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NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of the 2002 Organic Intercomparison Exercises

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NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment: Description and Results of the 2002 Organic Intercomparison Exercises

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Table of Contents

Abstract.....	1
Introduction.....	2
Sources and Preparation of Materials Used in 2002 Intercomparison Exercises.....	3
Storage and Distribution of Materials.....	4
Evaluation of Exercise Results	5
Establishment of the Assigned Values.....	5
Reported Results	6
Performance Scores.....	6
Accuracy Assessment (z-score)	7
Precision Assessment (p-score)	8
Discussion.....	8
Acknowledgments.....	12
Disclaimer and References.....	13
Tables.....	14
Table 1. Target Analytes in NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment.....	15
Table 2. Fish Homogenate V (QA02FSH5): Laboratory means of three replicates and exercise assigned values - TEO and Pesticides	17
Table 3. Fish Homogeate V (QA02FSH5): Laboratory means of three replicates and exercise assigned values - PCBs.....	18
Table 4. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Water and PAHs.....	19
Table 5. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Pesticides.....	20

Table 6.	Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - PCBs.....	21
Table 7.	Fish Homogenate V (QA02FSH5): z-scores (25 %) by laboratory - TEO and Pesticides	22
Table 8.	Fish Homogenate V (QA02FSH5): z-scores (25 %) by laboratory - PCBs	23
Table 9.	Marine Sediment XI (QA02SED11): z-scores (25 %) by laboratory - Water and PAHs.....	24
Table 10.	Marine Sediment XI (QA02SED11): z-scores (25 %) by laboratory - Pesticides..	25
Table 11.	Marine Sediment XI (QA02SED11): z-scores (25 %) by laboratory - PCBs	26

Appendices

Appendix A: Description, Storage, Use, and Reporting Instructions for Fish Homogenate V (QA02FSH5)	A-1
Appendix B: Description, Storage, Use, and Reporting Instructions for Marine Sediment XI (QA02SED11)	B-1
Appendix C: Results by Laboratory, Fish Homogenate V	C-1
Appendix D: Results by Laboratory, Marine Sediment XI	D-1
Appendix E: Laboratory Notes Accompanying Data, Fish Homogenate V	E-1
Appendix F: Laboratory Notes Accompanying Data, Marine Sediment XI	F-1
Appendix G: Laboratory Methods Used, Fish Homogenate V	G-1
Appendix H: Laboratory Methods Used, Marine Sediment XI	H-1
Appendix I: Charts of Fish Homogenate V and SRM 1946, Results by Analyte	I-1
Appendix J: Charts of Marine Sediment XI and SRM 1944, Results by Analyte	J-1
Appendix K: List of Laboratories Participating in 2002 Intercomparison Exercises	K-1

Abstract

In support of marine monitoring measurement programs, the National Institute of Standards and Technology (NIST) conducts yearly interlaboratory comparison exercises to provide one mechanism for participating laboratories/monitoring programs to evaluate the quality and comparability of their performance in measuring selected organic contaminants in environmental samples. In this report, results of the 2002 exercises of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment are described in which selected polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides were determined in Marine Sediment XI exercise material, and selected PCB congeners and chlorinated pesticides were determined in Fish Homogenate V exercise material. The analytical methods used by each participating laboratory in this performance-based program are also summarized.

Introduction

The preparation and distribution of two materials, Fish Homogenate V (QA02FSH5) and Marine Sediment XI (QA02SED11), used in interlaboratory comparison exercises in 2002 for the National Institute of Standards and Technology (NIST) Intercomparison Exercise Program for Organic Contaminants in the Marine Environment and the results of these exercises are described in this report. The analytical methods used by each participating laboratory are also summarized.

Tools and mechanisms for the assessment of data produced by laboratories providing environmental analyses are critical because decision-making based on inaccurate results or data of unknown quality can have significant economic and health consequences. NIST provides a variety of activities in support of environmental monitoring programs for organic contaminants. The largest of these programs was initiated and funded in part for 12 years (until 1999) by the National Oceanic and Atmospheric Administration (NOAA) National Status and Trends (NS&T) Marine Monitoring Program [1,2,3]. The Environmental Protection Agency (EPA) Environmental Monitoring and Assessment Program (EMAP) also participated in the NIST/NOAA NS&T effort for a number of years. Private-sector and other laboratories that could not be accommodated under the NOAA, EPA, and NIST funding have reimbursed NIST for participation costs and have participated in these exercises and workshops as part of the NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment. NIST is now continuing this program on a pay-to-participate basis. Through this program, NIST provides mechanisms for assessing the interlaboratory and temporal comparability of data with the goal of improving measurements for the monitoring of organic contaminants such as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCB) congeners, and chlorinated pesticides in bivalve, sediment, and fish samples. This program includes the development of improved analytical methods, production of needed NIST Standard Reference Materials (SRMs) and other control materials, conduct of annual interlaboratory comparison exercises, and the coordination of workshops to discuss the results of these exercises and to provide a forum for cooperative problem-solving efforts by participants. Current participants represent multi-laboratory monitoring programs as well as a number of individual programs, and include federal, state/municipal, university/college, private sector, and international laboratories. In this performance-based program, each participating laboratory uses its current methods for analysis of similar materials that it would use for its program customers. The target analytes are listed in Table 1.

For the annual intercomparison exercises, samples of two natural-matrix, homogeneous materials derived from the marine environment that have not been fortified with any of the target analytes are analyzed by the participating laboratories. Typical materials, such as mussel or fish tissue homogenates or wetted marine sediment, have levels of target analytes in the 1 ng/g to 15000 ng/g range.

Numerical indices, z- and p-scores, are used to assess and track laboratory performance for accuracy and precision, respectively, and to provide a mechanism for assessing the comparability of data being produced by the participating laboratories for over 75 target analytes, percent total extractable organics (TEO), and percent moisture.

Sources and Preparation of Materials used in 2002 Intercomparison Exercises

The Fish Homogenate V was a subset of candidate NIST Standard Reference Material (SRM) 1947 Lake Michigan Fish Tissue, and the Marine Sediment XI was prepared from fines ($<61\ \mu\text{m}$) collected during the preparation of NIST SRM 1944 New York/New Jersey Waterway Sediment and fines ($<150\ \mu\text{m}$) collected during the preparation of NIST SRM 1941a Organics in Marine Sediment. These materials were true unknowns at the time of the exercise. The use of candidate SRMs enables eventual comparisons for accuracy-based evaluations of the exercise assigned values and the results of the individual laboratories with certified concentrations for these reference materials. The sediment material was issued as a wet sediment to more closely match the matrix of wet sediments typically analyzed by the laboratories.

Marine Sediment XI. Sediment used in the preparation of this material was collected from six sites in the vicinity of New York Bay and Newark Bay (SRM 1944) and from the Baltimore Harbor (SRM 1941a). For all of the collections, the sampler was an epoxy-coated modified Van Veen-type grab sampler designed to sample the sediment to a depth of 10 cm. The materials were freeze-dried and sieved. The fraction from $250\ \mu\text{m}$ to $61\ \mu\text{m}$ was used for SRM 1944 while the particles passing through the $61\ \mu\text{m}$ sieve were used to prepare Marine Sediment XI (5.00 g per bottle), and the fraction from $250\ \mu\text{m}$ to $150\ \mu\text{m}$ was used for SRM 1941a while the particles passing through the $150\ \mu\text{m}$ sieve were used to prepare Marine Sediment XI (6.00 g per bottle). The materials were blended, radiation-sterilized, and homogenized prior to their being combined to prepare Marine Sediment XI. Each bottle of sediment was prepared gravimetrically with the sediments being combined in the bottles.

Colorless, 2-oz, wide-mouth, glass bottles were rinsed with deionized water, thermally cleaned at $500\ ^\circ\text{C}$ for 18 h in a ventilated oven, cooled, capped, and labeled. Each label contained the material's name and code (Marine Sediment XI, QA02SED11) as well as an individual bottle number. The Teflon liners of the phenolic screw caps had been removed from the caps, cleaned with hexane, dried, and reinserted in the caps. A calibrated toploader balance (resolution of 0.01 g) was used for weighing the sediment and water. For each sample, approximately 11 g (exact mass known) of the sediment (as received) was weighed into a tared bottle (5.00 g of the fines from SRM 1944 and 6.00 g of the fines from SRM 1941a). The bottle was then capped and stored in the dark at room temperature. Approximately four days before samples were to be shipped to laboratories participating in the intercomparison exercise, approximately 9 g (exact mass known) of HPLC-grade water were added by pipet to each tared bottle of sediment. (Preliminary trials had shown that a minimum of 9 g of water would moisten 11 g of this sediment.) The masses of sediment and water in each bottle were recorded. Each sample was "tilted" by hand until no "dry" sediment was visible. Only a very small amount of water was observed on the top of the wet sediment. After 24 h at room temperature (in the dark), followed by approximately 4 h at $-20\ ^\circ\text{C}$, each bottle of material was stored at $-80\ ^\circ\text{C}$ until shipped. The bottles were never inverted until the wet samples had been frozen in the bottom of the bottles. The material was not enriched or spiked with any of the analytes of interest in this intercomparison exercise.

Fish Homogenate V. Fish Homogenate V was a subset of SRM 1947. Since SRM 1947 was still a candidate material at the time of this exercise, a label with Fish Homogenate V (QA02FSH5), each with individual bottle numbers, was put in place over the SRM 1947 label using a rubber band. Each bottle was filled with approximately 10 g of fish homogenate. The bottles had been precleaned in the same manner as those used for the sediment. This sample is a cryogenically homogenized “fresh” material prepared from the fillet of adult lake trout (*Salvelinus namaycush namaycush*) collected during Wisconsin Department of Natural Resource’s fall spawning stock assessment cruise in Lake Michigan.

Each of the three bottles sent to each participant contained approximately 10 g (wet basis) of Fish Homogenate V. This frozen fish homogenate material had not been enriched or spiked. Each 2-oz glass bottle had a Teflon-lined screw cap and was labeled with an individual bottle number as well as the material’s name and code (Fish Homogenate V, QA02FSH5).

Storage and Distribution of Materials

Each bottle of Marine Sediment XI and Fish Homogenate V material was stored at -80 °C until shipped via overnight delivery to participating laboratories. Instructions for the storage and use of the exercise material and a diskette with files for electronic submission of data were included with each set of material shipped. These instructions are reproduced in Appendices A and B. Samples of each of these materials have been archived in the National Biomonitoring Specimen Bank at NIST.

Each laboratory participating in these intercomparison exercises was sent the following:

Exercise 1: Fish Homogenate V (QA02FSH5)

- Three bottles of Fish Homogenate V material (shipped on dry ice)
- Three bottles of SRM 1946 Lake Superior Fish Tissue, (shipped on dry ice)
- Description of the materials and storage/use/reporting instructions for the exercise (See Appendix A.)
- Data diskette with files for the reporting of results

Exercise 2: Marine Sediment XI (QA02SED11)

- Three bottles of Marine Sediment XI material (shipped on dry ice)
- Description of the materials and storage/use/reporting instructions for the exercise (See Appendix B.)
- Data diskette with files for the reporting of results

In the letter accompanying the shipments participants were asked to analyze each of three replicate samples in order to provide a more realistic assessment of laboratory precision and, if possible, to concurrently analyze NIST SRM 1946 [4] with Fish Homogenate V and NIST SRM 1944 New York/New Jersey Waterway Sediment, [5] with Marine Sediment XI. Samples were sent to the

laboratories in November 2001. Laboratories were requested to submit results for these exercises by April 15, 2002. Laboratories that joined the program later than November 2001 were sent samples as soon as possible after the paperwork was received.

Evaluation of Exercise Results

Establishment of the Assigned Values

The following guidelines were used by the NIST exercise coordinators for the establishment of the exercise "Assigned Values" for these two exercises. Each laboratory's performance on concurrent reference material analyses was used to determine if that laboratory's results would be eligible for inclusion in the calculation of the exercise assigned value for the unknown material for a particular analyte. The results reported for the unknown materials from laboratories that did not report results for the reference materials were not used in these calculations. After the exercise assigned values, standard deviations, and 95% confidence limits had been calculated, all reported results for the Fish Homogenate V and Marine Sediment XI materials were evaluated relative to the exercise assigned values.

Laboratory data submission: Each participating laboratory was asked to submit data from three replicate determinations of the "unknown" materials (Fish Homogenate V and Marine Sediment XI) and was requested to report results of concurrent analyses of NIST SRM 1946, a cryogenically homogenized fish tissue reference material, and SRM 1944, a marine sediment reference material. Laboratories were requested to report these results to three significant figures, and provide brief descriptions of their extraction, cleanup, and analytical procedures.

Determination of laboratory analyte means: For each laboratory, the laboratory analyte mean of the three sample results (S1, S2, and S3) was calculated for each analyte. Non-numerical data were treated as follows: A mean "<value" was used when three "<values" were reported; NA (not analyzed/determined) was used for three reported NAs; and, if the reported results were of mixed type, e.g., S1 and S2 were numerical values and S3 was reported as "<value", the two similar "types" were used to either determine the mean or to set a non-numerical descriptor.

Determination of assigned values: The assigned value is the mean of the acceptable results. For a particular analyte, the performance on the reference material was deemed acceptable for the purpose of this exercise if the laboratory result was within 30% of the upper and lower limits of the confidence interval for analytes listed in the Certificates of Analysis for SRM 1946 and SRM 1944. For each analyte of interest not certified for these materials, a "target" concentration and the associated uncertainty were calculated. The targets for SRM 1946 were based on reference concentrations of SRM 1946 and results of the 1999 exercise in which SRM 1946 was also used as an unknown. The targets for SRM 1944 were based on results of the 1995 Marine Sediment V exercise in which SRM 1944 was used as the "unknown material" and the results from the 2000 exercise in which SRM 1944 was used as the control. Laboratory results within target upper and lower limits, typically 30 % to 40 %, of these concentrations were deemed acceptable for this exercise. If a laboratory demonstrated acceptable performance on a particular analyte in the

reference material, that laboratory's results for that analyte in the corresponding "unknown" exercise material was then used in the calculation of the analyte's exercise assigned value unless it was deemed an "outlier." For evaluation of potential outliers, statistical tests and expert analyst judgement were used after viewing both normal and log normal plots of the data. This judgement utilized knowledge of potential coeluters based on the laboratory's reported methods.

In instances in which the analyte concentration was below the detection limit of most participating laboratories, no exercise assigned value was calculated. In data sets such as this with a number of laboratories reporting results as "not detected" at various detection limits, there is no consensus as to what numerical value should be assigned to these results in the computation of grand means, etc.; e.g., "0," half Detection Limit (DL), and the DL value itself have all been used and the choice is influenced by the use of the particular data set.

Reported Results

Laboratories were assigned numerical identification codes in order of receipt of data with the exception of NIST, which is Laboratory 1 in these exercises. There are three results from NIST reported: 1-MS-1 and 1-MS-2 both generated in the Gaithersburg laboratory and 1-ECD generated in the Charleston laboratory. For the NIST data, the following extraction methods were used: pressurized fluid extraction (PFE) with hexane:acetone (1:1 volume fraction) for 1-MS-1; Soxhlet extraction with dichloromethane for the 1-MS-2; and PFE with dichloromethane for 1-ECD. 1-MS-1 and 1-MS-2 methods used gas chromatography/mass spectrometry (GC/MS) for analysis with either a 50% (mole fraction) phenyl phase and a proprietary nonpolar phase (1-MS-1) in combination or only the proprietary nonpolar phase (1-MS-2) while the 1-ECD method used GC with electron capture detection (GC-ECD), combining results obtained with a 5% (mole fraction) phenyl phase and a proprietary nonpolar phase.

A laboratory was assigned the same code for each material. In this report, the triplicate results as reported by the laboratories for both the exercise materials and the two SRMs are shown in Appendix C (Fish Homogenate V) and Appendix D (Marine Sediment XI) along with reference values for each of the materials and performance scores [numerical indicators of accuracy (bias) and precision (reproducibility)]. The laboratory mean replicate data are shown in Tables 2 and 3 and Tables 4 to 6 for the Fish Homogenate V and Marine Sediment XI materials, respectively. Included in the means tables are the exercise assigned values, the standard deviations of the assigned value, the percent relative standard deviations (%RSD), and the calculated 95% confidence limits of the assigned value for the percent water (sediment), percent TEO (fish), PAHs (sediment), chlorinated pesticides, and PCB congeners. Notes included by a laboratory with its data are listed in Appendices E (Fish Homogenate V) and F (Marine Sediment XI). Summaries of the methods used by each laboratory are in Appendices G (Fish Homogenate V) and H (Marine Sediment XI).

In Appendices I (Fish Homogenate V) and J (Marine Sediment XI), charts of the mean numerical results reported by each laboratory for each analyte are shown for the exercise material and the corresponding reference material.

Performance Scores

The exercise coordinators recognize that different programs have different data quality needs. The acceptability of the results submitted by a particular laboratory will be decided by the individual program(s) for which the particular 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 exhibited in a number of ways in this report to facilitate their use by these programs in their acceptability assessments.

IUPAC guidelines [6] describe the use of z-scores and p-scores for assessment of accuracy and precision in intercomparison exercises such as those 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)

$$\text{z-score} = (\text{bias estimate}) / (\text{performance criterion}) = (x - X) / \sigma$$

where x is the individual laboratory result, X is the "Exercise Assigned Value," and σ is the target value for standard deviation.

As described in the IUPAC guidelines, the choice of σ is dependent upon data quality objectives of a particular program. It can be "fixed" and arrived at by perception, prescription, or reference to validated methodology (e.g., $\sigma = 0.025 X$, X is the analyte concentration), or it can be an estimate of the actual variation (e.g., the calculated sample standard deviation, s , from the exercise data). 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 exceptionally problematic.

We have calculated and reported z-scores using both approaches for each analyte for each laboratory. At the initial workshop, it was decided to use "25% of the exercise assigned value" as the fixed target value for standard deviation for this program. We also calculated z-scores based on the standard deviation (s) of the exercise assigned value. The z-scores calculated for these exercises can thus be interpreted as shown in the following examples:

z-score (25% X):

- +1 \Rightarrow laboratory result is 25% higher than the assigned value
- 2 \Rightarrow laboratory result is 50% lower than the assigned value

z-score (s):

+1 \Rightarrow laboratory result is one s higher than the assigned value

-2 \Rightarrow laboratory result is two s lower than the assigned value

From a scientific point of view, IUPAC does not recommend the classification of z-scores but allows that a common classification is:

$ z \leq 2$	Satisfactory
$2 < z < 3$	Questionable
$ z \geq 3$	Unsatisfactory

The Tables in Appendices C (Fish Homogenate V) and D (Marine Sediment XI) show the calculated z-scores for each laboratory for each reported analyte. These tables of the results and performance include a summary of the number of reported analytes that fall within each category for each laboratory.

Precision Assessment (p-score)

$$\text{p-score} = \sigma_{\text{lab}} / \sigma_{\text{target}}$$

Prior to the 1994 exercises, participating laboratories typically analyzed the three replicate samples for an exercise with the same sample set, i.e., one set of samples with the same blank, calibration curve, etc. applicable for each. Since the repeatability for replicates within a set generally shows better reproducibility than for replicates across different sets, this does not result in data that are very useful for realistic uncertainty assessment. Since 1994, laboratories have been requested to process each replicate in a different sample set for uncertainty assessment. For the calculation of p-scores for this program, the σ values used are coefficient of variations (CV calculated as relative standard deviations) with the current target CV for the three replicates being 15%.

The Tables in Appendices C (Fish Homogenate V) and D (Marine Sediment XI) show the calculated p-scores for each laboratory for each reported analyte.

Discussion

Laboratories were requested to quantify 26 PAHs, 25 chlorinated pesticides, and 25 PCB congeners in this year's exercise. A total of 30 sets of results were submitted for Fish Homogenate V, and 28 sets of results were submitted for Marine Sediment XI. Several laboratories submitted more than one set of data. These occurrences are tagged with a "b",

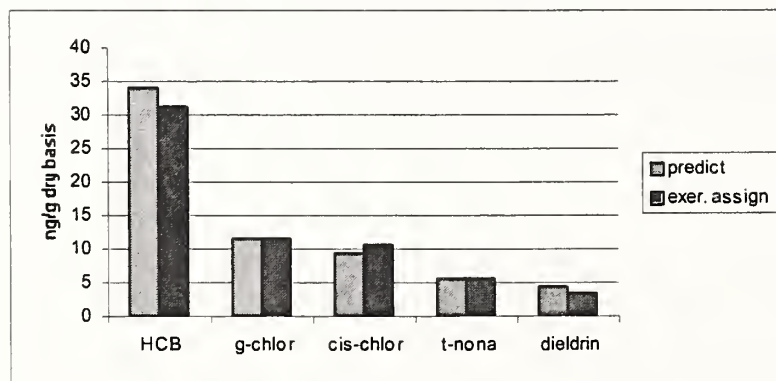
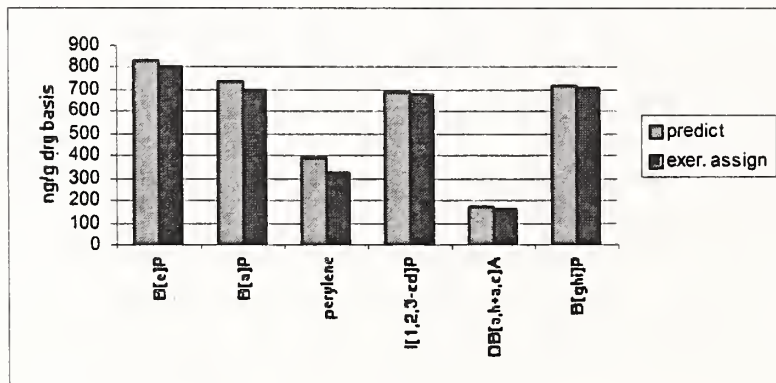
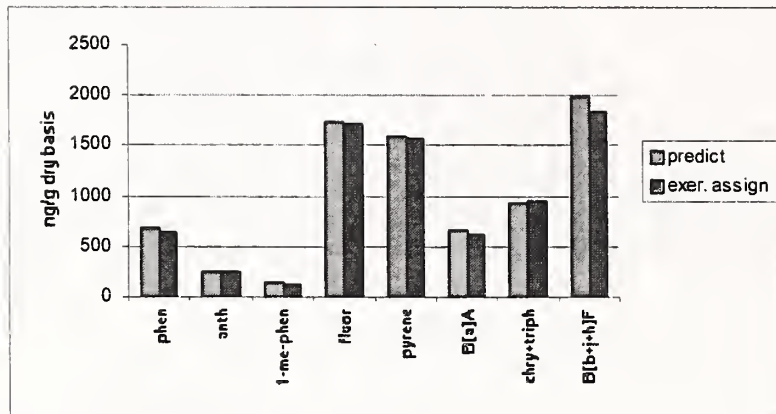
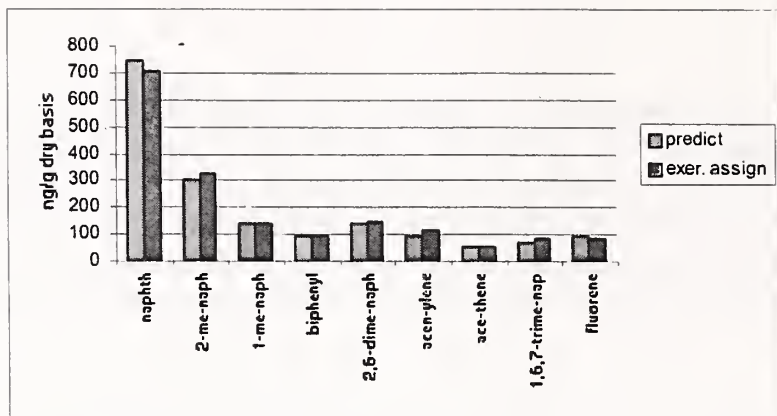
except for laboratory 1 as noted above and laboratory 3 for which the second set of data are represented by laboratory 8. For the sediment exercise, one laboratory (12) reported data for SRM 1941a (Organics in Marine Sediment) as the control material. Their data were evaluated based on the certified and target values for this SRM (see Evaluation of Exercise Results above).

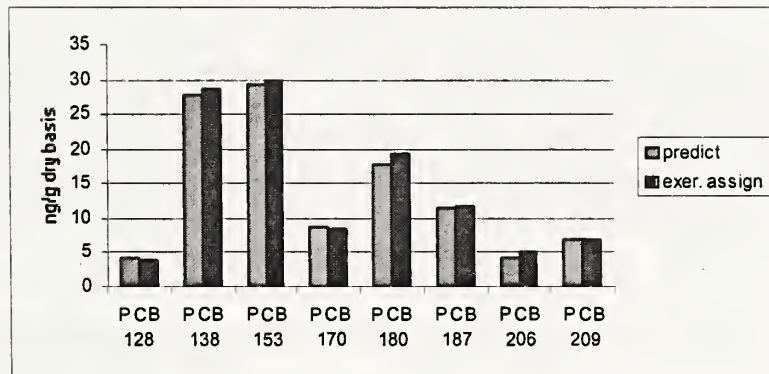
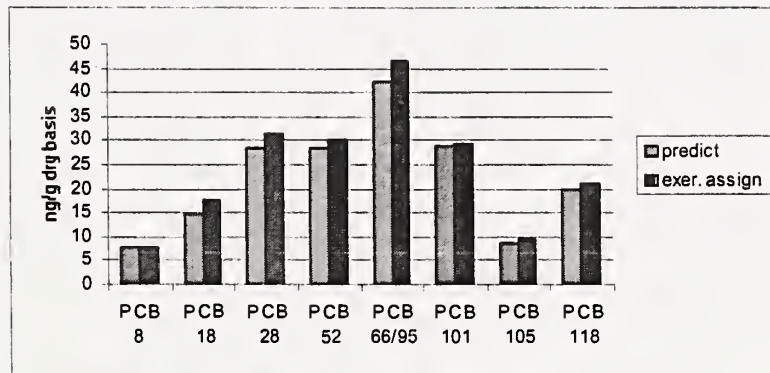
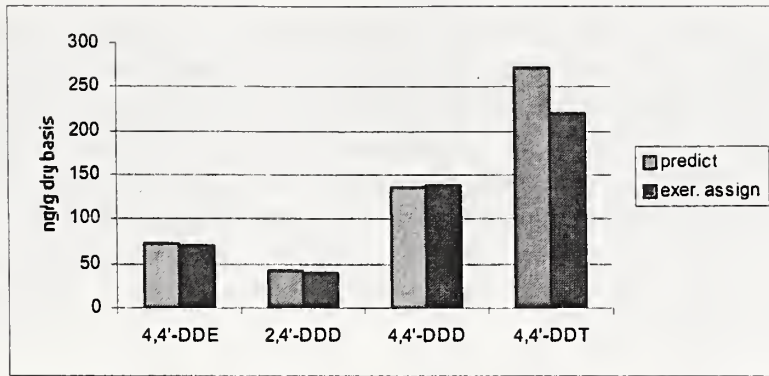
Laboratories 14 and 20 did not submit data for a sediment reference material so the data from these laboratories were not used for the determination of the exercise assigned values for Marine Sediment XI.

The concentrations of the pesticides of interest in Fish Homogenate V range from <2 ng/g wet basis to 621 ng/g wet basis, and the concentrations of the PCB congeners range from 2.5 ng/g wet basis to 200 ng/g wet basis. For the chlorinated pesticides, 18 of the 25 compounds were above the detection limit for the majority of the laboratories reporting, while 24 of the 25 PCB congeners were above the detection limit for the majority of the laboratories. It is interesting to note that the concentrations of the pesticides in Fish Homogenate V tend to be similar to those in SRM 1946 except for dieldrin, 4,4'-DDE, 2,4'-DDD, 4,4'-DDD, and 4,4'-DDT, which are almost two times higher in concentration in Fish Homogenate V than in SRM 1946. SRM 1946 is also a cryogenically homogenized lake trout fillet material but was collected from Lake Superior whereas Fish Homogenate V was collected from Lake Michigan. The concentrations of the PCB congeners are generally higher in Fish Homogenate V than in SRM 1946 with the largest differences noted for the dichlorobiphenyls through the pentachlorobiphenyls. The TEO values are generally in good agreement (9% to 13%), except for laboratory 8 (26%).

The z-scores for the pesticides and PCB congeners based on 25% of the exercise assigned value are summarized for Fish Homogenate V in Tables 7 and 8, respectively. The majority of the z-scores based on 25% are within ± 2 .

The PAH concentrations in Marine Sediment XI range from 50 ng/g dry basis to 1700 ng/g dry basis. The pesticide concentrations range from below the detection limits of the methods used to 221 ng/g dry basis, while the PCB concentrations range from 2 ng/g dry basis to 30 ng/g dry basis. Since Marine Sediment XI was prepared from materials used in previous exercises (fines from SRM 1941a used in 1994 as Marine Sediment IV and fines from SRM 1944 used in 2000 as Marine Sediment X), the results from this exercise can be compared to values predicted based on past exercise results. The exercise assigned values from the 2002 program agree very well (from -20% difference for dieldrin to +32% for acenaphthylene) with the predicted values for those compounds that were quantified in each of the previous exercises. These comparisons are summarized graphically below.





The z-scores for the PAHs, pesticides, and PCB congeners based on 25 % of the exercise assigned value are summarized for Marine Sediment XI in Tables 9, 10, and 11, respectively. In general, the z-scores based on 25 % were within ± 2 for Marine Sediment XI except for laboratory 26 (z scores < -2 for PAHs).

As in the past exercises, a variety of methods were used for extraction, extract cleanup, and

analysis. These are summarized in Appendix G for the fish homogenate and Appendix H for the sediment. For the PAHs in the sediment, laboratories 7 and 28 used ion trap mass spectrometry (MS) while for the chlorinated analytes in the sediment, laboratories 5b, 13, 18, 21, and 25 specified the use of high-resolution MS. Laboratories 5b, 13 and 25 also specified the use of high resolution MS for the chlorinated analytes in the fish homogenate. The majority of the laboratories used deuterated PAHs as internal standards/surrogates for the PAHs in the sediment, while laboratories 5, 5b, 21, 25 used carbon-13 labeled chlorinated pesticides and PCB congeners as internal standards/surrogates for the corresponding analytes. There is no obvious correlation between z-scores and method used.

For the 2002 exercises, the data provided in the various figures and tables of this report can be used for assessing the comparability of results for over 75 analytes of interest in this program and the performance of individual laboratories. The z-scores and the p-scores for the individual laboratories are summarized by lab in Appendices C and D for the fish homogenate and sediment, respectively. For both materials, the highest percentage of z-scores and p-scores that were in the unsatisfactory category were for the chlorinated pesticides. The chlorinated pesticides were typically present at lower concentrations in both of these materials than the concentrations of the PAHs and PCB congeners. In these exercises, interlaboratory variability is a greater contributor to measurement incomparability than intralaboratory variability. Laboratories reporting results of concurrent reference material analyses typically showed better performance than those laboratories that did not analyze the reference materials.

Subgroups of the exercise participants have demonstrated comparability of results for many analytes within the 0 to 2 z-range based on use of "25 % of the analyte concentration" as the performance criterion. This implies that this subgroup can distinguish between two samples that have an analyte concentration difference of 100%. The reported accuracy and reproducibility indices (z- and p-scores, respectively) can be easily converted to conform to the acceptability requirements of a particular program. For example, a z-score based on 25% can be multiplied by two to convert to a z-score based on 12.5 % of the analyte concentration.

It is important to evaluate the non-quantitative results reported by each laboratory as well. Although these results are not easily presented or numerically evaluated, they are provided in the various tables of this report that list the mean and individual results of the laboratories. The laboratory and its data users should look closely at these non-quantitative results. Decisions based on false negative or false positive results from a laboratory can lead to significant environmental and/or economic consequences. Some laboratories reported detection limits in these "real" matrix materials that may be too high for the data quality needs of their program(s) and these should be assessed as well.

Intercomparison exercises provide an important mechanism for assessing the comparability, accuracy, precision, and reproducibility of data being produced by the participating laboratories. Exercise materials similar in matrix, form, and analyte concentration to typical samples routinely analyzed by the laboratories are most useful for demonstrating the level of comparability and for revealing potential problem areas.

For the determination of the target compounds in these complex marine matrices with relatively low levels of these analytes, the levels of bias and reproducibility of many of the participating laboratories meet their current acceptability requirements; however, there is certainly room for improvement. Minimizing the among-laboratory biases so that the analytical variability is significantly less than the sampling variability should be an achievable goal.

Acknowledgments

The time and efforts of the analysts and management of the participating laboratories and the assistance of the NIST Standard Reference Materials Program with the procurement and preparation of the exercise materials are gratefully acknowledged.

Disclaimer

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

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List of Tables

- Table 1. Target Analytes in NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment.
- Table 2. Fish Homogenate V (QA02FSH5): Laboratory means of three replicates and exercise assigned values - Pesticides and TEO.
- Table 3. Fish Homogenate V (QA02FSH5): Laboratory means of three replicates and exercise assigned values – PCBs.
- Table 4. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Water and PAHs.
- Table 5. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Pesticides.
- Table 6. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - PCBs.
- Table 7. Fish Homogenate V (QA02FSH5): z-scores (25%) by laboratory - Pesticides and TEO. A z-score (25%) = +1 if the laboratory's submitted mean value is 25% higher than the exercise assigned value.
- Table 8. Fish Homogenate V (QA02FSH5): z-scores (25%) by laboratory - PCBs. A z-score (25%) = +1 if the laboratory's submitted mean value is 25% higher than the exercise assigned value.
- Table 9. Marine Sediment XI: z-scores (25%) by laboratory - Water and PAHs. A z-score (25%) = +1 if the laboratory's submitted mean value is 25% higher than the exercise assigned value.
- Table 10. Marine Sediment X: z-scores (25%) by laboratory - Pesticides. A z-score (25%) = +1 if the laboratory's submitted mean value is 25% higher than the exercise assigned value.
- Table 11. Marine Sediment X: z-scores (25%) by laboratory - PCBs. A z-score (25%) = +1 if the laboratory's submitted mean value is 25% higher than the exercise assigned value.

Table 1: Analytes of Interest in NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment

Chlorinated Pesticides

hexachlorobenzene	2,4'-DDE
alpha-HCH (alpha-BHC)	4,4'-DDE
beta-HCH (beta-BHC)	2,4'-DDD
gamma-HCH (gamma-BHC, Lindane)	4,4'-DDD
heptachlor	2,4'-DDT
heptachlor epoxide	4,4'-DDT
<i>cis</i> -chlordane (alpha-chlordane)	chlorpyrifos
<i>trans</i> -chlordane (gamma-chlordane)	aldrin
oxychlordane	dieldrin
<i>cis</i> -nonachlor	endrin
<i>trans</i> -nonachlor	endosulfan I
mirex	endosulfan II
	endosulfan sulfate

Polychlorinated Biphenyl Congeners

<i>PCB No.</i>	<i>Compound Name</i>
8	2,4'-dichlorobiphenyl
18	2,2',5-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
31	2,4',5-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
49	2,2',4,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
95	2,2',3,5',6-pentachlorobiphenyl
99	2,2',4,4',5-pentachlorobiphenyl
101	2,2',4,5,5'-pentachlorobiphenyl
105	2,3,3',4,4'-pentachlorobiphenyl
118	2,3',4,4',5-pentachlorobiphenyl
128	2,2',3,3',4,4'-hexachlorobiphenyl
138	2,2',3,4,4',5'-hexachlorobiphenyl
149	2,2',3,4',5',6-hexachlorobiphenyl
153	2,2',4,4',5,5'-hexachlorobiphenyl
156	2,3,3',4,4',5-hexachlorobiphenyl
170	2,2',3,3',4,4',5-heptachlorobiphenyl
180	2,2',3,4,4',5,5'-heptachlorobiphenyl
187	2,2',3,4',5,5',6-heptachlorobiphenyl
194	2,2',3,3',4,4',5,5'-octachlorobiphenyl
195	2,2',3,3',4,4',5,6-octachlorobiphenyl
206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl
209	decachlorobiphenyl

Table 1. (continued)

Polycyclic aromatic hydrocarbons (PAH)

naphthalene	pyrene
2-methylnaphthalene	benz[<i>a</i>]anthracene
1-methylnaphthalene	chrysene
biphenyl	triphenylene
2,6-dimethylnaphthalene	benzo[<i>b</i>]fluoranthene
acenaphthylene	benzo[<i>j</i>]fluoranthene
acenaphthene	benzo[<i>k</i>]fluoranthene
1,6,7-trimethylnaphthalene	benzo[<i>e</i>]pyrene
fluorene	benzo[<i>a</i>]pyrene
phenanthrene	perylene
anthracene	indeno[1,2,3- <i>cd</i>]pyrene
1-methylphenanthrene	dibenz[<i>a,h</i>]anthracene
fluoranthene	benzo[<i>ghi</i>]perylene

Table 2. Fish Homogenate V (QA02FSHS): Laboratory means of three replicates and exercise assigned values - TEO and Pesticides

		(reported to three significant figures)																							
Laboratory No		1-MS	1-MS-2	1-ECD	2	3	4	4b	5	5b	6	6b	7	8	9	10	11	12	13	14	17	19	20		
TEO or lipid (percent)		9.87	NA	NA	12.0	NA	10.1	10.0	10.0	11.4	9.06	9.06	9.71	26.0	NA	10.0	10.3	10.5	10.9	NA	9.89	11.2	12.8		
Pesticides (ng/g wet basis)		Laboratory No																							
alpha-HCH (α-BHC)		<1	<3	0.990	NA	NA	NA	<2.83	NA	1.10	NA	1.05	NA	2.44	0.897	<5	7.27	see notes	0.925	NA	<3.20	<3	<20	<20	
hexachlorobenzene		7.65	8.34	6.86	4.96	NA	NA	5.58	NA	6.62	NA	5.58	1.82	6.35	5.23	3.45	NA	7.03	7.53	6.14	3.64	5.00	<20	<20	
gamma-HCH (γ-BHC; lindane)		<1	<3	0.304	DL	NA	NA	<2.83	NA	0.374	NA	0.621	0.369	0.392	0.323	<5	0.400	0.753	0.351	<2	<3.00	<3	<20	<20	
beta-HCH (β-BHC)		<1	NA	<0.5	NA	NA	NA	<2.83	NA	<0.06	NA	<2	NA	DL	<2.1	<5	60.2	0.660	0.0770	NA	<5.40	NA	<20	<20	
heptachlor		<2	NA	<0.5	DL	NA	NA	<2.83	NA	<0.02	NA	<2	DL	DL	<2.1	<5	1.99	0.365	<0.0550	<5	<3.30	<3	<20	<20	
aldrin		<2	NA	<0.5	NA	NA	NA	<2.83	NA	<0.02	NA	<2	DL	DL	<2.1	<5	2.21	DL	<0.0380	<2	<4.00	<3	<20	<20	
heptachlor epoxide		14.7	12.0	12.4	NA	NA	NA	<2.83	NA	15.3	NA	9.69	14.8	7.69	10.7	16.1	8.53	20.9	13.5	17.4	7.18	14.8	<20	<20	
oxychlorane		22.7	21.5	25.2	NA	NA	NA	52.6	NA	21.7	NA	20.0	NA	20.2	16.7	12.7	5.09	23.5	25.5	20.3	NA	NA	<20	<20	
gamma-chlordane		12.2	12.0	12.5	NA	NA	NA	11.4	NA	10.3	NA	9.26	NA	12.1	7.90	12.5	8.33	14.4	13.2	15.1	14.3	<3	<20	<20	
2,4'-DDE		3.10	3.90	3.37	3.15	NA	NA	3.22	NA	2.78	NA	<2	6.93	DL	38.3	see notes	12.2	43.2	2.99	10.2	<4.00	<9	<20	<20	
endosulfan I		<2	NA	<0.5	NA	NA	NA	20.2	NA	<0.4	NA	<2	DL	DL	<2.1	NA	0.182	see notes	<3.53	3.94	<3.60	<3	<20	<20	
cis-chlordane (alpha-chlordane)		45.8	57.4	47.7	40.6	NA	NA	39.8	NA	45.5	NA	31.6	20.6	29.3	39.0	33.5	17.9	17.9	73.6	48.4	39.2	51.6	<20	<20	
trans-nonachlor		120	121	134	119	NA	NA	115	NA	108	NA	81.7	50.2	85.4	133	125	67.9	115	158	123	76.8	155	113	113	
dieldrin		79.3	75.3	82.7	NA	NA	NA	86.3	NA	91.2	NA	54.6	96.6	68.2	67.7	70.4	42.4	98.8	108	86.2	71.5	95.2	100	100	
4,4'-DDE		763	681	682	584	NA	NA	663	NA	855	NA	527	382	287	683	607	505	671	756	548	484	893	630	630	
2,4'-DDD		3.16	3.46	3.46	9.26	NA	NA	4.72	NA	2.79	NA	<2	3.56	6.05	2.47	<5	1.75	11.5	4.10	16.1	25.4	<10	130	130	
endrin		<2	<4	<0.5	NA	NA	NA	<2.83	NA	2.13	NA	<2	NA	2.45	1.73	see notes	5.93	82.8	2.51	<2	17.2	NA	<20	<20	
endosulfan II		<2	NA	<0.5	NA	NA	NA	8.39	NA	<0.5	NA	<2	DL	5.37	<2.1	NA	7.09	62.5	<5.11	<2	<5.20	<5	<20	<20	
4,4'-DDD		42.9	42.4	46.9	see notes	NA	NA	42.7	NA	41.6	NA	40.2	61.3	41.4	27.7	39.9	25.7	38.5	44.8	51.9	24.2	34.3	50.0	50.0	
2,4'-DDT		14.8	15.5	22.2	see notes	NA	NA	16.8	NA	13.7	NA	<2	12.5	5.77	<17	6.35	97.4	37.3	17.9	19.3	9.45	35.4	<20	<20	
cis-nonachlor		45.1	55.0	50.9	NA	NA	NA	54.5	NA	44.2	NA	43.4	NA	47.5	39.0	40.6	73.6	11.9	63.2	50.9	44.1	NA	50.0	50.0	
4,4'-DDT		61.4	60.6	69.0	46.5	NA	NA	49.7	NA	67.1	NA	41.5	38.3	51.7	63.7	30.6	28.1	75.2	66.7	52.3	33.9	22.7	177	177	
mirex		5.65	5.01	4.26	4.28	NA	NA	4.69	NA	2.95	NA	6.15	1.99	3.46	<5.8	<5	NA	7.22	3.68	<5	<3.40	3.91	<20	<20	
endosulfan sulfate		<2	NA	<0.5	NA	NA	NA	<2.83	NA	0.463	NA	<2	0.705	22.3	<2.1	NA	NA	32.8	0.362	NA	<8.80	NA	<20	<20	
chlorpyrifos		<2	NA	NA	NA	NA	NA	<2.83	NA	NA	NA	NA	DL	0.240	<2.1	NA	NA	DL	NA	NA	NA	NA	<200	<200	

Note: Bolded values were not used in the calculation of the exercise assigned value.

Table 2. Fish Homogens

(reported to three significant figures)

Laboratory No.	21	22	23	24	25	26	27	29	Exercise Assigned			
	Value	%RSD	s	95% CL	Value	%RSD	s	95% CL	Value	%RSD	95% CL	
TEO or lipid (percent)	8.20	10.1	8.06	9.97	7.83	10.1	10.9	9.90	10.1	1.2	11.4	0.49

Pesticides (ng/g wet basis)	Exercise Assigned											
	21	22	23	24	25	26	27	29	Value	%RSD	95% CL	
alpha-HCH (α-BHC)	1.02	<2	1.24	1.48	NA	NA	1.09	<1.80	1.22	0.46	37.7	0.33
hexachlorobenzene	5.52	5.06	5.79	6.02	NA	NA	6.97	6.42	6.11	1.13	18.6	0.53
gamma-HCH (γ-BHC, lindane)	0.338	<2	<0.821	0.501	NA	NA	0.380	0.970	0.467	0.199	42.5	0.120
beta-HCH (β-BHC)	<0.223	<2	<0.773	0.349	NA	NA	0.163	<2.27	<2			
heptachlor	<0.223	<2	<0.752	0.154	NA	NA	<0.12	<1.53	<2			
aldrin	<0.223	<2	<0.754	0.0336	NA	NA	<0.13	<0.895	<2			
heptachlor epoxide	15.2	16.0	12.7	12.9	NA	NA	15.3	11.3	13.2	2.7	20.4	1.3
oxychlorodane	17.6	27.9	21.2	22.4	NA	NA	27.6	14.5	21.2	4.2	19.8	2.2
gamma-chlordane	7.52	11.4	12.0	9.86	NA	NA	15.1	9.09	11.2	2.2	19.9	1.1
2,4'-DDE	2.49	<2	3.06	2.83	NA	NA	4.77	45.6	3.91	2.18	55.6	1.46
endosulfan I	<0.223	<2	<2.33	other	NA	NA	<0.27	<0.916	<2			
cis-chlordane (alpha-chlordane)	34.1	42.3	46.2	38.5	NA	NA	49.8	25.5	41.4	8.2	19.9	4.0
trans-nonachlor	93.5	107	112	100	NA	NA	111	116	113	22	19.6	10
dieldrin	54.7	87.9	64.9	65.0	NA	NA	56.3	64.7	77.7	15.8	20.4	7.4
4,4'-DDE	605	602	661	544	NA	NA	667	615	621	133	21.5	56
2,4'-DDD	2.54	<2	3.69	4.89	NA	NA	6.89	4.80	5.28	3.65	69.1	1.81
endrin	1.45	14.6	NA	3.27	NA	NA	3.79	<1.76	2.91	1.44	49.6	1.20
endosulfan II	3.17	<2	<2.36	3.13	NA	NA	<0.11	6.13	No assigned value			
4,4'-DDD	33.2	48.9	42.3	33.6	NA	NA	48.1	30.3	40.9	8.4	20.5	3.8
2,4'-DDT	15.0	25.6	14.7	19.2	NA	NA	28.5	24.4	18.8	7.1	37.7	3.8
cis-nonachlor	46.8	48.3	52.9	48.3	NA	NA	62.8	46.0	50.7	8.5	16.7	4.1
4,4'-DDT	51.7	56.0	40.7	38.1	NA	NA	62.2	70.2	52.6	14.0	26.6	6.7
mirex	3.97	3.34	4.39	3.02	NA	NA	4.79	<2.08	4.10	0.78	19.0	0.45
endosulfan sulfate	0.714	<2	<2.33	other	NA	NA	<0.27	<4.26	No assigned value			
chlorpyrifos	NA	<2	NA	0.242	NA	NA	<0.10	NA	<2			

Note: Bolded values were not used in th

Table 3. Fish Homogenate V (QA02FSH5): Laboratory means of three replicates and exercise assigned values - PCBs

(reported to three significant figures)

Laboratory No.	1-MS	1-MS-2	1-ECD	2	3	4	4b	5	5b	6	6b	7	8	9	10	11	12	13	14	17
PCB 8	<1	NA	<0.5	see notes	<0.5	<0.397	<0.511	0.041	0.041	<1	<2	DL	9.16	<0.82	NA	6.16	NA	<0.0130	<2	<3.60
PCB 18	1.72	3.38	2.39	DL	<0.5	1.11	3.59	2.26	1.94	2.01	2.35	DL	2.53	2.10	NA	1.47	3.94	1.72	<2	<3.10
PCB 28	13.1	14.0	15.5	see notes	22.5	12.7	18.5	12.8	15.6	12.5	11.3	7.38	12.8	12.0	NA	12.2	15.8	14.2	7.12	<5.20
PCB 31	9.01	10.4	12.2	see notes	18.2	8.01	17.3	10.9	10.5	8.38	NA	NA	NA	NAF	NA	12.2	10.4	9.71	7.12	NA
PCB 44	16.6	19.9	20.0	20.2	13.2	16.1	28.4	18.1	32.4	32.3	15.7	16.1	15.5	17.7	NA	10.5	23.9	30.4	20.7	13.3
PCB 49	19.6	27.4	29.6	19.3	19.9	22.1	41.0	25.3	22.0	20.4	NA	NA	20.3	NAF	NA	11.4	31.0	21.4	24.9	20.6
PCB 52	26.3	36.2	38.7	27.6	27.3	27.3	47.2	35.4	33.5	29.9	27.0	29.3	27.4	30.0	NA	12.8	38.8	37.7	26.4	19.4
PCB 66	66.8	66.8	76.9	see notes	75.8	60.6	99.5	77.0	76.6	59.6	34.7	54.4	68.0	65.7	NA	87.2	68.8	75.7	74.4	57.0
PCB 95	26.8	31.8	48.2	see notes	26.5	29.7	49.0	32.9	33.1	29.0	NA	NA	NA	NAF	NA	87.2	38.1	26.7	74.4	NA
PCB 99	70.6	76.7	90.7	60.7	73.8	72.1	113	76.6	96.5	72.4	NA	NA	NA	NAF	NA	29.5	NA	83.6	58.3	<5.40
PCB 101	90.6	92.4	89.0	61.2	90.2	86.8	136	91.7	103	80.7	63.3	73.7	69.7	91.0	NA	30.3	NA	80.5	79.7	103
PCB 105	46.4	50.7	45.9	40.9	68.8	46.9	64.4	48.6	54.3	38.7	36.5	43.6	39.2	50.7	NA	145	57.6	52.4	67.8	57.5
PCB 118	109	113	103	see notes	151	113	156	112	117	97.4	71.5	87.5	94.1	113	NA	38.2	123	128	97.6	102
PCB 128	28.2	34.1	31.1	28.6	27.1	40.5	51.1	31.3	31.0	27.7	30.5	35.0	31.0	34.3	NA	16.5	70.3	32.7	38.2	24.4
PCB 138	155	154	158	see notes	183	200	260	196	222	188	134	103	172	167	NA	119	187	200	157	179
PCB 149	60.7	67.3	65.3	see notes	56.6	65.8	93.7	61.4	78.3	61.7	NA	NA	NA	NAF	NA	30.1	9.78	58.8	15.8	64.0
PCB 153	197	250	197	see notes	208	199	261	233	254	180	210	156	157	187	NA	145	180	231	162	180
PCB 156	13.1	13.6	11.3	12.3	18.0	12.0	13.9	12.7	12.9	9.23	NA	NA	NA	NAF	NA	NA	16.4	16.9	25.8	<4.0
PCB 170	32.3	29.8	25.7	see notes	33.9	31.2	31.8	34.2	31.7	31.0	27.4	24.2	45.2	39.7	NA	31.1	33.1	25.6	30.3	27.0
PCB 180	80.9	80.9	76.2	67.0	95.0	81.3	86.6	79.3	93.2	64.0	68.7	55.7	97.6	80.0	NA	49.4	81.0	76.0	71.8	62.1
PCB 187	50.5	55.8	53.2	see notes	48.3	57.1	71.1	54.5	61.9	45.4	41.6	43.9	42.9	66.3	NA	33.3	67.2	46.8	59.0	39.2
PCB 194	12.8	13.3	12.5	12.0	13.1	11.8	10.7	13.0	15.1	11.3	NA	NA	NA	NAF	NA	7.41	18.9	15.3	12.8	9.13
PCB 195	4.06	5.78	4.92	4.92	4.00	3.98	4.18	4.19	4.80	4.12	7.66	3.52	5.38	5.80	NA	10.7	6.92	5.38	8.97	<5.90
PCB 206	5.34	7.65	5.60	5.03	5.55	5.24	4.28	5.84	6.14	5.17	5.93	3.35	4.61	6.60	NA	5.70	8.09	5.41	7.02	<5.0
PCB 209	1.96	3.19	2.22	1.99	2.10	1.95	2.11	1.99	2.07	<1	2.65	2.19	1.98	2.37	NA	0.251	7.14	2.58	2.74	2.74

Note: Bolded values were not used in the calculation of the exercise assigned value.

Table 3. Fish Homogeni

(reported to three significant figures)

Laboratory No.	Exercise Assigned																			
	Value																			
	No assigned value																			
PCB 8	<3																			
PCB 18	2.20	<20	0.800	3.81	2.48	2.94	1.81	9.37	2.57	2.71	2.46	0.76	31.0	0.36						
PCB 28	12.1	113	4.49	11.8	10.7	12.2	15.4	15.5	14.8	11.1	13.8	3.1	22.4	1.4						
PCB 31	NA	Other	2.92	11.8	10.5	5.20	9.13	NA	7.07	10.5	10.9	2.7	24.6	1.4						
PCB 44	15.8	33.3	35.1	16.9	16.8	17.9	28.8	13.9	20.6	21.4	20.7	6.9	33.1	2.6						
PCB 49	NA	40.0	21.6	22.2	23.5	27.4	19.8	15.7	29.1	20.6	25.0	6.3	25.2	2.9						
PCB 52	50.2	56.7	35.2	34.4	33.2	33.5	31.6	14.2	36.0	27.9	33.3	8.6	25.7	3.5						
PCB 66	116	73.3	75.0	55.9	62.6	66.4	66.5	63.3	69.6	68.7	70.2	14.8	21.1	6.1						
PCB 95	NA	33.3	30.0	33.4	29.1	23.1	26.0	NA	23.9	68.7	43.4	20.2	46.6	10.4						
PCB 99	NA	86.7	73.8	105	68.2	87.2	80.7	23.1	89.8	46.7	75.0	18.9	25.2	8.9						
PCB 101	129	86.7	83.3	82.0	83.7	117	82.3	24.7	118	85.2	88.8	16.7	18.8	6.9						
PCB 105	80.4	66.7	47.0	98.0	44.2	47.2	52.0	221	40.6	21.9	60.8	11.2	18.5	4.7						
PCB 118	140	147	100	179	100	111	106	30.7	119	97.0	114	24	21.0	10						
PCB 128	58.1	147	31.4	42.9	33.6	33.7	30.5	15.7	43.4	26.2	31.4	7.6	24.3	3.3						
PCB 138	253	180	185	234	199	196	183	191	199	160	174	29	16.4	12						
PCB 149	NA	83.3	73.8	139	63.5	61.1	60.0	28.6	40.5	62.7	63.5	14.8	23.3	7.6						
PCB 153	254	220	190	254	207	208	180	NA	241	142	201	35	17.2	14						
PCB 156	NA	20.0	15.0	25.1	13.2	14.4	16.9	24.6	18.2	20.7	15.4	4.0	25.8	1.9						
PCB 170	46.3	40.0	28.3	38.8	35.0	18.9	29.6	64.6	39.8	29.7	31.2	5.1	16.4	2.1						
PCB 180	98.9	90.0	75.5	93.6	80.4	111	84.3	94.9	134	50.8	81.0	17.9	22.1	7.2						
PCB 187	71.8	70.0	70.9	67.4	37.4	68.4	52.8	54.2	64.2	60.7	54.0	11.0	20.4	4.6						
PCB 194	NA	20.0	9.36	18.5	13.9	7.45	14.5	13.5	15.9	14.3	12.6	2.7	21.8	1.2						
PCB 195	4.17	<20	3.92	9.18	4.59	4.85	4.79	22.9	8.57	4.15	5.21	1.62	31.0	0.68						
PCB 206	4.49	<20	4.50	19.5	5.86	3.01	7.87	12.6	7.15	4.97	5.51	1.20	21.8	0.50						
PCB 209	2.22	<20	1.92	3.20	1.81	1.06	2.10	1.55	2.61	2.96	2.25	0.50	22.4	0.21						

Note: Bolded values were not used in t

Table 4. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Water and PAHs

(reported to three significant figures)

Laboratory No.	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14	15	16
Water (percent)	45.3	45.7	46.6	45.0	46.4	45.9	45.9	46.1	46.1	45.6	46.3	45.0	49.9	45.8	45.2	46.3	45.2	46.2

PAHs (ng/g dry basis)

Laboratory No.	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14	15	16
naphthalene	724	660	NA	NA	640	NA	733	NA	374	815	637	960	403	430	738	NA	147	737
2-methylnaphthalene	314	276	NA	NA	328	NA	300	NA	145	392	287	401	NA	178	299	NA	77.9	209
1-methylnaphthalene	138	120	NA	NA	164	NA	143	NA	87.8	193	140	147	NA	91.2	140	NA	NA	NA
biphenyl	98.2	77.1	NA	NA	109	NA	114	NA	53.6	136	80.4	391	NA	70.0	89.0	NA	NA	NA
2,6-dimethylnaphthalene	144	93.6	NA	NA	227	NA	191	NA	79.5	201	161	92.0	158	106	161	NA	NA	NA
acenaphthylene	97.1	31.9	NA	NA	123	NA	25.5	NA	116	102	100	166	218	60.2	72.7	NA	158	202
acenaphthene	54.2	45.7	NA	NA	72.3	NA	58.1	NA	44.6	71.7	52.7	52.7	<100	39.6	51.3	NA	29.1	<90.0
1,6,7-trimethylnaphthalene	69.4	76.3	NA	NA	131	NA	NA	NA	56.9	133	63.8	74.0	NA	53.3	NA	NA	NA	NA
fluorene	79.1	75.2	NA	NA	121	NA	67.0	NA	81.7	104	75.3	96.7	<100	51.9	72.3	NA	121	109
phenanthrene	739	639	NA	NA	750	NA	735	NA	641	814	740	779	575	545	662	NA	388	739
anthracene	251	175	NA	NA	272	NA	294	NA	229	226	222	318	323	155	125	NA	249	279
1-methylphenanthrene	139	127	NA	NA	142	NA	150	NA	167	141	135	111	128	120	140	NA	NA	NA
fluoranthene	1783	1720	NA	NA	1947	NA	1870	NA	2023	1677	1883	1690	1483	1327	1540	NA	1354	1732
pyrene	1624	1364	NA	NA	1677	NA	1667	NA	1740	1577	1690	2217	1277	1288	1343	NA	1216	1659
benzo[a]anthracene	639	515	NA	NA	607	NA	661	NA	731	555	613	664	567	497	574	NA	595	650
chrysene	572	824	NA	NA	NA	NA	NA	NA	NA	NA	NA	1150	856	811	NA	NA	776	1187
triphenylene	346	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
chrysene/triphenylene	918	824	NA	NA	921	NA	995	NA	1140	976	1015	1150	856	811	881	NA	776	1187
benzo[b]fluoranthene	1018	817	NA	NA	NA	NA	NA	NA	NA	1000	1050	NA	966	401	NA	NA	975	864
benzo[j]fluoranthene	450	391	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
benzo[k]fluoranthene	440	356	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	644	773	NA	NA	564	954
benzo[b+j]fluoranthenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
benzo[j+k]fluoranthenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	882	920	NA	NA	NA	NA	NA	NA	NA
benzo[b+j+k]fluoranthenes	1908	1563	NA	NA	2017	NA	1803	NA	2350	1882	1970	2698	1610	1174	1633	NA	1539	1818
benzo[c]pyrene	836	702	NA	NA	925	NA	818	NA	984	778	839	785	NA	459	1109	NA	NA	NA
benzo[a]pyrene	718	561	NA	NA	634	NA	784	NA	786	678	681	688	579	677	835	NA	657	614
perylene	361	283	NA	NA	377	NA	348	NA	374	309	313	NA	NA	171	270	NA	NA	NA
indeno[1,2,3-cd]pyrene	663	658	NA	NA	510	NA	666	NA	852	822	685	732	594	421	632	NA	590	519
dibenz[a,h]anthracene	84.7	92.0	NA	NA	152	NA	NA	NA	207	NA	167	125	184	131	168	NA	300	<90.0
dibenz[a,h+a,c]anthracene	159	NA	NA	NA	152	NA	169	NA	207	178	167	125	184	131	168	NA	300	NA
benzo[ghi]perylene	653	624	NA	NA	556	NA	696	NA	826	767	626	857	483	555	600	NA	268	648

Note: Bolded values were not used in the calculation of the exercise assigned value.

Table 4. Marine Sedi

(reported to three significant figs)

Laboratory No	17	18	20	21	23	24	25	26	27	28	Exercise Assigned			
	Value	s	%RSD	95% CL										
Water (percent)	46.0	44.7	45.3	46.0	44.8	45.2	43.7	41.7	46.4	56.0	45.9	1.0	2.2	0.3

PAHs (ng/g dry basis)

Laboratory No	17	18	20	21	23	24	25	26	27	28	Exercise Assigned			
	Value	s	%RSD	95% CL										
naphthalene	215	556	297	NA	671	1053	865	76.3	663	685	706	164	23.2	84
2-methylnaphthalene	76.0	257	133	NA	330	432	416	60.4	297	298	325	67	20.7	39
1-methylnaphthalene	31.2	127	NA	NA	124	218	188	24.2	127	114	141	35	24.9	19
biphenyl	26.4	76.2	NA	NA	88.3	83.3	98.0	17.5	93.3	100	91.1	19.9	21.8	11.0
2,6-dimethylnaphthalene	51.1	138	NA	NA	176	174	205	NA	116	145	145	48	32.9	24
acenaphthylene	16.3	168	83.3	NA	68.9	221	1526	7.98	148	111	120	54	44.7	29
acenaphthene	16.7	50.1	40.0	NA	<73.5	77.3	59.6	13.8	48.7	55.3	53.9	12.3	22.9	6.6
1,6,7-trimethylnaphthalene	18.2	NA	NA	NA	80.7	115	NA	NA	57.3	NA	82.8	29.5	35.6	19.8
fluorene	40.7	69.4	70.0	NA	80.8	138	92.4	26.9	78.0	108	84.6	22.1	26.1	11.0
phenanthrene	380	578	537	NA	725	435	796	220	641	603	645	130	20.2	61
anthracene	132	293	180	NA	251	277	465	63.0	339	223	254	80	31.6	39
1-methylphenanthrene	72.9	82.8	NA	NA	138	113	120	14.7	125	<3.14	127	23	18.2	12
fluoranthene	761	1427	1157	NA	1900	1280	1797	518	1792	1927	1717	227	13.2	117
pyrene	588	1273	1030	NA	1710	1180	1599	482	1446	1667	1564	253	16.2	130
benzo[a]anthracene	468	570	450	NA	673	540	687	164	812	798	621	92	14.8	43
chrysene	471	983	657	NA	NA	NA	1108	NA	NA	861	843	206	24.4	255
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346			
chrysene/triphenylene	471	983	657	NA	1057	758	1108	230	1216	861	945	178	18.8	83
benzo[b]fluoranthene	852	759	NA	NA	1057	NA	1080	284	NA	1381	940	224	23.8	135
benzo[j]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420			
benzo[k]fluoranthene	282	NA	NA	NA	NA	NA	950	200	1141	496	604	206	34.1	190
benzo[b+j]fluoranthenes	NA	NA	NA	NA	NA	NA	NA	NA	1564	NA	1564			
benzo[j+k]fluoranthenes	NA	843	NA	NA	973	NA	NA	NA	NA	NA	905	55	6.1	88
benzo[b+j+k]fluoranthenes	1134	1602	1223	NA	2030	1539	2030	484	2705	1877	1844	412	22.3	193
benzo[e]pyrene	386	811	437	NA	876	641	798	175	1141	792	808	186	23.0	96
benzo[a]pyrene	414	680	443	NA	700	710	760	179	927	696	703	87	12.4	42
perylene	192	335	163	NA	412	103	404	48.6	378	410	323	88	27.3	49
indeno[1,2,3-cd]pyrene	366	606	443	NA	785	696	757	216	1113	679	683	150	21.9	72
dibenz[a,h]anthracene	40.6	152	110	NA	NA	159	177	NA	139	210	153	58	38.0	30
dibenz[a,h+a,c]anthracene	40.6	152	110	NA	201	159	177	14.6	139	210	167	25	15.1	13
benzo[ghi]perylene	379	679	427	NA	829	651	800	109	932	682	705	111	15.7	57

Note: Bolded values were not used

Table 5. Marine Sediment XI (QA02SED11): Laboratory means of three replicates and exercise assigned values - Pesticides

(reported to three significant figures)

Pesticides (ng/g dry basis)	Laboratory No.																							
	I-MS-1	I-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14	15	16	17	18	20	21	23	
alpha-HCH	<2	<0.5	NA	NA	30.8	NA	0.132	NA	0.618	NA	DL	<1.4	<1	NA	0.085	NA	NA	NA	NA	<1.1	0.643	<10	<0.866	NA
hexachlorobenzene	32.2	30.7	NA	NA	25.1	NA	33.3	NA	31.1	15.7	29.0	31.8	18.8	25.4	43.8	22.3	NA	NA	24.6	34.6	20.0	33.3	31.2	NA
gamma-HCH	<2	<0.5	NA	NA	<3.78	NA	0.078	NA	<2	0.500	DL	<1.4	<1	0.866	0.082	<2	NA	NA	<0.4	0.218	<10	<0.866	NA	NA
beta-HCH (b-HCH)	<2	<0.5	NA	NA	<3.78	NA	0.118	NA	<2	NA	DL	<1.4	<1	5.86	0.234	NA	NA	NA	<1.6	NA	<10	<0.866	<6.19	NA
heptachlor	<2	<0.5	NA	NA	<3.78	NA	<0.03	NA	<2	1.23	DL	<1.4	<1	2.75	0.115	8.42	NA	NA	<1.3	NA	<10	<0.866	<6.17	NA
aldrin	<2	<0.5	NA	NA	<3.78	NA	<0.07	NA	<2	<0.01	DL	<1.4	<1	0.444	0.730	<2	NA	NA	0.078	NA	<10	<0.866	<6.19	NA
heptachlor epoxide	<2	<0.5	NA	NA	<3.78	NA	0.344	NA	<2	0.249	DL	<1.4	<1	2.27	<0.182	<2	NA	NA	<1.1	NA	<10	<0.866	<6.17	NA
oxychlorodane	<2	<0.5	NA	NA	<3.78	NA	<0.06	NA	1.51	NA	DL	<1.4	<1	0.851	<0.182	4.86	NA	NA	NA	NA	<10	<0.866	NA	NA
gamma-chlordane (trans-)	10.5	12.8	NA	NA	12.4	NA	10.2	NA	15.8	NA	22.1	11.8	8.51	10.0	14.1	15.2	NA	NA	9.89	12.9	<10	11.5	13.3	NA
2,4'-DDE	20.6	17.0	NA	NA	26.9	NA	19.6	NA	56.2	11.5	6.53	24.2	27.4	20.8	24.8	23.6	NA	NA	10.0	23.2	<10	19.1	25.6	NA
endosulfan I	<2	<0.5	NA	NA	<3.78	NA	<0.15	NA	<2	0.423	6.99	<2.7	7.32	NA	<6.27	5.60	NA	NA	<1.5	NA	<10	<0.866	NA	NA
cis-chlordane	9.70	8.74	NA	NA	10.7	NA	8.81	NA	13.6	0.651	15.3	8.85	8.37	NA	12.0	15.1	NA	NA	7.15	11.3	<10	10.1	12.2	NA
trans-nonachlor	5.71	5.60	NA	NA	7.33	NA	4.31	NA	7.47	3.08	8.33	6.05	3.74	6.20	7.41	2.97	NA	NA	2.58	7.41	<10	5.66	6.56	NA
dieldrin	4.03	3.02	NA	NA	<3.78	NA	3.76	NA	9.34	0.793	8.00	3.96	3.13	9.54	3.54	4.15	NA	NA	1.67	3.83	<10	3.26	<6.15	NA
4,4'-DDE	74.0	60.3	NA	NA	74.0	NA	70.5	NA	85.1	35.8	71.4	77.9	48.9	53.6	87.4	48.8	NA	NA	59.7	80.6	46.7	71.5	92.8	NA
2,4'-DDD	43.0	42.9	NA	NA	44.0	NA	41.4	NA	47.7	7.24	49.2	45.9	25.8	33.4	54.5	38.3	NA	NA	22.0	47.9	36.7	38.8	55.0	NA
endrin	<2	<0.5	NA	NA	<3.78	NA	0.162	NA	<2	NA	DL	<2.7	<2	18.1	<0.667	<2	NA	NA	<2.4	NA	16.7	<0.866	NA	NA
endosulfan II	<2	<0.5	NA	NA	<3.78	NA	<0.3	NA	<2	1.28	13.3	<5.4	NA	DL	<6.27	<2	NA	NA	<1.5	NA	<10	0.774	<19.4	NA
4,4'-DDD	136	166	NA	NA	165	NA	126	NA	162	39.2	145	135	77.5	107	250	116	NA	NA	112	143	100	132	144	NA
2,4'-DDT	5.28	4.81	NA	NA	<3.78	NA	4.61	NA	<2	2.56	6.93	4.70	<2	5.49	7.41	6.01	NA	NA	2.50	6.47	<10	11.1	10.4	NA
cis-nonachlor	2.43	2.79	NA	NA	3.31	NA	1.88	NA	5.83	NA	4.12	3.10	2.88	0.827	3.59	4.35	NA	NA	1.67	2.15	<10	1.85	<6.31	NA
4,4'-DDT	271	256	NA	NA	51.0	NA	277	NA	261	150	274	NA	121	188	372	207	NA	NA	199	345	90.0	276	192	NA
mirex	<2	<0.5	NA	NA	<3.78	NA	0.153	NA	<2	0.184	DL	<1.4	<1	0.632	0.993	<2	NA	NA	<0.5	0.26	<10	<0.866	NA	NA
endosulfan sulfate	<2	<0.5	NA	NA	<3.78	NA	<0.04	NA	<2	<0.1	13.1	<5.4	NA	14.2	<0.179	NA	NA	NA	<2.3	NA	<10	<0.866	<6.26	NA
chlorpyrifos	<2	NA	NA	NA	<3.78	NA	NA	NA	NA	2.82	DL	NA	NA	DL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: Bolded values were not used in the calculation of the exercise assigned value.

Table 5. Marine Sedi

(reported to three significant fig

Pesticides (ng/g dry basis)

Laboratory No.	Exercise Assigned								
	24	25	26	27	28	Value	s	%RSD	95% CI
alpha-HCH	0.717	NA	NA	<1.83	<0.143	<1			
hexachlorobenzene	29.1	NA	NA	3.77	24.1	31.1	5.1	10.8	2.7
gamma-HCH	ND	NA	NA	<0.82	0.434	<6			
beta-HCH (b-HCH)	ND	NA	NA	0.857	6.10	<6			
heptachlor	0.393	NA	NA	<0.89	1.07	<3			
aldrin	ND	NA	NA	<1.08	<0.102	<2			
heptachlor epoxide	1.35	NA	NA	3.77	<0.0422	<6			
oxychlorthane	0.913	NA	NA	2.06	<0.0884	<3			
gamma-chlordane (trans-)	10.9	NA	NA	10.2	NA	11.7	1.9	10.8	1.1
2,4'-DDE	15.1	NA	NA	22.2	10.0	18.3	5.1	31.6	3.2
endosulfan I	NA	NA	NA	<0.91	NA	<6			
cis-chlordane	10.6	NA	NA	12.2	10.8	10.6	1.9	10.8	1.1
trans-nonachlor	4.52	NA	NA	6.87	5.41	5.67	1.60	15.3	0.82
dieldrin	5.12	NA	NA	6.22	2.95	3.54	0.42	10.6	0.35
4,4'-DDE	58.4	NA	NA	84.7	63.9	69.4	15.3	22.2	7.8
2,4'-DDD	37.5	NA	NA	62.8	11.0	40.6	11.0	22.2	6.1
endrin	0.207	NA	NA	<0.83	<0.319	<3			
endosulfan II	2.24	NA	NA	<0.91	NA	<3			
4,4'-DDD	107	NA	NA	160	131	139	39	22.2	21
2,4'-DDT	3.66	NA	NA	6.87	4.51	5.67	2.12	36.0	1.22
cis-nonachlor	3.85	NA	NA	4.77	2.95	2.86	0.87	31.2	0.54
4,4'-DDT	188	NA	NA	311	260	221	61	27.4	38
mirex	0.590	NA	NA	<1.08	1.97	<2			
endosulfan sulfate	NA	NA	NA	<0.91	NA	<3			
chlorpyrifos	0.227	NA	NA	1.64	NA	<3			

Note: Bolded values were not use

Table 6. Marine Sedi

(reported to three significant fig
PCBs (ng/g dry basis)

Laboratory No.	Exercise Assigned									
	24	25	26	27	28	Value	s	%RSD	95% CL	
PCB 8	11.6	8.98	19.9	14.5	8.43	7.84	2.69	34.3	1.34	
PCB 18	23.0	11.4	12.1	20.5	27.1	17.8	5.7	32.1	2.7	
PCB 28	31.4	35.1	46.2	38.7	29.6	31.3	5.5	17.6	2.4	
PCB 31	14.6	24.7	NA	19.8	30.5	25.0	5.6	22.2	2.9	
PCB 44	21.7	21.2	14.4	29.1	22.5	22.1	4.2	18.8	1.9	
PCB 49	21.1	14.7	11.0	27.5	23.5	21.6	3.3	15.2	1.6	
PCB 52	32.0	23.5	12.7	40.1	28.5	30.2	4.6	15.1	2.1	
PCB 66	24.3	26.1	37.5	31.2	30.6	26.2	4.3	16.5	2.0	
PCB 95	18.4	19.5	NA	20.6	17.7	20.5	3.3	15.9	1.7	
PCB 99	14.7	17.0	4.98	17.3	13.7	14.8	3.7	24.9	1.9	
PCB 101	28.3	27.6	9.87	39.8	24.7	29.2	4.9	16.6	2.3	
PCB 105	5.91	10.7	30.2	8.17	9.37	9.31	2.50	26.9	1.11	
PCB 118	18.0	23.0	12.5	26.4	18.3	21.3	5.5	25.9	2.4	
PCB 128	6.12	4.02	2.45	3.25	3.73	4.02	1.03	25.7	0.47	
PCB 138	39.3	28.2	20.5	28.5	18.8	28.8	8.2	28.6	3.6	
PCB 149	21.3	23.3	10.2	18.5	15.2	22.7	4.9	21.6	2.5	
PCB 153	34.0	27.2	NA	47.4	30.8	29.9	9.8	32.8	4.4	
PCB 156	7.85	3.39	3.85	16.7	<0.232	2.77	0.42	15.3	0.27	
PCB 170	ND	8.34	13.4	12.6	5.37	8.47	3.05	36.0	1.43	
PCB 180	16.9	22.5	15.0	23.9	21.5	19.3	4.5	23.1	2.0	
PCB 187	13.8	12.0	7.04	17.7	6.83	11.8	3.7	31.1	1.6	
PCB 194	7.90	5.60	3.61	6.38	4.71	5.17	1.58	30.6	0.76	
PCB 195	2.76	2.03	7.45	6.23	2.01	2.37	1.54	65.0	0.72	
PCB 206	6.45	6.82	6.52	6.21	NA	5.02	1.84	36.8	0.84	
PCB 209	9.13	8.36	3.47	4.65	NA	6.88	3.46	50.2	1.57	

Note: Bolded values were not use

Table 7. Fish Homogenate V (QA02FSH5): z scores (25 %) by laboratory - TEO and Pesticides

(A z score (25 %) = +1 if the laboratory's submitted mean value is 25 % higher than the exercise assigned value.)

Laboratory No	1-MS	1-MS-2	1-ECD	2	3	4	4b	5	5b	6	6b	7	8	9	10	11	12	13	14	17	19	
	-0.1			0.7		0.0	0.0	0.0	0.5	-0.4	-0.4	-0.1	6.3		0.0	0.1	0.2	0.3		-0.1	0.4	
alpha-HCH (α-BHC)			-0.8						-0.4		-0.6		4.0	-1.1		19.8		-1.0				
hexachlorobenzene	1.0	1.5	0.5	-0.8		-0.3		0.3	0.3		-0.3	-2.8	0.2	-0.6	-1.7		0.6	0.9	0.0	-1.6	-0.7	
gamma-HCH (γ-BHC,lindane)			-1.4					-0.8	-0.8		1.3	-0.8	-0.6	-1.2		-0.6	2.4	-1.0				
beta-HCH (β-BHC)																						
heptachlor																						
aldrin																						
heptachlor epoxide	0.4	-0.4	-0.2					0.6	0.6		-1.1	0.5	-1.7	-0.8	0.9	-1.4	2.3	0.1	1.3	-1.8	0.5	
oxychlorane	0.3	0.0	0.7			5.9		0.1	0.1		-0.2		-0.2	-0.9	-1.6	-3.0	0.4	0.8	-0.2			
gamma-chlordane	0.3	0.3	0.5			0.1		-0.3	-0.3		-0.7		0.3	-1.2	0.5	-1.0	1.2	0.7	1.4	1.1		
2,4'-DDE	-0.8	0.0	-0.6	-0.8		-0.7		-1.2	-1.2			3.1		35.2		8.5	40.2	-0.9	6.4			
endosulfan I																						
cis-chlordane (alpha-chlordane)	0.4	1.6	0.6	-0.1		-0.2		0.4	0.4		-0.9	-2.0	-1.2	-0.2	-0.8	-2.3		3.1	0.7	-0.2	1.0	
trans-nonachlor	0.3	0.3	0.8	0.2		0.1		-0.2	-0.2		-1.1	-2.2	-1.0	0.7	0.4	-1.6	0.1	1.6	0.4	-1.3	1.5	
dieldrin	0.1	-0.1	0.3			0.4		0.7	0.7		-1.2	1.0	-0.5	-0.5	-0.4	-1.8	1.1	1.6	0.4	-0.3	0.9	
4,4'-DDE	0.9	0.4	0.4	-0.2		0.3		1.5	1.5		-0.6	-1.5	-2.1	0.4	-0.1	-0.7	0.3	0.9	-0.5	-0.9	1.8	
2,4'-DDD	-1.6	-1.4	-1.4	3.0		-0.4		-1.9	-1.9			-1.3	0.6	-2.1		-2.7	4.7	-0.9	8.2	15.2		
endrin								-1.1	-1.1				-0.6	-1.6		4.2	109.9	-0.5		19.7		
endosulfan II																						
4,4'-DDD	0.2	0.1	0.6			0.2		0.1	0.1		-0.1	2.0	0.0	-1.3	-0.1	-1.5	-0.2	0.4	1.1	-1.6	-0.7	
2,4'-DDT	-0.9	-0.7	0.7			-0.4		-1.1	-1.1			-1.3	-2.8		-2.7	16.7	3.9	-0.2	0.1	-2.0	3.5	
cis-nonachlor	-0.4	0.3	0.0			0.3		-0.5	-0.5		-0.6		-0.2	-0.9	-0.8	1.8	-3.1	1.0	0.0	-0.5		
4,4'-DDT	0.7	0.6	1.3	-0.5		-0.2		1.1	1.1		-0.8	-1.1	-0.1	0.8	-1.7	-1.9	1.7	1.1	0.0	-1.4	-2.3	
mixtex	1.5	0.9	0.2	0.2		0.6		-1.1	-1.1		2.0	-2.1	-0.6				3.0	-0.4				
endosulfan sulfate																						
chlorpyrifos																						

Table 7. Fish Homogenat

(A z score (25 %) = +1 if the le

Laboratory No	20	21	22	23	24	25	26	27	29
TEO or lipid (percent)	1.1	-0.7	0.0	-0.8	0.0	-0.9	0.0	0.3	-0.1

Pesticides

Laboratory No	20	21	22	23	24	25	26	27	29
alpha-HCH (α-BHC)		-0.7		0.1	0.8			-0.4	
hexachlorobenzene		-0.4	-0.7	-0.2	-0.1			0.6	0.2
gamma-HCH (γ-BHC; lindane)		-1.1			0.3			-0.7	4.3
beta-HCH (β-BHC)									
heptachlor									
aldrin									
heptachlor epoxide		0.6	0.8	-0.2	-0.1			0.6	-0.6
oxychlorodane		-0.7	1.3	0.0	0.2			1.2	-1.3
gamma-chlordane		-1.3	0.1	0.3	-0.5			1.4	-0.8
2,4'-DDE		-1.5		-0.9	-1.1			0.9	42.6
endosulfan I									
cis-chlordane (alpha-chlordane)		-0.7	0.1	0.5	-0.3			0.8	-1.5
trans-nonachlor	0.0	-0.7	-0.2	0.0	-0.4			0.0	0.1
dieldrin	1.1	-1.2	0.5	-0.7	-0.7			-1.1	-0.7
4,4'-DDE	0.1	-0.1	-0.1	0.3	-0.5			0.3	0.0
2,4'-DDD	94.4	-2.1		-1.2	-0.3			1.2	-0.4
endrin		-2.0	16.0		0.5			1.2	
endosulfan II									
4,4'-DDD	0.9	-0.8	0.8	0.1	-0.7			0.7	-1.0
2,4'-DDT		-0.8	1.4	-0.9	0.1			2.0	1.2
cis-nonachlor	-0.1	-0.3	-0.2	0.2	-0.2			1.0	-0.4
4,4'-DDT	9.4	-0.1	0.3	-0.9	-1.1			0.7	1.3
nitrex		-0.1	-0.7	0.3	-1.1			0.7	
endosulfan sulfate									
chlorpyrifos									

Table 8. Fish Homogenate V (QA02FSH5): z scores (25 %) by laboratory - PCBs

(A z score (25 %) = +1 if the laboratory's submitted mean value is 25 % higher than the exercise assigned value.)

Laboratory No.	1-MS		2	3	4	4b	5	5b	6	6b	7	8	9	10	11	12	13	14
	1-MS	1-ECD																
PCB 8																		
PCB 18	-1.2	1.5	-0.1		-2.2	1.8	-0.3	-0.9	-0.7	-0.2		0.1	-0.6		-1.6	2.4	-1.2	
PCB 28	-0.2	0.0	0.5	2.5	-0.3	1.3	-0.3	0.5	-0.4	-0.7	-1.9	-0.3	-0.5		-0.5	0.6	0.1	-1.9
PCB 31	-0.7	-0.2	0.5	2.7	-1.1	2.4	0.0	-0.2	-0.9						0.5	-0.2	-0.4	-1.4
PCB 44	-0.8	-0.2	-0.1	-1.5	-0.9	1.5	-0.5	2.3	2.2	-1.0	-0.9	-1.0	-0.6		-2.0	0.6	1.9	0.0
PCB 49	-0.9	0.4	0.7	-0.8	-0.5	2.6	0.1	-0.5	-0.7			-0.7			-2.2	1.0	-0.6	0.0
PCB 52	-0.8	0.3	0.6	-0.7	-0.7	1.7	0.2	0.0	-0.4	-0.8	-0.5	-0.7	-0.4		-2.5	0.7	0.5	-0.8
PCB 66	-0.2	-0.2	0.4	0.3	-0.5	1.7	0.4	0.4	-0.6	-2.0	-0.9	-0.1	-0.3		1.0	-0.1	0.3	0.2
PCB 95	-1.5	-1.1	0.4	-1.6	-1.3	0.5	-1.0	-0.9	-1.3						4.0	-0.5	-1.5	2.9
PCB 99	-0.2	0.1	0.8	-0.1	-0.2	2.0	0.1	1.1	-0.1						-2.4		0.5	-0.9
PCB 101	0.1	0.2	0.0	-1.2	0.1	-0.1	0.1	0.6	-0.4	-1.1	-0.7	-0.9	0.1		-2.6		-0.4	-0.4
PCB 105	-0.9	-0.7	-1.0	-1.3	-0.9	0.2	-0.8	-0.4	-1.5	-1.6	-1.1	-1.4	-0.7		5.5	-0.2	-0.6	0.5
PCB 118	-0.2	0.0	-0.4		0.0	1.5	-0.1	0.1	-0.6	-1.5	-0.9	-0.7	0.0		-2.7	0.3	0.5	-0.6
PCB 128	-0.4	0.3	0.0	-0.6	1.2	2.5	0.0	-0.1	-0.5	-0.1	0.5	0.0	0.4		-1.9	5.0	0.2	0.9
PCB 138	-0.4	-0.5	-0.4		0.2	0.6	2.0	0.5	1.1	0.3	-0.9	-1.6	-0.2		-1.3	0.3	0.6	-0.4
PCB 149	-0.2	0.2	0.1	-0.4	0.1	1.9	-0.1	0.9	-0.1						-2.1	-3.4	-0.3	-3.0
PCB 153	-0.1	1.0	-0.1	0.1	0.0	1.2	0.6	1.1	-0.4	0.2	-0.9	-0.9	-0.3		-1.1	-0.4	0.6	-0.8
PCB 156	-0.6	-0.5	-1.1	-0.8	0.7	-0.9	-0.4	-0.6	-1.6							0.3	0.4	2.7
PCB 170	0.1	-0.2	-0.7		0.3	0.0	0.1	0.4	0.1	-0.5	-0.9	1.8	1.1		0.0	0.2	-0.7	-0.1
PCB 180	0.0	0.0	-0.2	-0.7	0.7	0.0	0.3	-0.1	-0.8	-0.6	-1.2	0.8	0.0		-1.6	0.0	-0.2	-0.5
PCB 187	-0.3	0.1	-0.1	-0.4	0.2	1.3	0.0	0.6	-0.6	-0.9	-0.7	-0.8	0.9		-1.5	1.0	-0.5	0.4
PCB 194	0.1	0.2	0.0	-0.2	-0.2	-0.6	0.1	0.8	-0.4						-1.6	2.0	0.9	0.1
PCB 195	-0.9	0.4	-0.2	-0.9	-0.9	-0.8	-0.8	-0.3	-0.8	1.9	-1.3	0.1	0.4		4.2	1.3	0.1	2.9
PCB 206	-0.1	1.5	0.1	-0.3	0.0	-0.2	-0.9	0.2	-0.3	0.3	-1.6	-0.7	0.8		0.1	1.9	-0.1	1.1
PCB 209	-0.5	1.7	-0.1	-0.5	-0.3	-0.3	-0.5	-0.3		0.7	-0.1	-0.5	0.2		-3.6	8.7	0.6	0.9

Table 8. Fish Homogenat

(A z score (25 %) = +1 if the la

PCBs

Laboratory No.	17	19	23	26	27	23	26	25	26	27	29
PCB 8											
PCB 18		-0.4		-2.7	2.2	0.0	0.8	-1.1	11.2	0.2	0.4
PCB 28		-0.5	28.8	-2.7	-0.6	-0.9	-0.5	0.4	0.5	0.3	-0.8
PCB 31				-2.9	0.3	-0.1	-2.1	-0.6		-1.4	-0.2
PCB 44	-1.4	-1.0	2.4	2.8	-0.7	-0.8	-0.5	1.6	-1.3	0.0	0.1
PCB 49	-0.7		2.4	-0.5	-0.4	-0.2	0.4	-0.8	-1.5	0.7	-0.7
PCB 52	-1.7	2.0	2.8	0.2	0.1	0.0	0.0	-0.2	-2.3	0.3	-0.6
PCB 66	-0.8	2.6	0.2	0.3	-0.8	-0.4	-0.2	-0.2	-0.4	0.0	-0.1
PCB 95			-0.9	-1.2	-0.9	-1.3	-1.9	-1.6		-1.8	2.3
PCB 99			0.6	-0.1	1.6	-0.4	0.6	0.3	-2.8	0.8	-1.5
PCB 101	0.6	1.8	-0.1	-0.3	-0.3	-0.2	1.3	-0.3	-2.9	1.3	-0.2
PCB 105	-0.2	1.3	0.4	-0.9	2.4	-1.1	-0.9	-0.6	10.6	-1.3	-2.6
PCB 118	-0.4	0.9	1.2	-0.5	2.3	-0.5	-0.1	-0.3	-2.9	0.2	-0.6
PCB 128	-0.9	3.4	14.7	0.0	1.5	0.3	0.3	-0.1	-2.0	1.5	-0.7
PCB 138	0.1	1.8	0.1	0.3	1.4	0.6	0.5	0.2	0.4	0.6	-0.3
PCB 149	0.0		1.2	0.6	4.8	0.0	-0.2	-0.2	-2.2	-1.5	-0.1
PCB 153	-0.4	1.0	0.4	-0.2	1.0	0.1	0.1	-0.4		0.8	-1.2
PCB 156			1.2	-0.1	2.5	-0.6	-0.3	0.4	2.4	0.7	1.4
PCB 170	-0.5	1.9	1.1	-0.4	1.0	0.5	-1.6	-0.2	4.3	1.1	-0.2
PCB 180	-0.9	0.9	0.4	-0.3	0.6	0.0	1.5	0.2	0.7	2.6	-1.5
PCB 187	-1.1	1.3	1.2	1.3	1.0	-1.2	1.1	-0.1	0.0	0.8	0.5
PCB 194	-1.1		2.4	-1.0	1.9	0.4	-1.6	0.6	0.3	1.0	0.5
PCB 195		-0.8		-1.0	3.0	-0.5	-0.3	-0.3	13.6	2.6	-0.8
PCB 206		-0.7		-0.7	10.2	0.3	-1.8	1.7	5.1	1.2	-0.4
PCB 209	0.9	-0.1		-0.6	1.7	-0.8	-2.1	-0.3	-1.3	0.6	1.3

Table 9. Marine Sediment XI (QA02SED11): z scores (25 %) by laboratory - Water and PAHs

(A z score (25 %) = +1 if the laboratory's submitted mean value is 25 % higher than the exercise assigned value.)

Laboratory No.	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14
Water	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.4	0.0	-0.1	0.0

PAHs

Laboratory No.	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14
naphthalene	0.1	-0.3			-0.4		0.2		-1.9	0.6	-0.4	1.4	-1.7	-1.6	0.2	
2-methylnaphthalene	-0.1	-0.6			0.0		-0.3		-2.2	0.8	-0.5	0.9		-1.8	-0.3	
1-methylnaphthalene	-0.1	-0.6			0.6		0.0		-1.5	1.4	0.0	0.2		-1.4	0.0	
biphenyl	0.3	-0.6			0.8		1.0		-1.6	2.0	-0.5	13.2		-0.9	-0.1	
2,6-dimethylnaphthalene	-0.1	-1.4			2.2		1.3		-1.8	1.5	0.4	-1.5	0.3	-1.1	0.4	
acenaphthylene	-0.8	-2.9			0.1		-3.2		-0.2	-0.6	-0.7	1.5	3.2	-2.0	-1.6	
accnaphthene	0.0	-0.6			1.4		0.3		-0.7	1.3	-0.1	-0.1		-1.1	-0.2	
1,6,7-trimethylnaphthalene	-0.6	-0.3			2.3		3.8		-1.3	2.4	-0.9	-0.4		-1.4		
fluorene	-0.3	-0.4			1.7		-0.8		-0.1	0.9	-0.4	0.6		-1.5	-0.6	
phenanthrene	0.6	0.0			0.7		0.6		0.0	1.0	0.6	0.8	-0.4	-0.6	0.1	
anthracene	0.0	-1.2			0.3		0.6		-0.4	-0.4	-0.5	1.0	1.1	-1.6	-2.0	
1-methylphenanthrene	0.4	0.0			0.5		0.8		1.3	0.5	0.3	-0.5	0.0	-0.2	0.4	
fluoranthene	0.2	0.0			0.5		0.4		0.7	-0.1	0.4	-0.1	-0.5	-0.9	-0.4	
pyrene	0.2	-0.5			0.3		0.3		0.4	0.0	0.3	1.7	-0.7	-0.7	-0.6	
benzo[a]anthracene	0.1	-0.7			-0.1		0.3		0.7	-0.4	-0.1	0.3	-0.3	-0.8	-0.3	
chrysene	-1.3	-0.1			0.4		0.7		1.4		0.8	1.5	0.1	-0.1	0.2	
triphenylene	0.0															
benzo[b]fluoranthene	0.3	-0.5			4.6		3.7		6.0	0.3	0.5	2.7	0.1	-2.3	1.1	
benzo[j]fluoranthene	0.3	-0.3									4.8					
benzo[k]fluoranthene	-1.1	-1.6										3.5	0.3	1.1	-1.1	
benzo[e]pyrene	0.1	-0.5			0.6		0.1		0.9	-0.1	0.2	-0.1		-1.7	1.5	
benzo[a]pyrene	0.1	-0.8			-0.4		0.5		0.5	-0.1	-0.1	-0.1	-0.7	-0.2	0.8	
perylene	0.5	-0.5			0.7		0.3		0.6	-0.2	-0.1			-1.9	-0.7	
indeno[1,2,3-cd]pyrene	-0.1	-0.1			-1.0		-0.1		1.0	0.8	0.0	0.3	-0.5	-1.5	-0.3	
dibenz[a,h]anthracene	-1.8	-1.6			0.0		0.4		1.4		0.4	-0.7	0.8	-0.6	0.4	
benzo[ghi]perylene	-0.3	-0.5			-0.8		0.0		0.7	0.4	-0.4	0.9	-1.3	-0.8	-0.6	

Table 9. Marine Sedi

(A z score (25 %) = +1 if t

Laboratory No.	15	16	17	18	20	21	23	24	25	26	27	28
Water	-0.1	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.2	-0.4	0.0	0.9

PAHs

Laboratory No.	15	16	17	18	20	21	23	24	25	26	27	28
naphthalene	-3.2	0.2	-2.8	-0.8	-2.3		-0.2	2.0	0.9	-3.6	-0.2	-0.1
2-methylnaphthalene	-3.0	-1.4	-3.1	-0.8	-2.4		0.1	1.3	1.1	-3.3	-0.3	-0.3
1-methylnaphthalene			-3.1	-0.4			-0.5	2.2	1.3	-3.3	-0.4	-0.8
biphenyl			-2.8	-0.7			-0.1	-0.3	0.3	-3.2	0.1	0.4
2,6-dimethylnaphthalene			-2.6	-0.2			0.8	0.8	1.6		-0.8	0.0
acenaphthylene	1.2	2.7	-3.5	1.6	-1.2		-1.7	3.3	46.7	-3.7	0.9	-0.3
acenaphthene	-1.8		-2.8	-0.3	-1.0			1.7	0.4	-3.0	-0.4	0.1
1,6,7-trimethylnaphthalene			-3.1				-0.1	1.6			-1.2	
fluorene	1.7	1.2	-2.1	-0.7	-0.7		-0.2	2.5	0.4	-2.7	-0.3	1.1
phenanthrene	-1.6	0.6	-1.6	-0.4	-0.7		0.5	-1.3	0.9	-2.6	0.0	-0.3
anthracene	-0.1	0.4	-1.9	0.6	-1.2		0.0	0.4	3.3	-3.0	1.3	-0.5
1-methylphenanthrene			-1.7	-1.4			0.4	-0.4	-0.2	-3.5	0.0	
fluoranthene	-0.8	0.0	-2.2	-0.7	-1.3		0.4	-1.0	0.2	-2.8	0.2	0.5
pyrene	-0.9	0.2	-2.5	-0.7	-1.4		0.4	-1.0	0.1	-2.8	-0.3	0.3
benz[a]anthracene	-0.2	0.2	-1.0	-0.3	-1.1		0.3	-0.5	0.4	-2.9	1.2	1.1
chrysene	-0.3	1.6	-1.8	0.7	-0.9		1.0	-0.4	1.3	-2.9	1.8	0.1
triphenylene												
benzo[b]fluoranthene	0.2	-0.3	-0.4	-0.8	1.2		0.5	0.8	0.6	-2.8	2.7	1.9
benzo[j]fluoranthene												
benzo[k]fluoranthene	-0.3	2.3	-2.1	1.6			2.4	-1.3	2.3	-2.7	3.6	-0.7
benzo[e]pyrene			-2.1	0.0	-1.8		0.3	-0.8	0.0	-3.1	1.7	-0.1
benzo[a]pyrene	-0.3	-0.5	-1.6	-0.1	-1.5		0.0	0.0	0.3	-3.0	1.3	0.0
perylene			-1.6	0.1	-2.0		1.1	-2.7	1.0	-3.4	0.7	1.1
indeno[1,2,3-cd]pyrene	-0.5	-1.0	-1.9	-0.5	-1.4		0.6	0.1	0.4	-2.7	2.5	0.0
dibenz[a,h]anthracene	3.8		-2.9	0.0	-1.1		1.3	0.2	0.6	-3.6	-0.4	1.5
benzo[ghi]perylene	-2.5	-0.3	-1.8	-0.1	-1.6		0.7	-0.3	0.5	-3.4	1.3	-0.1

Table 10. Marine Sediment XI (QA02SED11): z scores (25 %) by laboratory - Pesticides

(A z score (25 %) = +1 if the laboratory's submitted mean value is 25 % higher than the exercise assigned value.)

Pesticides	Laboratory No.																							
	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14	15	16	17	18	20	21		
alpha-HCH																								
hexachlorobenzene	0.1	-0.1			-0.8		0.3		0.0	-2.0	-0.3	0.1	-1.6	-0.7	1.6	-1.1			-0.8	0.5	-1.4	0.3		
gamma-HCH																								
beta-HCH (b-HCH)																								
heptachlor																								
aldrin																								
heptachlor epoxide																								
oxychlorodane																								
gamma-chlordane (trans-)	-0.4	0.4		0.2			-0.5	1.4	1.4	3.6	0.0	-1.1	-0.6	-0.6	0.8	1.2			-0.6	0.4		0.0		
2,4'-DDE	0.5	-0.3		1.9			0.3	8.3	-1.5	-2.6	1.3	2.0	0.5	1.4	1.2				-1.8	1.1		0.2		
endosulfan I																								
cis-chlordane	-0.4	-0.7		0.0			-0.7	1.1	-3.8	1.8	-0.7	-0.9			0.5	1.7			-1.3	0.2		-0.2		
trans-nonachlor	0.0	0.0		1.2			-1.0	1.3	-1.8	1.9	0.3	-1.4	0.4	1.2	-1.9				-2.2	1.2		0.0		
dieldrin	0.6	-0.6					0.2	6.6	-3.1	5.0	0.5	-0.5	6.8	0.0	0.7				-2.1	0.3		-0.3		
4,4'-DDE	0.3	-0.5		0.3			0.1	0.9	-1.9	0.1	0.5	-1.2	-0.9	1.0	-1.2				-0.6	0.6		0.1		
2,4'-DDD	0.2	0.2		0.3			0.1	0.7	-3.3	0.9	0.5	-1.5	-0.7	1.4	-0.2				-1.8	0.7		-0.2		
endrin																								
endosulfan II																								
4,4'-DDD	-0.1	0.8		0.7			-0.4	0.7	-2.9	0.2	-0.1	-1.8	-0.9	3.2	-0.7				-0.8	0.1		-1.1	-0.2	
2,4'-DDT	-0.4	-0.7					-0.9		-2.3	0.7	-0.8		-0.3	1.0	0.1				-2.3	0.4		3.5		
cis-nonachlor	-0.6	-0.1		0.6			-1.4	4.2		1.8	0.3	0.0	-2.8	1.0	2.1				-1.7	-1.0		-1.4		
4,4'-DDT	0.9	0.6		-3.1			1.0	0.7	-1.3	1.0		-1.8	-0.6	2.7	-0.2				-0.4	2.2		-2.4	1.0	
mirex																								
endosulfan sulfate																								
chlorpyrifos																								

Table 10. Marine Sci

(A z score (25 %) = +1 if th

Pesticides

Laboratory No.	23	24	25	26	27	28
alpha-HCH						
hexachlorobenzene	0.0	-0.2			0.9	-0.9
gamma-HCH						
beta-HCH (b-HCH)						
heptachlor						
aldrin						
heptachlor epoxide						
oxychlorthane						
gamma-chlordane (trans-)	0.6	-0.3			-0.5	
2,4'-DDE	1.6	-0.7			0.9	-0.9
endosulfan I						
cis-chlordane	0.6	0.0			0.6	0.1
trans-nonachlor	0.6	-0.8			0.5	-0.2
dieldrin		1.8			3.0	-0.7
4,4'-DDE	1.4	-0.6			0.9	-0.3
2,4'-DDD	1.4	-0.3			2.2	-1.2
endrin						
endosulfan II						
4,4'-DDD	0.1	-0.9			0.6	-0.3
2,4'-DDT	3.0	-1.5			0.7	-0.9
cis-nonachlor		1.4			2.7	0.0
4,4'-DDT	-0.5	-0.6			1.6	0.7
mirex						
endosulfan sulfate						
chlorpyrifos						

Table 11. Marine Sediment XI (QA02SED11): z scores (25 %) by laboratory - PCBs

(A z score (25 %) = +1 if the laboratory's submitted mean value is 25 % higher than the exercise assigned value.)

PCBs

Laboratory No.	z scores																					
	1-MS-1	1-ECD	3	4	4b	5	5b	6	6b	7	8	9	10	12	13	14	15	16	17	18	20	21
PCB 8	-0.1	0.6	0.5	-1.2	-1.3	0.6	0.2	0.7	3.4	-1.1		-0.9			0.0				-2.9	0.0	1.1	-1.3
PCB 18	-0.8	0.1	-0.8	-1.0	-0.8	-0.1	-0.6	0.0	2.4	-2.5	2.2	-0.6		1.6	-0.8	-2.6			7.1	1.1		-2.0
PCB 28	-0.3	-0.7	0.8	-0.2	-0.8	-0.3	0.5	0.0	0.7	-3.1	-0.7	0.0		-0.8	0.3	-2.5			0.1	0.0	3.2	-1.2
PCB 31	-0.1	0.5	1.0	-0.8	0.2	1.0	-0.2	0.3						-1.1	0.2	-2.1				0.3		-1.3
PCB 44	-0.1	0.1	-0.9	-0.4	-0.2	-0.2	1.4	0.6	0.7	-2.5	-0.1	0.2		-0.7	1.2	-1.2			-1.2	-0.4	0.2	0.9
PCB 49	-0.3	0.4	-0.6	-0.2	0.1	-0.2	-0.2	1.4			-0.5			-0.7	-0.2	-1.0			-0.9	0.1	-0.3	-0.4
PCB 52	-0.2	0.0	-0.9	-0.1	0.1	0.0	0.2	0.9	0.7	-2.7	-0.6	-0.1		-0.9	0.5	-1.8			-0.4	-0.2	0.4	0.2
PCB 66	-0.2	0.3	0.3	-0.4	-0.1	0.3	0.2	0.5	-0.6	-1.9	-0.3	-0.1		-0.8	1.0	0.4			-1.8	0.4	0.1	-0.5
PCB 95	0.1	0.5	-0.8	-0.4	-0.1	0.2	0.7	0.5						-1.2	0.5	1.6				1.5	-1.4	-0.4
PCB 99	-0.4	-0.5	-0.6	-0.7	-0.4	-0.5	0.6	0.4							1.4	-0.9			-2.2	2.4	-1.3	-0.5
PCB 101	-0.1	-0.1	-0.6	-0.6	0.2	-0.3	0.2	0.7	0.3	-2.7	-0.1	0.2			0.4	-0.8			-1.4	1.2	-1.3	-0.8
PCB 105	0.0	-0.6	0.7	-0.4	0.5	-0.1	0.0	3.3	1.0	-2.2	0.4	-0.4		-0.5	0.4	-0.4			-1.0	-0.1	0.3	-0.8
PCB 118	0.0	-0.5	1.1	0.2	0.6	0.0	0.2	1.5	1.5	-2.5	0.3	0.0		-0.7	0.9	-0.8			-1.9	0.7	-0.2	-0.5
PCB 128	0.0	-0.5	-0.6	1.3	1.5	-0.4	-0.7		1.7	-1.9	-0.3	-0.7		-0.2	1.2	-0.1			0.4	0.6		-0.4
PCB 138	-0.1	-0.9	-0.5	0.1	1.0	-0.5	-0.4	1.9	2.0	-2.6	0.2	-0.4		-1.2	1.5	-0.7			0.3	0.0	-1.9	-0.5
PCB 149	0.2	-0.5	-0.8	-0.1	0.5	-0.7	0.2	1.2						-3.5	2.1	-3.2			-1.1	0.7	-0.5	-0.1
PCB 153	-0.1	-0.9	-0.4	-0.5	0.1	-0.3	-0.2	1.5	2.7	-2.8	0.4	-0.2		-1.5	1.0	-1.2			-2.0	-0.2	-1.3	-0.8
PCB 156	-0.6	0.1	0.6	-0.7	0.2	-0.4	-0.8							0.1	1.1	-0.5			18.7	-0.3		-0.2
PCB 170	-0.1	-1.2	-0.1	-0.1	1.5	-0.2	-0.3	4.2	-0.4	-2.4	28.6	0.4		-1.2	0.1	-0.4			-0.3	-0.2	0.7	-1.6
PCB 180	0.0	-0.9	0.3	-0.2	0.8	-0.4	0.2	1.9	5.2	-2.9	0.6	-0.1		-1.0	0.2	-0.5			-2.2	0.7	-1.2	-1.4
PCB 187	0.3	-0.9	-0.7	-0.1	0.8	-0.6	0.2	1.8	2.3	-2.4	1.0	0.0		-0.8	0.9	0.4			-1.7	1.0	-0.6	-0.9
PCB 194	0.4	-1.2	-0.7	-0.6	1.8	-0.8	-0.4	2.4						0.2	-0.1	-0.7			-2.1	0.3		-1.7
PCB 195	-0.5	-2.2	-1.7	-1.4	1.2	-1.6	-1.4	6.4	3.2	-2.9	8.8	-1.0		-1.6	-0.7	-0.6			0.7	-0.5	-2.0	-2.0
PCB 206	-0.6	-1.3	-0.9	-0.6	0.3	-0.8	-0.7	3.7	2.5	-2.8	1.0	0.1		-0.6	0.1	0.2			-1.2	-0.4		-1.8
PCB 209	0.2	-1.8	-0.7	-0.5	0.8	-1.1	-0.7	1.9	2.8	-3.0	5.5			-0.9	2.5	0.9			-1.1	0.2		-2.7

Table 11. Marine Se

(A z score (25 %) = +1 if th

PCBs

	Laboratory No.							
	23	24	25	26	27	28		
PCB 8		1.9	0.6	6.2	3.4	0.3		
PCB 18	0.1	1.2	-1.4	-1.3	0.6	2.1		
PCB 28	-0.5	0.0	0.5	1.9	0.9	-0.2		
PCB 31	1.5	-1.7	0.0		-0.8	0.9		
PCB 44	0.3	-0.1	-0.2	-1.4	1.3	0.1		
PCB 49	0.8	-0.1	-1.3	-2.0	1.1	0.4		
PCB 52	0.3	0.2	-0.9	-2.3	1.3	-0.2		
PCB 66	0.8	-0.3	0.0	1.7	0.8	0.7		
PCB 95	0.2	-0.4	-0.2		0.0	-0.5		
PCB 99	0.0	0.0	0.6	-2.7	0.7	-0.3		
PCB 101	0.2	-0.1	-0.2	-2.7	1.4	-0.6		
PCB 105	1.2	-1.5	0.6	9.0	-0.5	0.0		
PCB 118	0.8	-0.6	0.3	-1.6	1.0	-0.6		
PCB 128	1.1	2.1	0.0	-1.6	-0.8	-0.3		
PCB 138	1.4	1.5	-0.1	-1.1	0.0	-1.4		
PCB 149	0.7	-0.2	0.1	-2.2	-0.7	-1.3		
PCB 153	1.6	0.5	-0.4		2.3	0.1		
PCB 156		7.3	0.9	1.6	20.1			
PCB 170	1.4		-0.1	2.3	1.9	-1.5		
PCB 180	0.7	-0.5	0.7	-0.9	1.0	0.5		
PCB 187	0.5	0.7	0.1	-1.6	2.0	-1.7		
PCB 194	0.7	2.1	0.3	-1.2	0.9	-0.4		
PCB 195		0.7	-0.6	8.6	6.5	-0.6		
PCB 206	0.6	1.1	1.4	1.2	1.0			
PCB 209	-0.1	1.3	0.9	-2.0	-1.3			

**Appendix A: Description, Storage, Use, and Reporting Instructions
for Fish Homogenate V (QA02FSH5)**

**NIST Intercomparison Exercise Program for
Organic Contaminants in the Marine Environment**

NIST/NOAA-NS&T QA Program

**Intercomparison Exercise: Fish Homogenate V
Description of Materials and Instructions**

Intercomparison Exercise Materials:

QA02FSH5 (Fish Homgenate V)

Each of the three bottles contains approximately 10 g (wet basis) of Fish Homogenate V, a frozen fish tissue homogenate material collected from Lake Michigan. The tissue is a cryogenically homogenized "fresh" material still containing its endogenous water. (It has not been freeze-dried.) The material has not been enriched or spiked. Each 2-oz clear glass jar has a Teflon-lined screw cap and is labeled with an individual bottle number as well as the above name. The label with the above name is held in place by a rubber band over top of the SRM 1947 label. This material will eventually be certified for trace elements and issued as SRM 1947 but is not available at the current time.

In addition, three concurrent analyses of SRM 1946, Lake Superior Fish Tissue, are recommended. Three bottles of this material is enclosed. The tissue also is a cryogenically homogenized "fresh" material still containing its endogenous water. (It has not been freeze-dried.) The material has not been enriched or spiked. It will be available from the Standard Reference Materials Program at NIST in the next few months.

Storage of Materials:

Fish Homogenate V and SRM 1946. The tissue material should be stored in the dark at temperatures of -20 °C or lower. If allowed to thaw or if stored for extended periods at temperatures higher than -40°C, it will lose its powder-like form. This material has been stored at NIST at -80 °C and was shipped to you on dry ice. If only a portion of the contents of a jar is used, the jar should be tightly closed immediately after removal of a subsample to preserve the integrity of the remaining material for later analysis.

Instructions for Use:

You are to analyze Fish Homogenate V and SRM 1946, using **your** laboratory's and/or program's analytical protocols, for the concentrations (wt/wet wt) of the 25 chlorinated

pesticides and 25 polychlorinated biphenyl (PCB) congeners¹ of interest in the current NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment. These compounds are listed in Table 1. Concentrations of these analytes in samples collected near the site of this collection were in the 1 to 200 ng/g wet weight range.

It is best if the Fish Homogenate V and SRM 1946 material are not allowed to thaw prior to the taking of samples for analysis; however, if the material has been even partially thawed, you should use the contents of the entire jar as a single sample as it is difficult to take representative samples from a jar once the material has thawed. After removing the material for analysis from the jars, the samples should be used without delay.

The total extractable organics (TEO) or lipid (percent) in the fish materials should be determined. You should have received enough material so that you can perform separate determinations for the TEO if you typically do this determination on a separate aliquot.

The amount of material used for each analysis should correspond to the amount of fish tissue (wet basis) you would typically analyze as prescribed in your protocols. You should analyze three replicate samples of Fish Homogenate V and at least one, and more if possible, of SRM 1946 in three different batches/sets/strings/catalogs using your protocol for fish tissue samples. Specifically, we are asking that you analyze one sample of Fish Homogenate V and one sample of SRM 1946 with one batch of laboratory samples; analyze a second sample of each material with another batch; and the third sample with yet another batch. This will allow a more realistic assessment of laboratory precision over a longer term than the assessment obtained when a laboratory places all three samples in the same extraction and cleanup batch and the resulting extracts are analyzed using the same calibration curve, etc.

Reporting of Results:

Please report one result, as if three figures were significant, for each of the requested analytes in each of the three replicates of the Fish Homogenate V and of the SRM 1946. Report results in units of ng/g wet basis. Report the date of measurement of each sample in the requested m/d/y format. Also, report the results of your TEO (lipid) determinations of Fish Homogenate V and SRM 1946 in percent.

We recognize that the reported concentrations for some of the requested determinands will probably include concentrations of compounds reported to coelute with the determinand of interest with methods commonly in use in environmental laboratories. Please note at the bottom of your table of reported results if any of these listed coelutions are not applicable to the data being reported by your laboratory. Please note that any changes you make to the column or row headings **within** the tables will **not** be seen by the coordinators because only the table entries and comments at the bottom of the tables are automatically transferred to the exercise database.

¹If your laboratory is not analyzing samples for both chemical classes, you are expected to submit results only for those compounds in classes currently being determined in your laboratory.

We prefer that concentrations be reported for each analyte determined. If the measured concentration is below your typical reporting concentration for an analyte in a particular matrix, you can report the number and list the appropriate detection limit, quantification limit, etc. at the bottom of the data table. However, if you need to report non-numerical data please use the following conventions:

NA	"Not analyzed", "not determined"
<"value"	"Less than specified concentration", e.g., <8 ng/g
Other	"Other"; add note of explanation at end of data table, e.g., interference
DL	"Below detection limit" may be used, however, <"value" is preferable

Do not use negative numbers or parentheses to indicate "less than detection limits".

An EXCEL file, FIS5.XLS has been sent as an e-mail attachment when you were notified that the samples were sent. If you have any software/hardware conversion problems, please contact Michele Schantz. The data file templates also include places for you to list the surrogate/internal standards and type of calibration curve used, and to provide a brief description of the analyses. Please **do not** add "spaces" before entering numbers in the table cells. Please **do not** insert any columns or rows **within** the table in the data file. If you wish to include additional data and/or other information or comments, you may add it to the bottom of the data table in the diskette file or send it in hard copy. A printout of the data file format is shown in Table 2.

Submit your results by **April 15, 2002** either as an attached file via e-mail (preferred) or via diskette file to:

Michele M. Schantz
NIST
100 Bureau Drive, Stop 8392
Gaithersburg, MD 20899-8392

E-mail:
michele.schantz@nist.gov

Further Information:

If you need further information, please contact Michele at the address listed above or at the following phone numbers:

Phone: 301-975-3106
FAX: 301-977-0685

Table 1. Target Analytes in NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment

Chlorinated Pesticides

hexachlorobenzene	2,4'-DDE
alpha-HCH (alpha-BHC)	4,4'-DDE
gamma-HCH (gamma-BHC, Lindane)	2,4'-DDD
beta-HCH	4,4'-DDD
heptachlor	2,4'-DDT
heptachlor epoxide	4,4'-DDT
<i>cis</i> -chlordane (alpha-chlordane)	aldrin
<i>trans</i> -chlordane (gamma-chlordane)	dieldrin
oxychlordane	endrin
<i>cis</i> -nonachlor	endosulfan sulfate
<i>trans</i> -nonachlor	endosulfan I
mirex	endosulfan II
chlorpyrifos	

Polychlorinated Biphenyl Congeners

<i>PCB No.</i>	<i>Compound Name</i>
8	2,4'-dichlorobiphenyl
18	2,2',5-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
31	2,4',5-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
49	2,2',4,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
95	2,2',3,5',6-pentachlorobiphenyl
99	2,2',4,4',5-pentachlorobiphenyl
101	2,2',4,5,5'-pentachlorobiphenyl
105	2,3,3',4,4'-pentachlorobiphenyl
118	2,3',4,4',5-pentachlorobiphenyl
128	2,2',3,3',4,4'-hexachlorobiphenyl
138	2,2',3,4,4',5'-hexachlorobiphenyl
149	2,2',3,4',5',6-hexachlorobiphenyl
153	2,2',4,4',5,5'-hexachlorobiphenyl
156	2,3,3',4,4',5-hexachlorobiphenyl
170	2,2',3,3',4,4',5-heptachlorobiphenyl
180	2,2',3,4,4',5,5'-heptachlorobiphenyl
187	2,2',3,4',5,5',6-heptachlorobiphenyl
194	2,2',3,3',4,4',5,5'-octachlorobiphenyl
195	2,2',3,3',4,4',5,6-octachlorobiphenyl
206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl

**Appendix B: Description, Storage, Use, and Reporting Instructions
for Marine Sediment XI (QA02SED11)**

**NIST Intercomparison Exercise Program for
Organic Contaminants in the Marine Environment**

NIST QA Program

**Intercomparison Exercise: Marine Sediment XI
Description of Materials and Instructions**

Intercomparison Exercise Materials:

QA00SED11 (Marine Sediment XI)

Each of the three jars contains 21 g (wet basis) of Marine Sediment XI. This wetted sediment was prepared from material that was collected from several urban areas and then freeze-dried, ground, sieved, and radiation-sterilized. This material has not been enriched or spiked. Each 2-oz clear glass jar has a Teflon-lined screw cap and is labeled with an individual jar number as well as the above name.

In addition, three concurrent analyses of SRM 1944, New York/New Jersey Waterway Sediment, are recommended. This material can be obtained from the NIST Standard Reference Materials Program (\$366/50 g (dry basis) (phone: 301/975-6776; fax: 301/948-3730).

Storage of Materials:

Marine Sediment Material. This Marine Sediment XI material should be stored in the dark at temperatures of -15 °C or lower. If only a portion of the contents of a jar is used, that jar should be tightly closed immediately after removal of a subsample to preserve the integrity of the remaining material for later analysis.

Instructions for Use:

You are to analyze Marine Sediment XI and SRM 1944, using **your** laboratory's and/or program's analytical protocols, for the concentrations (mass/mass [dry basis]) of the 26 polycyclic aromatic hydrocarbon (PAH) compounds, 25 chlorinated pesticides, and 25 polychlorinated biphenyl (PCB) congeners¹ of interest in the current NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment. These compounds are listed in Table 1.

The percentage of water in the Sediment XI material should be determined so that the results can be reported on a dry basis. You should have received sufficient material so that you can perform separate

¹If your laboratory is not analyzing samples for all three chemical classes, you are expected to submit results only for those compounds currently being determined in your laboratory.

determinations for the water content if you do not dry your sediment samples prior to analysis.

The amount of material used for each analysis should correspond to the amount (wet basis) of marine sediment that you would typically analyze as prescribed in your protocols. Prior to removing an aliquot of Sediment XI, you should thaw the sample in the jar and then stir or otherwise mix it thoroughly.

You should analyze three samples of Marine Sediment XI and at least one, and more if possible, of SRM 1944 in three different batches/sets/strings/catalogs using your protocol for marine sediment samples. Specifically, we are asking that you analyze one sample of Sediment XI and one sample of SRM 1944 with one batch of laboratory samples; analyze a second sample of each material with another batch; and the third sample with yet another batch. This will allow a more realistic assessment of laboratory precision over a longer term than the assessment obtained when a laboratory places all three samples in the same extraction and cleanup batch and the resulting extracts are analyzed using the same calibration curve, etc.

Reporting of Results:

Please report one result, as if three figures were significant, for each of the requested analytes in each of the three replicates of the Marine Sediment XI and of SRM 1944. Report results in units of ng/g dry basis. Report the date of measurement of each sample in the requested m/d/y format. Also, report the results of your percentage water determinations of Marine Sediment XI.

We recognize that the reported concentrations for some of the requested determinands will probably include concentrations of compounds reported to coelute with the determinand of interest with methods commonly in use in environmental laboratories. Please note at the bottom of your table of reported results if any coelution qualifiers are applicable to your data. Please note that any changes you make to the column or row headings within the tables will not be seen by the coordinators because only the table entries and comments at the bottom of the tables are automatically transferred to the exercise database.

We prefer that concentration values be reported for each analyte determined. If the measured concentration is below your typical reporting concentration for an analyte in a particular matrix, you can report the number and list the appropriate detection limit, quantification limit, etc. at the bottom of the data table. However, if you need to report non-numerical data please use the following conventions:

NA	"Not analyzed", "not determined"
<"value"	"Less than specified concentration", e.g., <8 ng/g
Other	"Other"; add note of explanation at end of data table, e.g., interference
DL	"Below detection limit" may be used, however, <"value" is preferable

Do not use negative numbers or parentheses to indicate "less than detection limits".

An EXCEL file, SED11.xls has been sent as an e-mail attachment when you were notified That the samples were sent. If you have any software/hardware conversion problems, please contact Michele

Schantz. The data file templates also include places for you to list the surrogate/internal standards and type of calibration curve used, and to provide a brief description of the analyses. Please **do not** add "spaces" before entering numbers in the table cells and enter them as "numbers" not as "labels". Please **do not** insert any columns or rows **within** the table in the data file. If you wish to include additional data and/or other information or comments, you may add it to the bottom of the data table in the diskette file or send it in hard copy. A printout of the data file format is shown in Table 2.

Submit your results by **April 15, 2002** either as an attached file via e-mail (preferred) or via diskette file to::

Michele M. Schantz
NIST
100 Bureau Drive Stop 8392
Gaithersburg, MD 20899-8392

E-mail:
michele.schantz@nist.gov

Further Information:

If you need further information, please contact Michele at the address listed above or at the following phone numbers:

Phone: (301)975-3106
FAX: (301)977-0685

Table 1: Analytes of Interest in NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment

Chlorinated Pesticides

hexachlorobenzene	2,4'-DDE
alpha-HCH (alpha-BHC)	4,4'-DDE
beta-HCH (beta-BHC)	2,4'-DDD
gamma-HCH (gamma-BHC, Lindane)	4,4'-DDD
heptachlor	2,4'-DDT
heptachlor epoxide	4,4'-DDT
cis-chlordane (alpha-chlordane)	chlorpyrifos
trans-chlordane (gamma-chlordane)	aldrin
oxychlordane	dieldrin
cis-nonachlor	endrin
trans-nonachlor	endosulfan I
mirex	endosulfan II
	endosulfan sulfate

Polychlorinated Biphenyl Congeners

<i>PCB No.</i>	<i>Compound Name</i>
8	2,4'-dichlorobiphenyl
18	2,2',5'-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
31	2,4',5'-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
49	2,2',4,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
95	2,2',3,5',6-pentachlorobiphenyl
99	2,2',4,4',5-pentachlorobiphenyl
101	2,2',4,5,5'-pentachlorobiphenyl
105	2,3,3',4,4'-pentachlorobiphenyl
118	2,3',4,4',5-pentachlorobiphenyl
128	2,2',3,3',4,4'-hexachlorobiphenyl
138	2,2',3,4,4',5'-hexachlorobiphenyl
149	2,2',3,4',5',6-hexachlorobiphenyl
153	2,2',4,4',5,5'-hexachlorobiphenyl
156	2,3,3',4,4',5-hexachlorobiphenyl
170	2,2',3,3',4,4',5-heptachlorobiphenyl
180	2,2',3,4,4',5,5'-heptachlorobiphenyl
187	2,2',3,4',5,5',6-heptachlorobiphenyl
194	2,2',3,3',4,4',5,5'-octachlorobiphenyl
195	2,2',3,3',4,4',5,6-octachlorobiphenyl
206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl
209	decachlorobiphenyl

Table 1. (continued)

Polycyclic aromatic hydrocarbons (PAH)

naphthalene	pyrene
2-methylnaphthalene	benz[<i>a</i>]anthracene
1-methylnaphthalene	chrysene
biphenyl	triphenylene
2,6-dimethylnaphthalene	benzo[<i>b</i>]fluoranthene
acenaphthylene	benzo[<i>j</i>]fluoranthene
acenaphthene	benzo[<i>k</i>]fluoranthene
1,6,7-trimethylnaphthalene	benzo[<i>e</i>]pyrene
fluorene	benzo[<i>a</i>]pyrene
phenanthrene	perylene
anthracene	indeno[1,2,3- <i>cd</i>]pyrene
1-methylphenanthrene	dibenz[<i>a,h</i>]anthracene
fluoranthene	benzo[<i>ghi</i>]perylene

Appendix C: Results by Laboratory, Fish Homogenate V

Laboratory No.: I-MS-1
Reporting Date: 4/15/02

FY02 NIST Intercomparison Exercise
Sample: QA02FSHS - Fish Homogenate V
(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a					
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V					
	1/25/02	1/25/02	1/25/02	1/25/02	1/25/02	1/25/02	lab mean	lab RSD	lab mean	lab RSD	lab mean	lab RSD	lab mean	lab RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (5)	p-score (15%)	
alpha-HCH	<1	<1	<1	5.84	5.55	5.41	<1	0.0	5.60	3.92	<1	0.0	5.60	3.92	1.22	0.33	5.72	0.65				
hexachlorobenzene	7.77	7.67	7.51	6.75	6.67	6.87	7.65	1.71	6.76	1.49	7.65	1.71	6.76	1.49	6.11	0.53	7.25	0.83	1.0	1.4	0.1	
gamma-HCH	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.467	0.120	1.14	0.18				
beta-HCH	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	no target					
heptachlor	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	no target					
aldrin	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	no target					
heptachlor epoxide	14.6	15.0	14.4	5.71	5.65	5.59	14.7	2.1	5.65	1.06	14.7	2.1	5.65	1.06	13.2	1.3	5.50	0.23	0.4	0.5	0.1	
oxychlorodane	22.2	23.4	22.4	18.5	19.0	19.1	22.7	2.8	18.9	1.7	22.7	2.8	18.9	1.7	21.2	2.2	18.9	1.5	0.3	0.3	0.2	
trans-chlordane	11.9	11.9	12.7	8.57	8.40	8.46	12.2	3.8	8.48	1.02	12.2	3.8	8.48	1.02	11.2	1.1	8.36	0.91	0.3	0.4	0.3	
2,4'-DDE	3.13	3.07	3.11	<1	<1	<1	3.10	1.0	<1	0.0	3.10	1.0	<1	0.0	3.91	1.46	1.04	0.29	-0.8	-0.4	0.1	
endosulfan I	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	no target					
cis-chlordane	46.6	45.1	45.6	30.6	31.4	30.8	45.8	1.7	30.9	1.3	45.8	1.7	30.9	1.3	41.4	4.0	32.5	1.8	0.4	0.5	0.1	
trans-nonachlor	116	122	122	96.3	98.6	97.6	120	3	97.5	1.2	120	3	97.5	1.2	113	10	99.6	7.6	0.3	0.3	0.2	
dieldrin	80.1	79.5	78.4	30.9	31.4	31.8	79.3	1.1	31.4	1.4	79.3	1.1	31.4	1.4	77.7	7.4	32.5	3.5	0.1	0.1	0.1	
4,4'-DDE	762	756	770	374	365	382	763	1	374	2	763	1	374	2	621	56	373	48	0.9	1.1	0.1	
2,4'-DDD	3.11	3.25	3.12	2.38	2.21	2.33	3.16	2.47	2.31	3.79	3.16	2.47	2.31	3.79	5.28	1.81	2.20	0.25	-1.6	-0.6	0.2	
endrin	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.91	1.20	no target					
endosulfan II	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	No assigned value		no target					
4,4'-DDD	42.6	42.1	44.1	16.1	17.1	17.3	42.9	2.4	16.8	3.8	42.9	2.4	16.8	3.8	40.9	3.8	17.7	2.8	0.2	0.2	0.2	
2,4'-DDT	14.5	14.7	15.1	20.2	20.9	21.4	14.8	2.1	20.8	2.9	14.8	2.1	20.8	2.9	18.8	3.8	22.3	3.2	-0.9	-0.6	0.1	
cis-nonachlor	44.8	44.9	45.7	58.3	56.6	57.6	45.1	1.1	57.5	1.5	45.1	1.1	57.5	1.5	50.7	4.1	59.1	3.6	-0.4	-0.7	0.1	
4,4'-DDT	60.9	62.0	61.4	36.9	37.6	36.3	61.4	0.9	36.9	1.8	61.4	0.9	36.9	1.8	52.6	6.7	37.2	3.5	0.7	0.6	0.1	
mirex	5.65	5.71	5.59	6.22	6.74	6.54	5.65	1.06	6.50	4.04	5.65	1.06	6.50	4.04	4.10	0.45	6.47	0.77	1.5	2.0	0.1	
endosulfan sulfate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	No assigned value		no target					
chlorpyrifos	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	no target					

Category	z (25%)	z (5)	p (15%)
<2	15	15	15
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	15	60
Qualitative	10	40
Not Determined	0	0

Laboratory: I-MS-1
Pesticides in Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
		S1	S2	S3	S1	S2	S3	lab mean ng/g wet	%RSD	lab	lab mean ng/g wet	%RSD	lab	assigned value	95% CL	target value ^c	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target					
PCB 18		2.75	4.44	2.96	0.719	0.847	0.747	3.38	27.22	0.771	8.728	2.46	0.36	0.840	0.110	1.5	1.2	1.8		
PCB 28		12.8	14.8	14.4	2.33	2.59	2.15	14.0	7.6	2.36	9.39	13.8	1.4	2.00	0.24	0.0	0.1	0.5		
PCB 31		9.33	11.3	10.6	1.83	2.32	1.74	10.4	9.6	1.96	15.90	10.9	1.4	1.46	0.20	-0.2	-0.2	0.6		
PCB 44		17.9	20.7	21.0	4.35	5.14	4.18	19.9	8.6	4.56	11.24	20.7	2.6	4.66	0.86	-0.2	-0.1	0.6		
PCB 49		24.8	27.3	30.2	4.61	4.86	4.22	27.4	9.9	4.56	7.07	25.0	2.9	3.80	0.39	0.4	0.4	0.7		
PCB 52		33.4	36.3	38.8	8.71	8.81	8.26	36.2	7.5	8.59	3.41	33.3	3.5	8.10	1.00	0.3	0.3	0.5		
PCB 66		61.8	66.0	72.5	11.0	11.7	10.6	66.8	8.1	11.1	5.0	70.2	6.1	10.8	1.9	-0.2	-0.2	0.5		
PCB 95		26.7	33.2	35.6	13.5	14.5	13.6	31.8	14.5	13.9	5.0	43.4	10.4	11.4	1.3	-1.1	-0.6	1.0		
PCB 99		71.3	75.6	83.1	29.0	30.8	29.3	76.7	7.8	29.7	3.2	75.0	8.9	25.6	2.3	0.1	0.1	0.5		
PCB 101		85.6	91.2	100	38.8	40.9	39.5	92.4	8.1	39.7	2.7	88.8	6.9	34.6	2.6	0.2	0.2	0.5		
PCB 105		47.5	49.5	55.1	21.5	23.7	21.7	50.7	7.8	22.3	5.5	60.8	4.7	19.9	0.9	-0.7	-0.9	0.5		
PCB 118		106	110	124	54.9	60.3	57.4	113	8	57.5	4.7	114	10	52.1	1.0	0.0	0.0	0.6		
PCB 128		31.8	34.2	36.3	22.9	25.2	23.0	34.1	6.6	23.7	5.5	31.4	3.3	22.8	1.9	0.3	0.4	0.4		
PCB 138		146	149	167	121	129	125	154	7	125	3	174	12	115	13	-0.5	-0.7	0.5		
PCB 149		63.0	66.2	72.8	28.5	30.6	29.3	67.3	7.4	29.5	3.6	63.5	7.6	26.3	1.3	0.2	0.3	0.5		
PCB 153		235	244	272	218	232	226	250	8	225	3	201	14	170	9	1.0	1.4	0.5		
PCB 156		12.5	14.0	14.4	9.71	10.4	9.77	13.6	7.3	9.96	3.84	15.4	1.9	9.52	0.51	-0.5	-0.4	0.5		
PCB 170		28.0	29.4	32.1	24.3	27.0	26.1	29.8	7.0	25.8	5.3	31.2	2.1	25.2	2.2	-0.2	-0.3	0.5		
PCB 180		76.4	78.5	87.9	75.1	81.7	80.7	80.9	7.6	79.2	4.5	81.0	7.2	74.4	4.0	0.0	0.0	0.5		
PCB 187		51.9	54.9	60.6	54.9	59.7	58.5	55.8	7.9	57.7	4.3	54.0	4.6	55.2	2.1	0.1	0.2	0.5		
PCB 194		12.3	14.1	13.4	12.0	14.9	14.5	13.3	6.8	13.8	11.4	12.6	1.2	13.0	1.3	0.2	0.3	0.5		
PCB 195		4.50	7.13	5.71	5.49	5.72	5.17	5.78	22.8	5.46	5.06	5.21	0.68	5.30	0.45	0.4	0.3	1.5		
PCB 206		6.63	9.04	7.27	5.64	6.22	5.62	7.65	16.3	5.83	5.85	5.51	0.50	5.40	0.43	1.5	1.8	1.1		
PCB 209		2.26	4.57	2.73	1.60	1.74	1.56	3.19	38.3	1.63	5.79	2.25	0.21	1.30	0.21	1.7	1.9	2.6		

Laboratory: 1-MS-2 PCBs In Fish V	Number by Category	
	z (25%)	p (15%)
Category	< 2	23
	2 to 3	1
	> 3	0

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %	
	mean, %	%RSD	mean, %	%RSD	mean, %	%RSD
S1	NA	NA	NA	NA	NA	NA
S2	NA	NA	NA	NA	NA	NA
S3	NA	NA	NA	NA	NA	NA
TEO or lipid	10.1	0.5	10.2	0.5		

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<3	<3	<3	5.83	5.73	5.90	<3	NA	5.82	1.47	<3	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene	6.79	10.7	7.54	8.44	8.45	8.43	8.34	24.87	8.44	0.12	8.34	24.87	6.11	0.53	7.25	0.83	1.5	2.0	1.7
gamma-HCH	<3	<3	<3	1.36	1.30	0.99	<3	NA	1.22	16.3	<3	NA	0.467	0.120	1.14	0.18			
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
heptachlor epoxide	11.4	13.2	11.4	5.39	5.92	5.75	12.0	8.7	5.69	4.76	12.0	8.7	13.2	1.3	5.50	0.23	-0.4	-0.4	0.6
oxychlordane	22.2	21.5	20.8	16.6	16.7	16.0	21.5	3.3	16.4	2.3	21.5	3.3	21.2	2.2	18.9	1.5	0.0	0.1	0.2
trans-chlordane	11.9	13.0	11.2	7.66	7.85	7.39	12.0	7.5	7.63	3.03	12.0	7.5	11.2	1.1	8.36	0.91	0.3	0.4	0.5
2,4'-DDE	3.06	5.14	3.51	1.06	1.49	1.14	3.90	28.04	1.23	18.6	3.90	28.04	3.91	1.46	1.04	0.29	0.0	0.0	1.9
endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
cis-chlordane	59.3	57.6	55.3	37.0	35.9	35.8	57.4	3.5	36.2	1.8	57.4	3.5	41.4	4.0	32.5	1.8	1.6	2.0	0.2
trans-nonachlor	125	119	118	99.0	95.7	96.0	121	3	96.9	1.9	121	3	113	10	99.6	7.6	0.3	0.4	0.2
dieldrin	120	55.1	50.9	35.9	39.6	25.0	75.3	51.4	33.5	22.7	75.3	51.4	77.7	7.4	32.5	3.5	-0.1	-0.1	3.4
4,4'-DDE	646	658	740	372	401	378	681	8	384	4	681	8	621	56	373	48	0.4	0.5	0.5
2,4'-DDD	2.93	4.59	2.86	0.940	1.06	0.880	3.46	28.30	0.960	9.55	3.46	28.30	5.28	1.81	2.20	0.25	-1.4	-0.5	1.9
endrin	<4	<4	<4	4.58	4.24	3.24	<4	NA	4.02	17.3	<4	NA	2.91	1.20	no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target				
4,4'-DDD	42.7	42.6	42.0	10.4	10.5	10.4	42.4	0.9	10.5	0.7	42.4	0.9	40.9	3.8	17.7	2.8	0.1	0.2	0.1
2,4'-DDT	16.2	16.4	13.9	13.7	23.7	20.5	15.5	9.0	19.3	26.5	15.5	9.0	18.8	3.8	22.3	3.2	-0.7	-0.5	0.6
cis-nonachlor	57.5	54.9	52.5	58.7	57.7	57.4	55.0	4.5	57.9	1.2	55.0	4.5	50.7	4.1	59.1	3.6	0.3	0.5	0.3
4,4'-DDT	58.0	62.6	61.2	35.4	36.6	36.9	60.6	3.9	36.3	2.2	60.6	3.9	52.6	6.7	37.2	3.5	0.6	0.6	0.3
mirex	4.00	6.25	4.79	6.50	7.22	6.65	5.01	22.77	6.79	5.59	5.01	22.77	4.10	0.45	6.47	0.77	0.9	1.2	1.5
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target				
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	15	14
2 to 3	0	0
>3	0	1

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	15	3	60
Qualitative	7	12	28
Not Determined	3	7	28

Laboratory: I-MS-2
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a							
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V							
		2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02	2/19/02
		S1	S2	S3	S1	S2	S3	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH		1.02	1.00	0.952	6.17	6.14	6.21	0.990	3.603	6.17	0.60	6.17	0.60	6.17	0.60	6.17	0.60	1.22	0.33	5.72	0.65	-0.8	-0.5	0.2	
hexachlorobenzene		6.88	6.44	7.25	8.97	9.82	8.94	6.86	5.92	9.24	5.38	9.24	5.38	9.24	5.38	9.24	5.38	6.11	0.53	7.25	0.83	0.5	0.7	0.4	
gamma-HCH		0.310	0.311	0.291	0.844	0.905	0.829	0.304	3.693	0.859	4.731	0.859	4.731	0.859	4.731	0.859	4.731	0.467	0.120	1.14	0.18	-1.4	-0.8	0.2	
beta-HCH		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<		no target					
heptachlor		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<		no target					
aldrin		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<		no target					
heptachlor epoxide		12.1	12.8	12.4	6.01	5.95	6.02	12.4	2.7	5.99	0.57	5.99	0.57	5.99	0.57	5.99	0.57	13.2	1.3	5.50	0.23	-0.2	-0.3	0.2	
oxychlorodane		24.9	24.9	25.8	20.0	20.6	20.4	25.2	2.2	20.3	1.4	20.3	1.4	20.3	1.4	20.3	1.4	21.2	2.2	18.9	1.5	0.7	0.9	0.1	
trans-chlordane		12.0	13.1	12.5	8.50	8.31	8.45	12.5	4.2	8.42	1.15	8.42	1.15	8.42	1.15	8.42	1.15	11.2	1.1	8.36	0.91	0.5	0.6	0.3	
2,4'-DDE		3.29	3.20	3.61	1.09	1.06	1.19	3.37	6.47	1.12	6.2	1.12	6.2	1.12	6.2	1.12	6.2	3.91	1.46	1.04	0.29	-0.6	-0.3	0.4	
endosulfan I		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<		no target					
cis-chlordane		48.2	47.2	47.7	31.7	30.3	30.2	47.7	1.0	30.7	2.8	30.7	2.8	30.7	2.8	30.7	2.8	41.4	4.0	32.5	1.8	0.6	0.8	0.1	
trans-nonachlor		131	137	134	111	107	109	134	2	109	2	109	2	109	2	109	2	113	10	99.6	7.6	0.8	1.0	0.2	
dieldrin		79.4	84.3	84.5	32.3	30.8	31.9	82.7	3.5	31.7	2.5	31.7	2.5	31.7	2.5	31.7	2.5	77.7	7.4	32.5	3.5	0.3	0.3	0.2	
4,4'-DDE		676	673	696	382	402	388	682	2	391	3	391	3	391	3	391	3	621	56	373	48	0.4	0.5	0.1	
2,4'-DDD		3.37	3.55	3.46	2.16	2.22	2.51	3.46	2.63	2.30	8.17	2.30	8.17	2.30	8.17	2.30	8.17	5.28	1.81	2.20	0.25	-1.4	-0.5	0.2	
endrin		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	2.91	1.20	no target					
endosulfan II		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	No assigned value		no target					
4,4'-DDD		45.6	49.4	45.8	15.3	16.4	16.5	46.9	4.5	16.0	4.2	16.0	4.2	16.0	4.2	16.0	4.2	40.9	3.8	17.7	2.8	0.6	0.7	0.3	
2,4'-DDT		23.1	21.6	21.8	22.1	23.6	23.3	22.2	3.5	23.0	3.5	23.0	3.5	23.0	3.5	23.0	3.5	18.8	3.8	22.3	3.2	0.7	0.5	0.2	
cis-nonachlor		51.4	50.5	50.7	55.2	53.2	53.5	50.9	0.9	54.0	2.0	54.0	2.0	54.0	2.0	54.0	2.0	50.7	4.1	59.1	3.6	0.0	0.0	0.1	
4,4'-DDT		63.9	65.1	78.1	38.2	36.9	39.2	69.0	11.4	38.1	3.0	38.1	3.0	38.1	3.0	38.1	3.0	52.6	6.7	37.2	3.5	1.3	1.2	0.8	
mirex		4.18	4.32	4.28	7.16	7.02	6.85	4.26	1.61	7.01	2.16	7.01	2.16	7.01	2.16	7.01	2.16	4.10	0.45	6.47	0.77	0.2	0.2	0.1	
endosulfan sulfate		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	<0.5	NA	No assigned value		no target					
chlormyrifos		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<		no target					

Category	Number by Category	z (25%)	z (s)	p (15%)
<2	17	17	17	17
2 to 3	0	0	0	0
>3	0	0	0	0

Reported Results	No. of Analytes	%
Quantitative	17	68
Qualitative	7	28
Not Determined	1	4

Laboratory: I-ECD
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Laboratory No.: 1-ECD
Reporting Date: 6/28/02

FY02 NIST Intercomparison Exercise
Sample: QA02FSH5 - Fish Homogenate V
(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		p-score (15%)		
		2/15/02 S1	2/15/02 S2	2/15/02 S3	2/15/02 S1	2/15/02 S2	2/15/02 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^c	95% CL	z-score (25%)	z-score (5)	
PCB 8		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	NA	<0.5	NA	no target	0.110		-0.1	-0.1	0.4	
PCB 18		2.33	2.27	2.56	<0.5	<0.5	2.39	6.48	<0.5	NA	0.840	0.840	0.24		0.5	0.5	0.2	
PCB 28		15.3	15.2	16.1	1.55	1.93	1.57	3.7	1.63	12.75	2.00	2.00	0.20		0.5	0.5	0.2	
PCB 31		12.1	11.8	12.7	1.39	1.99	1.50	3.7	1.63	19.54	1.46	1.46	0.20		0.5	0.5	0.2	
PCB 44		20.0	19.6	20.6	3.95	4.11	3.91	2.0	2.5	2.60	2.6	2.6	0.86		-0.1	-0.1	0.2	
PCB 49		29.5	28.9	30.4	3.21	3.69	3.38	2.9	2.5	3.80	2.9	2.9	0.39		0.7	0.7	0.2	
PCB 52		38.3	38.2	39.5	8.06	8.46	8.12	38.7	1.9	2.60	3.5	3.5	1.00		0.6	0.6	0.1	
PCB 66		75.9	76.2	78.8	9.72	10.8	10.9	76.9	2.1	2.60	6.1	6.1	1.00		0.4	0.5	0.1	
PCB 95		47.7	47.7	49.1	11.4	12.0	11.6	48.2	1.8	2.7	10.4	10.4	1.3		0.4	0.2	0.1	
PCB 99		88.1	92.5	91.6	23.9	24.2	22.9	90.7	2.5	2.8	25.6	25.6	2.3		0.8	0.8	0.2	
PCB 101		88.4	89.6	89.2	38.8	39.4	39.0	89.0	3.7	0.8	34.6	34.6	2.6		0.0	0.0	0.0	
PCB 105		44.9	46.4	46.3	19.6	21.0	20.2	45.9	1.8	3.5	19.9	19.9	0.9		-1.0	-1.3	0.1	
PCB 118		103	102	105	51.2	55.5	55.2	103	2	4.4	52.1	52.1	1.0		-0.4	-0.4	0.1	
PCB 128		30.3	31.7	31.1	19.0	21.9	19.9	31.1	2.5	2.7	22.8	22.8	1.9		0.0	0.0	0.2	
PCB 138		155	163	156	138	140	139	158	3	1.9	115	115	13		-0.4	-0.6	0.2	
PCB 149		64.7	66.0	65.2	28.2	30.0	30.1	65.3	1.0	3.8	26.3	26.3	1.3		0.1	0.1	0.1	
PCB 153		197	198	197	188	195	188	197	0	2	170	170	9		-0.1	-0.1	0.0	
PCB 156		11.1	11.4	11.4	8.43	8.96	8.65	11.3	1.4	3.06	9.52	9.52	0.51		-1.1	-1.0	0.1	
PCB 170		25.1	26.5	25.6	24.0	24.9	24.0	25.7	2.8	2.3	25.2	25.2	2.2		-0.7	-1.1	0.2	
PCB 180		72.7	84.4	71.4	74.3	77.8	75.8	76.2	9.4	2.3	74.4	74.4	4.0		-0.2	-0.3	0.6	
PCB 187		51.8	53.9	53.7	59.6	61.8	59.8	53.2	2.2	2.0	55.2	55.2	2.1		-0.1	-0.1	0.1	
PCB 194		12.2	12.9	12.3	14.1	14.8	14.0	12.5	3.0	3.1	13.0	13.0	1.3		0.0	0.0	0.2	
PCB 195		4.93	5.00	4.82	5.31	5.27	5.43	4.92	1.4	1.60	5.30	5.30	0.45		-0.2	-0.2	0.1	
PCB 206		5.51	5.75	5.55	5.33	5.61	5.40	5.60	2.3	2.64	5.40	5.40	0.43		0.1	0.1	0.2	
PCB 209		2.29	2.20	2.15	0.97	1.19	1.05	2.22	3.3	10.21	1.30	1.30	0.21		-0.1	-0.1	0.2	

Laboratory: 1-ECD PCBs in Fish V	Reported Results		No. of Analytes		Number by Category		
	Quantitative	Not Determined	23	92	Category	z (25%)	p (15%)
	2	8	23	92	<2	24	24
	0	0	0	0	2 to 3	0	0
	0	0	0	0	>3	0	0

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %	
	S1	S2	S1	S2	assigned	95% CL	target	95% CL
	NA	NA	NA	NA	10.1	0.5	10.2	0.5
	NA	NA	NA	NA				

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a				
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V							
	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	2/102	z-score (25%)	z-score (15%)	p-score (15%)		
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.22	0.33	5.72	0.65		
hexachlorobenzene	4.47	5.55	4.85	5.31	5.51	5.30	DL	DL	DL	DL	DL	DL	DL	DL	6.11	0.53	7.25	0.83	-0.8	0.7
gamma-HCH	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	0.467	0.120	1.14	0.18		
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target			
heptachlor	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	<2		no target			
aldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target			
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.2	1.3	5.50	0.23		
oxychlorodane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2	2.2	18.9	1.5		
trans-chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	1.1	8.36	0.91		
2,4'-DDE	3.14	3.25	3.07	0.960	1.12	1.06	3.15	2.88	1.05	7.7	3.91	1.46	1.04	0.29	3.91	1.46	1.04	0.29	-0.8	0.2
endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target			
cis-chlordane	41.2	42.1	38.6	24.8	27.6	21.5	40.6	4.5	24.6	12.4	41.4	4.0	32.5	1.8	41.4	4.0	32.5	1.8	-0.1	0.3
trans-nonachlor	129	118	109	82.2	83.7	76.2	119	8	80.7	4.9	113	10	99.6	7.6	113	10	99.6	7.6	0.2	0.6
dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.7	7.4	32.5	3.5		
4,4'-DDE	562	624	567	305	356	346	584	6	336	8	621	56	373	48	621	56	373	48	-0.2	0.4
2,4'-DDD	9.03	9.85	8.89	4.36	4.40	4.08	9.26	5.60	4.28	4.07	5.28	1.81	2.20	0.25	5.28	1.81	2.20	0.25	3.0	0.4
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.91	1.20	no target			
endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target			
4,4'-DDD	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	40.9	3.8	17.7	2.8	40.9	3.8	17.7	2.8		
2,4'-DDT	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	OTHER	18.8	3.8	22.3	3.2	18.8	3.8	22.3	3.2		
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50.7	4.1	59.1	3.6	50.7	4.1	59.1	3.6		
4,4'-DDT	42.7	50.8	46.0	33.3	28.1	29.0	46.5	8.8	30.1	9.2	52.6	6.7	37.2	3.5	52.6	6.7	37.2	3.5	-0.5	0.6
mirex	4.19	4.41	4.23	5.48	5.86	5.28	4.28	2.74	5.54	5.32	4.10	0.45	6.47	0.77	4.10	0.45	6.47	0.77	0.2	0.2
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target		No assigned value		no target			
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target		<2		no target			

Category	z (25%)	z (s)	p (15%)
<2	7	8	8
2 to 3	0	0	0
>3	1	0	3

Reported Results	No. of Analytes	%
Quantitative	8	32
Qualitative	4	16
Not Determined	13	52

Laboratory: 2
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a		
	Fish V, ng/g wet				SRM 1946, ng/g wet				Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V				
	2/6/02 S1	2/6/02 S2	2/6/02 S3	other	2/6/02 S1	2/6/02 S2	2/6/02 S3	other	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	other	DL	DL	DL	other	DL	DL	DL	DL	other	DL	DL	DL	No assigned value	0.36	no target	0.840	0.110			
PCB 18	DL	DL	DL	DL	other	DL	DL	DL	DL	other	DL	DL	DL	13.8	1.4	2.00	2.00	0.24			
PCB 28	other	other	other	other	other	other	other	other	other	other	other	other	other	10.9	1.4	1.46	1.46	0.20			
PCB 31	other	other	other	other	other	other	other	other	other	other	other	other	other	20.7	2.6	4.66	4.66	0.86			
PCB 44	21.9	18.3	18.0	3.31	2.81	2.85	3.34	20.2	7.6	3.66	10.76	2.99	9.29	25.0	2.9	3.80	3.80	0.39	-0.1	-0.1	0.5
PCB 49	24.7	31.0	27.0	7.54	6.90	6.82	7.09	27.6	11.5	7.09	5.57	5.7	5.7	33.3	3.5	8.10	1.00	1.00	-0.9	-0.9	0.7
PCB 52	other	other	other	other	other	other	other	other	other	other	other	other	other	70.2	6.1	10.8	10.8	1.9			
PCB 66	other	other	other	other	other	other	other	other	other	other	other	other	other	43.4	10.4	11.4	11.4	1.3			
PCB 95	64.0	61.3	56.8	21.2	21.7	18.1	20.3	60.7	6.0	20.3	9.6	9.6	9.6	75.0	8.9	25.6	23	23	-0.8	-0.8	0.4
PCB 99	61.1	62.5	60.0	25.3	23.5	26.3	25.0	61.2	2.1	25.0	5.7	5.7	5.7	88.8	6.9	34.6	26	26	-1.2	-1.7	0.1
PCB 101	43.5	40.2	38.9	12.8	13.4	15.5	13.9	40.9	5.8	13.9	10.2	10.2	10.2	60.8	4.7	19.9	0.9	0.9	-1.3	-1.8	0.4
PCB 105	other	other	other	other	other	other	other	other	other	other	other	other	other	11.4	10	52.1	52.1	1.0			
PCB 118	29.7	27.4	28.6	15.4	19.2	18.4	17.7	28.6	4.0	17.7	11.3	11.3	11.3	31.4	3.3	22.8	1.9	1.9	-0.4	-0.4	0.3
PCB 128	other	other	other	other	other	other	other	other	other	other	other	other	other	174	12	115	115	13			
PCB 138	other	other	other	other	other	other	other	other	other	other	other	other	other	63.5	7.6	26.3	26.3	1.3			
PCB 149	other	other	other	other	other	other	other	other	other	other	other	other	other	201	14	170	170	9			
PCB 153	11.6	13.2	12.1	9.78	9.88	9.91	9.86	12.3	6.7	9.86	0.69	0.69	0.69	15.4	1.9	9.52	0.51	0.51	-0.8	-0.8	0.4
PCB 156	other	other	other	other	other	other	other	other	other	other	other	other	other	31.2	2.1	25.2	2.2	2.2			
PCB 170	68.5	66.9	65.8	65.4	60.8	59.1	61.8	67.0	2.0	61.8	5.3	5.3	5.3	81.0	7.2	74.4	4.0	4.0	-0.7	-0.8	0.1
PCB 180	other	other	other	other	other	other	other	other	other	other	other	other	other	54.0	4.6	55.2	55.2	2.1			
PCB 187	11.3	12.5	12.3	13.3	12.2	11.6	12.4	12.0	5.3	12.4	7.0	7.0	7.0	12.6	1.2	13.0	1.3	1.3	-0.2	-0.2	0.4
PCB 194	5.43	4.58	4.74	4.33	4.94	4.84	4.70	4.92	9.19	4.70	6.96	6.96	6.96	5.21	0.68	5.30	0.45	0.45	-0.2	-0.2	0.6
PCB 195	4.55	5.51	5.04	4.99	4.30	4.14	4.88	5.03	9.54	4.88	10.09	10.09	10.09	5.51	0.50	5.40	0.43	0.43	-0.3	-0.4	0.6
PCB 206	1.68	2.15	2.15	1.03	1.00	0.93	0.99	1.99	13.61	0.99	5.20	5.20	5.20	2.25	0.21	1.30	0.21	0.21	-0.5	-0.5	0.9
PCB 209																					

