1	9.6	11.0	no data	no data	no data	9.88	10.0			30.5	--	387	79	-2.7	-2.6	0.67
28	18.5	22.2	22.2	no data	no data	no data	21.0	10.2					415	17		4.7	0.68
31	9.50	8.74	7.6	no data	no data	no data	8.61	11.1					--	--		5.2	0.74
44	19.2	26.7	25.3	no data	no data	no data	23.7	16.8			104	--	417	17	-3.1	-9.6	1.12
49	no data	no data	no data	no data	no data	no data					264	--	426	17			
52	86.9	127	115	no data	no data	no data	110	18.8			629	57	407	22	-3.3	-18.2	1.25
66/95*				no data	no data	no data											
87	103	157	139	no data	no data	no data	133	20.7			657	48	406	41	-3.2	-5.4	1.38
99	439	688	606	no data	no data	no data	578	22.0			2408	323	391	28	-3.0	-8.4	1.46
101 (+90)	no data	no data	no data	no data	no data	no data					2066	391	415	23			
105	184	272	250	no data	no data	no data	235	19.5			1193	112	425	26	-3.2	-6.6	1.30
118	605	920	822	no data	no data	no data	782	20.6			3873	242	418	32	-3.2	-7.1	1.37
128	150	238	210	no data	no data	no data	199	22.6			1207	162	427	6	-3.3	-5.9	1.50
132	56.5	91.1	77.4	no data	no data	no data	75	23.2			533	--	--	--	-3.4	-2.0	1.55
138 (+163+164)	1330	2130	1790	no data	no data	no data	1750	22.9			7743	1492	474	56	-3.1	-5.3	1.53
149	159	247	207	no data	no data	no data	204	21.6			1447	615	379	11	-3.4	-1.7	1.44
151	34.8	52.6	44.5	no data	no data	no data	44.0	20.3			424	--	388	14	-3.6	-1.6	1.35
153	1450	2330	1980	no data	no data	no data	1920	23.1			13136	7785	468	18	-3.4	-4.6	1.54
156	9.5	13.5	9.9	no data	no data	no data	10.9	20.3			68	--	424	27	-3.4	-1.0	1.35
170 (+190)	176	304	239	no data	no data	no data	240	26.7			1603	153	429	22	-3.4	-3.4	1.78
180	621	1030	813	no data	no data	no data	821	24.9			6003	300	470	27	-3.5	-4.2	1.66
183	134	225	184	no data	no data	no data	181	25.2			1322	627	412	30	-3.5	-4.3	1.68
187	200	333	275	no data	no data	no data	269	24.8			2047	858	417	32	-3.5	-2.2	1.65
194	98	157	132	no data	no data	no data	129	23.1			1046	80	393	15	-3.5	-14.1	1.54
195	22.5	36.7	30.1	no data	no data	no data	30	23.9			247	55	392	23	-3.5	-9.1	1.59
201	117	190	158	no data	no data	no data	155	23.6					397	6		4.6	1.57
206	41.0	NA	53	no data	no data	no data	47.2	18.6			433	39	373	16	-3.6	-54.7	1.24
209	18.9	32.4	24.8	no data	no data	no data	25.4	26.7			216	--	344	23	-3.5	-87.9	1.78
66	62.0	82.8	78.1	no data	no data	no data	74.3	14.7			331	--	424	22	-3.1	-3.8	0.98
95	69.9	109	98.0	no data	no data	no data	92.3	21.8			441	48	--	--	-3.2	-3.0	1.46

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	0	3	27
2 to 3	1	4	0
≥ 3	23	20	0

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 5s**
SAMPLES: MMCM-1 and SRM 1958

PESTICIDE, PBDE, AND LIPID ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958			MMCM-1	
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	z-score (s)	p-score (15%)
2,4'-DDT	200	160	180	430	460	400	180	11.1	430	7.0	144	--	321	58	1.0	0.3	0.74
4,4'-DDT	1420	1470	1380	290	270	250	1423	3.2	270	7.4	1306	11253	296	24	0.4	0.4	0.21
2,4'-DDE	420	400	410	520	510	510	410	2.4	513	1.1	450	--	464	21	-0.4	-0.5	0.16
4,4'-DDE	208500	212000	208000	1410	1360	1390	209500	1.0	1387	1.8	201667	18994	1280	110	0.2	3.0	0.07
2,4'-DDD	< 100	< 100	< 100	400	440	450			430	6.2	77	--	344	32			
4,4'-DDD	2900	3050	2900	370	360	360	2950	2.9	363	1.6	3226	7283	417	11	-0.3	-1.2	0.20
HCB	< 50	< 50	< 50	400	410	370			393	5.3			450	45			
α–HCH	45.00	45.00	50.00	245.00	240.00	240.00	47	6.2	242	1.2	47	--	266	48	0.0	0.0	0.41
β–HCH	1950.00	1870.00	2000.00	235.00	240.00	230.00	1940	3.4	235	2.1	1940	--	284	49	0.0	0.0	0.23
γ–HCH	45.00	60.00	55.00	330.00	300.00	310.00	53	14.3	313	4.9	53	--	322	49	0.0	0.0	0.95
Heptachlor Epoxide	no data	no data	no data	no data	no data	no data					510	--	--	--			
Cis-Chlordane	no data	no data	no data	no data	no data	no data					656	--	420	28			
Trans-Chlordane	no data	no data	no data	no data	no data	no data					2773	--	422	21			
Oxychlordane	440	440	460	190	190	200	447	2.6	193	3.0	454	40	230	46	-0.1	-0.5	0.17
Cis-Nonachlor	no data	no data	no data	no data	no data	no data					1725	208	431	35			
Trans-Nonachlor	5060	5090	5160	360	370	380	5103	1.0	370	2.7	5809	729	479	14	-0.5	-5.7	0.07
Dieldrin	no data	no data	no data	no data	no data	no data					998	--	--	--			
Mirex	no data	no data	no data	no data	no data	no data					245	--	389	54			
PBDE 47	9950	10010	9920	575	585	580	9960	0.5	580	0.9	9608	1293	661	31	0.1	11.4	0.03
PBDE 99	2060	2130	2090	410	410	420	2093	1.7	413	1.4	2095	414	499	11	0.0	-0.2	0.11
PBDE 100	3560	3680	3610	390	400	400	3617	1.7	397	1.5	3605	290	482	24	0.0	3.4	0.11
PBDE 153	640	635	650	360	350	365	642	1.2	358	2.1	739	384	460	54	-0.5	-73.5	0.08
PBDE 154	see below	see below	see below	see below	see below	see below					1298	--	450	33			

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	14	9	14
2 to 3	0	1	0
≥ 3	0	1	0
	z (25%)	**z (s)**	**p (15%)**

2007 EXERCISE FOR ORGANOCHLORINES IN MARINE MAMMAL TISSUES **Laboratory Number: 5s**
SAMPLES: MMCM-1 and SRM 1958

PCB CONGENER ANALYSES Date(s) of measurements	Data as Submitted by Laboratory (pg/g wet mass)										Material Reference Values (pg/g wet mass)				Performance Scoresa		
	MMCM-1			SRM 1958			MMCM-1		SRM 1958		MMCM-1		SRM 1958				
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	lab mean pg/g wet	lab %RSD	lab mean pg/g wet	lab %RSD	Assigned Value	95% CL	Target Value	Uncert	z-score (25%)	MMCM-1 z-score (s)	p-score (15%)
18	< 50	< 50	< 50	no data	no data	no data					30.5	--	387	79			
28	< 50	< 50	< 50	no data	no data	no data							415	17			
31	< 50	< 50	< 50	no data	no data	no data							--	--			
44	< 20	< 20	< 20	410	360	420			397	8.1	104	--	417	17			
49	380	400	410	660	620	530	397	3.9	603	11.0	264	--	426	17	2.0	11.1	0.26
52	640	650	690	480	510	510	660	4.0	500	3.5	629	57	407	22	0.2	1.1	0.27
66/95*	resolved	resolved	resolved	resolved	resolved	resolved											
87	670	760	730	410	420	450	720	6.4	427	4.9	657	48	406	41	0.4	0.6	0.42
99	2620	2660	2660	390	380	380	2647	0.9	383	1.5	2408	323	391	28	0.4	1.1	0.06
101 (+90)	2480	2520	2500	380	400	400	2500	0.8	393	2.9	2066	391	415	23	0.8	1.1	0.05
105	1210	1150	1220	365	370	385	1193	3.2	373	2.8	1193	112	425	26	0.0	0.0	0.21
118	3860	3890	3870	420	400	410	3873	0.4	410	2.4	3873	242	418	32	0.0	0.0	0.03
128	1410	1550	1400	430	370	400	1453	5.8	400	7.5	1207	162	427	6	0.8	1.4	0.38
132	550	520	530	< 20	< 20	< 20	533	2.9			533	--	--	--	0.0	0.0	0.19
138 (+163+164)	7630	7880	7720	440	470	433	7743	1.6	448	4.4	7743	1492	474	56	0.0	0.0	0.11
149	1640	1620	1670	480	410	480	1643	1.5	457	8.8	1447	615	379	11	0.5	0.3	0.10
151	510	540	500	380	400	360	517	4.0	380	5.3	424	--	388	14	0.9	0.4	0.27
153	13510	13485	13600	420	400	420	13532	0.4	413	2.8	13136	7785	468	18	0.1	0.2	0.03
156	< 40	< 40	< 40	440	530	480			483	9.3	68	--	424	27			
170 (+190)	1835	1810	1820	345	350	350	1822	0.7	348	0.8	1603	153	429	22	0.5	0.5	0.05
180	6400	6205	6249	395	395	405	6285	1.6	398	1.4	6003	300	470	27	0.2	0.2	0.11
183	1495	1495	1510	310	300	335	1500	0.6	315	5.7	1322	627	412	30	0.5	0.7	0.04
187	2425	2400	2510	350	350	370	2445	2.4	357	3.2	2047	858	417	32	0.8	0.5	0.16
194	1080	1010	1010	260	360	380	1033	3.9	333	19.3	1046	80	393	15	-0.1	-0.2	0.26
195	220	250	270	no data	no data	no data	247	10.2			247	55	392	23	0.0	0.0	0.68
201	1430	1440	1480	330.00	360.00	380.00	1450	1.8	357	7.1			397	6		43.3	0.12
206	450	450	400	< 50	< 50	< 50	433	6.7			433	39	373	16	0.0	0.0	0.44
209	no data	no data	no data	no data	no data	no data					216	--	344	23			
66	no data	no data	no data	no data	no data	no data					331	--	424	22			
95	500	520	550	< 20	< 20	< 20	523	4.8			441	48	--	--	0.7	0.7	0.32

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	20	20	22
2 to 3	1	0	0
≥ 3	0	2	0

Appendix B

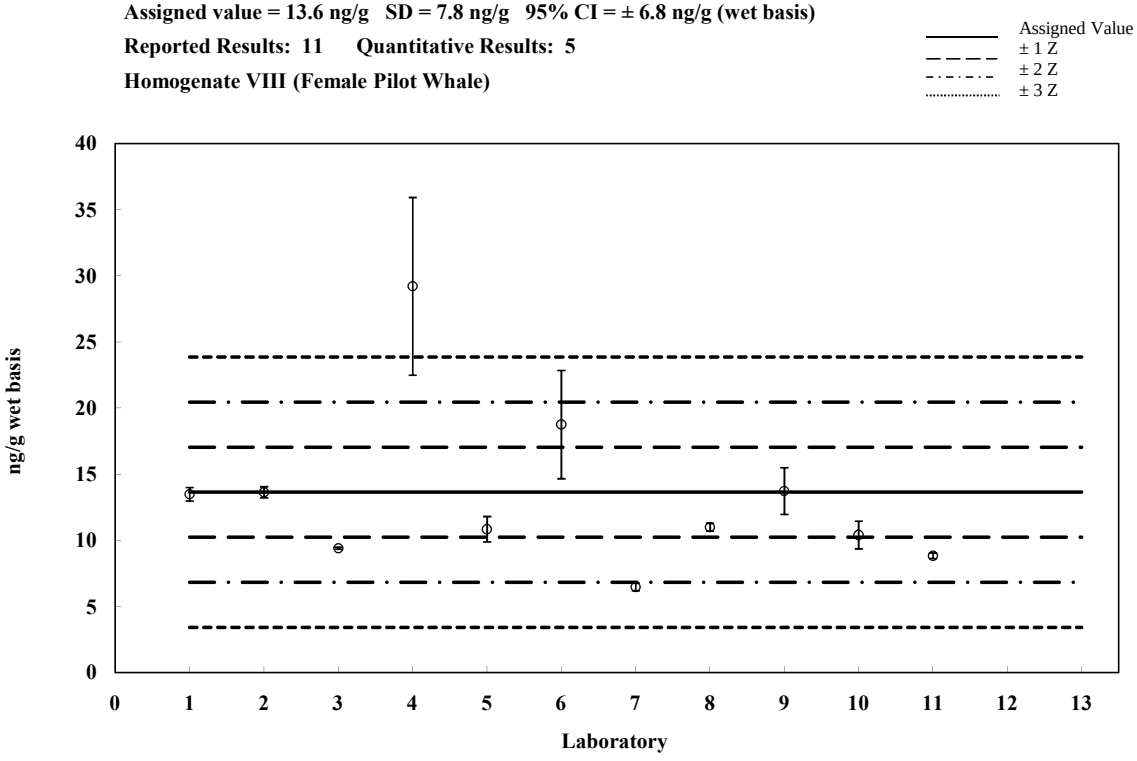
Graphical results of PCB congener and lipid data reported by all laboratories. The Z-scores for Homogenate VIII represent 25 % of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. Error bars are ± 1 standard deviation.

PCB 18

Assigned value = 13.6 ng/g SD = 7.8 ng/g 95% CI = ± 6.8 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 5

Homogenate VIII (Female Pilot Whale)

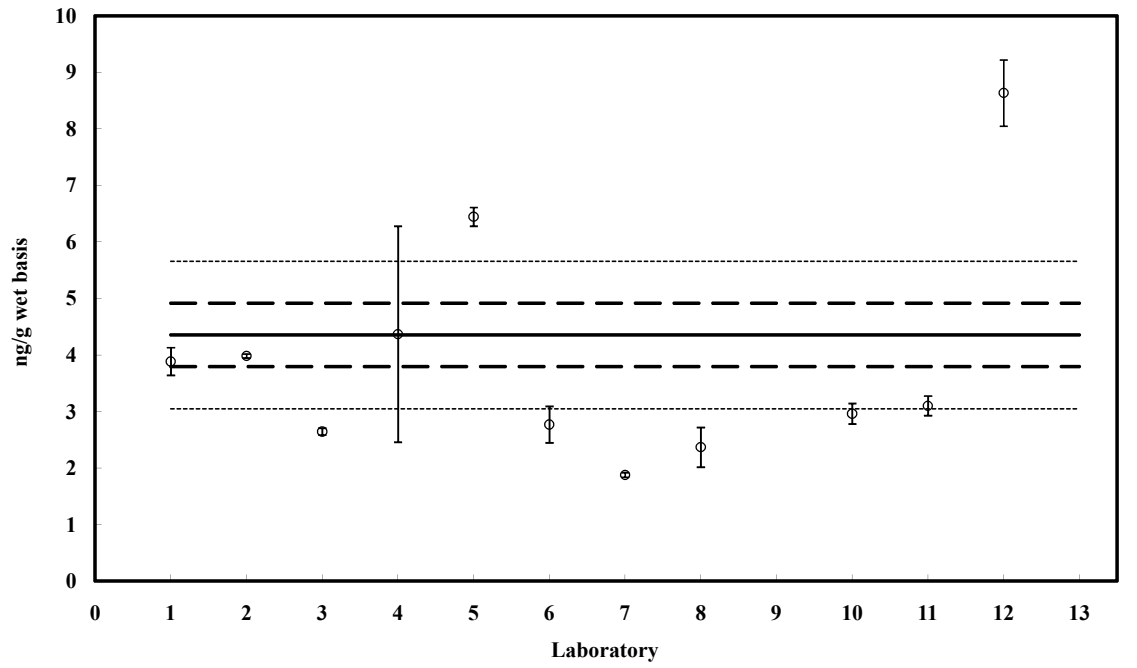


PCB 18

Value = 4.4 ± 0.56 ng/g (wet basis)

Reported Results: 11

SRM 1945

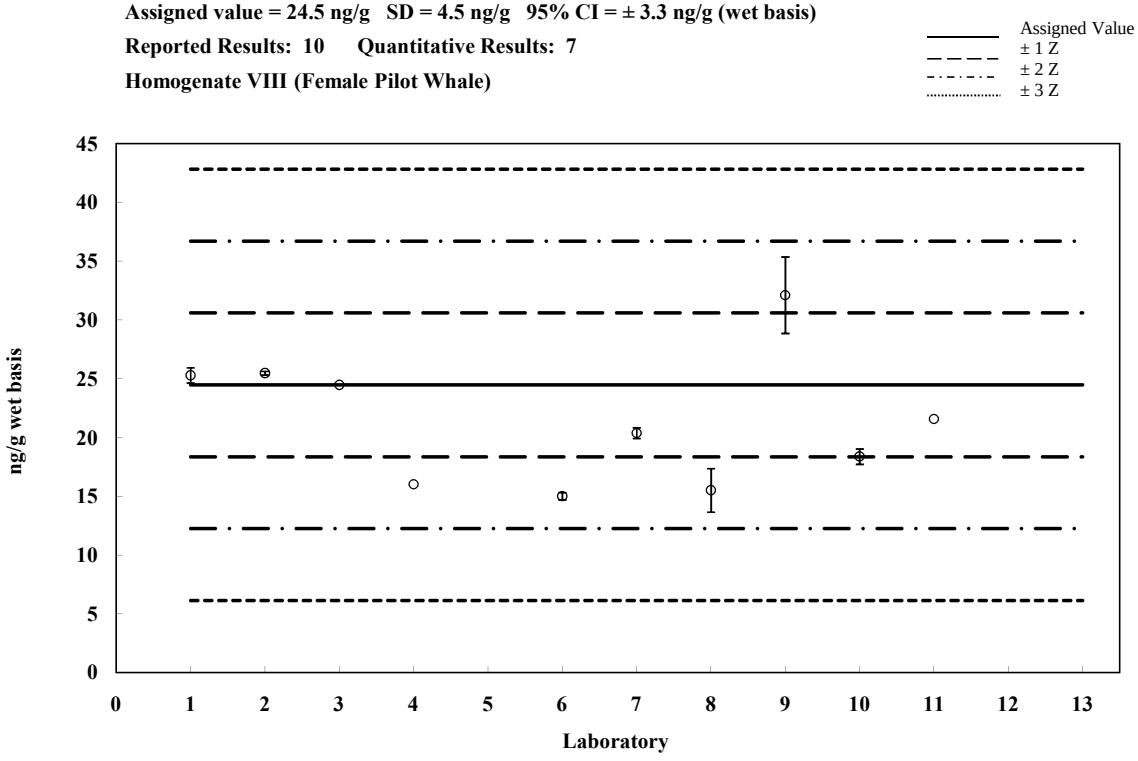


PCB 28

Assigned value = 24.5 ng/g SD = 4.5 ng/g 95% CI = ± 3.3 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 7

Homogenate VIII (Female Pilot Whale)

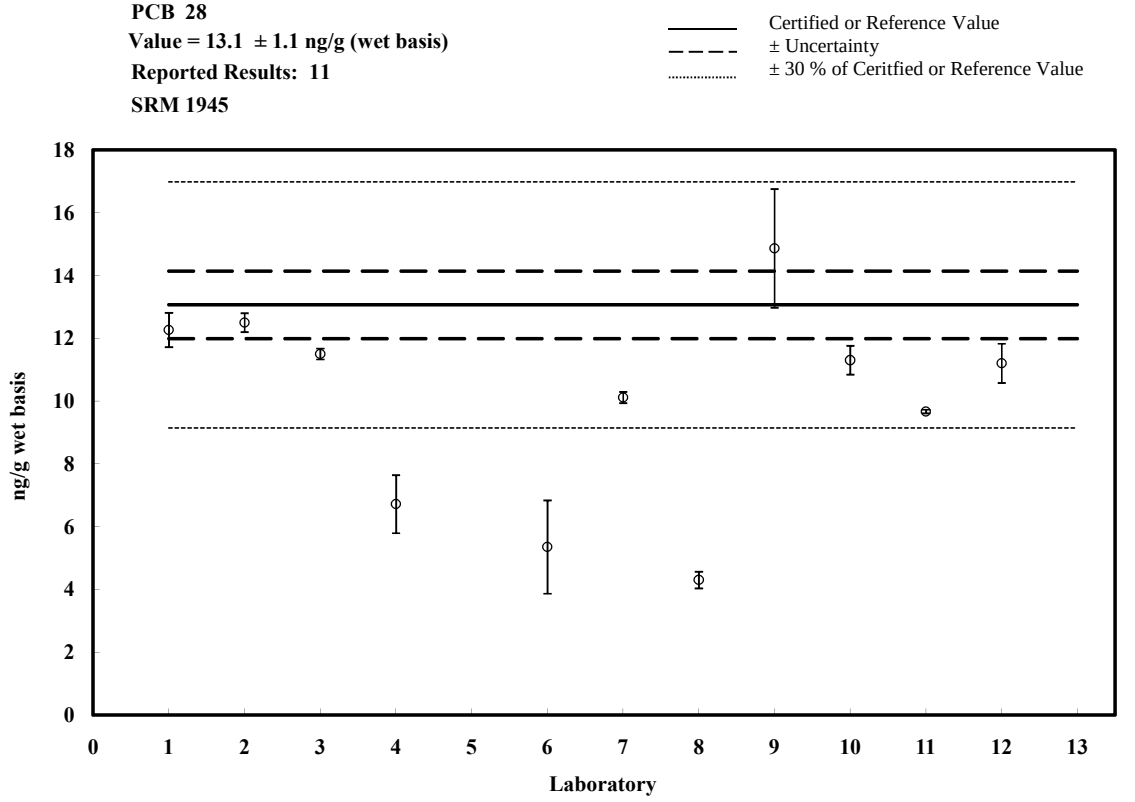


PCB 28

Value = 13.1 ± 1.1 ng/g (wet basis)

Reported Results: 11

SRM 1945

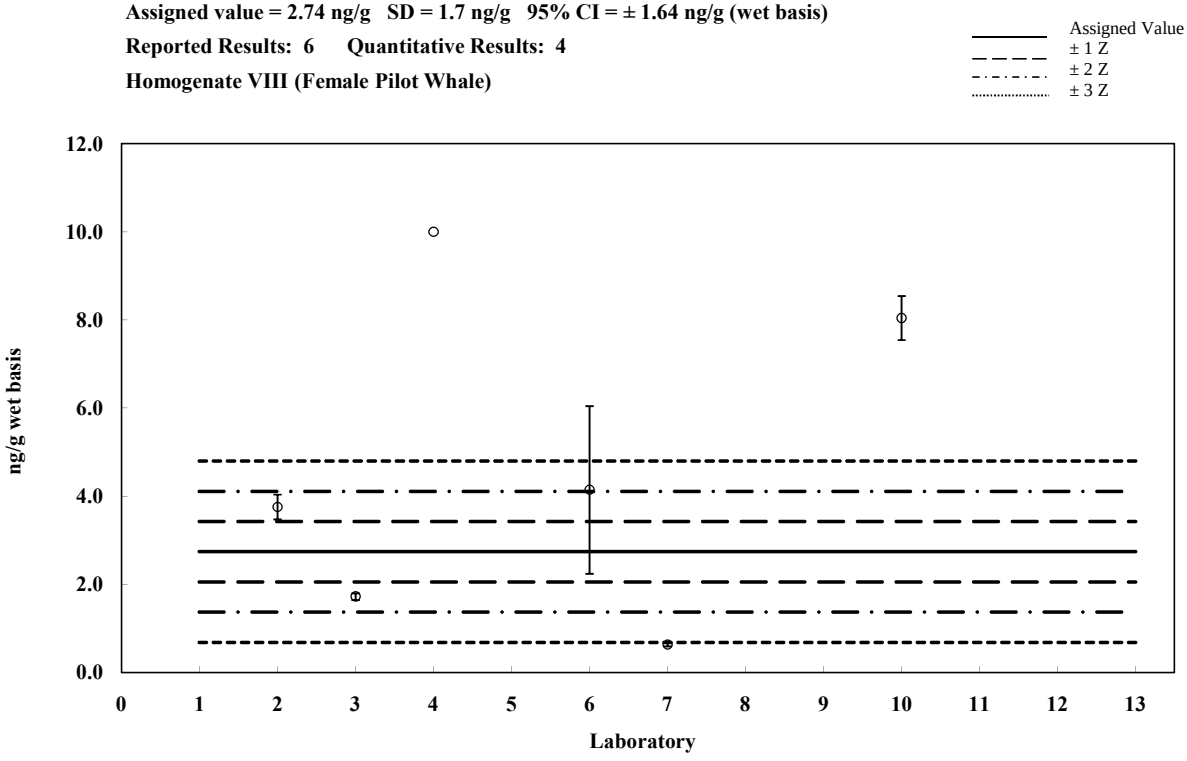


PCB 31

Assigned value = 2.74 ng/g SD = 1.7 ng/g 95% CI = ± 1.64 ng/g (wet basis)

Reported Results: 6 Quantitative Results: 4

Homogenate VIII (Female Pilot Whale)

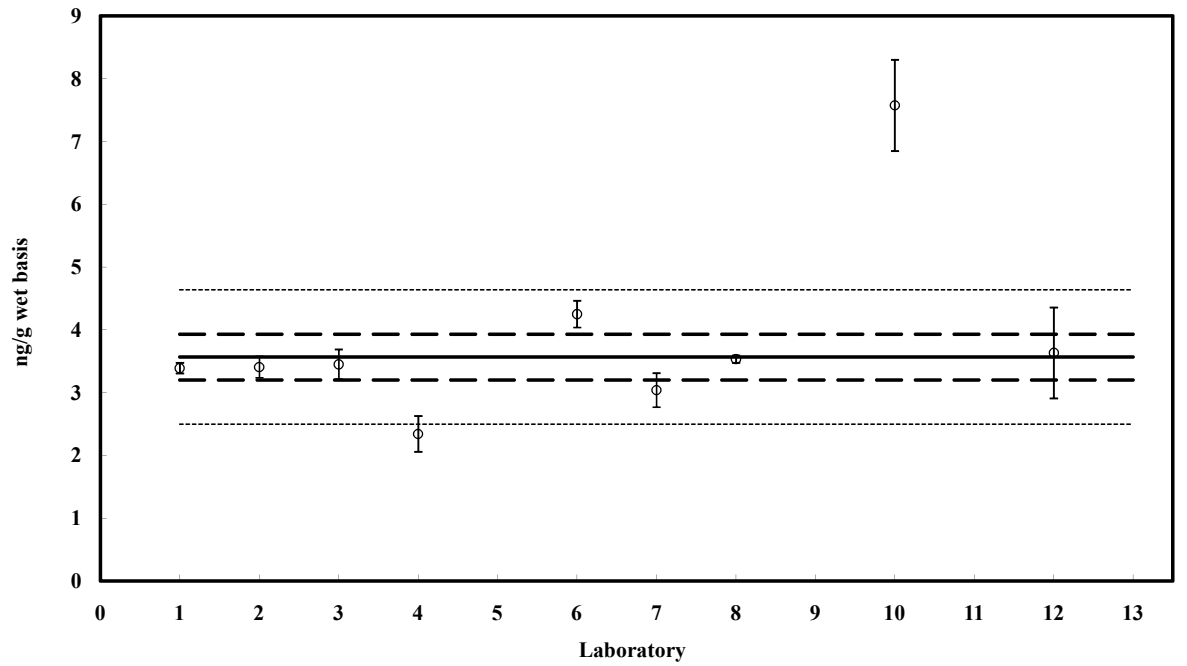


PCB 31

Value = 3.6 ± 0.36 ng/g (wet basis)

Reported Results: 9

SRM 1945

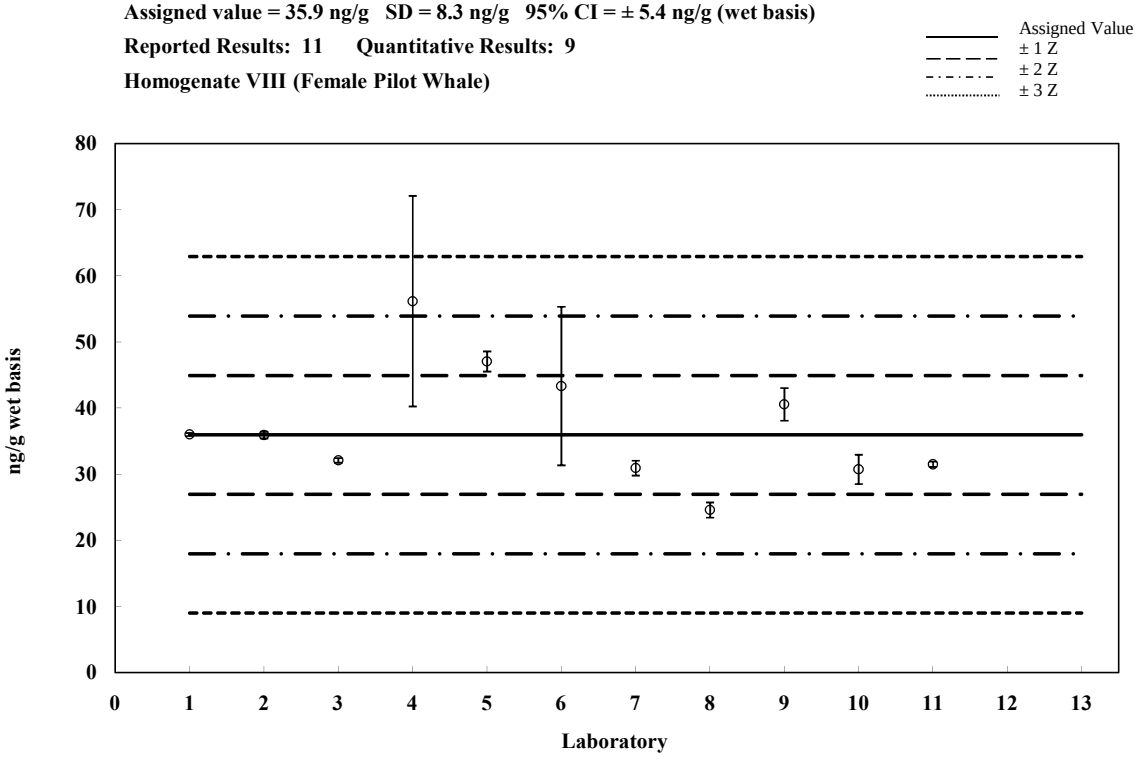


PCB 44

Assigned value = 35.9 ng/g SD = 8.3 ng/g 95% CI = ± 5.4 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

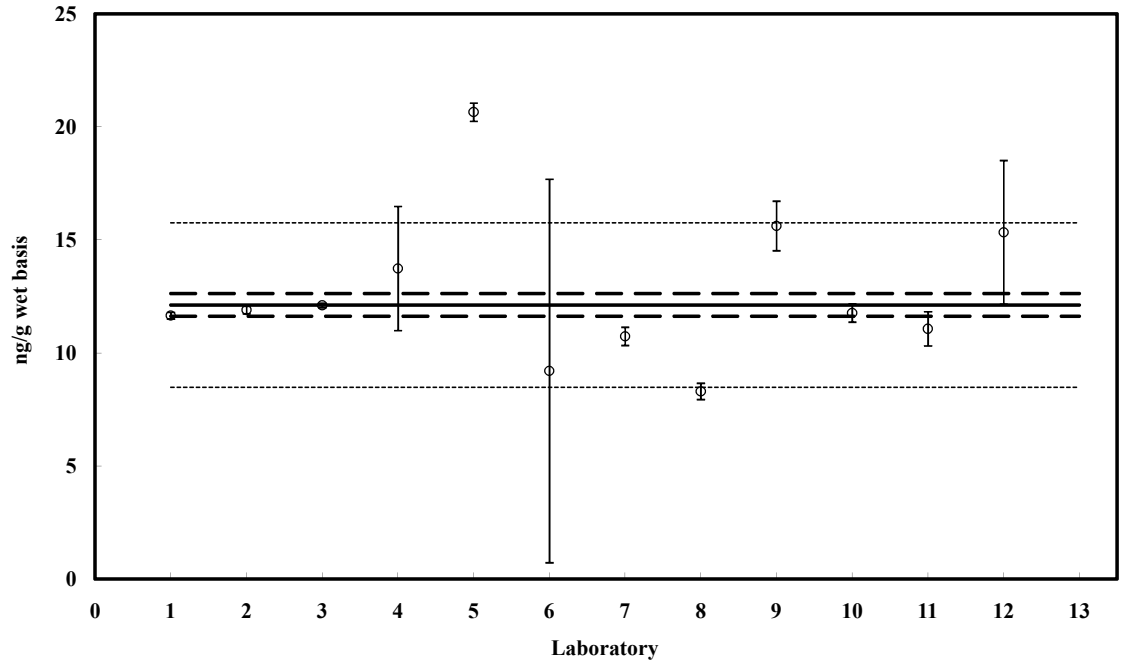


PCB 44

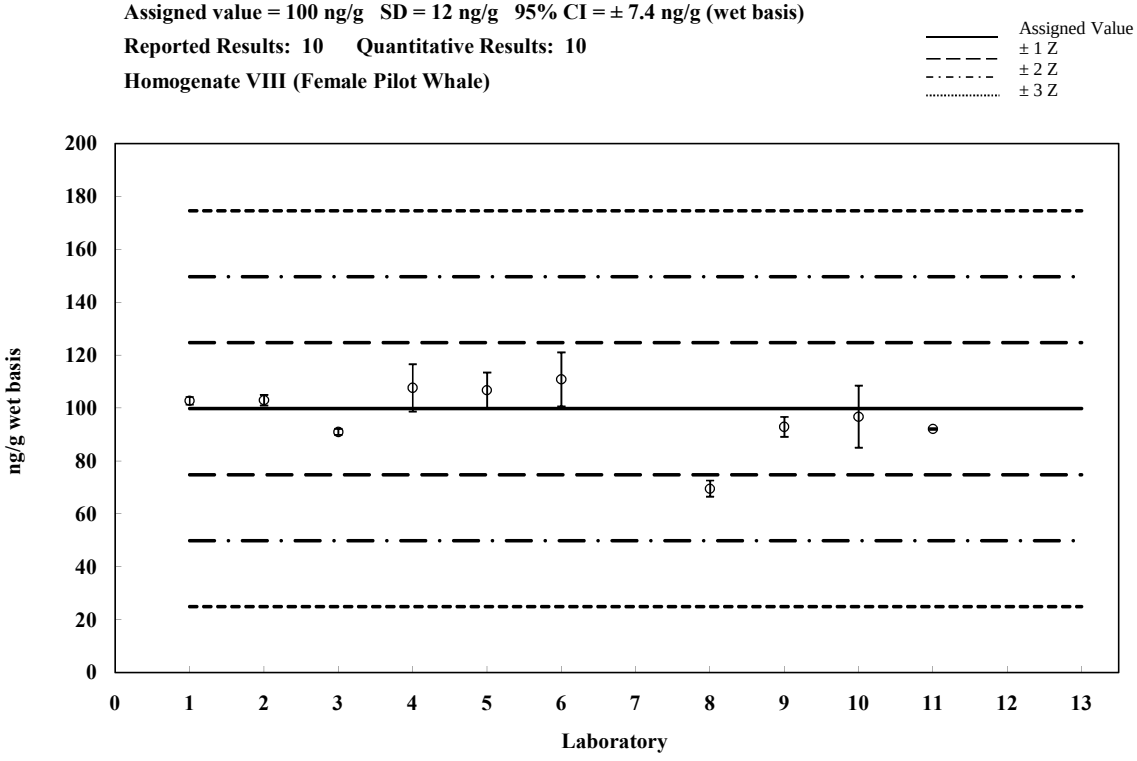
Value = 12.1 ± 0.51 ng/g (wet basis)

Reported Results: 12

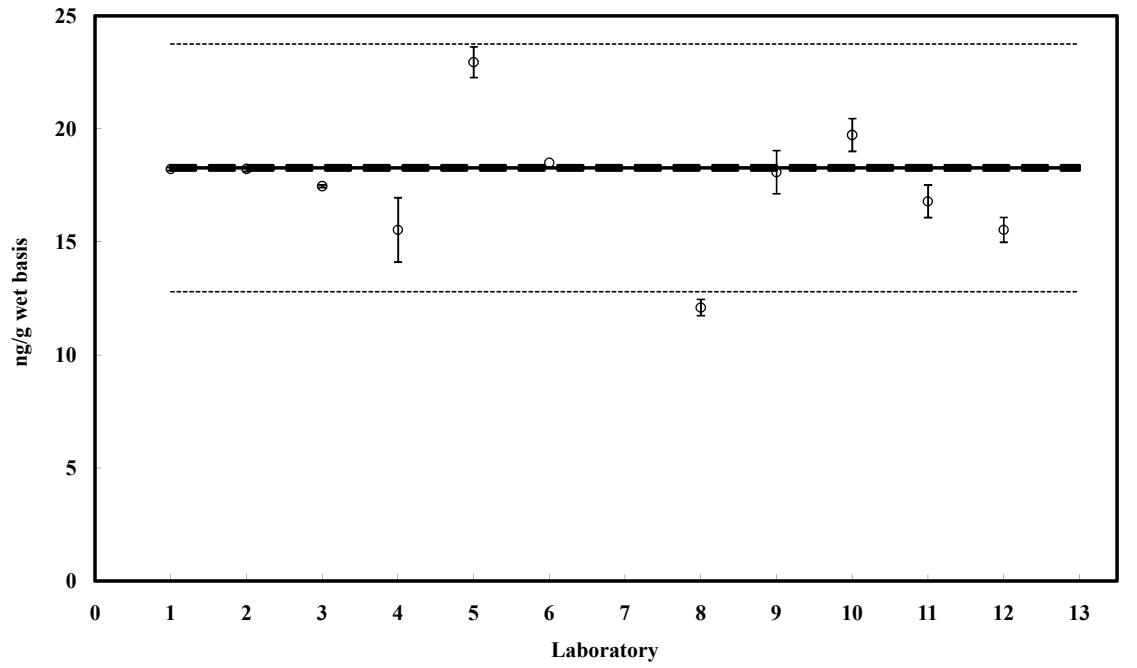
SRM 1945



PCB 49
Assigned value = 100 ng/g SD = 12 ng/g 95% CI = ± 7.4 ng/g (wet basis)
Reported Results: 10 Quantitative Results: 10
Homogenate VIII (Female Pilot Whale)



PCB 49
Value = 18.3 ± 0.1 ng/g (wet basis)
Reported Results: 11
SRM 1945

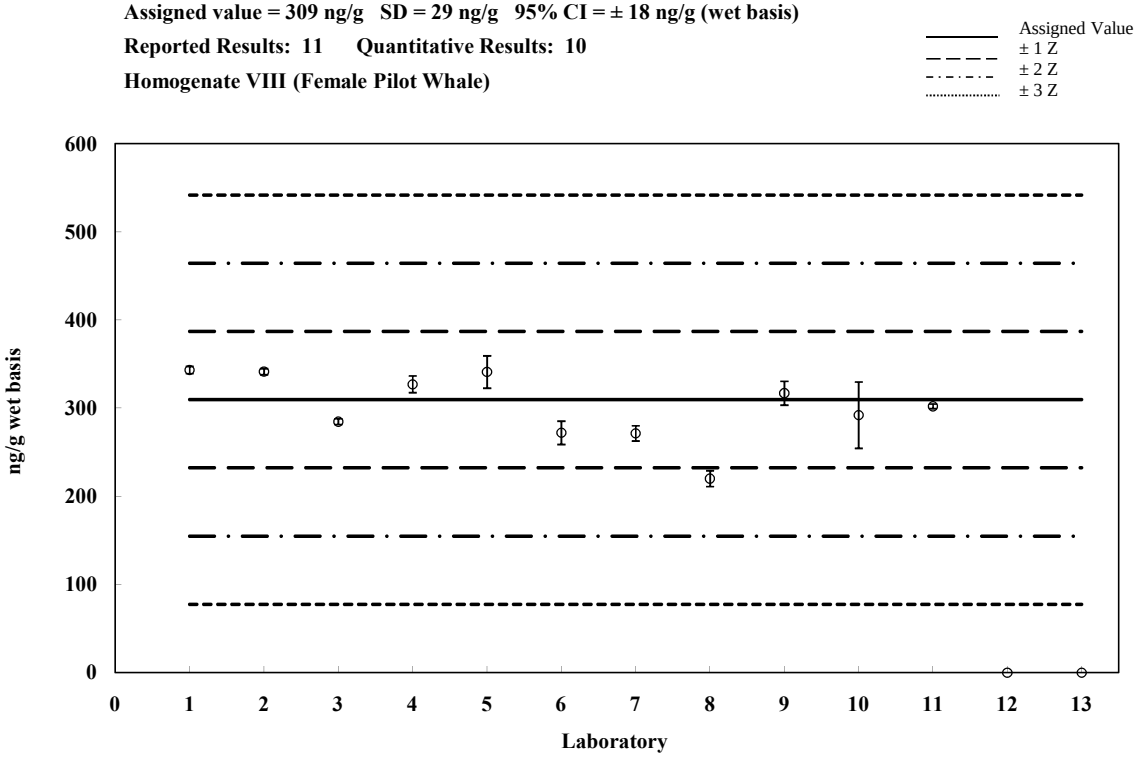


PCB 52

Assigned value = 309 ng/g SD = 29 ng/g 95% CI = ± 18 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

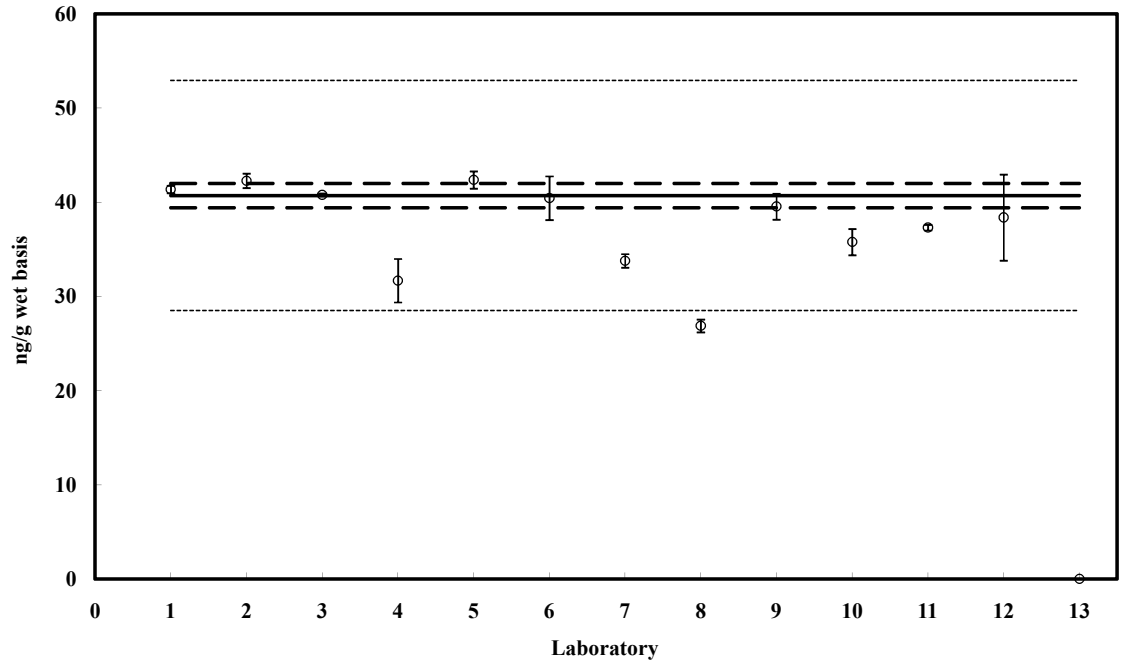


PCB 52

Value = 40.7 ± 1.3 ng/g (wet basis)

Reported Results: 12

SRM 1945

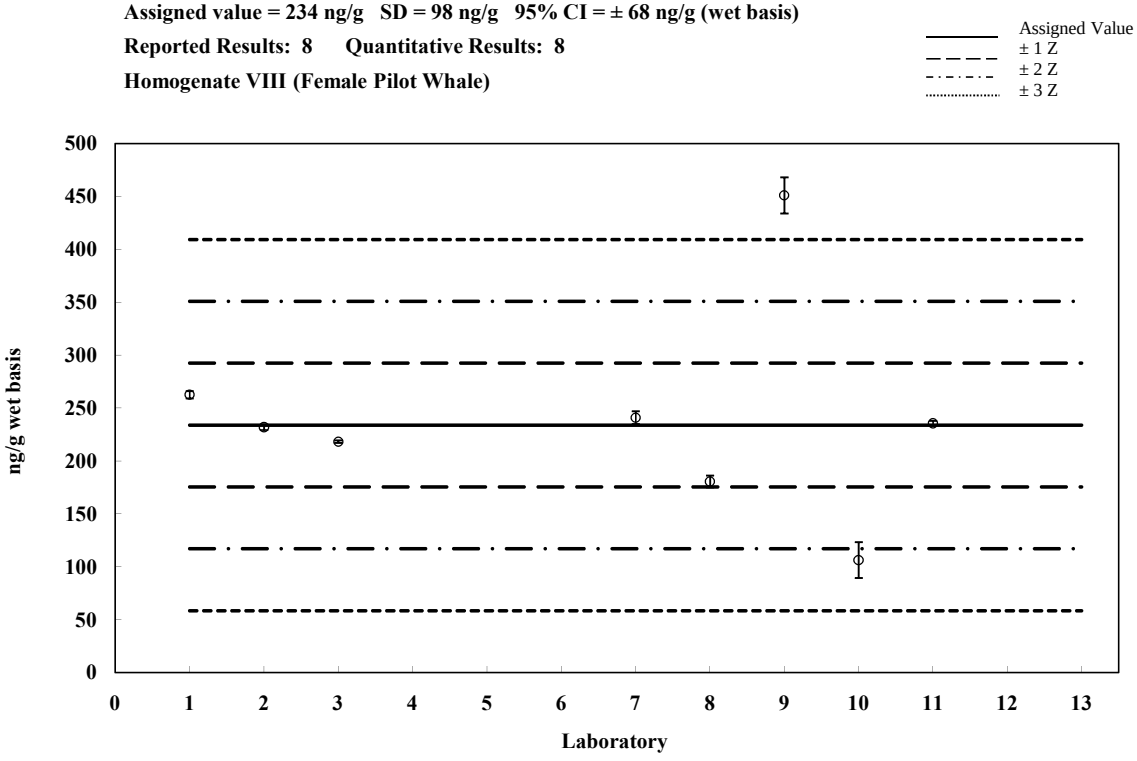


PCB 87

Assigned value = 234 ng/g SD = 98 ng/g 95% CI = ± 68 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 8

Homogenate VIII (Female Pilot Whale)