TEO for Fish V	Data as submitted by laboratory														Material reference values				Performance scores ^a		
	Fish V, %				SRM 1946, %				Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %				
	S1	S2	S3	other	S1	S2	S3	other	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	p (15%)		
TEO or lipid	11.2	11.9	12.8	11.7	12.0	12.9	12.2	12.0	6.7	12.2	5.1	5.1	10.1	0.5	10.2	0.5	0.7	0.2	0.2	0.4	

Laboratory: 2 PCBs In Fish V	Reported Results		No. of Analytes		Number by Category		
	Quantitative	Qualitative	12	48	Category	z (s)	p (15%)
	Not Determined	0	0	0	<2	13	13
	0	0	0	0	2 to 3	0	0
	0	0	0	0	>3	0	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values			Performance scores ^a			
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V		
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
Analysis date																	
alpha-HCH							NA	NA	NA	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene							NA	NA	NA	NA	6.11	0.53	7.25	0.83			
gamma-HCH							NA	NA	NA	NA	0.467	0.120	1.14	0.18			
beta-HCH							NA	NA	NA	NA	<2		no target				
p,p'-DDE							NA	NA	NA	NA	<2		no target				
aldrin							NA	NA	NA	NA	<2		no target				
heptachlor epoxide							NA	NA	NA	NA	13.2	1.3	5.50	0.23			
oxychlorodane							NA	NA	NA	NA	21.2	2.2	18.9	1.5			
trans-chlordane							NA	NA	NA	NA	11.2	1.1	8.36	0.91			
2,4'-DDE							NA	NA	NA	NA	3.91	1.46	1.04	0.29			
endosulfan I							NA	NA	NA	NA	<2		no target				
cis-chlordane							NA	NA	NA	NA	41.4	4.0	32.5	1.8			
trans-nonachlor							NA	NA	NA	NA	113	10	99.6	7.6			
dieldrin							NA	NA	NA	NA	77.7	7.4	32.5	3.5			
1,4'-DDE							NA	NA	NA	NA	621	56	373	48			
2,4'-DDD							NA	NA	NA	NA	5.28	1.81	2.20	0.25			
endrin							NA	NA	NA	NA	2.91	1.20	no target				
endosulfan II							NA	NA	NA	NA	No assigned value		no target				
1,4'-DDD							NA	NA	NA	NA	40.9	3.8	17.7	2.8			
2,4'-DDT							NA	NA	NA	NA	18.8	3.8	22.3	3.2			
cis-nonachlor							NA	NA	NA	NA	50.7	4.1	59.1	3.6			
4,4'-DDT							NA	NA	NA	NA	52.6	6.7	37.2	3.5			
mirex							NA	NA	NA	NA	4.10	0.45	6.47	0.77			
endosulfan sulfate							NA	NA	NA	NA	No assigned value		no target				
chlorpyrifos							NA	NA	NA	NA	<2		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	2/14/02 S 1	2/14/02 S 2	2/14/02 S 3	2/14/02 S 1	2/14/02 S 2	2/14/02 S 3	lab ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	<0.5	ND	No assigned value	no target	0.840	0.110				
PCB 18	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND	<0.5	ND	2.46	0.36	0.840	0.110				
PCB 28	21.6	22.1	23.9	3.08	2.64	3.21	22.5	5.4	2.98	10.04	10.04	13.8	1.4	2.00	0.24	2.5	2.8	0.4	
PCB 31	17.1	18.2	19.3	6.60	8.83	7.03	18.2	6.0	7.49	15.80	15.80	10.9	1.4	1.46	0.20	2.7	2.7	0.4	
PCB 44	12.6	13.0	13.9	2.78	3.83	2.87	13.2	5.1	3.16	18.42	18.42	20.7	2.6	4.66	0.86	-1.5	-1.1	0.3	
PCB 49	19.7	20.9	19.1	2.04	1.71	2.08	19.9	4.6	1.94	10.45	10.45	25.0	2.9	3.80	0.39	-0.8	-0.8	0.3	
PCB 52	26.0	27.5	28.3	5.45	5.04	5.49	27.3	4.3	5.33	4.68	4.68	33.3	3.5	8.10	1.00	-0.7	-0.7	0.3	
PCB 66	72.2	77.3	77.9	8.80	9.27	9.61	75.8	4.1	9.23	4.41	4.41	70.2	6.1	10.8	1.9	0.3	0.4	0.3	
PCB 95	28.2	25.6	25.6	10.2	10	10	26.5	5.7	9.85	3.09	3.09	43.4	10.4	11.4	1.3	-1.6	-0.8	0.4	
PCB 99	75.2	71.4	74.9	25.7	25.5	26.3	73.8	2.9	25.8	1.6	1.6	75.0	8.9	25.6	2.3	-0.1	-0.1	0.2	
PCB 101	91.5	89.7	89.4	34.8	33.7	35.7	90.2	1.3	34.7	2.9	2.9	88.8	6.9	34.6	2.6	0.1	0.1	0.1	
PCB 105	71.6	66.7	68.2	27.3	26.7	26.6	68.8	3.6	26.9	1.6	1.6	60.8	4.7	19.9	0.9	0.5	0.7	0.2	
PCB 118	153	149	150	69.0	69.9	70.3	151	1	69.7	1.0	1.0	114	10	52.1	1.0	1.3	1.6	0.1	
PCB 128	28.7	26.5	26.0	17.9	16.9	18.6	27.1	5.3	17.8	4.8	4.8	31.4	3.3	22.8	1.9	-0.6	-0.6	0.4	
PCB 138	188	179	182	138	138	139	183	3	138	0	0	174	12	115	13	0.2	0.3	0.2	
PCB 149	58.1	54.6	57.1	21.8	22.2	22.5	56.6	3.2	22.2	1.6	1.6	63.5	7.6	26.3	1.3	-0.4	-0.5	0.2	
PCB 153	214	203	206	176	174	180	208	3	177	2	2	201	14	170	9	0.1	0.2	0.2	
PCB 156	17.6	17.5	18.8	12.7	12.7	13.0	18.0	4.0	12.8	1.4	1.4	15.4	1.9	9.52	0.51	0.7	0.7	0.3	
PCB 170	33.2	35.1	33.4	30.1	31.3	30.6	33.9	3.1	30.7	2.0	2.0	31.2	2.1	25.2	2.2	0.3	0.5	0.2	
PCB 180	91.3	96.0	97.6	94.8	91.6	92.1	95.0	3.4	92.8	1.4	1.4	81.0	7.2	74.4	4.0	0.7	0.8	0.2	
PCB 187	47.1	49.2	48.6	51.0	50.8	50.9	48.3	2.2	50.9	0.2	0.2	54.0	4.6	55.2	2.1	-0.4	-0.5	0.1	
PCB 194	13.4	13.4	12.5	13.7	13.7	13.9	13.1	4.0	13.8	0.8	0.8	12.6	1.2	13.0	1.3	0.2	0.2	0.3	
PCB 195	3.85	4.12	4.03	3.83	3.86	3.79	4.00	3.4	3.83	0.92	0.92	5.21	0.68	5.30	0.45	-0.9	-0.8	0.2	
PCB 206	5.44	5.79	5.43	5.56	5.17	4.95	5.55	3.7	5.23	5.91	5.91	5.51	0.50	5.40	0.43	0.0	0.0	0.2	
PCB 209	2.28	2.01	2.02	1.23	1.20	1.35	2.10	7.3	1.26	6.30	6.30	2.25	0.21	1.30	0.21	-0.3	-0.3	0.5	

Laboratory: 3 PCBs in Fish V	Reported Results		No. of Analytes		Number by Category	
	Quantitative	Qualitative	Quantitative	Qualitative	z (25%)	p (15%)
	22	88	22	88	21	23
	3	12	3	12	2	0
	0	0	0	0	0	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		
	S 1	S 2	S 3	mean, %	%RSD	NA	mean, %	%RSD	NA
	10.1	0.5	0.5	10.1	0.5	NA	10.1	0.5	NA

^a z- and p-scores > 3 are bolded. ^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		z-score (25%)	z-score (s)	p-score (15%)		
	NA	NA	NA	NA	NA	NA	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL					
alpha-HCH	S1	S2	S3	S1	S2	S3	NA	NA	NA	1.22	0.33	5.72	0.65						
hexachlorobenzene							NA	NA	NA	6.11	0.53	7.25	0.83						
gamma-HCH							NA	NA	NA	0.467	0.120	1.14	0.18						
beta-HCH							NA	NA	NA	<2		no target							
heptachlor							NA	NA	NA	<2		no target							
aldrin							NA	NA	NA	<2		no target							
heptachlor epoxide							NA	NA	NA	13.2	1.3	5.50	0.23						
oxychlorodane							NA	NA	NA	21.2	2.2	18.9	1.5						
trans-chlordane							NA	NA	NA	11.2	1.1	8.36	0.91						
2,4'-DDE							NA	NA	NA	3.91	1.46	1.04	0.29						
endosulfan I							NA	NA	NA	<2		no target							
cis-chlordane							NA	NA	NA	41.4	4.0	32.5	1.8						
trans-nonachlor							NA	NA	NA	113	10	99.6	7.6						
dieldrin							NA	NA	NA	77.7	7.4	32.5	3.5						
4,4'-DDE							NA	NA	NA	621	56	373	48						
2,4'-DDD							NA	NA	NA	5.28	1.81	2.20	0.25						
endrin							NA	NA	NA	2.91	1.20	no target							
endosulfan II							NA	NA	NA	No assigned value		no target							
4,4'-DDD							NA	NA	NA	40.9	3.8	17.7	2.8						
2,4'-DDT							NA	NA	NA	18.8	3.8	22.3	3.2						
cis-nonachlor							NA	NA	NA	50.7	4.1	59.1	3.6						
4,4'-DDT							NA	NA	NA	52.6	6.7	37.2	3.5						
mitex							NA	NA	NA	4.10	0.45	6.47	0.77						
endosulfan sulfate							NA	NA	NA	No assigned value		no target							
chlomyrifos							NA	NA	NA	<2		no target							

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%			
			Quantitative	0	0
			Qualitative	0	0
Not Determined	25	100			

Laboratory: 4
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a						
	Fish V ₁ , ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V										
	3/20/02	3/21/02	3/22/02	S1	S2	S3	3/20/02	3/21/02	3/22/02	lab mean	lab %RSD	lab ng/g wet	SRM 1946 lab mean	lab %RSD	lab ng/g wet	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
Analysis date																							
alpha-HCH	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	1.22	0.33	5.72	0.65					
hexachlorobenzene	5.52	5.69	5.54	7.73	5.82	5.90	5.82	5.90	5.82	5.90	6.48	16.66	6.48	16.66	6.11	0.53	7.25	0.83		-0.3	-0.5	0.1	
gamma-HCH	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	0.467	0.120	1.14	0.18					
beta-HCH	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	<2		no target						
heptachlor	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	<2		no target						
aldrin	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	<2		no target						
heptachlor epoxide	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	13.2	1.3	5.50	0.23					
oxychlorodane	23.6	62.3	71.9	135	111	151	52.6	48.6	52.6	48.6	132	15	132	15	21.2	2.2	18.9	1.5		5.9	7.4	3.2	
trans-chlordane	12.1	10.9	11.3	8.78	6.93	7.31	11.4	5.3	11.4	5.3	7.67	12.73	7.67	12.73	11.2	1.1	8.36	0.91		0.1	0.1	0.4	
2,4'-DDE	3.65	2.97	3.03	0.69	1.42	1.32	3.22	11.70	3.22	11.70	1.14	34.9	1.14	34.9	3.91	1.46	1.04	0.29		-0.7	-0.3	0.8	
endosulfan I	19.4	27.0	14.1	25.0	16.2	24.9	20.2	32.2	20.2	32.2	22.0	22.9	22.0	22.9	<2		no target					2.1	
cis-chlordane	37.7	42.7	39.0	33.6	24.6	26.6	39.8	6.5	39.8	6.5	28.3	16.7	28.3	16.7	41.4	4.0	32.5	1.8		-0.2	-0.2	0.4	
trans-nonachlor	111	122	111	101	86.3	91.4	115	6	115	6	92.9	8.0	92.9	8.0	113	10	99.6	7.6		0.1	0.1	0.4	
dieldrin	74.1	94.1	90.8	13.0	38.1	43.6	86.3	12.4	86.3	12.4	31.6	51.7	31.6	51.7	77.7	7.4	32.5	3.5		0.4	0.5	0.8	
4,4'-DDE	669	698	623	350	299	289	663	6	663	6	313	10	313	10	621	56	373	48		0.3	0.3	0.4	
2,4'-DDD	3.47	6.69	4.00	8.88	3.21	<3.39	4.72	36.58	4.72	36.58	6.05	66.32	6.05	66.32	5.28	1.81	2.20	0.25		-0.4	-0.2	2.4	
endrin	<3.22	<4.03	<2.83	24.7	59.0	43.9	<2.83	NA	<2.83	NA	42.5	40.4	<2.83	NA	2.91	1.20	no target						
endosulfan II	10.2	11.5	3.47	<5.27	<3.51	<3.39	8.39	51.4	8.39	51.4	<3.39	NA	<3.39	NA	No assigned value		no target					3.4	
4,4'-DDD	38.5	46.8	42.7	14.9	14.8	12.2	42.7	9.7	42.7	9.7	14.0	11.0	14.0	11.0	40.9	3.8	17.7	2.8		0.2	0.2	0.6	
2,4'-DDT	14.8	17.7	18.0	22.0	18.3	21.0	16.8	10.5	16.8	10.5	20.4	9.4	20.4	9.4	18.8	3.8	22.3	3.2		-0.4	-0.3	0.7	
cis-nonachlor	49.8	59.6	54.0	59.2	55.0	53.7	54.5	9.0	54.5	9.0	56.0	5.1	56.0	5.1	50.7	4.1	59.1	3.6		0.3	0.4	0.6	
4,4'-DDT	45.8	51.9	51.5	39.5	34.1	36.9	49.7	6.9	49.7	6.9	36.8	7.3	36.8	7.3	52.6	6.7	37.2	3.5		-0.2	-0.2	0.5	
mirex	5.48	4.33	4.25	3.10	7.10	7.30	4.69	14.68	4.69	14.68	5.83	40.62	5.83	40.62	4.10	0.45	6.47	0.77		0.6	0.8	1.0	
endosulfan sulfate	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	No assigned value		no target						
chlordrifos	<3.22	<4.03	<2.83	<5.27	<3.51	<3.39	<2.83	NA	<2.83	NA	<3.39	NA	<3.39	NA	<2		no target						

Category	Number by Category	
	z (25%)	p (15%)
<2	13	12
2 to 3	0	2
>3	1	2

Reported Results	No. of Analytes		%
	Quantitative	9	
	Not Determined	0	
Qualitative	16	64	

Laboratory: 4b
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise
 Sample: QA02FSH5 - Fish Homogenate V

Laboratory No.: 4b
 Reporting Date: 4/10/02

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V					
		z-score S1	z-score S2	z-score S3	z-score S1	z-score S2	z-score S3	lab mean ng/g wet	lab %RSD	SRM mean ng/g wet	lab %RSD	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)			
PCB 8		<0.662	<0.830	<0.511	<0.849	<0.796	<0.645	<0.511	NA	<0.645	NA	no target							
PCB 18		3.39	3.57	3.81	<0.849	<0.796	<0.645	3.59	5.87	<0.645	NA	0.840	2.46	0.36	1.8	1.5	0.4		
PCB 28		17.0	20.9	17.5	1.37	1.73	2.07	18.5	11.5	2.07	20.31	2.00	13.8	1.4	1.3	1.5	0.8		
PCB 31		17.1	17.1	17.8	1.55	1.58	1.08	17.3	2.3	1.40	19.98	1.46	10.9	1.4	2.4	2.4	0.2		
PCB 44		27.5	29.5	28.3	3.59	4.14	4.04	28.4	3.5	6.92	7.47	4.66	20.7	2.6	1.5	1.1	0.2		
PCB 49		39.8	42.1	41.2	2.92	3.86	3.55	41.0	2.8	3.44	13.91	3.80	25.0	2.9	2.6	2.6	0.2		
PCB 52		45.3	48.5	47.7	6.45	7.50	6.81	47.2	3.5	6.92	7.71	8.10	33.3	3.5	1.7	1.6	0.2		
PCB 66		96.7	103	98.8	10.0	10.9	9.87	99.5	3.2	10.3	5.5	10.8	70.2	6.1	1.7	2.0	0.2		
PCB 95		47.4	51.0	48.7	14.6	17.0	15.0	49.0	3.7	15.5	8.3	11.4	43.4	10.4	0.5	0.3	0.2		
PCB 99		111	115	112	32.4	35.9	33.5	113	2	33.9	5.3	25.6	75.0	8.9	2.0	2.0	0.1		
PCB 101		134	140	135	42.8	47.8	44.3	136	2	45.0	5.7	34.6	88.8	6.9	2.1	2.8	0.2		
PCB 105		64.7	66.1	62.5	23.2	25.2	23.6	64.4	2.8	24.0	4.4	19.9	60.8	4.7	0.2	0.3	0.2		
PCB 118		154	161	153	63.8	70.7	64.7	156	3	66.4	5.6	52.1	114	10	1.5	1.8	0.2		
PCB 128		51.4	52.6	49.4	32.7	33.9	32.5	51.1	3.2	33.9	2.3	22.8	31.4	3.3	2.5	2.6	0.2		
PCB 138		260	262	257	182	193	186	260	1	187	3	115	174	12	2.0	3.0	0.1		
PCB 149		93.0	95.3	92.8	32.7	34.9	32.6	93.7	1.5	33.9	3.9	26.3	63.5	7.6	1.9	2.0	0.1		
PCB 153		262	265	256	208	225	211	261	2	215	4	170	201	14	1.2	1.7	0.1		
PCB 156		14.0	14.4	13.3	9.62	10.0	9.72	13.9	4.0	9.79	2.01	9.52	15.4	1.9	-0.4	-0.4	0.3		
PCB 170		32.7	30.2	32.4	27.0	25.7	28.6	31.8	4.3	27.1	5.4	25.2	31.2	2.1	0.1	0.1	0.3		
PCB 180		88.6	87.3	83.8	80.9	79.9	80.3	86.6	2.9	80.4	0.6	74.4	81.0	7.2	0.3	0.3	0.2		
PCB 187		71.3	71.8	70.3	66.6	68.2	67.2	71.1	1.1	67.3	1.2	55.2	54.0	4.6	1.3	1.6	0.1		
PCB 194		10.9	10.7	10.4	11.2	10.7	11.5	10.7	2.4	11.1	3.6	13.0	12.6	1.2	-0.6	-0.7	0.2		
PCB 195		4.32	4.15	4.08	4.16	4.01	4.73	4.18	3.0	4.30	8.83	5.30	5.21	0.68	-0.8	-0.6	0.2		
PCB 206		4.40	4.23	4.22	4.01	4.10	4.00	4.28	2.4	4.04	1.36	5.40	5.51	0.50	-0.9	-1.0	0.2		
PCB 209		1.54	2.67	<0.511	0.81	0.78	<0.645	2.11	38.0	0.79	2.32	1.30	2.25	0.21	-0.3	-0.3	2.5		

Laboratory: 4b
 PCBs in Fish V

Category	Number by Category	
	z (25%)	p (15%)
< 2	19	23
2 to 3	5	0
> 3	0	0

TEO for Fish V

Fish V, %	SRM 1946, %			Fish V, %		
	S1	S2	S3	mean, %	%RSD	%RSD
9.1	9.5	11.5	7.2	10.1	8.9	17.0

Fish V, %	SRM 1946, %			Fish V, %		
	assigned	95% CL	target	assigned	95% CL	target
10.1	0.5	10.2	10.2	10.1	0.5	10.2

Fish V, %	SRM 1946, %			Fish V, %		
	z (25%)	z (s)	p (15%)	z (25%)	z (s)	p (15%)
0.0	0.0	0.0	0.9	0.0	0.0	0.9

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory						Material reference values			Performance scores ^a							
	Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		SRM 1946, ng/g wet		Fish V		Fish V						
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH							NA	NA	NA	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene							NA	NA	NA	NA	6.11	0.53	7.25	0.83			
gamma-HCH							NA	NA	NA	NA	0.467	0.120	1.14	0.18			
beta-HCH							NA	NA	NA	NA	<		no target				
heptachlor							NA	NA	NA	NA	<		no target				
aldrin							NA	NA	NA	NA	<		no target				
heptachlor epoxide							NA	NA	NA	NA	13.2	1.3	5.50	0.23			
oxychlorodane							NA	NA	NA	NA	21.2	2.2	18.9	1.5			
trans-chlordane							NA	NA	NA	NA	11.2	1.1	8.36	0.91			
2,4'-DDE							NA	NA	NA	NA	3.91	1.46	1.04	0.29			
endosulfan I							NA	NA	NA	NA	<		no target				
cis-chlordane							NA	NA	NA	NA	41.4	4.0	32.5	1.8			
trans-nonachlor							NA	NA	NA	NA	113	10	99.6	7.6			
dieldrin							NA	NA	NA	NA	77.7	7.4	32.5	3.5			
4,4'-DDE							NA	NA	NA	NA	621	56	373	48			
2,4'-DDD							NA	NA	NA	NA	5.28	1.81	2.20	0.25			
endrin							NA	NA	NA	NA	2.91	1.20	no target				
endosulfan II							NA	NA	NA	NA	No assigned value		no target				
4,4'-DDD							NA	NA	NA	NA	40.9	3.8	17.7	2.8			
2,4'-DDT							NA	NA	NA	NA	18.8	3.8	22.3	3.2			
cis-nonachlor							NA	NA	NA	NA	50.7	4.1	59.1	3.6			
4,4'-DDT							NA	NA	NA	NA	52.6	6.7	37.2	3.5			
inirex							NA	NA	NA	NA	4.10	0.45	6.47	0.77			
endosulfan sulfate							NA	NA	NA	NA	No assigned value		no target				
chlorpyrifos							NA	NA	NA	NA	<		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

Laboratory: 5
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	z1	S1	S2	z2	S2	S3	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)	z-score (25%)	p-score (15%)	
PCB 8	0.0352	0.0529	0.0350	0.0244	0.0336	0.0263	0.0410	25.1	0.0281	17.30	No assigned value	no target	no target						
PCB 18	2.35	2.41	2.03	0.376	0.395	0.362	2.26	8.93	0.378	4.416	2.46	0.36	0.840	0.110	-0.3	-0.3	-0.3	0.6	
PCB 28	14.3	12.3	11.8	1.68	1.54	1.54	12.8	10.5	1.69	8.96	13.8	1.4	2.00	0.24	-0.3	-0.3	-0.3	0.7	
PCB 31	11.5	11.6	9.50	1.48	1.43	1.27	10.9	10.9	1.39	7.87	10.9	1.4	1.46	0.20	0.0	0.0	0.0	0.7	
PCB 44	18.1	18.2	18.0	3.53	3.36	3.59	18.1	0.7	3.19	3.41	20.7	2.6	4.66	0.86	-0.5	-0.4	-0.4	0.0	
PCB 49	27.3	25.1	23.5	3.55	2.91	3.11	25.3	7.6	3.19	10.15	25.0	2.9	3.80	0.39	0.1	0.1	0.1	0.5	
PCB 52	35.4	37.4	33.3	7.69	7.53	7.75	35.4	5.8	7.66	1.44	33.3	3.5	8.10	1.00	0.2	0.2	0.2	0.4	
PCB 66	73.8	83.1	74.1	11.1	10.7	11.4	77.0	6.9	11.1	2.8	70.2	6.1	10.8	1.9	0.4	0.5	0.5	0.5	
PCB 95	35.1	31.5	32.1	14.5	12.9	13.0	32.9	5.9	13.4	6.7	43.4	10.4	11.4	1.3	-1.0	-0.5	-0.5	0.4	
PCB 99	75.4	76.1	78.2	30.0	27.4	28.4	76.6	1.9	28.8	4.6	75.0	8.9	25.6	2.3	0.1	0.1	0.1	0.1	
PCB 101	92.4	90.0	92.7	39.5	35.7	37.1	91.7	1.6	13.4	5.1	88.8	6.9	34.6	2.6	0.1	0.2	0.2	0.1	
PCB 105	51.9	44.0	50.0	22.3	19.3	20.9	48.6	8.5	20.8	7.1	60.8	4.7	19.9	0.9	-0.8	-1.1	-1.1	0.6	
PCB 118	115	109	112	55.1	55.9	55.7	112	2	55.6	6.7	114	10	52.1	1.0	-0.1	-0.1	-0.1	0.2	
PCB 128	32.7	28.8	32.4	23.8	21.1	22.7	31.3	7.0	22.5	4.6	31.4	3.3	22.8	1.9	0.0	0.0	0.0	0.5	
PCB 138	192	193	202	154	161	159	196	3	158	3	174	12	115	1.3	0.5	0.8	0.8	0.2	
PCB 149	58.0	60.6	65.7	24.5	25.0	25.3	61.4	6.4	24.9	1.5	63.5	7.6	26.3	1.3	-0.1	-0.1	-0.1	0.4	
PCB 153	224	234	240	210	228	226	233	3	221	5	201	14	170	9	0.6	0.9	0.9	0.2	
PCB 156	13.6	11.9	12.5	9.94	9.23	9.17	12.7	7.1	9.45	4.54	15.4	1.9	9.52	0.51	-0.7	-0.7	-0.7	0.5	
PCB 170	37.8	31.8	33.1	35.6	29.4	30.1	34.2	9.2	31.7	10.7	31.2	2.1	25.2	2.2	0.4	0.6	0.6	0.6	
PCB 180	79.6	76.7	81.6	75.1	76.2	84.8	79.3	3.1	78.7	6.8	81.0	7.2	74.4	4.0	-0.1	-0.1	-0.1	0.2	
PCB 187	53.0	53.2	57.3	53.0	58.7	53.9	54.5	4.4	55.2	5.6	54.0	4.6	55.2	2.1	0.0	0.0	0.0	0.3	
PCB 194	13.2	12.4	13.3	13.9	13.9	13.8	13.0	3.6	13.9	0.5	12.6	1.2	13.0	1.3	0.1	0.1	0.1	0.2	
PCB 195	4.20	4.03	4.35	4.32	4.24	4.43	4.19	3.9	4.33	2.20	5.21	0.68	5.30	0.45	-0.8	-0.6	-0.6	0.3	
PCB 206	5.74	5.87	5.89	5.26	5.57	5.67	5.84	1.4	5.50	3.81	5.51	0.50	5.40	0.43	0.2	0.3	0.3	0.1	
PCB 209	2.07	1.93	1.97	1.10	1.08	1.10	1.99	3.6	1.09	1.04	2.25	0.21	1.30	0.21	-0.5	-0.5	-0.5	0.2	

Laboratory: 5 PCBs in Fish V	Reported Results		No. of Analytes		%	
	Quantitative	Qualitative	24	1	96	4
	Quantitative	Not Determined	0	0	0	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	target
TEO or lipid	10.3	9.8	10.0	10.8	10.5	10.8	10.0	2.4	10.7
							10.1	0.5	10.2
							10.1	0.5	10.2
							10.1	0.5	10.2

TEO for Fish V	Number by Category		Fish V, %	
	z (25%)	p (15%)	z (25%)	p (15%)
	<2	24	0.0	0.0
	2 to 3	0	0.0	0.0
	>3	0	0.0	0.0

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

Sample: QA02FSHS - Fish Homogenate V
 (data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		Fish V			
	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	z-score (25%)	z-score (s)	p-score (15%)
	S1	S2	S3	S1	S2	S3												
	1.05	1.04	1.21	6.16	6.29	6.29	1.10	8.67	6.25	1.20	1.20	1.22	0.33	5.72	-0.4	-0.3	0.6	
	6.43	6.54	6.90	7.34	7.73	7.73	6.62	3.71	7.60	2.96	2.96	6.11	0.53	7.25	0.3	0.5	0.2	
	0.374	0.372	0.375	0.994	0.979	0.987	0.374	0.409	0.987	0.761	0.761	0.467	0.120	1.14	-0.8	-0.5	0.0	
	<0.06	<0.06	<0.06	0.306	0.294	0.375	<0.06	NA	0.325	13.5	13.5	<2		no target				
	<0.01	<0.02	<0.01	<0.01	<0.02	<0.02	<0.02	NA	<0.02	NA	NA	<2		no target				
	<0.01	<0.02	<0.01	<0.02	<0.02	<0.02	<0.02	NA	<0.02	NA	NA	<2		no target				
	14.5	15.1	16.4	8.25	5.50	9.69	15.3	6.3	7.81	27.25	27.25	13.2	1.3	5.50	0.6	0.8	0.4	
	23.7	21.7	19.8	16.3	17.6	15.8	21.7	8.9	16.6	5.7	5.7	21.2	2.2	18.9	0.1	0.1	0.6	
	10.2	10.2	10.7	6.31	6.88	6.66	10.3	2.9	6.62	4.34	4.34	11.2	1.1	8.36	-0.3	-0.4	0.2	
	2.97	2.64	2.73	0.648	0.670	0.642	2.78	6.14	0.653	2.256	2.256	3.91	1.46	1.04	-1.2	-0.5	0.4	
	<0.1	<0.4	<0.1	<0.1	<0.1	<0.1	<0.4	NA	<0.1	NA	NA	<2		no target				
	44.2	47.2	45.1	33.2	36.7	34.9	45.5	3.4	34.9	5.0	5.0	41.4	4.0	32.5	0.4	0.5	0.2	
	95	106	124	80.5	97.8	88.0	108	13	88.8	9.7	9.7	113	10	99.6	-0.2	-0.2	0.9	
	83.3	103.5	86.9	25.7	23.3	31.6	91.2	11.8	26.9	15.9	15.9	77.7	7.4	32.5	0.7	0.9	0.8	
	800	827	938	391	422	405	855	9	406	4	4	621	56	373	1.5	1.8	0.6	
	2.80	2.79	2.77	0.93	0.84	0.84	2.79	0.55	0.87	6.27	6.27	5.28	1.81	2.20	-1.9	-0.7	0.0	
	2.30	1.78	2.30	2.98	2.36	2.92	2.13	14.1	2.75	12.4	12.4	2.91	1.20	no target	-1.1	-0.5	0.9	
	<0.1	<0.5	<0.2	<0.2	<0.3	<0.3	<0.5	NA	<0.3	NA	NA	No assigned value		no target				
	39.1	41.2	44.4	10.1	10.2	11.1	41.6	6.5	10.5	4.8	4.8	40.9	3.8	17.7	0.1	0.1	0.4	
	13.1	14.3	13.8	14.8	14.9	14.5	13.7	4.6	14.7	1.3	1.3	18.8	3.8	22.3	-1.1	-0.7	0.3	
	40.5	46.5	45.6	43.2	49.5	51.5	44.2	7.3	48.1	9.1	9.1	50.7	4.1	59.1	-0.5	-0.8	0.5	
	64.0	61.6	75.7	32.3	34.1	34.5	67.1	11.2	33.6	3.4	3.4	52.6	6.7	37.2	1.1	1.0	0.7	
	2.68	3.05	3.11	4.03	4.72	4.95	2.95	7.90	4.57	10.48	10.48	4.10	0.45	6.47	-1.1	-1.5	0.5	
	0.567	0.475	0.348	0.245	0.316	0.162	0.463	23.7	0.241	32.0	32.0	No assigned value		no target				
							NA	NA	NA	NA	NA	<2		no target				

Category	z(25%)	z(s)	p(15%)
<2	18	18	19
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	19	76
Qualitative	5	20
Not Determined	1	4

Laboratory: 5b
 Pesticides in Fish V

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

PCBs	Analysis date	Data as submitted by laboratory															Material reference values				Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V	Fish V				
		S1	S2	S3	S1	S2	S3	lab mean	lab %RSD	lab	lab mean	lab %RSD	lab	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)			
PCB 8		0.0428	0.0394	0.0422	0.0163	0.0158	0.0191	0.0415	4.38	0.0171	10.42	No assigned value	No assigned value	no target						0.3			
PCB 18		2.06	1.84	1.91	0.279	0.272	0.253	1.94	5.80	0.268	5.020	2.46	0.36	0.840	0.110	0.840	0.110	-0.9	-0.7	0.4			
PCB 28		15.6	15.5	15.8	1.69	1.50	1.46	15.6	1.0	1.55	7.93	13.8	1.4	2.00	0.24	2.00	0.24	0.5	0.6	0.1			
PCB 31		10.9	10.2	10.3	1.10	1.03	0.96	10.5	3.6	1.03	6.85	10.9	1.4	1.46	0.20	1.46	0.20	-0.2	-0.2	0.2			
PCB 44		33.4	31.6	32.3	4.37	4.42	4.25	32.4	2.8	4.35	2.01	20.7	2.6	4.66	0.86	4.66	0.86	2.3	1.7	0.2			
PCB 49		23.4	20.8	21.7	2.31	2.16	2.15	22.0	6.0	2.21	4.06	25.0	2.9	3.80	0.39	3.80	0.39	-0.5	-0.5	0.4			
PCB 52		36.2	32.1	32.1	6.17	6.11	5.51	33.5	7.1	1.83	6.15	33.3	3.5	8.10	1.00	8.10	1.00	0.0	0.0	0.5			
PCB 66		79.8	73.0	77.0	9.08	8.38	8.20	76.6	4.5	3.55	5.44	70.2	6.1	10.8	1.9	10.8	1.9	0.4	0.4	0.3			
PCB 95		32.2	32.2	34.9	11.7	11.9	12.4	33.1	4.7	12.0	3.0	43.4	10.4	11.4	1.3	11.4	1.3	-0.9	-0.5	0.3			
PCB 99		99.5	97.1	92.8	30.1	30.2	29.5	96.5	3.5	29.9	1.3	75.0	8.9	25.6	2.3	25.6	2.3	1.1	1.1	0.2			
PCB 101		106	102	101	36.1	36.7	36.6	103	3	36.5	0.9	88.8	6.9	34.6	2.6	34.6	2.6	0.6	0.8	0.2			
PCB 105		53.6	54.2	55.1	20.7	21.0	22.9	54.3	1.4	21.5	5.5	60.8	4.7	19.9	0.9	19.9	0.9	-0.4	-0.6	0.1			
PCB 118		115	115	120	51.5	53.8	56.9	117	2	54.1	5.0	114	10	52.1	1.0	52.1	1.0	0.1	0.1	0.2			
PCB 128		29.6	32.1	31.2	17.9	20.3	21.8	31.0	4.1	20.0	9.8	31.4	3.3	22.8	1.9	22.8	1.9	-0.1	-0.1	0.3			
PCB 138		210	227	230	156	166	170	222	5	164	4	174	12	115	13	115	13	1.1	1.7	0.3			
PCB 149		72.0	78.6	84.2	26.6	30.0	29.4	78.3	7.8	28.7	1.3	63.5	7.6	26.3	1.3	26.3	1.3	0.9	1.0	0.5			
PCB 153		250	251	262	210	223	227	254	3	220	4	201	14	170	9	170	9	1.1	1.5	0.2			
PCB 156		12.8	12.8	13.1	9.00	8.90	9.30	12.9	1.3	9.07	2.30	15.4	1.9	9.52	0.51	9.52	0.51	-0.6	-0.6	0.1			
PCB 170		32.6	33.9	28.6	27.6	29.1	24.7	31.7	8.7	27.1	8.2	31.2	2.1	25.2	2.2	25.2	2.2	0.1	0.1	0.6			
PCB 180		98.6	96.7	84.2	91.3	93.0	80.1	93.2	8.4	88.1	8.0	81.0	7.2	74.4	4.0	74.4	4.0	0.6	0.7	0.6			
PCB 187		67.4	64.4	53.8	65.0	65.7	55.9	61.9	11.5	62.2	8.0	54.0	4.6	55.2	2.1	55.2	2.1	0.6	0.7	0.8			
PCB 194		15.2	15.2	15.0	14.9	15.2	15.8	15.1	0.8	15.3	3.0	12.6	1.2	13.0	1.3	13.0	1.3	0.8	0.9	0.1			
PCB 195		4.58	5.09	4.74	4.81	4.74	5.53	4.80	5.43	5.03	8.70	5.21	0.68	5.30	0.45	5.30	0.45	-0.3	-0.3	0.4			
PCB 206		6.16	6.18	6.08	5.49	5.62	5.74	6.14	0.86	5.62	2.23	5.51	0.50	5.40	0.43	5.40	0.43	0.5	0.5	0.1			
PCB 209		2.04	2.07	2.09	0.99	1.03	1.09	2.07	1.22	1.04	4.86	2.25	0.21	1.30	0.21	1.30	0.21	-0.3	-0.4	0.1			

Laboratory: 5b PCBs in Fish V	Number by Category	
	z (25%)	p (15%)
	< 2	23
2 to 3	1	0
> 3	0	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %								
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	assigned	95% CL	target	z (25%)	z (s)	p (15%)			
	11.0	11.3	11.9	11.8	11.8	11.3	12.2	11.4	4.0	4.0	11.8	3.8	10.1	0.5	10.2	0.5	0.5	0.1

^az- and p-scores > 3 are bolded. ^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise
Sample: QA02FSH5 - Fish Homogenate V
(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory						Material reference values			Performance scores ^a								
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V					
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (s)	p-score (15%)
alpha-HCH							NA	NA	NA	NA	NA	NA	1.22	0.33	5.72	0.65		
hexachlorobenzene							NA	NA	NA	NA	NA	NA	6.11	0.53	7.25	0.83		
gamma-HCH							NA	NA	NA	NA	NA	NA	0.467	0.120	1.14	0.18		
beta-HCH							NA	NA	NA	NA	NA	NA	<2		no target			
heptachlor							NA	NA	NA	NA	NA	NA	<2		no target			
aldrin							NA	NA	NA	NA	NA	NA	<2		no target			
heptachlor epoxide							NA	NA	NA	NA	NA	NA	13.2	1.3	5.50	0.23		
oxychlorodane							NA	NA	NA	NA	NA	NA	21.2	2.2	18.9	1.5		
trans-chlordane							NA	NA	NA	NA	NA	NA	11.2	1.1	8.36	0.91		
2,4'-DDE							NA	NA	NA	NA	NA	NA	3.91	1.46	1.04	0.29		
endosulfan I							NA	NA	NA	NA	NA	NA	<2		no target			
cis-chlordane							NA	NA	NA	NA	NA	NA	41.4	4.0	32.5	1.8		
trans-nonachlor							NA	NA	NA	NA	NA	NA	113	10	99.6	7.6		
dieldrin							NA	NA	NA	NA	NA	NA	77.7	7.4	32.5	3.5		
4,4'-DDE							NA	NA	NA	NA	NA	NA	621	56	373	48		
2,4'-DDD							NA	NA	NA	NA	NA	NA	5.28	1.81	2.20	0.25		
endrin							NA	NA	NA	NA	NA	NA	2.91	1.20	no target			
endosulfan II							NA	NA	NA	NA	NA	NA	No assigned value		no target			
4,4'-DDD							NA	NA	NA	NA	NA	NA	40.9	3.8	17.7	2.8		
2,4'-DDT							NA	NA	NA	NA	NA	NA	18.8	3.8	22.3	3.2		
cis-nonachlor							NA	NA	NA	NA	NA	NA	50.7	4.1	59.1	3.6		
4,4'-DDT							NA	NA	NA	NA	NA	NA	52.6	6.7	37.2	3.5		
mirex							NA	NA	NA	NA	NA	NA	4.10	0.45	6.47	0.77		
endosulfan sulfate							NA	NA	NA	NA	NA	NA	No assigned value		no target			
chlorpyrifos							NA	NA	NA	NA	NA	NA	<2		no target			

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

Laboratory: 6
Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	2/16/02	2/16/02	2/16/02	2/16/02	2/16/02	2/16/02	lab mean	lab	%RSD	lab mean	lab	%RSD	assigned value	95% CL	target value ^b	z-score (25%)	p-score (15%)		
	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	NA	No assigned value	no target						
PCB 8	1.84	1.86	2.32	<1	<1	<1	2.01	13.53	<1	NA	NA	2.46	0.36	0.840	-0.7	-0.6	0.9		
PCB 18	12.3	12.0	13.3	1.56	1.80	1.80	12.5	5.4	1.70	7.43	7.43	13.8	1.4	2.00	-0.4	-0.4	0.4		
PCB 28	8.35	7.73	9.07	1.11	1.30	1.12	8.38	8.00	1.78	9.09	9.09	10.9	1.4	1.46	-0.9	-0.9	0.5		
PCB 31	35.4	28.5	32.9	7.96	7.02	6.72	32.3	10.8	7.23	8.94	8.94	20.7	2.6	4.66	2.2	1.7	0.7		
PCB 44	20.4	20.0	20.8	2.91	3.74	2.26	20.4	2.0	2.97	24.98	24.98	25.0	2.9	3.80	-0.7	-0.7	0.1		
PCB 49	29.0	29.5	31.3	6.96	7.06	7.70	29.9	4.0	7.24	5.55	5.55	33.3	3.5	8.10	-0.4	-0.4	0.3		
PCB 52	60.1	58.3	60.5	8.47	7.83	9.30	59.6	2.0	8.53	8.64	8.64	70.2	6.1	10.8	-0.6	-0.7	0.1		
PCB 66	28.7	27.2	31.0	12.0	12.4	13.1	29.0	6.6	12.5	4.5	4.5	43.4	10.4	11.4	-1.3	-0.7	0.4		
PCB 95	72.2	68.8	76.3	27.6	29.5	28.8	72.4	5.2	28.6	3.4	3.4	75.0	8.9	25.6	-0.1	-0.1	0.3		
PCB 99	79.8	79.8	82.4	36.9	35.7	37.4	80.7	1.9	36.7	2.4	2.4	88.8	6.9	34.6	-0.4	-0.5	0.1		
PCB 101	39.2	35.7	41.1	20.7	21.4	22.1	38.7	7.1	21.4	3.3	3.3	60.8	4.7	19.9	-1.5	-2.0	0.5		
PCB 105	100	91.5	101	54.6	54.8	53.1	97.4	5.3	54.2	1.7	1.7	114	10	52.1	-0.6	-0.7	0.4		
PCB 118	31.7	25.3	26.0	18.3	26.4	21.4	27.7	12.7	22.0	18.5	18.5	31.4	3.3	22.8	-0.5	-0.5	0.8		
PCB 128	191	179	195	171	170	180	188	4	174	3	3	174	12	115	0.3	0.5	0.3		
PCB 138	61.4	58.3	65.4	25.4	27.1	26.6	61.7	5.8	26.4	3.3	3.3	63.5	7.6	26.3	-0.1	-0.1	0.4		
PCB 149	181	173	187	181	179	182	180	4	181	1	1	201	14	170	-0.4	-0.6	0.3		
PCB 153	10.2	8.74	8.75	6.91	9.90	8.59	9.23	9.10	8.47	17.70	17.70	15.4	1.9	9.52	-1.6	-1.6	0.6		
PCB 156	30.9	31.3	30.7	36.7	40.0	37.6	31.0	1.0	38.1	4.5	4.5	31.2	2.1	25.2	0.0	0.0	0.1		
PCB 170	69.6	57.2	65.3	71.0	69.1	68.0	64.0	9.8	69.4	2.2	2.2	81.0	7.2	74.4	-0.8	-0.9	0.7		
PCB 180	45.1	43.9	47.2	54.3	58.4	59.9	45.4	3.7	57.5	5.0	5.0	54.0	4.6	55.2	-0.6	-0.8	0.2		
PCB 187	12.2	8.2	13.6	12.8	13.7	13.2	11.3	24.7	13.2	3.4	3.4	12.6	1.2	13.0	-0.4	-0.5	1.6		
PCB 194	4.02	3.93	4.40	4.80	4.75	6.10	4.12	6.06	5.22	14.67	14.67	5.21	0.68	5.30	-0.8	-0.7	0.4		
PCB 195	4.35	5.78	5.37	6.30	6.74	6.93	5.17	14.25	6.66	4.85	4.85	5.51	0.50	5.40	-0.3	-0.3	1.0		
PCB 206	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	NA	2.25	0.21	1.30					
PCB 209																			

Number by Category	
Category	z (s)
<2	22
2 to 3	1
>3	0

Reported Results		No. of Analytes		%	
Quantitative	23	23	92		
Qualitative	2	8			
Not Determined	0	0			

Laboratory: 6
PCBs In Fish V

Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %				
S1	S2	S3	S1	S2	S3	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	p (15%)
8.8	9.3	9.1	10.1	11.5	11.8	9.1	2.8	10.1	0.5	10.2	0.5	-0.4	-0.1

TEO for Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a						
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V						
	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002	2/2002				
Analysis date	S1	S2	S3	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	%RSD	lab	lab mean ng/g wet	%RSD	lab	lab mean ng/g wet	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH	1.09	1.08	0.972	5.40	5.64	5.62	1.05	6.25	2.40	5.55	2.40	2.40	5.55	2.40	2.40	5.55	0.33	5.72	0.65	-0.6	-0.4	0.4	
hexachlorobenzene	5.56	5.54	5.63	6.95	7.41	7.12	5.58	0.85	3.25	7.16	3.25	3.25	7.16	3.25	3.25	7.16	0.53	7.25	0.83	-0.3	-0.5	0.1	
gamma-HCH	0.608	0.597	0.658	1.18	1.12	1.19	0.621	5.235	3.3	1.16	3.3	3.3	1.16	3.3	3.3	1.16	0.120	1.14	0.18	1.3	0.8	0.3	
beta-HCH	<2	<2	<2	0.555	0.619	0.704	<2	NA	11.9	0.626	11.9	11.9	0.626	11.9	11.9	0.626		no target					
heptachlor	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2		no target					
aldrin	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2		no target					
heptachlor epoxide	9.60	9.46	10.0	10.1	10.6	10.5	9.69	2.89	2.5	10.4	2.5	2.5	10.4	2.5	2.5	10.4	1.3	5.50	0.23	-1.1	-1.3	0.2	
oxychlorodane	19.5	20.0	20.4	16.7	17.7	17.4	20.0	2.3	3.0	17.3	3.0	3.0	17.3	3.0	3.0	17.3	2.2	18.9	1.5	-0.2	-0.3	0.2	
trans-chlordane	9.07	9.36	9.34	7.77	7.97	8.09	9.26	1.75	2.04	7.94	2.04	2.04	7.94	2.04	2.04	7.94	1.1	8.36	0.91	-0.7	-0.9	0.1	
2,4'-DDE	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	1.46	1.04	0.29				
endosulfan I	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2		no target					
cis-chlordane	32.2	30.5	32.0	22.8	23.2	23.3	31.6	2.9	1.1	23.1	1.1	1.1	23.1	1.1	1.1	23.1	4.0	32.5	1.8	-0.9	-1.2	0.2	
trans-nonachlor	82.9	79.4	82.8	75.1	78.2	77.1	81.7	2.4	2.0	76.8	2.0	2.0	76.8	2.0	2.0	76.8	10	99.6	7.6	-1.1	-1.4	0.2	
dieldrin	56.4	52.7	54.6	26.8	27.5	28.2	54.6	3.4	2.5	27.5	2.5	2.5	27.5	2.5	2.5	27.5	7.4	32.5	3.5	-1.2	-1.5	0.2	
4,4'-DDE	519	514	547	301	309	290	527	3	3	300	3	3	300	3	3	300	56	373	48	-0.6	-0.7	0.2	
2,4'-DDD	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	1.81	2.20	0.25				
endrin	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	1.20	no target					
endosulfan II	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	No assigned value	no target					
4,4'-DDD	39.7	39.6	41.3	15.6	16.6	19.7	40.2	2.4	12.4	17.3	12.4	12.4	17.3	12.4	12.4	17.3	3.8	17.7	2.8	-0.1	-0.1	0.2	
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	3.8	22.3	3.2				
cis-nonachlor	44.7	42.3	43.2	53.3	55.3	56.1	43.4	2.8	2.6	54.9	2.6	2.6	54.9	2.6	2.6	54.9	4.1	59.1	3.6	-0.6	-0.9	0.2	
4,4'-DDT	42.7	38.4	43.5	30.3	32.0	31.0	41.5	6.6	2.7	31.1	2.7	2.7	31.1	2.7	2.7	31.1	6.7	37.2	3.5	-0.8	-0.8	0.4	
mirex	6.08	5.72	6.65	10.6	11.4	11.6	6.15	7.62	4.7	11.2	4.7	4.7	11.2	4.7	4.7	11.2	0.45	6.47	0.77	2.0	2.6	0.5	
endosulfan sulfate	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	NA	<2	NA	NA	<2	No assigned value	no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2	no target					

Category	z (25%)	z (s)	p (15%)
< 2	13	13	14
2 to 3	1	1	0
> 3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	14	56
Qualitative	10	40
Not Determined	1	4

Laboratory: 6b
 Pesticides in Fish V

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	z/0002 S 1	z/0002 S 2	z/0002 S 3	z/0002 S 1	z/0002 S 2	z/0002 S 3	lab mean ng/g wet	lab %RSD %RSD	lab mean ng/g wet	lab %RSD %RSD	lab mean ng/g wet	lab %RSD %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (15%)	p-score (15%)
PCB 8	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2	No assigned value	no target						
PCB 18	2.38	2.32	2.35	0.757	0.732	0.689	2.35	1.28	0.726	4.738	0.840	2.46	0.36	0.840	0.110	-0.2	-0.1	0.1	
PCB 28	12.0	11.1	10.8	3.27	4.27	3.79	11.3	5.5	3.78	13.24	2.00	13.8	1.4	2.00	0.24	-0.7	-0.8	0.4	
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.46	10.9	1.4	1.46	0.20				
PCB 44	15.7	15.5	15.9	5.11	5.05	5.16	15.7	1.3	5.11	1.08	2.6	20.7	2.6	4.66	0.86	-1.0	-0.7	0.1	
PCB 49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9	25.0	2.9	3.80	0.39				
PCB 52	27.0	26.5	27.4	6.82	7.20	7.04	27.0	1.7	7.02	2.72	3.5	33.3	3.5	8.10	1.00	-0.8	-0.7	0.1	
PCB 66	32.6	34.3	37.1	4.86	5.88	5.17	34.7	6.6	5.30	9.86	6.1	70.2	6.1	10.8	1.9	-2.0	-2.4	0.4	
PCB 95	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	10.4	43.4	10.4	11.4	1.3				
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.9	75.0	8.9	25.6	2.3				
PCB 101	63.8	62.2	64.0	32.8	35.0	34.7	63.3	1.6	34.2	3.5	6.9	88.8	6.9	34.6	2.6	-1.1	-1.5	0.1	
PCB 105	36.3	35.1	38.1	20.1	23.4	26.8	36.5	4.1	23.4	14.3	4.7	60.8	4.7	19.9	0.9	-1.6	-2.2	0.3	
PCB 118	70.8	71.2	72.6	41.9	55.3	56.1	71.5	1.3	51.1	15.6	10	114	10	52.1	1.0	-1.5	-1.8	0.1	
PCB 128	30.8	30.1	30.7	34.6	36.0	27.3	30.5	1.2	32.6	14.3	3.3	31.4	3.3	22.8	1.9	-0.1	-0.1	0.1	
PCB 138	167	116	120	122	134	132	134	21	129	5	12	174	12	115	13	-0.9	-1.4	1.4	
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.6	63.5	7.6	26.3	1.3				
PCB 153	199	205	225	194	163	161	210	6	173	11	14	201	14	170	9	0.2	0.2	0.4	
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.9	15.4	1.9	9.52	0.51				
PCB 170	27.5	26.8	27.8	28.5	30.8	30.8	27.4	1.9	30.0	4.4	2.1	31.2	2.1	25.2	2.2	-0.5	-0.7	0.1	
PCB 180	70.2	65.4	70.4	73.5	80.6	78.8	68.7	4.1	77.6	4.4	7.2	81.0	7.2	74.4	4.0	-0.6	-0.7	0.3	
PCB 187	41.5	41.3	42.0	47.2	53.4	53.8	41.6	0.9	51.5	7.2	4.6	54.0	4.6	55.2	2.1	-0.9	-1.1	0.1	
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.2	12.6	1.2	13.0	1.3				
PCB 195	7.54	7.69	7.74	7.73	8.48	8.38	7.66	1.4	8.20	4.97	0.68	5.21	0.68	5.30	0.45	1.9	1.5	0.1	
PCB 206	5.91	5.87	6.00	6.52	7.27	7.25	5.93	1.1	7.01	6.09	0.50	5.51	0.50	5.40	0.43	0.3	0.3	0.1	
PCB 209	2.64	2.53	2.78	1.34	1.47	1.41	2.65	4.7	1.41	4.63	0.21	2.25	0.21	1.30	0.21	0.7	0.8	0.3	

Category	Number by Category	
	z (25%)	p (15%)
< 2	16	15
2 to 3	1	2
> 3	0	0

Reported Results	No. of Analytes	
	%	%
Quantitative	16	64
Qualitative	3	12
Not Determined	6	24

Laboratory: 6b
 PCBs in Fish V

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %		
	S 1	S 2	S 3	mean, %	%RSD	%RSD	mean, %	%RSD	%RSD	mean, %	%RSD	%RSD
TEO or lipid	8.8	9.3	9.1	9.1	2.8	2.8	11.1	8.2	10.1	0.5	10.2	0.5

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores*	
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	11/15/01	2/10/02	2/21/02	11/15/01	2/10/02	2/21/02	lab mean	lab	lab	lab mean	target value ^b	95% CL	z-score (25%)	p-score (15%)	z-score (s)	p-score (15%)		
Analysis date	S1	S2	S3	S1	S2	S3	ng/g wet	%RSD	ng/g wet	%RSD	95% CL	95% CL						
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.22	0.33	5.72	0.65				
hexachlorobenzene	2.30	1.71	1.44	3.18	3.47	2.06	1.82	24.17	2.90	25.67	6.11	0.53	7.25	0.83	-2.8	-3.8		
gamma-HCH	0.37	DL	DL	0.51	1.53	1.20	0.37	NA	1.08	48.3	0.467	0.120	1.14	0.18	-0.8	-0.5		
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
heptachlor	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	<2		no target					
aldrin	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	<2		no target					
heptachlor epoxide	13.0	18.3	13.2	6.19	10.0	5.25	14.8	20.2	7.15	35.28	13.2	1.3	5.50	0.23	0.5	0.6		
oxychlorodane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2	2.2	18.9	1.5				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	1.1	8.36	0.91				
2,4'-DDE	7.12	9.80	3.87	6.73	5.10	13.8	6.93	42.86	8.55	54.3	3.91	1.46	1.04	0.29	3.1	1.4		
endosulfan I	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	<2		no target					
cis-chlordane	4.83	30.2	26.8	5.86	17.2	14.5	20.6	66.8	12.5	47.3	41.4	4.0	32.5	1.8	-2.0	-2.5		
trans-nonachlor	53.1	64.9	32.5	68.1	47.1	32.4	50.2	32.7	49.2	36.5	113	10	99.6	7.6	-2.2	-2.8		
dieldrin	94.6	94.9	100	28.1	32.7	26.6	96.6	3.4	29.1	10.9	77.7	7.4	32.5	3.5	1.0	1.2		
4,4'-DDE	421	506	218	305	241	139	382	39	228	37	621	56	373	48	-1.5	-1.8		
2,4'-DDD	1.63	5.38	3.68	DL	DL	DL	3.56	52.81	DL	NA	5.28	1.81	2.20	0.25	-1.3	-0.5		
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.91	1.20	no target					
endosulfan II	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	No assigned value		no target					
4,4'-DDD	60.9	63.6	59.4	19.2	24.5	17.3	61.3	3.5	20.3	18.3	40.9	3.8	17.7	2.8	2.0	2.4		
2,4'-DDT	6.83	21.1	9.69	17.2	12.6	7.46	12.5	60.2	12.4	39.2	18.8	3.8	22.3	3.2	-1.3	-0.9		
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50.7	4.1	59.1	3.6				
4,4'-DDT	37.5	50.1	27.4	30.2	30.8	18.7	38.3	29.7	26.6	25.7	52.6	6.7	37.2	3.5	-1.1	-1.0		
imirex	1.55	2.43	1.98	3.43	2.55	3.65	1.99	22.27	3.21	18.18	4.10	0.45	6.47	0.77	-2.1	-2.7		
endosulfan sulfate	0.705	DL	DL	DL	DL	DL	0.705	NA	DL	NA	No assigned value		no target					
chlorpyrifos	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	8	8
2 to 3	4	4
>3	1	1

Reported Results	No. of Analytes		%
	Quantitative	14	
Qualitative	5	20	
Not Determined	6	24	

Laboratory: 7
 Pesticides in Fish V

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Fish V		
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB8	DL	DL	DL	2.30	3.60	1.43	DL	NA	2.44	44.61	No assigned value		no target						
PCB 18	DL	DL	DL	DL	DL	DL	DL	DL	DL	NA	2.46	0.36	0.840	0.110					
PCB 28	8.09	10.2	3.88	3.72	5.22	0.987	7.38	43.42	3.31	64.83	13.8	1.4	2.00	0.24	-1.9	-2.1	2.9		
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.9	1.4	1.46	0.20					
PCB 44	19.2	18.6	10.5	2.42	3.46	1.06	16.1	30.3	2.31	52.05	20.7	2.6	4.66	0.86	-0.9	-0.7	2.0		
PCB 49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	2.9	3.80	0.39					
PCB 52	33.8	35.5	18.6	5.40	8.28	4.21	29.3	31.8	5.96	35.14	33.3	3.5	8.10	1.00	-0.5	-0.5	2.1		
PCB 66	53.6	73.7	35.9	7.53	8.93	4.12	54.4	34.7	6.86	36.03	70.2	6.1	10.8	1.9	-0.9	-1.1	2.3		
PCB 95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.4	10.4	11.4	1.3					
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	75.0	8.9	25.6	2.3					
PCB 101	83.1	93.5	44.6	27.9	37.9	21.4	73.7	35.0	29.3	28.6	88.8	6.9	34.6	2.6	-0.7	-0.9	2.3		
PCB 105	47.1	44.9	38.9	20.6	20.9	19.2	43.6	9.7	20.3	4.6	60.8	4.7	19.9	0.9	-1.1	-1.5	0.6		
PCB 118	93.3	108	60.9	40.7	50.3	32.8	87.5	27.7	41.3	21.2	114	10	52.1	1.0	-0.9	-1.1	1.8		
PCB 128	38.5	40.8	25.6	17.7	31.3	21.7	35.0	23.4	23.6	28.6	31.4	3.3	22.8	1.9	0.5	0.5	1.6		
PCB 138	168	130	10.9	108	48.0	46.4	103	80	67.6	52.2	174	12	115	1.3	-1.6	-2.5	5.3		
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63.5	7.6	26.3	1.3					
PCB 153	177	197	93.2	129	167	92.3	156	35	129	29	201	14	170	9	-0.9	-1.3	2.4		
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.4	1.9	9.52	0.51					
PCB 170	30.2	33.3	9.2	23.1	27.1	19.4	24.2	54.1	23.2	16.5	31.2	2.1	25.2	2.2	-0.9	-1.4	3.6		
PCB 180	62.6	70.2	34.4	49.8	61.5	41.1	55.7	33.8	50.8	20.2	81.0	7.2	74.4	4.0	-1.2	-1.4	2.3		
PCB 187	38.4	58.9	34.3	41.1	62.0	39.8	43.9	30.0	47.6	26.2	54.0	4.6	55.2	2.1	-0.7	-0.9	2.0		
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.6	1.2	13.0	1.3					
PCB 195	3.87	4.33	2.36	4.09	4.48	2.69	3.52	29.3	3.75	25.14	5.21	0.68	5.30	0.45	-1.3	-1.0	2.0		
PCB 206	4.22	5.07	0.746	3.26	4.39	2.58	3.35	68.5	3.41	26.93	5.51	0.50	5.40	0.43	-1.6	-1.8	4.6		
PCB 209	2.58	2.87	1.12	1.17	1.46	0.89	2.19	42.8	1.17	24.07	2.25	0.21	1.30	0.21	-0.1	-0.1	2.9		
Laboratory: 7 PCBs in Fish V	Reported Results												Number by Category						
	Quantitative												Category	z (25%)		p (15%)			
	Qualitative												< 2	16	14	3			
	Not Determined												2 to 3	0	2	8			
													> 3	0	0	3			
TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		
TEO or lipid	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	p (15%)		
	8.6	9.1	11.4	7.3	10.5	11.2	9.7	15.3	9.7	15.3	10.1	0.5	10.2	0.5	-0.1	0.0	1.0		

^a z- and p-scores > 3 are bolded. ^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Performance scores ^a		
	2/102 S1	2/102 S2	2/102 S3	2/102 S1	2/102 S2	2/102 S3	lab mean ng/g wet	lab RSD %	lab mean ng/g wet	lab RSD %	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
Analysis date																			
alpha-HCH	2.66	3.08	1.59	5.28	5.93	6.24	2.44	31.44	5.82	8.42	1.22	0.33	5.72	0.65	4.0	2.7	2.1		
hexachlorobenzene	6.76	6.75	5.55	9.06	8.21	7.19	6.35	10.95	8.15	11.48	6.11	0.53	7.25	0.83	0.2	0.2	0.7		
gamma-HCH	0.491	0.394	0.290	1.94	1.53	1.03	0.392	25.7	1.50	30.4	0.467	0.120	1.14	0.18	-0.6	-0.4	1.7		
beta-HCH	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	<2		no target						
heptachlor	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	<2		no target						
aldrin	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	<2		no target						
heptachlor epoxide	10.1	10.2	2.77	6.73	4.96	DL	7.69	55.4	5.85	21.41	13.2	1.3	5.50	0.23	-1.7	-2.0	3.7		
oxychlorane	21.5	20.9	18.2	13.6	11.9	15.9	20.2	8.7	13.8	14.5	21.2	2.2	18.9	1.5	-0.2	-0.2	0.6		
trans-chlordane	12.5	12.3	11.4	7.01	10.2	11.8	12.1	4.9	9.67	25.22	11.2	1.1	8.36	0.91	0.3	0.4	0.3		
2,4'-DDE	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	3.91	1.46	1.04	0.29					
endosulfan I	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	<2		no target						
cis-chlordane	30.6	32.2	25.0	34.2	39.6	40.9	29.3	12.9	38.2	9.3	41.4	4.0	32.5	1.8	-1.2	-1.5	0.9		
trans-nonachlor	87.0	92.7	76.4	121	143	134	85.4	9.7	133	8	113	10	99.6	7.6	-1.0	-1.2	0.6		
dieldrin	67.7	64.0	72.8	34.1	41.9	31.4	68.2	6.5	35.8	15.2	77.7	7.4	32.5	3.5	-0.5	-0.6	0.4		
4,4'-DDE	99.1	115	648	421	488	419	287	109	443	9	621	56	373	48	-2.1	-2.5	7.2		
2,4'-DDD	5.40	5.75	6.99	1.96	3.16	2.64	6.05	13.82	2.59	23.26	5.28	1.81	2.20	0.25	0.6	0.2	0.9		
endrin	1.73	2.47	3.15	3.94	8.40	7.26	2.45	29.0	6.53	35.5	2.91	1.20	no target		-0.6	-0.3	1.9		
endosulfan II	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	No assigned value		no target						
4,4'-DDD	39.9	36.9	47.3	21.7	32.9	26.2	41.4	12.9	26.9	20.9	40.9	3.8	17.7	2.8	0.0	0.1	0.9		
2,4'-DDT	7.51	5.58	4.21	15.6	20.5	10.7	5.77	28.7	15.6	31.4	18.8	3.8	22.3	3.2	-2.8	-1.8	1.9		
cis-nonachlor	44.8	45.0	52.8	63.6	76.6	66.1	47.5	9.6	68.8	10.0	50.7	4.1	59.1	3.6	-0.2	-0.4	0.6		
4,4'-DDT	47.8	45.3	62.0	43.3	56.3	53.6	51.7	17.4	51.1	13.4	52.6	6.7	37.2	3.5	-0.1	-0.1	1.2		
mirex	4.71	4.17	1.51	7.25	10.0	11.2	3.46	49.46	9.48	21.35	4.10	0.45	6.47	0.77	-0.6	-0.8	3.3		
endosulfan sulfate	20.8	19.7	26.3	23.9	57.8	36.3	22.3	15.9	39.3	43.6	No assigned value		no target				1.1		
chlorpyrifos	DL	DL	DL	DL	DL	DL	DL	NA	DL	NA	<2		no target						

Category	Number by Category	
	z (25%)	p (15%)
<2	14	14
2 to 3	2	3
>3	1	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
	20	5	
Not Determined	0	0	0

Laboratory: 8
 Pesticides in Fish V

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 8

Sample: QA02FSH5 - Fish Homogenate V

Reporting Date: 4/5/02

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory															Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V									
	2/102 S1	2/102 S2	2/102 S3	2/102 S1	2/102 S2	2/102 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)					
PCB 8	13.9	11.3	2.29	DL	DL	3.34	9.16	66.5	3.34	NA	NA	no target				4.4						
PCB 18	3.14	2.46	1.99	DL	DL	0.615	2.53	22.85	0.615	NA	NA	0.840	0.110	0.1	0.1	1.5						
PCB 28	13.2	12.7	12.4	2.10	2.08	2.41	12.8	3.2	2.20	8.42	8.42	2.00	0.24	-0.3	-0.3	0.2						
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.46	0.20									
PCB 44	17.0	14.9	14.7	4.07	4.20	5.12	15.5	3.2	4.46	12.82	12.82	4.66	0.86	-1.0	-0.8	0.5						
PCB 49	21.7	21.3	17.9	2.36	2.73	2.29	20.3	10.3	2.46	9.61	9.61	3.80	0.39	-0.7	-0.7	0.7						
PCB 52	30.2	29.1	22.8	7.37	7.98	7.63	27.4	14.6	2.46	4.00	4.00	8.10	1.00	-0.7	-0.7	1.0						
PCB 66	75.8	73.8	54.5	8.76	8.91	7.76	68.0	17.3	8.48	7.38	7.38	10.8	1.9	-0.1	-0.1	1.2						
PCB 95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.4	1.3									
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.6	2.3									
PCB 101	76.0	73.7	59.5	33.1	30.3	31.8	69.7	12.8	31.7	4.4	4.4	34.6	2.6	-0.9	-1.1	0.9						
PCB 105	40.3	39.5	37.9	23.0	28.7	21.2	39.2	3.2	24.3	19.1	19.1	19.9	0.9	-1.4	-1.9	0.2						
PCB 118	95.3	90.2	96.8	66.2	81.5	55.7	94	4	67.8	19.1	19.1	52.1	1.0	-0.7	-0.8	0.2						
PCB 128	30.6	28.9	33.6	71.7	86.3	64.3	31.0	7.7	24.3	19.1	19.1	22.8	1.9	0.0	0.0	0.5						
PCB 138	165	163	187	224	268	215	172	8	236	12	12	115	13	-0.1	-0.1	0.5						
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26.3	1.3									
PCB 153	159	157	154	233	275	188	157	2	232	19	19	170	9	-0.9	-1.3	0.1						
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.52	0.51									
PCB 170	16.7	17.0	102	36.7	52.0	29.6	45.2	108.7	39.4	29.0	29.0	25.2	2.2	1.8	2.7	7.2						
PCB 180	96.9	93.8	102	108	126	95.2	97.6	4.2	110	14	14	74.4	4.0	0.8	0.9	0.3						
PCB 187	39.6	39.3	49.8	74.9	87.8	63.8	42.9	13.9	75.5	15.9	15.9	55.2	2.1	-0.8	-1.0	0.9						
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.0	1.3									
PCB 195	5.70	3.99	6.46	6.46	8.12	8.17	5.38	23.5	7.58	12.83	12.83	5.30	0.45	0.1	0.1	1.6						
PCB 206	4.56	4.78	4.50	5.38	6.61	8.25	4.61	3.2	6.75	21.34	21.34	5.40	0.43	-0.7	-0.7	0.2						
PCB 209	2.30	2.06	1.58	1.24	1.20	1.65	1.98	18.5	1.36	18.27	18.27	1.30	0.21	-0.5	-0.5	1.2						

Laboratory: 8 PCBs in Fish V	Reported Results		No. of Analytes	
	Quantitative	Qualitative	1	4
	18	72	6	24

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %	
	S1	S2	S1	S2	S1	S2
	23.3	18.1	36.6	NA	26.0	36.7

TEO or liquid	Fish V, %		SRM 1946, %		Fish V, %	
	S1	S2	S1	S2	S1	S2
	23.3	18.1	36.6	NA	26.0	36.7

Laboratory: 8 PCBs in Fish V	Number by Category	
	z (25%)	p (15%)
	< -2	18
2 to 3	0	
> 3	0	

Category	Number by Category	
	z (25%)	p (15%)
< -2	18	17
2 to 3	0	1
> 3	0	2

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise
Sample: QA02FSHS - Fish Homogenate V
(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Fish V
		S1	S2	S3	S1	S2	S3	lab mean	%RSD	lab mean	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH		0.950	0.900	0.840	4.60	5.00	4.40	0.897	6.142	4.67	6.55	1.22	0.33	5.72	0.65	-1.1	-0.7	0.4
hexachlorobenzene		5.20	5.80	4.70	6.30	6.50	6.20	5.23	10.52	6.33	2.41	6.11	0.53	7.25	0.83	-0.6	-0.8	0.7
gamma-HCH		0.330	0.300	0.340	0.750	0.860	0.750	0.323	6.438	0.787	8.07	0.467	0.120	1.14	0.18	-1.2	-0.7	0.4
beta-HCH		<2.1	<2.1	<2.1	0.260	0.290	0.230	<2.1	NA	0.260	11.54	<2		no target				
heptachlor		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	<2		no target				
aldrin		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	<2		no target				
heptachlor epoxide		11.0	10.0	11.0	4.80	5.70	4.90	10.7	5.4	5.13	9.61	13.2	1.3	5.50	0.23	-0.8	-0.9	0.4
oxychlorodane		17.0	16.0	17.0	13.0	15.0	13.0	16.7	3.5	13.7	8.4	21.2	2.2	18.9	1.5	-0.9	-1.1	0.2
trans-chlordane		8.50	7.10	8.10	6.10	6.00	5.40	7.90	9.13	5.83	6.49	11.2	1.1	8.36	0.91	-1.2	-1.5	0.6
2,4'-DDE		38.0	40.0	37.0	<11	<11	<11	38.3	4.0	<11	NA	3.91	1.46	1.04	0.29	35.2	15.8	0.3
endosulfan I		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	<2		no target				
cis-chlordane		40.0	40.0	37.0	23.0	26.0	25.0	39.0	4.4	24.7	6.2	41.4	4.0	32.5	1.8	-0.2	-0.3	0.3
trans-nonachlor		130	140	130	97.0	100	110	133	4	102	7	113	10	99.6	7.6	0.7	0.9	0.3
dieldrin		67.0	71.0	65.0	25.0	26.0	25.0	67.7	4.5	25.3	2.3	77.7	7.4	32.5	3.5	-0.5	-0.6	0.3
4,4'-DDE		690	720	640	370	360	370	683	6	367	2	621	56	373	48	0.4	0.5	0.4
2,4'-DDD		2.70	2.40	2.30	0.850	1.20	1.10	2.47	8.44	1.05	17.17	5.28	1.81	2.20	0.25	-2.1	-0.8	0.6
endrin		1.70	1.90	1.60	2.30	2.50	2.40	1.73	8.81	2.40	4.17	2.91	1.20	no target		-1.6	-0.8	0.6
endosulfan II		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	No assigned value		no target				
4,4'-DDD		29.0	26.0	28.0	8.60	9.50	8.10	27.7	5.5	8.73	8.12	40.9	3.8	17.7	2.8	-1.3	-1.6	0.4
2,4'-DDT		<17	<23	<21	24.0	24.0	25.0	<17	NA	24.3	2.4	18.8	3.8	22.3	3.2			
cis-nonachlor		39.0	33.0	45.0	42.0	43.0	39.0	39.0	15.4	41.3	5.0	50.7	4.1	59.1	3.6	-0.9	-1.4	1.0
4,4'-DDT		63.0	69.0	59.0	45.0	47.0	50.0	63.7	7.9	47.3	5.3	52.6	6.7	37.2	3.5	0.8	0.8	0.5
mitex		<6.3	<7	<5.8	<8.9	<8.8	<9.5	<5.8	NA	<8.8	NA	4.10	0.45	6.47	0.77			
endosulfan sulfate		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	No assigned value		no target				
chlorpyrifos		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	NA	<2.1	NA	<2		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	14	16
2 to 3	1	0
>3	1	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	16	64	64
Qualitative	9	36	36
Not Determined	0	0	0

Laboratory: 9
Pesticides In Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		p-score (15%)
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab	lab mean ng/g wet	lab %RSD	lab	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	
PCB 8	<0.85	<0.83	<0.82	<0.87	<0.87	<0.87	NA	<0.87	NA	<0.87	NA	No assigned value	No assigned value	no target	No assigned value				
PCB 18	2.10	2.30	1.90	<0.87	<0.87	<0.87	2.10	9.52	<0.87	NA	0.840	2.46	0.36	0.840	0.110	-0.6	-0.5	0.6	
PCB 28	12.0	13.0	11.0	1.90	1.90	1.90	12.0	8.3	1.90	0.00	13.8	13.8	1.4	2.00	0.24	-0.5	-0.6	0.6	
PCB 31	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	10.9	10.9	1.4	1.46	0.20				
PCB 44	18.0	19.0	16.0	3.80	3.60	3.90	17.7	8.6	3.77	4.06	20.7	20.7	2.6	4.66	0.86	-0.6	-0.4	0.6	
PCB 49	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	25.0	25.0	2.9	3.80	0.39				
PCB 52	30.0	33.0	27.0	8.30	6.70	7.30	30.0	10.0	7.43	10.87	33.3	33.3	3.5	8.10	1.00	-0.4	-0.4	0.7	
PCB 66	65.0	72.0	60.0	8.70	9.00	9.80	65.7	9.2	9.17	6.20	70.2	70.2	6.1	10.8	1.9	-0.3	-0.3	0.6	
PCB 95	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	43.4	43.4	10.4	11.4	1.3				
PCB 99	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	75.0	75.0	8.9	25.6	2.3				
PCB 101	91.0	98.0	84.0	38.0	41.0	43.0	91.0	7.7	40.7	6.2	88.8	88.8	6.9	34.6	2.6	0.1	0.1	0.5	
PCB 105	50.0	55.0	47.0	32.0	33.0	36.0	50.7	8.0	33.7	6.2	60.8	60.8	4.7	19.9	0.9	-0.7	-0.9	0.5	
PCB 118	110	120	110	66.0	73.0	79.0	113	5	72.7	9.0	114	114	10	52.1	1.0	0.0	0.0	0.3	
PCB 128	35.0	36.0	32.0	23.0	24.0	25.0	34.3	6.1	24.0	4.2	31.4	31.4	3.3	22.8	1.9	0.4	0.4	0.4	
PCB 138	170	180	150	130	130	140	167	9	133.3	4.3	174	174	12	115	13	-0.2	-0.3	0.6	
PCB 149	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	63.5	63.5	7.6	26.3	1.3				
PCB 153	190	200	170	170	180	190	187	8	180.0	5.6	201	201	14	170	9	-0.3	-0.4	0.5	
PCB 156	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	15.4	15.4	1.9	9.52	0.51				
PCB 170	39.0	43.0	37.0	35.0	38.0	41.0	39.7	7.7	38.0	7.9	31.2	31.2	2.1	25.2	2.2	1.1	1.7	0.5	
PCB 180	81.0	85.0	74.0	74.0	78.0	81.0	80.0	7.0	77.7	4.5	81.0	81.0	7.2	74.4	4.0	0.0	-0.1	0.5	
PCB 187	66.0	72.0	61.0	58.0	66.0	73.0	66.3	8.3	65.7	11.4	54.0	54.0	4.6	55.2	2.1	0.9	1.1	0.6	
PCB 194	NAF	NAF	NAF	NAF	NAF	NAF	NAF	NA	NAF	NA	12.6	12.6	1.2	13.0	1.3				
PCB 195	5.90	6.20	5.30	5.30	5.70	6.20	5.80	7.9	5.80	6.22	5.21	5.21	0.68	5.30	0.45	0.4	0.4	0.5	
PCB 206	6.50	7.10	6.20	5.40	5.50	6.00	6.60	6.9	5.63	5.71	5.51	5.51	0.50	5.40	0.43	0.8	0.9	0.5	
PCB 209	2.40	2.50	2.20	0.950	0.940	1.00	2.37	6.5	0.963	3.337	2.25	2.25	0.21	1.30	0.21	0.2	0.2	0.4	

Laboratory: 9 PCBs in Fish V	Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	mean, %	%RSD	%RSD	assigned	95% CL	target	95% CL	target	95% CL
							NA	NA	NA	0.0	0.0	NA	10.1	0.5	10.2	0.5	10.2	0.5

Laboratory: 9 PCBs in Fish V	Reported Results			No. of Analytes			Number by Category		
	Quantitative	Qualitative	Not Determined	16	64	0	< 2	2 to 3	> 3
	16	64	0	16	64	0	17	17	17

*z- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores*		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	3/1/02	3/29/02	3/29/02	3/1/02	3/29/02	3/29/02	lab mean ng/g wet	lab %RSD	SRM 1946 lab mean ng/g wet	lab %RSD	SRM 1946 target value ^b	95% CL	assigned value	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
alpha-HCH	<5	<5	<5	4.87	4.83	1.99	<5	NA	3.90	42.38	5.72	0.33	1.22	0.65					
hexachlorobenzene	3.09	2.87	4.40	5.23	5.01	5.52	3.45	23.95	5.25	4.87	7.25	0.53	6.11	0.83	-1.7	-2.3	1.6		
gamma-HCH	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	1.14	0.120	0.467	0.18					
beta-HCH	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	no target		<2						
heptachlor	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	no target		<2						
aldrin	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	no target		<2						
heptachlor epoxide	16.9	13.7	17.8	3.79	3.02	4.76	16.1	13.4	3.86	22.61	5.50	1.3	13.2	0.23	0.9	1.1	0.9		
oxychlorodane	11.9	12.6	13.6	9.79	11.8	8.06	12.7	6.7	9.88	18.9	18.9	2.2	21.2	1.5	-1.6	-2.0	0.4		
trans-chlordane	12.8	10.4	14.4	4.88	5.72	8.06	12.5	16.1	6.22	26.49	8.36	1.1	11.2	0.91	0.5	0.6	1.1		
2,4'-DDE	Other	Other	Other	Other	Other	Other	Other	NA	Other	NA	1.04	1.46	3.91	0.29					
endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target		<2						
cis-chlordane	31.1	34.4	35.0	22.4	25.6	28.4	33.5	6.3	25.5	11.8	32.5	4.0	41.4	1.8	-0.8	-1.0	0.4		
trans-nonachlor	128	134	112	105	116	110	125	9	110	5	99.6	10	113	7.6	0.4	0.5	0.6		
dieldrin	66.3	73.0	71.9	26.7	27.4	30.7	70.4	5.1	28.3	7.6	32.5	7.4	77.7	3.5	-0.4	-0.5	0.3		
4,4'-DDE	610	638	573	346	306	304	607	5	319	7	373	56	621	48	-0.1	-0.1	0.4		
2,4'-DDD	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	2.20	1.81	5.28	0.25					
endrin	Other	Other	Other	Other	Other	Other	Other	NA	Other	NA	no target		2.91						
endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target		No assigned value						
4,4'-DDD	29.5	49.3	41.0	Other	Other	Other	39.9	24.9	Other	NA	17.7	3.8	40.9	2.8	-0.1	-0.1	1.7		
2,4'-DDT	4.76	8.18	6.10	4.74	10.2	8.86	6.35	27.2	7.93	35.9	22.3	3.8	18.8	3.2	-2.7	-1.8	1.8		
cis-nonachlor	34.7	44.7	42.4	46.0	53.3	56.2	40.6	12.9	51.8	10.1	59.1	4.1	50.7	3.6	-0.8	-1.2	0.9		
4,4'-DDT	39.7	18.0	34.2	10.2	15.6	16.7	30.6	36.8	14.2	24.6	37.2	6.7	52.6	3.5	-1.7	-1.6	2.5		
imrex	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	6.47	0.45	4.10	0.77					
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target		No assigned value						
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target		<2						

Category	Number by Category	
	z (25%)	p (15%)
<2	11	10
2 to 3	1	2
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	12	
Qualitative	9	36	
Not Determined	4	16	

^b Certified material reference values are bolded.

^a z- and p-scores > 3 are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory										Material reference values			Performance scores ^a			
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8							NA	NA	NA	NA	No assigned value	no target					
PCB 18							NA	NA	NA	NA	2.46	0.36	0.840	0.110			
PCB 28							NA	NA	NA	NA	13.8	1.4	2.00	0.24			
PCB 31							NA	NA	NA	NA	10.9	1.4	1.46	0.20			
PCB 44							NA	NA	NA	NA	20.7	2.6	4.66	0.86			
PCB 49							NA	NA	NA	NA	25.0	2.9	3.80	0.39			
PCB 52							NA	NA	NA	NA	33.3	3.5	8.10	1.00			
PCB 66							NA	NA	NA	NA	70.2	6.1	10.8	1.9			
PCB 95							NA	NA	NA	NA	43.4	10.4	11.4	1.3			
PCB 99							NA	NA	NA	NA	75.0	8.9	25.6	2.3			
PCB 101							NA	NA	NA	NA	88.8	6.9	34.6	2.6			
PCB 105							NA	NA	NA	NA	60.8	4.7	19.9	0.9			
PCB 118							NA	NA	NA	NA	114	10	52.1	1.0			
PCB 128							NA	NA	NA	NA	31.4	3.3	22.8	1.9			
PCB 138							NA	NA	NA	NA	174	12	115	13			
PCB 149							NA	NA	NA	NA	63.5	7.6	26.3	1.3			
PCB 153							NA	NA	NA	NA	201	14	170	9			
PCB 156							NA	NA	NA	NA	15.4	1.9	9.52	0.51			
PCB 170							NA	NA	NA	NA	31.2	2.1	25.2	2.2			
PCB 180							NA	NA	NA	NA	81.0	7.2	74.4	4.0			
PCB 187							NA	NA	NA	NA	54.0	4.6	55.2	2.1			
PCB 194							NA	NA	NA	NA	12.6	1.2	13.0	1.3			
PCB 195							NA	NA	NA	NA	5.21	0.68	5.30	0.45			
PCB 206							NA	NA	NA	NA	5.51	0.50	5.40	0.43			
PCB 209							NA	NA	NA	NA	2.25	0.21	1.30	0.21			

Category	Number by Category		
	z (25%)	z (s)	p (15%)
<2	0	0	0
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	0	
	Not Determined	24	
Quantitative	1	4	
Not Determined	24	96	

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		SRM 1946, %	
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	assigned	95% CL
TEO or lipid	11.0	10.0	9.1	12.0	6.7	12.0	10.0	9.5	10.1	0.5
							10.2	29.9	10.2	0.5

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	1/15/01 S1	1/15/01 S2	1/15/01 S3	1/15/01 S1	1/15/01 S2	1/15/01 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH	8.27	7.27	6.28	7.19	7.21	5.50	7.27	13.70	6.63	14.76	1.22	0.33	5.72	0.65	19.8	13.1	0.9	
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.11	0.53	7.25	0.83				
gamma-HCH	0.414	0.476	0.309	0.957	0.951	0.807	0.400	2.11	0.905	9.4	0.467	0.120	1.14	0.18	-0.6	-0.3	1.4	
beta-HCH	69.0	56.8	54.7	45.8	45.6	37.8	60.2	12.8	43.0	10.6	<2		no target				0.9	
heptachlor	1.95	1.88	2.15	1.95	1.88	2.15	1.99	6.86	1.99	6.86	<2		no target				0.5	
aldrin	2.62	2.04	1.97	0.843	0.812	0.764	2.21	16.2	0.806	4.881	<2		no target				1.1	
heptachlor epoxide	8.92	8.48	8.18	4.51	4.18	3.95	8.53	4.37	4.21	6.63	13.2	1.3	5.50	0.23	-1.4	-1.7	0.3	
oxychlorodane	5.44	5.05	4.79	4.38	3.92	3.36	5.09	6.39	3.89	13.14	21.2	2.2	18.9	1.5	-3.0	-3.8	0.4	
trans-chlordane	8.97	8.07	7.94	6.13	6.07	3.60	8.33	6.79	5.26	27.44	11.2	1.1	8.36	0.91	-1.0	-1.3	0.5	
2,4'-DDE	11.7	12.3	12.7	11.7	12.3	12.7	12.2	4.1	12.2	4.1	3.91	1.46	1.04	0.29	8.5	3.8	0.3	
endosulfan I	0.264	0.197	0.084	0.150	0.161	0.076	0.182	50.2	0.129	35.9	<2		no target				3.3	
cis-chlordane	18.7	19.4	15.5	12.6	10.6	10.6	17.9	11.7	11.3	10.3	41.4	4.0	32.5	1.8	-2.3	-2.9	0.8	
trans-nonachlor	63.6	66.7	73.2	63.6	66.7	73.2	67.9	7.2	67.9	7.2	113	10	99.6	7.6	-1.6	-2.0	0.5	
dieldrin	43.5	43.3	40.4	11.1	10.4	10.6	42.4	4.0	10.7	3.6	77.7	7.4	32.5	3.5	-1.8	-2.2	0.3	
4,4'-DDE	466	526	524	466	526	524	505	7	505	7	621	56	373	48	-0.7	-0.9	0.4	
2,4'-DDD	1.55	1.89	1.81	11.7	12.3	12.7	1.75	10.37	12.2	4.1	5.28	1.81	2.20	0.25	-2.7	-1.0	0.7	
endrin	4.95	6.99	5.85	6.97	6.57	5.86	5.93	17.2	6.47	8.7	2.91	1.20	no target		4.2	2.1	1.1	
endosulfan II	6.99	6.93	7.35	4.46	4.05	3.62	7.09	3.2	4.04	10.4	No assigned value		no target				0.2	
4,4'-DDD	25.7	26.4	25.1	10.4	10.0	8.96	25.7	2.6	9.81	7.76	40.9	3.8	17.7	2.8	-1.5	-1.8	0.2	
2,4'-DDT	103	96.9	92.0	104	101	86.0	97.4	5.9	97.0	9.9	18.8	3.8	22.3	3.2	16.7	11.1	0.4	
cis-nonachlor	66.7	74.3	79.7	66.7	74.3	79.7	73.6	8.9	73.6	8.9	50.7	4.1	59.1	3.6	1.8	2.7	0.6	
4,4'-DDT	27.4	33.5	23.3	49.1	44.1	38.5	28.1	18.3	43.9	12.1	52.6	6.7	37.2	3.5	-1.9	-1.8	1.2	
imrex	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10	0.45	6.47	0.77				
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	9	7
2 to 3	2	5
>3	5	4

Reported Results	No. of Analytes		%
	Quantitative	21	
Qualitative	0	0	
Not Determined	4	16	

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02FSHS - Fish Homogenate V
 (data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a			
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V			
		S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)
PCB 8		8.23	4.38	5.87	5.53	6.58	5.15	31.6	31.6	5.75	12.84			No assigned value		no target					2.1
PCB 18		1.37	1.42	1.62	0.692	0.835	0.637	1.47	9.09	0.721	14.16			2.46	0.36	0.840		0.110	-1.6	-1.3	0.6
PCB 28		10.9	12.3	13.3	3.63	3.76	3.28	12.2	9.6	3.56	6.90			13.8	1.4	2.00		0.24	-0.5	-0.5	0.6
PCB 31		10.9	12.3	13.3	3.63	3.76	3.28	12.2	9.6	3.56	6.90			10.9	1.4	1.46		0.20	0.5	0.5	0.6
PCB 44		9.83	10.6	11.2	2.55	3.00	2.54	10.5	6.6	2.70	9.86			20.7	2.6	4.66		0.86	-2.0	-1.5	0.4
PCB 49		10.4	11.5	12.3	1.61	1.83	1.64	11.4	8.6	1.69	7.04			25.0	2.9	3.80		0.39	-2.2	-2.2	0.6
PCB 52		11.9	12.9	13.7	2.97	3.44	3.00	12.8	6.9	3.14	8.30			33.3	3.5	8.10		1.00	-2.5	-2.4	0.5
PCB 66		81.3	88.1	92.2	20.3	22.8	21.0	87.2	6.3	21.3	6.0			70.2	6.1	10.8		1.9	1.0	1.1	0.4
PCB 95		81.3	88.1	92.2	20.3	22.8	21.0	87.2	6.3	21.3	6.0			43.4	10.4	11.4		1.3	4.0	2.2	0.4
PCB 99		28.0	30.1	30.5	12.0	13.9	12.5	29.5	4.5	12.8	6.0			75.0	8.9	25.6		2.3	-2.4	-2.4	0.3
PCB 101		28.1	30.9	31.9	12.1	13.6	12.6	30.3	6.5	12.8	6.0			88.8	6.9	34.6		2.6	-2.6	-3.5	0.4
PCB 105		138	144	152	128	138	128	145	5	131	4			60.8	4.7	19.9		0.9	5.5	7.5	0.3
PCB 118		36.3	37.3	40.9	17.3	19.0	17.1	38.2	6.3	12.8	5.8			114	10	52.1		1.0	-2.7	-3.2	0.4
PCB 128		16.0	17.0	16.4	15.0	16.0	14.8	16.5	3.2	15.3	6.0			31.4	3.3	22.8		1.9	-1.9	-2.0	0.2
PCB 138		109	116	130	92.2	100	94.1	119	9	95.4	4.3			174	12	115		13	-1.3	-1.9	0.6
PCB 149		27.2	29.5	33.5	13.1	14.5	13.4	30.1	10.7	13.7	5.2			63.5	7.6	26.3		1.3	-2.1	-2.3	0.7
PCB 153		138	144	152	128	138	128	145	5	131	4			201	14	170		9	-1.1	-1.6	0.3
PCB 156		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			15.4	1.9	9.52		0.51			
PCB 170		29.5	28.6	35.1	27.7	25.5	28.1	31.1	11.3	27.1	4.3			31.2	2.1	25.2		2.2	0.0	0.0	0.8
PCB 180		44.8	48.2	55.2	48.0	52.3	49.9	49.4	10.7	50.1	4.3			81.0	7.2	74.4		4.0	-1.6	-1.8	0.7
PCB 187		30.8	32.4	36.8	33.7	37.0	34.3	33.3	9.3	35.0	5.0			54.0	4.6	55.2		2.1	-1.5	-1.9	0.6
PCB 194		6.81	7.29	8.13	7.70	8.52	7.87	7.41	9.01	8.03	5.39			12.6	1.2	13.0		1.3	-1.6	-1.9	0.6
PCB 195		9.68	10.8	11.5	9.27	10.1	9.33	10.7	8.6	9.57	5.00			5.21	0.68	5.30		0.45	4.2	3.4	0.6
PCB 206		5.31	5.30	6.48	5.35	5.63	5.50	5.70	11.9	5.50	2.55			5.51	0.50	5.40		0.43	0.1	0.2	0.8
PCB 209		0.307	0.321	0.124	0.098	0.111	0.120	0.251	44.0	0.110	10.01			2.25	0.21	1.30		0.21	-3.6	-4.0	2.9

Laboratory: 11 PCBs in Fish V	Reported Results		No. of Analytes		Number by Category	
	Quantitative	Qualitative	Quantitative	Qualitative	z (25%)	p (15%)
	23	92	23	92	13	22
	1	4	1	4	6	5
	1	4	4	5	4	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %					
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	assigned	95% CL	target	z (25%)	z (s)	p (15%)
TEO or lipid	10.4	10.3	10.2	11.6	11.6	11.3	10.3	1.0	1.3	10.1	0.5	10.2	0.1	0.0	0.1

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory														Material reference values				Performance scores ^a		
	Fish V, ng/g wet				SRM 1946, ng/g wet				Fish V		Fish V		Fish V		Fish V		Fish V				
	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002	3/0002		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	lab mean	lab mean	lab mean	lab mean	lab mean	lab mean	lab mean	lab mean	lab mean	lab mean		
	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA		
	7.00	7.03	7.05	7.05	8.92	9.21	9.41	9.41	9.41	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03	7.03		
hexachlorobenzene	0.681	0.846	0.733	0.733	1.50	1.42	1.65	1.65	1.65	0.753	0.753	0.753	0.753	0.753	0.753	0.753	0.753	0.753	0.753		
gamma-HCH	0.595	0.804	0.580	0.580	0.792	0.749	0.757	0.757	0.757	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660	0.660		
beta-HCH	0.326	0.431	0.337	0.337	0.171	0.505	0.274	0.274	0.274	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365	0.365		
heptachlor	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL		
aldrin	20.3	21.1	21.2	21.2	13.4	14.7	14.4	14.4	14.4	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9	20.9		
heptachlor epoxide	23.1	23.5	23.8	23.8	20.6	20.9	20.5	20.5	20.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5		
oxychlorodane	14.3	14.5	14.6	14.6	13.34	13.63	13.51	13.51	13.51	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4		
trans-chlordane	42.28	43.96	43.47	43.47	28.26	29.33	28.89	28.89	28.89	43.23	43.23	43.23	43.23	43.23	43.23	43.23	43.23	43.23	43.23		
2,4'-DDE	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB		
endosulfan I	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC		
cis-chlordane	112	116	116	116	97.5	103	105	105	105	115	115	115	115	115	115	115	115	115	115		
trans-nonachlor	95.7	101.3	99.4	99.4	42.6	43.9	44.6	44.6	44.6	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8	98.8		
dieldrin	657	679	677	677	349	360	368	368	368	671	671	671	671	671	671	671	671	671	671		
4,4'-DDE	10.4	14.0	10.1	10.1	5.70	6.36	5.63	5.63	5.63	11.48	11.48	11.48	11.48	11.48	11.48	11.48	11.48	11.48	11.48		
2,4'-DDD	81.5	82.8	84.0	84.0	50.4	52.9	51.7	51.7	51.7	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8	82.8		
endrin	61.1	61.7	64.7	64.7	75.2	79.3	79.4	79.4	79.4	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5		
endosulfan II	36.4	40.8	38.3	38.3	DL	DL	DL	DL	DL	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5	38.5		
4,4'-DDD	36.9	38.3	36.7	36.7	40.6	50.9	50.4	50.4	50.4	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3		
2,4'-DDT	11.5	12.1	12.1	12.1	24.9	26.0	26.0	26.0	26.0	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9		
cis-nonachlor	71.3	78.6	75.8	75.8	39.6	53.3	52.7	52.7	52.7	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2	75.2		
4,4'-DDT	7.09	7.23	7.34	7.34	9.08	10.0	10.6	10.6	10.6	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22	7.22		
mirex	32.6	32.9	32.8	32.8	67.0	69.8	69.2	69.2	69.2	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8		
endosulfan sulfate	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL		
chlorpyrifos	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL	DL		

Category	z (25%)	z (s)	p (15%)
<2	8	10	20
2 to 3	2	2	0
>3	6	4	0

Reported Results	No. of Analytes	%
Quantitative	20	80
Qualitative	5	20
Not Determined	0	0

Laboratory: 12
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory													Material reference values			Performance scores ^a								
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V												
	31002 S1	31002 S2	31002 S3	31002 OtherA	31002 OtherB	31002 OtherC	31002 S1	31002 S2	31002 S3	31002 OtherA	31002 OtherB	31002 OtherC	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	4.18	4.04	3.59	OtherA	OtherB	OtherC	0.832	1.30	1.03	OtherA	OtherB	OtherC	3.94	7.91	1.05	22.16	NA	No assigned value	0.36	no target	0.840	0.110	2.4	1.9	0.5
PCB 18	15.7	16.1	15.6	OtherA	OtherB	OtherC	2.54	2.56	2.41	OtherA	OtherB	OtherC	15.8	1.8	2.50	3.13	NA	2.46	0.36	0.840	0.110	2.4	1.9	0.5	
PCB 28	10.4	10.5	10.5	OtherA	OtherB	OtherC	1.14	1.65	1.32	OtherA	OtherB	OtherC	10.4	0.8	1.37	19.03	NA	13.8	1.4	2.00	0.24	0.6	0.6	0.1	
PCB 31	23.8	24.1	23.8	OtherA	OtherB	OtherC	5.93	6.06	5.80	OtherA	OtherB	OtherC	23.9	0.8	5.93	2.21	NA	10.9	1.4	1.46	0.20	-0.2	-0.2	0.1	
PCB 44	30.5	30.8	31.6	OtherA	OtherB	OtherC	4.39	4.80	6.27	OtherA	OtherB	OtherC	31.0	1.8	5.15	19.26	NA	20.7	2.6	4.66	0.86	0.6	0.5	0.1	
PCB 49	38.6	38.8	38.9	OtherA	OtherB	OtherC	12.1	12.0	11.7	OtherA	OtherB	OtherC	38.8	0.4	11.9	1.7	NA	25.0	2.9	3.80	0.39	1.0	1.0	0.1	
PCB 52	67.6	70.7	68.2	OtherA	OtherB	OtherC	10.9	9.9	10.9	OtherA	OtherB	OtherC	68.8	2.4	10.6	5.4	NA	33.3	3.5	8.10	1.00	0.7	0.6	0.0	
PCB 66	37.4	38.4	38.6	OtherA	OtherB	OtherC	23.0	26.5	25.8	OtherA	OtherB	OtherC	38.1	1.8	25.1	7.5	NA	70.2	6.1	10.8	1.9	-0.1	-0.1	0.2	
PCB 95	OtherC	OtherC	OtherC	OtherA	OtherB	OtherC	OtherC	OtherC	OtherC	OtherA	OtherB	OtherC	OtherC	NA	NA	NA	NA	NA	43.4	10.4	11.4	1.3	-0.5	-0.3	0.1
PCB 99	OtherB	OtherB	OtherB	OtherA	OtherB	OtherC	OtherB	OtherB	OtherB	OtherA	OtherB	OtherC	OtherB	NA	NA	NA	NA	NA	75.0	8.9	25.6	2.3			
PCB 101	55.9	58.8	58.1	OtherA	OtherB	OtherC	27.2	30.2	29.9	OtherA	OtherB	OtherC	57.6	2.6	23.1	5.7	NA	88.8	6.9	34.6	2.6				
PCB 105	116	126	126	OtherA	OtherB	OtherC	79.3	86.2	84.7	OtherA	OtherB	OtherC	123	5	83.4	4.3	NA	60.8	4.7	19.9	0.9	-0.2	-0.3	0.2	
PCB 118	68.9	72.0	70.1	OtherA	OtherB	OtherC	160	174	177	OtherA	OtherB	OtherC	70.3	2.2	170	5	NA	114	10	52.1	1.0	0.3	0.4	0.3	
PCB 128	183	190	189	OtherA	OtherB	OtherC	155	170	170	OtherA	OtherB	OtherC	187	2	165	5	NA	31.4	3.3	22.8	1.9	5.0	5.1	0.1	
PCB 138	10.2	10.2	8.9	OtherA	OtherB	OtherC	DL	DL	DL	OtherA	OtherB	OtherC	9.8	8.0	DL	NA	NA	174	12	115	13	0.3	0.5	0.2	
PCB 149	177	183	181	OtherA	OtherB	OtherC	174	188	195	OtherA	OtherB	OtherC	180	2	186	6	NA	63.5	7.6	26.3	1.3	-3.4	-3.6	0.5	
PCB 153	15.2	17.3	16.8	OtherA	OtherB	OtherC	15.3	14.1	14.1	OtherA	OtherB	OtherC	16.4	6.7	14.5	4.6	NA	201	14	170	9	-0.4	-0.6	0.1	
PCB 156	33.1	33.8	32.3	OtherA	OtherB	OtherC	29.9	33.0	34.2	OtherA	OtherB	OtherC	33.1	2.3	32.3	6.8	NA	15.4	1.9	9.52	0.51	0.3	0.3	0.4	
PCB 170	79.8	82.4	80.8	OtherA	OtherB	OtherC	83.6	90.8	89.7	OtherA	OtherB	OtherC	81.0	1.6	88.0	4.6	NA	31.2	2.1	25.2	2.2	0.2	0.4	0.2	
PCB 180	65.6	69.0	67.1	OtherA	OtherB	OtherC	82.3	92.0	89.1	OtherA	OtherB	OtherC	67.2	2.5	87.8	5.7	NA	81.0	7.2	74.4	4.0	0.0	0.0	0.1	
PCB 187	18.3	19.2	19.1	OtherA	OtherB	OtherC	21.1	22.6	22.1	OtherA	OtherB	OtherC	18.9	2.4	21.9	3.5	NA	54.0	4.6	55.2	2.1	1.0	1.2	0.2	
PCB 194	6.77	6.83	7.16	OtherA	OtherB	OtherC	7.63	8.13	7.77	OtherA	OtherB	OtherC	6.92	3.03	7.85	3.23	NA	12.6	1.2	13.0	1.3	2.0	2.3	0.2	
PCB 195	7.80	8.44	8.02	OtherA	OtherB	OtherC	8.00	8.76	8.52	OtherA	OtherB	OtherC	8.09	4.02	8.43	4.58	NA	5.21	0.68	5.30	0.45	1.3	1.1	0.2	
PCB 206	7.05	7.12	7.26	OtherA	OtherB	OtherC	6.47	7.37	6.61	OtherA	OtherB	OtherC	7.14	1.44	6.82	7.10	NA	5.51	0.50	5.40	0.43	1.9	2.1	0.3	
PCB 209																		2.25	0.21	1.30	0.21	8.7	9.7	0.1	

Laboratory: 12 PCBs in Fish V	Number by Category	
	z (25%)	p (15%)
Category	z (25%)	p (15%)
<2	17	22
2 to 3	2	0
>3	3	0

TEO for Fish V			SRM 1946, %			Fish V, %		
S1	S2	S3	S1	S2	S3	mean, %	%RSD	target
10.5	10.4	10.6	11.5	11.6	11.3	10.5	1.0	10.2
						3.0	0.1	0.5

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a					
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V								
	02/19/2002	02/19/2002	02/19/2002	02/19/2002	02/19/2002	02/19/2002	02/19/2002	02/19/2002	02/19/2002	lab mean	lab RSD	lab mean	lab RSD	lab mean	lab RSD	lab mean	lab RSD	z-score (25%)	p-score (15%)		
Analysis date	S1	S2	S3	S1	S2	S3	S1	S2	S3	lab mean	%RSD	lab mean	%RSD	lab mean	%RSD	lab mean	%RSD	z-score (s)			
alpha-HCH	0.854	0.890	1.03	4.86	5.76	5.96	4.86	5.76	5.96	0.925	10.06	5.53	10.60	5.53	10.60	5.53	10.60	-1.0	-0.6	0.7	
hexachlorobenzene	9.09	6.83	6.67	7.87	8.54	8.18	7.87	8.54	8.18	7.53	17.97	8.20	4.09	8.20	4.09	8.20	4.09	0.9	1.3	1.2	
gamma-HCH	0.337	0.359	0.357	0.860	0.868	0.822	0.860	0.868	0.822	0.351	3.466	0.850	2.891	0.850	2.891	0.850	2.891	-1.0	-0.6	0.2	
beta-HCH	0.077	<0.0470	<0.0550	0.252	0.248	0.283	0.252	0.248	0.283	0.077	NA	0.261	7.340	0.261	7.340	0.261	7.340				
heptachlor	<0.0980	<0.114	<0.0550	<0.0710	0.0770	<0.0450 ^b	<0.0710	0.0770	<0.0450 ^b	<0.0550	NA	<0.0450	NA	<0.0450	NA	<0.0450	NA				
aldrin	<0.0490	<0.0380	<0.0640	<0.0510	<0.0240	<0.0530 ^b	<0.0510	<0.0240	<0.0530 ^b	<0.0380	NA	<0.0240	NA	<0.0240	NA	<0.0240	NA				
heptachlor epoxide	13.5	13.4	13.5	5.78	6.12	6.17	5.78	6.12	6.17	13.5	0.4	6.02	3.52	6.02	3.52	6.02	3.52	0.1	0.1	0.0	
oxychlorodane	25.4	25.6	25.6	19.6	20.1	19.4	19.6	20.1	19.4	25.5	0.5	19.7	1.8	19.7	1.8	19.7	1.8	0.8	1.0	0.0	
trans-chlordane	12.5	12.8	14.2	8.02	8.34	8.29	8.02	8.34	8.29	13.2	6.9	8.22	2.10	8.22	2.10	8.22	2.10	0.7	0.9	0.5	
2,4'-DDE	3.05	2.93	<3.26	<0.837	<0.774	<0.821	<0.837	<0.774	<0.821	2.99	2.84	<0.774	NA	<0.774	NA	<0.774	NA	-0.9	-0.4	0.2	
endosulfan I	<3.68	<3.53	<4.03	<7.43	<3.87	<4.60	<7.43	<3.87	<4.60	<3.53	NA	<3.87	NA	<3.87	NA	<3.87	NA				
cis-chlordane	74.4	71.6	74.8	52.4	57.6	55.5	52.4	57.6	55.5	73.6	2.4	55.2	4.7	55.2	4.7	55.2	4.7	3.1	3.9	0.2	
trans-nonachlor	157	163	153	120	127	121	120	127	121	158	3	123	3	123	3	123	3	1.6	2.0	0.2	
dieldrin	106	107	111	35.4	39.7	36.8	35.4	39.7	36.8	108	2	37.3	5.9	37.3	5.9	37.3	5.9	1.6	1.9	0.2	
4,4'-DDE	760	738	771	399	404	410	399	404	410	756	2	404	1	404	1	404	1	0.9	1.0	0.1	
2,4'-DDD	4.02	3.78	4.49	2.48	2.44	2.40	2.48	2.44	2.40	4.10	8.82	2.44	1.64	2.44	1.64	2.44	1.64	-0.9	-0.3	0.6	
endrin	2.58	2.35	2.60	3.11	3.34	3.37	3.11	3.34	3.37	2.51	5.5	3.27	4.3	3.27	4.3	3.27	4.3	-0.5	-0.3	0.4	
endosulfan II	<5.27	<5.11	<17.9	20.3	23.5	21.5	20.3	23.5	21.5	<5.11	NA	21.8	7.4	21.8	7.4	21.8	7.4				
4,4'-DDD	43.4	43.8	47.1	13.7	14.0	13.3	13.7	14.0	13.3	44.8	4.5	13.7	2.6	13.7	2.6	13.7	2.6	0.4	0.5	0.3	
2,4'-DDT	16.9	17.0	19.8	19.3	20.9	20.8	19.3	20.9	20.8	17.9	9.2	20.3	4.4	20.3	4.4	20.3	4.4	-0.2	-0.1	0.6	
cis-nonachlor	61.6	65.0	63.0	66.1	68.3	70.6	66.1	68.3	70.6	63.2	2.7	68.3	3.3	68.3	3.3	68.3	3.3	1.0	1.5	0.2	
4,4'-DDT	66.1	66.0	68.1	36.6	38.0	37.9	36.6	38.0	37.9	66.7	1.8	37.5	2.1	37.5	2.1	37.5	2.1	1.1	1.0	0.1	
mirex	3.69	3.74	3.60	5.33	5.80	5.69	5.33	5.80	5.69	3.68	1.93	5.61	4.38	5.61	4.38	5.61	4.38	-0.4	-0.5	0.1	
endosulfan sulfate	0.418	0.341	0.326	0.255	0.283	0.248	0.255	0.283	0.248	0.362	13.6	0.262	7.07	0.262	7.07	0.262	7.07	No assigned value		0.9	
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA			

Category	Number by Category	
	z (25%)	p (15%)
<2	17	16
2 to 3	0	1
>3	1	0

Reported Results	No. of Analytes	%
Qualitative	4	16
Not Determined	1	4

Laboratory: 13
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V				
	1/12/2001	1/12/2001	1/12/2001	1/12/2001	1/12/2001	1/12/2001	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8	<0.0130	<0.0130	<0.0100	<0.0200	<0.0140	<0.0200	<0.0130	NA	<0.0200	NA	<0.0200	NA	no target						
PCB 18	1.78	1.61	1.77	0.317	0.269	0.289	1.72	5.55	0.292	8.267	0.292	8.267	0.840	0.110	-1.2	-1.0	0.4		
PCB 28	14.5	13.8	14.4	1.76	1.79	1.91	14.2	2.7	1.82	4.36	1.82	4.36	2.00	0.24	0.1	0.1	0.2		
PCB 31	9.89	9.39	9.85	1.31	1.27	1.31	9.71	2.86	1.30	1.78	1.30	1.78	1.46	0.20	-0.4	-0.4	0.2		
PCB 44	30.8	29.8	30.7	4.66	5.38	4.98	30.4	1.8	5.01	7.21	5.01	7.21	4.66	0.86	1.9	1.4	0.1		
PCB 49	21.5	21.2	21.4	2.67	2.81	2.73	21.4	0.7	2.74	2.57	2.74	2.57	3.80	0.39	-0.6	-0.6	0.0		
PCB 52	38.6	37.0	37.6	7.18	8.03	7.65	37.7	2.1	7.62	5.59	7.62	5.59	8.10	1.00	0.5	0.5	0.1		
PCB 66	76.7	74.3	76.1	9.23	10.0	9.86	75.7	1.6	9.70	4.23	9.70	4.23	10.8	1.9	0.3	0.4	0.1		
PCB 95	27.2	26.0	26.9	10.6	11.5	10.6	26.7	2.3	10.9	4.8	10.9	4.8	11.4	1.3	-1.5	-0.8	0.2		
PCB 99	86.1	81.7	83.1	27.7	32.5	30.7	83.6	2.7	30.3	4.0	30.3	4.0	25.6	2.3	0.5	0.5	0.2		
PCB 101	82.3	78.4	80.8	31.5	35.4	33.5	80.5	2.4	33.5	5.8	33.5	5.8	34.6	2.6	-0.4	-0.5	0.2		
PCB 105	53.8	50.3	53.1	20.9	22.9	23.7	52.4	3.5	22.5	6.4	22.5	6.4	19.9	0.9	-0.6	-0.7	0.2		
PCB 118	129	123	131	54.1	60.1	62.6	128	3	58.9	7.4	58.9	7.4	52.1	1.0	0.5	0.6	0.2		
PCB 128	33.3	32.1	32.8	21.5	24.0	22.8	32.7	1.8	22.5	5.5	22.5	5.5	22.8	1.9	0.2	0.2	0.1		
PCB 138	202	195	203	147	162	153	200	2	154	5	154	5	115	1.3	0.6	0.9	0.1		
PCB 149	61.8	54.6	59.9	27.0	31.4	22.9	58.8	6.3	22.5	15.7	22.5	15.7	26.3	1.3	-0.3	-0.3	0.4		
PCB 153	232	225	237	181	195	188	231	3	188	4	188	4	170	9	0.6	0.9	0.2		
PCB 156	17.2	16.6	17.0	11.3	12.0	12.4	16.9	1.8	11.9	4.7	11.9	4.7	9.52	0.51	0.4	0.4	0.1		
PCB 170	26.7	24.9	25.2	23.4	25.8	26.0	25.6	3.8	25.1	5.8	25.1	5.8	25.2	2.2	-0.7	-1.1	0.3		
PCB 180	78.3	74.7	74.9	79.0	83.4	83.4	76.0	2.7	81.9	3.1	81.9	3.1	74.4	4.0	-0.2	-0.3	0.2		
PCB 187	48.9	45.4	46.0	52.6	57.7	50.4	46.8	4.0	53.6	7.0	53.6	7.0	55.2	2.1	-0.5	-0.7	0.3		
PCB 194	15.7	14.9	15.3	15.0	14.3	16.3	15.3	2.6	15.2	4.7	15.2	4.7	13.0	1.3	0.9	1.0	0.2		
PCB 195	5.52	5.22	5.41	5.10	5.15	5.47	5.38	2.8	5.24	3.83	5.24	3.83	5.30	0.45	0.1	0.1	0.2		
PCB 206	5.47	5.25	5.50	4.83	5.05	5.32	5.41	2.5	5.07	4.84	5.07	4.84	5.40	0.43	-0.1	-0.1	0.2		
PCB 209	2.73	2.50	2.50	1.26	1.79	1.38	2.58	5.2	1.48	18.82	1.48	18.82	1.30	0.21	0.6	0.6	0.3		

Laboratory: 13 PCBs in Fish V	Number by Category		
	Category	z (25%)	p (15%)
	< 2	24	24
	2 to 3	0	0
	> 3	0	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		
	assigned	95% CL	target	assigned	95% CL	target	assigned	95% CL	target
TEO or lipid	10.1	0.5	10.2	10.1	0.5	10.2	0.3	0.1	0.2

^a z- and p-scores > 3 are bolded. ^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
	1/2/02 S1	1/2/02 S2	3/7/02 S3	1/2/02 S1	1/2/02 S2	1/2/02 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.22	0.33	5.72	0.65				
hexachlorobenzene	6.51	6.49	5.42	5.57	5.57	6.14	10.16	5.57	NA	6.11	0.53	7.25	0.83	0.0	0.0	0.7	
gamma-HCH	<2	<2	<2	<2	<2	<2	NA	<2	NA	0.467	0.120	1.14	0.18				
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
heptachlor	<5	<5	<5	<2	<2	<2	<5	<2	NA	<2		no target					
aldrin	<2	<2	<2	<2	<2	<2	<2	<2	NA	<2		no target					
heptachlor epoxide	16.9	18.6	16.8	8.53	8.53	17.4	5.8	8.53	NA	13.2	1.3	5.50	0.23	1.3	1.6	0.4	
oxychlorane	18.3	22.1	20.4	14.5	14.5	20.3	9.5	14.5	NA	21.2	2.2	18.9	1.5	-0.2	-0.2	0.6	
trans-chlordane	13.9	16.6	14.8	11.5	11.5	15.1	9.3	11.5	NA	11.2	1.1	8.36	0.91	1.4	1.7	0.6	
2,4'-DDE	10.5	10.8	9.38	<2	<2	10.2	7.2	<2	NA	3.91	1.46	1.04	0.29	6.4	2.9	0.5	
endosulfan I	3.77	4.43	3.62	<2	<2	3.94	10.9	<2	NA	<2		no target				0.7	
cis-chlordane	46.4	52.4	46.6	37.8	37.8	48.4	7.0	37.8	NA	41.4	4.0	32.5	1.8	0.7	0.9	0.5	
trans-nonachlor	122	124	123	104	104	123	1	104	NA	113	10	99.6	7.6	0.4	0.5	0.1	
dieldrin	76.2	93.4	88.9	32.4	32.4	86.2	10.3	32.4	NA	77.7	7.4	32.5	3.5	0.4	0.5	0.7	
4,4'-DDE	522	548	574	357	357	548	5	357	NA	621	56	373	48	-0.5	-0.5	0.3	
2,4'-DDD	16.6	17.9	13.8	<2	<2	16.1	12.9	<2	NA	5.28	1.81	2.20	0.25	8.2	3.0	0.9	
endrin	<2	<2	<2	<5	<5	<2	NA	<5	NA	2.91	1.20	no target					
endosulfan II	<2	<2	<2	<2	<2	<2	<2	<2	NA	No assigned value		no target					
4,4'-DDD	41.3	58.3	56.0	15.2	15.2	51.9	17.7	15.2	NA	40.9	3.8	17.7	2.8	1.1	1.3	1.2	
2,4'-DDT	15.8	22.8	19.2	26.7	26.7	19.3	18.3	26.7	NA	18.8	3.8	22.3	3.2	0.1	0.1	1.2	
cis-nonachlor	43.7	54.6	54.3	52.9	52.9	50.9	12.2	52.9	NA	50.7	4.1	59.1	3.6	0.0	0.0	0.8	
4,4'-DDT	45.7	54.8	56.3	<5	<5	52.3	11.0	<5	NA	52.6	6.7	37.2	3.5	0.0	0.0	0.7	
mirex	<5	<5	<5	6.99	6.99	<5	NA	6.99	NA	4.10	0.45	6.47	0.77				
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target					
chlormpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	12	12
2 to 3	0	2
>3	2	0

Reported Results	No. of Analytes	%
Qualitative	6	24
Not Determined	4	16

Laboratory: 14
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Sample: QA02FSH5 - Fish Homogenate V

Laboratory No.: 14

Reporting Date: 4/15/02

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores*		
	Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Fish V		
	1/2402 S1	1/2402 S2	1/2402 S3	1/2402 S1	1/2402 S2	1/2402 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	No assigned value	no target					
PCB 18	<2	<2	<2	<2	<2	<2	NA	NA	<2	NA	2.46	0.36	0.840	0.110			
PCB 28	7.92	7.08	6.37	1.62	1.62	1.62	7.1	10.9	1.62	NA	13.8	1.4	2.00	0.24	-1.9	-2.2	0.7
PCB 31	7.92	7.08	6.37	1.62	1.62	1.62	7.12	10.89	1.62	NA	10.9	1.4	1.46	0.20	-1.4	-1.4	0.7
PCB 44	20.9	23.9	17.2	6.89	6.89	6.89	20.7	16.1	6.89	NA	20.7	2.6	4.66	0.86	0.0	0.0	1.1
PCB 49	27.6	26.1	21.0	6.49	6.49	6.49	24.9	13.9	6.89	NA	25.0	2.9	3.80	0.39	0.0	0.0	0.9
PCB 52	28.0	27.9	23.4	6.55	6.55	6.55	26.4	10.0	6.55	NA	33.3	3.5	8.10	1.00	-0.8	-0.8	0.7
PCB 66	79.5	75.2	68.5	18.2	18.2	18.2	74.4	7.5	28.2	NA	70.2	6.1	10.8	1.9	0.2	0.3	0.5
PCB 95	79.5	75.2	68.5	18.2	18.2	18.2	74.4	7.5	28.2	NA	43.4	10.4	11.4	1.3	2.9	1.5	0.5
PCB 99	63.6	58.0	53.4	28.2	28.2	28.2	58.3	8.7	28.2	NA	75.0	8.9	25.6	2.3	-0.9	-0.9	0.6
PCB 101	87.1	79.6	72.3	39.6	39.6	39.6	79.7	9.3	39.6	NA	88.8	6.9	34.6	2.6	-0.4	-0.5	0.6
PCB 105	72.8	66.6	64.1	28.4	28.4	28.4	67.8	6.6	28.4	NA	60.8	4.7	19.9	0.9	0.5	0.6	0.4
PCB 118	105	99.3	88.2	50.3	50.3	50.3	97.6	8.9	50.3	NA	114	10	52.1	1.0	-0.6	-0.7	0.6
PCB 128	45.6	35.1	34.1	26.5	26.5	26.5	38.2	16.7	28.4	NA	31.4	3.3	22.8	1.9	0.9	0.9	1.1
PCB 138	168	156	146	126	126	126	157	7	126	NA	174	12	115	13	-0.4	-0.6	0.5
PCB 149	17.1	15.9	14.5	10.2	10.2	10.2	15.8	8.3	28.2	NA	63.5	7.6	26.3	1.3	-3.0	-3.2	0.6
PCB 153	174	164	148	130	130	130	162	8	130	NA	201	14	170	9	-0.8	-1.1	0.5
PCB 156	27.2	25.5	24.7	11.6	11.6	11.6	25.8	5.1	11.6	NA	15.4	1.9	9.52	0.51	2.7	2.6	0.3
PCB 170	32.5	30.1	28.4	25.7	25.7	25.7	30.3	6.9	25.7	NA	31.2	2.1	25.2	2.2	-0.1	-0.2	0.5
PCB 180	77.3	71.9	66.1	69.0	69.0	69.0	71.8	7.8	69.0	NA	81.0	7.2	74.4	4.0	-0.5	-0.5	0.5
PCB 187	64.8	58.2	54.1	60.1	60.1	60.1	59.0	9.2	60.1	NA	54.0	4.6	55.2	2.1	0.4	0.5	0.6
PCB 194	14.1	12.8	11.6	12.9	12.9	12.9	12.8	9.6	12.9	NA	12.6	1.2	13.0	1.3	0.1	0.1	0.6
PCB 195	9.89	8.84	8.17	6.61	6.61	6.61	8.97	9.67	6.61	NA	5.21	0.68	5.30	0.45	2.9	2.3	0.6
PCB 206	7.84	7.09	6.13	6.17	6.17	6.17	7.02	12.21	6.17	NA	5.51	0.50	5.40	0.43	1.1	1.3	0.8
PCB 209	3.55	2.10	2.56	<2	<2	<2	2.74	27.08	<2	NA	2.25	0.21	1.30	0.21	0.9	1.0	1.8

Laboratory: 14 PCBs in Fish V	Number by Category	
	z (25%)	p (15%)
Category	<2	19
	2 to 3	3
	>3	1

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %	
	assigned	95% CL	target	95% CL	z (s)	p (15%)
Fish V, %	10.1	0.5	10.2	0.5		
SRM 1946, %						

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
	2/1202 S1	2/1202 S2	2/1202 S3	2/1202 S1	2/1202 S2	2/1202 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<3.20	<3.20	<3.20	<3.20	<3.20	<3.20	<3.20	NA	<3.20	NA	<3.20	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene	4.52	3.74	2.66	3.33	2.41	3.21	3.64	25.66	2.98	16.76		6.11	0.53	7.25	0.83	-1.6	-2.2	1.7	
gamma-HCH	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	NA	<3.00	NA		0.467	0.120	1.14	0.18				
beta-HCH	<5.40	<5.40	<5.40	<5.40	<5.40	<5.40	<5.40	NA	<5.40	NA		<2		no target					
heptachlor	<3.30	<3.30	<3.30	<3.30	<3.30	<3.30	<3.30	NA	<3.30	NA		<2		no target					
aldrin	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	NA	<4.00	NA		<2		no target					
heptachlor epoxide	6.62	6.80	8.11	<1.60	<1.60	<1.60	7.2	11.3	<1.60	NA		13.2	1.3	5.50	0.23	-1.8	-2.2	0.8	
oxychlorodane	na	na	na	na	na	na	NA	NA	NA	NA		21.2	2.2	18.9	1.5				
trans-chlordane	12.1	13.2	17.7	<3.5	<3.5	<3.5	14.3	20.7	<3.5	NA		11.2	1.1	8.36	0.91	1.1	1.4	1.4	
2,4'-DDE	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	NA	<4.00	NA		3.91	1.46	1.04	0.29				
endosulfan I	<3.60	<3.60	<3.60	<3.60	<3.60	<3.60	<3.60	NA	<3.60	NA		<2		no target					
cis-chlordane	32.8	39.6	45.1	29.0	22.3	21.1	39.2	15.7	24.1	17.6		41.4	4.0	32.5	1.8	-0.2	-0.3	1.0	
trans-nonachlor	71.6	82.3	76.4	66.4	66.3	64.9	76.8	7.0	65.9	1.3		11.3	10	99.6	7.6	-1.3	-1.6	0.5	
dieldrin	65.2	83.4	66.0	44.6	52.4	52.3	71.5	14.4	49.8	9.0		77.7	7.4	32.5	3.5	-0.3	-0.4	1.0	
4,4'-DDE	460	562	430	240	223	218	484	14	227	5		621	56	373	48	-0.9	-1.0	1.0	
2,4'-DDD	19.5	20.5	36.2	35.1	37.5	35.1	25.4	36.9	35.9	3.9		5.28	1.81	2.20	0.25	15.2	5.5	2.5	
endrin	17.3	19.5	14.8	16.6	15.9	20.8	17.2	13.7	17.8	14.9		2.91	1.20	no target		19.7	9.9	0.9	
endosulfan II	<5.20	<5.20	<5.20	<5.20	<5.20	<5.20	<5.20	NA	<5.20	NA		No assigned value		no target					
4,4'-DDD	20.6	28.9	23.2	5.49	6.80	5.45	24.2	17.5	5.91	12.99		40.9	3.8	17.7	2.8	-1.6	-2.0	1.2	
2,4'-DDT	9.36	9.30	9.70	6.33	4.88	5.61	9.45	2.28	5.61	12.93		18.8	3.8	22.3	3.2	-2.0	-1.3	0.2	
cis-nonachlor	36.3	47.8	48.1	26.2	23.9	23.7	44.1	15.3	24.6	5.6		50.7	4.1	59.1	3.6	-0.5	-0.8	1.0	
4,4'-DDT	32.0	47.0	22.8	38.6	35.6	35.3	33.9	36.0	36.5	5.0		52.6	6.7	37.2	3.5	-1.4	-1.3	2.4	
mirex	<3.40	<3.40	<3.40	<3.40	<3.40	<3.40	<3.40	NA	<3.40	NA		4.10	0.45	6.47	0.77				
endosulfan sulfate	<8.80	<8.80	<8.80	<8.80	<8.80	<8.80	<8.80	NA	<8.80	NA		No assigned value		no target					
chlorpyrifos	na	na	na	na	na	na	NA	NA	NA	NA		<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	11	9
2 to 3	0	2
>3	2	2

Reported Results		No. of Analytes		%	
Quantitative	13	13	52		
Qualitative	10	10	40		
Not Determined	2	2	8		

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 17

Sample: QA02FSH5 - Fish Homogenate V

(data reported as if three figures were significant)

Reporting Date: 4/15/02

PCBs	Data as submitted by laboratory												Material reference values				Performance scores*	
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	2/1202	2/1202	2/1202	2/1202	2/1202	2/1202	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
PCB 8	2.63	<3.60	<3.60	<3.60	<3.60	<3.60	<3.60	NA	<3.60	NA	<3.60	NA	No assigned value	no target				
PCB 18	<3.10	<3.10	<3.10	<3.10	<3.10	<3.10	<3.10	NA	<3.10	NA	<3.10	NA	2.46	0.36	0.840	0.110		
PCB 28	<5.20	<5.20	<5.20	<5.20	<5.20	<5.20	<5.20	NA	<5.20	NA	<5.20	NA	13.8	1.4	2.00	0.24		
PCB 31	na	na	na	na	na	na	NA	NA	NA	NA	NA	NA	10.9	1.4	1.46	0.20		
PCB 44	16.1	14.4	9.25	<4.20	<4.20	<4.20	13.3	26.9	<4.20	NA	<4.20	NA	20.7	2.6	4.66	0.86	-1.4	1.8
PCB 49	17.4	15.5	28.8	<3.90	<3.90	<3.90	20.6	35.0	<3.90	NA	<3.90	NA	25.0	2.9	3.80	0.39	-0.7	2.3
PCB 52	21.5	15.5	21.1	<3.40	<3.40	<3.40	19.4	17.3	<3.40	NA	<3.40	NA	33.3	3.5	8.10	1.00	-1.7	1.2
PCB 66	54.5	60.9	55.6	<5.10	<5.10	<5.10	57.0	8.9	<5.10	NA	<5.10	NA	70.2	6.1	10.8	1.9	-0.8	0.4
PCB 95	na	na	na	na	na	na	NA	NA	NA	NA	NA	NA	43.4	10.4	11.4	1.3		
PCB 99	<5.40	<5.40	<5.40	31.9	31.2	35.6	<5.40	NA	<5.40	NA	32.9	7.2	75.0	8.9	25.6	2.3		
PCB 101	80.7	113.0	115.0	21.8	23.6	18.6	102.9	18.7	21.3	11.9			88.8	6.9	34.6	2.6	0.6	1.2
PCB 105	56.0	66.6	49.8	<3.40	<3.40	<3.40	57.0	14.8	<3.40	NA	<3.40	NA	60.8	4.7	19.9	0.9	-0.2	1.0
PCB 118	95.0	118	92.1	44.1	27.7	48.1	102	14	40.0	27.0			114	10	52.1	1.0	-0.4	0.9
PCB 128	27.4	27.3	18.5	23.6	22.2	23.4	24.4	26.9	21.3	3.3			31.4	3.3	22.8	1.9	-0.9	1.4
PCB 138	178	178	181	104	105	114	179	1	108	5			174	12	115	13	0.1	0.1
PCB 149	60.2	70.6	61.3	<6.30	<6.30	<6.30	64.0	8.9	<6.30	NA	<6.30	NA	63.5	7.6	26.3	1.3	0.0	0.6
PCB 153	177	197	167	110	95.7	95.6	180	8	100	8			201	14	170	9	-0.4	0.6
PCB 156	<4.0	<4.0	<4.0	<4.00	<4.00	<4.00	<4.0	NA	<4.00	NA	<4.00	NA	15.4	1.9	9.52	0.51		
PCB 170	23.4	28.3	29.2	43.3	30.9	21.4	27.0	11.6	31.9	34.5			31.2	2.1	25.2	2.2	-0.5	0.8
PCB 180	64.4	63.3	58.7	42.0	42.7	40.0	62.1	4.9	41.6	3.4			81.0	7.2	74.4	4.0	-0.9	0.3
PCB 187	37.4	42.4	37.9	<4.20	<4.20	<4.20	39.2	7.0	<4.20	NA	<4.20	NA	54.0	4.6	55.2	2.1	-1.1	0.5
PCB 194	9.65	9.77	7.96	9.49	9.40	8.25	9.13	11.09	9.05	7.64			12.6	1.2	13.0	1.3	-1.1	0.7
PCB 195	<5.90	<5.90	<5.90	<5.90	<5.90	<5.90	<5.90	NA	<5.90	NA	<5.90	NA	5.21	0.68	5.30	0.45		
PCB 206	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	NA	5.51	0.50	5.40	0.43		
PCB 209	2.63	2.84	<9.9	<9.90	<9.90	<9.90	2.74	5.4	<9.90	NA	<9.90	NA	2.25	0.21	1.30	0.21	0.9	0.4

Laboratory: 17 PCBs In Fish V	Number by Category	
	z (25%)	p (15%)
Category	z (s)	p (15%)
<2	16	15
2 to 3	0	1
>3	0	0

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %	
	S1	S2	S1	S2	z (25%)	p (15%)
TEO or lipid	8.5	9.8	11.3	9.4	10.2	0.9
					10.2	0.5
					10.1	0.5
					10.2	0.5

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		p-score
	S1	S2	S3	S1	S2	S3	lab mean	%RSD	lab mean	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	(15%)
alpha-HCH	<3	<3	<3	5.94	5.68	6.06	<3	NA	5.89	3.27	1.22	0.33	5.72	0.65			
hexachlorobenzene	4.77	5.06	5.16	5.73	5.77	5.76	5.00	3.98	5.75	0.35	6.11	0.53	7.25	0.83	-0.7	-1.0	0.3
gamma-HCH	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA	0.467	0.120	1.14	0.18			
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
heptachlor	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA	<2		no target				
aldrin	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA	<2		no target				
heptachlor epoxide	14.7	15.1	14.7	7.69	7.50	7.50	14.8	1.8	7.57	1.46	13.2	1.3	5.50	0.23	0.5	0.6	0.1
oxychlorodane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2	2.2	18.9	1.5			
trans-chlordane	<3	<3	<3	13.8	13.2	12.1	<3	NA	13.0	6.7	11.2	1.1	8.36	0.91			
2,4'-DDE	<9	<9	<9	<9	<9	<9	<9	NA	<9	NA	3.91	1.46	1.04	0.29			
endosulfan I	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA	<2		no target				
cis-chlordane	40.0	45.4	69.4	36.9	25.2	28.7	51.6	30.4	30.3	19.7	41.4	4.0	32.5	1.8	1.0	1.2	2.0
trans-nonachlor	145	147	175	132	133	148	155	11	138	7	113	10	99.6	7.6	1.5	1.9	0.7
dieldrin	84.4	93.8	107.6	52.5	43.0	45.6	95.2	12.2	47.0	10.5	77.7	7.4	32.5	3.5	0.9	1.1	0.8
4,4'-DDE	846	864	968	428	467	553	893	7	483	13	621	56	373	48	1.8	2.0	0.5
2,4'-DDD	<10	<10	<10	<10	<10	<10	<10	NA	<10	NA	5.28	1.81	2.20	0.25			
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.91	1.20	no target				
endosulfan II	<5	<5	<5	<5	<5	<5	<5	NA	<5	NA	No assigned value		no target				
4,4'-DDD	31.3	35.7	35.8	18.4	16.8	17.3	34.3	7.6	17.5	4.7	40.9	3.8	17.7	2.8	-0.7	-0.8	0.5
2,4'-DDT	29.9	30.4	46.1	22.7	28.7	28.1	35.4	26.0	26.5	12.4	18.8	3.8	22.3	3.2	3.5	2.3	1.7
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50.7	4.1	59.1	3.6			
4,4'-DDT	23.2	26.1	18.7	20.5	12.4	12.6	22.7	16.6	15.2	30.4	52.6	6.7	37.2	3.5	-2.3	-2.1	1.1
mirex	3.86	3.81	4.04	5.98	6.41	4.73	3.91	3.04	5.71	15.29	4.10	0.45	6.47	0.77	-0.2	-0.2	0.2
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target				
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				

Number by Category	
Category	z (25%)
<2	8
2 to 3	1
>3	1

Reported Results		No. of Analytes		%	
Quantitative	10	40			
Qualitative	9	36			
Not Determined	6	24			

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02FSH5 - Fish Homogenate V (data reported as if three figures were significant)

Reporting Date:

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a	
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V			
	S 1	S 2	S 3	S 1	S 2	S 3	lab mean ng/g wet	%RSD	lab mean ng/g wet	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)		
PCB 8	<3	<3	<3	<3	<3	<3	<3	NA	<3	NA	No assigned value	no target						
PCB 18	2.11	2.20	2.31	<1.5	<1.5	<1.5	2.20	4.52	<1.5	NA	2.46	0.36	0.840	0.110	-0.4	0.3		
PCB 28	11.8	12.1	12.4	3.13	<3	<3	12.1	2.6	3.13	NA	13.8	1.4	2.00	0.24	-0.5	0.2		
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.9	1.4	1.46	0.20				
PCB 44	15.5	15.4	16.5	4.49	3.56	<3	15.8	3.9	4.03	16.38	20.7	2.6	4.66	0.86	-1.0	0.3		
PCB 49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	2.9	3.80	0.39				
PCB 52	49.1	49.8	51.5	7.34	5.95	7.52	50.2	2.4	6.94	12.34	33.3	3.5	8.10	1.00	2.0	0.2		
PCB 66	112	114	121	8.83	8.05	7.85	116	4	8.24	6.29	70.2	6.1	10.8	1.9	2.6	3.1		
PCB 95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.4	10.4	11.4	1.3				
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	75.0	8.9	25.6	2.3				
PCB 101	122	122	143	52.4	59.1	60.2	129	9	57.2	7.4	88.8	6.9	34.6	2.6	1.8	2.4		
PCB 105	76.9	77.0	87.4	22.7	24.0	28.4	80.4	7.5	25.0	11.8	60.8	4.7	19.9	0.9	1.3	1.7		
PCB 118	131	139	149	84.1	89.6	102	140	6	92.0	10.2	114	10	52.1	1.0	0.9	1.1		
PCB 128	57.4	59.0	57.8	33.3	37.7	44.0	58.1	1.5	38.4	14.0	31.4	3.3	22.8	1.9	3.4	3.5		
PCB 138	240	246	274	172	198	223	253	7	198	13	174	12	115	13	1.8	2.8		
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63.5	7.6	26.3	1.3				
PCB 153	242	245	274	209	223	263	254	7	232	12	201	14	170	9	1.0	1.5		
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.4	1.9	9.52	0.51				
PCB 170	44.6	44.2	50.2	36.6	40.1	45.6	46.3	7.2	40.7	11.2	31.2	2.1	25.2	2.2	1.9	3.0		
PCB 180	94.6	94.8	107	83.6	91.2	105	98.9	7.3	93.4	11.9	81.0	7.2	74.4	4.0	0.9	1.0		
PCB 187	68.7	68.8	78.0	63.5	68.7	82.0	71.8	7.5	71.4	13.4	54.0	4.6	55.2	2.1	1.3	1.6		
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.6	1.2	13.0	1.3				
PCB 195	4.02	3.95	4.55	7.56	7.32	7.35	4.17	7.9	7.41	1.82	5.21	0.68	5.30	0.45	-0.8	-0.6		
PCB 206	4.26	4.58	4.63	5.02	4.98	4.86	4.49	4.5	4.95	1.66	5.51	0.50	5.40	0.43	-0.7	-0.9		
PCB 209	<2	<2	2.22	3.29	3.21	3.17	2.22	NA	3.23	1.90	2.25	0.21	1.30	0.21	-0.1	-0.1		

Laboratory: 19 PCBs in Fish V	Number by Category		z(s)	p(15%)
	Category	z(s)		
	< 2	14	12	16
	2 to 3	2	3	0
	> 3	1	2	0

TEO for Fish V	Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %	
	S 1	S 2	S 1	S 2	assigned	95% CL	target	95% CL
TEO or lipid	12.2	10.8	10.5	11.7	10.1	0.5	10.2	0.5

^az- and p-scores > 3 are bolded. ^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946, ng/g wet		Fish V, ng/g wet		Fish V		z-score (25%)	z-score (s)	p-score (15%)
	4/1/02 S1	4/1/02 S2	4/1/02 S3	4/1/02 S1	4/1/02 S2	4/1/02 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene	<20	<20	<20	40.0	20.0	<20	<20	NA	<20	NA	6.11	0.53	7.25	0.83			
gamma-HCH	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	0.467	0.120	1.14	0.18			
beta-HCH	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<2		no target				
heptachlor	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<2		no target				
aldrin	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<2		no target				
heptachlor epoxide	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	13.2	1.3	5.50	0.23			
oxychlorodane	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	21.2	2.2	18.9	1.5			
trans-chlordane	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	11.2	1.1	8.36	0.91			
2,4'-DDE	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	3.91	1.46	1.04	0.29			
endosulfan I	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<2		no target				
cis-chlordane	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	41.4	4.0	32.5	1.8			
trans-nonachlor	110	120	110	100	110	90.0	113	5	100	10	113	10	99.6	7.6	0.0	0.0	0.3
dieldrin	100	100	100	60.0	70.0	50.0	100	0	60.0	16.7	77.7	7.4	32.5	3.5	1.1	1.4	0.0
4,4'-DDE	600	660	630	330	370	260	630	5	320	17	621	56	373	48	0.1	0.1	0.3
2,4'-DDD	120	130	140	60.0	70.0	40.0	130	8	56.7	27.0	5.28	1.81	2.20	0.25	94.4	34.2	0.5
endrin	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	2.91	1.20	no target				
endosulfan II	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	No assigned value		no target				
4,4'-DDD	50.0	50.0	50.0	<20	<20	<20	50.0	0.0	<20	NA	40.9	3.8	17.7	2.8	0.9	1.1	0.0
2,4'-DDT	<20	<20	<20	30.0	30.0	40.0	<20	NA	<20	NA	18.8	3.8	22.3	3.2			
cis-nonachlor	50.0	50.0	50.0	60.0	70.0	60.0	50.0	0.0	63.3	9.1	50.7	4.1	59.1	3.6	-0.1	-0.1	0.0
4,4'-DDT	230	120	180	110	100	100	177	31	103	6	52.6	6.7	37.2	3.5	9.4	8.9	2.1
mixex	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	4.10	0.45	6.47	0.77			
endosulfan sulfate	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	No assigned value		no target				
chlorpyrifos	<200	<200	<200	NA	NA	NA	<200	NA	NA	NA	<2		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	5	5
2 to 3	0	0
>3	2	2

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	7	28	
Qualitative	18	72	
Not Determined	0	0	

Laboratory: 20
 Pesticides In Fish V

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values			Performance scores*		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	4/11/02 S1	4/11/02 S2	4/11/02 S3	4/11/02 S1	4/11/02 S2	4/11/02 S3	lab mean ng/g wet	lab %RSD	Other	lab mean ng/g wet	lab %RSD	Other	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
PCB 8	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20	NA	No assigned value	no target				
PCB 18	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20	NA	2.46	0.36	0.840	0.110		
PCB 28	30.0	30.0	280	<20	<20	<20	113	127	<20	NA	<20	NA	13.8	1.4	2.00	0.24	28.8	8.5
PCB 31	Other	Other	Other	Other	Other	Other	Other	NA	Other	NA	Other	NA	10.9	1.4	1.46	0.20		
PCB 44	30.0	40.0	30.0	<20	<20	<20	33.3	17.3	<20	NA	<20	NA	20.7	2.6	4.66	0.86	2.4	1.2
PCB 49	40.0	40.0	40.0	<20	<20	<20	40.0	0.0	<20	NA	<20	NA	25.0	2.9	3.80	0.39	2.4	0.0
PCB 52	60.0	60.0	50.0	<20	<20	<20	56.7	10.2	<20	NA	<20	NA	33.3	3.5	8.10	1.00	2.8	0.7
PCB 66	70.0	80.0	70.0	<20	<20	<20	73.3	7.9	<20	NA	<20	NA	70.2	6.1	10.8	1.9	0.2	0.5
PCB 95	30.0	40.0	30.0	<20	<20	<20	33.3	17.3	<20	NA	<20	NA	43.4	10.4	11.4	1.3	-0.9	1.2
PCB 99	90.0	90.0	80.0	30.0	30.0	30.0	86.7	6.7	30.0	0.0	30.0	0.0	75.0	8.9	25.6	2.3	0.6	0.4
PCB 101	90.0	90.0	80.0	40.0	40.0	40.0	86.7	6.7	30.0	0.0	30.0	0.0	88.8	6.9	34.6	2.6	-0.1	0.4
PCB 105	70.0	70.0	60.0	<20	<20	<20	66.7	8.7	25.0	28.3	28.3	28.3	60.8	4.7	19.9	0.9	0.4	0.6
PCB 118	130	180	130	70.0	70.0	60.0	147	20	66.7	8.7	20	66.7	114	10	52.1	1.0	1.2	1.3
PCB 128	360	40.0	40.0	30.0	30.0	<20	147	126	30.0	0.0	0.0	0.0	31.4	3.3	22.8	1.9	14.7	8.4
PCB 138	160	190	190	140	180	110	180	10	143	25	25	25	174	12	115	13	0.1	0.6
PCB 149	80.0	90.0	80.0	30.0	30.0	20.0	83.3	6.9	26.7	21.7	21.7	21.7	63.5	7.6	26.3	1.3	1.2	0.5
PCB 153	200	230	230	210	220	160	220	8	197	16	16	16	201	14	170	9	0.4	0.5
PCB 156	<20	20.0	<20	<20	<20	<20	20.0	NA	<20	NA	<20	NA	15.4	1.9	9.52	0.51	1.2	1.2
PCB 170	40.0	40.0	40.0	40.0	40.0	20.0	40.0	0.0	33.3	34.6	34.6	34.6	31.2	2.1	25.2	2.2	1.1	1.7
PCB 180	80.0	100	90.0	90.0	100	70.0	90.0	11.1	86.7	17.6	17.6	17.6	81.0	7.2	74.4	4.0	0.4	0.5
PCB 187	60.0	80.0	70.0	80.0	70.0	50.0	70.0	14.3	66.7	22.9	22.9	22.9	54.0	4.6	55.2	2.1	1.2	1.5
PCB 194	<20	20.0	<20	20.0	<20	<20	20.0	NA	20.0	NA	<20	NA	12.6	1.2	13.0	1.3	2.4	2.7
PCB 195	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20	NA	5.21	0.68	5.30	0.45		
PCB 206	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20	NA	5.51	0.50	5.40	0.43		
PCB 209	<20	<20	<20	<20	<20	<20	<20	NA	<20	NA	<20	NA	2.25	0.21	1.30	0.21		

Laboratory: 20
 PCBs in Fish V

Category	Number by Category	
	z (25%)	p (15%)
< 2	13	14
2 to 3	4	3
> 3	2	2

TEO for Fish V

Fish V, %	SRM 1946, %			Fish V, %	SRM 1946, %
	S1	S2	S3		
14.0	11.5	13.0	13.2	12.8	9.8
				13.5	2.2
				10.1	0.5
				10.2	0.5

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Performance scores ^a		
	4/1602 S1	4/1602 S2	4/1602 S3	4/1602 S1	4/1602 S2	4/1602 S3	lab ng/g wet	lab %RSD	lab ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
alpha-HCH	1.05	0.977	1.03	6.00	5.82	6.05	1.02	3.70	5.96	2.03	1.22	0.33	5.72	0.65	-0.7	-0.4	0.2		
hexachlorobenzene	5.59	5.42	5.55	6.78	6.36	6.62	5.52	1.61	6.59	3.22	6.11	0.53	7.25	0.83	-0.4	-0.5	0.1		
gamma-HCH	0.348	0.326	0.339	0.902	0.924	0.898	0.338	3.276	0.908	1.542	0.467	0.120	1.14	0.18	-1.1	-0.7	0.2		
beta-HCH	<0.223	<0.221	<0.219	0.307	0.283	<0.351	<0.223	NA	0.30	5.8	<2		no target						
heptachlor	<0.223	<0.221	<0.219	<0.245	<0.226	<0.351	<0.223	NA	<0.351	NA	<2		no target						
aldrin	<0.223	<0.221	<0.219	<0.245	<0.226	<0.351	<0.223	NA	<0.351	NA	<2		no target						
heptachlor epoxide	14.1	14.8	16.6	6.88	8.97	8.01	15.2	8.5	7.95	13.15	13.2	1.3	5.50	0.23	0.6	0.7	0.6		
oxychlorane	19.7	17.6	15.6	13.8	13.2	13.8	17.6	11.6	13.6	2.5	21.2	2.2	18.9	1.5	-0.7	-0.9	0.8		
trans-chlordane	8.43	6.98	7.15	5.29	5.47	4.89	7.5	10.5	5.22	5.69	11.2	1.1	8.36	0.91	-1.3	-1.7	0.7		
2,4'-DDE	2.52	2.34	2.60	0.715	0.740	0.678	2.49	5.36	0.71	4.4	3.91	1.46	1.04	0.29	-1.5	-0.7	0.4		
endosulfan I	<0.223	<0.221	<0.219	<0.245	<0.226	<0.351	<0.223	NA	<0.351	NA	<2		no target						
cis-chlordane	36.7	33.2	32.5	27.8	28.9	26.6	34.1	6.6	27.8	4.1	41.4	4.0	32.5	1.8	-0.7	-0.9	0.4		
trans-nonachlor	99.1	91.2	90.1	89.7	89.1	84.6	93.5	5.3	87.8	3.2	113	10	99.6	7.6	-0.7	-0.9	0.4		
dieldrin	63.0	52.5	48.5	19.9	21.9	20.5	54.7	13.7	20.8	4.9	77.7	7.4	32.5	3.5	-1.2	-1.5	0.9		
4,4'-DDE	594	617	603	342	344	333	605	2	340	2	621	56	373	48	-0.1	-0.1	0.1		
2,4'-DDD	2.60	2.33	2.70	0.712	0.836	0.824	2.54	7.53	0.791	8.650	5.28	1.81	2.20	0.25	-2.1	-0.8	0.5		
endrin	1.53	1.17	1.64	2.97	3.04	2.56	1.45	17.0	2.86	9.1	2.91	1.20	no target		-2.0	-1.0	1.1		
endosulfan II	3.23	3.53	2.76	5.06	4.43	9.31	3.17	12.2	6.27	42.4	No assigned value		no target				0.8		
4,4'-DDD	33.5	32.4	33.7	8.02	7.99	7.79	33.2	2.1	7.93	1.58	40.9	3.8	17.7	2.8	-0.8	-0.9	0.1		
2,4'-DDT	13.0	16.7	15.4	16.5	14.6	14.5	15.0	12.5	15.2	7.4	18.8	3.8	22.3	3.2	-0.8	-0.5	0.8		
cis-nonachlor	43.3	50.2	46.9	51.8	60.3	57.0	46.8	7.4	56.4	7.6	50.7	4.1	59.1	3.6	-0.3	-0.5	0.5		
4,4'-DDT	52.1	50.9	52.0	30.9	29.2	30.2	51.7	1.3	30.1	2.8	52.6	6.7	37.2	3.5	-0.1	-0.1	0.1		
mirex	4.12	4.00	3.78	6.53	7.08	7.24	3.97	4.35	6.95	5.36	4.10	0.45	6.47	0.77	-0.1	-0.2	0.3		
endosulfan sulfate	0.732	0.646	0.765	0.518	0.601	0.621	0.714	8.600	0.580	9.417	No assigned value		no target				0.6		
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target						

Category	Number by Category	
	z (25%)	p (15%)
<2	16	18
2 to 3	2	0
>3	0	0

Reported Results		No. of Analytes	%
Quantitative		20	80
Qualitative		4	16
Not Determined		1	4

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

Laboratory: 21
Pesticides in Fish V

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab	lab mean ng/g wet	lab %RSD	lab	assigned value	95% CL	target value ^b	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<2	<2	<2	4.84	4.89	4.70	<2	NA	4.81	2.05	2.05	1.22	0.33	5.72				
hexachlorobenzene	4.55	5.41	5.22	6.10	5.76	5.31	5.06	8.93	5.72	6.92	6.11	0.53	7.25	0.83		0.6		
gamma-HCH	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	0.467	0.120	1.14	0.18				
beta-HCH	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2		no target					
heptachlor	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2		no target					
aldrin	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2		no target					
heptachlor epoxide	14.6	16.3	17.0	8.04	8.81	8.11	16.0	7.7	8.32	5.12	13.2	1.3	5.50	0.23	0.8	1.0		
oxychlorodane	27.5	28.1	28.2	24.6	22.4	24.9	27.9	1.4	24.0	5.7	21.2	2.2	18.9	1.5	1.3	1.6		
trans-chlordane	11.3	11.5	11.3	9.15	8.38	8.50	11.4	1.0	8.68	4.77	11.2	1.1	8.36	0.91	0.1	0.1		
2,4'-DDE	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	3.91	1.46	1.04	0.29				
endosulfan I	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2		no target					
cis-chlordane	37.8	44.1	45.0	32.3	31.6	33.3	42.3	9.3	32.4	2.6	41.4	4.0	32.5	1.8	0.1	0.1		
trans-nonachlor	108	104	110	86.4	94.3	97.3	107	3	92.7	6.1	113	10	99.6	7.6	-0.2	-0.2		
dieldrin	89.3	88.2	86.2	32.4	31.9	30.7	87.9	1.8	31.7	2.8	77.7	7.4	32.5	3.5	0.5	0.6		
4,4'-DDE	572	630	605	360	333	347	602	5	347	4	621	56	373	48	-0.1	-0.1		
2,4'-DDD	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	5.28	1.81	2.20	0.25				
endrin	14.0	15.5	14.2	7.60	6.93	5.99	14.6	5.6	6.84	11.8	2.91	1.20	no target		16.0	8.1		
endosulfan II	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	No assigned value		no target					
4,4'-DDD	43.2	49.0	54.5	41.8	39.4	39.8	48.9	11.6	40.3	3.2	40.9	3.8	17.7	2.8	0.8	0.9		
2,4'-DDT	24.3	27.2	25.4	31.0	29.3	29.1	25.6	5.7	29.8	3.5	18.8	3.8	22.3	3.2	1.4	1.0		
cis-nonachlor	47.2	50.4	47.2	64.2	59.3	52.3	48.3	3.8	58.6	10.2	50.7	4.1	59.1	3.6	-0.2	-0.3		
4,4'-DDT	51.6	61.4	55.0	68.9	66.6	65.1	56.0	8.9	66.9	2.9	52.6	6.7	37.2	3.5	0.3	0.2		
mirex	3.20	3.30	3.52	5.10	6.73	5.20	3.34	4.90	5.68	16.09	4.10	0.45	6.47	0.77	-0.7	-1.0		
endosulfan sulfate	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	No assigned value		no target					
chlorpyrifos	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	13	13
2 to 3	0	0
>3	1	1

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	14	56
Qualitative	11	44
Not Determined	0	0