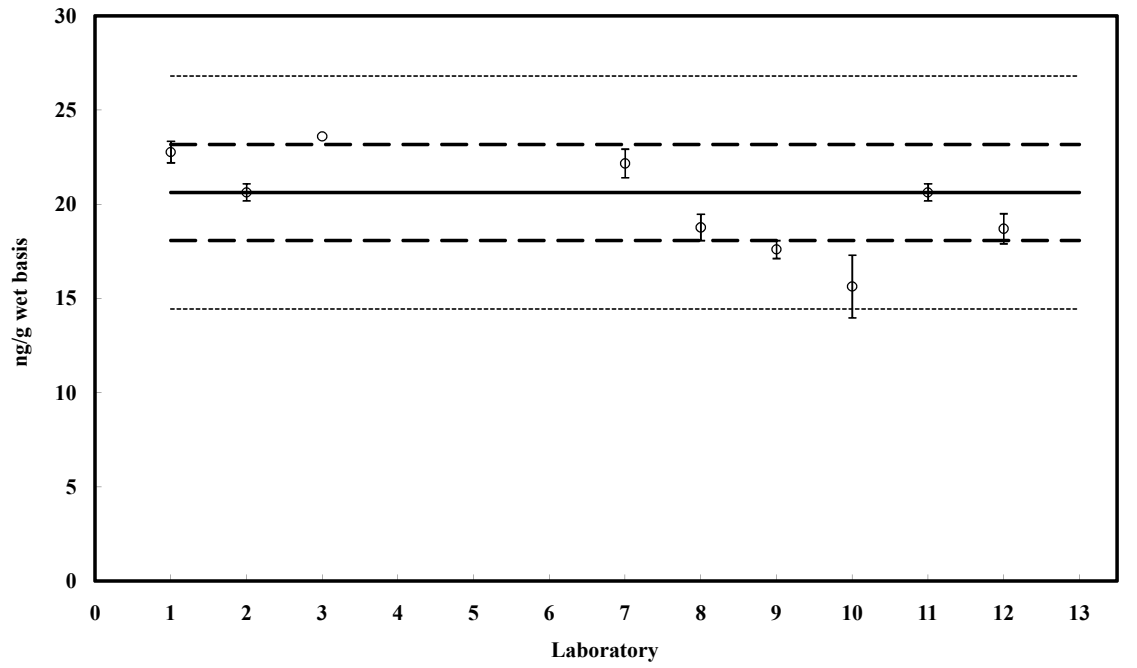


PCB 87

Value = 20.6 ± 2.6 ng/g (wet basis)

Reported Results: 9

SRM 1945

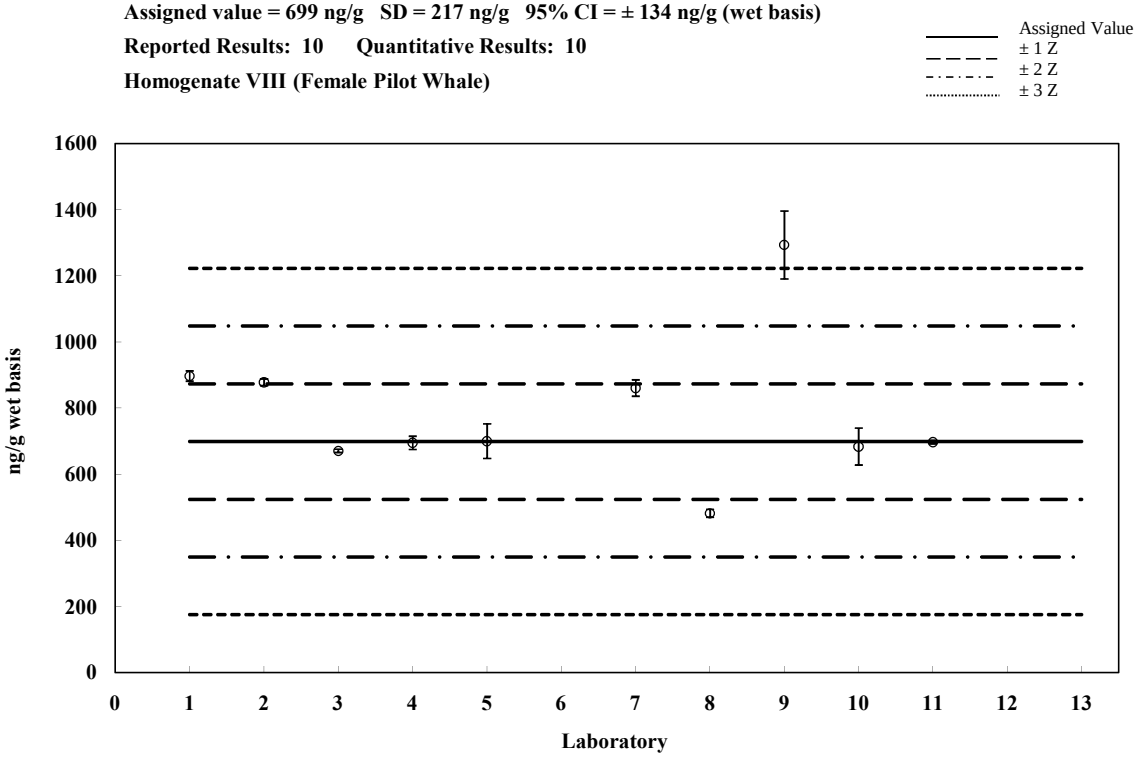


PCB 99

Assigned value = 699 ng/g SD = 217 ng/g 95% CI = ± 134 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

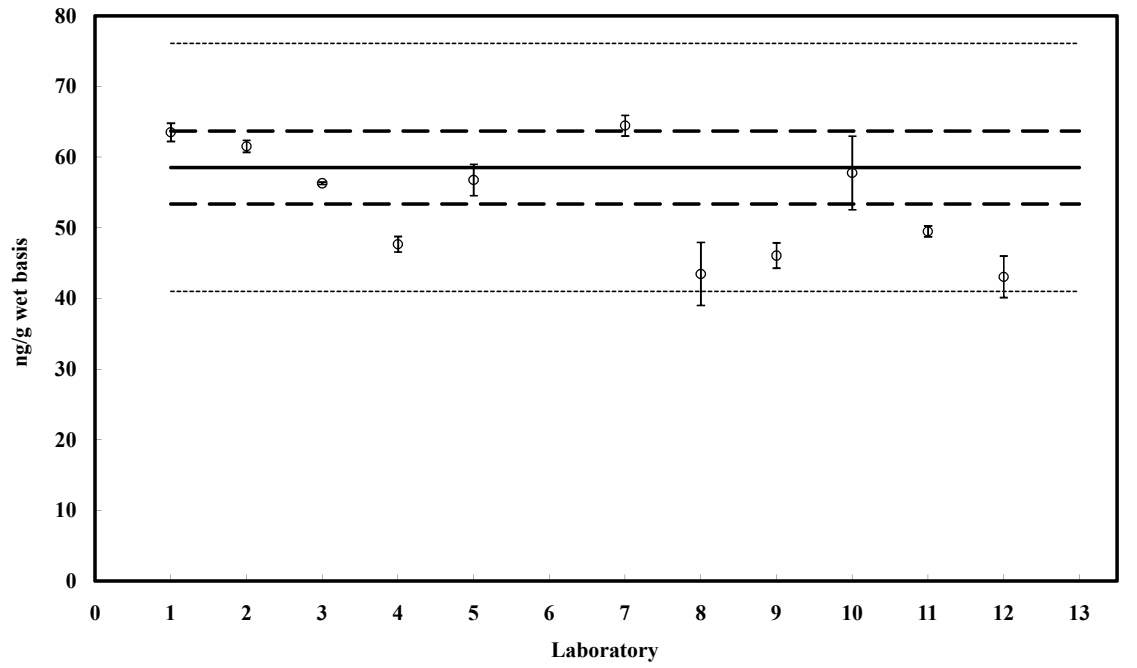


PCB 99

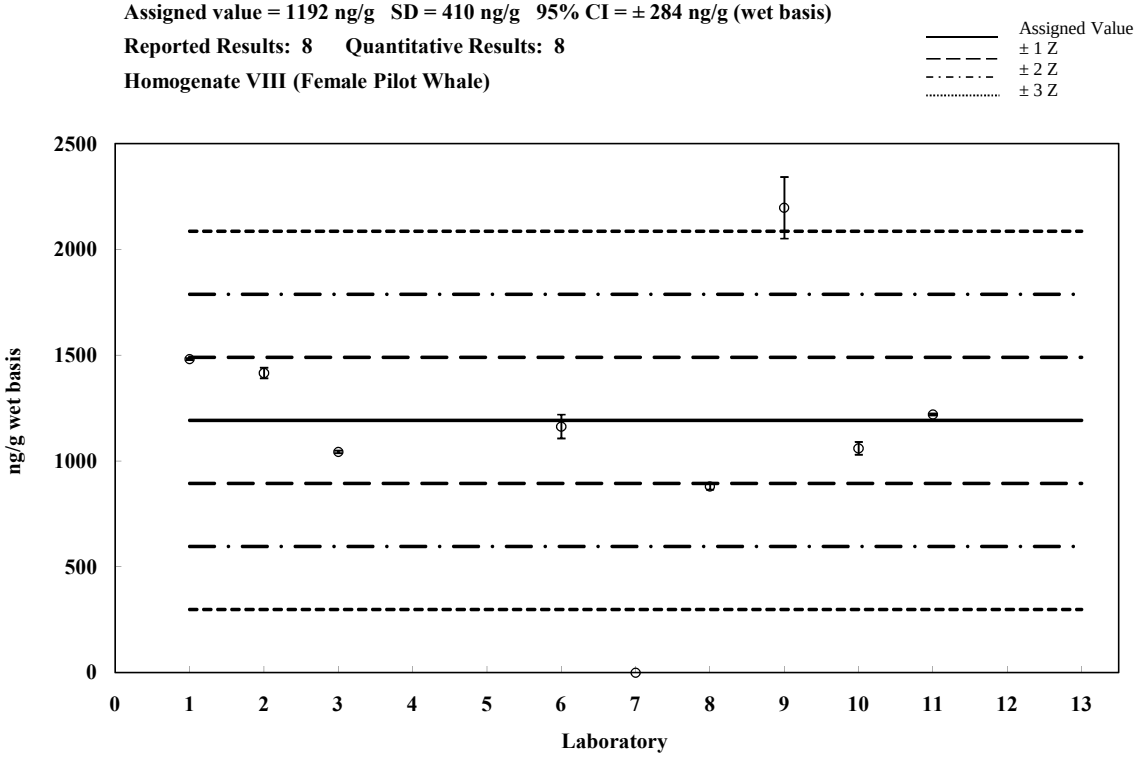
Value = 58.5 ± 5.2 ng/g (wet basis)

Reported Results: 11

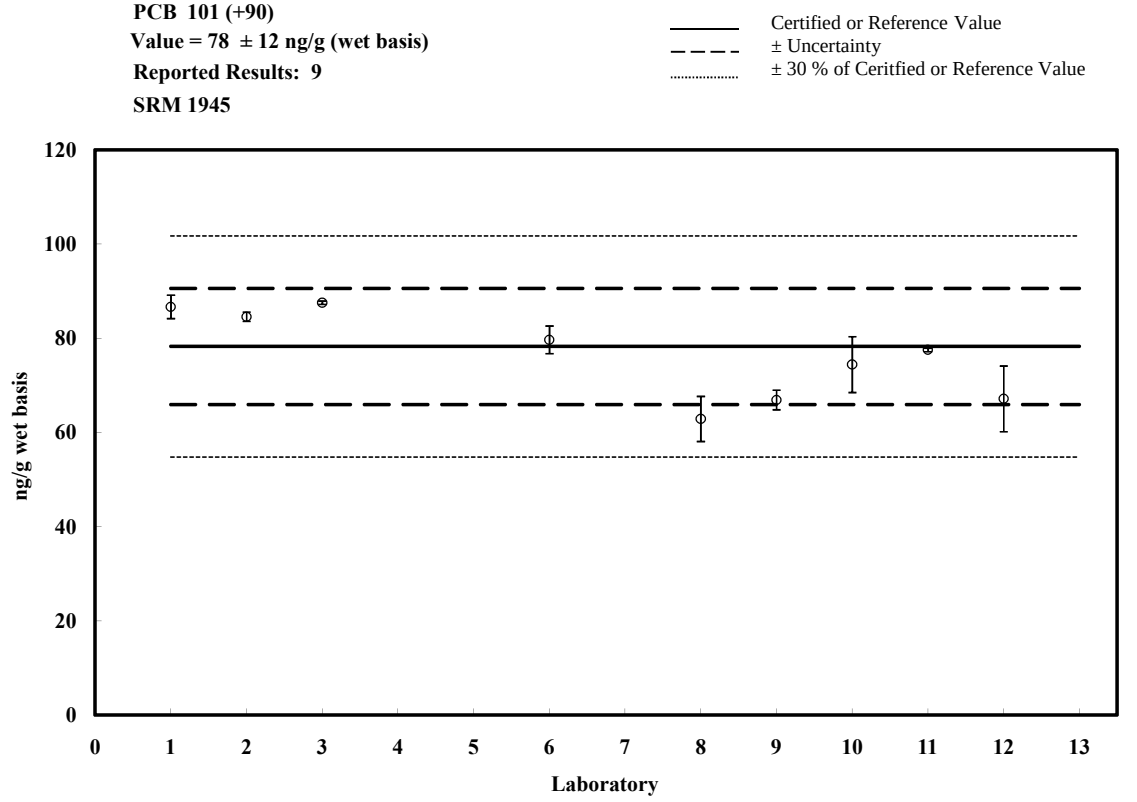
SRM 1945



PCB 101 (+90)
Assigned value = 1192 ng/g SD = 410 ng/g 95% CI = ± 284 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



PCB 101 (+90)
Value = 78 ± 12 ng/g (wet basis)
Reported Results: 9
SRM 1945

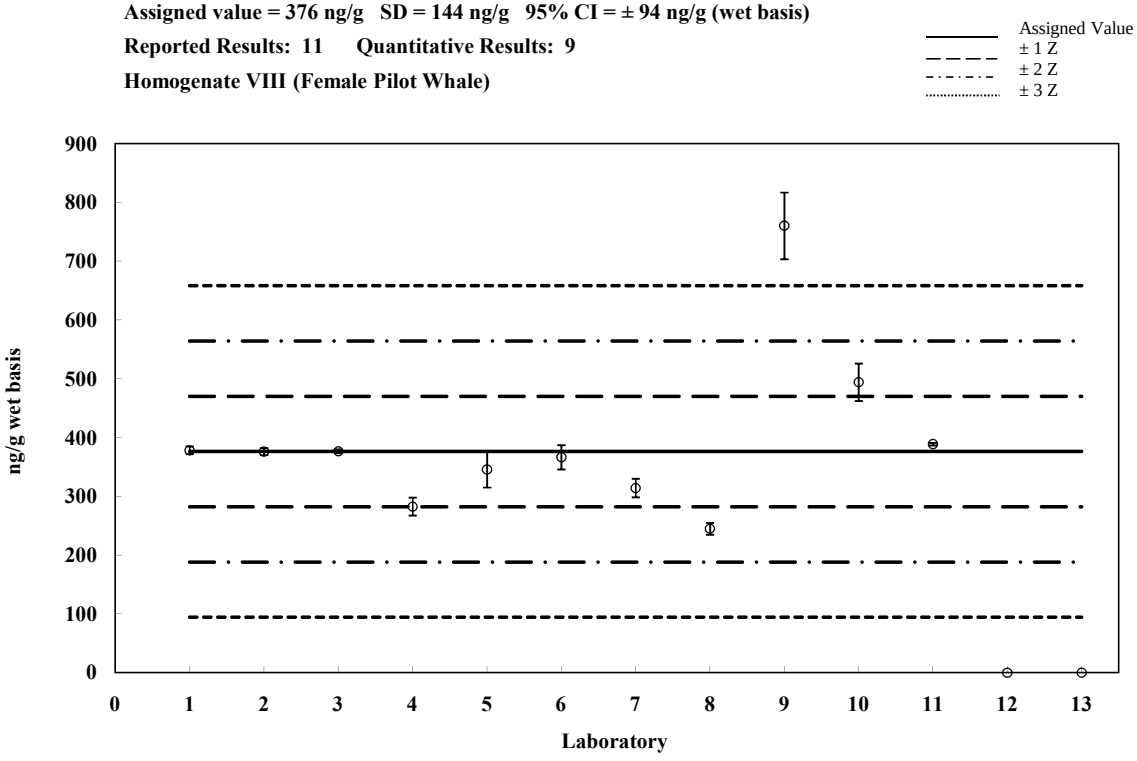


PCB 105

Assigned value = 376 ng/g SD = 144 ng/g 95% CI = ± 94 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

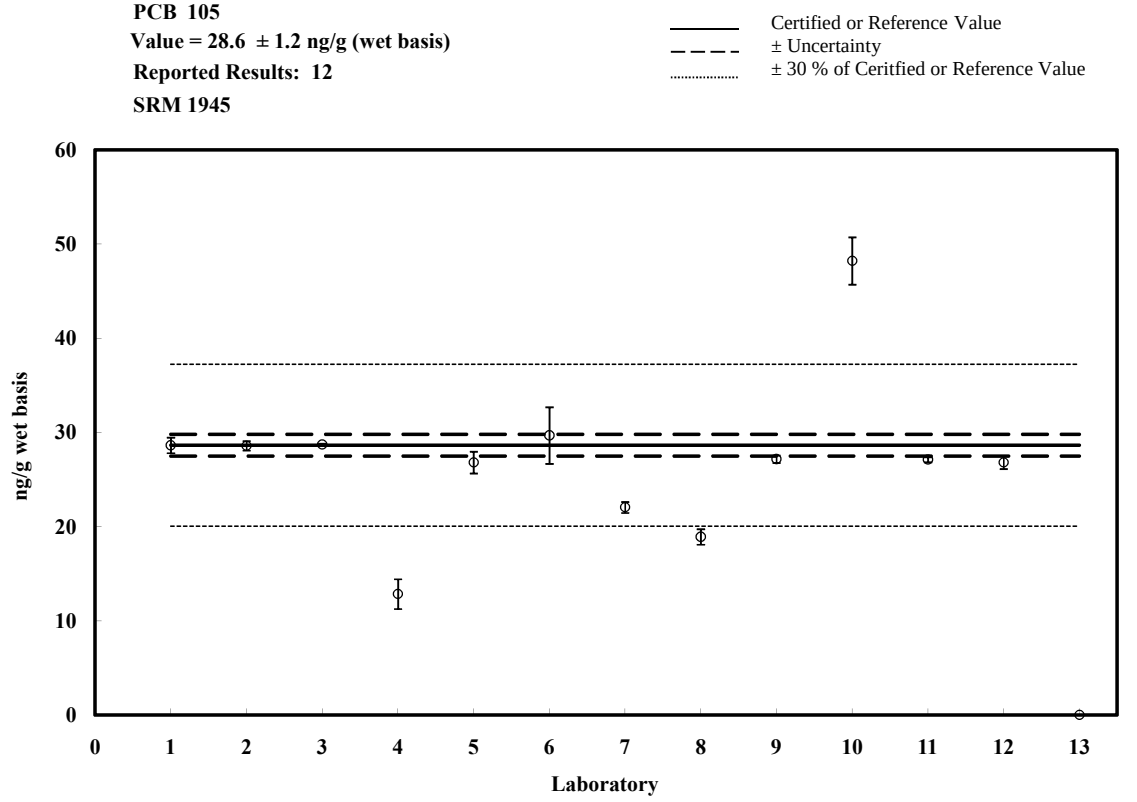


PCB 105

Value = 28.6 ± 1.2 ng/g (wet basis)

Reported Results: 12

SRM 1945

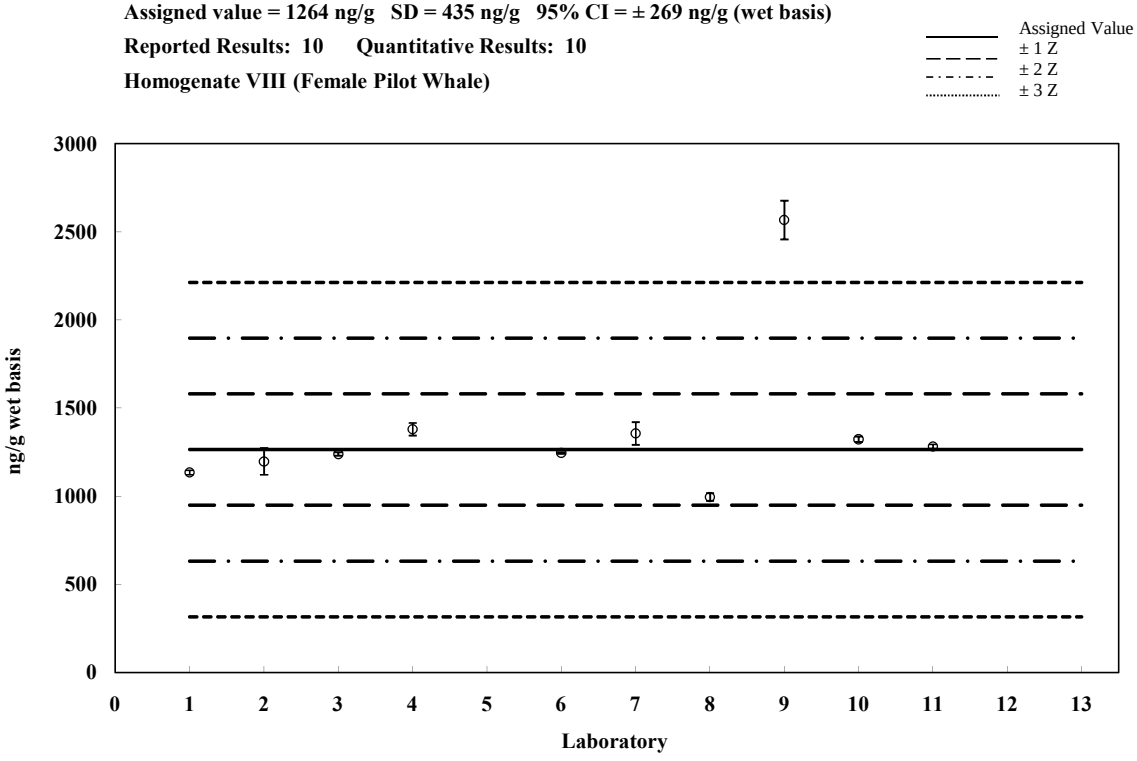


PCB 118

Assigned value = 1264 ng/g SD = 435 ng/g 95% CI = ± 269 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

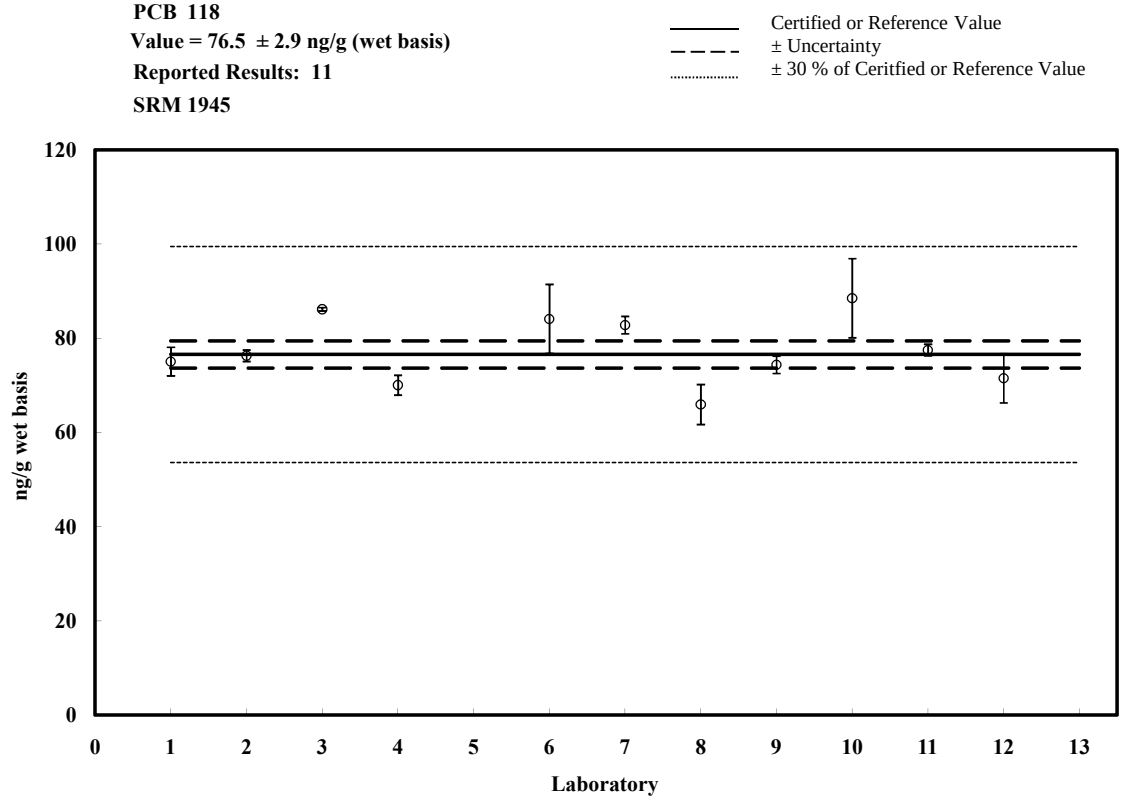


PCB 118

Value = 76.5 ± 2.9 ng/g (wet basis)

Reported Results: 11

SRM 1945

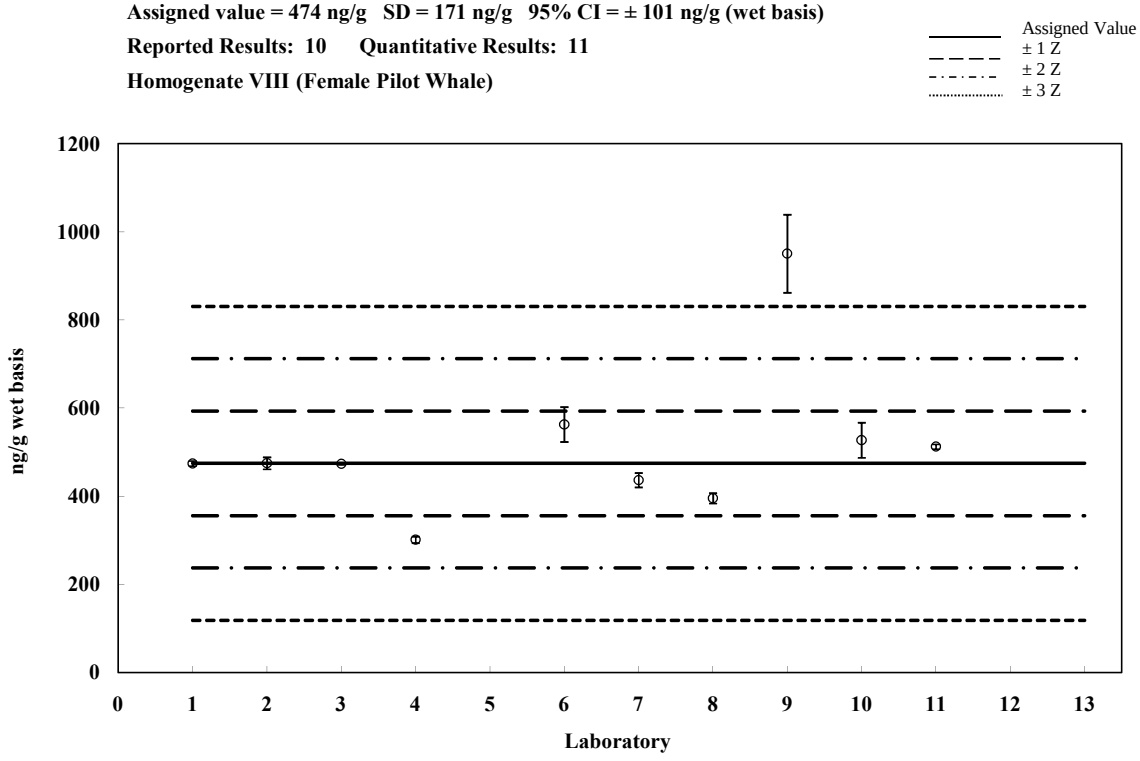


PCB 128

Assigned value = 474 ng/g SD = 171 ng/g 95% CI = ± 101 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 11

Homogenate VIII (Female Pilot Whale)

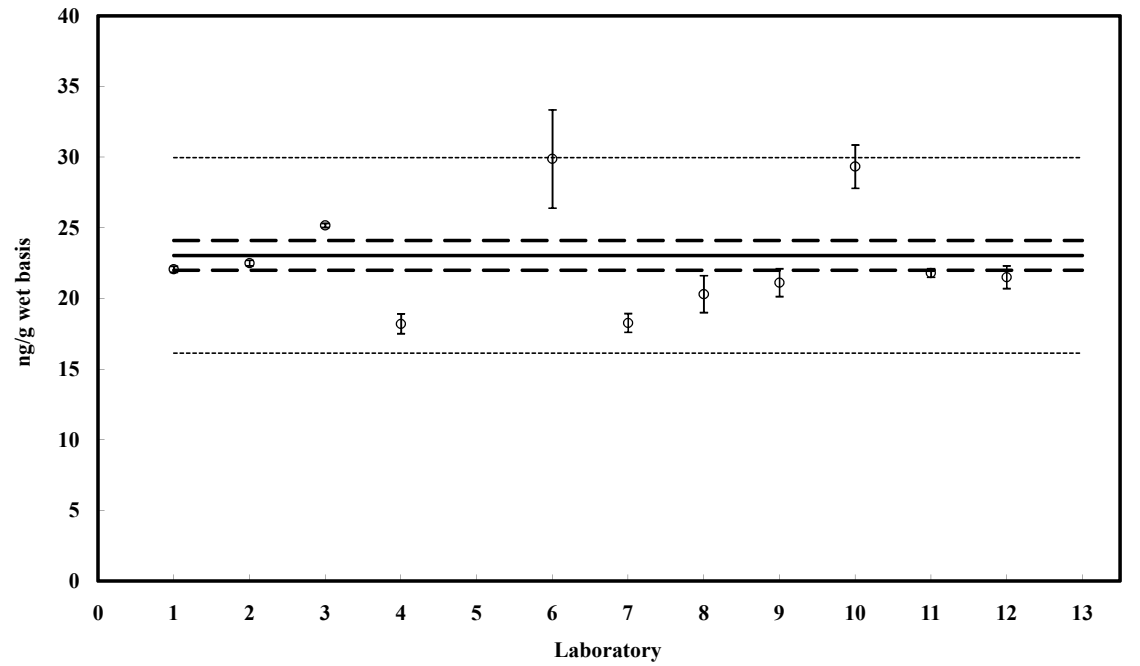


PCB 128

Value = 23.0 ± 1.1 ng/g (wet basis)

Reported Results: 11

SRM 1945

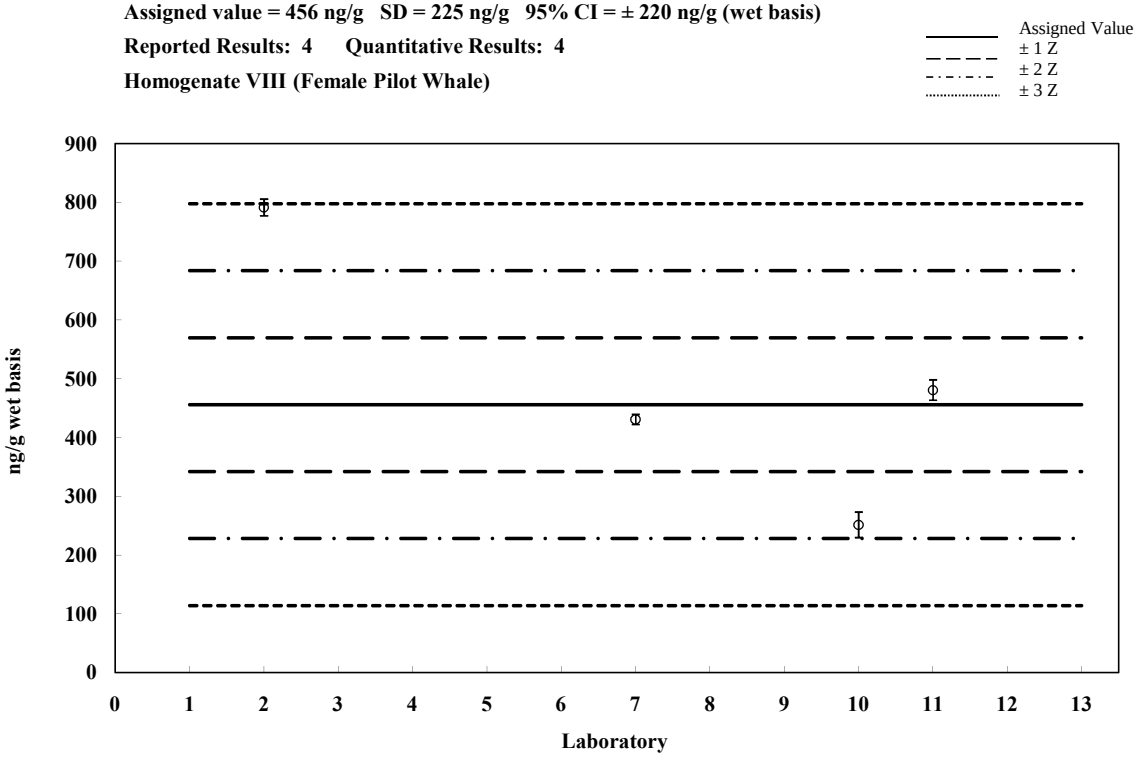


PCB 132

Assigned value = 456 ng/g SD = 225 ng/g 95% CI = ± 220 ng/g (wet basis)

Reported Results: 4 Quantitative Results: 4

Homogenate VIII (Female Pilot Whale)

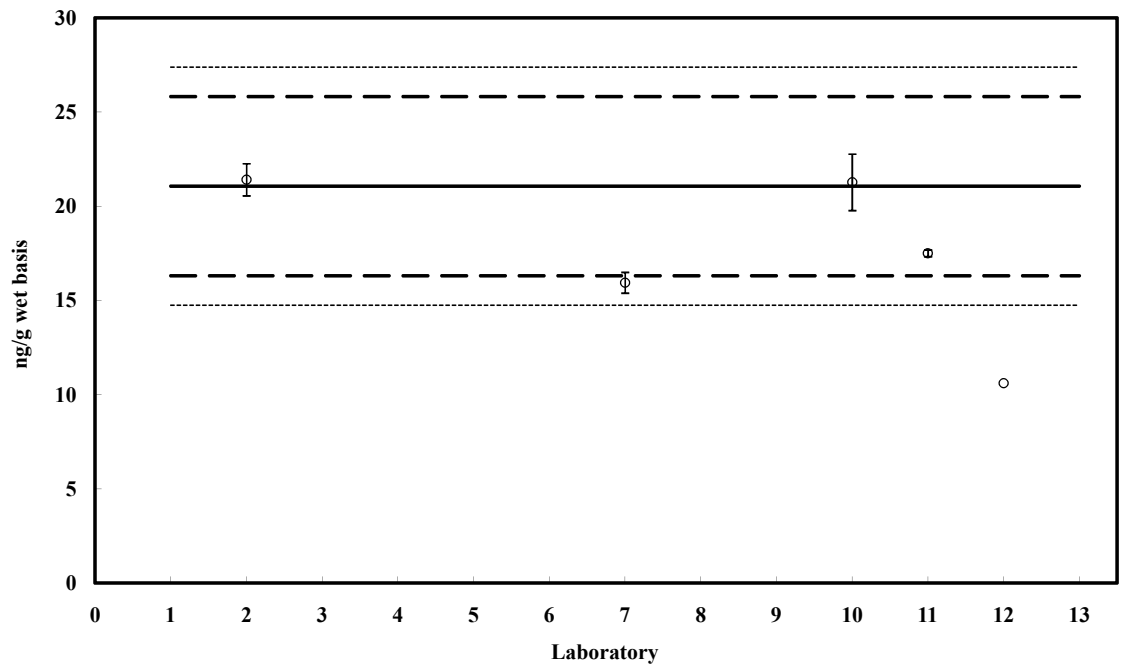


PCB 132

Value = 21.1 ± 4.8 ng/g (wet basis)

Reported Results: 5

SRM 1945

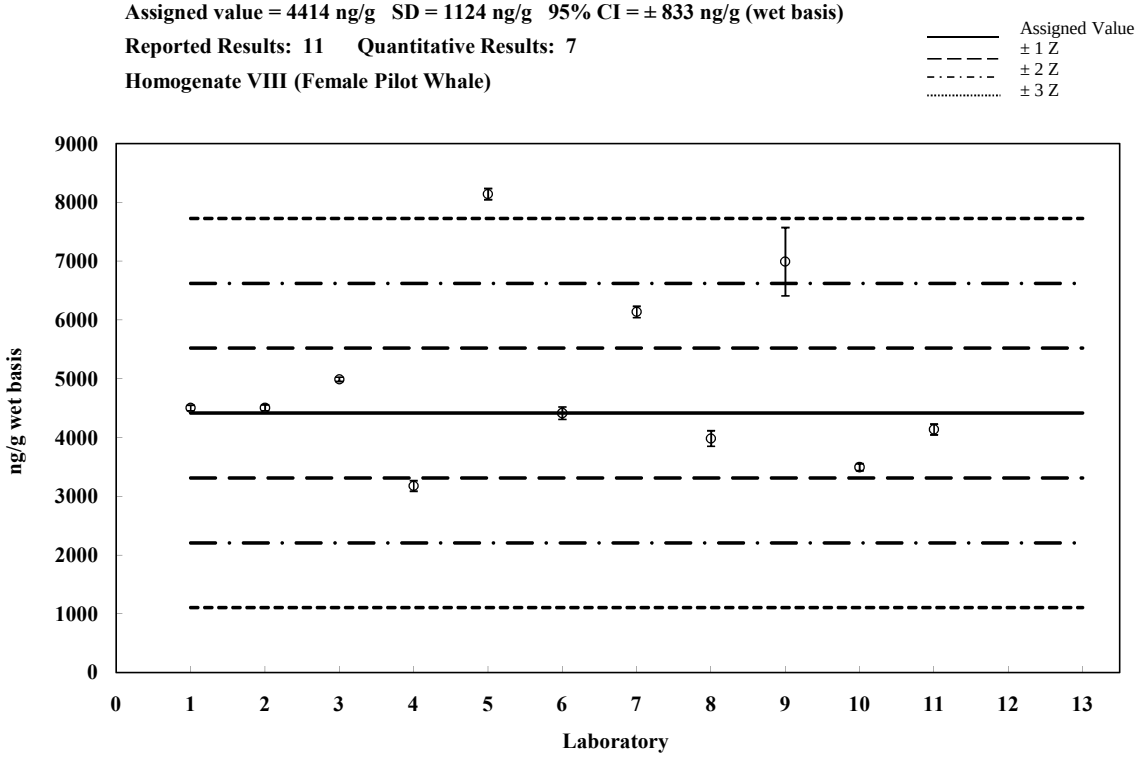


PCB 138 (+163+164)

Assigned value = 4414 ng/g SD = 1124 ng/g 95% CI = ± 833 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 7

Homogenate VIII (Female Pilot Whale)

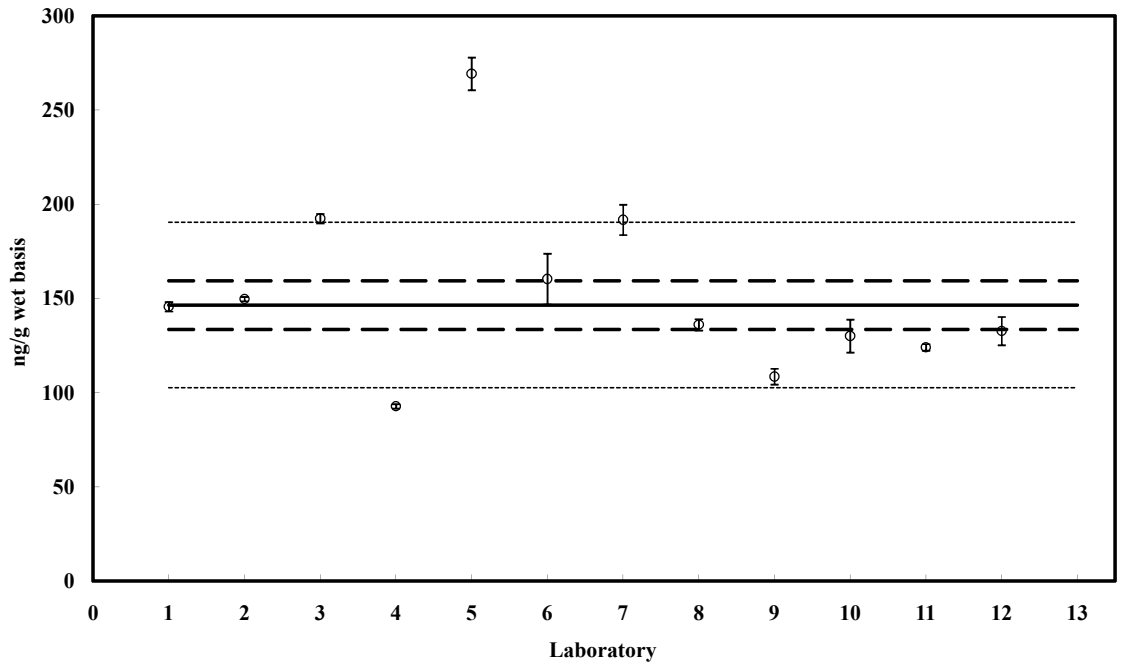


PCB 138 (+163+164)

Value = 146 ± 13 ng/g (wet basis)

Reported Results: 12

SRM 1945

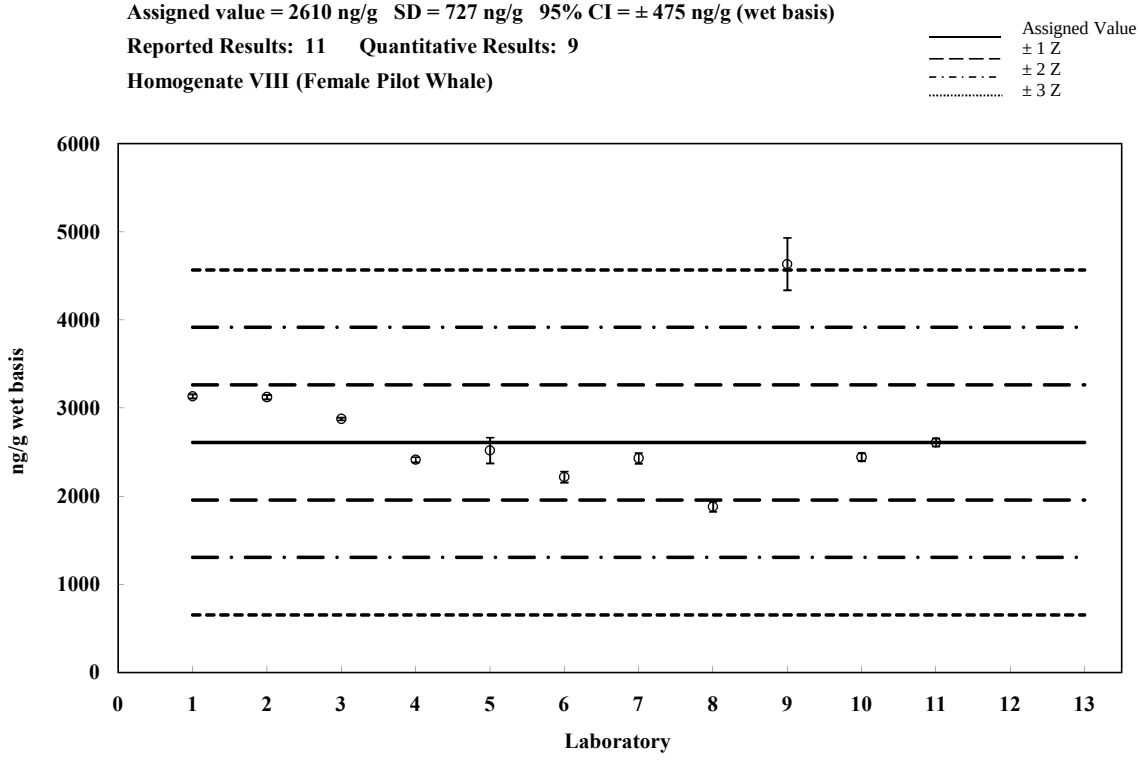


PCB 149

Assigned value = 2610 ng/g SD = 727 ng/g 95% CI = ± 475 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

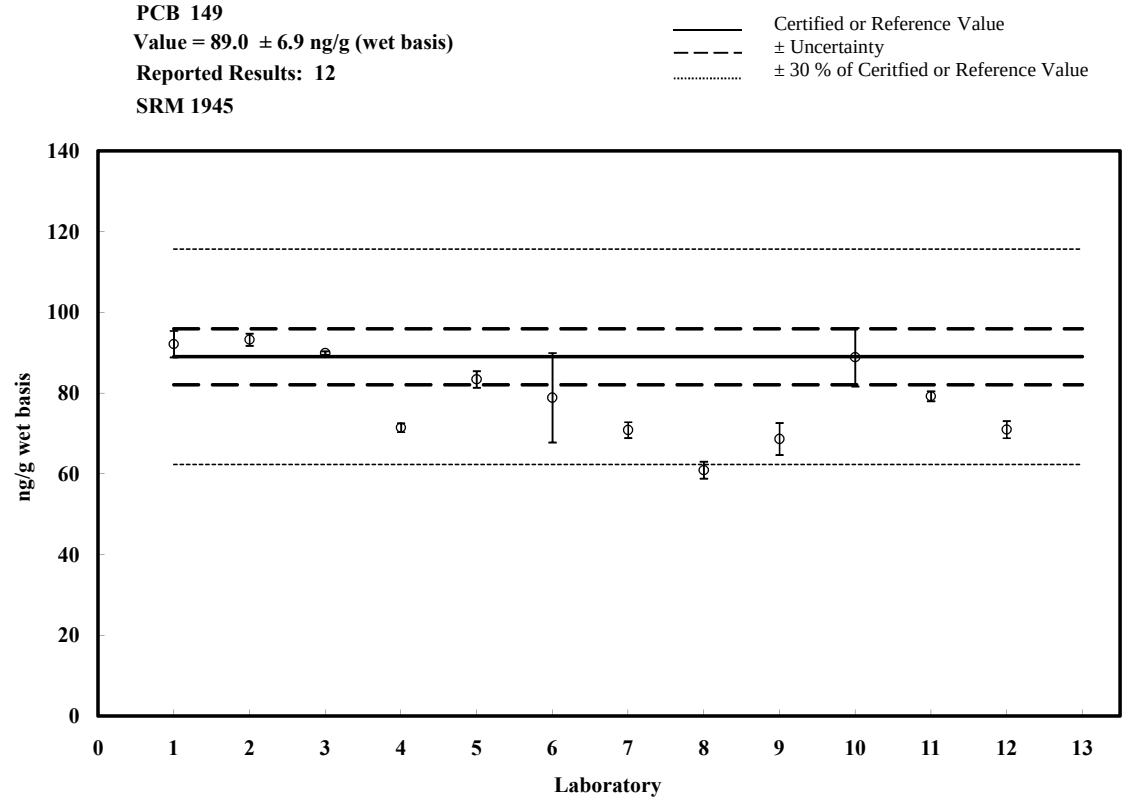


PCB 149

Value = 89.0 ± 6.9 ng/g (wet basis)