Laboratory: 22
 Pesticides in Fish V

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
		S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8		<1	<1	<1	<1	<1	<1	<1	NA	NA	<1	NA	no target					
PCB 18		3.71	3.44	4.28	<1	<1	3.81	11.26	<1	NA	2.46	0.36	0.840	0.110	2.2	1.8	0.8	
PCB 28		10.0	12.9	12.4	2.47	2.32	11.8	13.4	2.86	28.11	13.8	1.4	2.00	0.24	-0.6	-0.7	0.9	
PCB 31		9.79	12.2	13.3	5.09	4.11	11.8	15.3	4.32	16.07	10.9	1.4	1.46	0.20	0.3	0.3	1.0	
PCB 44		15.9	16.3	18.4	3.51	3.47	16.9	8.3	3.60	5.32	20.7	2.6	4.66	0.86	-0.7	-0.6	0.5	
PCB 49		19.4	23.5	23.6	2.96	2.87	22.2	10.8	3.66	14.67	25.0	2.9	3.80	0.39	-0.4	-0.4	0.7	
PCB 52		31.8	37.7	33.6	6.13	5.89	34.4	8.8	7.30	30.65	33.3	3.5	8.10	1.00	0.1	0.1	0.6	
PCB 66		49.8	52.9	64.9	8.15	9.94	55.9	14.3	10.4	26.2	70.2	6.1	10.8	1.9	-0.8	-1.0	1.0	
PCB 95		32.0	33.0	35.1	12.4	12.5	34.4	4.7	13.9	17.7	43.4	10.4	11.4	1.3	-0.9	-0.5	0.3	
PCB 99		103	101	112	70.4	61.9	105	6	69.3	10.0	75.0	8.9	25.6	2.3	1.6	1.6	0.4	
PCB 101		75.8	74.8	95.4	36.4	37.5	82.0	14.2	37.5	8.1	88.8	6.9	34.6	2.6	-0.3	-0.4	0.9	
PCB 105		94.6	92.3	107	53.3	52.5	82.0	8.1	52.9	0.8	60.8	4.7	19.9	0.9	2.4	3.3	0.5	
PCB 118		167	176	194	66.1	62.5	179	4	67.3	8.1	114	10	52.1	1.0	2.3	2.7	0.5	
PCB 128		41.4	40.8	46.4	28.3	24.1	30.5	7.2	27.6	11.8	31.4	3.3	22.8	1.9	1.5	1.5	0.5	
PCB 138		191	247	264	178	190	234	16	187	4	174	12	115	13	1.4	2.1	1.1	
PCB 149		132	134	152	45.1	43.4	139	6	47.7	11.8	63.5	7.6	26.3	1.3	4.8	5.1	0.5	
PCB 153		244	280	237	281	251	254	9	282	11	201	14	170	9	1.0	1.5	0.6	
PCB 156		24.9	23.8	26.5	18.3	17.8	20.8	25.1	5.4	17.0	15.4	1.9	9.52	0.51	2.5	2.4	0.4	
PCB 170		40.6	35.8	40.0	29.7	28.5	38.8	6.7	30.0	5.7	31.2	2.1	25.2	2.2	1.0	1.5	0.4	
PCB 180		81.4	90.4	109	87.9	91.7	93.6	15.0	92.7	5.7	81.0	7.2	74.4	4.0	0.6	0.7	1.0	
PCB 187		60.2	66.3	75.7	75.4	82.2	67.4	11.6	80.9	6.1	54.0	4.6	55.2	2.1	1.0	1.2	0.8	
PCB 194		21.8	14.2	19.5	14.6	13.4	18.5	21.1	14.9	11.5	12.6	1.2	13.0	1.3	1.9	2.2	1.4	
PCB 195		11.5	8.32	7.71	6.34	5.90	9.18	22.2	6.73	16.04	5.21	0.68	5.30	0.45	3.0	2.5	1.5	
PCB 206		19.6	18.2	20.8	16.7	16.8	17.4	19.5	6.7	17.0	5.51	0.50	5.40	0.43	10.2	11.7	0.4	
PCB 209		3.24	3.13	3.23	1.84	1.65	3.20	1.9	1.71	6.79	2.25	0.21	1.30	0.21	1.7	1.9	0.1	

Category	Number by Category
<2	17
2 to 3	4
>3	3

Reported Results	No. of Analytes	%
Quantitative	24	96
Qualitative	1	4
Not Determined	0	0

Laboratory: 22
PCBs In Fish V

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %		SRM 1946, %		Fish V, %	
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL
TEO or lipid	10.2	10.1	10.1	10.4	10.4	10.4	10.1	0.6	10.4	0.0	10.1	0.5

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02	
alpha-HCH	1.27	1.22	1.23	6.43	6.38	6.32	1.24	2.13	6.38	0.86	1.22	0.33	5.72	0.65	0.1	0.0	0.1	
hexachlorobenzene	5.70	5.83	5.84	7.34	7.39	7.22	5.79	1.35	7.32	1.19	6.11	0.53	7.25	0.83	-0.2	-0.3	0.1	
gamma-HCH	<0.821	<0.708	<0.745	0.987	1.01	1.09	<0.821	NA	1.03	5.3	0.467	0.120	1.14	0.18				
beta-HCH	<0.773	<0.667	<0.702	0.838	<0.756	<0.724	<0.773	NA	0.838	NA	<2		no target					
heptachlor	<0.752	<0.648	<0.682	<0.802	<0.735	<0.704	<0.752	NA	<0.802	NA	<2		no target					
dieldrin	<0.754	<0.65	<0.684	<0.805	<0.737	<0.706	<0.754	NA	<0.805	NA	<2		no target					
heptachlor epoxide	12.8	12.7	12.6	6.61	6.49	6.27	12.7	0.8	6.46	2.67	13.2	1.3	5.50	0.23	-0.2	-0.2	0.1	
oxychlorodane	20.8	21.3	21.4	18.3	18.3	17.5	21.2	1.5	18.0	2.6	21.2	2.2	18.9	1.5	0.0	0.0	0.1	
trans-chlordane	12.0	12.0	11.9	8.76	8.77	8.71	12.0	0.5	8.75	0.37	11.2	1.1	8.36	0.91	0.3	0.3	0.0	
2,4'-DDE	3.02	3.09	3.06	1.00	1.00	1.01	3.06	1.15	1.00	0.7	3.91	1.46	1.04	0.29	-0.9	-0.4	0.1	
endosulfan I	<2.33	<2.01	<2.11	<2.48	<2.27	<2.18	<2.33	NA	<2.48	NA	<2		no target					
cis-chlordane	46.1	46.4	46.1	31.3	30.6	31.8	46.2	0.4	31.2	1.9	41.4	4.0	32.5	1.8	0.5	0.6	0.0	
trans-nonachlor	112	113	112	97.7	97.0	96.5	112	1	97.1	0.6	113	10	99.6	7.6	0.0	0.0	0.0	
dieldrin	65.1	64.7	64.9	30.0	30.6	29.6	64.9	0.3	30.1	1.7	77.7	7.4	32.5	3.5	-0.7	-0.8	0.0	
4,4'-DDE	648	665	669	363	359	359	661	2	360	1	621	56	373	48	0.3	0.3	0.1	
2,4'-DDD	3.75	3.72	3.60	1.43	1.34	1.28	3.69	2.15	1.35	5.59	5.28	1.81	2.20	0.25	-1.2	-0.4	0.1	
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.91	1.20	no target					
endosulfan II	<2.36	<2.04	<2.14	3.82	3.30	3.42	<2.36	NA	3.51	7.7	No assigned value		no target					
4,4'-DDD	42.7	42.6	41.5	11.4	10.9	10.7	42.3	1.6	11.0	3.3	40.9	3.8	17.7	2.8	0.1	0.2	0.1	
2,4'-DDT	13.8	15.1	15.2	17.2	17.0	17.5	14.7	5.3	17.2	1.5	18.8	3.8	22.3	3.2	-0.9	-0.6	0.4	
cis-nonachlor	52.8	53.3	52.5	59.4	59.2	58.1	52.9	0.8	58.9	1.2	50.7	4.1	59.1	3.6	0.2	0.3	0.1	
4,4'-DDT	39.5	41.2	41.5	38.8	39.5	39.5	40.7	2.6	39.3	1.0	52.6	6.7	37.2	3.5	-0.9	-0.8	0.2	
nitrex	4.32	4.41	4.43	7.32	7.33	7.31	4.39	1.34	7.32	0.14	4.10	0.45	6.47	0.77	0.3	0.4	0.1	
endosulfan sulfate	<2.33	<2.01	<2.11	<2.49	<2.28	<2.18	<2.33	NA	<2.49	NA	No assigned value		no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					

Category	z (25%)	z (s)	p (15%)
<2	16	16	16
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	16	64
Not Determined	7	28
	2	8

Laboratory: 23
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 23

Sample: QA02FSH5 - Fish Homogenate V (data reported as if three figures were significant)

Reporting Date: 5/15/02

PCBs	Data as submitted by laboratory												Material reference values				Performance scores*		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946			Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
	2/25/02 S1	2/25/02 S2	2/25/02 S3	2/25/02 S1	2/25/02 S2	2/25/02 S3	lab mean ng/g wet	lab %RSD	NA	lab mean ng/g wet	lab %RSD	NA	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)	
PCB 8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.46	0.36	no target	0.110	0.0	0.0	0.0	
PCB 18	2.48	2.48	2.48	<0.807	<0.74	<0.708	2.48	0.00	0.00	<0.807	NA	2.46	0.36	0.840	0.110	0.0	0.0	0.0	
PCB 28	10.4	10.7	10.9	1.67	1.52	1.70	10.7	2.4	1.63	5.92	NA	13.8	1.4	2.00	0.24	-0.9	-1.0	0.2	
PCB 31	10.8	10.6	10.2	1.42	1.36	1.28	10.5	2.9	1.35	5.19	NA	10.9	1.4	1.46	0.20	-0.1	-0.1	0.2	
PCB 44	16.7	16.9	16.7	3.14	3.11	3.11	16.8	0.7	3.12	0.56	NA	20.7	2.6	4.66	0.86	-0.8	-0.6	0.0	
PCB 49	23.3	23.7	23.4	2.57	2.60	2.58	23.5	0.9	2.58	0.59	NA	25.0	2.9	3.80	0.39	-0.2	-0.2	0.1	
PCB 52	33.0	33.4	33.1	6.78	6.77	6.74	33.2	0.6	6.76	0.31	NA	33.3	3.5	8.10	1.00	0.0	0.0	0.0	
PCB 66	62.1	63.1	62.6	8.78	8.85	8.58	62.6	0.8	6.76	1.60	NA	70.2	6.1	10.8	1.9	-0.4	-0.5	0.1	
PCB 95	28.6	29.3	29.3	11.8	11.8	11.9	29.1	1.4	11.8	0.9	NA	43.4	10.4	11.4	1.3	-1.3	-0.7	0.1	
PCB 99	67.7	68.4	68.4	26.1	26.0	26.4	68.2	0.6	26.2	0.9	NA	75.0	8.9	25.6	2.3	-0.4	-0.4	0.0	
PCB 101	82.8	84.1	84.3	37.5	37.4	37.0	83.7	1.0	37.3	0.7	NA	88.8	6.9	34.6	2.6	-0.2	-0.3	0.1	
PCB 105	44.3	44.1	44.1	18.7	18.5	18.2	44.2	0.3	18.5	1.4	NA	60.8	4.7	19.9	0.9	-1.1	-1.5	0.0	
PCB 118	99.4	101	101	48.7	48.4	48.1	100	1	48.4	0.6	NA	114	10	52.1	1.0	-0.5	-0.5	0.1	
PCB 128	33.3	33.8	33.8	23.7	23.5	23.3	33.6	0.9	23.5	0.9	NA	31.4	3.3	22.8	1.9	0.3	0.3	0.1	
PCB 138	197	201	200	162	161	159	199	1	161	1	NA	174	12	115	13	0.6	0.9	0.1	
PCB 149	62.6	63.8	64.0	28.2	28.1	27.7	63.5	1.2	28.0	0.9	NA	63.5	7.6	26.3	1.3	0.0	0.0	0.1	
PCB 153	205	208	209	188	188	186	207	1	187	4	NA	201	14	170	9	0.1	0.2	0.1	
PCB 156	13.3	13.4	13.0	9.56	9.76	9.17	13.2	1.6	9.50	3.16	NA	15.4	1.9	9.52	0.51	-0.6	-0.5	0.1	
PCB 170	34.6	35.2	35.1	33.6	32.7	32.3	35.0	0.9	32.9	2.0	NA	31.2	2.1	25.2	2.2	0.5	0.7	0.1	
PCB 180	79.7	80.6	81.0	79.0	78.0	77.1	80.4	0.8	78.0	1.2	NA	81.0	7.2	74.4	4.0	0.0	0.0	0.1	
PCB 187	52.9	54.0	5.4	58.5	57.7	57.1	37.4	74.2	57.8	1.2	NA	54.0	4.6	55.2	2.1	-1.2	-1.5	4.9	
PCB 194	14.0	14.0	13.7	14.7	14.8	14.5	13.9	1.2	14.7	1.0	NA	12.6	1.2	13.0	1.3	0.4	0.5	0.1	
PCB 195	4.53	4.61	4.63	4.86	4.75	4.59	4.59	1.15	4.73	2.87	NA	5.21	0.68	5.30	0.45	-0.5	-0.4	0.1	
PCB 206	5.80	5.95	5.83	5.45	5.58	5.42	5.86	1.35	5.48	1.55	NA	5.51	0.50	5.40	0.43	0.3	0.3	0.1	
PCB 209	1.82	1.83	1.78	0.929	1.03	0.910	1.81	1.46	0.956	6.74	NA	2.25	0.21	1.30	0.21	-0.8	-0.9	0.1	

Laboratory: 23
PCBs In Fish V

Number by Category	
Category	z (25%) z (s) P (15%)
< 2	24 24 23
2 to 3	0 0 0
> 3	0 0 1

TEO for Fish V

Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %					
S1	S2	S3	S1	S2	S3	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	P (15%)
7.3	8.6	8.2	9.1	9.2	9.0	8.1	8.2	10.1	0.5	10.2	0.5	-0.8	-0.2	0.5

*z- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		Fish V			
	11/2001	12/1601	12/1901	11/2001	12/1601	12/1901	lab mean ng/g wet	lab %RSD	lab	lab mean ng/g wet	lab %RSD	lab	assigned value	95% CL	target value ^b	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	0.906	1.72	1.81	5.38	5.22	6.43	1.48	33.59	5.68	11.52	11.52	1.22	0.33	5.72	0.8	0.6	2.2	
hexachlorobenzene	5.87	5.62	6.57	8.31	6.46	8.18	6.02	8.17	7.65	13.48	13.48	6.11	0.53	7.25	-0.1	-0.1	0.5	
gamma-HCH	0.440	0.493	0.571	0.822	0.888	0.871	0.501	13.1	0.860	4.0	4.0	0.467	0.120	1.14	0.3	0.2	0.9	
beta-HCH	0.195	0.459	0.393	0.358	0.558	0.403	0.349	39.4	0.439	23.8	23.8	<2		no target			2.6	
heptachlor	0.158	0.181	0.123	0.257	0.233	0.201	0.154	19.1	0.231	12.2	12.2	<2		no target			1.3	
aldrin	0.037	0.031	0.033	0.053	0.053	0.044	0.034	9.0	0.050	10.0	10.0	<2		no target			0.6	
heptachlor epoxide	13.1	12.9	12.6	10.5	10.1	10.0	12.9	2.1	10.2	2.6	2.6	13.2	1.3	5.50	-0.1	-0.1	0.1	
oxychloridane	21.5	23.0	22.5	17.2	15.8	15.6	22.4	3.4	16.2	5.7	5.7	21.2	2.2	18.9	0.2	0.3	0.2	
trans-chlordane	9.91	10.4	9.30	8.13	7.23	6.69	9.86	5.50	7.35	9.90	9.90	11.2	1.1	8.36	-0.5	-0.6	0.4	
2,4'-DDE	2.79	2.81	2.90	4.17	3.69	3.47	2.83	2.03	3.78	9.5	9.5	3.91	1.46	1.04	-1.1	-0.5	0.1	
endosulfan I	other	other	other	other	other	other	other	NA	other	NA	NA	<2		no target				
cis-chlordane	40.4	36.8	38.4	26.7	26.1	25.6	38.5	4.7	26.1	2.2	2.2	41.4	4.0	32.5	-0.3	-0.3	0.3	
trans-nonachlor	107	94.9	98.3	74.0	70.2	87.1	100	6	77.1	11.5	11.5	113	10	99.6	-0.4	-0.6	0.4	
dieldrin	68.9	62.6	63.5	30.5	29.5	30.5	65.0	5.2	30.2	1.9	1.9	77.7	7.4	32.5	-0.7	-0.8	0.3	
4,4'-DDE	576	518	537	258	242	308	544	5	269	13	13	621	56	373	-0.5	-0.6	0.4	
2,4'-DDD	4.52	5.40	4.76	2.60	3.07	3.29	4.89	9.33	2.99	11.71	11.71	5.28	1.81	2.20	-0.3	-0.1	0.6	
endrin	3.10	3.90	2.81	5.53	5.16	5.18	3.27	17.2	5.29	3.9	3.9	2.91	1.20	no target	0.5	0.3	1.1	
endosulfan II	3.42	3.23	2.75	2.92	2.48	2.15	3.13	11.0	2.52	15.3	15.3	No assigned value		no target			0.7	
4,4'-DDD	32.7	35.9	32.0	19.9	17.9	16.6	33.6	6.2	18.2	9.2	9.2	40.9	3.8	17.7	-0.7	-0.9	0.4	
2,4'-DDT	18.9	20.4	18.4	31.4	34.5	30.2	19.2	5.4	32.0	7.0	7.0	18.8	3.8	22.3	0.1	0.0	0.4	
cis-nonachlor	51.7	45.7	47.6	45.6	55.2	55.4	48.3	6.3	52.0	10.8	10.8	50.7	4.1	59.1	-0.2	-0.3	0.4	
4,4'-DDT	40.4	35.6	38.2	33.7	32.5	28.6	38.1	6.2	31.6	8.5	8.5	52.6	6.7	37.2	-1.1	-1.0	0.4	
mirex	3.39	3.12	2.55	5.53	4.46	3.55	3.02	14.09	4.51	21.93	21.93	4.10	0.45	6.47	-1.1	-1.4	0.9	
endosulfan sulfate	other	other	other	other	other	other	other	NA	other	NA	NA	No assigned value		no target				
chlorpyrifos	0.257	0.195	0.276	0.485	0.428	0.524	0.242	17.4	0.479	10.1	10.1	<2		no target			1.2	

Category	Number by Category	
	z (25%)	p (15%)
<2	18	18
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	23	2	92
Not Determined	0	0	0

Laboratory: 24
Pesticides In Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V		z-score (25%)	z-score (g)	p-score (15%)		
		NA S1	NA S2	NA S3	NA S1	NA S2	NA S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (g)	p-score (15%)
alpha-HCH		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.22	0.33	5.72	0.65				
hexachlorobenzene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.11	0.53	7.25	0.83				
gamma-HCH		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.467	0.120	1.14	0.18				
beta-HCH		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
heptachlor		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
aldrin		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
heptachlor epoxide		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.2	1.3	5.50	0.23				
oxychlorodane		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.2	2.2	18.9	1.5				
trans-chlordane		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.2	1.1	8.36	0.91				
2,4'-DDE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.91	1.46	1.04	0.29				
endosulfan I		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
cis-chlordane		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.4	4.0	32.5	1.8				
trans-nonachlor		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	113	10	99.6	7.6				
dieldrin		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.7	7.4	32.5	3.5				
4,4'-DDE		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	621	56	373	48				
2,4'-DDD		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.28	1.81	2.20	0.25				
endrin		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.91	1.20	no target					
endosulfan II		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target					
4,4'-DDD		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.9	3.8	17.7	2.8				
2,4'-DDT		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.8	3.8	22.3	3.2				
cis-nonachlor		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50.7	4.1	59.1	3.6				
4,4'-DDT		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	52.6	6.7	37.2	3.5				
imrex		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.10	0.45	6.47	0.77				
endosulfan sulfate		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No assigned value		no target					
chlorpyrifos		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<-2	0	0
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	0	0	0
Qualitative	0	0	0
Not Determined	25	100	100

Laboratory: 25
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a				
	Fish V, ng/g wet						SRM 1946, ng/g wet						Fish V		Fish V		Fish V						
	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02	5/11/02				
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	SRM 1946 lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	0.051	0.049	0.056	0.025	0.038	0.027	0.052	6.82	0.030	22.38	No assigned value	no target					2.46	0.36	0.840	0.110	-1.1	-0.9	0.7
PCB 18	2.03	1.72	1.66	0.122	0.190	0.181	1.81	11.01	0.164	22.477	1.81	11.01	0.164	22.477	1.81	11.01	13.8	1.4	2.00	0.24	0.4	0.5	0.5
PCB 28	16.7	14.9	14.5	1.49	1.41	1.13	15.4	7.6	1.34	13.95	15.4	7.6	1.34	13.95	15.4	7.6	10.9	1.4	1.46	0.20	-0.6	-0.7	0.6
PCB 31	10.1	8.77	8.49	1.05	0.990	0.785	9.13	9.54	0.941	14.72	9.13	9.54	0.941	14.72	9.13	9.54	20.7	2.6	4.66	0.86	1.6	1.2	0.3
PCB 44	27.9	30.1	28.3	1.70	2.20	1.89	28.8	4.1	1.93	13.16	28.8	4.1	1.93	13.16	28.8	4.1	25.0	2.9	3.80	0.39	-0.8	-0.8	0.3
PCB 49	19.2	20.9	19.5	0.898	1.16	1.00	19.8	4.6	1.02	12.97	19.8	4.6	1.02	12.97	19.8	4.6	33.3	3.5	8.10	1.00	-0.2	-0.2	0.2
PCB 52	31.1	32.7	30.9	2.73	3.58	3.11	31.6	3.1	3.14	13.52	31.6	3.1	3.14	13.52	31.6	3.1	70.2	6.1	10.8	1.9	-0.2	-0.3	0.2
PCB 66	65.6	68.6	65.2	5.71	6.04	5.02	66.5	2.8	5.59	9.28	66.5	2.8	5.59	9.28	66.5	2.8	43.4	10.4	11.4	1.3	-1.6	-0.9	0.1
PCB 95	26.4	25.9	25.7	6.18	7.03	5.95	26.0	1.3	6.38	8.92	26.0	1.3	6.38	8.92	26.0	1.3	75.0	8.9	25.6	2.3	0.3	0.3	0.1
PCB 99	80.5	82.0	79.5	18.6	19.1	15.7	80.7	1.6	17.8	10.3	80.7	1.6	17.8	10.3	80.7	1.6	88.8	6.9	34.6	2.6	-0.3	-0.4	0.1
PCB 101	82.3	83.1	81.5	23.6	23.1	20.3	82.3	1.0	22.3	9.9	82.3	1.0	22.3	9.9	82.3	1.0	60.8	4.7	19.9	0.9	-0.6	-0.8	0.3
PCB 105	51.0	54.3	50.6	21.1	19.7	15.3	52.0	3.9	18.7	16.1	52.0	3.9	18.7	16.1	52.0	3.9	114	10	52.1	1.0	-0.3	-0.3	0.2
PCB 118	103	108	105	48.5	45.7	35.6	106	2	43.3	15.6	106	2	43.3	15.6	106	2	31.4	3.3	22.8	1.9	-0.1	-0.1	0.2
PCB 128	30.7	31.2	29.5	16.5	15.9	12.8	30.5	2.7	15.1	13.1	30.5	2.7	15.1	13.1	30.5	2.7	174	12	115	13	0.2	0.3	0.2
PCB 138	184	188	177	108	103	84.7	183	3	98.4	12.3	183	3	98.4	12.3	183	3	63.5	7.6	26.3	1.3	-0.2	-0.2	0.2
PCB 149	60.1	61.8	58.1	17.0	17.1	14.3	60.0	3.1	18.7	9.9	60.0	3.1	18.7	9.9	60.0	3.1	201	14	170	9	-0.4	-0.6	0.2
PCB 153	182	184	174	115	110	92.0	180	3	106	12	180	3	106	12	180	3	15.4	1.9	9.52	0.51	0.4	0.4	0.2
PCB 156	16.8	17.5	16.4	12.1	11.3	9.22	16.9	3.5	10.9	13.6	16.9	3.5	10.9	13.6	16.9	3.5	31.2	2.1	25.2	2.2	-0.2	-0.3	0.2
PCB 170	29.3	30.4	29.0	24.7	23.3	18.8	29.6	2.6	22.3	13.7	29.6	2.6	22.3	13.7	29.6	2.6	81.0	7.2	74.4	4.0	0.2	0.2	0.2
PCB 180	83.0	86.7	83.2	73.4	68.7	57.9	84.3	2.5	66.7	11.9	84.3	2.5	66.7	11.9	84.3	2.5	54.0	4.6	55.2	2.1	-0.1	-0.1	0.1
PCB 187	52.1	54.0	52.1	40.9	39.0	31.8	52.8	2.1	37.3	11.9	52.8	2.1	37.3	11.9	52.8	2.1	12.6	1.2	13.0	1.3	0.6	0.7	0.1
PCB 194	14.6	14.7	14.2	14.5	13.8	11.2	14.5	1.8	13.1	13.4	14.5	1.8	13.1	13.4	14.5	1.8	5.21	0.68	5.30	0.45	-0.3	-0.3	0.1
PCB 195	4.82	4.81	4.73	4.46	4.15	3.48	4.79	1.1	4.03	12.45	4.79	1.1	4.03	12.45	4.79	1.1	5.51	0.50	5.40	0.43	1.7	2.0	0.3
PCB 206	7.92	8.22	7.48	7.23	6.20	6.00	7.87	4.7	6.48	10.23	7.87	4.7	6.48	10.23	7.87	4.7	2.25	0.21	1.30	0.21	-0.3	-0.3	0.2
PCB 209	2.06	2.17	2.07	1.06	0.984	0.827	2.10	2.8	0.956	12.25	2.10	2.8	0.956	12.25	2.10	2.8							

Laboratory: 25 PCBs In Fish V	Number by Category	
	z (25%)	p (15%)
Category	z (s)	p (15%)
<2	24	25
2 to 3	0	0
>3	0	0

TEO for Fish V	Fish V, %				SRM 1946, %				Fish V, %						
	S2	S2	S3	S3	S1	S2	S3	S3	mean, %	%RSD	mean, %	%RSD	z (25%)	z (s)	p (15%)
TEO or lipid	8.0	8.5	7.0	8.1	6.2	8.7	8.7	8.7	7.8	9.8	7.7	17.0	-0.9	-0.2	0.7

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values			Performance scores ^a			
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		
	S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
Analysis date																	
alpha-HCH							NA	NA	NA	NA	1.22	0.33	5.72	0.65			
hexachlorobenzene							NA	NA	NA	NA	6.11	0.53	7.25	0.83			
gamma-HCH							NA	NA	NA	NA	0.467	0.120	1.14	0.18			
beta-HCH							NA	NA	NA	NA	<2		no target				
heptachlor							NA	NA	NA	NA	<2		no target				
aldrin							NA	NA	NA	NA	<2		no target				
heptachlor epoxide							NA	NA	NA	NA	13.2	1.3	5.50	0.23			
oxychloridane							NA	NA	NA	NA	21.2	2.2	18.9	1.5			
trans-chlordane							NA	NA	NA	NA	11.2	1.1	8.36	0.91			
2,4'-DDE							NA	NA	NA	NA	3.91	1.46	1.04	0.29			
endosulfan I							NA	NA	NA	NA	<2		no target				
cis-chlordane							NA	NA	NA	NA	41.4	4.0	37.5	1.8			
trans-nonachlor							NA	NA	NA	NA	113	10	99.6	7.6			
dieldrin							NA	NA	NA	NA	77.7	7.4	37.5	3.5			
4,4'-DDE							NA	NA	NA	NA	621	56	373	48			
2,4'-DDD							NA	NA	NA	NA	5.28	1.81	2.20	0.25			
endrin							NA	NA	NA	NA	2.91	1.20	no target				
endosulfan II							NA	NA	NA	NA	No assigned value		no target				
4,4'-DDD							NA	NA	NA	NA	40.9	3.8	17.7	2.8			
2,4'-DDT							NA	NA	NA	NA	18.8	3.8	22.3	3.2			
cis-nonachlor							NA	NA	NA	NA	50.7	4.1	59.1	3.6			
4,4'-DDT							NA	NA	NA	NA	52.6	6.7	37.2	3.5			
mirex							NA	NA	NA	NA	4.10	0.45	6.47	0.77			
endosulfan sulfate							NA	NA	NA	NA	No assigned value		no target				
chlorpyrifos							NA	NA	NA	NA	<2		no target				

Category	Number by Category	
	z (25%)	z (s)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Not Determined	25	100

Laboratory: 26
 Pesticides in Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		Fish V		
	4/2/02	4/2/02	4/2/02	4/2/02	4/2/02	4/2/02	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8	20.7	33.1	27.1	25.5	19.8	27.7	27.0	23.0	24.3	16.8	No assigned value	no target					1.5		
PCB 18	8.25	11.3	8.56	7.63	5.90	8.02	9.37	17.91	7.18	15.71	2.46	0.36	0.840	0.110	11.2	9.0	1.2		
PCB 28	12.4	17.9	16.3	2.47	2.73	2.37	15.5	18.2	2.52	7.36	13.8	1.4	2.00	0.24	0.5	0.5	1.2		
PCB 31							NA	NA	NA	NA	10.9	1.4	1.46	0.20					
PCB 44	11.1	16.0	14.7	8.77	5.63	7.10	13.9	18.2	7.17	21.92	20.7	2.6	4.66	0.86	-1.3	-1.0	1.2		
PCB 49	12.4	17.9	16.9	86.20	6.05	7.70	15.7	18.6	33.32	137.49	25.0	2.9	3.80	0.39	-1.5	-1.5	1.2		
PCB 52	11.1	15.9	15.7	6.16	4.31	5.78	14.2	19.1	5.42	18.04	33.3	3.5	8.10	1.00	-2.3	-2.2	1.3		
PCB 66	49.8	72.5	67.7	28.9	21.8	34.8	63.3	18.9	23.5	22.8	70.2	6.1	10.8	1.9	-0.4	-0.5	1.3		
PCB 95							NA	NA	NA	NA	43.4	10.4	11.4	1.3					
PCB 99	18.3	26.0	25.0	17.2	19.2	15.1	23.1	18.1	17.2	11.9	75.0	8.9	25.6	2.3	-2.8	-2.7	1.2		
PCB 101	19.2	27.8	27.1	21.3	15.7	18.0	24.7	19.3	18.3	15.4	88.8	6.9	34.6	2.6	-2.9	-3.8	1.3		
PCB 105	17.0	26.0	23.4	26.1	18.4	18.1	22.1	21	209	22	60.8	4.7	19.9	0.9	10.6	14.3	1.4		
PCB 118	24.0	34.8	33.3	25.5	22.4	22.7	30.7	19.1	23.5	7.3	114	10	52.1	1.0	-2.9	-3.5	1.3		
PCB 128	12.4	18.7	15.9	15.5	13.5	14.0	15.7	20.1	14.3	7.3	31.4	3.3	22.8	1.9	-2.0	-2.1	1.3		
PCB 138	15.0	22.3	20.1	23.7	17.8	20.7	19.1	20	207	14	174	12	115	13	0.4	0.6	1.3		
PCB 149	22.1	31.9	31.7	26.1	20.0	22.0	28.6	19.6	22.7	13.7	63.5	7.6	26.3	1.3	-2.2	-2.4	1.3		
PCB 153							NA	NA	NA	NA	201	14	170	9					
PCB 156	19.9	28.3	25.6	33.6	26.5	29.0	24.6	17.4	29.7	12.1	15.4	1.9	9.52	0.51	2.4	2.3	1.2		
PCB 170	53.1	74.3	66.4	103	83.4	86.2	64.6	16.6	90.9	11.7	31.2	2.1	25.2	2.2	4.3	6.5	1.1		
PCB 180	77.7	109	97.9	149	118	127	94.9	16.7	131	12	81.0	7.2	74.4	4.0	0.7	0.8	1.1		
PCB 187	42.3	62.9	57.5	86.4	63.1	73.9	54.2	19.7	74.5	11.7	54.0	4.6	55.2	2.1	0.0	0.0	1.3		
PCB 194	11.0	15.7	13.7	24.0	19.4	20.0	13.5	17.5	21.1	11.8	12.6	1.2	13.0	1.3	0.3	0.3	1.2		
PCB 195	18.9	25.9	24.0	34.8	27.7	29.9	22.9	15.8	30.8	11.8	5.21	0.68	5.30	0.45	13.6	11.0	1.1		
PCB 206	9.23	12.8	15.7	18.6	14.5	15.3	12.6	25.8	16.1	13.5	5.51	0.50	5.40	0.43	5.1	5.9	1.7		
PCB 209	1.38	1.70	1.56	1.91	1.48	1.39	1.55	10.37	1.59	17.44	2.25	0.21	1.30	0.21	-1.3	-1.4	0.7		

Category	Number by Category	
	z (25%)	p (15%)
<2	9	22
2 to 3	7	5
>3	5	7

Fish V, %	SRM 1946, %		Fish V, %		SRM 1946, %	
	S1	S3	mean, %	%RSD	target	95% CL
10.3	10.0	10.1	10.1	1.5	10.2	0.5

Laboratory: 26
 PCBs in Fish V

TEO for Fish V

TEO or lipid

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		z-score (25%)	z-score (s)	p-score (15%)		
	3/15/02	3/15/02	3/15/02	3/14/02	3/14/02	3/14/02	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL					
alpha-HCH	1.07	1.11	1.09	6.65	6.88	6.70	1.09	1.83	6.74	1.79	1.22	0.33	5.72	0.65	-0.4	-0.3	0.1		
hexachlorobenzene	7.00	6.86	7.04	8.21	8.46	8.35	6.97	1.36	8.34	1.50	6.11	0.53	7.25	0.83	0.6	0.8	0.1		
gamma-HCH	0.400	0.370	0.370	0.940	0.990	0.980	0.380	4.558	0.970	2.728	0.467	0.120	1.14	0.18	-0.7	-0.4	0.3		
beta-HCH	0.180	0.150	0.160	0.450	0.480	0.470	0.163	9.352	0.467	3.273	<		no target				0.6		
heptachlor	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	NA	<0.12	NA	<		no target						
aldrin	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	NA	<0.13	NA	<		no target						
heptachlor epoxide	15.1	15.0	15.7	11.4	10.7	10.6	15.3	2.4	10.9	4.1	13.2	1.3	5.50	0.23	0.6	0.8	0.2		
oxychlorodane	27.4	27.1	28.4	19.4	19.9	20.0	27.6	2.4	19.7	1.7	21.2	2.2	18.9	1.5	1.2	1.5	0.2		
trans-chlordane	15.1	14.9	15.3	10.9	11.2	11.0	15.1	1.3	11.0	1.5	11.2	1.1	8.36	0.91	1.4	1.7	0.1		
2,4'-DDE	4.65	4.71	4.94	1.53	1.52	1.55	4.77	3.21	1.53	1.0	3.91	1.46	1.04	0.29	0.9	0.4	0.2		
endosulfan I	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	NA	<0.27	NA	<		no target						
cis-chlordane	49.1	49.1	51.2	33.0	33.6	32.7	49.8	2.5	33.1	1.4	41.4	4.0	32.5	1.8	0.8	1.0	0.2		
trans-nonachlor	115	110	109	100	88.7	87.8	111	3	92.2	7.5	113	10	99.6	7.6	0.0	-0.1	0.2		
dieldrin	57.8	52.8	58.3	33.8	32.3	34.5	56.3	5.4	33.6	3.3	77.7	7.4	32.5	3.5	-1.1	-1.4	0.4		
4,4'-DDE	675	635	692	374	326	325	667	4	342	8	621	56	373	48	0.3	0.3	0.3		
2,4'-DDD	6.25	7.16	7.25	2.73	2.68	2.44	6.89	8.03	2.62	5.92	5.28	1.81	2.20	0.25	1.2	0.4	0.5		
endrin	3.57	3.73	4.07	6.87	6.76	7.08	3.79	6.7	6.90	2.4	2.91	1.20	no target		1.2	0.6	0.4		
endosulfan II	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	NA	<0.11	NA	No assigned value		no target						
4,4'-DDD	46.9	47.6	49.7	19.8	21.8	21.9	48.1	3.0	21.2	5.4	40.9	3.8	17.7	2.8	0.7	0.8	0.2		
2,4'-DDT	27.8	28.7	28.9	30.3	28.1	30.2	28.5	2.2	29.5	4.3	18.8	3.8	22.3	3.2	2.0	1.4	0.1		
cis-nonachlor	62.3	61.7	64.5	70.6	72.7	74.4	62.8	2.4	72.6	2.6	50.7	4.1	59.1	3.6	1.0	1.4	0.2		
4,4'-DDT	62.1	61.5	63.0	36.8	37.9	36.4	62.2	1.2	37.0	2.2	52.6	6.7	37.2	3.5	0.7	0.7	0.1		
mirex	4.75	4.82	4.81	6.88	6.83	6.95	4.79	0.79	6.89	0.88	4.10	0.45	6.47	0.77	0.7	0.9	0.1		
endosulfan sulfate	<0.27	<0.27	<0.27	6.67	6.38	6.72	<0.27	NA	6.59	2.8	No assigned value		no target						
chlorpyrifos	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NA	<0.10	NA	<		no target						

Category	Number by Category
<2	z (25%) 17 z (s) 18 p (15%) 19
2 to 3	1 0 0
>3	0 0 0

Reported Results	No. of Analytes	%
Quantitative	19	76
Qualitative	6	24
Not Determined	0	0

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V			SRM 1946, ng/g wet			Fish V					
	3/14/02 S1	3/14/02 S2	3/14/02 S3	3/14/02 S1	3/14/02 S2	3/14/02 S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)			
PCB 8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	NA	<0.20	NA	no target							
PCB 18	2.61	2.50	2.60	0.440	0.480	0.420	2.57	2.37	0.447	6.840	0.840	0.110	0.2	0.1	0.2			
PCB 28	14.7	14.6	14.9	2.55	2.62	2.52	14.8	1.0	2.56	2.00	2.00	0.24	0.3	0.3	0.1			
PCB 31	8.02	6.87	6.31	1.11	1.18	1.07	7.07	12.34	1.12	4.97	1.46	0.20	-1.4	-1.4	0.8			
PCB 44	20.7	20.1	20.9	5.09	5.23	5.01	20.6	2.0	5.11	2.18	4.66	0.86	0.0	0.0	0.1			
PCB 49	29.2	28.5	29.5	3.92	4.02	3.93	29.1	1.8	3.96	1.39	3.80	0.39	0.7	0.7	0.1			
PCB 52	36.2	35.2	36.6	8.72	8.96	8.91	36.0	2.0	8.86	1.43	3.80	1.00	0.3	0.3	0.1			
PCB 66	70.1	70.1	68.6	7.38	7.27	7.81	69.6	1.3	7.49	3.81	10.8	1.9	0.0	0.0	0.1			
PCB 95	23.4	25.0	23.3	12.4	12.4	11.6	23.9	4.0	12.2	3.7	11.4	1.3	-1.8	-1.0	0.3			
PCB 99	88.7	86.0	94.8	26.0	25.4	25.8	89.8	5.1	25.7	1.2	25.6	2.3	0.8	0.8	0.3			
PCB 101	118	113	121	45.1	39.4	44.5	118	3	43.0	7.3	34.6	2.6	1.3	1.7	0.2			
PCB 105	39.9	39.9	42.0	17.1	17.4	18.0	40.6	3.1	17.5	2.8	19.9	0.9	-1.3	-1.8	0.2			
PCB 118	122	114	123	59.4	62.3	68.0	119	4	63.2	6.9	52.1	1.0	0.2	0.2	0.3			
PCB 128	43.1	42.1	44.9	54.9	50.8	45.8	43.4	3.3	50.5	9.1	22.8	1.9	1.5	1.6	0.2			
PCB 138	203	189	205	129	129	134	199	4	131	2	115	13	0.6	0.9	0.3			
PCB 149	40.7	40.0	40.7	18.4	18.4	18.6	40.5	1.0	18.4	0.6	26.3	1.3	-1.5	-1.6	0.1			
PCB 153	244	224	254	215	204	197	241	7	206	4	170	9	0.8	1.1	0.4			
PCB 156	18.2	17.6	18.8	12.1	11.1	12.4	18.2	3.2	11.9	5.6	9.52	0.51	0.7	0.7	0.2			
PCB 170	39.3	39.2	41.0	34.2	35.0	34.9	39.8	2.6	34.7	1.2	25.2	2.2	1.1	1.7	0.2			
PCB 180	136	127	139	103	92.9	93.6	134	5	96.4	5.7	74.4	4.0	2.6	3.0	0.3			
PCB 187	64.9	61.7	66.1	63.0	58.4	59.2	64.2	3.6	60.2	4.1	55.2	2.1	0.8	0.9	0.2			
PCB 194	15.7	15.7	16.2	15.4	16.0	16.0	15.9	1.9	15.8	2.1	13.0	1.3	1.0	1.2	0.1			
PCB 195	8.43	8.45	8.84	7.16	7.40	7.27	8.57	2.7	7.28	1.65	5.30	0.45	2.6	2.1	0.2			
PCB 206	7.18	7.13	7.13	6.18	6.51	6.47	7.15	0.4	6.39	2.82	5.40	0.43	1.2	1.4	0.0			
PCB 209	2.61	2.56	2.65	1.42	1.47	1.45	2.61	1.7	1.45	1.74	1.30	0.21	0.6	0.7	0.1			

Laboratory: 27 PCBs In Fish V	Number by Category	
	z (25%)	p (15%)
Category	z (s)	p (15%)
< 2	22	24
2 to 3	2	0
> 3	0	0

TEO for Fish V	Fish V, %			SRM 1946, %			Fish V, %			SRM 1946, %		
	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	Fish V, %
TEO or lipid	10.8	11.2	10.6	10.9	3.2	11.2	5.8	10.1	0.5	10.2	0.5	0.3

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a	
	Fish V, ng/g wet			SRM 1946, ng/g wet			Fish V		SRM 1946		Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V			
	91409 S1	91409 S2	91409 S3	51409 S1	51409 S2	51409 S3	lab mean ng/g wet	lab RSD %	lab mean ng/g wet	lab RSD %	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)		
alpha-HCH	<1.64	<1.80	<1.71	4.18	<2.67	<2.80	<1.80	NA	4.18	NA	1.22	0.33	5.72	0.65				
hexachlorobenzene	6.68	5.83	6.76	8.49	7.00	5.45	6.42	8.02	6.98	21.78	6.11	0.53	7.25	0.83	0.2	0.3		
gamma-HCH	<0.933	<1.02	0.970	<1.43	<1.52	<0.703	0.970	NA	<1.52	NA	0.467	0.120	1.14	0.18	4.3	2.5		
beta-HCH	<2.08	<2.27	<2.16	<3.18	<3.38	<1.57	<2.27	NA	<3.38	NA	<2		no target					
heptachlor	<1.39	<1.53	<1.45	<2.13	<2.27	<1.05	<1.53	NA	<2.27	NA	<2		no target					
aldrin	<0.817	<0.895	<0.850	<1.25	<1.33	<0.616	<0.895	NA	<1.33	NA	<2		no target					
heptachlor epoxide	12.2	9.13	12.5	6.90	5.02	5.31	11.3	16.5	5.74	17.62	13.2	1.3	5.50	0.23	-0.6	-0.7		
oxychlorodane	15.8	14.6	13.2	16.5	12.2	12.3	14.5	9.0	13.7	18.0	21.2	2.2	18.9	1.5	-1.3	-1.6		
trans-chlordane	9.50	8.93	8.83	8.90	7.14	8.30	9.09	3.98	8.11	11.03	11.2	1.1	8.36	0.91	-0.8	-1.0		
2,4'-DDE	36.3	54.9	<2.46	13.4	<3.84	<1.78	45.6	28.8	13.4	NA	3.91	1.46	1.04	0.29	42.6	19.2		
endosulfan I	<0.837	<0.916	<0.870	<1.28	<1.36	<0.630	<0.916	NA	<1.36	NA	<2		no target					
cis-chlordane	29.2	30.8	16.4	23.4	19.0	23.6	25.5	31.0	22.0	11.8	41.4	4.0	32.5	1.8	-1.5	-1.9		
trans-nonachlor	105	117	126	94.7	85.3	85.4	116	9	88.5	6.1	113	10	99.6	7.6	0.1	0.2		
dieldrin	60.9	61.0	72.1	37.3	25.6	31.5	64.7	10.0	31.5	18.6	77.7	7.4	32.5	3.5	-0.7	-0.8		
4,4'-DDE	698	508	640	545	240	382	615	16	389	39	621	56	373	48	0.0	0.0		
2,4'-DDD	<1.59	<1.74	4.80	<2.43	2.58	<1.20	4.80	NA	2.58	NA	5.28	1.81	2.20	0.25	-0.4	-0.1		
endrin	<1.61	<1.76	<1.67	<2.46	<2.61	<1.21	<1.76	NA	<2.61	NA	2.91	1.20	no target					
endosulfan II	5.56	4.28	8.55	<2.35	11.3	9.41	6.13	35.7	10.4	12.9	No assigned value		no target			2.4		
4,4'-DDD	38.5	18.2	34.3	27.1	7.23	12.2	30.3	35.3	15.5	66.7	40.9	3.8	17.7	2.8	-1.0	-1.3		
2,4'-DDT	30.2	14.8	28.1	35.2	13.1	12.5	24.4	34.3	20.3	63.8	18.8	3.8	22.3	3.2	1.2	0.8		
cis-nonachlor	46.2	40.9	51.0	70.5	47.9	52.8	46.0	11.0	57.1	20.8	50.7	4.1	59.1	3.6	-0.4	-0.5		
4,4'-DDT	74.4	54.5	81.7	62.7	5.75	12.2	70.2	20.1	26.9	116.0	52.6	6.7	37.2	3.5	1.3	1.3		
mirex	<1.90	<2.08	<1.98	18.40	<4.94	<6.78	<2.08	NA	18.40	NA	4.10	0.45	6.47	0.77				
endosulfan sulfate	<3.89	<4.26	<4.05	<5.96	<6.33	<2.93	<4.26	NA	<6.33	NA	No assigned value		no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	13	10
2 to 3	0	4
>3	2	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	16	64	64
Qualitative	8	32	32
Not Determined	1	4	4

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a															
		Fish V, ng/g wet						SRM 1946, ng/g wet						Fish V, ng/g wet		SRM 1946, ng/g wet		Fish V		SRM 1946													
		S1	S2	S3	S1	S2	S3	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	lab mean ng/g wet	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	z-score (25%)	z-score (s)	p-score (15%)								
PCB 8		<2.15	<1.80	<2.17	<2.85	<2.94	<2.62	NA	<2.94	NA	<2.94	NA	no target																				
PCB 18		2.67	2.52	2.95	<1.43	<1.32	<1.32	2.71	8.04	<1.48	NA	0.840	0.36	2.46	0.36	0.840	0.110	0.4	0.3	0.5	0.4	0.3	0.5										
PCB 28		10.6	10.3	12.5	<1.34	<1.38	<1.23	11.1	10.7	<1.38	NA	1.4	1.4	13.8	1.4	2.00	0.24	-0.8	-0.9	0.7	-0.8	-0.9	0.7										
PCB 31		9.88	9.81	11.7	<1.94	<2.00	<1.78	10.5	10.2	<2.00	NA	1.4	1.4	10.9	1.4	1.46	0.20	-0.2	-0.2	0.7	-0.2	-0.2	0.7										
PCB 44		20.6	20.3	23.2	4.18	5.83	6.14	21.4	7.5	5.38	19.57	2.6	2.6	20.7	2.6	4.66	0.86	0.1	0.1	0.5	0.1	0.1	0.5										
PCB 49		19.8	19.3	22.6	3.40	2.97	2.99	20.6	8.6	3.12	7.78	2.9	2.9	25.0	2.9	3.80	0.39	-0.7	-0.7	0.6	-0.7	-0.7	0.6										
PCB 52		26.8	26.3	30.7	7.16	7.12	7.25	27.9	8.6	7.18	0.93	3.5	3.5	33.3	3.5	8.10	1.00	-0.6	-0.6	0.6	-0.6	-0.6	0.6										
PCB 66		64.5	66.4	75.2	18.6	16.9	19.0	68.7	8.3	18.2	6.1	6.1	70.2	6.1	10.8	1.9	10.8	1.9	-0.1	-0.1	0.6	-0.1	-0.1	0.6									
PCB 95		64.5	66.4	75.2	18.6	16.9	19.0	68.7	8.3	18.2	6.1	6.1	70.2	6.1	10.8	1.9	10.8	1.9	-0.1	-0.1	0.6	-0.1	-0.1	0.6									
PCB 99		44.6	44.1	51.5	21.9	21.2	22.9	46.7	8.8	22.0	3.9	3.9	75.0	8.9	25.6	2.3	25.6	2.3	-1.5	-1.5	0.6	-1.5	-1.5	0.6									
PCB 101		81.2	80.9	93.5	43.3	29.1	46.0	85.2	8.4	39.5	23.0	2.6	2.6	88.8	6.9	34.6	2.6	2.6	2.6	-0.2	-0.2	0.6	-0.2	-0.2	0.6								
PCB 105		20.2	20.3	25.2	9.7	7.9	9.1	21.9	13.1	8.9	9.9	4.7	4.7	60.8	4.7	19.9	0.9	0.9	0.9	-2.6	-3.5	0.9	-2.6	-3.5	0.9								
PCB 118		94.0	91.0	106	63.2	59.9	66.2	97.0	8.2	63.1	5.0	5.0	114	10	52.1	1.0	52.1	1.0	-0.6	-0.7	0.5	-0.6	-0.7	0.5									
PCB 128		24.7	26.4	27.4	20.3	18.0	20.4	26.2	5.2	19.6	9.9	3.3	3.3	31.4	3.3	22.8	1.9	1.9	1.9	-0.7	-0.7	0.3	-0.7	-0.7	0.3								
PCB 138		154	150	175	136	136	143	160	8	138	3	12	12	174	12	115	13	13	13	-0.3	-0.5	0.6	-0.3	-0.5	0.6								
PCB 149		60.8	58.5	68.7	42.8	40.2	43.7	62.7	8.5	42.2	4.3	7.6	7.6	63.5	7.6	26.3	1.3	1.3	1.3	-0.1	-0.1	0.6	-0.1	-0.1	0.6								
PCB 153		137	133	156	143	141	151	142	9	145	4	14	14	201	14	170	9	9	9	-1.2	-1.7	0.6	-1.2	-1.7	0.6								
PCB 156		20.6	19.5	22.1	15.0	8.95	14.4	20.7	6.3	12.8	26.1	1.9	1.9	15.4	1.9	9.52	0.51	0.51	0.51	1.4	1.4	0.4	1.4	1.4	0.4								
PCB 170		29.0	28.0	32.2	36.4	34.0	35.1	29.7	7.4	35.2	3.4	2.1	2.1	31.2	2.1	25.2	2.2	2.2	2.2	-0.2	-0.3	0.5	-0.2	-0.3	0.5								
PCB 180		49.0	47.8	55.6	55.5	60.4	50.8	50.8	8.3	58.5	4.5	7.2	7.2	81.0	7.2	74.4	4.0	4.0	4.0	-1.5	-1.7	0.6	-1.5	-1.7	0.6								
PCB 187		60.0	56.8	65.2	80.5	70.9	77.1	60.7	7.0	76.2	6.4	4.6	4.6	54.0	4.6	55.2	2.1	2.1	2.1	0.5	0.6	0.5	0.5	0.6	0.5								
PCB 194		14.0	13.4	15.4	16.0	18.5	14.7	14.3	7.2	16.4	11.8	1.2	1.2	12.6	1.2	13.0	1.3	1.3	1.3	0.5	0.6	0.5	0.5	0.6	0.5								
PCB 195		4.16	3.87	4.43	4.48	3.63	3.99	4.15	6.7	4.03	10.58	0.68	0.68	5.21	0.68	5.30	0.45	0.45	0.45	-0.8	-0.7	0.4	-0.8	-0.7	0.4								
PCB 206		4.78	4.60	5.53	5.22	4.97	5.32	4.97	9.9	5.17	3.49	0.50	0.50	5.51	0.50	5.40	0.43	0.43	0.43	-0.4	-0.5	0.7	-0.4	-0.5	0.7								
PCB 209		2.94	2.59	3.35	1.99	2.22	2.14	2.96	12.9	2.12	5.52	0.21	0.21	2.25	0.21	1.30	0.21	0.21	0.21	1.3	1.4	0.9	1.3	1.4	0.9								
																		Number by Category															
														Category		z (25%)		z (s)		p (15%)													
														<2		22		23		24													
														2 to 3		2		0		0													
														>3		0		1		0													
TEO for Fish V		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %		Fish V, %		SRM 1946, %					
		S2		S1		S2		S1		S2		S1		S2		S1		S2		S1		S2		S1		S2		S1		S2			
		10.4		10.4		10.1		10.4		11.0		9.9		6.6		10.7		2.7		10.1		0.5		10.2		0.5		-0.1		0.0		0.4	

Laboratory: 29
 PCBs in Fish V

TEO for Fish V

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Appendix D: Results by Laboratory, Sediment XI

FY02 NIST Intercomparison Exercise

Laboratory No.: I-MS-1

Sample: QA02SED11 - Marine Sediment XI

(data reported as if three figures were significant)

Reporting Date: 4/15/02

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944
		1/25/03 S1	1/25/03 S2	1/25/03 S3	1/25/03 S1	1/25/03 S2	1/25/03 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene		727	731	713	1604	1634	1639	724	1	1626	1	706	84	1650	310	0.1	0.1	0.1		
2-methylnaphthalene		315	324	303	937	964	916	314	3	939	3	325	39	950	50	-0.1	-0.2	0.2		
1-methylnaphthalene		146	143	124	515	496	521	138	9	511	3	141	19	520	30	-0.1	-0.1	0.6		
biphenyl		100	98.2	96.5	320	331	316	98.2	1.7	322	2	91.1	11.0	250	70	0.3	0.4	0.1		
2,6-dimethylnaphthalene		154	136	141	625	645	634	144	6	635	2	145	24	755	156	-0.1	0.0	0.4		
acenaphthylene		95.9	95.2	100	673	681	670	97.1	2.8	675	1	120	29	646	200	-0.8	-0.4	0.2		
acenaphthene		53.8	54.9	53.9	556	560	562	54.2	1.1	559	1	53.9	6.6	470	60	0.0	0.0	0.1		
1,6,7-trimethylnaphthalene		68.3	69.8	70.2	283	298	294	69.4	1.4	292	3	82.8	19.8	462	133	-0.6	-0.5	0.1		
fluorene		81.1	77.1	79.1	762	760	776	79.1	2.5	766	1	84.6	11.0	600	50	-0.3	-0.2	0.2		
phenanthrene		724	768	726	5158	5283	5155	739	3	5199	1	645	61	5270	220	0.6	0.7	0.2		
anthracene		265	247	242	1450	1505	1476	251	5	1477	2	254	39	1770	330	0.0	0.0	0.3		
1-methylphenanthrene		139	131	147	1520	1505	1538	139	6	1521	1	127	12	1400	100	0.4	0.5	0.4		
fluoranthene		1816	1741	1793	8860	8862	8883	1783	2	8868	0	1717	117	8920	320	0.2	0.3	0.1		
pyrene		1644	1627	1600	9476	9481	9647	1624	1	9535	1	1564	130	9700	420	0.2	0.2	0.1		
benzo[a]anthracene		610	639	669	4375	4398	4453	639	5	4409	1	621	43	4720	110	0.1	0.2	0.3		
chrysene		558	569	589	4796	4841	4844	572	3	4827	1	843	255	4860	100	-1.3	-1.3	0.2		
triphenylene		360	342	336	996	989	1004	346	4	996	1	346		1040	270	0.0		0.2		
benzo[b]fluoranthene		1026	1011	1017	3838	3633	3714	1018	1	3728	3	940	135	3870	420	0.3	0.3	0.0		
benzo[k]fluoranthene		452	448	450	1990	1971	1928	450	0	1963	2	420		2090	440	0.3		0.0		
benzo[j]fluoranthene		448	434	439	2129	2098	2110	440	2	2112	1	604	190	2300	200	-1.1	-0.8	0.1		
benzo[e]pyrene		822	839	846	3131	3150	3144	836	1	3142	0	808	96	3280	110	0.1	0.2	0.1		
benzo[a]pyrene		737	701	715	4228	4254	4177	718	3	4220	1	703	42	4300	130	0.1	0.2	0.2		
perylene		357	351	374	1121	1165	1157	361	3	1148	2	323	49	1170	240	0.5	0.4	0.2		
indeno[1,2,3-cd]pyrene		672	661	657	2742	2799	2761	663	1	2767	1	683	72	2780	100	-0.1	-0.1	0.1		
dibenz[a,h]anthracene		81.9	85.6	86.7	445	425	447	84.7	3.0	439	3	153	30	424	69	-1.8	-1.2	0.2		
benzo[ghi]perylene		654	659	645	2743	2840	2799	653	1	2794	2	705	57	2840	100	-0.3	-0.5	0.1		

Laboratory: I-MS-1
PAH in Sediment XI

Reported Results	No. of Analytes	%
Quantitative	26	100
Qualitative	0	0
Not Determined	0	0

Category	z(25%)	z(s)	p(15%)
< 2	26	24	26
2 to 3	0	0	0
> 3	0	0	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*			
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI			
		1/25/02 S1	1/25/02 S2	1/25/02 S3	1/25/02 S1	1/25/02 S2	1/25/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	2.00	0.30			0.0		
hexachlorobenzene		32.3	31.5	32.7	6.22	6.47	6.27	32.2	1.9	6.32	2.09	31.1	2.7	6.03	0.35	6.03	0.35	0.1	0.2	0.1	
gamma-HCH		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
beta-HCH		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
heptachlor		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
aldrin		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
heptachlor epoxide		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
oxychlorodane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
trans-chlordane		10.5	10.8	10.2	19.8	20.2	18.7	10.5	2.9	19.6	4.0	11.7	1.1	no target							
2,4'-DDE		20.3	21.0	20.4	16.6	17.7	17.0	20.6	1.8	17.1	3.3	18.3	3.2	19.0	3.0	19.0	3.0	0.5	0.4	0.1	
endosulfan I		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
cis-chlordane		9.56	9.89	9.64	16.2	16.2	16.8	9.70	1.78	16.4	2.1	10.64	1.12	16.5	0.8	16.5	0.8	-0.4	-0.4	0.1	
trans-nonachlor		5.72	5.37	6.04	8.77	8.46	8.27	5.71	5.87	8.50	2.97	5.67	0.82	8.20	0.51	8.20	0.51	0.0	0.0	0.4	
dieldrin		4.05	3.94	4.11	8.06	7.88	7.74	4.03	2.14	7.89	2.03	3.54	0.35	8.00	4.00	8.00	4.00	0.6	1.2	0.1	
4,4'-DDE		73.1	74.7	74.3	80.4	86.4	83.7	74.0	1.1	83.5	3.6	69.4	7.8	86.0	12.0	86.0	12.0	0.3	0.3	0.1	
2,4'-DDD		42.9	43.0	43.1	30.6	33.5	29.8	43.0	0.2	31.3	6.2	40.6	6.1	38.0	8.0	38.0	8.0	0.2	0.2	0.0	
endrin		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
endosulfan II		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
4,4'-DDD		136	131	141	103	110	108	136	4	107	3	139	21	108	16	108	16	-0.1	-0.1	0.2	
2,4'-DDT		5.01	5.55	5.27	5.01	5.42	5.33	5.28	5.12	5.25	4.10	5.89	1.22	no target							
cis-nonachlor		2.34	2.41	2.54	3.26	3.34	3.21	2.43	4.18	3.27	2.01	2.86	0.54	3.70	0.70	3.70	0.70	-0.6	-0.5	0.3	
4,4'-DDT		264	273	277	130	122	121	271	2	124	4	221	38	119	11	119	11	0.9	0.8	0.2	
mirex		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
endosulfan sulfate		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						
chlorpyrifos		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	no target						

Category	Number by Category	
	z (25%)	p (15%)
< 2	12	13
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analyses		%
	Quantitative	12	
Qualitative	13	52	
Not Determined	0	0	

Laboratory: 1-MS-1
 Pesticides in Sediment XI

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry assigned value	SRM 1944, ng/g dry target value ^a	95% CL	95% CL	Sediment XI		
		1/25/02 S1	1/25/02 S2	1/25/02 S3	1/25/02 S1	1/25/02 S2	1/25/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD					z-score (25%)	z-score (15%)	
PCB 8		7.42	7.49	7.82	19.8	20.3	20.9	7.58	2.82	20.3	2.7	7.84	1.34	22.3	2.3	-0.1	-0.1	0.2		
PCB 18		13.6	14.1	14.3	52.1	52.2	49.6	14.0	2.6	51.3	2.9	17.8	2.7	51.0	2.6	-0.8	-0.7	0.2		
PCB 28		28.9	29.1	28.2	78.0	78.1	79.6	28.7	1.6	78.6	1.1	31.3	2.4	80.8	2.7	-0.3	-0.5	0.1		
PCB 31		23.6	23.8	25.1	76.1	76.3	77.4	24.2	3.4	76.6	0.9	25.0	2.9	78.7	1.6	-0.1	-0.1	0.2		
PCB 44		21.9	21.0	21.7	58.9	57.9	58.4	21.5	2.2	58.4	0.9	22.1	1.9	60.2	2.0	-0.1	-0.1	0.1		
PCB 49		19.5	20.4	20.4	53.9	52.4	52.3	20.1	2.6	52.9	1.7	21.6	1.6	53.0	1.7	-0.3	-0.4	0.2		
PCB 52		29.2	28.4	28.7	78.6	78	79.3	28.8	1.4	78.6	0.9	30.2	2.1	79.4	2.0	-0.2	-0.3	0.1		
PCB 66		24.2	25.8	24.1	66.0	68.5	66.5	24.7	3.9	67.0	2.0	26.2	2.0	71.9	4.3	-0.2	-0.3	0.3		
PCB 95		20.7	21.3	20.3	56.3	56.2	54.5	20.8	2.4	55.7	1.8	20.5	1.7	65.0	8.9	0.1	0.1	0.2		
PCB 99		12.8	14.0	13.5	37.9	36.6	37.9	13.4	4.5	37.5	2.0	14.8	1.9	37.5	2.4	-0.4	-0.4	0.3		
PCB 101		28.1	29.4	28.3	73.8	72.4	72.2	28.6	2.4	72.8	1.2	29.2	2.3	73.4	2.5	-0.1	-0.1	0.2		
PCB 105		9.19	9.72	8.94	24.0	23.9	24.7	9.28	4.29	24.2	1.8	9.31	1.11	24.5	1.1	0.0	0.0	0.3		
PCB 118		20.6	21.6	21.3	56.1	56.5	58.9	21.2	2.4	57.2	2.6	21.3	2.4	58.0	4.3	0.0	0.0	0.2		
PCB 128		3.97	3.99	4.07	8.10	8.33	8.37	4.01	1.32	8.27	1.76	4.02	0.47	8.47	0.28	0.0	0.0	0.1		
PCB 138		27.1	29.0	28.3	62.2	62.6	63.4	28.1	3.4	62.7	1.0	28.8	3.6	62.1	3.0	-0.1	-0.1	0.2		
PCB 149		24.5	23.5	24.2	49.9	48.3	48.3	24.1	2.1	48.8	1.9	22.7	2.5	49.7	1.2	0.2	0.3	0.1		
PCB 153		29.4	28.5	29.4	69.2	69.3	70.5	29.1	1.8	69.7	1.0	29.9	4.4	74.0	2.9	-0.1	-0.1	0.1		
PCB 156		2.21	2.49	2.41	6.43	6.23	6.10	2.37	6.09	6.25	2.66	2.77	0.27	6.52	0.66	-0.6	-0.9	0.4		
PCB 170		8.34	8.08	8.44	21.0	22.4	22.0	8.29	2.24	21.8	3.3	8.47	1.43	22.6	1.4	-0.1	-0.1	0.1		
PCB 180		18.2	19.6	19.3	42.3	44.6	44.5	19.0	3.9	43.8	3.0	19.3	2.0	44.3	1.2	0.0	-0.1	0.3		
PCB 187		12.8	12.6	12.9	25.4	25.5	26.1	12.8	1.2	25.7	1.5	11.8	1.6	25.1	1.0	0.3	0.3	0.1		
PCB 194		5.66	5.71	5.54	10.9	10.6	10.4	5.64	1.55	10.6	2.4	5.17	0.76	11.2	1.4	0.4	0.3	0.1		
PCB 195		2.12	2.04	2.10	3.33	3.65	3.55	2.09	2.00	3.51	4.66	2.37	0.72	3.75	0.39	-0.5	-0.2	0.1		
PCB 206		4.33	4.21	4.37	9.31	8.92	9.05	4.30	1.93	9.09	2.18	5.02	0.84	9.21	0.51	-0.6	-0.4	0.1		
PCB 209		7.26	6.98	7.27	6.41	7.09	6.30	7.17	2.30	6.60	6.48	6.88	1.57	6.81	0.33	0.2	0.1	0.2		

Laboratory: I-MS-1 PCBs in Sediment XI	Reported Results		No. of Analytes		%	
	Quantitative	Not Determined	25	0	100	0
	25	0	25	0	100	0

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
	S1	S2	S3	S1	S2	S3	S1	S2
water	45.3	45.4	45.3	45.3	0.1	45.3	0.1	45.3

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
	assigned	95% CL	assigned	95% CL	assigned	95% CL	assigned	95% CL
	45.9	0.4	45.9	0.4	45.9	0.4	45.9	0.4

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
	z (25%)	z (15%)	z (25%)	z (15%)	z (25%)	z (15%)	z (25%)	z (15%)
	0.0	-0.5	0.0	-0.5	0.0	-0.5	0.0	-0.5

* z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 1-ECD

Sample: QA02SED11 - Marine Sediment X1

Reporting Date: 6/28/02

(data reported as if three figures were significant)

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
		Sediment X1, ng/g dry			SRM 1944, ng/g dry			Sediment X1			SRM 1944			Sediment X1		Sediment X1				
		12/30/02 S1	12/30/02 S2	12/30/02 S3	12/30/02 S1	12/30/02 S2	12/30/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	652	656	673	1456	1486	1495	660	2	1479	1	706	84	1650	310	-0.3	-0.3	0.1			
2-methylnaphthalene	285	271	272	773	862	941	276	3	858	10	325	39	950	50	-0.6	-0.7	0.2			
1-methylnaphthalene	122	120	119	427	457	516	120	1	467	10	141	19	520	30	-0.6	-0.6	0.1			
biphenyl	78.4	74.7	78.3	255	253	261	77.1	2.7	257	2	91.1	11.0	250	70	-0.6	-0.7	0.2			
2,6-dimethylnaphthalene	97.6	89.3	93.9	462	463	473	93.6	4.5	466	1	145	24	755	156	-1.4	-1.1	0.3			
acenaphthylene	31.9	31.4	32.5	171	195	197	31.9	1.7	188	8	120	29	646	200	-2.9	-1.6	0.1			
acenaphthene	45.7	44.9	46.4	333	334	324	45.7	1.6	330	2	53.9	6.6	470	60	-0.6	-0.7	0.1			
1,6,7-trimethylnaphthalene	77.2	76.7	75.1	371	390	363	76.3	1.4	375	4	82.8	19.8	462	133	-0.3	-0.2	0.1			
fluorene	78.2	73.0	74.3	442	453	446	75.2	3.6	447	1	84.6	11.0	600	50	-0.4	-0.4	0.2			
phenanthrene	665	636	618	5137	5145	5404	639	4	5229	3	645	61	5270	220	0.0	0.0	0.2			
anthracene	179	174	173	1156	1047	1099	175	2	1101	5	254	39	1770	330	-1.2	-1.0	0.1			
1-methylphenanthrene	135	124	121	1396	1442	1394	127	6	1411	2	127	12	1400	100	0.0	0.0	0.4			
fluoranthene	1808	1707	1645	8853	8965	9018	1720	5	8945	1	1717	117	8920	320	0.0	0.0	0.3			
pyrene	1402	1370	1321	8340	8240	8746	1364	3	8442	3	1564	130	9700	420	-0.5	-0.8	0.2			
benzo[a]anthracene	532	518	494	3925	3776	4194	515	4	3965	5	621	43	4720	110	-0.7	-1.2	0.3			
chrysene	860	826	786	5061	4917	5397	824	5	5125	5	843	255	4860	100	-0.1	-0.1	0.3			
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270						
benzo[b]fluoranthene	826	831	793	3301	3347	3673	817	3	3440	6	940	135	3870	420	-0.5	-0.5	0.2			
benzo[k]fluoranthene	400	396	377	1848	1877	2037	391	3	1921	5	420		2090	440	-0.3		0.2			
benzo[j]fluoranthene	363	361	343	1749	1775	1946	356	3	1823	6	604	190	2300	200	-1.6	-1.2	0.2			
benzo[e]pyrene	707	715	684	2976	3030	3317	702	2	3108	6	808	96	3280	110	-0.5	-0.6	0.2			
benzo[a]pyrene	564	577	542	3531	3344	3699	561	3	3524	5	703	42	4300	130	-0.8	-1.6	0.2			
perylene	279	293	278	928	836	908	283	3	891	5	323	49	1170	240	-0.5	-0.5	0.2			
indeno[1,2,3-cd]pyrene	657	668	650	3123	2798	3218	658	1	3047	7	683	72	2780	100	-0.1	-0.2	0.1			
dibenz[a,h]anthracene	96.6	92.1	87.2	532	488	551	92.0	5.2	524	6	153	30	424	69	-1.6	-1.0	0.3			
benzo[ghi]perylene	626	637	609	2832	2655	3032	624	2	2840	7	705	57	2840	100	-0.5	-0.7	0.2			

Category	Number by Category		
	z(25%)	z(s)	p(15%)
<2	24	24	25
2 to 3	1	0	0
>3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	25	96	
Qualitative	0	0	
Not Determined	1	4	

^bCertified material reference values are bolded.

^{*}z- and p-scores > 3 are bolded.

Sample: QA02SED11 - Marine Sediment XI
 (data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a	
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI				
	1/23/02 S1	1/23/02 S2	1/23/02 S3	1/23/02 S1	1/23/02 S2	1/23/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
Analysis date	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	2.00	0.30				
alpha-HCH	31.0	29.5	31.5	7.09	6.92	6.75	30.7	3.3	6.92	2.45	31.1	2.7	6.03	0.35	-0.1	-0.1	0.2
hexachlorobenzene	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
gamma-HCH	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
beta-HCH	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
heptachlor	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
aldrin	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
heptachlor epoxide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
oxychlorodane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
trans-chlordane	12.9	13.3	12.4	20.5	20.7	21.6	12.8	3.6	20.9	2.6	11.7	1.1	no target		0.4	0.6	0.2
2,4'-DDE	15.9	17.3	17.8	17.0	16.9	17.4	17.0	5.8	17.1	1.5	18.3	3.2	19.0	3.0	-0.3	-0.2	0.4
endosulfan I	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
cis-chlordane	8.88	8.38	8.96	15.4	15.0	16.6	8.74	3.57	15.7	5.3	10.64	1.12	16.5	0.8	-0.7	-0.9	0.2
trans-nonachlor	5.61	5.54	5.66	9.73	9.30	10.0	5.60	1.06	9.69	3.81	5.67	0.82	8.20	0.51	0.0	0.0	0.1
dieldrin	3.05	3.38	2.62	7.28	7.85	7.68	3.02	12.64	7.61	3.83	3.54	0.35	8.00	4.00	-0.6	-1.2	0.8
4,4'-DDE	57.4	61.4	62.0	74.8	75.2	77.4	60.3	4.2	75.8	1.9	69.4	7.8	86.0	12.0	-0.5	-0.6	0.3
2,4'-DDD	40.3	43.5	45.1	38.5	35.7	38.9	42.9	5.7	37.7	4.6	40.6	6.1	38.0	8.0	0.2	0.2	0.4
endrin	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
endosulfan II	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
4,4'-DDD	158	169	172	141	138	141	166	5	140	1	139	21	108	16	0.8	0.7	0.3
2,4'-DDT	4.43	4.93	5.07	9.06	6.73	10.3	4.81	7.01	8.70	20.94	5.89	1.22	no target		-0.7	-0.5	0.5
cis-nonachlor	2.87	2.67	2.84	4.67	4.36	4.61	2.79	3.83	4.55	3.55	2.86	0.54	3.70	0.70	-0.1	-0.1	0.3
4,4'-DDT	244	258	264	207	197	207	256	4	204	3	221	38	119	11	0.6	0.6	0.3
imrex	<0.5	<0.5	<0.5	1.13	0.809	0.847	<0.5	NA	0.928	18.830	<0.5	<0.5	no target				
endosulfan sulfate	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	NA	<0.5	no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	<0.5	no target				

Category	Number by Category
< 2	z (25%) 12 z (s) 12 p (15%) 12
2 to 3	0 0 0
> 3	0 0 0

Reported Results	No. of Analytes	%
Quantitative	12	48
Quantitative	12	48
Not Determined	1	4

Laboratory: 1-ECD
 Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise
 Sample: QA02SED11 - Marine Sediment XI

Laboratory No.: 1-ECD
 Reporting Date: 6/28/02

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		
		10202	10201	10203	10202	10201	10203	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8		9.11	9.01	8.80	28.4	31.1	27.4	8.97	1.76	29.0	6.6	7.84	1.34	22.3	2.3	0.6	0.4	0.1		
PCB 18		18.8	17.1	18.7	68.0	70.3	66.1	18.2	5.2	68.1	3.1	17.8	2.7	51.0	2.6	0.1	0.1	0.3		
PCB 28		25.9	25.8	26.4	97.5	104	101	26.0	1.2	100.8	3.1	31.3	2.4	80.8	2.7	-0.7	-1.0	0.1		
PCB 31		27.8	26.8	30.0	96.9	100	98.2	28.2	5.2	98.4	1.6	25.0	2.9	78.7	1.6	0.5	0.6	0.4		
PCB 44		22.0	22.0	23.2	69.9	73.5	73.6	22.4	1.1	72.3	2.9	22.1	1.9	60.2	2.0	0.1	0.1	0.2		
PCB 49		23.7	23.1	24.3	66.3	68.9	69.8	23.7	2.5	68.1	2.7	21.6	1.6	53.0	1.7	0.4	0.7	0.2		
PCB 52		30.3	30.3	31.0	88.3	93.4	96.3	30.5	4.9	92.7	4.4	30.2	2.1	79.4	2.0	0.0	0.1	0.1		
PCB 66		28.4	26.9	29.7	70.0	78.1	78.2	28.3	4.9	75.4	6.2	26.2	2.0	71.9	4.3	0.3	0.5	0.3		
PCB 95		22.5	22.7	23.6	65.8	66.7	69.7	22.9	2.6	67.4	1.6	20.5	1.7	65.0	8.9	0.5	0.7	0.2		
PCB 99		12.8	12.9	13.1	33.2	32.4	35.5	12.9	1.1	33.7	4.8	14.8	1.9	37.5	2.4	-0.5	-0.5	0.1		
PCB 101		28.3	28.3	28.8	78.3	78.6	86.0	28.5	4.9	81.0	4.4	29.2	2.3	73.4	2.5	-0.1	-0.2	0.1		
PCB 105		7.82	7.92	7.95	23.4	23.6	25.7	7.90	0.86	24.2	4.4	9.31	1.11	24.5	1.1	-0.6	-0.6	0.1		
PCB 118		18.7	18.8	19.1	53.6	53.6	61.9	18.9	1.1	58.4	8.5	21.3	2.4	58.0	4.3	-0.5	-0.4	0.1		
PCB 128		3.57	3.49	3.60	10.5	9.70	11.2	3.55	1.60	10.47	7.17	4.02	0.47	8.47	0.28	-0.5	-0.4	0.1		
PCB 138		22.4	22.0	22.1	64.5	62.6	71.1	22.2	4.9	68.1	4.4	28.8	3.6	62.1	3.0	-0.9	-0.8	0.1		
PCB 149		19.8	19.5	19.9	46.3	47.4	52.5	19.7	1.1	48.7	6.8	22.7	2.5	49.7	1.2	-0.5	-0.6	0.1		
PCB 153		23.1	23.0	23.0	60.2	60.5	66.1	23.0	0.3	62.3	5.3	29.9	4.4	74.0	2.9	-0.9	-0.7	0.0		
PCB 156		2.84	2.82	2.93	6.44	6.31	7.28	2.86	2.05	6.68	7.89	2.77	0.27	6.52	0.66	0.1	0.2	0.1		
PCB 170		5.88	5.88	5.98	15.0	15.2	16.0	5.91	0.98	10.4	3.4	8.47	1.43	22.6	1.4	-1.2	-0.8	0.1		
PCB 180		15.2	15.1	15.1	38.2	38.9	40.1	15.1	0.4	39.1	2.5	19.3	2.0	44.3	1.2	-0.9	-0.9	0.0		
PCB 187		9.31	9.15	9.20	23.9	23.5	24.7	9.22	0.89	24.0	2.5	11.8	1.6	25.1	1.0	-0.9	-0.7	0.1		
PCB 194		3.63	3.65	3.64	10.3	10.3	10.5	3.64	0.27	10.4	1.1	5.17	0.76	11.2	1.4	-1.2	-1.0	0.0		
PCB 195		1.01	1.01	1.17	4.22	3.90	4.14	1.06	8.69	4.09	4.08	2.37	0.72	3.75	0.39	-2.2	-0.8	0.6		
PCB 206		3.46	3.23	3.41	7.95	7.91	8.08	3.37	3.59	7.98	1.11	5.02	0.84	9.21	0.51	-1.3	-0.9	0.2		
PCB 209		3.99	3.59	3.73	6.09	5.98	5.98	3.77	5.38	6.68	1.06	6.88	1.57	6.81	0.33	-1.8	-0.9	0.4		

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	24	25	25
2 to 3	1	0	0
> 3	0	0	0

Laboratory: 1-ECD
 PCBs in Sediment XI

Water In Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		SRM 1944, %	
	S 1	S 2	S 3	S 1	S 2	S 3	assigned	95% CL	target	95% CL
Water	45.3	46.1	45.8				45.9	0.4		

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory						Material reference values				Performance scores*						
	Sediment XI, ng/g dry		SRM 1944, ng/g dry		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		p-score (15%)				
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	
naphthalene							NA	NA	NA	NA	706	84	1650	310			
2-methylnaphthalene							NA	NA	NA	NA	325	39	950	50			
1-methylnaphthalene							NA	NA	NA	NA	141	19	520	30			
biphenyl							NA	NA	NA	NA	91.1	11.0	250	70			
2,6-dimethylnaphthalene							NA	NA	NA	NA	145	24	755	156			
acenaphthylene							NA	NA	NA	NA	120	29	646	200			
acenaphthene							NA	NA	NA	NA	53.9	6.6	470	60			
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133			
fluorene							NA	NA	NA	NA	84.6	11.0	600	50			
phenanthrene							NA	NA	NA	NA	645	61	5270	220			
anthracene							NA	NA	NA	NA	254	39	1770	330			
1-methylphenanthrene							NA	NA	NA	NA	127	12	1400	100			
fluoranthene							NA	NA	NA	NA	1717	117	8920	320			
pyrene							NA	NA	NA	NA	1564	130	9700	420			
benz[a]anthracene							NA	NA	NA	NA	621	43	4720	110			
chrysene							NA	NA	NA	NA	843	255	4860	100			
triphenylene							NA	NA	NA	NA	346		1040	270			
benzof[b]fluoranthene							NA	NA	NA	NA	940	135	3870	420			
benzof[k]fluoranthene							NA	NA	NA	NA	420		2090	440			
benzof[j]fluoranthene							NA	NA	NA	NA	604	190	2300	200			
benzof[e]pyrene							NA	NA	NA	NA	808	96	3280	110			
benzof[a]pyrene							NA	NA	NA	NA	703	42	4300	130			
perylene							NA	NA	NA	NA	323	49	1170	240			
indeno[1,2,3-cd]pyrene							NA	NA	NA	NA	683	72	2780	100			
dibenz[a,h]anthracene							NA	NA	NA	NA	153	30	424	69			
benzof[ghi]perylene							NA	NA	NA	NA	705	57	2840	100			

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	26	100

Laboratory: 3
PAH in Sediment XI

*z- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values			Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
	S 1	S 2	S 3	S 1	S 2	S 3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD							
alpha-HCH							NA	NA	NA	NA	<1	2.00	0.30				
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	0.35				
gamma-HCH							NA	NA	NA	NA	<1	no target					
beta-HCH							NA	NA	NA	NA	<6	no target					
heptachlor							NA	NA	NA	NA	<3	no target					
aldrin							NA	NA	NA	NA	<2	no target					
heptachlor epoxide							NA	NA	NA	NA	<4	no target					
oxychlorthane							NA	NA	NA	NA	<3	no target					
trans-chlordane							NA	NA	NA	NA	11.7	1.1	no target				
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	3.0				
endosulfan I							NA	NA	NA	NA	<6	no target					
cis-chlordane							NA	NA	NA	NA	10.64	1.12	0.8				
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	0.51				
dieldrin							NA	NA	NA	NA	3.54	0.35	4.00				
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	12.0				
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	8.0				
endrin							NA	NA	NA	NA	<3	no target					
endosulfan II							NA	NA	NA	NA	<3	no target					
4,4'-DDD							NA	NA	NA	NA	139	21	108	16			
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target				
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	0.70				
4,4'-DDT							NA	NA	NA	NA	221	38	119	11			
mirex							NA	NA	NA	NA	<2	no target					
endosulfan sulfate							NA	NA	NA	NA	<3	no target					
chlorpyrifos							NA	NA	NA	NA	<3	no target					

Category	Number by Category	
	z (25%)	p (15%)
< 2	0	0
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

Laboratory: 3
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Sample: QA05SED11 - Marine Sediment XI

Laboratory No.: 3

Reporting Date: 2/21/02

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory															Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI		Sediment XI					
	2902 S1	2902 S2	2902 S3	2902 S1	2902 S2	2902 S3	lab ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)			
PCB 8	9.07	8.52	8.91	22.4	22.9	23.0	8.83	3.20	22.8	1.4	7.84	1.34	22.3	2.3	0.5	0.4	0.2					
PCB 18	15.2	13.9	14.0	43.3	50.9	47.2	14.4	5.0	45.5	10.4	17.8	2.7	51.0	2.6	-0.8	-0.6	0.3					
PCB 28	40.4	36.3	36.5	101	100	104	37.7	6.1	102	2	31.3	2.4	80.8	2.7	0.8	1.2	0.4					
PCB 31	32.7	28.9	33.0	96.3	87.8	91.2	31.5	7.2	91.8	4.7	25.0	2.9	78.7	1.6	1.0	1.2	0.5					
PCB 44	18.4	16.1	17.0	45.1	51.2	44.7	17.2	6.8	47.5	7.8	22.1	1.9	60.2	2.0	-0.9	-1.2	0.5					
PCB 49	19.7	17.9	17.7	47.1	50.1	44.2	18.4	6.0	47.1	4.7	21.6	1.6	53.0	1.7	-0.6	-1.0	0.4					
PCB 52	24.4	22.3	23.5	57.8	60	55.7	23.4	4.5	47.1	3.9	30.2	2.1	79.4	2.0	-0.9	-1.5	0.3					
PCB 66	30.1	27.2	27.6	67.0	73.6	70.6	28.3	5.6	70.4	4.7	26.2	2.0	71.9	4.3	0.3	0.5	0.4					
PCB 95	16.5	16.6	16.3	37.7	37.5	37.8	16.5	0.9	37.7	0.8	20.5	1.7	65.0	8.9	-0.8	-1.2	0.1					
PCB 99	12.0	13.0	12.5	28.5	28.5	28.9	12.5	4.0	28.6	0.8	14.8	1.9	37.5	2.4	-0.6	-0.6	0.3					
PCB 101	25.0	26.0	24.6	59.1	58.4	59.1	25.2	2.9	47.1	4.7	29.2	2.3	73.4	2.5	-0.6	-0.8	0.2					
PCB 105	10.7	11.0	10.8	27.7	32.8	32.8	10.8	1.4	31.1	9.5	9.31	1.11	24.5	1.1	0.7	0.6	0.1					
PCB 118	26.9	27.6	27.2	68.5	69.7	71.5	27.2	1.3	69.9	2.2	21.3	2.4	58.0	4.3	1.1	1.1	0.1					
PCB 128	3.41	3.22	3.59	10.0	8.85	8.60	3.41	5.43	9.15	8.16	4.02	0.47	8.47	0.28	-0.6	-0.6	0.4					
PCB 138	25.5	25.7	25.4	65.3	66.4	65.9	25.5	0.6	65.9	0.8	28.8	3.6	62.1	3.0	-0.5	-0.4	0.0					
PCB 149	18.2	18.0	18.0	41.8	42.2	42.3	18.1	0.6	47.1	0.6	22.7	2.5	49.7	1.2	-0.8	-0.9	0.0					
PCB 153	28.1	26.3	25.3	67.3	76.4	76.6	26.6	5.3	73.4	7.2	29.9	4.4	74.0	2.9	-0.4	-0.3	0.4					
PCB 156	3.03	3.10	3.40	7.37	8.41	8.35	3.18	6.19	8.44	7.26	2.77	0.27	6.52	0.66	0.6	1.0	0.4					
PCB 170	9.14	7.85	7.92	20.2	17.6	18.4	8.30	8.74	18.7	7.2	8.47	1.43	22.6	1.4	-0.1	-0.1	0.6					
PCB 180	21.8	20.0	20.5	47.6	45.9	44.7	20.8	4.5	46.1	7.2	19.3	2.0	44.3	1.2	0.3	0.3	0.3					
PCB 187	10.1	9.28	10.0	20.8	20.4	20.9	9.79	4.53	10.7	1.3	11.8	1.6	25.1	1.0	-0.7	-0.5	0.3					
PCB 194	4.37	4.28	4.21	10.5	9.05	9.55	4.29	1.87	9.70	7.59	5.17	0.76	11.2	1.4	-0.7	-0.6	0.1					
PCB 195	1.46	1.25	1.35	3.90	3.66	3.16	1.35	7.76	3.57	10.57	2.37	0.72	3.75	0.39	-1.7	-0.7	0.5					
PCB 206	4.05	3.72	3.82	8.72	8.27	8.34	3.86	4.38	8.44	2.87	5.02	0.84	9.21	0.51	-0.9	-0.6	0.3					
PCB 209	5.51	5.41	6.01	7.18	7.65	7.41	5.64	5.70	7.41	3.17	6.88	1.57	6.81	0.33	-0.7	-0.4	0.4					

Category	Number by Category	
	z (25%)	p (15%)
< 2	25	25
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	25	100
Qualitative	0	0
Not Determined	0	0

Laboratory: 3
PCBs in Sediment XI

Sediment XI, %	SRM 1944, %			Sediment XI, %	SRM 1944, %
	S1	S2	S3		
46.9	46.5	46.5	46.5	45.9	0.4

Water in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PAH	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a				
		Sediment XI, ng/g dry		SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		z-score (25%)	z-score (s)	p-score (15%)			
		NA S1	NA S2	NA S3	NA S1	NA S2	NA S3	lab ng/g dry	%RSD	lab mean ng/g dry	%RSD	assigned value	95% CL	target value ^b				95% CL		
naphthalene														706	84	1650	310			
2-methylnaphthalene														325	39	950	50			
1-methylnaphthalene														141	19	520	30			
biphenyl														91.1	11.0	250	70			
2,6-dimethylnaphthalene														145	24	755	156			
acenaphthylene														120	29	646	200			
acenaphthene														53.9	6.6	470	60			
1,6,7-trimethylnaphthalene														82.8	19.8	462	133			
fluorene														84.6	11.0	600	50			
phenanthrene														645	61	5270	220			
anthracene														254	39	1770	330			
1-methylphenanthrene														127	12	1400	100			
fluoranthene														1717	117	8920	320			
pyrene														1564	130	9700	420			
benz[a]anthracene														621	43	4720	110			
chrysene														843	255	4860	100			
triphenylene														346		1040	270			
benzo[b]fluoranthene														940	135	3870	420			
benzo[k]fluoranthene														420		2090	440			
benzo[j]fluoranthene														604	190	2300	200			
benzo[e]pyrene														808	96	3280	110			
benzo[a]pyrene														703	42	4300	130			
perylene														323	49	1170	240			
indeno[1,2,3-cd]pyrene														683	72	2780	100			
dibenz[a,h]anthracene														153	30	424	69			
benzo[ghi]perylene														705	57	2840	100			

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	0	0	0
2 to 3	0	0	0
> 3	0	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	26	100

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

LY02 NIST Intercomparison Exercise

Laboratory No.: 4

Sample: QA0ZSED11 - Marine Sediment XI

(data reported as if three figures were significant)

Reporting Date: 2/21/02

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry		SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		p-score	
	NA S1	NA S2	NA S3	NA S1	NA S2	NA S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	(15%)
alpha-HCH							NA	NA	NA	NA	<1	2.00	2.00	0.30			
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	6.03	0.35			
gamma-HCH							NA	NA	NA	NA	<1		no target				
beta-HCH							NA	NA	NA	NA	<6		no target				
heptachlor							NA	NA	NA	NA	<3		no target				
aldrin							NA	NA	NA	NA	<2		no target				
heptachlor epoxide							NA	NA	NA	NA	<4		no target				
oxychlorane							NA	NA	NA	NA	<3		no target				
trans-chlordane							NA	NA	NA	NA	11.7	1.1	19.0	3.0			
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	no target				
endosulfan I							NA	NA	NA	NA	<6		no target				
cis-chlordane							NA	NA	NA	NA	10.64	1.12	16.5	0.8			
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	8.20	0.51			
dieldrin							NA	NA	NA	NA	3.54	0.35	8.00	4.00			
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	86.0	12.0			
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	38.0	8.0			
endrin							NA	NA	NA	NA	<3		no target				
endosulfan II							NA	NA	NA	NA	<3		no target				
4,4'-DDD							NA	NA	NA	NA	139	21	108	16			
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target				
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	3.70	0.70			
4,4'-DDT							NA	NA	NA	NA	221	38	119	11			
mirex							NA	NA	NA	NA	<2		no target				
endosulfan sulfate							NA	NA	NA	NA	<3		no target				
chlorpyrifos							NA	NA	NA	NA	<3		no target				

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	0	0	0
2 to 3	0	0	0
> 3	0	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

Laboratory: 4
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
	21102 S1	21102 S2	21102 S3	21102 S1	21102 S2	21102 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	5.22	6.06	5.47	24.2	24.9	21.5	5.58	7.73	23.5	7.6	7.6	7.84	1.34	22.3	2.3	-1.2	-0.8	0.5	
PCB 18	12.0	13.7	14.1	67.6	66.5	63.8	13.3	8.4	66.0	3.0	3.0	17.8	2.7	51.0	2.6	-1.0	-0.8	0.6	
PCB 28	22.7	33.7	32.2	106	93.0	102	29.5	20.2	100	7	7	31.3	2.4	80.8	2.7	-0.2	-0.3	1.3	
PCB 31	19.0	21.2	19.9	80.0	98.6	83.0	20.0	5.5	87.2	11.5	11.5	25.0	2.9	78.7	1.6	-0.8	-0.9	0.4	
PCB 44	15.1	21.9	23.0	63.6	66.3	66.6	20.0	21.4	65.5	2.5	2.5	22.1	1.9	60.2	2.0	-0.4	-0.5	1.4	
PCB 49	16.5	22.4	22.2	63.6	64.0	62.1	20.4	16.4	63.2	1.6	1.6	21.6	1.6	53.0	1.7	-0.2	-0.4	1.1	
PCB 52	22.8	32.1	32.9	112	123	104	29.3	19.2	113	8	8	30.2	2.1	79.4	2.0	-0.1	-0.2	1.3	
PCB 66	19.3	25.3	25.4	70.9	67.1	68.4	23.3	15.0	66.0	2.8	2.8	26.2	2.0	71.9	4.3	-0.4	-0.7	1.0	
PCB 95	15.2	20.5	19.5	52.9	56.4	51.0	18.4	15.3	53.4	3.1	3.1	20.5	1.7	65.0	8.9	-0.4	-0.6	1.0	
PCB 99	9.83	13.1	13.6	33.5	34.6	32.8	12.2	16.8	33.6	2.7	2.7	14.8	1.9	37.5	2.4	-0.7	-0.7	1.1	
PCB 101	20.2	27.6	26.8	73.2	72.4	71.6	24.9	16.3	72.4	3.1	3.1	29.2	2.3	73.4	2.5	-0.6	-0.9	1.1	
PCB 105	6.98	8.77	9.61	25.1	25.4	24.8	8.45	15.89	25.1	3.1	3.1	9.31	1.11	24.5	1.1	-0.4	-0.3	1.1	
PCB 118	17.9	25.2	23.3	61.1	63.1	59.8	22.1	17.1	61.3	2.7	2.7	21.3	2.4	58.0	4.3	0.2	0.2	1.1	
PCB 128	5.00	5.05	5.78	10.2	9.56	10.8	5.28	8.27	10.2	6.1	6.1	4.02	0.47	8.47	0.28	1.3	1.2	0.6	
PCB 138	24.1	33.4	31.6	72.8	77.1	76.6	29.7	16.6	75.5	3.1	3.1	28.8	3.6	62.1	3.0	0.1	0.1	1.1	
PCB 149	18.5	24.0	23.9	56.3	56.3	56.0	22.1	14.2	56.2	0.3	0.3	22.7	2.5	49.7	1.2	-0.1	-0.1	0.9	
PCB 153	21.0	29.7	28.1	68.9	73.8	70.4	26.3	17.6	71.0	3.5	3.5	29.9	4.4	74.0	2.9	-0.5	-0.4	1.2	
PCB 156	2.11	2.42	<0.920	5.43	5.67	5.44	2.27	9.68	5.1	2.46	2.46	2.77	0.27	6.52	0.66	-0.7	-1.2	0.6	
PCB 170	6.81	9.01	8.82	20.7	18.5	21.6	8.21	14.84	20.3	2.9	2.9	8.47	1.43	22.6	1.4	-0.1	-0.1	1.0	
PCB 180	14.9	20.2	20.2	43.5	42.4	44.6	18.4	16.6	43.5	2.5	2.5	19.3	2.0	44.3	1.2	-0.2	-0.2	1.1	
PCB 187	9.24	13.3	12.1	26.2	27.4	26.0	11.5	18.1	26.5	2.9	2.9	11.8	1.6	25.1	1.0	-0.1	-0.1	1.2	
PCB 194	3.59	4.80	4.86	10.2	7.86	9.60	4.42	16.22	9.2	13.2	13.2	5.17	0.76	11.2	1.4	-0.6	-0.5	1.1	
PCB 195	1.25	1.32	2.11	3.72	3.98	3.88	1.56	30.62	3.86	3.40	3.40	2.37	0.72	3.75	0.39	-1.4	-0.5	2.0	
PCB 206	3.49	4.24	5.15	5.09	5.00	6.42	4.29	19.36	5.50	14.45	14.45	5.02	0.84	9.21	0.51	-0.6	-0.4	1.3	
PCB 209	4.52	6.64	6.74	5.67	5.53	6.15	5.97	21.01	5.78	5.62	5.62	6.88	1.57	6.81	0.33	-0.5	-0.3	1.4	

Number by Category		
Category	z (25%)	p (15%)
< 2	25	24
2 to 3	0	1
> 3	0	0

Reported Results		No. of Analytes		%	
Quantitative	25	25	100	0	0
Qualitative	0	0	0	0	0
Not Determined	0	0	0	0	0

Laboratory: 4
PCBs in Sediment XI

Water in Sediment XI			
Sediment XI, %		SRM 1944, %	
S1	S2	S3	S3
44.8	45.7	44.6	
Sediment XI, %		SRM 1944, %	
assigned	95% CL	target	95% CL
45.9	0.4		
Sediment XI, %		SRM 1944, %	
z (25%)	z (s)	p (15%)	
-0.1	-0.8	0.1	

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values			Performance scores ^a				
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI					
	3/20/02	3/21/02	3/22/02	3/20/02	3/21/02	3/22/02	lab mean	lab	%RSD	lab mean	lab	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH	33.6	30.2	28.6	147	121	148	30.80	8.29	8.29	139	11	<1		2.00	0.30				0.6	
hexachlorobenzene	26.3	24.8	24.2	4.55	3.87	5.50	25.1	4.3	4.3	4.64	17.64	31.1	2.7	6.03	0.35				-0.8	0.3
gamma-HCH	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<1		no target						
beta-HCH	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<6		no target						
heptachlor	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						
aldrin	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<2		no target						
heptachlor epoxide	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<4		no target						
oxychlorodane	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						
trans-chlordane	12.4	13.1	11.6	23.5	17.8	29.7	12.4	6.1	6.1	23.7	25.1	11.7	1.1	19.0	3.0				0.2	0.4
2,4'-DDE	28.3	26.6	25.9	45.1	32.2	37.9	26.9	4.6	4.6	38.4	16.8	18.3	3.2	19.0	3.0				1.9	1.5
endosulfan I	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<6		no target						
cis-chlordane	9.76	11.5	10.7	19.6	15.2	20.1	10.7	8.2	8.2	18.3	14.7	10.64	1.12	16.5	0.8				0.0	0.0
trans-nonachlor	6.42	9.46	6.10	12.1	12.3	15.6	7.33	25.31	25.31	13.3	14.7	5.67	0.82	8.20	0.51				1.2	1.0
dieldrin	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	3.54	0.35	8.00	4.00					
4,4'-DDE	75.9	84.0	62.0	96.2	86.8	109.0	74.0	15.0	15.0	97.3	11.4	69.4	7.8	86.0	12.0				0.3	0.3
2,4'-DDD	42.7	46.9	42.3	34.1	21.2	39.3	44.0	5.8	5.8	31.5	29.6	40.6	6.1	38.0	8.0				0.3	0.3
endrin	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						
endosulfan II	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						
4,4'-DDD	127	186	181	144	142	179	165	20	20	155	13	139	21	108	16				0.7	0.7
2,4'-DDT	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	5.89	1.22	no target						
cis-nonachlor	3.49	3.82	2.63	8.43	3.46	7.09	3.31	18.54	18.54	6.33	40.64	2.86	0.54	3.70	0.70				0.6	0.5
4,4'-DDT	20.4	63.7	69.0	172	104	145	51.0	52.2	52.2	140	24	221	38	119	11				-3.1	-2.8
mirex	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<2		no target						
endosulfan sulfate	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						
chlornyfios	<3.78	<3.67	<3.73	NA	NA	NA	<3.78	NA	NA	NA	NA	<3		no target						

Category	Number by Category	
	z(25%)	p(15%)
<2	9	10
2 to 3	0	0
>3	1	1

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	11	44
Qualitative	14	56
Not Determined	0	0

Laboratory: 4b
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 4b

Sample: QA02SEDI1 - Marine Sediment XI

(data reported as if three figures were significant)

Reporting Date: 4/10/02

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a			
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI					
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	z-score (25%)	z-score (s)		
PCB 8		5.83	5.01	5.25	16.1	17.0	19.4	5.36	7.86	17.5	9.7	7.84	1.34	22.3	2.3	-1.3	-0.9	0.5			
PCB 18		16.1	12.8	13.4	48.4	43.8	53.2	14.1	12.5	48.5	9.7	17.8	2.7	51.0	2.6	-0.8	-0.6	0.8			
PCB 28		27.8	21.4	25.2	78.0	71.6	82.9	24.8	13.0	77.5	7.3	31.3	2.4	80.8	2.7	-0.8	-1.2	0.9			
PCB 31		27.8	26.1	24.3	72.4	62.1	99.8	26.1	6.7	78.1	24.9	25.0	2.9	78.7	1.6	0.2	0.2	0.4			
PCB 44		23.0	20.6	19.1	57.4	49.9	79.4	20.9	9.4	61.2	24.9	22.1	1.9	60.2	2.0	-0.2	-0.3	0.6			
PCB 49		25.8	21.8	18.3	51.1	49.4	66.1	22.0	17.1	55.5	16.5	21.6	1.6	53.0	1.7	0.1	0.1	1.1			
PCB 52		36.1	32.2	25.2	74.9	74.8	102	31.2	17.7	83.9	18.7	30.2	2.1	79.4	2.0	0.1	0.2	1.2			
PCB 66		27.1	24.8	25.1	62.5	53.7	84.9	25.7	4.9	67.0	24.9	26.2	2.0	71.9	4.3	-0.1	-0.1	0.3			
PCB 95		21.3	19.5	19.7	44.2	41.3	59.7	20.2	4.9	48.5	20.4	20.5	1.7	65.0	8.9	-0.1	-0.1	0.3			
PCB 99		14.5	13.1	12.9	29.4	26.6	39.4	13.5	6.5	31.8	25.2	14.8	1.9	37.5	2.4	-0.4	-0.4	0.4			
PCB 101		30.4	26.7	35.1	62.4	57.3	110	30.7	13.7	76.6	38.0	29.2	2.3	73.4	2.5	0.2	0.3	0.9			
PCB 105		11.0	10.0	10.6	24.1	22.4	35.0	10.5	4.8	27.2	25.2	9.31	1.11	24.5	1.1	0.5	0.5	0.3			
PCB 118		26.3	23.2	23.4	55.0	51.3	77.4	24.3	7.1	61.2	23.1	21.3	2.4	58.0	4.3	0.6	0.5	0.5			
PCB 128		5.47	4.97	6.14	10.8	10.4	21.6	5.53	10.62	14.3	44.5	4.02	0.47	8.47	0.28	1.5	1.5	0.7			
PCB 138		38.2	34.7	34.5	76.0	69.2	109	35.8	5.8	84.7	25.1	28.8	3.6	62.1	3.0	1.0	0.9	0.4			
PCB 149		27.5	24.5	24.3	51.4	47.0	74.7	25.4	7.0	57.7	25.2	22.7	2.5	49.7	1.2	0.5	0.6	0.5			
PCB 153		34.0	30.5	28.6	69.2	64.2	91.0	31.0	8.8	74.8	19.1	29.9	4.4	74.0	2.9	0.1	0.1	0.6			
PCB 156		3.27	3.04	2.42	5.90	5.84	8.71	2.91	15.11	6.82	24.06	2.77	0.27	6.52	0.66	0.2	0.3	1.0			
PCB 170		12.5	10.6	11.7	23.1	22.8	22.9	11.6	8.2	22.9	0.7	8.47	1.43	22.6	1.4	1.5	1.0	0.5			
PCB 180		24.9	22.1	22.8	42.6	40.5	59.4	23.3	6.3	47.5	21.8	19.3	2.0	44.3	1.2	0.8	0.9	0.4			
PCB 187		15.3	13.8	13.0	26.6	24.6	36.7	14.0	8.3	29.3	22.1	11.8	1.6	25.1	1.0	0.8	0.6	0.6			
PCB 194		7.83	7.48	7.20	11.8	11.5	10.6	7.50	4.21	11.3	5.5	5.17	0.76	11.2	1.4	1.8	1.5	0.3			
PCB 195		3.06	<0.818	<0.918	4.31	4.44	5.04	3.06	NA	4.60	8.47	2.37	0.72	3.75	0.39	1.2	0.4				
PCB 206		5.86	4.96	5.49	8.91	8.52	8.43	5.44	8.32	8.62	2.96	5.02	0.84	9.21	0.51	0.3	0.2	0.6			
PCB 209		10.0	7.44	7.53	6.80	8.74	6.77	8.32	17.45	7.44	15.18	6.88	1.57	6.81	0.33	0.8	0.4	1.2			

Category	Number by Category	
	z (25%)	p (15%)
< 2	25	24
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	25	100
Qualitative	0	0
Not Determined	0	0

Laboratory: 4b
PCBs In Sediment XI

Water In Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	assigned	95% CL	target
water	47.1	45.5	46.7				46.4	1.8		45.9	0.4	

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

Analysis date	Data as submitted by laboratory						Material reference values				Performance scores ^a						
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944, ng/g dry		Sediment XI		Sediment XI				
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene							NA	NA	NA	NA	706	84	1650	310			
2-methylnaphthalene							NA	NA	NA	NA	325	39	950	50			
1-methylnaphthalene							NA	NA	NA	NA	141	19	520	30			
biphenyl							NA	NA	NA	NA	91.1	11.0	250	70			
2,6-dimethylnaphthalene							NA	NA	NA	NA	145	24	755	156			
acenaphthylene							NA	NA	NA	NA	120	29	646	200			
acenaphthene							NA	NA	NA	NA	53.9	6.6	470	60			
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133			
fluorene							NA	NA	NA	NA	84.6	11.0	600	50			
phenanthrene							NA	NA	NA	NA	645	61	5270	220			
anthracene							NA	NA	NA	NA	254	39	1770	330			
1-methylphenanthrene							NA	NA	NA	NA	127	12	1400	100			
fluoranthene							NA	NA	NA	NA	1717	117	8920	320			
pyrene							NA	NA	NA	NA	1564	130	9700	420			
benz[a]anthracene							NA	NA	NA	NA	621	43	4720	110			
chrysene							NA	NA	NA	NA	843	255	4860	100			
triphenylene							NA	NA	NA	NA	346		1040	270			
benzo[b]fluoranthene							NA	NA	NA	NA	940	135	3870	420			
benzo[k]fluoranthene							NA	NA	NA	NA	420		2090	440			
benzo[f]fluoranthene							NA	NA	NA	NA	604	190	2300	200			
benzo[e]pyrene							NA	NA	NA	NA	808	96	3280	110			
benzo[a]pyrene							NA	NA	NA	NA	703	42	4300	130			
perylene							NA	NA	NA	NA	323	49	1170	240			
indeno[1,2,3-cd]pyrene							NA	NA	NA	NA	683	72	2780	100			
dibenz[a,h]anthracene							NA	NA	NA	NA	153	30	424	69			
benzo[ghi]perylene							NA	NA	NA	NA	705	57	2840	100			

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	0	0	0
2 to 3	0	0	0
> 3	0	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	26	100

Laboratory: 5
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory						Material reference values				Performance scores ^a						
		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944, ng/g dry		Sediment XI		Sediment XI		z-score	z-score	p-score		
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH							NA	NA	NA	NA	<1		2.00	0.30				
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	6.03	0.35				
gamma-HCH							NA	NA	NA	NA	<1		no target					
beta-HCH							NA	NA	NA	NA	<6		no target					
heptachlor							NA	NA	NA	NA	<3		no target					
aldrin							NA	NA	NA	NA	<2		no target					
heptachlor epoxide							NA	NA	NA	NA	<4		no target					
oxychlorodane							NA	NA	NA	NA	<3		no target					
trans-chlordane							NA	NA	NA	NA	11.7	1.1	no target					
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	19.0	3.0				
endosulfan I							NA	NA	NA	NA	<6		no target					
cis-chlordane							NA	NA	NA	NA	10.64	1.12	16.5	0.8				
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	8.20	0.51				
dieldrin							NA	NA	NA	NA	3.54	0.35	8.00	4.00				
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	86.0	12.0				
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	38.0	8.0				
endrin							NA	NA	NA	NA	<3		no target					
endosulfan II							NA	NA	NA	NA	<3		no target					
4,4'-DDD							NA	NA	NA	NA	139	21	108	16				
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target					
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	3.70	0.70				
4,4'-DDT							NA	NA	NA	NA	221	38	119	11				
mirex							NA	NA	NA	NA	<2		no target					
endosulfan sulfate							NA	NA	NA	NA	<3		no target					
chlorpyrifos							NA	NA	NA	NA	<3		no target					

Category	Number by Category	
	z (25%)	p (15%)
< 2	0	0
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	0	25	0
Not Determined	0	0	100

Laboratory: 5
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory													Material reference values				Performance scores ^a					
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		p-score (15%)				
	2202 S1	2202 S2	2202 S3	2202 S1	2202 S2	2202 S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	target value ^b	95% CL	z-score (25%)	z-score (s)	
PCB 8	7.80	10.2	9.09	22.4	27.1	24.5	9.04	13.47	24.7	9.6	24.7	9.6	24.7	9.6	24.7	9.6	24.7	9.6	22.3	2.3	0.6	0.4	0.9
PCB 18	16.2	18.0	17.6	59.0	53.0	56.2	17.3	5.5	56.0	5.4	56.0	5.4	56.0	5.4	56.0	5.4	56.0	5.4	51.0	2.6	-0.1	-0.1	0.4
PCB 28	27.7	30.5	28.0	91.9	78.3	82.1	28.7	5.4	84.1	8.3	84.1	8.3	84.1	8.3	84.1	8.3	84.1	8.3	80.8	2.7	-0.3	-0.5	0.4
PCB 31	32.4	30.1	32.0	99.1	80.8	88.9	31.5	3.9	89.6	10.2	89.6	10.2	89.6	10.2	89.6	10.2	89.6	10.2	78.7	1.6	1.0	1.2	0.3
PCB 44	21.1	20.8	21.2	55.4	58.9	58.7	21.0	1.0	57.7	1.4	57.7	1.4	57.7	1.4	57.7	1.4	57.7	1.4	60.2	2.0	-0.2	-0.3	0.1
PCB 49	22.5	19.1	19.8	58.0	50.5	51.8	20.5	8.6	53.4	7.5	53.4	7.5	53.4	7.5	53.4	7.5	53.4	7.5	53.0	1.7	-0.2	-0.3	0.6
PCB 52	32.0	29.0	29.4	80.5	77.8	79.5	30.1	5.3	79.3	1.7	79.3	1.7	79.3	1.7	79.3	1.7	79.3	1.7	79.4	2.0	0.0	0.0	0.4
PCB 66	27.3	28.4	28.3	66.7	73.0	73.7	28.0	2.3	71.2	5.5	71.2	5.5	71.2	5.5	71.2	5.5	71.2	5.5	71.9	4.3	0.3	0.4	0.2
PCB 95	22.0	21.3	21.0	57.6	53.1	54.3	21.4	2.4	56.0	4.2	56.0	4.2	56.0	4.2	56.0	4.2	56.0	4.2	65.0	8.9	0.2	0.3	0.2
PCB 99	13.7	12.9	12.7	36.2	31.5	32.6	13.1	3.9	33.4	1.4	33.4	1.4	33.4	1.4	33.4	1.4	33.4	1.4	37.5	2.4	-0.5	-0.5	0.3
PCB 101	28.7	26.5	26.2	74.7	67.4	69.0	27.1	5.0	70.4	5.5	70.4	5.5	70.4	5.5	70.4	5.5	70.4	5.5	73.4	2.5	-0.3	-0.4	0.3
PCB 105	9.00	9.17	9.09	22.5	25.0	25.1	9.09	0.90	24.2	6.0	24.2	6.0	24.2	6.0	24.2	6.0	24.2	6.0	24.5	1.1	-0.1	-0.1	0.1
PCB 118	21.3	21.0	21.1	53.7	54.8	55.2	21.1	0.6	54.6	1.4	54.6	1.4	54.6	1.4	54.6	1.4	54.6	1.4	58.0	4.3	0.0	0.0	0.0
PCB 128	3.51	3.61	3.59	8.90	10.3	10.1	3.57	1.51	9.76	7.69	9.76	7.69	9.76	7.69	9.76	7.69	9.76	7.69	8.47	0.28	-0.4	-0.4	0.1
PCB 138	26.2	24.9	25.0	65.9	65.5	65.3	25.4	2.9	89.6	5.5	89.6	5.5	89.6	5.5	89.6	5.5	89.6	5.5	62.1	3.0	-0.5	-0.4	0.2
PCB 149	17.6	18.8	18.9	45.9	47.1	48.4	18.4	4.0	47.1	2.6	47.1	2.6	47.1	2.6	47.1	2.6	47.1	2.6	49.7	1.2	-0.7	-0.9	0.3
PCB 153	27.3	27.5	27.5	70.7	70.2	70.6	27.4	0.4	70.5	0.4	70.5	0.4	70.5	0.4	70.5	0.4	70.5	0.4	74.0	2.9	-0.3	-0.3	0.0
PCB 156	2.53	2.36	2.53	6.73	6.77	6.65	2.47	4.10	6.72	0.96	6.72	0.96	6.72	0.96	6.72	0.96	6.72	0.96	6.52	0.66	-0.4	-0.7	0.3
PCB 170	8.59	8.00	7.84	23.7	20.7	20.4	8.14	4.80	21.6	8.4	21.6	8.4	21.6	8.4	21.6	8.4	21.6	8.4	22.6	1.4	-0.2	-0.1	0.3
PCB 180	18.2	16.8	16.7	40.9	42.7	42.7	17.2	4.7	42.1	2.5	42.1	2.5	42.1	2.5	42.1	2.5	42.1	2.5	44.3	1.2	-0.4	-0.5	0.3
PCB 187	10.3	9.73	9.74	24.2	24.6	24.5	9.94	3.54	24.4	0.7	24.4	0.7	24.4	0.7	24.4	0.7	24.4	0.7	25.1	1.0	-0.6	-0.5	0.2
PCB 194	4.19	4.10	4.10	10.2	10.0	10.3	4.13	1.27	10.2	1.3	10.2	1.3	10.2	1.3	10.2	1.3	10.2	1.3	11.2	1.4	-0.8	-0.7	0.1
PCB 195	1.44	1.49	1.38	3.84	3.79	3.79	1.44	3.95	3.81	0.79	3.81	0.79	3.81	0.79	3.81	0.79	3.81	0.79	3.75	0.39	-1.6	-0.6	0.3
PCB 206	4.06	4.00	3.81	8.65	8.49	9.12	3.96	3.32	8.75	3.73	8.75	3.73	8.75	3.73	8.75	3.73	8.75	3.73	9.21	0.51	-0.8	-0.6	0.2
PCB 209	5.51	4.60	4.64	6.00	6.94	6.81	4.92	10.44	6.58	7.70	6.58	7.70	6.58	7.70	6.58	7.70	6.58	7.70	6.81	0.33	-1.1	-0.6	0.7

Laboratory: 5 PCBs in Sediment XI	Reported Results			No. of Analytes		%	
	Quantitative	Qualitative	Not Determined	25	100	0	0
	45.9	0.8	0.0	25	100	0	0

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
	S2	S2	S3	S1	S2	S3	mean	%RSD	mean	%RSD	assigned	95% CL	target	95% CL
water	45.5	46.1	46.1	45.9	0.8		45.9	0.8	45.9	0.8	45.9	0.4	45.9	0.4

Laboratory: 5 PCBs in Sediment XI	Number by Category		Sediment XI, %	
	z (25%)	p (15%)	z (s)	p (15%)
	<2	25	25	25
	2 to 3	0	0	0
	>3	0	0	0

Laboratory: 5 PCBs in Sediment XI	Reported Results		No. of Analytes		%		
	Quantitative	Qualitative	Not Determined	25	100	0	0
	45.9	0.8	0.0	25	100	0	0

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI	
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^c	95% CL	z-score (25%)	z-score (s)
naphthalene	730	703	765	1510	1400	1340	733	4	1417	6	6	706	84	1650	310	0.2	0.2	0.3
2-methylnaphthalene	305	289	308	805	710	743	300	3	753	6	6	325	39	950	50	-0.3	-0.4	0.2
1-methylnaphthalene	146	137	146	432	387	408	143	4	409	6	6	141	19	520	30	0.0	0.0	0.2
biophenyl	118	103	121	264	257	265	114	8	262	2	2	91.1	11.0	250	70	1.0	1.1	0.5
2,6-dimethylnaphthalene	191	181	202	754	686	740	191	5	726	5	5	145	24	755	156	1.3	1.0	0.4
acenaphthylene	24.4	25.7	26.3	148	125	132	25.5	3.7	135	9	9	120	29	646	200	-3.2	-1.8	0.2
acenaphthene	61.5	52.4	60.4	404	364	413	58.1	8.5	394	7	7	53.9	6.6	470	60	0.3	0.3	0.6
1,6,7-trimethylnaphthalene	166	129	190	687	677	790	161	19	718	9	9	82.8	19.8	462	133	3.8	2.7	1.3
fluorene	76.7	67.7	56.6	374	380	359	67.0	15.0	371	3	3	84.6	11.0	600	50	-0.8	-0.8	1.0
phenanthrene	766	680	759	5370	5260	5480	735	6	5370	2	2	645	61	5270	220	0.6	0.7	0.4
anthracene	291	283	307	1470	1380	1560	294	4	1470	6	6	254	39	1770	330	0.6	0.5	0.3
1-methylphenanthrene	148	138	166	1410	1340	1530	150	9	1427	7	7	127	12	1400	100	0.8	1.0	0.6
fluoranthene	1940	1770	1900	8880	8860	9520	1870	5	9087	4	4	1717	117	8920	320	0.4	0.7	0.3
pyrene	1730	1580	1690	9670	9390	9990	1667	5	9683	3	3	1564	130	9700	420	0.3	0.4	0.3
benz[<i>b</i>]anthracene	659	640	686	4530	4370	4700	661	3	4533	4	4	621	43	4720	110	0.3	0.4	0.2
chrysene	1010	945	1030	5580	5460	5810	995	4	5617	3	3	843	255	4860	100	0.7	0.7	0.3
triphenylene							NA	NA	NA	NA	NA	346		1040	270			
benzo[<i>b</i>]fluoranthene	1750	1750	1910	7290	6900	7180	1803	5	7123	3	3	940	135	3870	420	3.7	3.9	0.3
benzo[<i>k</i>]fluoranthene							NA	NA	NA	NA	NA	420		2090	440			
benzo[<i>j</i>]fluoranthene							NA	NA	NA	NA	NA	604	190	2300	200			
benzo[<i>e</i>]pyrene	815	797	842	3400	2970	3080	818	3	3150	7	7	808	96	3280	110	0.1	0.1	0.2
benzo[<i>a</i>]pyrene	760	759	832	4430	3700	4220	784	5	4117	9	9	703	42	4300	130	0.5	0.9	0.4
perylene	338	336	369	1120	1100	1080	348	5	1100	2	2	323	49	1170	240	0.3	0.3	0.4
indeno[1,2,3- <i>cd</i>]pyrene	663	603	732	2880	2800	2920	666	10	2867	2	2	683	72	2780	100	-0.1	-0.1	0.6
dibenz[<i>a,h</i>]anthracene	168	158	182	900	897	796	169	7	864	7	7	153	30	424	69	0.4	0.3	0.5
benzo[<i>ghi</i>]perylene	699	623	766	2970	2900	3030	696	10	2967	2	2	705	57	2840	100	0.0	-0.1	0.7

Category	z (25%)	z (s)	p (15%)
< -2	20	21	23
2 to 3	0	1	0
> 3	3	1	0

Reported Results	No. of Analytes	%
Quantitative	23	89
Qualitative	0	0
Not Determined	3	12

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PESTICIDES	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
		3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02	3/29/02
alpha-HCH	0.125	0.142	0.128	0.131	0.483	0.129	0.132	6.891	0.248	82.291	<1	2.00	0.30	<1	2.00	0.30	<1	2.00	0.30	0.5
hexachlorobenzene	34.0	33.5	32.4	5.35	5.73	5.96	33.3	2.5	5.68	5.42	31.1	6.03	0.35	31.1	6.03	0.35	31.1	6.03	0.35	0.2
gamma-HCH	0.077	0.076	0.080	3.24	3.12	3.75	0.078	2.680	3.37	9.93	<1	no target		<1	no target		<1	no target		0.2
beta-HCH	0.130	0.089	0.134	<0.07	<0.05	<0.05	0.118	21.167	<0.07	NA	<6	no target		<6	no target		<6	no target		1.4
heptachlor	<0.03	<0.01	<0.01	<0.03	<0.02	<0.03	<0.03	NA	<0.03	NA	<3	no target		<3	no target		<3	no target		
aldrin	<0.07	<0.04	<0.01	<0.05	<0.03	<0.03	<0.07	NA	<0.05	NA	<2	no target		<2	no target		<2	no target		
heptachlor epoxide	0.349	0.364	0.319	0.489	0.288	0.363	0.344	6.661	0.380	26.730	<4	no target		<4	no target		<4	no target		0.4
oxychlorodane	<0.03	<0.06	<0.03	<0.06	<0.06	<0.05	<0.06	NA	<0.06	NA	<3	no target		<3	no target		<3	no target		
trans-chlordane	11.4	10.1	9.09	22.6	19.7	20.6	10.2	11.3	20.9	7.1	11.7	1.1		11.7	1.1		11.7	1.1		0.8
2,4'-DDE	20.0	20.8	18.0	17.2	15.7	15.8	19.6	7.5	16.2	5.4	18.3	3.2	3.0	18.3	3.2	3.0	18.3	3.2	3.0	0.5
endosulfan I	<0.15	<0.15	<0.15	<0.3	<0.4	<0.5	<0.15	NA	<0.5	NA	<6	no target		<6	no target		<6	no target		
cis-chlordane	9.87	8.76	7.79	17.9	16.2	17.5	8.81	11.82	17.2	5.1	10.64	1.12	0.8	10.64	1.12	0.8	10.64	1.12	0.8	0.8
trans-nonachlor	5.16	4.16	3.61	9.31	8.08	7.40	4.31	18.23	8.26	11.72	5.67	0.82	0.51	5.67	0.82	0.51	5.67	0.82	0.51	1.2
dieldrin	4.06	3.47	3.74	8.24	6.49	9.54	3.76	7.86	8.09	18.92	3.54	0.35	4.00	3.54	0.35	4.00	3.54	0.35	4.00	0.5
4,4'-DDE	73.3	76.5	61.8	68.9	70.5	72.4	70.5	11.0	70.6	2.5	69.4	7.8	12.0	69.4	7.8	12.0	69.4	7.8	12.0	0.7
2,4'-DDD	43.6	43.7	37.0	40.8	35.1	36.8	41.4	9.2	37.6	7.7	40.6	6.1	8.0	40.6	6.1	8.0	40.6	6.1	8.0	0.6
endrin	0.163	0.167	0.156	<0.1	<0.1	<0.1	0.162	3.437	<0.1	NA	<3	no target		<3	no target		<3	no target		0.2
endosulfan II	<0.2	<0.3	<0.3	<0.4	<0.7	<1.0	<0.3	NA	<0.7	NA	<3	no target		<3	no target		<3	no target		
4,4'-DDD	121	142	115	128	107	129	126	12	121	10	139	21	16	139	21	16	139	21	16	0.8
2,4'-DDT	4.47	4.85	4.51	5.29	5.40	5.75	4.61	4.53	5.48	4.38	5.89	1.22		5.89	1.22		5.89	1.22		0.3
cis-nonachlor	2.06	1.94	1.65	3.33	3.18	3.15	1.88	11.19	3.22	2.99	2.86	0.54	0.70	2.86	0.54	0.70	2.86	0.54	0.70	0.7
4,4'-DDT	278	317	236	111	113	133	277	15	119	10	221	38	11	221	38	11	221	38	11	1.0
mirex	0.156	0.171	0.133	0.730	0.639	0.690	0.153	12.483	0.686	6.646	<2	no target		<2	no target		<2	no target		0.8
endosulfan sulfate	<0.03	<0.04	<0.04	<0.1	<0.1	<0.2	<0.04	NA	<0.2	NA	<3	no target		<3	no target		<3	no target		
chlorpyrifos							NA	NA	NA	NA	<3	no target		<3	no target		<3	no target		

Category	Number by Category	
	z (25%)	z (s) p (15%)
< 2	12	12 18
2 to 3	0	0 0
> 3	0	0 0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	18	72	
Qualitative	6	24	
Not Determined	1	4	

Laboratory: 5b
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 5b

Sample: QA02SED11 - Marine Sediment XI

Reporting Date: 04/15/2002

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
	S1	S2	S3	S1	S2	S3	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD									
PCB 8	8.36	8.56	7.79	24.2	24.0	21.2	8.24	4.85	23.1	7.3	7.84	1.34	22.3	2.3	0.2	0.1	0.3				
PCB 18	15.2	15.3	14.7	52.0	50.4	45.6	15.1	2.1	49.3	6.8	17.8	2.7	51.0	2.6	-0.6	-0.5	0.1				
PCB 28	35.7	35.2	34.1	106	99.5	91.8	35.0	2.3	99.1	7.7	31.3	2.4	80.8	2.7	0.5	0.7	0.2				
PCB 31	26.5	17.3	26.8	86.9	83.2	77.5	23.5	22.9	82.5	4.7	25.0	2.9	78.7	1.6	-0.2	-0.3	1.5				
PCB 44	29.6	30.4	30.0	77.5	77.6	70.2	30.0	1.3	75.1	4.7	22.1	1.9	60.2	2.0	1.4	1.9	0.1				
PCB 49	20.6	19.9	20.5	53.3	50.9	47.6	20.3	1.9	50.6	4.7	21.6	1.6	53.0	1.7	-0.2	-0.4	0.1				
PCB 52	32.2	32.0	30.4	86.6	84.3	73.4	31.5	3.1	81.4	4.7	30.2	2.1	79.4	2.0	0.2	0.3	0.2				
PCB 66	27.8	25.9	27.8	74.3	62.4	64.6	27.2	4.0	67.1	9.4	26.2	2.0	71.9	4.3	0.2	0.2	0.3				
PCB 95	24.0	23.3	25.0	51.8	56.9	54.5	24.1	3.5	54.4	4.7	20.5	1.7	65.0	8.9	0.7	1.1	0.2				
PCB 99	17.3	16.7	17.7	40.0	39.8	38.1	17.2	2.9	49.3	7.7	14.8	1.9	37.5	2.4	0.6	0.6	0.2				
PCB 101	29.8	29.2	33.2	70.2	72.2	72.1	30.7	7.0	71.5	1.6	29.2	2.3	73.4	2.5	0.2	0.3	0.5				
PCB 105	8.99	8.89	9.97	22.2	23.4	24.3	9.28	6.43	23.3	4.5	9.31	1.11	24.5	1.1	0.0	0.0	0.4				
PCB 118	21.7	21.1	23.6	50.9	53.2	55.9	22.1	5.9	53.3	4.7	21.3	2.4	58.0	4.3	0.2	0.2	0.4				
PCB 128	3.38	2.88	3.71	7.80	8.50	9.07	3.32	12.57	8.46	7.52	4.02	0.47	8.47	0.28	-0.7	-0.7	0.8				
PCB 138	25.6	23.1	29.0	59.3	66.0	66.6	25.9	11.4	64.0	6.3	28.8	3.6	62.1	3.0	-0.4	-0.4	0.8				
PCB 149	22.6	23.5	24.8	49.2	57.4	53.3	23.6	4.7	53.3	7.7	22.7	2.5	49.7	1.2	0.2	0.2	0.3				
PCB 153	27.3	26.3	30.9	63.0	69.4	71.1	28.2	8.6	67.8	6.3	29.9	4.4	74.0	2.9	-0.2	-0.2	0.6				
PCB 156	2.20	2.11	2.40	5.35	5.53	6.09	2.24	6.64	5.66	6.82	2.77	0.27	6.52	0.66	-0.8	-1.3	0.4				
PCB 170	7.77	7.09	8.93	22.2	20.5	21.5	7.93	11.73	21.4	4.0	8.47	1.43	22.6	1.4	-0.3	-0.2	0.8				
PCB 180	19.7	18.4	23.1	45.8	42.6	44.7	20.4	11.9	44.4	3.7	19.3	2.0	44.3	1.2	0.2	0.3	0.8				
PCB 187	12.3	10.9	13.5	27.4	26.0	25.7	12.2	10.6	26.4	3.4	11.8	1.6	25.1	1.0	0.2	0.1	0.7				
PCB 194	4.40	4.37	5.03	9.68	9.92	10.6	4.60	8.10	10.1	3.7	5.17	0.76	11.2	1.4	-0.4	-0.4	0.5				
PCB 195	1.48	1.46	1.66	3.41	3.43	3.70	1.53	7.18	3.51	4.61	2.37	0.72	3.75	0.39	-1.4	-0.5	0.5				
PCB 206	4.12	3.86	4.34	8.09	7.99	8.29	4.11	5.85	8.12	1.88	5.02	0.84	9.21	0.51	-0.7	-0.5	0.4				
PCB 209	5.53	5.40	6.34	6.27	6.55	6.80	5.76	8.85	6.54	4.05	6.88	1.57	6.81	0.33	-0.7	-0.3	0.6				

Laboratory: 5b PCBs in Sediment XI	Reported Results		No. of Analytes		%
	Quantitative	Qualitative	25	100	
	0	0	0	0	0
	0	0	0	0	0

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %			
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target
water	45.8	45.4	46.5				45.9	1.2			45.9	0.4	

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

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

PAH	Data as submitted by laboratory										Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry	SRM 1944, ng/g dry	target value ^b	95% CL	95% CL	Sediment XI		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD						z-score (25%)	z-score (s)	p-score (15%)
Analysis date																		
naphthalene							NA	NA	NA	NA	NA	1650	310					
2-methylnaphthalene							NA	NA	NA	NA	NA	950	50					
1-methylnaphthalene							NA	NA	NA	NA	NA	520	30					
biphenyl							NA	NA	NA	NA	NA	250	70					
2,6-dimethylnaphthalene							NA	NA	NA	NA	NA	755	156					
acenaphthylene							NA	NA	NA	NA	NA	646	200					
acenaphthene							NA	NA	NA	NA	NA	470	60					
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	NA	462	133					
fluorene							NA	NA	NA	NA	NA	600	50					
phenanthrene							NA	NA	NA	NA	NA	5270	220					
anthracene							NA	NA	NA	NA	NA	1770	330					
1-methylphenanthrene							NA	NA	NA	NA	NA	1400	100					
fluoranthene							NA	NA	NA	NA	NA	8920	320					
pyrene							NA	NA	NA	NA	NA	9700	420					
benz[a]anthracene							NA	NA	NA	NA	NA	4720	110					
chrysene							NA	NA	NA	NA	NA	4860	100					
triphenylene							NA	NA	NA	NA	NA	1040	270					
benzo[b]fluoranthene							NA	NA	NA	NA	NA	3870	420					
benzo[k]fluoranthene							NA	NA	NA	NA	NA	2090	440					
benzo[j]fluoranthene							NA	NA	NA	NA	NA	2300	200					
benzo[e]pyrene							NA	NA	NA	NA	NA	3280	110					
benzo[a]pyrene							NA	NA	NA	NA	NA	4300	130					
perylene							NA	NA	NA	NA	NA	1170	240					
indeno[1,2,3-cd]pyrene							NA	NA	NA	NA	NA	2780	100					
dibenz[a,h]anthracene							NA	NA	NA	NA	NA	424	69					
benzo[ghi]perylene							NA	NA	NA	NA	NA	2840	100					

Category	Number by Category		
	z (25%)	z (s)	p (15%)
<2	0	0	0
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	0	0	0
Quantitative	0	0	0
Not Determined	26	100	100

Laboratory: 6
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores*			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores*	
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH							NA	NA	NA	NA	<1	2.00	0.30					
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	0.35					
gamma-HCH							NA	NA	NA	NA	<1	no target						
beta-HCH							NA	NA	NA	NA	<6	no target						
heptachlor							NA	NA	NA	NA	<3	no target						
aldrin							NA	NA	NA	NA	<2	no target						
heptachlor epoxide							NA	NA	NA	NA	<4	no target						
oxychlorodane							NA	NA	NA	NA	<3	no target						
trans-chlordane							NA	NA	NA	NA	11.7	1.1						
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	3.0					
endosulfan I							NA	NA	NA	NA	<6	no target						
cis-chlordane							NA	NA	NA	NA	10.64	1.12	0.8					
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	0.51					
dieldrin							NA	NA	NA	NA	3.54	0.35	4.00					
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	86.0	12.0				
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	38.0	8.0				
endrin							NA	NA	NA	NA	<3	no target						
endosulfan II							NA	NA	NA	NA	<3	no target						
4,4'-DDD							NA	NA	NA	NA	139	21	108	16				
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target					
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	3.70	0.70				
4,4'-DDT							NA	NA	NA	NA	221	38	119	11				
mirex							NA	NA	NA	NA	<2	no target						
endosulfan sulfate							NA	NA	NA	NA	<3	no target						
chlorpyrifos							NA	NA	NA	NA	<3	no target						

Category	Number by Category	
	z (25%)	p (15%)
< 2	0	0
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes		%
	Quantitative	0	
Qualitative	0	0	
Not Determined	25	100	

Laboratory: 6
Pesticides In Sediment XI

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 6b

Sample: QA02SED11 - Marine Sediment XI

(data reported as if three figures were significant)

Reporting Date: 4/29/02

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI		Sediment XI				
		2/16/02 S1	2/16/02 S2	2/16/02 S3	2/16/02 S1	2/16/02 S2	2/16/02 S3	lab ng/g dry	lab mean ng/g dry	lab %RSD	lab ng/g dry	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene		378	359	385	695	699	615	374	4	670	7	706	84	1650	310	-1.9	-2.0	0.2		
2-methylnaphthalene		147	140	148	306	338	304	145	3	316	6	325	39	950	50	-2.2	-2.7	0.2		
1-methylnaphthalene		87.6	84.1	91.7	283	352	296	87.8	4.3	310	12	141	19	520	30	-1.5	-1.5	0.3		
biphenyl		53.4	53.3	54.0	109	132	117	53.6	0.7	119	10	91.1	11.0	250	70	-1.6	-1.9	0.0		
2,6-dimethylnaphthalene		63.5	84.9	90.1	257	397	361	80	18	338	21	145	24	755	156	-1.8	-1.4	1.2		
acenaphthylene		118	114	115	774	807	752	115.7	1.8	778	4	120	29	646	200	-0.2	-0.1	0.1		
acenaphthene		44.8	42.7	46.2	340	400	354	44.6	4.0	365	9	53.9	6.6	470	60	-0.7	-0.8	0.3		
1,6,7-trimethylnaphthalene		47.6	70.6	52.5	377	281	251	56.9	21.3	303	22	82.8	19.8	462	133	-1.3	-0.9	1.4		
fluorene		80.7	80.8	83.7	548	620	553	81.7	2.1	574	7	84.6	11.0	600	50	-0.1	-0.1	0.1		
phenanthrene		613	634	675	4430	5280	4560	641	5	4757	10	645	61	5270	220	0.0	0.0	0.3		
anthracene		224	226	236	1260	1480	1310	229	3	1350	9	254	39	1770	330	-0.4	-0.3	0.2		
1-methylphenanthrene		148	166	186	1350	1600	1420	167	11	1457	9	127	12	1400	100	1.3	1.7	0.8		
fluoranthene		1940	2020	2110	8560	9970	8590	2023	4	9040	9	1717	117	8920	320	0.7	1.4	0.3		
pyrene		1670	1740	1810	8830	10300	8770	1740	4	9300	9	1564	130	9700	420	0.4	0.7	0.3		
benz[a]anthracene		698	719	775	4380	5020	4370	731	5	4590	8	621	43	4720	110	0.7	1.2	0.4		
chrysene		1090	1140	1190	5590	6450	5640	1140	4	5893	8	843	255	4860	100	1.4	1.4	0.3		
triphenylene		NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NOTE 1	NA	NOTE 1	NA	346		1040	270					
benzo[b]fluoranthene		2180	2450	2420	7830	8980	7700	2350	6	8170	9	940	135	3870	420	6.0	6.3	0.4		
benzo[k]fluoranthene		NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NA	NOTE 2	NA	420		2090	440					
benzo[e]fluoranthene		NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NOTE 2	NA	NOTE 2	NA	604	190	2300	200					
benzo[a]pyrene		946	976	1030	3410	3870	3340	984	4	3540	8	808	96	3280	110	0.9	0.9	0.3		
benzo[a]pyrene		768	778	811	3840	4430	3800	786	3	4023	9	703	42	4300	130	0.5	0.9	0.2		
perylene		369	371	383	1010	1140	1000	374	2	1050	7	323	49	1170	240	0.6	0.6	0.1		
indeno[1,2,3-cd]pyrene		828	842	886	2870	3270	2810	852	4	2983	8	683	72	2780	100	1.0	1.1	0.2		
dibenz[a,h]anthracene		201	204	216	758	869	750	207	4	792	8	153	30	424	69	1.4	0.9	0.3		
benzo[ghi]perylene		800	823	854	2770	3150	2690	826	3	2870	9	705	57	2840	100	0.7	1.1	0.2		

Reported Results	No. of Analytes	%
Quantitative	23	89
Quantitative	3	12
Not Determined	0	0

Category	Number by Category
< 2	z(25%) z(s) p(15%)
2 to 3	21 20 23
> 3	1 2 0
	1 1 0

Laboratory: 6b
PAH In Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 6b

Sample: QA07SED11 - Marine Sediment XI

(data reported as if three figures were significant)

Reporting Date: 4/29/02

PESTICIDES	Data as submitted by laboratory											Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		z-score (25%)	z-score (s)	p-score (15%)	
	2/1/02	2/1/02	2/1/02	2/20/02	2/20/02	2/20/02	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL				
alpha-HCH	0.568	0.662	0.624	<2	<2	<2	0.62	7.65	<2	NA	<1	2.00	0.30			0.5		
hexachlorobenzene	30.7	30.8	31.8	7.35	7.16	6.87	31.1	2.0	7.13	3.39	31.1	2.7	6.03	0.35	0.0	0.1		
gamma-HCH	<2	<2	<2	<2	<2	<2	<2	NA	NA	<1	no target							
beta-HCH	<2	<2	<2	<2	<2	<2	<2	NA	NA	<6	no target							
heptachlor	<2	<2	<2	<2	<2	<2	<2	NA	NA	<3	no target							
aldrin	<2	<2	<2	<2	<2	<2	<2	NA	NA	<2	no target							
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2	NA	NA	<4	no target							
oxychlorodane	1.70	1.35	1.49	<2	<2	<2	1.51	11.6	<2	<3	no target				0.8			
trans-chlordane	15.8	16.4	15.2	12.9	15.3	12.9	15.8	3.8	13.7	10.1	11.7	1.1	no target		1.4	2.2	0.3	
2,4'-DDE	54.2	58.1	56.4	<2	<2	<2	56.2	3.5	<2	NA	18.3	3.2	19.0	3.0	8.3	6.6	0.2	
endosulfan I	<2	<2	<2	<2	<2	<2	<2	NA	NA	<6	no target							
cis-chlordane	13.0	13.7	14.0	20.5	21.4	20.6	13.6	3.8	20.8	2.4	10.64	1.12	16.5	0.8	1.1	1.4	0.3	
trans-nonachlor	6.74	7.10	8.56	9.27	10.7	10.9	7.47	12.91	10.29	8.64	5.67	0.82	8.20	0.51	1.3	1.1	0.9	
dieldrin	8.51	9.62	9.90	27.1	27.2	26.6	9.34	7.87	26.97	1.19	3.54	0.35	8.00	4.00	6.6	13.7	0.5	
4,4'-DDE	87.5	83.6	84.1	111	81.4	94.6	85.1	2.5	95.7	15.5	69.4	7.8	86.0	12.0	0.9	1.0	0.2	
2,4'-DDD	45.3	47.0	50.8	65.5	63.6	72.2	47.7	5.9	67.1	6.7	40.6	6.1	38.0	8.0	0.7	0.6	0.4	
endrin	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<3	no target						
endosulfan II	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<3	no target						
4,4'-DDD	168	161	158	166	176	173	162	3	172	3	139	21	108	16	0.7	0.6	0.2	
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	5.89	1.22	no target					
cis-nonachlor	5.69	5.78	6.01	9.04	10.7	9.67	5.83	2.83	9.80	8.55	2.86	0.54	3.70	0.70	4.2	3.3	0.2	
4,4'-DDT	280	248	256	175	199	182	261	6	185	7	221	38	119	11	0.7	0.7	0.4	
mirex	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<2	no target						
endosulfan sulfate	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<3	no target						
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3	no target						

Category	Number by Category	
	z (25%)	p (15%)
<2	8	7
2 to 3	0	1
>3	3	7

Reported Results	No. of Analytes		%
	Quantitative	13	
Qualitative	11	44	
Not Determined	1	4	

Laboratory: 6b
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI				
		2/21/02 S1	2/21/02 S2	2/21/02 S3	2/21/02 S1	2/21/02 S2	2/21/02 S3	lab ng/g dry	%RSD	lab ng/g dry	%RSD	lab ng/g dry	%RSD	lab ng/g dry	%RSD	z-score (25%)	z-score (s)	p-score (15%)
PCB 8		14.4	14.1	15.2	29.7	27.9	28.5	14.6	3.9	<	NA	7.84	1.34	22.3	2.3	3.4	2.5	0.3
PCB 18		28.2	28.1	29.1	58.6	62.8	60.8	28.5	1.9	60.7	3.5	17.8	2.7	51.0	2.6	2.4	1.9	0.1
PCB 28		33.6	38.4	38.0	97.7	107	99.3	36.7	7.3	101.3	4.0	31.3	2.4	80.8	2.7	0.7	1.0	0.5
PCB 31		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	2.9	78.7	1.6			
PCB 44		25.6	26.3	26.8	66.4	71.0	67.6	26.2	2.3	68.3	3.5	22.1	1.9	60.2	2.0	0.7	1.0	0.2
PCB 49		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.6	1.6	53.0	1.7			
PCB 52		33.5	35.2	37.3	81.2	89.6	83.0	35.3	5.4	84.6	5.2	30.2	2.1	79.4	2.0	0.7	1.1	0.4
PCB 66		23.5	23.5	19.8	55.5	60.1	58.5	22.3	4.6	84.0	4.0	26.2	2.0	71.9	4.3	-0.6	-0.9	0.6
PCB 95		NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NOTE 3	NA	NOTE 3	NA	20.5	1.7	65.0	8.9			
PCB 99		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.8	1.9	37.5	2.4			
PCB 101		31.2	30.2	34.0	86.3	69.4	96.2	31.8	6.2	84.0	16.1	29.2	2.3	73.4	2.5	0.3	0.5	0.4
PCB 105		12.3	11.8	11.1	26.5	30.1	29.9	11.7	5.4	28.8	7.0	9.31	1.11	24.5	1.1	1.0	1.0	0.3
PCB 118		28.4	28.8	30.9	66.0	73.2	65.2	29.4	4.6	68.1	6.5	21.3	2.4	58.0	4.3	1.5	1.5	0.3
PCB 128		5.48	5.65	6.15	11.30	11.20	9.67	5.76	6.05	10.7	8.5	4.02	0.47	8.47	0.28	1.7	1.7	0.4
PCB 138		43.2	41.0	45.6	75.6	83.9	76.5	43.3	5.3	18.7	5.8	28.8	3.6	62.1	3.0	2.0	1.8	0.4
PCB 149		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.7	2.5	49.7	1.2			
PCB 153		48.0	50.4	52.7	97.6	107	98.6	50.4	4.7	101	5	29.9	4.4	74.0	2.9	2.7	2.1	0.3
PCB 156		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.77	0.27	6.52	0.66			
PCB 170		7.13	7.56	8.40	27.1	26.2	24.2	7.70	8.39	25.8	5.7	8.47	1.43	22.6	1.4	-0.4	-0.3	0.6
PCB 180		45.3	42.7	44.6	57.3	59.5	57.8	44.2	3.0	58.2	2.0	19.3	2.0	44.3	1.2	5.2	5.6	0.2
PCB 187		18.1	18.4	19.1	31.1	32.2	30.0	18.5	2.8	31.1	3.5	11.8	1.6	25.1	1.0	2.3	1.8	0.2
PCB 194		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.17	0.76	11.2	1.4			
PCB 195		3.79	4.29	4.80	6.12	7.10	6.23	4.29	11.76	6.48	8.28	2.37	0.72	3.75	0.39	3.2	1.2	0.8
PCB 206		8.41	7.31	8.73	11.4	10.0	10.1	8.15	9.14	10.5	7.4	5.02	0.84	9.21	0.51	2.5	1.7	0.6
PCB 209		11.6	11.7	11.6	8.86	8.19	9.12	11.6	0.5	8.72	5.50	6.88	1.57	6.81	0.33	2.8	1.4	0.0

Laboratory: 6b PCBs in Sediment XI	Reported Results		No. of Analytes		Number by Category	
	Quantitative	Qualitative	18	72	z (25%)	p (15%)
	6	24	6	24	9	18
	Not Determined	Not Determined	1	4	6	2
	0.4	0.4	0.4	0.4	3	1

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %	
	S1	S2	S1	S2	S1	S2
water	46.2	45.9	46.2	46.2	0.0	0.2

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PAH	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI					
	11/2001 S 1	11/2001 S 2	11/2001 S 3	11/2001 S 1	11/2001 S 2	11/2001 S 3	lab mean ng/g dry	lab %RSD	SRM 1944 lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
naphthalene	815	832	797	1280	1580	1530	815	2	1463	11	706	84	1650	310	0.6	0.7	0.1	
2-methylnaphthalene	392	404	381	813	898	962	392	3	891	8	325	39	950	50	0.8	1.0	0.2	
1-methylnaphthalene	200	197	181	460	462	512	193	5	478	6	141	19	520	30	1.4	1.5	0.4	
biphenyl	144	142.0	123.0	245	307	276	136	9	276	11	91.1	11.0	250	70	2.0	2.3	0.6	
2,6-dimethylnaphthalene	199	210	193	696	698	744	201	4	713	4	145	24	755	156	1.5	1.2	0.3	
acenaphthylene	100	111	96.0	688	833	887	102	8	803	13	120	29	646	200	-0.6	-0.3	0.5	
acenaphthene	73.0	72.6	69.4	470	349	364	71.7	2.8	394	17	53.9	6.6	470	60	1.3	1.4	0.2	
1,6,7-trimethylnaphthalene	131	146	122	598	568	592	133	9	586	3	82.8	19.8	462	133	2.4	1.7	0.6	
fluorene	104	114	94.9	381	335	442	104	9	386	14	84.6	11.0	600	50	0.9	0.9	0.6	
phenanthrene	814	870	759	4920	5030	5030	814	7	4993	1	645	61	5270	220	1.0	1.3	0.5	
anthracene	224	233	221	1030	1140	1160	226	3	1110	6	254	39	1770	330	-0.4	-0.3	0.2	
1-methylphenanthrene	130	155	139	1270	1250	1350	141	9	1290	4	127	12	1400	100	0.5	0.6	0.6	
fluoranthene	1530	1880	1620	7730	7350	7280	1677	11	7453	3	1717	117	8920	320	-0.1	-0.2	0.7	
pyrene	1610	1650	1470	8320	8340	7920	1577	6	8193	3	1564	130	9700	420	0.0	0.0	0.4	
benzo[<i>a</i>]anthracene	493	628	545	3270	3530	3280	555	12	3360	4	621	43	4720	110	-0.4	-0.7	0.8	
chrysene	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	NA	Other (1)	NA	843	255	4860	100				
triphenylene	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	Other (1)	NA	Other (1)	NA	346		1040	270				
benzo[<i>b</i>]fluoranthene	975	1050	975	3370	3780	3410	1000	4	3520	6	940	135	3870	420	0.3	0.3	0.3	
benzo[<i>k</i>]fluoranthene	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	NA	Other (2)	NA	420		2090	440				
benzo[<i>j</i>]fluoranthene	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	Other (2)	NA	Other (2)	NA	604	190	2300	200				
benzo[<i>e</i>]pyrene	769	813	753	3210	3010	2920	778	4	3047	5	808	96	3280	110	-0.1	-0.2	0.3	
benzo[<i>a</i>]pyrene	658	715	660	3520	3450	3250	678	5	3407	4	703	42	4300	130	-0.1	-0.3	0.3	
perylene	309	314	305	1020	989	936	309	1	982	4	323	49	1170	240	-0.2	-0.2	0.1	
indeno[1,2,3- <i>cd</i>]pyrene	810	867	788	3180	3380	3140	822	5	3233	4	683	72	2780	100	0.8	0.9	0.3	
4-benzo[<i>a,h</i>]anthracene	Other (3)	Other (3)	Other (3)	Other (3)	Other (3)	Other (3)	Other (3)	NA	Other (3)	NA	153	30	424	69				
benzo[<i>ghi</i>]perylene	735	802	763	2760	2890	2980	767	4	2877	4	705	57	2840	100	0.4	0.6	0.3	

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	20	20	21
2 to 3	1	1	0
> 3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	21	81	81
Qualitative	5	19	19
Not Determined	0	0	0

Laboratory: 7
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a				
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI					
	11/28/01	2/2/02	3/2/02	11/28/01	2/2/02	2/27/02	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	0.30	2.00	0.30					
hexachlorobenzene	16.1	13.6	17.3	3.98	2.93	3.94	15.7	11.9	3.62	16.44	16.44	31.1	2.7	6.03	0.35	-2.0	-3.0	0.8		
gamma-HCH	0.331	0.636	0.531	4.27	3.00	1.68	0.500	30.979	2.98	43.3	43.3	<1		no target				2.1		
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6		no target						
heptachlor	1.01	1.39	1.31	5.21	3.98	6.82	1.23	16.4	5.34	26.7	26.7	<3		no target				1.1		
aldrin	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA	<0.01	NA	NA	<2		no target						
heptachlor epoxide	0.058	0.394	0.295	5.99	7.10	8.54	0.249	69.272	7.21	17.7	17.7	<4		no target				4.6		
oxychlorodane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target						
trans-chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target						
2,4'-DDE	11.4	9.64	13.6	25.2	19.7	22.6	11.5	17.1	22.5	12.3	12.3	11.7	1.1	19.0	3.0	-1.5	-1.2	1.1		
endosulfan I	0.150	0.963	0.155	23.27	13.97	22.14	0.423	110.7	19.79	25.6	25.6	<6		no target				7.4		
cis-chlordane	0.524	0.948	0.480	6.81	6.14	27.8	0.65	39.70	13.6	90.8	90.8	10.64	1.12	16.5	0.8	-3.8	-4.8	2.6		
trans-nonachlor	2.35	3.14	3.75	8.60	6.25	3.63	3.08	22.76	6.16	40.34	40.34	5.67	0.82	8.20	0.51	-1.8	-1.6	1.5		
dieldrin	0.667	0.975	0.738	8.88	9.61	18.8	0.793	20.27	12.4	44.4	44.4	3.54	0.35	8.00	4.00	-3.1	-6.5	1.4		
4,4'-DDE	37.9	29.0	40.6	53.3	44.3	69.7	35.8	17.0	55.8	23.1	23.1	69.4	7.8	86.0	12.0	-1.9	-2.2	1.1		
2,4'-DDD	6.37	8.63	6.73	29.1	24.6	60.8	7.24	16.73	38.2	51.7	51.7	40.6	6.1	38.0	8.0	-3.3	-3.0	1.1		
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target						
endosulfan II	1.21	1.39	1.24	20.9	3.78	2.12	1.28	7.4	8.95	116.4	116.4	<3		no target				0.5		
4,4'-DDD	35.2	45.7	36.8	47.2	45.6	24.3	39.2	14.5	39.0	32.8	32.8	139	21	108	16	-2.9	-2.6	1.0		
2,4'-DDT	1.85	2.78	3.03	5.40	3.51	5.97	2.56	24.38	4.96	25.93	25.93	5.89	1.22	no target		-2.3	-1.6	1.6		
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.86	0.54	3.70	0.70					
4,4'-DDT	163	113	173	127	116	79.9	150	21	108	23	23	221	38	119	11	-1.3	-1.2	1.4		
mirex	<0.16	<0.16	0.184	1.26	0.804	3.26	0.184	NA	1.78	73.6	73.6	<2		no target						
endosulfan sulfate	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	NA	NA	<3		no target						
chlorpyrifos	2.53	3.36	2.57	26.5	12.5	20.6	2.82	16.7	19.9	35.3	35.3	<3		no target				1.1		

Category	z (25%)	z (s)	p (15%)
<2	5	3	12
2 to 3	2	3	2
>3	3	3	2

Reported Results	No. of Analytes	%
Quantitative	17	68
Qualitative	2	8
Not Determined	6	24

Laboratory: 7
 Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI					
	11/28/01	11/28/01	11/28/01	11/28/01	11/28/01	11/28/01	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
PCB 8	5.72	5.76	5.58	26.9	25.6	23.6	5.69	1.67	6.70	8.47	19.9	21.0	6.5	7.84	1.34	22.3	2.3	-1.1	-0.8	0.1
PCB 18	6.05	6.92	7.12	21.3	23.2	15.2	6.70	8.47	6.76	1.97	57.7	10.7	6.5	17.8	2.7	51.0	2.6	-2.5	-1.9	0.6
PCB 28	6.90	6.63	6.75	64.7	52.7	55.8	6.76	1.97	6.76	1.97	57.7	10.7	6.5	31.3	2.4	80.8	2.7	-3.1	-4.5	0.1
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	2.9	78.7	1.6	-2.5	-3.4	0.0
PCB 44	8.00	8.01	8.09	60.3	52.2	56.2	8.03	0.61	8.03	0.61	56.2	7.2	7.2	22.1	1.9	60.2	2.0	-2.7	-4.5	0.0
PCB 49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.6	1.6	53.0	1.7	-1.9	-2.9	0.2
PCB 52	9.91	9.79	9.91	74.4	66	69.2	9.87	0.69	9.87	0.69	69.8	6.1	6.1	30.2	2.1	79.4	2.0	-2.7	-4.5	0.0
PCB 66	13.3	13.9	14.2	62.5	64.9	60.5	13.8	3.2	13.8	3.2	62.6	3.4	3.4	26.2	2.0	71.9	4.3	-1.9	-2.9	0.2
PCB 95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.5	1.7	65.0	8.9	-2.7	-4.0	0.2
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.8	1.9	37.5	2.4	-2.2	-2.0	0.6
PCB 101	10.1	9.54	9.70	60.5	64.5	62.8	9.78	2.98	9.78	2.98	62.6	7.2	7.2	29.2	2.3	73.4	2.5	-2.5	-2.5	0.0
PCB 105	4.67	3.96	4.07	20.7	15.7	16.5	4.23	9.06	4.23	9.06	62.6	15.3	15.3	9.31	1.11	24.5	1.1	-1.9	-1.9	0.5
PCB 118	7.80	7.70	7.70	52.1	38.0	42.7	7.73	0.70	7.73	0.70	44.3	16.3	16.3	21.3	2.4	58.0	4.3	-2.6	-2.3	0.1
PCB 128	1.91	2.18	2.12	10.8	11.5	10.9	2.07	6.97	2.07	6.97	11.1	3.4	3.4	4.02	0.47	8.47	0.28	-2.8	-2.1	0.1
PCB 138	9.60	9.86	9.74	46.8	50.3	54.3	9.74	1.32	9.74	1.32	50.4	7.4	7.4	28.8	3.6	62.1	3.0	-2.8	-2.1	0.1
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.7	2.5	49.7	1.2	-2.4	-1.7	0.5
PCB 153	9.03	8.92	8.75	61.5	47.6	55.8	8.90	1.58	8.90	1.58	55.0	12.7	12.7	29.9	4.4	74.0	2.9	-2.9	-3.1	0.3
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.77	0.27	6.52	0.66	-2.4	-2.0	0.2
PCB 170	3.14	3.63	3.50	21.2	19.3	17.3	3.42	7.32	3.42	7.32	19.3	10.0	10.0	8.47	1.43	22.6	1.4	-2.4	-2.0	0.2
PCB 180	5.26	5.82	5.52	32.7	30.0	31.3	5.53	5.11	5.53	5.11	31.3	4.4	4.4	19.3	2.0	44.3	1.2	-2.4	-2.0	0.2
PCB 187	4.53	4.76	4.60	32.0	21.7	24.8	4.63	2.52	4.63	2.52	26.2	20.2	20.2	11.8	1.6	25.1	1.0	-2.9	-1.1	0.7
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.17	0.76	11.2	1.4	-2.8	-2.1	0.1
PCB 195	0.557	0.683	0.633	3.85	3.52	3.37	0.624	10.15	0.624	10.15	3.58	6.74	6.74	2.37	0.72	3.75	0.39	-2.8	-1.9	0.2
PCB 206	1.43	1.52	1.50	8.10	6.79	7.03	1.48	3.09	1.48	3.09	7.31	9.53	9.53	5.02	0.84	9.21	0.51	-3.0	-1.5	0.2
PCB 209	1.65	1.73	1.71	8.22	6.76	5.84	1.70	2.28	1.70	2.28	6.94	17.34	17.34	6.88	1.57	6.81	0.33	-2.8	-2.1	0.1

Category	Number by Category	
	z (25%)	p (15%)
< 2	3	5
2 to 3	13	5
> 3	2	5

Reported Results	No. of Analytes	%			
			Quantitative	18	72
			Qualitative	0	0
Not Determined	7	28			

Laboratory: 7
 PCBs in Sediment XI

Sediment XI, %	SRM 1944, %			Sediment XI, %	SRM 1944, %
	S1	S2	S3		
44.3	46.4	46.2		45.6	2.5

Water In Sediment XI

Sediment XI, %	SRM 1944, %			Sediment XI, %	SRM 1944, %
	assigned	95% CL	target		
45.9	0.4			45.9	0.4

water

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Analysis date	Data as submitted by laboratory										Material reference values			Performance scores ^a		
		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a	
		1/22/02	3/22/02	1/22/02	3/22/02	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
naphthalene		622	637	653	1180	637	2	1180	NA	706	84	1650	310	-0.4	-0.4	0.2	
2-methylnaphthalene		278	290	294	653	287	3	653	NA	325	39	950	50	-0.5	-0.6	0.2	
1-methylnaphthalene		136	141	144	416	140	3	416	NA	141	19	520	30	0.0	0.0	0.2	
biphenyl		80.4	81.0	79.7	170	80.4	0.8	170	NA	91.1	11.0	250	70	-0.5	-0.5	0.1	
2,6-dimethylnaphthalene		162	164	157	599	161	2	599	NA	145	24	755	156	0.4	0.3	0.1	
acenaphthylene		104	100	97.0	646	100	4	646	NA	120	29	646	200	-0.7	-0.4	0.2	
acenaphthene		52.6	53.8	51.8	359	52.7	1.9	359	NA	53.9	6.6	470	60	-0.1	-0.1	0.1	
1,6,7-trimethylnaphthalene		64.0	67.5	59.9	288	63.8	6.0	288	NA	82.8	19.8	462	133	-0.9	-0.6	0.4	
fluorene		75.1	77.2	73.6	417	75.3	2.4	417	NA	84.6	11.0	600	50	-0.4	-0.4	0.2	
phenanthrene		718	777	724	5370	740	4	5370	NA	645	61	5270	220	0.6	0.7	0.3	
anthracene		223	226	216	1190	222	2	1190	NA	254	39	1770	330	-0.5	-0.4	0.2	
1-methylphenanthrene		127	149	128	1270	135	9	1270	NA	127	12	1400	100	0.3	0.3	0.6	
fluoranthene		1840	1980	1830	8790	1883	4	8790	NA	1717	117	8920	320	0.4	0.7	0.3	
pyrene		1670	1760	1640	9200	1690	4	9200	NA	1564	130	9700	420	0.3	0.5	0.2	
benzo[a]anthracene		588	650	600	3930	613	5	3930	NA	621	43	4720	110	-0.1	-0.1	0.4	
chrysene		980	1080	985	5320	1015	6	5320	NA	843	255	4860	100	0.8	0.8	0.4	
triphenylene		other	other	other	other	other	NA	other	NA	346		1040	270				
benzo[b]fluoranthene		1050	1080	1020	3510	1050	3	3510	NA	940	135	3870	420	0.5	0.5	0.2	
benzo[k]fluoranthene		899	961	901	3660	920	4	3660	NA	420		2090	440	4.8		0.3	
benzo[j]fluoranthene		other	other	other	other	other	NA	other	NA	604	190	2300	200				
benzo[e]pyrene		830	869	817	3100	839	3	3100	NA	808	96	3280	110	0.2	0.2	0.2	
benzo[a]pyrene		681	698	664	3780	681	2	3780	NA	703	42	4300	130	-0.1	-0.3	0.2	
perylene		314	318	308	900	313	2	900	NA	323	49	1170	240	-0.1	-0.1	0.1	
indeno[1,2,3-cd]pyrene		686	710	660	2720	685	4	2720	NA	683	72	2780	100	0.0	0.0	0.2	
dibenz[a,h]anthracene		167	173	160	747	167	4	747	NA	153	30	424	69	0.4	0.2	0.3	
benzo[ghi]perylene		627	654	596	2490	626	5	2490	NA	705	57	2840	100	-0.4	-0.7	0.3	

Laboratory: 8
PAH in Sediment XI

Reported Results	No. of Analytes	%
Quantitative	24	92
Qualitative	2	8
Not Determined	0	0

Category	Number by Category	z (25%)	z (s)	p (15%)
<2	23	23	23	24
2 to 3	0	0	0	0
>3	1	1	0	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory										Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry		SRM 1944, ng/g dry			Sediment XI		SRM 1944, ng/g dry		Sediment XI, ng/g dry		z-score (25%)	z-score (s)	p-score (15%)		
	3/22/02	3/22/02	3/22/02	S 1	S 2	S 3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL		
alpha-HCH	DL	DL	DL	DL			DL	NA	NA	<1		2.00	0.30			
hexachlorobenzene	29.2	27.2	30.6	7.28			29.0	5.9	7.28	31.1	2.7	6.03	0.35		-0.3	0.4
gamma-HCH	DL	DL	DL	DL			DL	NA	NA	<1		no target				
beta-HCH	DL	DL	DL	DL			DL	NA	NA	<6		no target				
heptachlor	DL	DL	DL	DL			DL	NA	NA	<3		no target				
aldrin	DL	DL	DL	DL			DL	NA	NA	<2		no target				
heptachlor epoxide	DL	DL	DL	DL			DL	NA	NA	<4		no target				
oxychlorodane	DL	DL	DL	DL			DL	NA	NA	<3		no target				
trans-chlordane	21.5	21.6	23.1	DL			22.1	4.1	DL	11.7	1.1	no target			3.6	5.4
2,4'-DDE	8.12	4.96	6.52	DL			6.53	24.18	DL	18.3	3.2	19.0	3.0		-2.6	-2.0
endosulfan I	6.45	6.00	8.52	DL			6.99	19.2	DL	<6		no target				1.3
cis-chlordane	17.1	14.9	13.9	21.5			15.3	10.7	21.5	10.64	1.12	16.5	0.8		1.8	2.2
trans-nonachlor	8.72	8.63	7.63	11.10			8.33	7.27	11.1	5.67	0.82	8.20	0.51		1.9	1.7
dieldrin	7.63	7.99	8.37	DL			8.00	4.63	DL	3.54	0.35	8.00	4.00		5.0	10.5
4,4'-DDE	82.5	64.2	67.4	DL			71.4	13.7	DL	69.4	7.8	86.0	12.0		0.1	0.1
2,4'-DDD	54.9	46.2	46.6	DL			49.2	10.0	DL	40.6	6.1	38.0	8.0		0.9	0.8
endrin	DL	DL	DL	DL			DL	NA	NA	<3		no target				
endosulfan II	13.6	13.5	12.7	DL			13.3	3.7	DL	<3		no target				0.2
4,4'-DDD	168	126	140	DL			145	15	DL	139	21	108	16		0.2	0.1
2,4'-DDT	6.78	6.16	7.84	DL			6.93	12.26	DL	5.89	1.22	no target			0.7	0.5
cis-nonachlor	4.38	3.88	4.09	DL			4.12	6.10	DL	2.86	0.54	3.70	0.70		1.8	1.4
4,4'-DDT	332	232	258	162			274	19	162	221	38	119	11		1.0	0.9
mirex	DL	DL	DL	DL			DL	NA	NA	<2		no target				
endosulfan sulfate	14.0	11.8	13.6	DL			13.1	8.9	DL	<3		no target				0.6
chlorpyrifos	DL	DL	DL	DL			DL	NA	NA	<3		no target				

Category	z(25%)	z(s)	p(15%)
<2	9	2	15
2 to 3	1	2	0
>3	2	2	0

Reported Results	No. of Analytes	%
Quantitative	15	60
Qualitative	10	40
Not Determined	0	0

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 8

Sample: QA02SED11 - Marine Sediment X1

Reporting Date: 4/5/02

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a				
	Sediment X1, ng/g dry						SRM 1944, ng/g dry						Sediment X1, ng/g dry		SRM 1944, ng/g dry		Sediment X1						
	3/22/02 S 1	3/22/02 S 2	3/22/02 S 3	DL	DL	DL	3/22/02 S 1	3/22/02 S 2	3/22/02 S 3	3/22/02 S 1	3/22/02 S 2	3/22/02 S 3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	DL	DL	DL	DL	DL	DL	30.3					30.3	NA	NA	30.3	NA	7.84	1.34	22.3	2.3			
PCB 18	25.9	26.2	29.9	61.8			61.8					27.3	8.2	NA	65.0	NA	17.8	2.7	51.0	2.6	2.2	1.7	0.5
PCB 28	26.7	24.1	27.4	81.3			81.3					26.1	6.7	NA	81.3	NA	31.3	2.4	80.8	2.7	-0.7	-0.9	0.4
PCB 31	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	25.0	2.9	78.7	1.6			
PCB 44	21.6	20.4	22.0	57.9			57.9					21.3	3.9	NA	57.9	NA	22.1	1.9	60.2	2.0	-0.1	-0.2	0.3
PCB 49	19.3	17.7	20.4	51.2			51.2					19.1	7.1	NA	51.2	NA	21.6	1.6	53.0	1.7	-0.5	-0.7	0.5
PCB 52	23.7	27.6	25.6	65.4			65.4					25.6	7.6	NA	65.0	NA	30.2	2.1	79.4	2.0	-0.6	-1.0	0.5
PCB 66	24.1	22.6	25.0	65.0			65.0					23.9	5.1	NA	65.0	NA	26.2	2.0	71.9	4.3	-0.3	-0.5	0.3
PCB 95	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	20.5	1.7	65.0	8.9			
PCB 99	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	14.8	1.9	37.5	2.4			
PCB 101	28.7	26.6	30.5	78.2			78.2					28.6	6.8	NA	78.2	NA	29.2	2.3	73.4	2.5	-0.1	-0.1	0.5
PCB 105	11.0	10.3	9.41	24.8			24.8					10.2	7.8	NA	24.8	NA	9.31	1.11	24.5	1.1	0.4	0.4	0.5
PCB 118	24.2	21.4	22.9	47.1			47.1					22.8	6.1	NA	47.1	NA	21.3	2.4	58.0	4.3	0.3	0.3	0.4
PCB 128	3.93	3.97	3.17	6.52			6.52					3.69	12.22	NA	6.52	NA	4.02	0.47	8.47	0.28	-0.3	-0.3	0.8
PCB 138	31.7	28.3	29.6	54.8			54.8					29.9	5.7	NA	54.8	NA	28.8	3.6	62.1	3.0	0.2	0.1	0.4
PCB 149	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	22.7	2.5	49.7	1.2			
PCB 153	36.4	32.7	30.5	66.2			66.2					33.2	9.0	NA	66.2	NA	29.9	4.4	74.0	2.9	0.4	0.3	0.6
PCB 156	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	2.77	0.27	6.52	0.66			
PCB 170	74.6	67.9	64.4	164			164					69.0	7.5	NA	164	NA	8.47	1.43	22.6	1.4	28.6	19.9	0.5
PCB 180	24.3	23.0	19.1	37.3			37.3					22.1	12.2	NA	37.3	NA	19.3	2.0	44.3	1.2	0.6	0.6	0.8
PCB 187	15.3	14.9	13.6	24.2			24.2					14.6	6.1	NA	24.2	NA	11.8	1.6	25.1	1.0	1.0	0.8	0.4
PCB 194	NA	NA	NA	NA			NA					NA	NA	NA	NA	NA	5.17	0.76	11.2	1.4			
PCB 195	8.00	7.51	7.19	11.2			11.2					7.57	5.39	NA	11.2	NA	2.37	0.72	3.75	0.39	8.8	3.4	0.4
PCB 206	5.53	7.97	5.15	11.2			11.2					6.22	24.62	NA	11.2	NA	5.02	0.84	9.21	0.51	1.0	0.7	1.6
PCB 209	18.3	15.5	15.3	6.58			6.58					16.4	10.2	NA	6.58	NA	6.88	1.57	6.81	0.33	5.5	2.7	0.7

Laboratory: 8 PCBs In Sediment X1	Reported Results			No. of Analytes		Number by Category		
	Quantitative	Qualitative	Not Determined	18	72	Category	z (25%)	p (15%)
	18	1	4	18	72	< 2	14	18
	6	6	24	6	24	2 to 3	1	0
	0	0	0	0	0	> 3	3	0

Water In Sediment X1	Sediment X1, %			SRM 1944, %			Sediment X1, %		
	S 1	S 2	S 3	S 1	S 2	S 3	assigned	95% CL	target
water	45.9	46.6	46.2	46.3	0.8	0.8	45.9	0.4	

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		z-score (25%)	z-score (s)	p-score (15%)	
	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	1/8/02	
	S1	S2	S3	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL			
naphthalene	984	962	933	1900	2120	2070	960	3	2030	6	706	84	1650	310	1.4	1.5	0.2			
2-methylnaphthalene	416	404	382	1050	1130	1120	401	4	1100	4	325	39	950	50	0.9	1.1	0.3			
1-methylnaphthalene	146	153	143	446	479	439	147	3	455	5	141	19	520	30	0.2	0.2	0.2			
biphenyl	386	404	384	1050	1160	1180	391	3	1130	6	91.1	11.0	250	70	13.2	15.1	0.2			
2,6-dimethylnaphthalene	94	93	89	324	330	314	92	3	323	3	145	24	755	156	-1.5	-1.1	0.2			
acenaphthylene	180	161	156	765	1150	785	166	8	900	24	120	29	646	200	1.5	0.8	0.5			
acenaphthene	52.0	53.0	53.0	417	393	374	52.7	1.1	395	5	53.9	6.6	470	60	-0.1	-0.1	0.1			
1,6,7-trimethylnaphthalene	73.0	76.0	73.0	383	353	366	74.0	2.3	367	4	82.8	19.8	462	133	-0.4	-0.3	0.2			
fluorene	96.0	106	88.0	692	650	568	96.7	9.3	637	10	84.6	11.0	600	50	0.6	0.5	0.6			
phenanthrene	774	788	774	5440	5290	5040	779	1	5257	4	645	61	5270	220	0.8	1.0	0.1			
anthracene	324	313	318	1620	1600	1590	318	2	1603	1	254	39	1770	330	1.0	0.8	0.1			
1-methylphenanthrene	117	108	109	1010	1010	954	111	4	991	3	127	12	1400	100	-0.5	-0.7	0.3			
fluoranthene	2140	1560	1370	10100	9400	9780	1690	24	9760	4	1717	117	8920	320	-0.1	-0.1	1.6			
pyrene	1770	2690	2190	13000	13400	12600	2217	21	13000	3	1564	130	9700	420	1.7	2.6	1.4			
benz[a]anthracene	673	632	688	3980	3950	4200	664	4	4043	3	621	43	4720	110	0.3	0.5	0.3			
chrysene	1160	1130	1160	6500	5640	5990	1150	2	6043	7	843	255	4860	100	1.5	1.5	0.1			
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1040	270			
benzo[b]fluoranthene	1500	1330	1860	7200	6650	6180	1563	17	6677	8	940	135	3870	420	2.7	2.8	1.2			
benzo[k]fluoranthene											420		2090	440						
benzo[j]fluoranthene	1180	1280	944	4720	3880	4350	1135	15	4317	10	604	190	2300	200	3.5	2.6	1.0			
benzo[e]pyrene	775	750	829	2710	2540	2850	785	5	2700	6	808	96	3280	110	-0.1	-0.1	0.3			
benzo[a]pyrene	542	702	821	4740	4340	3960	688	20	4347	9	703	42	4300	130	-0.1	-0.2	1.4			
perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	323	49	1170	240						
indeno[1,2,3-cd]pyrene	746	689	761	2670	2640	2600	732	5	2637	1	683	72	2780	100	0.3	0.3	0.3			
dibenz[a,h]anthracene	112	131	131	520	457	711	125	9	563	24	153	30	424	69	-0.7	-0.5	0.6			
benzo[ghi]perylene	840	835	896	3030	3110	3000	857	4	3047	2	705	57	2840	100	0.9	1.4	0.3			

Category	Number by Category	
	z (25%)	p (15%)
<2	20	19
2 to 3	1	3
>3	2	1

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	23	1	89
Not Determined	1	2	4

Laboratory: 9
 PAH in Sediment XI

^bCertified material reference values are bolded.