Reported Results: 12

SRM 1945

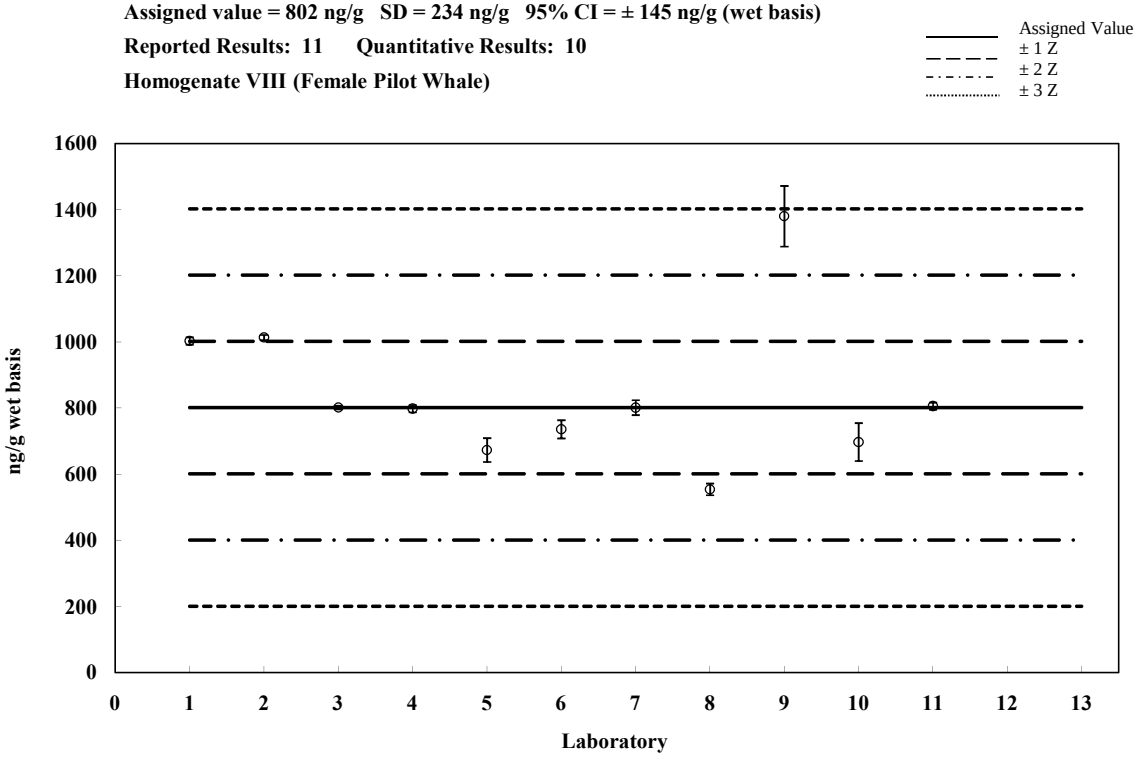


PCB 151

Assigned value = 802 ng/g SD = 234 ng/g 95% CI = ± 145 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

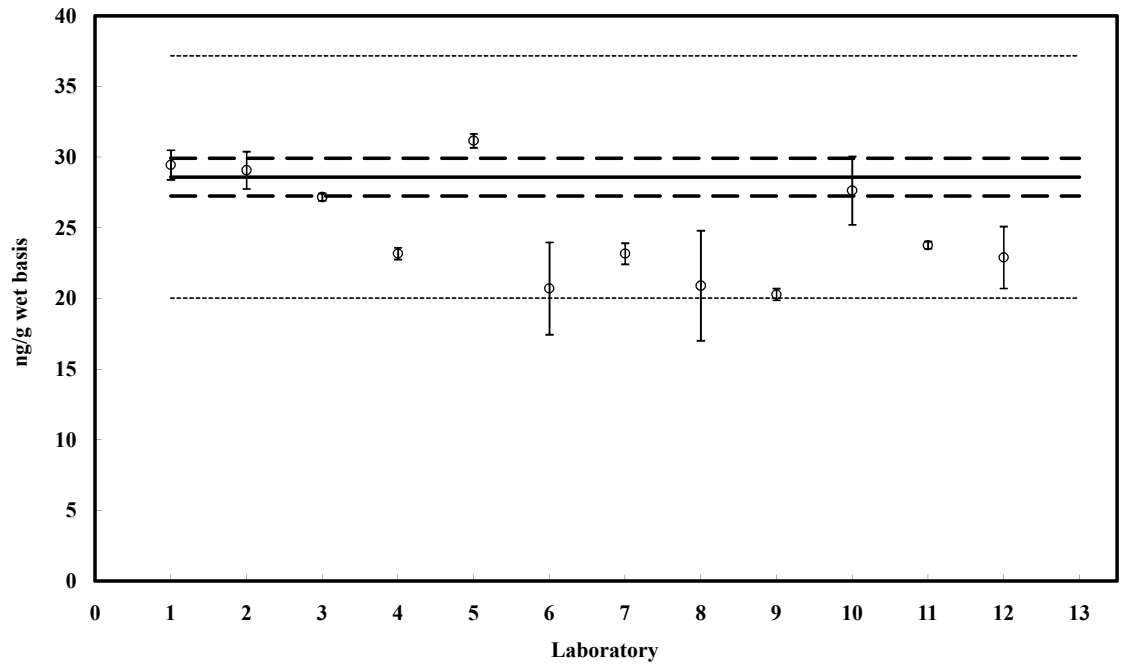


PCB 151

Value = 28.6 ± 1.3 ng/g (wet basis)

Reported Results: 12

SRM 1945

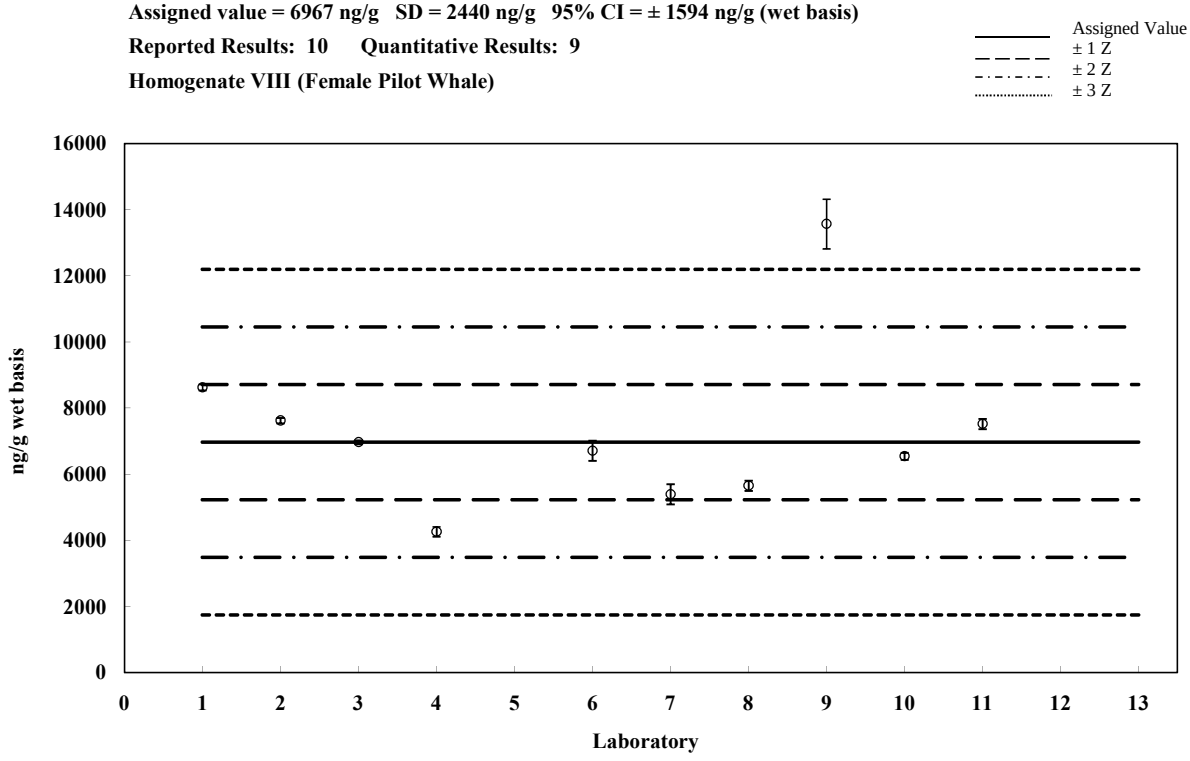


PCB 153

Assigned value = 6967 ng/g SD = 2440 ng/g 95% CI = ± 1594 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

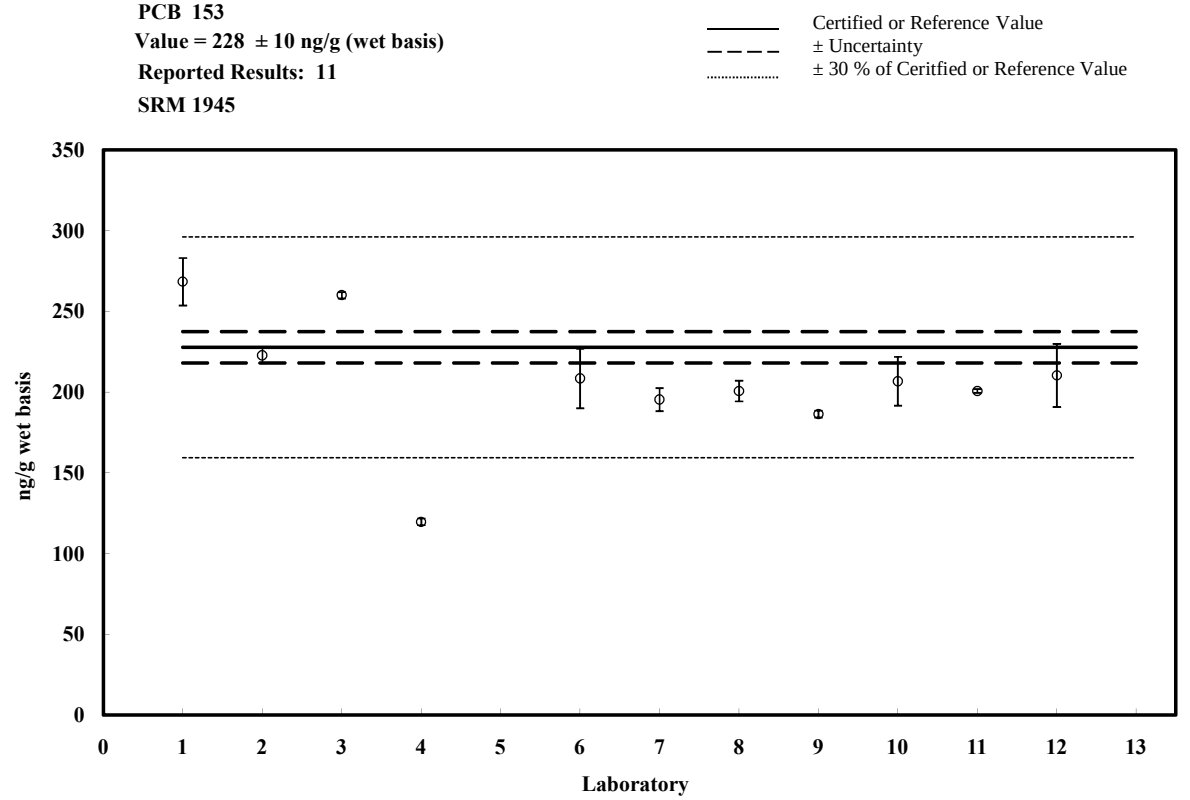


PCB 153

Value = 228 ± 10 ng/g (wet basis)

Reported Results: 11

SRM 1945

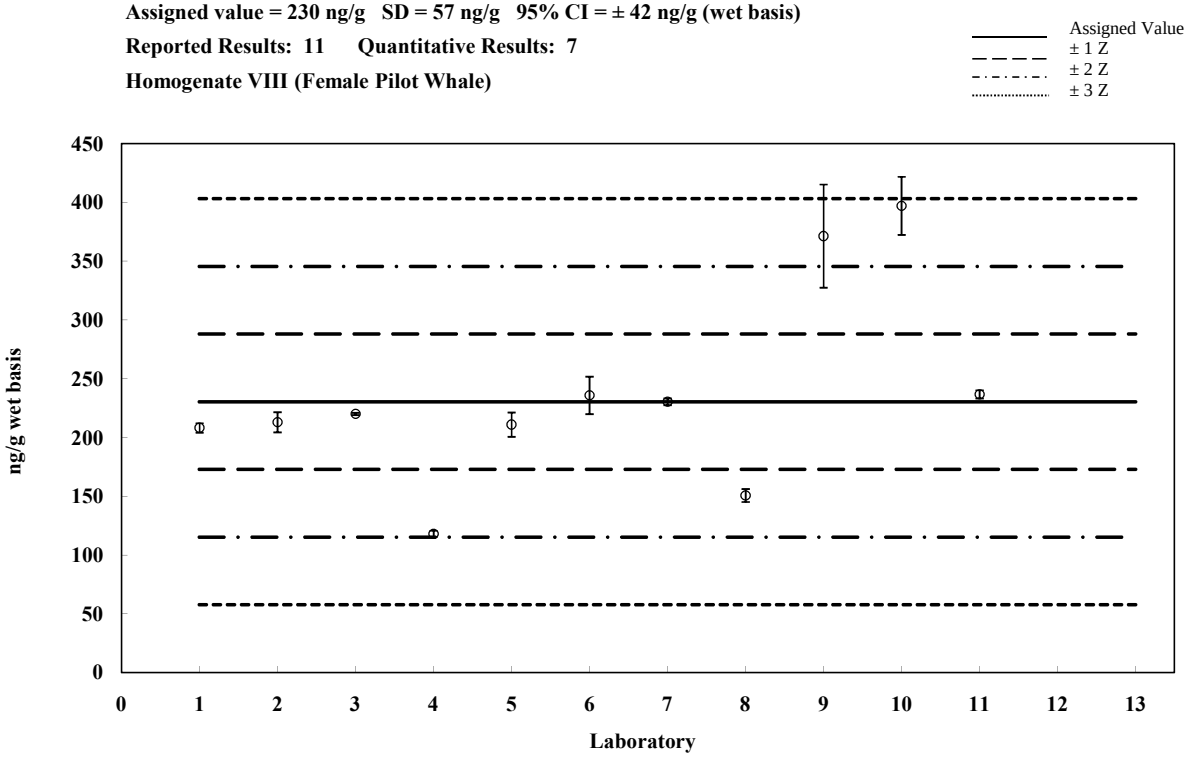


PCB 156

Assigned value = 230 ng/g SD = 57 ng/g 95% CI = ± 42 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 7

Homogenate VIII (Female Pilot Whale)

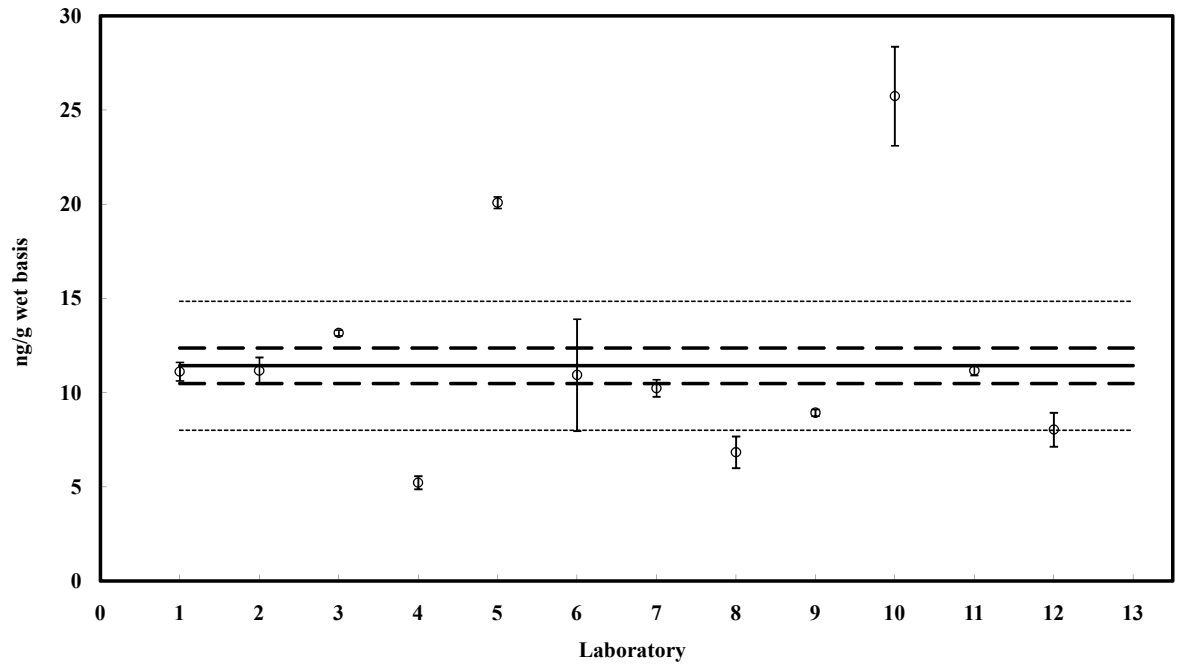


PCB 156

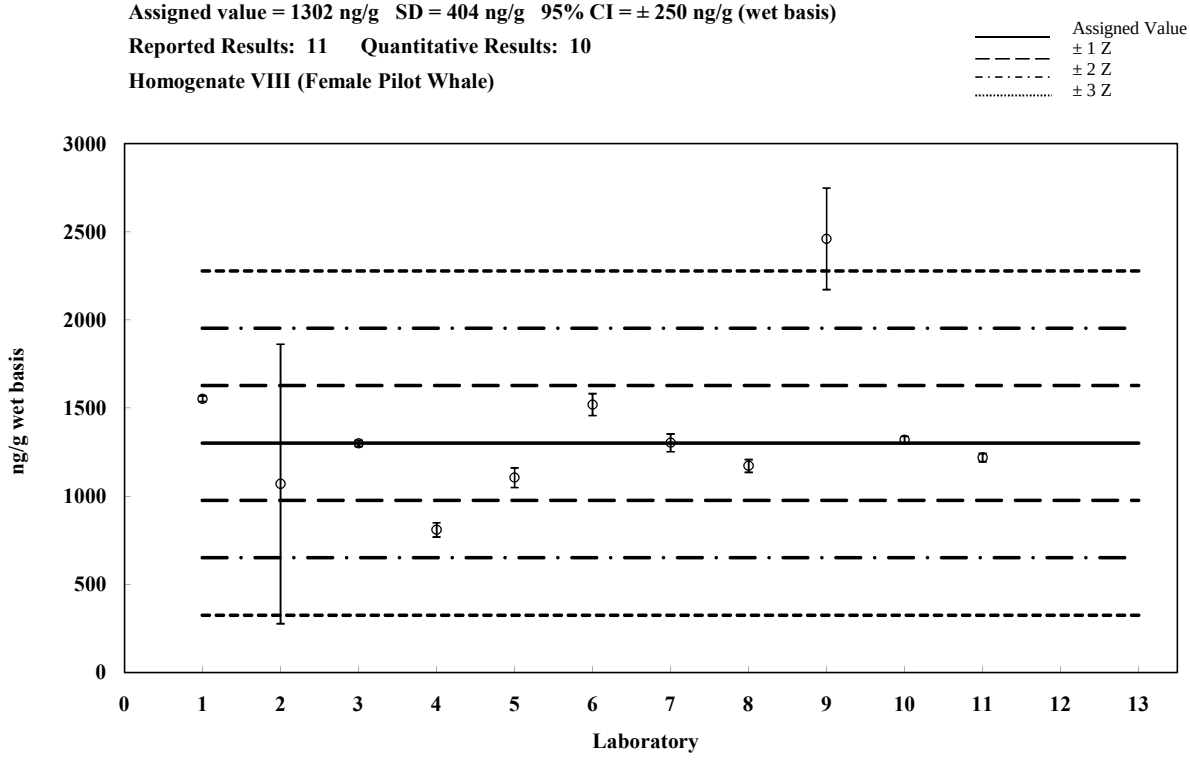
Value = 11 .4 ± 0.9 ng/g (wet basis)

Reported Results: 12

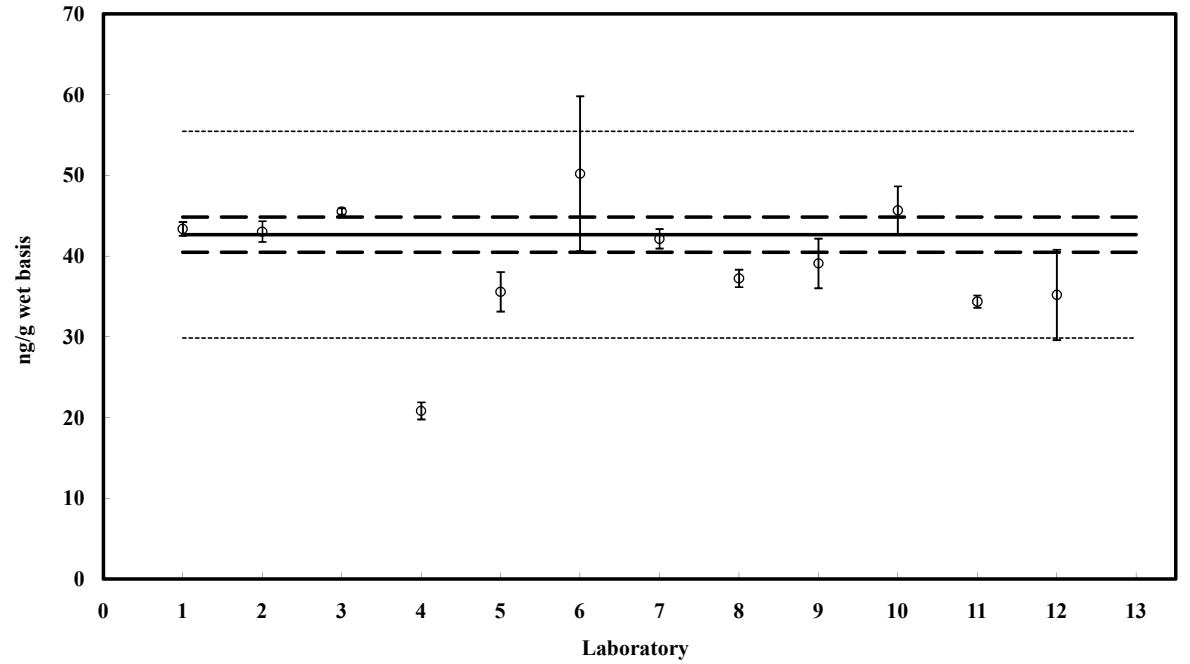
SRM 1945



PCB 170 (+190)
Assigned value = 1302 ng/g SD = 404 ng/g 95% CI = ± 250 ng/g (wet basis)
Reported Results: 11 Quantitative Results: 10
Homogenate VIII (Female Pilot Whale)



PCB 170 (+190)
Value = 42.6 ± 2.2 ng/g (wet basis)
Reported Results: 12
SRM 1945

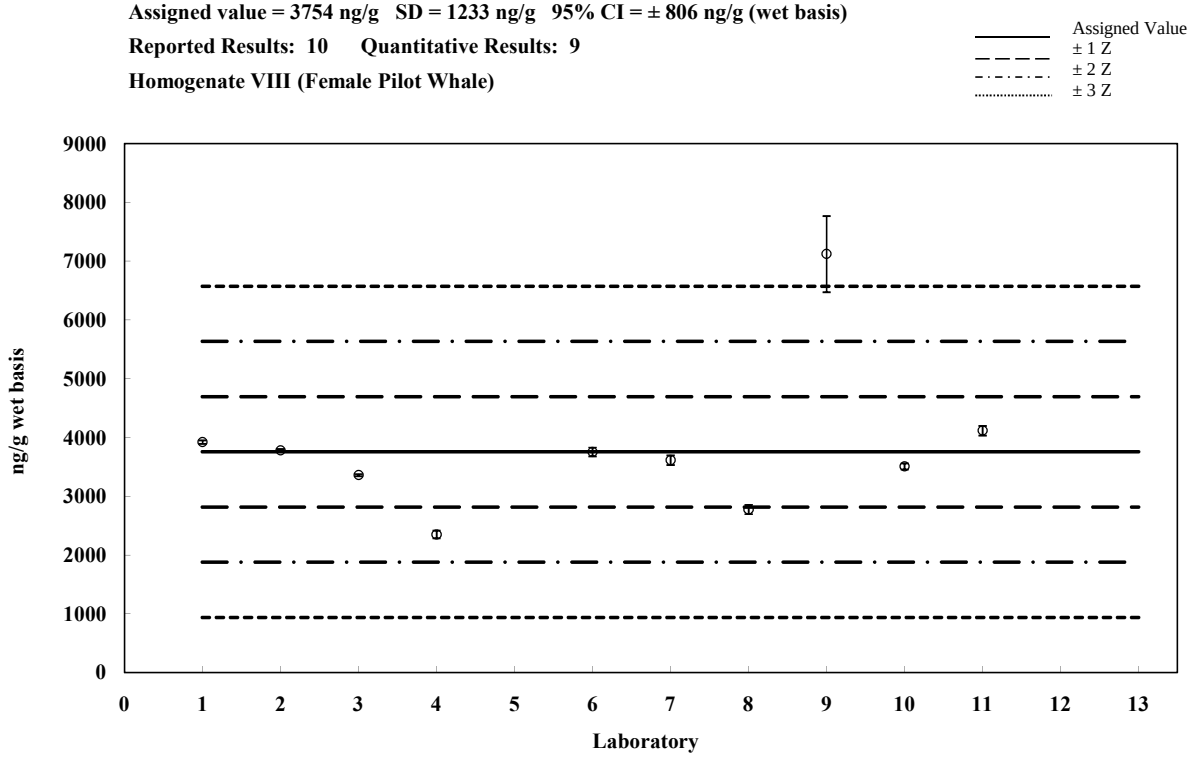


PCB 180

Assigned value = 3754 ng/g SD = 1233 ng/g 95% CI = ± 806 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

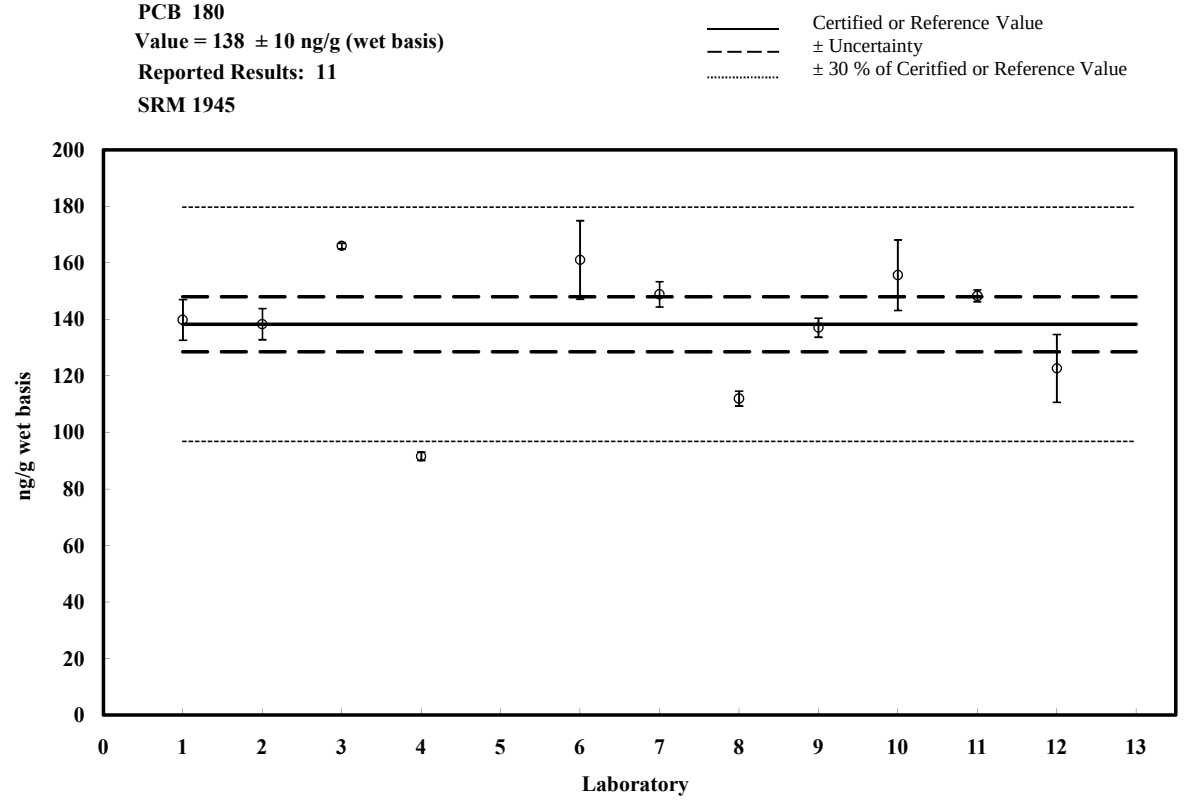


PCB 180

Value = 138 ± 10 ng/g (wet basis)

Reported Results: 11

SRM 1945

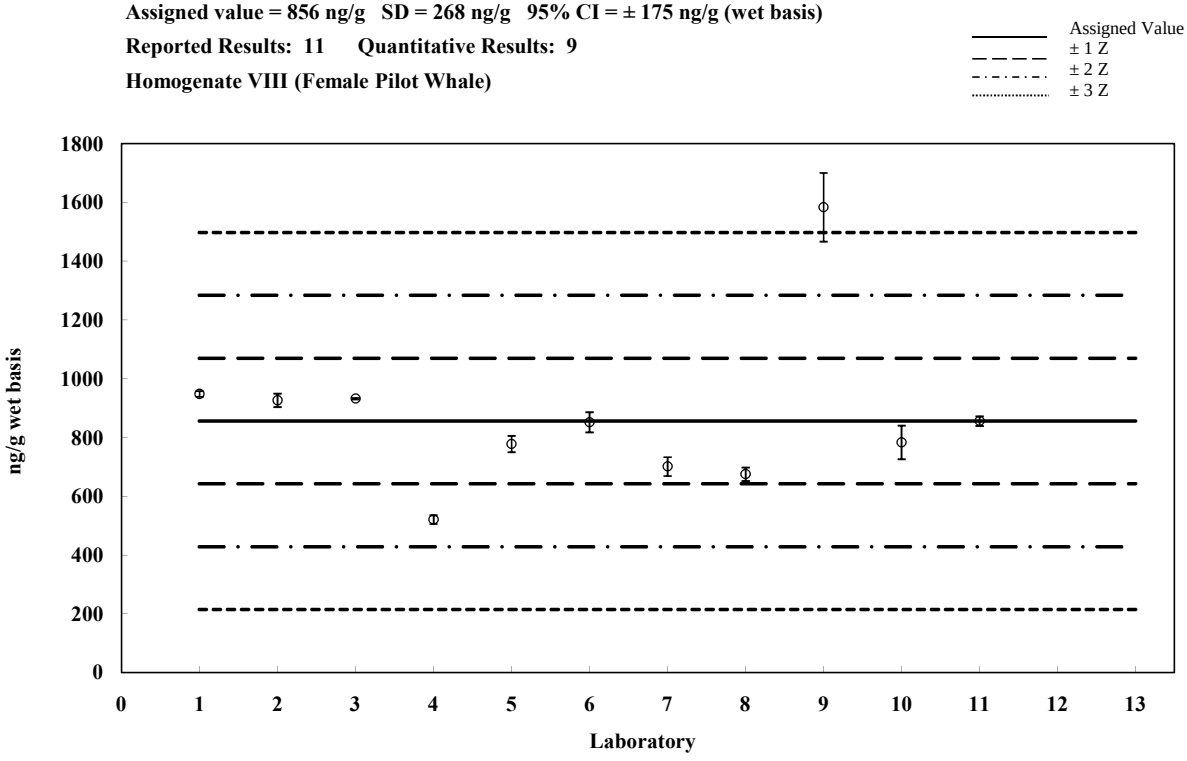


PCB 183

Assigned value = 856 ng/g SD = 268 ng/g 95% CI = ± 175 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

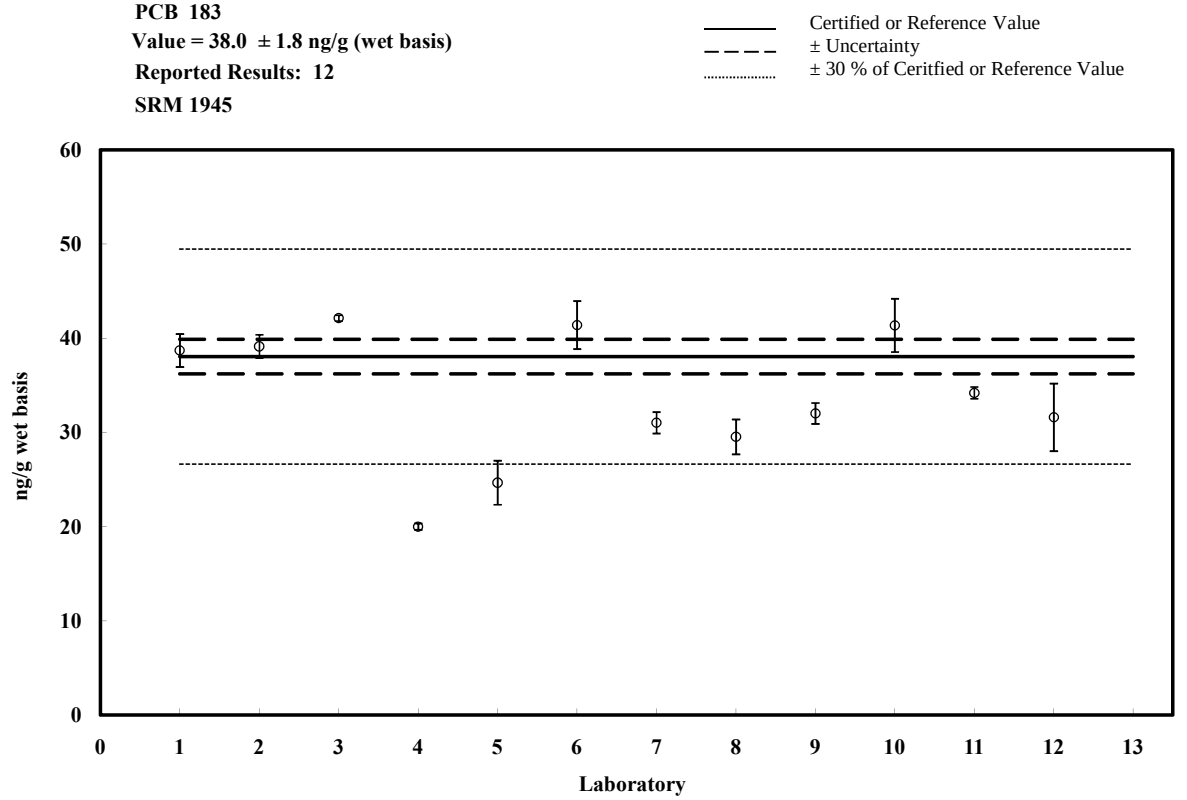


PCB 183

Value = 38.0 ± 1.8 ng/g (wet basis)

Reported Results: 12

SRM 1945

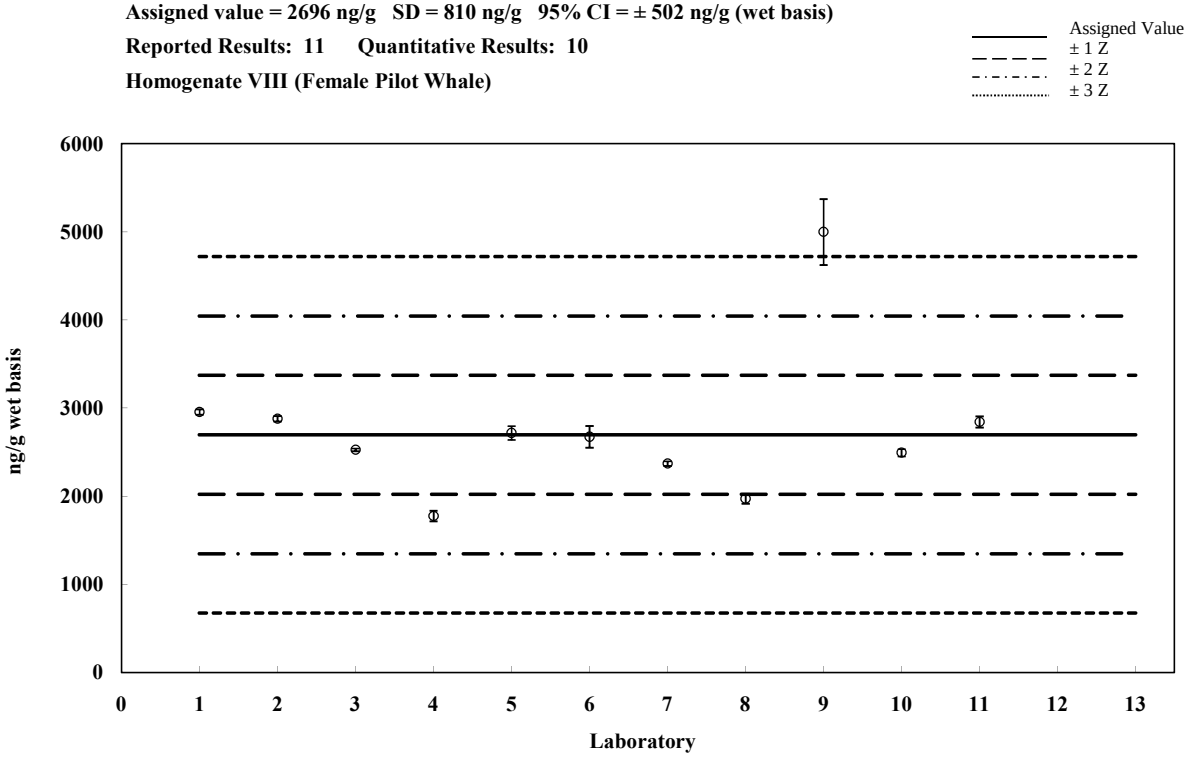


PCB 187

Assigned value = 2696 ng/g SD = 810 ng/g 95% CI = ± 502 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

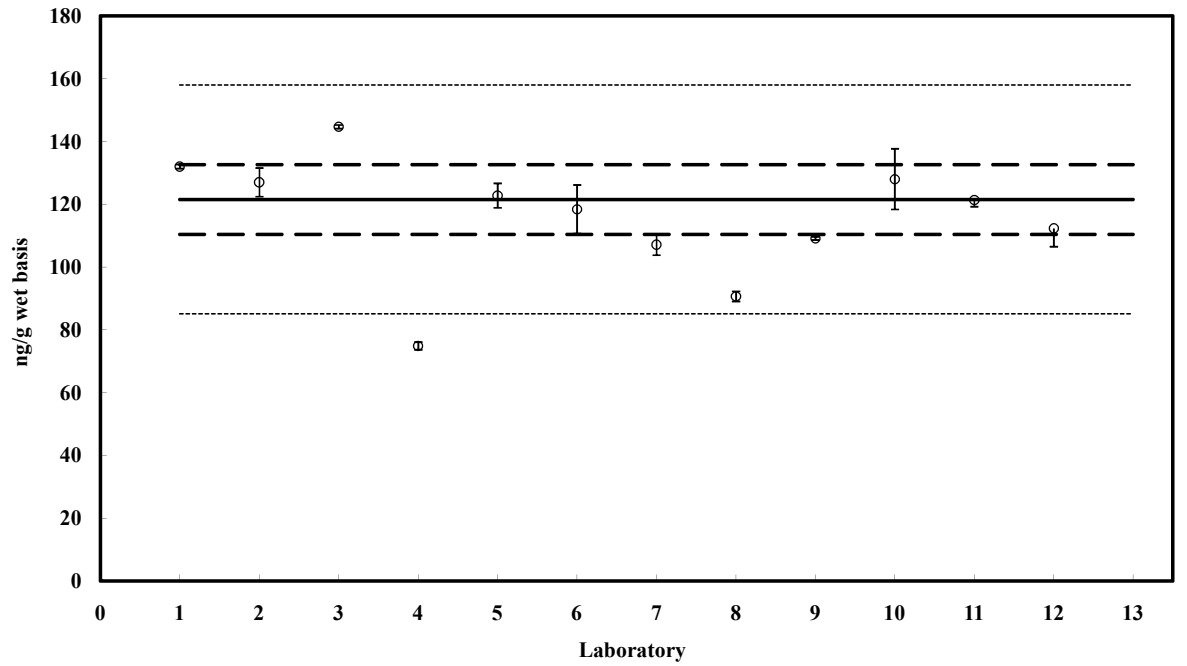


PCB 187

Value = 121 ± 11 ng/g (wet basis)

Reported Results: 12

SRM 1945

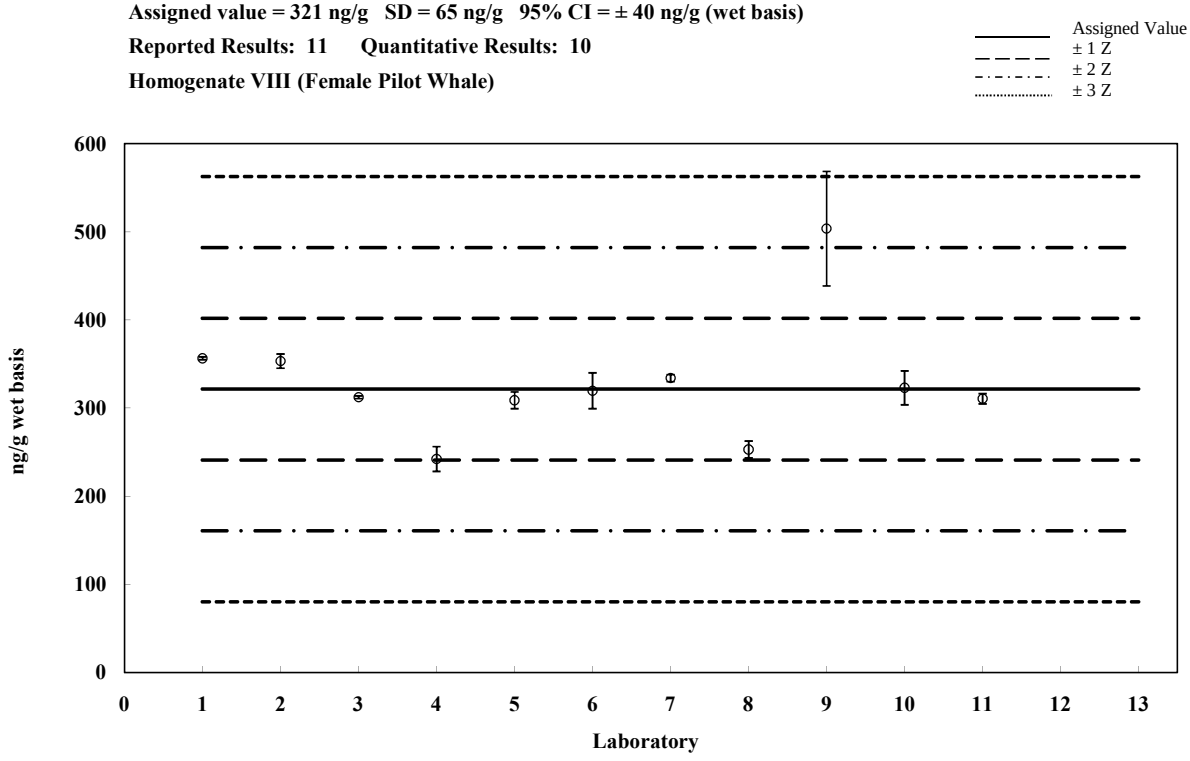


PCB 194

Assigned value = 321 ng/g SD = 65 ng/g 95% CI = ± 40 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