^{*}z- and p-scores > 3 are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI				
	S1	S2	S3	S1	S2	S3	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<1		2.00	0.30			
hexachlorobenzene	28.0	33.7	33.7	5.52	5.80	5.12	31.8	10.3	5.48	6.24	6.24	6.24	31.1	2.7	6.03	0.35	0.1	0.1	0.7
gamma-HCH	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<1		no target				
beta-HCH	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<6		no target				
heptachlor	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<3		no target				
aldrin	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<2		no target				
heptachlor epoxide	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<4		no target				
oxychlorodane	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<3		no target				
trans-chlordane	10.6	12.0	12.7	19.1	18.9	17.2	11.8	9.1	18.4	5.7	5.7	5.7	11.7	1.1	no target		0.0	0.1	0.6
2,4'-DDE	21.7	25.3	25.7	20.6	21.7	19.6	24.2	9.1	20.6	5.1	5.1	5.1	18.3	3.2	19.0	3.0	1.3	1.0	0.6
endosulfan I	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	NA	<2.7	NA	<2.7	NA	<6		no target				
cis-chlordane	7.90	9.10	9.55	13.5	12.6	11.8	8.85	9.64	12.6	6.7	6.7	6.7	10.64	1.12	16.5	0.8	-0.7	-0.9	0.6
trans-nonachlor	5.28	6.70	6.17	10.8	10.4	9.09	6.05	11.86	10.1	8.9	8.9	8.9	5.67	0.82	8.20	0.51	0.3	0.2	0.8
dieldrin	3.43	4.25	4.19	8.47	8.78	7.69	3.96	11.55	8.31	6.76	6.76	6.76	3.54	0.35	8.00	4.00	0.5	1.0	0.8
4,4'-DDE	70.4	82.4	80.8	72.1	77.5	68.5	77.9	8.4	72.7	6.2	6.2	6.2	69.4	7.8	86.0	12.0	0.5	0.6	0.6
2,4'-DDD	41.7	46.6	49.4	31.2	33.9	31.4	45.9	8.5	32.2	4.7	4.7	4.7	40.6	6.1	38.0	8.0	0.5	0.5	0.6
endrin	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	<2.7	NA	<2.7	NA	<2.7	NA	<3		no target				
endosulfan II	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	NA	<5.4	NA	<5.4	NA	<3		no target				
4,4'-DDD	123	140	143	105	115	102	135	8	107	6	6	6	139	21	108	16	-0.1	-0.1	0.5
2,4'-DDT	4.06	4.99	5.06	2.43	3.42	2.79	4.70	11.87	2.88	17.40	17.40	17.40	5.89	1.22	no target		-0.8	-0.6	0.8
cis-nonachlor	2.84	3.12	3.33	3.70	3.63	3.19	3.10	7.94	3.51	7.88	7.88	7.88	2.86	0.54	3.70	0.70	0.3	0.3	0.5
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	221	38	119	11			
mirex	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NA	<1.4	NA	<1.4	NA	<2		no target				
endosulfan sulfate	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	NA	<5.4	NA	<5.4	NA	<3		no target				
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	11	11
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	11	
Qualitative	12	48	
Not Determined	2	8	

Laboratory: 9
Pesticides in Sediment XI

^bCertified material reference values are bolded.

*z- and p-scores > 3 are bolded.

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry				SRM 1944, ng/g dry				Sediment XI		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a						
	1278001	1278002	1278003	1278004	1278001	1278002	1278003	1278004	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8	5.58	6.36	6.29	21.9	17.4	19.7	11.4	6.08	7.10	19.7	11.4	7.84	1.34	22.3	2.3	-0.9	-0.7	0.5			
PCB 18	13.3	16.0	15.7	51.2	54.2	48.8	5.3	15.0	9.9	51.4	5.3	17.8	2.7	51.0	2.6	-0.6	-0.5	0.7			
PCB 28	28.2	33.7	33.1	95.8	98.4	85.6	7.8	31.7	9.5	93.3	7.8	31.3	2.4	80.8	2.7	0.0	0.1	0.6			
PCB 31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.0	2.9	78.7	1.6						
PCB 44	20.7	24.6	24.7	66.1	69.0	59.2	7.8	23.3	9.8	64.8	7.8	22.1	1.9	60.2	2.0	0.2	0.3	0.7			
PCB 49	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.6	1.6	53.0	1.7						
PCB 52	26.4	31.5	31.2	80.0	82.9	73.2	6.3	29.7	9.6	78.7	6.3	30.2	2.1	79.4	2.0	-0.1	-0.1	0.6			
PCB 66	21.7	26.8	27.1	56.6	57.8	50.8	6.3	25.2	12.0	55.1	6.3	26.2	2.0	71.9	4.3	-0.1	-0.2	0.8			
PCB 95	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.5	1.7	65.0	8.9						
PCB 99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.8	1.9	37.5	2.4						
PCB 101	27.0	32.4	32.3	76.2	79.6	70.5	6.3	30.6	10.1	75.4	6.3	29.2	2.3	73.4	2.5	0.2	0.3	0.7			
PCB 105	7.57	8.53	8.83	19.3	20.3	18.3	5.2	8.31	7.92	19.3	5.2	9.31	1.11	24.5	1.1	-0.4	-0.4	0.5			
PCB 118	19.5	21.8	22.6	47.8	48.1	45.0	3.6	21.3	7.6	47.0	3.6	21.3	2.4	58.0	4.3	0.0	0.0	0.5			
PCB 128	3.21	3.28	3.33	8.00	8.23	7.75	3.00	3.27	1.84	7.99	3.00	4.02	0.47	8.47	0.28	-0.7	-0.7	0.1			
PCB 138	22.4	27.8	26.7	59.5	55.1	49.1	6.6	25.6	11.1	54.6	6.6	28.8	3.6	62.1	3.0	-0.4	-0.4	0.7			
PCB 149	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.7	2.5	49.7	1.2						
PCB 153	26.4	29.2	29.4	56.3	67.8	51.7	14.2	28.3	5.9	58.6	14.2	29.9	4.4	74.0	2.9	-0.2	-0.2	0.4			
PCB 156	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.77	0.27	6.52	0.66						
PCB 170	8.34	9.92	9.77	18.1	18.7	16.5	6.2	9.34	9.33	17.8	6.2	8.47	1.43	22.6	1.4	0.4	0.3	0.6			
PCB 180	16.8	19.8	20.0	36.1	36.7	32.5	5.5	18.9	9.5	35.1	5.5	19.3	2.0	44.3	1.2	-0.1	-0.1	0.6			
PCB 187	10.5	12.5	12.1	21.9	22.3	19.1	4.3	11.7	9.0	21.1	4.3	11.8	1.6	25.1	1.0	0.0	0.0	0.6			
PCB 194	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.17	0.76	11.2	1.4						
PCB 195	1.60	1.89	1.92	3.38	3.50	3.02	2.57	1.80	9.80	3.30	2.57	2.37	0.72	3.75	0.39	-1.0	-0.4	0.7			
PCB 206	4.47	5.63	5.30	7.49	7.68	6.79	6.40	5.13	11.64	7.32	6.40	5.02	0.84	9.21	0.51	0.1	0.1	0.8			
PCB 209	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.88	1.57	6.81	0.33						

Laboratory: 9 PCBs in Sediment XI	Reported Results		No. of Analytes		%	
	Quantitative	Qualitative	1	17	68	68
	7	Not Determined	7	28		

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	assigned	95% CL	target	95% CL
Water	45.8	44.5	44.6	45.0	1.6		45.0	1.6	45.9	0.4		0.1

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores*		
		12/12/01 S1	12/12/01 S2	12/12/01 S3	12/12/01 S1	12/12/01 S1	12/12/01 S3	12/12/01 lab mean ng/g dry	12/12/01 lab %RSD	12/12/01 lab mean ng/g dry	12/12/01 lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene	427	345	436	695	<600	924	403	12	810	20	706	84	1650	310	-1.7	-1.8	0.8			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	325	39	950	50						
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	141	19	520	30						
biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91.1	11.0	250	70						
2,6-dimethylnaphthalene	174	151	148	612	<600	<600	158	9	612	NA	145	24	755	156	0.3	0.3	0.6			
acenaphthylene	241	168	244	1210	693	1270	218	20	1058	30	120	29	646	200	3.2	1.8	1.3			
acenaphthene	<100	<100	<100	<600	<600	<600	<100	NA	<600	NA	53.9	6.6	470	60						
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133						
fluorene	<100	<100	<100	<600	<600	<600	<100	NA	<600	NA	84.6	11.0	600	50						
phenanthrene	636	504	584	4100	3040	4260	575	12	3800	17	645	61	5270	220	-0.4	-0.5	0.8			
anthracene	372	261	336	1600	1040	1690	323	18	1443	24	254	39	1770	330	1.1	0.9	1.2			
1-methylphenanthrene	128	<100	<100	1080	694	927	128	NA	900	22	127	12	1400	100	0.0	0.1				
fluoranthene	1670	1280	1500	6750	5250	7050	1483	13	6350	15	1717	117	8920	320	-0.5	-1.0	0.9			
pyrene	1460	1090	1280	7130	5220	7140	1277	14	6497	17	1564	130	9700	420	-0.7	-1.1	1.0			
benzo[a]anthracene	595	496	610	3420	2880	3830	567	11	3377	14	621	43	4720	110	-0.3	-0.6	0.7			
chrysene	940	743	884	4420	3500	4650	856	12	4190	15	843	255	4860	100	0.1	0.1	0.8			
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270						
benzo[k]fluoranthene	992	795	1110	2940	2330	3150	966	16	2807	15	940	135	3870	420	0.1	0.1	1.1			
benzo[e]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440						
benzo[f]fluoranthene	513	681	739	2670	2380	3210	644	18	2753	15	604	190	2300	200	0.3	0.2	1.2			
benzo[g]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	808	96	3280	110						
benzo[a]pyrene	583	500	653	2930	2340	3360	579	13	2877	18	703	42	4300	130	-0.7	-1.4	0.9			
perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	323	49	1170	240						
indeno[1,2,3-cd]pyrene	561	519	701	1940	1700	2480	594	16	2040	20	683	72	2780	100	-0.5	-0.6	1.1			
dibenz[a,h]anthracene	143	157	251	594	566	1110	184	32	757	40	153	30	424	69	0.8	0.5	2.1			
benzo[ghi]perylene	503	408	538	1740	1330	1880	483	14	1650	17	705	57	2840	100	-1.3	-2.0	0.9			

Number by Category	
Category	z(s)
< 2	15
2 to 3	0
> 3	1

Reported Results		No. of Analytes	
Quantitative	Quantitative	16	62
2	8	2	8
Not Determined	Not Determined	8	31

Laboratory: 10
PAH in Sediment XI

*z- and p-scores > 3 are bolded.
*Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)	
alpha-HCH	<1	<1	<1	0.756	1.56	2.17	<1	NA	1.50	47.43	<1	0.30	2.00	0.30			
hexachlorobenzene	16.1	21.6	18.6	5.42	1.16	3.25	18.8	14.7	3.28	65.01	31.1	2.7	6.03	0.35	-1.6	1.0	
gamma-HCH	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<1		no target				
beta-HCH	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<6		no target				
heptachlor	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<3		no target				
aldrin	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<2		no target				
heptachlor epoxide	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<4		no target				
oxychlorodane	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<3		no target				
trans-chlordane	6.62	9.71	9.19	4.22	16.6	19.1	8.51	19.45	13.3	59.9	11.7	1.1	no target		-1.1	1.3	
2,4'-DDE	Other	15.3	39.5	Other	22.5	47.1	27.4	62.5	34.8	50.0	18.3	3.2	19.0	3.0	2.0	1.6	4.2
endosulfan I	Other	Other	7.32	<1	<1	<1	7.32	NA	<1	NA	<6		no target				
cis-chlordane	8.68	6.92	9.52	19.8	15.8	15.9	8.37	15.85	17.2	13.3	10.64	1.12	16.5	0.8	-0.9	1.1	
trans-nonachlor	2.61	3.08	5.54	9.47	8.01	9.10	3.74	42.04	8.86	8.57	5.67	0.82	8.20	0.51	-1.4	2.8	
dieldrin	Other	Other	3.13	<1	<1	<1	3.13	NA	<1	NA	3.54	0.35	8.00	4.00	-0.5	-1.0	
4,4'-DDE	38.6	43.3	64.7	70.6	54.5	68.9	48.9	28.5	64.7	13.7	69.4	7.8	86.0	12.0	-1.2	1.9	
2,4'-DDD	17.4	Other	34.1	37.3	32.3	33.9	25.8	45.9	34.5	7.4	40.6	6.1	38.0	8.0	-1.5	3.1	
endrin	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	<3		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
4,4'-DDD	64.4	67.0	101	103	59.6	86.1	77.5	26.4	82.9	26.4	139	21	108	16	-1.8	1.8	
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2	NA	<2	NA	5.89	1.22	no target				
cis-nonachlor	2.72	3.48	2.44	8.51	8.32	2.78	2.88	18.69	6.54	49.79	2.86	0.54	3.70	0.70	0.0	0.0	
4,4'-DDT	112	120	131	134	143	149	121	8	142	5	221	38	119	11	-1.8	0.5	
mirex	<1	<1	<1	<1	<1	<1	<1	NA	<1	NA	<2		no target				
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	11	10
2 to 3	0	1
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	12	3	48
Qualitative	10	0	40
Not Determined	3	0	12

Laboratory: 10
 Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD							
PCB 8							NA	NA	NA	NA	7.84	1.34	22.3	2.3			
PCB 18							NA	NA	NA	NA	17.8	2.7	51.0	2.6			
PCB 28							NA	NA	NA	NA	31.3	2.4	80.8	2.7			
PCB 31							NA	NA	NA	NA	25.0	2.9	78.7	1.6			
PCB 44							NA	NA	NA	NA	22.1	1.9	60.2	2.0			
PCB 49							NA	NA	NA	NA	21.6	1.6	53.0	1.7			
PCB 52							NA	NA	NA	NA	30.2	2.1	79.4	2.0			
PCB 66							NA	NA	NA	NA	26.2	2.0	71.9	4.3			
PCB 95							NA	NA	NA	NA	20.5	1.7	65.0	8.9			
PCB 99							NA	NA	NA	NA	14.8	1.9	37.5	2.4			
PCB 101							NA	NA	NA	NA	29.2	2.3	73.4	2.5			
PCB 105							NA	NA	NA	NA	9.31	1.11	24.5	1.1			
PCB 118							NA	NA	NA	NA	21.3	2.4	58.0	4.3			
PCB 128							NA	NA	NA	NA	4.02	0.47	8.47	0.28			
PCB 138							NA	NA	NA	NA	28.8	3.6	62.1	3.0			
PCB 149							NA	NA	NA	NA	22.7	2.5	49.7	1.2			
PCB 153							NA	NA	NA	NA	29.9	4.4	74.0	2.9			
PCB 156							NA	NA	NA	NA	2.77	0.27	6.52	0.66			
PCB 170							NA	NA	NA	NA	8.47	1.43	22.6	1.4			
PCB 180							NA	NA	NA	NA	19.3	2.0	44.3	1.2			
PCB 187							NA	NA	NA	NA	11.8	1.6	25.1	1.0			
PCB 194							NA	NA	NA	NA	5.17	0.76	11.2	1.4			
PCB 195							NA	NA	NA	NA	2.37	0.72	3.75	0.39			
PCB 206							NA	NA	NA	NA	5.02	0.84	9.21	0.51			
PCB 209							NA	NA	NA	NA	6.88	1.57	6.81	0.33			

Laboratory: 10
PCBs in Sediment XI

Category	z (25%)	z (s)	p (15%)
<2	0	0	0
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	1	4
Not Determined	24	96

Water In Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		SRM 1944, %		Sediment XI, %		
	S2	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target
Water	49.6	51.4	48.8				49.9	2.7			45.9	0.4	

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI		p-score		
		S1	S2	S3	S1	S2	S3	lab mean	lab	%RSD	lab mean	lab	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	(15%)
naphthalene		434	441	415	NA	NA	NA	NA	NA	3	NA	NA	706	84	1650	310	-1.6	-1.7	0.2	
2-methylnaphthalene		173	181	179	NA	NA	NA	NA	NA	2	NA	NA	325	39	950	50	-1.8	-2.2	0.2	
1-methylnaphthalene		87.4	97.4	88.8	NA	NA	NA	NA	NA	5.9	NA	NA	141	19	520	30	-1.4	-1.4	0.4	
biphenyl		91.3	56.6	62.2	NA	NA	NA	NA	NA	26.6	NA	NA	91.1	11.0	250	70	-0.9	-1.1	1.8	
2,6-dimethylnaphthalene		100	113	106	NA	NA	NA	NA	NA	7	NA	NA	145	24	755	156	-1.1	-0.8	0.4	
acenaphthylene		49.6	71.2	59.6	NA	NA	NA	NA	NA	18.0	NA	NA	120	29	646	200	-2.0	-1.1	1.2	
acenaphthene		36.8	45.5	36.5	NA	NA	NA	NA	NA	12.9	NA	NA	53.9	6.6	470	60	-1.1	-1.2	0.9	
1,6,7-trimethylnaphthalene		52.6	53.7	53.7	NA	NA	NA	NA	NA	1.2	NA	NA	82.8	19.8	462	133	-1.4	-1.0	0.1	
fluorene		47.3	56.7	51.7	NA	NA	NA	NA	NA	9.1	NA	NA	84.6	11.0	600	50	-1.5	-1.5	0.6	
phenanthrene		526	525	586	NA	NA	NA	NA	NA	6	NA	NA	645	61	5270	220	-0.6	-0.8	0.4	
anthracene		160	160	146	NA	NA	NA	NA	NA	5	NA	NA	254	39	1770	330	-1.6	-1.2	0.4	
1-methylphenanthrene		78.9	166	116	NA	NA	NA	NA	NA	36	NA	NA	127	12	1400	100	-0.2	-0.3	2.4	
fluoranthene		1289	1193	1499	NA	NA	NA	NA	NA	12	NA	NA	1717	117	8920	320	-0.9	-1.7	0.8	
pyrene		1249	1187	1429	NA	NA	NA	NA	NA	10	NA	NA	1564	130	9700	420	-0.7	-1.1	0.7	
benz[a]anthracene		447	482	563	NA	NA	NA	NA	NA	12	NA	NA	621	43	4720	110	-0.8	-1.3	0.8	
chrysene		751	768	914	NA	NA	NA	NA	NA	11	NA	NA	843	255	4860	100	-0.1	-0.2	0.7	
triphenylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270				
benzof[b]fluoranthene		354	374	475	NA	NA	NA	NA	NA	16	NA	NA	940	135	3870	420	-2.3	-2.4	1.1	
benzof[k]fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440				
benzof[j]fluoranthene		674	803	843	NA	NA	NA	NA	NA	11	NA	NA	604	190	2300	200	1.1	0.8	0.8	
benzof[e]pyrene		391	498	489	NA	NA	NA	NA	NA	13	NA	NA	808	96	3280	110	-1.7	-1.9	0.9	
benzof[a]pyrene		612	701	718	NA	NA	NA	NA	NA	8	NA	NA	703	42	4300	130	-0.2	-0.3	0.6	
perylene		128	220	167	NA	NA	NA	NA	NA	27	NA	NA	323	49	1170	240	-1.9	-1.7	1.8	
indeno[1,2,3-cd]pyrene		366	444	455	NA	NA	NA	NA	NA	11	NA	NA	683	72	2780	100	-1.5	-1.7	0.8	
flbenz[a,h]anthracene		113	138	143	NA	NA	NA	NA	NA	12	NA	NA	153	30	424	69	-0.6	-0.4	0.8	
benzof[ghi]perylene		508	568	590	NA	NA	NA	NA	NA	8	NA	NA	705	57	2840	100	-0.8	-1.4	0.5	

Category	Number by Category	
	z (25%)	p (15%)
< 2	22	23
2 to 3	2	1
> 3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
Quantitative	24	0	92
Not Determined	0	2	8

Laboratory: 12
PAH in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
	S1	S2	S3	OtherA	OtherB	OtherC	lab mean ng/g dry	lab %RSD	lab	lab mean ng/g dry	lab %RSD	lab	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	OtherA	OtherA	OtherA	NA	NA	NA	OtherA	NA	NA	NA	NA	NA	<1		2.00	0.30			
hexachlorobenzene	24.5	27.3	24.5	OtherA	24.5	NA	25.4	6.3	NA	NA	NA	NA	31.1	2.7	6.03	0.35	-0.7	-1.1	0.4
gamma-HCH	0.916	0.797	0.887	OtherA	0.866	NA	0.866	7.170	NA	NA	NA	NA	<1		no target				0.5
beta-HCH	5.75	6.26	5.57	OtherA	5.86	NA	5.86	6.1	NA	NA	NA	NA	<6		no target				0.4
heptachlor	2.77	2.68	2.81	OtherA	2.75	NA	2.75	2.4	NA	NA	NA	NA	<3		no target				0.2
aldrin	0.518	0.370	0.444	OtherA	0.444	NA	0.444	16.70	NA	NA	NA	NA	<2		no target				1.1
heptachlor epoxide	3.27	0.753	2.80	OtherB	2.27	NA	2.27	58.9	NA	NA	NA	NA	<4		no target				3.9
oxychlorodane	0.828	0.905	0.819	OtherC	0.851	NA	0.851	5.568	NA	NA	NA	NA	<3		no target				0.4
trans-chlordane	9.26	10.8	10.0	OtherB	10.0	NA	10.0	7.5	NA	NA	NA	NA	11.7	1.1	no target		-0.6	-0.9	0.5
2,4'-DDE	19.7	24.1	18.6	OtherB	20.8	NA	20.8	14.0	NA	NA	NA	NA	18.3	3.2	19.0	3.0	0.5	0.4	0.9
endosulfan I	OtherB	OtherB	OtherB	NA	NA	NA	OtherB	NA	NA	NA	NA	NA	<6		no target				
cis-chlordane	OtherC	OtherC	OtherC	NA	NA	NA	OtherC	NA	NA	NA	NA	NA	10.64	1.12	16.5	0.8			
trans-nonachlor	5.82	6.74	6.04	OtherB	6.20	NA	6.20	7.76	NA	NA	NA	NA	5.67	0.82	8.20	0.51	0.4	0.3	0.5
dieldrin	8.95	9.39	10.3	OtherB	9.54	NA	9.54	7.11	NA	NA	NA	NA	3.54	0.35	8.00	4.00	6.8	14.2	0.5
4,4'-DDE	49.8	64.7	46.3	OtherB	53.6	NA	53.6	18.2	NA	NA	NA	NA	69.4	7.8	86.0	12.0	-0.9	-1.0	1.2
2,4'-DDD	32.2	38.2	29.8	OtherB	33.4	NA	33.4	13.0	NA	NA	NA	NA	40.6	6.1	38.0	8.0	-0.7	-0.7	0.9
endrin	16.8	20.3	17.0	OtherB	18.1	NA	18.1	10.9	NA	NA	NA	NA	<3		no target				0.7
endosulfan II	DL	DL	DL	DL	DL	NA	DL	NA	NA	NA	NA	NA	<3		no target				
4,4'-DDD	101	126	94	OtherB	107	NA	107	15	NA	NA	NA	NA	139	21	108	16	-0.9	-0.8	1.0
2,4'-DDT	5.28	5.99	5.19	OtherB	5.49	NA	5.49	7.94	NA	NA	NA	NA	5.89	1.22	no target		-0.3	-0.2	0.5
cis-nonachlor	0.804	0.715	0.962	OtherB	0.827	NA	0.827	15.08	NA	NA	NA	NA	2.86	0.54	3.70	0.70	-2.8	-2.3	1.0
4,4'-DDT	166	250	148	OtherB	188	NA	188	29	NA	NA	NA	NA	221	38	119	11	-0.6	-0.5	1.9
imirex	0.585	0.175	1.14	OtherB	0.632	NA	0.632	76.2	NA	NA	NA	NA	<2		no target				5.1
endosulfan sulfate	13.9	14.6	14.1	OtherB	14.2	NA	14.2	2.3	NA	NA	NA	NA	<3		no target				0.2
chlorpyrifos	DL	DL	DL	DL	DL	NA	DL	NA	NA	NA	NA	NA	<3		no target				

Category	Number by Category
<2	z (25%) 9 z (s) 9
2 to 3	z (25%) 1 z (s) 1
>3	z (25%) 1 z (s) 1

Reported Results	No. of Analytes	%
Quantitative	20	80
Qualitative	5	20
Not Determined	0	0

Laboratory: 12
 Pesticides In Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry						SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry		Sediment XI				
	3/2002 S1	3/2002 S2	3/2002 S3	3/2002 OtherA	3/2002 OtherB	3/2002 OtherC	3/2002 S1	3/2002 S2	3/2002 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
PCB 8	OtherA	OtherA	OtherA	OtherA	OtherA	OtherA	NA	NA	NA	NA	NA	NA	7.84	1.34	22.3	2.3			
PCB 18	24.4	26.3	23.8	23.8	23.8	23.8	24.8	5.3	NA	NA	NA	NA	17.8	2.7	51.0	2.6	1.6	1.2	0.4
PCB 28	22.7	28.4	23.9	23.9	23.9	23.9	25.0	11.9	NA	NA	NA	NA	31.3	2.4	80.8	2.7	-0.8	-1.1	0.8
PCB 31	17.5	19.3	18.4	18.4	18.4	18.4	18.4	5.0	NA	NA	NA	NA	25.0	2.9	78.7	1.6	-1.1	-1.2	0.3
PCB 44	18.0	19.7	17.4	17.4	17.4	17.4	18.3	6.7	NA	NA	NA	NA	22.1	1.9	60.2	2.0	-0.7	-0.9	0.4
PCB 49	16.9	19.7	17.0	17.0	17.0	17.0	17.9	8.8	NA	NA	NA	NA	21.6	1.6	53.0	1.7	-0.7	-1.1	0.6
PCB 52	22.6	25.1	22.9	22.9	22.9	22.9	23.5	5.7	NA	NA	NA	NA	30.2	2.1	79.4	2.0	-0.9	-1.5	0.4
PCB 66	19.8	23.0	20.0	20.0	20.0	20.0	20.9	8.5	NA	NA	NA	NA	26.2	2.0	71.9	4.3	-0.8	-1.2	0.6
PCB 95	13.5	15.6	13.5	13.5	13.5	13.5	14.2	5.7	NA	NA	NA	NA	20.5	1.7	65.0	8.9	-1.2	-1.9	0.6
PCB 99	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	OtherC	NA	NA	NA	NA	NA	14.8	1.9	37.5	2.4			
PCB 101	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	OtherB	NA	NA	NA	NA	NA	29.2	2.3	73.4	2.5			
PCB 105	7.48	9.07	7.66	7.66	7.66	7.66	8.07	10.77	NA	NA	NA	NA	9.31	1.11	24.5	1.1	-0.5	-0.5	0.7
PCB 118	16.8	19.5	17.0	17.0	17.0	17.0	17.8	8.7	NA	NA	NA	NA	21.3	2.4	58.0	4.3	-0.7	-0.6	0.6
PCB 128	3.56	4.32	3.58	3.58	3.58	3.58	3.82	11.39	NA	NA	NA	NA	4.02	0.47	8.47	0.28	-0.2	-0.2	0.8
PCB 138	18.7	23.2	18.8	18.8	18.8	18.8	20.3	12.8	NA	NA	NA	NA	28.8	3.6	62.1	3.0	-1.2	-1.0	0.9
PCB 149	2.83	2.85	2.81	2.81	2.81	2.81	2.83	0.79	NA	NA	NA	NA	22.7	2.5	49.7	1.2	-3.5	-4.1	0.1
PCB 153	17.1	21.0	17.3	17.3	17.3	17.3	18.5	11.8	NA	NA	NA	NA	29.9	4.4	74.0	2.9	-1.5	-1.2	0.8
PCB 156	2.55	3.05	2.97	2.97	2.97	2.97	2.86	9.30	NA	NA	NA	NA	2.77	0.27	6.52	0.66	0.1	0.2	0.6
PCB 170	5.11	6.87	5.56	5.56	5.56	5.56	5.84	15.70	NA	NA	NA	NA	8.47	1.43	22.6	1.4	-1.2	-0.9	1.0
PCB 180	12.6	17.2	13.2	13.2	13.2	13.2	14.3	17.4	NA	NA	NA	NA	19.3	2.0	44.3	1.2	-1.0	-1.1	1.2
PCB 187	8.46	10.8	8.74	8.74	8.74	8.74	9.33	13.63	NA	NA	NA	NA	11.8	1.6	25.1	1.0	-0.8	-0.7	0.9
PCB 194	4.82	6.08	5.35	5.35	5.35	5.35	5.41	11.68	NA	NA	NA	NA	5.17	0.76	11.2	1.4	0.2	0.2	0.8
PCB 195	1.30	1.68	1.29	1.29	1.29	1.29	1.42	15.62	NA	NA	NA	NA	2.37	0.72	3.75	0.39	-1.6	-0.6	1.0
PCB 206	3.76	5.10	3.86	3.86	3.86	3.86	4.24	17.61	NA	NA	NA	NA	5.02	0.84	9.21	0.51	-0.6	-0.4	1.2
PCB 209	4.35	7.41	4.11	4.11	4.11	4.11	5.29	34.78	NA	NA	NA	NA	6.88	1.57	6.81	0.33	-0.9	-0.5	2.3

Laboratory: 12 PCBs in Sediment XI	Reported Results			No. of Analytes		Number by Category				
	Quantitative	Qualitative	Not Determined	22	3	0	Category	z (25%)	z (s)	p (15%)
	88	12	0	22	3	0	<2	21	21	21
							2 to 3	0	0	0
							>3	1	1	0

Sediment XI, %				SRM 1944, %				Sediment XI, %						
S1	S2	S3	%RSD	S1	S2	S3	%RSD	assigned	95% CL	SRM 1944, % target	95% CL	z (25%)	z (s)	p (15%)
45.6	45.7	46.1	0.5	45.8	0.5	0.4	0.4	45.9	0.4	SRM 1944, % target	0.0	-0.1	0.0	0.0

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

PAH	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI			
	2/4/02 S1	2/4/02 S2	2/4/02 S3	2/4/02 S1	2/4/02 S2	2/4/02 S3	lab mean ng/g dry	lab %RSD	SRM 1944 lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
naphthalene	745	758	711	1420	1350	1360	738	3	1377	3	706	84	1650	310	0.2	0.2	0.2	
2-methylnaphthalene	297	313	287	758	724	708	299	4	730	3	325	39	950	50	-0.3	-0.4	0.3	
1-methylnaphthalene	140	144	136	441	420	411	140	3	424	4	141	19	520	30	0.0	0.0	0.2	
biphenyl	93.0	91.0	83.0	222	212	219	89.0	5.9	218	2	91.1	11.0	250	70	-0.1	-0.1	0.4	
2,6-dimethylnaphthalene	161	169	154	581	597	598	161	5	592	2	145	24	755	156	0.4	0.3	0.3	
acenaphthylene	102	51.0	65.0	645	732	536	72.7	36.3	638	15	120	29	646	200	-1.6	-0.9	2.4	
acenaphthene	53.0	52.0	49.0	374	353	350	51.3	4.1	359	4	53.9	6.6	470	60	-0.2	-0.2	0.3	
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	#DIV/0!	NA	82.8	19.8	462	133				
fluorene	70.0	75.0	72.0	495	431	455	72.3	3.5	460	7	84.6	11.0	600	50	-0.6	-0.6	0.2	
phenanthrene	.666	686	635	4190	3980	3950	662	4	4040	3	645	61	5270	220	0.1	0.1	0.3	
anthracene	122	113	141	930	893	793	125	11	872	8	254	39	1770	330	-2.0	-1.6	0.8	
1-methylphenanthrene	143	144	132	1160	1020	1010	140	5	1063	8	127	12	1400	100	0.4	0.6	0.3	
fluoranthene	1530	1600	1490	3320	3160	2910	1540	4	3130	7	1717	117	8970	320	-0.4	-0.8	0.2	
pyrene	1330	1390	1310	3390	3210	2940	1343	3	3180	7	1564	130	9700	420	-0.6	-0.9	0.2	
benzo[a]anthracene	568	591	564	3930	3980	3920	574	3	3943	1	621	43	4720	110	-0.3	-0.5	0.2	
chrysene	899	897	846	5350	5030	5290	881	3	5223	3	843	255	4860	100	0.2	0.2	0.2	
triphenylene	see Note 8	see Note 8	see Note 8	see Note 8	see Note 8	see Note 8	see Note 8	NA	see Note 8	NA	346		1040	270				
benzo[b]fluoranthene	1150	1210	1210	4140	4460	4170	1190	3	4257	4	940	135	3870	420	1.1	1.1	0.2	
benzo[k]fluoranthene	see Note 9	see Note 9	see Note 9	see Note 9	see Note 9	see Note 9	see Note 9	NA	see Note 9	NA	420		2090	440				
benzo[f]fluoranthene	446	440	444	2320	2550	2280	443	1	2383	6	604	190	2300	200	-1.1	-0.8	0.0	
benzo[e]pyrene	1130	1280	917	2990	2650	3170	1109	16	2937	9	808	96	3280	110	1.5	1.6	1.1	
benzo[a]pyrene	1140	673	693	3150	2780	2870	835	32	2933	7	703	42	4300	130	0.8	1.5	2.1	
perylene	255	259	297	689	722	670	270	9	694	4	323	49	1170	240	-0.7	-0.6	0.6	
indeno[1,2,3-cd]pyrene	613	644	639	2720	2650	2250	632	3	2540	10	683	72	2780	100	-0.3	-0.3	0.2	
dibenz[a,h]anthracene	166	175	163	697	657	690	168	4	681	3	153	30	424	69	0.4	0.3	0.2	
benzo[ghi]perylene	584	609	607	1780	2420	1700	600	2	1967	20	705	57	2840	100	-0.6	-0.9	0.2	

Category	Number by Category	
	z (25%)	p (15%)
<2	22	23
2 to 3	1	0
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	23	89	
Qualitative	2	8	
Not Determined	1	4	

Laboratory: 13
PAH in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI					
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
alpha-HCH	0.069	<0.129	0.100	0.112	0.169	0.101	0.085	25.94	0.127	28.67	<1		2.00	0.30	1.6	2.5	0.0	
hexachlorobenzene	43.9	44.1	43.5	6.15	5.63	6.57	43.8	0.7	6.12	7.70	31.1	2.7	6.03	0.35				
gamma-HCH	0.082	<0.126	<0.0730	0.069	0.082	0.063	0.082	NA	0.071	13.6	<1		no target					
beta-HCH	0.233	<0.239	0.234	0.336	0.280	0.271	0.234	0.303	0.296	11.9	<6		no target				0.0	
heptachlor	<0.0920	<0.0880	0.115	0.161	0.096	0.065	0.115	NA	0.107	45.6	<3		no target					
aldrin	0.578	0.814	0.797	0.844	0.880	1.74	0.730	18.0	1.15	43.9	<2		no target				1.2	
heptachlor epoxide	0.231	0.226	0.207	0.256	0.226	0.233	0.221	5.72	0.238	6.59	<4		no target				0.4	
oxychlorthane	<0.0500	<0.182	<0.0650	<0.0560	<0.0350	<0.0580	<0.182	NA	<0.0580	NA	<3		no target					
trans-chlordane	15.3	13.7	13.4	25.2	25.2	24.8	14.1	7.2	25.1	0.9	11.7	1.1	16.5	0.8	0.8	1.3	0.5	
2,4'-DDE	23.8	25.4	25.2	16.7	16.5	16.5	24.8	3.5	16.6	0.7	18.3	3.2	19.0	3.0	1.4	1.1	0.2	
endosulfan I	<2.70	<6.27	<2.55	<0.889	<1.04	<1.40	<6.27	NA	<1.40	NA	<6		no target					
cis-chlordane	12.9	11.2	11.9	19.9	20.0	18.2	12.0	7.1	19.4	5.2	10.64	1.12	16.5	0.8	0.5	0.6	0.5	
trans-nonachlor	7.63	7.28	7.31	11.1	11.0	11.1	7.41	2.62	11.1	0.52	5.67	0.82	8.20	0.51	1.2	1.1	0.2	
dieldrin	3.84	3.51	3.27	8.29	7.67	8.67	3.54	8.08	8.21	6.15	3.54	0.35	8.00	4.00	0.0	0.0	0.5	
4,4'-DDE	85.0	89.8	87.4	71.1	69.8	69.7	87.4	2.7	70.2	1.1	69.4	7.8	86.0	12.0	1.0	1.2	0.2	
2,4'-DDD	53.2	55.5	54.7	38.2	38.0	37.9	54.5	2.1	38.0	0.4	40.6	6.1	38.0	8.0	1.4	1.3	0.1	
endrin	<0.464	<0.667	<0.197	<0.322	<0.270	<0.433	<0.667	NA	<0.433	NA	<3		no target					
endosulfan II	<3.35	<6.27	<2.49	<1.08	<1.14	<0.932	<6.27	NA	<1.14	NA	<3		no target					
4,4'-DDD	237	261	252	132	130	151	250	5	138	8	139	21	108	16	3.2	2.9	0.3	
2,4'-DDT	7.62	8.21	6.41	4.80	3.61	4.10	7.41	12.38	4.17	14.34	5.89	1.22	no target		1.0	0.7	0.8	
cis-nonachlor	4.06	3.36	3.36	5.64	5.14	5.87	3.59	11.25	5.55	6.72	2.86	0.54	3.70	0.70	1.0	0.8	0.7	
4,4'-DDT	345	394	378	155	162	224	372	7	180	21	221	38	119	11	2.7	2.5	0.4	
mirex	0.326	<0.268	1.66	10.5	0.892	0.774	0.993	95.0	4.06	137.6	<2		no target				6.3	
endosulfan sulfate	<0.0550	<0.179	<0.0710	<0.0430	<0.0690	<0.124	<0.179	NA	<0.124	NA	<3		no target					
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target					

Category	z(25%)	z(s)	p(15%)
<2	10	0	16
2 to 3	1	3	0
>3	1	0	1

Reported Results	No. of Analytes	%
Quantitative	19	76
Qualitative	5	20
Not Determined	1	4

Laboratory: 13
 Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944			
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	8.53	7.12	7.66	20.6	19.9	20.1	7.77	9.16	20.2	1.8	7.84	1.34	22.3	2.3	0.0	0.0	0.6	0.0	0.0	0.6
PCB 18	14.2	14.5	13.5	40.0	39.2	38.0	14.1	3.6	39.1	2.6	17.8	2.7	51.0	2.6	-0.8	-0.6	0.2	-0.8	-0.6	0.2
PCB 28	37.1	30.1	34.1	88.9	83.2	87.8	33.8	10.4	86.6	3.5	31.3	2.4	80.8	2.7	0.3	0.4	0.7	0.3	0.4	0.7
PCB 31	26.9	26.8	25.8	70.7	73.7	73.3	26.5	2.3	72.6	2.2	25.0	2.9	78.7	1.6	0.2	0.3	0.2	0.2	0.3	0.2
PCB 44	28.5	29.8	28.1	60.3	63.3	62.3	28.8	3.1	62.0	2.6	22.1	1.9	60.2	2.0	1.2	1.6	0.2	1.2	1.6	0.2
PCB 49	20.5	20.9	20.4	43.1	45.5	44.7	20.6	2.3	44.4	2.2	21.6	1.6	53.0	1.7	-0.2	-0.3	0.1	-0.2	-0.3	0.1
PCB 52	33.5	35.6	33.8	73.3	75.9	75.1	34.3	3.1	74.8	1.8	30.2	2.1	79.4	2.0	0.5	0.9	0.2	0.5	0.9	0.2
PCB 66	33.8	32.5	32.5	68.2	71.3	70.2	32.9	2.3	69.9	2.2	26.2	2.0	71.9	4.3	1.0	1.6	0.2	1.0	1.6	0.2
PCB 95	23.1	23.6	22.9	42.0	45.9	46.0	23.2	1.6	44.6	5.1	20.5	1.7	65.0	8.9	0.5	0.8	0.1	0.5	0.8	0.1
PCB 99	20.2	20.0	20.4	38.4	39.3	41.0	20.2	1.0	39.6	3.3	14.8	1.9	37.5	2.4	1.4	1.5	0.1	1.4	1.5	0.1
PCB 101	32.3	32.4	32.3	61.4	65.3	67.1	32.3	0.2	44.4	4.5	29.2	2.3	73.4	2.5	0.4	0.6	0.0	0.4	0.6	0.0
PCB 105	10.3	10.4	9.92	21.2	21.4	22.4	10.21	2.48	21.7	3.0	9.31	1.11	24.5	1.1	0.4	0.4	0.2	0.4	0.4	0.2
PCB 118	25.7	26.9	25.5	51.1	48.6	51.5	26.0	2.3	50.4	3.1	21.3	2.4	58.0	4.3	0.9	0.9	0.2	0.9	0.9	0.2
PCB 128	5.48	5.25	5.02	10.5	10.2	10.9	5.25	4.38	10.53	3.33	4.02	0.47	8.47	0.28	1.2	1.2	0.3	1.2	1.2	0.3
PCB 138	40.6	39.9	37.5	79.6	74.9	80.3	39.3	3.1	78.3	3.8	28.8	3.6	62.1	3.0	1.5	1.3	0.3	1.5	1.3	0.3
PCB 149	35.3	33.9	33.9	66.9	61.0	70.4	34.4	2.4	66.1	7.2	22.7	2.5	49.7	1.2	2.1	2.4	0.2	2.1	2.4	0.2
PCB 153	38.4	37.5	35.9	74.8	67.9	74.4	37.3	3.4	72.4	5.4	29.9	4.4	74.0	2.9	1.0	0.7	0.2	1.0	0.7	0.2
PCB 156	3.56	3.48	3.48	6.89	6.83	7.26	3.51	1.32	6.99	3.33	2.77	0.27	6.52	0.66	1.1	1.7	0.1	1.1	1.7	0.1
PCB 170	8.68	8.84	8.31	15.7	15.5	16.1	8.61	3.16	15.8	1.9	8.47	1.43	22.6	1.4	0.1	0.0	0.2	0.1	0.0	0.2
PCB 180	20.3	21.4	19.3	36.4	34.7	36.3	20.3	5.2	15.8	2.7	19.3	2.0	44.3	1.2	0.2	0.2	0.3	0.2	0.2	0.3
PCB 187	15.2	14.6	13.8	26.0	24.6	24.5	14.5	4.8	15.0	3.4	11.8	1.6	25.1	1.0	0.9	0.8	0.3	0.9	0.8	0.3
PCB 194	5.21	5.26	4.80	9.30	8.56	7.65	5.09	4.96	8.5	9.7	5.17	0.76	11.2	1.4	-0.1	0.0	0.3	-0.1	0.0	0.3
PCB 195	1.92	2.04	1.90	3.81	3.25	3.30	1.95	3.88	3.45	8.97	2.37	0.72	3.75	0.39	-0.7	-0.3	0.3	-0.7	-0.3	0.3
PCB 206	5.20	5.26	4.99	7.43	7.10	7.54	5.15	2.75	7.36	3.11	5.02	0.84	9.21	0.51	0.1	0.1	0.2	0.1	0.1	0.2
PCB 209	10.9	11.1	11.4	8.32	8.07	7.95	11.13	2.26	8.11	2.33	6.88	1.57	6.81	0.33	2.5	1.2	0.2	2.5	1.2	0.2

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL
	44.9	45.6	45.0				45.2	0.8			45.9	0.4		
water														

Laboratory: 13 PCBs in Sediment XI	Number by Category		
	Category	z (s)	p (15%)
	< 2	23	24
2 to 3	1	1	
> 3	0	0	

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Analysis date	Data as submitted by laboratory						Laboratory				Material reference values				Performance scores ^a				
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		z-score (25%)	z-score (s)	p-score (15%)
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene							NA	NA	NA	NA	706	84	1650	310						
2-methylnaphthalene							NA	NA	NA	NA	325	39	950	50						
1-methylnaphthalene							NA	NA	NA	NA	141	19	520	30						
biphenyl							NA	NA	NA	NA	91.1	11.0	250	70						
2,6-dimethylnaphthalene							NA	NA	NA	NA	145	24	755	156						
acenaphthylene							NA	NA	NA	NA	120	29	646	200						
acenaphthene							NA	NA	NA	NA	53.9	6.6	470	60						
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133						
fluorene							NA	NA	NA	NA	84.6	11.0	600	50						
phenanthrene							NA	NA	NA	NA	645	61	5270	220						
anthracene							NA	NA	NA	NA	254	39	1770	330						
1-methylphenanthrene							NA	NA	NA	NA	127	12	1400	100						
fluoranthene							NA	NA	NA	NA	1717	117	8920	320						
pyrene							NA	NA	NA	NA	1564	130	9700	420						
benz[a]anthracene							NA	NA	NA	NA	621	43	4720	110						
chrysene							NA	NA	NA	NA	843	255	4860	100						
triphenylene							NA	NA	NA	NA	346		1040	270						
benzo[b]fluoranthene							NA	NA	NA	NA	940	135	3870	420						
benzo[k]fluoranthene							NA	NA	NA	NA	420		2090	440						
benzo[f]fluoranthene							NA	NA	NA	NA	604	190	2300	200						
benzo[e]pyrene							NA	NA	NA	NA	808	96	3280	110						
benzo[a]pyrene							NA	NA	NA	NA	703	42	4300	130						
perylene							NA	NA	NA	NA	323	49	1170	240						
indeno[1,2,3-cd]pyrene							NA	NA	NA	NA	683	72	2780	100						
di[benz[a,h]anthracene							NA	NA	NA	NA	153	30	424	69						
benzo[ghi]perylene							NA	NA	NA	NA	705	57	2840	100						

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	0	0	0
2 to 3	0	0	0
> 3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	0	0	0
Qualitative	0	0	0
Not Determined	26	100	100

Laboratory: 14
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a	
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI	
	1/20/02	1/24/02	1/24/02	S1	S2	S3	lab mean	lab %RSD	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
alpha-HCH	NA	NA	NA				NA	NA	NA	NA	NA	<1		2.00	0.30			
hexachlorobenzene	23.9	20.9	22.2				22.3	6.8	NA	NA	NA	31.1	2.7	6.03	0.35		-1.1	-1.7
gamma-HCH	<2	<2	<2				<2	NA	NA	NA	NA	<1		no target				
beta-HCH	NA	NA	NA				NA	NA	NA	NA	NA	<6		no target				
heptachlor	7.94	8.37	8.94				8.42	5.96	NA	NA	NA	<3		no target				0.4
aldrin	<2	<2	<2				<2	NA	NA	NA	NA	<2		no target				
heptachlor epoxide	<2	<2	<2				<2	NA	NA	NA	NA	<4		no target				
oxychlorodane	7.35	4.15	3.07				4.86	45.83	NA	NA	NA	<3		no target				3.1
trans-chlordane	19.1	14.3	12.2				15.2	23.2	NA	NA	NA	11.7	1.1	no target			1.2	1.8
2,4'-DDE	24.0	24.4	22.5				23.6	4.3	NA	NA	NA	18.3	3.2	19.0	3.0		1.2	0.9
endosulfan I	6.27	5.44	5.08				5.60	10.90	NA	NA	NA	<6		no target				0.7
cis-chlordane	18.3	13.9	13.2				15.1	18.1	NA	NA	NA	10.64	1.12	16.5	0.8		1.7	2.1
trans-nonachlor	2.82	2.25	3.83				2.97	26.97	NA	NA	NA	5.67	0.82	8.20	0.51		-1.9	-1.7
dieldrin	4.92	4.01	3.51				4.15	17.24	NA	NA	NA	3.54	0.35	8.00	4.00		0.7	1.4
4,4'-DDE	46.6	40.9	58.8				48.8	18.8	NA	NA	NA	69.4	7.8	86.0	12.0		-1.2	-1.3
2,4'-DDD	42.4	35.9	36.7				38.3	9.3	NA	NA	NA	40.6	6.1	38.0	8.0		-0.2	-0.2
endrin	<2	<2	<2				<2	NA	NA	NA	NA	<3		no target				
endosulfan II	<2	<2	<2				<2	NA	NA	NA	NA	<3		no target				
4,4'-DDD	122	105	120				116	8	NA	NA	NA	139	21	108	16		-0.7	-0.6
2,4'-DDT	6.85	5.16	6.01				6.01	14.07	NA	NA	NA	5.89	1.22	no target			0.1	0.1
cis-nonachlor	5.07	3.63	4.35				4.35	16.55	NA	NA	NA	2.86	0.54	3.70	0.70		2.1	1.7
4,4'-DDT	220	187	215				207	8	NA	NA	NA	221	38	119	11		-0.2	-0.2
mitex	<2	<2	<2				<2	NA	NA	NA	NA	<2		no target				
endosulfan sulfate	NA	NA	NA				NA	NA	NA	NA	NA	<3		no target				
chlorpyrifos	NA	NA	NA				NA	NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	11	11
2 to 3	1	1
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	6	24
Not Determined	4	16

Laboratory: 14
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a		
	1/1002	1/1022	1/1022	1/1002	1/1022	1/1022	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8	<2	<2	<2	<2	<2	<2	<2	NA	NA	7.84	1.34	22.3	2.3	-2.6	-2.0	1.4			
PCB 18	4.79	6.12	7.42	6.1	21.5	NA	6.1	21.5	NA	17.8	2.7	51.0	2.6	-2.5	-3.5	0.2			
PCB 28	12.3	11.5	12.0	11.9	3.4	NA	11.9	3.4	NA	31.3	2.4	80.8	2.7	-2.1	-2.4	0.2			
PCB 31	12.3	11.5	12.0	11.9	3.4	NA	11.9	3.4	NA	25.0	2.9	78.7	1.6	-1.2	-1.6	0.2			
PCB 44	15.2	15.2	16.1	15.5	3.5	NA	15.5	3.5	NA	22.1	1.9	60.2	2.0	-1.0	-1.6	0.1			
PCB 49	16.6	16.0	16.3	16.3	2.1	NA	16.3	2.1	NA	21.6	1.6	53.0	1.7	-1.8	-3.0	0.1			
PCB 52	16.9	16.3	16.5	16.5	1.7	NA	16.5	1.7	NA	30.2	2.1	79.4	2.0	0.4	0.6	0.4			
PCB 56	29.7	26.5	29.5	28.5	6.2	NA	28.5	6.2	NA	26.2	2.0	71.9	4.3	1.6	2.5	0.4			
PCB 95	29.7	26.5	29.5	28.5	6.2	NA	28.5	6.2	NA	20.5	1.7	65.0	8.9	-0.9	-0.9	0.5			
PCB 99	12.4	10.8	11.0	11.4	7.7	NA	11.4	7.7	NA	14.8	1.9	37.5	2.4	-0.8	-1.2	0.3			
PCB 101	24.5	22.3	23.9	23.6	4.9	NA	23.6	4.9	NA	29.2	2.3	73.4	2.5	-0.4	-0.4	0.5			
PCB 105	9.06	8.05	8.02	8.38	7.07	NA	8.38	7.07	NA	9.31	1.11	24.5	1.1	-0.8	-0.7	0.2			
PCB 118	17.8	16.9	16.9	17.2	3.1	NA	17.2	3.1	NA	21.3	2.4	58.0	4.3	-0.1	-0.1	0.4			
PCB 128	4.20	3.68	3.94	3.94	6.60	NA	3.94	6.60	NA	4.02	0.47	8.47	0.28	-0.7	-0.6	0.3			
PCB 138	25.0	22.6	23.4	23.7	5.0	NA	23.7	5.0	NA	28.8	3.6	62.1	3.0	-3.2	-3.7	0.2			
PCB 149	4.82	4.57	4.58	4.66	3.04	NA	4.66	3.04	NA	22.7	2.5	49.7	1.2	-1.2	-0.9	0.3			
PCB 153	22.2	21.0	20.5	21.2	4.0	NA	21.2	4.0	NA	29.9	4.4	74.0	2.9	-0.5	-0.9	0.6			
PCB 156	2.54	2.15	2.51	2.40	9.04	NA	2.40	9.04	NA	2.77	0.27	6.52	0.66	-0.4	-0.3	0.3			
PCB 170	7.91	7.28	7.44	7.54	4.34	NA	7.54	4.34	NA	8.47	1.43	22.6	1.4	-0.5	-0.5	0.3			
PCB 180	17.8	16.4	16.6	16.9	4.5	NA	16.9	4.5	NA	19.3	2.0	44.3	1.2	0.4	0.3	0.3			
PCB 187	13.1	13.4	12.3	12.9	4.6	NA	12.9	4.6	NA	11.8	1.6	25.1	1.0	-0.7	-0.6	0.4			
PCB 194	4.57	4.04	4.22	4.28	6.30	NA	4.28	6.30	NA	5.17	0.76	11.2	1.4	-0.6	-0.2	0.6			
PCB 195	2.17	1.82	1.98	1.99	8.80	NA	1.99	8.80	NA	2.37	0.72	3.75	0.39	0.2	0.2	0.3			
PCB 206	5.41	5.01	5.47	5.30	4.72	NA	5.30	4.72	NA	5.02	0.84	9.21	0.51	0.9	0.5	1.3			
PCB 209	7.99	7.09	10.4	8.49	20.15	NA	8.49	20.15	NA	6.88	1.57	6.81	0.33						

Category	Number by Category	
	z (25%)	p (15%)
< 2	20	18
2 to 3	3	4
> 3	1	2

Sediment XI, %		SRM 1944, %	
S1	S2	S1	S2
46.5	46.3	46.1	46.1

Sediment XI, %		SRM 1944, %	
mean, %	%RSD	mean, %	%RSD
46.3	0.4		

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	24	96
Qualitative	1	4
Not Determined	0	0

Sediment XI, %		SRM 1944, %	
assigned	95% CL	target	95% CL
45.9	0.4		

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Sample: QA02SEDI1 - Marine Sediment XI (data reported as if three figures were significant)

PAH	Data as submitted by laboratory										Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a	
	4702 S1	4702 S2	4702 S3	4702 S1	4702 S2	4702 S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
Analysis date																		
naphthalene	158	139	144	291	308	250	147	7	283	11	706	84	1650	310	-3.2	-3.4	0.4	
2-methylnaphthalene	83.0	74.1	76.5	201	199	174	77.9	5.9	191	8	325	39	950	50	-3.0	-3.7	0.4	
1-methylnaphthalene							NA	NA	NA	NA	141	19	520	30				
biphenyl							NA	NA	NA	NA	91.1	11.0	250	70				
2,6-dimethylnaphthalene							NA	NA	NA	NA	145	24	755	156				
acenaphthylene	162	156	154	801	792	774	158	3	789	2	120	29	646	200	1.2	0.7	0.2	
acenaphthene	35.6	29.9	21.8	301	270	276	29.1	23.9	283	6	53.9	6.6	470	60	-1.8	-2.0	1.6	
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133				
fluorene	124	112	125	629	594	611	121	6	611	3	84.6	11.0	600	50	1.7	1.6	0.4	
phenanthrene	415	391	359	4169	3868	3647	388	7	3895	7	645	61	5270	220	-1.6	-2.0	0.5	
anthracene	256	253	237	1157	1075	1100	249	4	1111	4	254	39	1770	330	-0.1	-0.1	0.3	
1-methylphenanthrene							NA	NA	NA	NA	127	12	1400	100				
fluoranthene	1453	1324	1284	7450	7039	6753	1354	7	7081	5	1717	117	8920	320	-0.8	-1.6	0.4	
pyrene	1282	1215	1149	8374	7975	7321	1216	5	7890	7	1564	130	9700	420	-0.9	-1.4	0.4	
benzo[a]anthracene	614	590	581	3974	3863	3646	595	3	3827	4	621	43	4720	110	-0.2	-0.3	0.2	
chrysene	840	751	737	4839	4809	4465	776	7	4704	4	843	255	4860	100	-0.3	-0.3	0.5	
triphenylene							NA	NA	NA	NA	346		1040	270				
benzo[b]fluoranthene	1046	892	988	4306	3791	3599	975	8	3899	9	940	135	3870	420	0.2	0.2	0.5	
benzo[k]fluoranthene							NA	NA	NA	NA	420		2090	440				
benzo[j]fluoranthene	686	493	512	2923	2731	2498	564	19	2717	8	604	190	2300	200	-0.3	-0.2	1.3	
benzo[e]pyrene							NA	NA	NA	NA	808	96	3280	110				
benzo[a]pyrene	753	628	591	4287	4158	3817	657	13	4087	6	703	42	4300	130	-0.3	-0.5	0.9	
perylene							NA	NA	NA	NA	323	49	1170	240				
indeno[1,2,3-cd]pyrene	675	563	533	2271	2319	2138	590	13	2243	4	683	72	2780	100	-0.5	-0.6	0.8	
dibenz[a,h]anthracene	300	311	289	1057	1105	1057	300	4	1073	3	153	30	424	69	3.8	2.5	0.2	
benzo[ghi]perylene	457	196	150	1781	1602	1488	268	62	1623	9	705	57	2840	100	-2.5	-3.9	4.1	

Reported Results		No. of Analytes		%	
Quantitative	17	Quantitative	17	Quantitative	65
Qualitative	0	Qualitative	0	Qualitative	0
Not Determined	9	Not Determined	9	Not Determined	35

Category	Number by Category	
	z (25%)	p (15%)
<2	13	12
2 to 3	1	2
>3	3	3

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI assigned value	SRM 1944 target value ^b	95% CL	95% CL	Sediment XI		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD					z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH							NA	NA	NA	NA	<1	2.00	0.30				
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	0.35				
gamma-HCH							NA	NA	NA	NA	<1	no target					
beta-HCH							NA	NA	NA	NA	<6	no target					
heptachlor							NA	NA	NA	NA	<3	no target					
aldrin							NA	NA	NA	NA	<2	no target					
heptachlor epoxide							NA	NA	NA	NA	<4	no target					
oxychlorodane							NA	NA	NA	NA	<3	no target					
trans-chlordane							NA	NA	NA	NA	11.7	1.1					
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	3.0				
endosulfan I							NA	NA	NA	NA	<6	no target					
cis-chlordane							NA	NA	NA	NA	10.64	1.12	0.8				
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	0.51				
dieldrin							NA	NA	NA	NA	3.54	0.35	4.00				
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	86.0	12.0			
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	38.0	8.0			
endrin							NA	NA	NA	NA	<3	no target					
endosulfan II							NA	NA	NA	NA	<3	no target					
4,4'-DDD							NA	NA	NA	NA	139	21	108	16			
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target				
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	3.70	0.70			
4,4'-DDT							NA	NA	NA	NA	221	38	119	11			
mirex							NA	NA	NA	NA	<2	no target					
endosulfan sulfate							NA	NA	NA	NA	<3	no target					
chlorpyrifos							NA	NA	NA	NA	<3	no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	25	100

Laboratory: 15
 Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores*							
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944					
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)					
PCB 8							NA	NA	NA	NA	7.84	1.34	22.3	2.3									
PCB 18							NA	NA	NA	NA	17.8	2.7	51.0	2.6									
PCB 28							NA	NA	NA	NA	31.3	2.4	80.8	2.7									
PCB 31							NA	NA	NA	NA	25.0	2.9	78.7	1.6									
PCB 44							NA	NA	NA	NA	22.1	1.9	60.2	2.0									
PCB 49							NA	NA	NA	NA	21.6	1.6	53.0	1.7									
PCB 52							NA	NA	NA	NA	30.2	2.1	79.4	2.0									
PCB 66							NA	NA	NA	NA	26.2	2.0	71.9	4.3									
PCB 95							NA	NA	NA	NA	20.5	1.7	65.0	8.9									
PCB 99							NA	NA	NA	NA	14.8	1.9	37.5	2.4									
PCB 101							NA	NA	NA	NA	29.2	2.3	73.4	2.5									
PCB 105							NA	NA	NA	NA	9.31	1.11	24.5	1.1									
PCB 118							NA	NA	NA	NA	21.3	2.4	58.0	4.3									
PCB 128							NA	NA	NA	NA	4.02	0.47	8.47	0.28									
PCB 138							NA	NA	NA	NA	28.8	3.6	62.1	3.0									
PCB 149							NA	NA	NA	NA	22.7	2.5	49.7	1.2									
PCB 153							NA	NA	NA	NA	29.9	4.4	74.0	2.9									
PCB 156							NA	NA	NA	NA	2.77	0.27	6.52	0.66									
PCB 170							NA	NA	NA	NA	8.47	1.43	22.6	1.4									
PCB 180							NA	NA	NA	NA	19.3	2.0	44.3	1.2									
PCB 187							NA	NA	NA	NA	11.8	1.6	25.1	1.0									
PCB 194							NA	NA	NA	NA	5.17	0.76	11.2	1.4									
PCB 195							NA	NA	NA	NA	2.37	0.72	3.75	0.39									
PCB 206							NA	NA	NA	NA	5.02	0.84	9.21	0.51									
PCB 209							NA	NA	NA	NA	6.88	1.57	6.81	0.33									
Laboratory: 15		Reported Results										No. of Analytes		%		Number by Category							
PCBs in Sediment XI		Quantitative		Qualitative		Not Determined		0		1		24		0		4		0		0		0	
		S1		S2		S3		S1		S2		S3		S1		S2		S3		S1		S3	
Water in Sediment XI		45.1		45.6		45.0		45.2		0.7		SRM 1944, %		SRM 1944, %		SRM 1944, %		SRM 1944, %		SRM 1944, %		SRM 1944, %	
water		-0.1		-0.6		0.0		45.9		0.4		target		95% CL		target		95% CL		target		95% CL	

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a	
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI			
		2/6/02 S1	2/6/02 S2	2/6/02 S3	2/6/02 S1	2/6/02 S2	2/6/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (15%)
naphthalene	743	686	782	1229	1152	1272	737	7	1218	5	706	84	1650	310	0.2	0.2	0.4		
2-methylnaphthalene	201	209	217	429	437	338	209	4	401	14	325	39	950	50	-1.4	-1.7	0.3		
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	141	19	520	30					
biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91.1	11.0	250	70					
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	145	24	755	156					
acenaphthylene	200	202	204	1132	969	1056	202	1	1052	8	120	29	646	200	2.7	1.5	0.1		
acenaphthene	<90.0	<90.0	<90.0	342	307	408	<90.0	NA	352	15	53.9	6.6	470	60					
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133					
fluorene	120	94.0	114	584	404	446	109	12	478	20	84.6	11.0	600	50	1.2	1.1	0.8		
phenanthrene	734	749	735	4755	4324	5004	739	1	4694	7	645	61	5270	220	0.6	0.7	0.1		
anthracene	275	277	285	1449	1215	1441	279	2	1368	10	254	39	1770	330	0.4	0.3	0.1		
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	127	12	1400	100					
fluoranthene	1740	1739	1718	7129	6429	7395	1732	1	6984	7	1717	117	8920	320	0.0	0.1	0.0		
pyrene	1650	1671	1656	8267	7623	8642	1659	1	8177	6	1564	130	9700	420	0.2	0.4	0.0		
benzo[a]anthracene	648	646	655	3569	3171	3672	650	1	3471	8	621	43	4720	110	0.2	0.3	0.0		
chrysene	1251	1145	1166	5473	5049	5769	1187	5	5430	7	843	255	4860	100	1.6	1.7	0.3		
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene	891	841	860	3206	2904	3588	864	3	3233	11	940	135	3870	420	-0.3	-0.3	0.2		
benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440					
benzo[j]fluoranthene	927	930	1005	3250	2811	3294	954	5	3118	9	604	190	2300	200	2.3	1.7	0.3		
benzof[e]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	808	96	3280	110					
benzo[a]pyrene	504	654	685	2895	2547	2933	614	16	2792	8	703	42	4300	130	-0.5	-1.0	1.1		
perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	323	49	1170	240					
indeno[1,2,3-cd]pyrene	492	513	553	1716	1855	1943	519	6	1838	6	683	72	2780	100	-1.0	-1.1	0.4		
dibenz[a,h]anthracene	<90.0	<90.0	<90.0	444	595	647	<90.0	NA	562	19	153	30	424	69					
benzo[ghi]perylene	636	636	671	2109	2124	1858	648	3	2030	7	705	57	2840	100	-0.3	-0.5	0.2		

Category	Number by Category	
	z (25%)	p (15%)
< 2	13	15
2 to 3	2	0
> 3	0	0

Reported Results	No. of Analytes	
	Quantitative	%
Quantitative	15	58
Quantitative	2	8
Not Determined	9	35

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Sample: QA02SED11 - Marine Sediment XI

Laboratory No.: 16

Reporting Date: 4/8/02

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry		SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		z-score (25%)	z-score (s)	p-score (15%)	
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b				95% CL
alpha-HCH							NA	NA	NA	NA	<1		2.00	0.30			
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	6.03	0.35			
gamma-HCH							NA	NA	NA	NA	<1		no target				
beta-HCH							NA	NA	NA	NA	<6		no target				
heptachlor							NA	NA	NA	NA	<3		no target				
aldrin							NA	NA	NA	NA	<2		no target				
heptachlor epoxide							NA	NA	NA	NA	<4		no target				
oxychlorodane							NA	NA	NA	NA	<3		no target				
trans-chlordane							NA	NA	NA	NA	11.7	1.1	no target				
2,4'-DDE							NA	NA	NA	NA	18.3	3.2	19.0	3.0			
endosulfan I							NA	NA	NA	NA	<6		no target				
cis-chlordane							NA	NA	NA	NA	10.64	1.12	16.5	0.8			
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	8.20	0.51			
dieldrin							NA	NA	NA	NA	3.54	0.35	8.00	4.00			
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	86.0	12.0			
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	38.0	8.0			
endrin							NA	NA	NA	NA	<3		no target				
endosulfan II							NA	NA	NA	NA	<3		no target				
4,4'-DDD							NA	NA	NA	NA	139	21	108	16			
2,4'-DDT							NA	NA	NA	NA	5.89	1.22	no target				
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	3.70	0.70			
4,4'-DDT							NA	NA	NA	NA	221	38	119	11			
mirex							NA	NA	NA	NA	<2		no target				
endosulfan sulfate							NA	NA	NA	NA	<3		no target				
chlorpyrifos							NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
< 2	0	0
2 to 3	0	0
> 3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	0	0	0
Qualitative	0	0	0
Not Determined	25	100	100

Laboratory: 16
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a																																																						
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI																																																								
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)																																																						
Analysis date																																																																							
PCB 8							NA	NA	NA	NA	NA	22.3	2.3																																																										
PCB 18							NA	NA	NA	NA	17.8	2.7	51.0	2.6																																																									
PCB 28							NA	NA	NA	NA	31.3	2.4	80.8	2.7																																																									
PCB 31							NA	NA	NA	NA	25.0	2.9	78.7	1.6																																																									
PCB 44							NA	NA	NA	NA	22.1	1.9	60.2	2.0																																																									
PCB 49							NA	NA	NA	NA	21.6	1.6	53.0	1.7																																																									
PCB 52							NA	NA	NA	NA	30.2	2.1	79.4	2.0																																																									
PCB 66							NA	NA	NA	NA	26.2	2.0	71.9	4.3																																																									
PCB 95							NA	NA	NA	NA	20.5	1.7	65.0	8.9																																																									
PCB 99							NA	NA	NA	NA	14.8	1.9	37.5	2.4																																																									
PCB 101							NA	NA	NA	NA	29.2	2.3	73.4	2.5																																																									
PCB 105							NA	NA	NA	NA	9.31	1.11	24.5	1.1																																																									
PCB 118							NA	NA	NA	NA	21.3	2.4	58.0	4.3																																																									
PCB 128							NA	NA	NA	NA	4.02	0.47	8.47	0.28																																																									
PCB 138							NA	NA	NA	NA	28.8	3.6	62.1	3.0																																																									
PCB 149							NA	NA	NA	NA	22.7	2.5	49.7	1.2																																																									
PCB 153							NA	NA	NA	NA	29.9	4.4	74.0	2.9																																																									
PCB 156							NA	NA	NA	NA	2.77	0.27	6.52	0.66																																																									
PCB 170							NA	NA	NA	NA	8.47	1.43	22.6	1.4																																																									
PCB 180							NA	NA	NA	NA	19.3	2.0	44.3	1.2																																																									
PCB 187							NA	NA	NA	NA	11.8	1.6	25.1	1.0																																																									
PCB 194							NA	NA	NA	NA	5.17	0.76	11.2	1.4																																																									
PCB 195							NA	NA	NA	NA	2.37	0.72	3.75	0.39																																																									
PCB 206							NA	NA	NA	NA	5.02	0.84	9.21	0.51																																																									
PCB 209							NA	NA	NA	NA	6.88	1.57	6.81	0.33																																																									
Laboratory: 16																																																																							
PCBs in Sediment XI																																																																							
<table border="1"> <thead> <tr> <th colspan="2">Reported Results</th> <th colspan="2">No. of Analytes</th> <th colspan="2">%</th> </tr> </thead> <tbody> <tr> <td>Quantitative</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Quantitative</td> <td>1</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Not Determined</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> </tr> </tbody> </table>																		Reported Results		No. of Analytes		%		Quantitative	0	0	0	0	0	Quantitative	1	4	4	4	4	Not Determined	24	24	24	24	24																														
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Not Determined	24	24	24	24	24																																																																		
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Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %																																																								
S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	p (15%)																																																						
46.1	46.4	46.2				46.2	0.2				45.9	0.4			0.0	0.4	0.0																																																						
Water in Sediment XI																																																																							
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Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %																																																								
S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	p (15%)																																																						
46.1	46.4	46.2				46.2	0.2				45.9	0.4			0.0	0.4	0.0																																																						
water																																																																							

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI				
		127001 S1	127001 S2	127001 S3	127001 S1	127001 S2	127001 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	219	216	211	488	554	na	215	2	521	9	706	84	1650	310	-2.8	-3.0	0.1			
2-methylnaphthalene	78.8	75.0	74.1	268	291	na	76.0	3.3	280	6	325	39	950	50	-3.1	-3.7	0.2			
1-methylnaphthalene	32.4	30.7	30.4	145	150	na	31.2	3.5	148	2	141	19	520	30	-3.1	-3.1	0.2			
biphenyl	27.6	25.6	26.1	90.9	93.3	na	26.4	3.9	92	2	91.1	11.0	250	70	-2.8	-3.3	0.3			
2,6-dimethylnaphthalene	53.6	49.0	50.7	369	349	na	51.1	4.6	359	4	145	24	755	156	-2.6	-2.0	0.3			
acenaphthylene	16.5	15.8	16.6	268	222	na	16.3	2.7	245	13	120	29	646	200	-3.5	-1.9	0.2			
acenaphthene	17.4	15.6	17.1	221	219	na	16.7	5.8	220	1	53.9	6.6	470	60	-2.8	-3.0	0.4			
1,6,7-trimethylnaphthalene	19.7	17.4	17.6	146	149	na	18.2	7.0	148	1	82.8	19.8	462	133	-3.1	-2.2	0.5			
fluorene	42.0	41.2	38.9	363	457	na	40.7	4.0	410	16	84.6	11.0	600	50	-2.1	-2.0	0.3			
phenanthrene	398	369	372	3920	4350	na	380	4	4135	7	645	61	5270	220	-1.6	-2.0	0.3			
anthracene	131	130	135	874	960	na	132	2	917	7	254	39	1770	330	-1.9	-1.5	0.1			
1-methylphenanthrene	75.8	71.3	71.5	864	885	na	72.9	3.5	875	2	127	12	1400	100	-1.7	-2.3	0.2			
fluoranthene	757	706	819	5150	4760	na	761	7	4955	6	1717	117	8920	320	-2.2	-4.2	0.5			
pyrene	591	542	631	4750	4350	na	588	8	4550	6	1564	130	9700	420	-2.5	-3.9	0.5			
benz[a]anthracene	435	473	495	2750	3910	na	468	6	3330	25	621	43	4720	110	-1.0	-1.7	0.4			
chrysene	438	475	501	2750	4010	na	471	7	3380	26	843	255	4860	100	-1.8	-1.8	0.4			
triphenylene	NA	NA	NA	NA	NA	na	NA	NA	NA	NA	346		1040	270						
benzo[b]fluoranthene	790	845	920	3740	4160	na	852	8	3950	8	940	135	3870	420	-0.4	-0.4	0.5			
benzo[k]fluoranthene	NA	NA	NA	NA	NA	na	NA	NA	NA	NA	420		2090	440						
benzo[j]fluoranthene	255	283	308	1130	1360	na	282	9	1245	13	604	190	2300	200	-2.1	-1.6	0.6			
benzo[e]pyrene	380	368	410	1410	1960	na	386	6	1685	23	808	96	3280	110	-2.1	-2.3	0.4			
benzo[a]pyrene	405	407	430	1090	1540	na	414	3	1315	24	703	42	4300	130	-1.6	-3.3	0.2			
perylene	184	186	205	371	517	na	192	6	444	23	323	49	1170	240	-1.6	-1.5	0.4			
indeno[1,2,3-cd]pyrene	357	348	394	951	1200	na	366	7	1076	16	683	72	2780	100	-1.9	-2.1	0.4			
dibenz[a,h]anthracene	39.0	39.1	43.8	147	193	na	40.6	6.8	170	19	153	30	424	69	-2.9	-1.9	0.5			
benzo[ghi]perylene	369	363	405	933	1230	na	379	6	1082	19	705	57	2840	100	-1.8	-2.9	0.4			

Category	Number by Category	
	z (25%)	p (15%)
<2	10	24
2 to 3	10	7
>3	4	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	24	0	92
Qualitative	0	0	0
Not Determined	2	8	8

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

Laboratory: 17
 PAH in Sediment XI

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a	
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI				
	12/20/01	12/20/01	12/20/01	12/20/01	12/20/01	12/20/01	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (15%)	
alpha-HCH	<1.1	<1.1	<1.1	2.14	na	na	<1.1	NA	2.14	NA	<1	2.00	0.30				
hexachlorobenzene	23.9	26.0	23.8	6.06	na	na	24.6	5.1	6.06	NA	31.1	6.03	0.35	-0.8	0.3		
gamma-HCH	<0.4	<0.4	<0.4	na	na	na	<0.4	NA	NA	NA	<1	no target					
beta-HCH	<1.6	<1.6	<1.6	na	na	na	<1.6	NA	NA	NA	<6	no target					
heptachlor	<1.3	<1.3	<1.3	na	na	na	<1.3	NA	NA	NA	<3	no target					
aldrin	<0.04	0.078	<0.04	na	na	na	0.078	NA	NA	NA	<2	no target					
heptachlor epoxide	<1.1	<1.1	<1.1	na	na	na	<1.1	NA	NA	NA	<4	no target					
oxychlorodane	na	na	na	na	na	na	na	NA	NA	NA	<3	no target					
trans-chlordane	10.2	11.0	8.46	9.45	na	na	9.89	13.14	9.45	NA	11.7	1.1		-0.6	0.9		
2,4'-DDE	10.5	10.8	8.74	21.9	na	na	10.0	11.1	21.9	NA	18.3	3.2	3.0	-1.8	0.7		
endosulfan I	<1.5	<1.5	<1.5	na	na	na	<1.5	NA	NA	NA	<6	no target					
cis-chlordane	7.41	8.32	5.72	16.8	na	na	7.15	18.45	16.8	NA	10.64	1.12	0.8	-1.3	1.2		
trans-nonachlor	2.75	2.61	2.38	8.10	na	na	2.58	7.24	8.10	NA	5.67	0.82	0.51	-2.2	0.5		
dieldrin	1.47	1.86	1.69	na	na	na	1.67	11.69	NA	NA	3.54	0.35	4.00	-2.1	0.8		
4,4'-DDE	50.7	62.3	66.0	76.5	na	na	59.7	13.4	76.5	NA	69.4	7.8	12.0	-0.6	0.9		
2,4'-DDD	18.7	25.0	22.2	39.1	na	na	22.0	14.4	39.1	NA	40.6	6.1	8.0	-1.8	1.0		
endrin	<2.4	<2.4	<2.4	na	na	na	<2.4	NA	NA	NA	<3	no target					
endosulfan II	<1.5	<1.5	<1.5	na	na	na	<1.5	NA	NA	NA	<3	no target					
4,4'-DDD	98.5	120	118	106	na	na	112	11	106	NA	139	21	16	-0.8	0.7		
2,4'-DDT	2.26	2.32	2.93	na	na	na	2.50	14.81	NA	NA	5.89	1.22		-2.3	1.0		
cis-nonachlor	1.61	1.75	1.65	3.92	na	na	1.67	4.32	3.92	NA	2.86	0.54	0.70	-1.7	0.3		
4,4'-DDT	205	194	198	110	na	na	199	3	110	NA	221	38	11	-0.4	0.2		
mirex	<0.5	<0.5	<0.5	na	na	na	<0.5	NA	NA	NA	<2	no target					
endosulfan sulfate	<2.3	<2.3	<2.3	na	na	na	<2.3	NA	NA	NA	<3	no target					
chlorpyrifos	na	na	na	na	na	na	na	NA	NA	NA	<3	no target					

Category	Number by Category
<2	z (25%) 9 z (15%) 11 p (15%) 12
2 to 3	z (25%) 3 z (15%) 0 p (15%) 0
>3	z (25%) 0 z (15%) 1 p (15%) 0

Reported Results	No. of Analytes	%
Quantitative	13	52
Qualitative	10	40
Not Determined	2	8

Laboratory: 17
Pesticides in Sediment XI

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory														Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a							
	12/20/01 S1	12/20/01 S2	12/20/01 S3	12/20/01 S1	12/20/01 S2	12/20/01 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)					
PCB 8	2.38	2.02	<1.3	21.3	na	na	2.20	11.57	21.3	NA	7.84	1.34	22.3	2.3	-2.9	-2.1	0.8					
PCB 18	56.6	50.0	40.8	50.7	na	na	49.1	16.2	50.7	NA	17.8	2.7	51.0	2.6	7.1	5.5	1.1					
PCB 28	33.6	33.7	28.0	80.9	na	na	31.8	10.3	80.9	NA	31.3	2.4	80.8	2.7	0.1	0.1	0.7					
PCB 31	na	na	na	na	na	na	NA	NA	NA	NA	25.0	2.9	78.7	1.6								
PCB 44	15.6	16.2	14.6	61.6	na	na	15.5	5.2	61.6	NA	22.1	1.9	60.2	2.0	-1.2	-1.6	0.3					
PCB 49	14.7	19.6	16.2	52.9	na	na	16.8	14.9	52.9	NA	21.6	1.6	53.0	1.7	-0.9	-1.4	1.0					
PCB 52	25.3	27.9	27.7	78.3	na	na	27.0	5.4	78.3	NA	30.2	2.1	79.4	2.0	-0.4	-0.7	0.4					
PCB 66	13.8	15.5	12.9	na	na	na	14.1	9.4	NA	NA	26.2	2.0	71.9	4.3	-1.8	-2.8	0.6					
PCB 95	na	na	na	na	na	na	NA	NA	NA	NA	20.5	1.7	65.0	8.9								
PCB 99	6.88	6.77	6.48	38.4	na	na	6.71	3.08	38.4	NA	14.8	1.9	37.5	2.4	-2.2	-2.2	0.2					
PCB 101	16.3	21.3	18.9	71.9	na	na	18.8	13.3	71.9	NA	29.2	2.3	73.4	2.5	-1.4	-2.1	0.9					
PCB 105	5.48	7.78	7.41	23.8	na	na	6.89	17.92	23.8	NA	9.31	1.11	24.5	1.1	-1.0	-1.0	1.2					
PCB 118	11.3	12.7	9.06	53.8	na	na	11.0	16.7	53.8	NA	21.3	2.4	58.0	4.3	-1.9	-1.9	1.1					
PCB 128	3.90	4.11	5.10	8.70	na	na	4.37	14.66	8.70	NA	4.02	0.47	8.47	0.28	0.4	0.3	1.0					
PCB 138	28.2	32.5	31.6	63.1	na	na	30.8	7.4	63.1	NA	28.8	3.6	62.1	3.0	0.3	0.2	0.5					
PCB 149	16.7	20.6	12.0	49.8	na	na	16.4	26.2	49.8	NA	22.7	2.5	49.7	1.2	-1.1	-1.3	1.7					
PCB 153	13.4	16.8	13.8	57.3	na	na	14.7	12.7	57.3	NA	29.9	4.4	74.0	2.9	-2.0	-1.6	0.8					
PCB 156	15.4	16.4	15.4	6.02	na	na	15.7	3.7	6.02	NA	2.77	0.27	6.52	0.66	18.7	30.6	0.2					
PCB 170	7.33	7.74	8.52	23.7	na	na	7.86	7.69	23.7	NA	8.47	1.43	22.6	1.4	-0.3	-0.2	0.5					
PCB 180	9.10	9.03	8.27	38.9	na	na	8.80	5.23	38.9	NA	19.3	2.0	44.3	1.2	-2.2	-2.3	0.3					
PCB 187	5.68	7.01	7.47	24.8	na	na	6.72	13.83	24.8	NA	11.8	1.6	25.1	1.0	-1.7	-1.4	0.9					
PCB 194	2.54	2.25	2.59	12.2	na	na	2.46	7.46	12.2	NA	5.17	0.76	11.2	1.4	-2.1	-1.7	0.5					
PCB 195	2.36	3.53	2.39	3.93	na	na	2.76	24.17	3.93	NA	2.37	0.72	3.75	0.39	0.7	0.3	1.6					
PCB 206	3.33	3.55	3.52	8.72	na	na	3.47	3.44	8.72	NA	5.02	0.84	9.21	0.51	-1.2	-0.8	0.2					
PCB 209	4.63	4.87	5.30	6.77	na	na	4.93	6.88	6.77	NA	6.88	1.57	6.81	0.33	-1.1	-0.6	0.5					

Laboratory: 17 PCBs in Sediment XI	Number by Category	
	z (25%)	p (15%)
Category	z (s)	p (15%)
<-2	16	23
2 to 3	5	0
>-3	2	0

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %	
	S1	S2	S1	S2	S1	S2
water	45.7	46.7	45.5		45.9	0.4
					assigned	95% CL
					target	95% CL
					Sediment XI, %	
					z (25%)	p (15%)
					0.0	0.1
					0.1	0.1

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02SED11 - Marine Sediment XI (data reported as if three figures were significant)

PAH	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry		SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a			
		2/19/02 S1	2/19/02 S2	2/19/02 S3	2/19/02 S1	2/19/02 S2	2/19/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^c	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene		559	566	543	683	934	1260	556	2	959	30	706	84	1650	310	-0.8	-0.9	0.1		
2-methylnaphthalene		260	261	250	413	429	533	257	2	458	14	325	39	950	50	-0.8	-1.0	0.2		
1-methylnaphthalene		131	127	123	324	344	372	127	3	347	7	141	19	520	30	-0.4	-0.4	0.2		
biphenyl		76.4	79.0	73.2	133	140	283	76.2	3.8	185	46	91.1	11.0	250	70	-0.7	-0.8	0.3		
2,6-dimethylnaphthalene		142	141	132	391	484	444	138	4	440	11	145	24	755	156	-0.2	-0.1	0.3		
acenaphthylene		190	158	155	921	866	1270	168	12	1019	22	120	29	646	200	1.6	0.9	0.8		
acenaphthene		59.2	45.3	45.9	357	353	355	50.1	15.7	355	1	53.9	6.6	470	60	-0.3	-0.3	1.0		
1,6,7-trimethylnaphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133					
fluorene		72.7	71.0	64.5	343	370	346	69.4	6.2	353	4	84.6	11.0	600	50	-0.7	-0.7	0.4		
phenanthrene		627	564	543	3880	4330	4210	578	8	4140	6	645	61	5270	220	-0.4	-0.5	0.5		
anthracene		301	298	280	1190	1220	1550	293	4	1320	15	254	39	1770	330	0.6	0.5	0.3		
1-methylphenanthrene		102	72.5	73.9	939	1270	1300	82.8	20.1	1170	17	127	12	1400	100	-1.4	-1.9	1.3		
fluoranthene		1530	1410	1340	4460	6050	5760	1427	7	5423	16	1717	117	8920	320	-0.7	-1.3	0.4		
pyrene		1340	1270	1210	4610	6140	6020	1273	5	5590	15	1564	130	9700	420	-0.7	-1.2	0.3		
benzo[a]anthracene		610	559	542	3070	3710	3530	570	6	3437	10	621	43	4720	110	-0.3	-0.5	0.4		
chrysene		1040	968	940	4670	5260	4880	983	5	4937	6	843	255	4860	100	0.7	0.7	0.3		
triphenylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene		734	809	734	2000	2470	2630	759	6	2367	14	940	135	3870	420	-0.8	-0.8	0.4		
benzo[k]fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440					
benzo[f]fluoranthene		975	766	788	3320	3730	3150	843	14	3400	9	604	190	2300	200	1.6	1.2	0.9		
benzo[e]pyrene		844	800	790	2550	2900	2840	811	4	2763	7	808	96	3280	110	0.0	0.0	0.2		
benzo[a]pyrene		702	681	656	3130	3550	3440	680	3	3373	6	703	42	4300	130	-0.1	-0.3	0.2		
perylene		341	338	325	710	790	769	335	3	756	5	323	49	1170	240	0.1	0.1	0.2		
indeno[1,2,3-cd]pyrene		630	603	584	2030	2110	2000	606	4	2047	3	683	72	2780	100	-0.5	-0.5	0.3		
dibenz[a,h]anthracene		167	155	133	675	694	655	152	11	675	3	153	30	424	69	0.0	0.0	0.8		
benzo[ghi]perylene		711	674	651	1990	2380	2240	679	4	2203	9	705	57	2840	100	-0.1	-0.2	0.3		

Category	z (25%)	z (s)	p (15%)
< 2	23	23	23
2 to 3	0	0	0
> 3	0	0	0

Reported Results	No. of Analyses	%
Quantitative	23	89
Qualitative	0	0
Not Determined	3	12

Laboratory: 18
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a	
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)	
alpha-HCH	1.03	0.255		0.325	0.344		0.643	85.29	0.335	4.02	<1		2.00	0.30		5.7	
hexachlorobenzene	34.1	34.4	35.2	5.06	5.37		34.6	1.6	5.23	2.99	31.1	2.7	6.03	0.35	0.5	0.1	
gamma-HCH	0.218			0.167			0.218	NA	0.167	NA	<1		no target				
beta-HCH				0.205	0.201		NA	NA	0.203	1.39	<6		no target				
heptachlor				0.086	0.309		NA	NA	0.197	80.1	<3		no target				
aldrin				0.105	0.595		NA	NA	0.350	99.0	<2		no target				
heptachlor epoxide				0.257	0.308		NA	NA	0.279	9.34	<4		no target				
oxychlorodane				0.286	0.327		NA	NA	0.307	9.46	<3		no target				
trans-chlordane	13.3	12.8	12.5	22.7	20.9	20.4	12.9	3.1	21.3	5.7	11.7	1.1	no target		0.4	0.2	
2,4'-DDE	21.4	24.4	23.8	16.4	17.5	15.6	23.2	6.8	16.5	5.8	18.3	3.2	19.0	3.0	1.1	0.5	
endosulfan I							NA	NA	NA	NA	<6		no target				
cis-chlordane	12.4	11.5	9.92	19.5	17.0	16.5	11.3	11.1	17.7	9.1	10.64	1.12	16.5	0.8	0.2	0.3	
trans-nonachlor	8.18	7.21	6.85	11.3	12.5	12.5	7.41	9.28	12.1	5.7	5.67	0.82	8.20	0.51	1.2	1.1	
dieldrin	3.59	3.95	3.94	7.74	8.95	8.66	3.83	5.36	8.45	7.48	3.54	0.35	8.00	4.00	0.3	0.7	
4,4'-DDE	73.8	86.1	81.9	71.6	87.8	72.1	80.6	7.8	77.2	11.9	69.4	7.8	86.0	12.0	0.6	0.7	
2,4'-DDD	43.4	51.5	48.9	41.1	48.2	45.7	47.9	8.6	45.0	8.0	40.6	6.1	38.0	8.0	0.7	0.6	
endrin							NA	NA	NA	NA	<3		no target				
endosulfan II							NA	NA	NA	NA	<3		no target				
4,4'-DDD	130	151	148	106	105	125	143	8	112	10	139	21	108	16	0.1	0.1	
2,4'-DDT	6.04	7.29	6.09	10.80	5.52	4.44	6.47	10.93	6.92	49.18	5.89	1.22	no target		0.4	0.3	
cis-nonachlor	2.80	1.82	1.83	3.34	3.29	3.46	2.15	26.18	3.36	2.60	2.86	0.54	3.70	0.70	-1.0	-0.8	
4,4'-DDT	311	364	360	212	203	192	345	9	202	5	221	38	119	11	2.2	2.0	
mirex	0.293	0.253	0.241	0.702	0.665	3.48	0.262	10.4	1.62	99.9	<2		no target			0.7	
endosulfan sulfate							NA	NA	NA	NA	<3		no target				
chlorpyrifos							NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	11	11
2 to 3	1	1
>3	0	0

Reported Results	No. of Analytes	%
Qualitative	0	0
Not Determined	10	60

Laboratory: 18
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02SED11 - Marine Sediment XI (data reported as if three figures were significant)

PCBs	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a			
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944, ng/g dry		Sediment XI		Sediment XI		Sediment XI					
		z1	z2	S3	z1	z2	S3	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (5)	p-score (15%)			
PCB 8		8.06	7.53	7.91	21.7			7.83	3.49	21.7	NA	7.84	1.34	22.3	2.3	0.0	0.0	0.2			
PCB 18		23.9	21.7	22.5	72.8			22.7	4.9	72.8	NA	17.8	2.7	51.0	2.6	1.1	0.9	0.3			
PCB 28		30.8	31.0	31.6	84.2			31.1	1.3	84.2	NA	31.3	2.4	80.8	2.7	0.0	0.0	0.1			
PCB 31		26.3	26.5	27.0	79.3			26.6	1.4	79.3	NA	25.0	2.9	78.7	1.6	0.3	0.3	0.1			
PCB 44		21.3	18.8	19.1	52.9			19.7	6.9	52.9	NA	22.1	1.9	60.2	2.0	-0.4	-0.6	0.5			
PCB 49		23.9	20.6	21.8	55.5			22.1	7.6	55.5	NA	21.6	1.6	53.0	1.7	0.1	0.2	0.5			
PCB 52		31.2	26.7	28.6	74.8			28.8	7.8	72.8	NA	30.2	2.1	79.4	2.0	-0.2	-0.3	0.5			
PCB 66		31.1	26.5	28.6	68.3			28.7	8.0	68.3	NA	26.2	2.0	71.9	4.3	0.4	0.6	0.5			
PCB 95		29.2	26.5	28.7	60.7			28.1	5.1	60.7	NA	20.5	1.7	65.0	8.9	1.5	2.3	0.3			
PCB 99		24.5	22.3	24.2	48.0			23.7	5.0	48.0	NA	14.8	1.9	37.5	2.4	2.4	2.4	0.3			
PCB 101		40.1	35.5	39.0	83.0			38.2	6.3	83.0	NA	29.2	2.3	73.4	2.5	1.2	1.8	0.4			
PCB 105		9.13	8.69	9.27	20.9			9.03	3.35	70.3	NA	9.31	1.11	24.5	1.1	-0.1	-0.1	0.2			
PCB 118		25.2	23.8	25.5	55.7			24.8	3.7	55.7	NA	21.3	2.4	58.0	4.3	0.7	0.6	0.2			
PCB 128		4.86	4.18	4.72	10.1			4.59	7.83	10.1	NA	4.02	0.47	8.47	0.28	0.6	0.6	0.5			
PCB 138		30.1	26.7	29.5	61.9			28.8	6.3	61.9	NA	28.8	3.6	62.1	3.0	0.0	0.0	0.4			
PCB 149		28.3	24.5	26.9	57.6			26.6	7.2	57.6	NA	22.7	2.5	49.7	1.2	0.7	0.8	0.5			
PCB 153		30.4	26.5	29.1	62.2			28.7	6.9	62.2	NA	29.9	4.4	74.0	2.9	-0.2	-0.1	0.5			
PCB 156		2.64	2.43	2.65	5.11			2.57	4.83	5.11	NA	2.77	0.27	6.52	0.66	-0.3	-0.5	0.3			
PCB 170		7.99	7.46	8.40	14.9			7.95	5.93	14.9	NA	8.47	1.43	22.6	1.4	-0.2	-0.2	0.4			
PCB 180		22.9	21.9	22.6	40.4			22.5	2.3	40.4	NA	19.3	2.0	44.3	1.2	0.7	0.7	0.2			
PCB 187		14.8	14.2	15.0	25.2			14.7	2.8	25.2	NA	11.8	1.6	25.1	1.0	1.0	0.8	0.2			
PCB 194		5.68	5.07	5.73	9.30			5.49	6.69	9.3	NA	5.17	0.76	11.2	1.4	0.3	0.2	0.4			
PCB 195		2.20	1.90	2.14	3.50			2.08	7.63	3.50	NA	2.37	0.72	3.75	0.39	-0.5	-0.2	0.5			
PCB 206		4.44	4.32	4.67	6.14			4.48	3.97	6.14	NA	5.02	0.84	9.21	0.51	-0.4	-0.3	0.3			
PCB 209		7.30	6.74	7.47	6.08			7.17	5.33	6.08	NA	6.88	1.57	6.81	0.33	0.2	0.1	0.4			

Laboratory: 18 PCBs in Sediment XI	Reported Results			No. of Analytes	
	Quantitative	Qualitative	Not Determined	25	100
	25	0	0	0	0

Water in Sediment XI	Sediment XI, %			SRM 1944, %		
	S1	S2	S3	S1	S2	S3
water	44.3	44.8	45.1	44.7	0.9	

Category	Number by Category	
	z (25%)	p (15%)
<-2	24	23
2 to 3	1	2
>3	0	0

Sediment XI, %	SRM 1944, %		
	assigned	95% CL	target
45.9	0.4		

Sediment XI, %	SRM 1944, %		
	z (25%)	z (5)	p (15%)
-0.1	-1.1	0.1	

^a z- and p-scores > 3 are bolded. ^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
	4/1/02 S 1	4/1/02 S 2	4/1/02 S 3	4/1/02 S 1	4/1/02 S 2	4/1/02 S 3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene	340	200	350	NA	NA	NA	297	28	NA	NA	706	84	1650	310	-2.3	-2.5	1.9		
2-methylnaphthalene	150	110	140	NA	NA	NA	133	16	NA	NA	325	39	950	50	-2.4	-2.9	1.0		
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	141	19	520	30					
biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91.1	11.0	250	70					
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	145	24	755	156					
acenaphthylene	90.0	80.0	80.0	NA	NA	NA	83.3	6.9	NA	NA	120	29	646	200	-1.2	-0.7	0.5		
acenaphthene	40.0	40.0	40.0	NA	NA	NA	40.0	0.0	NA	NA	53.9	6.6	470	60	-1.0	-1.1	0.0		
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133					
fluorene	70.0	70.0	70.0	NA	NA	NA	70.0	0.0	NA	NA	84.6	11.0	600	50	-0.7	-0.7	0.0		
phenanthrene	540	550	520	NA	NA	NA	537	3	NA	NA	645	61	5270	220	-0.7	-0.8	0.2		
anthracene	190	180	170	NA	NA	NA	180	6	NA	NA	254	39	1770	330	-1.2	-0.9	0.4		
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	127	12	1400	100					
fluoranthene	1170	1170	1130	NA	NA	NA	1157	2	NA	NA	1717	117	8920	320	-1.3	-2.5	0.1		
pyrene	1050	1030	1010	NA	NA	NA	1030	2	NA	NA	1564	130	9700	420	-1.4	-2.1	0.1		
benzo[a]anthracene	450	470	430	NA	NA	NA	450	4	NA	NA	621	43	4720	110	-1.1	-1.9	0.3		
chrysene	670	660	640	NA	NA	NA	657	2	NA	NA	843	255	4860	100	-0.9	-0.9	0.2		
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene	1270	1240	1160	NA	NA	NA	1223	5	NA	NA	940	135	3870	420	1.2	1.3	0.3		
benzo[k]fluoranthene	Notes	Notes	Notes	NA	NA	NA	Notes		NA	NA	420		2090	440			0.0		
benzo[j]fluoranthene	Notes	Notes	Notes	NA	NA	NA	Notes		NA	NA	604	190	2300	200			0.0		
benzo[e]pyrene	450	440	420	NA	NA	NA	437	3	NA	NA	808	96	3280	110	-1.8	-2.0	0.2		
benzo[a]pyrene	460	450	420	NA	NA	NA	443	5	NA	NA	703	42	4300	130	-1.5	-3.0	0.3		
perylene	170	170	150	NA	NA	NA	163	7	NA	NA	323	49	1170	240	-2.0	-1.8	0.5		
indeno[1,2,3-cd]pyrene	440	450	440	NA	NA	NA	443	1	NA	NA	683	72	2780	100	-1.4	-1.6	0.1		
dibenz[a,h]anthracene	110	110	110	NA	NA	NA	110	0	NA	NA	153	30	424	69	-1.1	-0.7	0.0		
benzo[ghi]perylene	430	430	420	NA	NA	NA	427	1	NA	NA	705	57	2840	100	-1.6	-2.5	0.1		

Category	z (25%)	z (s)	p (15%)
< -2	16	12	20
2 to 3	2	6	0
> 3	0	0	0

Reported Results	No. of Analytes	%
Quantitative	18	69
Qualitative	2	8
Not Determined	6	23

Laboratory: 20

PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores*		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry	SRM 1944, ng/g dry	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
		4/11/02 S1	4/11/02 S2	4/11/02 S3	NA	NA	NA	NA	NA	lab mean ng/g dry	lab %RSD							
alpha-HCH		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	2.00	0.30	<1				
hexachlorobenzene		30.0	20.0	10.0	NA	NA	NA	20.0	50.0	NA	NA	6.03	0.35	31.1	2.7		-1.4	
gamma-HCH		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<1				
beta-HCH		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<6				
heptachlor		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<3				
aldrin		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<2				
heptachlor epoxide		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<4				
oxychlorodane		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<3				
trans-chlordane		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		11.7	1.1			
2,4'-DDE		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	19.0	3.0	18.3	3.2			
endosulfan I		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<6				
cis-chlordane		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	16.5	0.8	10.64	1.12			
trans-nonachlor		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	8.20	0.51	5.67	0.82			
dieldrin		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	8.00	4.00	3.54	0.35			
4,4'-DDE		40.0	60.0	40.0	NA	NA	NA	46.7	24.7	NA	NA	86.0	12.0	69.4	7.8		-1.3	
2,4'-DDD		30.0	40.0	40.0	NA	NA	NA	36.7	15.7	NA	NA	38.0	8.0	40.6	6.1		-0.4	
endrin		20.0	20.0	10.0	NA	NA	NA	16.7	34.6	NA	NA	no target		<3			2.3	
endosulfan II		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<3				
4,4'-DDD		90	110	100	NA	NA	NA	100	10	NA	NA	108	16	139	21		-1.1	
2,4'-DDT		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		5.89	1.22			
cis-nonachlor		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	3.70	0.70	2.86	0.54			
4,4'-DDT		100	100	70.0	NA	NA	NA	90.0	19.2	NA	NA	119	11	221	38		-2.4	
mirex		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<2				
endosulfan sulfate		<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	no target		<3				
chlorpyrifos		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	no target		<3				

Category	Number by Category	
	z (25%)	p (15%)
<2	4	3
2 to 3	1	2
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	6	24	72
Qualitative	18	72	72
Not Determined	1	4	4

Laboratory: 20
Pesticides In Sediment XI

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		
	4/11/02 S1	4/11/02 S2	4/11/02 S3	4/11/02 S1	4/11/02 S2	4/11/02 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	10.0	10.0	<10	NA	NA	NA	10.0	0.0	NA	NA	NA	7.84	1.34	22.3	2.3	1.1	0.8	0.0	
PCB 18	<20	<20	<20	NA	NA	NA	<20	NA	NA	NA	NA	17.8	2.7	51.0	2.6				
PCB 28	60.0	70.0	40.0	NA	NA	NA	56.7	27.0	NA	NA	NA	31.3	2.4	80.8	2.7	3.2	4.6	1.8	
PCB 31	Other	Other	Other	NA	NA	NA	Other	NA	NA	NA	NA	25.0	2.9	78.7	1.6				
PCB 44	20.0	30.0	20.0	NA	NA	NA	23.3	24.7	NA	NA	NA	22.1	1.9	60.2	2.0	0.2	0.3	1.6	
PCB 49	20.0	20.0	20.0	NA	NA	NA	20.0	0.0	NA	NA	NA	21.6	1.6	53.0	1.7	-0.3	-0.5	0.0	
PCB 52	30.0	40.0	30.0	NA	NA	NA	33.3	17.3	NA	NA	NA	30.2	2.1	79.4	2.0	0.4	0.7	1.2	
PCB 66	30.0	30.0	20.0	NA	NA	NA	26.7	21.7	NA	NA	NA	26.2	2.0	71.9	4.3	0.1	0.1	1.4	
PCB 95	20.0	10.0	10.0	NA	NA	NA	13.3	43.3	NA	NA	NA	20.5	1.7	65.0	8.9	-1.4	-2.2	2.9	
PCB 99	10.0	10.0	10.0	NA	NA	NA	10.0	0.0	NA	NA	NA	14.8	1.9	37.5	2.4	-1.3	-1.3	0.0	
PCB 101	20.0	20.0	20.0	NA	NA	NA	20.0	0.0	NA	NA	NA	29.2	2.3	73.4	2.5	-1.3	-1.9	0.0	
PCB 105	10.0	<10	<10	NA	NA	NA	10.0	NA	NA	NA	NA	9.31	1.11	24.5	1.1	0.3	0.3		
PCB 118	20.0	20.0	20.0	NA	NA	NA	20.0	0.0	NA	NA	NA	21.3	2.4	58.0	4.3	-0.2	-0.2	0.0	
PCB 128	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	4.02	0.47	8.47	0.28				
PCB 138	20.0	10.0	<10	NA	NA	NA	15.0	47.1	NA	NA	NA	28.8	3.6	62.1	3.0	-1.9	-1.7	3.1	
PCB 149	20.0	20.0	20.0	NA	NA	NA	20.0	0.0	NA	NA	NA	22.7	2.5	49.7	1.2	-0.5	-0.5	0.0	
PCB 153	20.0	20.0	20.0	NA	NA	NA	20.0	0.0	NA	NA	NA	29.9	4.4	74.0	2.9	-1.3	-1.0	0.0	
PCB 156	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	2.77	0.27	6.52	0.66				
PCB 170	10.0	<10	10.0	NA	NA	NA	10.0	0.0	NA	NA	NA	8.47	1.43	22.6	1.4	0.7	0.5	0.0	
PCB 180	20.0	10.0	10.0	NA	NA	NA	13.3	43.3	NA	NA	NA	19.3	2.0	44.3	1.2	-1.2	-1.3	2.9	
PCB 187	10.0	<10	10.0	NA	NA	NA	10.0	0.0	NA	NA	NA	11.8	1.6	25.1	1.0	-0.6	-0.5	0.0	
PCB 194	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	5.17	0.76	11.2	1.4				
PCB 195	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	2.37	0.72	3.75	0.39				
PCB 206	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	5.02	0.84	9.21	0.51				
PCB 209	<10	<10	<10	NA	NA	NA	<10	NA	NA	NA	NA	6.88	1.57	6.81	0.33				

Laboratory: 20 PCBs in Sediment XI	Reported Results		No. of Analytes	%
	Quantitative	Qualitative		
	17	68		
	8	32		
	0	0		

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL
Water	45.0	45.3	45.7				45.3	0.8			45.9	0.4

Laboratory: 20 PCBs in Sediment XI	Number by Category	
	z (25%)	p (15%)
Category < 2	16	13
Category 2 to 3	0	1
Category > 3	1	1

Laboratory: 20 PCBs in Sediment XI	Sediment XI, %		SRM 1944, %	
	z (25%)	p (15%)	z (25%)	p (15%)
	0.0	-0.5	0.0	0.1

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

FY02 NIST Intercomparison Exercise

Laboratory No.: 21

Sample: QA02SED11 - Marine Sediment XI (data reported as if three figures were significant)

Reporting Date: 5/14/02

PAH	Analysis date	Data as submitted by laboratory						Material reference values				Performance scores ^a					
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI					
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)
naphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	706	84	1650	310			
2-methylnaphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	325	39	950	50			
1-methylnaphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	141	19	520	30			
biphenyl		NA	NA	NA	NA	NA	NA	NA	NA	NA	91.1	11.0	250	70			
2,6-dimethylnaphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	145	24	755	156			
acenaphthylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	120	29	646	200			
acenaphthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	53.9	6.6	470	60			
1,6,7-trimethylnaphthalene		NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133			
fluorene		NA	NA	NA	NA	NA	NA	NA	NA	NA	84.6	11.0	600	50			
phenanthrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	645	61	5270	220			
anthracene		NA	NA	NA	NA	NA	NA	NA	NA	NA	254	39	1770	330			
1-methylphenanthrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	127	12	1400	100			
fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	1717	117	8920	320			
pyrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	1564	130	9700	420			
benzo[a]anthracene		NA	NA	NA	NA	NA	NA	NA	NA	NA	621	43	4720	110			
chrysene		NA	NA	NA	NA	NA	NA	NA	NA	NA	843	255	4860	100			
triphenylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270			
benzo[b]fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	940	135	3870	420			
benzo[k]fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440			
benzo[f]fluoranthene		NA	NA	NA	NA	NA	NA	NA	NA	NA	604	190	2300	200			
benzo[e]pyrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	808	96	3280	110			
benzo[a]pyrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	703	42	4300	130			
perylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	323	49	1170	240			
indeno[1,2,3-cd]pyrene		NA	NA	NA	NA	NA	NA	NA	NA	NA	683	72	2780	100			
dibenz[ah]anthracene		NA	NA	NA	NA	NA	NA	NA	NA	NA	153	30	424	69			
benzo[ghi]perylene		NA	NA	NA	NA	NA	NA	NA	NA	NA	705	57	2840	100			

Laboratory: 21 PAH in Sediment XI	Reported Results		No. of Analytes		Number by Category	
	Quantitative	Qualitative	Quantitative	Qualitative	z (s)	p (15%)
	0	0	0	0	0	0
	0	0	26	100	0	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02SED11 - Marine Sediment XI
 (data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a	
	Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI			
	4/17/02	4/17/02	4/17/02	4/17/02	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)		
	S1	S2	S3	S1	S2	S3	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
alpha-HCH	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<1	0.30	2.00	0.30	0.3	0.2
hexachlorobenzene	33.0	34.6	32.4	5.20	NA	NA	33.3	3.4	5.20	NA	31.1	2.7	6.03	0.35	0.3	0.4
gamma-HCH	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<1		no target			
beta-HCH	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<6		no target			
heptachlor	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<3		no target			
aldrin	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<2		no target			
heptachlor epoxide	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<4		no target			
oxychlorodane	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<3		no target			
trans-chlordane	10.9	11.2	12.5	18.6	NA	NA	11.5	7.4	18.6	NA	11.7	1.1	19.0	3.0	0.0	-0.1
2,4'-DDE	20.1	19.7	17.6	14.5	NA	NA	19.1	7.0	14.5	NA	18.3	3.2	19.0	3.0	0.2	0.1
endosulfan I	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<6		no target			
cis-chlordane	9.37	9.94	10.9	14.4	NA	NA	10.1	7.7	14.4	NA	10.64	1.12	16.5	0.8	-0.2	-0.3
trans-nonachlor	5.33	5.78	5.86	7.43	NA	NA	5.66	5.05	7.43	NA	5.67	0.82	8.20	0.51	0.0	0.0
dieldrin	3.11	3.07	3.59	6.33	NA	NA	3.26	8.89	6.33	NA	3.54	0.35	8.00	4.00	-0.3	-0.7
4,4'-DDE	73.4	71.4	69.8	67.1	NA	NA	71.5	2.5	67.1	NA	69.4	7.8	86.0	12.0	0.1	0.1
2,4'-DDD	39.4	39.5	37.6	31.7	NA	NA	38.8	2.8	31.7	NA	40.6	6.1	38.0	8.0	-0.2	-0.2
endrin	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<3		no target			
endosulfan II	0.77	<0.866	<0.806	0.886	NA	NA	0.774	NA	0.886	NA	<3		no target			
4,4'-DDD	134	137	125	102	NA	NA	132	5	102	NA	139	21	108	16	-0.2	-0.2
2,4'-DDT	12.6	7.43	13.2	6.92	NA	NA	11.1	28.6	6.92	NA	5.89	1.22	no target		3.5	2.4
cis-nonachlor	1.75	1.92	1.87	2.06	NA	NA	1.85	4.73	2.06	NA	2.86	0.54	3.70	0.70	-1.4	-1.1
4,4'-DDT	286	293	250	179	NA	NA	276	8	179	NA	221	38	119	11	1.0	0.9
mirex	<0.676	<0.866	<0.806	0.768	NA	NA	<0.866	NA	0.77	NA	<2		no target			
endosulfan sulfate	<0.676	<0.866	<0.806	<0.725	NA	NA	<0.866	NA	<0.725	NA	<3		no target			
chlorypyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target			

Category	z (25%)	z (s)	p (15%)
< 2	11	11	12
2 to 3	0	1	0
> 3	1	0	0

Reported Results	No. of Analytes	%
Quantitative	13	52
Qualitative	11	44
Not Determined	1	4

Laboratory: 21
 Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PCBs	Analysis date	Data as submitted by laboratory													Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI			
		1/2/02 S1	1/2/02 S2	1/2/02 S3	1/2/02 S1	1/2/02 S2	1/2/02 S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	lab mean ng/g dry	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
		4.31	6.22	5.31	28.5	25.6	28.6	5.28	18.09	27.6	6.2	7.84	1.34	22.3	2.3	7.84	22.3	2.3	-1.3	-1.0	1.2
PCB 8																					
PCB 18																					
PCB 28																					
PCB 31																					
PCB 38																					
PCB 44																					
PCB 49																					
PCB 52																					
PCB 66																					
PCB 95																					
PCB 99																					
PCB 101																					
PCB 105																					
PCB 118																					
PCB 128																					
PCB 138																					
PCB 149																					
PCB 153																					
PCB 156																					
PCB 170																					
PCB 180																					
PCB 187																					
PCB 194																					
PCB 195																					
PCB 206																					
PCB 209																					

Laboratory: 21
PCBs in Sediment XI

Category	Number by Category	
	z (25%)	p (15%)
< 2	22	25
2 to 3	2	0
> 3	0	13

Water in Sediment XI

Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %	
S1	S2	S1	S2	assigned	95% CL	target	95% CL
44.4	46.6	47.0		45.9	0.4		

^a z- and p-scores > 3 are bolded.

^b Certified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a		
	5/2/02 S 1	5/2/02 S 2	5/2/02 S 3	5/2/02 S 1	5/2/02 S 2	5/2/02 S 3	lab mean ng/g dry	lab RSD %	lab mean ng/g dry	lab RSD %	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene	704	677	633	1390	1410	1510	671	5	1437	4	706	84	1650	310	-0.2	-0.2	0.4		
2-methylnaphthalene	334	338	317	890	917	984	330	3	930	5	325	39	950	50	0.1	0.1	0.2		
1-methylnaphthalene	125	126	122	405	398	430	124	2	411	4	141	19	520	30	-0.5	-0.5	0.1		
biphenyl	92.8	84.8	87.3	198	202	236	88.3	4.6	212	10	91.1	11.0	250	70	-0.1	-0.1	0.3		
2,6-dimethylnaphthalene	182	177	168	695	706	733	176	4	711	3	145	24	755	156	0.8	0.6	0.3		
acenaphthylene	70.7	69.3	66.6	318	319	330	68.9	3.0	322	2	120	29	646	200	-1.7	-1.0	0.2		
acenaphthene	<73.5	<72.3	<68	380	344	361	<73.5	NA	362	5	53.9	6.6	470	60					
1,6,7-trimethylnaphthalene	96.3	73.4	72.3	430	395	437	80.7	16.8	421	5	82.8	19.8	462	133	-0.1	-0.1	1.1		
fluorene	86.6	78.7	77.2	456	448	480	80.8	6.2	461	4	84.6	11.0	600	50	-0.2	-0.2	0.4		
phenanthrene	807	688	681	5140	5140	5360	725	10	5213	2	645	61	5270	220	0.5	0.6	0.7		
anthracene	259	247	246	1180	1170	1330	251	3	1227	7	254	39	1770	330	0.0	0.0	0.2		
1-methylphenanthrene	148	135	132	1220	1190	1350	138	6	1253	7	127	12	1400	100	0.4	0.5	0.4		
fluoranthene	2100	1780	1820	8110	7860	8940	1900	9	8303	7	1717	117	8920	320	0.4	0.8	0.6		
pyrene	1860	1630	1640	8350	8160	9180	1710	8	8563	6	1564	130	9700	420	0.4	0.6	0.5		
benz[a]anthracene	711	654	655	3860	4030	4600	673	5	4163	9	621	43	4720	110	0.3	0.6	0.3		
chrysene	1110	1030	1030	5030	5260	6120	1057	4	5470	11	843	255	4860	100	1.0	1.0	0.3		
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene	1100	1030	1040	3130	3200	3710	1057	4	3347	9	940	135	3870	420	0.5	0.5	0.2		
benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440					
benzo[j]fluoranthene	991	960	968	3200	3380	3950	973	2	3510	-11	604	190	2300	200	2.4	1.8	0.1		
benzo[e]pyrene	901	857	869	2750	2830	3310	876	3	2963	10	808	96	3280	110	0.3	0.4	0.2		
benzo[a]pyrene	723	669	709	3100	3250	3810	700	4	3387	11	703	42	4300	130	0.0	0.0	0.3		
perylene	419	400	417	883	890	1110	412	3	961	13	323	49	1170	240	1.1	1.0	0.2		
indeno[1,2,3-cd]pyrene	870	753	782	2390	2410	2880	785	4	2560	11	683	72	2780	100	0.6	0.7	0.3		
dibenz[a,h]anthracene	214	188	201	682	689	808	201	6	726	10	153	30	424	69	1.3	0.8	0.4		
benzo[ghi]perylene	866	807	815	2510	2520	2940	829	4	2657	9	705	57	2840	100	0.7	1.1	0.3		

Category	Number by Category
<2	22
2 to 3	1
>3	0

Reported Results	No. of Analytes	%
Quantitative	23	89
Qualitative	1	4
Not Determined	2	8

Laboratory: 23
PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
	z/2002 S1	z/2002 S2	z/2002 S3	z/2002 S1	z/2002 S2	z/2002 S3	lab mean ng/g dry	%RSD	lab	lab mean ng/g dry	%RSD	lab	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1		2.00	0.30			
hexachlorobenzene	31.5	30.7	31.4	6.29	<6.62	5.25	31.2	1.4	5.77	12.75	12.75	31.1	2.7	6.03	0.35	0.0	0.0	0.1	
gamma-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1		no target					
beta-HCH	<6.19	<4.56	<4.33	<6.23	<6.85	<4.75	<6.19	NA	<6.85	NA	NA	<6		no target					
heptachlor	<6.17	<4.44	<4.21	<6.05	<6.65	<4.62	<6.17	NA	<6.65	NA	NA	<3		no target					
aldrin	<6.19	<4.45	<4.22	<6.07	<6.67	<4.63	<6.19	NA	<6.67	NA	NA	<2		no target					
heptachlor epoxide	<6.17	<4.44	<4.21	<6.05	<6.65	<4.62	<6.17	NA	<6.65	NA	NA	<4		no target					
oxychlorfane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target					
trans-chlordane	13.3	13.6	13.1	25.1	24.1	24.7	13.3	1.9	24.6	2.0	2.0	11.7	1.1	no target		0.6	0.9	0.1	
2,4'-DDE	26.3	24.5	26.0	24.7	22.1	24.7	25.6	3.8	23.8	6.3	6.3	18.3	3.2	19.0	3.0	1.6	1.3	0.3	
endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6		no target					
cis-chlordane	12.0	12.8	11.8	20.4	20.3	20.3	12.2	4.3	20.3	0.3	0.3	10.64	1.12	16.5	0.8	0.6	0.7	0.3	
trans-nonachlor	6.58	6.78	6.33	12.8	10.8	11.3	6.56	3.44	11.6	8.9	8.9	5.67	0.82	8.20	0.51	0.6	0.6	0.2	
dieldrin	<6.15	<4.43	<4.2	14.5	14.9	14.3	<6.15	NA	14.57	2.10	2.10	3.54	0.35	8.00	4.00				
4,4'-DDE	94.7	91.6	92.2	99.2	100	95.2	92.8	1.8	98.1	2.6	2.6	69.4	7.8	86.0	12.0	1.4	1.5	0.1	
2,4'-DDD	53.4	53.6	58.0	58.2	61.1	67.3	55.0	4.7	62.2	7.5	7.5	40.6	6.1	38.0	8.0	1.4	1.3	0.3	
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target					
endosulfan II	<19.4	<13.9	<13.2	<19	<20.9	<14.5	<19.4	NA	<20.9	NA	NA	<3		no target					
4,4'-DDD	156	133	142	127	116	141	144	8	128	10	10	139	21	108	16	0.1	0.1	0.5	
2,4'-DDT	7.63	13.0	10.5	32.2	35.3	35.4	10.4	25.9	34.3	5.3	5.3	5.89	1.22	no target		3.0	2.1	1.7	
cis-nonachlor	<6.31	<4.54	<4.3	<6.2	<6.81	<4.73	<6.31	NA	<6.81	NA	NA	2.86	0.54	3.70	0.70				
4,4'-DDT	189	176	211	119	120	132	192	9	124	6	6	221	38	119	11	-0.5	-0.5	0.6	
mitex	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target					
endosulfan sulfate	<6.26	<4.5	<4.27	<6.15	<6.76	<4.69	<6.26	NA	<6.76	NA	NA	<3		no target					
chlorypyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target					

Category	Number by Category	
	z (25%)	p (15%)
<2	9	10
2 to 3	0	0
>3	1	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	10	40	40
Qualitative	8	32	28
Not Determined	7	28	28

Laboratory: 23
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI					
	22001 S1	22001 S2	22001 S3	22002 S1	22002 S2	22002 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)		
PCB 8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.84	1.34	22.3	2.3					
PCB 18	18.1	18.6	18.0	55.6	55.3	57.2	18.2	1.8	56.0	1.8	56.0	17.8	2.7	51.0	2.6	0.1	0.1	0.1		
PCB 28	29.0	26.1	28.0	73.1	66.2	73.0	27.7	5.3	76.5	5.6	76.5	31.3	2.4	80.8	2.7	-0.5	-0.7	0.4		
PCB 31	34.2	34.7	34.5	83.7	88.8	86.7	34.5	0.7	86.4	3.0	86.4	25.0	2.9	78.7	1.6	1.5	1.7	0.0		
PCB 44	23.9	23.9	24.1	59.0	58.4	61.0	24.0	0.5	59.5	2.4	59.5	22.1	1.9	60.2	2.0	0.3	0.4	0.0		
PCB 49	25.9	26.1	25.0	57.8	57.1	59.9	25.7	2.3	59.5	2.5	59.5	21.6	1.6	53.0	1.7	0.8	1.3	0.2		
PCB 52	32.3	32.1	32.2	75.8	75.8	77.8	32.2	0.3	76.5	1.8	76.5	30.2	2.1	79.4	2.0	0.3	0.4	0.0		
PCB 66	31.5	31.4	31.2	68.3	69.2	70.8	31.4	0.5	69.4	1.8	69.4	26.2	2.0	71.9	4.3	0.8	1.2	0.0		
PCB 95	20.9	22.0	20.9	46.7	44.8	46.7	21.3	3.0	46.1	2.4	46.1	20.5	1.7	65.0	8.9	0.2	0.2	0.2		
PCB 99	14.6	15.1	14.8	32.4	31.5	31.9	14.8	1.7	31.9	1.8	31.9	14.8	1.9	37.5	2.4	0.0	0.0	0.1		
PCB 101	31.0	31.2	30.9	66.9	66.2	68.4	31.0	0.5	67.2	1.7	67.2	29.2	2.3	73.4	2.5	0.2	0.4	0.0		
PCB 105	11.6	12.2	12.5	25.2	25.3	25.2	12.1	3.8	25.2	0.2	25.2	9.31	1.11	24.5	1.1	1.2	1.1	0.3		
PCB 118	25.8	25.4	25.6	54.9	55.2	57.2	25.6	0.8	56.0	2.2	56.0	21.3	2.4	58.0	4.3	0.8	0.8	0.1		
PCB 128	<6.22	5.06	5.25	13.3	11.3	11.2	5.16	2.61	11.93	9.93	11.93	4.02	0.47	8.47	0.28	1.1	1.1	0.2		
PCB 138	39.3	39.1	38.9	80.0	77.4	81.0	39.1	0.5	76.5	2.4	76.5	28.8	3.6	62.1	3.0	1.4	1.3	0.0		
PCB 149	27.0	26.5	26.3	56.6	52.5	53.9	26.6	1.4	54.3	3.8	54.3	22.7	2.5	49.7	1.2	0.7	0.8	0.1		
PCB 153	41.9	42.3	41.9	89.8	85.2	88.0	42.0	0.5	87.7	2.6	87.7	29.9	4.4	74.0	2.9	1.6	1.2	0.0		
PCB 156	<6.19	<4.45	<4.22	8.60	8.30	8.58	<6.19	NA	8.49	1.97	8.49	2.77	0.27	6.52	0.66					
PCB 170	11.3	11.5	11.5	25.8	22.7	24.0	11.4	1.0	24.2	6.4	24.2	8.47	1.43	22.6	1.4	1.4	1.0	0.1		
PCB 180	23.0	22.1	22.7	46.5	43.9	45.4	22.6	2.0	45.3	2.9	45.3	19.3	2.0	44.3	1.2	0.7	0.7	0.1		
PCB 187	13.5	13.0	12.9	27.1	24.7	25.7	13.1	2.4	25.8	4.7	25.8	11.8	1.6	25.1	1.0	0.5	0.4	0.2		
PCB 194	<6.25	6.12	5.95	13.9	11.6	12.0	6.04	1.99	12.5	9.8	12.5	5.17	0.76	11.2	1.4	0.7	0.5	0.1		
PCB 195	<6.26	<4.5	<4.27	6.32	<6.75	<4.69	<6.26	NA	6.32	NA	6.32	2.37	0.72	3.75	0.39					
PCB 206	6.69	5.45	5.32	10.5	9.14	9.14	5.82	12.99	9.59	8.18	9.59	5.02	0.84	9.21	0.51	0.6	0.4	0.9		
PCB 209	6.92	6.57	6.89	7.56	<6.67	6.00	6.79	2.86	6.78	16.27	6.78	6.88	1.57	6.81	0.33	-0.1	0.0	0.2		

Laboratory: 23 PCBs in Sediment XI	Reported Results			No. of Analytes		%	
	Quantitative	Qualitative	Not Determined	22	88	2	8
				1	4		

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	%RSD	assigned	95% CL	target
water	44.8	44.8	44.9	44.8	0.1		44.8	0.1		45.9	0.4	

Number by Category	z (s)		p (15%)	
	z (25%)	z (s)	z (25%)	z (s)
Category < 2	22	22	22	22
Category 2 to 3	0	0	0	0
Category > 3	0	0	0	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI				
	S1	S2	S3	S1	S2	S3	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (2.5%)	z-score (s)	p-score (15%)		
naphthalene	1020	1090	1050	1070			1053	3	1070	NA	706	84	1650	310	2.0	2.1	0.2		
2-methylnaphthalene	410	448	438	1070			432	5	1070	NA	325	39	950	50	1.3	1.6	0.3		
1-methylnaphthalene	204	226	225	649			218	6	649	NA	141	19	520	30	2.2	2.2	0.4		
biphenyl	89.9	78.5	81.6	210			83.3	7.1	210	NA	91.1	11.0	250	70	-0.3	-0.4	0.5		
2,6-dimethylnaphthalene	183	163	176	756			174	6	756	NA	145	24	755	156	0.8	0.6	0.4		
acenaphthylene	227	203	232	1460			221	7	1460	NA	120	29	646	200	3.3	1.9	0.5		
acenaphthene	80.5	71.7	79.6	634			77.3	6.3	634	NA	53.9	6.6	470	60	1.7	1.9	0.4		
1,6,7-trimethylnaphthalene	119	108	118	647			115	5	647	NA	82.8	19.8	462	133	1.6	1.1	0.4		
fluorene	145	129	139	1080			138	6	1080	NA	84.6	11.0	600	50	2.5	2.4	0.4		
phenanthrene	404	410	491	4260			435	11	4260	NA	645	61	5270	220	-1.3	-1.6	0.7		
anthracene	264	259	309	2700			277	10	2700	NA	254	39	1770	330	0.4	0.3	0.7		
1-methylphenanthrene	115	100	124	1390			113	11	1390	NA	127	12	1400	100	-0.4	-0.6	0.7		
fluoranthene	1190	1200	1450	8630			1280	12	8630	NA	1717	117	8920	320	-1.0	-1.9	0.8		
pyrene	1080	1120	1340	9100			1180	12	9100	NA	1564	130	9700	420	-1.0	-1.5	0.8		
benzo[a]anthracene	543	584	494	6230			540	8	6230	NA	621	43	4720	110	-0.5	-0.9	0.6		
chrysene	746	843	684	5890			758	11	5890	NA	843	255	4860	100	-0.4	-0.4	0.7		
triphenylene	Other	Other	Other	Other			Other	NA	Other	NA	346		1040	270					
benzo[b]fluoranthene	1150	1250	996	5420			1132	11	5420	NA	940	135	3870	420	0.8	0.9	0.8		
benzo[k]fluoranthene	Other	Other	Other	Other			Other	NA	Other	NA	420		2090	440					
benzo[f]fluoranthene	445	427	349	1920			407	13	1920	NA	604	190	2300	200	-1.3	-1.0	0.8		
benzo[e]pyrene	641	711	570	3210			641	11	3210	NA	808	96	3280	110	-0.8	-0.9	0.7		
benzo[a]pyrene	714	783	633	5310			710	11	5310	NA	703	42	4300	130	0.0	0.1	0.7		
perylene	112	107	89	605			103	12	605	NA	323	49	1170	240	-2.7	-2.5	0.8		
indeno[1,2,3-cd]pyrene	702	769	618	2760			696	11	2760	NA	683	72	2780	100	0.1	0.1	0.7		
dibenz[a,h]anthracene	155.0	179.0	143.0	628			159.0	11.5	628	NA	153	30	424	69	0.2	0.1	0.8		
benzo[ghi]perylene	665	716	573	2380			651	11	2380	NA	705	57	2840	100	-0.3	-0.5	0.7		

Category	Number by Category	
	z (2.5%)	z (s)
<2	20	20
2 to 3	3	4
>3	1	0

Reported Results	No. of Analytes	
	Analytes	%
Quantitative	24	92
Qualitative	2	8
Not Determined	0	0

Laboratory: 24

PAH in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Sample: QA02SED11 - Marine Sediment XI
 (data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory										Material reference values				Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI	Performance scores ^a	
		4/30/02	4/30/02	4/30/02	4/30/02	4/30/02	4/30/02	lab mean	lab %RSD	lab mean	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH		0.790	0.710	0.650	<1.50		0.717	9.80	<1.50	NA		<1		2.00	0.30			0.7
hexachlorobenzene		29.1	28.7	29.6	7.20		29.1	1.5	7.20	NA		31.1	2.7	6.03	0.35		-0.2	0.1
gamma-HCH		ND	ND	ND	4.51		ND	NA	4.51	NA		<1		no target				
beta-HCH		ND	ND	ND	<1.62		ND	NA	<1.62	NA		<6		no target				
heptachlor		0.350	0.340	0.490	1.38		0.393	21.32	1.38	NA		<3		no target				1.4
aldrin		ND	ND	ND	4.91		ND	NA	4.91	NA		<2		no target				
heptachlor epoxide		1.32	1.29	1.44	0.64		1.35	5.9	0.640	NA		<4		no target				0.4
oxychlorodane		0.870	0.880	0.990	7.27		0.913	7.290	7.27	NA		<3		no target				0.5
trans-chlordane		10.5	11.3	10.9	13.1		10.9	3.7	13.1	NA		11.7	1.1	no target			-0.3	0.2
2,4'-DDE		15.9	15.1	14.4	13.9		15.1	5.0	13.9	NA		18.3	3.2	19.0	3.0		-0.7	0.3
endosulfan I		Other	Other	Other	Other		Other	NA	Other	NA		<6		no target				
cis-chlordane		10.1	10.6	11.0	21.6		10.6	4.3	21.6	NA		10.64	1.12	16.5	0.8		0.0	0.3
trans-nonachlor		4.22	4.48	4.86	8.59		4.52	7.12	8.59	NA		5.67	0.82	8.20	0.51		-0.8	0.5
dieldrin		5.00	4.97	5.40	20.20		5.12	4.69	20.2	NA		3.54	0.35	8.00	4.00		1.8	0.3
4,4'-DDE		60.4	57.8	57.1	65.3		58.4	3.0	65.3	NA		69.4	7.8	86.0	12.0		-0.6	0.2
2,4'-DDD		38.8	37.1	36.6	29.6		37.5	3.1	29.6	NA		40.6	6.1	38.0	8.0		-0.3	0.2
endrin		0.200	0.180	0.240	3.12		0.207	14.8	3.12	NA		<3		no target				1.0
endosulfan II		2.77	2.05	1.90	<0.51		2.24	20.8	<0.51	NA		<3		no target				1.4
4,4'-DDD		113	107	102	115		107	5	115	NA		139	21	108	16		-0.9	0.3
2,4'-DDT		3.91	3.57	3.51	4.46		3.66	5.89	4.46	NA		5.89	1.22	no target			-1.5	0.4
cis-nonachlor		3.70	3.79	4.07	3.08		3.85	5.01	3.08	NA		2.86	0.54	3.70	0.70		1.4	0.3
4,4'-DDT		199	189	175	104		188	6	104	NA		221	38	119	11		-0.6	0.4
mirex		0.570	0.560	0.640	<0.32		0.590	7.39	<0.32	NA		<2		no target				0.5
endosulfan sulfate		Other	Other	Other	Other		Other	NA	Other	NA		<3		no target				
chlorpyrifos		0.260	0.190	0.230	ND		0.227	15.49	ND	NA		<3		no target				1.0

Category	Number by Category	
	z (25%)	p (15%)
<2	12	20
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Not Determined	
	20	5	
Quantitative	5	20	0
Not Determined	0	0	0

Laboratory: 24
 Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores*			
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI, ng/g dry		Sediment XI					
	49000 S1	49000 S2	49000 S3	49000 S1	49000 S2	49000 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
PCB 8	11.7	11.0	12.2	17.3			11.6	5.2	17.3	NA	NA	7.84	1.34	22.3	2.3	1.9	1.4	0.3		
PCB 18	23.3	22.6	23.2	65.1			23.0	1.6	65.1	NA	NA	17.8	2.7	51.0	2.6	1.2	0.9	0.1		
PCB 28	31.2	29.9	33.1	90.2			31.4	5.1	90.2	NA	NA	31.3	2.4	80.8	2.7	0.0	0.0	0.3		
PCB 31	14.0	15.0	14.9	67.4			14.6	3.8	63.4	NA	NA	25.0	2.9	78.7	1.6	-1.7	-1.9	0.3		
PCB 44	21.5	21.4	22.1	65.5			21.7	1.7	65.1	NA	NA	22.1	1.9	60.2	2.0	-0.1	-0.1	0.1		
PCB 49	20.8	21.0	21.5	51.6			21.1	1.7	61.6	NA	NA	21.6	1.6	53.0	1.7	-0.1	-0.1	0.1		
PCB 52	30.9	32.0	33.0	66.7			32.0	3.3	66.7	NA	NA	30.2	2.1	79.4	2.0	0.2	0.4	0.2		
PCB 66	24.1	23.9	24.8	50.8			24.3	1.9	50.8	NA	NA	26.2	2.0	71.9	4.3	-0.3	-0.4	0.1		
PCB 95	18.4	18.1	18.6	44.5			18.4	1.4	44.5	NA	NA	20.5	1.7	65.0	8.9	-0.4	-0.6	0.1		
PCB 99	14.7	14.3	15.1	34.9			14.7	2.7	34.9	NA	NA	14.8	1.9	37.5	2.4	0.0	0.0	0.2		
PCB 101	28.1	27.6	29.2	63.4			28.3	2.9	63.4	NA	NA	29.2	2.3	73.4	2.5	-0.1	-0.2	0.2		
PCB 105	6.20	6.16	5.38	16.7			5.91	7.82	16.7	NA	NA	9.31	1.11	24.5	1.1	-1.5	-1.4	0.5		
PCB 118	17.3	18.6	18.1	61.6			18.0	3.6	61.6	NA	NA	21.3	2.4	58.0	4.3	-0.6	-0.6	0.2		
PCB 128	5.97	6.01	6.38	7.77			6.12	3.69	7.77	NA	NA	4.02	0.47	8.47	0.28	2.1	2.0	0.2		
PCB 138	41.2	38.1	38.5	73.3			39.3	4.3	73.3	NA	NA	28.8	3.6	62.1	3.0	1.5	1.3	0.3		
PCB 149	21.2	20.4	22.2	49.9			21.3	4.2	49.9	NA	NA	22.7	2.5	49.7	1.2	-0.2	-0.3	0.3		
PCB 153	32.3	33.5	36.1	90.7			34.0	5.7	90.7	NA	NA	29.9	4.4	74.0	2.9	0.5	0.4	0.4		
PCB 156	7.58	7.95	8.02	11.2			7.85	3.01	11.2	NA	NA	2.77	0.27	6.52	0.66	7.3	12.0	0.2		
PCB 170	ND	ND	ND	28.3			ND	NA	28.3	NA	NA	8.47	1.43	22.6	1.4					
PCB 180	16.4	16.9	17.4	44.7			16.9	3.0	44.7	NA	NA	19.3	2.0	44.3	1.2	-0.5	-0.5	0.2		
PCB 187	13.4	13.6	14.3	23.0			13.8	3.4	23.0	NA	NA	11.8	1.6	25.1	1.0	0.7	0.5	0.2		
PCB 194	7.49	7.68	8.54	14.1			7.90	7.08	14.1	NA	NA	5.17	0.76	11.2	1.4	2.1	1.7	0.5		
PCB 195	2.78	2.82	2.69	4.06			2.76	2.41	4.06	NA	NA	2.37	0.72	3.75	0.39	0.7	0.3	0.2		
PCB 206	6.42	6.27	6.66	7.04			6.45	3.05	7.04	NA	NA	5.02	0.84	9.21	0.51	1.1	0.8	0.2		
PCB 209	9.20	8.95	9.23	9.50			9.13	1.68	9.50	NA	NA	6.88	1.57	6.81	0.33	1.3	0.6	0.1		

Laboratory: 24 PCBs in Sediment XI	Reported Results		No. of Analytes		Number by Category	
	Quantitative	Quantitative	Not Determined	z (25%)	z (s)	p (15%)
	24	96	0	21	22	24
	1	4	0	2	1	0
	0	0	0	1	1	0

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		
	S1	S2	S3	S1	S2	S3	assigned	95% CL	target
water	44.8	45.6	45.2				45.9	0.4	

Water in Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %	
	z (25%)	z (s)	z (25%)	z (s)	z (25%)	z (s)
	-0.1	-0.7	-0.1	-0.7	-0.1	-0.7

*z- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

PAH	Data as submitted by laboratory												Material reference values			Performance scores*		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI			
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	SRM 1944 lab mean ng/g dry	SRM 1944 lab %RSD	assigned value	95% CL	target value ^a	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
naphthalene	838	947	810	2074	1889	1894	865	8	1953	5	706	84	1650	310	0.9	1.0	0.6	
2-methylnaphthalene	371	412	465	1419	1215	1058	416	11	1231	15	325	39	950	50	1.1	1.4	0.8	
1-methylnaphthalene	166	181	216	743	647	527	188	14	639	17	141	19	520	30	1.3	1.3	0.9	
biphenyl	100	108	85.9	276	286	267	98.0	11.4	276	3	91.1	11.0	250	70	0.3	0.3	0.8	
2,6-dimethylnaphthalene	203	221	192	923	811	663	205	7	799	16	145	24	755	156	1.6	1.3	0.5	
acenaphthylene	1581	1381	1617	6083	5765	6868	1526	8	6239	9	120	29	646	200	46.7	26.2	0.6	
acenaphthene	59.8	60.3	58.6	406	463	481	59.6	1.4	450	9	53.9	6.6	470	60	0.4	0.5	0.1	
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82.8	19.8	462	133				
fluorene	100	90.2	86.9	543	605	555	92.4	7.6	568	6	84.6	11.0	600	50	0.4	0.4	0.5	
phenanthrene	814	806	768	5903	6434	5979	796	3	6106	5	645	61	5270	220	0.9	1.2	0.2	
anthracene	474	476	447	1833	1938	1916	465	3	1896	3	254	39	1770	330	3.3	2.6	0.2	
1-methylphenanthrene	121	118	120	1255	1392	1156	120	1	1268	9	127	12	1400	100	-0.2	-0.3	0.1	
fluoranthene	1858	1788	1745	8705	9948	8987	1797	3	9213	7	1717	117	8920	320	0.2	0.4	0.2	
pyrene	1656	1589	1553	9289	10649	9255	1599	3	9731	8	1564	130	9700	420	0.1	0.1	0.2	
benz[a]anthracene	714	677	670	4502	5245	4401	687	3	4716	10	621	43	4720	110	0.4	0.7	0.2	
chrysene	1141	1093	1089	6103	7386	6164	1108	3	6551	11	843	255	4860	100	1.3	1.3	0.2	
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270				
benzo[b]fluoranthene	1079	1079	1082	3756	4182	3296	1080	0	3745	12	940	135	3870	420	0.6	0.6	0.0	
benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440				
benzo[f]fluoranthene	1004	899	947	3645	4398	4147	950	6	4063	9	604	190	2300	200	2.3	1.7	0.4	
benzo[e]pyrene	841	788	766	3324	3791	3505	798	5	3540	7	808	96	3280	110	0.0	-0.1	0.3	
benzo[a]pyrene	797	762	722	4004	4503	3991	760	5	4166	7	703	42	4300	130	0.3	0.7	0.3	
perylene	422	401	388	1104	1253	1055	404	4	1137	9	323	49	1170	240	1.0	0.9	0.3	
indeno[1,2,3-cd]pyrene	784	744	745	2732	3349	2954	757	3	3012	10	683	72	2780	100	0.4	0.5	0.2	
dibenz[a,h]anthracene	180	175	175	772	905	798	177	2	825	9	153	30	424	69	0.6	0.4	0.1	
benzo[ghi]perylene	828	790	782	2991	3554	3046	800	3	3197	10	705	57	2840	100	0.5	0.9	0.2	

Reported Results	No. of Analytes	%
Quantitative	23	89
Qualitative	0	0
Not Determined	3	12

Category	z (25%)	z (s)	p (15%)
<2	20	21	23
2 to 3	1	1	0
>3	2	1	0

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores*		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI	Performance scores*	
	NA	NA	NA	NA	NA	NA	lab mean	lab	%RSD	lab mean	lab	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1		2.00	0.30			
alpha-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31.1	2.7	6.03	0.35			
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6		no target				
beta-HCH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
aldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
oxychlorodane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.7	1.1	no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.3	3.2	19.0	3.0			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<6		no target				
endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.64	1.12	16.5	0.8			
cis-chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.67	0.82	8.20	0.51			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.54	0.35	8.00	4.00			
dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	69.4	7.8	86.0	12.0			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.6	6.1	38.0	8.0			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	139	21	108	16			
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.89	1.22	no target				
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.86	0.54	3.70	0.70			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	221	38	119	11			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2		no target				
mirex	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				
chlorpyrifos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<3		no target				

Category	Number by Category	
	z (25%)	p (15%)
<2	0	0
2 to 3	0	0
>3	0	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	0	0	0
Qualitative	0	0	0
Not Determined	25	100	100

Laboratory: 25
Pesticides in Sediment XI

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PAH	Data as submitted by laboratory												Material reference values				Performance scores*	
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Performance scores*			
	7/17/01 S1	7/17/01 S2	7/17/01 S3	7/17/01 S1	7/17/01 S2	7/17/01 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)	
naphthalene	63.4	66.2	99.3	279	229	264	76.3	26.2	257	10	706	84	1650	310	-3.6	-3.8	1.7	
2-methylnaphthalene	55.8	52.5	72.8	204	184	199	60.4	18.0	196	5	325	39	950	50	-3.3	-3.9	1.2	
1-methylnaphthalene	23.0	20.9	28.6	103	95	99	24.2	16.5	99.0	4.1	141	19	520	30	-3.3	-3.3	1.1	
biphenyl	17.2	15.3	20.0	51	47	50	17.5	13.5	49.3	3.8	91.1	11.0	250	70	-3.2	-3.7	0.9	
2,6-dimethylnaphthalene							NA	NA	NA	NA	145	24	755	156				
acenaphthylene	8.02	7.10	8.82	61.7	80.7	70.0	7.98	10.79	70.8	13.5	120	29	646	200	-3.7	-2.1	0.7	
acenaphthene	14.1	12.1	15.2	124	120	122	13.8	11.4	122	2	53.9	6.6	470	60	-3.0	-3.3	0.8	
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133				
fluorene	28.7	23.5	28.5	201	199	194	26.9	11.0	198	2	84.6	11.0	600	50	-2.7	-2.6	0.7	
phenanthrene	223	206	230	1850	1920	1860	220	6	1877	2	645	61	5270	220	-2.6	-3.3	0.4	
anthracene	64.5	58.9	65.5	362	379	370	63.0	5.6	370	2	254	39	1770	330	-3.0	-2.4	0.4	
1-methylphenanthrene	14.6	14.0	15.5	104	105	100	14.7	5.1	103	3	127	12	1400	100	-3.5	-4.9	0.3	
fluoranthene	558	472	524	2690	2580	2650	518	8	2640	2	1717	117	8920	320	-2.8	-5.3	0.6	
pyrene	515	438	494	2900	281	2840	482	8	2007	74	1564	130	9700	420	-2.8	-4.3	0.6	
benzo[a]anthracene	172	155	165	1340	141	1320	164	5	934	74	621	43	4720	110	-2.9	-5.0	0.3	
chrysene	234	220	235	1480	1600	1470	230	4	1517	5	843	255	4860	100	-2.9	-3.0	0.2	
triphenylene							NA	NA	NA	NA	346		1040	270				
benzo[b]fluoranthene	302	265	286	1280	1380	1320	284	7	1327	4	940	135	3870	420	-2.8	-2.9	0.4	
benzo[k]fluoranthene							NA	NA	NA	NA	420		2090	440				
benzo[e]fluoranthene	201	202	198	1100	1160	949	200	1	1070	10	604	190	2300	200	-2.7	-2.0	0.1	
benzo[f]pyrene	179	171	174	890	962	886	175	2	913	5	808	96	3280	110	-3.1	-3.4	0.2	
benzo[a]pyrene	180	182	176	133	1520	1390	179	2	1014	76	703	42	4300	130	-3.0	-6.0	0.1	
perylene	27.1	60.6	58.2	232	260	247	48.6	38.4	246	6	323	49	1170	240	-3.4	-3.1	2.6	
indeno[1,2,3-cd]pyrene	231	205	211	1290	1420	1350	216	6	1353	5	683	72	2780	100	-2.7	-3.1	0.4	
dibenz[a,h]anthracene	15.0	13.6	15.2	104	122	115	14.6	6.0	114	8	153	30	424	69	-3.6	-2.4	0.4	
benzo[ghi]perylene	121	113	94	750	854	812	109	13	805	6	705	57	2840	100	-3.4	-5.4	0.9	

Laboratory: 26
 PAH in Sediment XI

Reported Results	No. of Analytes	%
Quantitative	22	85
Qualitative	0	0
Not Determined	4	15

Category	Number by Category	z (25%)	z (s)	p (15%)
< 2	0	1	21	
2 to 3	11	6	1	
> 3	11	15	0	

*z- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PESTICIDES	Analysis date	Data as submitted by laboratory									Material reference values			Performance scores ^a		
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		
		S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab	assigned value	95% CL	target value ^b	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH							NA	NA	NA	NA	<1	2.00	0.30			
hexachlorobenzene							NA	NA	NA	NA	31.1	2.7	0.35			
gamma-HCH							NA	NA	NA	NA	<1	no target				
beta-HCH							NA	NA	NA	NA	<6	no target				
heptachlor							NA	NA	NA	NA	<3	no target				
aldrin							NA	NA	NA	NA	<2	no target				
heptachlor epoxide							NA	NA	NA	NA	<4	no target				
oxychlorodane							NA	NA	NA	NA	<3	no target				
trans-chlordane							NA	NA	NA	NA	11.7	1.1	3.0			
2,4'-DDE							NA	NA	NA	NA	18.3	3.2				
endosulfan I							NA	NA	NA	NA	<6	no target				
cis-chlordane							NA	NA	NA	NA	10.64	1.12	0.8			
trans-nonachlor							NA	NA	NA	NA	5.67	0.82	0.51			
dieldrin							NA	NA	NA	NA	3.54	0.35	4.00			
4,4'-DDE							NA	NA	NA	NA	69.4	7.8	12.0			
2,4'-DDD							NA	NA	NA	NA	40.6	6.1	8.0			
endrin							NA	NA	NA	NA	<3	no target				
endosulfan II							NA	NA	NA	NA	<3	no target				
4,4'-DDD							NA	NA	NA	NA	139	21	16			
2,4'-DDT							NA	NA	NA	NA	5.89	1.22				
cis-nonachlor							NA	NA	NA	NA	2.86	0.54	0.70			
4,4'-DDT							NA	NA	NA	NA	221	38	11			
mirex							NA	NA	NA	NA	<2	no target				
endosulfan sulfate							NA	NA	NA	NA	<3	no target				
chlorpyrifos							NA	NA	NA	NA	<3	no target				

Category	Number by Category		
	z (25%)	z (s)	p (15%)
<2	0	0	0
2 to 3	0	0	0
>3	0	0	0

Reported Results	No. of Analytes		%
	Quantitative	0	
	Qualitative	0	
Not Determined	25	100	

Laboratory: 26
Pesticides in Sediment XI

^bCertified material reference values are bolded.