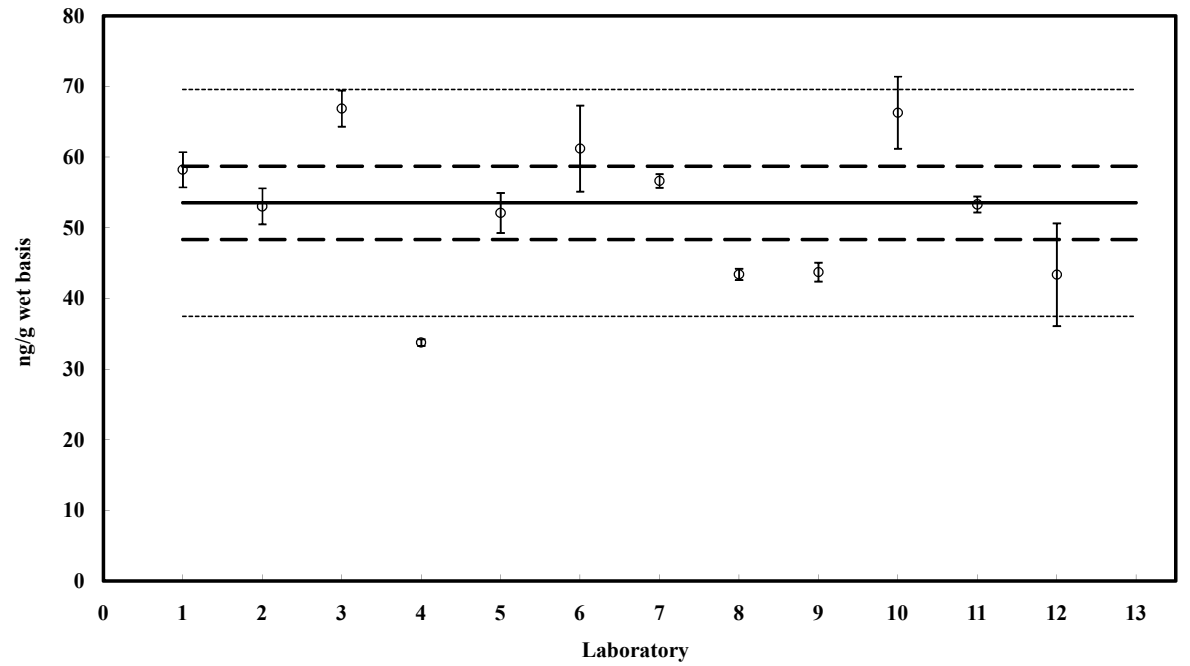


PCB 194

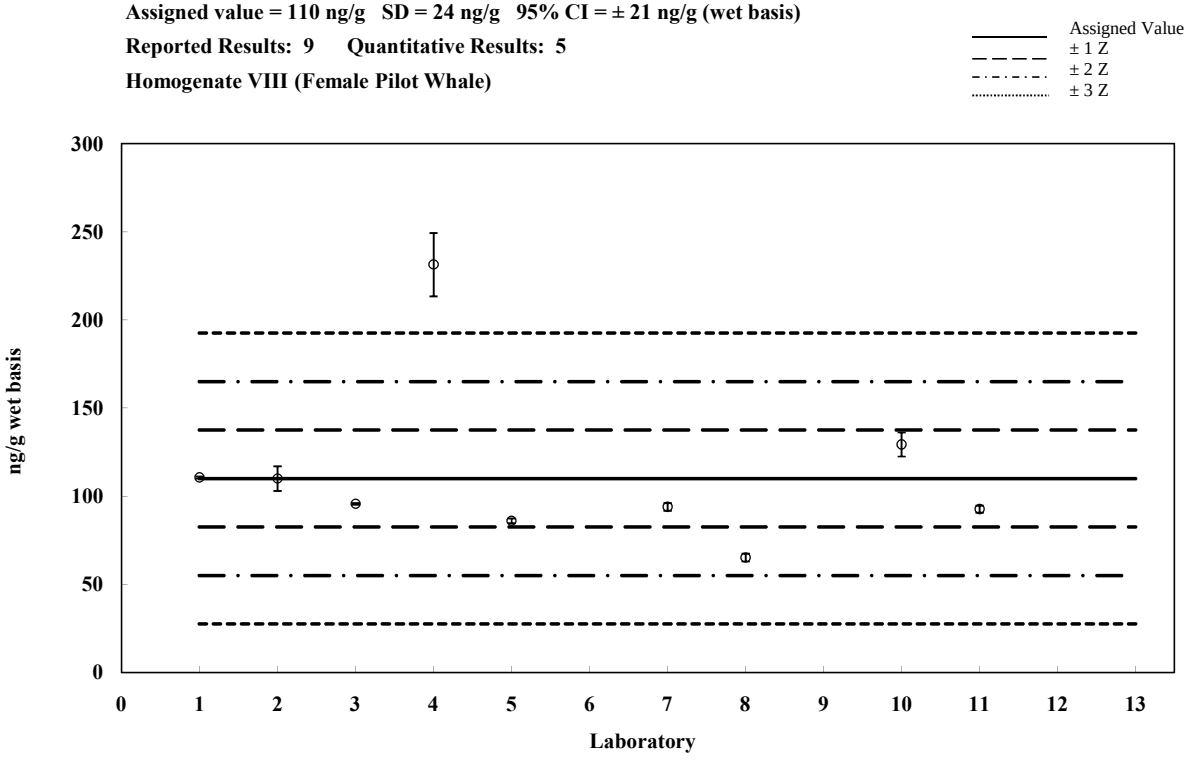
Value = 53.5 ± 5.2 ng/g (wet basis)

Reported Results: 12

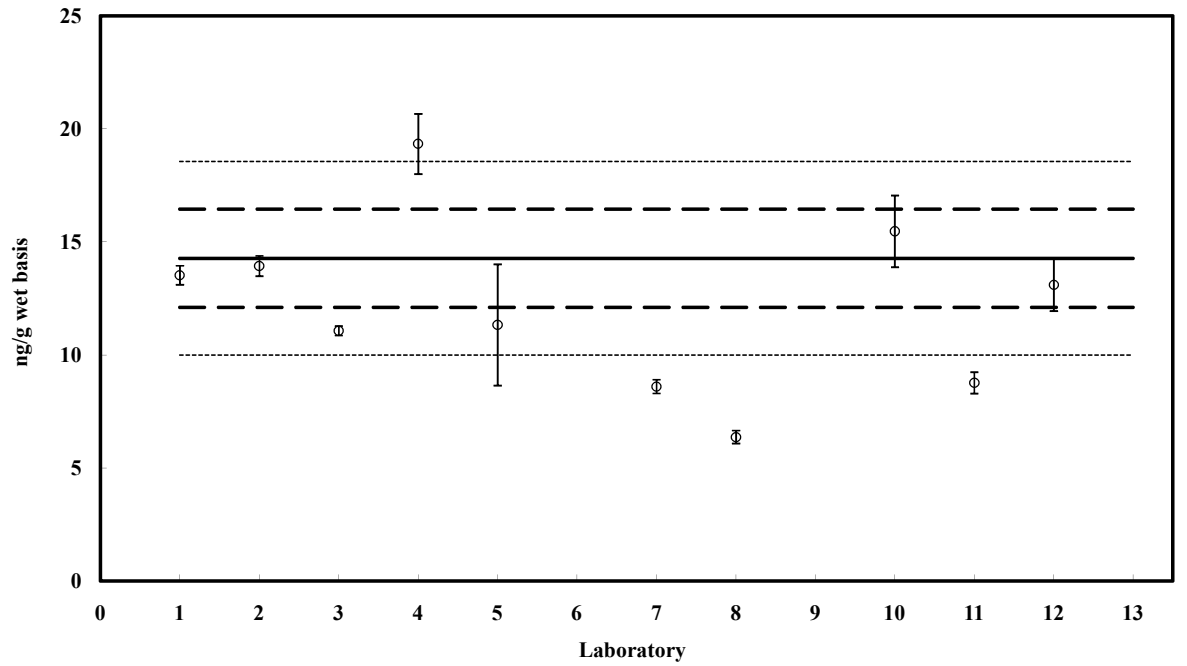
SRM 1945



PCB 195
Assigned value = 110 ng/g SD = 24 ng/g 95% CI = ± 21 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 5
Homogenate VIII (Female Pilot Whale)



PCB 195
Value = 14.3 ± 2.2 ng/g (wet basis)
Reported Results: 10
SRM 1945

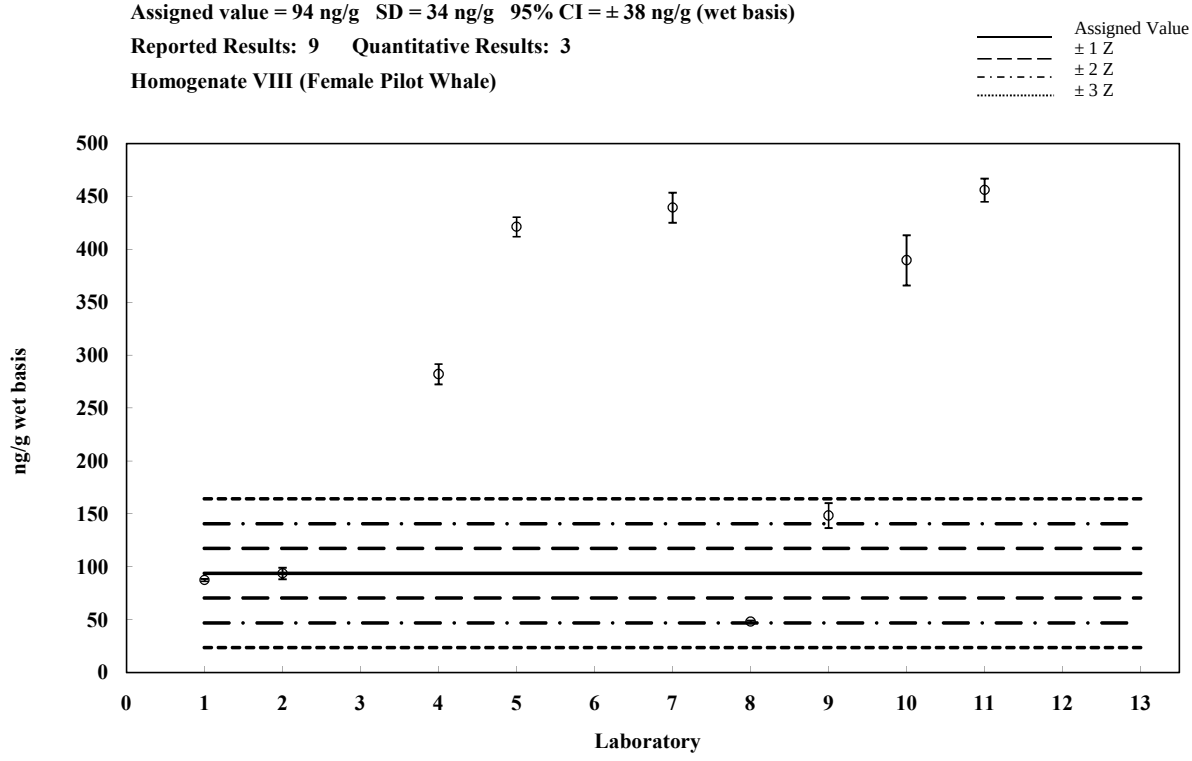


PCB 201

Assigned value = 94 ng/g SD = 34 ng/g 95% CI = ± 38 ng/g (wet basis)

Reported Results: 9 Quantitative Results: 3

Homogenate VIII (Female Pilot Whale)

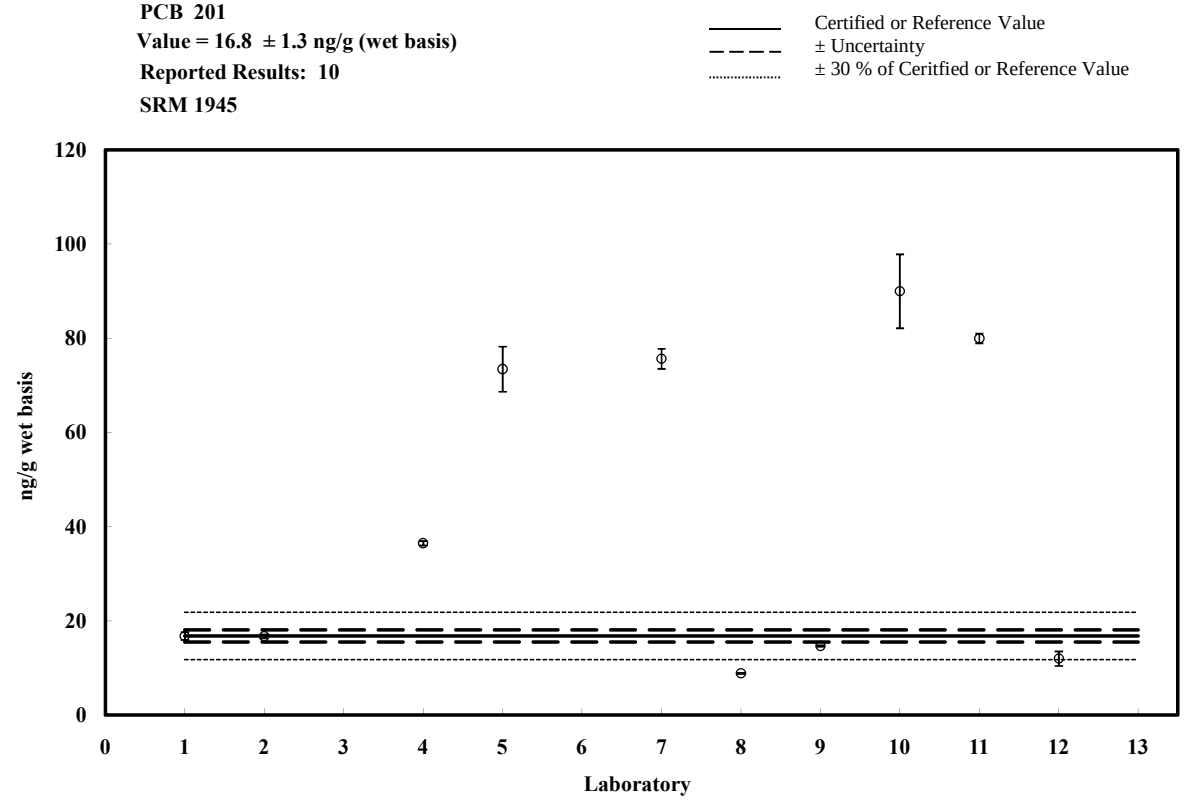


PCB 201

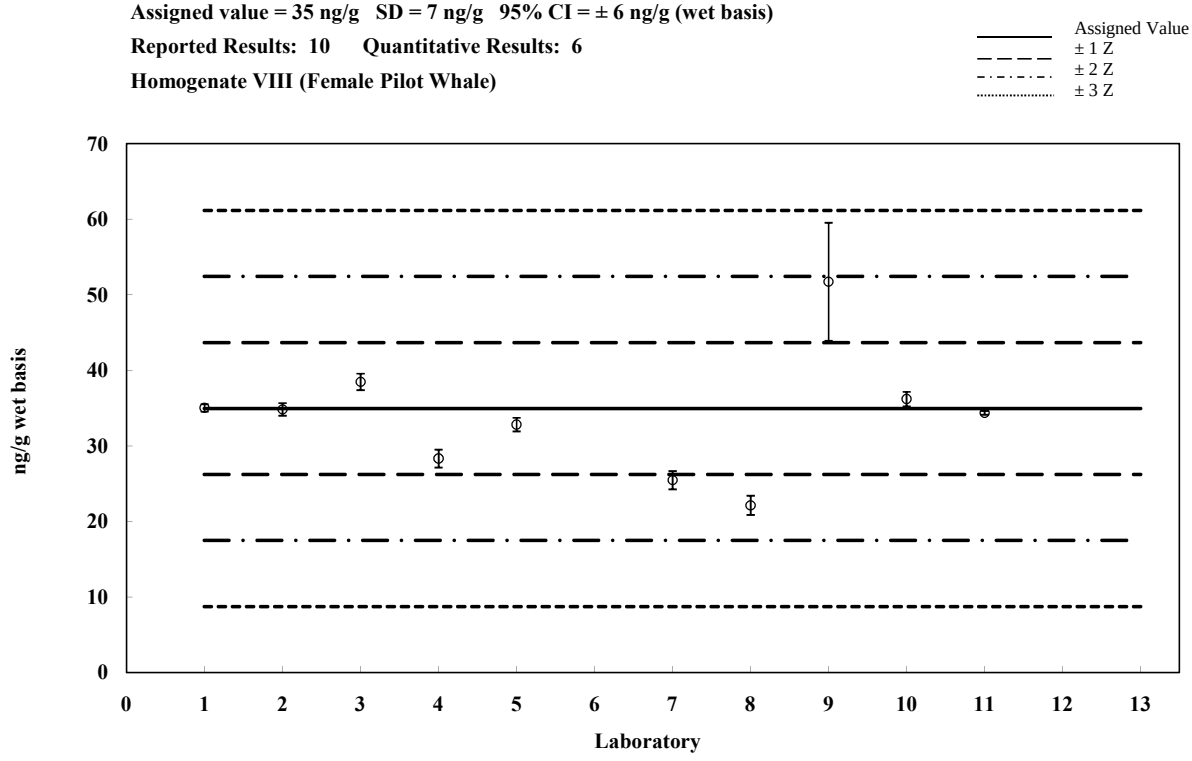
Value = 16.8 ± 1.3 ng/g (wet basis)

Reported Results: 10

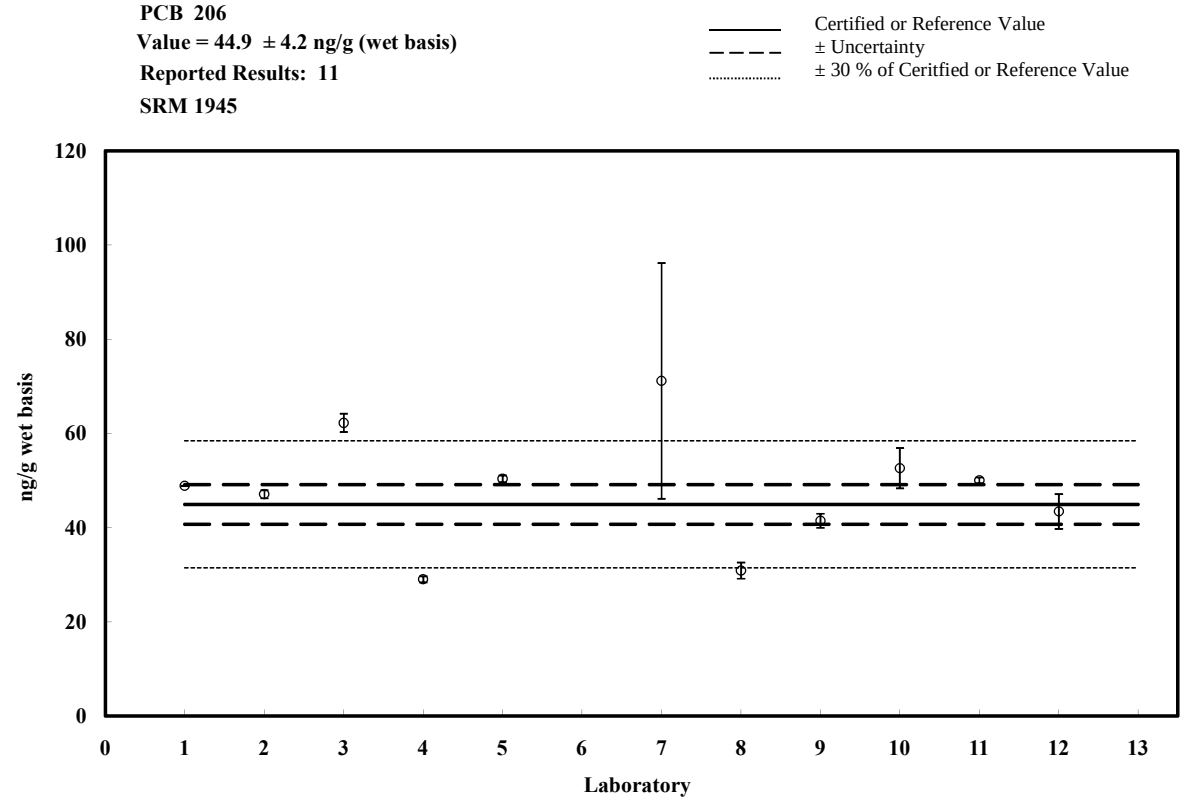
SRM 1945



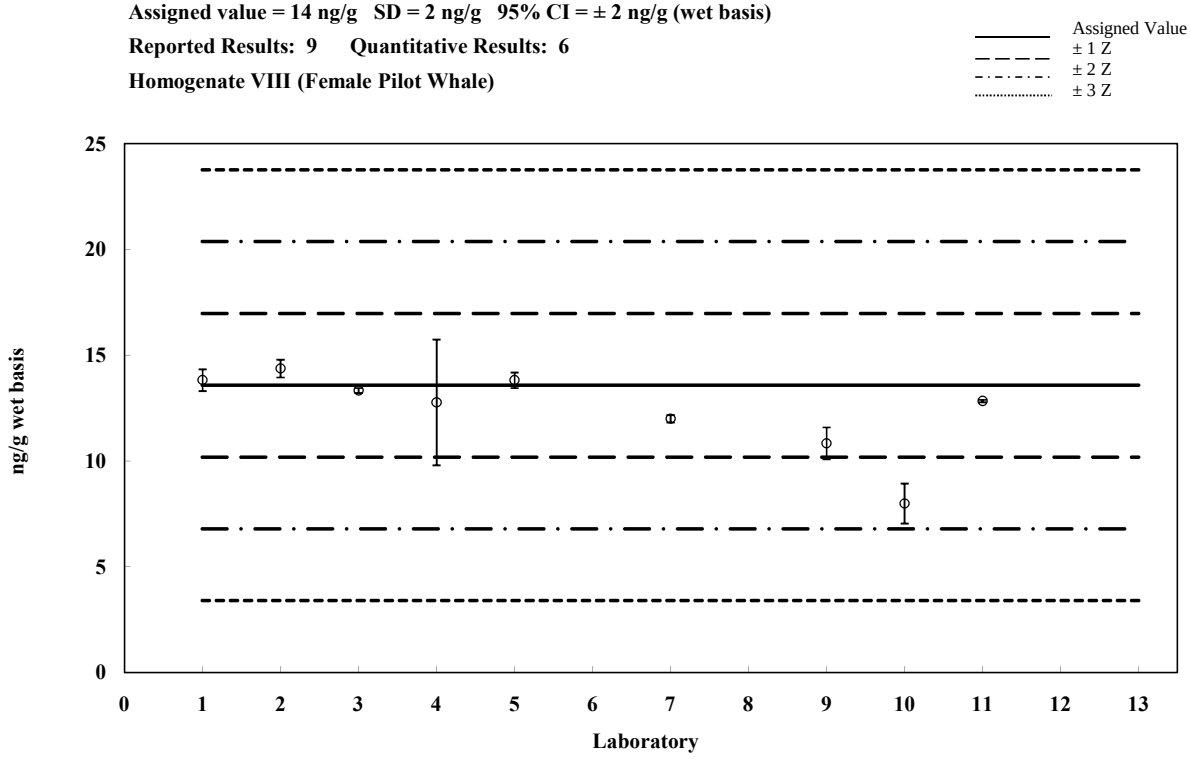
PCB 206
Assigned value = 35 ng/g SD = 7 ng/g 95% CI = ± 6 ng/g (wet basis)
Reported Results: 10 Quantitative Results: 6
Homogenate VIII (Female Pilot Whale)



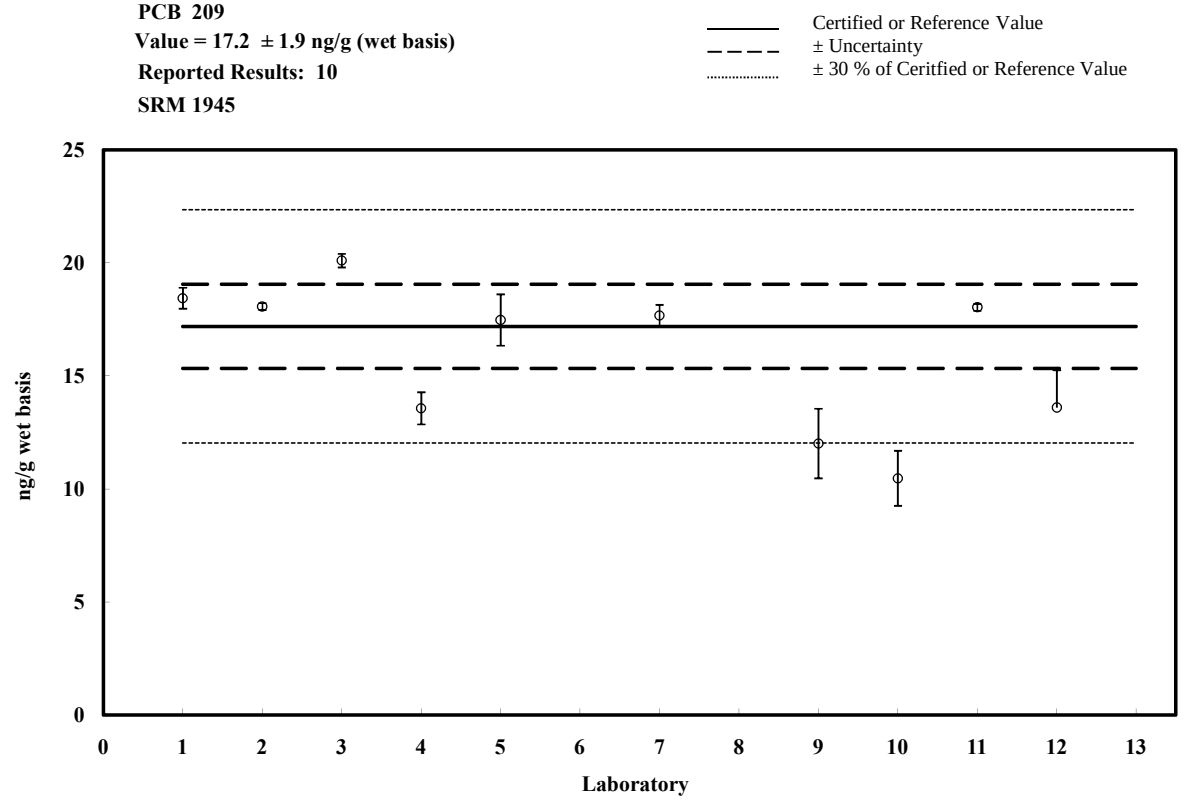
PCB 206
Value = 44.9 ± 4.2 ng/g (wet basis)
Reported Results: 11
SRM 1945



PCB 209
Assigned value = 14 ng/g SD = 2 ng/g 95% CI = ± 2 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 6
Homogenate VIII (Female Pilot Whale)



PCB 209
Value = 17.2 ± 1.9 ng/g (wet basis)
Reported Results: 10
SRM 1945

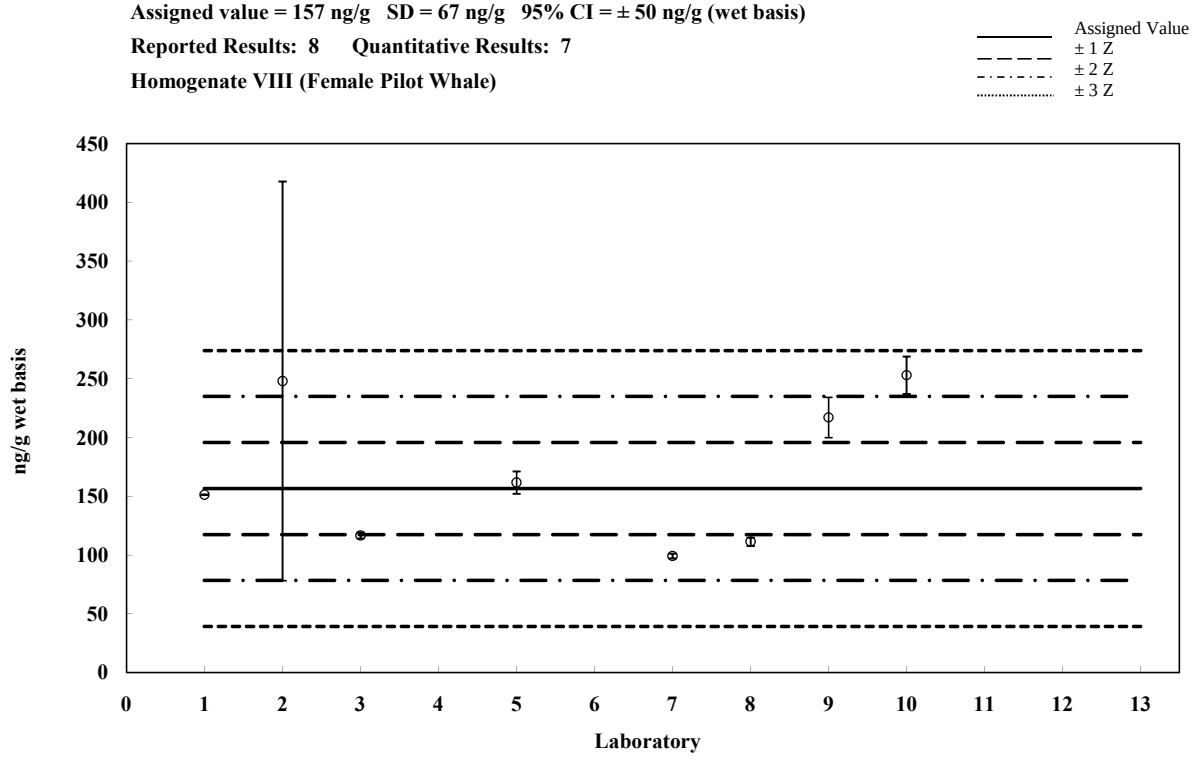


PCB 66

Assigned value = 157 ng/g SD = 67 ng/g 95% CI = ± 50 ng/g (wet basis)

Reported Results: 8 Quantitative Results: 7

Homogenate VIII (Female Pilot Whale)

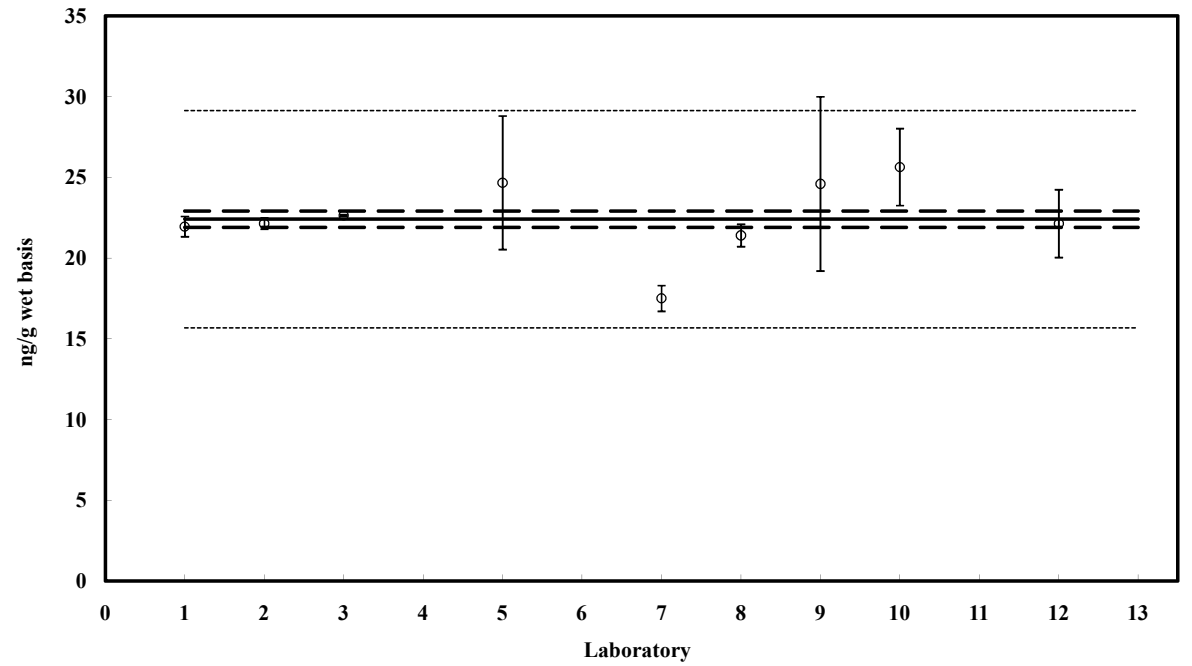


PCB 66

Value = 22.4 ± 0.5 ng/g (wet basis)

Reported Results: 9

SRM 1945

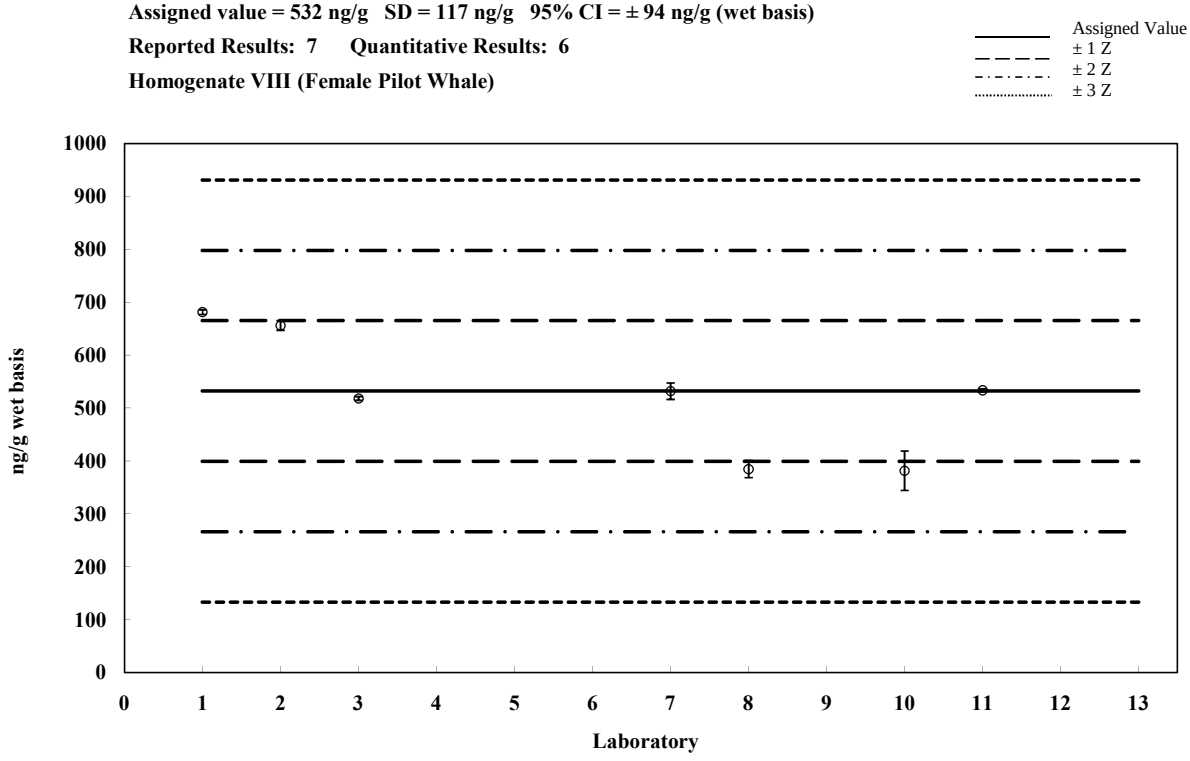


PCB 95

Assigned value = 532 ng/g SD = 117 ng/g 95% CI = ± 94 ng/g (wet basis)

Reported Results: 7 Quantitative Results: 6

Homogenate VIII (Female Pilot Whale)

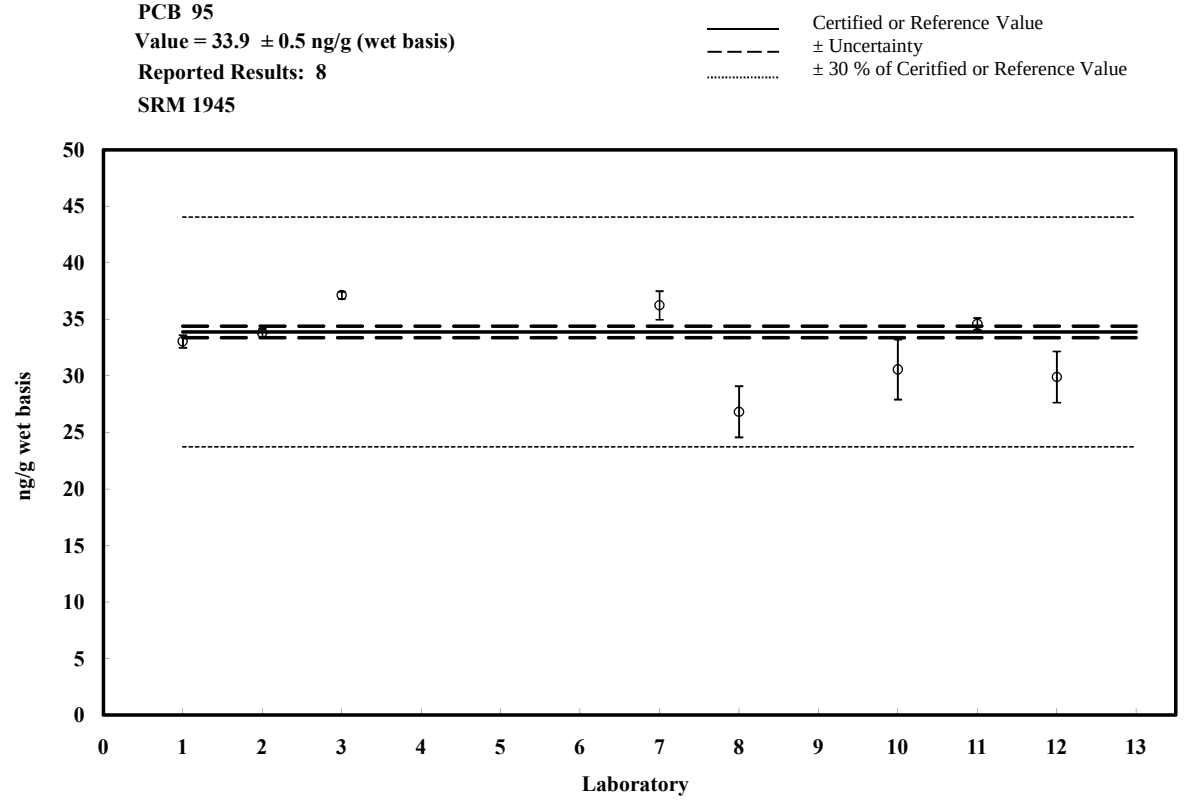


PCB 95

Value = 33.9 ± 0.5 ng/g (wet basis)

Reported Results: 8

SRM 1945



Appendix C

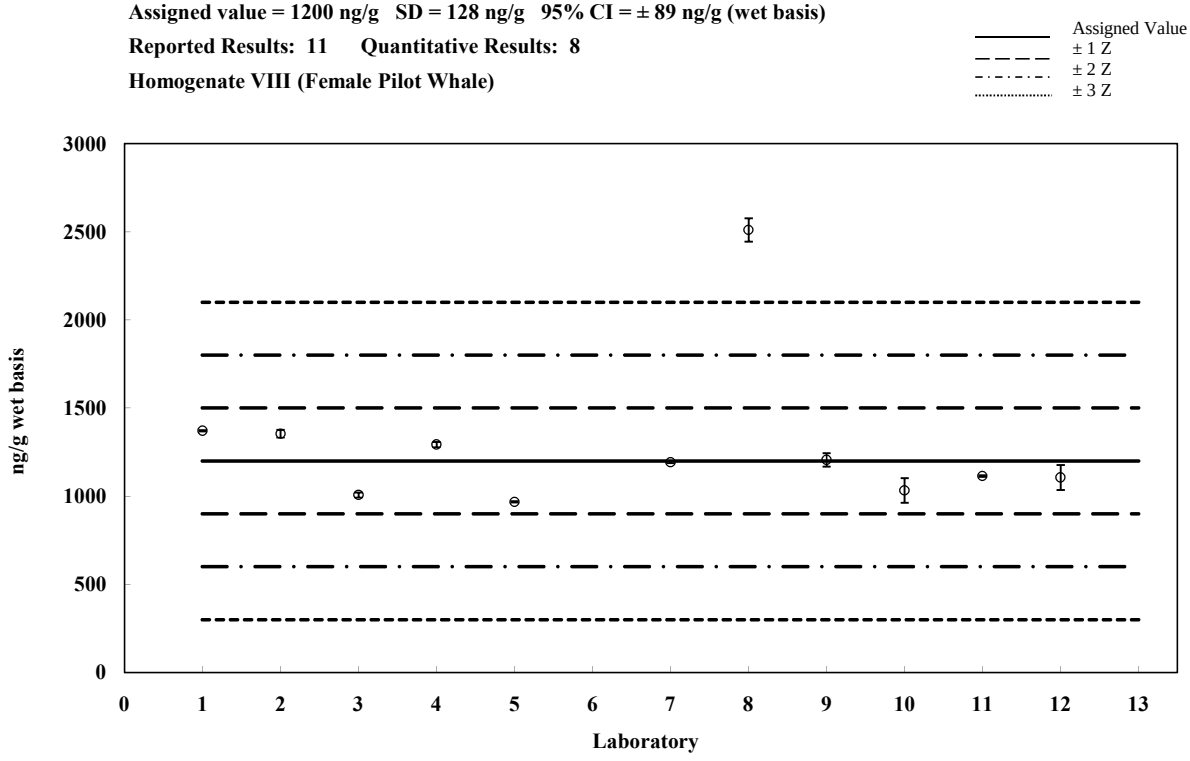
Graphical results of pesticide and lipid data reported by all laboratories. The Z-scores for Homogenate VIII represent 25 % of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. Error bars are ± 1 standard deviation.

2,4'-DDT

Assigned value = 1200 ng/g SD = 128 ng/g 95% CI = ± 89 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 8

Homogenate VIII (Female Pilot Whale)

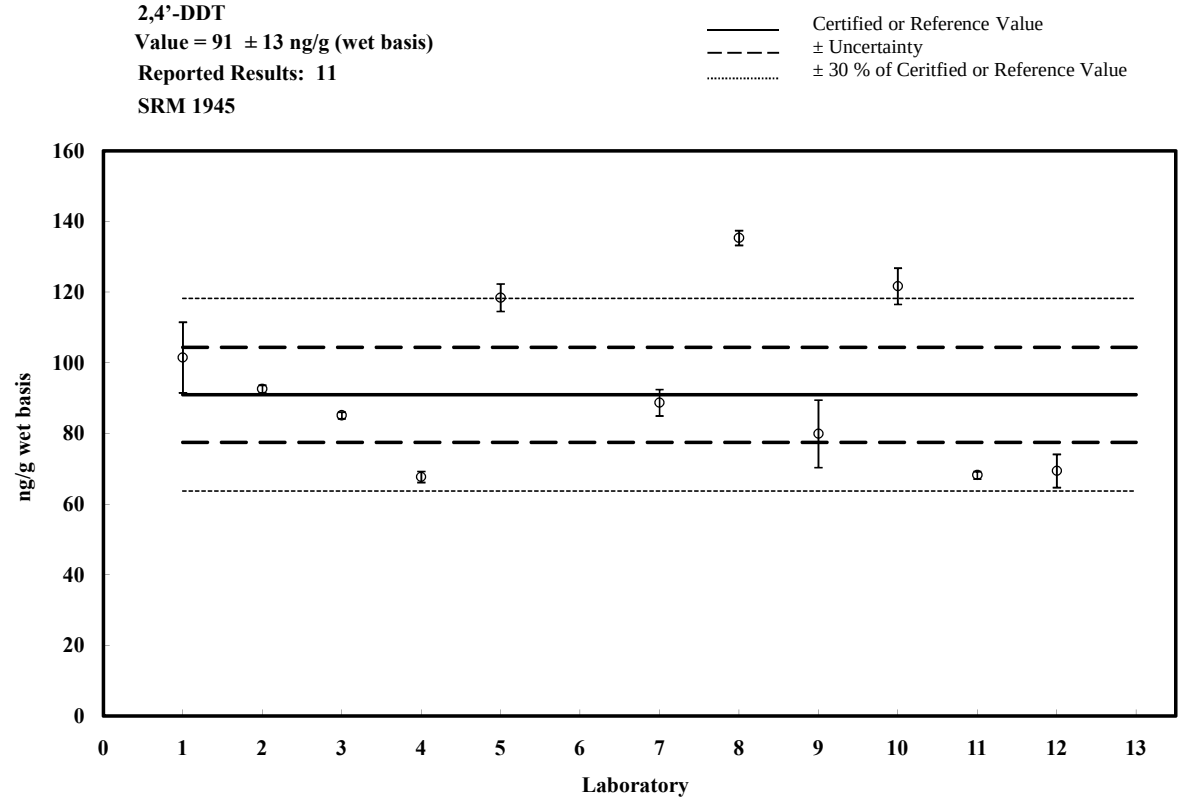


2,4'-DDT

Value = 91 ± 13 ng/g (wet basis)

Reported Results: 11

SRM 1945

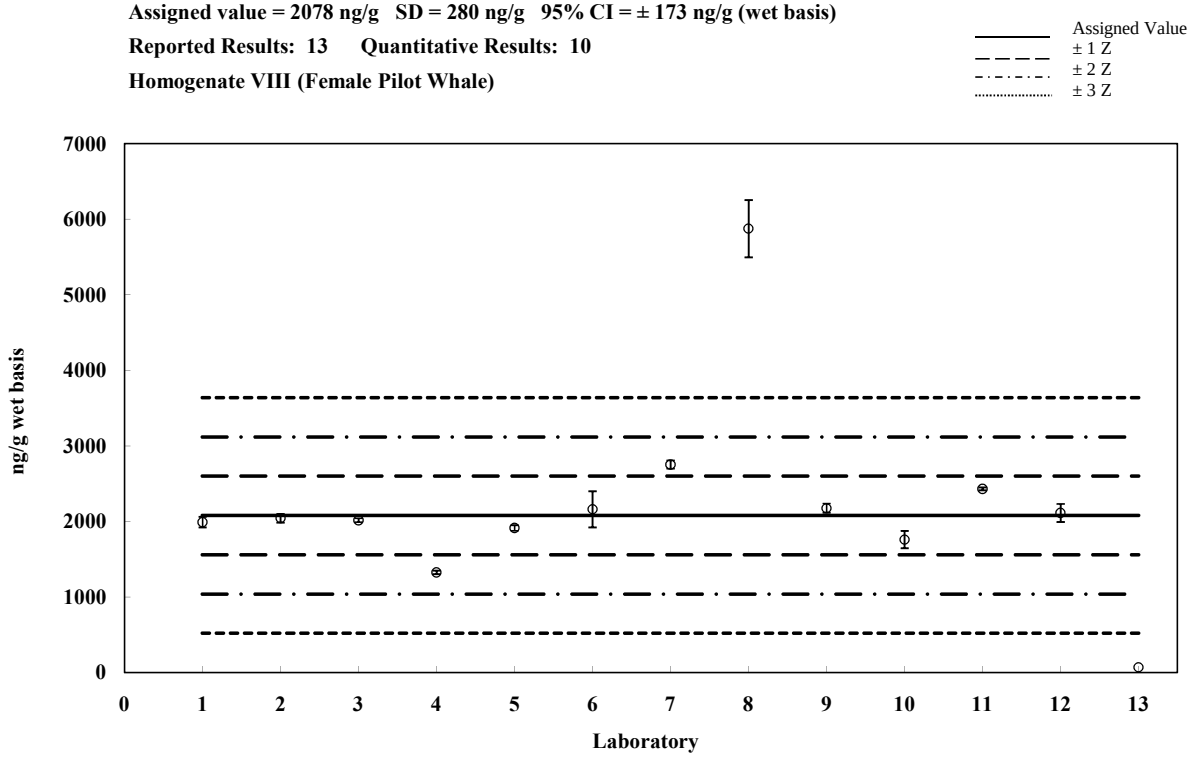


4,4'-DDT

Assigned value = 2078 ng/g SD = 280 ng/g 95% CI = ± 173 ng/g (wet basis)