^az- and p-scores > 3 are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		
	inconc S1	inconc S2	inconc S3	inconc S1	inconc S2	inconc S3	lab ng/g dry	%RSD	lab ng/g dry	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
Analysis date																			
PCB 8	20.1	18.2	21.4	51.0	48.1	41.7	19.9	8.1	46.9	10.1	7.84	1.34	22.3	2.3	6.2	4.5	0.5		
PCB 18	12.3	11.1	13.0	36.3	30.0	DL	12.1	7.9	33.2	13.4	17.8	2.7	51.0	2.6	-1.3	-1.0	0.5		
PCB 28	46.5	41.8	50.2	102	95.3	97.4	46.2	9.1	98.2	3.6	31.3	2.4	80.8	2.7	1.9	2.7	0.6		
PCB 31							NA	NA	NA	NA	25.0	2.9	78.7	1.6					
PCB 44	14.7	13.3	15.2	48.2	42.0	36.2	14.4	6.8	42.1	14.2	22.1	1.9	60.2	2.0	-1.4	-1.9	0.5		
PCB 49	13.5	9.86	9.51	28.8	27.5	26.6	11.0	20.2	27.6	4.0	21.6	1.6	53.0	1.7	-2.0	-3.2	1.3		
PCB 52	12.9	11.8	13.4	36.7	34	31.4	12.7	6.4	34.0	7.8	30.2	2.1	79.4	2.0	-2.3	-3.8	0.4		
PCB 66	38.1	35.1	39.2	108	104	98.0	37.5	5.7	103	5	26.2	2.0	71.9	4.3	1.7	2.6	0.4		
PCB 95							NA	NA	NA	NA	20.5	1.7	65.0	8.9					
PCB 99	5.04	4.68	5.21	13.0	12.7	12.0	4.98	5.44	27.6	3.6	14.8	1.9	37.5	2.4	-2.7	-2.7	0.4		
PCB 101	10.0	9.33	10.3	27.7	26.0	26.1	9.87	5.00	26.6	3.6	29.2	2.3	73.4	2.5	-2.7	-4.0	0.3		
PCB 105	30.1	28.8	31.8	47.5	89.2	84.7	30.2	5.0	73.8	31.0	9.31	1.11	24.5	1.1	9.0	8.4	0.3		
PCB 118	13.0	11.0	13.6	37.2	35.0	34.9	12.5	10.9	35.7	3.6	21.3	2.4	58.0	4.3	-1.6	-1.6	0.7		
PCB 128	2.52	2.31	2.53	6.90	6.61	6.51	2.45	5.06	6.67	3.04	4.02	0.47	8.47	0.28	-1.6	-1.5	0.3		
PCB 138	20.3	19.9	21.4	65.1	62.7	59.4	20.5	3.8	42.1	3.6	28.8	3.6	62.1	3.0	-1.1	-1.0	0.3		
PCB 149	10.5	9.8	10.4	29.5	27.1	26.4	10.2	4.0	27.7	5.9	22.7	2.5	49.7	1.2	-2.2	-2.5	0.3		
PCB 153							NA	NA	NA	NA	29.9	4.4	74.0	2.9					
PCB 156	3.81	3.68	4.06	13.4	12.1	12.2	3.85	5.02	12.6	5.8	2.77	0.27	6.52	0.66	1.6	2.5	0.3		
PCB 170	13.3	13.0	14.0	46.7	41.0	39.0	13.4	3.8	42.2	9.5	8.47	1.43	22.6	1.4	2.3	1.6	0.3		
PCB 180	15.0	14.4	15.6	50.1	44.0	43.3	15.0	4.0	45.8	8.2	19.3	2.0	44.3	1.2	-0.9	-1.0	0.3		
PCB 187	7.07	6.70	7.34	23.4	20.6	21.0	7.0	4.6	21.7	7.0	11.8	1.6	25.1	1.0	-1.6	-1.3	0.3		
PCB 194	3.58	3.46	3.79	13.2	11.4	11.9	3.61	4.63	42.2	7.0	5.17	0.76	11.2	1.4	-1.2	-1.0	0.3		
PCB 195	7.88	7.02	7.45	21.9	19.4	18.9	7.45	5.77	20.1	8.0	2.37	0.72	3.75	0.39	8.6	3.3	0.4		
PCB 206	6.55	6.16	6.84	19.1	17.8	18.0	6.52	5.24	18.3	3.8	5.02	0.84	9.21	0.51	1.2	0.8	0.3		
PCB 209	3.44	3.38	3.59	6.67	6.83	6.15	3.47	3.12	6.55	5.43	6.88	1.57	6.81	0.33	-2.0	-1.0	0.2		
Laboratory: 26 PCBs in Sediment XI													Number by Category						
													Category	z (25%)	z (s)	p (15%)			
													<2	14	11	22			
													2 to 3	5	5	0			
													>3	3	6	0			
Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %		Sediment XI, %		SRM 1944, %		
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target	95% CL	z (25%)	z (s)	p (15%)		
Water	44.0	36.0	45.0				41.7	11.8			45.9	0.4			-0.4	-4.1	0.8		

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

FY02 NIST Intercomparison Exercise
Sample: QA02SED11 - Marine Sediment XI
PAH

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		z-score (25%)	z-score (g)	p-score (15%)		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL					
naphthalene	675	650	665	1326	1360	1410	663	2	1365	3	706	84	1650	310	-0.2	-0.3	0.1		
2-methylnaphthalene	303	292	296	764	838	859	297	2	820	6	325	39	950	50	-0.3	-0.4	0.1		
1-methylnaphthalene	129	125	127	425	473	473	127	2	457	6	141	19	520	30	-0.4	-0.4	0.1		
biphenyl	97.0	90.0	93.0	208	287	243	93.3	3.8	246	16	91.1	11.0	250	70	0.1	0.1	0.3		
2,6-dimethylnaphthalene	115	111	121	608	761	600	116	4	656	14	145	24	755	156	-0.8	-0.6	0.3		
acenaphthylene	158	146	139	900	1065	797	148	7	921	15	120	29	646	200	0.9	0.5	0.4		
acenaphthene	51.0	47.0	48.0	383	526	403	48.7	4.3	437	18	53.9	6.6	470	60	-0.4	-0.4	0.3		
1,6,7-trimethylnaphthalene	62.0	55.0	55.0	347	528	348	57.3	7.0	408	26	82.8	19.8	462	133	-1.2	-0.9	0.5		
fluorene	83.0	75.0	76.0	488	671	505	78.0	5.6	555	18	84.6	11.0	600	50	-0.3	-0.3	0.4		
phenanthrene	698	630	595	4580	4750	4710	641	8	4680	2	645	61	5270	220	0.0	0.0	0.5		
anthracene	361	334	323	1540	1800	1540	339	6	1627	9	254	39	1770	330	1.3	1.1	0.4		
1-methylphenanthrene	140	123	113	1361	1230	1277	125	11	1289	5	127	12	1400	100	0.0	-0.1	0.7		
fluoranthene	1911	1769	1696	8210	8315	7850	1792	6	8125	3	1717	117	8920	320	0.2	0.3	0.4		
pyrene	1571	1419	1347	8270	7809	8050	1446	8	8043	3	1564	130	9700	420	-0.3	-0.5	0.5		
benzo[a]anthracene	873	760	802	4100	4753	4185	812	7	4346	8	621	43	4720	110	1.2	2.1	0.5		
chrysene	1296	1142	1211	4870	5426	5053	1216	6	5116	6	843	255	4860	100	1.8	1.8	0.4		
triphenylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene	1501	1591	1599	3960	4650	4550	1564	3	4387	9	940	135	3870	420	2.7	2.8	0.2		
benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420		2090	440					
benzo[e]fluoranthene	1167	1086	1170	3460	5090	3380	1141	4	3977	24	604	190	2300	200	3.6	2.6	0.3		
benzo[a]pyrene	1135	1080	1209	3170	3502	3159	1141	6	3277	6	808	96	3280	110	1.7	1.8	0.4		
benzo[a]pyrene	911	921	949	3990	4233	3832	927	2	4018	5	703	42	4300	130	1.3	2.6	0.1		
perylene	382	376	377	969	964	1154	378	1	1029	11	323	49	1170	240	0.7	0.6	0.1		
indeno[1,2,3-cd]pyrene	1097	1097	1146	3234	3388	3016	1113	3	3213	6	683	72	2780	100	2.5	2.9	0.2		
dibenz[a,h]anthracene	138	140	139	467	618	487	139	1	524	16	153	30	424	69	-0.4	-0.2	0.0		
benzo[ghi]perylene	965	883	947	3261	3374	2824	932	5	3153	9	705	57	2840	100	1.3	2.1	0.3		

Reported Results		No. of Analytes		%
Quantitative	24	24	92	92
Qualitative	0	0	0	0
Not Determined	2	2	8	8

Category	Number by Category	
	z (25%)	p (15%)
< 2	21	18
2 to 3	2	6
> 3	1	0

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

PESTICIDES	Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a	
		Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			Sediment XI, ng/g dry		Sediment XI			
		S1	S2	S3	S1	S2	S3	lab mean	lab	%RSD	lab mean	lab	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
alpha-HCH		<1.83	<1.83	<1.83	1.79	1.71	1.49	<1.83	NA	9.34	1.66	9.34	<1		2.00	0.30			
hexachlorobenzene		37.9	37.6	37.5	7.64	6.73	7.32	37.7	0.6	6.38	7.23	6.38	31.1	2.7	6.03	0.35	0.9	1.3	0.0
gamma-HCH		<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	NA	NA	<0.82	NA	<1		no target				
beta-HCH		0.810	0.870	0.890	1.75	1.83	1.50	0.857	4.860	10.2	1.69	10.2	<6		no target				0.3
gamma-chlor		<0.89	<0.89	<0.89	<0.89	<0.89	<0.89	<0.89	NA	NA	<0.89	NA	<3		no target				
dieldrin		<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	NA	NA	<1.05	NA	<2		no target				
heptachlor epoxide		3.90	3.70	3.72	5.88	4.50	4.72	3.77	2.9	5.03	5.03	14.7	<4		no target				0.2
oxychlorodane		2.12	2.06	2.01	6.77	5.91	6.03	2.06	2.7	6.24	6.24	7.5	<3		no target				0.2
trans-chlordane		12.2	9.50	8.92	11.3	14.5	11.6	10.2	17.3	14.0	12.4	14.0	11.7	1.1	no target		-0.5	-0.8	1.2
2,4'-DDE		20.4	22.8	23.5	14.5	16.0	14.8	22.2	7.4	15.1	15.1	5.2	18.3	3.2	19.0	3.0	0.9	0.7	0.5
endosulfan I		<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	NA	NA	<0.91	NA	<6		no target				
cis-chlordane		13.3	11.8	11.6	22.1	22.5	21.3	12.2	7.9	21.9	21.9	2.8	10.64	1.12	16.5	0.8	0.6	0.7	0.5
trans-nonachlor		6.95	6.04	5.97	11.1	11.3	11.2	6.32	8.65	11.2	11.2	0.7	5.67	0.82	8.20	0.51	0.5	0.4	0.6
dieldrin		6.94	5.32	6.40	21.6	20.3	18.1	6.22	13.26	20.0	20.0	8.9	3.54	0.35	8.00	4.00	3.0	6.3	0.9
4,4'-DDE		81.9	85.9	86.4	83.1	88.5	89.4	84.7	2.9	87.0	87.0	3.9	69.4	7.8	86.0	12.0	0.9	1.0	0.2
2,4'-DDD		59.7	62.9	65.7	58.7	53.8	55.7	62.8	4.8	56.0	56.0	4.4	40.6	6.1	38.0	8.0	2.2	2.0	0.3
endrin		<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	NA	NA	<0.83	NA	<3		no target				
endosulfan II		<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	NA	NA	<0.91	NA	<3		no target				
4,4'-DDD		143	165	170	96.2	111	104	160	9	104	104	7	139	21	108	16	0.6	0.5	0.6
2,4'-DDT		6.67	6.63	7.32	6.42	5.85	6.50	6.87	5.64	6.26	6.26	5.67	5.89	1.22	no target		0.7	0.5	0.4
cis-nonachlor		5.14	4.56	4.60	4.82	4.64	4.24	4.77	6.80	4.57	4.57	6.50	2.86	0.54	3.70	0.70	2.7	2.1	0.5
4,4'-DDT		286	331	315	164	182	173	311	7	173	173	5	221	38	119	11	1.6	1.5	0.5
mirex		<1.08	<1.08	<1.08	<1.08	<1.08	<1.08	<1.08	NA	<1.08	<1.08	NA	<2		no target				
endosulfan sulfate		<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	<0.91	NA	<0.91	<0.91	NA	<3		no target				
chlorpyrifos		1.65	1.53	1.73	4.58	5.22	5.44	1.64	6.15	5.08	5.08	8.79	<3		no target				0.4

Category	Number by Category	
	z(25%)	p(15%)
<2	9	16
2 to 3	2	0
>3	1	0

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	16	64	64
Qualitative	9	36	36
Not Determined	0	0	0

Laboratory: 27
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.
^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		SRM 1944		
	S1	S2	S3	S1	S2	S3	lab mean ng/g dry	%RSD	lab mean ng/g dry	%RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
PCB 8	14.5	14.2	14.6	14.6	27.9	27.1	24.6	14.5	1.3	26.6	6.4	22.3	2.3	3.4	2.5	0.1			
PCB 18	21.4	20.8	19.2	68.5	63.3	59.9	20.5	5.6	63.9	6.3	17.8	2.7	51.0	0.6	0.5	0.4			
PCB 28	39.1	38.3	38.7	91.1	92.0	103	38.7	1.0	95.2	6.3	31.3	2.4	80.8	0.9	1.3	0.1			
PCB 31	20.2	20.2	19.0	59.7	55.7	58.5	19.8	3.6	57.9	3.5	25.0	2.9	78.7	-0.8	-0.9	0.2			
PCB 44	29.4	29.0	28.9	66.1	74.9	70.6	29.1	0.9	70.5	6.3	22.1	1.9	60.2	1.3	1.7	0.1			
PCB 49	27.8	26.7	28.0	62.2	70.1	63.2	27.5	2.5	65.2	6.6	21.6	1.6	53.0	1.1	1.8	0.2			
PCB 52	41.5	39.6	39.1	89.5	96.5	94.3	40.1	3.2	93.4	3.5	30.2	2.1	79.4	1.3	2.2	0.2			
PCB 66	31.6	31.9	30.1	65.2	75.7	71.7	31.2	3.2	70.9	7.4	26.2	2.0	71.9	0.8	1.2	0.2			
PCB 95	20.4	21.0	20.2	61.1	63.9	57.5	20.6	2.1	60.8	6.3	20.5	1.7	65.0	0.0	0.0	0.1			
PCB 99	17.9	17.5	16.5	34.6	40.6	38.3	17.3	4.1	57.9	6.0	14.8	1.9	37.5	0.7	0.7	0.3			
PCB 101	39.7	40.2	39.4	79.5	89.0	85.0	39.8	1.0	84.5	6.3	29.2	2.3	73.4	1.4	2.2	0.1			
PCB 105	7.82	8.79	7.91	19.5	20.8	17.5	8.17	6.56	19.3	6.6	9.31	1.11	24.5	-0.5	-0.5	0.4			
PCB 118	27.1	26.2	25.9	54.0	61.4	57.1	26.4	2.3	57.5	6.6	21.3	2.4	58.0	1.0	0.9	0.2			
PCB 128	3.68	3.31	2.77	7.09	9.76	9.22	3.25	14.07	8.69	16.25	4.02	0.47	8.47	-0.8	-0.7	0.9			
PCB 138	30.0	29.8	25.7	67.9	70.3	66.3	28.5	8.7	68.2	2.9	28.8	3.6	62.1	0.0	0.0	0.6			
PCB 149	19.4	18.4	17.6	45.6	44.2	39.6	18.5	4.8	68.2	7.3	22.7	2.5	49.7	-0.7	-0.9	0.3			
PCB 153	48.7	47.0	46.6	89.3	97.7	93.6	47.4	2.3	93.5	4.9	29.9	4.4	74.0	2.3	1.8	0.2			
PCB 156	17.5	16.6	16.1	35.4	42.1	38.1	16.7	4.2	38.5	8.8	2.77	0.27	65.2	20.1	32.8	0.3			
PCB 170	13.8	10.9	12.9	18.0	18.6	17.4	12.6	11.7	12.3	3.5	8.47	1.43	22.6	1.9	1.3	0.8			
PCB 180	24.7	23.8	23.3	40.7	44.7	41.7	23.9	2.9	42.4	4.9	19.3	2.0	44.3	1.0	1.0	0.2			
PCB 187	18.6	17.7	16.9	32.5	28.0	28.1	17.7	4.7	29.5	8.7	11.8	1.6	25.1	2.0	1.6	0.3			
PCB 194	6.36	6.44	6.35	12.5	13.5	12.5	6.38	0.77	12.8	4.7	5.17	0.76	11.2	0.9	0.8	0.1			
PCB 195	6.17	6.32	6.20	4.84	5.03	5.16	6.23	1.27	5.01	3.21	2.37	0.72	3.75	6.5	2.5	0.1			
PCB 206	6.37	6.29	5.97	8.82	8.99	8.77	6.21	3.41	8.86	1.30	5.02	0.84	9.21	1.0	0.6	0.2			
PCB 209	5.80	3.99	4.15	8.60	8.64	9.09	4.65	21.56	8.78	3.10	6.88	1.57	6.81	-1.3	-0.6	1.4			

Laboratory: 27 PCBs in Sediment XI	Reported Results		No. of Analytes		%	
	Quantitative	Qualitative	Quantitative	Qualitative	Quantitative	Qualitative
	25	0	25	0	100	0
	0	0	0	0	0	0
	Not Determined	Not Determined	0	0	0	0

Water in Sediment XI	Sediment XI, %			SRM 1944, %			Sediment XI, %			SRM 1944, %			
	S1	S2	S3	S1	S2	S3	mean, %	%RSD	mean, %	%RSD	assigned	95% CL	target
water	46.6	47.2	45.5				46.4	1.8	45.9	0.4	45.9	0.4	45.9

Category	Number by Category		
	z (25%)	z (s)	p (15%)
< 2	20	20	25
2 to 3	2	4	0
> 3	3	1	0

^a z- and p-scores > 3 are bolded.
^b Certified material reference values are bolded.

(data reported as if three figures were significant)

Analysis date	Data as submitted by laboratory												Material reference values				Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI		SRM 1944		Sediment XI, ng/g dry		SRM 1944, ng/g dry		Sediment XI		Performance scores ^a		
	17002 S1	17002 S2	17002 S3	17002 S1	17002 S2	17002 S3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)		
naphthalene	665	802	589	1510	1100	1400	685	16	1337	16	706	84	1650	310	-0.1	-0.1	1.1		
2-methylnaphthalene	254	371	269	913	834	965	298	21	904	7	325	39	950	50	-0.3	-0.4	1.4		
1-methylnaphthalene	105	124	114	419	402	502	114	8	441	12	141	19	520	30	-0.8	-0.8	0.6		
biptyenyl	138	75.9	87.5	186	283	276	100	33	248	22	91.1	11.0	250	70	0.4	0.5	2.2		
2,6-dimethylnaphthalene	124	196	115	532	964	819	145	31	772	28	145	24	755	156	0.0	0.0	2.0		
acenaphthylene	79.9	133	120	575	937	1370	111	25	961	41	120	29	646	200	-0.3	-0.2	1.7		
acenaphthene	67.8	63.2	35.0	367	482	585	55.3	32.1	478	23	53.9	6.6	470	60	0.1	0.1	2.1		
1,6,7-trimethylnaphthalene							NA	NA	NA	NA	82.8	19.8	462	133					
fluorene	101	<5	114	423	802	526	108	9	584	34	84.6	11.0	600	50	1.1	1.0	0.6		
phenanthrene	555	491	764	4270	5550	4060	603	24	4627	17	645	61	5270	220	-0.3	-0.3	1.6		
anthracene	258	197	215	1480	1560	1710	223	14	1583	7	254	39	1770	330	-0.5	-0.4	0.9		
1-methylphenanthrene	<1.25	<3.14	<3.14	906	1500	1020	<3.14	NA	1142	28	127	12	1400	100					
fluoranthene	1890	2490	1400	12200	12200	6130	1927	28	10177	34	1717	117	8920	320	0.5	0.9	1.9		
pyrene	1260	2020	1720	7690	7840	9210	1667	23	8247	10	1564	130	9700	420	0.3	0.4	1.5		
benz[a]anthracene	640	714	1040	4670	4260	6030	798	27	4987	19	621	43	4720	110	1.1	1.9	1.8		
chrysene	889	624	1070	4720	4760	4470	861	26	4650	3	843	255	4860	100	0.1	0.1	1.7		
triphenylene							NA	NA	NA	NA	346		1040	270					
benzo[b]fluoranthene	1752	1060	1330	7290	4530	4050	1381	25	5290	33	940	135	3870	420	1.9	2.0	1.7		
benzo[k]fluoranthene							NA	NA	NA	NA	420		2090	440					
benzo[f]fluoranthene	682	462	345	1910	1400	2110	496	34	1807	20	604	190	2300	200	-0.7	-0.5	2.3		
benzo[e]pyrene	1050	719	608	3950	2350	3690	792	29	3330	26	808	96	3280	110	-0.1	-0.1	1.9		
benzo[a]pyrene	907	680	500	4190	3010	5200	696	29	4133	27	703	42	4300	130	0.0	-0.1	2.0		
perylene	589	290	351	1690	1030	1340	410	39	1353	24	323	49	1170	240	1.1	1.0	2.6		
indeno[1,2,3-cd]pyrene	980	583	475	2460	1870	3180	679	39	2503	26	683	72	2780	100	0.0	0.0	2.6		
1-benzofluoranthene	325	128	177	680	691	876	210	49	749	15	153	30	424	69	1.5	1.0	3.3		
benzo[ghi]perylene	950	570	527	2760	2340	2980	682	34	2693	12	705	57	2840	100	-0.1	-0.2	2.3		

Category	Number by Category	
	z (25%)	p (15%)
< 2	22	22
2 to 3	0	0
> 3	0	1

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	22	85	
Qualitative	1	4	
Not Determined	3	12	

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

Analysis date	Data as submitted by laboratory												Material reference values			Performance scores ^a							
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944			assigned value	95% CL	target value ^b	95% CL	z-score (25%)	z-score (s)	p-score (15%)				
	S1	S2	S3	1/25/02	4/23/02	1/4/02	4/10/02	1/25/02	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD								lab mean ng/g dry	lab %RSD		
alpha-HCH	<0.0716	<0.0716	<0.143	<0.0716	<0.0716	<0.0716	<0.0716	<0.0716	<0.143	NA	<0.143	NA	<0.0716	NA	2.00	0.30							
hexachlorobenzene	26.0	26.8	19.6	4.68	4.56	5.10	24.1	16.4	16.4	16.4	16.4	5.93	4.78	5.93	31.1	2.7	6.03	0.35	-0.9	-1.3	1.1		
gamma-HCH	1.02	0.094	0.188	0.094	0.094	0.604	0.434	117.4	117.4	117.4	111.4	11.4	2.5	14.10	<1		no target					7.8	
beta-HCH	<0.102	<0.102	6.10	11.6	<0.102	11.2	6.10	NA	NA	11.4	2.5	14.10	3.1	14.10	<6		no target						1.3
heptachlor	1.08	1.28	0.86	3.86	<0.079	3.16	1.07	19.84	19.84	3.51	14.10	3.16	14.10	3.16	<3		no target						
aldrin	<0.0512	<0.0512	<0.102	<0.0512	<0.0512	<0.0512	<0.102	NA	NA	<0.0512	NA	<0.0512	NA	<2			no target						
heptachlor epoxide	<0.0422	<0.0422	<0.0422	<0.0422	<0.0422	<0.0422	<0.0422	NA	NA	<0.0422	NA	<0.0422	NA	<4			no target						
oxychlorodane	<0.0442	<0.0442	<0.0884	<0.0442	<0.0442	<0.0442	<0.0884	NA	NA	<0.0442	NA	<0.0442	NA	<3			no target						
trans-chlordane	14.6	15.2	12.3	11.8	9.31	13.2	14.0	10.9	10.9	11.4	17.2	11.4	17.2	11.4	11.7	1.1	19.0	3.0	-0.9	-0.7	0.7		
2,4'-DDE							NA	NA	NA	NA	NA	NA	NA	<6			no target						
endosulfan I	10.3	11.5	10.6	16.4	20.0	22.2	10.8	5.8	5.8	19.5	15.0	19.5	15.0	10.64	10.64	1.12	16.5	0.8	0.1	0.1	0.4		
cis-chlordane	6.15	6.47	3.62	9.73	6.42	8.48	5.41	28.84	28.84	8.21	20.36	8.21	20.36	5.67	5.67	0.82	8.20	0.51	-0.2	-0.2	1.9		
trans-nonachlor	2.43	3.46	<0.636	5.80	<0.318	<0.318	2.95	24.73	24.73	5.80	NA	5.80	NA	3.54	3.54	0.35	8.00	4.00	-0.7	-1.4	1.6		
dieldrin	71.9	68.4	51.5	59.7	48.7	83.3	63.9	17.1	17.1	63.9	27.7	63.9	27.7	69.4	69.4	7.8	86.0	12.0	-0.3	-0.4	1.1		
4,4'-DDE	27.1	28.7	<0.158	30.6	26.8	25.5	27.9	4.1	4.1	27.6	9.6	27.6	9.6	40.6	40.6	6.1	38.0	8.0	-1.2	-1.1	0.3		
2,4'-DDD	<0.319	<0.319	<0.319	<0.319	<0.319	<0.319	<0.319	NA	NA	<0.319	NA	<0.319	NA	<3			no target						
endrin							NA	NA	NA	NA	NA	NA	NA	<3			no target						
endosulfan II							NA	NA	NA	NA	NA	NA	NA	<3			no target						
4,4'-DDD	152	131	109	132	112	83	131	16	16	109	22	109	22	139	139	21	108	16	-0.3	-0.2	1.1		
2,4'-DDT	4.48	3.24	5.80	<0.0697	9.52	<0.0697	4.51	28.41	28.41	9.52	NA	9.52	NA	5.89	5.89	1.22	no target		-0.9	-0.7	1.9		
cis-nonachlor	<0.0647	2.88	<0.129	4.12	4.17	3.23	2.88	NA	NA	3.84	13.77	3.84	13.77	2.86	2.86	0.54	3.70	0.70	0.0	0.0			
4,4'-DDT	323	352	105	181	96.8	191	260	52	52	156	33	156	33	221	221	38	119	11	0.7	0.6	3.5		
mirex	1.83	<0.131	2.01	7.94	<0.131	<0.131	1.92	6.6	6.6	7.94	NA	7.94	NA	<2	<2		no target						
endosulfan sulfate							NA	NA	NA	NA	NA	NA	NA	<3			no target						
chlorpyrifos							NA	NA	NA	NA	NA	NA	NA	<3			no target						

Category	Number by Category	
	z (25%)	p (15%)
<2	11	11
2 to 3	0	0
>3	0	2

Reported Results	No. of Analytes		%
	Quantitative	Qualitative	
Quantitative	15	60	
Qualitative	5	20	
Not Determined	5	20	

Laboratory: 28
Pesticides in Sediment XI

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

(data reported as if three figures were significant)

PCBs	Data as submitted by laboratory												Material reference values			Performance scores ^a		
	Sediment XI, ng/g dry			SRM 1944, ng/g dry			Sediment XI			SRM 1944, ng/g dry			Sediment XI		Sediment XI			
	10002 S 1	10002 S 2	10002 S 3	10002 S 1	10002 S 2	10002 S 3	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	lab mean ng/g dry	lab %RSD	assigned value	95% CL	target value ^b	95% CL	z-score (25%)	p-score (15%)
PCB 8	14.0	8.02	3.26	27.4	25.0	26.1	8.43	63.86	26.2	4.6	7.84	1.34	22.3	2.3	0.3	0.2	4.3	
PCB 18	25.9	30.4	25.0	74.1	76.0	31.7	27.1	10.7	60.6	41.3	17.8	2.7	51.0	2.6	2.1	1.6	0.7	
PCB 28	24.3	37.0	27.5	85.2	76.5	64.2	29.6	22.3	79.1	18.0	31.3	2.4	80.8	2.7	-0.2	-0.3	1.5	
PCB 31	23.5	37.2	30.8	97.7	79.5	93.1	30.5	22.5	90.1	10.5	25.0	2.9	78.7	1.6	0.9	1.0	1.5	
PCB 44	23.3	20.6	23.6	66.4	70.2	54.0	22.5	7.3	63.5	13.3	22.1	1.9	60.2	2.0	0.1	0.1	0.5	
PCB 49	17.5	29.3	23.7	52.4	37.4	51.9	23.5	25.1	47.2	18.0	21.6	1.6	53.0	1.7	0.4	0.6	1.7	
PCB 52	24.3	32.1	29.0	81.4	105	82.5	28.5	13.8	89.6	14.9	30.2	2.1	79.4	2.0	-0.2	-0.4	0.9	
PCB 66	27.9	29.5	34.4	79.7	85.4	72.3	30.6	11.1	79.1	8.3	26.2	2.0	71.9	4.3	0.7	1.0	0.7	
PCB 95	18.6	23.0	11.6	50.8	70.5	54.3	17.7	32.4	58.5	18.0	20.5	1.7	65.0	8.9	-0.5	-0.8	2.2	
PCB 99	12.6	14.0	14.6	30.4	38.3	34.6	13.7	7.5	34.4	11.5	14.8	1.9	37.5	2.4	-0.3	-0.3	0.5	
PCB 101	22.8	25.1	26.3	56.5	65.4	53.9	24.7	7.2	58.5	10.3	29.2	2.3	73.4	2.5	-0.6	-0.9	0.5	
PCB 105	8.01	9.21	10.9	25.9	18.3	25.1	9.37	15.49	79.1	18.1	9.31	1.11	24.5	1.1	0.0	0.0	1.0	
PCB 118	16.8	19.0	19.0	50.1	35.6	42.2	18.3	7.0	42.6	17.0	21.3	2.4	58.0	4.3	-0.6	-0.5	0.5	
PCB 128	-0.0616	3.82	3.63	9.80	8.79	10.6	3.73	3.61	9.73	9.32	4.02	0.47	8.47	0.28	-0.3	-0.3	0.2	
PCB 138	16.1	20.6	19.6	42.8	34.2	38.8	18.8	12.6	34.4	11.1	28.8	3.6	62.1	3.0	-1.4	-1.2	0.8	
PCB 149	13.4	17.3	14.9	37.3	34.4	32.7	15.2	12.9	34.8	6.7	22.7	2.5	49.7	1.2	-1.3	-1.5	0.9	
PCB 153	30.5	31.5	30.4	60.4	65.8	72.6	30.8	2.0	66.3	9.2	29.9	4.4	74.0	2.9	0.1	0.1	0.1	
PCB 156	-0.116	-0.232	-0.232	3.34	3.45	4.19	-0.232	NA	3.66	12.63	2.77	0.27	6.52	0.66				
PCB 170	5.59	5.14	-0.169	25.2	30.8	21.6	5.37	5.93	25.9	17.9	8.47	1.43	22.6	1.4	-1.5	-1.0	0.4	
PCB 180	20.3	21.7	22.4	40.4	42.9	44.5	21.5	5.0	42.6	4.9	19.3	2.0	44.3	1.2	0.5	0.5	0.3	
PCB 187	5.66	7.95	6.89	17.1	17.0	14.6	6.83	16.77	16.2	8.7	11.8	1.6	25.1	1.0	-1.7	-1.4	1.1	
PCB 194	6.05	2.41	5.68	13.1	8.20	15.8	4.71	42.50	12.4	31.2	5.17	0.76	11.2	1.4	-0.4	-0.3	2.8	
PCB 195	2.43	1.58	<0.12	3.36	5.60	5.36	2.01	29.98	4.77	25.77	2.37	0.72	3.75	0.39	-0.6	-0.2	2.0	
PCB 206							NA	NA	NA	NA	5.02	0.84	9.21	0.51				
PCB 209							NA	NA	NA	NA	6.88	1.57	6.81	0.33				

Laboratory: 28 PCBs in Sediment XI	Number by Category	
	z (25%)	p (15%)
Category	< 2	19
	2 to 3	2
	> 3	1

Water In Sediment XI	Sediment XI, %		SRM 1944, %		Sediment XI, %	
	assigned	95% CL	target	95% CL	z (25%)	p (15%)
water	45.9	0.4			0.9	0.2

^az- and p-scores > 3 are bolded.

^bCertified material reference values are bolded.

**Appendix E: Laboratory Notes Accompanying Data,
Fish Homogenate V**

Lab	Additional notes for Fish Homogenate V								
1-MS-2	2,4'-DDD in SRM 1946 was determined using GC-ECD and a DB-5 column with the following results: 2.27, 1.88, and 2.43 2,4'-DDT in SRM 1946 was determined using GC-ECD and a DB-5 column with the following results: 24.2, 32.5, and 28.8								
2		Fish V	Fish V	Fish V	Fish V	SRM 1946	SRM 1946	SRM 1946	SRM 1946
	data that involved coelutions	mean	s	%RSD	n	mean	s	%RSD	n
	4,4'-DDD and 2,4'-DDT	20.7	2.5	12.1	3	18.7	0.4	2.0	3
	PCB 8/5	DL	DL	DL	0	DL	DL	DL	0
	PCB 28/31	22.5	3.0	13.5	3	2.55	0.17	6.70	3
	PCB 66/80	106	7	7	3	17.6	0.6	3.4	3
	PCB 102/98/95	23.3	2.0	8.5	3	12.4	0.5	4.2	3
	PCB 118/106	103	6	6	3	46.6	1.7	3.6	3
	PCB 138/160/163/158	174	8	5	3	133	3	2	3
	PCB 149/139	60.1	1.2	2.1	3	24.5	0.5	2.2	3
	PCB 153/132/168	180	10	6	3	154	4	3	3
	PCB 170/190	27.5	0.5	1.7	3	21.7	2.8	13.0	3
PCB 187/182	46.0	3.6	7.9	3	45.6	2.9	6.3	3	
3		Fish V	Fish V	Fish V	Fish V	SRM 1946	SRM 1946	SRM 1946	SRM 1946
		mean	s	%RSD	n	mean	s	%RSD	n
	PCB LOC1	ND	ND	ND	0	ND	ND	ND	0
	PCB LOC2	40.9	9.0	22.1	3	42.1	4.0	9.6	3
	PCB LOC3	536	103	19	3	389	69	18	3
	PCB LOC4	307	22	7	3	62.9	5.7	9.1	3
	PCB LOC5	778	48	6	3	321	24	8	3
	PCB LOC6	568	38	7	3	429	11	3	3
	PCB LOC7	273	10	4	3	246	11	5	3
	PCB LOC8	57.9	2.7	4.7	3	58.9	4.9	8.4	3
	PCB LOC9	12.4	0.6	4.4	3	10.3	0.6	6.1	3
	PCB LOC10	2.10	0.15	7.30	3	1.26	0.08	6.3	3
TOTAL PCB	2577	125	5	3	1560	82	5	3	
PCB8 and PCB18 were not detected at these samples, at an estimated minimum level of 0.5 ng/g, wet weight. Lower detection levels are typically targeted and achieved with samples that have lower PCB concentrations.									
4	SRM 1946 results for PCB 8, PCB 18, PCB31, PCB 49, PCB 99, PCB 149, PCB156, and PCB194 do not have certified values for result comparison. SRM 1946, Batch A, Sample #1 did not have sufficient sample volume remaining for % Lipid determination.								
4b	The pesticides oxychlordan, 2,4-DDD, and Endrin appear to be co-eluting with unknown compounds and results may be biased high.								
5	PCB Co-elutions: PCB 8/5, 49/43, 52/73, 66/80, 95/93, 90/101/89, 105/127, 118/106, 138/163/164, 149/139, 170/190 and 187/182								
5b	PCB Co-elutions: PCB 18/30, 20/28, 44/47/65, 95/100/93/102/98, 99/83, 101/90/113, 128/166, 138/163/129/160, 149/147, 153/168, 180/193								
6	Under these chromatographic conditions, the following target PCB congeners co-elute with non-target congeners (1) PCB8 & PCB5 (2) PCB153 & PCB132 (3) PCB138 & PCB163 (4) PCB187 & PCB182								
6b	(1) PCB66 and PCB95 co-elute under these chromatographic conditions and are reported as a sum								
9	PAH analysis following Soxhlet extraction using dichloromethane:hexane (1:1) with sodium sulfate and silica gel for clean-up GC/MS analysis - isotopic dilution - Naphthalene-d8, 1 & 2-methylnaphthalene-d10, biphenyl-d10, 2,6-dimethylnaphthalene-d12, acenaphthylene-d8, Acenaphthene-d10, fluorene-d10, dibenzothiophene-d8, phenanthrene-d10, anthracene-d10, fluoranthene-d10, pyrene-d10, benzo(a)anthracene-d12, chrysene								
		Fish V	Fish V	Fish V	Fish V	SRM 1946	SRM 1946	SRM 1946	SRM 1946
		mean	s	%RSD	n	mean	s	%RSD	n
	naphthalene	5.20	0.42	8.20	2	<4.2	NA	NA	0
	2-methylnaphthalene	2.20	0.28	12.90	2	2	NA	NA	1
	1-methylnaphthalene	2.25	0.21	9.40	2	<2	NA	NA	0
	biphenyl	<4	NA	NA	0	<4	NA	NA	0
	2,6-dimethylnaphthalene	1.45	0.07	4.90	2	<8	NA	NA	0
	acenaphthylene	0.780	0.450	57.200	3	<2	NA	NA	0
	acenaphthene	3.70	2.97	80.30	2	<2	NA	NA	0
	1,6,7-trimethylnaphthalene	2.30	0.00	0.00	2	<2	NA	NA	0
	fluorene	4.10	0.71	17.20	2	3.5	NA	NA	2
	phenanthrene	12.5	2.1	17.0	2	<2	NA	NA	0
anthracene	0.580	0.530	91.700	3	<2	NA	NA	0	
1-methylphenanthrene	2.25	0.35	15.70	2	<2	NA	NA	0	
fluoranthene	2.20	NA	NA	1	<2	NA	NA	0	
pyrene	2.20	NA	NA	1	<2	NA	NA	0	

	benz[a]anthracene	0.390	NA	NA	1	<2	NA	NA	0																																																																								
	chrysene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	triphenylene		NA	NA	0		NA	NA	0																																																																								
	benzo[b]fluoranthene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	benzo[]fluoranthene		NA	NA	0		NA	NA	0																																																																								
	benzo[k]fluoranthene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	benzo[e]pyrene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	benzo[a]pyrene	0.510	NA	NA	1	<2	NA	NA	0																																																																								
	perylene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	indeno[1,2,3-cd]pyrene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	dibenz[a,h]anthracene	<2	NA	NA	0	<2	NA	NA	0																																																																								
	benzo[ghi]perylene	<2	NA	NA	0	<2	NA	NA	0																																																																								
10	Other: 4,4'-DDD Intf in SRM samples Other: 2,4'-DDE Intf in SRM samples Other: Endrin breakdown problems samples and SRM's																																																																																
11	Following Reported as Coeluting Congener 8 reported as Congeners 8+5 Congener 28 reported as Congeners 28+31 Congener 153 reported as Congeners 132+105+153 Congener 138 reported as Congeners 138+163 Congener 195 reported as Congeners 195+208																																																																																
12	<p>1) Analyte MDL values were not determined. All detected concentrations are reported.</p> <p>2) An analyte value of DL means " Not Detected" for our data.</p> <p>3) We extracted and analyzed all three FISH V and the three SRM 1946 samples in one batch.</p> <p>4) Supplemental pesticide (SRM 2274) and PCB (SRM2275) mixtures were obtained from NIST. Chlorpyrifos was obtained from Ultra Scientific, North Kingstown, RI.</p> <p>5) For the analyses of PCBs and pesticides, 1 microliter of sample was injected into the GC-ECD. Helium was used as the carrier gas all analyses.</p> <p>6) Additional PCB Results:</p> <table border="1"> <thead> <tr> <th></th> <th>Fish V</th> <th>Fish V</th> <th>Fish V</th> <th>Fish V</th> <th>SRM 1946</th> <th>SRM 1946</th> <th>SRM 1946</th> <th>SRM 1946</th> </tr> <tr> <th></th> <th>mean</th> <th>s</th> <th>%RSD</th> <th>n</th> <th>mean</th> <th>s</th> <th>%RSD</th> <th>n</th> </tr> </thead> <tbody> <tr> <td>PCB 77</td> <td>OtherD</td> <td>NA</td> <td>NA</td> <td>0</td> <td>OtherD</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> <tr> <td>PCB 110</td> <td>OtherD</td> <td>NA</td> <td>NA</td> <td>0</td> <td>OtherD</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> <tr> <td>PCB 126</td> <td>23.03</td> <td>1.25</td> <td>5.44</td> <td>3</td> <td>22.8</td> <td>1.3</td> <td>5.8</td> <td>3</td> </tr> <tr> <td>PCB 151</td> <td>8.52</td> <td>0.15</td> <td>1.72</td> <td>3</td> <td>DL</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> <tr> <td>PCB 169</td> <td>2.06</td> <td>0.04</td> <td>1.94</td> <td>3</td> <td>4.21</td> <td>0.20</td> <td>4.86</td> <td>3</td> </tr> <tr> <td>PCB 183</td> <td>36.5</td> <td>0.6</td> <td>1.7</td> <td>3</td> <td>52.1</td> <td>1.8</td> <td>3.5</td> <td>3</td> </tr> </tbody> </table> <p>7) Other: We found that these pairs of analytes coelute from our DB-5 column. OtherA : PCB 8 and alpha-HCH OtherB : endosulfan I and PCB 101 OtherC : alpha-chlordane and PCB 99. OtherD : 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.</p>										Fish V	Fish V	Fish V	Fish V	SRM 1946	SRM 1946	SRM 1946	SRM 1946		mean	s	%RSD	n	mean	s	%RSD	n	PCB 77	OtherD	NA	NA	0	OtherD	NA	NA	0	PCB 110	OtherD	NA	NA	0	OtherD	NA	NA	0	PCB 126	23.03	1.25	5.44	3	22.8	1.3	5.8	3	PCB 151	8.52	0.15	1.72	3	DL	NA	NA	0	PCB 169	2.06	0.04	1.94	3	4.21	0.20	4.86	3	PCB 183	36.5	0.6	1.7	3	52.1	1.8	3.5	3
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13	<p>PCB 30/18: 28/20: 69/49: 44/47/65: 113/90/101: 83/99: 151/135: 147/149: 153/168: 138/163/129: 156/157: 193/180.</p> <p>Note 1</p> <p>Internal Standards - Pesticides</p> <p>13C6-Hexachlorobenzene</p> <p>13C6-beta BHC</p> <p>13C6-d6-gamma BHC (Lindane)</p> <p>13C10-Heptachlor</p> <p>13C12-Aldrin</p> <p>13C10-Heptachlor Epoxide</p> <p>13C10-Oxychlordane</p> <p>13C10-Chlordane</p> <p>13C9-Endosulfan I</p> <p>13C10-trans Nonachlor</p> <p>13C12-Dieldrin</p> <p>13C12-Endrin</p> <p>13C9-Endosulfan II</p> <p>13C10-cis Nonachlor</p> <p>d8-pp-DDD</p> <p>13C-pp-DDE</p>																																																																																

	<p>13C-pp-DDT 13C-Methoxychlor 13C10-Mirex Note 2 Internal Standards - PCB PCB 1-13C12 PCB 3-13C12 PCB 4-13C12 PCB 15-13C12 PCB 19-13C12 PCB 37-13C12 PCB 54-13C12 PCB 77-13C12 PCB 81-13C12 PCB 104-13C12 PCB 105-13C12 PCB 114-13C12 PCB 118-13C12 PCB 123-13C12 PCB 126-13C12 PCB 155-13C12 PCB 156/157-13C12 PCB 167-13C12 PCB 169-13C12 PCB 188-13C12 PCB 189-13C12 PCB 202-13C12 PCB 205-13C12 PCB 206-13C12 PCB 208-13C12 PCB 209-13C12 Note 3 Clean-Up Standards - PCB PCB 28-13C12 PCB 111-13C12 PCB 178-13C12 Note 4 Recovery Standards - Pesticides 13C6-delta BHC 13C-PCB 52 13C-PCB 101 13C-PCB 178 Note 5 Recovery Standards - PCB PCB 9L-13C12 PCB 52L-13C12 PCB 101L-13C12 PCB 138L-13C12 PCB 194L-13C12 PCB 9L-13C12 PCB 52L-13C12 PCB 101L-13C12 PCB 138L-13C12 PCB 194L-13C12</p>
14	*coeluted congeners: 28/31, 49/43, 66/95, 101/113, 105/132, 138/158, 170/190, 195/208
19	Shaded results reported in "Red and in Italic" are those from the diluted samples LSF nomenclature for Lake Superior Fish
20	PCB Congeners: These are coeluting PCB congeners: PCB 5/PCB 8 PCB 17/PCB 18 PCB 28/PCB 31 PCB 43/PCB 52

	PCB 48/PCB 49 PCB 101/PCB 113 PCB 128/PCB 162 PCB 132/PCB 153/PCB 168 PCB 138/PCB 158 PCB 139/PCB 149 PCB 170/PCB 190 PCB 180/PCB 193 PCB 182/PCB 187																																																																																																																																																																		
21	Coeluters: 30/18, 28/20, 52/43/73, 64/49, 44/47/65, 90/101/113, 83/99/112, 147/149, 153/168, 129/138/160/163, 166/128, 156/157, 180/193																																																																																																																																																																		
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24	Other = Endosulfan I co-elutes with 2,4-DDE Other = Endosulfan sulfate co-elutes with PCB 141/179 Note: Lipids are as wet weight																																																																																																																																																																		
26	The following congeners are quantified in our lab together with other congeners according to these lists. <table border="1"> <thead> <tr> <th>NIST list</th> <th>our list</th> </tr> </thead> <tbody> <tr> <td>PCB 8</td> <td>8,5</td> </tr> <tr> <td>PCB 28</td> <td>31,28</td> </tr> <tr> <td>PCB 31</td> <td>31,28</td> </tr> <tr> <td>PCB 66</td> <td>66,95</td> </tr> <tr> <td>PCB 105</td> <td>132,153,105</td> </tr> <tr> <td>PCB 153</td> <td>132,153,105</td> </tr> <tr> <td>PCB 138</td> <td>163,138</td> </tr> <tr> <td>PCB 149</td> <td>123,149</td> </tr> <tr> <td>PCB 156</td> <td>202,171,156</td> </tr> <tr> <td>PCB 170</td> <td>170,190</td> </tr> <tr> <td>PCB 187</td> <td>187,182</td> </tr> <tr> <td>PCB 195</td> <td>208,195</td> </tr> </tbody> </table>	NIST list	our list	PCB 8	8,5	PCB 28	31,28	PCB 31	31,28	PCB 66	66,95	PCB 105	132,153,105	PCB 153	132,153,105	PCB 138	163,138	PCB 149	123,149	PCB 156	202,171,156	PCB 170	170,190	PCB 187	187,182	PCB 195	208,195																																																																																																																																								
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Appendix F: Laboratory Notes Accompanying Data, Sediment XI

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Helium was used as the carrier gas all analyses.

7) Additional PCB Results for Sediment XI:

	Sediment XI mean	Sediment XI s	Sediment XI %RSD	Sediment XI n
PCB 77	OtherD	NA	NA	0
PCB 110	OtherD	NA	NA	0
PCB 126	3.42	0.30	8.80	3
PCB 151	4.56	NA	NA	1
PCB 169	1.09	0.50	45.60	3
PCB 183	4.55	0.55	12.10	3

8) Other: The following analytes coelute from our DB-5 column:

- OtherA : PCB 8 and alpha-HCH
- OtherB : endosulfan I and PCB 101
- OtherC : alpha-chlordane and PCB 99.
- OtherD : PCB 77 and PCB 110

Since these analytes coelute from our column and the response of each analyte varies from each other, the relative ratios of each coeluted pair of analytes can not be determined. We do not report the concentrations of the coeluted analytes.

9) The recoveries for the PAH internal standards from Sediment XI are:

NA_d8 (68.1 ± 6.4%) ACN_d10 (91.5 ± 3.2%) BaPd12 (85.9 ± 12.8%)
 PE_d12 (85.9 ± 12.8%) CHR_Sd12 (189 ± 20%)

10) Analysis of SRM 1941a:

We followed the the same procedures for sample cleanup and the use of internal standards in the analysis of SRM 1941a as we did for Sediment XI. We also used GC-ECD for the analysis of PCBs and pesticides and GC-MSD in select ion monitoring mode for PAHs using the same columns and conditions as for Sediment XI. Data for PCBs and pesticides were acquired for SRM 1941a on 3/31/02. Processing of sample extracts for PAHs finished on 5/17/2002.

Approximate amount of sample extracted: 5.03 ± 0.04 g, dry basis

Percent recovery range:	PAH	NA _d 8 (53.0 ± 23.7%)	ACN _d 10 (67.3 ± 9.9%)	BaPd12 (69.7 ± 10.3%)
		PE _d 12 Not Detected	CHR _S d12 (202 ± 10%)	
	Pesticides Ronnel:	(94.7 ± 5.5%)	123-TCB: (81.4 ± 3.9%)	
	PCB Congen DOB:	(75.7 ± 3.3%)	PCB 198: (186.1 ± 11.1%)	
		PCB 192: (98.8 ± 3.5%)		

PAH ANALYSES

	SRM 1941a mean	SRM 1941a s	SRM 1941a %RSD	SRM 1941a n
naphthalene	373	123	33	3
2-methylnaphthalene	132	24	18	3
1-methylnaphthalene	74.8	10.0	13.4	3
biphenyl	38.8	3.9	10.1	3
2,6-dimethylnaphthalene	66.6	5.9	8.8	3
acenaphthylene	22.4	2.0	8.9	3
acenaphthene	DL	NA	NA	0
1,6,7-trimethylnaphthalene	DL	NA	NA	0
fluorene	DL	NA	NA	0
phenanthrene	306	10	3	3
anthracene	75.8	9.2	12.1	3
1-methylphenanthrene	45.7	NA	NA	1
fluoranthene	898	77	9	3
pyrene	666	77	12	3
benz[a]anthracene	292	19	7	3
chrysene	515	37	7	3
triphenylene	NA	NA	NA	0
benzo[b]fluoranthene	278	19	7	3
benzo[j]fluoranthene	NA	NA	NA	0
benzo[k]fluoranthene	545	33	6	3
benzo[e]pyrene	280	42	15	3
benzo[a]pyrene	471	27	6	3
perylene	42.3	NA	NA	1
indeno[1,2,3-cd]pyrene	312	18	6	3
dibenz[a,h]anthracene	83.2	5.7	6.9	3
benzo[ghi]perylene	428	26	6	3

PESTICIDE ANALYSES

SRM 1941a SRM 1941a SRM 1941a SRM 1941a

	mean	s	%RSD	n
alpha-HCH (a-BHC)	OtherA	NA	NA	0
hexachlorobenzene	46.7	1.9	4.1	3
gamma-HCH (γ-BHC,lindane)	0.770	0.530	67.900	3
beta-HCH (b-BHC)	1.51	0.18	12.10	3
heptachlor	1.87	0.90	47.80	3
aldrin	DL	NA	NA	0
heptachlor epoxide	1.27	0.09	7.40	3
oxychlorane	DL	NA	NA	0
gamma-chlordane	3.65	0.19	5.20	3
2,4'-DDE	7.05	0.11	1.50	3
endosulfan I	OtherB	NA	NA	0
cis-chlordane (alpha-chlordane)	OtherC	NA	NA	0
trans-nonachlor	3.79	1.24	32.70	3
dieldrin	5.85	0.02	0.30	3
4,4'-DDE	8.61	0.44	5.10	3
2,4'-DDD	5.84	0.84	14.40	3
endrin	17.5	0.6	3.6	3
endosulfan II	1.96	0.06	3.20	3
4,4'-DDD	8.59	0.52	6.00	3
2,4'-DDT	2.68	0.11	4.20	3
cis-nonachlor	2.13	0.24	11.20	3
4,4'-DDT	3.39	0.29	8.50	3
mirex	0.300	0.130	44.000	3
endosulfan sulfate	19.7	2.2	11.2	3
chlorpyrifos	DL	NA	NA	0
PCB CONGENER ANALYSES	SRM 1941a	SRM 1941a	SRM 1941a	SRM 1941a
	mean	s	%RSD	n
PCB 8	OtherA	NA	NA	0
PCB 18	4.29	0.23	5.30	3
PCB 28	6.75	0.26	3.80	3
PCB 31	4.70	0.18	3.90	3
PCB 44	9.19	0.10	1.10	3
PCB 49	9.09	0.19	2.10	3
PCB 52	11.0	0.4	3.4	3
PCB 66	9.92	0.45	4.50	3
PCB 95	11.7	0.5	4.2	3
PCB 99	OtherC	NA	NA	0
PCB 101	OtherB	NA	NA	0
PCB 105	5.11	0.24	4.60	3
PCB 118	16.2	0.6	3.5	3
PCB 128	3.68	0.08	2.00	3
PCB 138	15.9	0.6	4.0	3
PCB 149	3.27	0.16	4.90	3
PCB 153	16.5	0.6	3.4	3
PCB 156	3.13	0.23	7.40	3
PCB 170	4.02	0.40	10.00	3
PCB 180	10.2	0.6	6.3	3
PCB 187	9.27	0.20	2.10	3
PCB 194	5.78	0.38	6.60	3
PCB 195	1.09	0.09	8.20	3
PCB 206	5.63	0.42	7.50	3
PCB 209	12.7	0.9	6.9	3
Other PCB Congeners:				
PCB 77	OtherD	NA	NA	0
PCB 110	OtherD	NA	NA	0
PCB 126	3.77	0.03	0.70	3
PCB 151	DL	NA	NA	0
PCB 169	2.67	0.84	31.30	3
PCB 183	5.68	0.08	1.40	3

	<p>Other</p> <p>OtherA : PCB 8 and alpha-HCH</p> <p>OtherB : endosulfan I and PCB 101</p> <p>OtherC : alpha-chlordane and PCB 99.</p> <p>OtherD : PCB 77 and PCB 110</p>
13	<p>Note 1</p> <p>Internal Standards - PAH</p> <p>Naphthalene-2H8</p> <p>2-Methylnaphthalene-2H10</p> <p>Acenaphthylene-2H8</p> <p>Phenanthrene-2H10</p> <p>Fluoranthene-2H10</p> <p>Benz(a)anthracene-2H12</p> <p>Chrysene-2H12</p> <p>Benzo(b)fluoranthene-2H12</p> <p>Benzo(k)fluoranthene-2H12</p> <p>Benzo(a)pyrene-2H12</p> <p>Perylene-2H12</p> <p>Indeno(1,2,3-c,d)pyrene-2H12</p> <p>Dibenzo(a,h)anthracene-2H14</p> <p>Benzo(g,h,i)perylene-2H12</p> <p>2,6-Dimethylnaphthalene-2H12</p> <p>Note 2</p> <p>Internal Standards - Pesticides</p> <p>13C6-Hexachlorobenzene</p> <p>13C6-beta BHC</p> <p>13C6-d6-gamma BHC (Lindane)</p> <p>13C10-Heptachlor</p> <p>13C12-Aldrin</p> <p>13C10-Heptachlor Epoxide</p> <p>13C10-Oxychlordane</p> <p>13C10-Chlordane</p> <p>13C9-Endosulfan I</p> <p>13C10-trans Nonachlor</p> <p>13C12-Dieldrin</p> <p>13C12-Endrin</p> <p>13C9-Endosulfan II</p> <p>13C10-cis Nonachlor</p> <p>d8-pp-DDD</p> <p>13C-pp-DDE</p> <p>13C-pp-DDT</p> <p>13C-Methoxychlor</p> <p>13C10-Mirex</p> <p>Note 3</p> <p>Internal Standards - PCB</p> <p>PCB 1-13C12</p> <p>PCB 3-13C12</p> <p>PCB 4-13C12</p> <p>PCB 15-13C12</p> <p>PCB 19-13C12</p> <p>PCB 37-13C12</p> <p>PCB 54-13C12</p> <p>PCB 77-13C12</p> <p>PCB 81-13C12</p> <p>PCB 104-13C12</p> <p>PCB 105-13C12</p> <p>PCB 114-13C12</p> <p>PCB 118-13C12</p> <p>PCB 123-13C12</p>

PCB 126-13C12
 PCB 155-13C12
 PCB 156/157-13C12
 PCB 167-13C12
 PCB 169-13C12
 PCB 188-13C12
 PCB 189-13C12
 PCB 202-13C12
 PCB 205-13C12
 PCB 206-13C12
 PCB 208-13C12
 PCB 209-13C12

Note 4
 Clean-Up Standards - PCB
 PCB 28-13C12
 PCB 111-13C12
 PCB 178-13C12

Note 5
 Recovery Standards - PAH
 d10-Acenaphthene
 d10-Pyrene
 d12-Benzo(e)pyrene

Note 6
 Recovery Standards - Pesticides
 13C6-delta BHC
 13C-PCB 52
 13C-PCB 101
 13C-PCB 178

Note 7
 Recovery Standards - PCB
 PCB 9L-13C12
 PCB 52L-13C12
 PCB 101L-13C12
 PCB 138L-13C12
 PCB 194L-13C12

Note 8
 Triphenylene is reported as part of the chysene result.

Note 9
 Benzo(j)fluoranthene co-elutes non-specifically with either benzo(b)fluoranthene or benzo(k)fluoranthene.

The following peaks co-elute and each individual congener is reported as a sum of the response of all peaks that co-elute.

PCB 30/18; 28/20; 69/49; 44/47/65; 113/90/101; 83/99; 151/135; 147/149; 153/168; 138/163/129; 156/157; 193/180.

14 *coeluted congeners: 28/31, 49/43, 66/95, 101/113, 105/132, 138/158, 170/190, 195/208

18	Lot Number	Sample Type	Analysis Ty	Workorder Number
	H1K300116	SRM 1944	PAH	EPPKF1AE
		Jar 105	PAH	EPPGD1AE
		Jar 150	PAH	EPPJ71AE
		Jar 180	PAH	EPPJ91AE
	H2D050110	SRM 1944	PAH	EXFER1AC
		SRM 1944	PAH	EXFEV1AC
	H1K300116	SRM1944	Pesticides	EPPKF1AG
		Jar 105	Pesticides	EPPGD1AG
		Jar 150	Pesticides	EPPJ71AG
		Jar 180	Pesticides	EPPJ91AG
	H2D050110	SRM 1944	Pesticides	EXFER1AD
		SRM 1944	Pesticides	EXFEV1AD

H1K300116	SRM 1944	PCBs	EPPKF1AH
	Jar 105	PCBs	EPPGD1AH
	Jar 150	PCBs	EPPJ71AH
	Jar 180	PCBs	EPPJ91AH

One SRM 1944 analysis was done with the first batch of each PCB, PAH and Pesticide sediment sample. Two SRM 1944 analyses were performed after the conclusion of the sediment analyses. Specifically, the SRM1944 work performed under H2D050110 was performed after the analysis of the sediment 11 samples, using the same methods as were used for the sediment samples. Please note the analysis dates of the analyses, provided in the results tables.

The results for Benzo(k)fluoranthene may be elevated due to possible coelution with Benzo(j)fluoranthene.

There was also an apparent elevation in the analyzed value for Dibenz(a,h)anthracene, which may also be due to coelution.

The following QC issues were observed during the program:

Lot Number: H1K300116, Method(s): KNX-ID-0016 Revision 1: High Resolution GC / Low Resolution MS SIM Analysis for Polyaromatic Hydrocarbons and Selected Semivolatile Organic Compounds.

The following analytes were present above the minimum level (defined below) in method blanks ETXF31AA and ET4GM1AA: Naphthalene, 2-methylnaphthalene and 1-methylnaphthalene. The level of contamination in the blanks represents 5 to 10% of the amounts observed in the sediments under study. Efforts are underway to determine the source of the contamination.

SRM 1944 was run at a 1:10 dilution to bring all compounds into the instrument's calibration range.

Lot Number: H2D050110, Method(s): KNX-ID-0014 Revision 2: High Resolution GC / Low Resolution MS SIM Analysis for Organochlorine Pesticides.

All QC criteria were met with the following exceptions:

Recovery standard 13C-delta-BHC was not recovered or recovered in very low amounts in the method blank and sample 1944 Ace/Hex 1. Due to this lack of recovery the following internal standards were quantitated against the 13C-PCB-101 recovery standard in the samples listed above: 13C-beta-BHC, 13C-gamma-BHC, 13C-heptachlor, 13C-hexachlorobenzene, 13C-methoxychlor. The use of the alternative recovery standard would not affect the quality of the results, since analytes are referenced to labeled internal standards, not recovery standards.

The laboratory control sample duplicate displayed endrin aldehyde and endosulfan sulfate outside of control limits. In addition, the %RPD for endrin ketone between the LCS and LCSD was outside of control limits.

Sample 1944 Ace/Hex 2 displayed the following internal standards below the 20% control limit: 13C-4,4'-DDT, 13C-methoxychlor, 13C-aldrin, and 13C-2,4'-DDT. Results from isotope dilution analyses, if properly applied, are independent of internal standard recoveries.

Lot Number: H1K300116, Method: KNX-ID-0013 Revision 1: High Resolution GC / High Resolution MS SIM Analysis for Polychlorinated Biphenyls.

All samples were analyzed at a 1:5 dilution to bring results within the calibration range.

Lot Number: H1K300116, Method: KNX-ID-0013 Revision 2: High Resolution GC / High Resolution MS SIM Analysis for Organochlorine Pesticides.

The laboratory control sample associated with the first SRM 1944 and Jar 105 had endrin aldehyde and 13C-Methoxychlor recoveries outside control limits. Several internal standards were not recovered on the method blank, and associated native analytes could not be reported.

PAHs	Pesticides	PCBs
Internal Standards	Internal Standard Labeled Internal Standards	
d-8 Naphthalene	13C12-Aldrin	13C12-4-chl 3L12
d-10 2-Methylnaphthalene	13C6-beta-B	13C12-4,4'- 15L
d-10 1-Methylnaphthalene	13C6-gamma	13C12-2,4,428L
d-8 Acenaphthylene	13C12-Dield	13C12-3,3', 77L
d-10 Phenanthrene	13C12-Endri	13C12-3,4,481L
d-12 2,6-Dimethylnaphthalene	d8-4,4'-DDD	13C12-2,3,3 105L
d-10 Fluoranthene	13C12-2,4'-E	13C12,2,3,4, 114L
d-12 Benzo(a)anthracene	13C12-4,4'-E	13C12-2,3', 118L
d-12 Chrysene	13C12-2,4'-E	13C12-2',3, 123L
d-12 Benzo(b)fluoranthene	13C12-4,4'-E	13C12-3,3', 126L
d-12 Benzo(k)fluoranthene	D4-Endosulf	13C12-2,3,3 156L
d-12 Benzo(a)pyrene	D4-Endosulf	13C12-2,3,3 157L
d-12 Perylene	13C6-Hexacl	13C12-2,3', 167L
d-12 Indeno(1,2,3-cd)pyrene	13C10-Hepta	13C12-3,3', 169L
d-14 Dibenz(ah)anthracene	13C10-Hepta	13C12-2,2', 170L
d-12 Benzo(ghi)perylene	13C12-Meth	13C12-2,2', 180L
d-4 1,4-Dichlorobenzene	13C10-trans-	13C12-2,3,3 189L
Stationary Source Internal Stds.	13C10-Oxyc	13C12-2,2', 194L
d-7 2-Chloronaphthalene	Recovery Sta	13C12-2,2', 206L
d-13 Dibenz (a,j) acridine	13C6-delta-E	13C12-2,2', 209L
C13 Dibenz (a,e) pyrene	13C12-Penta-Labeled Recovery Standards5	
Recovery Standards	13C6-4-chl 3L6	
d-10 Acenaphthene	13C12-2,4'- 8L	
d-10 Pyrene	13C12-3,4,4 37L	

	d-12 Benzo(e)Pyrene	13C12-2,2', 52L 13C12-2,2', 101L 13C12-2,2', 138L 13C12-2,2', 178L 13C12-2,2', 202L 13C12-2,2', 208L Cleanup Standards6 13C12-3,4,4 32L 13C12-2,3,3 111L																																																																																																																																																																																		
20	<p>PAH's: Benzo(b)fluoranthene, Benzo(j)fluoranthene & Benzo(k)fluoranthene co-elute. These analytes are reported together as Benzo(b,j,k)fluoranthene</p> <p>PCB Congeners: These are coeluting PCB congeners: PCB 5/PCB 8 PCB 17/PCB 18 PCB 28/PCB 31 PCB 43/PCB 52 PCB 48/PCB 49 PCB 101/PCB 113 PCB 128/PCB 162 PCB 132/PCB 153/PCB 168 PCB 138/PCB 158 PCB 139/PCB 149 PCB 170/PCB 190 PCB 180/PCB 193 PCB 182/PCB 187</p>																																																																																																																																																																																			
21	Coeluters: 30/18, 28/20, 52/43/73, 64/49, 44/47/65, 90/101/113, 83/99/112, 147/149, 153/168, 129/138/160/163, 166/128, 156/157, 180/193																																																																																																																																																																																			
23	<table border="1"> <thead> <tr> <th></th> <th>Sediment X1</th> <th>Sediment X1</th> <th>Sediment X1</th> <th>Sediment X1</th> <th>SRM 1944</th> <th>SRM 1944</th> <th>SRM 1944</th> <th>SRM 1944</th> </tr> <tr> <th></th> <th>mean</th> <th>s</th> <th>%RSD</th> <th>n</th> <th>mean</th> <th>s</th> <th>%RSD</th> <th>n</th> </tr> </thead> <tbody> <tr> <td>dibenzothiophene</td> <td>80.9</td> <td>6.4</td> <td>7.9</td> <td>3</td> <td>640</td> <td>33</td> <td>5</td> <td>3</td> </tr> <tr> <td>PCB 17</td> <td>7.48</td> <td>0.04</td> <td>0.50</td> <td>3</td> <td>22.8</td> <td>0.4</td> <td>1.8</td> <td>3</td> </tr> <tr> <td>PCB 33</td> <td>13.6</td> <td>0.7</td> <td>5.2</td> <td>3</td> <td>44.6</td> <td>2.5</td> <td>5.6</td> <td>3</td> </tr> <tr> <td>PCB 70</td> <td>34.6</td> <td>0.2</td> <td>0.6</td> <td>3</td> <td>81.1</td> <td>1.4</td> <td>1.7</td> <td>3</td> </tr> <tr> <td>PCB 74</td> <td>15.5</td> <td>0.6</td> <td>3.9</td> <td>3</td> <td>38.9</td> <td>1.0</td> <td>2.5</td> <td>3</td> </tr> <tr> <td>PCB 82</td> <td>4.73</td> <td>0.26</td> <td>5.40</td> <td>3</td> <td>11.2</td> <td>0.4</td> <td>3.6</td> <td>3</td> </tr> <tr> <td>PCB 87</td> <td>13.0</td> <td>0.4</td> <td>2.9</td> <td>3</td> <td>31.5</td> <td>0.9</td> <td>2.8</td> <td>3</td> </tr> <tr> <td>PCB 110</td> <td>32.5</td> <td>0.2</td> <td>0.6</td> <td>3</td> <td>69.9</td> <td>1.5</td> <td>2.1</td> <td>3</td> </tr> <tr> <td>PCB 151</td> <td>7.85</td> <td>0.30</td> <td>3.80</td> <td>3</td> <td>15.9</td> <td>1.0</td> <td>6.0</td> <td>3</td> </tr> <tr> <td>PCB 158</td> <td>3.16</td> <td>0.05</td> <td>1.70</td> <td>3</td> <td>7.39</td> <td>0.26</td> <td>3.40</td> <td>3</td> </tr> <tr> <td>PCB 171</td> <td><6.24</td> <td>NA</td> <td>NA</td> <td>0</td> <td>6.66</td> <td>1.57</td> <td>23.60</td> <td>2</td> </tr> <tr> <td>PCB 177</td> <td>5.79</td> <td>0.09</td> <td>1.60</td> <td>2</td> <td>12.8</td> <td>1.8</td> <td>13.9</td> <td>3</td> </tr> <tr> <td>PCB 183</td> <td>5.68</td> <td>0.23</td> <td>4.00</td> <td>2</td> <td>12.5</td> <td>1.0</td> <td>7.9</td> <td>3</td> </tr> <tr> <td>PCB 191</td> <td><6.24</td> <td>NA</td> <td>NA</td> <td>0</td> <td><6.73</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> <tr> <td>PCB 199</td> <td>4.83</td> <td>0.27</td> <td>5.60</td> <td>3</td> <td>11.2</td> <td>0.6</td> <td>5.2</td> <td>3</td> </tr> <tr> <td>PCB 205</td> <td><6.25</td> <td>NA</td> <td>NA</td> <td>0</td> <td><6.74</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> <tr> <td>PCB 208</td> <td><6.24</td> <td>NA</td> <td>NA</td> <td>0</td> <td><6.73</td> <td>NA</td> <td>NA</td> <td>0</td> </tr> </tbody> </table> <p>Chrysene coelutes with triphenylene - the sum is reported as chrysene. B[j]F coelutes with B[k]F - the sum is reported as B[k]F. DBA(a,e) coelutes with DBA(a,h) - the sum is reported as DBA(a,h). PCB 101 coelutes with PCB 90 - the sum is reported as PCB 101. PCBs 163 and 164 coelute with PCB 138 - the sum is reported as PCB 138. PCB 132 coelutes with PCB 153 - the sum is reported as PCB 153. PCB 190 coelutes with PCB 170 - the sum is reported as PCB 170. PCBs 159 and 182 coelute with PCB 187 - the sum is reported as PCB 187.</p>										Sediment X1	Sediment X1	Sediment X1	Sediment X1	SRM 1944	SRM 1944	SRM 1944	SRM 1944		mean	s	%RSD	n	mean	s	%RSD	n	dibenzothiophene	80.9	6.4	7.9	3	640	33	5	3	PCB 17	7.48	0.04	0.50	3	22.8	0.4	1.8	3	PCB 33	13.6	0.7	5.2	3	44.6	2.5	5.6	3	PCB 70	34.6	0.2	0.6	3	81.1	1.4	1.7	3	PCB 74	15.5	0.6	3.9	3	38.9	1.0	2.5	3	PCB 82	4.73	0.26	5.40	3	11.2	0.4	3.6	3	PCB 87	13.0	0.4	2.9	3	31.5	0.9	2.8	3	PCB 110	32.5	0.2	0.6	3	69.9	1.5	2.1	3	PCB 151	7.85	0.30	3.80	3	15.9	1.0	6.0	3	PCB 158	3.16	0.05	1.70	3	7.39	0.26	3.40	3	PCB 171	<6.24	NA	NA	0	6.66	1.57	23.60	2	PCB 177	5.79	0.09	1.60	2	12.8	1.8	13.9	3	PCB 183	5.68	0.23	4.00	2	12.5	1.0	7.9	3	PCB 191	<6.24	NA	NA	0	<6.73	NA	NA	0	PCB 199	4.83	0.27	5.60	3	11.2	0.6	5.2	3	PCB 205	<6.25	NA	NA	0	<6.74	NA	NA	0	PCB 208	<6.24	NA	NA	0	<6.73	NA	NA	0
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PCB 205	<6.25	NA	NA	0	<6.74	NA	NA	0																																																																																																																																																																												
PCB 208	<6.24	NA	NA	0	<6.73	NA	NA	0																																																																																																																																																																												
24	<p>Other Indicates co-elution</p> <p>Other = Endosulfan 1 co-elutes with 2,4-DDE</p> <p>Other = Endosulfan sulfate co-elutes with PCB 141/179</p> <p>Other = Triphenylen coelutes with Chrysene</p> <p>Other = Benzo(?)fluoranthenes coelute</p>																																																																																																																																																																																			
26	The following PAHs were quantified as combined, coeluent peaks NIST list																																																																																																																																																																																			

chrysene	Chrysene + Triphenylene
triphenylene	Chrysene + Triphenylene
dibenz[a,h]anthracene	Dibenz[a,h+ac]anthracene

The following PCBs were quantified as combined, coeluent peaks

NIST list

PCB 8	8,5
PCB 28	31, 28
PCB 31	31, 28
PCB 66	66,95
PCB 95	66,95
PCB 105	132,153,105
PCB 138	163,138
PCB 149	123,149
PCB 153	132,153,105
PCB 156	202,171,156
PCB 170	170,190
PCB 187	187,182
PCB 195	208,195

27	<p>the chrysene number is the sum of chrysene and triphenylene, we cannot resolve the two</p> <p>we can not separate benzo(j)fluoranthene because under our conditions it coelutes with benzo(b)fluoranthene</p> <p><symbol refers to values less than our MDL</p> <p>PCB101 coelutes with PCB90</p> <p>PCB153 coelutes with PCB132 and 168</p> <p>PCB170 coelutes with PCB190</p> <p>PCB8 coelutes with PCB5</p> <p>PCB195 coelutes with PCB208</p>
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Appendix G: Laboratory Methods Used, Fish Homogenate V

Summary of Methods Used

Lab #	Reagent	g extracted QADFSH5	g extracted SRM 1916	% TEO Densitometric	Extraction Method	Extraction Solvent	Extraction Time	Extraction other
1-MS-1	4/15/02	2 wet	2 wet	gravimetric using 100 uL from 10 mL of conc. extract	PFE	hexane/octane (1:1)	15 min	temp = 100 °C; pressure 2000 psi; samples equilibrated prior to extraction
1-MS-2	5/20/02	2.5 wet	3 wet	NA	Soxhlet	dichloromethane	approx. 18 h	temp = 100 °C; pressure 2000 psi; equilibration time 5 min; static time 3 min., 3 cycles
1-ECD	6/24/02	3.5 wet	3.5 wet	NA	PFE	dichloromethane		sonicated in 5 x the mass of tissue to volume of solvent (2g of tissue in 10 mL of hexane)
2	2/8/02	2 wet	2 wet	lg extracted with 1:1 (v/v) hexane via ultrasonic probe - gravimetric	ultrasonic probe	hexane	3 min (3 x)	
3	2/21/02	8 wet	7 wet		isomaxizer plus physical agitation	hexane	reciprocal extract at high speed for 2 min (2x) and 1 h shaker table	
4	2/21/02	3.5 wet	3.26 wet		PFE	dichloromethane:acetone	15 min	
4b	4/10/02	5.02 wet	5.07 wet		microwave extraction (method 3545)	hexane/octane	20 min	
5	2/22/02	5 wet	5 wet	gravimetric	Soxhlet	dichloromethane	16 h	
5b	4/15/02	5 wet	2 wet	gravimetric	Soxhlet	dichloromethane	16 h	
6	2/22/02	10 wet	6 wet	gravimetric	ultrasonication ambient temperature shaker	dichloromethane:acetone (1:1)	3 cycles of 3 min ultrasonication; 4 h shaker table	
6b	4/29/02	10 wet	1.5 wet	gravimetric	ultrasonication ambient temperature shaker	dichloromethane:acetone (1:1)	3 cycles of 3 min ultrasonication; 4 h shaker table	
7	4/2/02	1 wet	2.5 wet	gravimetric	PFE	dichloromethane	3 cycles @ 3 min per cycle	temp = 100 °C; pressure 2000 psi; samples equilibrated prior to extraction
8	4/5/02	5 wet	5 wet	gravimetric using 500 uL from 10 mL of conc. extract	NDAA Stans and Trends 3545	dichloromethane	2 min extractions using isomaxizer probe (2x) followed by 0.5 h on shaker table	
9	4/15/02	3 wet	23 wet		Soxhlet	dichloromethane:hexane (1:1)	12 h	
10	4/8/02	10 wet	10 wet	gravimetric	Soxhlet	dichloromethane	18 h	
11	4/12/02	1 wet	1 wet	gravimetric using 2 mL from 10 mL of conc. extract	Soxhlet	dichloromethane	18 h	
12	4/12/02	10.5 wet	7.0 wet		Soxhlet	dichloromethane	18 h	
13	4/15/02	10 wet	10 wet	gravimetric	Soxhlet	dichloromethane:hexane (1:1)	16 h	
14	4/15/02	4.7 wet	3.2 wet		Soxhlet	dichloromethane:acetone (3:1)	16 h	
17	4/15/02	1 wet	1 wet	gravimetric using 100 uL from 1 mL of conc. extract	PFE	dichloromethane	11 min	
19	4/29/02	6 wet	6 wet	gravimetric using 1 mL from 9 mL of conc. extract	Polytron	dichloromethane	3 x at 2 min each	
20	5/15/02	8 wet	10 wet	extract subsample using chloroform/methanol in the presence of an enzyme - gravimetric using 20 - 30 uL from 2 mL of conc. extract	Soxhlet	dichloromethane	overnight (>16 h)	
21	5/14/02	3-4 wet	3-4 wet		PFE	dichloromethane:hexane (1:1)	3 x 3 min static cycles	100 °C
22	5/15/02	1 wet (OC); 2 wet (PCB)	1 wet (OC); 2 wet (PCB)	Soxhlet - hexane; gravimetric using whole extract	Soxhlet	hexane	7 h	
23	5/15/02	3 wet	3 wet	Bligh and Dyer	PFE	dichloromethane	26 min	
24	5/16/02	5.5 wet	4 wet	gravimetric	grinding with sodium sulfate and dichloromethane	dichloromethane	3 x 3 min each	
25	5/15/02	2.5 wet	8 wet	gravimetric	Soxhlet	dichloromethane followed by toluene	16 h for each solvent	desiccate prior to extraction with sodium acetate
26	5/15/02	5 wet	1.5 wet	gravimetric	Soxhlet	dichloromethane	24 h	
27	5/15/02	3.5 wet	5 wet	gravimetric using 100 uL from 3 mL of conc. extract	PFE	dichloromethane	13 min per sample	temp = 100 °C; pressure 2000 psi; 2 static cycles; sample reduction to 3 mL using water bath
29	5/28/02	10 wet	7 wet	SOP-SVO-59	Soxhlet	dichloromethane	16 h	

Lab #	Sample extract cleanup method	PCBs and Pesticides Separated?	Method of quantitation
I-MS-1	silica solid phase extraction (SPE) column; condition and elute with 10% dichloromethane (DCM) in hexane; repeat SPE step one more time; repeat SPE using NH2 SPE column	no	IS
I-MS-2	SEC for lipid removal; separation of PCBs and pesticide using HPLC with aminopropyl column	yes	IS
I-ECD	SEC (PLGel) using dichloromethane as mobile phase; fractionated using aminopropylsilane column (YMC, Waters)	yes	IS
2	SEC (column 2.7 cm id, packed 29.5 cm deep with OI analytical Envirobeads S-X3 at 19 °C); 1 g florisil column (activated at 450 °C for 17 h and deactivated with 1% HPLC water)	no	IS
3	20 g alumina column - 2% deactivate F-20 alumina packed in DCM, sulfuric acid, and HPLC7GPC cleanup		IS
4	sulfuric acid	no	IS
4b	silica gel/copper	no	IS
5	SEC, florisil	no	IS
5b	pesticide - SEC, florisil; PCBs- SEC, florisil, silica, alumina	no	IS
6	alumina/silica gel column; GPC-HPLC	no	IS
6b	alumina/silica gel column; GPC-HPLC	no	IS
7	(1) SEC HPLC (SDVB column using dichloromethane); (2) PCB/pesticide fractionation on silica SPE (F1-hexane; F2-hexane; DCM (1:1))	gamma-HCH, heptachlor epoxide, DDD's, & dieldrin were separated	IS
8	40 g of 2% deactivated F20 alumina eluted with DCM followed by HPLC/GPC fractionation	no	IS
9	US EPA SW-846 Method 3620, modified - acetonitrile back partition (Millis, P.A, JH Onley, and RA Gaither, 1963); EPA SW-846 Method 3665	somewhat	ES
10	For pest- GPC and Al/Si	yes	ES
11	florisil chromatography	yes	IS
12	Column chromatography - florisil, silica, and alumina; conc to 5 mL; 2 Phenogel SEC HPLC columns in series.	no	IS
13	3% deactivated florisil, 44% acid silica, sodium sulfate (PCB); 3% silica; 1% florisil and heated sodium sulfate (OC)	yes	IS
14	florisil dry column; silica gel column chromatography	yes	ES
17	Extract concentrated and then cleaned through a 12 g florisil cartridge	no	IS
19	Extracts filtered through Millipore Millex-SR 0.5 um filter; SEC (Bio-Rad, Bio Beads, S-X3, 200-400 mesh in DCM); clean-up and fractionation using 7.3% deactivated silica gel	yes	IS
20	C-18 reversed phase	no	IS
21	Pesticide - SEC followed by silica cleanup columns; PCBs- acid/base wash, silica, alumina, additional silica cleanup columns	no	IS
22	pesticides- SEC, Florisil cleanup column, silicic acid cleanup column; PCBs- H41IE cleanup (sulfuric acid/silica gel/potassium silicate columns)	yes	ES
23	silica/alumina and HPLC - SEC	no	IS
24	silica gel/ alumina and HPLC Phenogel	no	IS
25	1668 analysis - silica gel, acid alumina, mercury	yes	IS
26	SEC for lipid removal; florisil - Fis5 was still a little greasy after SEC and florisil - florisil optimized for toxaphene removal	yes	IS
27	silica/alumina column chromatography, HPLC (Phenogel 100 A column), conc to 0.5 mL in water bath	no	IS
29	pesticides - SEC and column chromatography with silica gel; PCBs - column chromatography with florisil	yes	ES

Lab #	PCBs			Pesticides		
	Instrument	Phase	Dimensions	Instrument	Phase	Dimensions
1-MS-1	GC/MS	DB-XLR & DB-17 MS	60m x 0.25 mm, 0.25um film	GC/MS	DB-XLB & DB-17 MS	60m x 0.25 mm, 0.25um flir
1-MS-2	GC/MS	DB-XLB	60m x 0.25 mm, 0.25um film	GC/MS	DB-XLB	60m x 0.25 mm, 0.25um flir
1-ECD	GC-ECD	DB-5/DB-XLB	film	GC-ECD	DB-5/DB-XLB	film
2	GC/MS	MDN-SS	film	GC/MS	MDN-SS	30m x 0.25 mm, 0.25um flir
3	GC/MS	DB-5	60m x 0.25 mm, 0.25um film			
4	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	GC/MS	RTX-5	30m x 0.25 mm, 0.25um flir
4b	GC/MS	RTX-5	film			
5	GC/MS	DB-5	60m x 0.25 mm, 0.10um film			
5b	GC/HRMS	SPB-Octyl	30m x 0.25 mm, 0.25um film	GC/HRMS	DB-5	60m x 0.25 mm, 0.10um flir
6	GC/MS	ZB-5	30m x 0.25 mm, 0.25um film	GC-ECD	RTX-5/DB-1701	30m x 0.25 mm, 0.25um flin
6b	GC-ECD	RTX-5/DB-1701	30m x 0.25 mm, 0.25um film	GC-ECD	RTX-5/DB-1701p	30m x 0.25 mm, 0.25um flin
7	GC-ECD	RTX-5/RTX-50	film			
8	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	GC-ECD	DB-5	60m x 0.25 mm, 0.25um flir
9	GC-ECD	proprietary	30m x 0.32 mm, 0.5/0.25um film	GC-ECD	proprietary	film
10				GC-ECD	RTX-5/RTX-1701	30m x 0.25 mm, 0.25um
11	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	GC-ECD	DB-5	60m x 0.25 mm, 0.25um
12	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	GC-ECD	DB-5	60m x 0.25 mm, 0.25um
13	Ultima	SPB Octyl	film	Autospec	DB-5	film
14	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	GC-ECD	DB-5	60m x 0.25 mm, 0.25um
17	GC-ECD	DB-XLB & DB-5	60m x 0.32 mm, 0.25um film	GC-ECD	DB-XLB & DB-5	60m x 0.32 mm, 0.25um film
19	GC-ECD	HP-5MS & DB-17	30m x 0.25 mm, 0.25um film	GC-ECD	HP-5MS & DB-17	30m x 0.25 mm, 0.25um film
20	GC/MS	DB-5	30m x 0.25 mm, 0.25um film	GC-ECD, GC/MS	DB-5/DB-608, DB-605	30m x 0.25 mm, 0.25um film for both
21	GC/HRMS	SPB-Octyl	film	GC/HRMS	DB-5	60m x 0.32 mm, 0.25um film
22	GC-ECD	DB-XLB, ZB-5	60m x 0.25 mm, 0.25um film	GC-ECD	DB-608, DB-5, ZB-5	30m x 0.53mm, 0.83um film; 30m x 0.53 mm, 1.5 um film; 60m x 0.25 mm, 0.25 um film
23	GC/MS	DB-5	60m x 0.25 mm, 0.25um film	GC/MS	DB-5	60m x 0.25 mm, 0.25um film
24	GC-ECD	DB-5	30m x 0.25 mm, 0.25um film	GC-ECD	DB-5	30m x 0.25 mm, 0.25um film
25	Micromass	SPB-Octyl	film			
26	GC-ECD	DB-5	60m x 0.32 mm, 0.25um film	GC-ECD	DB-5	60m x 0.32 mm, 0.25um film
27	GC-ECD	DB-5, DB-17	30m x 0.25 mm, 0.25um film	GC-ECD	DB-5, DB-17	30m x 0.25 mm, 0.25um film
29	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	GC-ECD	RTX-CLP, RTX-CLP2	30m x 0.32 mm, 0.50um film, 30m x 0.32 mm, 0.25 um film

Lab #	IS/ surrogate added prior to extraction	Used?	PCBs added prior to analysis	Used?	corrected for recovery?	others?	IS/ surrogate added prior to extraction	Used?	Pesticides added prior to analysis	Used?	corrected for recovery?	others?
1-MS-1	PCB 103, PCB 198, and deuterated 4,4'-DDD and 4,4'-DDT	x										
1-MS-2	PCB 30, PCB 198 and deuterated 4,4'-DDT	x										
1-PCD	PCB 103 and PCB 198	x										
2	13C ₁₂ -PCB 151, 194	x	13C ₁₂ -PCB 198	x	y				deuterated 4,4'-DDT	x	y	
3	PCB 14, PCB 29, PCB 103, PCB 204 (deuterated PCB 77 for coplanar and PCB 98 as bracket)	x	PCB 34, PCB 36, PCB 121, and PCB 112	x	y							
4	4,4'-dibromooctafluorobiphenyl and PCB 198	x	deuterated phenanthrene and chrysene	x	y							
4b	4,4'-dibromooctafluorobiphenyl and PCB 198	x	deuterated phenanthrene and chrysene	x	y				deuterated asphthalene, acenaphthylene, phenanthrene, and chrysene	x	y	
5	13C ₁₂ -PCB 1, 15, 17, 54, 118, 167, 180, 202, 206, 209	x	13C ₁₂ -PCB 92 & 138	x								
5b	13C ₁₂ -PCB 4, 15, 19, 57, 54, 77, 81, 104, 118, 114, 104, 105, 123, 126, 167, 155, 156, 157, 169, 180, 170, 188, 189, 202, 205, 206, 208, 209	x	13C ₁₂ -PCB 9, 52, 101, 138, 194 used to quantify labeled surrogates only	x	n				13C ₁₂ -PCB 153 used to quantify heptachlor epoxide, dieldrin, endrin, and deuterated endosulfan-I	x	n	
6b	DBOFB, PCB 103, and PCB 198	x	TCMX	x	y				TCMX	x	y	
7	PCB 103 and PCB 198	x	delta-HCH	x	y				delta-HCH	x		
8	PCB 14, 34, 104, 112	x	PCB 96, 103, 166	x	y				PCB 96, 103, 166	x	y	
9												
10									nonachlorobiphenyl and deuterated alpha-HCH			
11			PCB 14, 65, 166	x	n				yes	x	n	
12	DBOFB and PCB 198	x	PCB 103	x	n				TCMX	x	n	1,2,3-TCB before HPLC see note 4
13	see note 1	x	see note 3						TCMX			
14												
17	TCMX, PCB 65, PCB 191	x	PCB 30 and PCB 205	x	n				PCB 30 and PCB 205	x	n	
19	2,4,5,6-tetrachloro-m-xylene and 4,4'-dibromobiphenyl	x	4,4'-dibromooctafluorobiphenyl	x	n				2,4,5,6-tetrachloro-m-xylene and 4,4'-dibromobiphenyl	x	n	
20	13C-labeled PCBs: 1, 3, 4, 19, 15, 54, 104, 37, 155, 81, 77, 123, 118, 188, 114, 105, 126, 202, 167, 156, 157, 169, 208, 189, 205, 206, 209	x	deuterated acenaphthylene, fluorene, fluoranthene, perylene, DB[Li]A	x	y				deuterated acenaphthylene, fluorene, fluoranthene, perylene, DB[Li]A	x	y	
21			13C-labeled PCBs: 9, 52, 101, 138, 194	x					13C-labeled PCBs: 28, 111, 178 after extraction and before cleanup	x		
22									TCMX just prior to HPLC-SEC cleanup			
23	PCB 103	x	TCMX	x					PCB 103	x		TCMX just prior to HPLC-SEC cleanup
24	DBOFB, PCB 103, PCB 198	x	TCMX	x					DBOFB, PCB 103, PCB 198	x		
25	13C-labeled PCBs: 3, 15, 15, 71, 123, 118, 114, 105, 126, 167, 156, 157, 169, 180, 170, 189, 194, 208, 209	x	13C-labeled PCB 81	x					13C-labeled PCBs: 9, 52, 101, 138, 194			
26			PCB 14 and 166	x								
27	DBOFB, PCB 103, and PCB 198	x	TCMX	x	y				DBOFB, PCB 103, PCB 198	x	y	
29												

Appendix H: Laboratory Methods Used, Sediment XI

Lab #	Reported	g extracted QA02SED11	g extracted SRM 1944	% water Determination	Extraction Method	Extraction Solvent	Extraction Time	Extraction other
1-MS-1	4/15/02	18 wet	1 dry	oven drying at 105 °C	PFE	hexane/acetone (1:1)	15 min	temp = 100 °C; pressure 2000 psi; 90 % flush; 90 sec purge; 3 cycles; samples dried with hydromatrix prior to extraction
1-ECD	6/28/02	3.5 wet	1.5 dry	oven drying 18 h at 90 °C	PFE	dichloromethane		temp = 100 °C; pressure 2000 psi; equilibration time 5 min; static time 5 min; three cycles
3	2/1/02	13 wet	6 dry	oven drying at 105 °C overnight	physical agitation plus sonication	dichloromethane (1:1); hexane once and 100% hexane twice	12 h first, 4 h second, 0.5 h third	The third extraction shake was followed by a 5 min sonication step.
4	2/21/02	5.78 wet	5.47 dry	oven drying at 105 °C	PFE	dichloromethane:acetone	15 min	
4b	4/1/02	5.04 wet	2.01 dry	oven drying at 105 °C	microwave extraction	hexane/acetone	20 min	
5	2/22/02	10 wet	2 dry	oven dry, gravimetric	Soxhlet	dichloromethane	16 h	
5h	4/15/02	5 wet	1 dry	gravimetric	Soxhlet	dichloromethane	16 h	
6	2/22/02	5 wet	1 dry	24 h at 105 °C	ultrasonication; ambient temperature shaking	dichloromethane:acetone (1:1)	3 cycles of 3 min sonication; 4 h shaker table	
6b	4/29/02	10 wet	1 dry	24 h at 105 °C	ultrasonication; ambient temperature shaking	dichloromethane:acetone (1:1)	3 cycles of 3 min sonication; 4 h shaker table	
7	4/8/02	4.5 wet	0.35 dry	16 h at 120 °C	PFE	dichloromethane	3 cycles @ 5 min per cycle 12 h shake; 4 h shaker; 0.5 h shake	temp = 100 °C; pressure 2000 psi; samples dried with sodium sulfate prior to extraction
8	4/5/02	10 wet	5 dry	24 h oven drying	NOAA Status and Trends PFE (EPA SW-846 Method 3545)	dichloromethane	20 min	
9	4/11/02	26 wet	3.5 dry	24 h at 105 °C		dichloromethane		
10	3-29-02 (PAH) & 4/8/2002 (pest)	17 wet	2 dry	gravimetric	Soxhlet	dichloromethane	12 h	
12	4/15/02	17.4 wet	dry	1941b - 5.03 g overnight at 120 °C	Soxhlet	dichloromethane	18 h	
13	4/15/02	10 wet	10 dry	gravimetric	Soxhlet	dichloromethane/hexane (1:1)	16 h	
14	4/15/02	20 wet	dry	freeze-drying	Soxhlet	dichloromethane:acetone (3:1)	16 h	
15	4/15/02	5 wet	5 dry	overnight at 105 °C	sonication method 3550	dichloromethane:acetone (1:1)	3 X 3 min w/ approx. 100 mL of solvent each time	
16	4/8/02	3-4 wet	3-4 dry	24 h at 104 °C	PFE	dichloromethane:acetone (2:1)	30 min	
17	4/15/02	8 wet	5 dry	overnight at 105 °C	PFE	dichloromethane	20 min	
18	4/19/02	2 wet	2 wet	MCA WW 160.3	Soxhlet	acetone:hexane (1:1)	16 h	
20	5/15/02	14 wet	dry	min 6h at 103 °C	Soxhlet	dichloromethane	overnight (>16 h)	
21	5/14/02	1-10 wet	1-10 dry	min 12h at 110 °C	Soxhlet for pest; PFE for PCBs	dichloromethane:acetone (4:1) for pest; toluene for PCB	16 h for pest; 2 x 5 min static cycles	
23	5/15/02	0.8 wet	0.48 dry	24 h at 120 °C	PFE	dichloromethane	26 min	
24	5/16/02	19.9 wet	1.32 dry	oven drying to constant weight	PFE	dichloromethane	20 min	
25	5/15/02	3 wet	3 dry	ASTM method D-2216	Soxhlet	dichloromethane followed by toluene	16 h for each solvent	desiccate prior to extraction with sodium sulfate
26	5/15/02	5 wet	1 dry	24 h at 60 °C	Soxhlet	dichloromethane	24 h	
27	5/15/02	2 wet	0.5 dry	oven drying at 105 °C until constant weight	PFE	dichloromethane	13 min per sample	temp = 100 °C; pressure 2000 psi; 2 static cycles; sample reduction to 2 to 3 mL using water bath
28	5/15/02	5 wet	2-10 dry	EPA method 160.3	PFE (EPA Method 3545)	dichloromethane	approx. 30 min	

Lab #	Sample extract cleanup method	PCBs and Pesticides Separated?	Method of quantitation
1-MS-1	silica solid phase extraction (SPE) column; condition and elute with 10 % dichloromethane (DCM) in hexane; add activated copper powder to fraction; repeat SPE step one more time	no	IS
1-ECD	Activated Cu powder to remove elemental sulfur; For PAHs - 1g aminopropyl SPE cartridge using 10% DCM in hexane; for organochlorines - SEC (PL Gel) using DCM as mobile phase followed by fractionation using aminopropylsilane column (uBondapak, Waters)	yes	IS
3	20 g alumina column -2% deactivate F-20 alumina packed in DCM and sulfuric acid	no	IS
4	sulfuric acid / copper	no	IS
4b	silica gel/copper	no	IS
5	acid/base silica, alumina, florisil	no	IS
5b	pesticide - florisil; PCBs- florisil, silica, alumina; PAH - silica	no	IS
6	alumina/silica get column; GPC-HPLC	no	IS
6b	alumina/silica gel column; granulated copper	no	IS
7	(1) SEC HPLC (SDVB column using dichloromethane); (2a) 1/2 of extract - aliphatic/aromatic fractionation on silica SPE - aromatic fraction for PAH; (2b) other 1/2 of extract - PCB/pesticide fractionation on silica SPE (F1-hexane; F2- hexane:DCM (1:1))	gamma-HCH, heptaclor epoxide, DDD's, & dieldrin were separated	IS
8	40 g of 2% deactivated F20 alumina eluted with DCM follows by HPLC/GPC fractionation	no	IS
9	For Pest/PCB - US EPA SW-846 Method 3620, Florisil; mercury clean-up; concentrated sulfuric acid clean-up, 0% acid clean-up only; For PAH - US EPA SW 846 Method 3630B, silica gel	somewhat	ES
10	For pest- GPC and A/Sl; For PAH - GPC	yes	ES for pest & IS for PAH
12	Conc to approx. 200 mL - add 50 g of activated copper overnight; column chromatography - florisil, silica, and alumina; conc to 5 mL; 2 Phenogel SEC HPLC columns in series.	no	IS
13	3% deactivated florisil, 44% acid silica, sodium sulfate (PCB); 3% silica, 1% florisil and heated sodium sulfate (OC)	yes	IS
14	silica gel column chromatography, copper treatment, sulfuric acid treatment	yes	ES
15	GPC biobeads SX-3		IS
16	florisil cleanup		IS
17	For PAH - add copper; for PCB and pest. - 6 g florisil cartridge and copper	no	IS
18	PCBs- acid wash, florisil; PAHs-silica gel; pest-silica gel		isotope dilution IS
20	C-18 reversed phase	no	IS
21	Pesticide - copper, water wash, multiple silica gel cleanup columns; PCBs- acid/base wash, silica, alumina, additional silica cleanup columns	no	IS
23	silica/alumina and HPLC - SEC	no	IS
24	silica gel/ alumina	no	IS
25	1668 analysis - silica gel, acid alumina, mercury; PAH analysis - silica gel, mercury	yes	IS
26	PAH- alumina chromatography; PCBs - florisil	yes	IS
27	silica/alumina column chromatography, addition of copper; reduce to 1.0 mL using water bath	no	IS
28	chromatographic column with alumina/copper	no	IS

Lab #	Instrument	PAHs	Dimensions	Calibration Curve	
		Phase		# points	range
1-MS-1	GC/MS	DB-XLB & DB-17MS	60m x 0.25 mm, 0.25um filn	6	1 ng to 10 ug
1-ECD	GC/MS	DB-17	60m x 0.25 mm, 0.25um filn	6	2 ng to 10000 ng
3	NA				
4	NA				
4b	GC/MS	RTX-5	30m x 0.25 mm, 0.25um filn	6	10 ng/mL to 10000 ng/mL
5	NA				
5b	GC/MS	DB-5	30m x 0.25 mm, 0.25um filn	5	50 ng/mL to 5000 ng/mL
6	NA				
6b	GC/MS	DB-5	30m x 0.25 mm, 0.25um filn	5	25 ng/mL to 2000 ng/mL
7	GC-ITMS	RTX-5MS	30m x 0.25 mm, 0.25um filn	7	30 ng/mL to 9900 ng/mL
8	GC/MS	DB-5	60m x 0.25 mm, 0.25um filn	6	0.01 ug/mL to 10.0 ug/mL
9	GC/MS	DB-5	30m x 0.25 mm, 0.25um filn	8	0.01 ug/mL to 1.6 ug/mL
10	GC/MS	5% phenyl	30m x 0.25 mm, 0.25um filn	7	25 ng/g to 1000 ng/g
12	GC/MS	DB-5	60m x 0.25 mm, 0.25um filn	1	100 ng
13	GC/MS	RTX-5 MS SIL	30m x 0.25 mm, 0.50um filn	5	50 pg/uL to 5000 pg/uL
14					
15	GC/MS	RTX-5 MS SIL	30m x 0.25 mm, 0.25um filn	10	0.02 ng to 50 ng
16	GC/MS	DB-5	30m x 0.25 mm, 0.25um filn	5	20 ppm to 100 ppm
17	GC/MS	DB-XLB	30m x 0.25 mm, 0.25um filn	8	0.05 ug/mL to 10 ug/mL
18	GC/LRMS	DB-5	60m x 0.25 mm, 0.25um filn	6	10 ng/g to 250 ng/g
20	GC/MS	DB-5	30m x 0.25 mm, 0.25um filn	4	0.02 ppm to 10 ppm
21					
23	GC/MS	DB-5	60m x 0.25 mm, 0.25um filn	5	0.04 ng/uL to 10 ng/uL
24	GC/SM	DB-5MS	30m x 0.25 mm, 0.25um filn	5	20 - 1000
	Micromass				
25	Autospec	DB-5	60m x 0.32 mm, 0.25um filn	5	10 ng/uL to 1000 ng/uL
26	GC/MS	5% phenyl	30m x 0.25 mm, 0.25um filn	1	
27	GC/MS	HP-5	60m x 0.25 mm, 0.25um filn	5	20 ng/mL to 1000 ng/mL
28	GC/ITMS	DB-5MS	30m x 0.25 mm, 0.25um filn	8	20 ng/mL to 4000 ng/mL

Lab #	PCBs			Calibration Curve			PESTICIDES			Calibration Curve		
	Instrument	Phase	Dimensions	# points	range	Instrument	Phase	Dimensions	# points	range		
1-MS-1	GC/MS	DB-XLB & DB-17 MS	60m x 0.25 mm, 0.25um film	6	1 ng to 3 ug	GC/MS	17 MS	60m x 0.25 mm, 0.25um film	6	1 ng to 3 ug		
1-ECD	GC-ECD	DB-5/DB-XLB film	60m x 0.25 mm, 0.25um film	6	0.2 ng to 1000 ng	GC-ECD	DB-5/DB-XLB	60m x 0.25 mm, 0.25um film	6	0.2 ng to 1000 ng		
3	GC/MS	DB-5 film	60m x 0.25 mm, 0.25um film	7	0.001 ug/mL to 1.92 ug/mL	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	6	5 ng/mL to 250 ng/mL		
4	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	9	1 ng/mL to 500 ng/mL	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	6	5 ng/mL to 250 ng/mL		
4b	GC/MS	RTX-5 film	60m x 0.25 mm, 0.10um film	6	1 ng/mL to 200 ng/mL	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	6	5 ng/mL to 250 ng/mL		
5	GC/MS	DB-5 film	60m x 0.25 mm, 0.10um film	5	40 ng/mL to 2000 ng/mL	GC/MS	RTX-5	30m x 0.25 mm, 0.25um film	6	5 ng/mL to 250 ng/mL		
5b	GC/HRMS	SPB-Octyl	30m x 0.25 mm, 0.25um film	6	0.2 ng/mL to 2000 ng/mL	GC/HRMS	DB-5	60m x 0.25 mm, 0.10um film	5	10 ng/mL to 2500 ng/mL		
6	GC/MS	ZB-5	30m x 0.25 mm, 0.25um film	5	5 ng/mL to 500 ng/mL	GC/MS	DB-5	60m x 0.25 mm, 0.10um film	5	10 ng/mL to 2500 ng/mL		
6b	GC-ECD	RTX-5/DB-1701	30m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL	GC-ECD	RTX-5/DB-1701	30m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL		
7	GC-ECD	RTX-5/RTX-50 film	30m x 0.25 mm, 0.25um film	6	0.4 ng/mL to 100 ng/mL	GC-ECD	RTX-5/DB-1701p	30m x 0.25 mm, 0.25um film	6	0.4 ng/mL to 100 ng/mL		
8	GC-ECD	DB-5 film	60m x 0.25 mm, 0.25um film	6	0.004 ug/mL to 0.12 ug/mL	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	6	0.04 ug/mL to 0.12 ug/mL		
9	GC-ECD	proprietary film	30m x 0.32 mm, 0.5/0.25um film	8	1.0 pg/uL to 250 pg/uL	GC-ECD	proprietary film	30m x 0.32 mm, 0.5/0.25um film	6	0.04 ug/mL to 0.12 ug/mL		
10	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	1	100 ng	GC-ECD	proprietary film	60m x 0.25 mm, 0.25um film	7	2.5 pg/uL to 250 pg/uL		
12	GC-ECD	SPB Octyl	30m x 0.25 mm, 0.25um film	5	1 pg/uL to 2000 pg/uL	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	3 to 6	5 pg/uL to 200 pg/uL		
13	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	4	20 to 80	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	4	20 to 80		
14	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	4	20 to 80	GC-ECD	DB-5	60m x 0.25 mm, 0.25um film	4	20 to 80		
15												
16												
17	GC-ECD	DB-XLB & DB-5 film	60m x 0.32 mm, 0.25um film	5+	1.0 ng/mL to 250 ng/mL	GC-ECD	DB-XLB & DB-5 film	60m x 0.32 mm, 0.25um film	5+	1.0 ng/mL to 250 ng/mL		
18	GC/HRMS	SPB-Octyl	30m x 0.25 mm, 0.25um film	6	0.02 ng/g to 200 ng/g	GC/HRMS	DB-5	60m x 0.32 mm, 0.25um film	6	0.5 ng/g to 500 ng/g		
20	GC/MS	DB-5 film	30m x 0.25 mm, 0.25um film	1	1 ppm	GC-ECD, GC/MS	DB-5/DB-608, DB-5	30m x 0.25 mm, 0.25um film for both	3 for OPP, 3 for OCP	0.02 ppm to 10 ppm (OPP), 0.02 ppm to 1 ppm (OCP)		
21	GC/HRMS	SPB-Octyl	60m x 0.25 mm, 0.25um film	6	0.2 ng/mL to 2000 ng/mL	GC/HRMS	DB-5	60m x 0.32 mm, 0.25um film	6	2.5 ng/mL to 2500 ng/mL		
23	GC/MS	DB-5 film	60m x 0.25 mm, 0.25um film	5	0.032 ng/uL to 0.32 ng/uL	GC/MS	DB-5	60m x 0.25 mm, 0.25um film	5 or 7	0.032 ng/uL to 0.32 ng/uL or 10.0 ng/uL		
24	GC-ECD	DB-5	30m x 0.25 mm, 0.25um film	4	5 to 200	GC-ECD	DB-5	30m x 0.25 mm, 0.25um film	4	5 to 200		
25	Micromass	SPB-Octyl	60m x 0.25 mm, 0.25um film	5	0.5 pg/uL to 4000 pg/uL	GC/HRMS	DB-5	60m x 0.32 mm, 0.25um film	6	2.5 ng/mL to 2500 ng/mL		
26	GC-ECD	DB-5	60m x 0.32 mm, 0.25um film	1		GC/MS	DB-5	60m x 0.25 mm, 0.25um film	5	0.032 ng/uL to 0.32 ng/uL		
27	GC-ECD	DB-5/DB-17	30m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL	GC-ECD	DB-5/DB-17	30m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL		
28	GC-ECD	RTX-5MS & DB-17MS	60m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL	GC-ECD	RTX-5MS & DB-17MS	60m x 0.25 mm, 0.25um film	5	5 ng/mL to 200 ng/mL		

Lab #	IS/surrogate added prior to extraction	Used?	PAHs added prior to analysis	Used?	corrected for recovery?	others?
1-MS-1	deuterated naphthalene, biphenyl, acenaphthene, phenanthrene, fluoranthene, pyrene, B[a]A, B[a]P, perylene, B[ghi]P, DB[a,h]A	x				
1-ECD	deuterated naphthalene, biphenyl, acenaphthene, phenanthrene, fluoranthene, pyrene, B[a]A, B[a]P, perylene, B[ghi]P, DB[a,h]A	x				
2	NA					
3	NA					
4	NA					
4b	deuterated 2-methylnaphthalene, pyrene, B[b]P	x	deuterated naphthalene, acenaphthylene, phenanthrene, chrysene, and perylene	x	y	
5	NA					
5h	deuterated naphthalene, 2-methylnaphthalene, biphenyl, 2,6-dimethylnaphthalene, acenaphthylene, phenanthrene, B[a]A, chrysene, B[b&k]F's, B[a]P, perylene, DB[a,h]A, indeno[1,2,3-cd]perylene	x	deuterated acenaphthene, pyrene, B[c]P	x	n	
6	NA					
6h	deuterated naphthalene, phenanthrene, acenaphthene, B[a]P		deuterated fluorene and chrysene	x	y	
7	18 perdeuterated PAHs - see notes for details	x	deuterated p-terphenyl			
8	deuterated naphthalene, phenanthrene, and chrysene		deuterated acenaphthene, fluorene, B[a]P	x	y	
9	deuterated naphthalene, 1 & 2-methylnaphthalene, biphenyl, 2,6-dimethylnaphthalene, acenaphthylene, acenaphthene, fluorene, dibenzothiophene, phenanthrene, anthracene, fluoranthene, pyrene, B[a]A, chrysene, B[b & k]F's, B[c]P, B[a]P, perylene, indeno[1,2,3-cd]pyrene, DB[a,h]A and B[ghi]	x	2,2'-difluorobiphenyl deuterated 1,4-dichlorobenzene, naphthalene, acenaphthylene, phenanthrene, chrysene, perylene	x	y	
10	deuterated nitrobenzene, 2-fluorobiphenyl, p-terphenyl		deuterated acenaphthylene, phenanthrene, and B[c]P	x	n	deuterated chrysene see note 5
12	deuterated naphthalene, acenaphthene, B[a]P, and perylene	x		x	n	
13	see note 1					
14	2-fluorobiphenyl, 2,4,6-trinitrophenol, and deuterated phenol, nitrobenzene, 2-chlorophenol, 1,2-dichlorobenzene, and terphenyl		deuterated 1,4-dichlorobenzene, naphthalene, acenaphthylene, phenanthrene, chrysene, perylene	x	n	
15			deuterated phenanthrene, chrysene, perylene, acenaphthene, naphthalene, 1,2-dichlorobenzene	x	n	
16			deuterated naphthalene, acenaphthene, chrysene, and perylene	x	n	
17	2-fluorobiphenyl and deuterated nitrobenzene and p-terphenyl		deuterated naphthalene, acenaphthene, phenanthrene, chrysene, and perylene	x	n	
18	see notes	x	deuterated acenaphthylene, fluorene, fluoranthene, pyrene, B[a]A, B[ghi]P			
20	deuterated naphthalene, acridine, acenaphthene, phenanthrene, and chrysene		deuterated acenaphthylene, fluorene, fluoranthene, pyrene, B[a]P, B[a]A, B[ghi]P	x	y	
21			hexamethylbenzene			
23	deuterated naphthalene, acenaphthene, and B[a]P	x	deuterated fluorene and B[a]P			deuterated phenanthrene
24	deuterated naphthalene, acenaphthene, phenanthrene, chrysene, and perylene	x				
25	deuterated naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, fluoranthene, pyrene, B[a]A, chrysene, B[b]F, B[k]F, B[a]P, perylene, indeno[1,2,3-cd]pyrene, DB[a,h]A, B[ghi]P	x	deuterated 2-methylnaphthalene, anthracene, terphenyl, and B[c]P			
26	deuterated naphthalene, fluorene, fluoranthene, and perylene		deuterated acenaphthylene, phenanthrene, B[a]P, B[a]A, B[ghi]P	x		
27	deuterated naphthalene, acenaphthene, phenanthrene, chrysene, perylene		deuterated fluorene, pyrene, B[a]P	x	y	
28	deuterated 1,4-dichlorobenzene, naphthalene, acenaphthene, chrysene, perylene	x	deuterated fluorene and B[a]P	x	y	

Lab #	IS/homogate added prior to extraction			PCBs added prior to analysis			PCBs added prior to extraction			PCB standards added prior to analysis			PCB standards added prior to extraction			PCB standards added prior to analysis			PCB standards added prior to extraction			
	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	Used?	
1-MS-1	x																					
1-ECD	x																					
3	x																					
4	x																					
4b	x																					
5	x																					
5b	x																					
6b	x																					
7	x																					
8	x																					
9	x																					
10	x																					
12	x																					
13	x																					
14	x																					
15	x																					
16	x																					
17	x																					
18	x																					
20	x																					
21	x																					
23	x																					
24	x																					
25	x																					
26	x																					
27	x																					
28	x																					

Appendix I: Charts of Fish Homogenate V and SRM 1946 Results by Analyte

See Tables 2 and 3 and Appendix C for results reported as *<number*, detection limit, etc. Charts for analytes with few reported numerical results are not included in this appendix.

For Fish Homogenate V plots:

Solid line: exercise assigned value

Dotted line: $z = \pm 1$, i. e., 25% from assigned value

Dotted/dashed line: $z = \pm 2$, i. e., 50% from assigned value

Dashed line: $z = \pm 3$, i. e., 75% from assigned value

For SRM 1946 plots:

Solid line: material certified concentration or target value (see caption of each plot)

Dotted line: 95% confidence interval (CI)

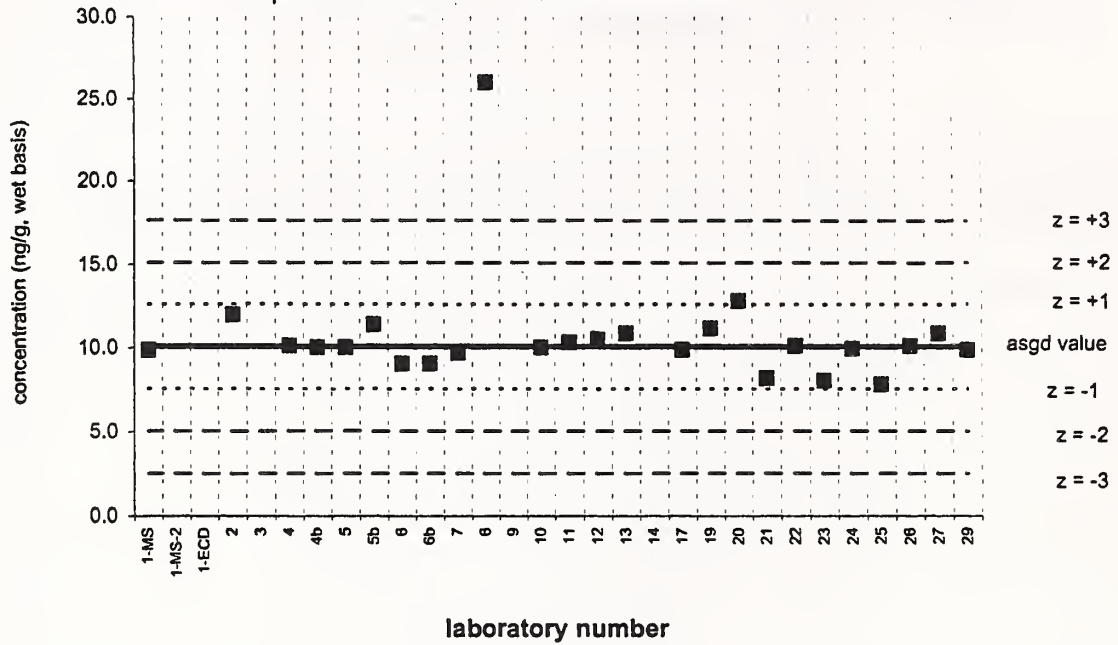
Dashed line: 30% from 95% confidence interval (CI)

TEO or lipid

Fish V (QA02FSH5)

Assigned value = 10.1 ng/g $s = 1.2$ ng/g 95% CL = 0.5 ng/g (wet basis)

Reported Results: 25 Quantitative Results: 25

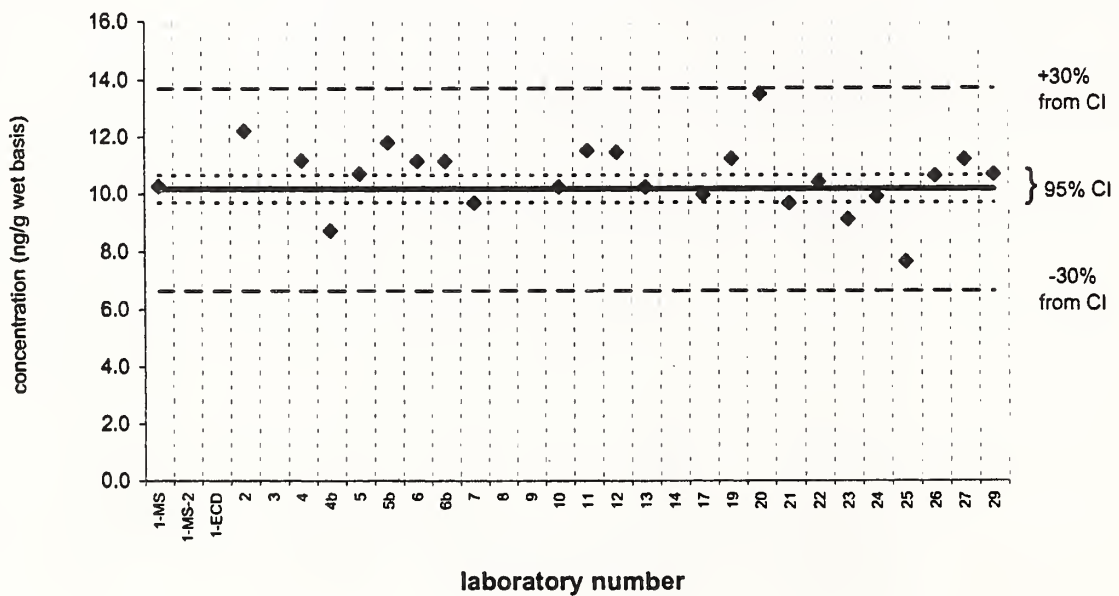


TEO or lipid

SRM 1946

Certified Value = 10.2 ± 0.5 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

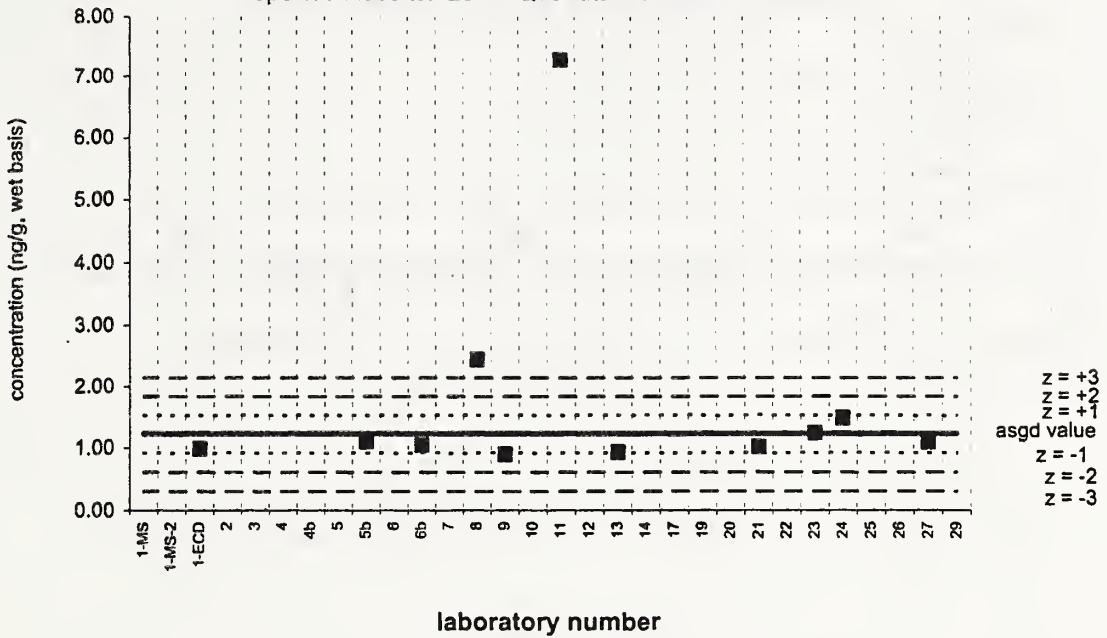


alpha-HCH (a-BHC)

Fish V (QA02FSH5)

Assigned value = 1.22 ng/g s = 0.46 ng/g 95% CL = 0.33 ng/g (wet basis)

Reported Results: 20 Quantitative Results: 11

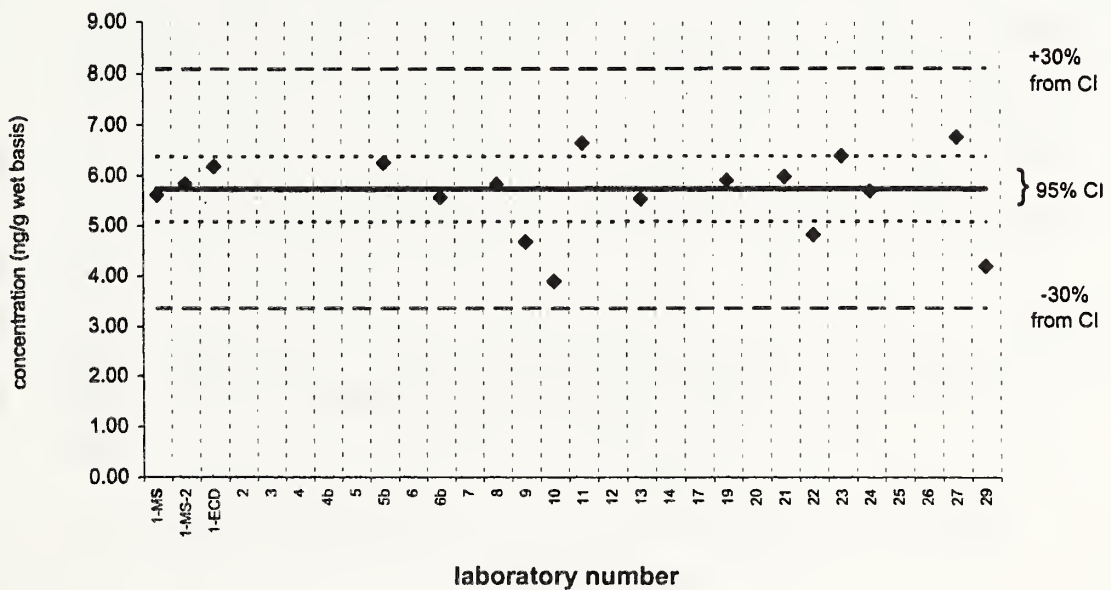


alpha-HCH (a-BHC)

SRM 1946

Certified Value = 5.72 ± 0.65 ng/g (wet basis)

Reported Results: 20 Quantitative Results: 17

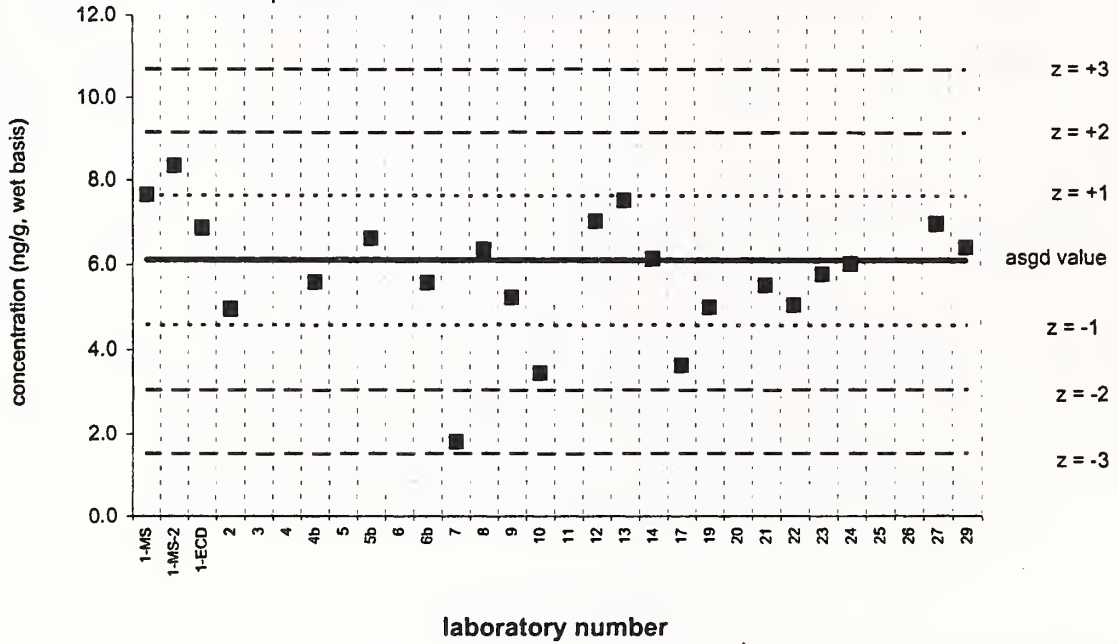


hexachlorobenzene

Fish V (QA02FSH5)

Assigned value = 6.11 ng/g s = 1.13 ng/g 95% CL = 0.53 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 22

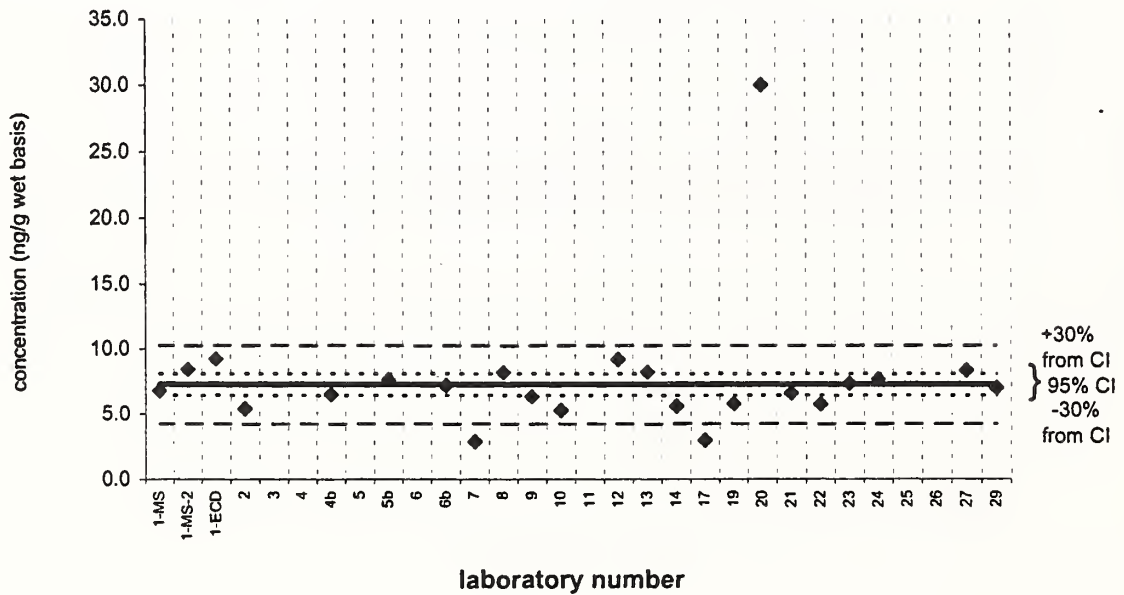


hexachlorobenzene

SRM 1946

Certified Value = 7.25 ± 0.83 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 23

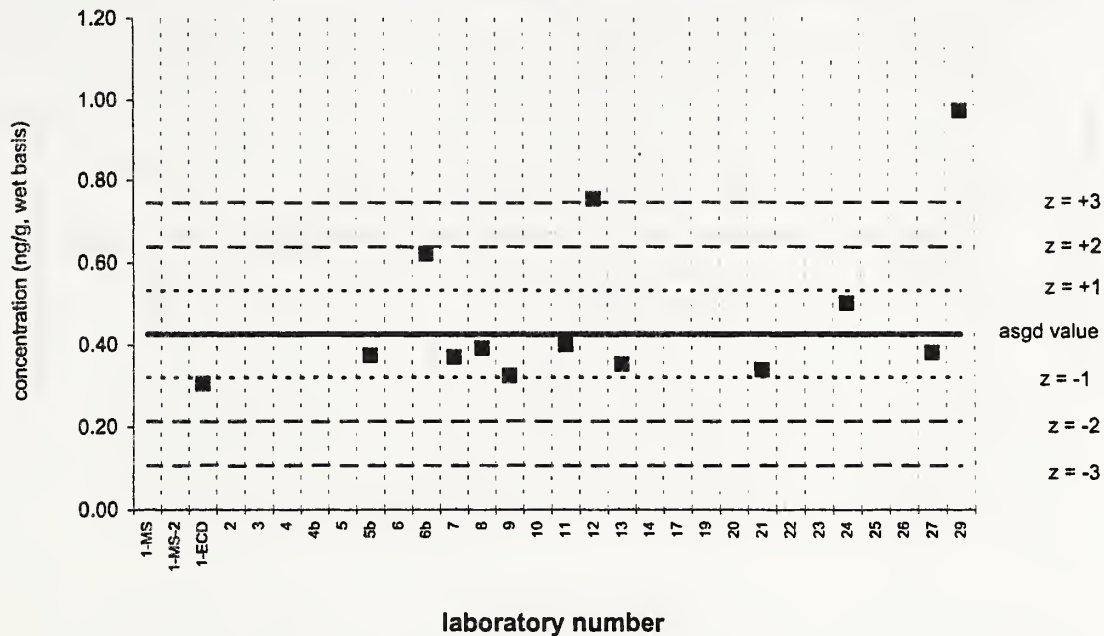


gamma-HCH (g-BHC,lindane)

Fish V (QA02FSH5)

Assigned value = 0.425 ng/g s = 0.135 ng/g 95% CL = 0.120 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 13

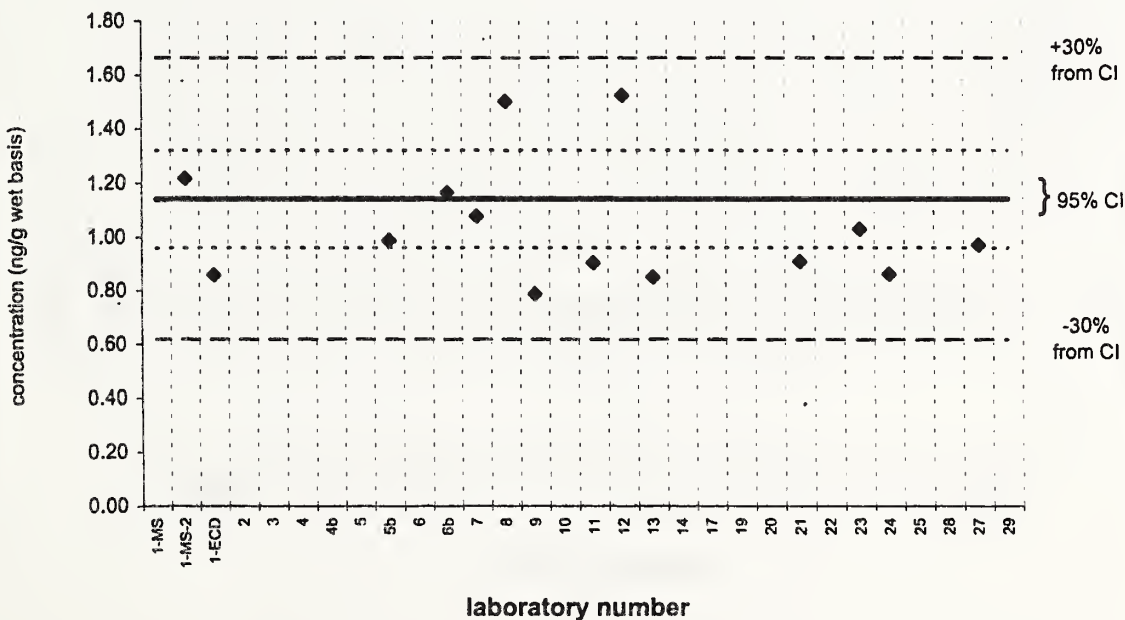


gamma-HCH (g-BHC,lindane)

SRM 1946

Certified Value = 1.14 ± 0.18 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 14

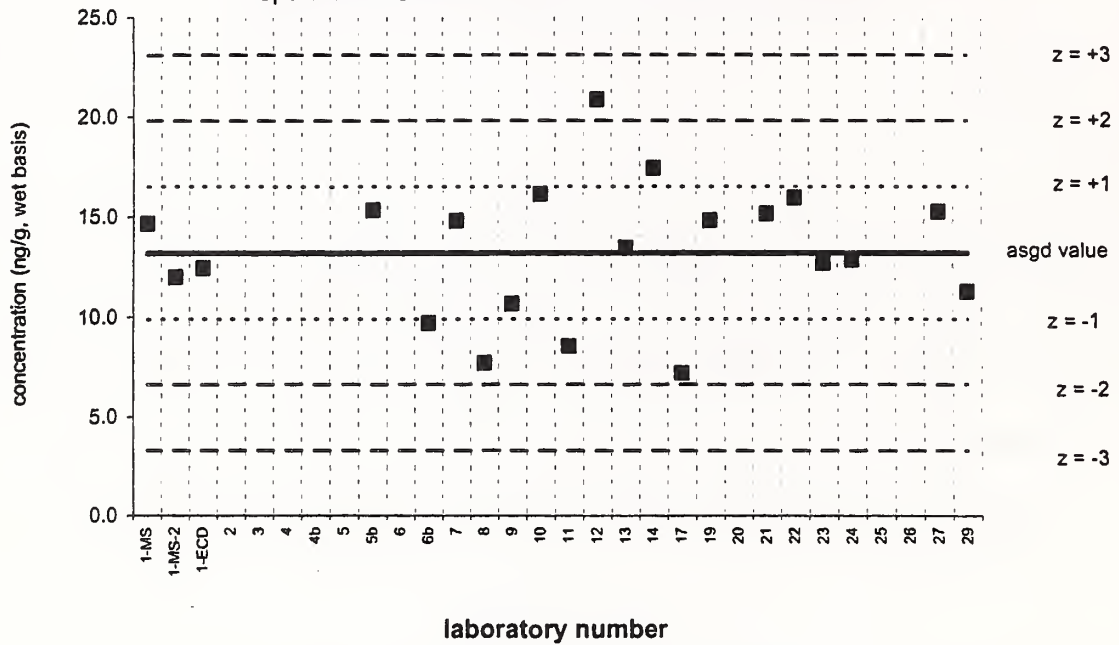


heptachlor epoxide

Fish V (QA02FSH5)

Assigned value = 13.2 ng/g s = 2.7 ng/g 95% CL = 1.3 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 21

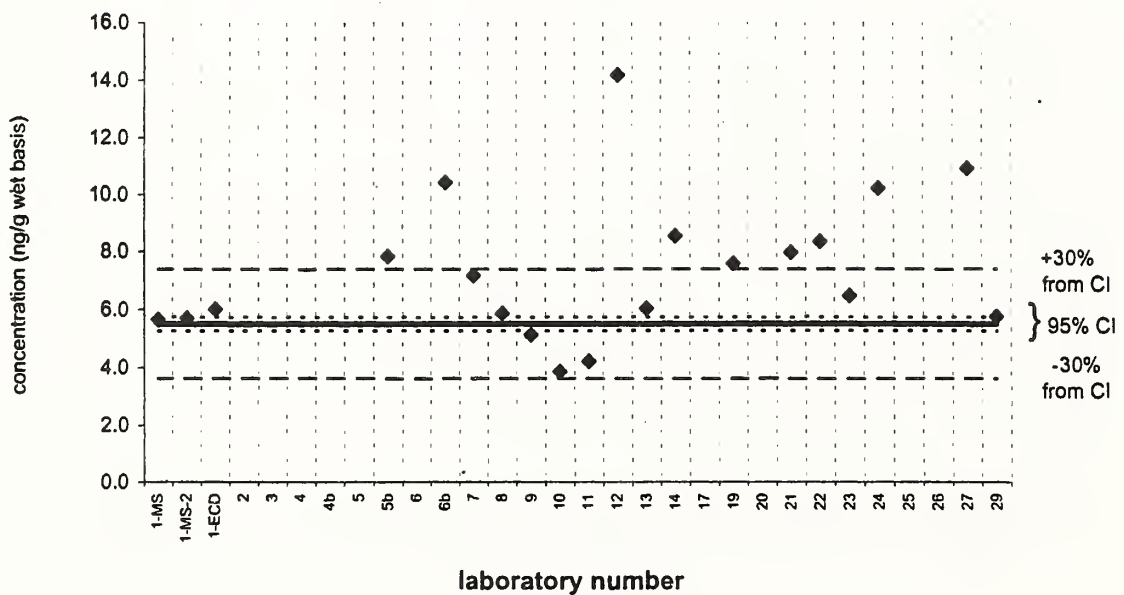


heptachlor epoxide

SRM 1946

Certified Value = 5.50 ± 0.23 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 20