Reported Results: 13 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

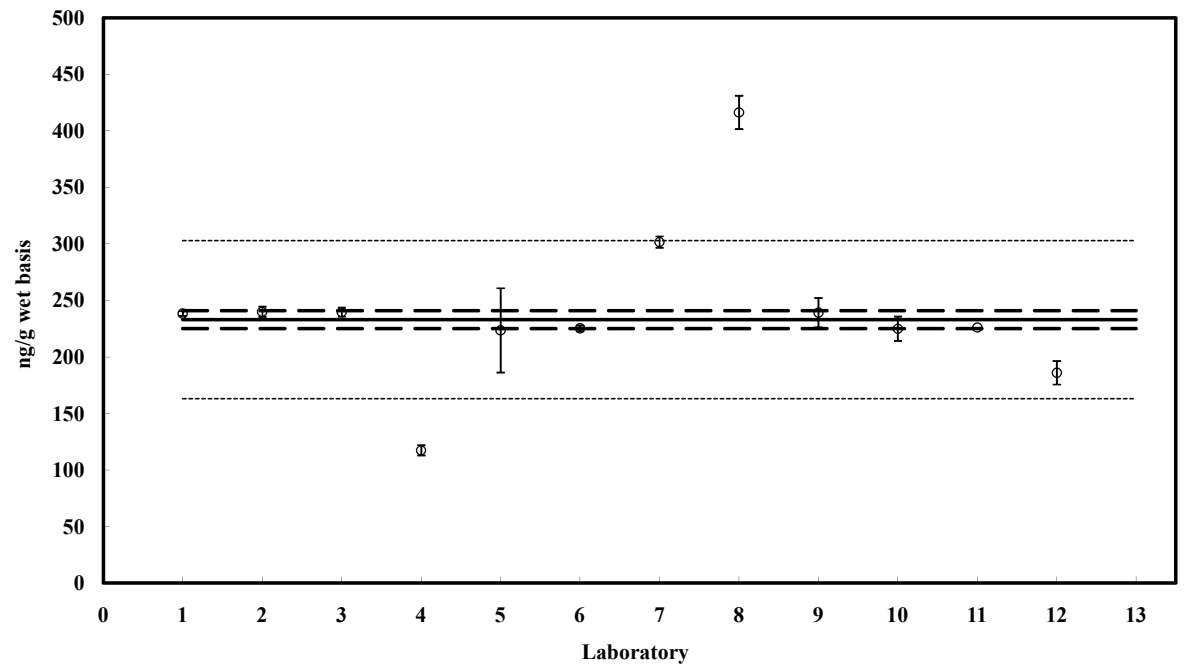


4,4'-DDT

Value = 233 ± 8 ng/g (wet basis)

Reported Results: 12

SRM 1945

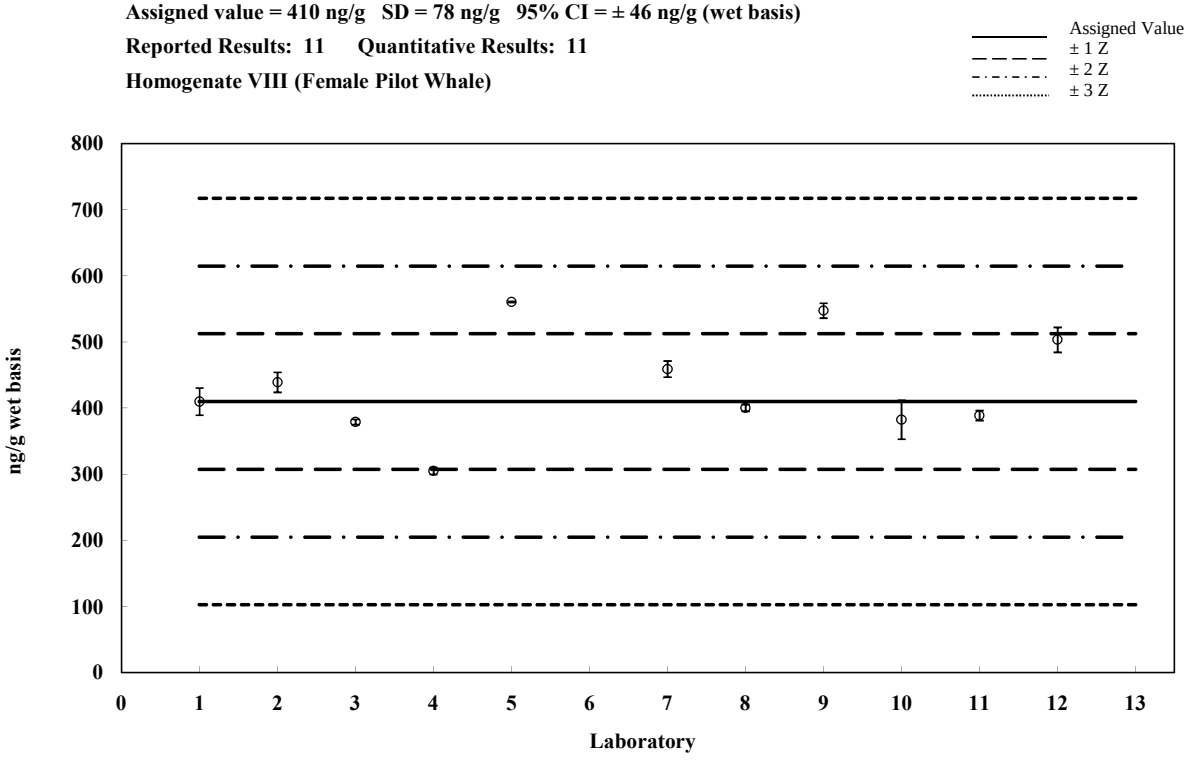


2,4'-DDE

Assigned value = 410 ng/g SD = 78 ng/g 95% CI = ± 46 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 11

Homogenate VIII (Female Pilot Whale)

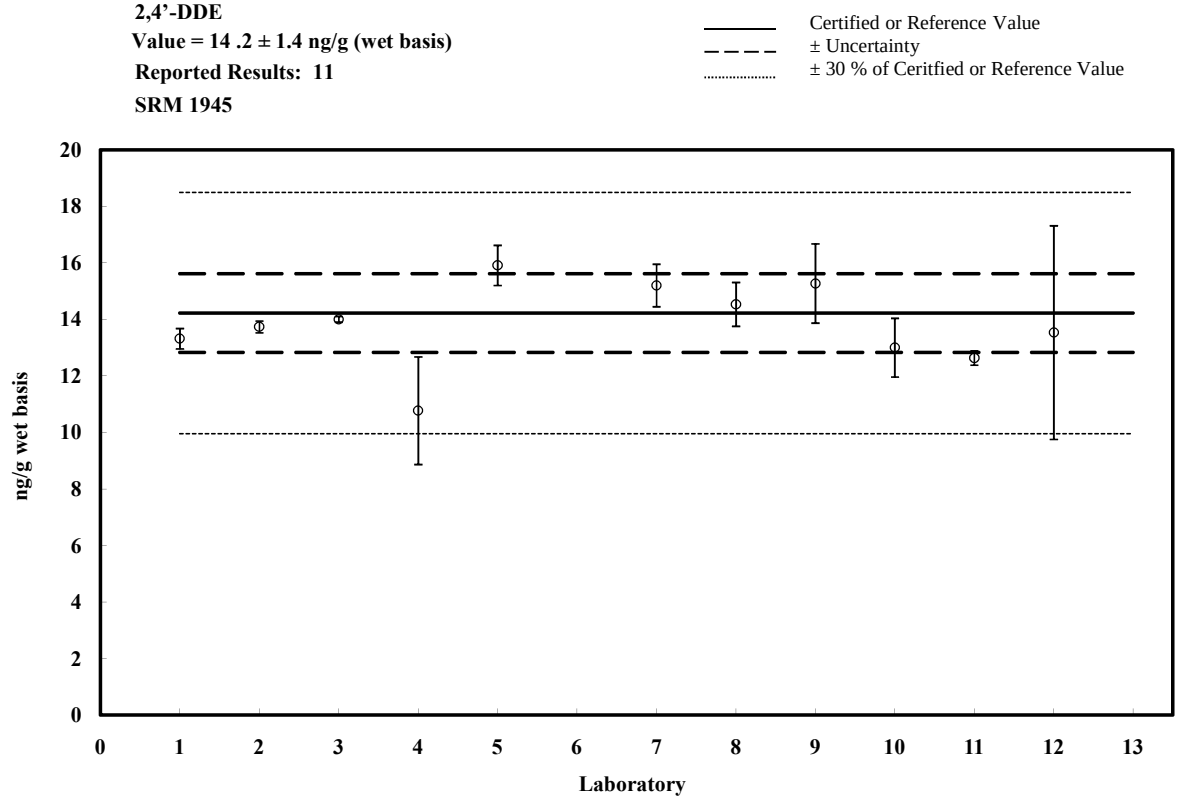


2,4'-DDE

Value = 14 .2 ± 1.4 ng/g (wet basis)

Reported Results: 11

SRM 1945

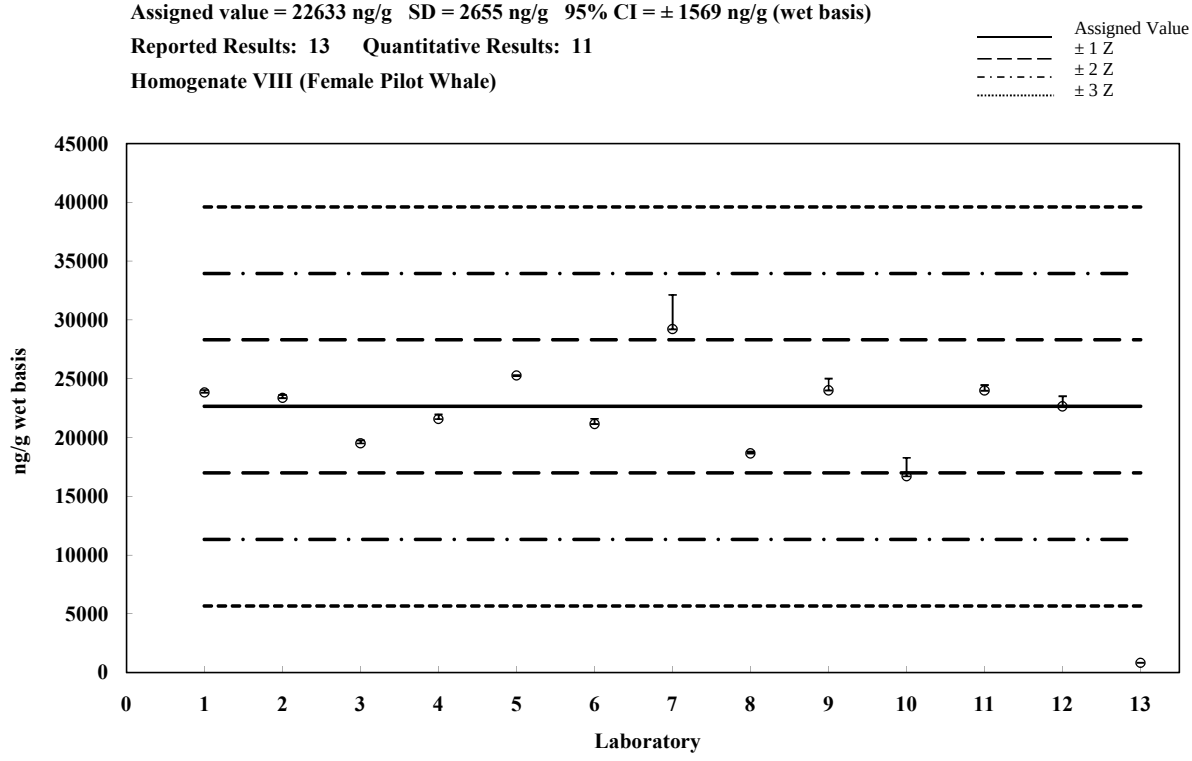


4,4'-DDE

Assigned value = 22633 ng/g SD = 2655 ng/g 95% CI = ± 1569 ng/g (wet basis)

Reported Results: 13 Quantitative Results: 11

Homogenate VIII (Female Pilot Whale)

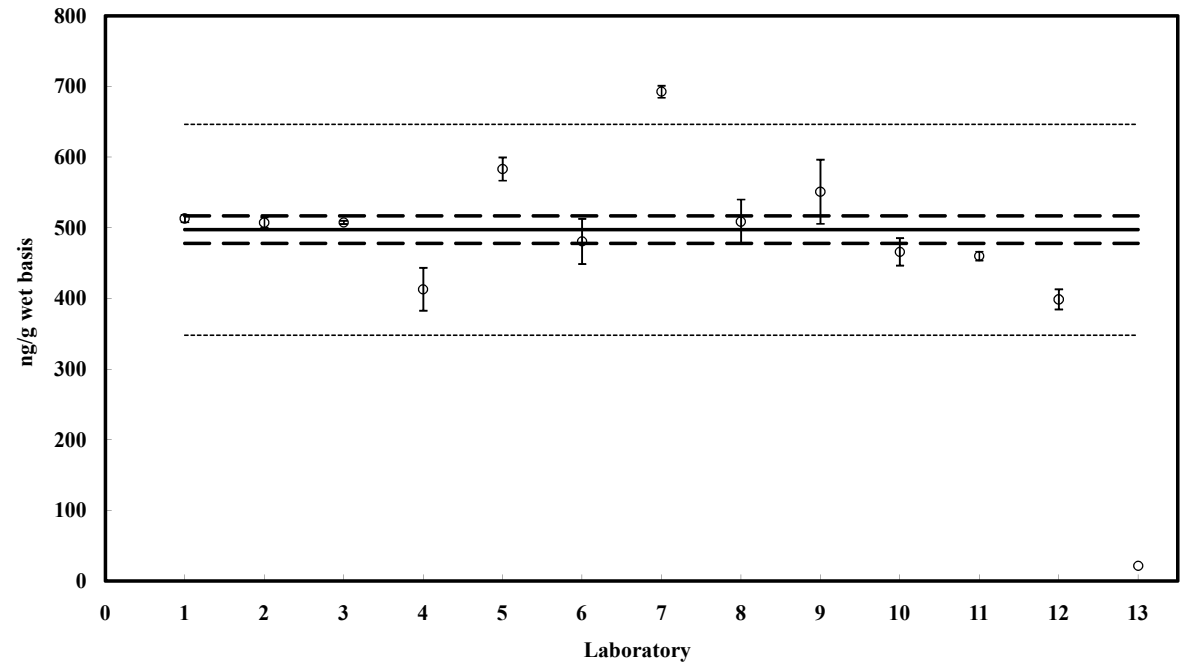


4,4'-DDE

Value = 497 ± 19 ng/g (wet basis)

Reported Results: 13

SRM 1945

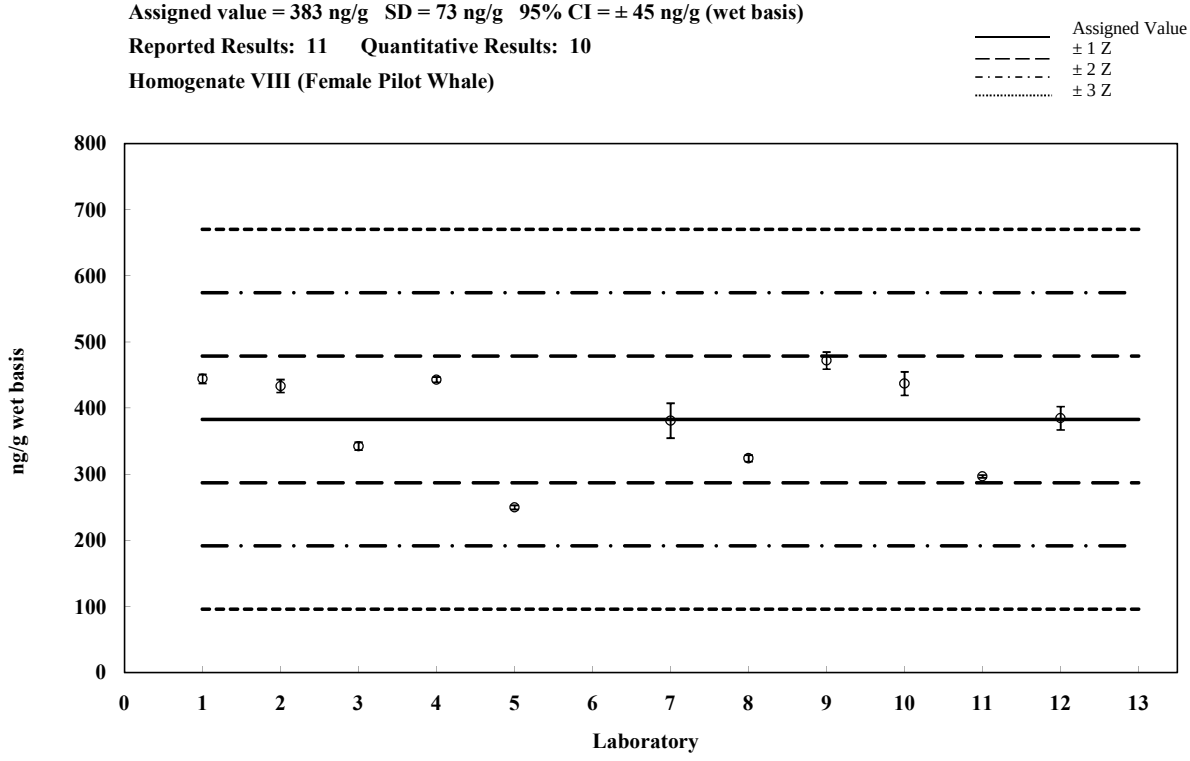


2,4'-DDD

Assigned value = 383 ng/g SD = 73 ng/g 95% CI = ± 45 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

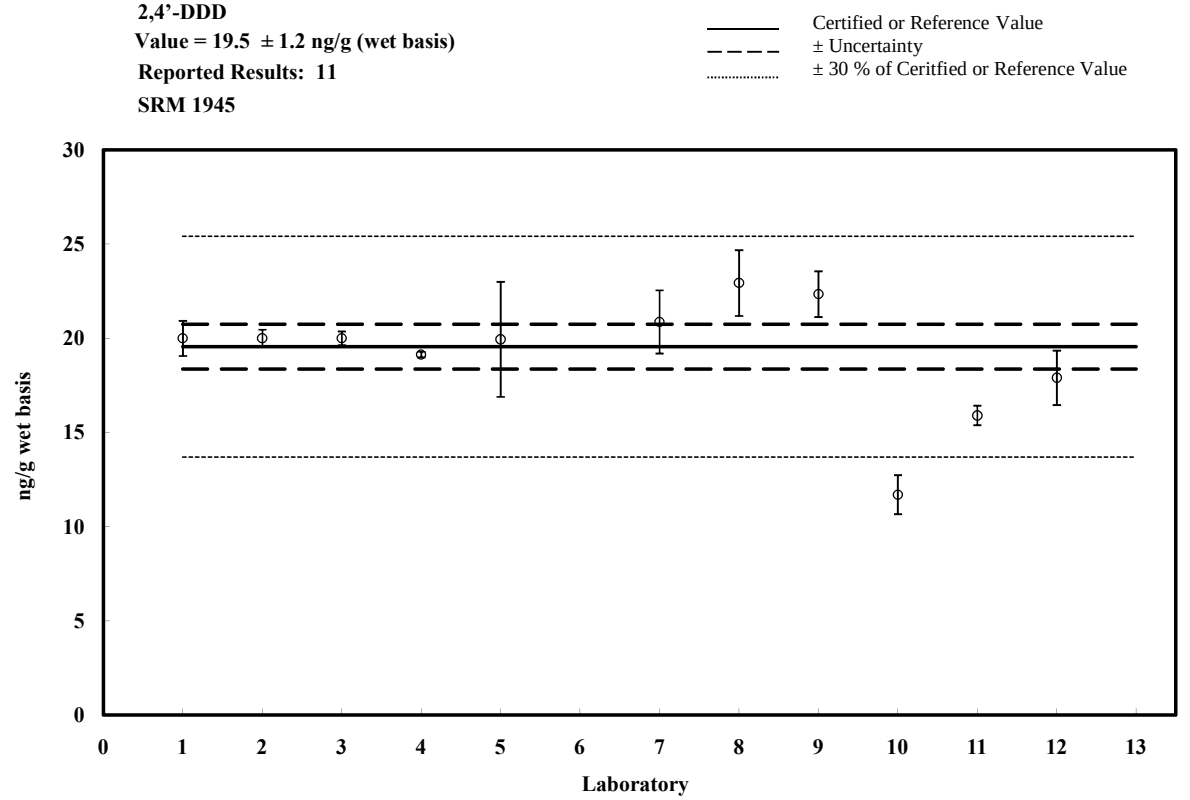


2,4'-DDD

Value = 19.5 ± 1.2 ng/g (wet basis)

Reported Results: 11

SRM 1945

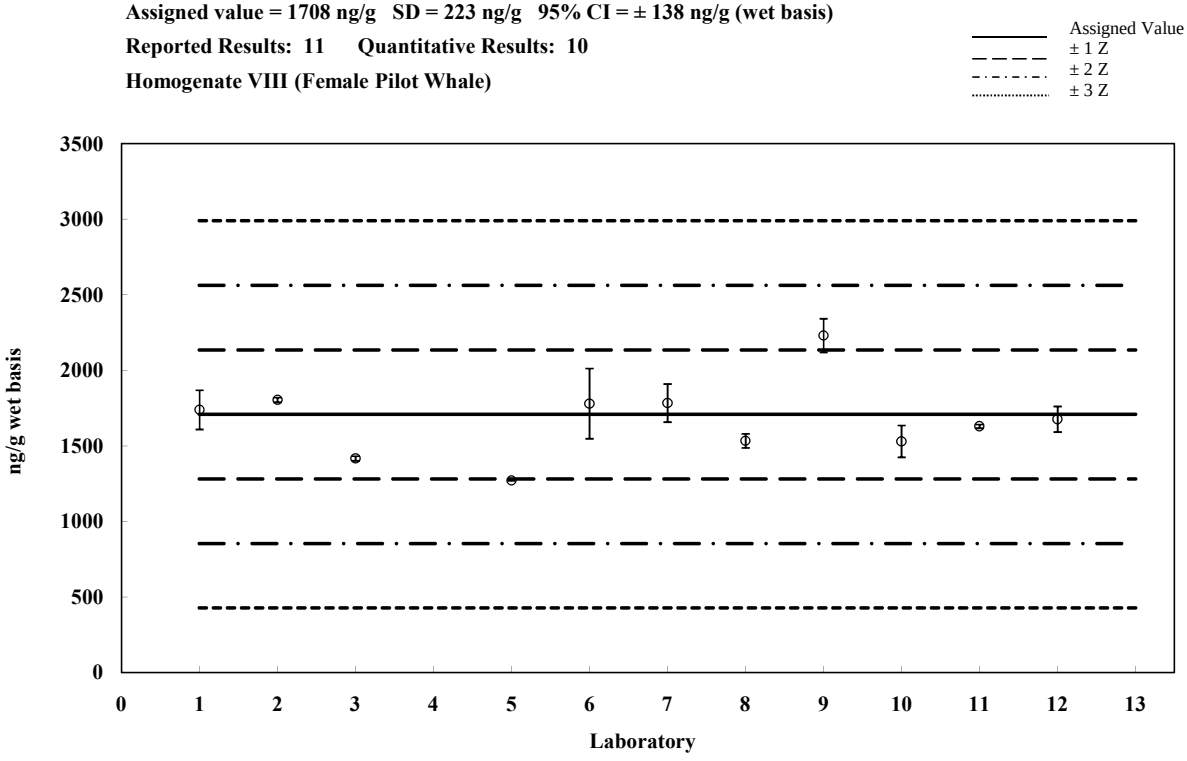


4,4'-DDD

Assigned value = 1708 ng/g SD = 223 ng/g 95% CI = ± 138 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

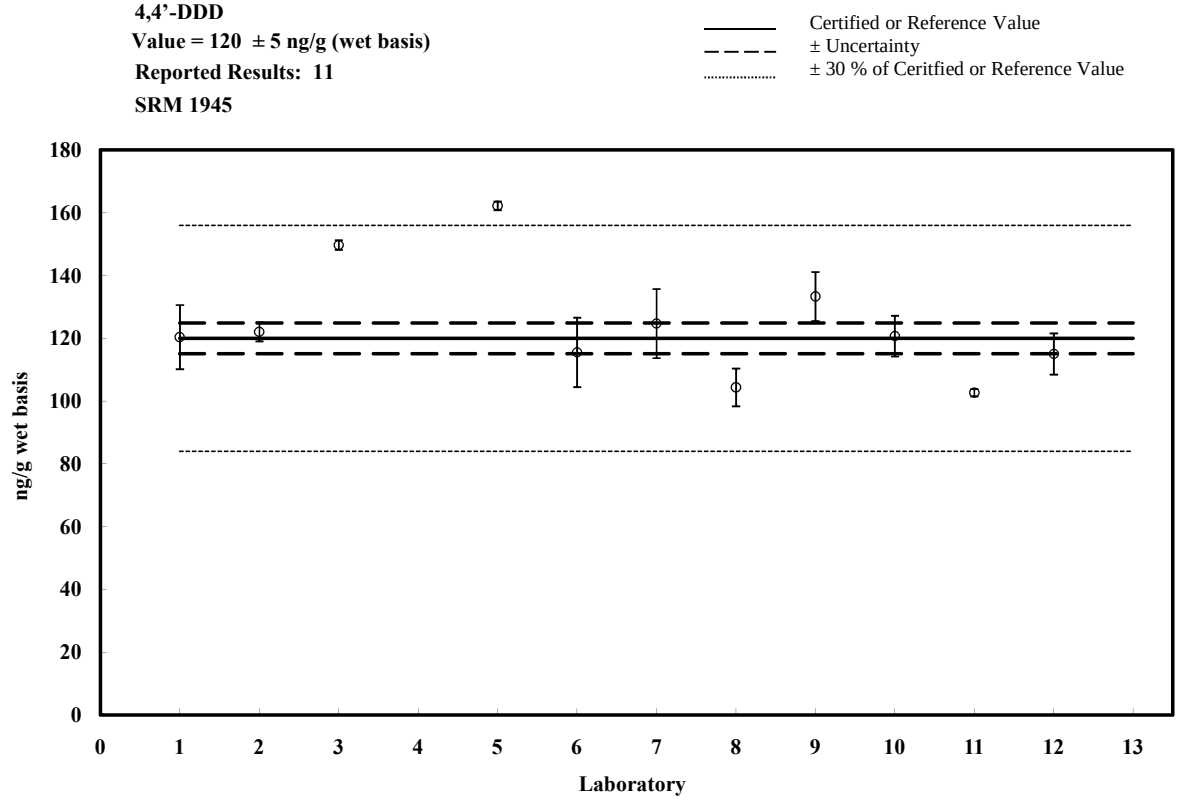


4,4'-DDD

Value = 120 ± 5 ng/g (wet basis)

Reported Results: 11

SRM 1945

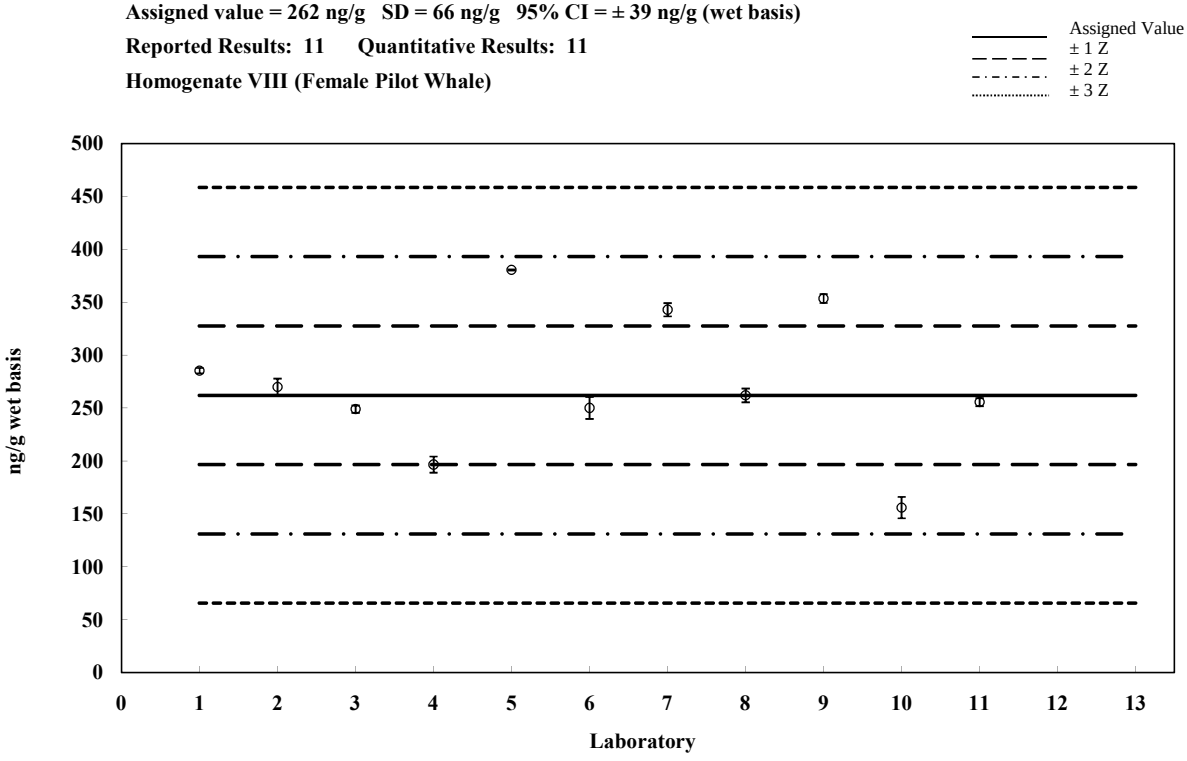


HCB

Assigned value = 262 ng/g SD = 66 ng/g 95% CI = ± 39 ng/g (wet basis)

Reported Results: 11 Quantitative Results: 11

Homogenate VIII (Female Pilot Whale)

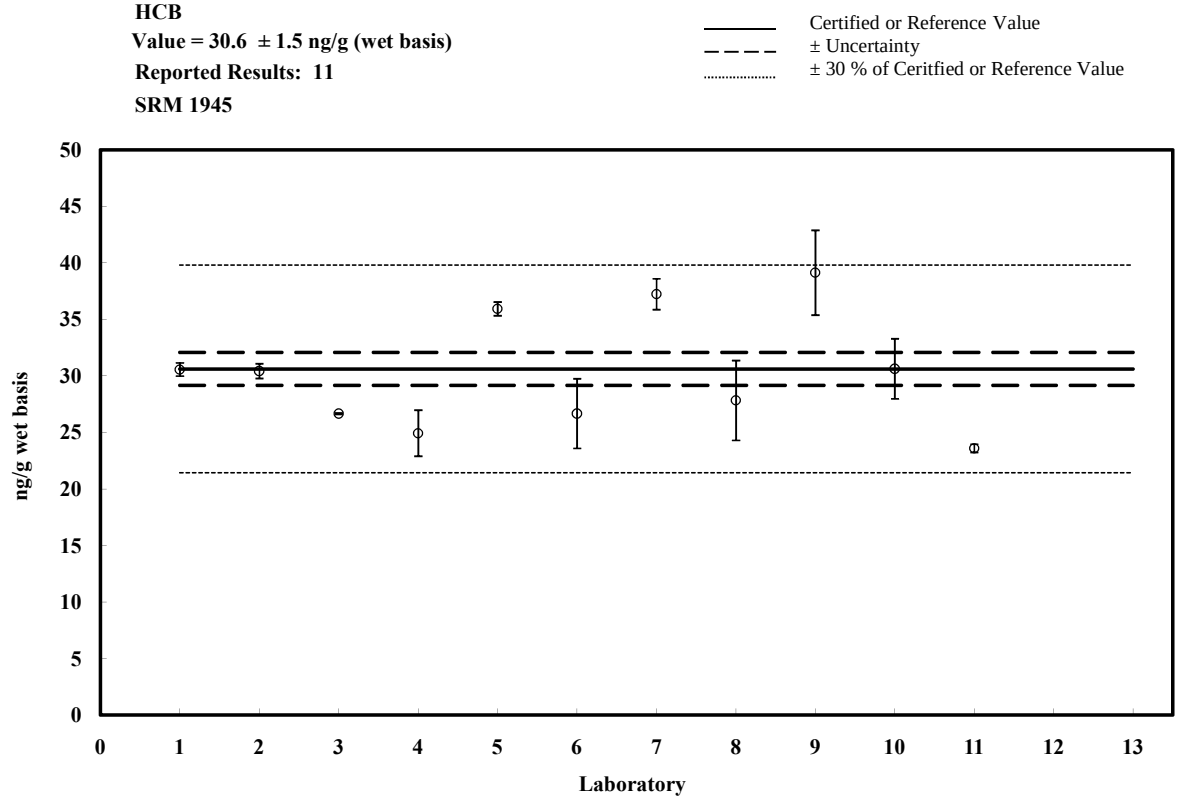


HCB

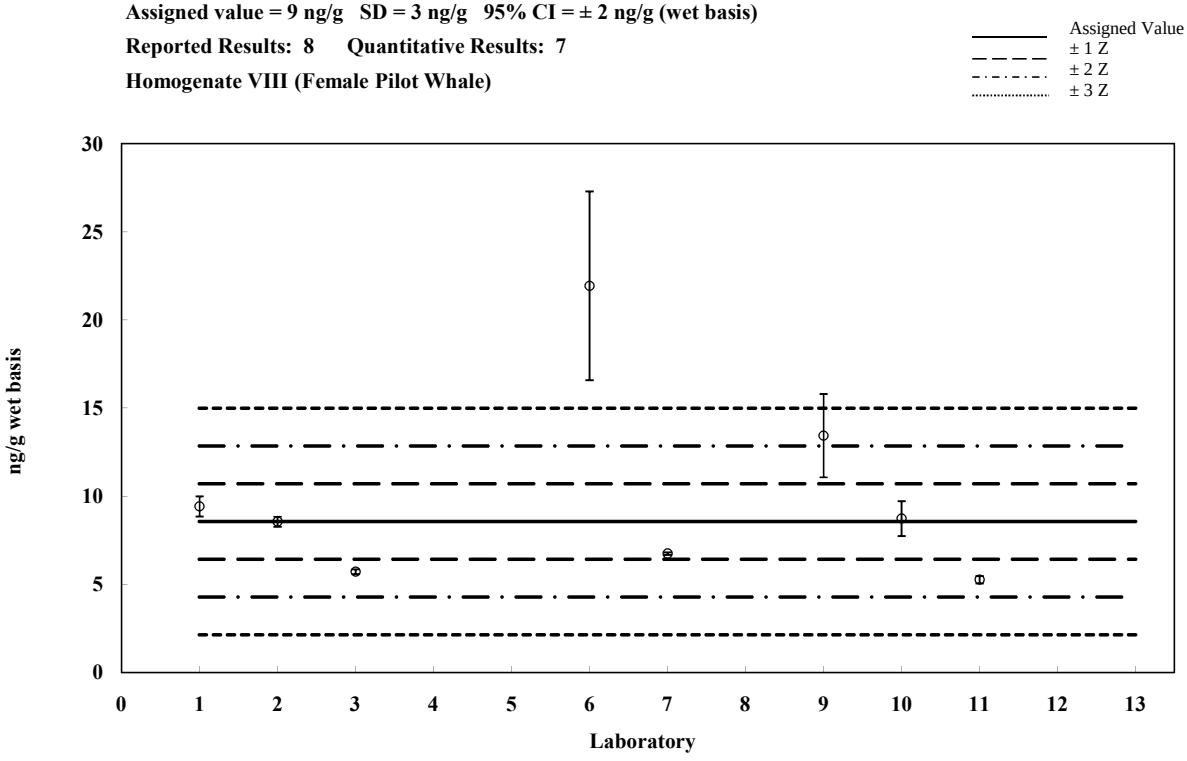
Value = 30.6 ± 1.5 ng/g (wet basis)

Reported Results: 11

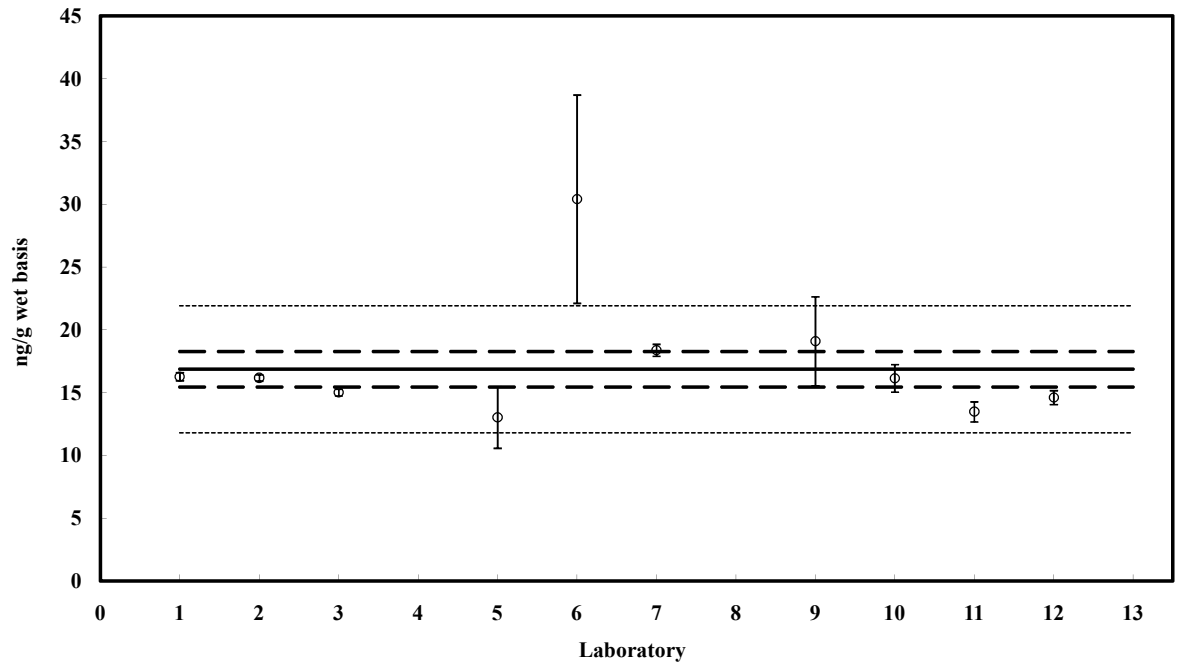
SRM 1945



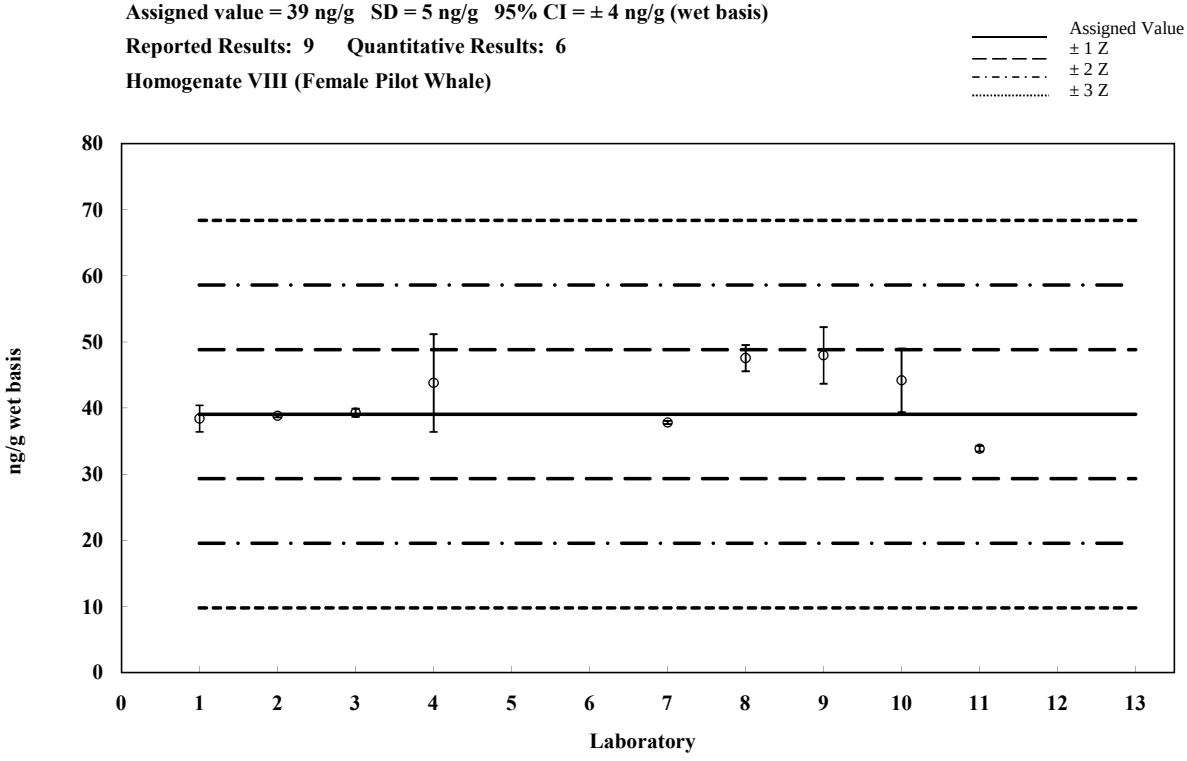
alpha-HCH
Assigned value = 9 ng/g SD = 3 ng/g 95% CI = ± 2 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 7
Homogenate VIII (Female Pilot Whale)



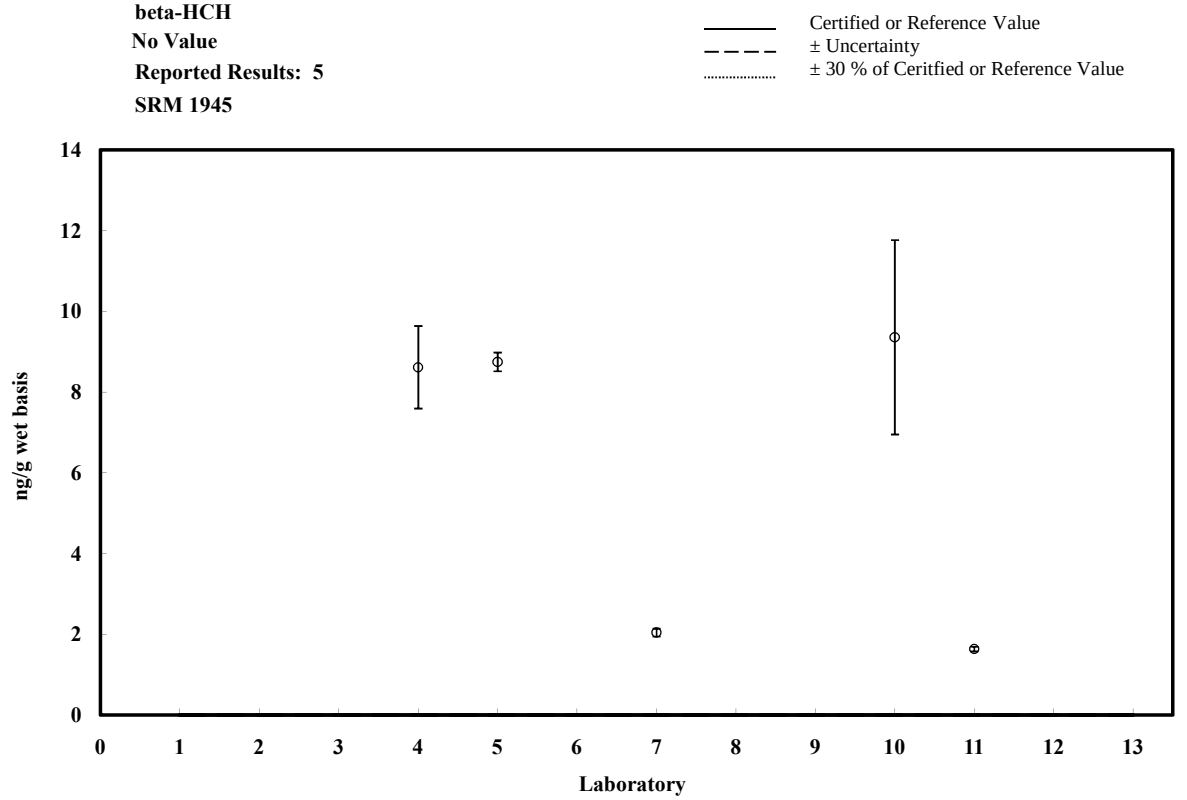
alpha-HCH
Value = 16.9 ± 1.4 ng/g (wet basis)
Reported Results: 10
SRM 1945



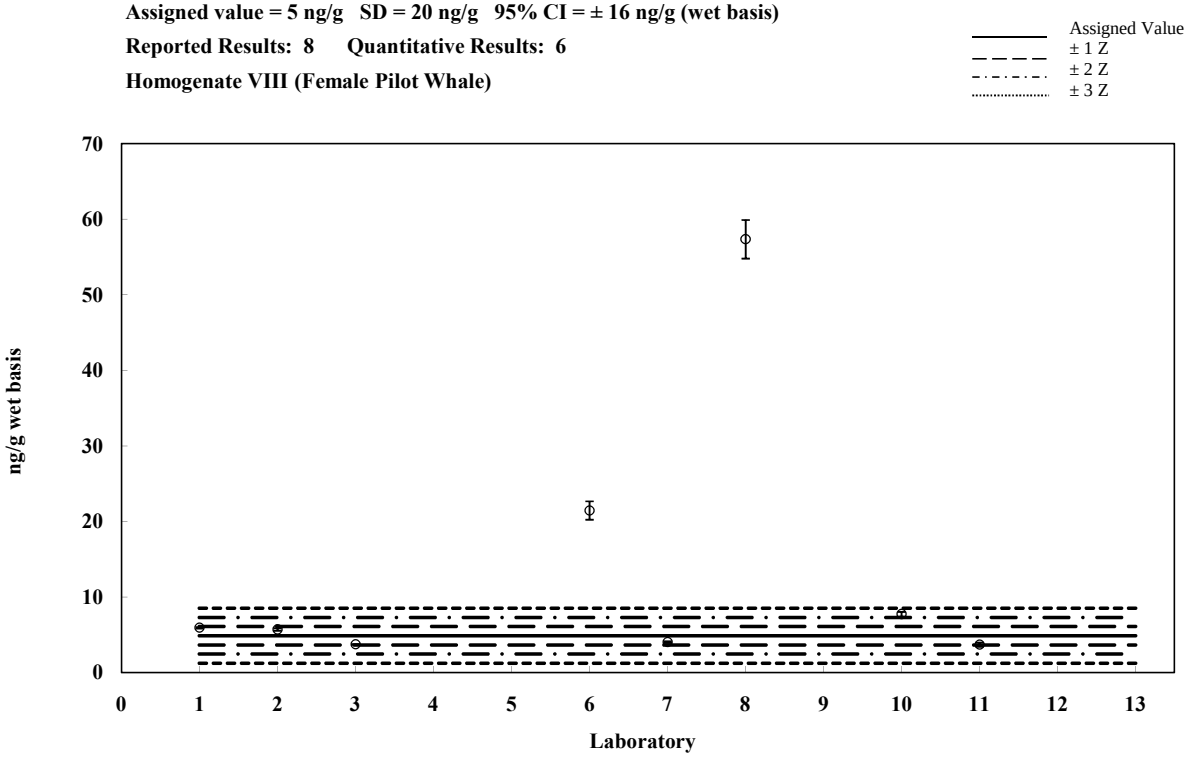
beta-HCH
Assigned value = 39 ng/g SD = 5 ng/g 95% CI = ± 4 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 6
Homogenate VIII (Female Pilot Whale)



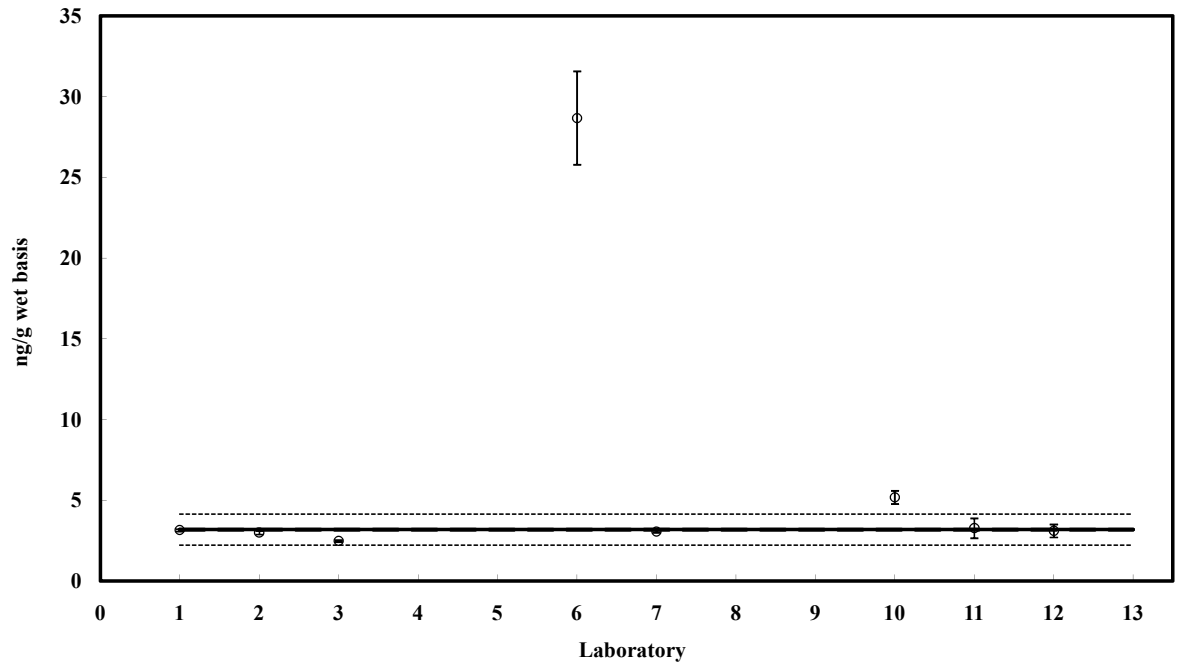
beta-HCH
No Value
Reported Results: 5
SRM 1945



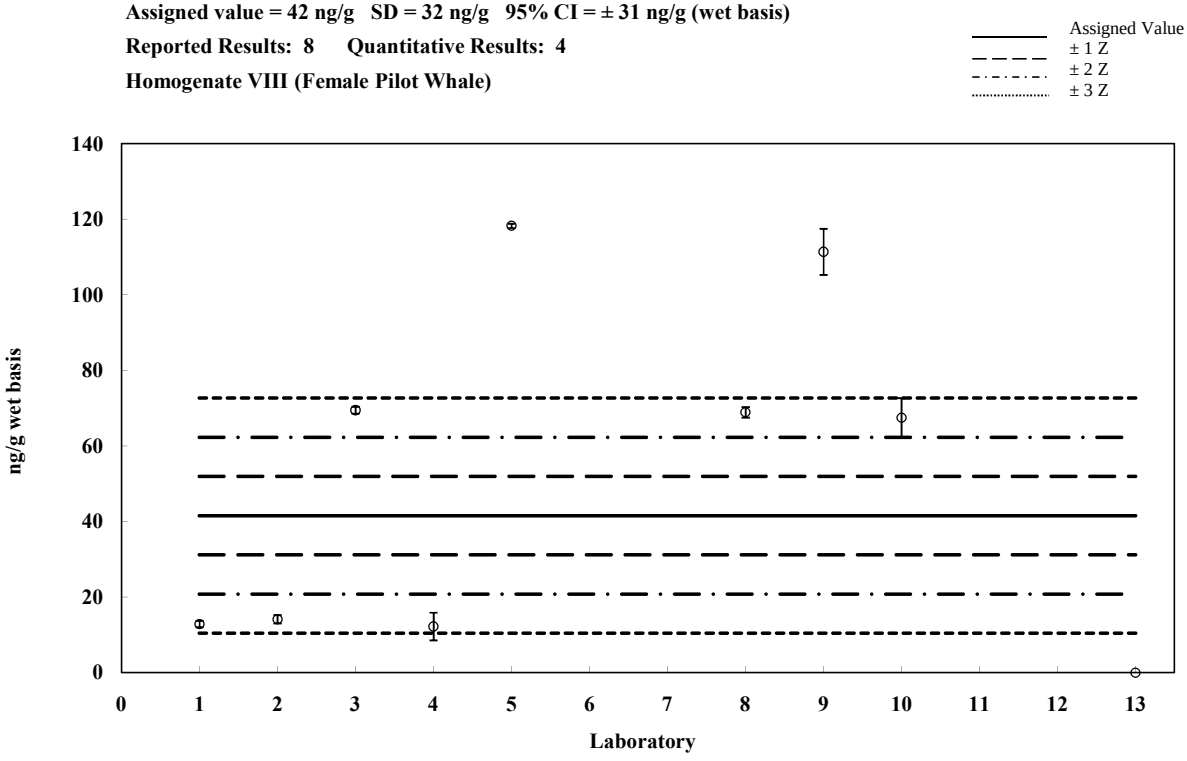
gamma-HCH
Assigned value = 5 ng/g SD = 20 ng/g 95% CI = ± 16 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 6
Homogenate VIII (Female Pilot Whale)



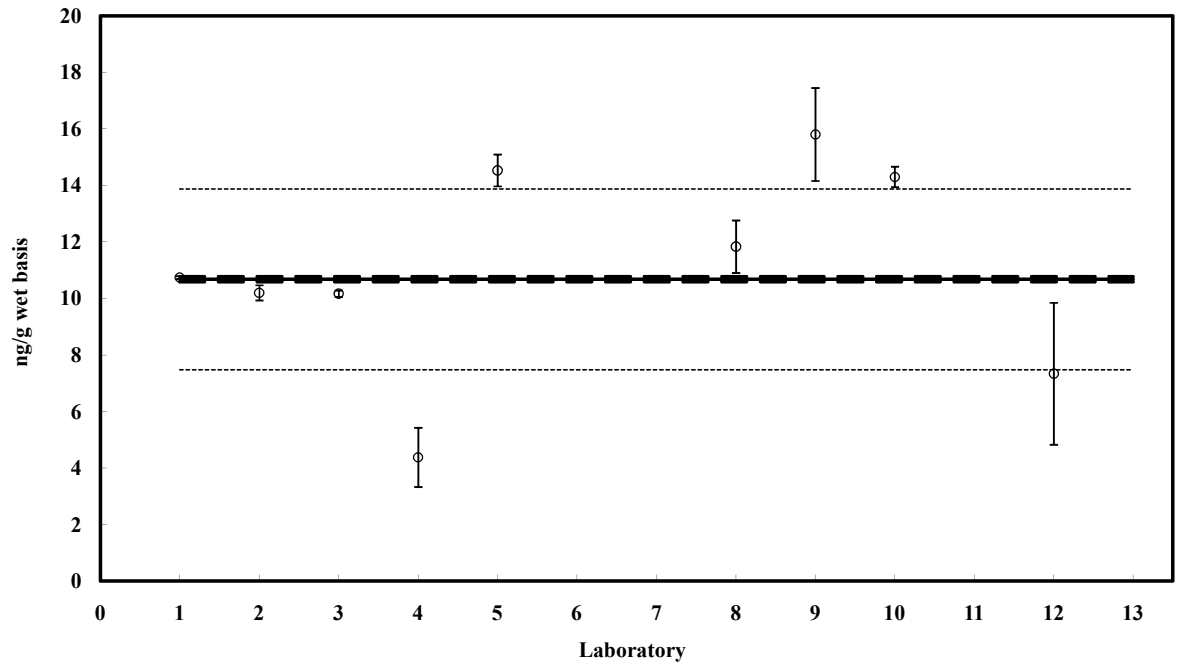
gamma-HCH
Value = 3 .8 ± 0.01 ng/g (wet basis)
Reported Results: 8
SRM 1945



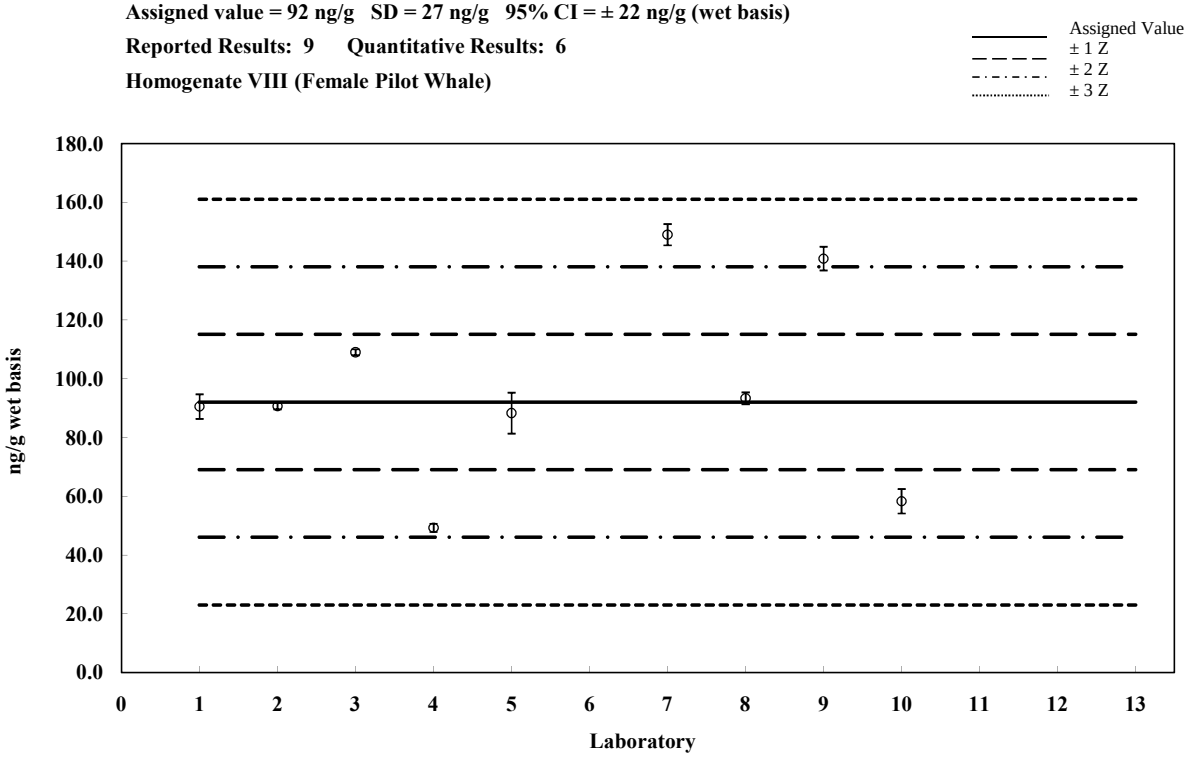
Heptachlor Epoxide
Assigned value = 42 ng/g SD = 32 ng/g 95% CI = ± 31 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 4
Homogenate VIII (Female Pilot Whale)



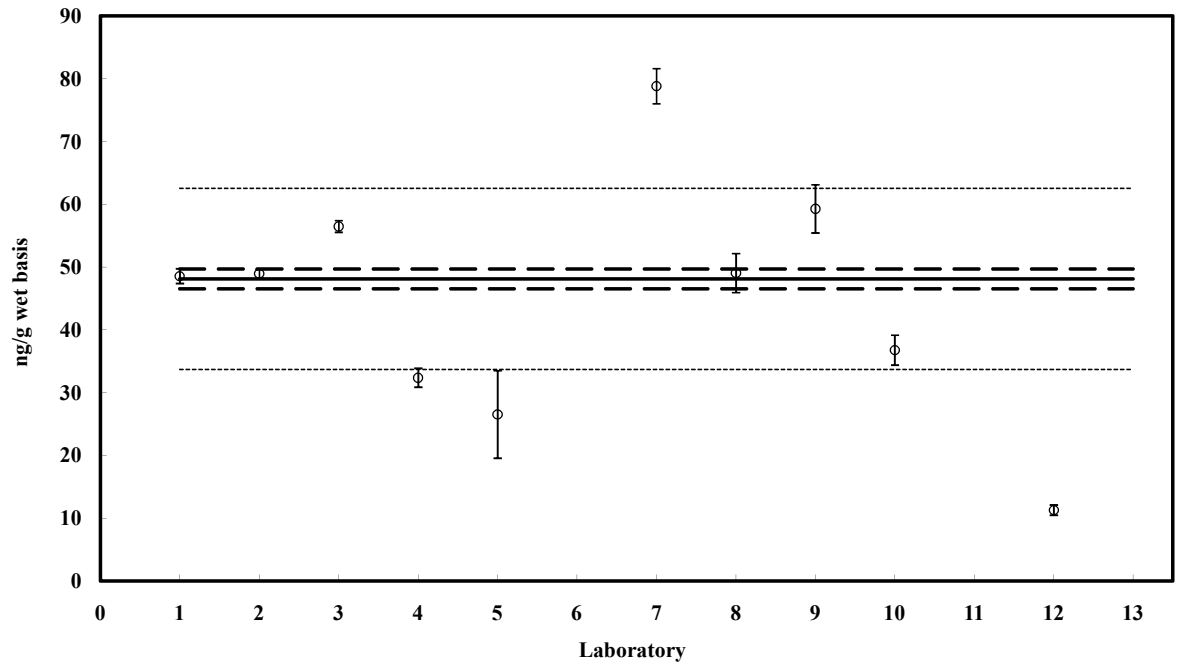
Heptachlor Epoxide
Value = 10.7 ± 0.01 ng/g (wet basis)
Reported Results: 9
SRM 1945



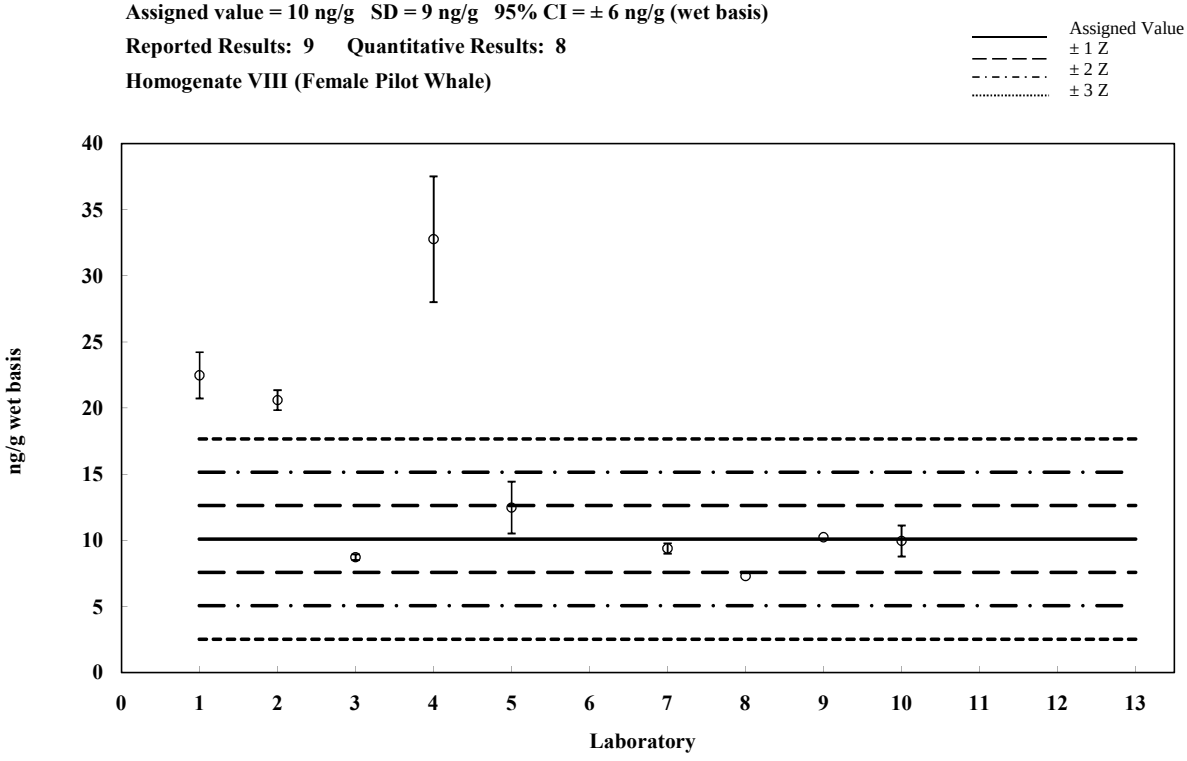
Cis-Chlordane
Assigned value = 92 ng/g SD = 27 ng/g 95% CI = ± 22 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 6
Homogenate VIII (Female Pilot Whale)



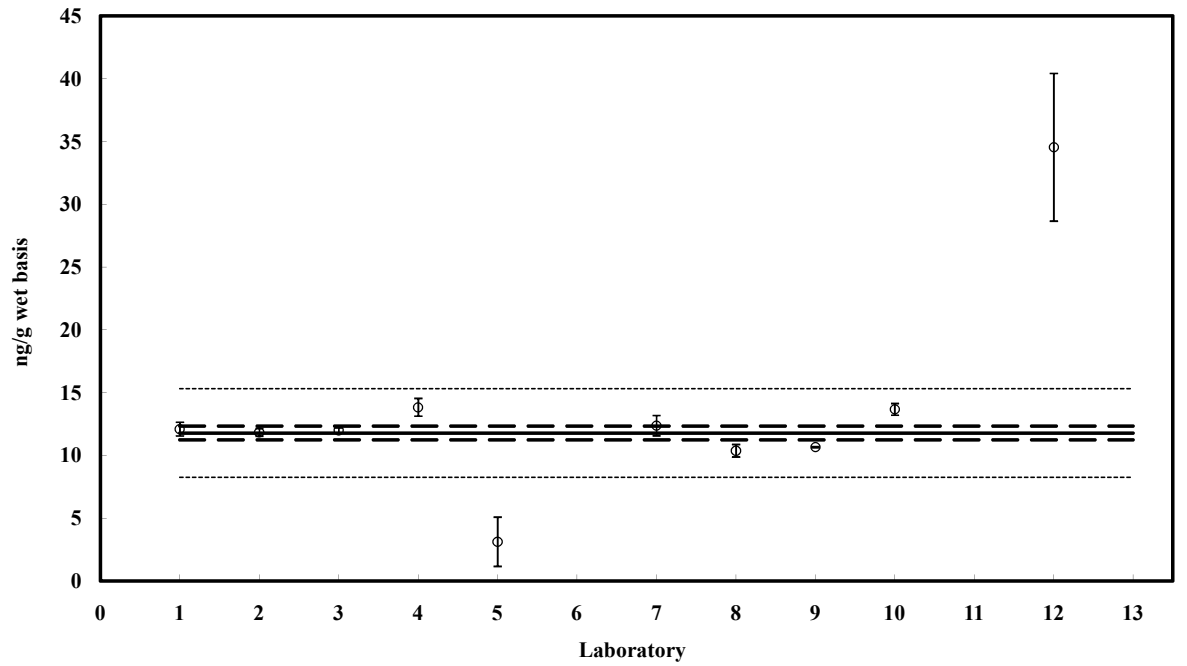
Cis-Chlordane
Value = 48 .1 ± 1.6 ng/g (wet basis)
Reported Results: 10
SRM 1945



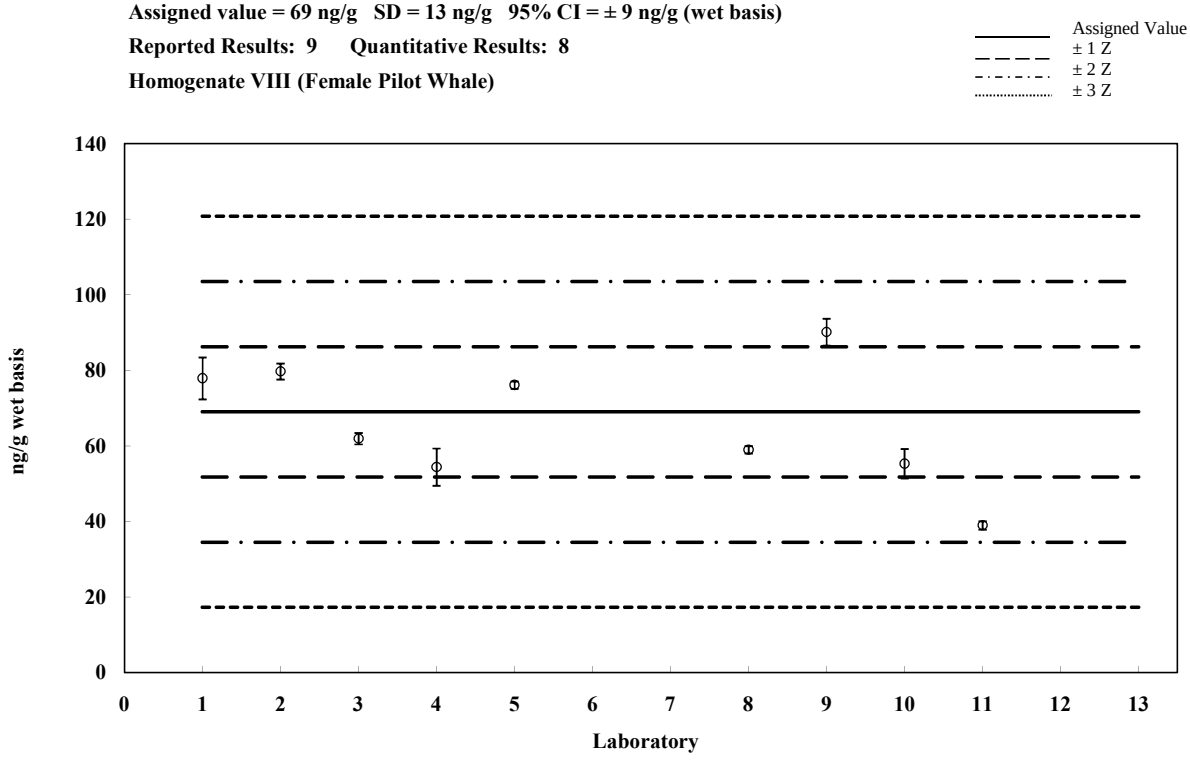
Trans-Chlordane
Assigned value = 10 ng/g SD = 9 ng/g 95% CI = ± 6 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



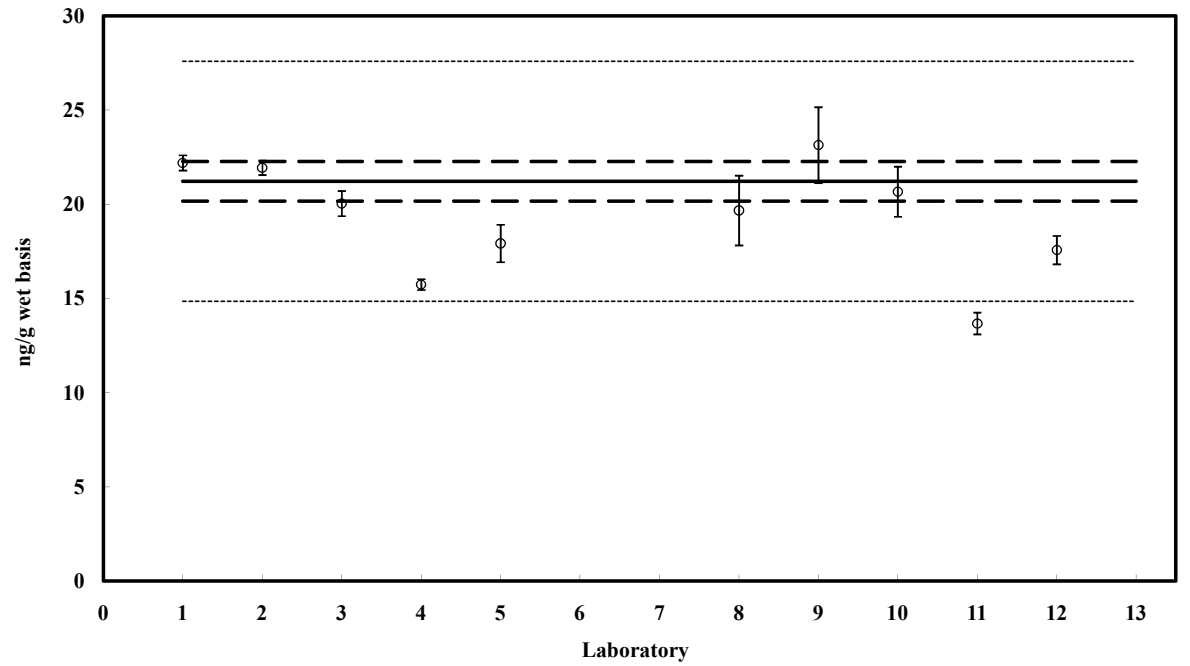
Trans-Chlordane
Value = 11.8 ± 0.5 ng/g (wet basis)
Reported Results: 10
SRM 1945



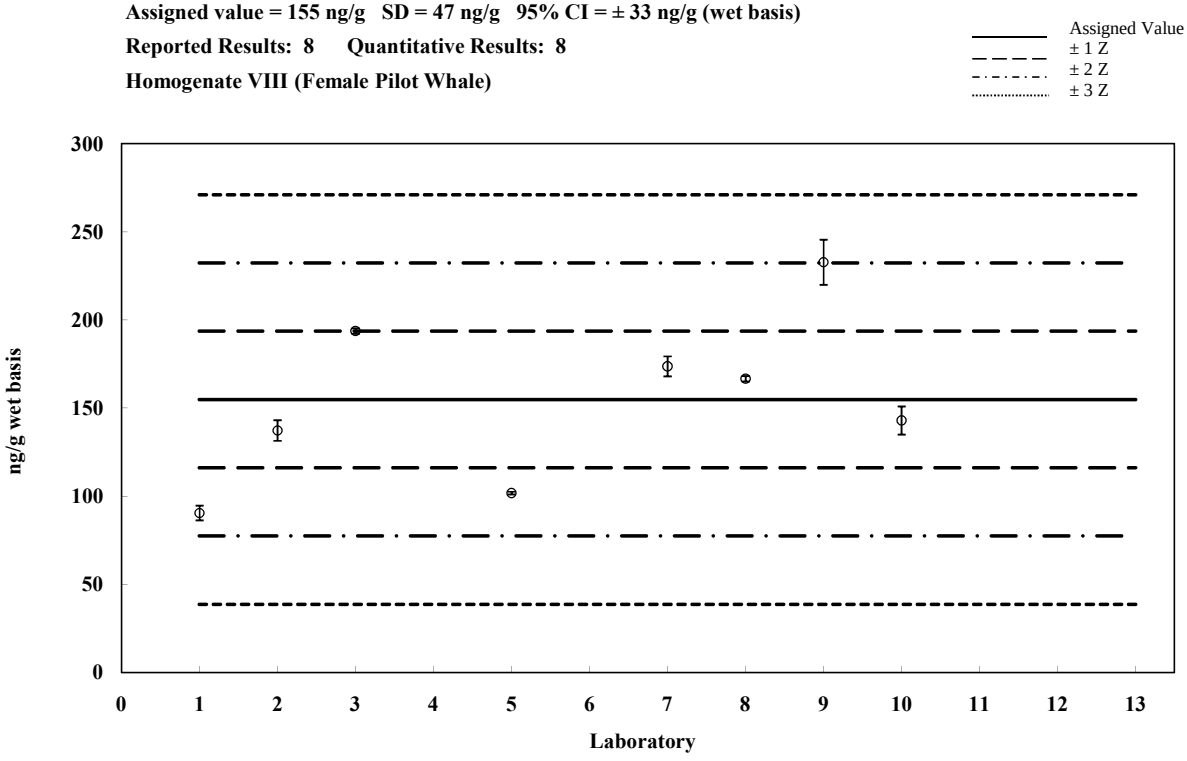
Oxychlordane
Assigned value = 69 ng/g SD = 13 ng/g 95% CI = ± 9 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



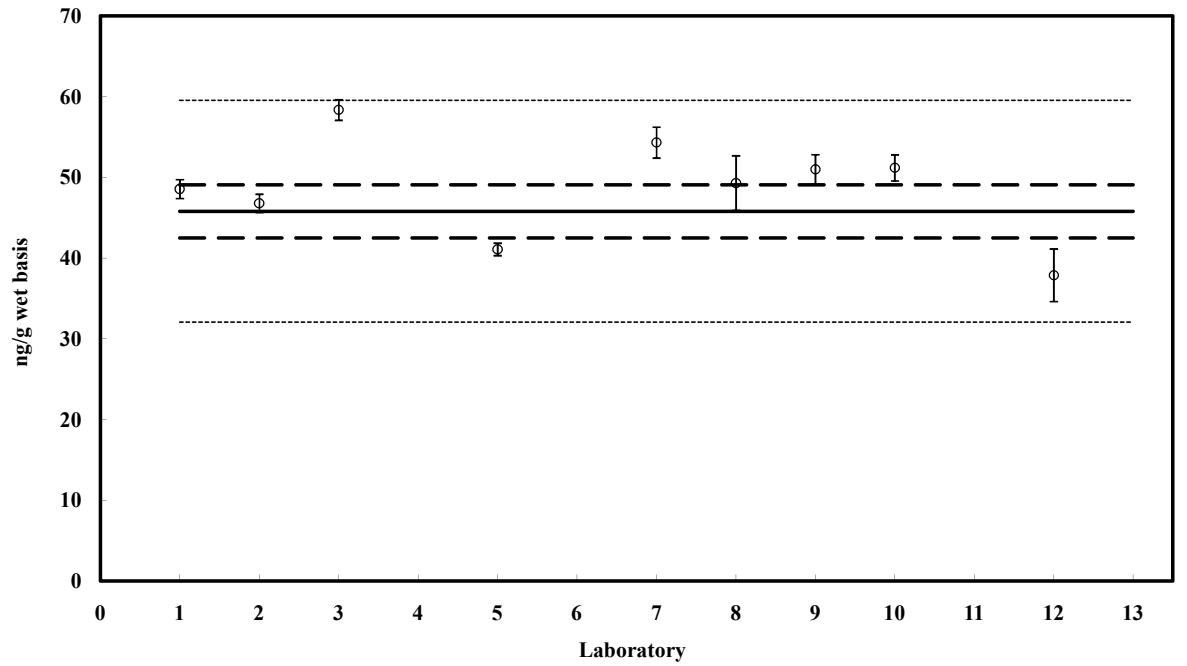
Oxychlordane
Value = 21.2 ± 1.1 ng/g (wet basis)
Reported Results: 10
SRM 1945



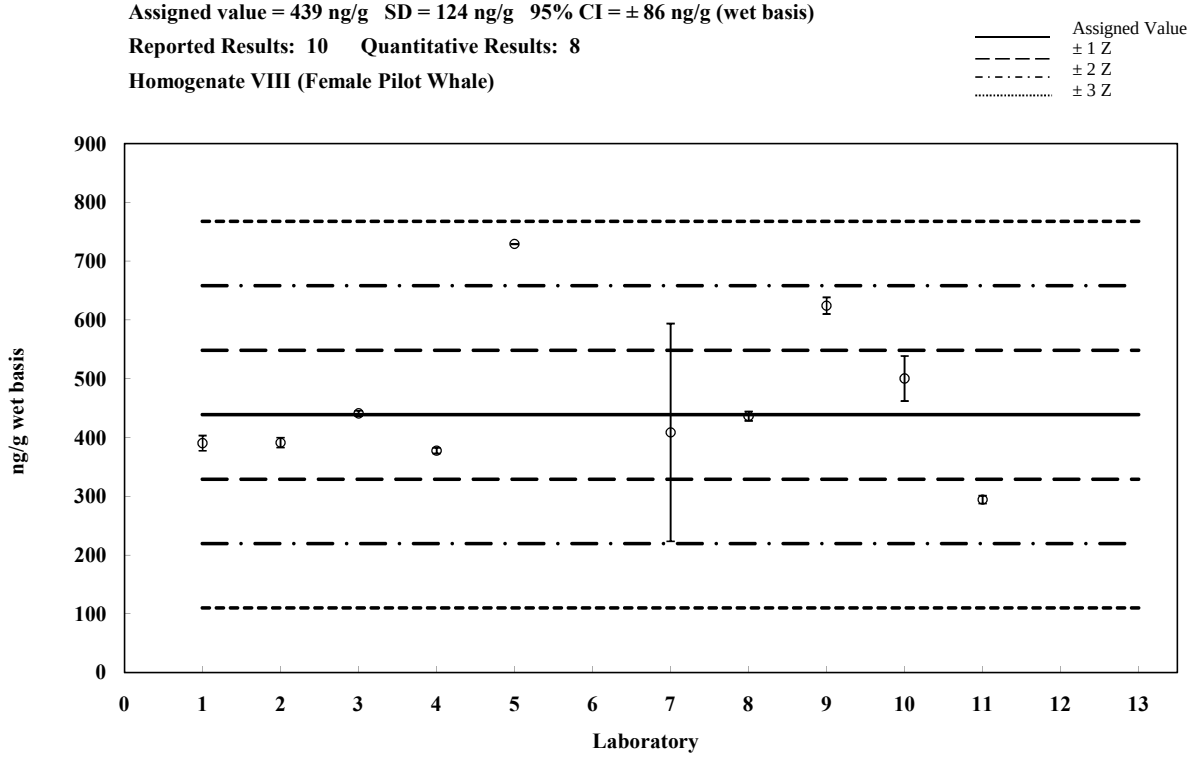
Cis-Nonachlor
Assigned value = 155 ng/g SD = 47 ng/g 95% CI = ± 33 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



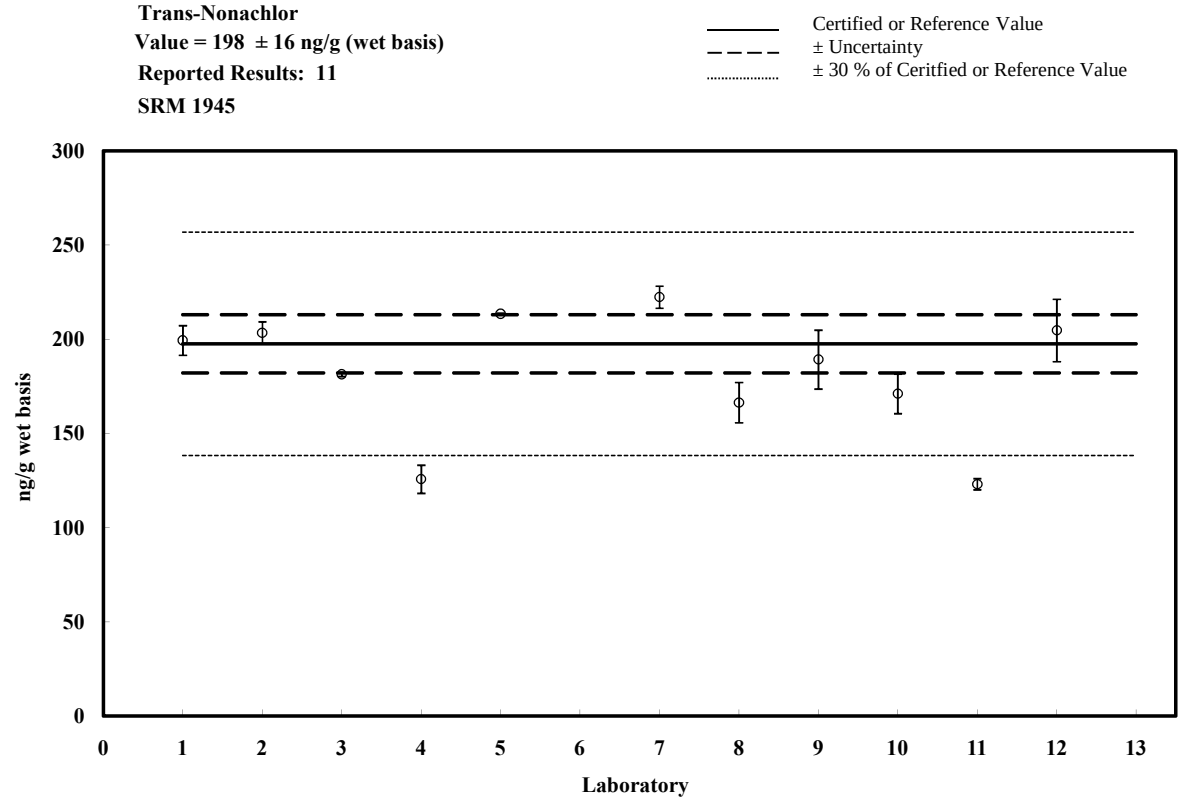
Cis-Nonachlor
Value = 48.5 ± 3.3 ng/g (wet basis)
Reported Results: 9
SRM 1945



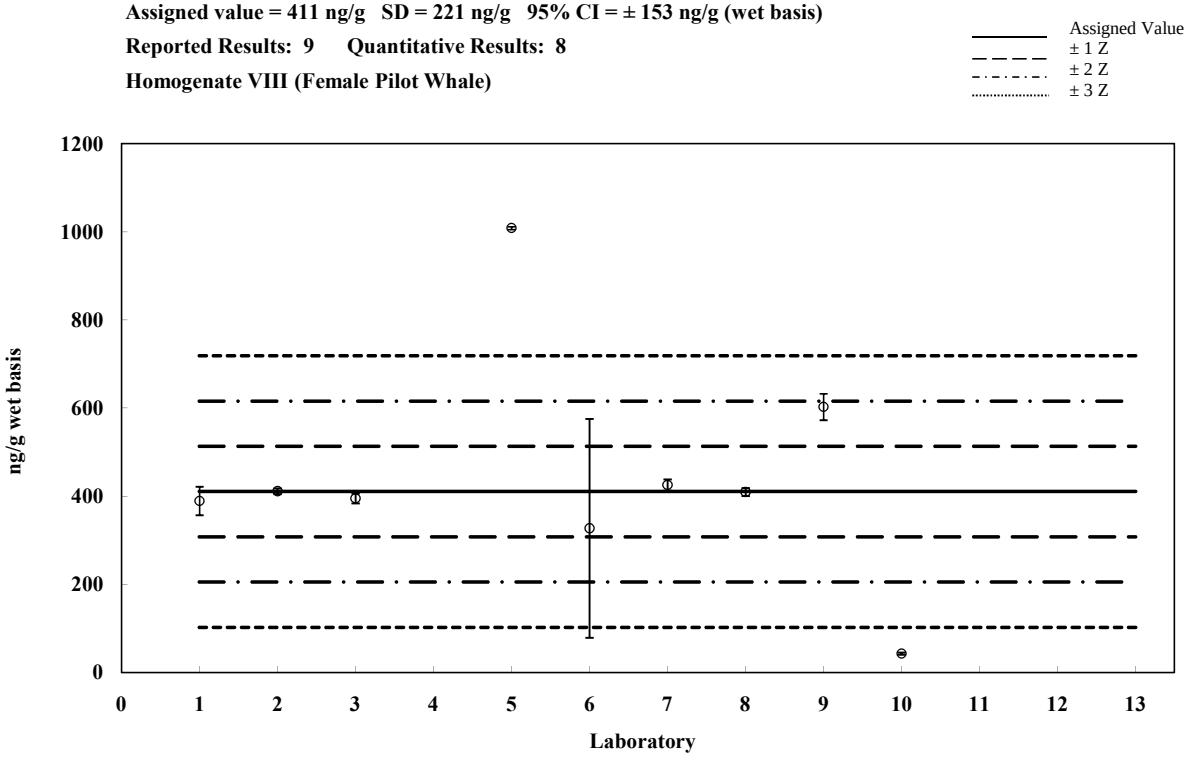
Trans-Nonachlor
Assigned value = 439 ng/g SD = 124 ng/g 95% CI = ± 86 ng/g (wet basis)
Reported Results: 10 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



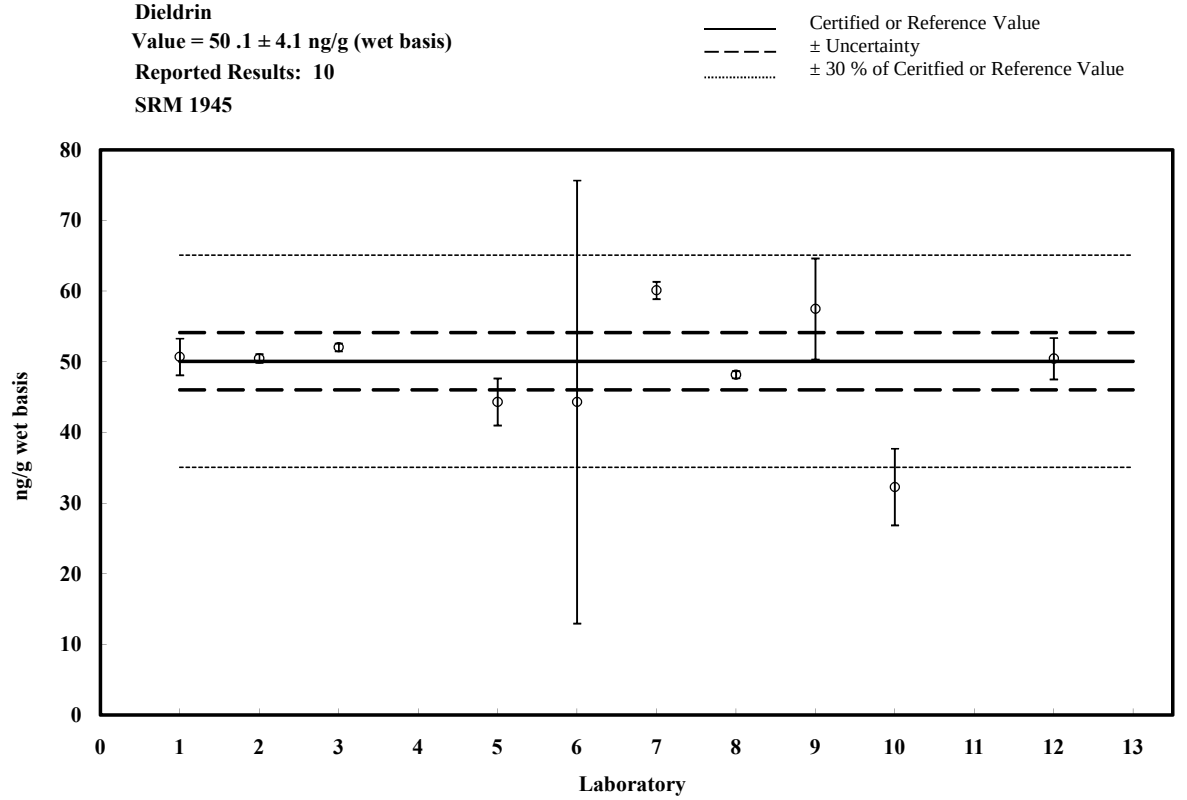
Trans-Nonachlor
Value = 198 ± 16 ng/g (wet basis)
Reported Results: 11
SRM 1945



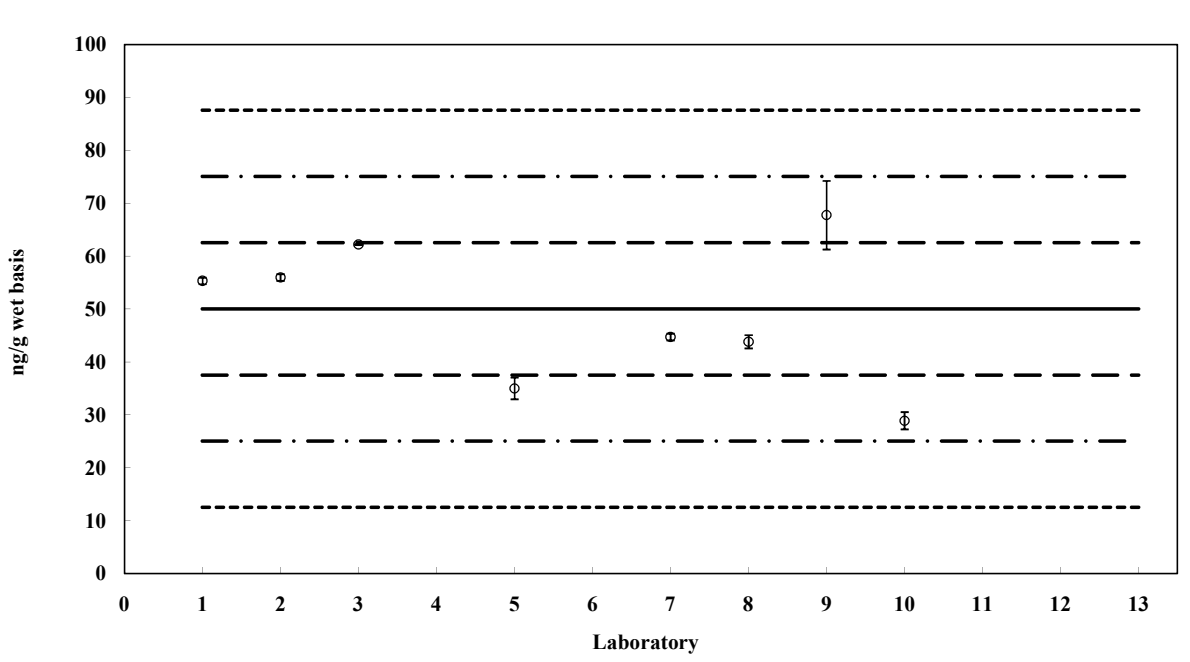
Dieldrin
Assigned value = 411 ng/g SD = 221 ng/g 95% CI = ± 153 ng/g (wet basis)
Reported Results: 9 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