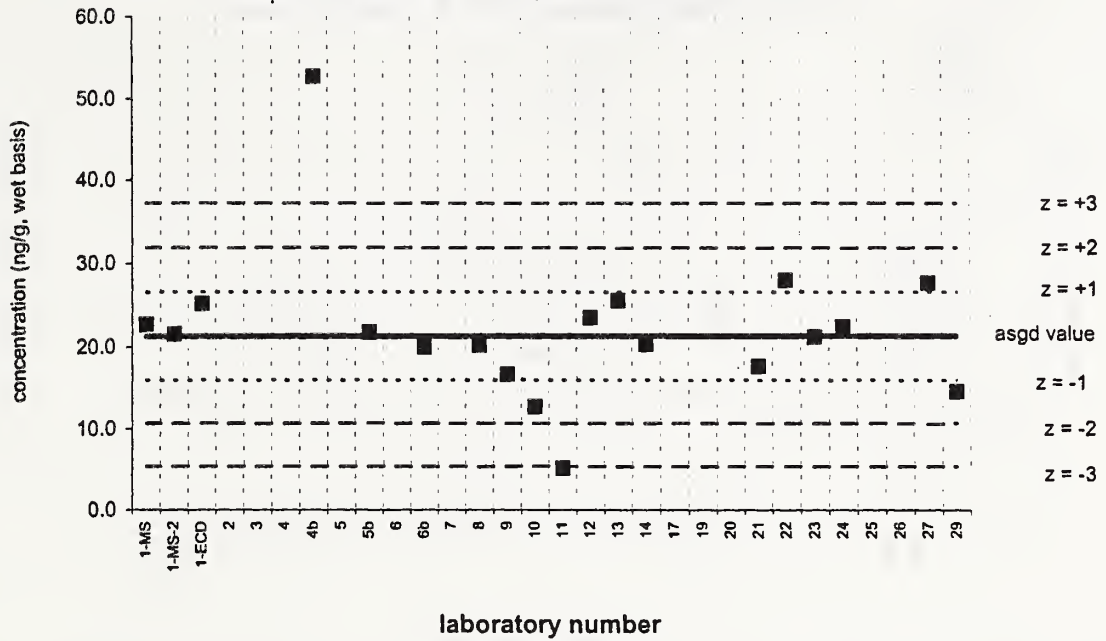


oxychlordan

Fish V (QA02FSH5)

Assigned value = 21.2 ng/g s = 4.2 ng/g 95% CL = 2.2 ng/g (wet basis)

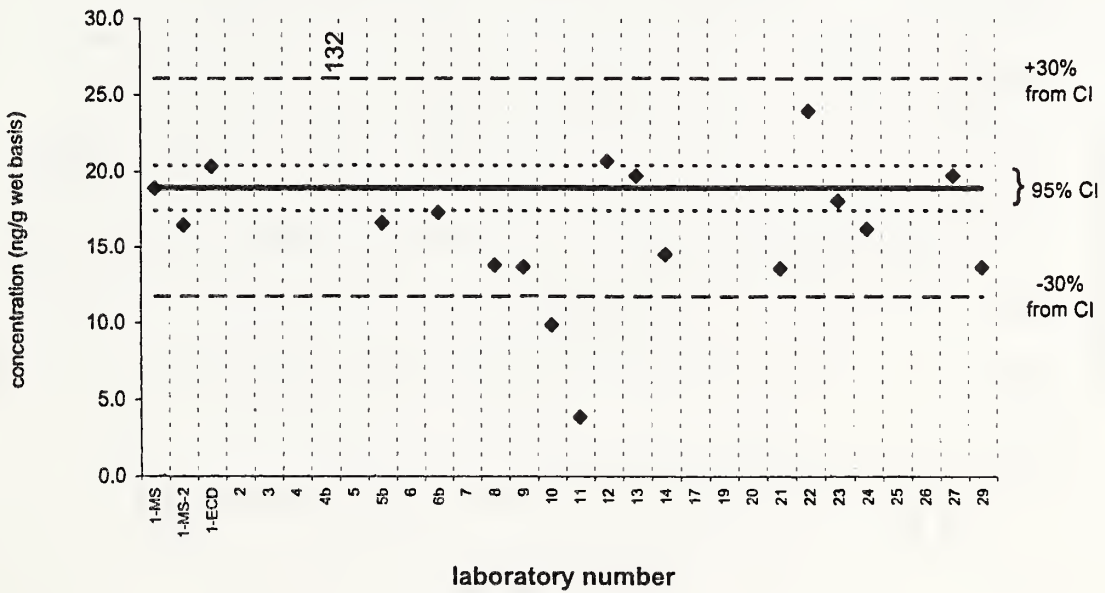
Reported Results: 20 Quantitative Results: 19



oxychlordan

SRM 1946

Certified Value = 18.9 ± 1.5 ng/g (wet basis)
Reported Results: 20 Quantitative Results: 19

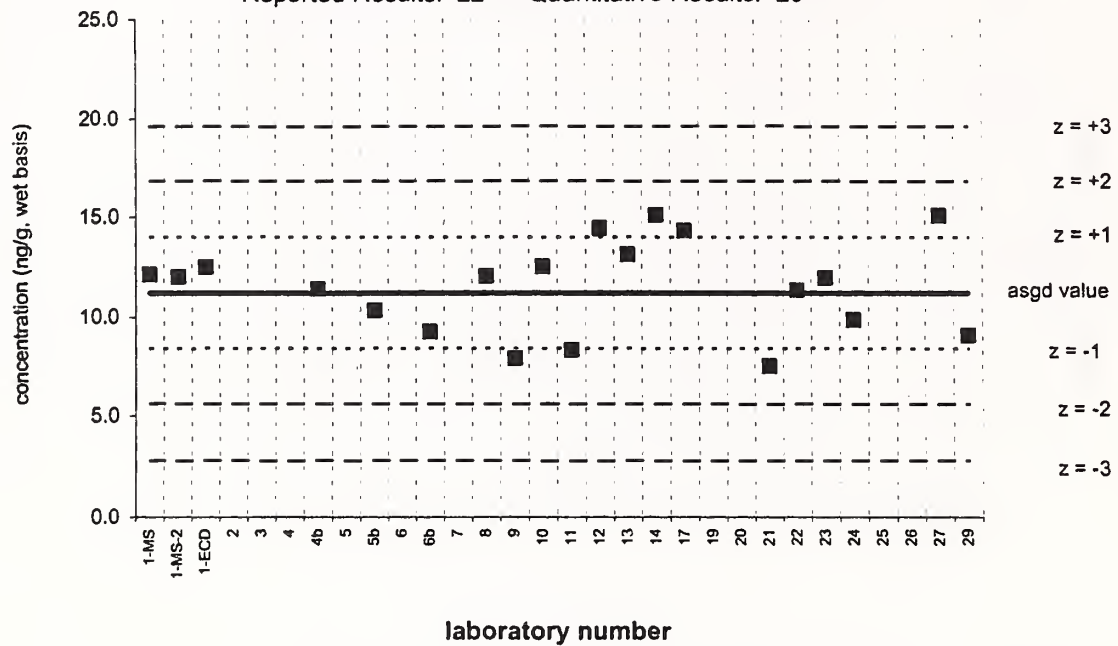


gamma-chlordane

Fish V (QA02FSH5)

Assigned value = 11.2 ng/g s = 2.2 ng/g 95% CL = 1.1 ng/g (wet basis)

Reported Results: 22 Quantitative Results: 20

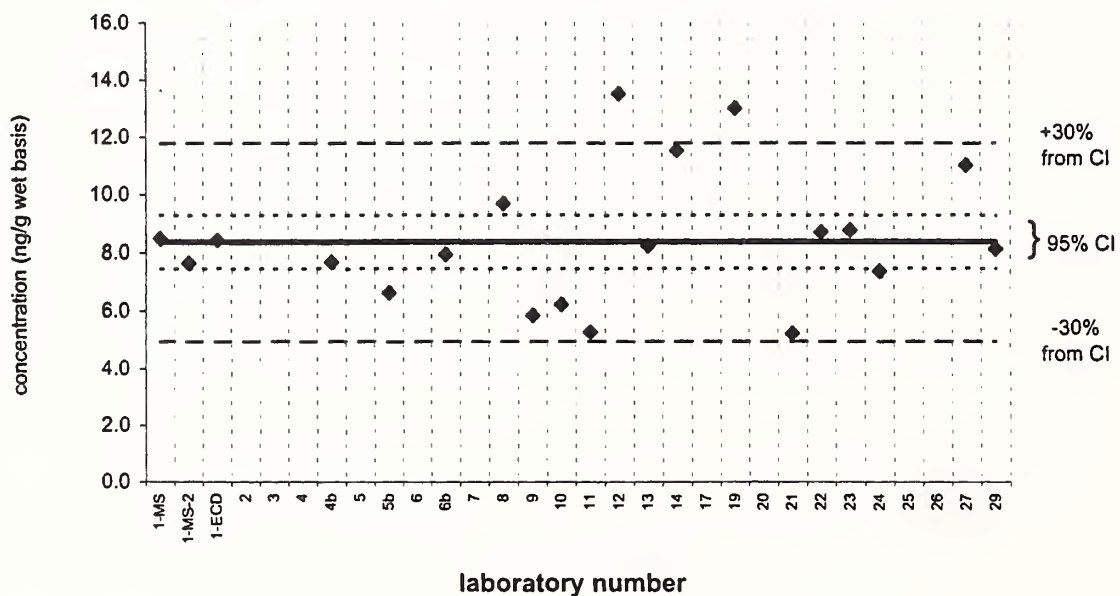


gamma-chlordane

SRM 1946

Certified Value = 8.36 ± 0.91 ng/g (wet basis)

Reported Results: 22 Quantitative Results: 20

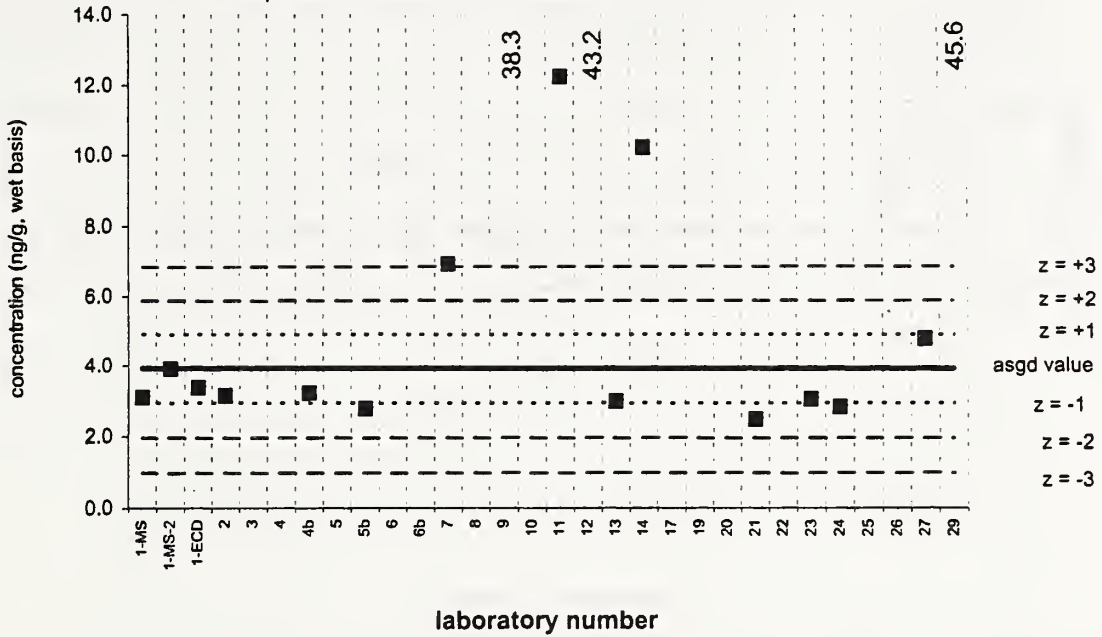


2,4'-DDE

Fish V (QA02FSH5)

Assigned value = 3.91 ng/g s = 2.18 ng/g 95% CL = 1.46 ng/g (wet basis)

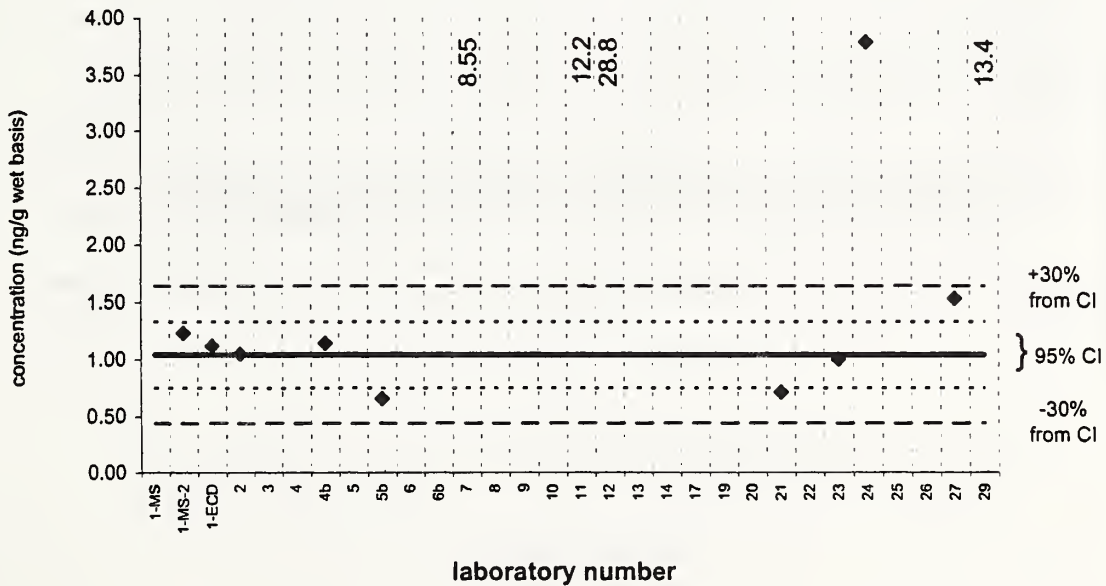
Reported Results: 22 Quantitative Results: 17



2,4'-DDE

SRM 1946

Reference Value = 1.04 ± 0.29 ng/g (wet basis)
 Reported Results: 22 Quantitative Results: 13

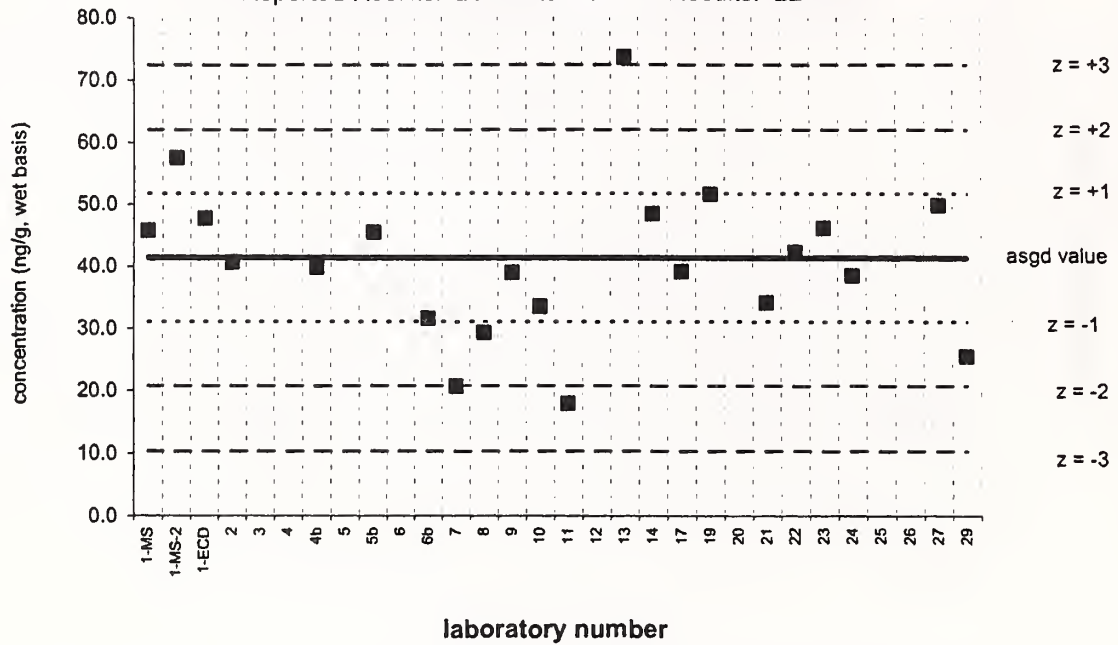


cis-chlordane (alpha-chlordane)

Fish V (QA02FSH5)

Assigned value = 41.4 ng/g s = 8.2 ng/g 95% CL = 4.0 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 22

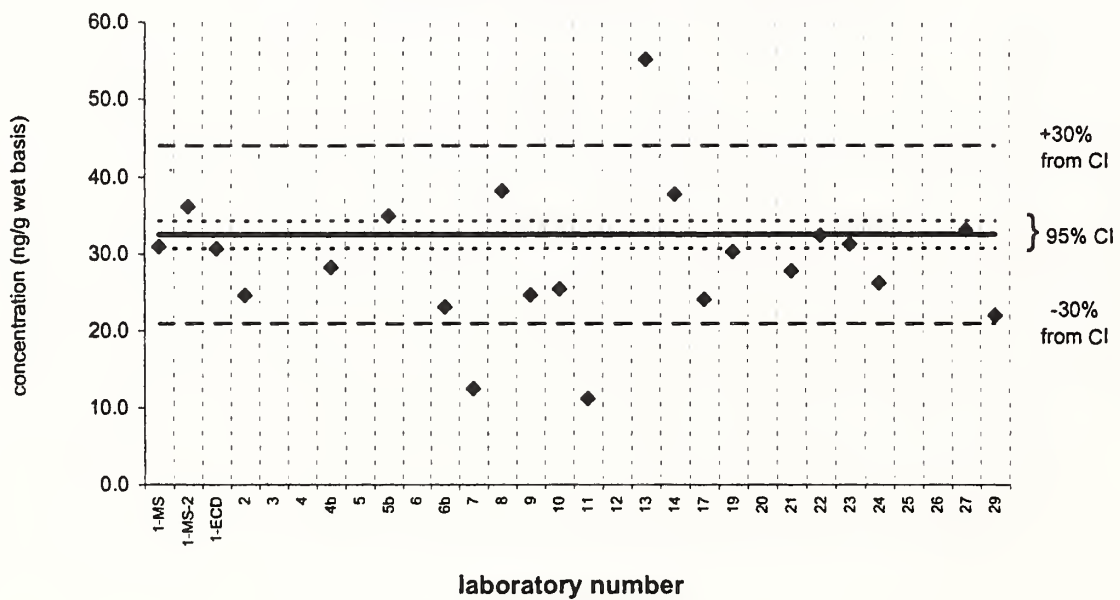


cis-chlordane (alpha-chlordane)

SRM 1946

Certified Value = 32.5 ± 1.8 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 22

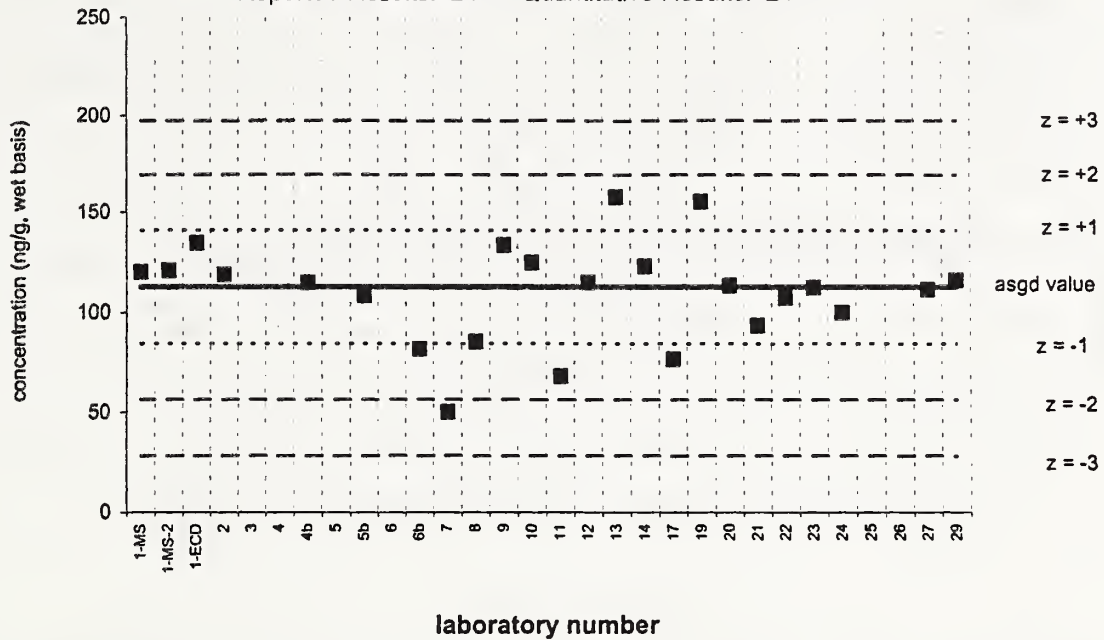


trans-nonachlor

Fish V (QA02FSH5)

Assigned value = 113 ng/g s = 22 ng/g 95% CL = 10 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

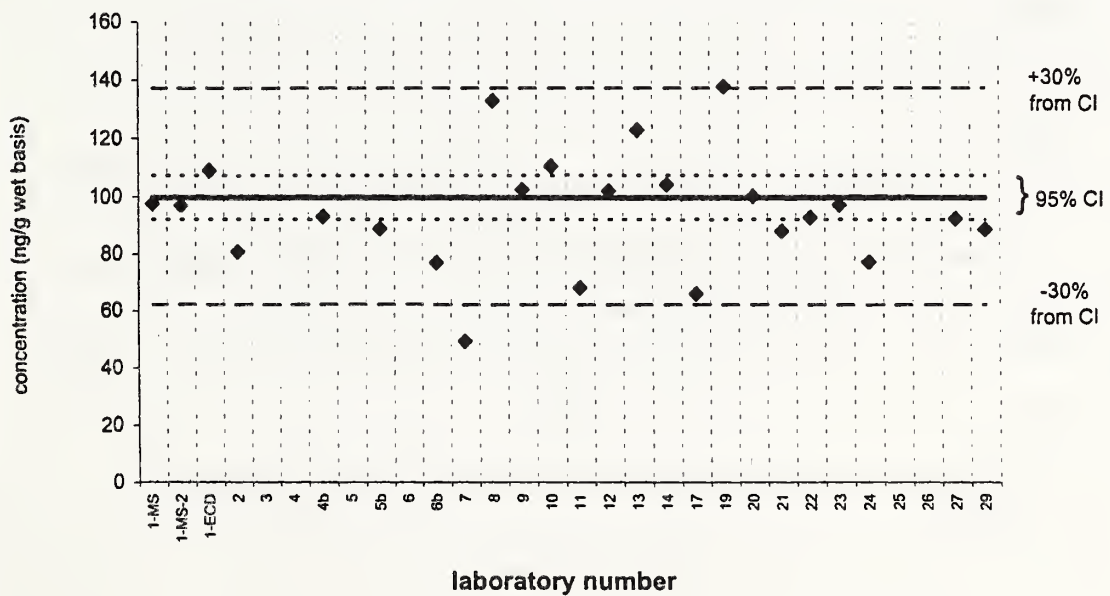


trans-nonachlor

SRM 1946

Certified Value = 99.6 ± 7.6 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

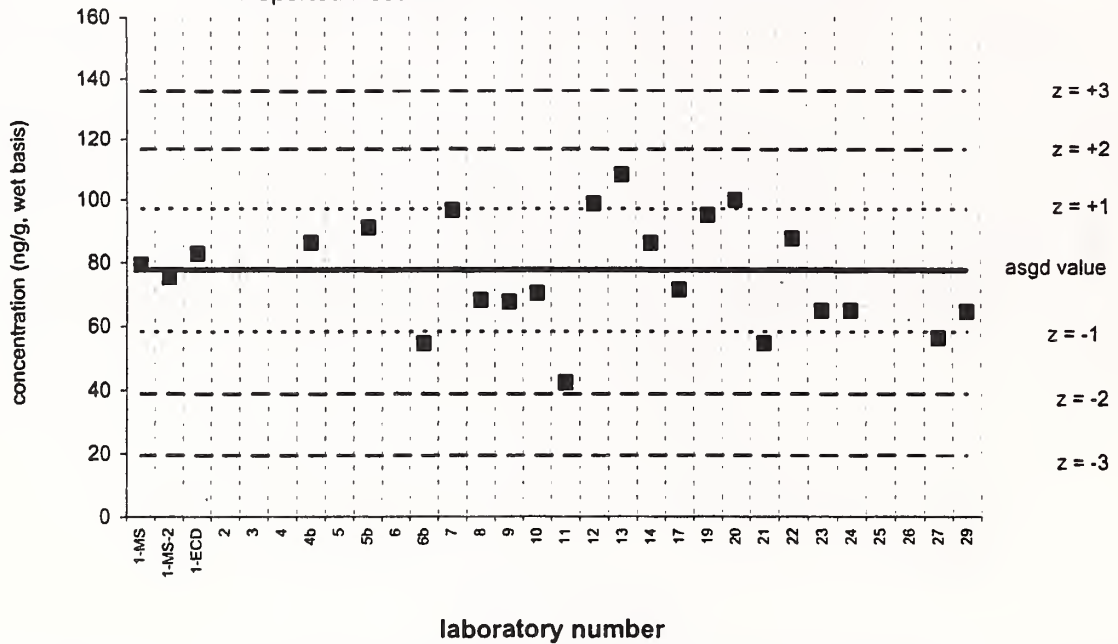


dieldrin

Fish V (QA02FSH5)

Assigned value = 77.7 ng/g s = 15.8 ng/g 95% CL = 7.4 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 23

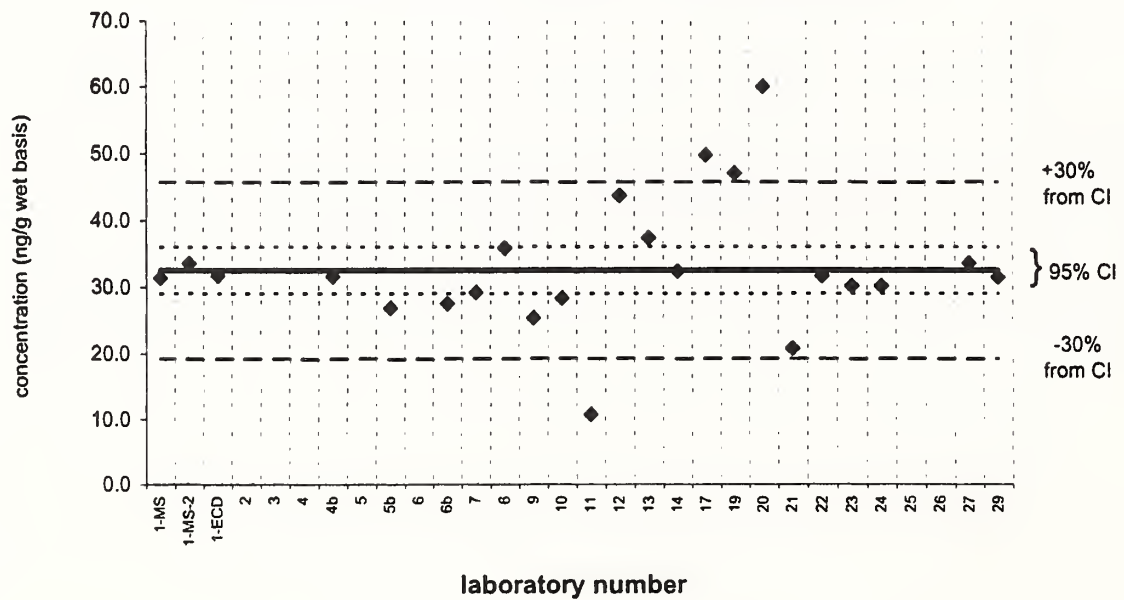


dieldrin

SRM 1946

Certified Value = 32.5 ± 3.5 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 23

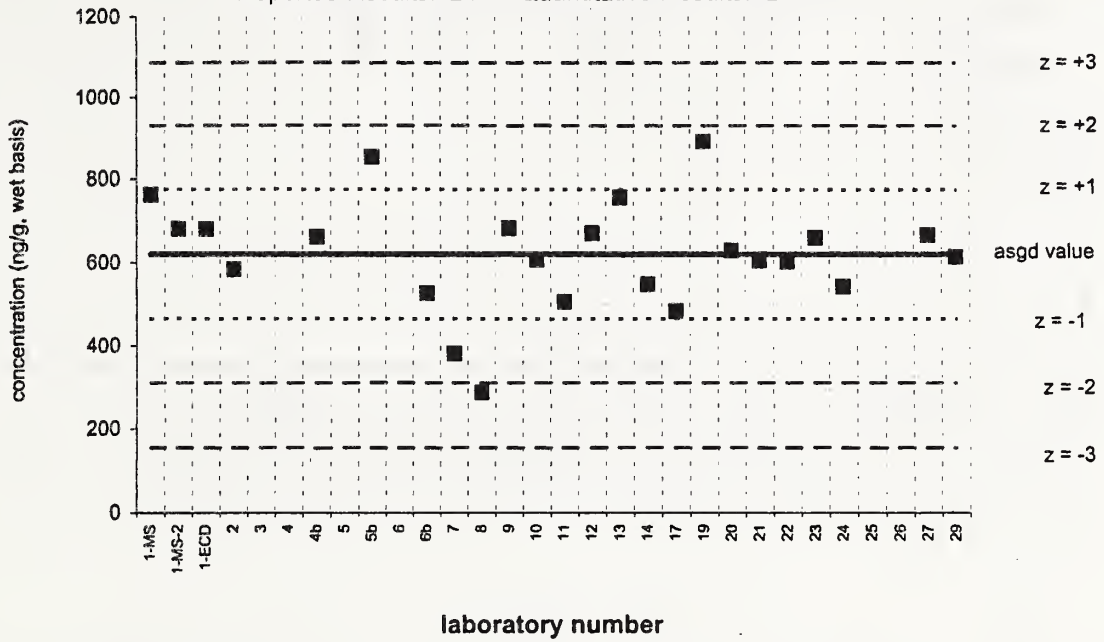


4,4'-DDE

Fish V (QA02FSH5)

Assigned value = 621 ng/g s = 133 ng/g 95% CL = 56 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

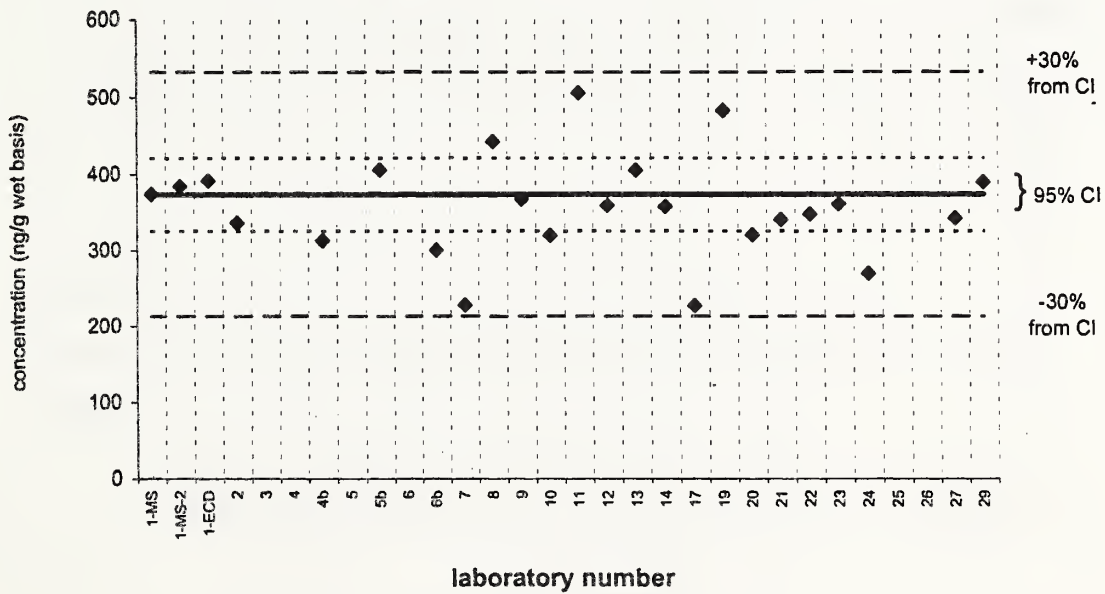


4,4'-DDE

SRM 1946

Certified Value = 373 ± 48 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

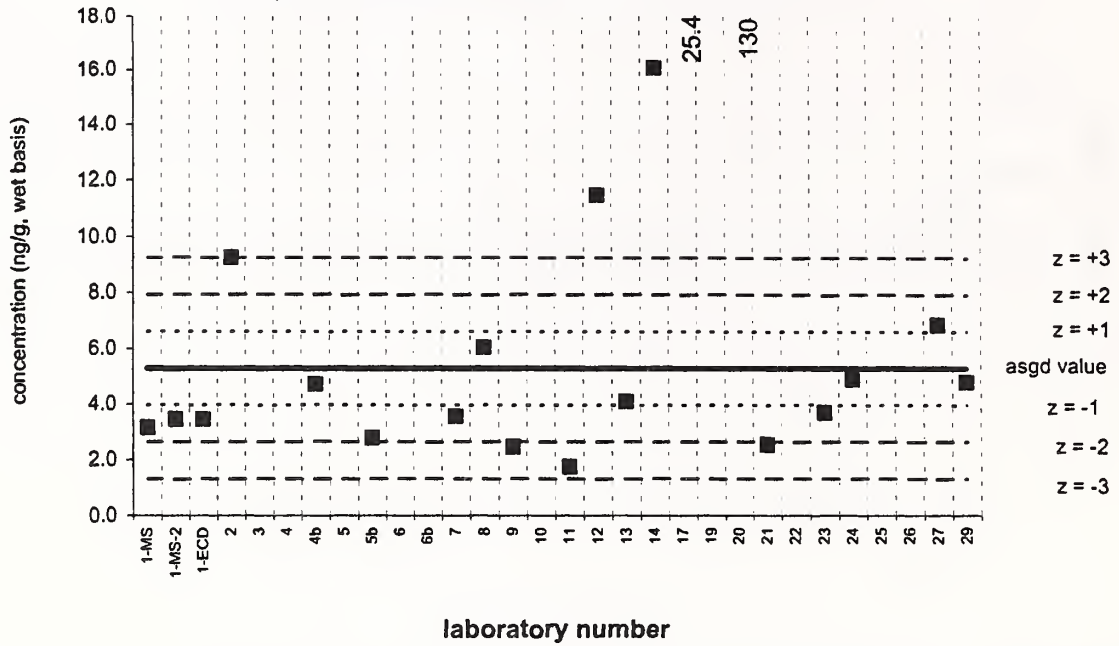


2,4'-DDD

Fish V (QA02FSH5)

Assigned value = 5.28 ng/g s = 3.65 ng/g 95% CL = 1.81 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 20

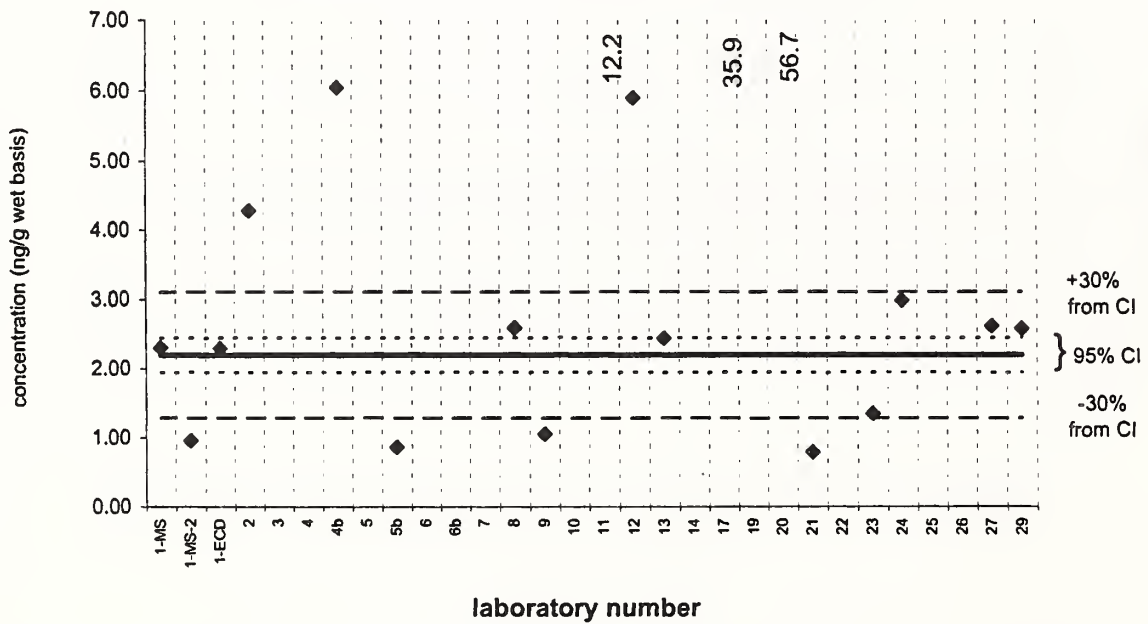


2,4'-DDD

SRM 1946

Certified Value = 2.20 ± 0.25 ng/g (wet basis)

Reported Results: 22 Quantitative Results: 18

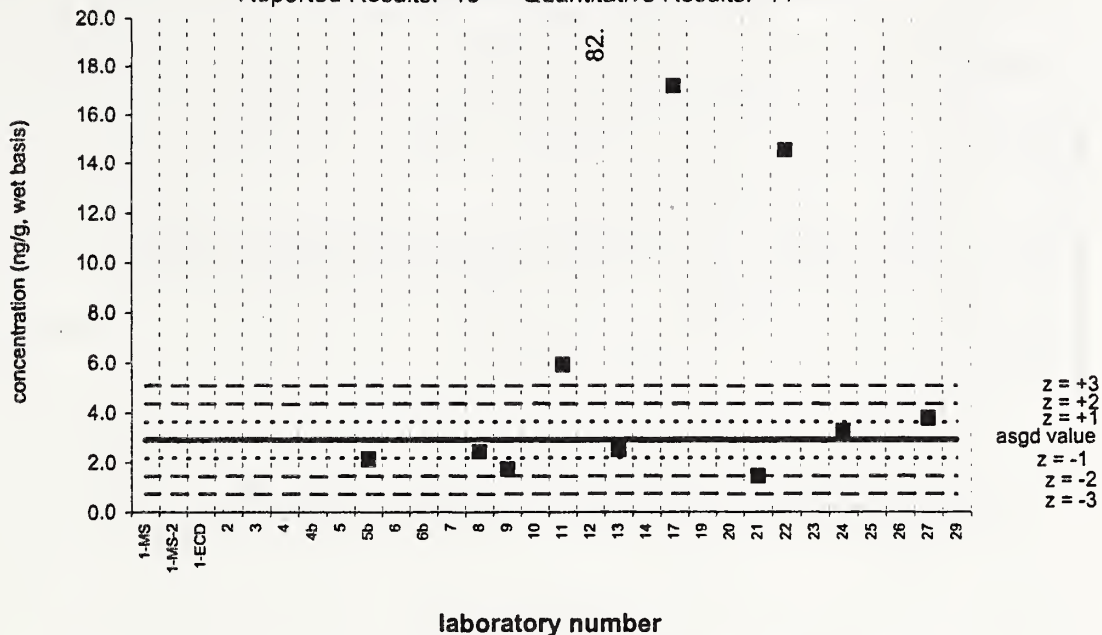


endrin

Fish V (QA02FSH5)

Assigned value = 2.91 ng/g s = 1.44 ng/g 95% CL = 1.20 ng/g (wet basis)

Reported Results: 19 Quantitative Results: 11

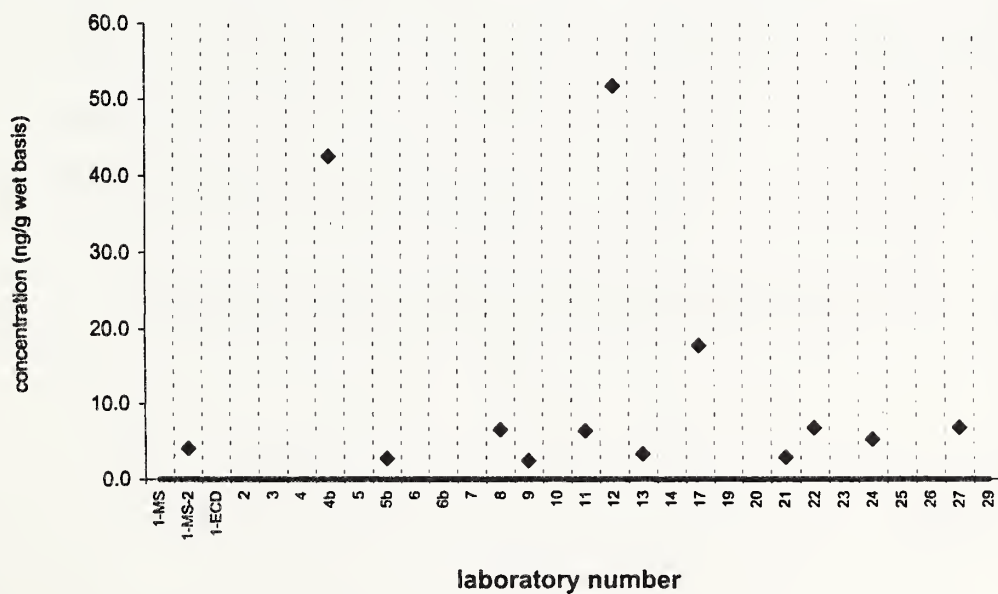


endrin

SRM 1946

Target Value = no target ng/g (dry basis)

Reported Results: 19 Quantitative Results: 13

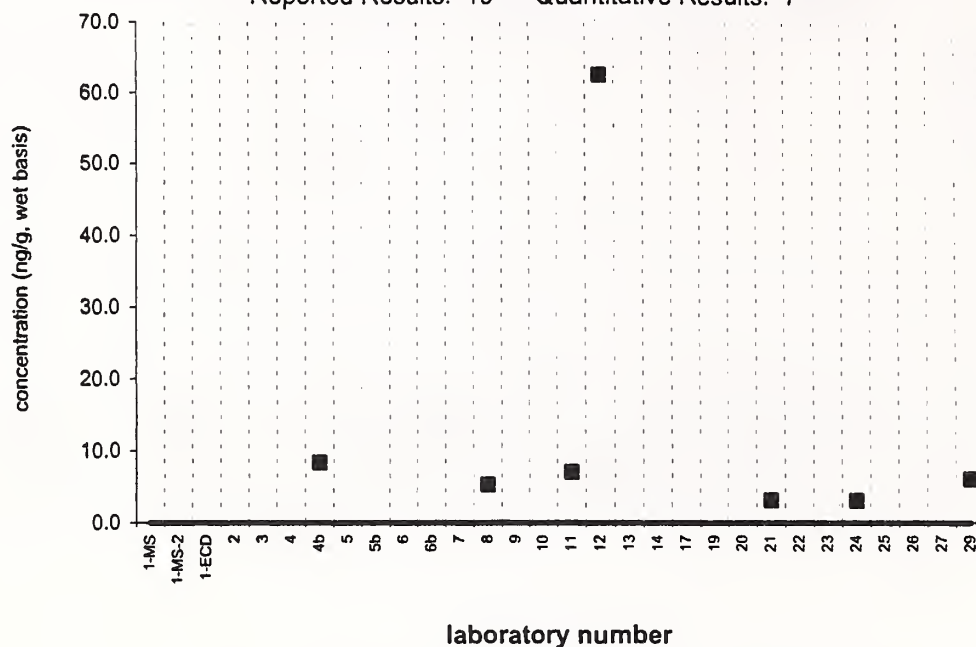


endosulfan II

Fish V (QA02FSH5)

Assigned value = No assigned value ng/g (wet basis)

Reported Results: 19 Quantitative Results: 7

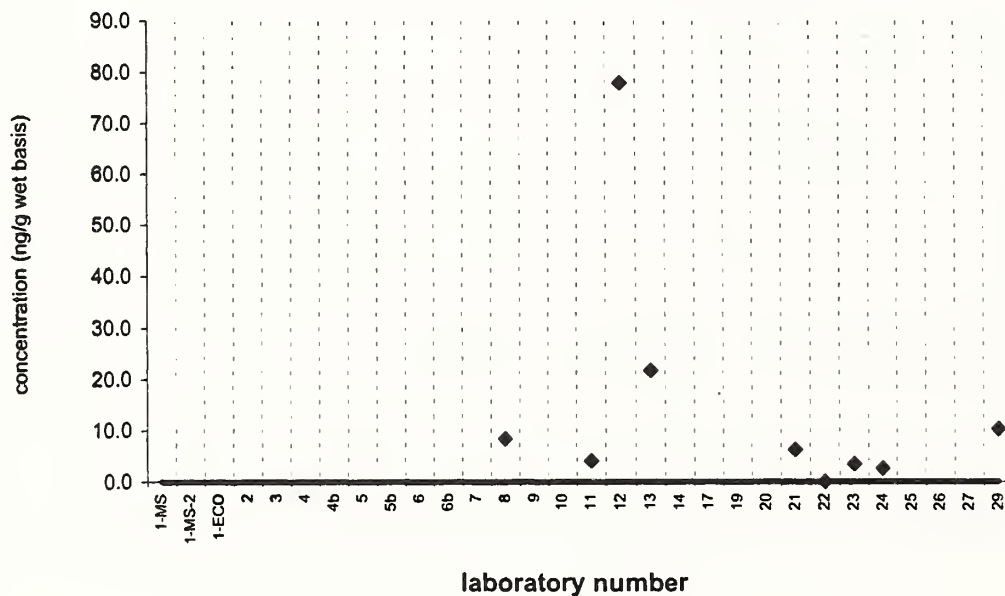


endosulfan II

SRM 1946

Target Value = no target ng/g (dry basis)

Reported Results: 20 Quantitative Results: 8

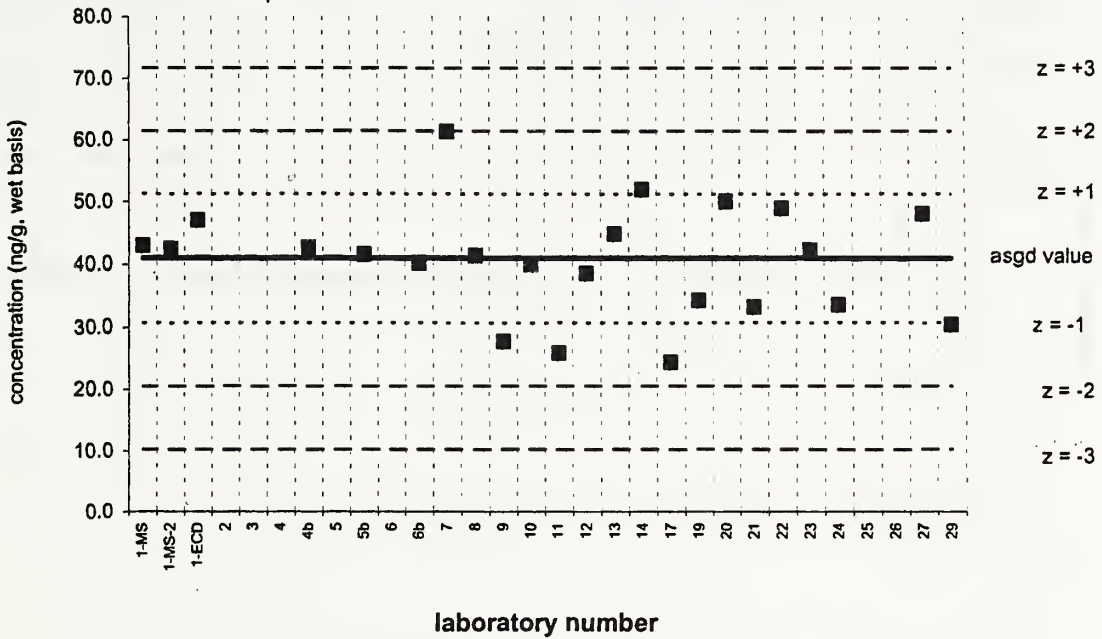


4,4'-DDD

Fish V (QA02FSH5)

Assigned value = 40.9 ng/g s = 8.4 ng/g 95% CL = 3.8 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 23

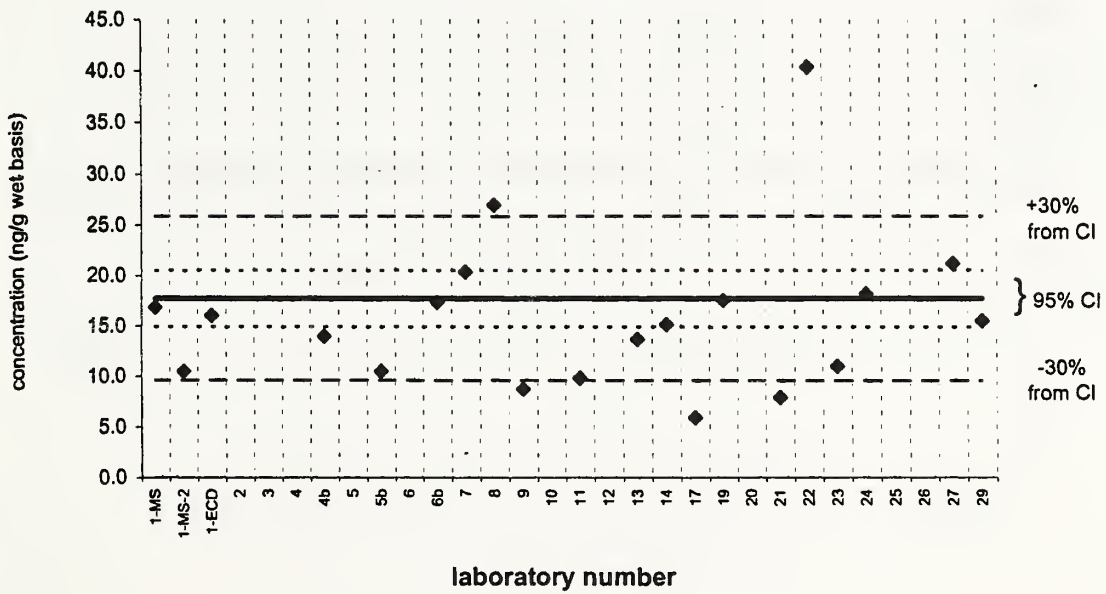


4,4'-DDD

SRM 1946

Certified Value = 17.7 ± 2.8 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 20

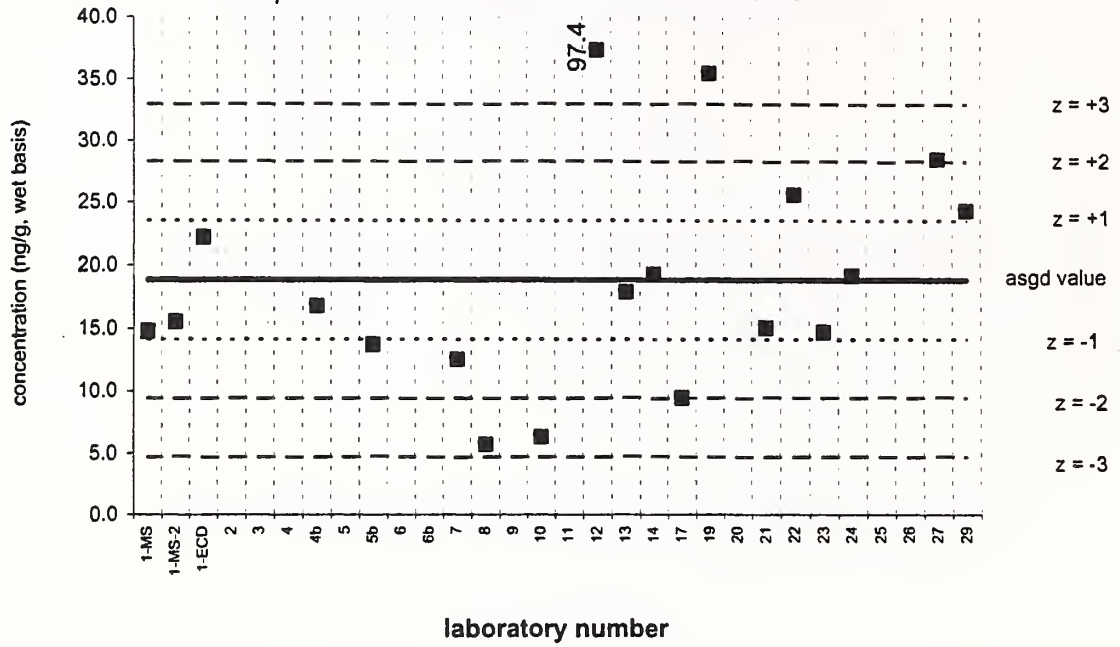


2,4'-DDT

Fish V (QA02FSH5)

Assigned value = 18.8 ng/g s = 7.1 ng/g 95% CL = 3.8 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 20

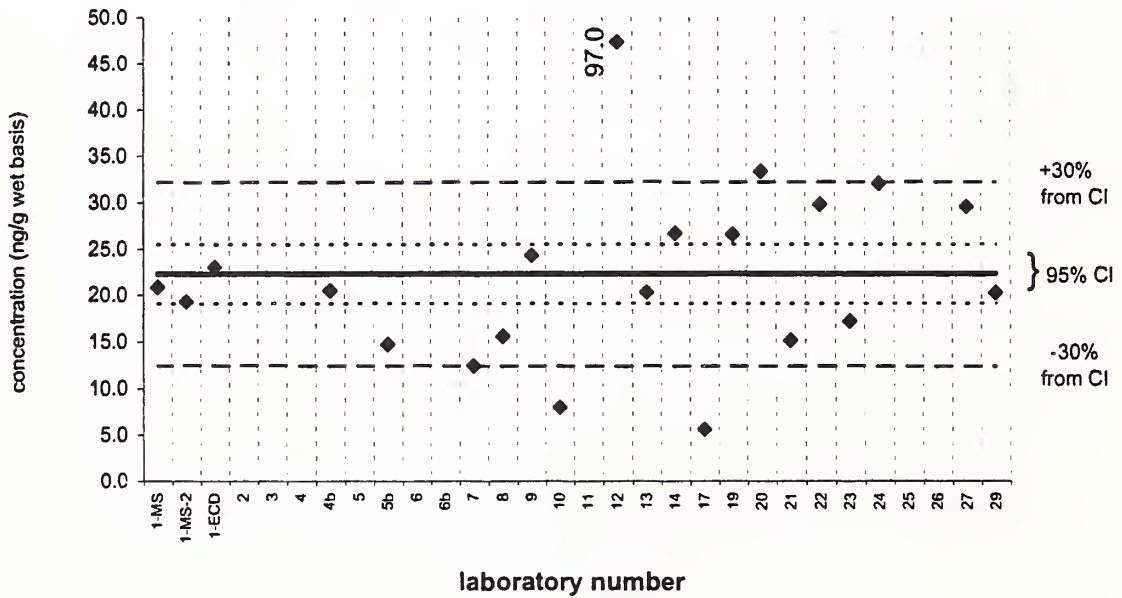


2,4'-DDT

SRM 1946

Reference Value = 22.3 ± 3.2 ng/g (wet basis)

Reported Results: 23 Quantitative Results: 22

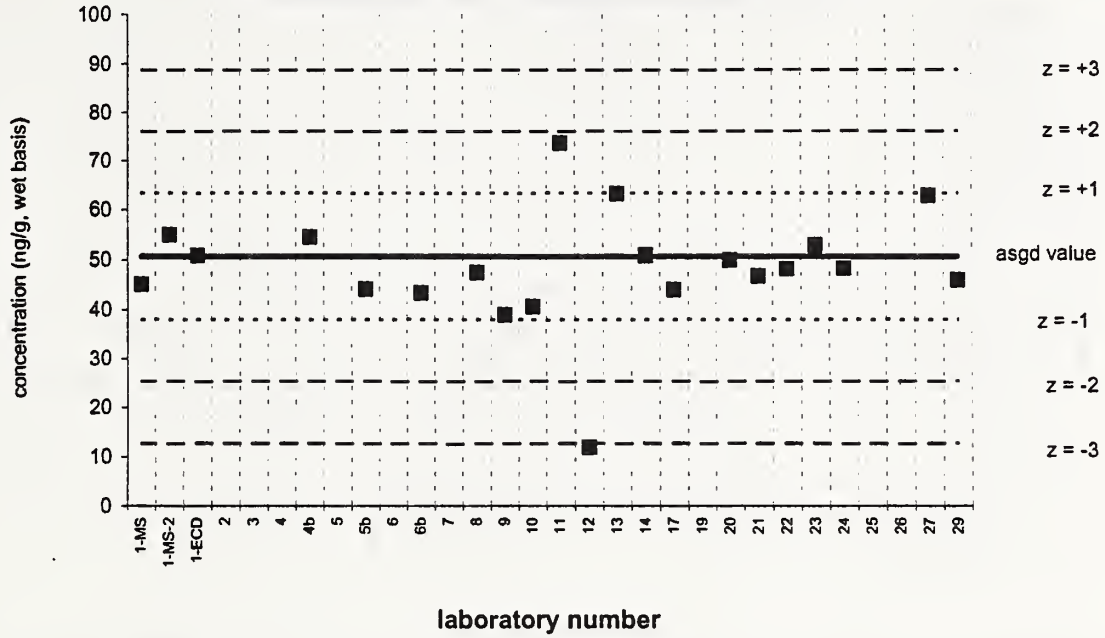


cis-nonachlor

Fish V (QA02FSH5)

Assigned value = 50.7 ng/g s = 8.5 ng/g 95% CL = 4.1 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 21

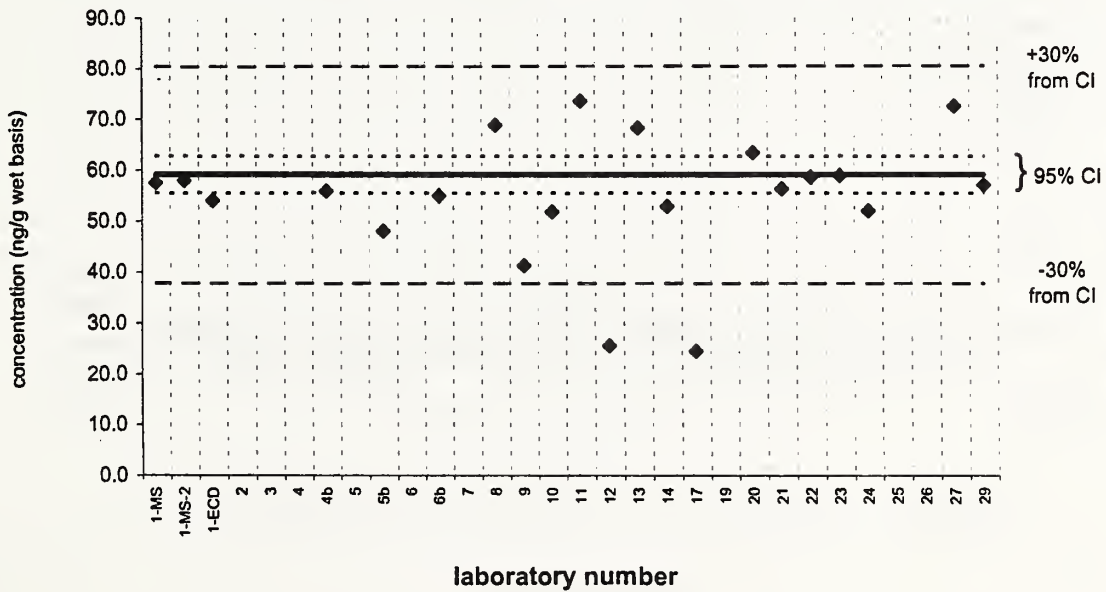


cis-nonachlor

SRM 1946

Certified Value = 59.1 ± 3.6 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 21

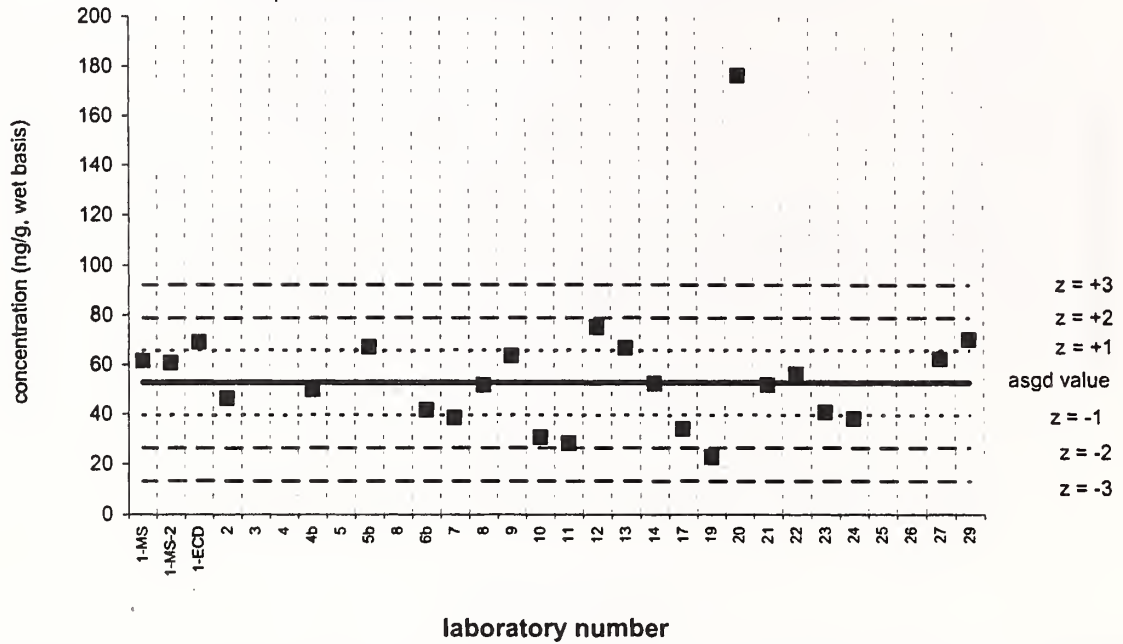


4,4'-DDT

Fish V (QA02FSH5)

Assigned value = 52.6 ng/g s = 14.0 ng/g 95% CL = 6.7 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 24

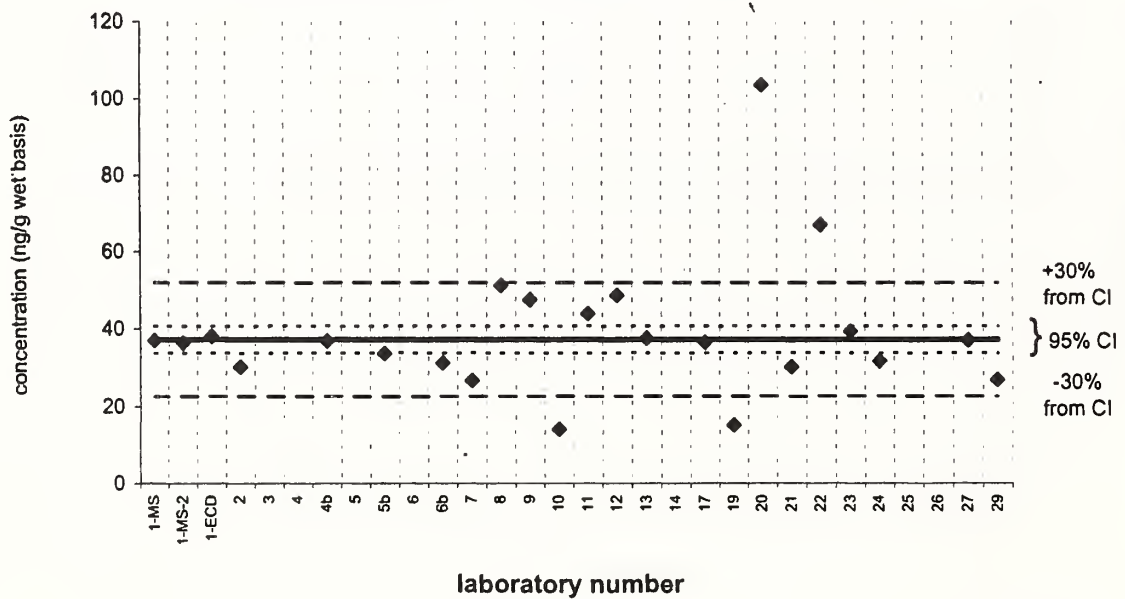


4,4'-DDT

SRM 1946

Certified Value = 37.2 ± 3.5 ng/g (wet basis)

Reported Results: 24 Quantitative Results: 23

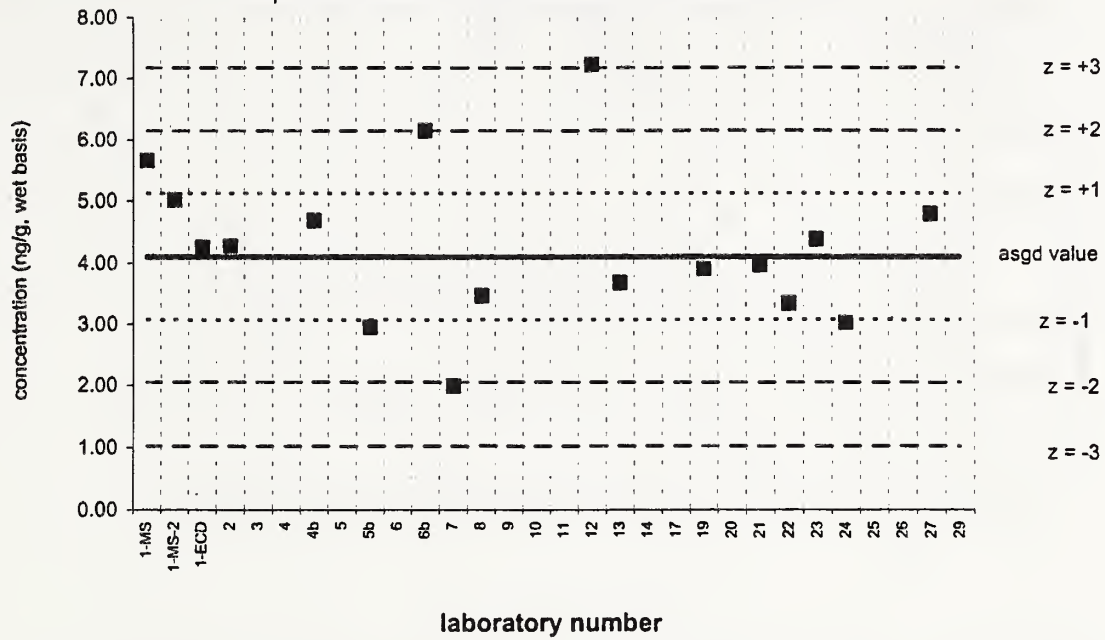


mirex

Fish V (QA02FSH5)

Assigned value = 4.10 ng/g s = 0.78 ng/g 95% CL = 0.45 ng/g (wet basis)

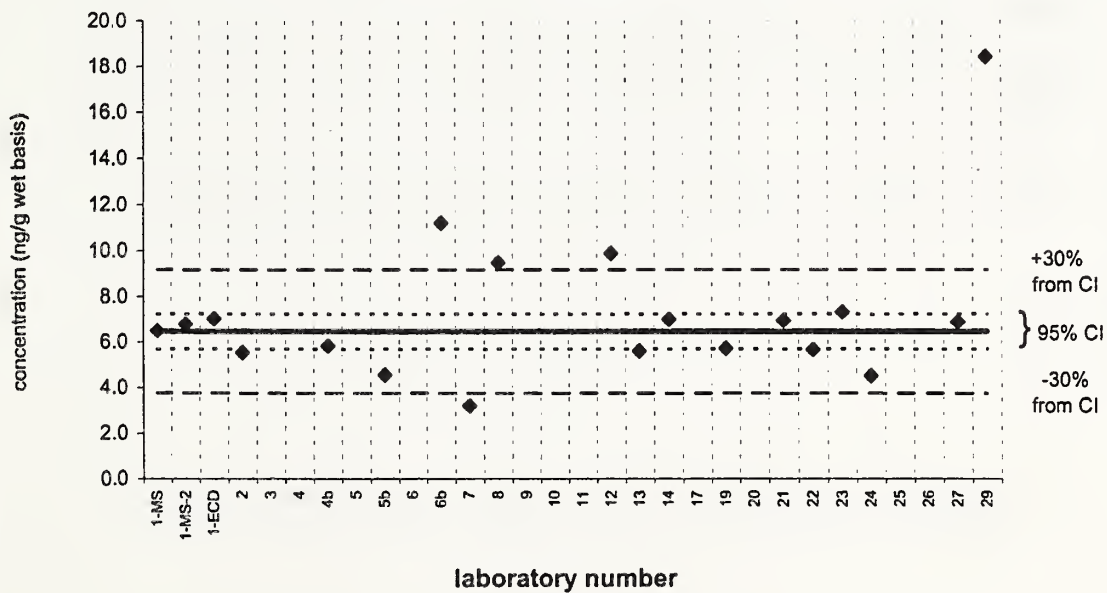
Reported Results: 23 Quantitative Results: 17



mirex

SRM 1946

Certified Value = 6.47 ± 0.77 ng/g (wet basis)
Reported Results: 23 Quantitative Results: 19

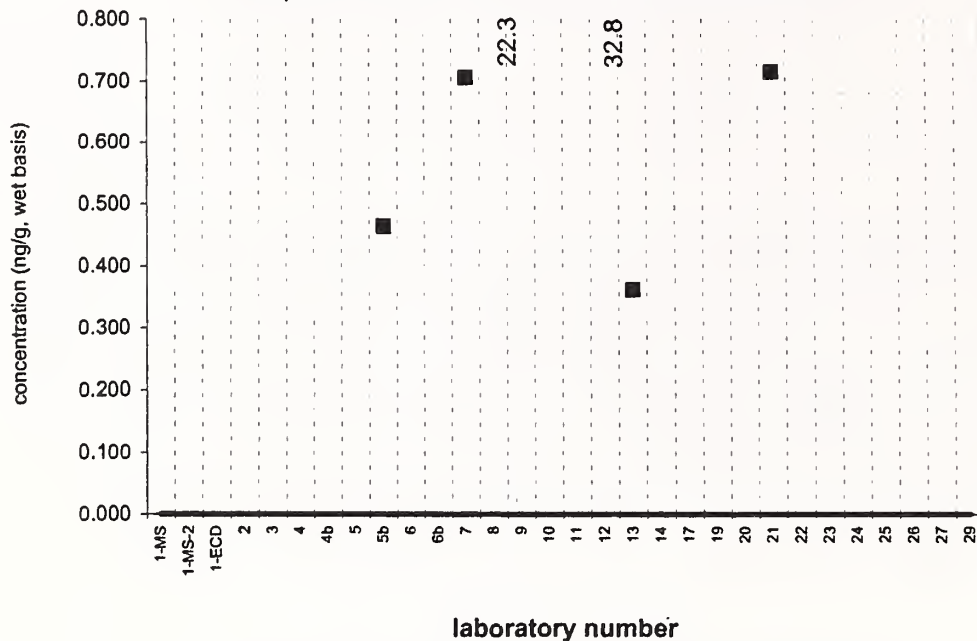


endosulfan sulfate

Fish V (QA02FSH5)

Assigned value = No assigned value ng/g (wet basis)

Reported Results: 16 Quantitative Results: 6

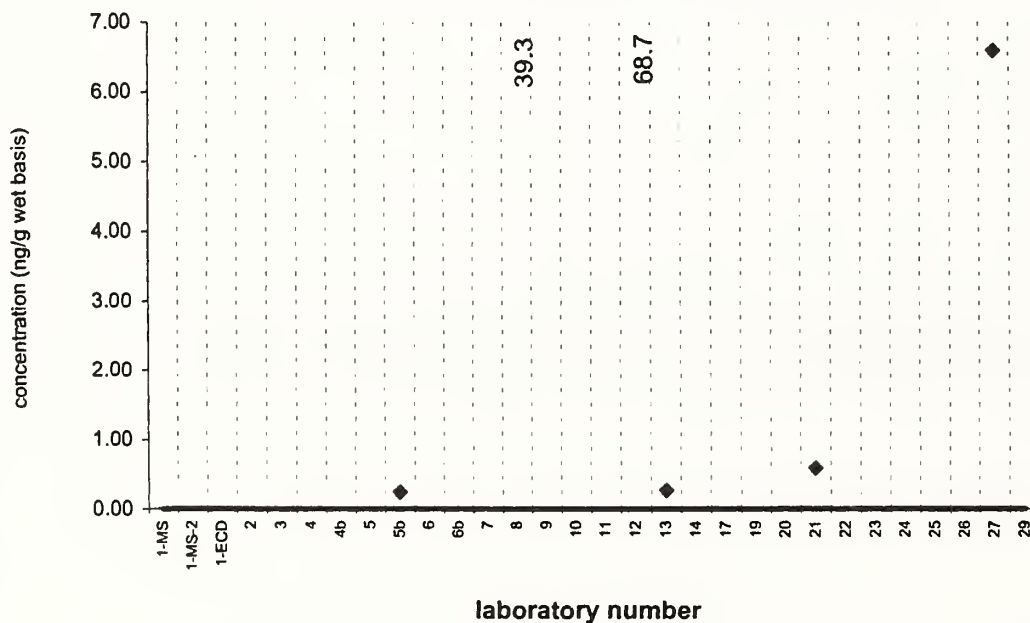


endosulfan sulfate

SRM 1946

Target Value = no target ng/g (dry basis)

Reported Results: 17 Quantitative Results: 6

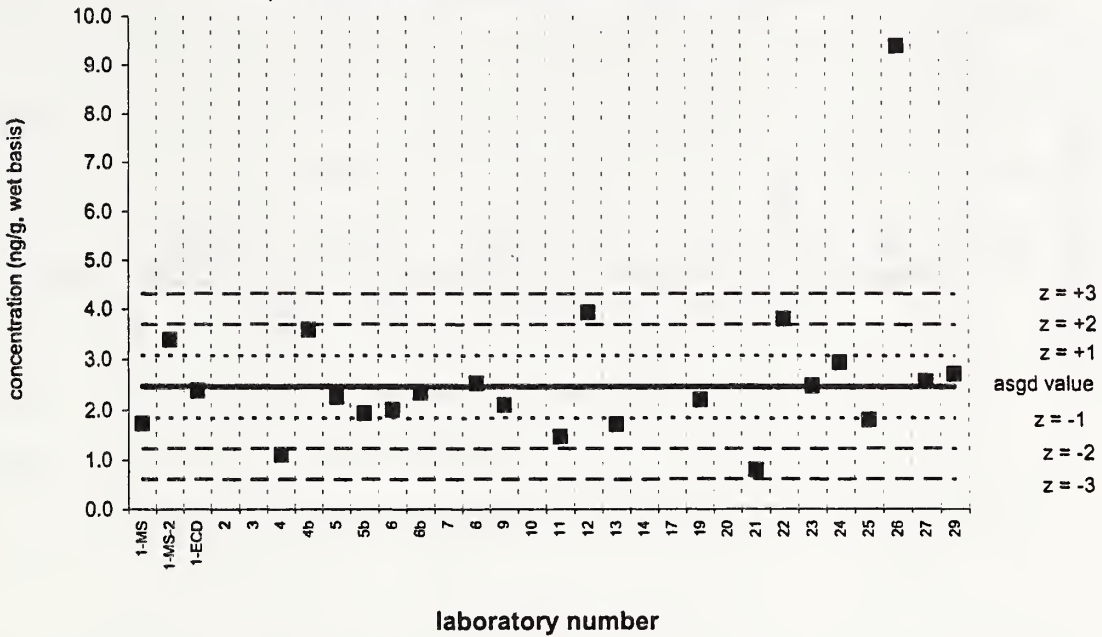


PCB 18

Fish V (QA02FSH5)

Assigned value = 2.46 ng/g s = 0.76 ng/g 95% CL = 0.36 ng/g (wet basis)

Reported Results: 27 Quantitative Results: 23

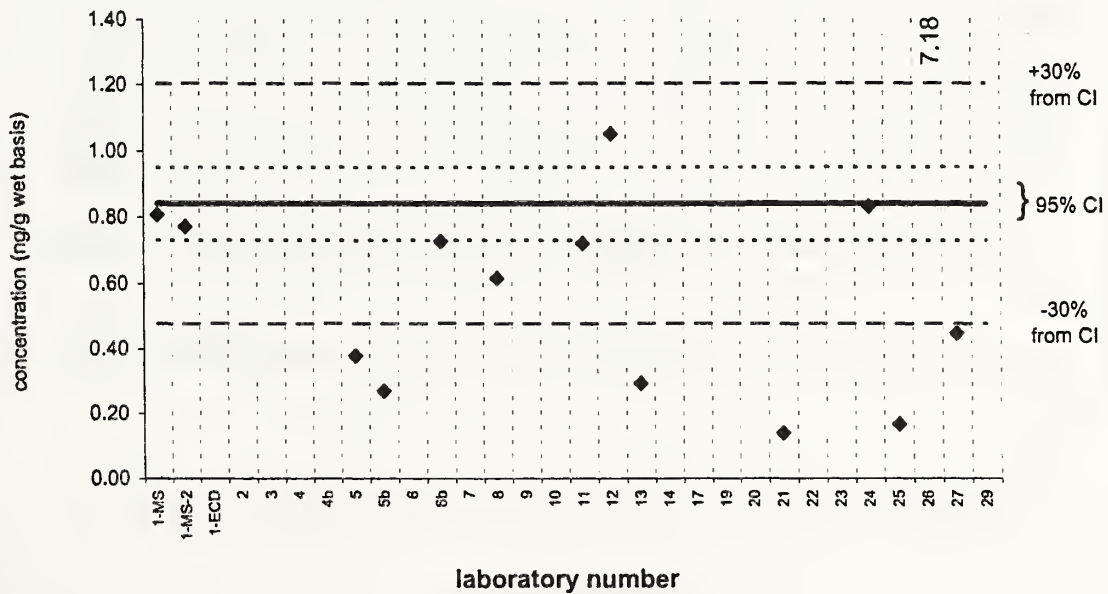


PCB 18

SRM 1946

Reference Value = 0.840 ± 0.110 ng/g (wet basis)

Reported Results: 26 Quantitative Results: 14

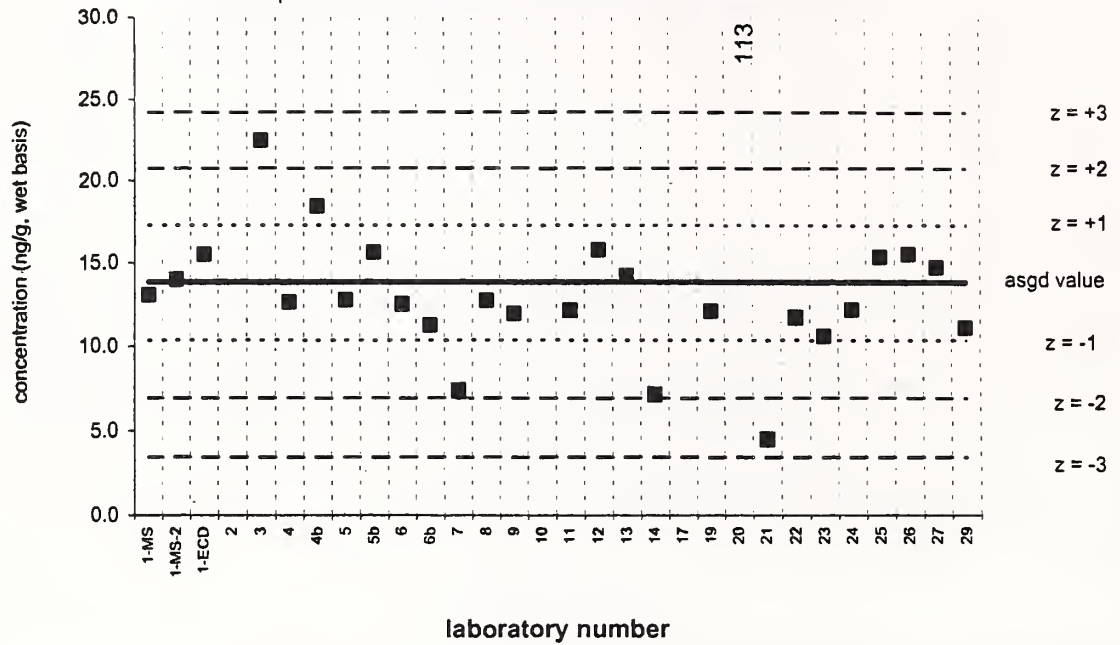


PCB 28

Fish V (QA02FSH5)

Assigned value = 13.8 ng/g s = 3.1 ng/g 95% CL = 1.4 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 27

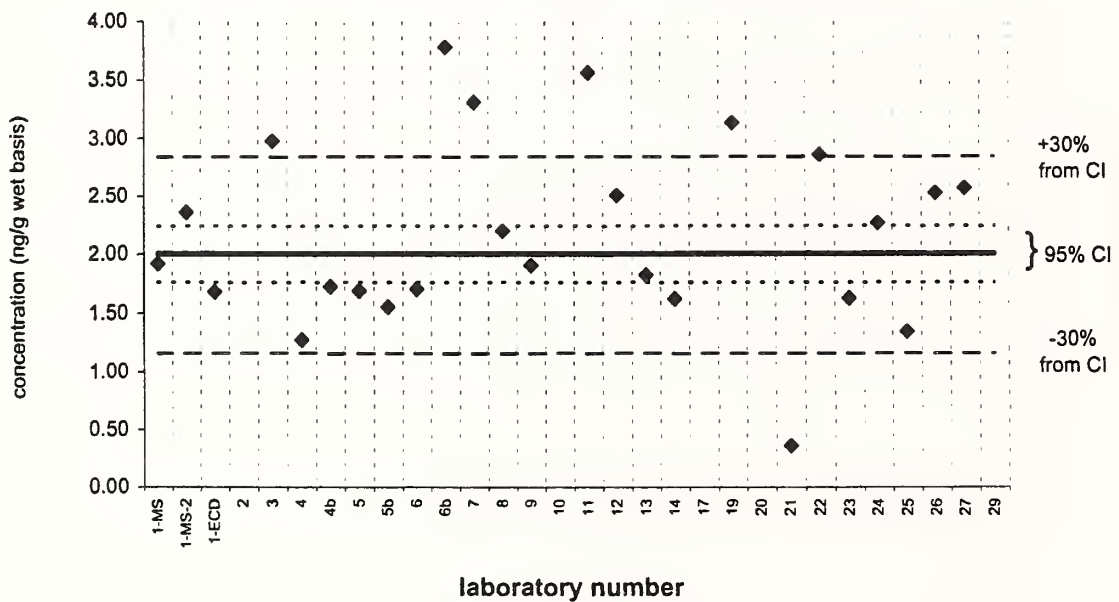


PCB 28

SRM 1946

Reference Value = 2.00 ± 0.24 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 25

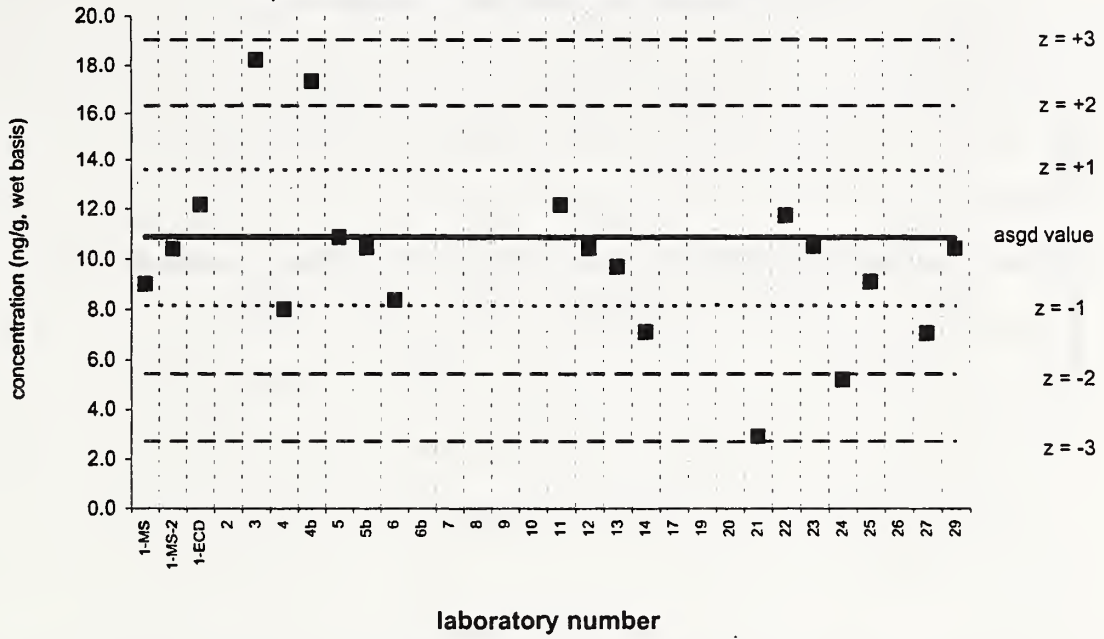


PCB 31

Fish V (QA02FSH5)

Assigned value = 10.9 ng/g s = 2.7 ng/g 95% CL = 1.4 ng/g (wet basis)

Reported Results: 20 Quantitative Results: 20

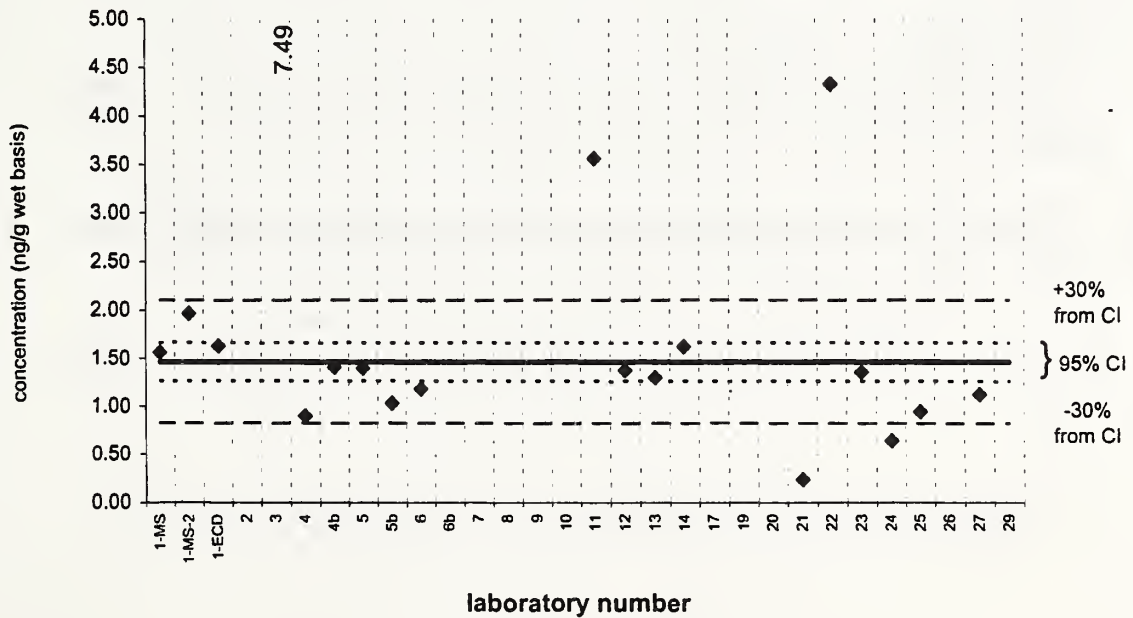


PCB 31

SRM 1946

Reference Value = 1.46 ± 0.20 ng/g (wet basis)

Reported Results: 20 Quantitative Results: 19

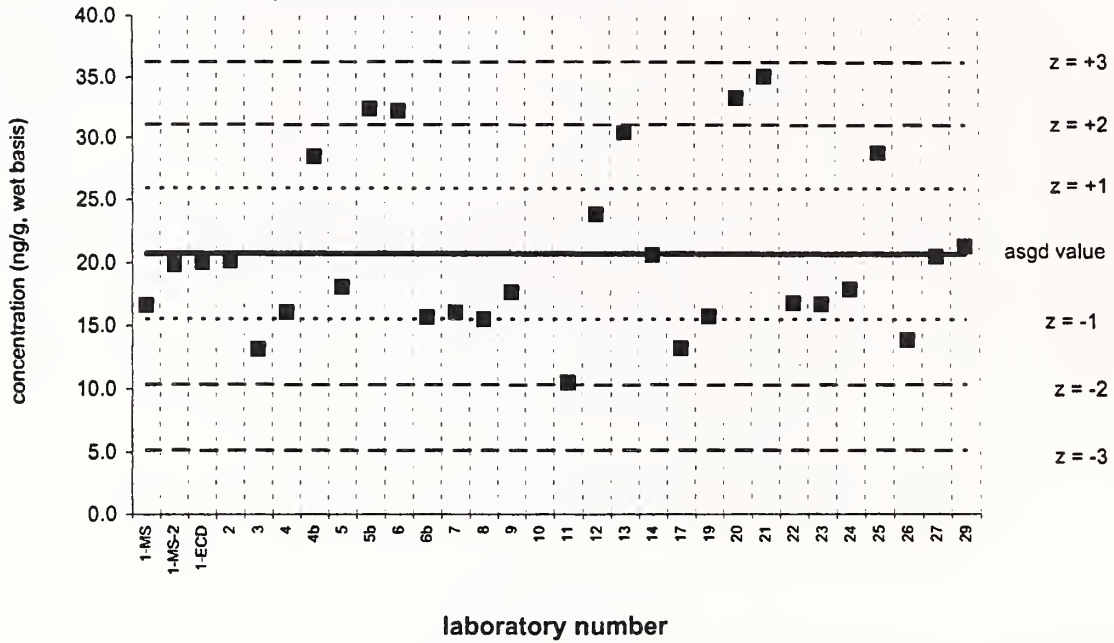


PCB 44

Fish V (QA02FSH5)

Assigned value = 20.7 ng/g s = 6.9 ng/g 95% CL = 2.6 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

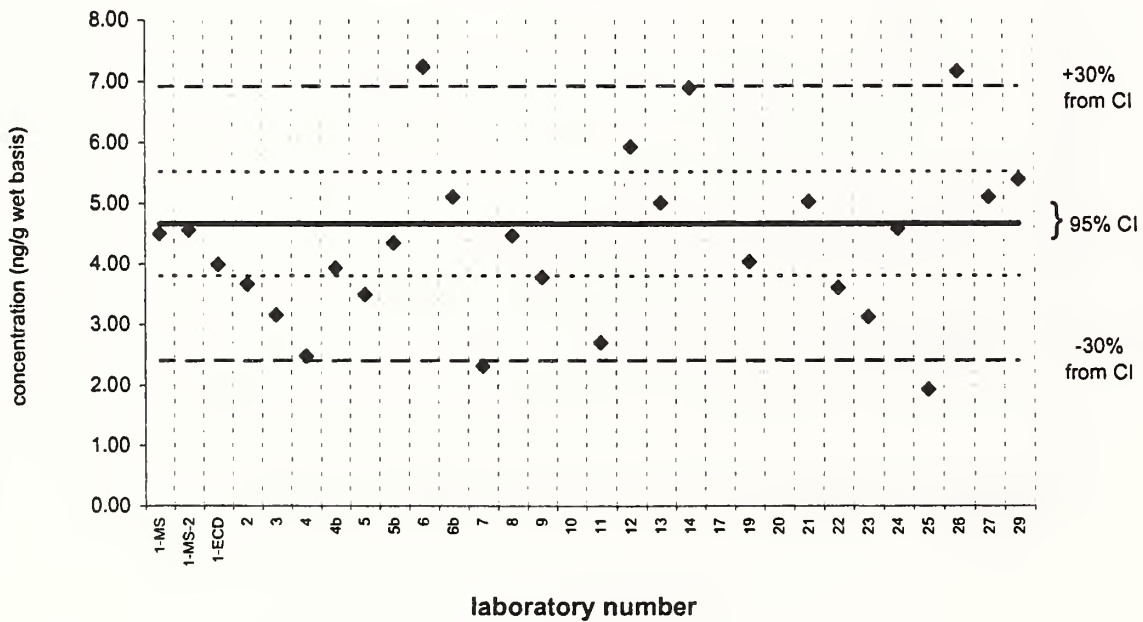


PCB 44

SRM 1946

Certified Value = 4.66 ± 0.86 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

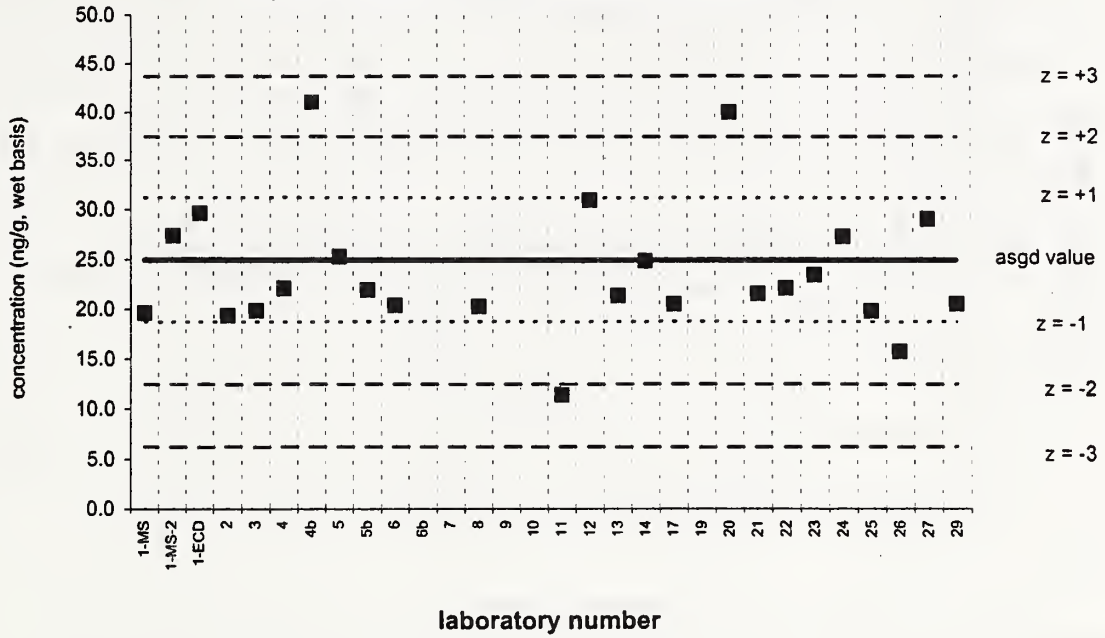


PCB 49

Fish V (QA02FSH5)

Assigned value = 25.0 ng/g s = 6.3 ng/g 95% CL = 2.9 ng/g (wet basis)

Reported Results: 25 Quantitative Results: 25

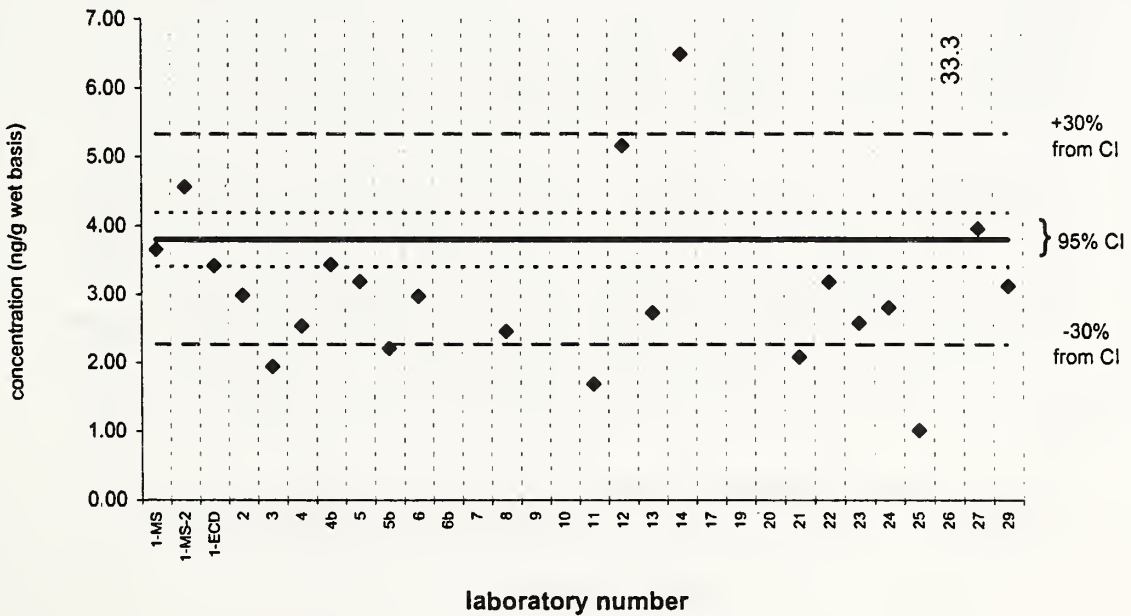


PCB 49

SRM 1946

Certified Value = 3.80 ± 0.39 ng/g (wet basis)

Reported Results: 25 Quantitative Results: 23

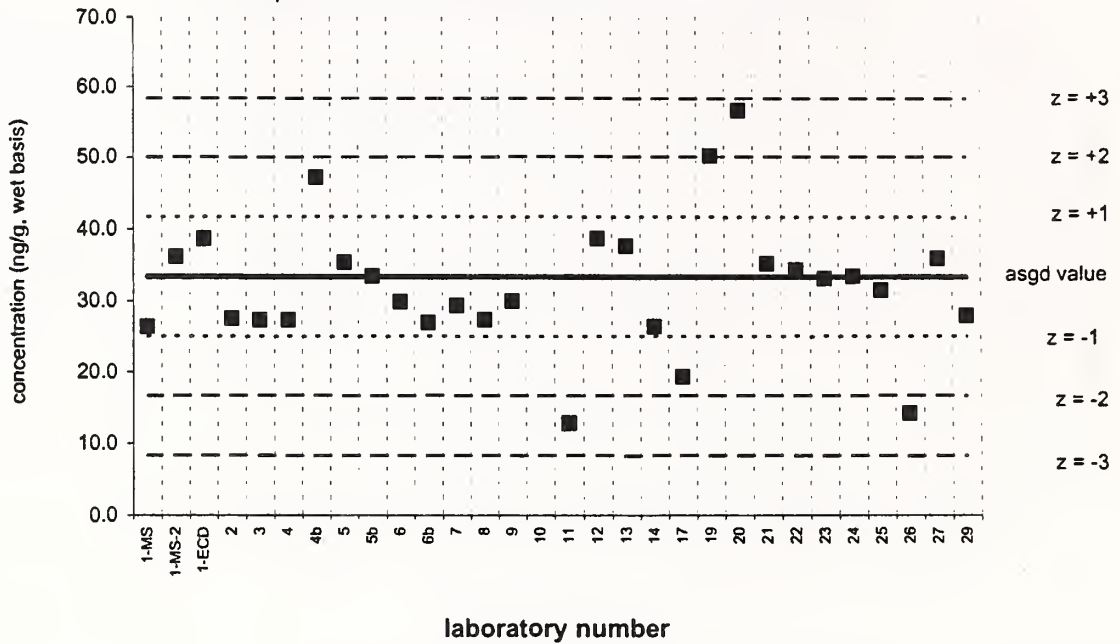


PCB 52

Fish V (QA02FSH5)

Assigned value = 33.3 ng/g s = 8.6 ng/g 95% CL = 3.5 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

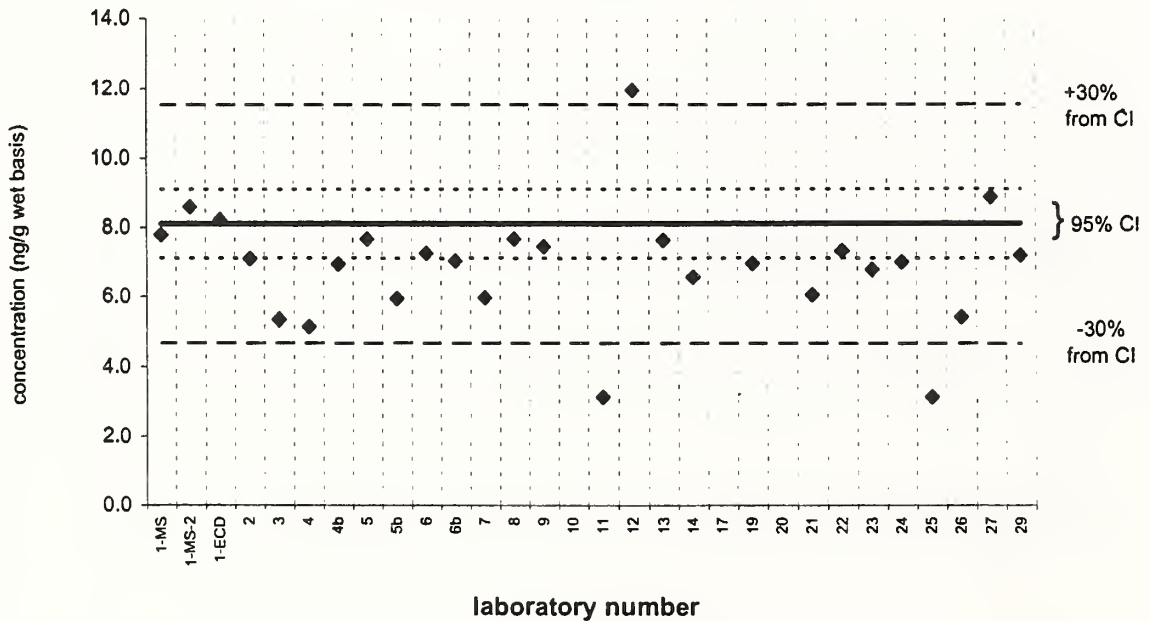


PCB 52

SRM 1946

Certified Value = 8.10 ± 1.00 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

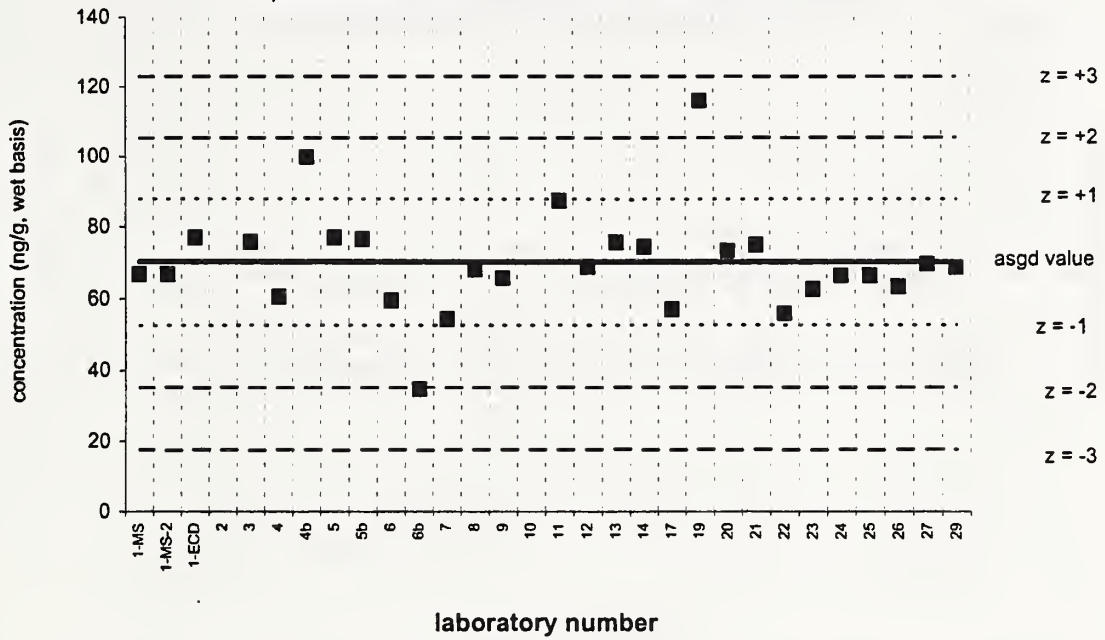


PCB 66

Fish V (QA02FSH5)

Assigned value = 70.2 ng/g s = 14.8 ng/g 95% CL = 6.1 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

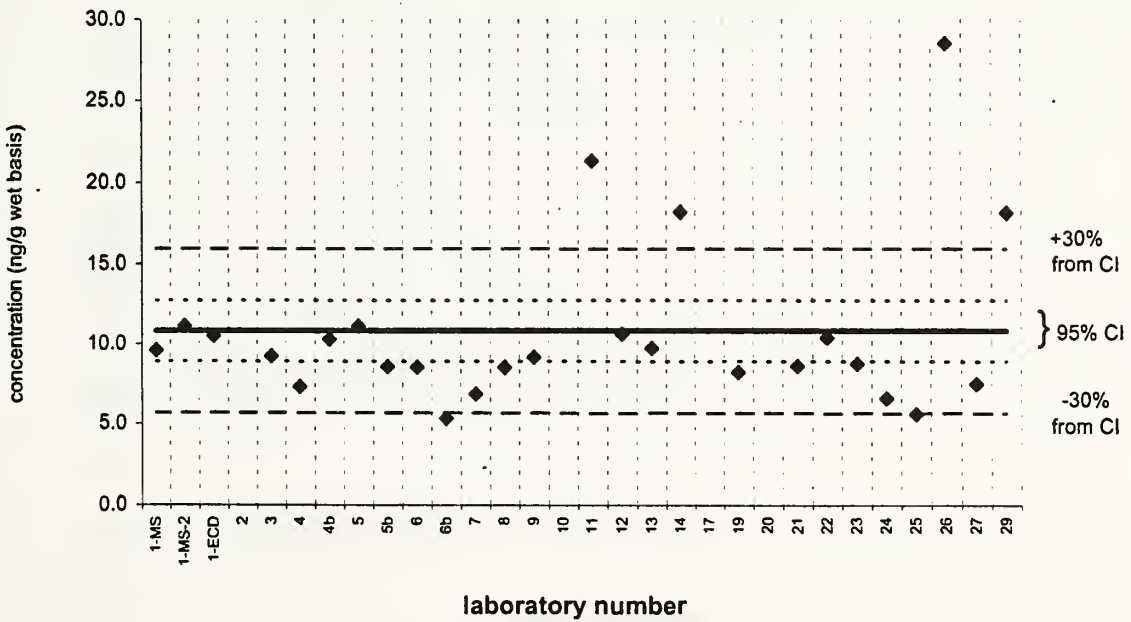


PCB 66

SRM 1946

Certified Value = 10.8 ± 1.9 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 26

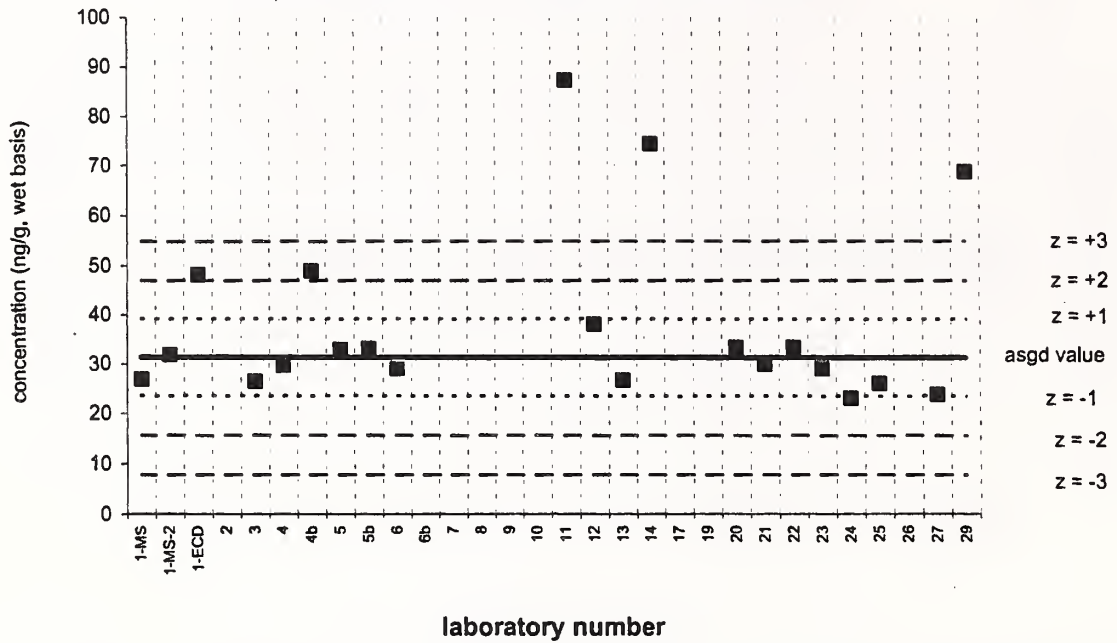


PCB 95

Fish V (QA02FSH5)

Assigned value = 31.3 ng/g s = 7.3 ng/g 95% CL = 3.7 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 21

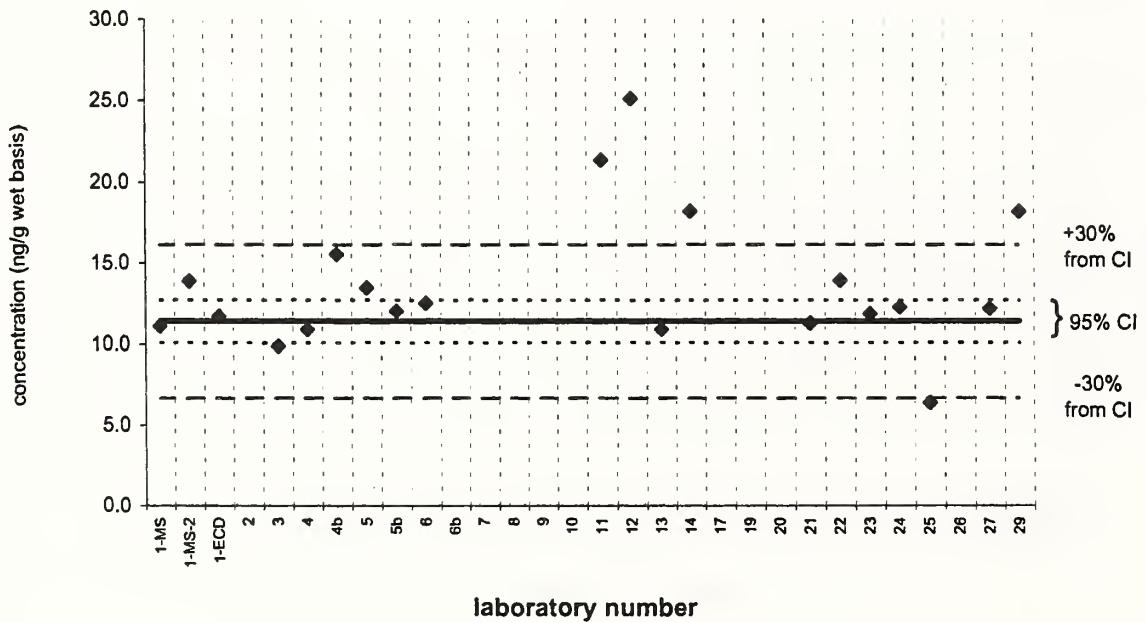


PCB 95

SRM 1946

Certified Value = 11.4 ± 1.3 ng/g (wet basis)

Reported Results: 21 Quantitative Results: 20

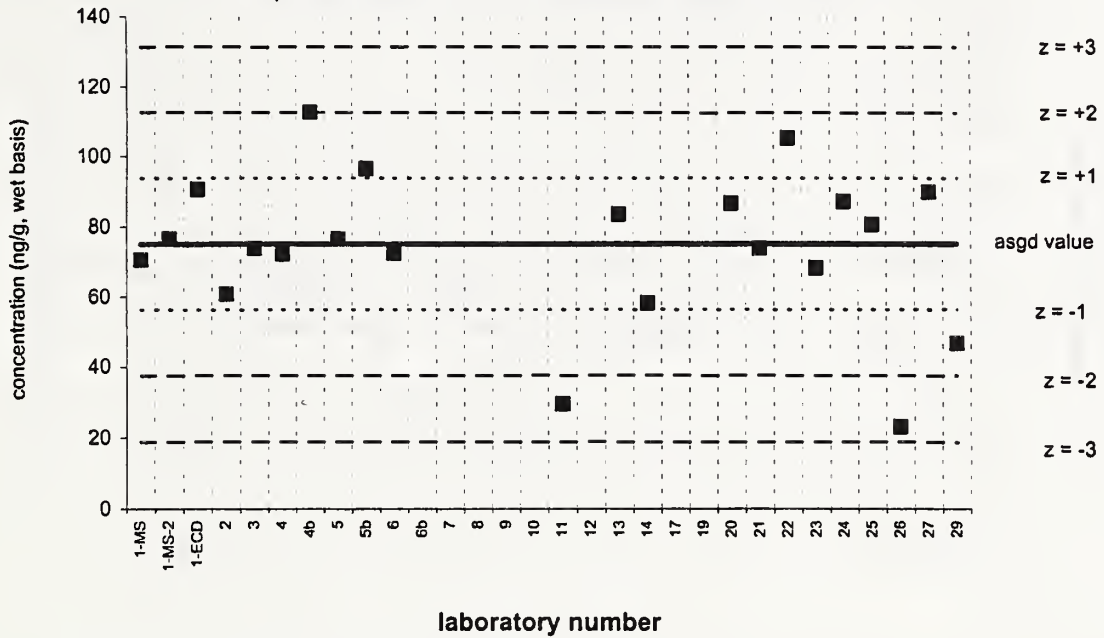


PCB 99

Fish V (QA02FSH5)

Assigned value = 75.0 ng/g s = 18.9 ng/g 95% CL = 8.9 ng/g (wet basis)

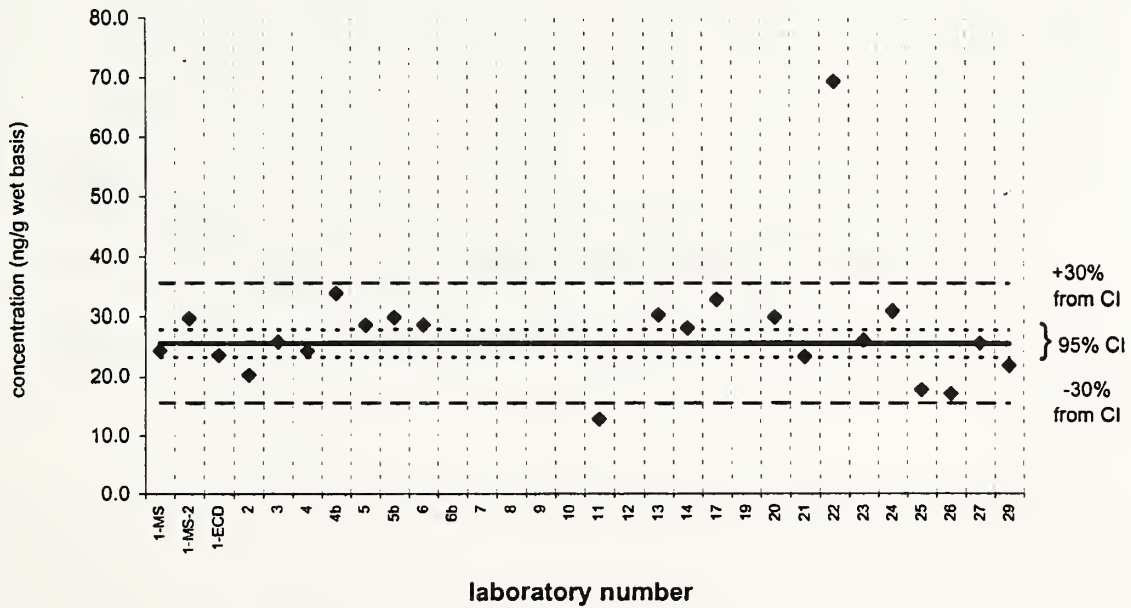
Reported Results: 23 Quantitative Results: 22



PCB 99

SRM 1946

Certified Value = 25.6 ± 2.3 ng/g (wet basis)
Reported Results: 25 Quantitative Results: 23

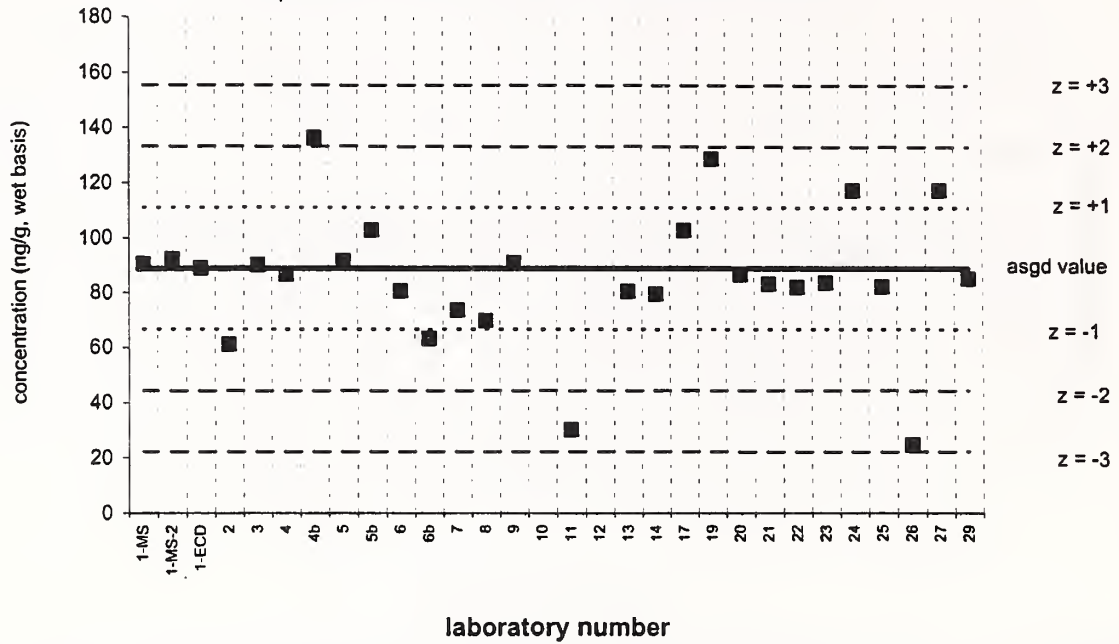


PCB 101

Fish V (QA02FSH5)

Assigned value = 88.8 ng/g s = 16.7 ng/g 95% CL = 6.9 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

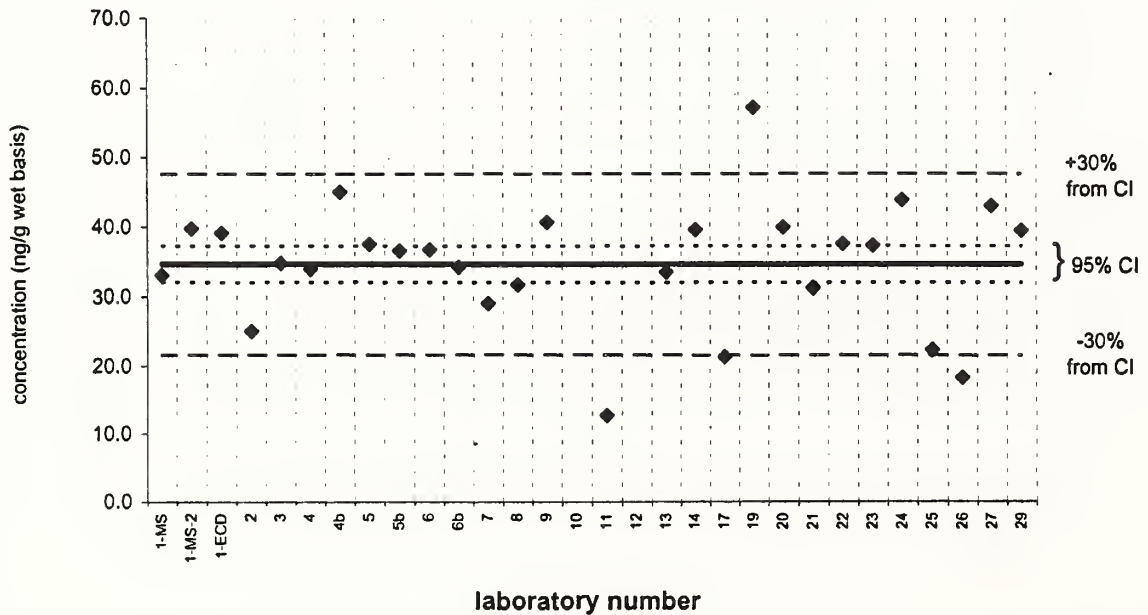


PCB 101

SRM 1946

Certified Value = 34.6 ± 2.6 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

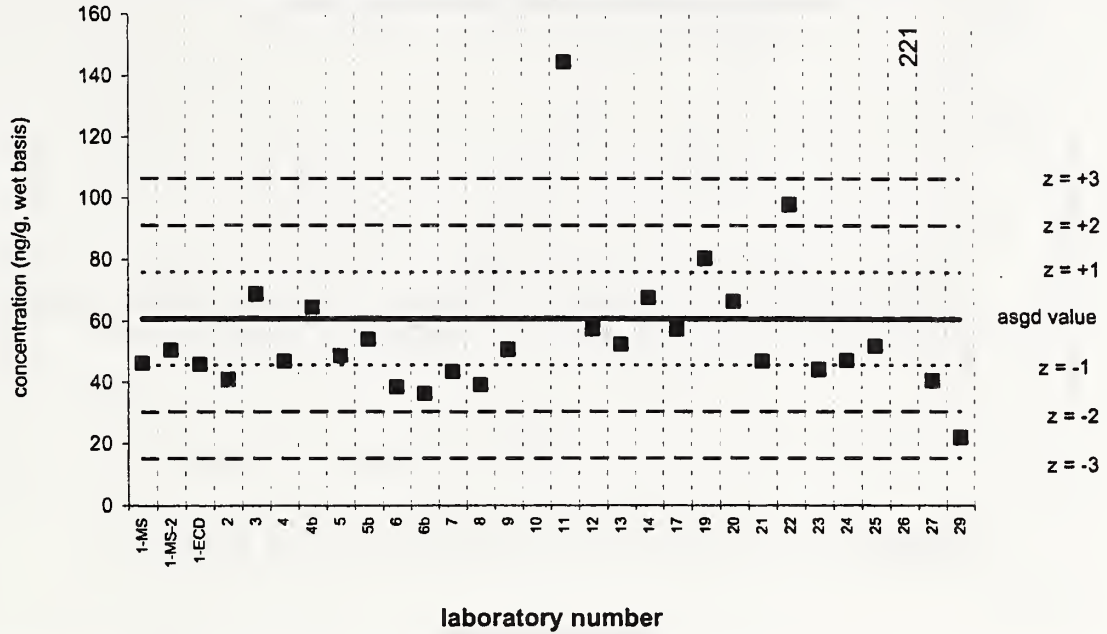


PCB 105

Fish V (QA02FSH5)

Assigned value = 60.8 ng/g s = 11.2 ng/g 95% CL = 4.7 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

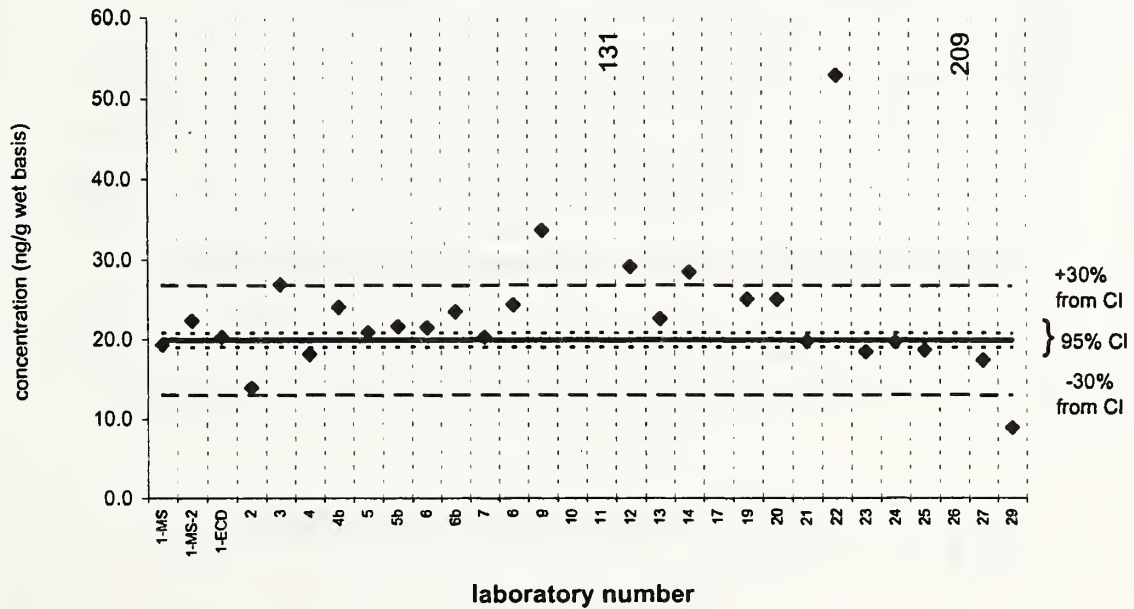


PCB 105

SRM 1946

Certified Value = 19.9 ± 0.9 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 28

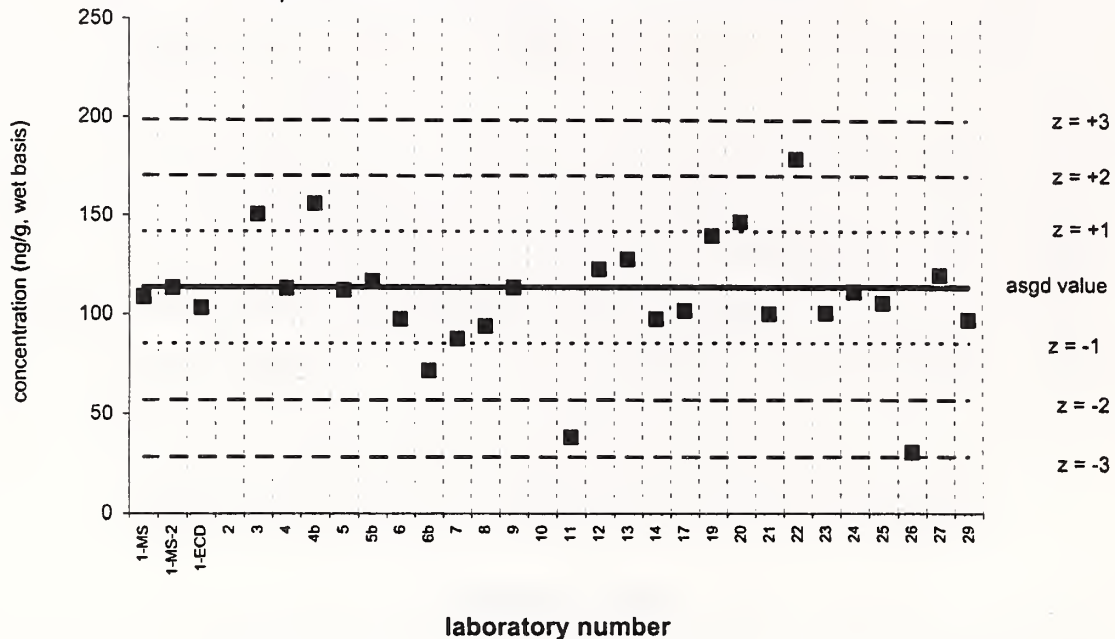


PCB 118

Fish V (QA02FSH5)

Assigned value = 114 ng/g s = 24 ng/g 95% CL = 10 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

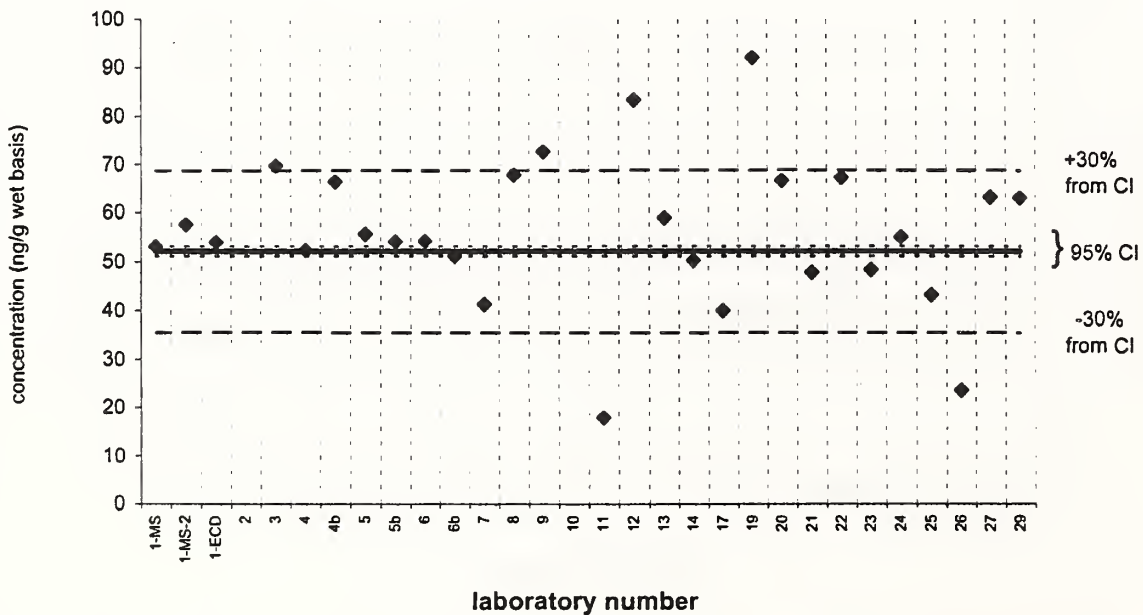


PCB 118

SRM 1946

Certified Value = 52.1 ± 1.0 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

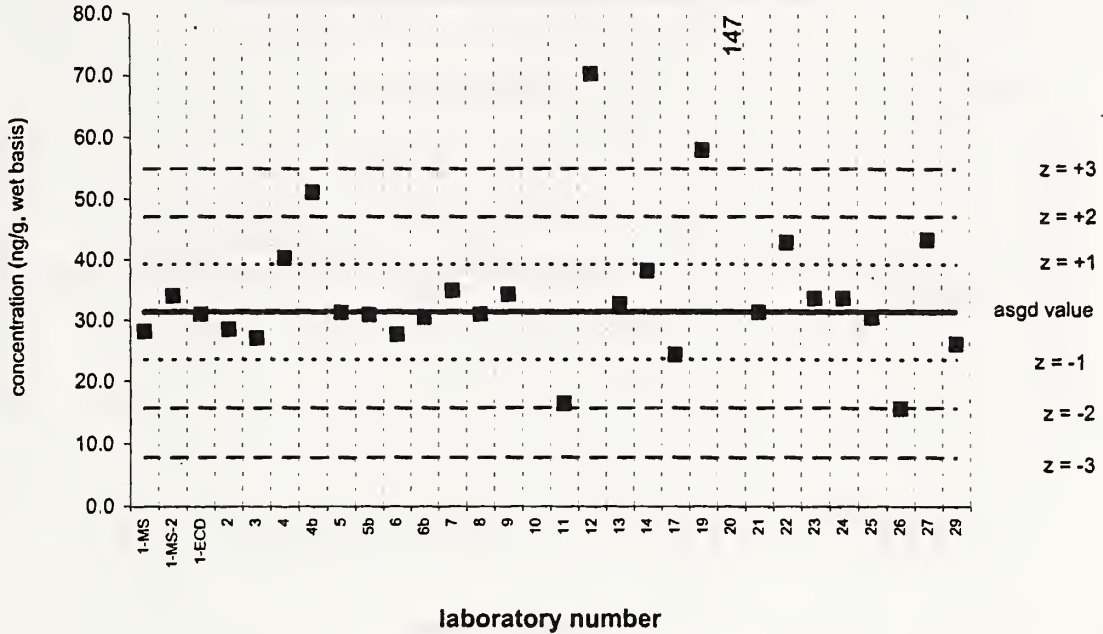


PCB 128

Fish V (QA02FSH5)

Assigned value = 31.4 ng/g s = 7.6 ng/g 95% CL = 3.3 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

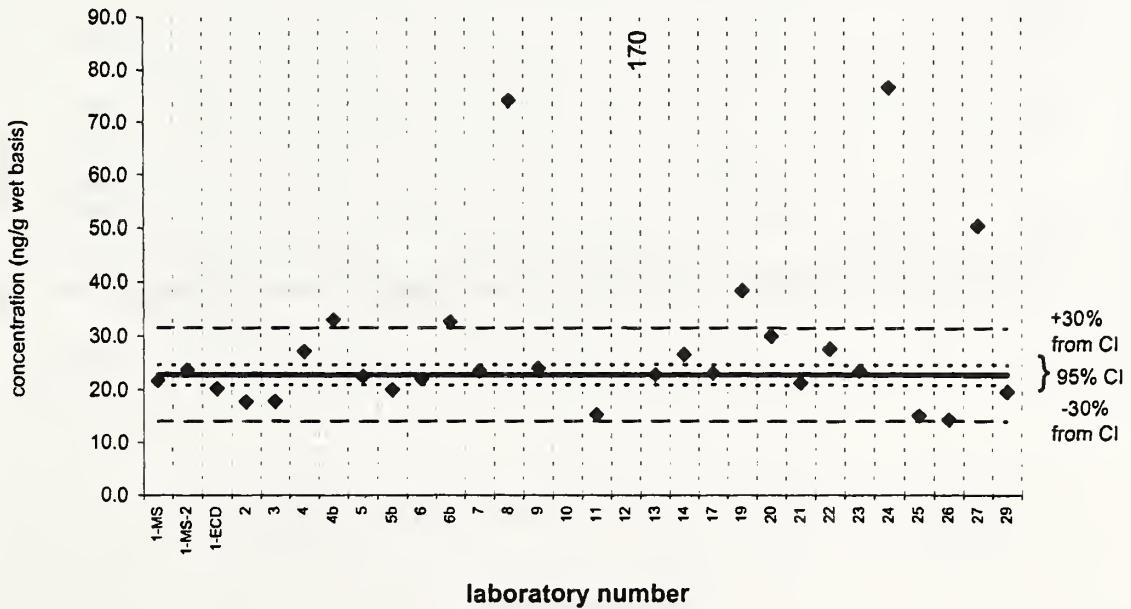


PCB 128

SRM 1946

Certified Value = 22.8 ± 1.9 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

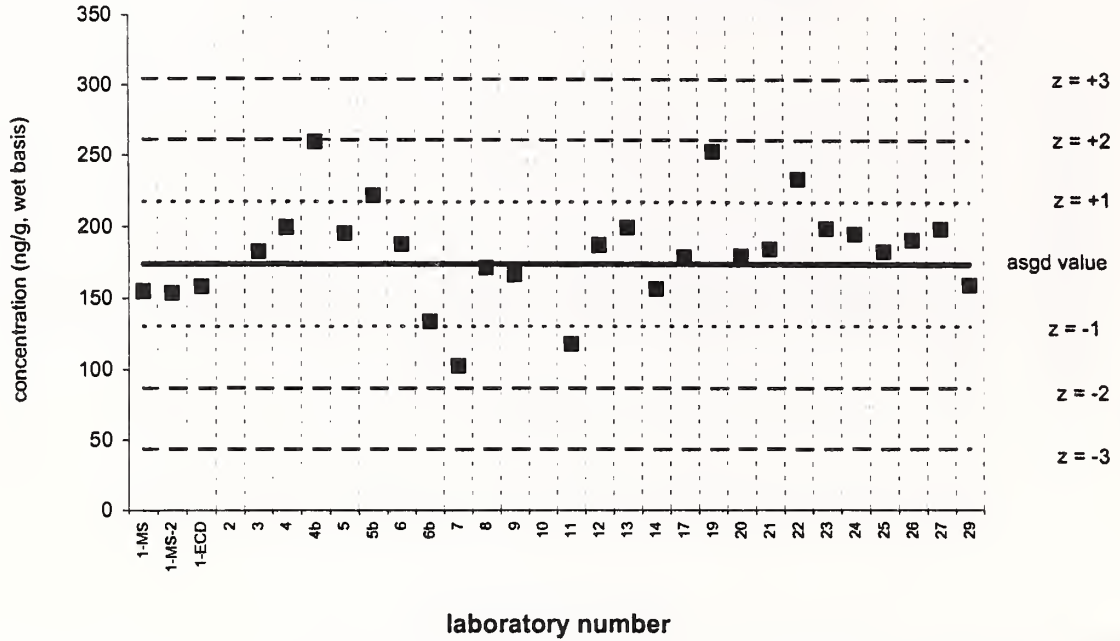


PCB 138

Fish V (QA02FSH5)

Assigned value = 174 ng/g s = 29 ng/g 95% CL = 12 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

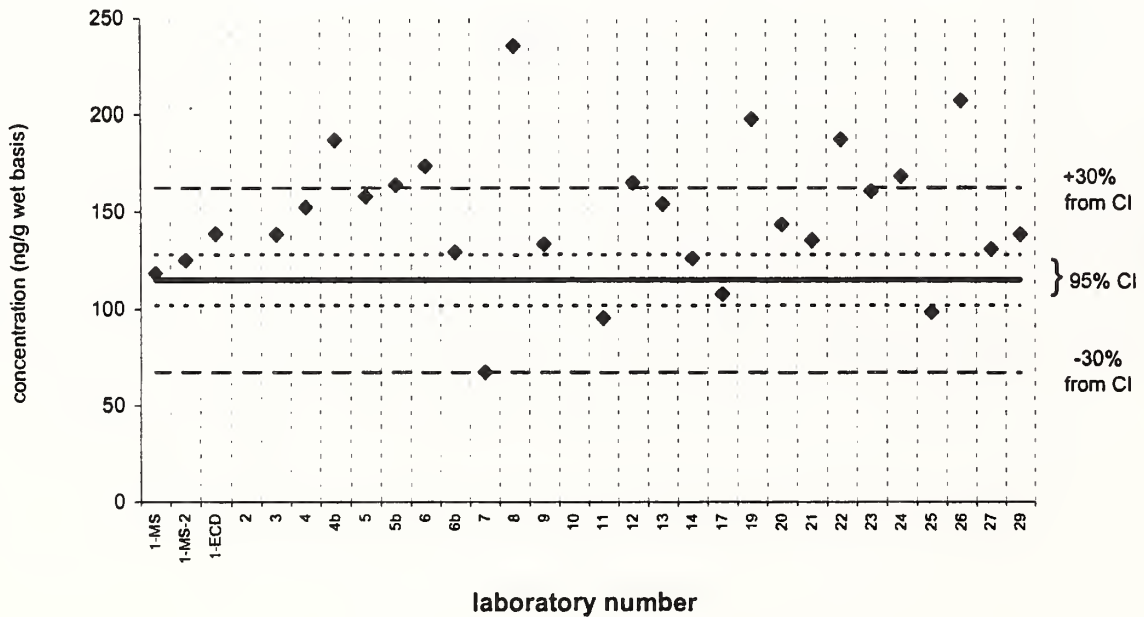


PCB 138

SRM 1946

Certified Value = 115 ± 13 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

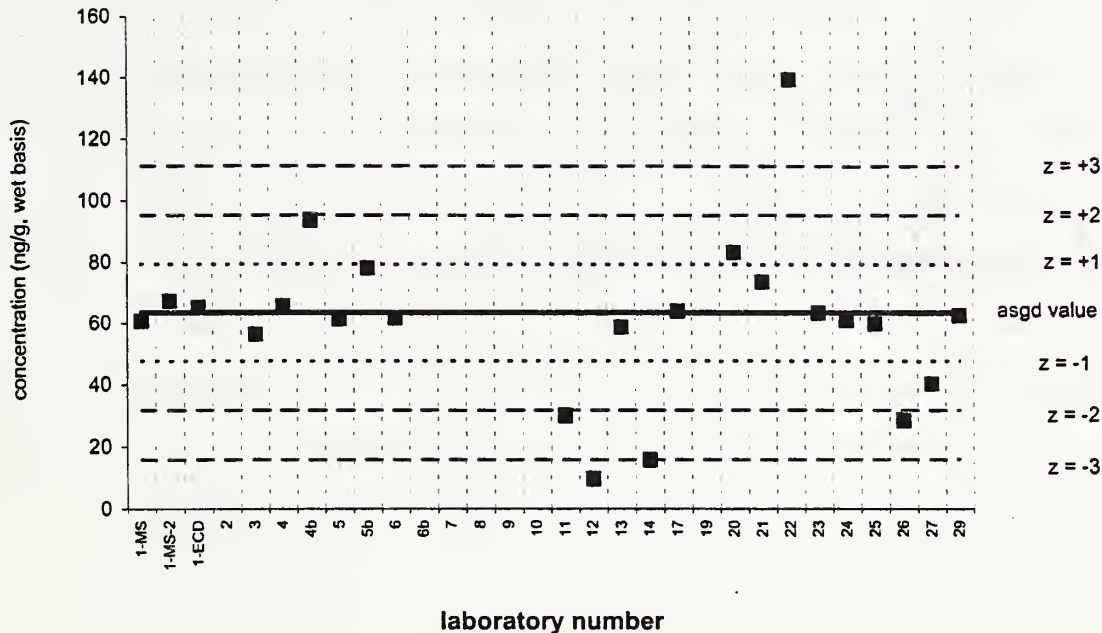


PCB 149

Fish V (QA02FSH5)

Assigned value = 63.5 ng/g s = 14.8 ng/g 95% CL = 7.6 ng/g (wet basis)

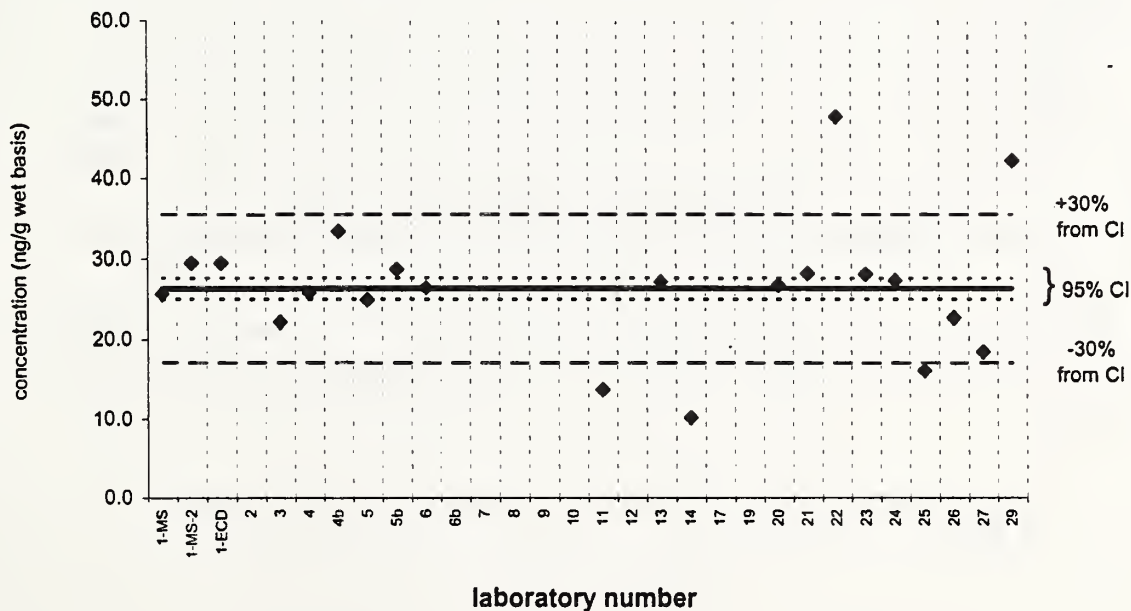
Reported Results: 23 Quantitative Results: 23



PCB 149

SRM 1946

Certified Value = 26.3 ± 1.3 ng/g (wet basis)
Reported Results: 22 Quantitative Results: 21

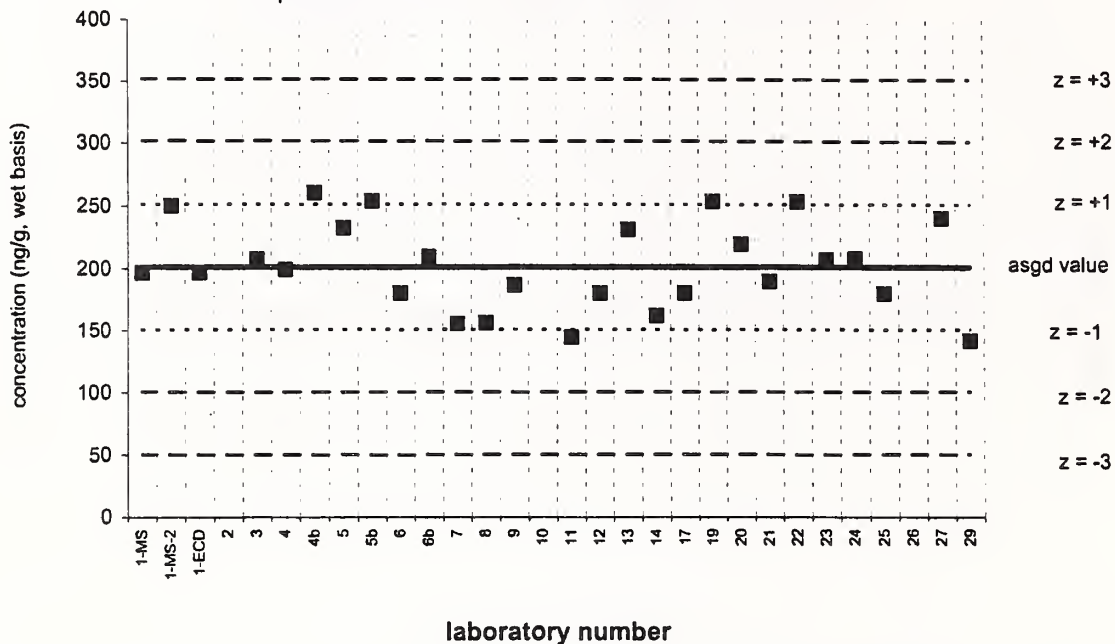


PCB 153

Fish V (QA02FSH5)

Assigned value = 201 ng/g $s = 35$ ng/g 95% CL = 14 ng/g (wet basis)

Reported Results: 27 Quantitative Results: 27

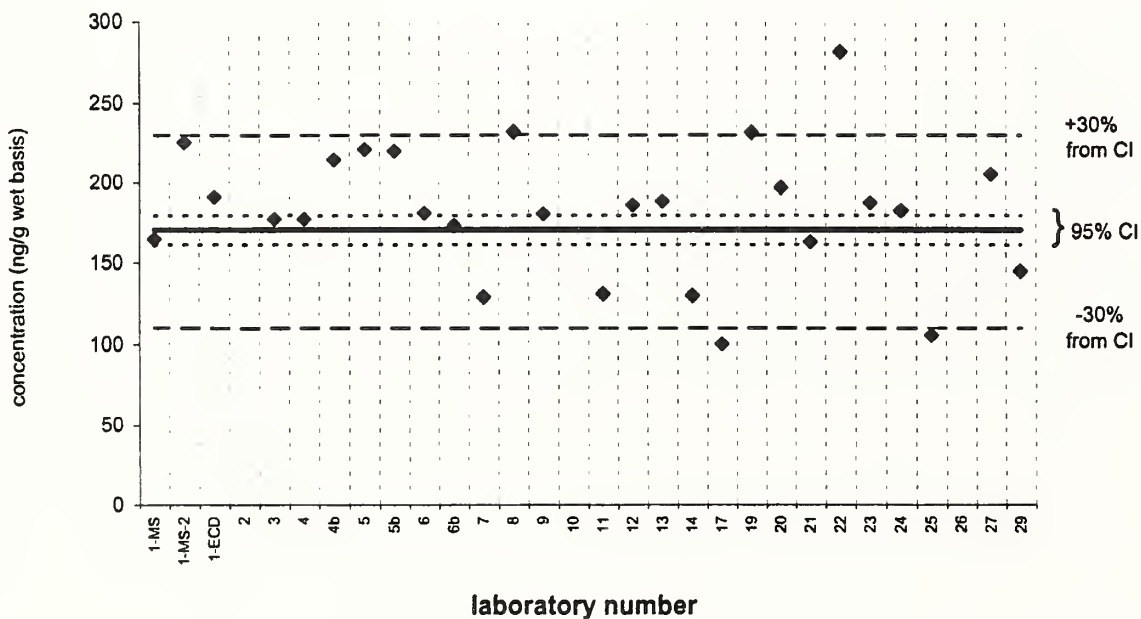


PCB 153

SRM 1946

Certified Value = 170 ± 9 ng/g (wet basis)

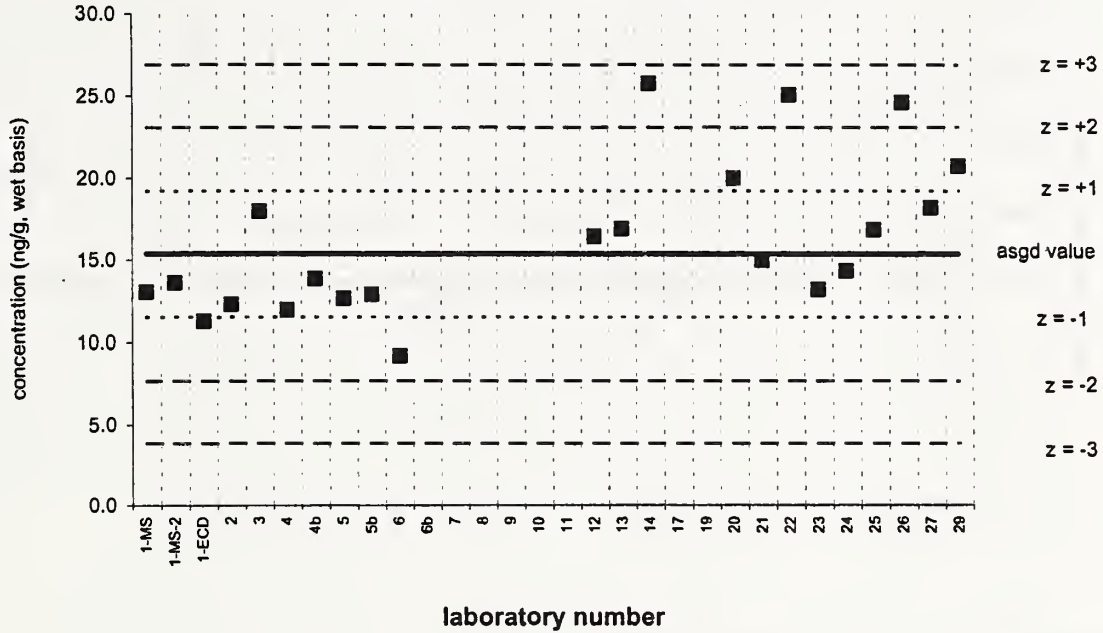
Reported Results: 27 Quantitative Results: 27



PCB 156

Fish V (QA02FSH5)