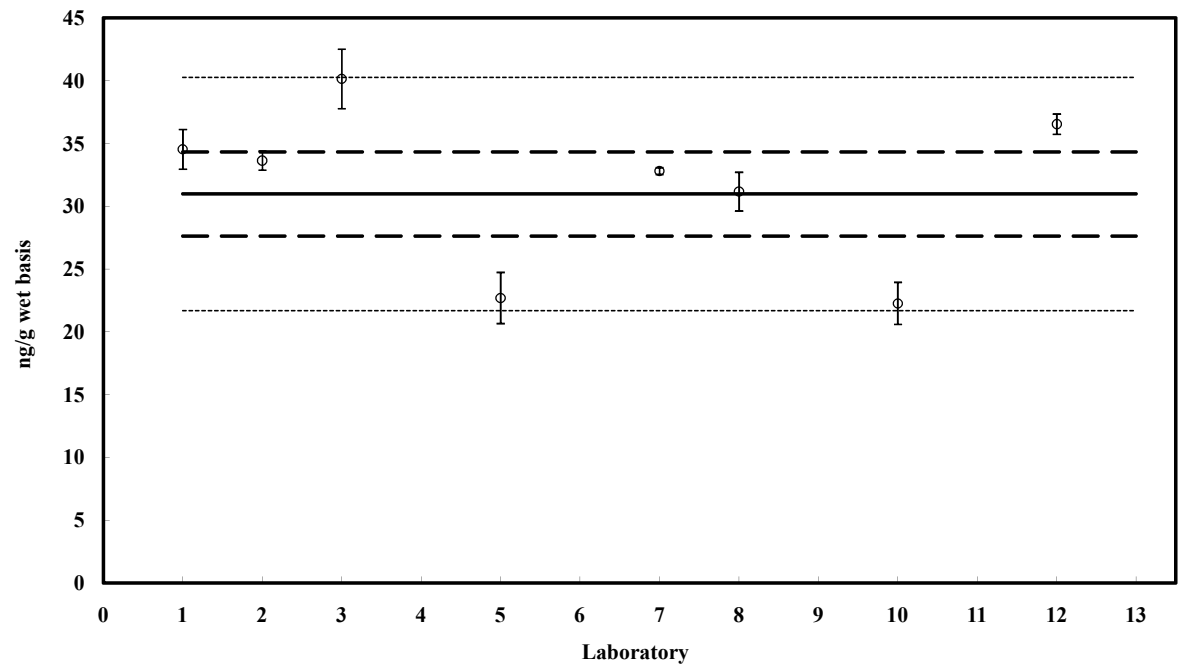
Dieldrin
Value = 50 .1 ± 4.1 ng/g (wet basis)
Reported Results: 10
SRM 1945



Mirex
Assigned value = 50 ng/g SD = 13 ng/g 95% CI = ± 9 ng/g (wet basis)
Reported Results: 8 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



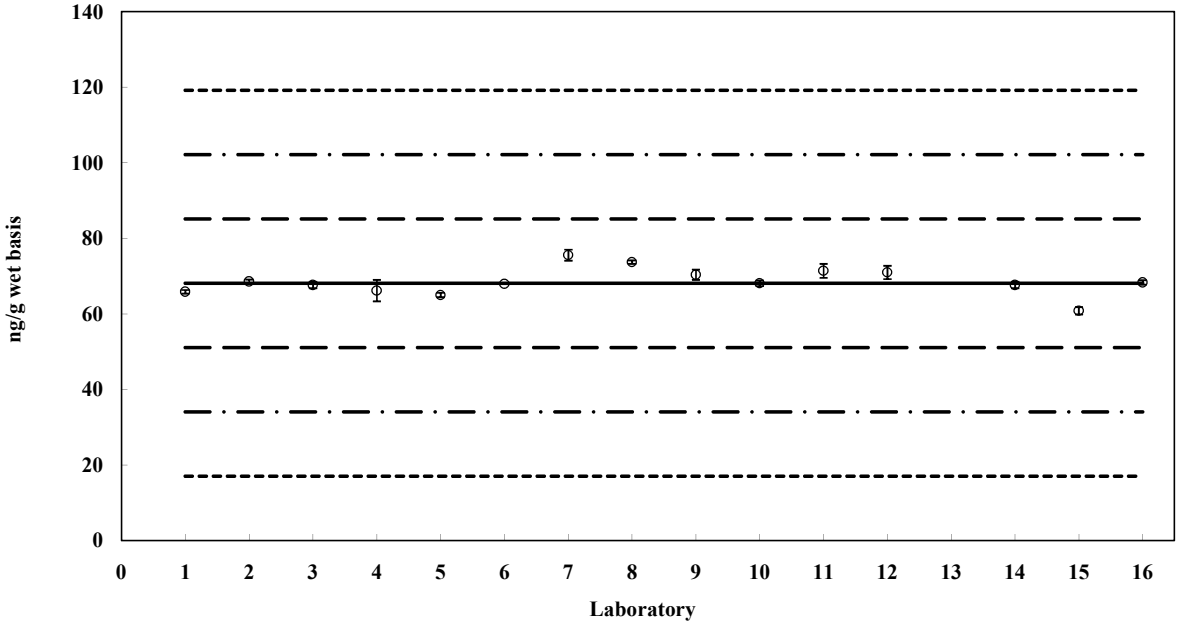
Mirex
Value = 31.0 ± 3.4 ng/g (wet basis)
Reported Results: 8
SRM 1945



Lipid
Assigned value = 68 ng/g SD = 3 ng/g 95% CI = ± 2 ng/g (wet basis)
Reported Results: 12 Quantitative Results: 15
Homogenate VIII (Female Pilot Whale)

Assigned Value
± 1 Z
± 2 Z
± 3 Z

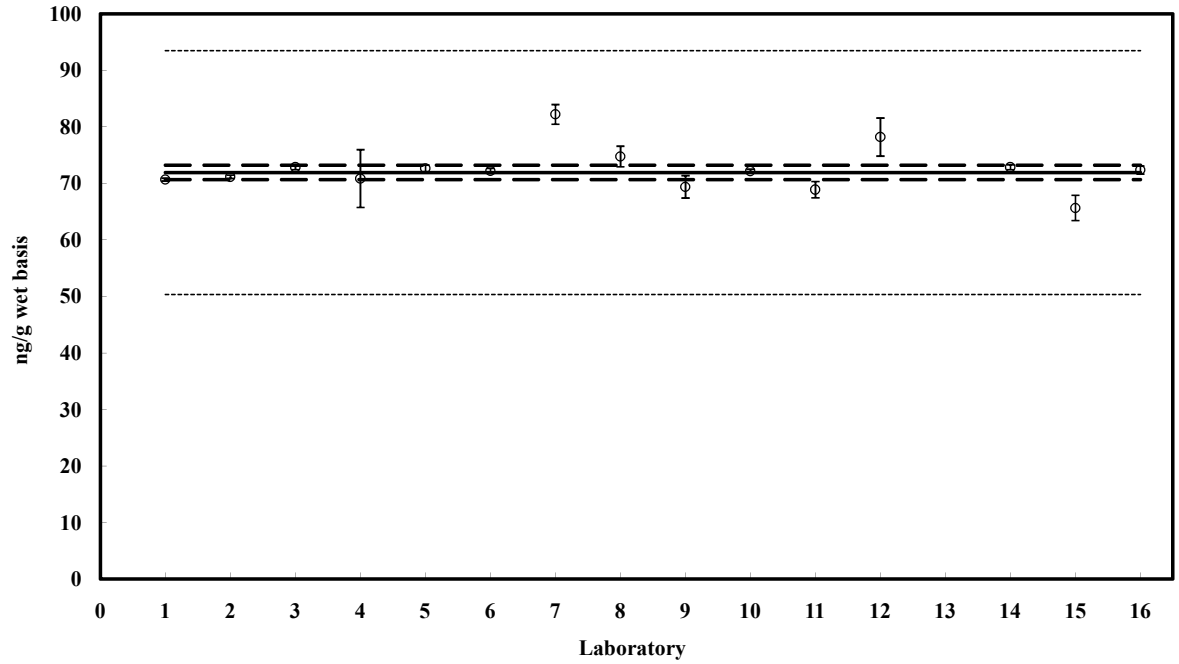
Labs 14, 15, and 16 are 1fa, 2fa and 3fa, respectively



Lipid
Value = 71.9 ± 1.3 ng/g (wet basis)
Reported Results: 15
SRM 1945

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

Labs 14, 15, and 16 are 1fa, 2fa and 3fa, respectively



Appendix D

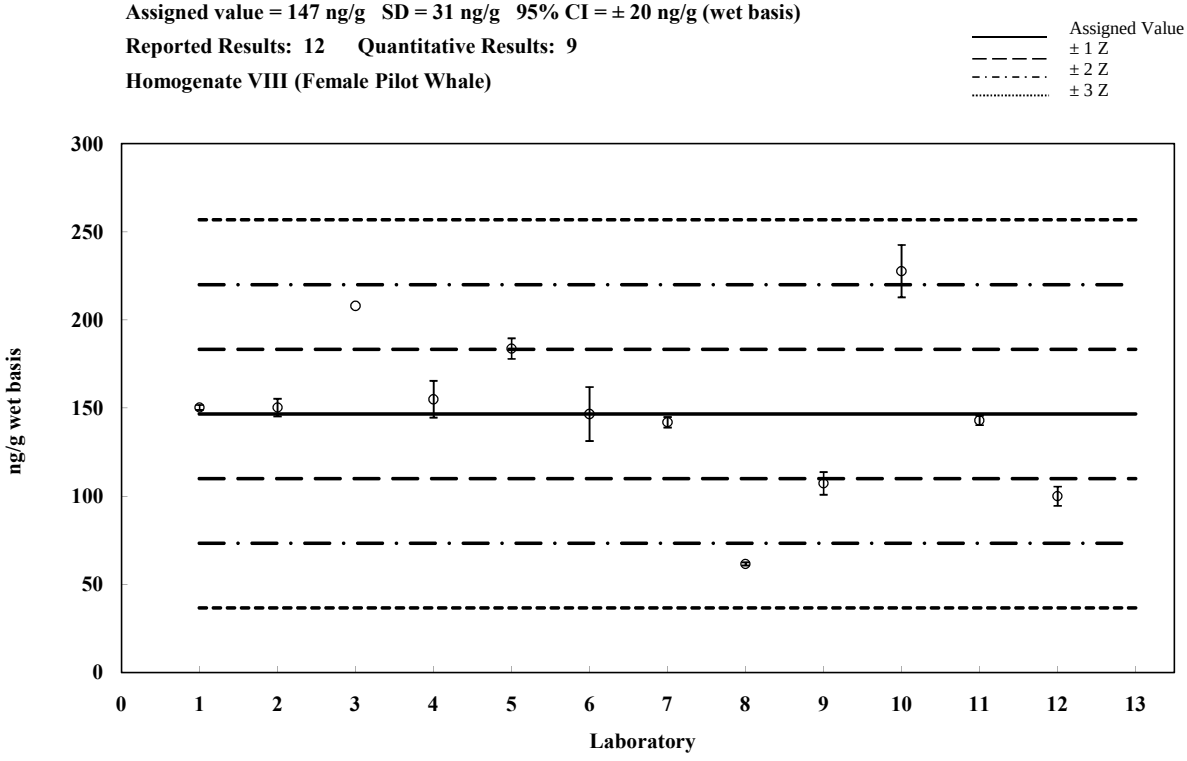
Graphical results of PBDE congener data reported by all laboratories. The Z-scores for Homogenate VIII represent 25 % of the assigned value so that z = +1 is the assigned value plus 25 %, z = -1 is the assigned value minus 25 % and so forth. Error bars are ± 1 standard deviation.

PBDE 47

Assigned value = 147 ng/g SD = 31 ng/g 95% CI = ± 20 ng/g (wet basis)

Reported Results: 12 Quantitative Results: 9

Homogenate VIII (Female Pilot Whale)

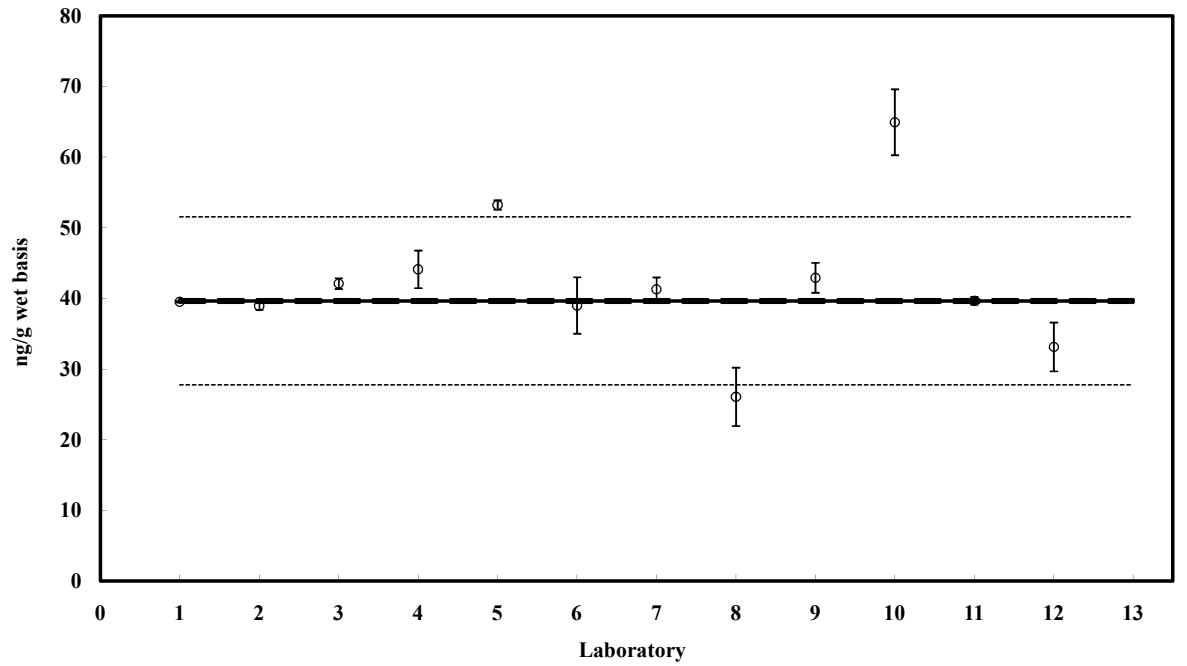


PBDE 47

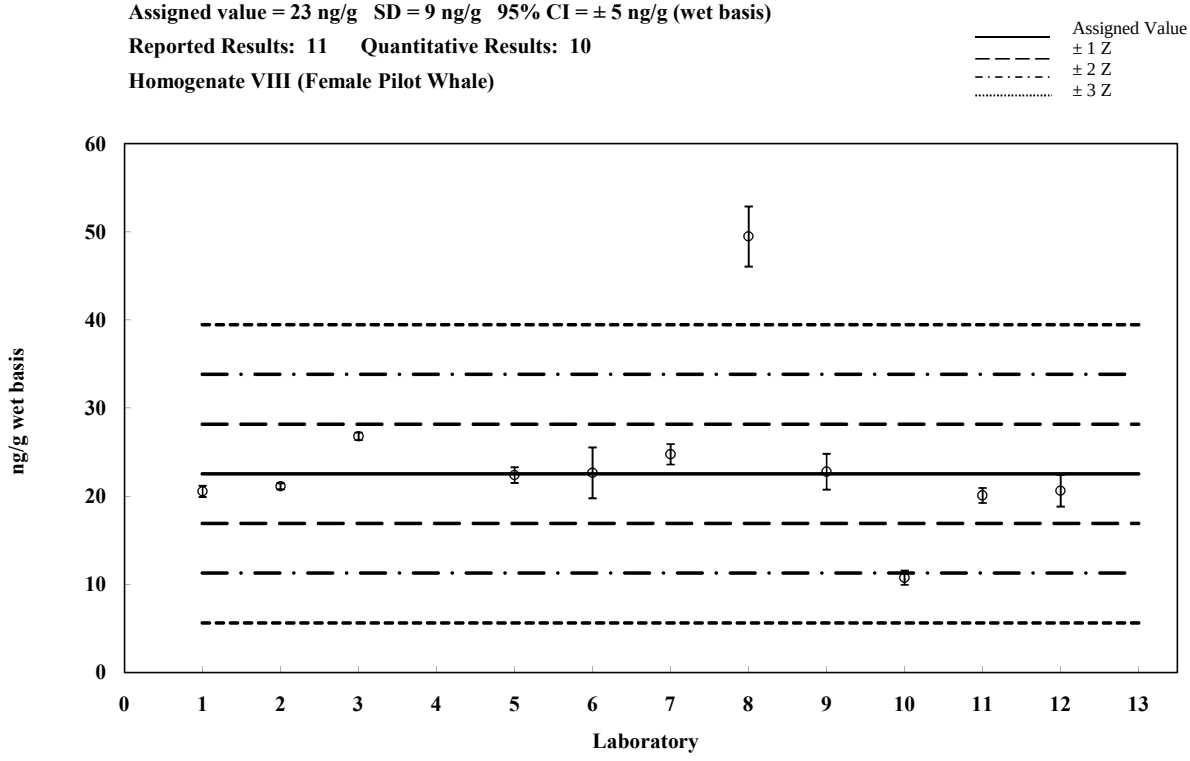
Value = 39.6 ± 0.18 ng/g (wet basis)

Reported Results: 12

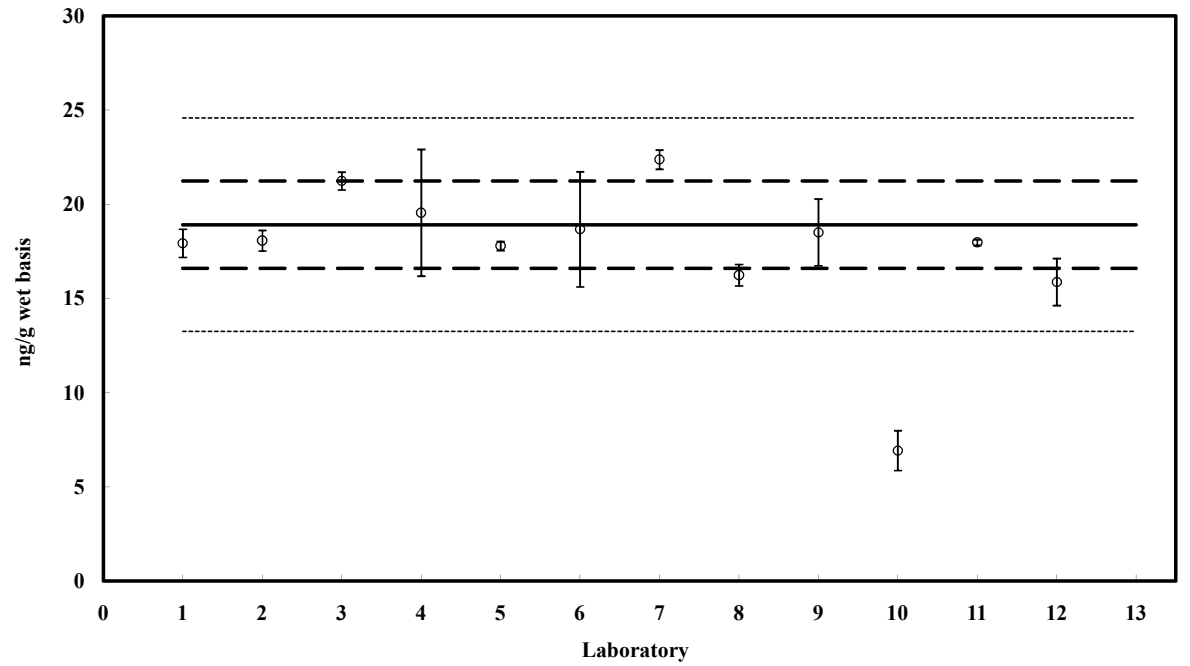
SRM 1945



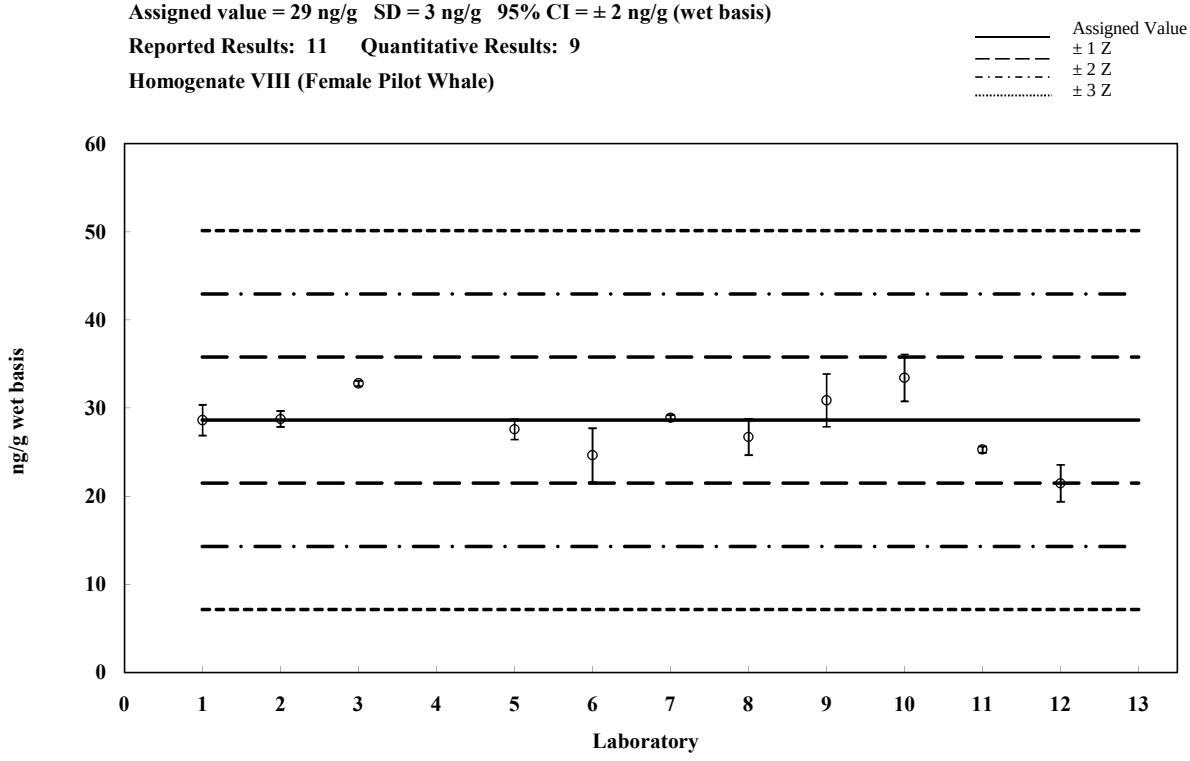
PBDE 99
Assigned value = 23 ng/g SD = 9 ng/g 95% CI = ± 5 ng/g (wet basis)
Reported Results: 11 Quantitative Results: 10
Homogenate VIII (Female Pilot Whale)



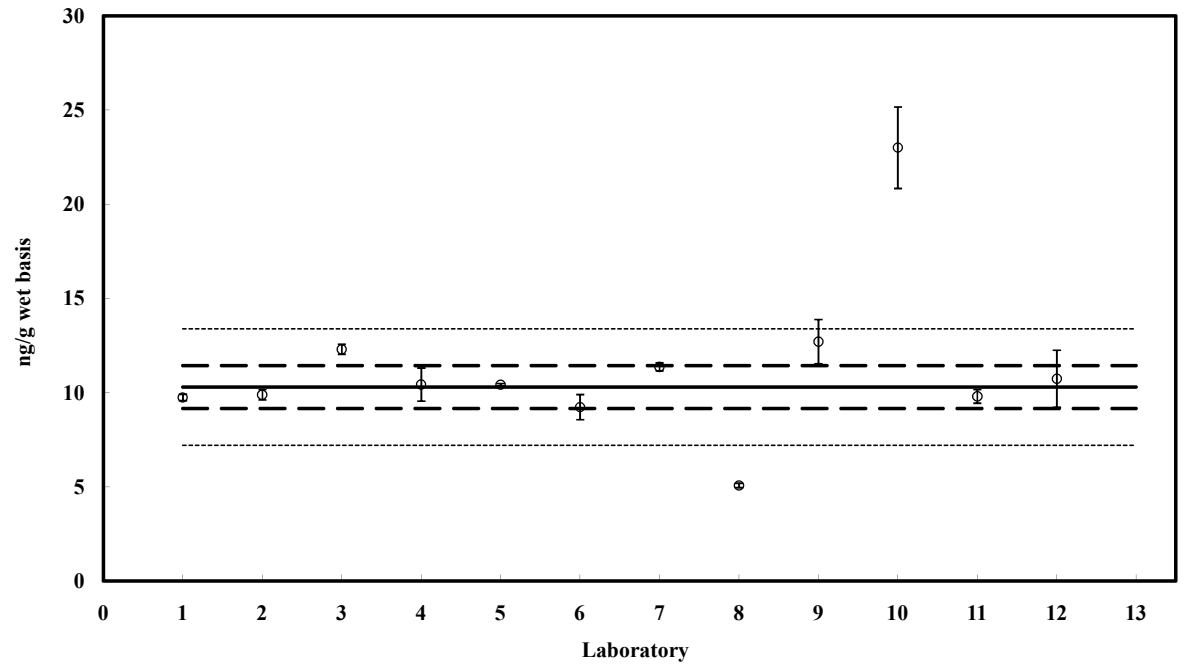
PBDE 99
Value = 18.9 ± 2.3 ng/g (wet basis)
Reported Results: 12
SRM 1945



PBDE 100
Assigned value = 29 ng/g SD = 3 ng/g 95% CI = ± 2 ng/g (wet basis)
Reported Results: 11 Quantitative Results: 9
Homogenate VIII (Female Pilot Whale)



PBDE 100
Value = 10.3 ± 1.1 ng/g (wet basis)
Reported Results: 12
SRM 1945

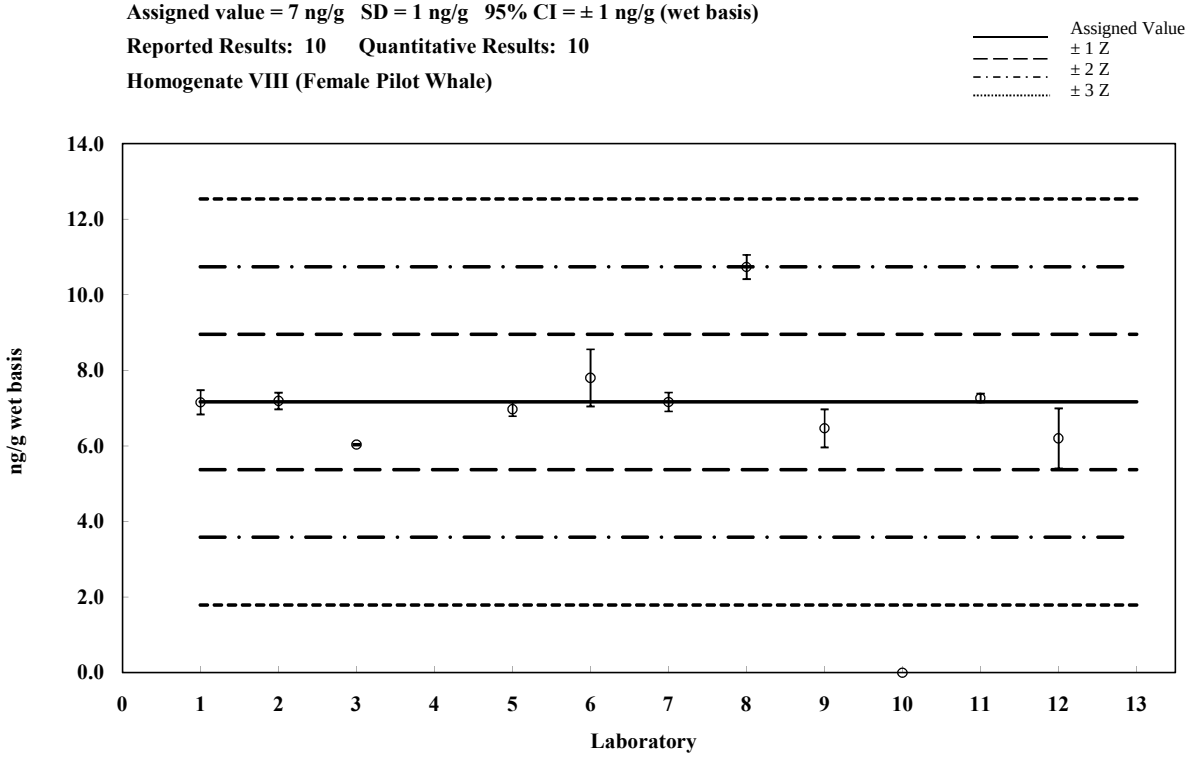


PBDE 153

Assigned value = 7 ng/g SD = 1 ng/g 95% CI = ± 1 ng/g (wet basis)

Reported Results: 10 Quantitative Results: 10

Homogenate VIII (Female Pilot Whale)

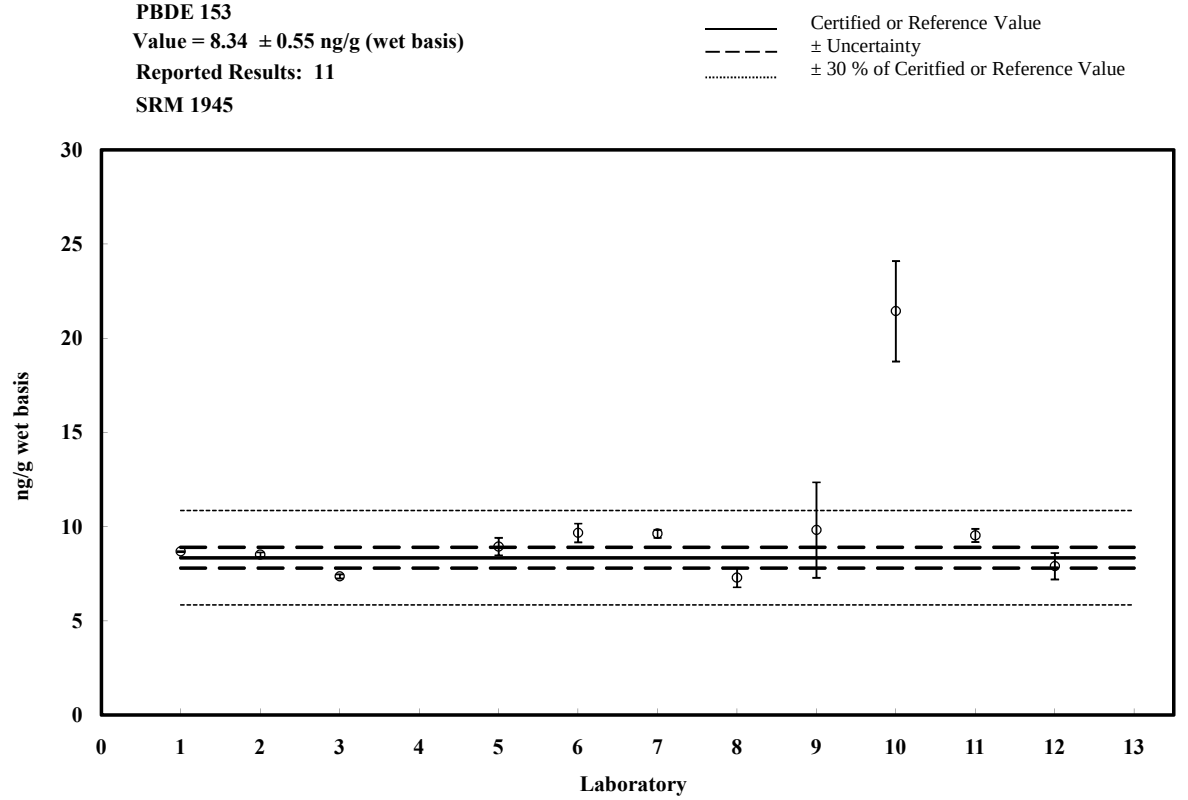


PBDE 153

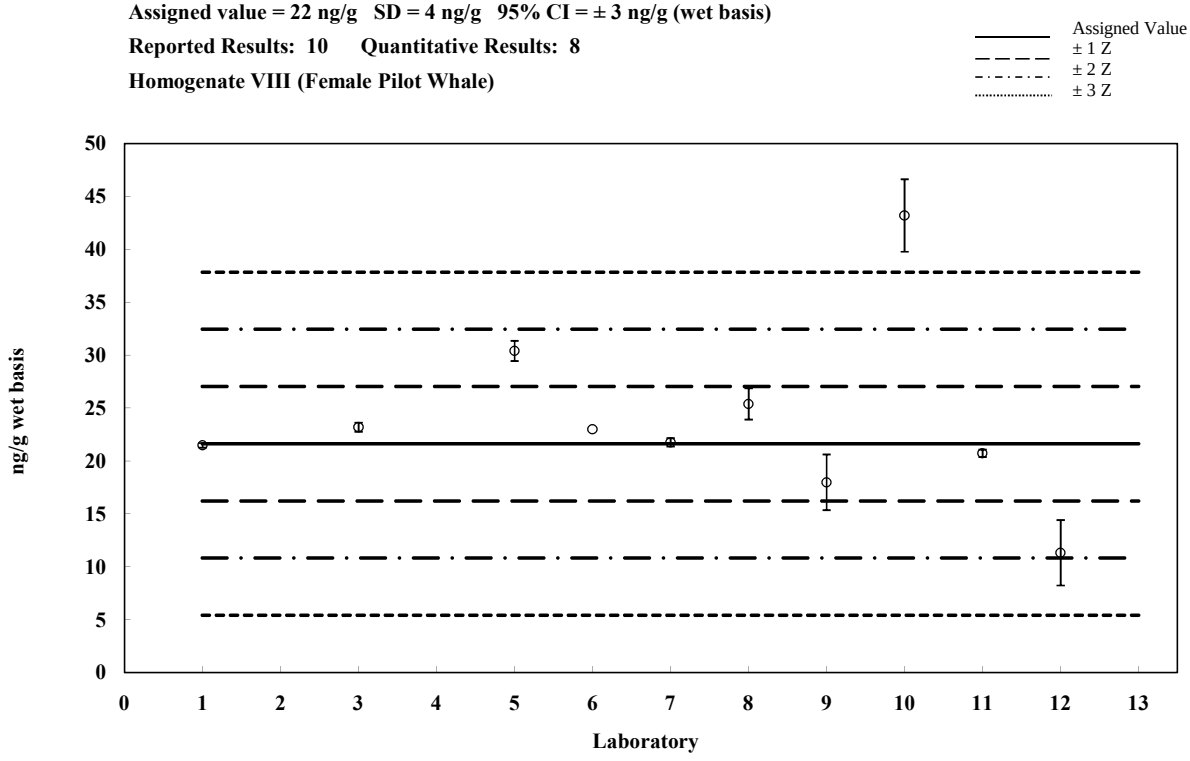
Value = 8.34 ± 0.55 ng/g (wet basis)

Reported Results: 11

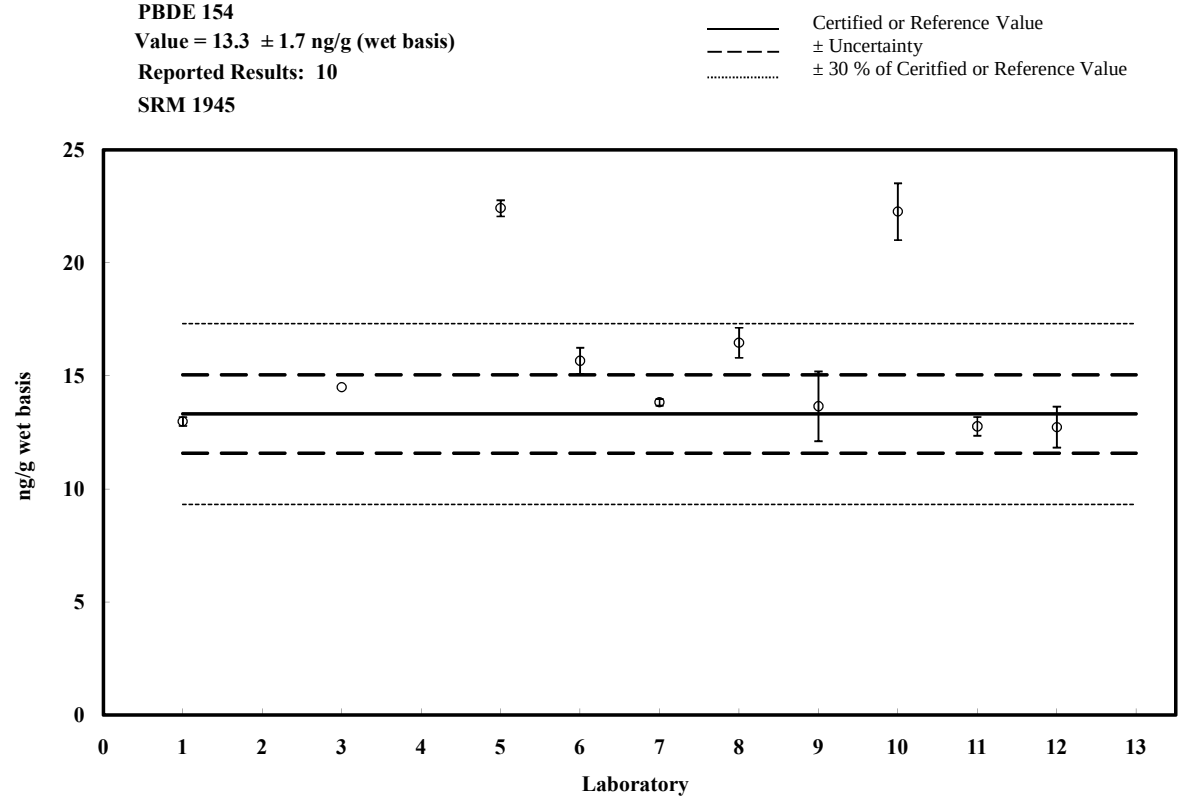
SRM 1945



PBDE 154
Assigned value = 22 ng/g SD = 4 ng/g 95% CI = ± 3 ng/g (wet basis)
Reported Results: 10 Quantitative Results: 8
Homogenate VIII (Female Pilot Whale)



PBDE 154
Value = 13.3 ± 1.7 ng/g (wet basis)
Reported Results: 10
SRM 1945



Appendix E

Tabular summary of methods used for analysis by each laboratory.

Summary of Methods Used

Laboratory	Approximate mass of sample extracted (g): Unknown	SRM 1945	Procedure used to measure Lipid	Were "wet" or "dry" samples extracted? SRM 1945	Homog. VII
1	1	1	Subsampled the dichloromethane extract, evaporated the solvent and weighed the remaining residue.	wet	wet
2	1	1	Gravimetrically remove approx. 1/10 of the extract and allow solvent to evaporate off. Check mass until stable for 24h period.	wet	wet
3	1	1	Gravimetric determination; ASE extraction using dichloromethane. Iatroscan (TLC/FID) determination also reported (uses same extract).	wet	wet
4	2.32 to 2.86	2.84 to 4.32	After extraction with dichloromethane, the extracts of Homognate IV and SRM 1945 were concentrated to 10 mL. Then, 20% by volume of these extracts was added to a previously weighed and dried aluminum pan. The contents were allowed to evaporate, and the pan was reweighed.	wet	wet
5	1	1	gravimetric	wet	wet
6	2.97, 2.93, 2.95	4.09, 4.00, 4.03	Total extractable lipids (gravimetric from Soxhlet extract)	wet	wet
7	avg = 0.2295	avg = 0.2271	Extraction of sample via mixing with sodium sulfate (50 g), grinding via mortar and pestle. Transfer to glass column and elution with 300 mL 1:1 dichloromethane and Hexane. Evaporation of solvent and weighing of remaining lipid extract.	wet	wet
8	1		Gravimeteric	wet	wet
9	0.8	0.8	Lipid content was determined gravimetrically using the 10% of the extract	wet	wet
10	1	1	Gravimeteric	wet	wet
11	0.15 - 0.23	0.13 - 0.18	Gravimeteric	wet	wet
12	1.2	1.2	Gravimeteric	wet	wet
13	1	1	Not measured	wet	wet
1s	5	5	Not requested	wet	wet
2s	3	3	Not requested	wet	wet
3s	1.5	1.5	Not requested	wet	wet
4s	4.42		Not requested	wet	wet
5s	1	1	Not requested	wet	wet
1fa	1	1	Iatroscan (TLC/FID) determination also reported (uses same extract). Iatroscan (TLC/FID) determination also reported (uses same extract).	wet	wet
2fa	1	1	Gravimeteric	wet	wet
3fa	0.035	0.039	Lipid extracted with chloroform/methanol (2:1) using Homogenizer with Teflon grinding pestle. The moisture was taken out from the extract using anhydrous Sodium Sulfate; an aliquot was taken into pre-weighed aluminum cup for gravimetric analysis.	wet	wet

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 size exclusion chromatogramphy (SEC) column (Phenomenex) using DCM . as the mobile phase. Eluent containing orgaonochlorines was further refined by passing though a ca. 2 g alumina solid phase extraction cartridge eluting with 12 mL 25% DCM:75% hexane (volume fraction)
2	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	15 min	100 °C; 2000 psi, 3 cycles; 90 sec purge	Sulfuric acid to remove lipids - back extract into hexane concentrate and elute through silica SPE column using 15 mL of 10% dichloromethane in hexane.
3	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	~16 min.	ASE conditions: Pressure = 2000 psi, temperature = 100 °C	Gravity flow column with silca and neutral alumina, followed by HPLC-SEC to elute fraction containing pesticides, PCB and PBDE congeners.
4	Dionex Model 300 Accelerated Solvent Extractor (ASE)	Dichloromethane	20 min	The extraction temperature was 100 °C at a pressure of 1500-psi. Each sample was extracted three times. The first cycle used a static time of 10 min. The last two cycles used a static time of 5 min.	Each extract was eluted through a glass chromatography column packed with florisil, alumina, and silica and was concentrated to 10 mL. A single, 2 mL. portion of this eluate was diluted to 5 mL with methylene chloride. The unused portion of each sample was stored away as a reserve. Each 5 mL portion was manually injected into a single Phenogel, size exclusion HPLCcolumn (60 cm x 2.1 cm). Each HPLC-cleaned fraction was concentrated, the solvent was exchanged to hexane, and the sample column (60 cm x 2.1 cm). Each HPLC-cleaned fraction was concentrated, the solvent was exchanged to hexane, and the sample volume was adjusted to 5 mL for initial GC screening. After screening, each sample was concentrated to 1mL for final data collection on DB-5 0.25 mm ID x 60 m L x 0.25 um film thickness fused silica capillary column.
5	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	20 min		Gel permeation and florisil chromatography.
6	Soxhlet	Hexane:acetone (1:1)			Alumina cleanup followed by silica gel fractionation.
7	Extraction of sample via mixing with sodium sulfate (50 g), grinding via mortar and pestle , transfer to glass column.	300 ml 1:1 DCM:Hexane.	3 hours		PCBS / PBDEs / PCDD/Fs -change solvent from 1:1 to Hexane Utilize FMS instrumentation and specific programs with Acidic Silica Columns ; Acid Base Neutral Silica Columns ; Basic Alumina Columns ; Carbon Fibre Columns . Pesticides-----Add extracts to conditioned neutral Florisil (pass extracts through three columns).
8	Mix with sodium sulphate and extract in glass column	300 mL of Dichlormethane-Hexane (1:1)	1 hour	Rotovap to fixed volume	As per our method MET-CHEM-OC-06B (May 2007). Spiked with a mixture of 13C surrogates and placed on GPC for lipid and other Biogenic removal GPC column is made up with Biobeads SX-3, sample dump 140 mL. sample collect 200 mlx DCM/ Hexane (1:1) Rot-A-Vap for final clean-up on Florisil column. (100 ml of DCM/Hexane, 1:1) Rot-A-Vap and made up to a final voume of 570 µL.

9	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	5 min/cycle; 4 cycles (20 min total extraction time)	34 mL stainless steel extraction cells; temp: 100 °C; pres: 1500 psi; flush volume: 60%; Purge time: 100 s	Lipid removal by gel permeation chromatography (40 g SX-3 Bio-beads) GPC elution profile: 1:1 dichloromethane/hexane (v:v) collecting the fraction eluting between 100 to 220 mL. Additional purification by silica/alumina packed column chromatography (3% water deactivated silica gel/alumina; 2:1). Elution profile: 50 mL CDM/hexane (3:7 v:v).
10	Pressurized Fluid Extraction (Dionex, ASE)	Dichloromethane	15 min		OC- GPC, Florisil, Salicic Acid, PCB-H411E column cleanup (sulfuric acid/silica gel).
11	Hot Soxhlet	Hexane:Acetone= 3:1 (v/v)	2 hours	Samples were mixed with sodium sulphate	column chromatography on silica/acid silica elution with 15 ml hexane and 10 ml dichloromethane.
12	Soxhlet	Dichloromethane/ Acetone	18 hours		Alumin-b/Silica
13	Dionex ASE200 Accelerated Solvent Extractor	Hexane	20 Min		Silica Gel 60 Column cleanup. Two fractions eluted by hexane and benzene, respectively, were collected
1s	Open focused microwave	5 mL sample + 5 mL formic acid + 6 mL 20% dichloromethane:hexane (V:V), repeat once	250 W, 10 min ramp, 3 min hold, 90 ^{o}C, max pressure was 1.72 MPa with stirring and PowerMax on		Biphasic H_2SO_4 impregnated silica columns eluted with dichloromethane and hexane
2s	As per our method MET-WTD-ORGRES-Mult-Res (Sept. 2007)	6M HCl, 2-propanol, MtBE:Hexane(1:1), 1% KCl, 1M KOH (in 1:1 ethanol:water)	127.5 minutes	1) The sample was placed in a 50mL screw top centrifuge tube, mixed with by vortexing & then left to stand for 30 minutes (mins). 2) 1 mL of 6M hydrochloric acid was added to the sample & then vortexed for 30 seconds (secs). 3 mL of 2-propanol was added & then the sample was vortexed for another 30 secs. 3) 6 mL of MtBE:Hexane (1:1) was added, the sample vortexed for 1 min, then sonicated in an ultrasonic bath for 20 mins. The sample was vortexed for 30 secs & then centrifuged at 1000 rpm for 10 mins. The solvent layer was transferred to a 60 mL separatory funnel. Step #3 was repeated 2 more times.4) 6 mL of 1% KCl was added to the separatory funnel and shaken for 1 min. The aqueous layer was drained/discarded and the organic phase was collected in a 125 mL round bottom flask. The sample was concentrated by rotary evaporation to ~ 1.0 mL & tranferred to a 60 mL separatory funnel.5) 6 mL of 1.0 M KOH in 1:1 ethanol (95%):water (deionized) was added to the concentrate & mixed for 1 min.6) The aqueous phase was transferred into a 50 mL centrifuge tube. Step #6 was repeated another two times.7) The sample was concentrated by rotary evaporation down to ~5 mL.	1) Silica Gel (SiOH) solid phase extraction (SPE) cartridges were used (500 mg, 6 mL capacity). 2) SPE cartridges were conditioned with 6 mL of 10% methanol in dichloromethane (DCM), followed by 8 mL of 5% DCM in hexane. 3) After conditioning of the column, the sample was loaded onto the cartridge and eluted with 8 mL 5% DCM:Hexane into a 15 mL tube. 4) The sample is concentrated to ~ 1 mL under nitrogen, then solvent exchanged to trimethylpentane and blown down to 200 µL.
3s	Accelerated solvent extraction (ASE)	Dichloromethane	~16 min.	ASE conditions: Pressure = 2000 psi, temperature = 100 ^{o}C	Gravity flow column with silica gel and neutral alumina, followed by HPLC-SEC to elute fraction containing pesticides, PCB and PBDE congeners.

4s	Extraction of sample via mixing with sodium sulfate (200g), grinding via mortar and pestle , transfer to glass column	325 ml 1:1 DCM:Hexane	3 hours	Note that after extraction, the extracts were split by weight 75:25 (75% for PCB, PBDE and PCDD/F analysis ….25% for pesticide analysis)	**PCBS / PBDEs / PCDD/Fs -**change solvent from 1:1 to Hexane Utilize FMS instrumentation and specific programs with Acidic Silica Columns ; Acid Base Neutral Silica Columns ; Basic Alumina Columns ; Carbon Fibre Columns Pesticides-----Add extracts to conditioned neutral Florisil (pass extracts through three columns).
5s	SPE with Oasis HLB cartridges (500 mg, 6 mL)	elution solvent: dichloromethane			clean-up on 0.5 g acidified silica, elution with 6 mL hexane and 6 ml dichloromethane
1fa	Accelerated solvent extraction (ASE)	Dichloromethane	~16 min.	ASE conditions: Pressure = 2000 psi, temperature = 100 degrees C	Details of the sample extraction and transesterification procedure for fatty acid analyses can be found in Herman et al. (2005) Mar. Ecol. Prog. Ser. 32:275-291.
2fa	solvent extraction at room temperature	hexane	12hours		water removed with anhydrous sodium sulfate
3fa	Lipid extracted with chloroform/methanol (2:1) using Homogenizer with Teflon grinding pestle.	Chloroform/methanol (2:1)	Lipids were extracted from sample 3 times for 35 seconds with 2 ml Chloroform:Methanol (2:1)	FAMEs were extracted twice using 2 ml Hexane	A portion of wet sample of 30 to 40 mg was taken for extraction using an Homogenizer with Teflon grinding pestle. The extraction was done 3 times using Chloroform/Methanol (2:1). The moisture was taken out from the extract by anhydrous Sodium Sulfate. A portion of the extract was taken for percetage lipids by gravimetry and the rest was evaporated to dryness with nitrogen gas. Before methylation, 1.5 ml Toluene was added to the dry sample in a screw cap tube. The tube was recaped and vortexed for 10 seconds to completely dissolve the lipids. Then, 2 ml of methanol-sulphuric acid (1%) reagent was added into the tube. The tube was flushed with nitrogen, recaped and vortexed for 10 seconds before incubation overnight for 16 hours at 50°C in the water bath. After methylation, 2 mL of $KHCO_3$ solution (2% w/v) was added to sample, and then, Sample tube was recaped and vortexed. The upper organic layer (toluene) was then transferred to another labeled precalibrated tube. And then 2 mL hexane was added twice to the original tube; abd the upper layer was added to the other tube as before. The solvents were then evaporated to less than 2 mL, and 50 µL of BHT solution (0.2mg/mL) was added as a normalization standard and as antioxidant. The final volume was brought to exactly 2 mL before injection.

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-XLB	30	0.18	0.18	6	0.01 ng to 800 ng	none
	PCB	GC-MS	DB-XLB	30	0.18	0.18	6	0.02 ng to 1500 ng	none
	PBDE	GC-MS	DB-XLB	30	0.18	0.18	6	0.001 ng to 330 ng	none
2	**Pest.**	GC/MS	XLB	60	0.25	0.25	6		
	PCB	GC/MS	XLB	60	0.25	0.25	6		
	PBDE	GC/MS	5% phenyl	15	0.25	0.25	6		
3	**Pest.**	GC/MS (SIM)	DB-5	60	0.25	25	5 to 10	0.001-20 ng/µL	p,p'-DDE; o,p'-DDD, in QC00-WB4 only.
	PCB	GC/MS (SIM)	DB-5	60	0.25	25	5 to 9	0.001-10 ng/µL	CBs 87, 95, 99, 149, 151, 156, 158, 171, 177, 183, 194, 199, in QC00-WB4 only.
	PBDE	GC/MS (SIM)	DB-5	60	0.25	25	4	0.0025-1.0 ng/µL	n/a
4	**Pest.**	GC-ECD	DB-5	60	0.25	0.25	1	100 ng/ml	4,4'-DDE and 4,4'-DDT (All Homog IV & All SRM 1945 analyses)
	PCB	GC-ECD	DB-5	60	0.25	0.25	1	100 ng/ml	
	PBDE	GC-MSD	DB-5	60	0.25	0.25	1	109-545 ng/ml	
5	**Pest.**	GC-MS	DB-5	30	0.25	0.25	5	0.2, 1, 2, 5, 15 ng/µL	
	PCB	GC-MS	DB-5	30	0.25	0.25	5	0.2, 1, 2, 5, 9.25 ng/µL	
	PBDE	GC-MS	DB-5	30	0.25	0.25	5	0.2, 0.5, 1, 2, 3 ng/µL	
6	**Pest.**	GC-ECD	DB-5	50	0.20	0.33	7	0.5-100 ng/ml	
	PCB	GC-ECD	DB-5	50	0.20	0.33	7	0.5-100 ng/ml	
	PBDE	GC-NICI	DB-5	50	0.25	0.25	7	0.1-50 ng/ml	
7	**Pest.**	GC-HRMS (EI)	DB-5	50	0.25	0.1	1	32-66 pg/µL	
	PCB	GC-HRMS (EI)	DB-5 (CP-Sil 19CB)	60(60)	0.25(0.25)	0.1(0.15)	5	0.8-460pg/µL	
	PBDE	GC-HRMS (EI)	DB-5 HT	15	0.25	0.1	3	5-500 pg/µL	
8	**Pest.**	GC/MSD	DB-5	30	0.25	0.25			
	PCB	GC/MSD	DB-5	30	0.25	0.25			
	PBDE	GC/MSD	DB-5HT	15	0.25	0.10			
9	**Pest.**	GC-MS(EI)	DB-5	60	0.25	0.25	6	10 ppb- 600 ppb	
	PCB	GC-MS(EI/NCI)	DB-XLB	30	0.25	0.25	8	2 ppb- 500 ppb	
	PBDE	GC-MS(EI/NCI)	DB-XLB	30	0.25	0.25	9	0.2 ppb- 200 ppb	
10	**Pest.**	GC-ECD	CLPesticides	30	0.25	0.25	4	2pg/µL - 200pg/µL	Dilute until inside curve
	PCB	GC-ECD	XLB	60	0.25	0.25	5	2pg/µL - 100pg/µL	Dilute until inside curve
	PBDE	GC-ECD	CLPesticides2	30	0.25	0.20	5	2pg/µL - 200pg/µL	Dilute until inside curve
11	**Pest.**	GC/MS (EI)	HT-8	25	0.22	0.25	6		
	PCB	GC/MS (EI)	HT-8	25	0.22	0.25	8		
	PBDE	GC/MS (ECNI)	DB-5	30	0.25	0.25	6		
12	**Pest.**	GCMS-EI	DB-5	60	0.25	0.25	5	20ng to 800ng	
	PCB	GCMS-EI	DB-5	60	0.25	0.25	5	20ng to 800ng	
	PBDE	GCMS-NCI	DB-5	60	0.25	0.25	5	20ng to 800ng	
13	**Pest.**	GC-ECD	DB608/1701	30/15	0.32/0.32	0.5/0.25	6	1 - 1000 ppb	
1s	**Pest.**	GC/MS (EI+NCI)	DB-5ms	30	0.18	0.18			
	PCB	GC/MS (EI)	DB-5ms	30	0.18	0.18			
	PBDE	GC/MS (EI)	DB-5ms	30	0.18	0.18			
2s	**Pest.**	GC-MS(EI)	DB-5	30	0.25	0.25			
	PCB	GC-MS(EI)	DB-5	30	0.25	0.25			
	PBDE	GC-MS(ECNI)	DB-5 HT	15	0.25	0.10			
3s	**Pest.**	GC/MS (SIM)	DB-5	60	0.25	25			
	PCB	GC/MS (SIM)	DB-5	60	0.25	25			
	PBDE	GC/MS (SIM)	DB-5	60	0.25	25			
4s	**Pest.**	GC-HRMS (EI)	DB-5	50	0.25	0.1			
	PCB	GC-HRMS (EI)	DB-5 (CP-Sil 19CB)	60(60)	0.25(0.25)	0.1(0.15)			
	PBDE	GC-HRMS (EI)	DB-5 HT	15	0.25	0.1			
5s	**Pest.**	GC/MS (EI)	HT-8	25	0.22	0.25			
	PCB	GC/MS (EI)	HT-8	25	0.22	0.25			
	PBDE	GC/MS (ECNI)	DB-5	30	0.25	0.25			
1fa		GC/MS (SIM)	DB-23	60	0.25	25			
2fa		GC-FID for quantitation; GC-MS for identification	DB-225	30	0.25	0.25			
3fa		GC-FID	SP-2560	100	0.25	0.2	4	2.45-19.6 ppm to 2.5-60 ppm	

Summary of Methods Used

Laboratory		Method of Quantitation	Added Prior to Extraction	Indentity of Internal Standards Added Prior to Chromatographic Analysis
1	**Pest.**	IS	13C labeled trans-chlordane, trans-nonachlor, oxychlordane, HCB, 4,4'-DDT, 4,4-DDE, and methyl-triclosan and deuterated 4,4'-DDD	
	PCB	IS	13C 28, 52, 77, 118, 126, 153, 169, 180, 194, and 206	
	PBDE	IS	13C 28, 47, 99, 100, 153, 154, 209	
2	**Pest.**	IS	13C 4,4'-DDE, 4,4'-DDT, lindane, and *trans* -nonachlor	
	PCB	IS	PCB 103 and PCB 198	
	PBDE	IS	Fluorinated BDE 47	
3	**Pest.**	IS	CB103	tetrachloro-o-xylene
	PCB	IS	CB103	tetrachloro-o-xylene
	PBDE	IS	CB103	tetrachloro-o-xylene
4	**Pest.**	IS	Ronnel	Tetrachloro-m-xylene (TCMX)
	PCB	IS	4,4' Dibromooctafluorobiphenyl (DOB) & PCB 198	PCB 103 & 3,3',4,4'-Tetrabromobiphenyl (TBB).
	PBDE	ES		
5	**Pest.**	IS	13C HCB. Cis-chlordane and p,p'-DDE.	phenanthrene d_{10}
	PCB	IS	13C PCB28, 52,118,153,180,194 and 209	phenanthrened $_{10}$
	PBDE	IS	13C BDEs 28, 100, and 183	phenanthrene d_{10}
6	**Pest.**	IS		PCB53
	PCB	IS		PCB53
	PBDE	IS		PCB200
7	**Pest.**	IS	Persistent Pesticide Spiking Solution (ES 5021 from Cambridge Isotopes) + Tri (D3) / Tetra (13C) Chlorobenzene	13C PCB 47
	PCB	IS	13C 15 ;38 (D5) ; 13C 77 ; 126 ; 169 ; 28 ; 105 ; 118 ; 156 ; 52 ; 101 ; 128 ; 180 ; 194 ; 208 ; 209	13C PCB 111
	PBDE	IS	13C 3 ; 13C 15 ; 13C 28 ; 13C 47 ; 13C 99 ; 13C 100 ; 13C 118 ; 13C 153 ; 13C 183 ; 13C 209	13C BDE 77 ; 13C BDE 126
8	**Pest.**	ES		13C-HCB, 13C-DDE and 13C-DDT
	PCB	ES		13C-PCB 28, 52,118,153, 180,194
	PBDE	IS		BDE-30 and BDE-71
9	**Pest.**	ES	PCB 30; PCB 205	
	PCB	ES	PCB 30; PCB 205	
	PBDE	ES	BDE 71; BDE 172	
10	**Pest.**	ES		
	PCB	ES		
	PBDE	ES		
11	**Pest.**	IS	PCB 143 and e-HCH	
	PCB	IS	PCB 143	
	PBDE	IS	BDE 77 and BDE 128	
12	**Pest.**	IS	TCMX, PCB030, PCB112, PCB198	2,2'-5,5'-Tetrabromobiphenyl
	PCB	IS	TCMX, PCB030, PCB112, PCB198	2,2'-5,5'-Tetrabromobiphenyl
	PBDE	IS		2,2'-5,5'-Tetrabromobiphenyl
13	**Pest.**	ES		
	PCB	NA		
	PBDE	NA		
1s	**Pest.**	IS	13C labeled HCB, oxychlordane, 4,4'-DDE, 4,4'-DDD, trans-chlordane, trans-nonachlor, 4,4'-DDT	
	PCB	IS	13C labeled PCB 28, 52, 118, 153, 180, 194, 206	
	PBDE	IS	13C labeled BDE 28, 47, 153, 99, 100, 154, 209	
2s	**Pest.**	ES	Surrogates: 13C-1,2,4,5-hexachlorobenzene	
	PCB	ES	Surrogates: 13C-PCB-28, PCB-52, PCB-118, PCB-153, PCB-180 and PCB-192	
	PBDE	IS	BDE-30 (IS and surrogate)	
3s	**Pest.**	IS	CB103	tetrachloro-o-xylene
	PCB	IS	CB103	tetrachloro-o-xylene
	PBDE	IS	CB103	tetrachloro-o-xylene
4s	**Pest.**	IS	Persistent Pesticide Spiking Solution (ES 5021 from Cambridge Isotopes) + Tri (D3) / Tetra (13C) Chlorobenzene	13C PCB 47
	PCB	IS	13C 15 ; 38 (D5) ; 13C 77 ; 126 ; 169 ; 28 ; 105 ; 118 ; 156 ; 52 ; 101 ; 128 ; 180 ; 194 ; 208 ; 209	13C PCB 111
	PBDE	IS	13C 3 ; 13C 15 ; 13C 28 ; 13C 47 ; 13C 99 ; 13C 100 ; 13C 118 ; 13C 153 ; 13C 183 ; 13C 209	13C BDE 77 ; 13C BDE 126
5s	**Pest.**	IS	PCB 143 and e-HCH	
	PCB	IS	PCB 143	
	PBDE	IS	BDE 77 and BDE 128	
1fa	Fatty Acids	IS	C11:1 (as triglyceride)	C13:0 (as methyl ester)
2fa	Fatty Acids	ES		
3fa	Fatty Acids	IS	Cholestane	BHT

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				Prior to extraction	
2				Prior to extraction	
3	Pest.	tetrachloro-m-xylene	Just before taking aliquot for lipid analysis, prior to HPLC-SEC separation.	Prior to extraction	
	PCB	tetrachloro-m-xylene			
	PBDE	tetrachloro-m-xylene			
4	Pest. PCB PBDE	1,2,3-Trichlorobenzene (123-TCB) PCB 192		after extraction	No
5				Prior to extraction	
6				Not thosue added prior to extraction	
7				Prior to extraction	
8	Pest. PCB PBDE	13C-HCB, 13C-DDE and 13C-DDT 13C-PCB 28, 52,118,153, 180,194 BDE-30 and BDE-71	After extraction and before GPC clean-up		
11				Prior to extraction	
12				Added after extraction/cleanup and prior to chromatographic analysis	
1s				Prior to extraction	
2s				Prior to extraction	
3s	Pest.	tetrachloro-m-xylene	Just before taking aliquot for lipid analysis, prior to HPLC-SEC separation.	Prior to extraction	
	PCB	tetrachloro-m-xylene			
	PBDE	tetrachloro-m-xylene			
4s				Prior to extraction	
5s				Prior to extraction	
1fa	fatty acids	C13:1 (as acid), added just before derivatization.		those added after extraction/cleanup and just prior to chromatographic analysis (C13:1, added as acid	
3fa	fatty acids				Yes

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?
1			No	Separates
2			No	Separates
3	**Pest.** **PCB** **PBDE**	106-116 106-116 106-116	No	Coelutes with PCB 153
4	**Pest.** **PCB** **PBDE**	Ronnel: SRM1945 (160 ± 53%); 123-TCB: SRM1945 (97 ± 8%) DOB: SRM1945 (94 ± 5%); PCB 198: SRM1945 (79 ± 9%) PCB 192: SRM1945 (57 ± 2%); See note 2 for the recoveries for Homogenate IV at the end of this report.	No	Coelutes with PCB 153
5			No	Coelutes with PCB 153
6			Yes	
7	**Pest.** **PCB** **PBDE**	40-120 45-115 45-110	No	Separates
8			No	Separates
9			No	To our knowledge, PCB 132 does not coelute with either 105 and 153 using our method (GC-NCI-MS using DB-XLB)
10			Yes	PCB 132 was a shoulder of PCB 153
11	**Pest.** **PCB** **PBDE**	75-90% 75-90% 75-90%	No	Separates
12			No	Separates
1s			No	Coelutes with PCB 153
2s	**Pest.** **PCB** **PBDE**	80 - 93 % (two samples had recoveries of 15% & 118%) 49 - 86 % (one sample had recoveries of <13 %) 66 - 103 % (one sample had a recovery of 14 %)	No	Separates
3s	**Pest.** **PCB** **PBDE**	93-102 93-102 93-102	No	Coelutes with PCB 153
4s	**Pest.** **PCB** **PBDE**	50-120 45-110 45-120	No	Separates
5s	**Pest.** **PCB** **PBDE**	80-95% 80-95% 80-95%	No	Separates
1fa	**Fatty Acid**	101-111		
3fa	**Fatty Acid**	93% to 99%		

Appendix F

Additional analyte data and notes reported by individual laboratories.

		Homog VIII Sample 1	Homog VIII Sample 2	Homog VIII Sample 3	SRM 1945 Sample 1	SRM 1945 Sample 2	SRM 1945 Sample 3
1	PCB 74	15.7	14.8	15.6	97.8	97.5	98.0
	PCB 70	10.5	9.9	9.9	2.84	2.66	2.81
	PCB 56	5.7	5.5	5.8	7.8	7.6	7.5
	PCB 92+84+89	25.9	26.5	24.9	374	379	381
	PCB 79	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
	PCB 119	4.72	4.40	4.33	69.1	71.0	71.3
	PCB 112	<LOD	<LOD	<LOD	<LOD	<LOD	<LOD
	PCB 154	3.80	4.03	3.86	140	144	145
	PCB 82	3.65	3.76	3.33	63.7	65.1	65.2
	PCB 106	3.84	3.79	3.43	6.89	7.31	6.34
	PCB 114	<LOD	<LOD	<LOD	58.1	59.2	55.7
	PCB 146	41.6	42.7	41.5	1117	1135	1147
	PCB 137	6.34	6.36	6.30	140	145	143
	PCB 176	5.97	5.57	5.16	112	114	115
	PCB 130	10.3	10.4	10.0	230	238	236
	PCB 163	41.5	40.4	38.7	1017	1043	1058
	PCB 158	10.0	9.78	8.89	191	201	199
	PCB 178	21.0	22.4	21.3	478	487	488
	PCB 166	6.1	5.24	5.56	33.5	34.1	35.3
	PCB 167	13.6	12.7	13.4	190	192	193
	PCB 185	3.43	3.52	3.33	68.4	68.3	70.8
	PCB 174	25.2	25.3	25.1	737	752	749
	PCB 177	29.4	29.4	29.2	768	780	782
	PCB 202	27.1	32.1	28.0	125	125	126
	PCB 157	2.91	2.71	2.82	47.8	49.1	50.5
	PCB 172	12.9	12.7	11.9	248	252	256
	PCB 197	5.15	5.22	4.50	26.0	27.2	27.6
	PCB 193	7.73	7.43	6.90	177.2	182.4	181.0
	PCB 191	2.07	1.89	2.05	30.1	32.9	34.4
	PCB 200	4.05	4.04	4.12	23.8	24.3	24.8
	PCB 199	88.9	91.1	88.3	540	546	545
	PCB 196+203	81.6	81.0	80.9	413	418	418
	PCB 189	4.16	4.31	4.01	30.4	31.3	31.7
	PCB 208	25.2	26.0	25.2	19.9	19.7	18.9
	PCB 207	16.2	16.6	15.8	16.0	15.7	15.5
	PCB 205	2.2	2.1	2.4	9.6	10.2	10.4
	pentachlorobenzene	1.74	1.95	1.84	8.49	9.24	9.99
	BDE 28	2.61	2.51	2.65	2.66	2.98	3.12
	BDE 155	4.69	4.86	4.36	8.91	9.43	9.52
2	PCB 138	4544	4449	4521	149	151	149
	PCB 163	1005	1045	1034	43.3	44.5	40.7
3	Nonachlor III	75.1	75.4	77.3	25.3	25.7	25.7
	CB17	4.21	4.33	4.22	1.14	1.32	1.19
	CB70	2.53	2.55	2.53	10.3	10.3	10.5
	CB74	108	109	110	15.6	15.8	15.8
	CB82	11.5	12.0	12.0	4.37	4.28	4.34
	CB110	41.9	42.5	42.8	35.9	36.0	36.3
	CB158	265	266	270	11.5	11.5	11.5
	CB171	265	267	267	12.0	11.9	12.1
	CB177	815	818	823	31.3	32.0	32.2
	CB191	48.9	49.4	49.6	1.61	1.71	1.61
	CB199	442	443	442	83.4	85.0	85.5
	CB205	12.8	13.3	13.0	1.95	2.05	1.81
	CB208	17.2	17.3	17.4	25.5	26.7	26.9
	BDE28	6.61	6.60	6.55	2.25	2.29	2.05
	BDE49	1.88	1.85	1.93	2.91	2.80	2.94
	BDE66	2.8	2.8	3.07	<1.82	1.69	1.65
	BDE183	<1.22	<1.43	<1.22	2.08	1.83	1.85
	Penta-BDE (IUPAC # unknown	4.44	4.42	4.42	<1.82	<1.65	<1.59

4

Notes for the PCB and Pesticide Analysis:

1. We prepared each sample by weighing out a portion of each sample to a mortar and and adding diatomaceous earth (Hydromatrix) to remove water from the sample. After mixing each sample, this mixture was transferred to the extraction cell and internal standards were added. We used these conditions in the ASE method for the first extraction of each sample: Pressure: 1500-psi; 5-min heating cycle at 100oC; 10-min static cycle at 100oC using 100% (v) methylene chloride; Flush Volume: 60%; Purge Time: 60-sec For the method used for the last two extractions, the static heating time was reduced to 5-min.; all other parameters were the same. For each sample, the three extractions were run in a schedule in which there was no methylene chloride rinses during the first and second extractions; there was a rinse cycle after the third extraction. After the extraction, we added anhydrous sodium sulfate to remove water from the extracts in each collection bottles. Finally, the three extracts for each sample were combined together and concentrated to 10-ml for the lipid determination and sample cleanup.

2. The internal instandard recoveries for the Homogenate IV samples were very high due to the interference of coeluting peaks in the chromatograms.

3. 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.

4. We used hydrogen gas as the carrier gas at a linear velocity of 40 cm/min for the GC-ECD analysis of the pesticides and PCBs. We report the concentrations for the optional pesticides and PCBs in Table 1.

5. Using our gas chromatographic conditions, PCB 153 an 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. Conservatively, the concentration of PCB 153 given in the table should be treated as the sum of PCB 153 and PCB 132.

6. We would like to acknowlege the work done by Tom Cleary and John McCarthy during the preparation and cleanu of these samples.

7. In GC-ECD analysis, a peak in the vicinity of retention time of lindane was detected. This peak was not confirmed as lindane in the GC-MS analysis.

The Meaning of <u>Other</u> found in the Tables for the Pesticide and PCB Concentrations: 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] : PCB 169 and Mirex
Other[E] : PCB 101 and Endosulfan I

Other[F] : 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.

<u>Table 1: Optional Pesticide and PCB Results</u>

Additional Pesticides and PCBs	Homog VIII **Sample 1 (ng/g wet wt)**	Homog VIII **Sample 2 (ng/g wet wt)**	Homog VIII **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	DL	DL	DL	0.53	1.26	DL
Endrin	DL	DL	DL	DL	DL	DL
Endosulfan I	OtherE	OtherE	OtherE	OtherE	OtherE	OtherE
Endosulfan II	296.4	222.9	219.7	13.3	13.4	13.6
Endosulfan Sulfate	573.7	553.7	538.3	7.78	8.29	9.13
BZ 8	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB
BZ 77	OtherG	OtherG	OtherG	OtherG	OtherG	OtherG
BZ 110	OtherG	OtherG	OtherG	OtherG	OtherG	OtherG
BZ 126	507.2	508.9	476.9	1.95	2.26	2.16
BZ 169	OtherD	OtherD	OtherD	OtherD	OtherD	OtherD

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

4

Other[B] : PCB 8 and alpha-HCH
Other[D] : PCB 169 and Mirex
Other[E] : PCB 101 and Endosulfan I

Other[G] : 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.

Notes for the PBDE Analysis:

1. SRM1945 extract was concentrated to 1 ml. This extract was used for both PCB/pesticide and PBDE analyses.

2. Unknown sample extract for PCB and pesticide analyses was also used for PBDE analyses.

3. To prepare the PBDEcalibration solutions for this intercomparison exercise, we purchased the standard solution, BDE-MXE, a mixture of 27 polybrominated diphenyl ethers (PBDE), from TerraChem, Shawnee Mission, KS; the US distributor for Wellington Laboratories, Guelph, Ontario Canada.

4. The PBDE analyses were conducted using a 60 m column, higher flow rate, and accelerated oven temperature program to minimize the degradation of higher brominated congeners. analyses were conducted using a short column, higher flow rate, and accelerated oven temperature program to minimize the degradation of higher brominated congeners. Target PBDE congeners were base-line separated using these chromatographic conditions. Two microliters of sample wer injected into the GC-MS for PBDE analyses.

5

28/31 coelute	26.0	34.1	37.3	25.5	24.1	25.5
95/88 coelute	489	509	457	31.0	32.1	30.6
87/115 coelute	341	336	292	50.0	54.3	51.8
101/89/90/ coelute	1742	1842	1610	110	116	111
118/106/123 coelute	3700	3904	3457	262	286	269
128/167 coelute	899	933	850	76.86	83.57	83.75
132/153/165 coelute	11183	11737	10812	305	319	306
138/163/158/164 coelute	8075	8249	8094	267	279	262
180/193 coelute	3646	3827	3709	128	117	116
45	8.63	9.40	9.53	7.24	7.17	7.31
48	104	110	94.2	20.9	21.1	21.6
74/61	296	307	287	51.4	39.0	46.0
56/60	41.9	45.9	44.9	28.0	28.1	29.6
92	232	249	220	19.9	20.2	19.8
84	56.3	36.8	48.6	16.4	15.5	14.0
119	43.8	48.4	43.6	12.0	12.4	12.6
110	34.4	37.1	34.0	33.0	33.7	32.9
114	37.0	30.4	38.2	17.2	17.9	17.9
146	1067	1136	1039	53.6	53.3	52.1
141	159	171	152	27.0	27.7	27.1
159	70.8	77.8	69.0	7.36	7.27	9.23
157	49.2	42.3	42.4	0.820	2.54	1.89
184	15.0	16.1	14.8	<2.15	<2.15	<2.15
174	625	723	694	17.7	14.4	14.4
177	612	689	652	15.7	14.0	13.8
172	170	183	175	12.8	13.1	13.1
189	35.5	38.2	36.5	9.8	9.8	9.8
202	98.9	98.5	98.0	21.0	20.1	20.9
200	57.0	58.4	59.1	12.5	12.8	13.0
207	9.10	9.7	9.22	10.8	10.5	10.6

6

BRIEF DESCRIPTION OF PROCEDURES USED:

Mass of sample extracted: Homogenate IV		2.97+2.93+2.95	g, WET basis	SRM 1945	4.09+4.00+4.03	g, WET basis
Method used for determining percentage lipid:		Total extractable lipids (gravimetric from Soxhlet extract)				
Were "wet" or "dry" samples extracted? Homogen. IV		Wet	SRM 1945	Wet		
Extraction method	Soxhlet					
Extraction solvent:	Hexane:acetone [1:1]					
Sample extract cleanup method:	Gel Permeation Chromatography followed by sulfuric acid clean-up					

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
HBCD diastereoisomers	LC-MS	C18	0.1	2.0	n/a

6

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

HBCD diastereoisomers	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:

HBCD diastereoisomers	

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

HBCD diastereoisomers	

Any others? Added at what point in analyses:		Added prior to clean-up
HBCD diastereoisomers	d18 α-HBCD, d18 β-HBCD and d18 γ-HBCD	

IS/surrogate standards used for quantitation calculations were:

	those added prior to extraction
Not	those added after extraction/cleanup and just prior to chromatographic analysis

were results corrected for percent recovery'		No
	HBCD diastereoisomers	

	Points	Conc. Range	curve calibration range
HBCD diastereoisomers	6	10-500 ng/ml	

Please note any differences in procedures used for SRM 1945 analyses from those used for Whale Blubber Homogenate V described above:

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.)

	Homog VIII (percent)	Homog VIII (percent)	Homog VIII (percent)	SRM 1945 (percent)	SRM 1945 (percent)	SRM 1945 (percent)
Lipid	67.9	68	68	72	73	73

HBCD	Homog VIII Analysis A (ng/g wet wt)	Homog VIII Analysis B (ng/g wet wt)	Homog VIII 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)
α-HBCD	35.6	38	39	8	7	8
β-HBCD	<4.0	<4.0	<5.0	<4.0	<4.0	<5.0
γ-HBCD	<4.0	<4.0	<5.0	<4.0	<4.0	<5.0
total HBCD	35.6	38	39	8	7	8

7

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
PCDD/F Congeners	GC-HRMS (EI)	DB-5	60	0.25	0.1

	Points	Conc. Range	
PCDD/F Congeners	5	0.25-500 pg/ul	curve calibration range

PCB CONGENER ANALYSES	Homog VIII Sample 1 (ng/g wet wt)	Homog VIII Sample 2 (ng/g wet wt)	Homog VIII 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)
Congener						
43/49	84.4	88.5	83.5	15.2	15.2	15.9
101	1240	1260	1310	81.7	82.6	87.1

7	77	<0.474	<0.269	<1.63	0.284	0.357	0.352
	126	<0.594	<0.250	<1.27	0.0559	<0.0826	0.0435
	169	1.69	1.72	1.67	0.134	0.135	0.117

2378 PCDD/F CONGENER ANALYSES	Homog VIII Sample 1	Homog VIII Sample 2	Homog VIII Sample 3	SRM 1945 Sample 1	SRM 1945 Sample 2	SRM 1945 Sample 3
Congener	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)
2378/2348/2347/2346/1246/1249-TeCDF	<1.70	<4.31	<3.31	4.46	<1.94	4.81
12378-PeCDF	<1.37	<2.63	<2.40	<0.890	<1.07	<1.49
23478/12489/13489/12369-PeCDF	<1.37	<2.63	<2.40	<0.890	<1.07	<1.49
123478-HxCDF	<1.21	<1.64	<1.04	1.41	1.41	<0.935
123678-HxCDF	<1.21	<1.64	<1.04	<1.08	<1.24	<0.935
123689/234678-HxCDF	<1.21	<1.64	<1.04	<1.08	<1.24	<0.935
123789-HxCDF	<1.21	<1.64	<1.04	<1.08	<1.24	<0.935
1234678-HpCDF	<0.737	<3.14	<1.01	1.36	<0.751	<2.06
1234789-HpCDF	<0.737	<3.14	<1.01	<1.12	<0.751	<2.06
OCDF	<1.13	<5.31	<1.54	<1.61	<1.73	<0.838
2378-TeCDD	<1.01	<1.82	<2.04	<1.12	<0.865	<1.40
12378-PeCDD	<1.29	<2.95	<2.09	<1.16	<1.36	<1.58
123478-HxCDD	<1.73	<2.68	<1.46	<1.39	<1.24	<1.12
123678-HxCDD	<1.73	<2.68	<1.46	<1.39	<1.24	<1.12
123789-HxCDD	<1.73	<2.68	<1.46	<1.39	<1.24	<1.12
1234678-HpCDD	<1.86	<3.27	<1.86	<1.70	<1.15	2.06
OCDD	2.20	<2.23	2.60	5.58	3.66	5.75

The blubber samples were extracted in 2 batches: the first for PCBS, PCDD/Fs, PBDEs ….then a second set of blubber samples were extracted for pesticides

9	**PESTICIDE ANALYSES**						
	Pesticide	Homog VIII Sample 1 (ng/g wet wt)	Homog VIII Sample 2 (ng/g wet wt)	Homog VIII 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	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
	Chlordene	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
	Aldrin	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
	Endrin	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0

PCB CONGENER ANALYSES	Homog VIII	Homog VIII	Homog VIII	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)
37	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
70	<10.0	<10.0	<10.0	11.9	15.3	11.6
74	139	133	124	14.6	19.9	17.1
77	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
81	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
110	58.8	64.9	67.7	27.3	29.1	29.0
114	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
119	69.6	79.3	75.1	3.19	3.59	2.76
123	14.4	19.7	14.3	4.99	6.29	5.06
126	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
157	104	112	111	2.74	2.86	2.52
158	424	496	471	8.75	8.72	8.24
167	315	370	324	6.76	7.84	6.65
169	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
177	1290	1540	1350	25.5	28.4	24.1
189	129	158	136	7.7	7.6	7.7
199	870	1060	905	81.4	100	82.6

PBDE CONGENER ANALYSES	Homog VIII	Homog VIII	Homog VIII	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)
15	<0.1	<0.1	<0.1	<0.1	<0.1	0.16
28	4.29	3.79	3.84	1.52	1.27	1.62
33	3.27	2.93	3.48	12.0	11.8	11.6
49	<=0.026	<0.1	<0.1	1.89	1.63	2.73
66	0.71	2.49	1.80	2.76	1.63	1.04
75	1.50	0.99	0.51	0.41	0.30	0.20
119	<0.1	<0.1	<0.1	<0.1	<0.1	0.14
155	<0.1	<0.1	<0.1	4.89	4.22	3.75
183	<0.1	<0.1	<0.1	5.00	1.68	2.34

<= detected at concentration less than reported MDL

TOXAPHENE ANALYSES	Homog VIII	Homog VIII	Homog VIII	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)
26	400	498	346	72.9	74.4	66.3
32	7.94	9.61	6.99	<5.00	<5.00	<5.00
50	1020	1240	889	159	162	146
62	214	275	193	46.6	48.1	44.6

11	PCB 74	117	112	117	17.2	16.6	16.7
	PCB 110	34.3	35.4	34.5	31.1	31.1	30.5
	PCB 138	4070	4241	4100	123	126	123
	PCB 170	1193	1239	1225	34.2	35.2	33.7
	PCB 174	779	814	807	23	23.3	22.9

11	PCB 177	717	748	732	24.3	25.3	24.9
	BDE 28	25.6	26.3	25.4	8	8	8
	BDE 66	3.1	2.4	1.9	1.6	1.5	2
	BDE 155	< 0.5	< 0.5	< 0.5	2.6	2.6	2.5
	BDE 183	< 0.5	< 0.5	< 0.5	1.1	1	1
	2-MeO-BDE 68	22.6	24.1	30.2	68	74.5	77.4
	6-MeO-BDE 47	269	273	278	64.1	66.6	65
12	**PBDE CONGENER ANALYSES**	Homog VIII	Homog VIII	Homog VIII	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)
	12/13	15.2	13.8	9	5.32	4.69	5.23
	25/17	25.2	18.8	28.4	<1	<1	<1
	33/28	5.7	7.8	6.6	2.6	2.7	2
	66	<1	<1	<1	2.9	6.6	3.7
	77	12.9	9.3	10.1	11	17	18.6
	119	<1	<1	<1	3.1	3.8	3.4
	118	118	119	137	<1	<1	<1
	138	230	222	182	<1	<1	<1
1s	ADDITIONAL ANALYTICAL RESULTS	MMCM-1	MMCM-1	MMCM-1	SRM 1958	SRM 1958	SRM 1958
		Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
		(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)
	BDE_17	1800	1633	1687	519	513	518
	BDE_28	<200	<200	<200	444	435	443
	BDE_66	147	150	159	352	367	352
	BDE_85	<200	<200	<200	470	409	423
	BDE_155	198	199	199	<200	<200	<200
	BDE_183	<200	<200	<200	300	248	269
	PCB_44	114	98.3	98.2	382	386	381
	PCB_74	353	332	322	364	351	364
	PCB_146	1625	1616	1616	336	327	336
	PCB_163	2150	2163	2175	<25	<25	<25
	PCB_158	517	538	534	503	452	502
	PCB_178	565	541	547	316	312	315
	PCB_167	71.4	68.7	68.7	322	315	322
	PCB_174	670	646	668	292	283	291
	PCB_177	948	914	945	413	400	412
	PCB_202	405	393	407	<25	<25	<25
	PCB_157	49.7	50.4	49.7	307	299	306
	PCB_172	370	369	381	304	297	303
	PCB_199	1294	1268	1239	337	324	336
	PCB_196	1325	1287	1270	621	617	620
3s		MMCM-1	MMCM-1	MMCM-1	SRM 1958	SRM 1958	SRM 1958
		Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
		(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)	(pg/g wet wt)
	Nonachlor III	659	645	574	<368	<408	<469
	CB110	1050	1140	1020	492	489	<470
	CB199	1270	1220	1170	<278	<308	<354
	Total Lipid (%) (Gravimetric)	n/a	0.239	0.256	0.239	0.214	0.195
	Iatroscan (TLC/FID) Lipid results:						
	Total Lipid (%)	0.160	0.140	0.140	0.110	0.130	0.160
	Wax and sterol esters (% of total lipid)	76.2	76.7	75.3	65.7	66.7	67.0
	Triglycerides (% of total lipid)	2.20	1.80	2.20	16.8	17.3	17.3
	Free Fatty Acids (% of total lipid	2.90	2.30	3.30	3.00	2.60	2.00
	Cholesterol (% of total lipid)	16.9	17.0	16.1	13.8	13.5	13.1
	Phospholipid (% of total lipid	1.80	2.20	2.90	0.700	0.000	0.700
	Please also note that we resolve PCB170 and PCB190, but do not quantitate PCB190. We also believe that PCB187 colutes with other congeners (159 and 182?). We also analyzed for the following compounds, which were not detected at levels above the lower limit of quantitation: aldrin, endosulfan I, heptachlor, CB17, CB33, CB70, CB74, CB82, CB158, CB171, CB177, CB191, CB205, CB208, BDE28, BDE49, BDE66, BDE85, BDE183, and several other BDE congeners whose IUPAC numbers are unknown. PCB and PBDE congeners are designated using the IUPAC numbering system.						
4s	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	
	PCDD/F Congeners	GC-HRMS (EI)	DB-5	60	0.25	0.1	
	Calibration Curve						
		Points	Conc. Range		curve calibration range		
	PCDD/F Congeners	5	0.25-500 pg/ul				

4s

PCB CONGENER ANALYSES

Congener	MMCM-1 Sample 1 (pg/g wet wt)	MMCM-1 Sample 2 (pg/g wet wt)	MMCM-1 Sample 3 (pg/g wet wt)
43/49	50.9	68.4	65.7
101	350.0	547.0	469.0
77	<0.541	<0.532	<0.597
126	<6.33	<1.07	<1.04
169	0.830	0.670	0.660

2378 PCDD/F CONGENER ANALYSES

Congener	MMCM-1 Sample 1 (pg/g wet wt)	MMCM-1 Sample 2 (pg/g wet wt)	MMCM-1 Sample 3 (pg/g wet wt)
2378/2348/2347/2346/1246/1249-TeCDF	<1.70	<4.31	<3.31
12378-PeCDF	<1.37	<2.63	<2.40
23478/12489/13489/12369-PeCDF	<1.37	<2.63	<2.40
123478-HxCDF	<1.21	<1.64	<1.04
123678-HxCDF	<1.21	<1.64	<1.04
123689/234678-HxCDF	<1.21	<1.64	<1.04
123789-HxCDF	<1.21	<1.64	<1.04
1234678-HpCDF	<0.737	<3.14	<1.01
1234789-HpCDF	<0.737	<3.14	<1.01
OCDF	<1.13	<5.31	<1.54
2378-TeCDD	<1.01	<1.82	<2.04
12378-PeCDD	<1.29	<2.95	<2.09
123478-HxCDD	<1.73	<2.68	<1.46
123678-HxCDD	<1.73	<2.68	<1.46
123789-HxCDD	<1.73	<2.68	<1.46
1234678-HpCDD	<1.86	<3.27	<1.86
OCDD	2.20	<2.23	2.60

Note that the serum was spiked, extracted and split (75:25) before further workup.

5s

Congener	MMCM-1 Sample 1 (pg/g wet wt)	MMCM-1 Sample 2 (pg/g wet wt)	MMCM-1 Sample 3 (pg/g wet wt)	SRM 1958 Sample 1 (pg/g wet wt)	SRM 1958 Sample 2 (pg/g wet wt)	SRM 1958 Sample 3 (pg/g wet wt)
PCB 74	410	460	440	520	470	490
PCB 110	990	1000	1030	400	440	400
PCB 138	7630	7880	7720	440	470	433
PCB 174	460	460	440	< 30	< 30	< 30
PCB 177	900	920	900	380	380	380
BDE 28	120	125	115	430	420	400
BDE 49	< 10	< 10	< 10	445	445	425
BDE 66	95	85	90	445	455	440
BDE 85	< 10	< 10	< 10	445	465	485
BDE 154 + BB 153	835	850	860	750	740	750
BDE 155	145	146	150	< 10	< 10	< 10
BDE 183	20	20	20	245	235	270

Lipids (g/L)	MMCM-1			SRM 1958		
Total cholesterol	1.61	-	-	1.1	-	-
Triglycerides	< 0.10	-	-	0.87	-	-

1fa

	Homog VIII Analysis A (mass percent)	Homog VIII Analysis B (mass percent)	Homog VIII Analysis C (mass percent)	SRM 1945 Analysis A (mass percent)	SRM 1945 Analysis B (mass percent)	SRM 1945 Analysis C (mass percent)	
C10:0	0.0267	0.0256	0.0249	0.0278	0.0280	0.0277	Capric acid
C11:0	0.00461	0.00411	0.00443	0.00459	0.00473	0.00464	
C12:1	0.00716	0.00735	0.00722	<0.00463	0.00487	<0.00422	
4,8,12-trimethyl C13:0*	0.00701	0.00694	0.00675	0.0185	0.0193	0.0188	
iso-C14:0	0.0920	0.0885	0.0882	0.0467	0.0470	0.0457	
11-methyl C14:0*	0.00364	0.00347	0.00345	0.00412	0.00416	0.00381	
C14:1n5	0.423	0.412	0.405	0.461	0.464	0.452	
C14:1n7*	0.0946	0.0918	0.0930	0.121	0.124	0.120	
C14:1n9*	0.0683	0.0663	0.0670	0.0896	0.0912	0.0893	
iso-C15:0	0.253	0.246	0.245	0.212	0.218	0.210	
anteiso-C15:0*	0.0473	0.0459	0.0448	0.0605	0.0613	0.0590	
2,6,10,14-tetramethyl C15:0*	0.0172	0.0164	0.0169	0.0466	0.0474	0.0443	
C15:1n5	<0.00195	<0.00183	<0.00163	0.00291	0.00287	0.00261	
iso-C16:0	0.241	0.235	0.237	0.0796	0.0814	0.0776	
anteiso-C16:0*	0.00442	0.00467	0.00446	0.00383	0.00405	0.00392	
C16:1n5*	0.152	0.148	0.148	0.182	0.183	0.177	
C16:1n9*	2.55	2.49	2.48	2.01	2.04	1.96	
C16:1n11*	0.213	0.211	0.213	0.150	0.161	0.145	
7-methyl C16:1	0.0669	0.0639	0.0669	0.0481	0.0469	0.0438	
C16:2n4*	0.0929	0.0906	0.0986	0.135	0.138	0.133	
C16:2n6*	0.0192	0.0185	0.0188	0.0175	0.0176	0.0152	
C16:3n4*	0.0133	0.0122	0.0112	0.0196	0.0191	0.0190	
C16:3n6*	<0.00602	<0.00565	<0.00605	<0.00715	<0.00652	<0.00653	
C16:4n1*	0.0139	0.0132	0.0134	0.0180	0.0187	0.0188	
C16:4n3*	0.102	0.0990	0.0987	0.137	0.143	0.137	
iso-C17:0	0.178	0.173	0.173	0.128	0.131	0.123	
anteiso-C17:0*	0.0660	0.0629	0.0637	0.0561	0.0580	0.0538	
C17:1n7	0.00417	0.00420	0.00405	0.00554	0.00554	0.00508	
C17:1(unk)*	0.478	0.461	0.464	0.350	0.360	0.341	
iso-C18:0	0.0352	0.0289	0.0291	0.0179	0.0192	0.0209	
anteiso-C18:0*	0.00595	0.00566	0.00603	0.00313	0.00321	0.00264	
C18:1n5*	0.190	0.185	0.180	0.246	0.249	0.233	
C18:1n7*	1.74	1.70	1.69	1.91	1.94	1.83	Vaccenic acid
C18:1n11*	0.834	0.799	0.784	2.54	2.57	2.45	
C18:1n13*	0.0616	0.0546	0.0571	0.0397	0.0395	0.0354	

1fa	C18:2n4*	0.0504	0.0487	0.0502	0.0432	0.0442	0.0400	
	C18:2n7*	0.0231	0.0259	0.0244	0.0195	0.0224	0.0211	
	C18:3n1*	<0.00779	<0.00732	<0.00651	<0.00926	<0.00844	<0.00845	
	C18:3n4*	0.0242	0.0217	0.0259	0.0220	0.0205	0.0202	
	C18:4n1*	<0.0111	0.0134	0.0143	<0.0132	<0.0120	<0.0120	
	C19:0	0.0438	0.0426	0.0439	0.0354	0.0367	0.0330	
	C20:1n5*	0.0265	0.0260	0.0274	0.0384	0.0409	0.0360	
	C20:1n15	0.0106	0.00965	0.0101	0.0131	0.0145	0.0118	
	C20:2n9*	0.00638	0.00662	0.00704	0.00470	0.00503	0.00543	
	C20:2n11*	0.132	0.126	0.139	0.155	0.153	0.123	
	C20:3n6	0.0434	0.0425	0.0429	0.0316	0.0353	0.0285	
	C20:4n3*	0.206	0.198	0.202	0.174	0.174	0.164	
	C22:0	0.0183	0.0185	0.0187	0.0212	0.0215	0.0185	Behenic acid
	Compounds marked with an asterisk (*) are not present in our standards, and are tentatively identified based on retention times and quantitated using the point-to-point calibration of a similar compound. The other compounds are in our standards and are positively identified and quantitated using a point-to-point calibration. All the additional compounds are cis-configuration fatty acids; no trans isomers were quantitated.							
3fa	C10:0	267681	282162	259715	272212	264100	230992	capric acid
	C11:0	ND	ND	ND	ND	ND	ND	undecanoic acid
	C13:0	262609	269207	279531	297273	306593	299177	tridecanoic acid
	C14:1(n-5)	3640557	3802969	3712663	3988092	4122656	4045462	myristoleic acid
	C15:1	ND	ND	ND	ND	ND	ND	cis-10-pentadecanoic acid
	C17:1	ND	ND	ND	ND	ND	ND	cis-10-heptadecanoic acid
	C18:2(n-6)t	ND	ND	ND	ND	ND	ND	linolelaidic acid
	C21:0	ND	ND	ND	ND	ND	ND	heneicosanoic acid
	C22:0	388875	430853	416250	450333	442295	427697	behenic acid
	C20:3(n-6)	535964	568196	564206	459951	441356	439375	homo-γ-linolenic acid
	C23:0	ND	ND	ND	ND	ND	ND	tricosanoic acid
	C24:0	112172	132543	122408	136707	135086	133188	lignoceric acid