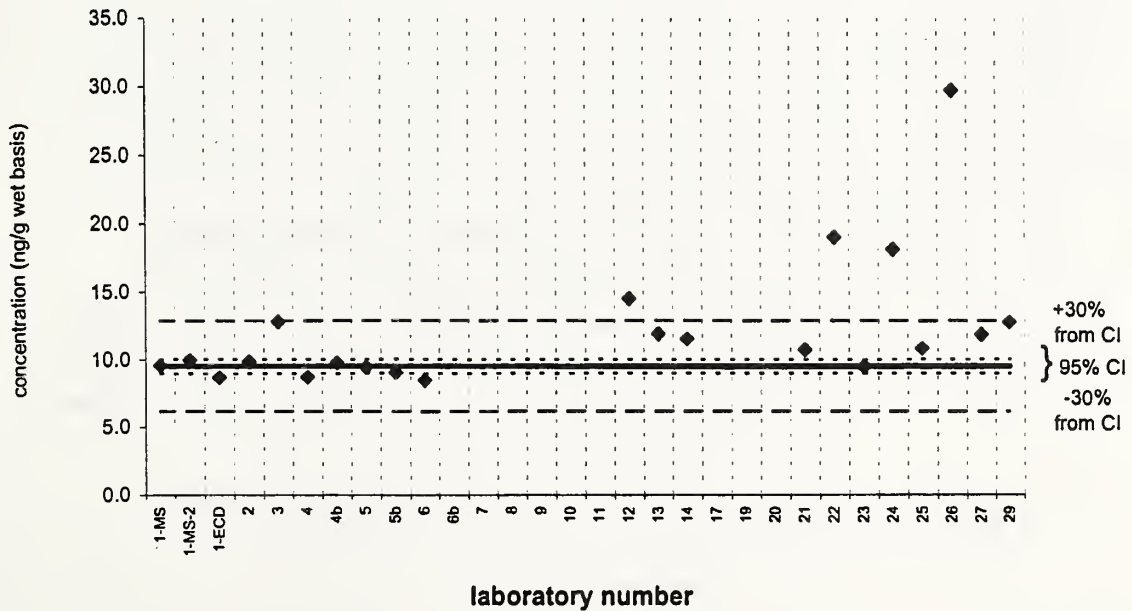
Assigned value = 15.4 ng/g s = 4.0 ng/g 95% CL = 1.9 ng/g (wet basis)
Reported Results: 23 Quantitative Results: 22



PCB 156

SRM 1946

Certified Value = 9.52 ± 0.51 ng/g (wet basis)
Reported Results: 23 Quantitative Results: 21

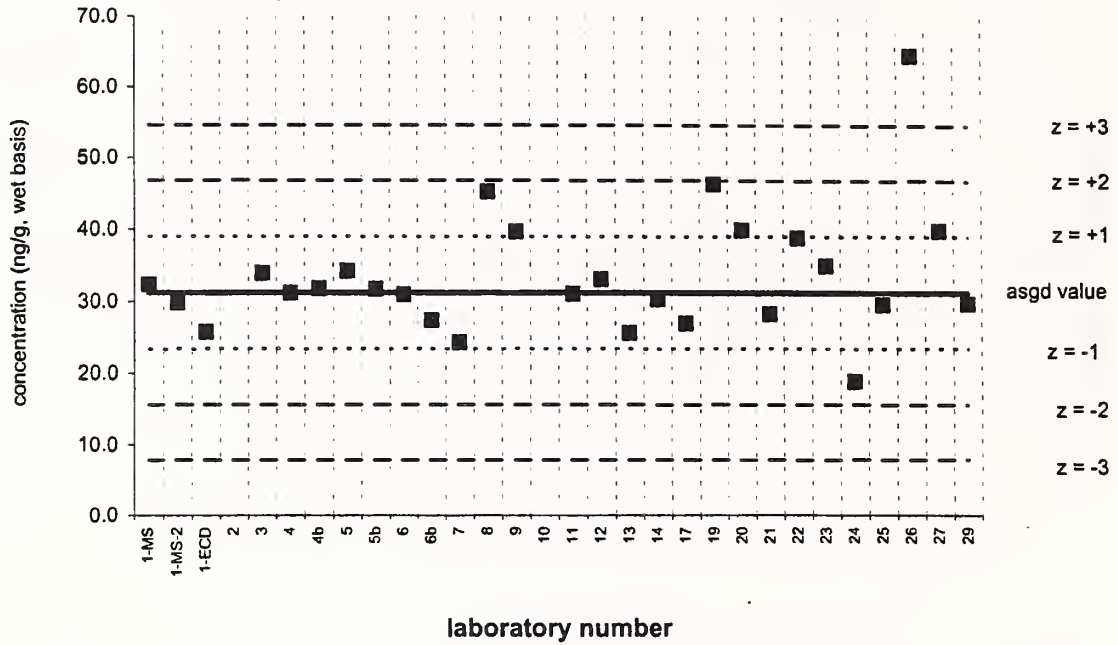


PCB 170

Fish V (QA02FSH5)

Assigned value = 31.2 ng/g s = 5.1 ng/g 95% CL = 2.1 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

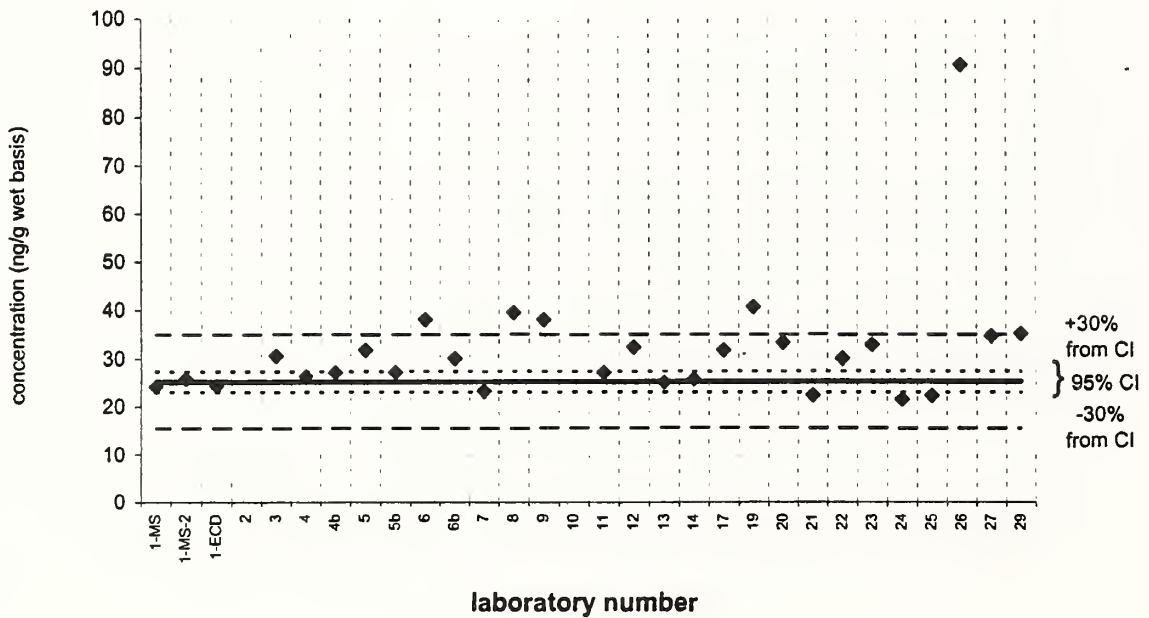


PCB 170

SRM 1946

Certified Value = 25.2 ± 2.2 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

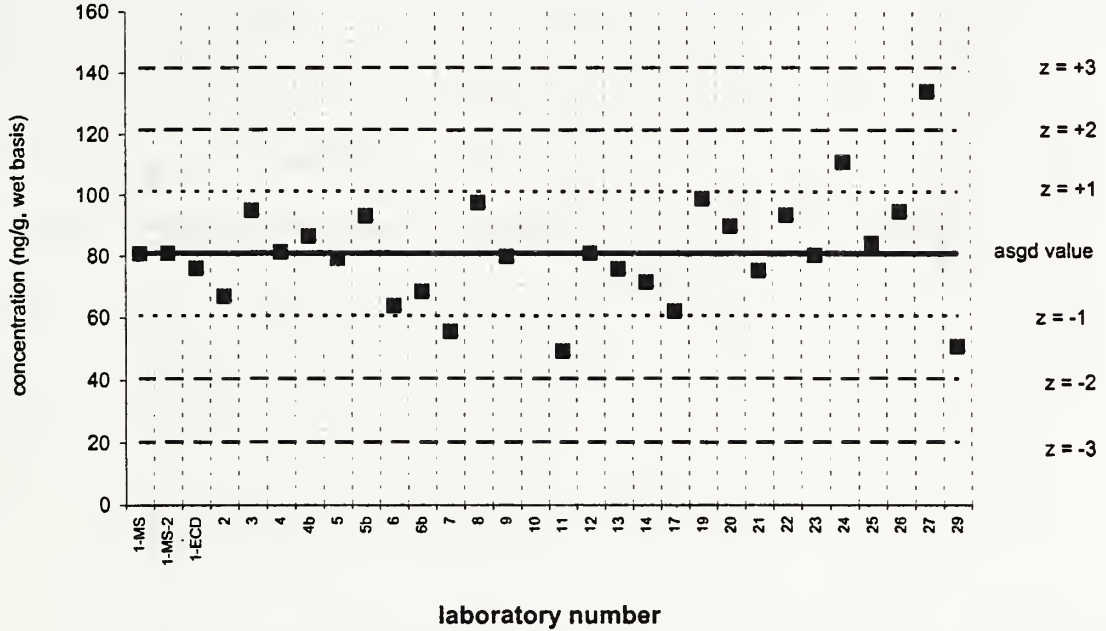


PCB 180

Fish V (QA02FSH5)

Assigned value = 81.0 ng/g s = 17.9 ng/g 95% CL = 7.2 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

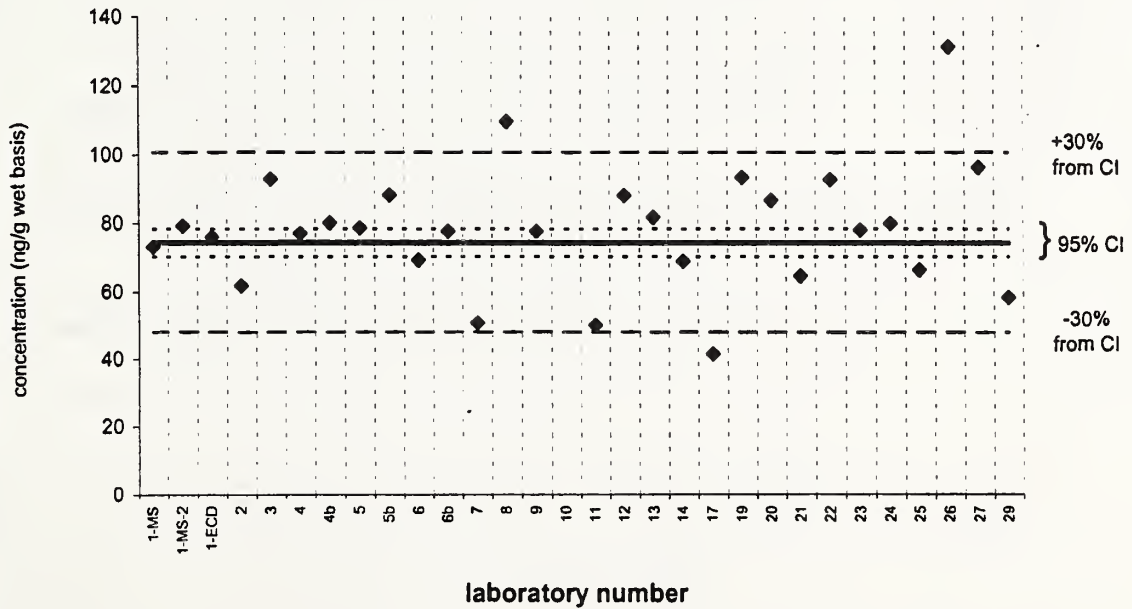


PCB 180

SRM 1946

Certified Value = 74.4 ± 4.0 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 29

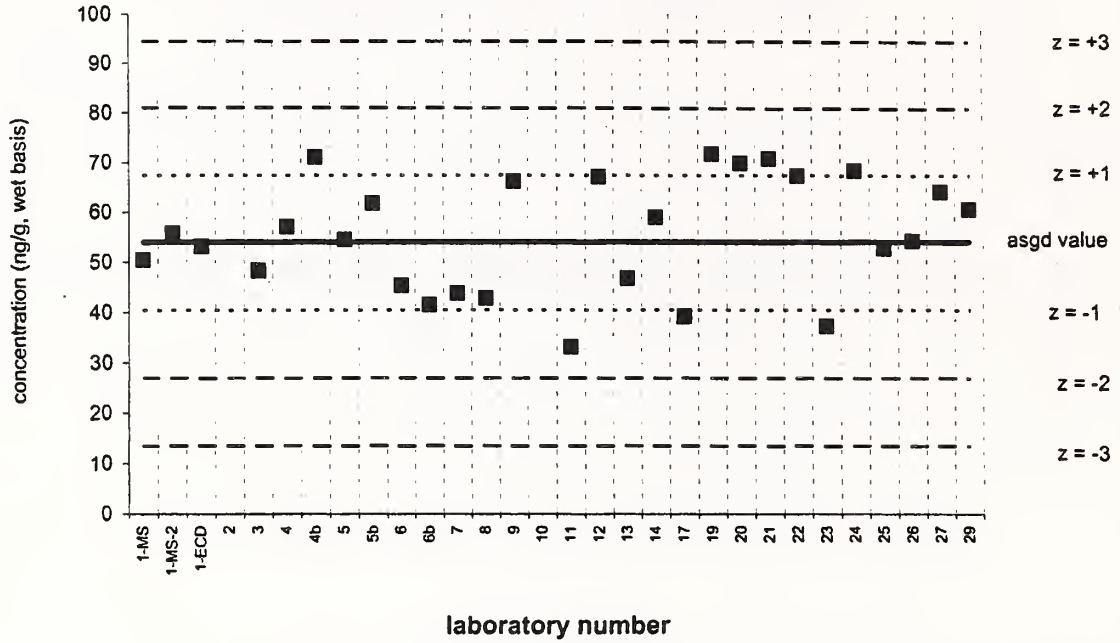


PCB 187

Fish V (QA02FSH5)

Assigned value = 54.0 ng/g s = 11.0 ng/g 95% CL = 4.6 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 28

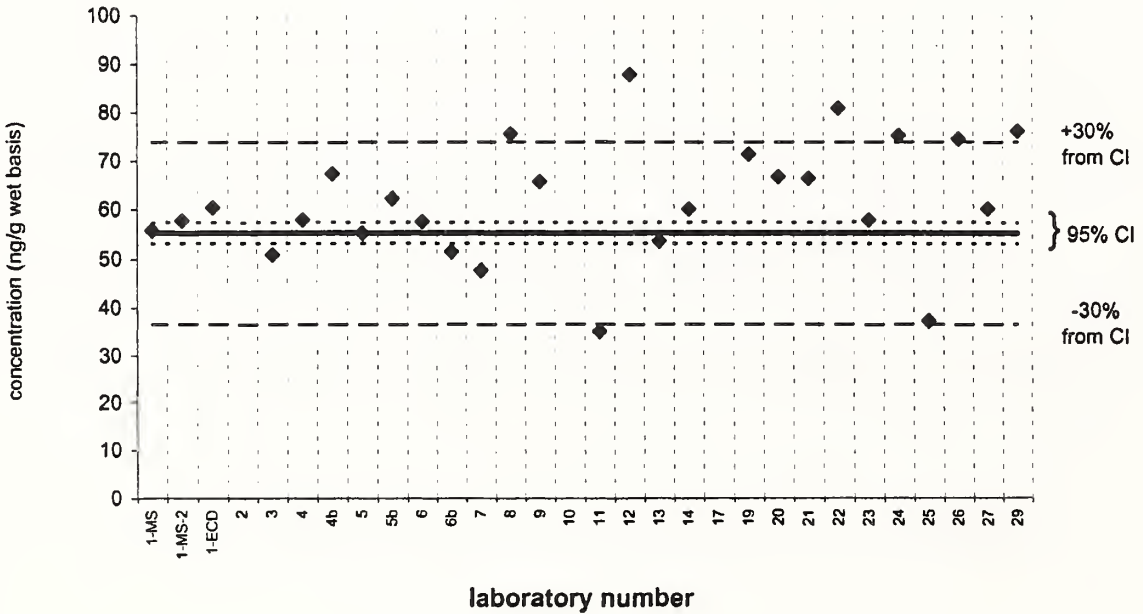


PCB 187

SRM 1946

Certified Value = 55.2 ± 2.1 ng/g (wet basis)

Reported Results: 28 Quantitative Results: 27

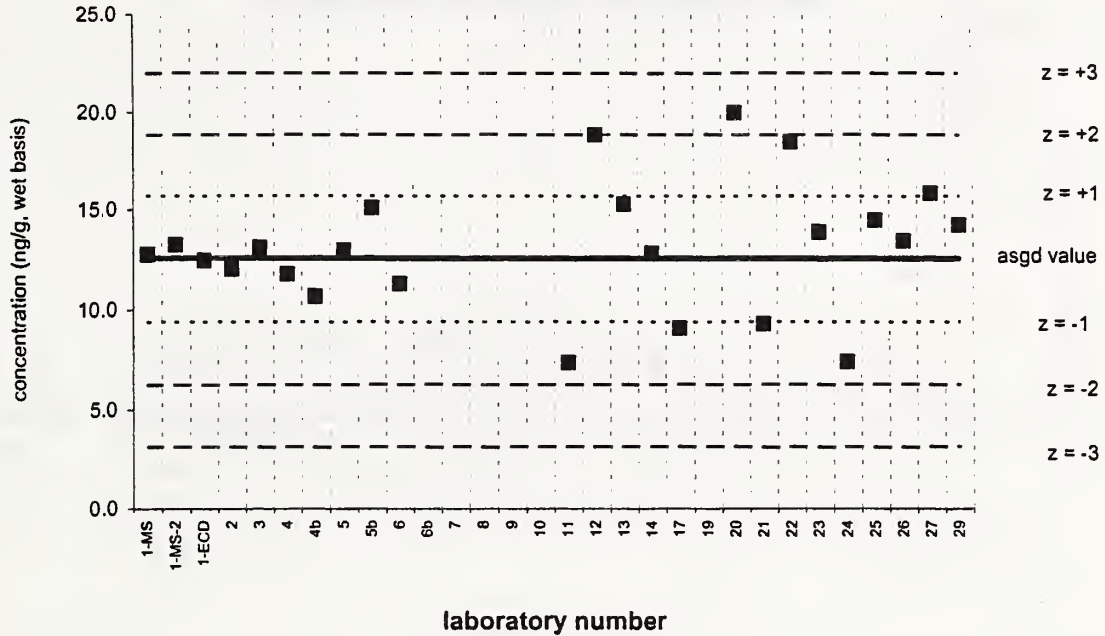


PCB 194

Fish V (QA02FSH5)

Assigned value = 12.6 ng/g s = 2.7 ng/g 95% CL = 1.2 ng/g (wet basis)

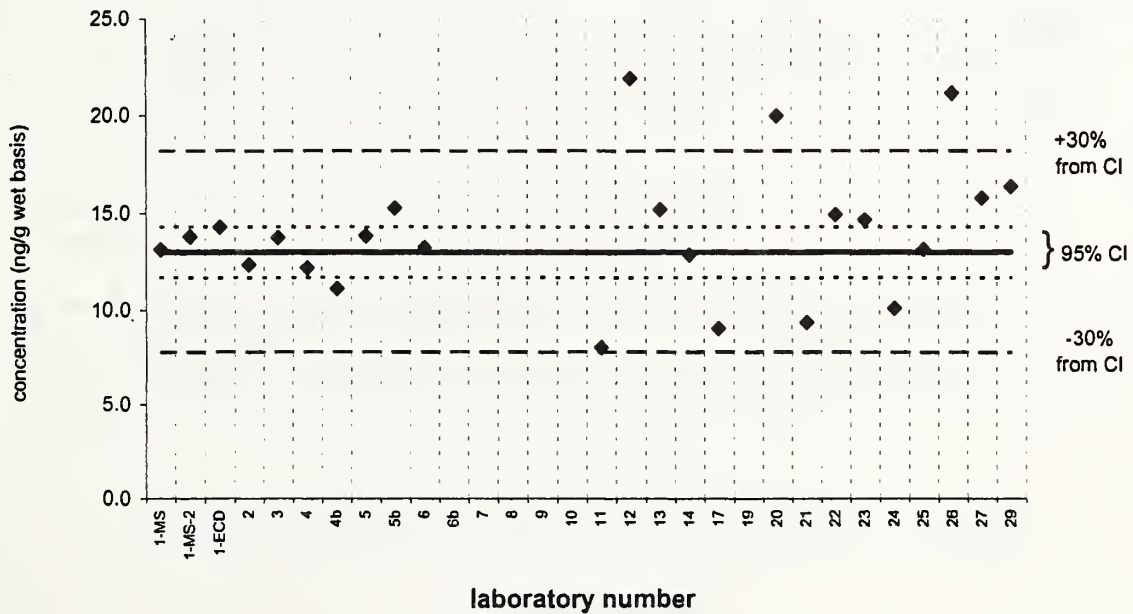
Reported Results: 24 Quantitative Results: 24



PCB 194

SRM 1946

Certified Value = 13.0 ± 1.3 ng/g (wet basis)
Reported Results: 24 Quantitative Results: 24

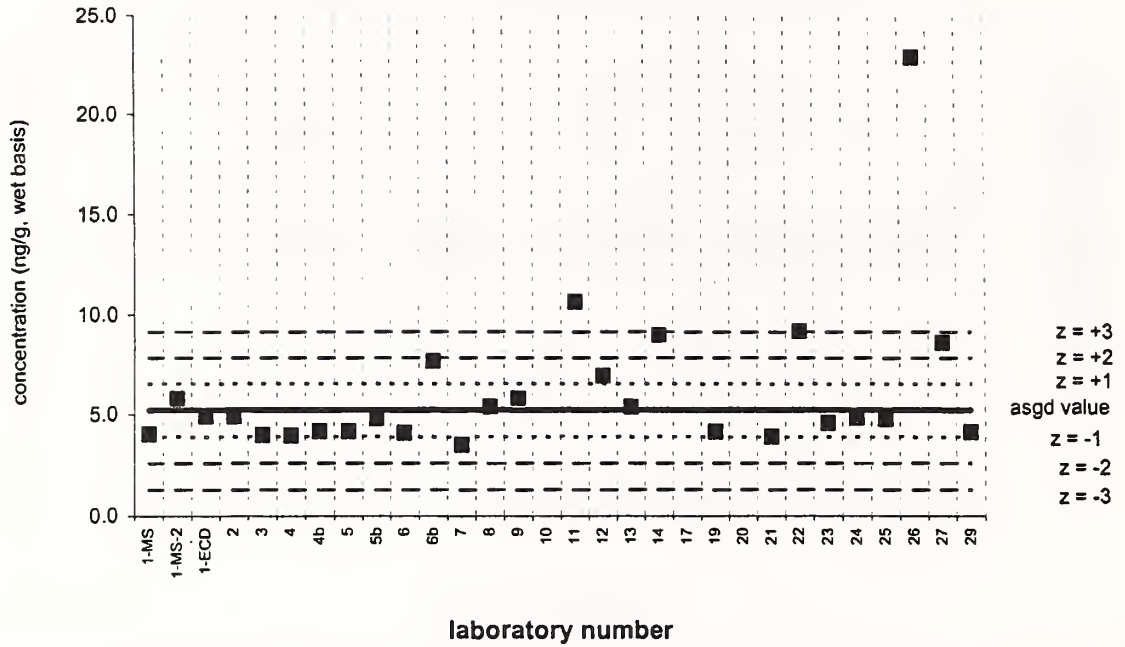


PCB 195

Fish V (QA02FSH5)

Assigned value = 5.21 ng/g s = 1.62 ng/g 95% CL = 0.68 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

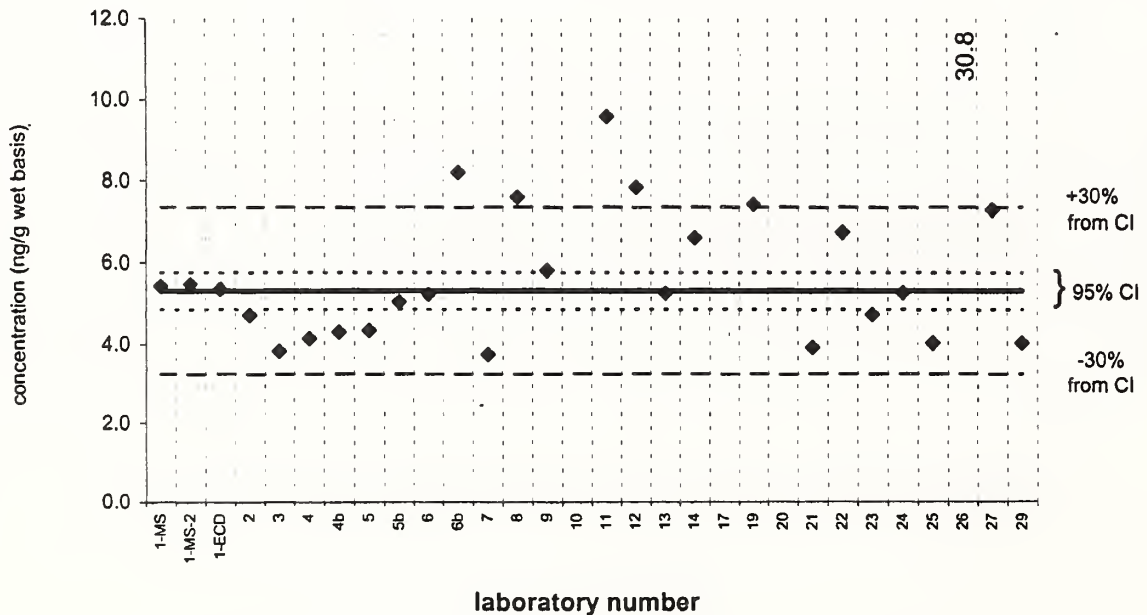


PCB 195

SRM 1946

Certified Value = 5.30 ± 0.45 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

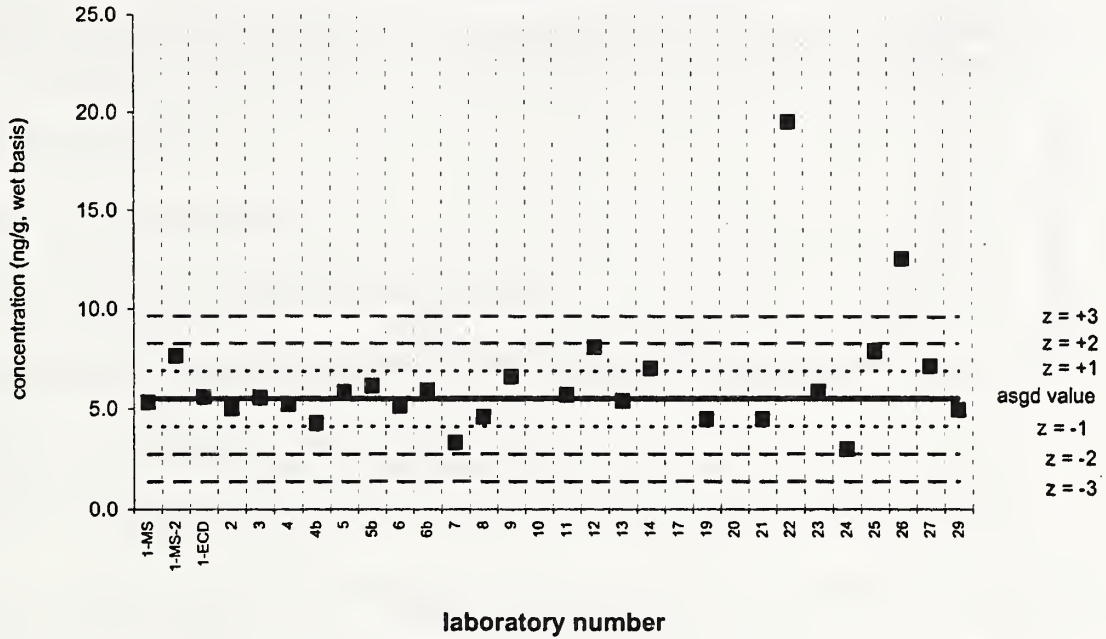


PCB 206

Fish V (QA02FSH5)

Assigned value = 5.51 ng/g s = 1.20 ng/g 95% CL = 0.50 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

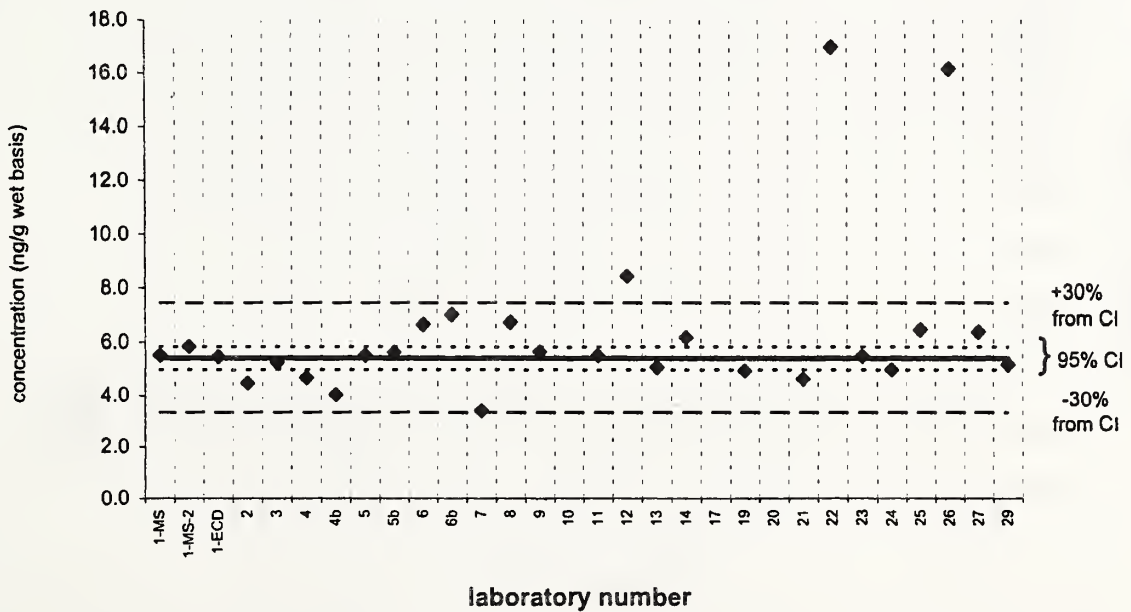


PCB 206

SRM 1946

Certified Value = 5.40 ± 0.43 ng/g (wet basis)

Reported Results: 29 Quantitative Results: 27

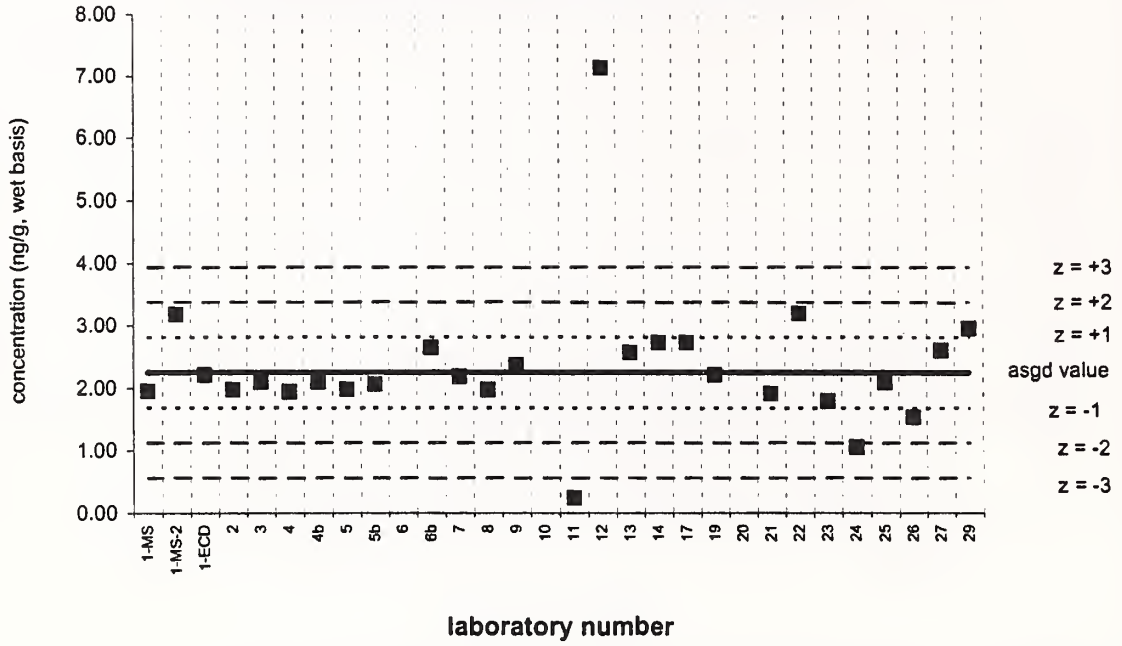


PCB 209

Fish V (QA02FSH5)

Assigned value = 2.25 ng/g s = 0.50 ng/g 95% CL = 0.21 ng/g (wet basis)

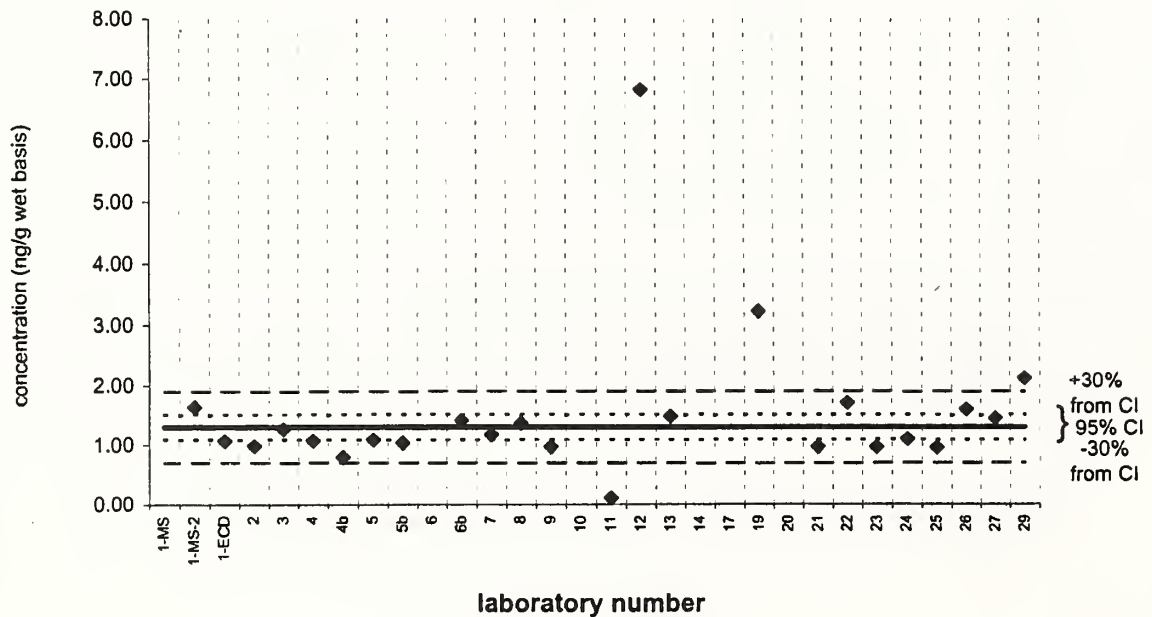
Reported Results: 29 Quantitative Results: 27



PCB 209

SRM 1946

Certified Value = 1.30 ± 0.21 ng/g (wet basis)
Reported Results: 29 Quantitative Results: 24



Appendix J: Charts of Sediment XI and SRM 1944 Results by Analyte

See Tables 4, 5, and 6 and Appendix D for results reported as *<number*, detection limit, etc. Charts for analytes with few reported numerical results are not included in this appendix.

For Sediment XI plots:

Solid line: exercise assigned value

Dotted line: $z = \pm 1$, i. e., 25% from assigned value

Dotted/dashed line: $z = \pm 2$, i. e., 50% from assigned value

Dashed line: $z = \pm 3$, i. e., 75% from assigned value

For SRM 1944 plots:

Solid line: material certified concentration, certificate reference concentration or target value (see caption of each plot)

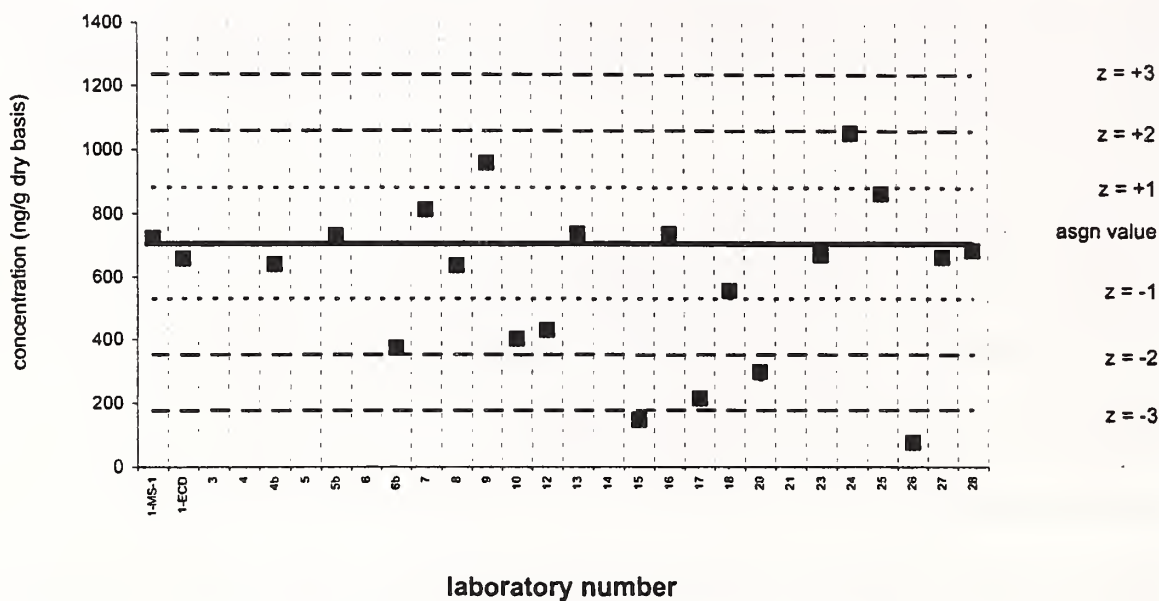
Dotted line: 95% confidence interval (CI)

Dashed line: 30% from 95% confidence interval (CI)

naphthalene

Sediment XI (QA02SED11)

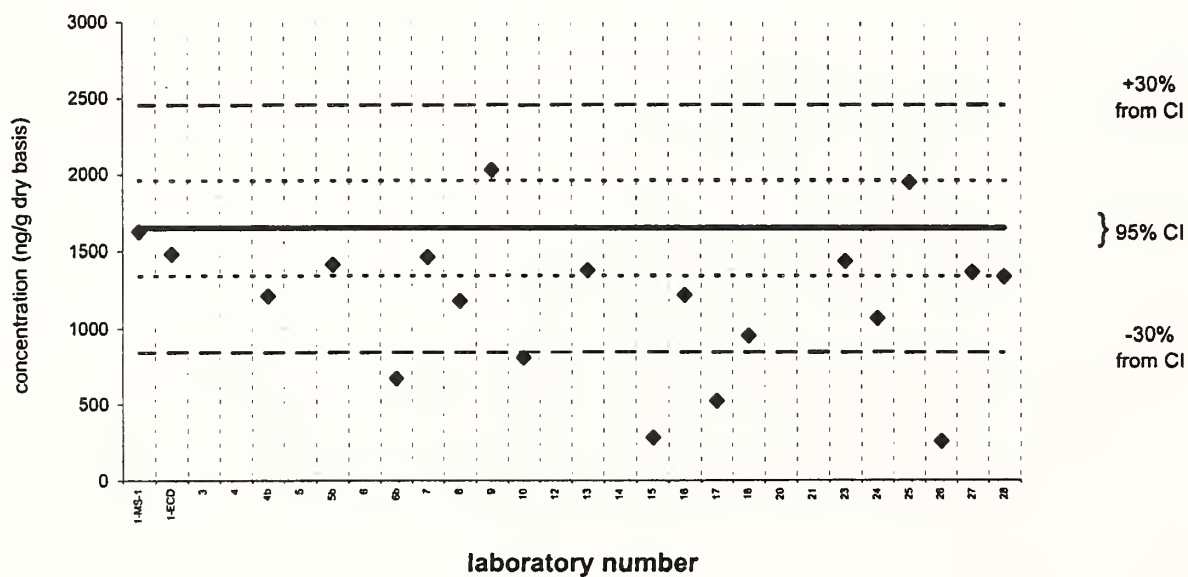
Assigned value = 706 ng/g s = 164 ng/g 95% CL = 84 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 22



naphthalene

SRM 1944

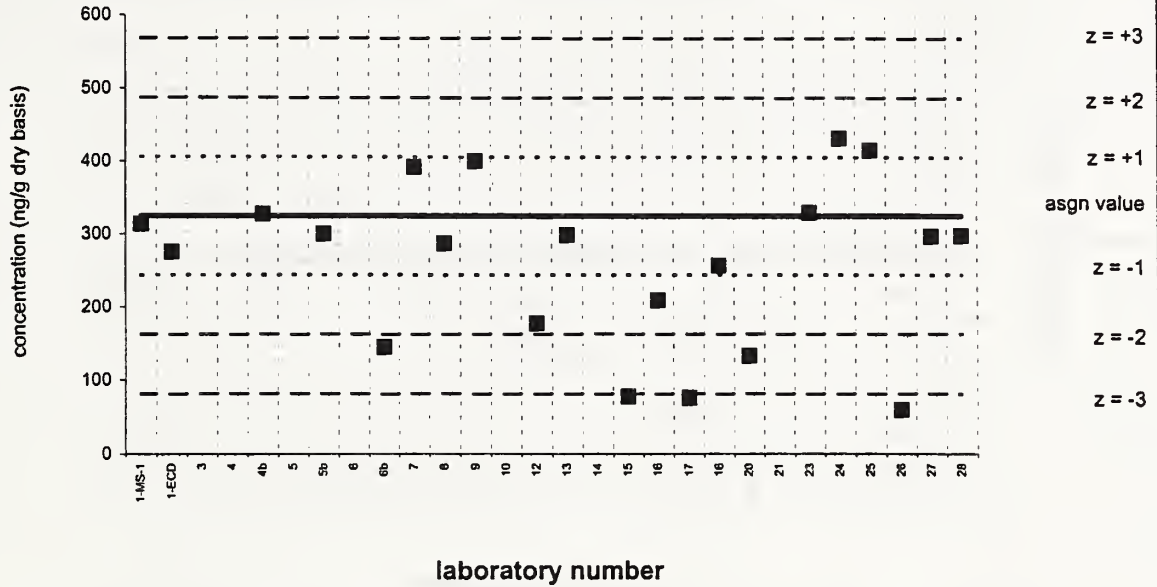
Certified Value = 1650 ± 310 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



2-methylnaphthalene

Sediment XI (QA02SED11)

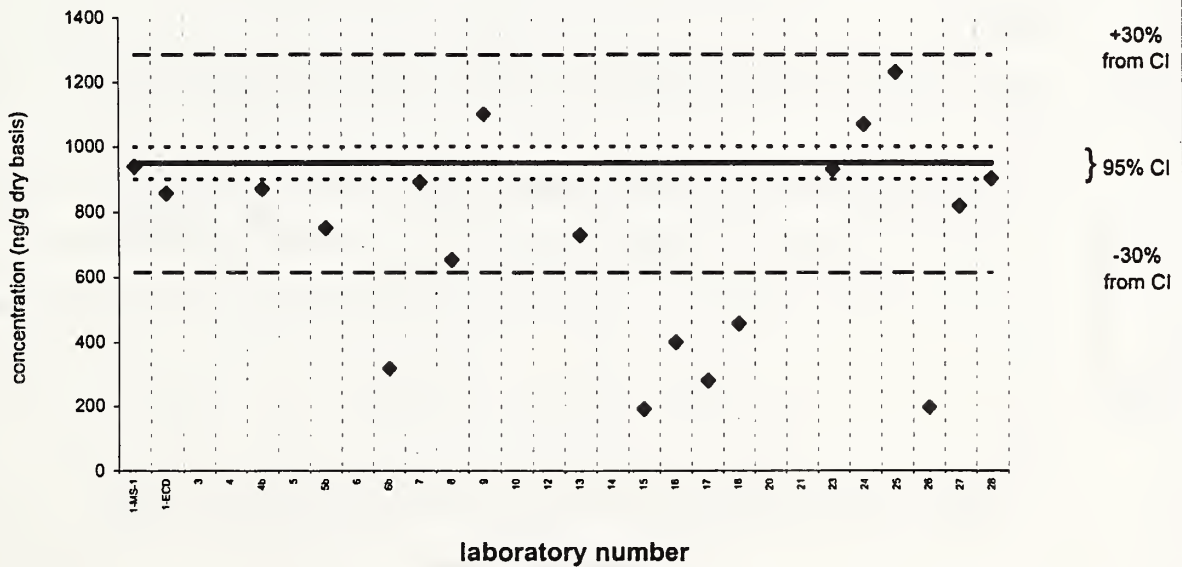
Assigned value = 325 ng/g s = 67 ng/g 95% CL = 39 ng/g (dry basis)
 Reported Results: 21 Quantitative Results: 21



2-methylnaphthalene

SRM 1944

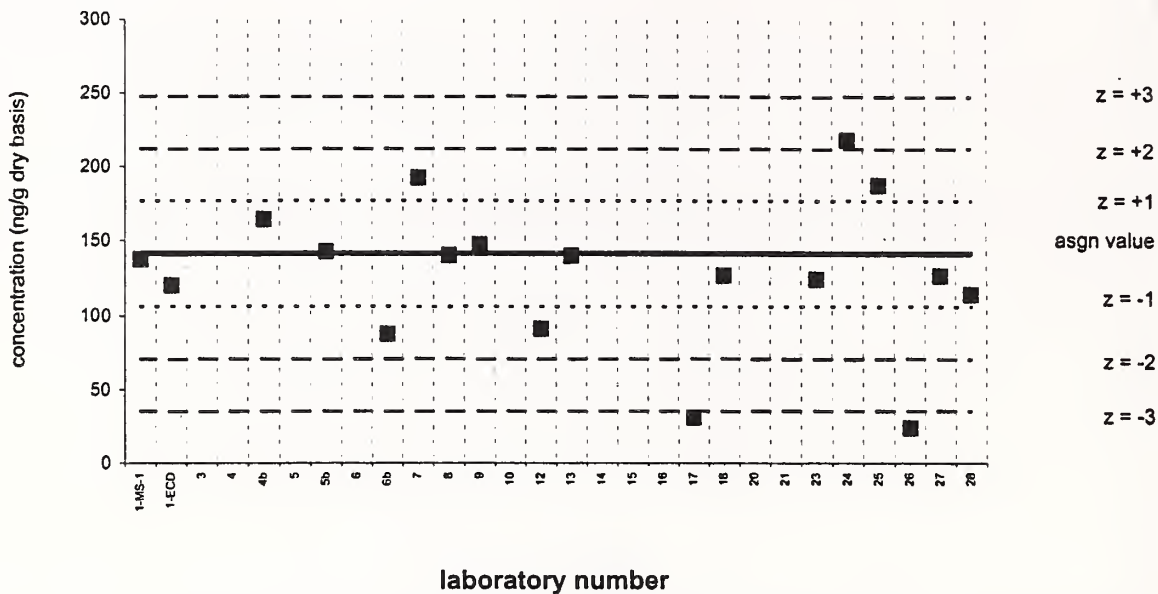
Reference Value = 950 ± 50 ng/g (dry basis)
 Reported Results: 19 Quantitative Results: 19



1-methylnaphthalene

Sediment XI (QA02SED11)

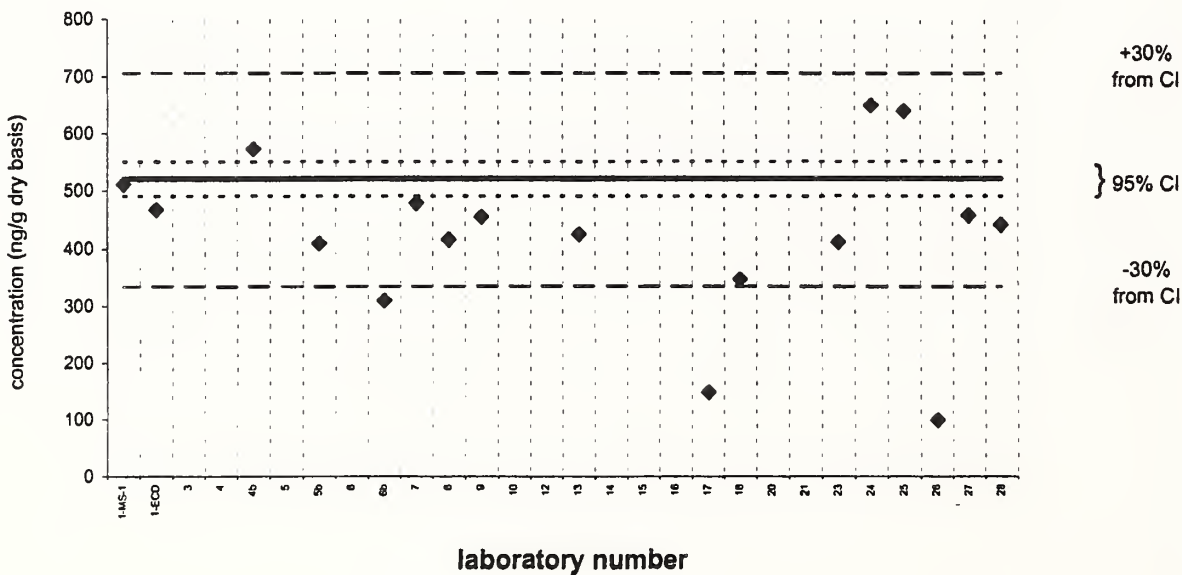
Assigned value = 141 ng/g s = 35 ng/g 95% CL = 19 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 18



1-methylnaphthalene

SRM 1944

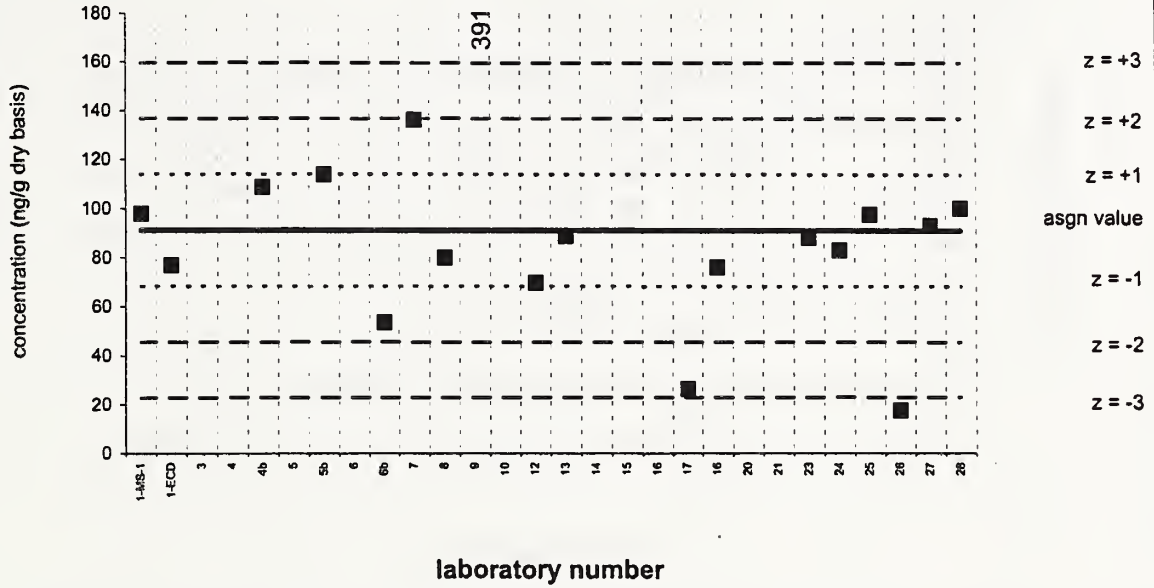
Reference Value = 520 ± 30 ng/g (dry basis)
 Reported Results: 17 Quantitative Results: 17



biphenyl

Sediment XI (QA02SED11)

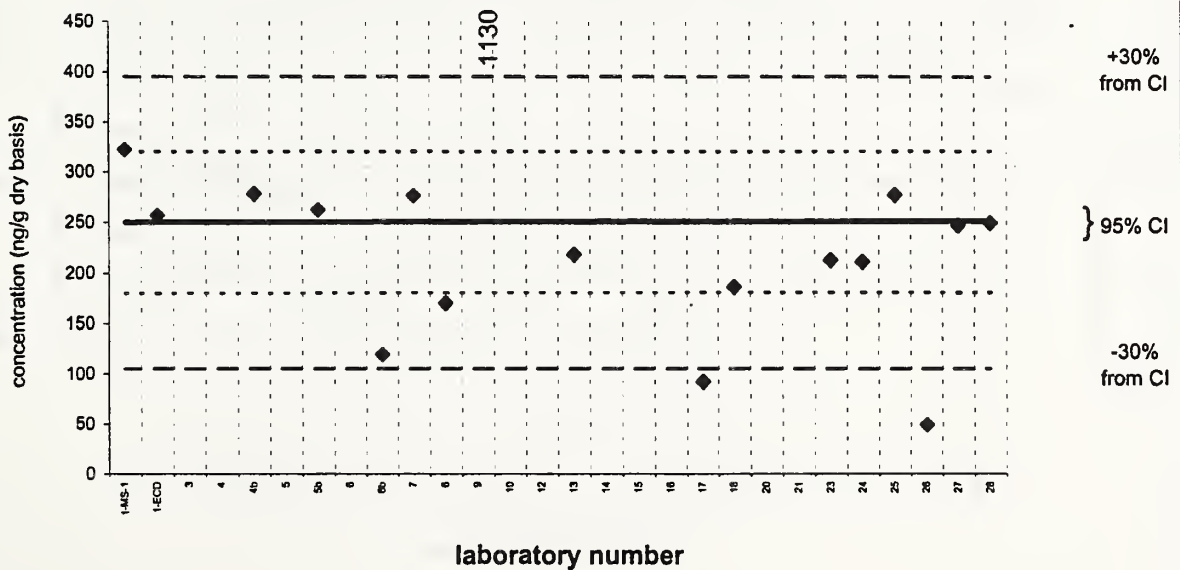
Assigned value = 91.1 ng/g s = 19.9 ng/g 95% CL = 11.0 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 18



biphenyl

SRM 1944

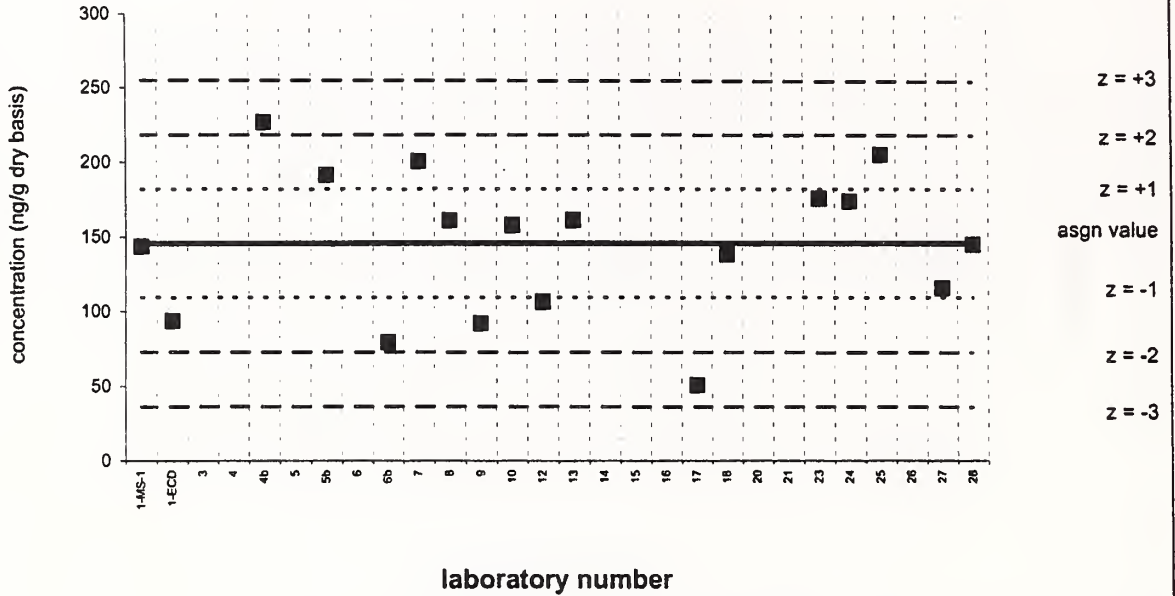
Target Value = 250 ± 70 ng/g (dry basis)
 Reported Results: 17 Quantitative Results: 17



2,6-dimethylnaphthalene

Sediment XI (QA02SED11)

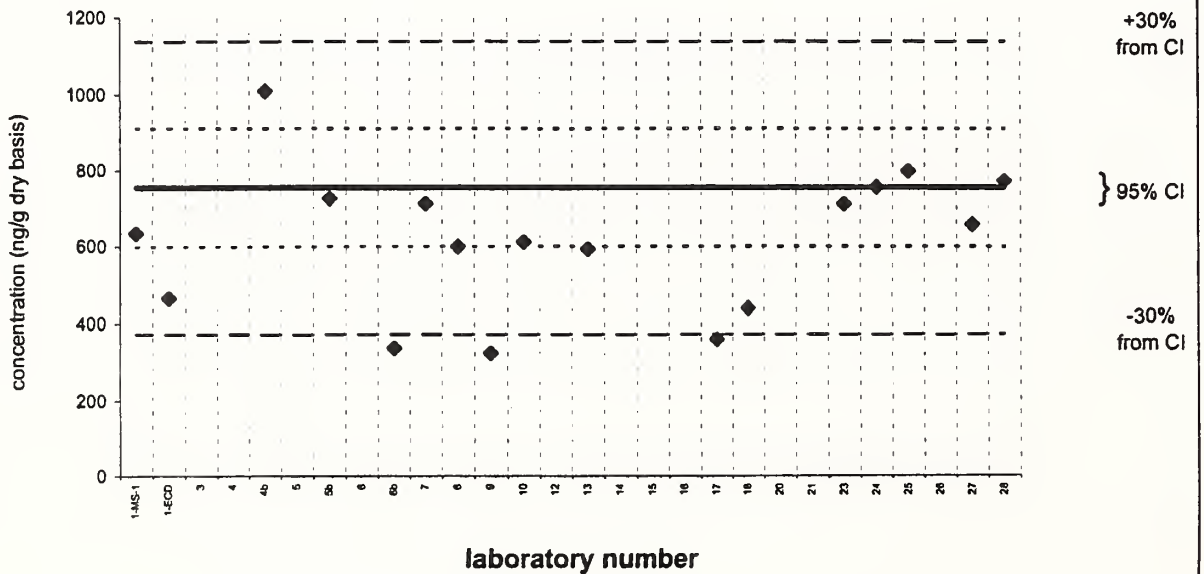
Assigned value = 145 ng/g $s = 48$ ng/g 95% CL = 24 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 18



2,6-dimethylnaphthalene

SRM 1944

Target Value = 755 ± 156 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 17

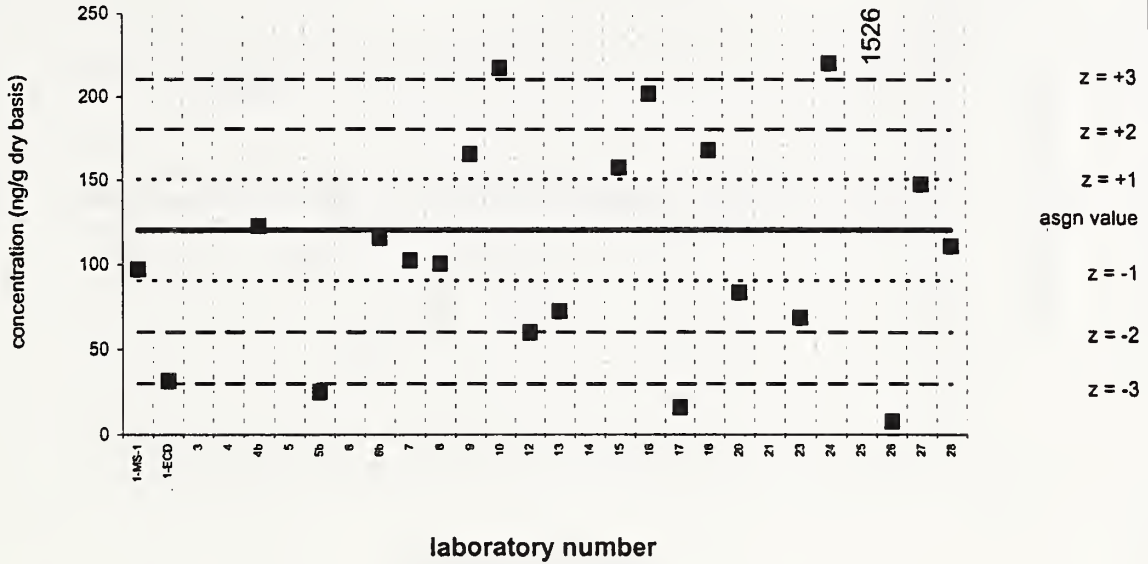


acenaphthylene

Sediment XI (QA02SED11)

Assigned value = 120 ng/g s = 54 ng/g 95% CL = 29 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

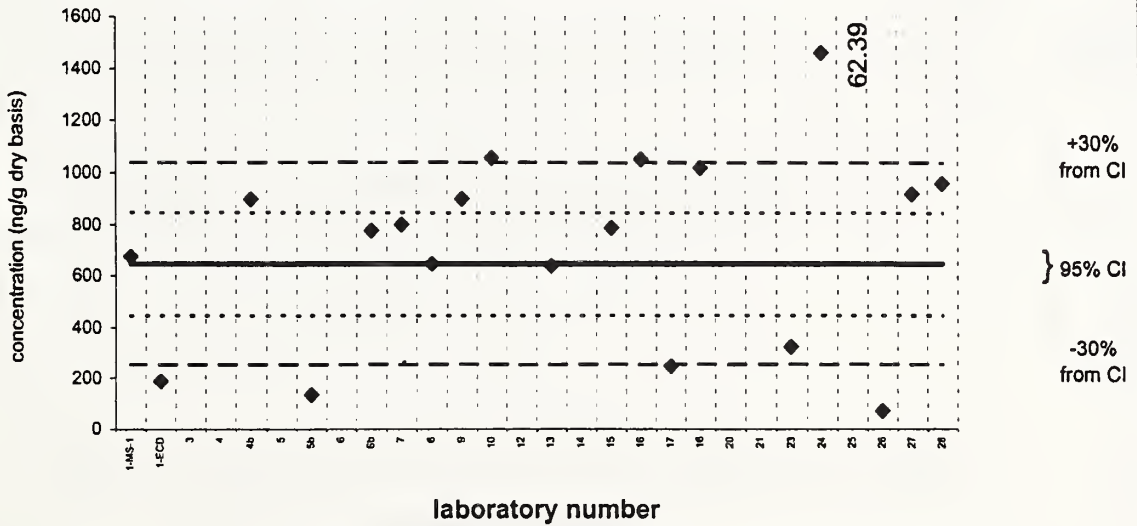


acenaphthylene

SRM 1944

Target Value = 646 ± 200 ng/g (dry basis)

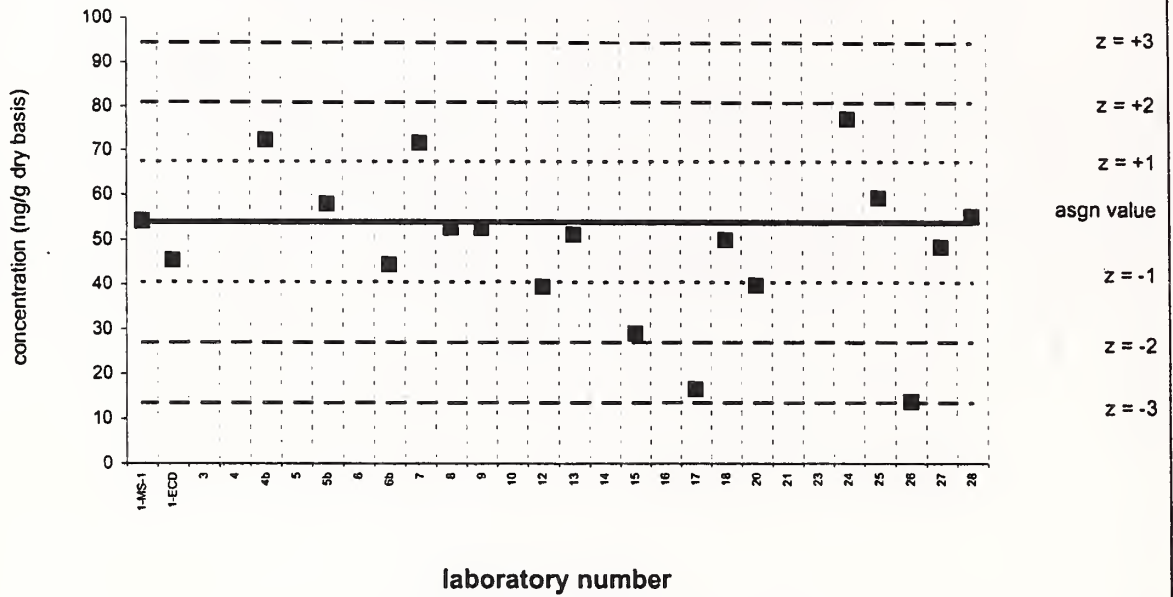
Reported Results: 20 Quantitative Results: 20



acenaphthene

Sediment XI (QA02SED11)

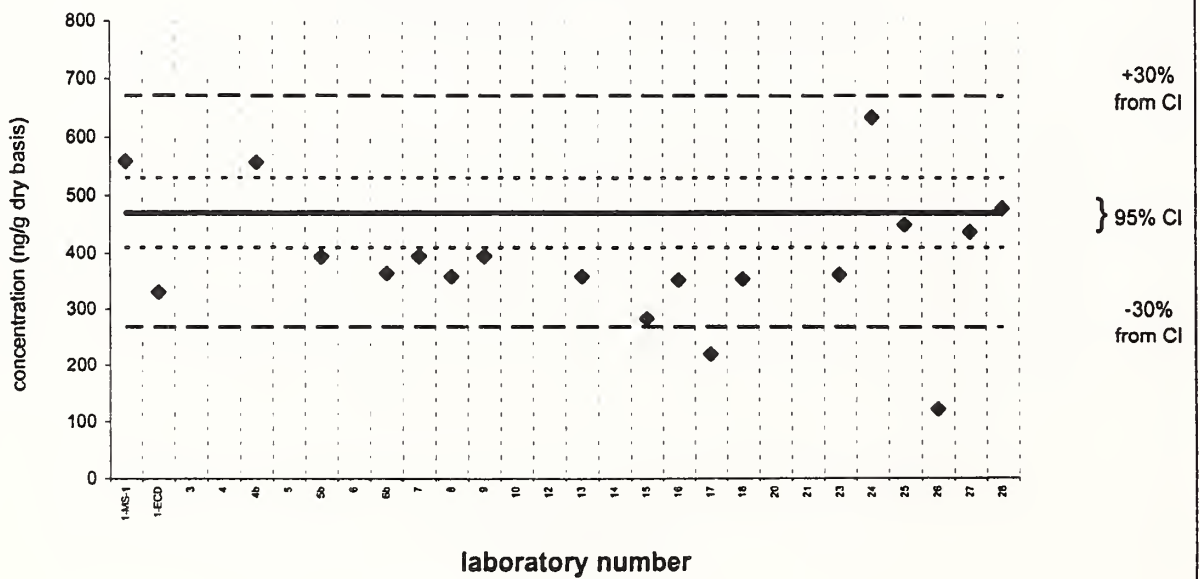
Assigned value = 53.9 ng/g $s = 12.3$ ng/g 95% CL = 6.6 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 19



acenaphthene

SRM 1944

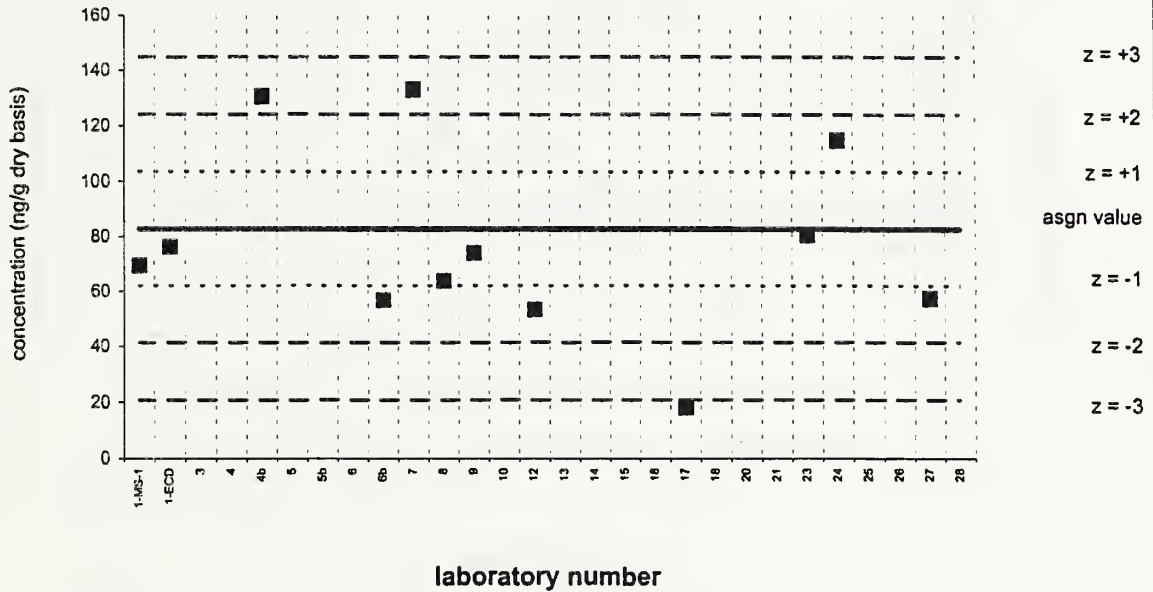
Target Value = 470 ± 60 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 19



1,6,7-trimethylnaphthalene

Sediment XI (QA02SED11)

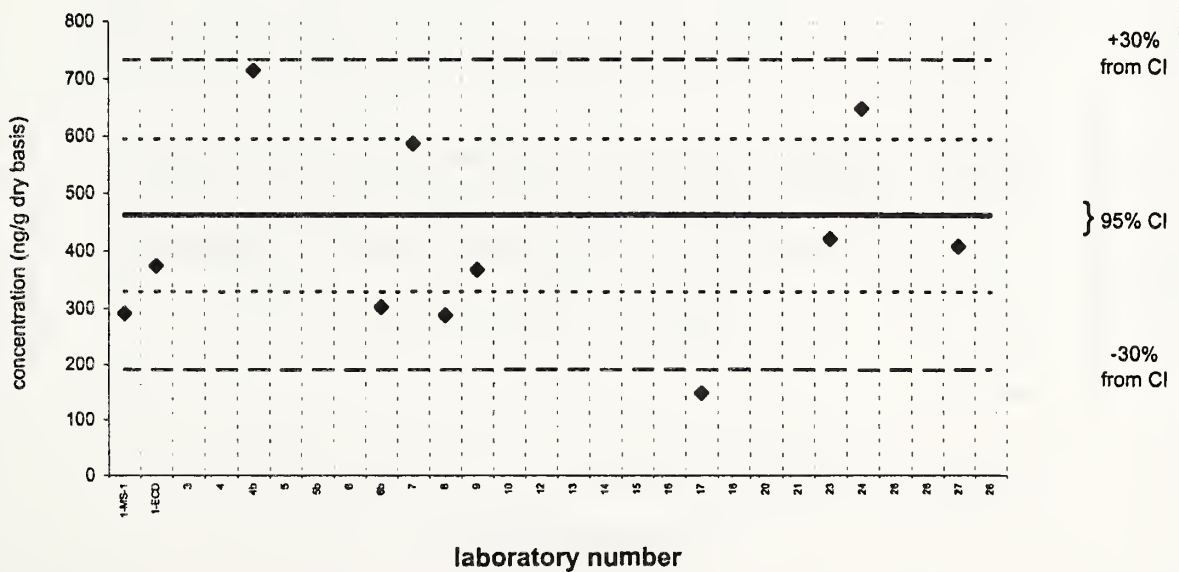
Assigned value = 82.8 ng/g $s = 29.5$ ng/g 95% CL = 19.8 ng/g (dry basis)
 Reported Results: 12 Quantitative Results: 12



1,6,7-trimethylnaphthalene

SRM 1944

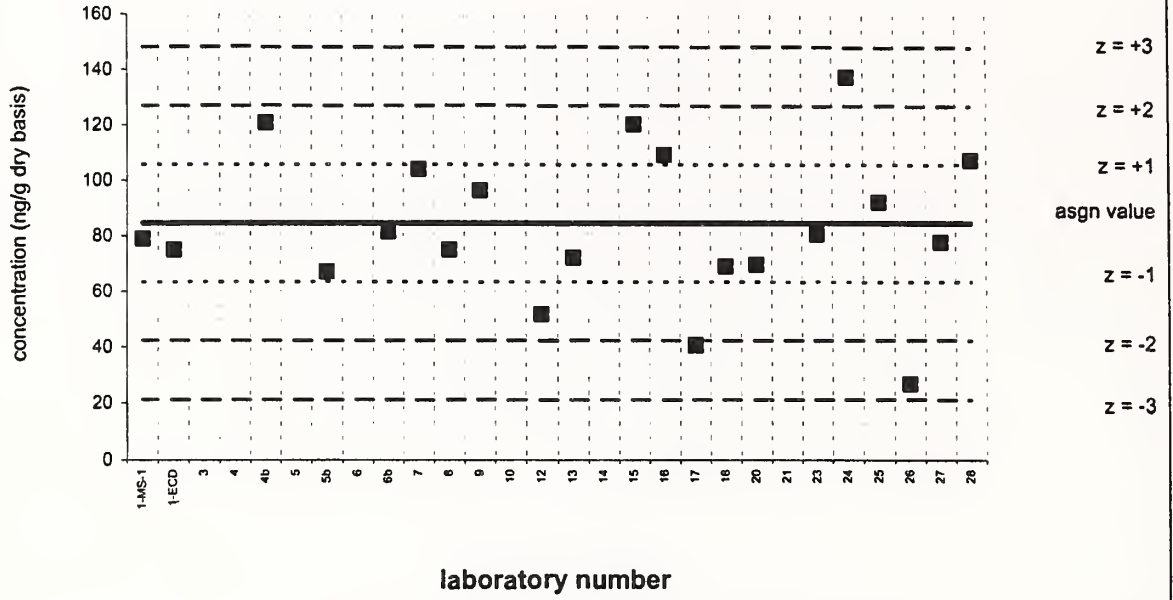
Target Value = 462 ± 133 ng/g (dry basis)
 Reported Results: 11 Quantitative Results: 11



fluorene

Sediment XI (QA02SED11)

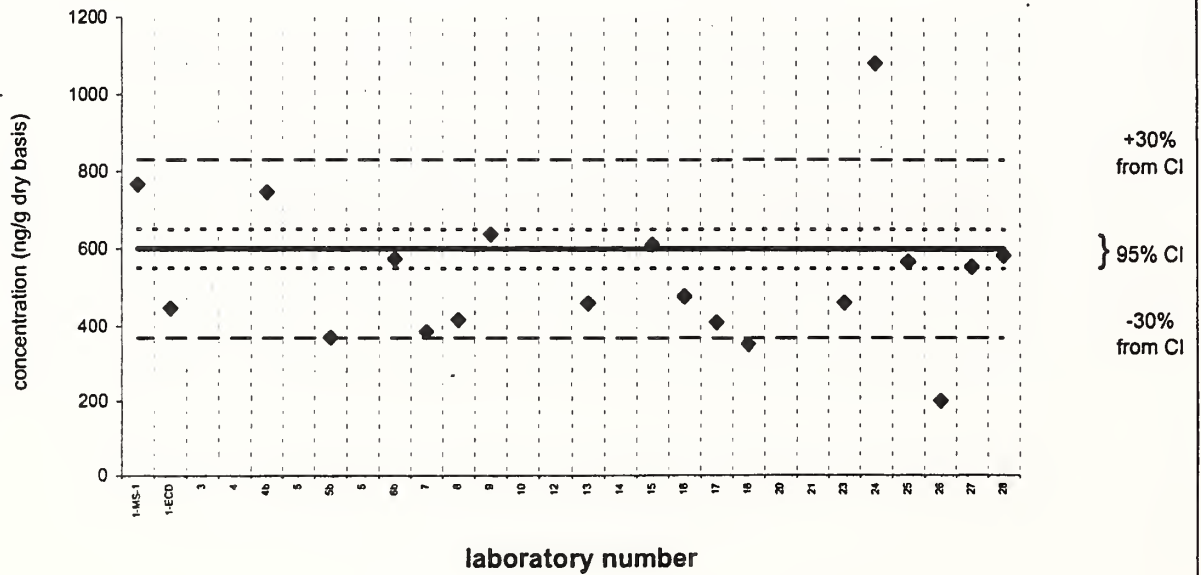
Assigned value = 84.6 ng/g $s = 22.1$ ng/g 95% CL = 11.0 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 21



fluorene

SRM 1944

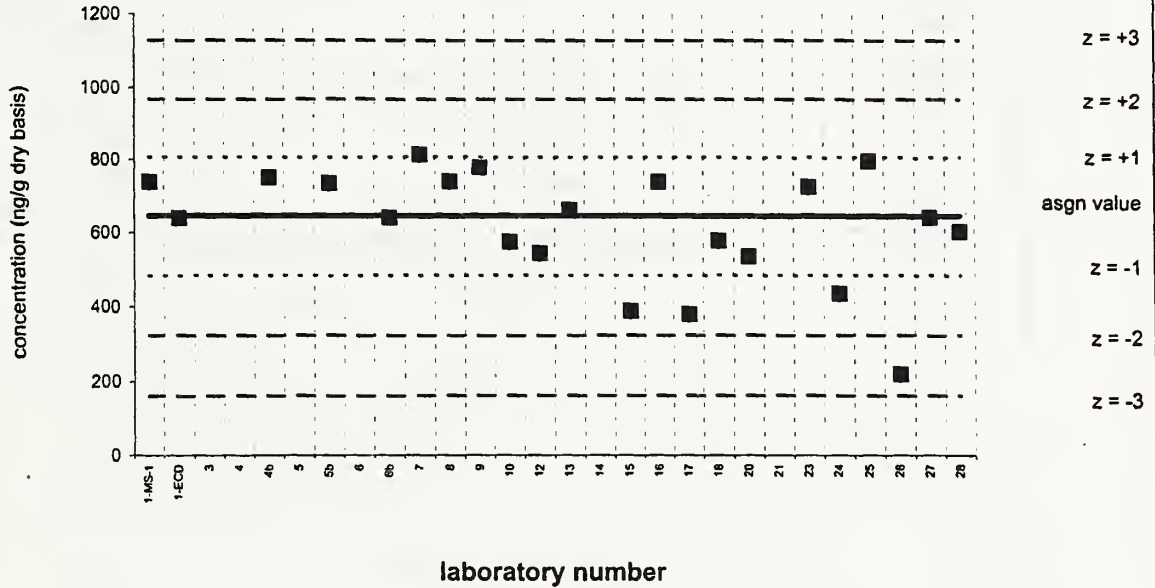
Target Value = 600 ± 50 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 19



phenanthrene

Sediment XI (QA02SED11)

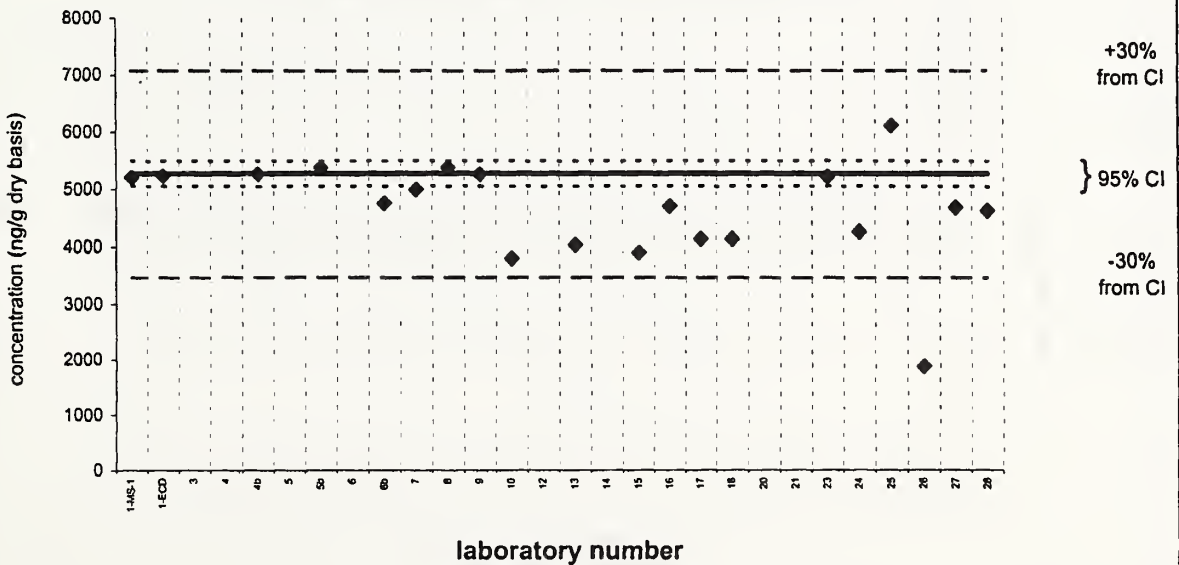
Assigned value = 645 ng/g s = 130 ng/g 95% CL = 61 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 22



phenanthrene

SRM 1944

Certified Value = 5270 ± 220 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20

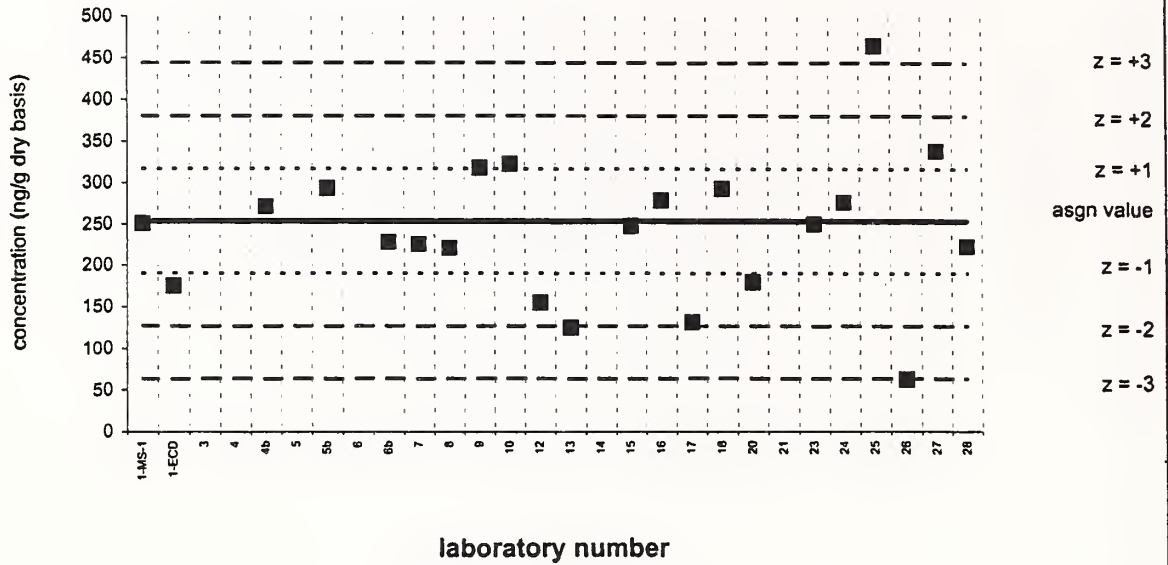


anthracene

Sediment XI (QA02SED11)

Assigned value = 254 ng/g s = 80 ng/g 95% CL = 39 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

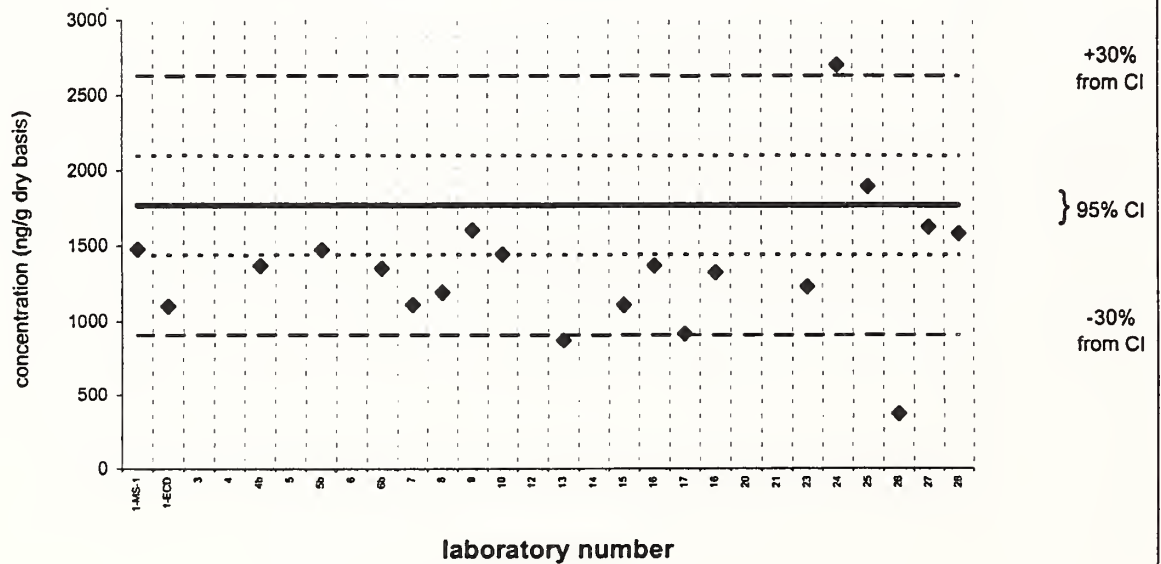


anthracene

SRM 1944

Certified Value = 1770 ± 330 ng/g (dry basis)

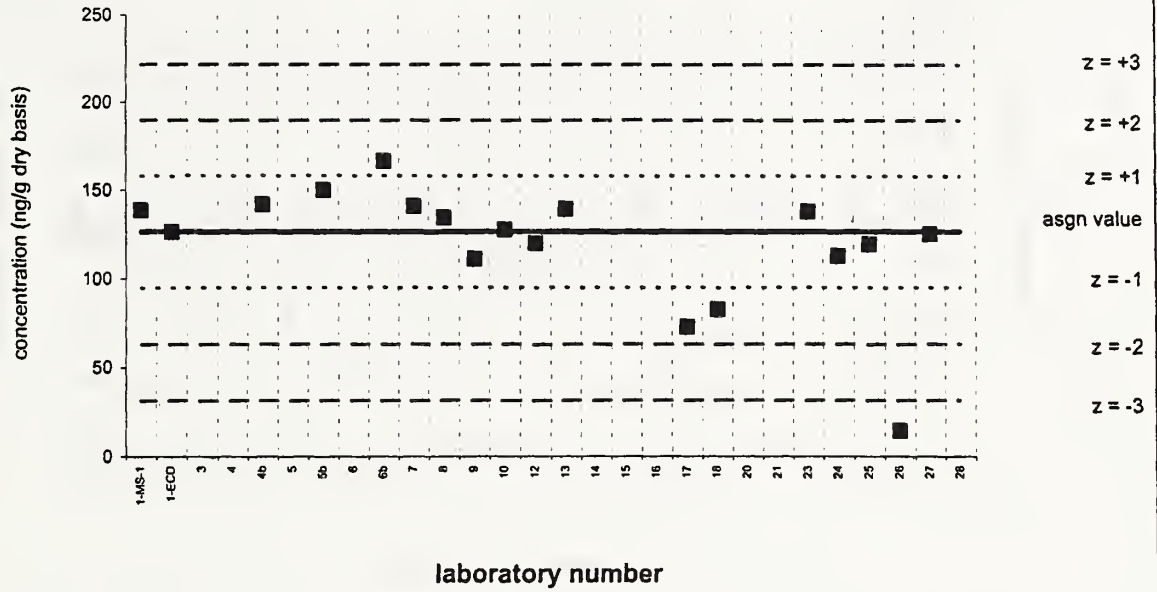
Reported Results: 20 Quantitative Results: 20



1-methylphenanthrene

Sediment XI (QA02SED11)

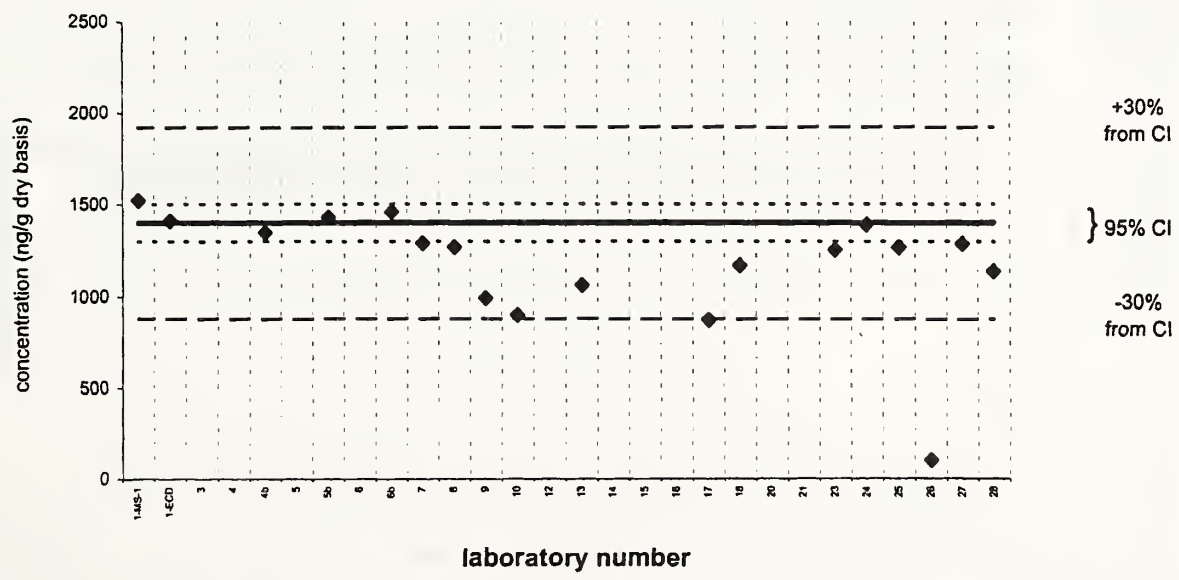
Assigned value = 127 ng/g s = 23 ng/g 95% CL = 12 ng/g (dry basis)
 Reported Results: 19 Quantitative Results: 18



1-methylphenanthrene

SRM 1944

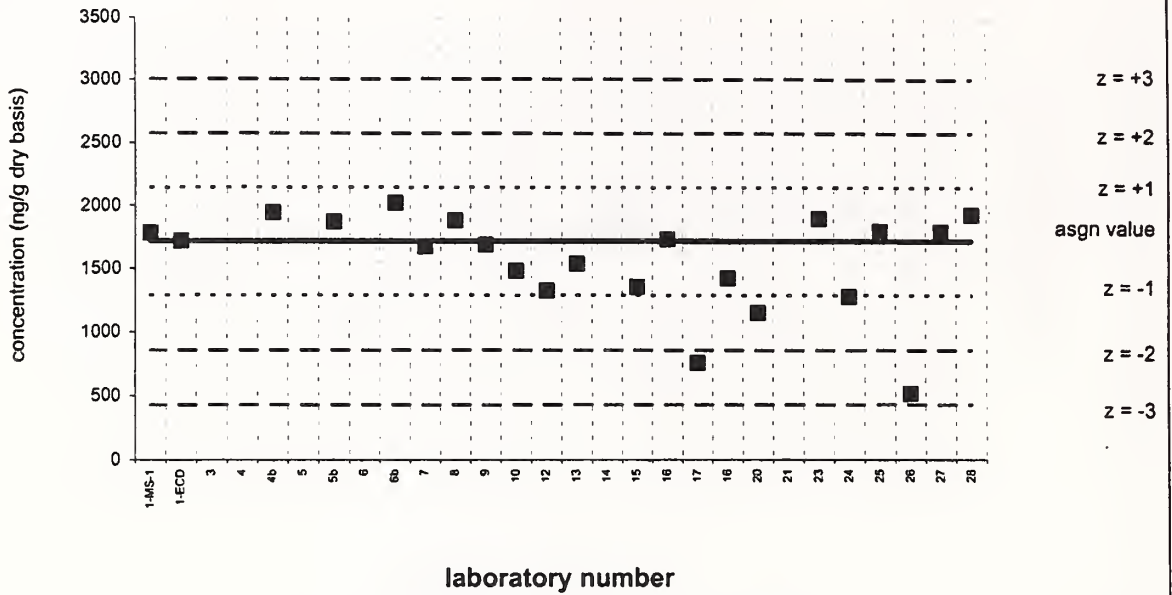
Target Value = 1400 ± 100 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 18



fluoranthene

Sediment XI (QA02SED11)

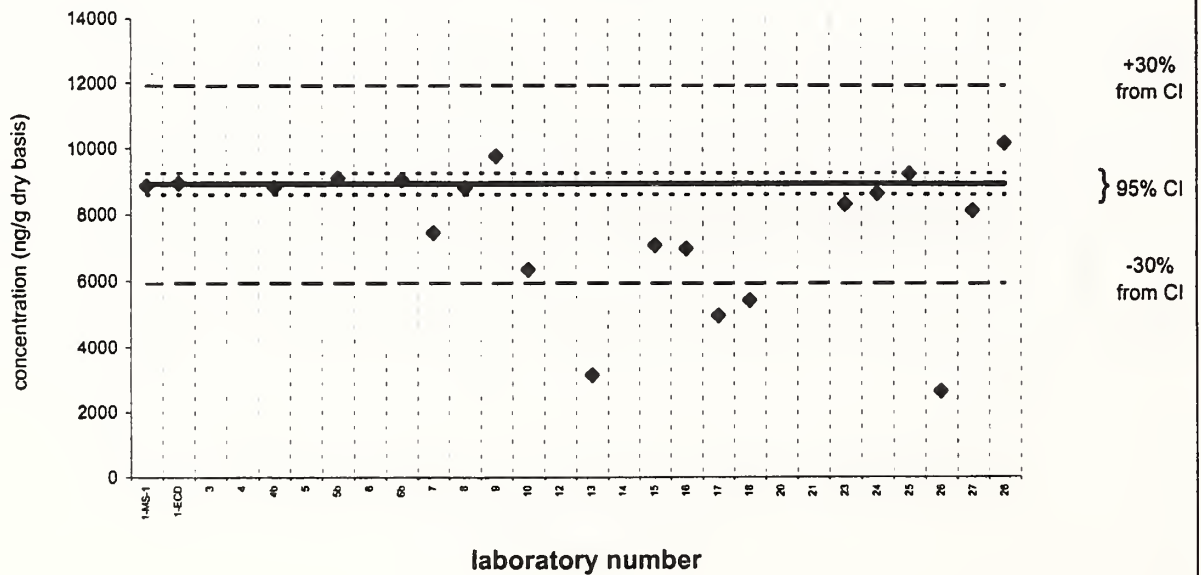
Assigned value = 1717 ng/g s = 227 ng/g 95% CL = 117 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 22



fluoranthene

SRM 1944

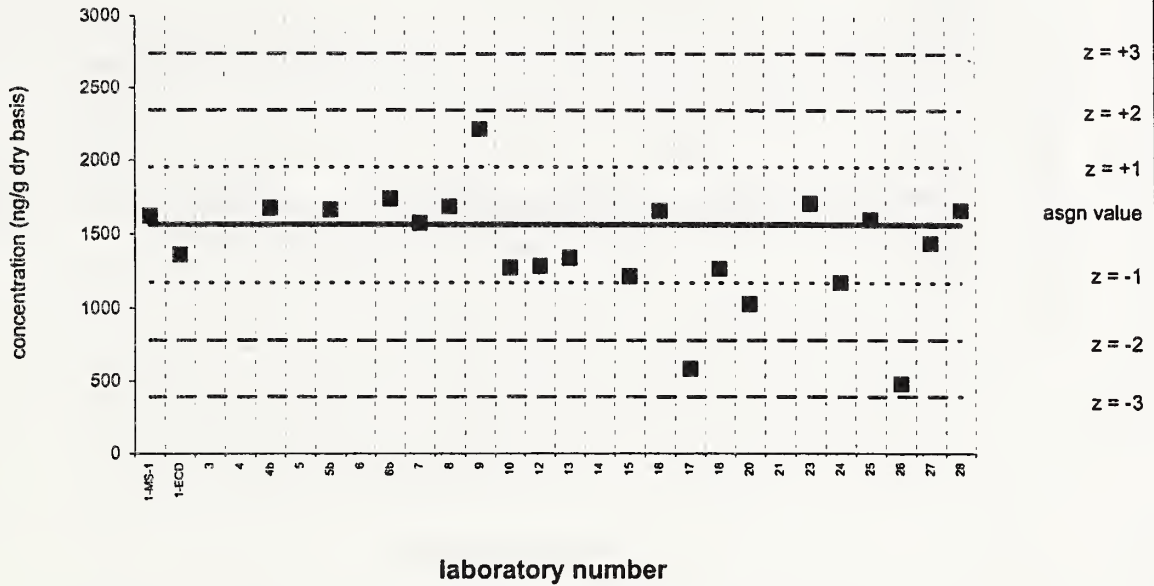
Certified Value = 8920 ± 320 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



pyrene

Sediment XI (QA02SED11)

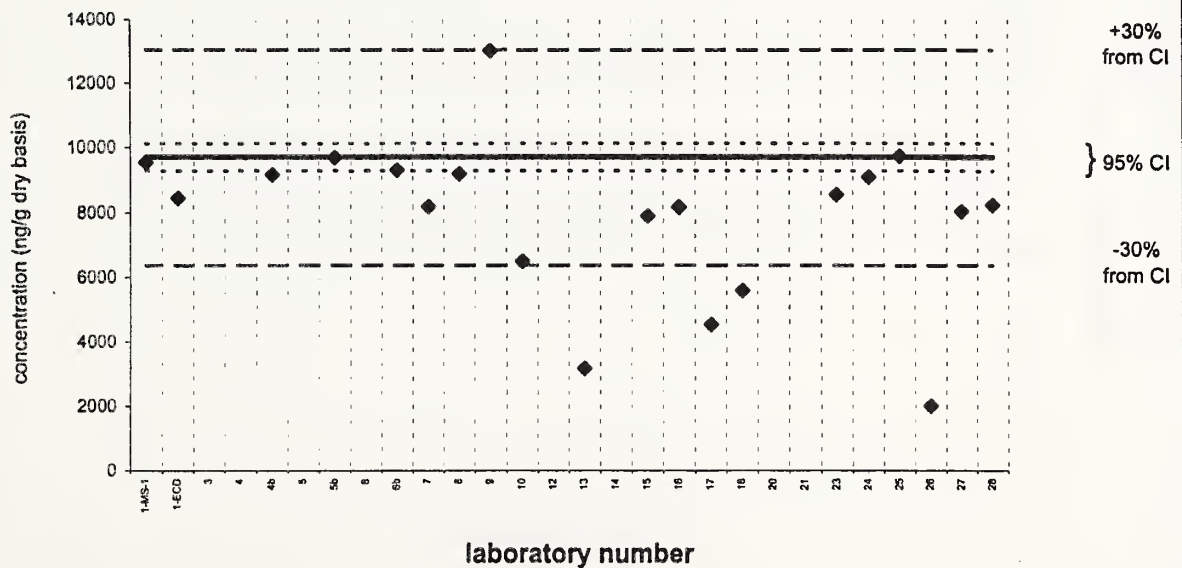
Assigned value = 1564 ng/g s = 253 ng/g 95% CL = 130 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22



pyrene

SRM 1944

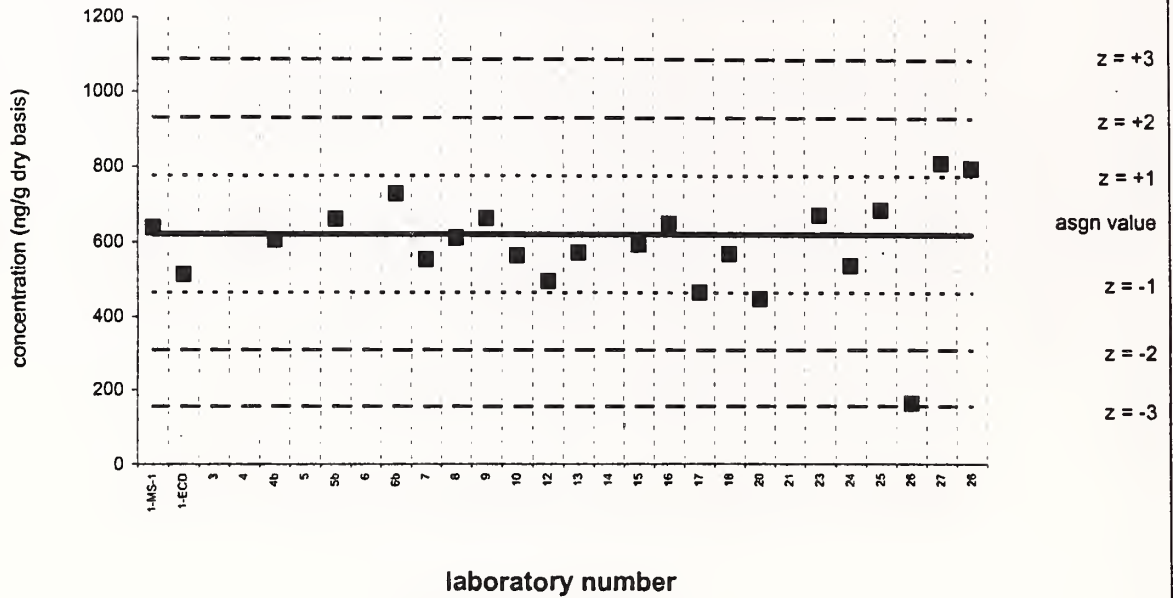
Certified Value = 9700 ± 420 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20



benz[a]anthracene

Sediment XI (QA02SED11)

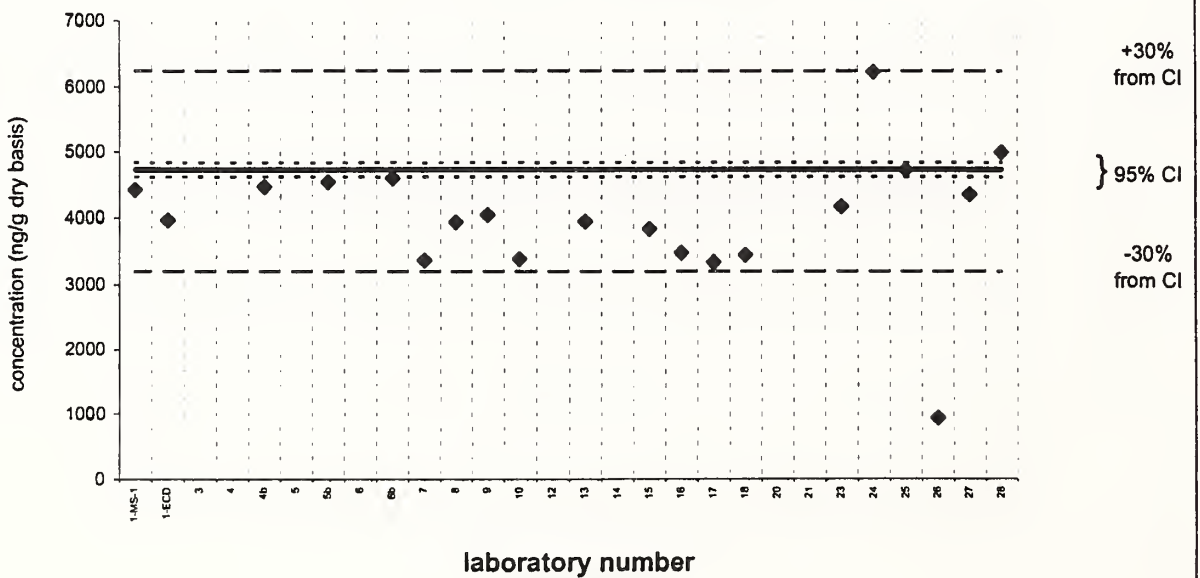
Assigned value = 621 ng/g $s = 92$ ng/g 95% CL = 43 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22



benz[a]anthracene

SRM 1944

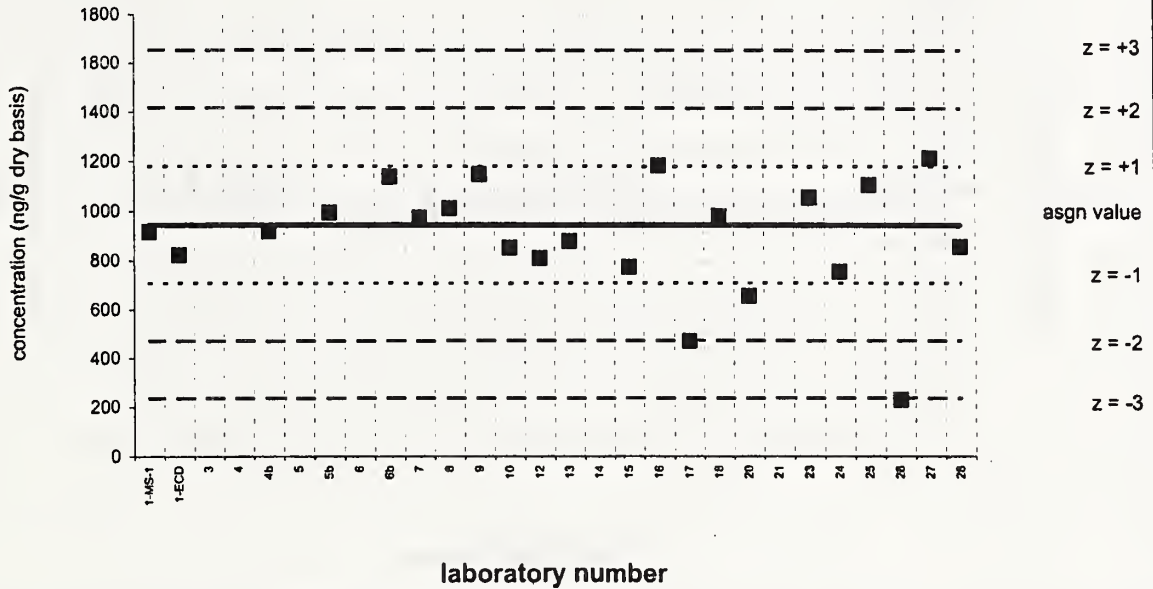
Certified Value = 4720 ± 110 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20



chrysene/triphenylene

Sediment XI (QA02SED11)

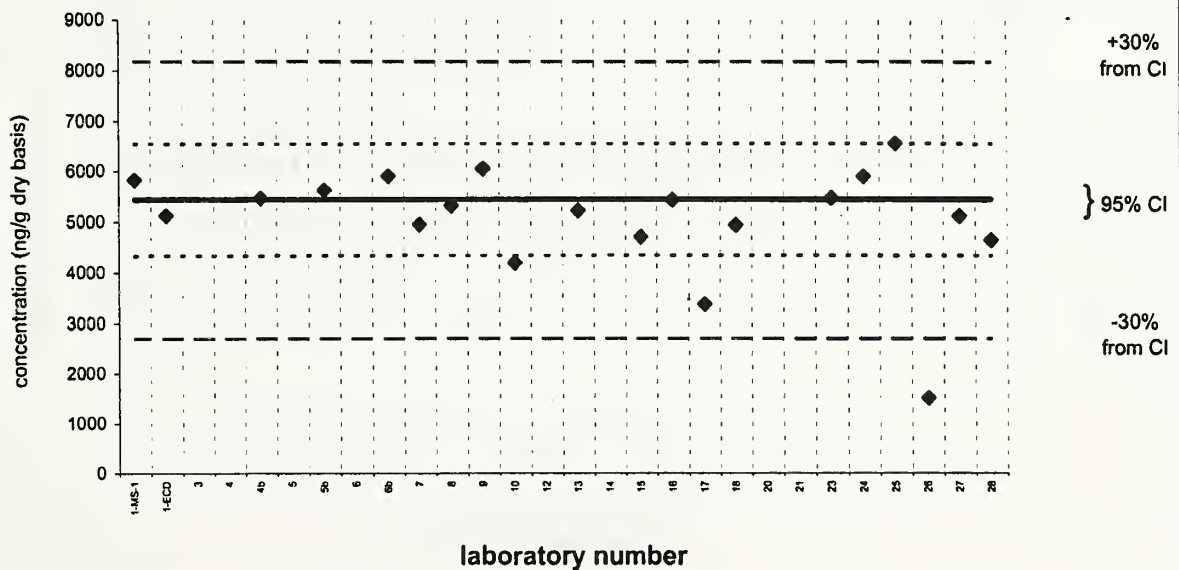
Assigned value = 945 ng/g s = 178 ng/g 95% CL = 83 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 22



chrysene/triphenylene

SRM 1944

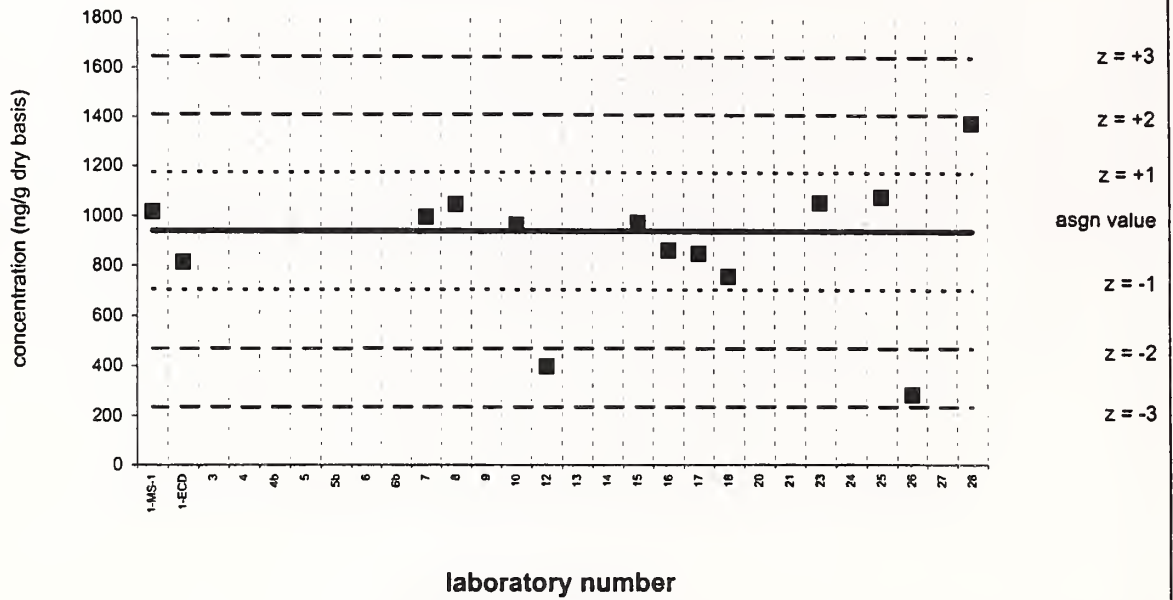
Target Value = 5439 ± 1106 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



benzo[b]fluoranthene

Sediment XI (QA02SED11)

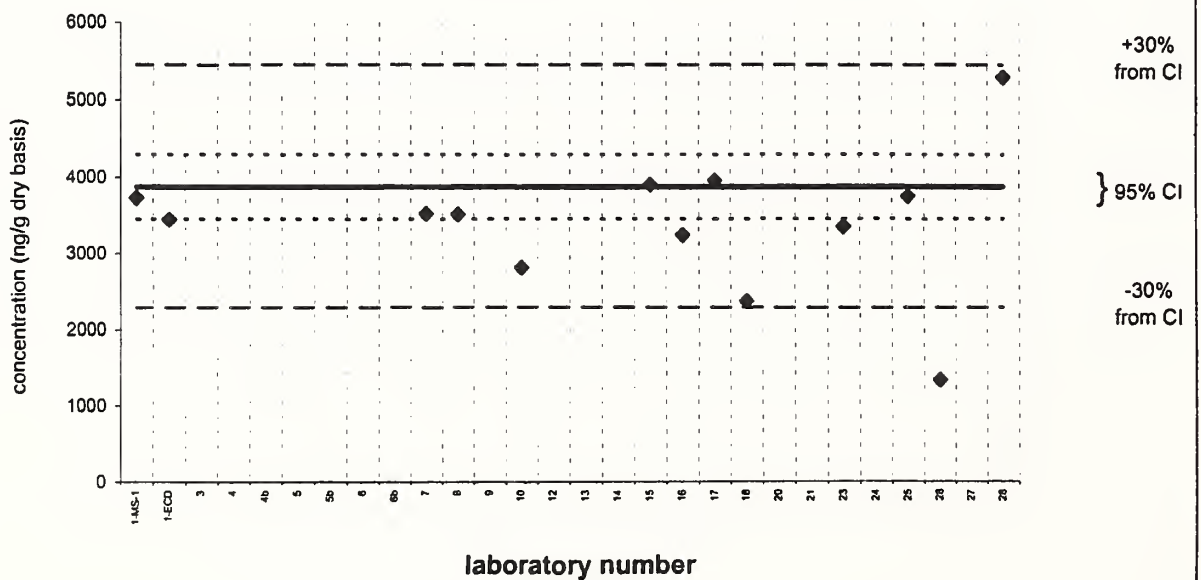
Assigned value = 940 ng/g s = 224 ng/g 95% CL = 135 ng/g (dry basis)
Reported Results: 14 Quantitative Results: 14



benzo[b]fluoranthene

SRM 1944

Certified Value = 3870 ± 420 ng/g (dry basis)
Reported Results: 13 Quantitative Results: 13

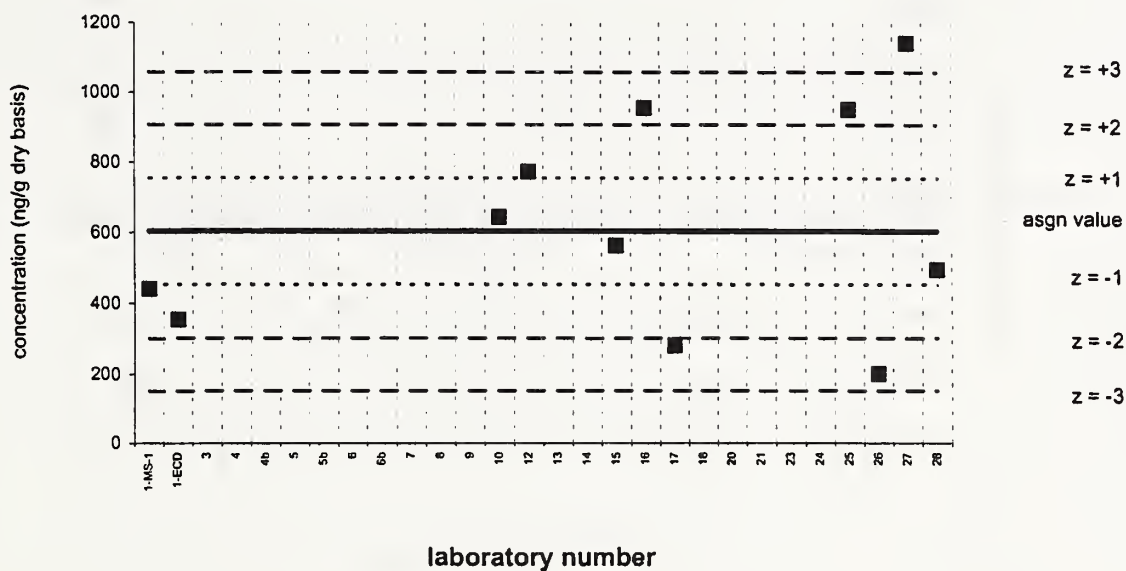


benzo[k]fluoranthene

Sediment XI (QA02SED11)

Assigned value = 604 ng/g s = 206 ng/g 95% CL = 190 ng/g (dry basis)

Reported Results: 11 Quantitative Results: 11

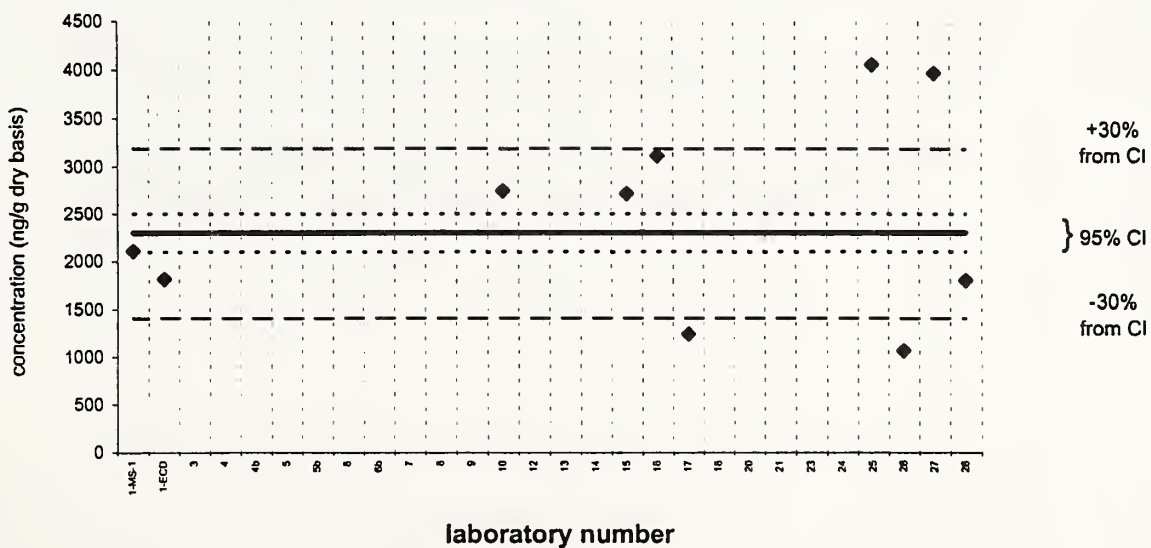


benzo[k]fluoranthene

SRM 1944

Certified Value = 2300 ± 200 ng/g (dry basis)

Reported Results: 10 Quantitative Results: 10

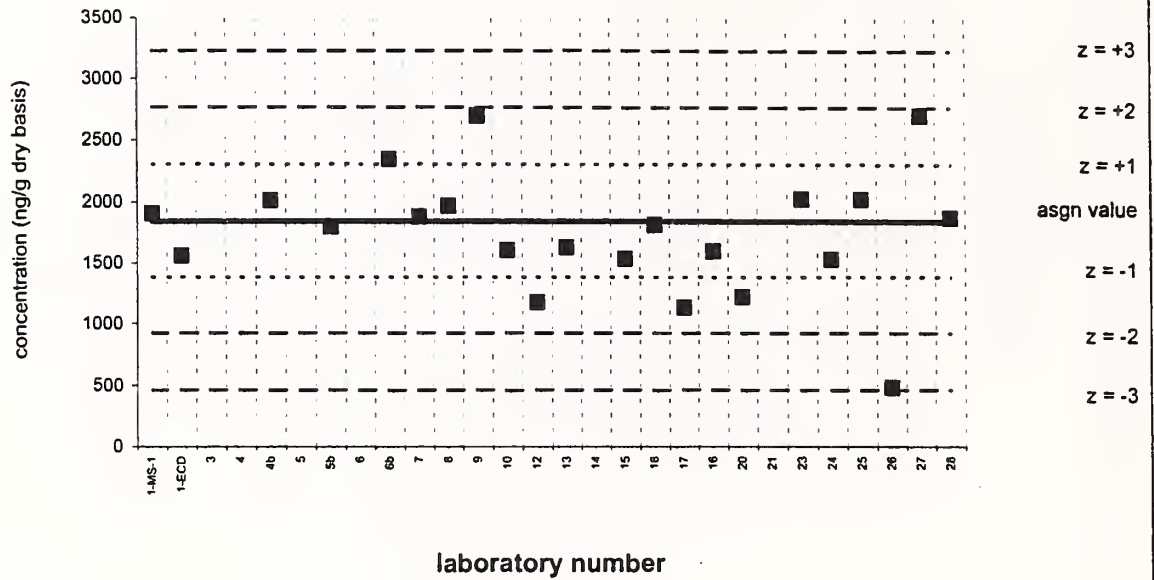


benzo[b+j+k]fluoranthenes

Sediment XI (QA02SED11)

Assigned value = 1844 ng/g s = 412 ng/g 95% CL = 193 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

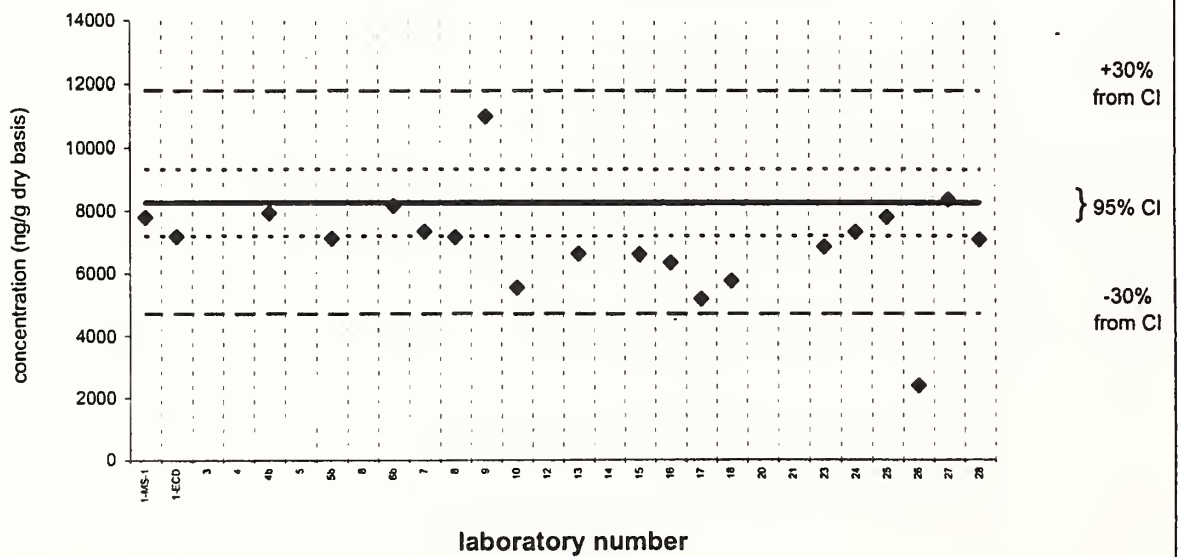


benzo[b+j+k]fluoranthenes

SRM 1944

Target Value = 8260 ± 1060 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20

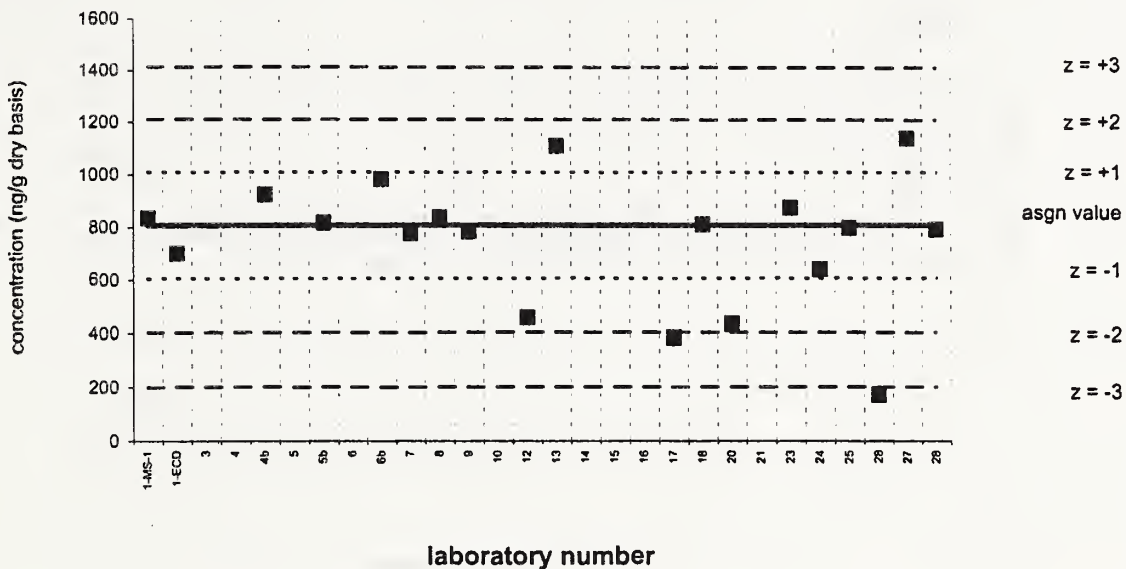


benzo[e]pyrene

Sediment XI (QA02SED11)

Assigned value = 808 ng/g s = 186 ng/g 95% CL = 96 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 19

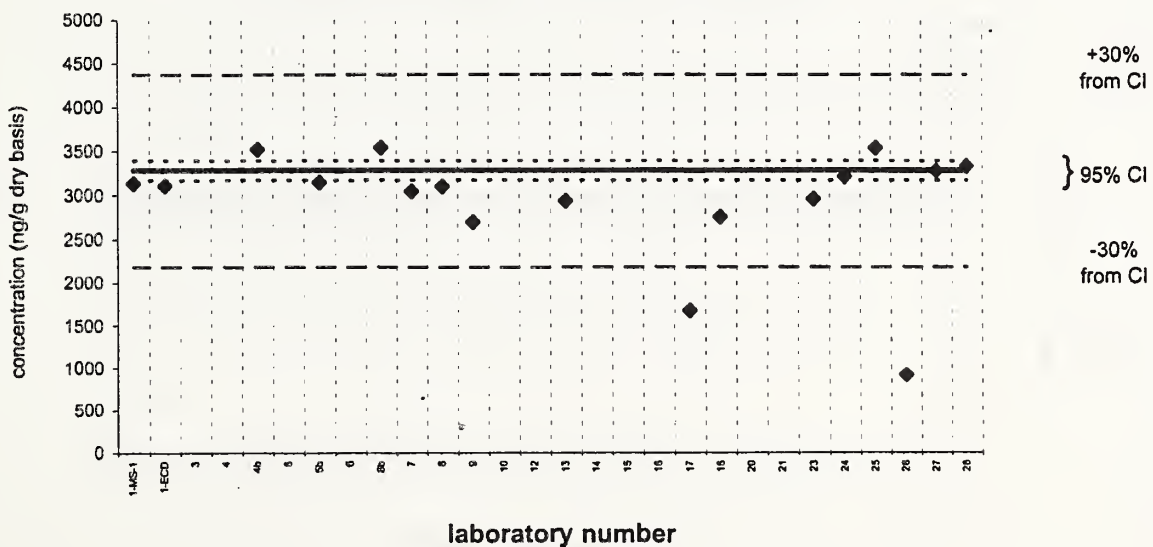


benzo[e]pyrene

SRM 1944

Certified Value = 3280 ± 110 ng/g (dry basis)

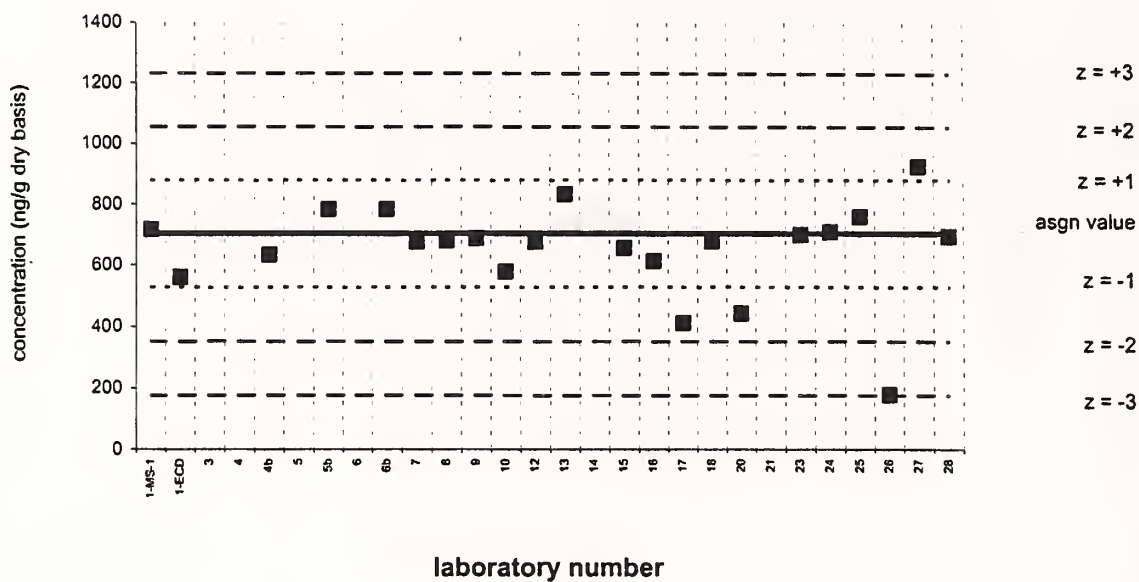
Reported Results: 17 Quantitative Results: 17



benzo[a]pyrene

Sediment XI (QA02SED11)

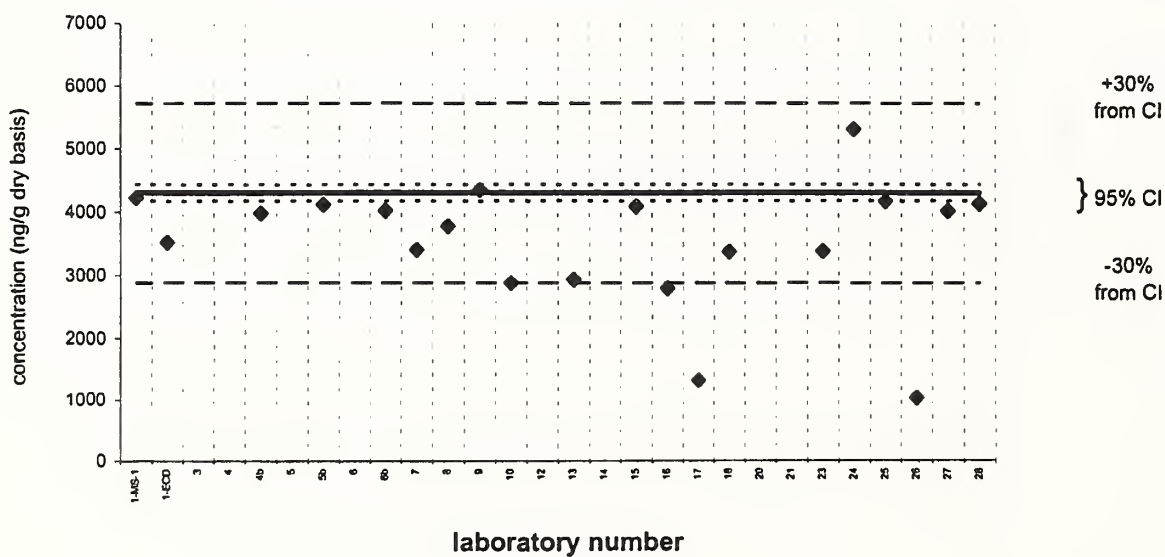
Assigned value = 703 ng/g s = 87 ng/g 95% CL = 42 ng/g (dry basis)
 Reported Results: 22 Quantitative Results: 22



benzo[a]pyrene

SRM 1944

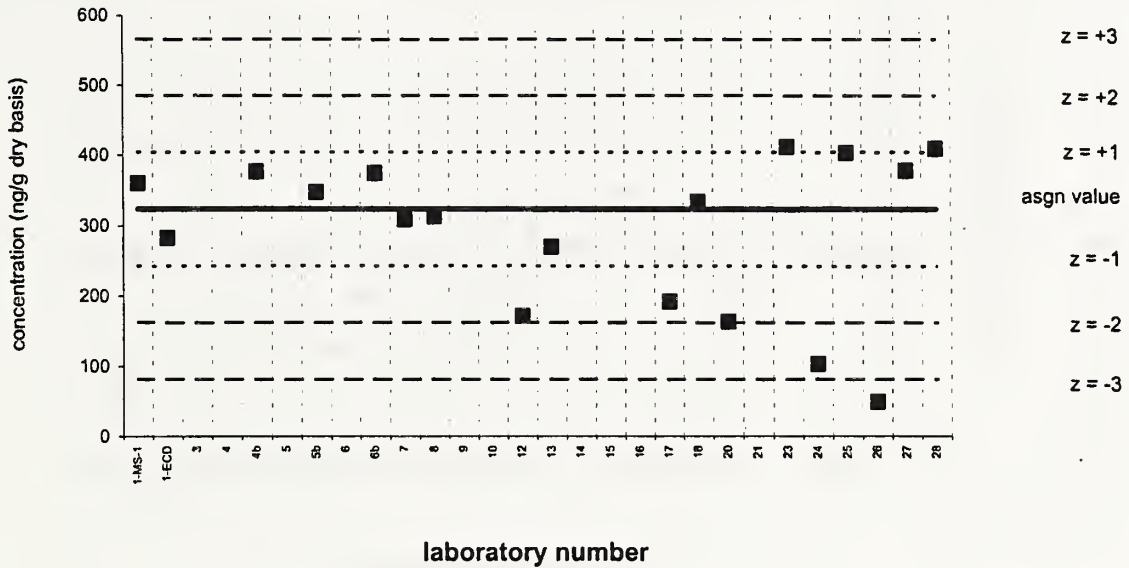
Certified Value = 4300 ± 130 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



perylene

Sediment XI (QA02SED11)

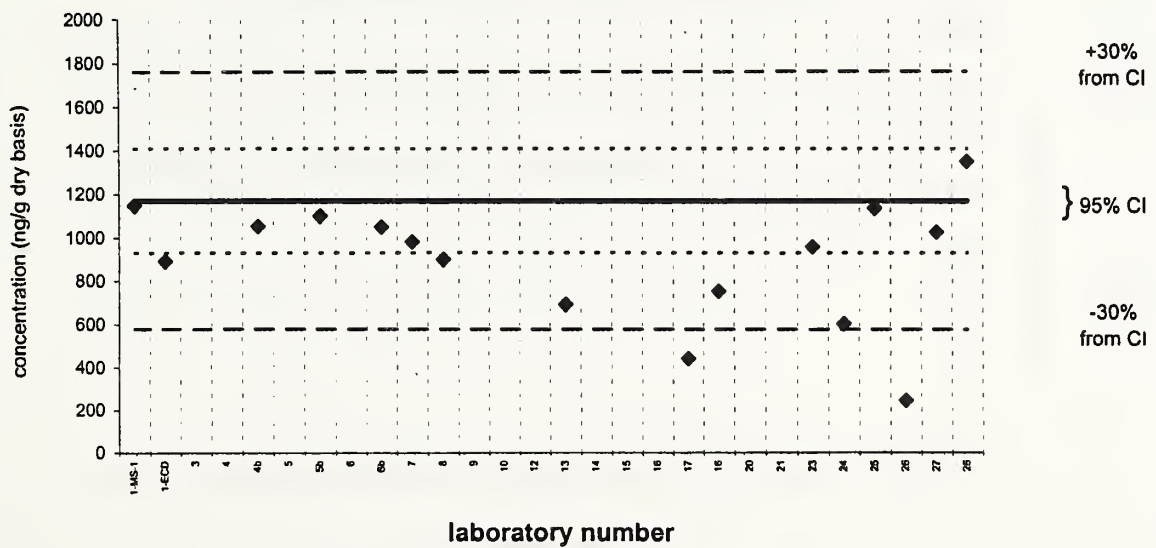
Assigned value = 323 ng/g $s = 88$ ng/g 95% CL = 49 ng/g (dry basis)
 Reported Results: 18 Quantitative Results: 18



perylene

SRM 1944

Certified Value = 1170 \pm 240 ng/g (dry basis)
 Reported Results: 16 Quantitative Results: 16

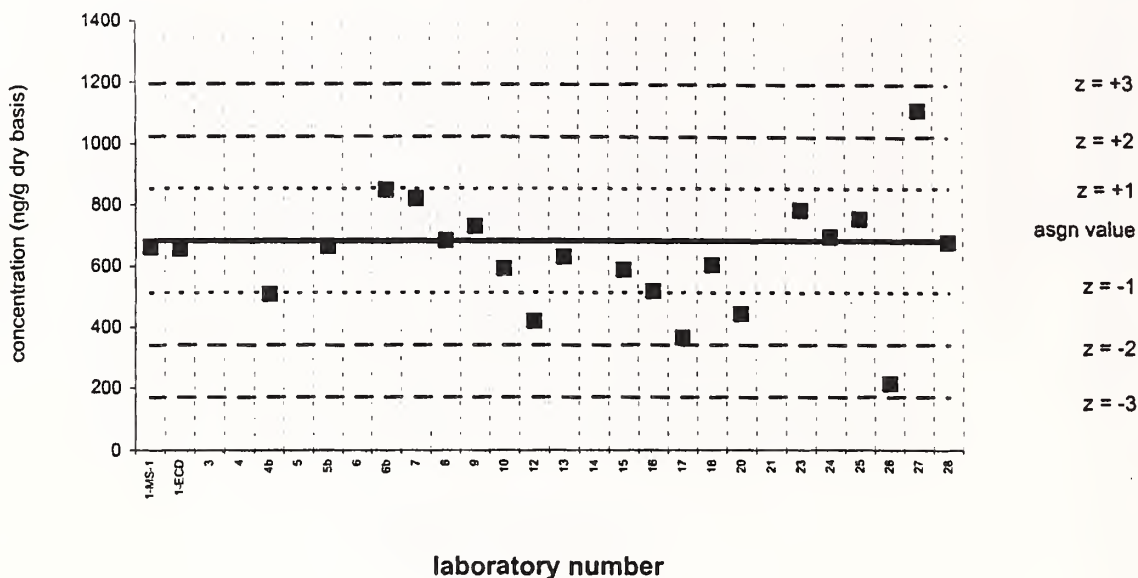


indeno[1,2,3-cd]pyrene

Sediment XI (QA02SED11)

Assigned value = 683 ng/g s = 150 ng/g 95% CL = 72 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

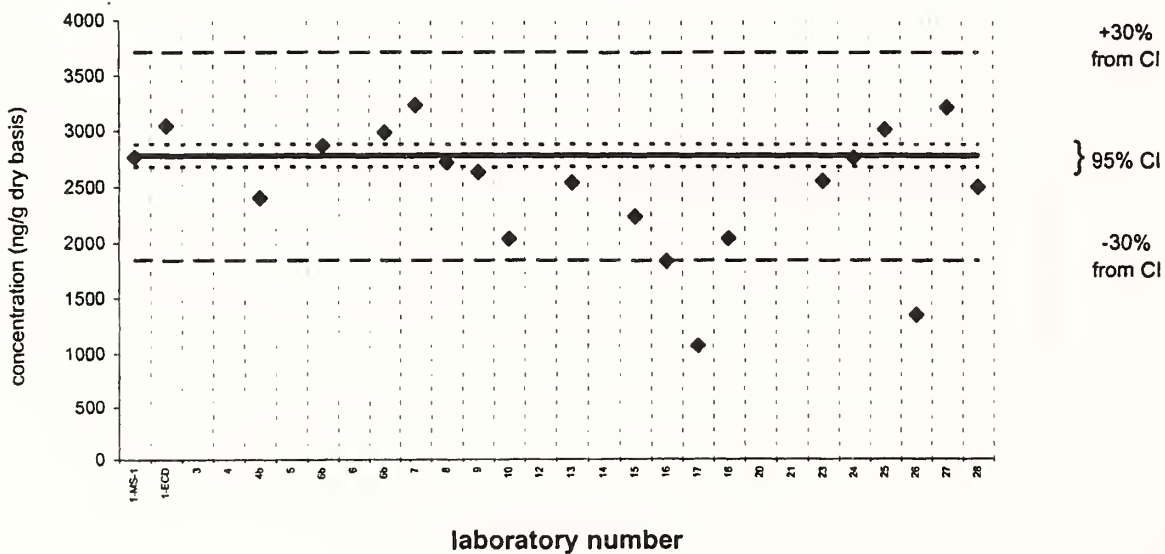


indeno[1,2,3-cd]pyrene

SRM 1944

Certified Value = 2780 ± 100 ng/g (dry basis)

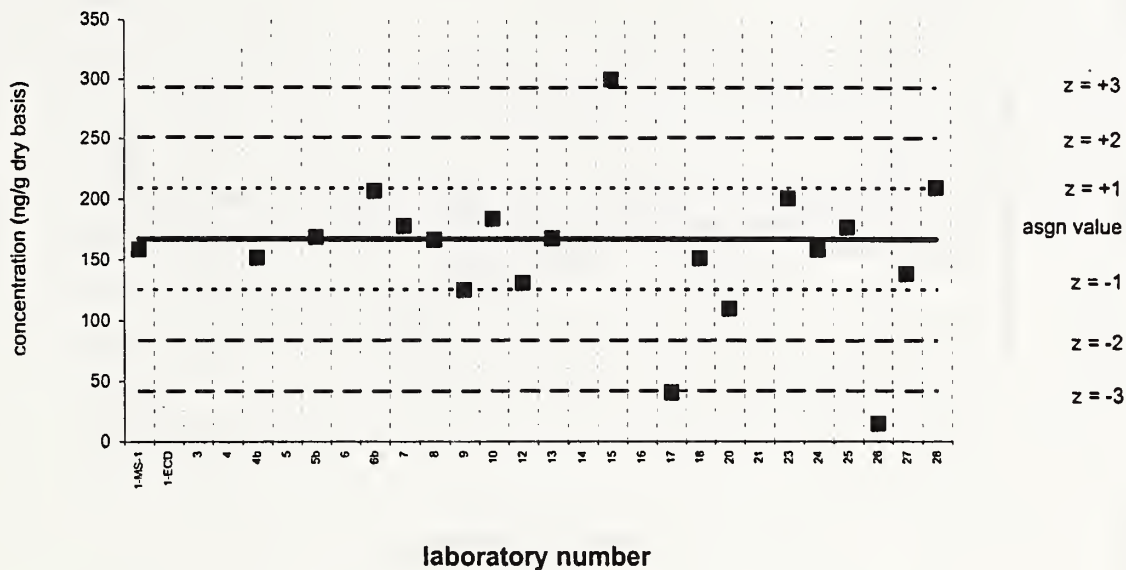
Reported Results: 20 Quantitative Results: 20



dibenz[a,h+a,c]anthracene

Sediment XI (QA02SED11)

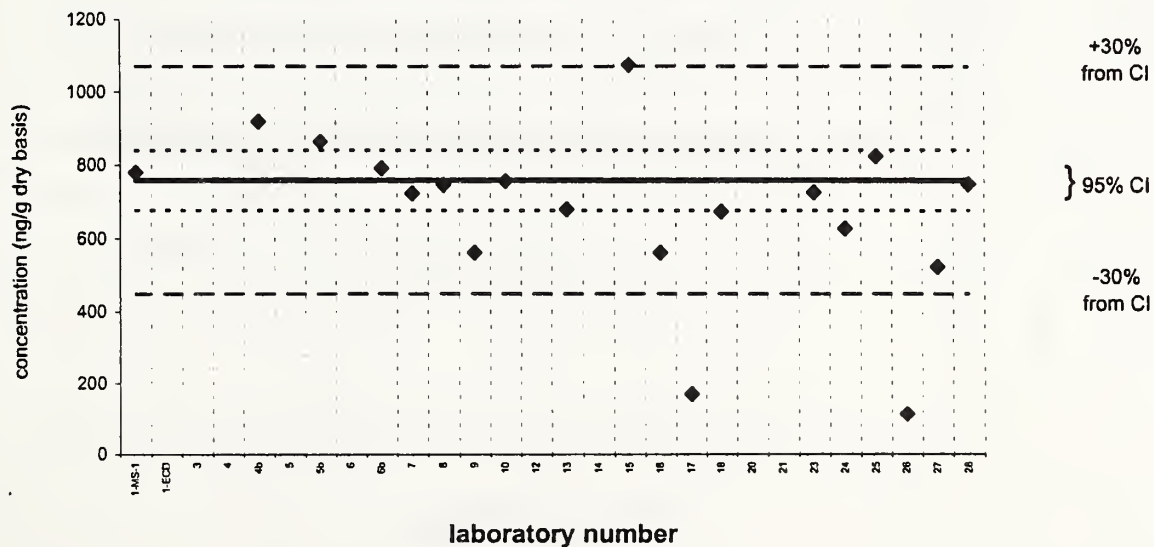
Assigned value = 167 ng/g s = 25 ng/g 95% CL = 13 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



dibenz[a,h+a,c]anthracene

SRM 1944

Target Value = 759 ± 82 ng/g (dry basis)
 Reported Results: 19 Quantitative Results: 19

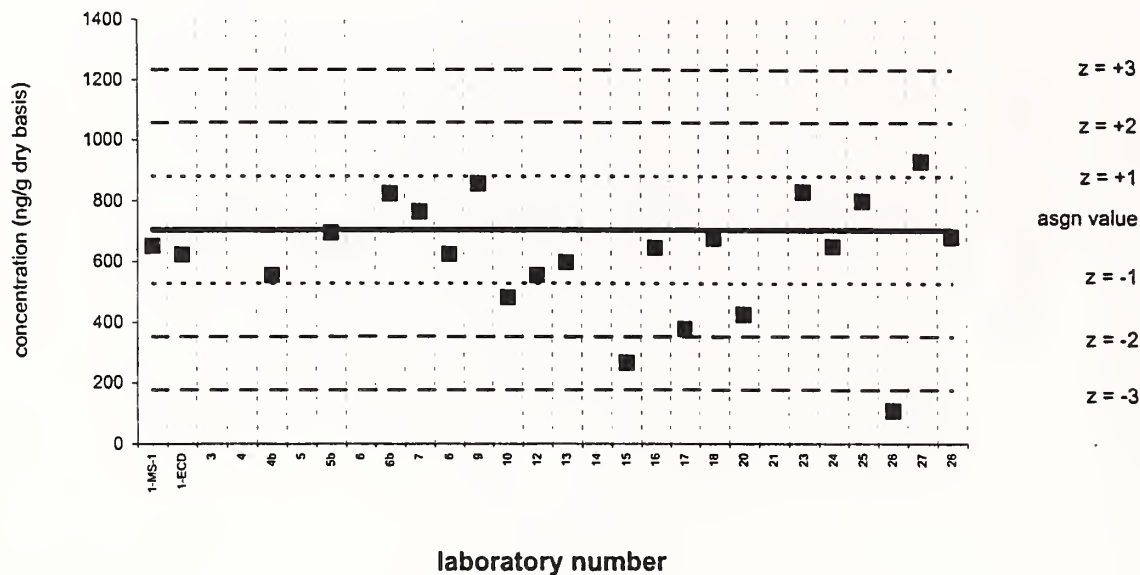


benzo[ghi]perylene

Sediment XI (QA02SED11)

Assigned value = 705 ng/g s = 111 ng/g 95% CL = 57 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

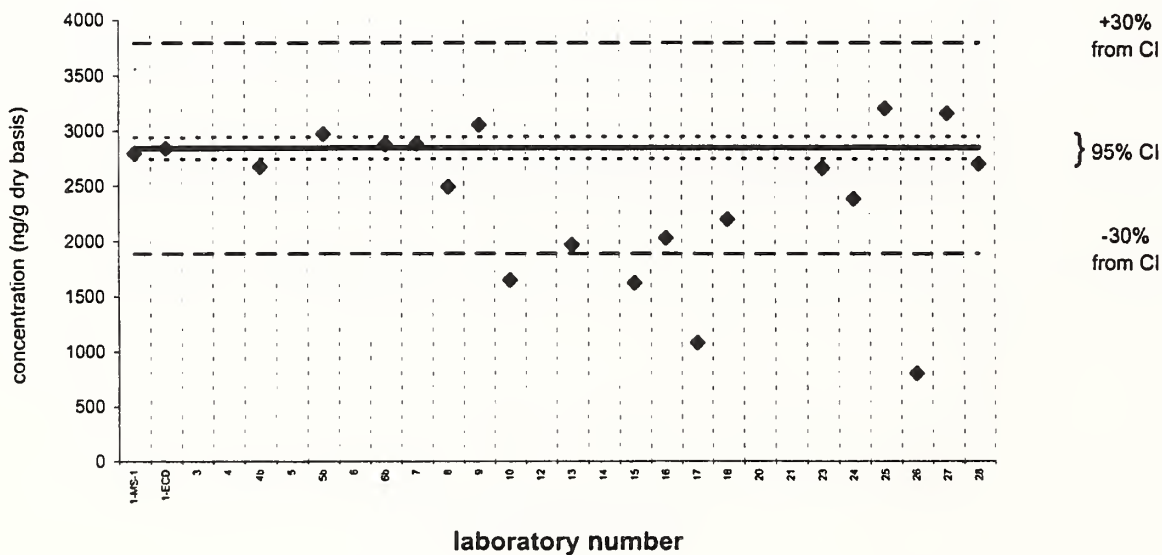


benzo[ghi]perylene

SRM 1944

Certified Value = 2840 ± 100 ng/g (dry basis)

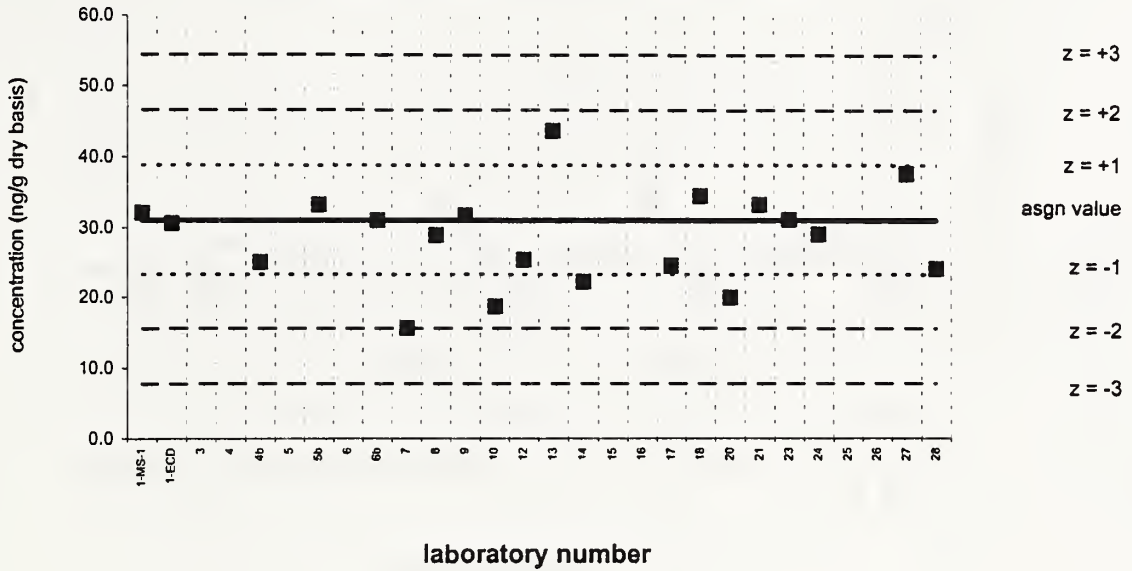
Reported Results: 20 Quantitative Results: 20



hexachlorobenzene

Sediment XI (QA02SED11)

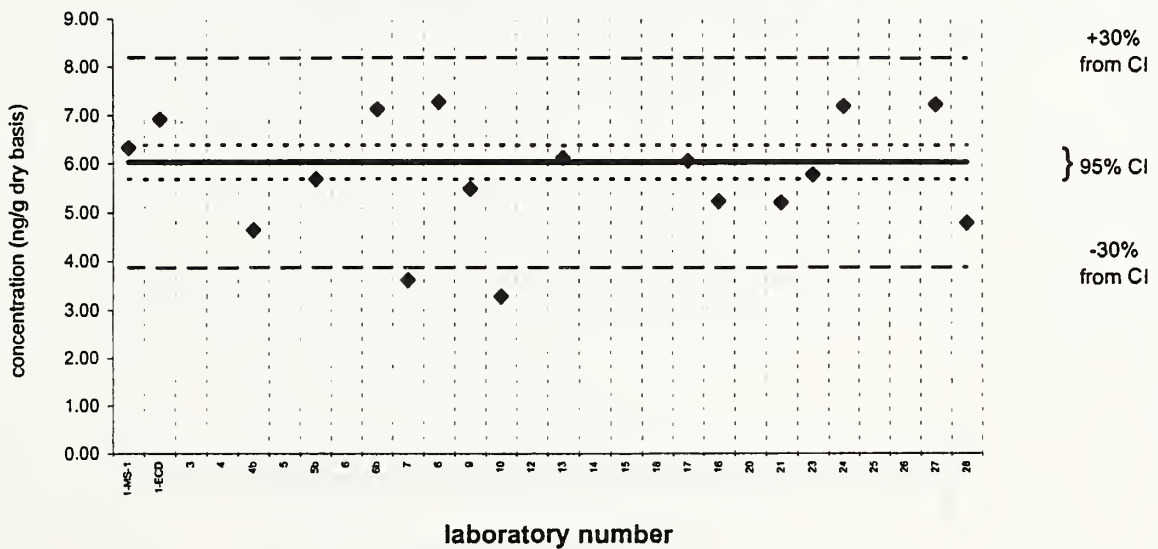
Assigned value = 31.1 ng/g $s = 5.1$ ng/g 95% CL = 2.7 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



hexachlorobenzene

SRM 1944

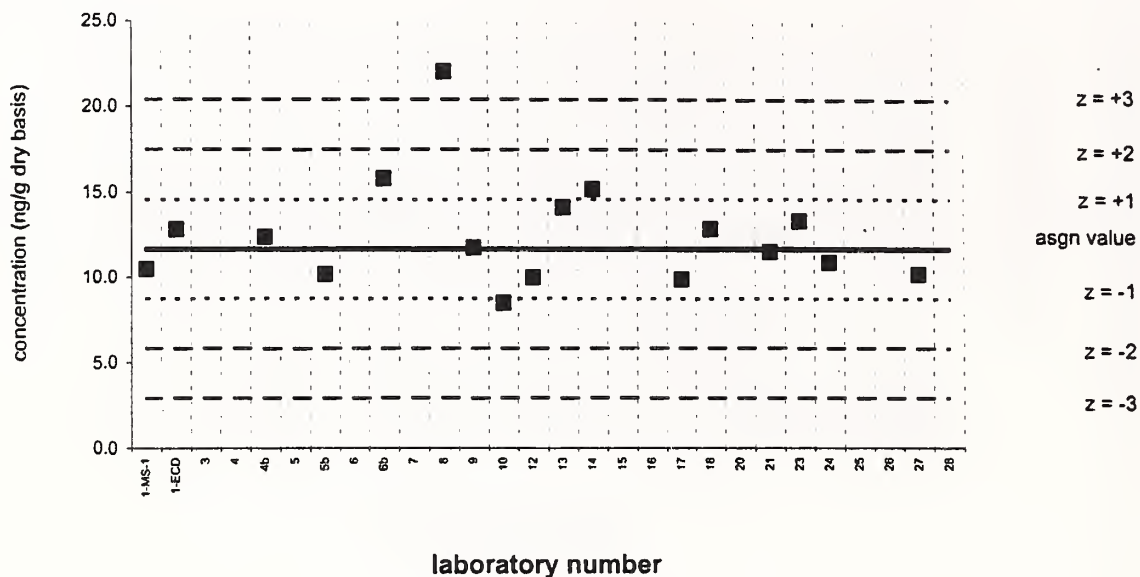
Certified Value = 6.03 ± 0.35 ng/g (dry basis)
 Reported Results: 17 Quantitative Results: 17



gamma-chlordane (trans-chlordane)

Sediment XI (QA02SED11)

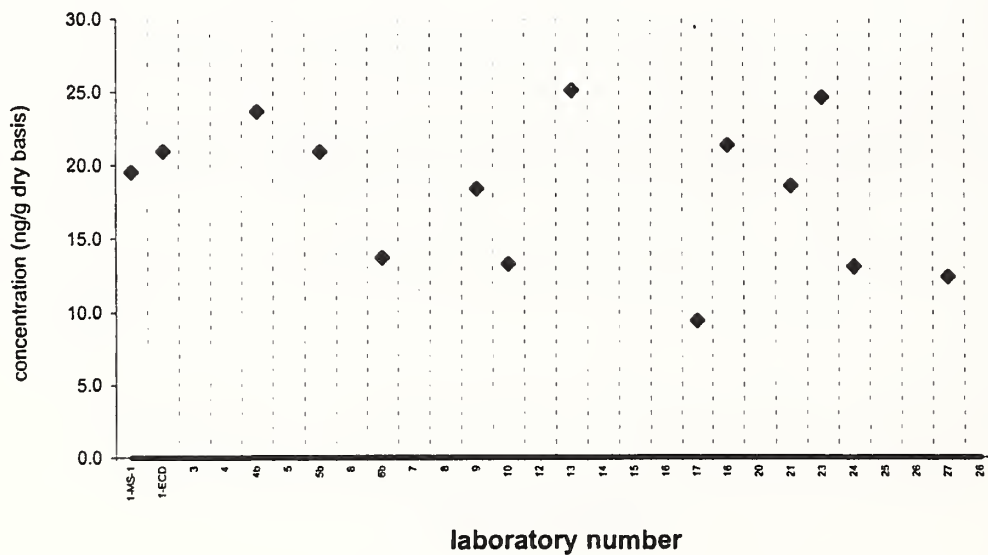
Assigned value = 11.7 ng/g s = 1.9 ng/g 95% CL = 1.1 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 17



gamma-chlordane (trans-chlordane)

SRM 1944

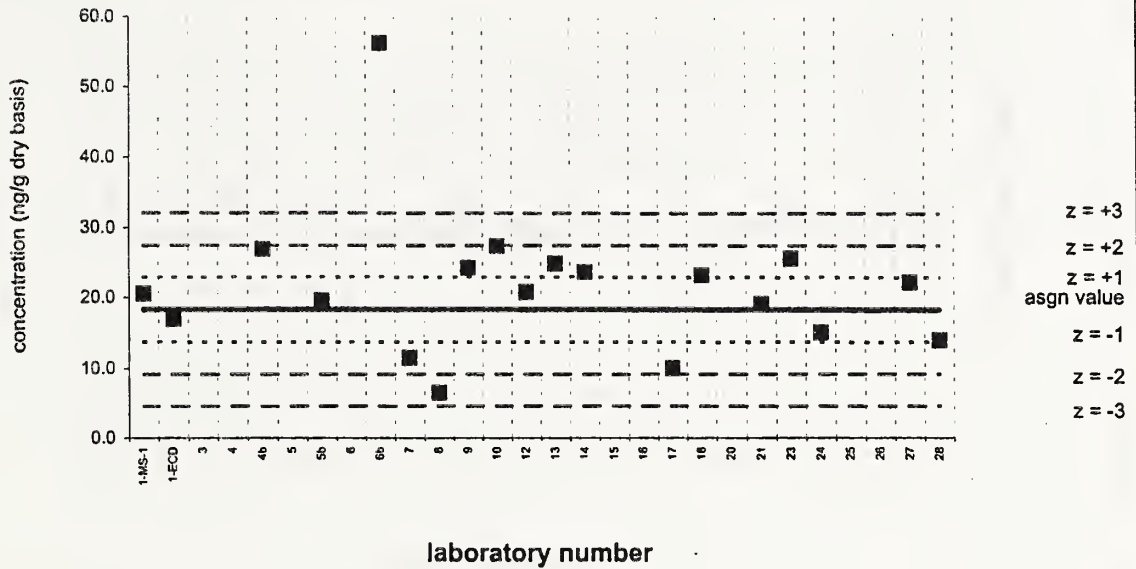
Target Value = no target ng/g (dry basis)
Reported Results: 14 Quantitative Results: 14



2,4'-DDE

Sediment XI (QA02SED11)

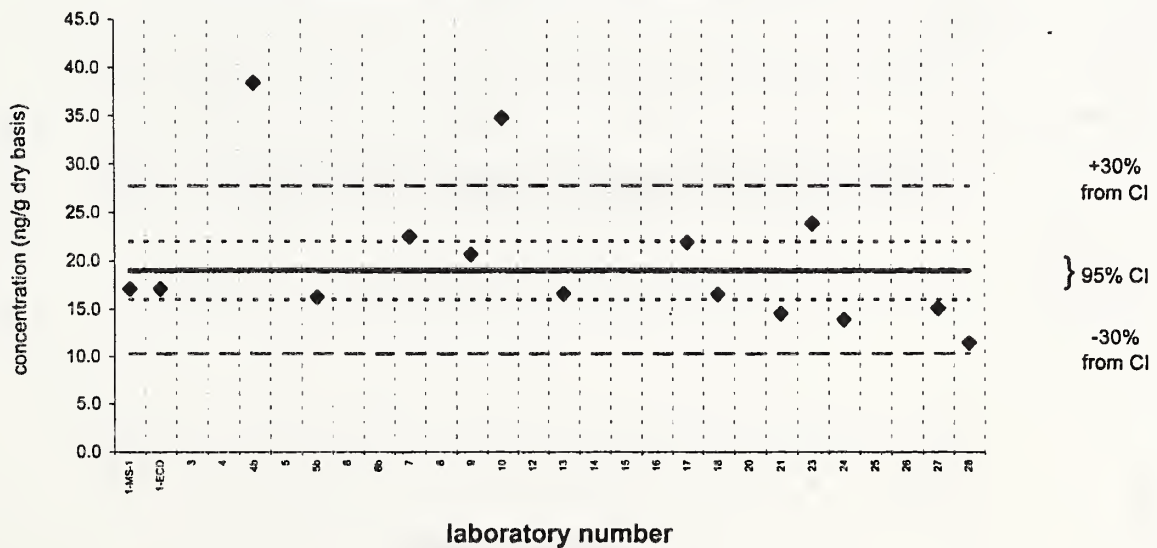
Assigned value = 18.3 ng/g $s = 5.8$ ng/g 95% CL = 3.2 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 19



2,4'-DDE

SRM 1944

Reference Value = 19.0 ± 3.0 ng/g (dry basis)
 Reported Results: 16 Quantitative Results: 15

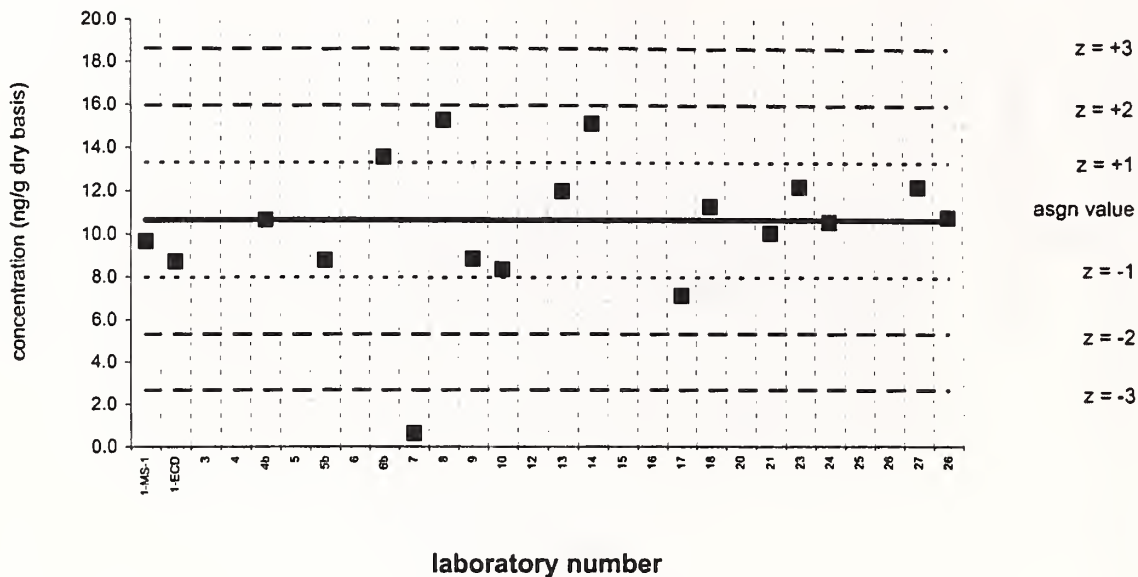


cis-chlordane

Sediment XI (QA02SED11)

Assigned value = 10.6 ng/g s = 2.1 ng/g 95% CL = 1.1 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 18

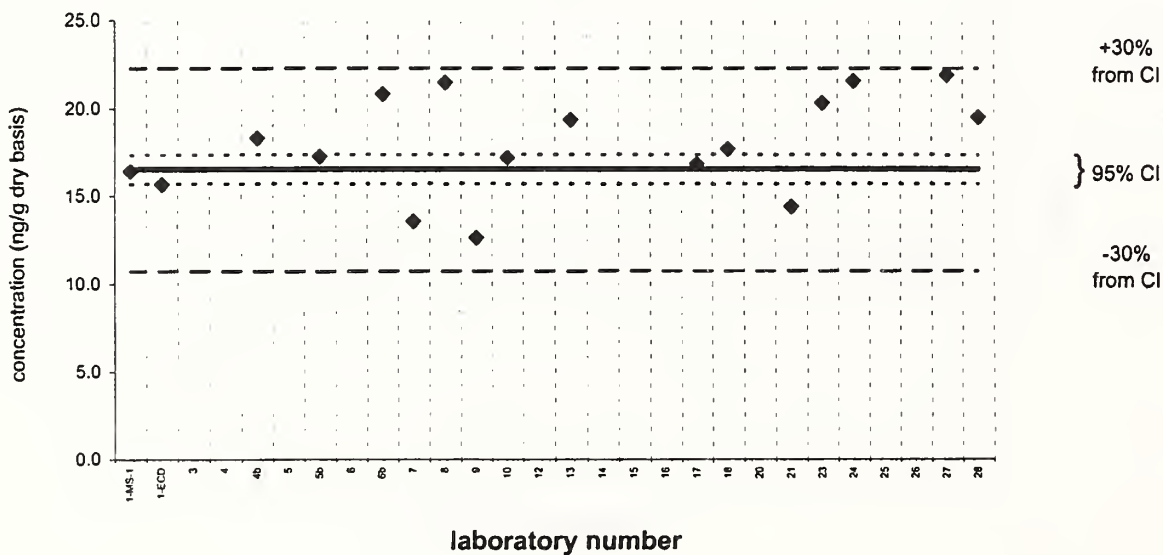


cis-chlordane

SRM 1944

Certified Value = 16.5 ± 0.8 ng/g (dry basis)

Reported Results: 17 Quantitative Results: 17

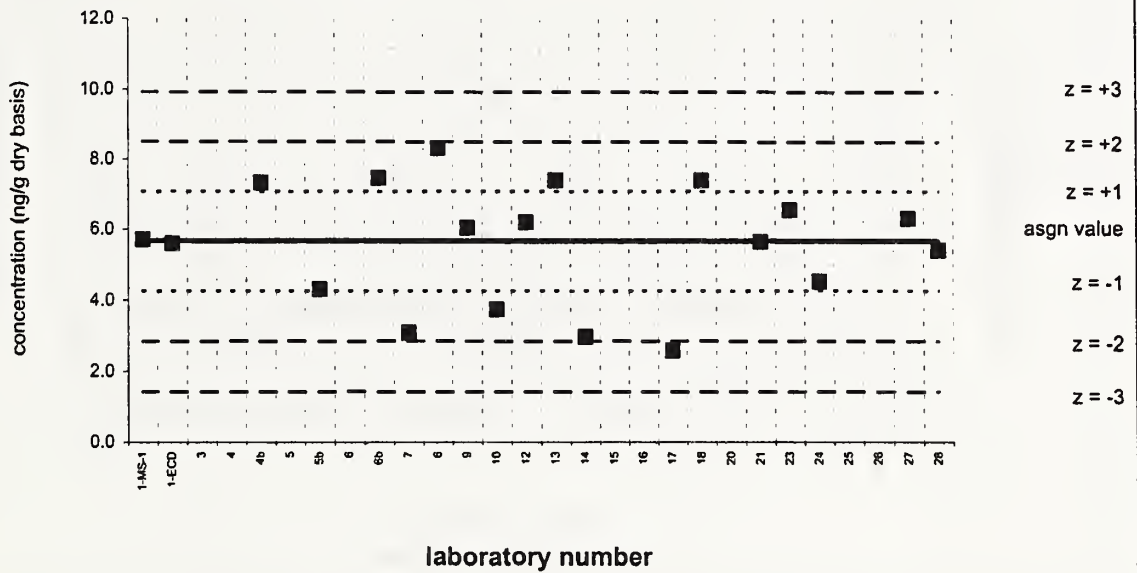


trans-nonachlor

Sediment XI (QA02SED11)

Assigned value = 5.67 ng/g s = 1.60 ng/g 95% CL = 0.82 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 19

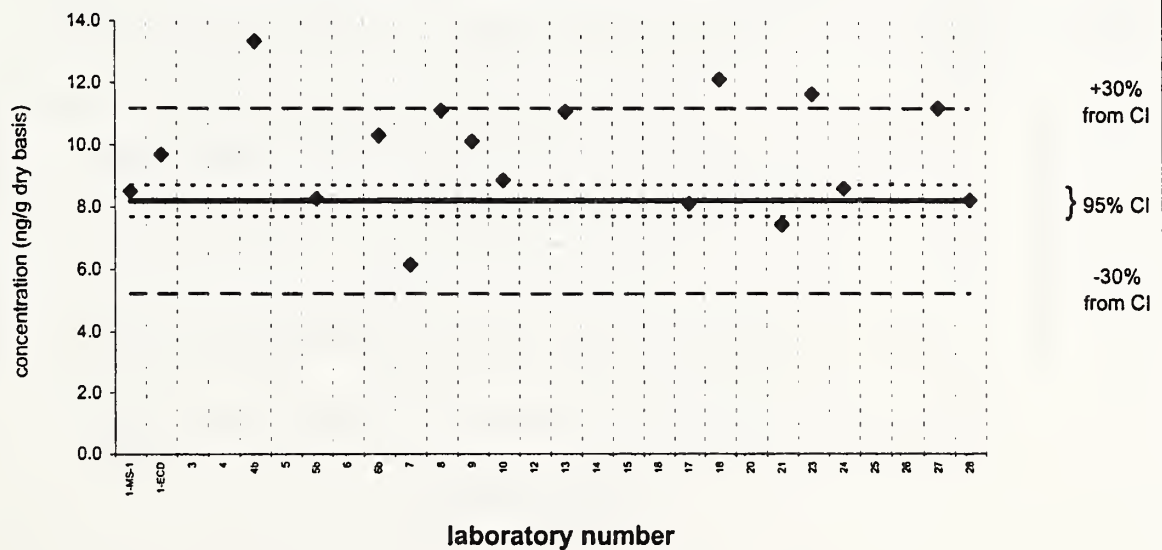


trans-nonachlor

SRM 1944

Certified Value = 8.20 ± 0.51 ng/g (dry basis)

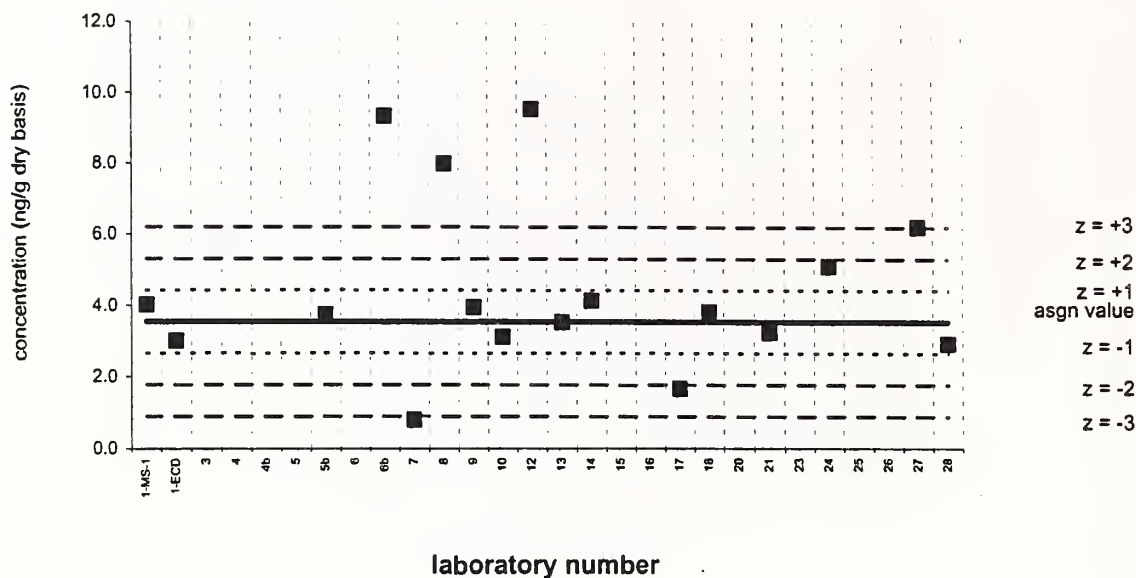
Reported Results: 17 Quantitative Results: 17



dieldrin

Sediment XI (QA02SED11)

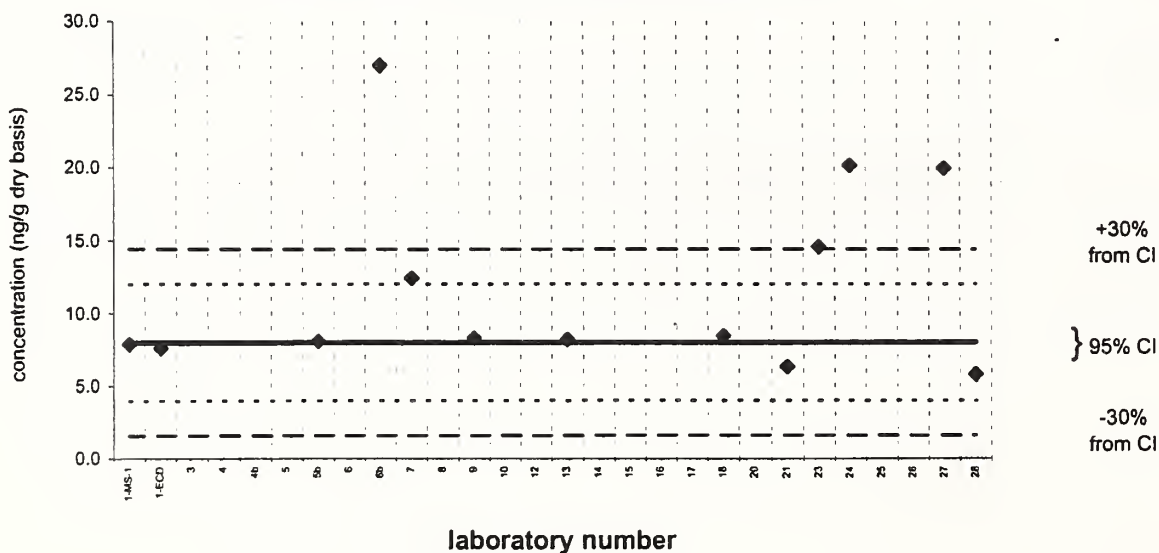
Assigned value = 3.54 ng/g s = 0.42 ng/g 95% CL = 0.35 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 17



dieldrin

SRM 1944

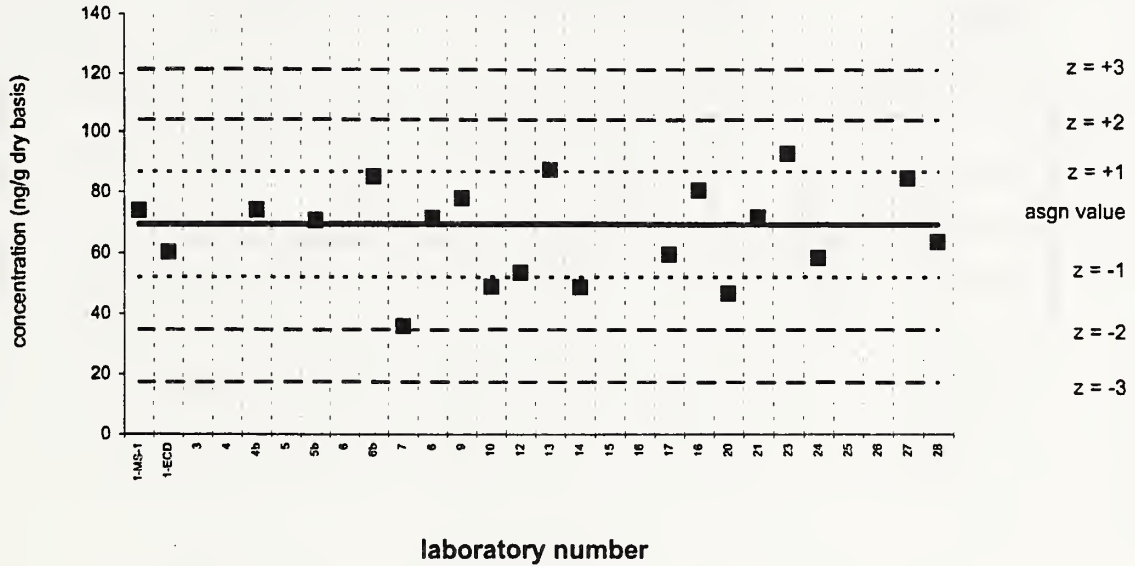
Target Value = 8.00 ± 4.00 ng/g (dry basis)
 Reported Results: 14 Quantitative Results: 13



4,4'-DDE

Sediment XI (QA02SED11)

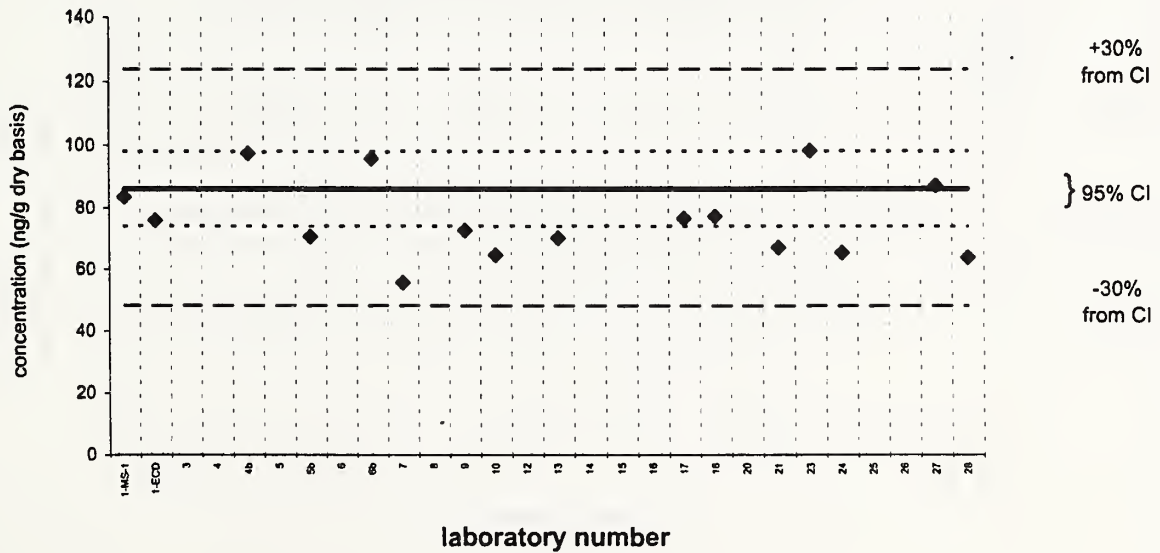
Assigned value = 69.4 ng/g $s = 15.3$ ng/g 95% CL = 7.8 ng/g (dry basis)
 Reported Results: 20 Quantitative Results: 20



4,4'-DDE

SRM 1944

Reference Value = 86.0 ± 12.0 ng/g (dry basis)
 Reported Results: 16 Quantitative Results: 16

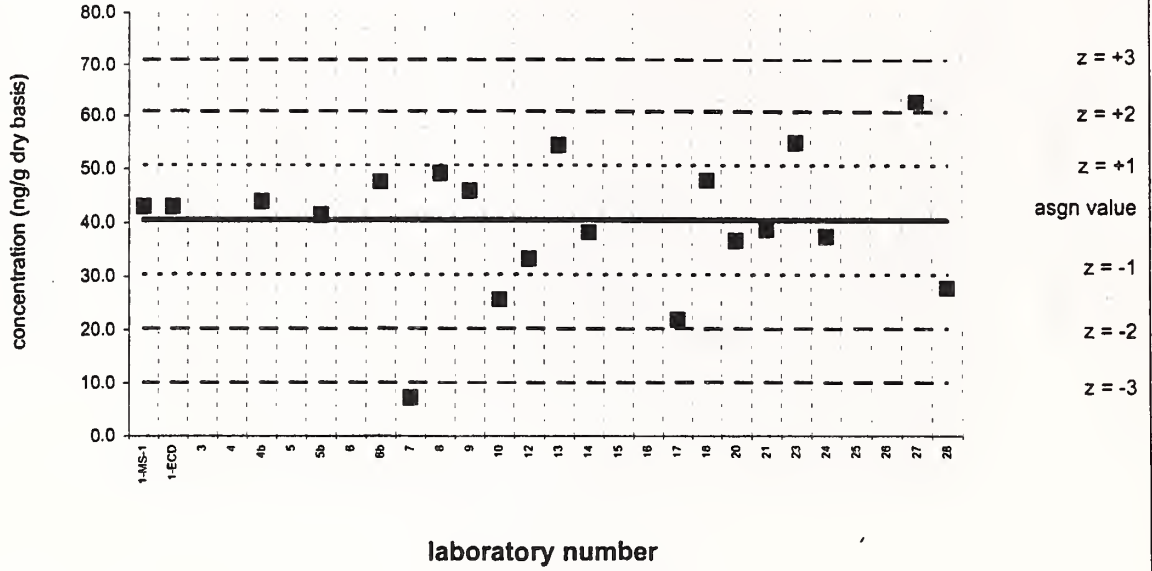


2,4'-DDD

Sediment XI (QA02SED11)

Assigned value = 40.6 ng/g s = 11.0 ng/g 95% CL = 6.1 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20

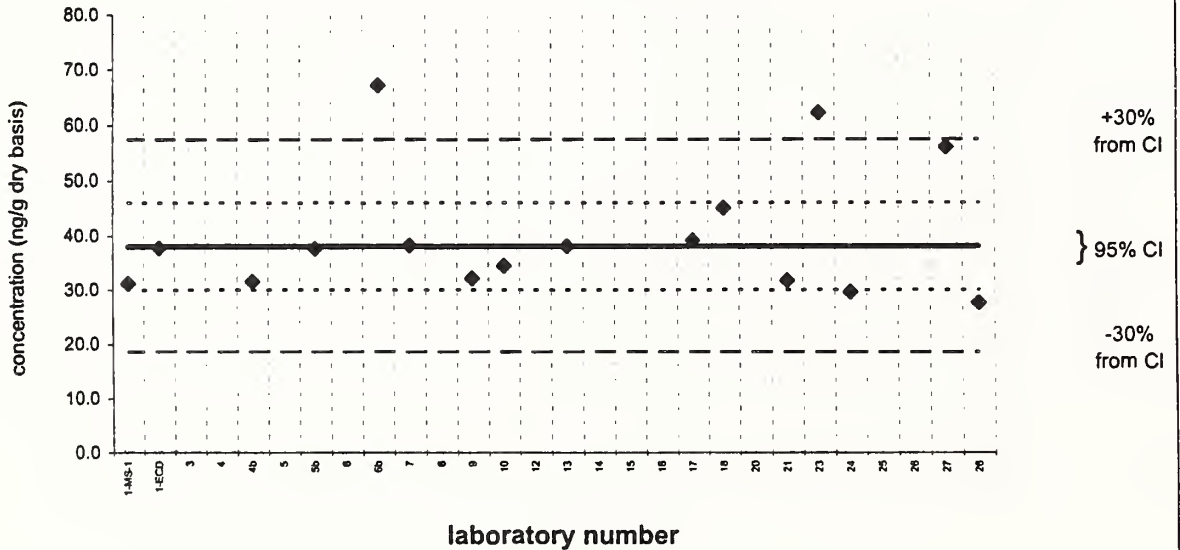


2,4'-DDD

SRM 1944

Reference Value = 38.0 ± 8.0 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 16

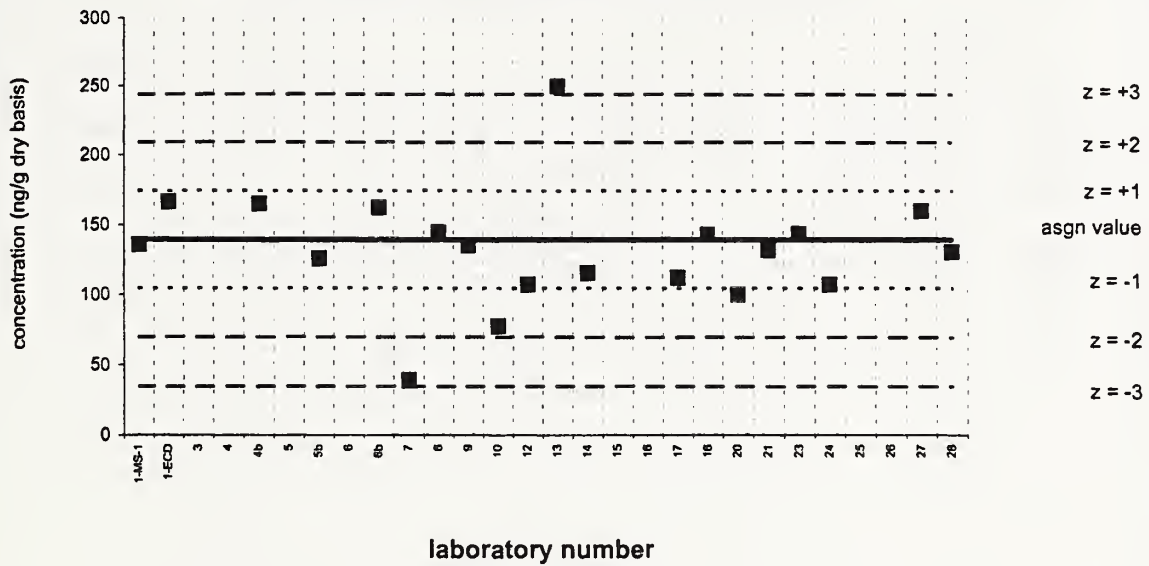


4,4'-DDD

Sediment XI (QA02SED11)

Assigned value = 139 ng/g s = 39 ng/g 95% CL = 21 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20

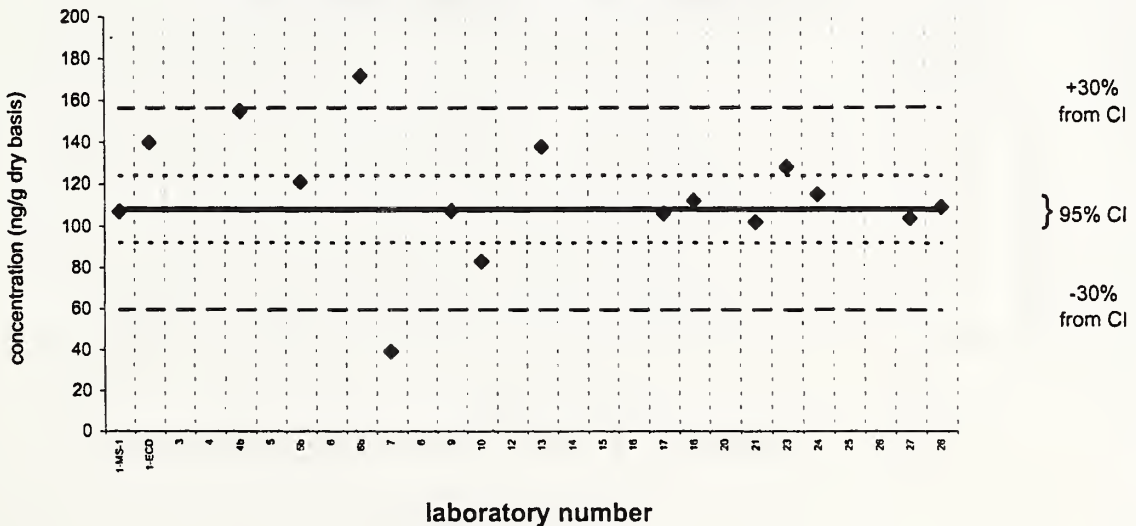


4,4'-DDD

SRM 1944

Reference Value = 108 ± 16 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 16

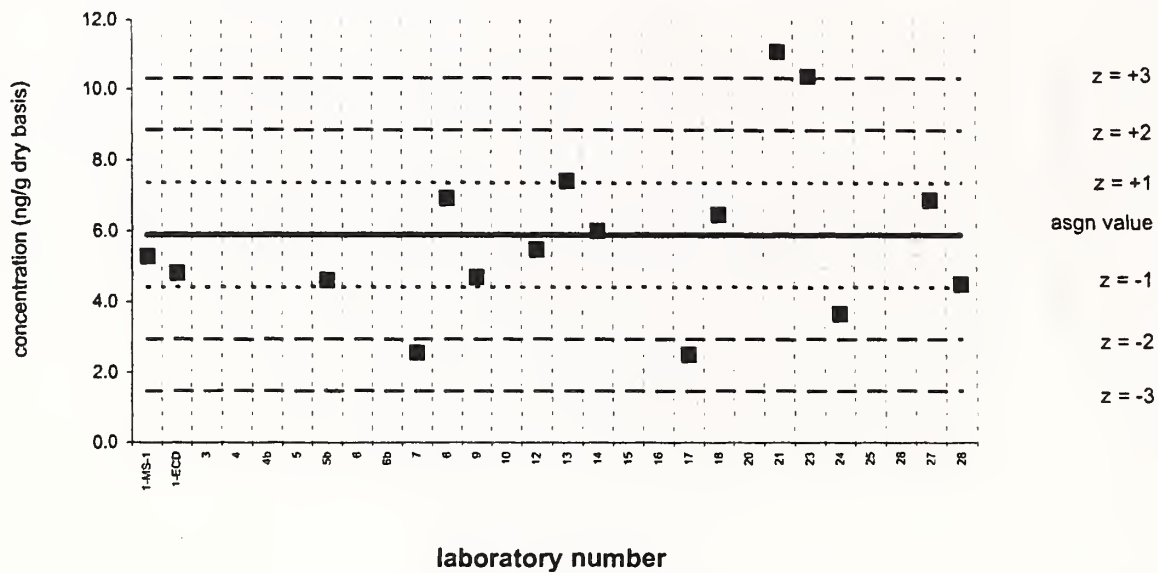


2,4'-DDT

Sediment XI (QA02SED11)

Assigned value = 5.89 ng/g s = 2.12 ng/g 95% CL = 1.22 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 16

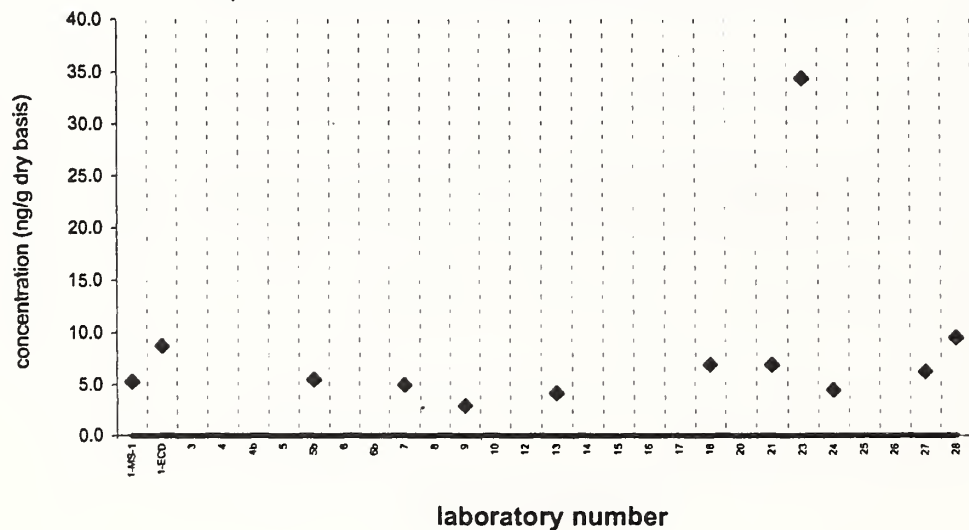


2,4'-DDT

SRM 1944

Target Value = no target ng/g (dry basis)

Reported Results: 13 Quantitative Results: 12

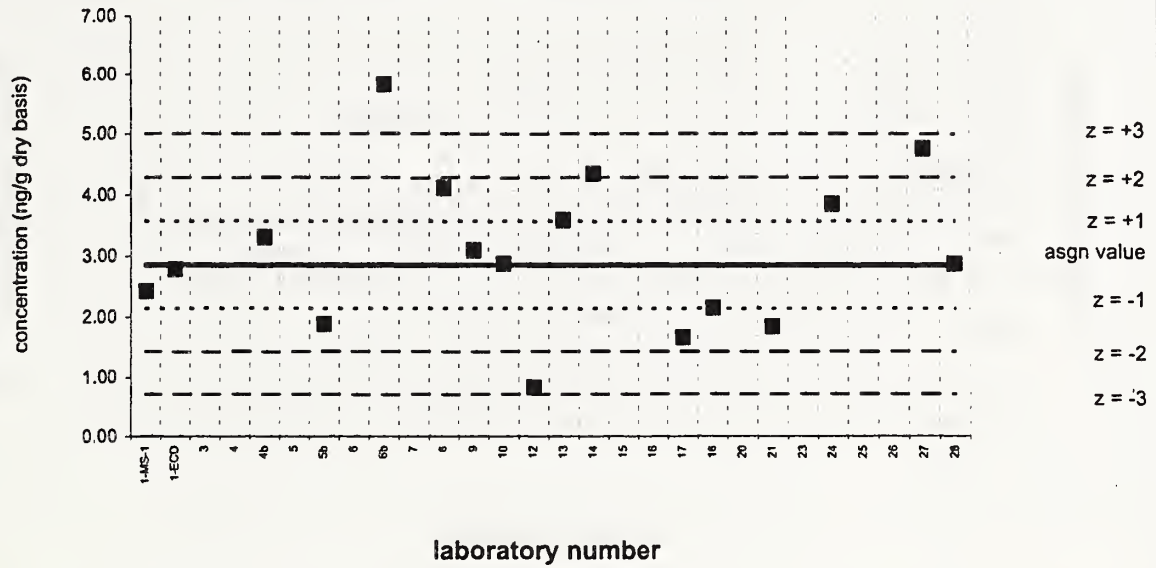


cis-nonachlor

Sediment XI (QA02SED11)

Assigned value = 2.86 ng/g s = 0.89 ng/g 95% CL = 0.54 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 17

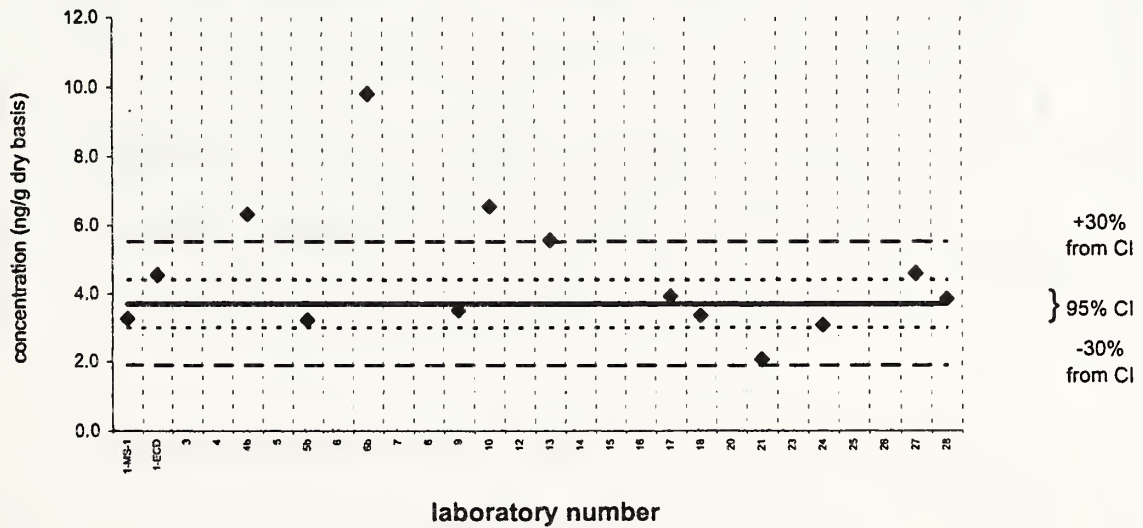


cis-nonachlor

SRM 1944

Reference Value = 3.70 ± 0.70 ng/g (dry basis)

Reported Results: 15 Quantitative Results: 14

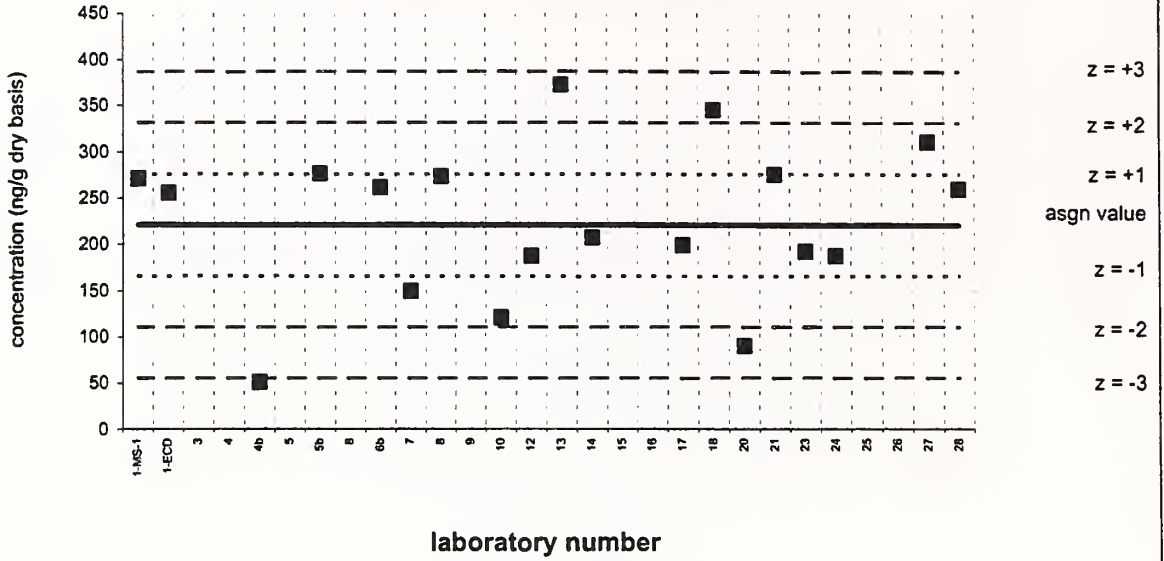


4,4'-DDT

Sediment XI (QA02SED11)

Assigned value = 221 ng/g s = 61 ng/g 95% CL = 38 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 19

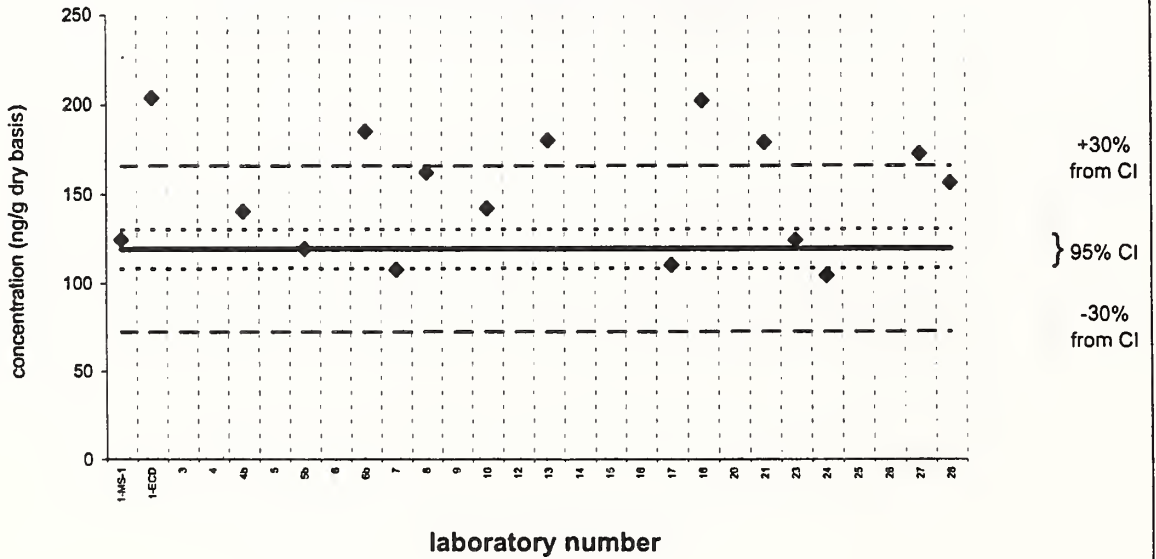


4,4'-DDT

SRM 1944

Certified Value = 119 ± 11 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 16

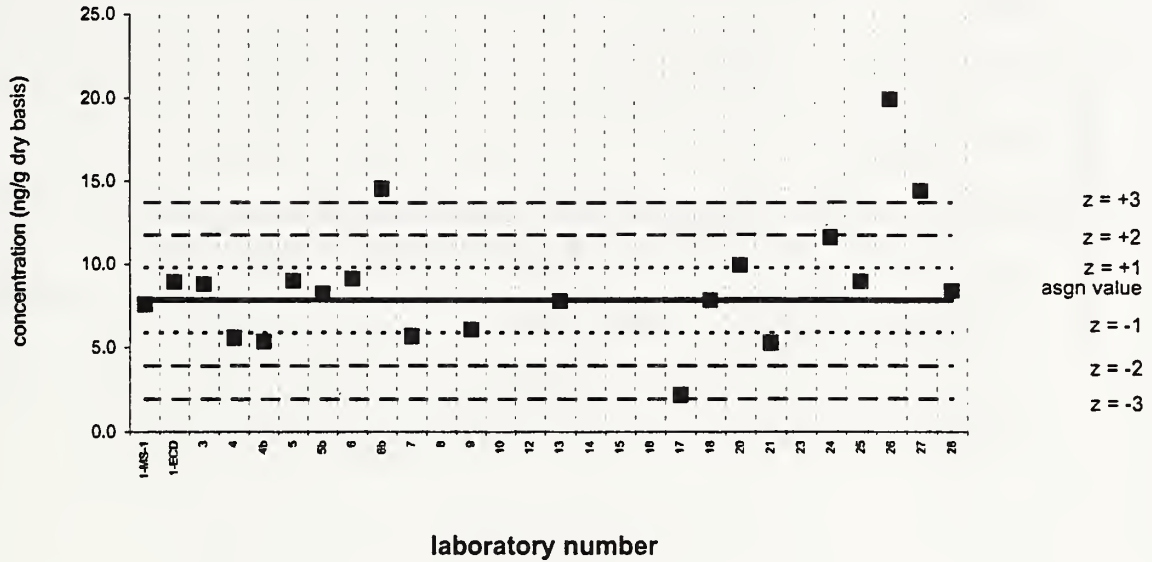


PCB 8

Sediment XI (QA02SED11)

Assigned value = 7.84 ng/g s = 2.69 ng/g 95% CL = 1.34 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 21

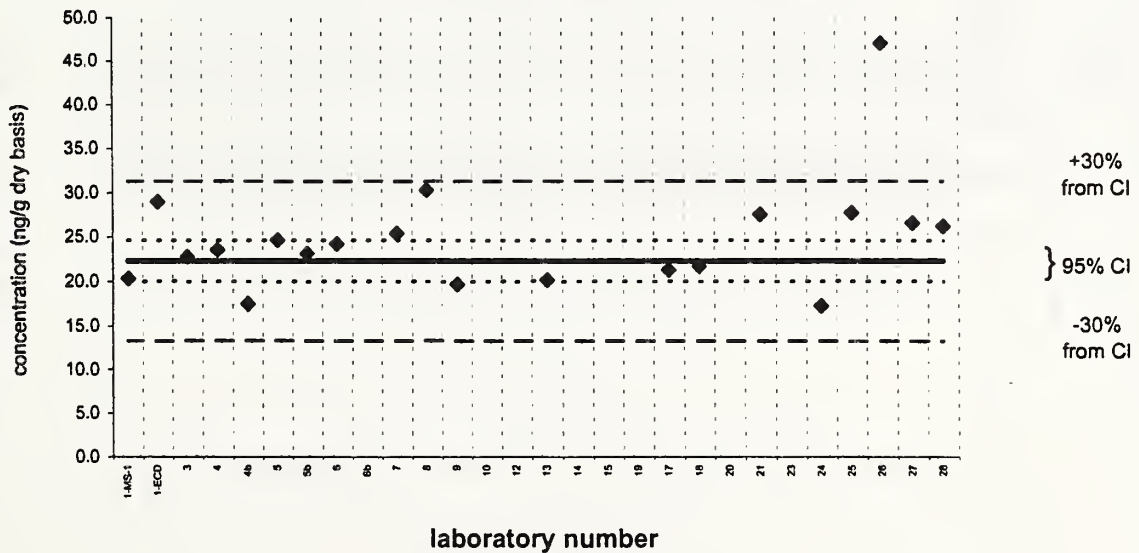


PCB 8

SRM 1944

Certified Value = 22.3 ± 2.3 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 20

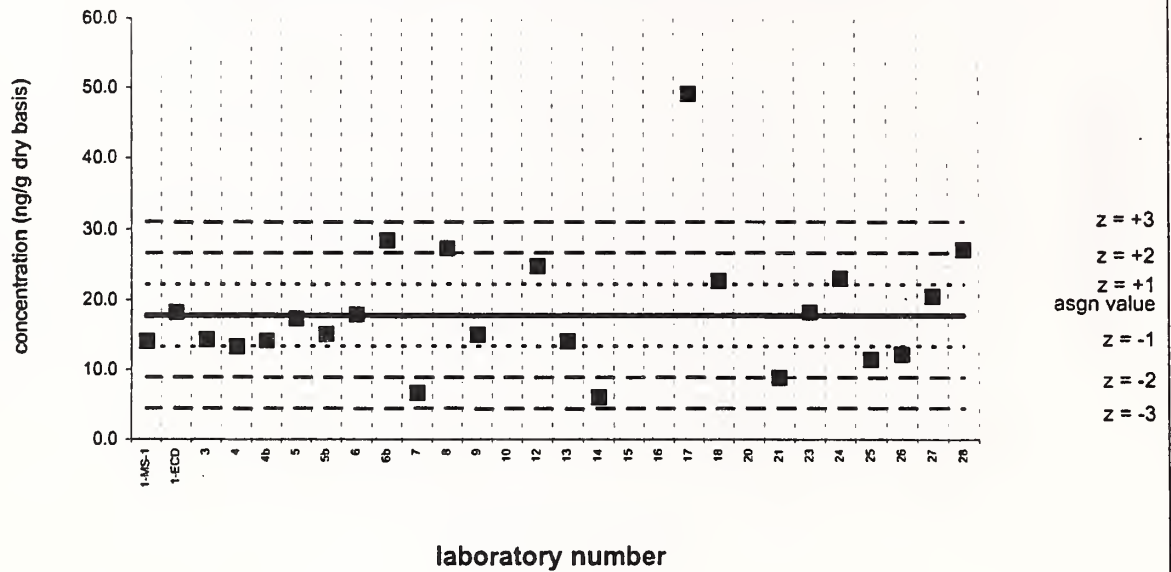


PCB 18

Sediment XI (QA02SED11)

Assigned value = 17.8 ng/g $s = 5.7$ ng/g 95% CL = 2.7 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 24

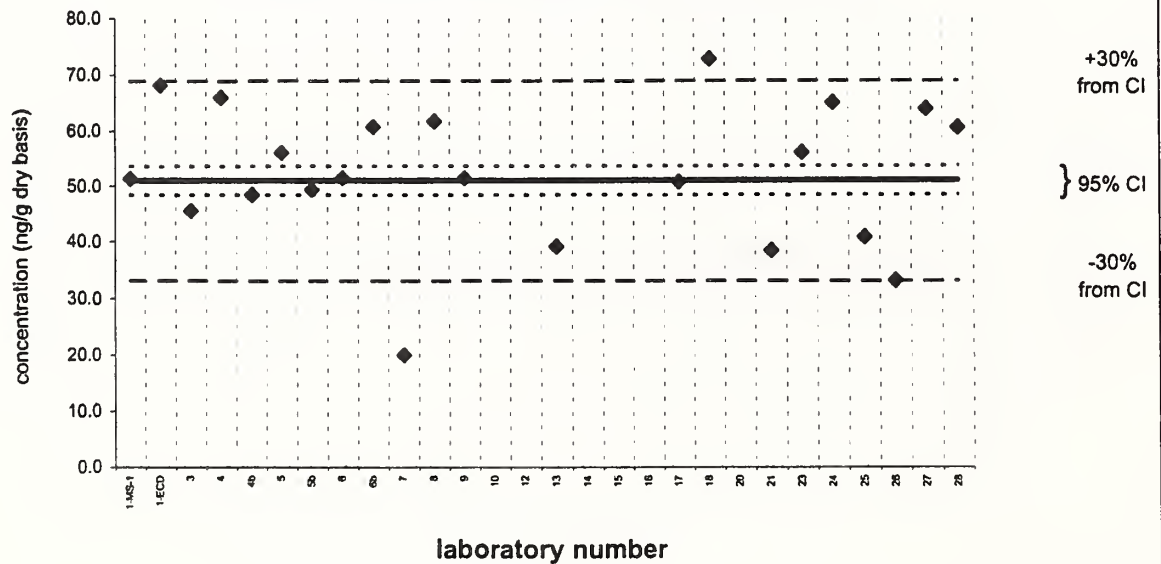


PCB 18

SRM 1944

Certified Value = 51.0 ± 2.6 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

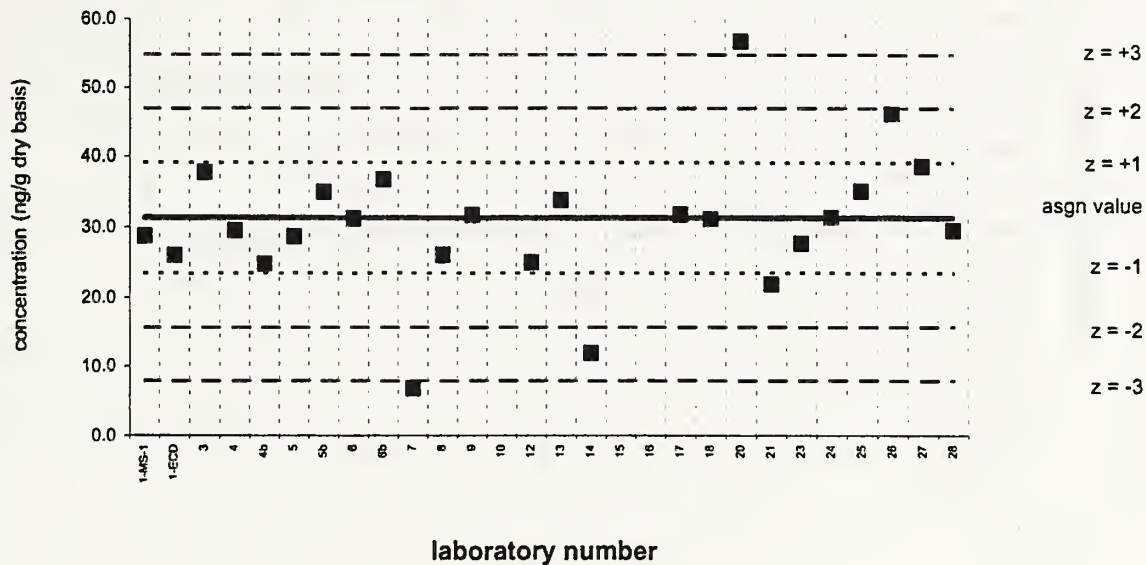


PCB 28

Sediment XI (QA02SED11)

Assigned value = 31.3 ng/g s = 5.5 ng/g 95% CL = 2.4 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

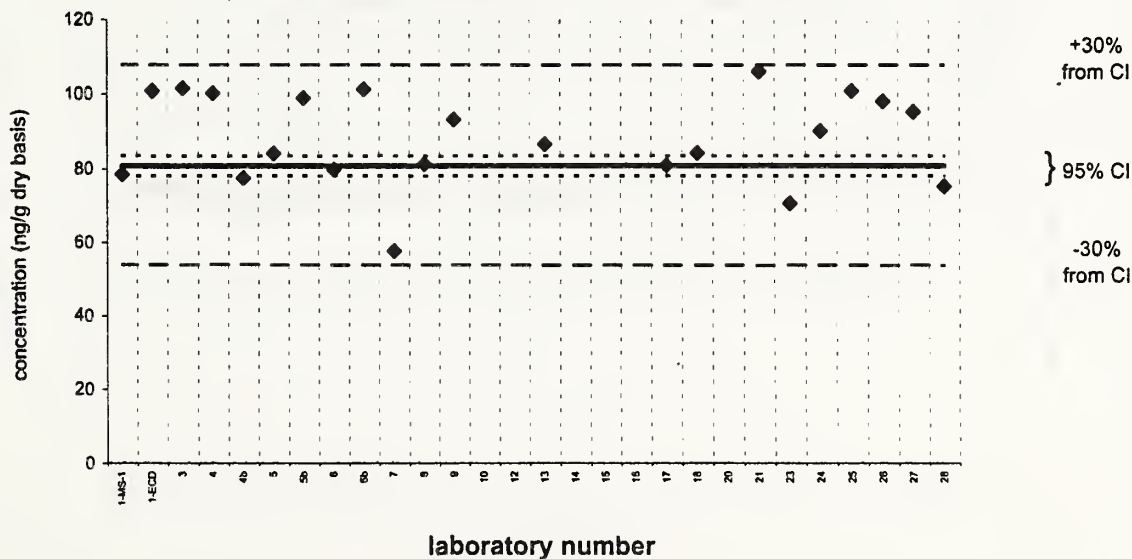


PCB 28

SRM 1944

Certified Value = 80.8 ± 2.7 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

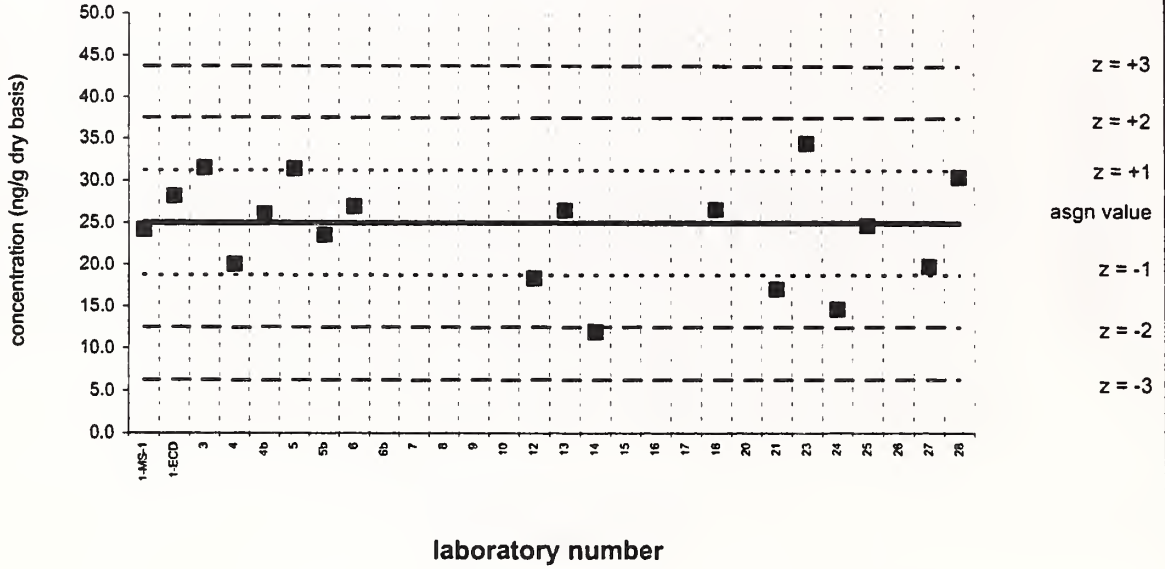


PCB 31

Sediment XI (QA02SED11)

Assigned value = 25.0 ng/g $s = 5.6$ ng/g 95% CL = 2.9 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 18

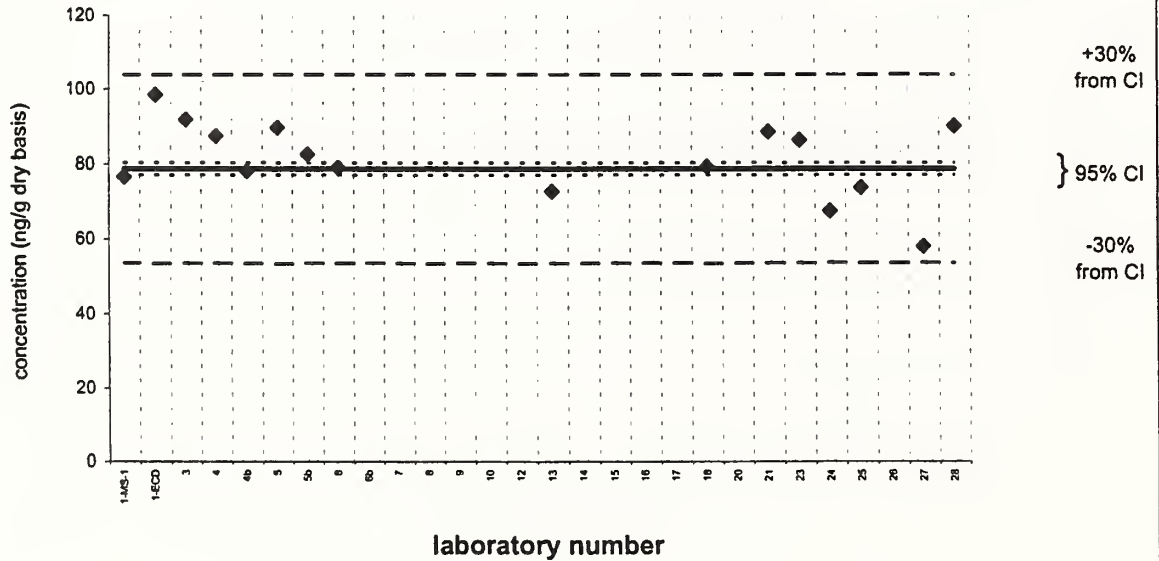


PCB 31

SRM 1944

Certified Value = 78.7 ± 1.6 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 16

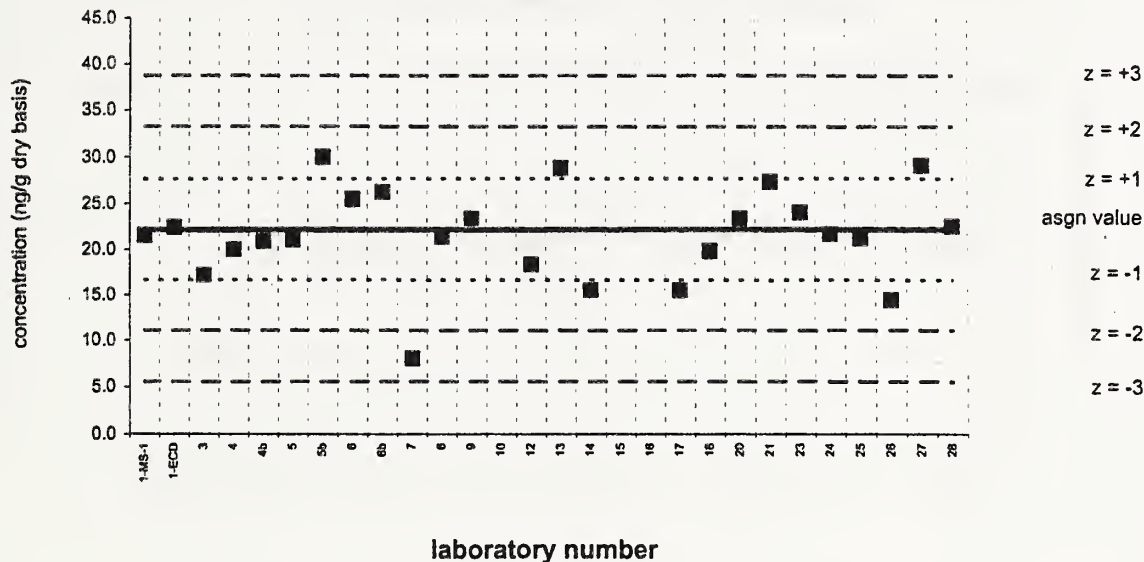


PCB 44

Sediment XI (QA02SED11)

Assigned value = 22.1 ng/g s = 4.2 ng/g 95% CL = 1.9 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

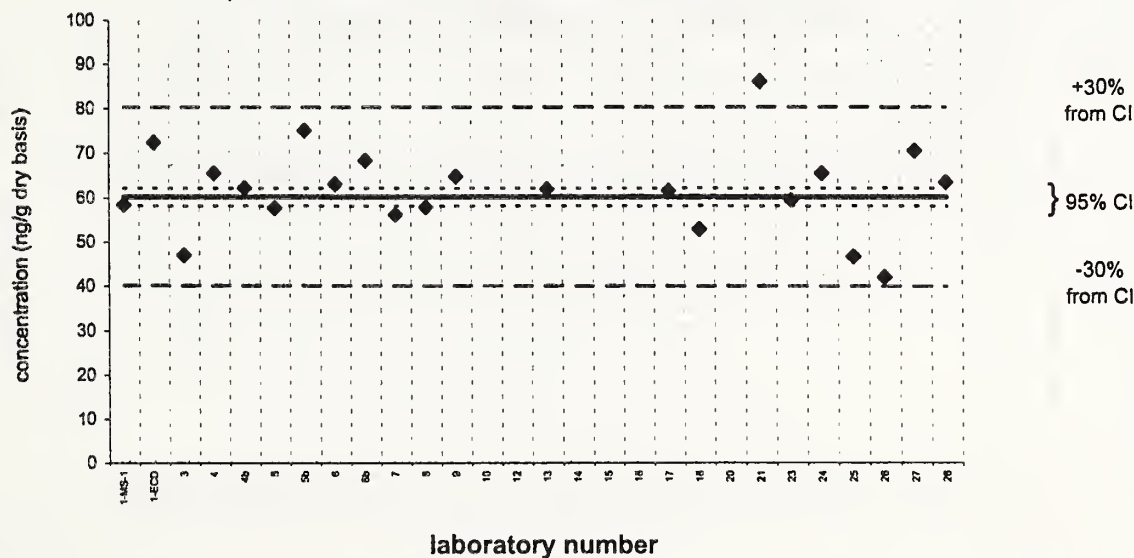


PCB 44

SRM 1944

Certified Value = 60.2 ± 2.0 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

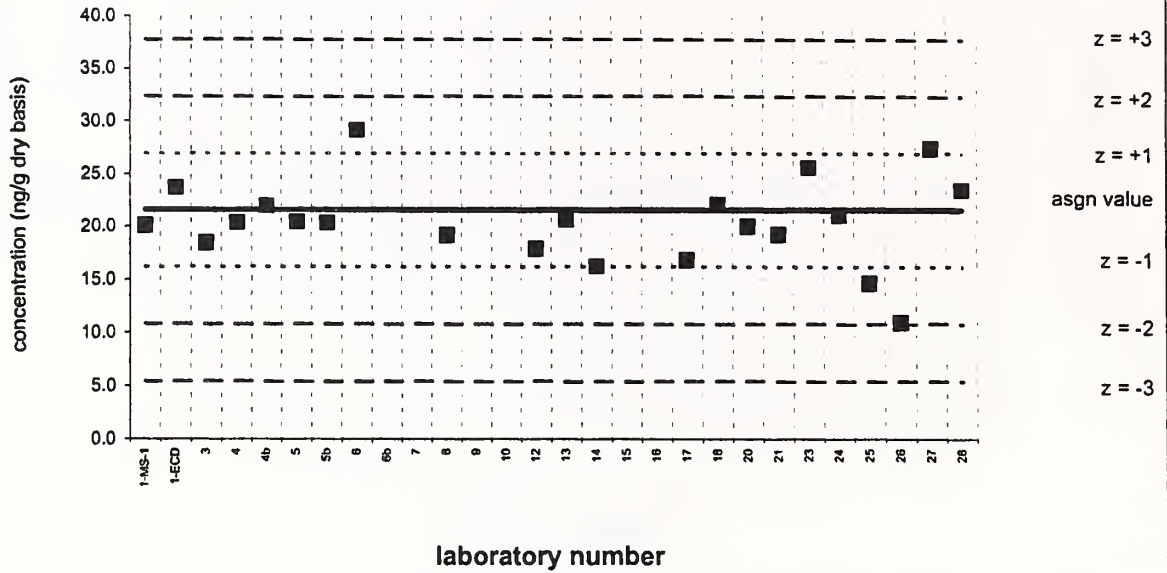


PCB 49

Sediment XI (QA02SED11)

Assigned value = 21.6 ng/g s = 3.3 ng/g 95% CL = 1.6 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

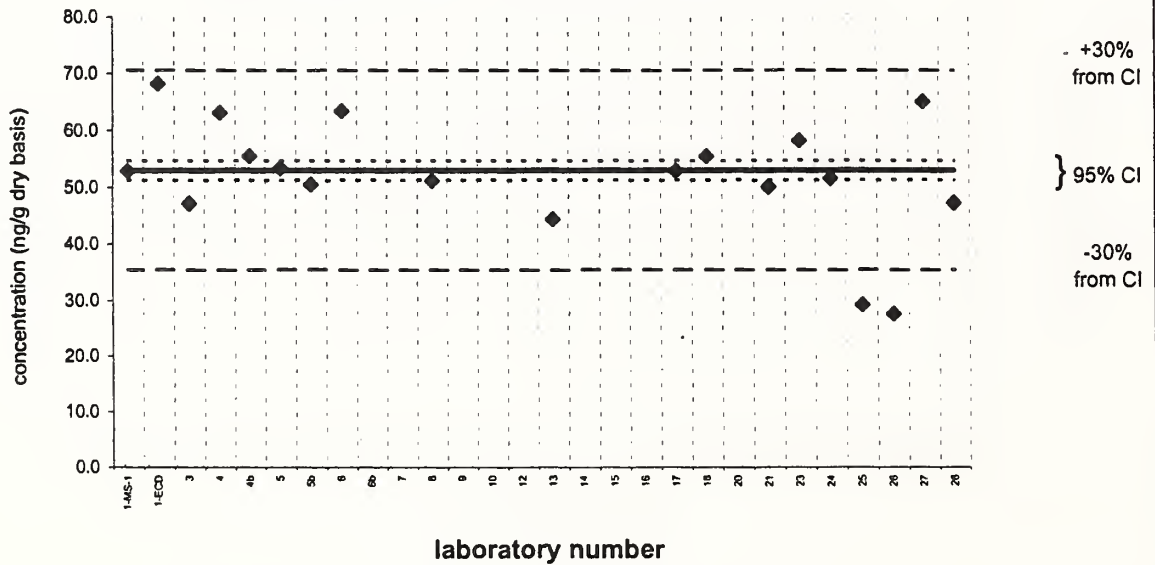


PCB 49

SRM 1944

Certified Value = 53.0 ± 1.7 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 19

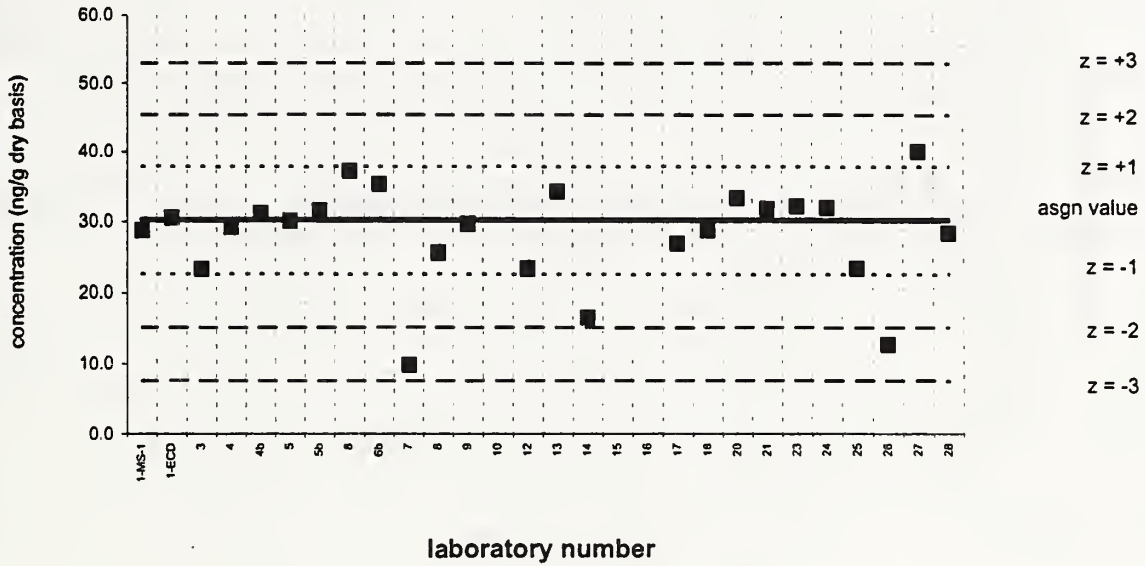


PCB 52

Sediment XI (QA02SED11)

Assigned value = 30.2 ng/g s = 4.6 ng/g 95% CL = 2.1 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

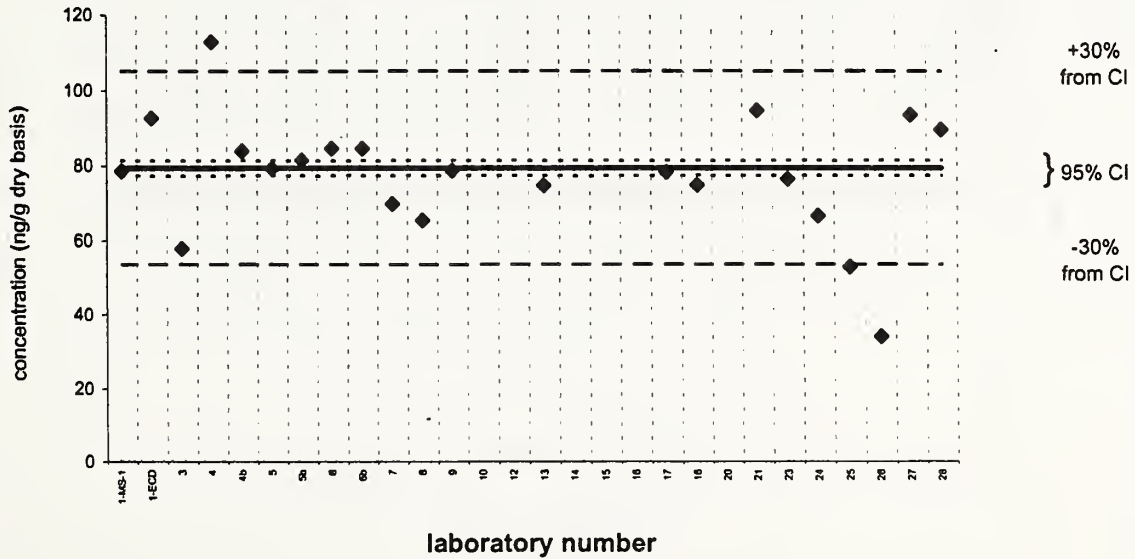


PCB 52

SRM 1944

Certified Value = 79.4 ± 2.0 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

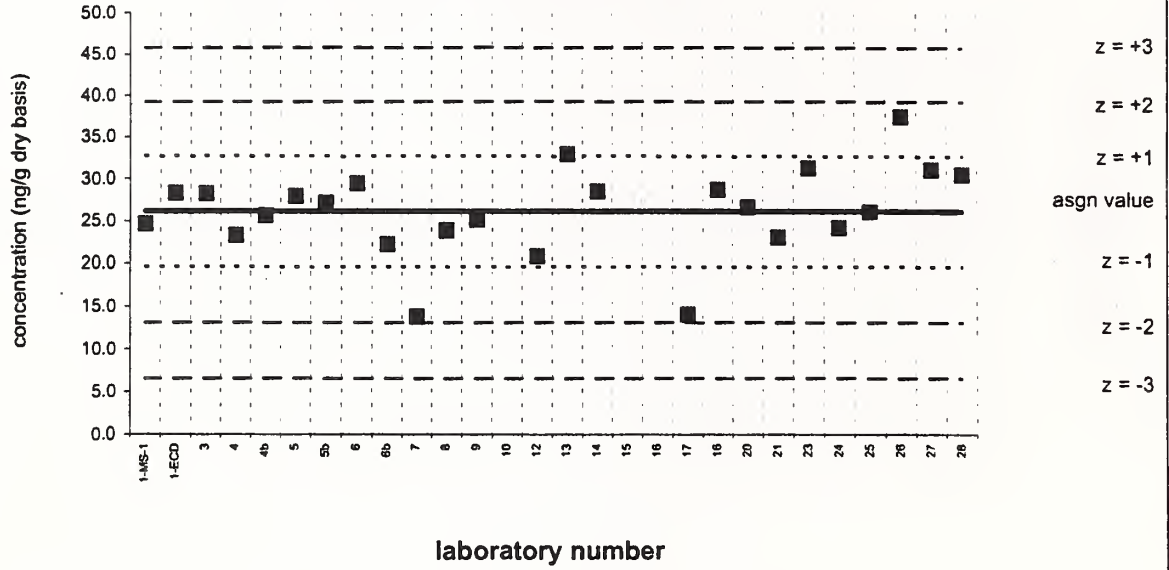


PCB 66

Sediment XI (QA02SED11)

Assigned value = 26.2 ng/g s = 4.3 ng/g 95% CL = 2.0 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

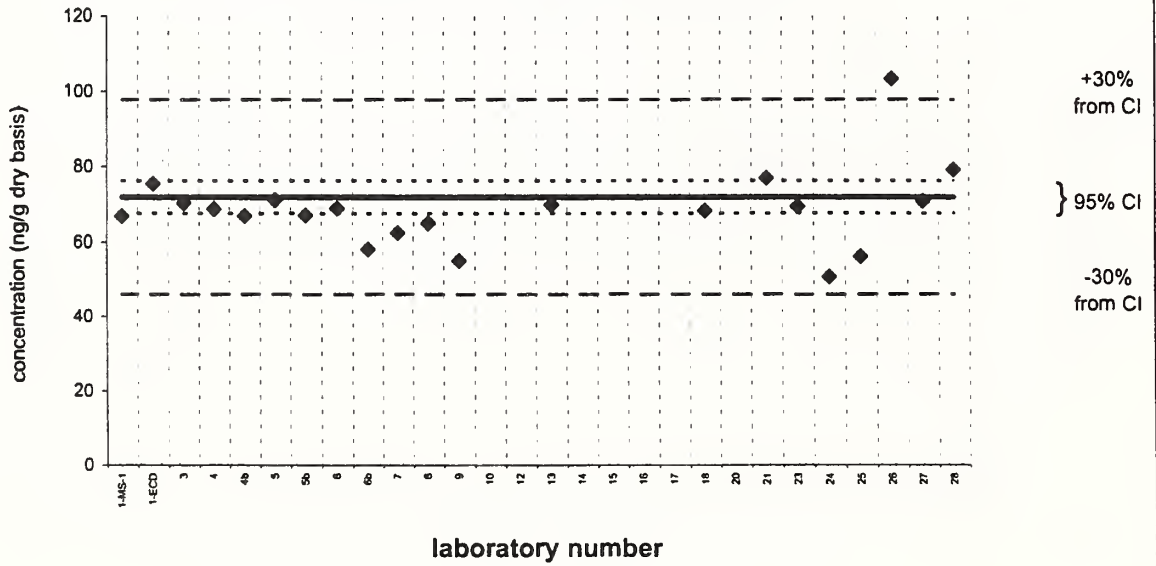


PCB 66

SRM 1944

Certified Value = 71.9 ± 4.3 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 21

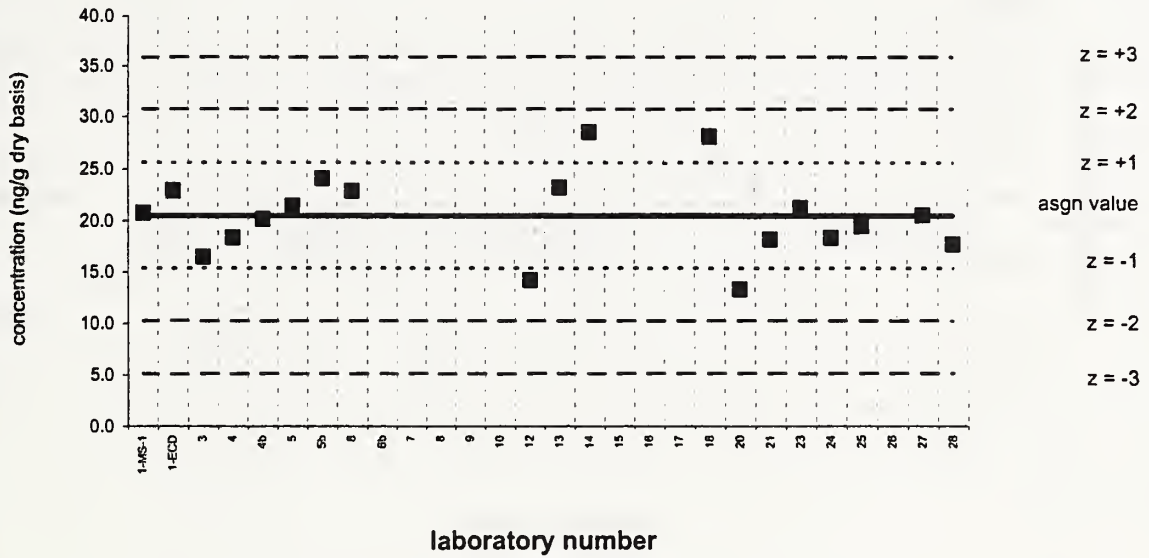


PCB 95

Sediment XI (QA02SED11)

Assigned value = 20.5 ng/g s = 3.3 ng/g 95% CL = 1.7 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 19

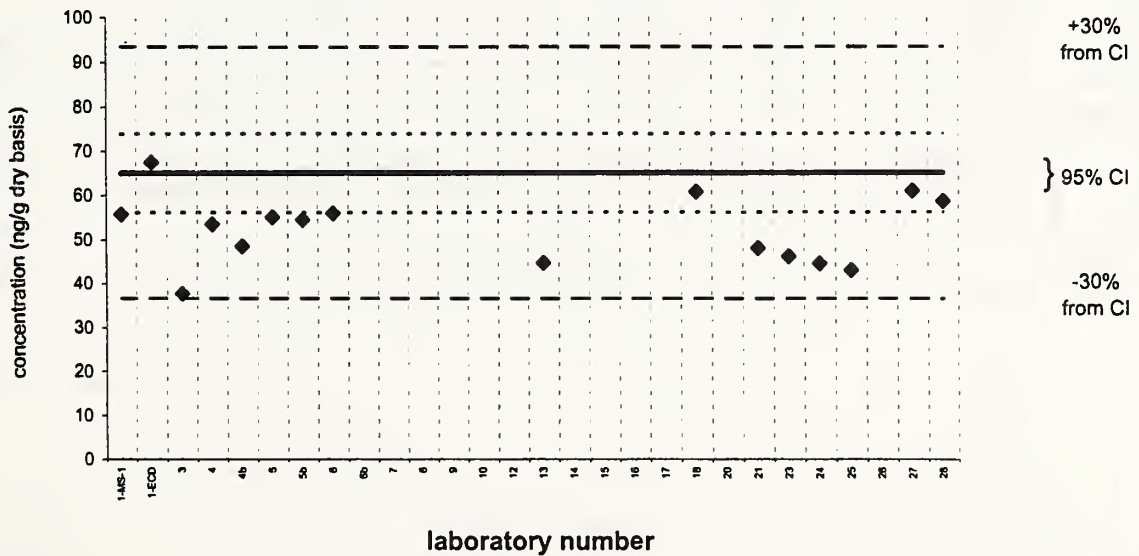


PCB 95

SRM 1944

Certified Value = 65.0 ± 8.9 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 16

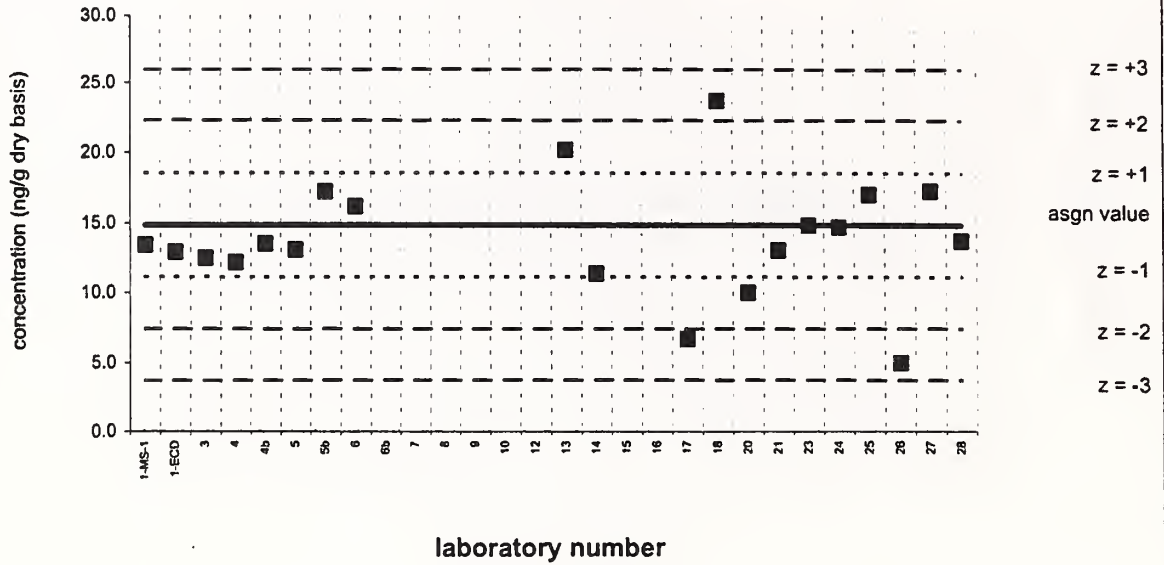


PCB 99

Sediment XI (QA02SED11)

Assigned value = 14.8 ng/g s = 3.7 ng/g 95% CL = 1.9 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20

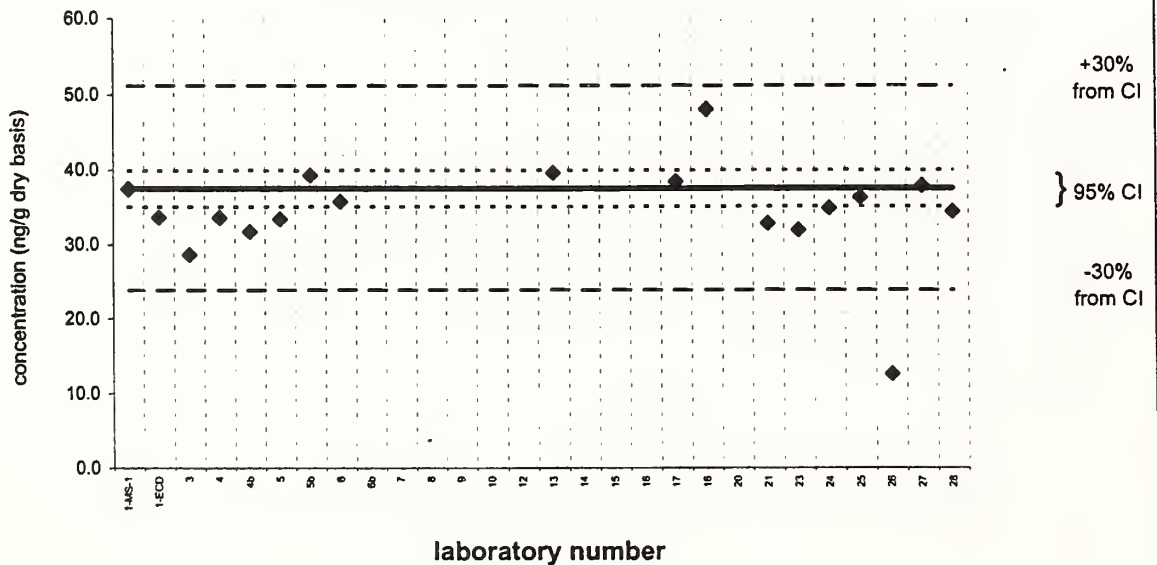


PCB 99

SRM 1944

Certified Value = 37.5 ± 2.4 ng/g (dry basis)

Reported Results: 17 Quantitative Results: 18

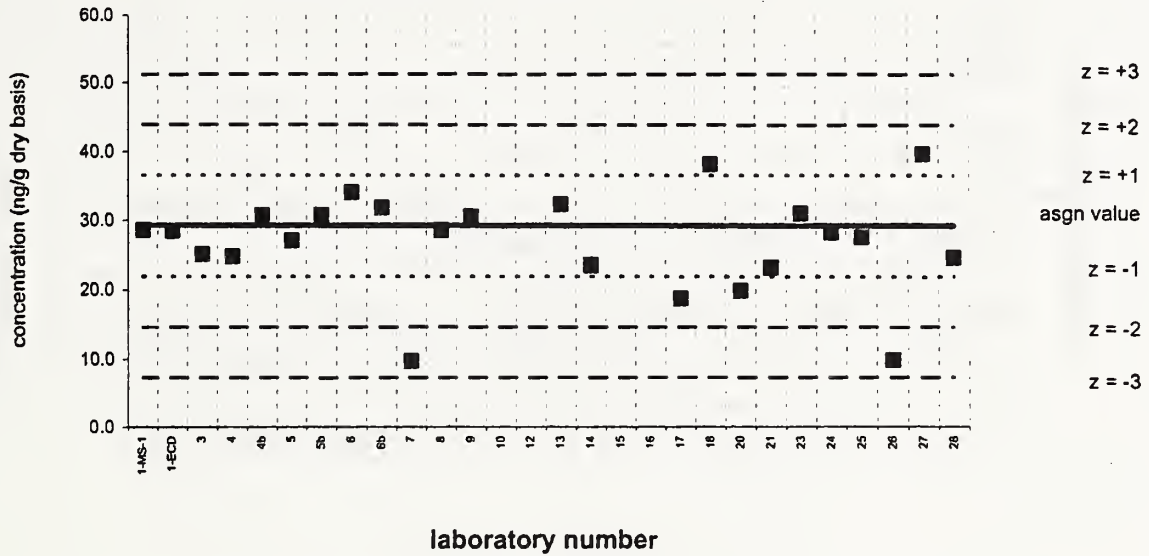


PCB 101

Sediment XI (QA02SED11)

Assigned value = 29.2 ng/g s = 4.9 ng/g 95% CL = 2.3 ng/g (dry basis)

Reported Results: 24 Quantitative Results: 24

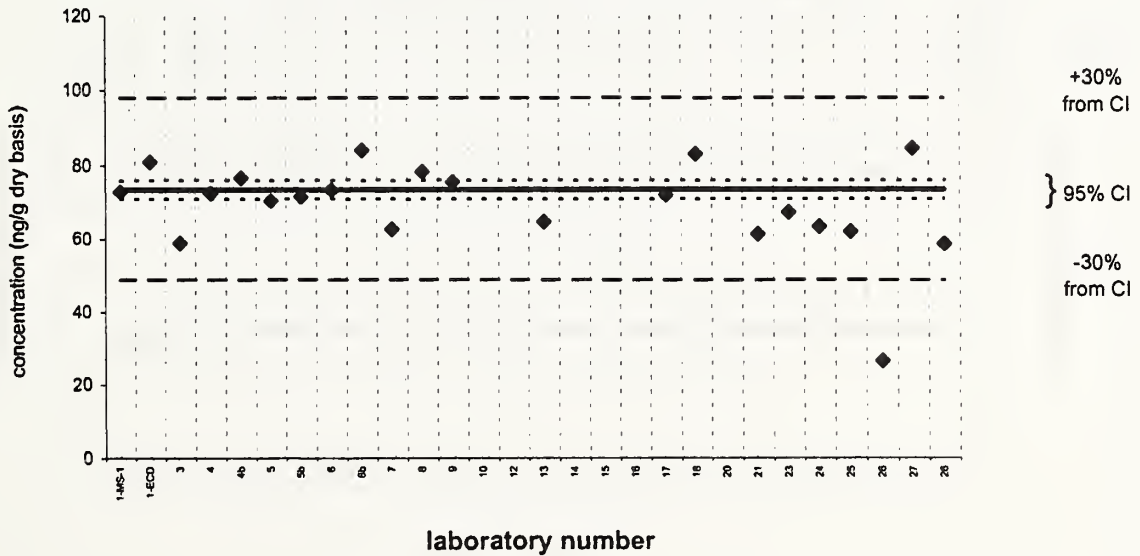


PCB 101

SRM 1944

Certified Value = 73.4 ± 2.5 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

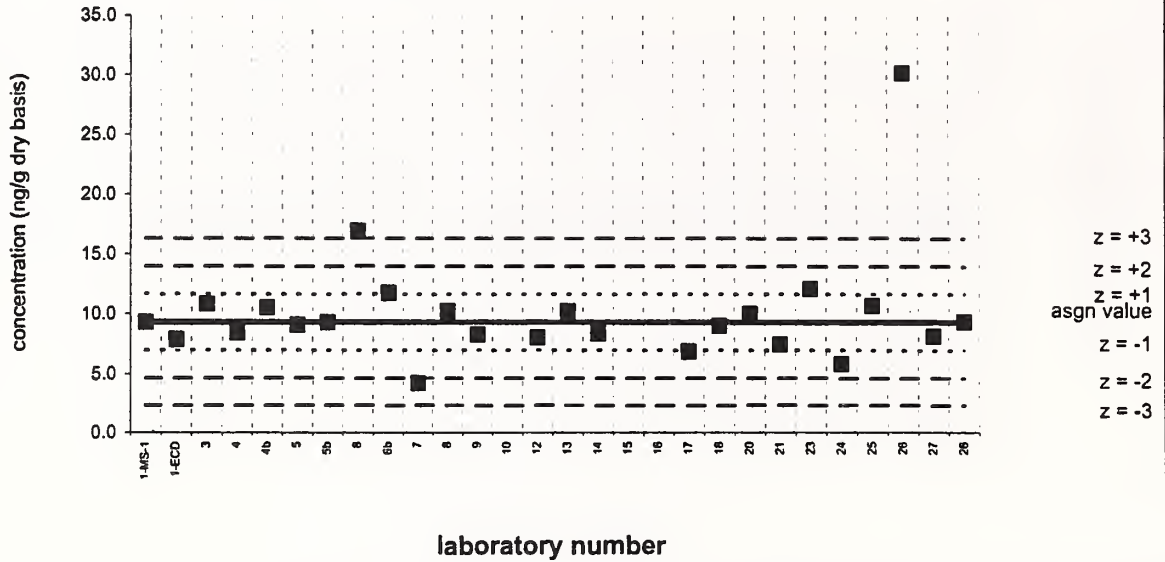


PCB 105

Sediment XI (QA02SED11)

Assigned value = 9.31 ng/g s = 2.50 ng/g 95% CL = 1.11 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

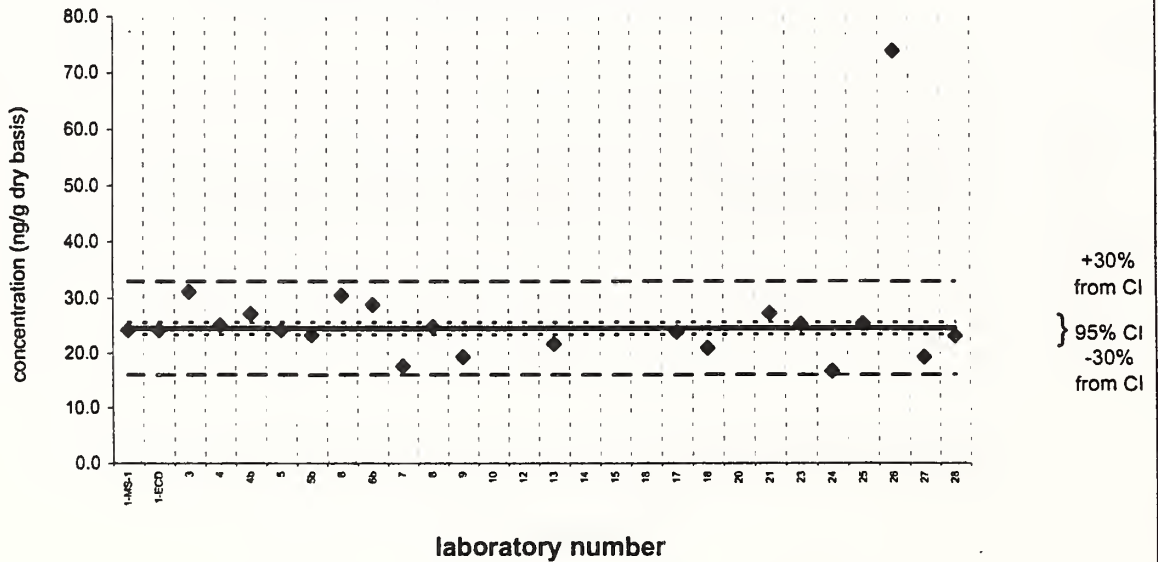


PCB 105

SRM 1944

Certified Value = 24.5 ± 1.1 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

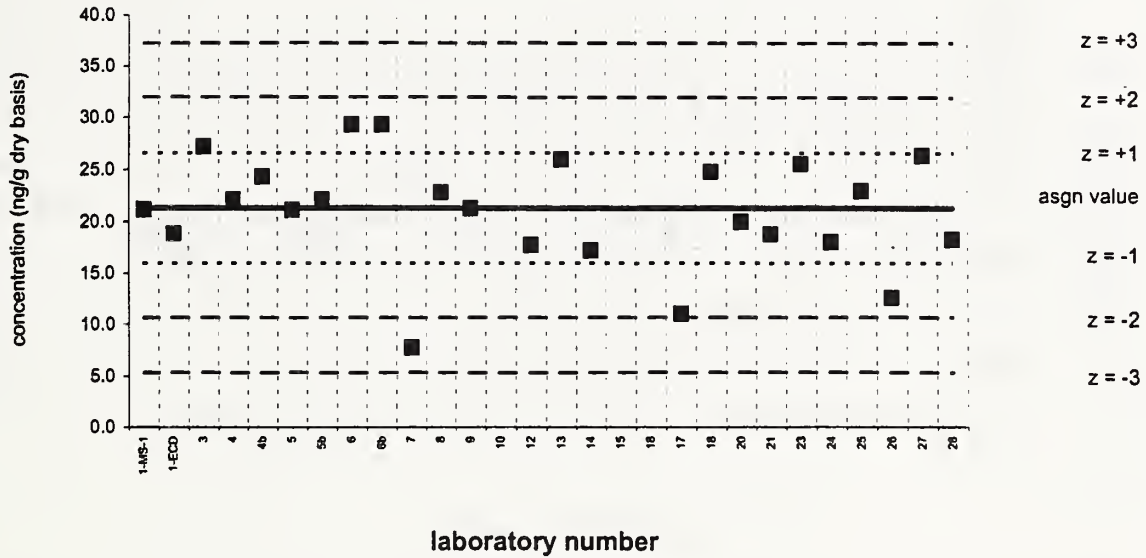


PCB 118

Sediment XI (QA02SED11)

Assigned value = 21.3 ng/g s = 5.5 ng/g 95% CL = 2.4 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

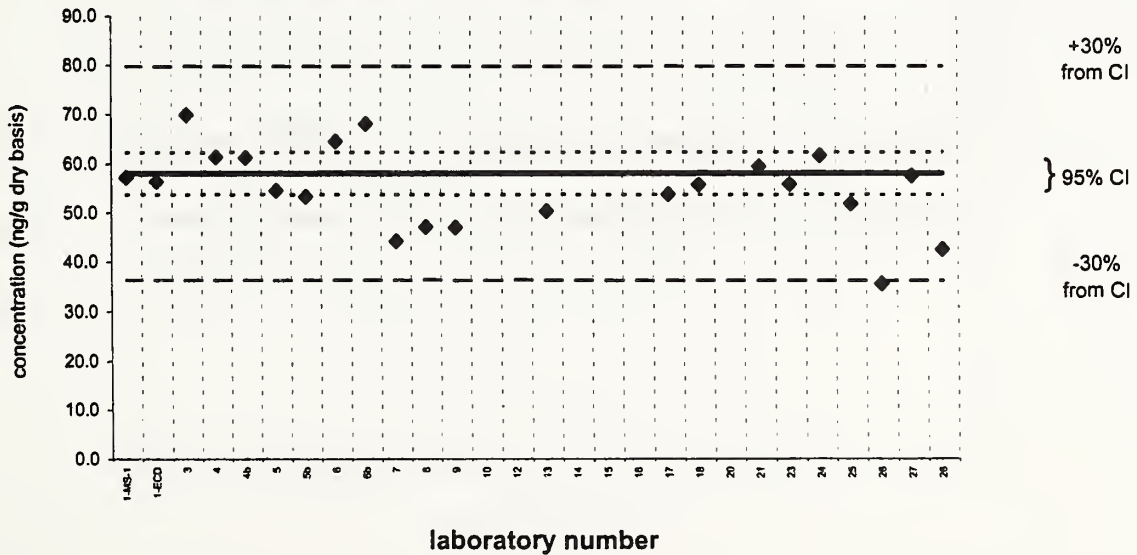


PCB 118

SRM 1944

Certified Value = 58.0 ± 4.3 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

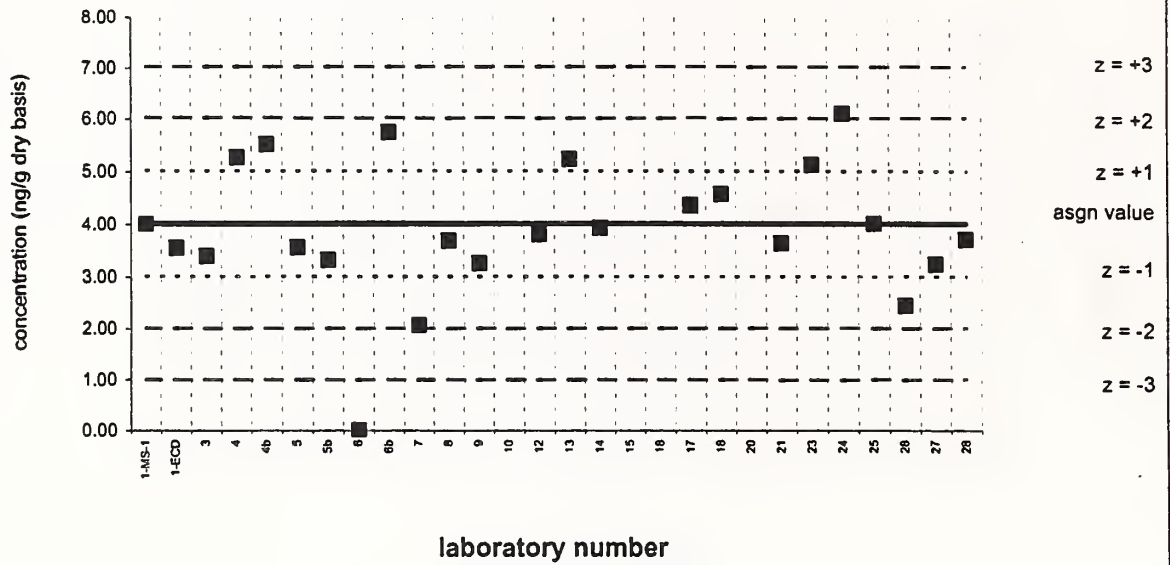


PCB 128

Sediment XI (QA02SED11)

Assigned value = 4.02 ng/g $s = 1.03$ ng/g 95% CL = 0.47 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 23

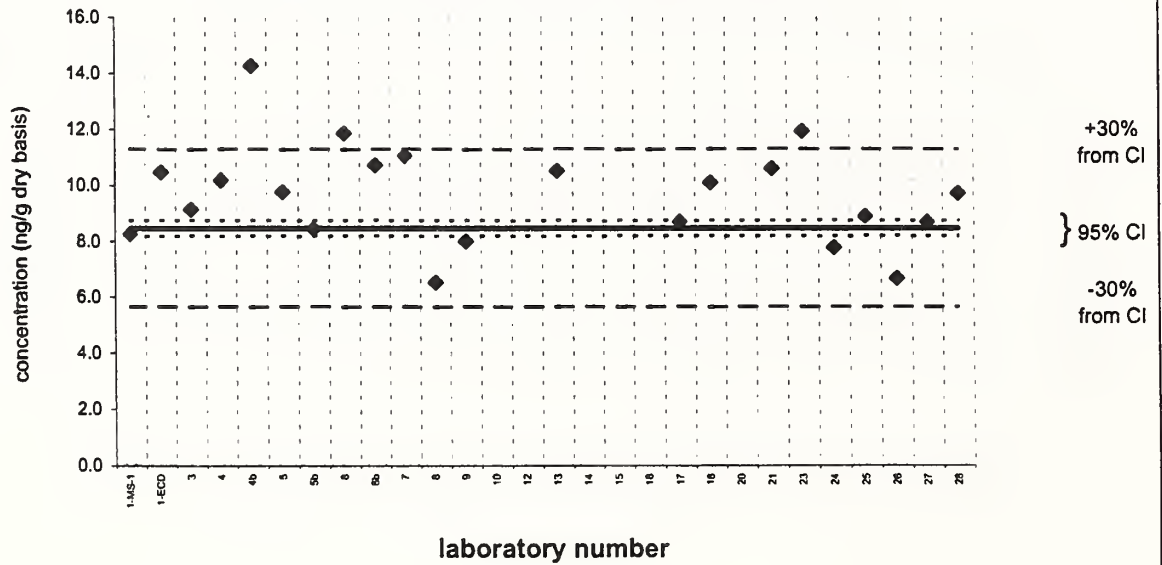


PCB 128

SRM 1944

Certified Value = 8.47 ± 0.28 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

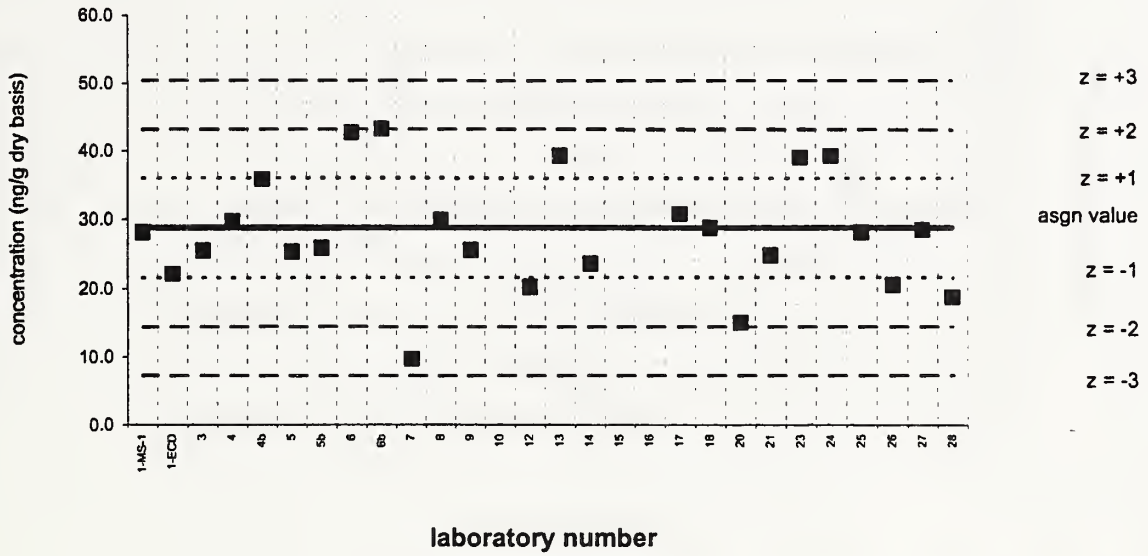


PCB 138

Sediment XI (QA02SED11)

Assigned value = 28.8 ng/g $s = 8.2$ ng/g 95% CL = 3.6 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

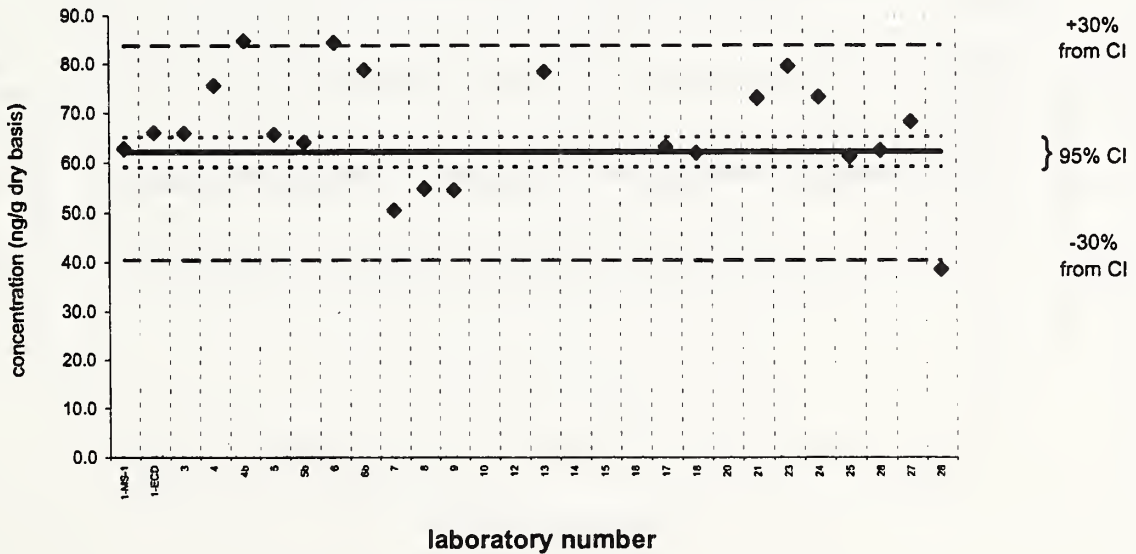


PCB 138

SRM 1944

Certified Value = 62.1 ± 3.0 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

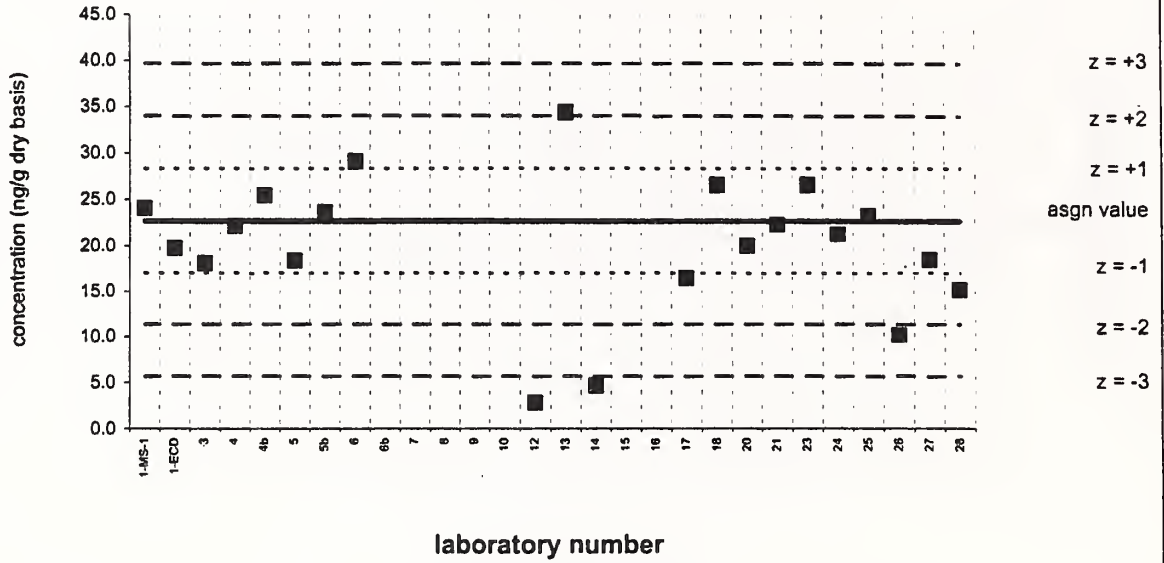


PCB 149

Sediment XI (QA02SED11)

Assigned value = 22.7 ng/g s = 4.9 ng/g 95% CL = 2.5 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 21

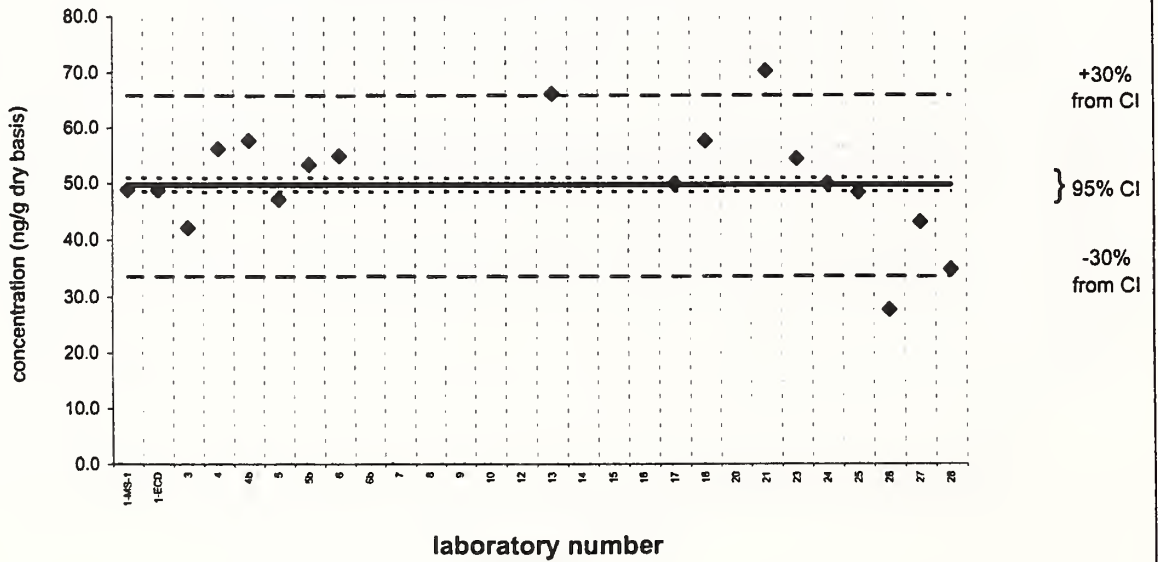


PCB 149

SRM 1944

Certified Value = 49.7 ± 1.2 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 18

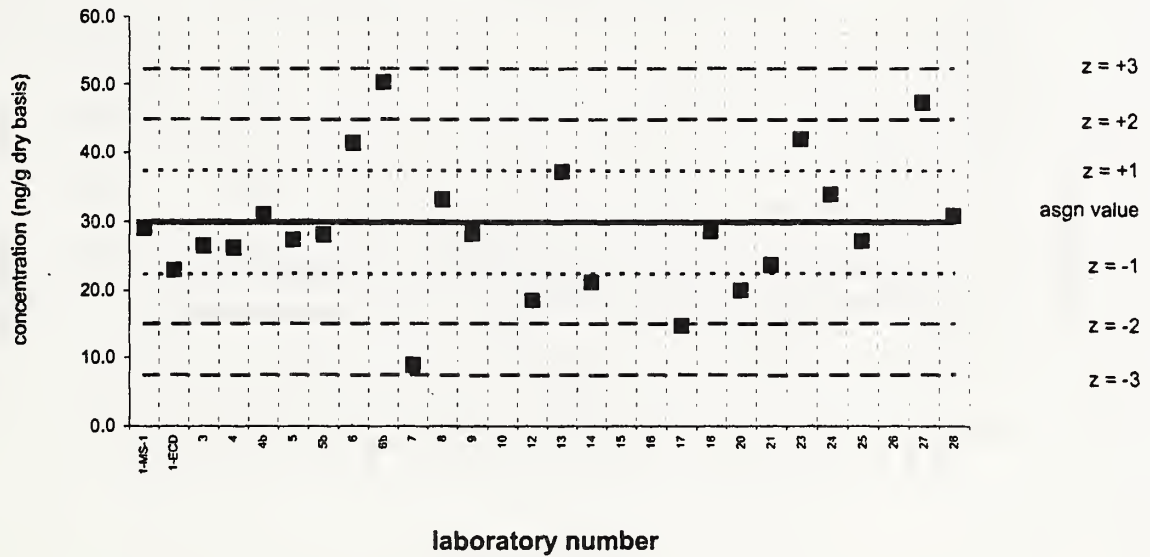


PCB 153

Sediment XI (QA02SED11)

Assigned value = 29.9 ng/g s = 9.8 ng/g 95% CL = 4.4 ng/g (dry basis)

Reported Results: 24 Quantitative Results: 24

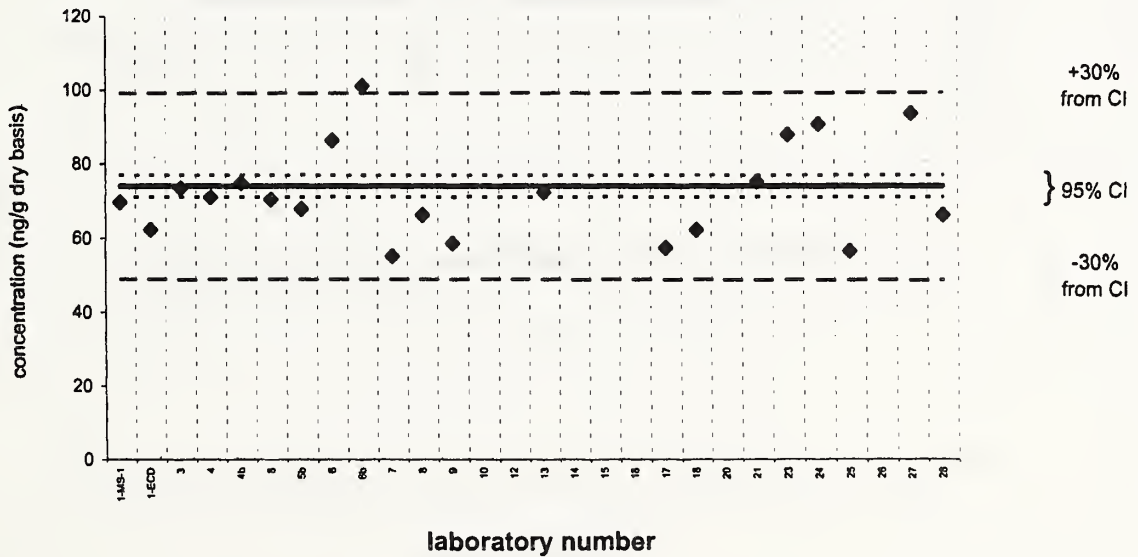


PCB 153

SRM 1944

Certified Value = 74.0 ± 2.9 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 21

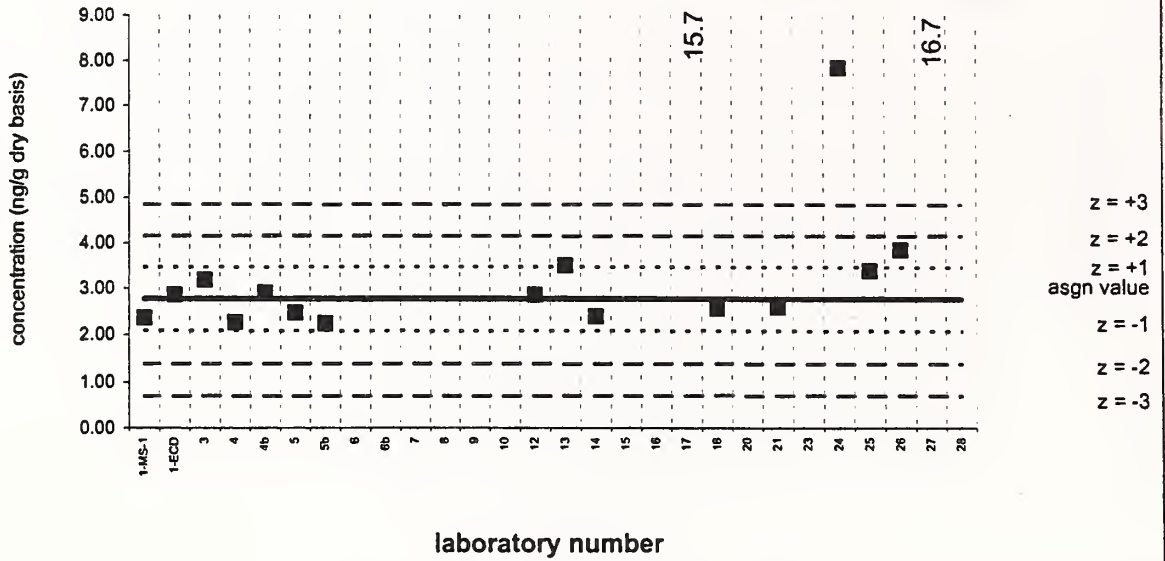


PCB 156

Sediment XI (QA02SED11)

Assigned value = 2.77 ng/g $s = 0.42$ ng/g 95% CL = 0.27 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 17

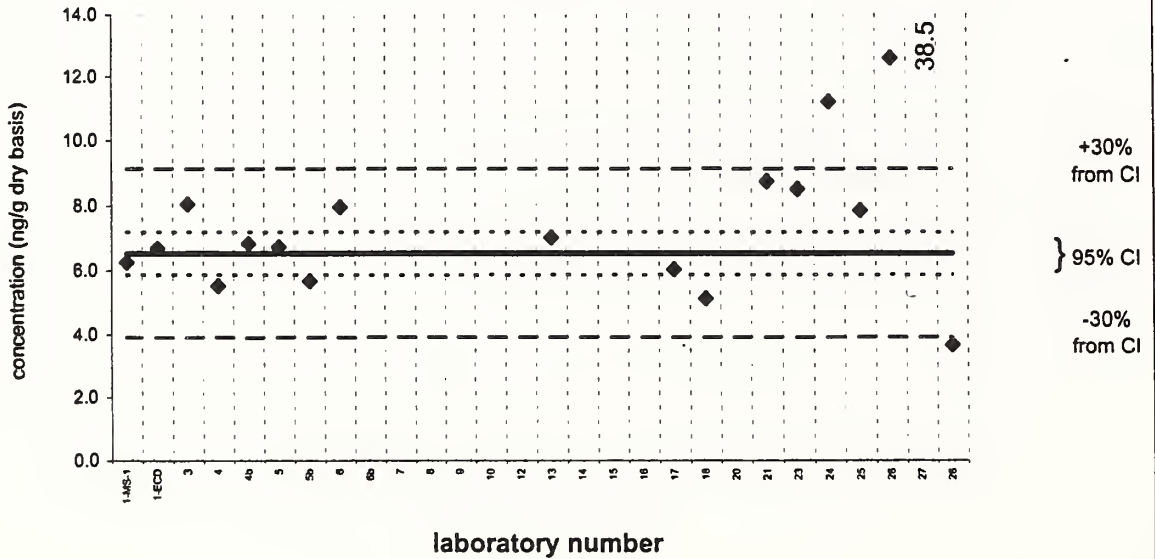


PCB 156

SRM 1944

Certified Value = 6.52 ± 0.66 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 18

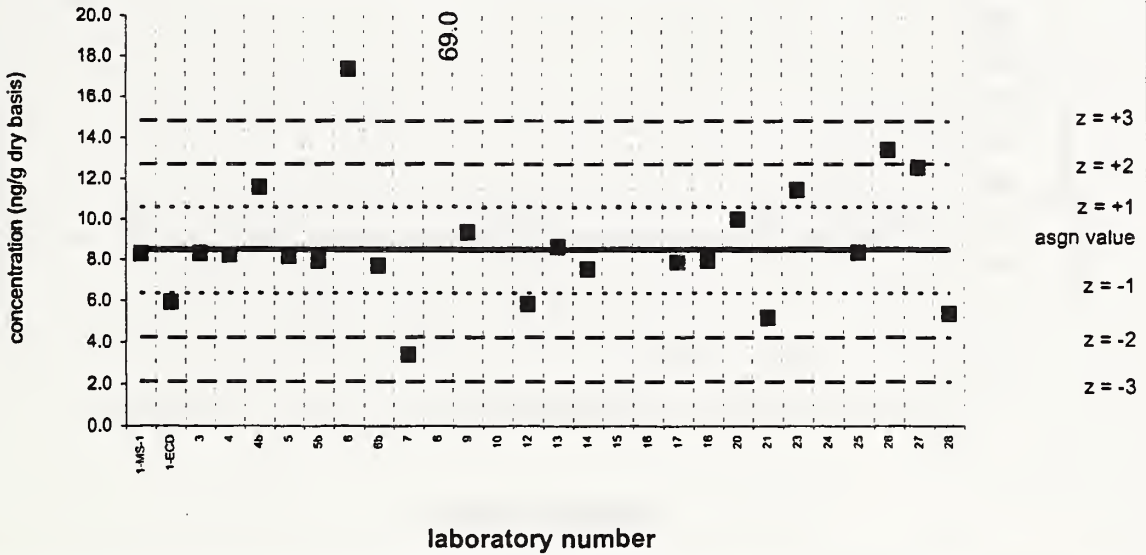


PCB 170

Sediment XI (QA02SED11)

Assigned value = 8.47 ng/g $s = 3.05$ ng/g 95% CL = 1.43 ng/g (dry basis)

Reported Results: 24 Quantitative Results: 24

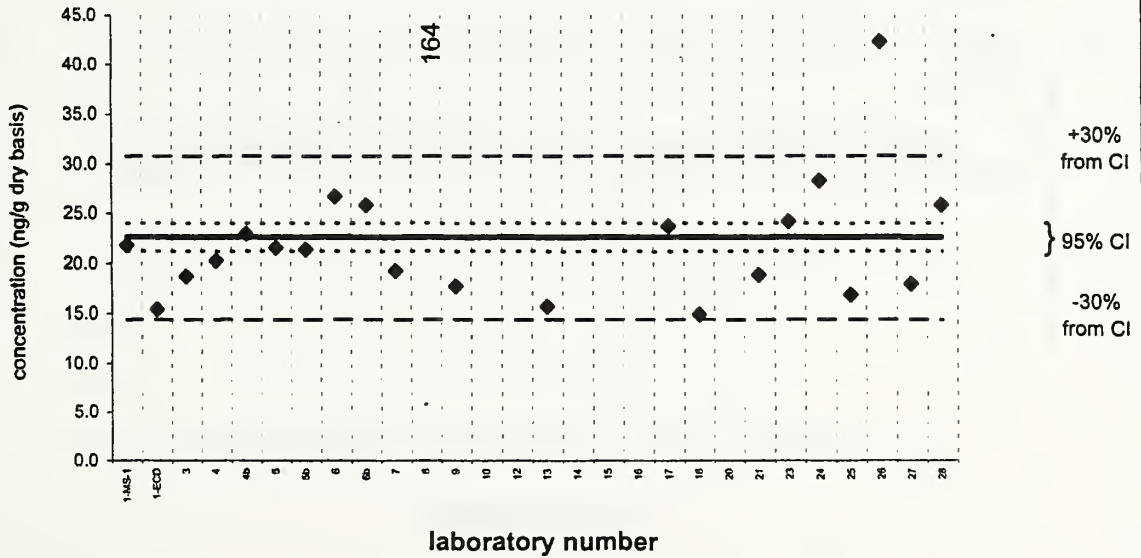


PCB 170

SRM 1944

Certified Value = 22.6 ± 1.4 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

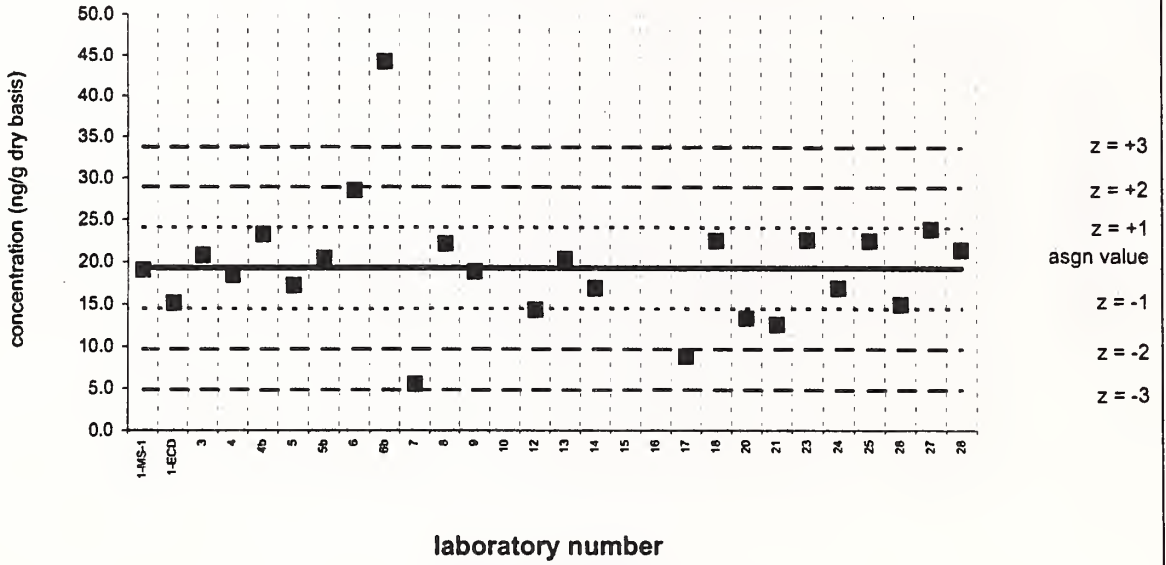


PCB 180

Sediment XI (QA02SED11)

Assigned value = 19.3 ng/g $s = 4.5$ ng/g 95% CL = 2.0 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

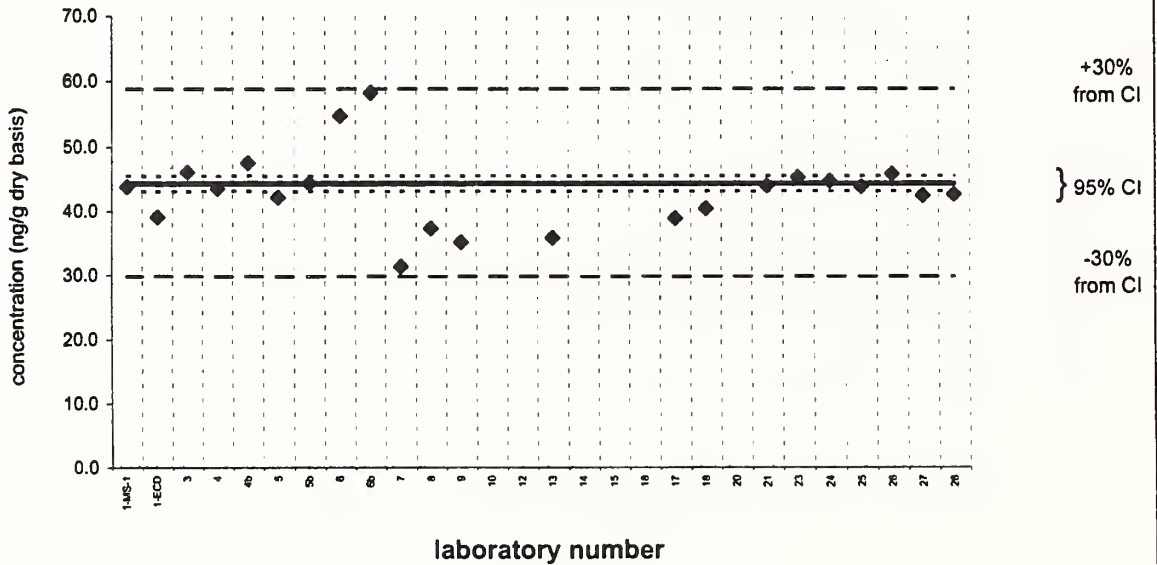


PCB 180

SRM 1944

Certified Value = 44.3 ± 1.2 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

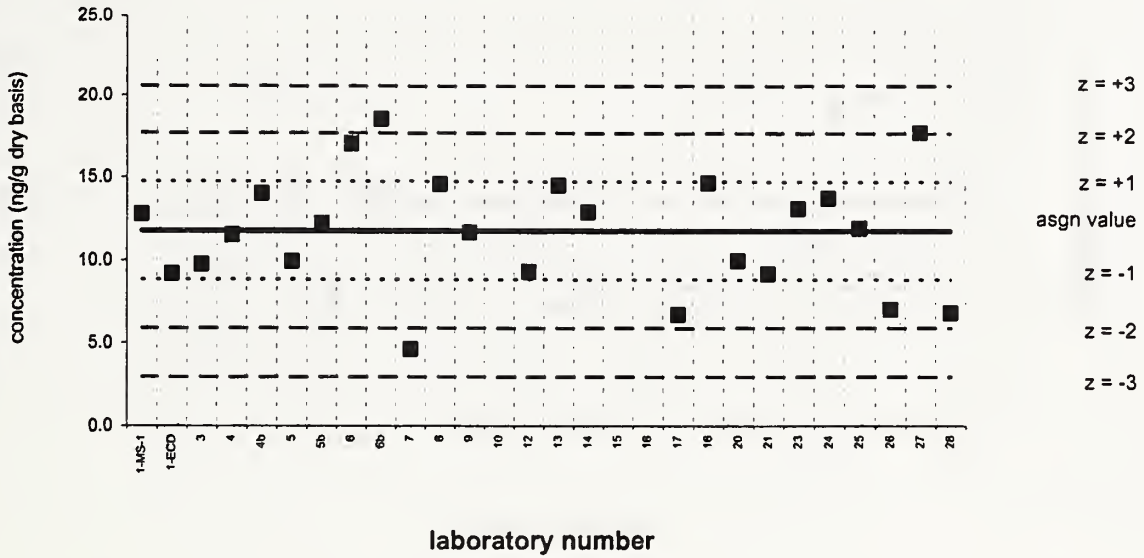


PCB 187

Sediment XI (QA02SED11)

Assigned value = 11.8 ng/g s = 3.7 ng/g 95% CL = 1.6 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 25

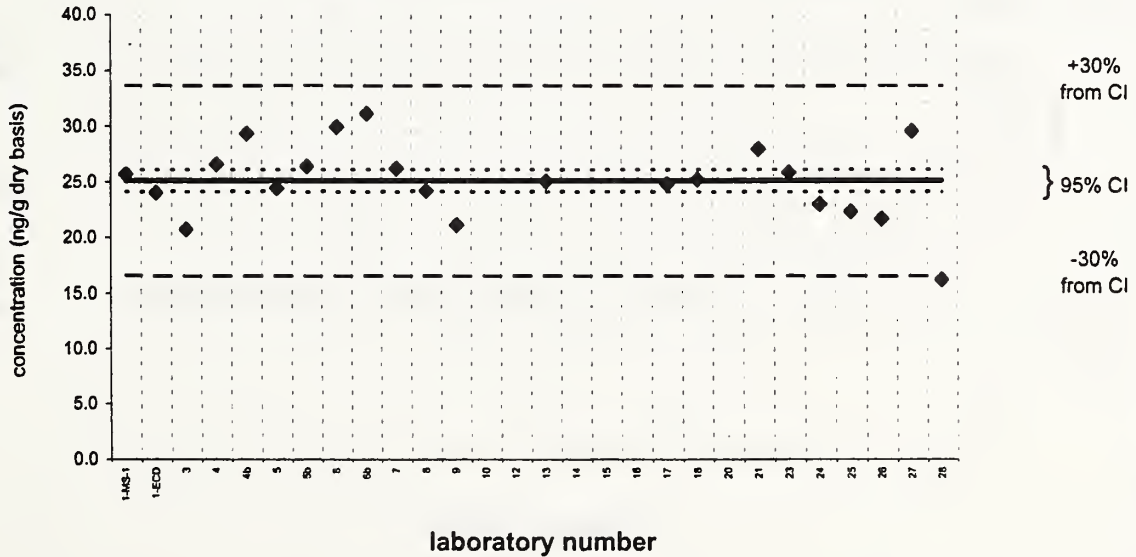


PCB 187

SRM 1944

Certified Value = 25.1 ± 1.0 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

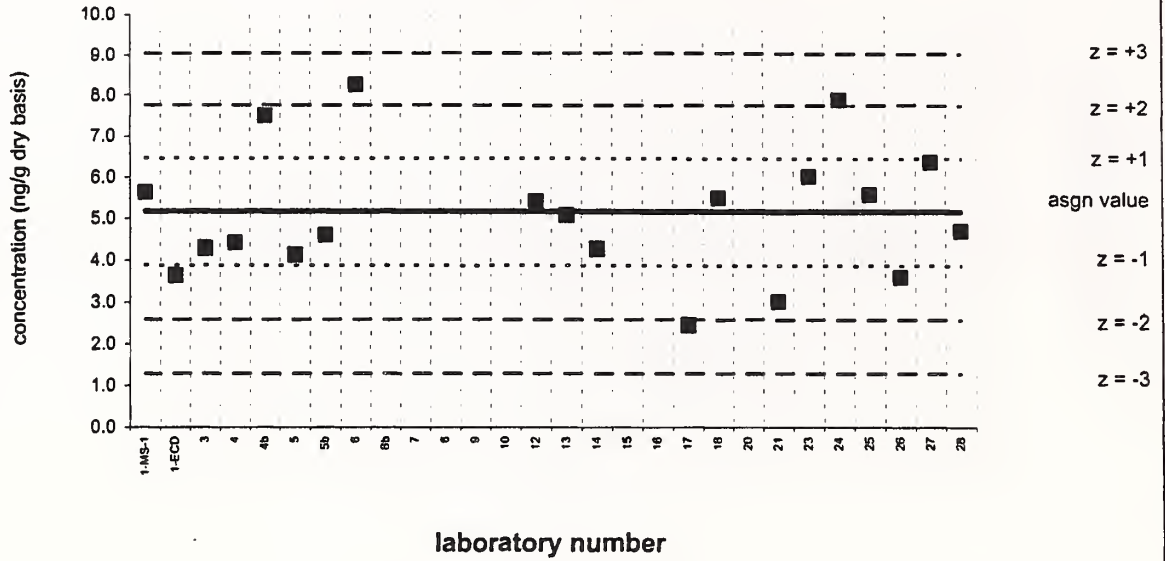


PCB 194

Sediment XI (QA02SED11)

Assigned value = 5.17 ng/g $s = 1.58$ ng/g 95% CL = 0.76 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 20

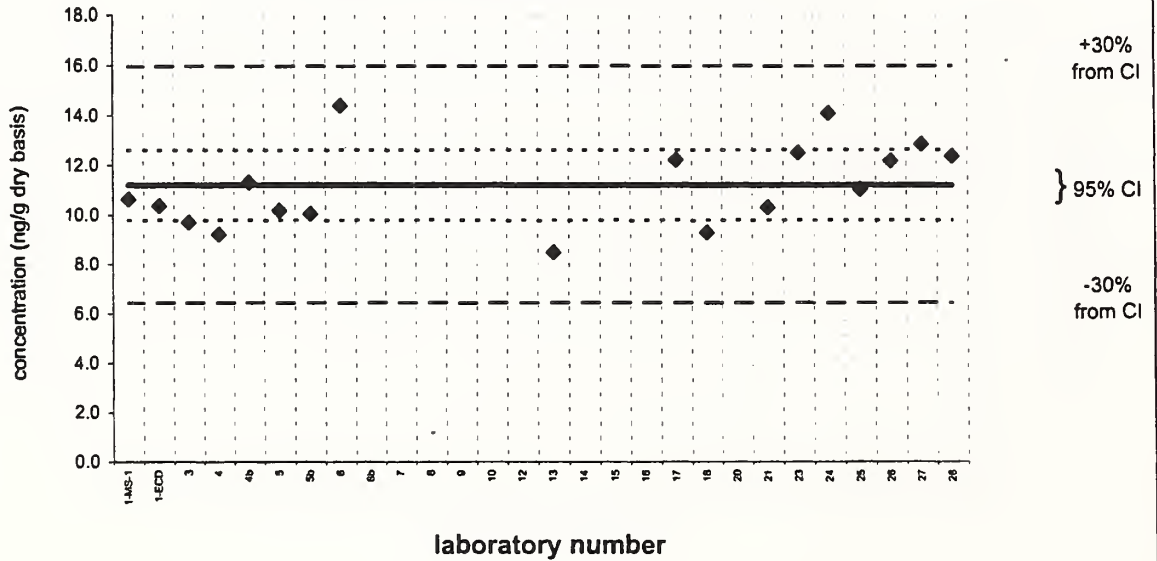


PCB 194

SRM 1944

Certified Value = 11.2 ± 1.4 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 18

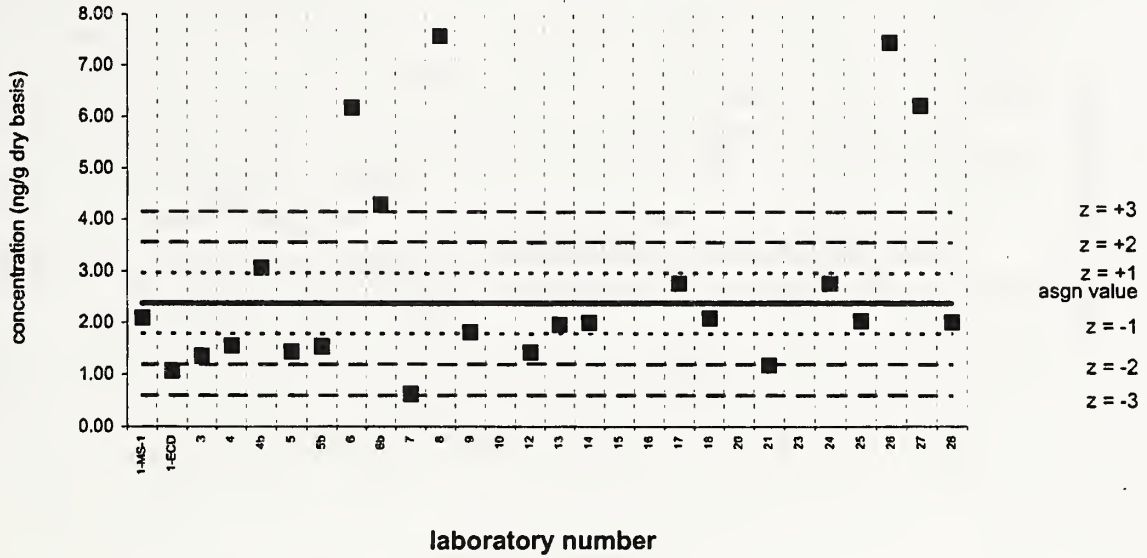


PCB 195

Sediment XI (QA02SED11)

Assigned value = 2.37 ng/g s = 1.54 ng/g 95% CL = 0.72 ng/g (dry basis)

Reported Results: 25 Quantitative Results: 23

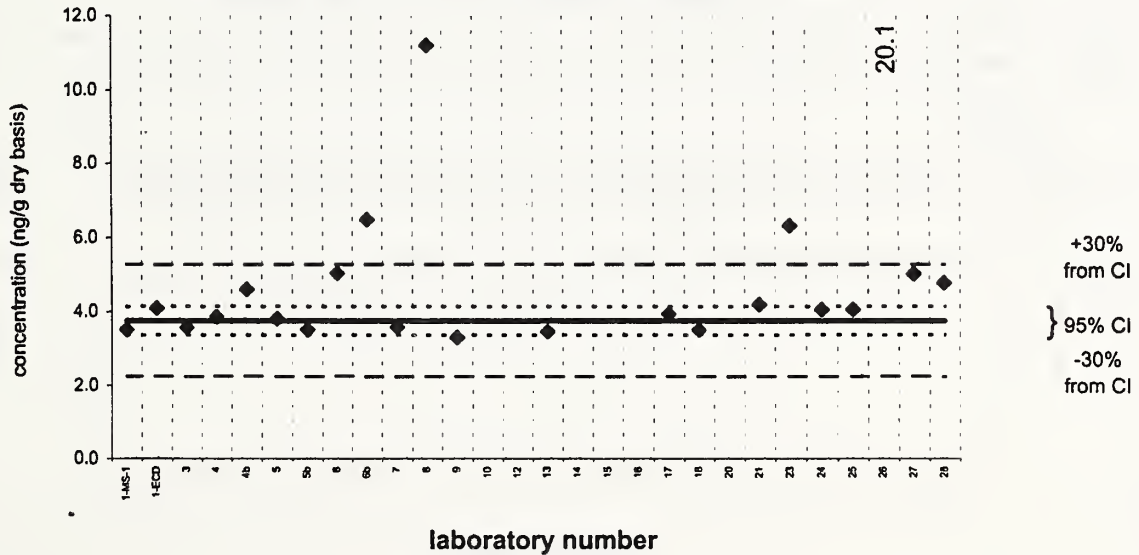


PCB 195

SRM 1944

Certified Value = 3.75 ± 0.39 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 22

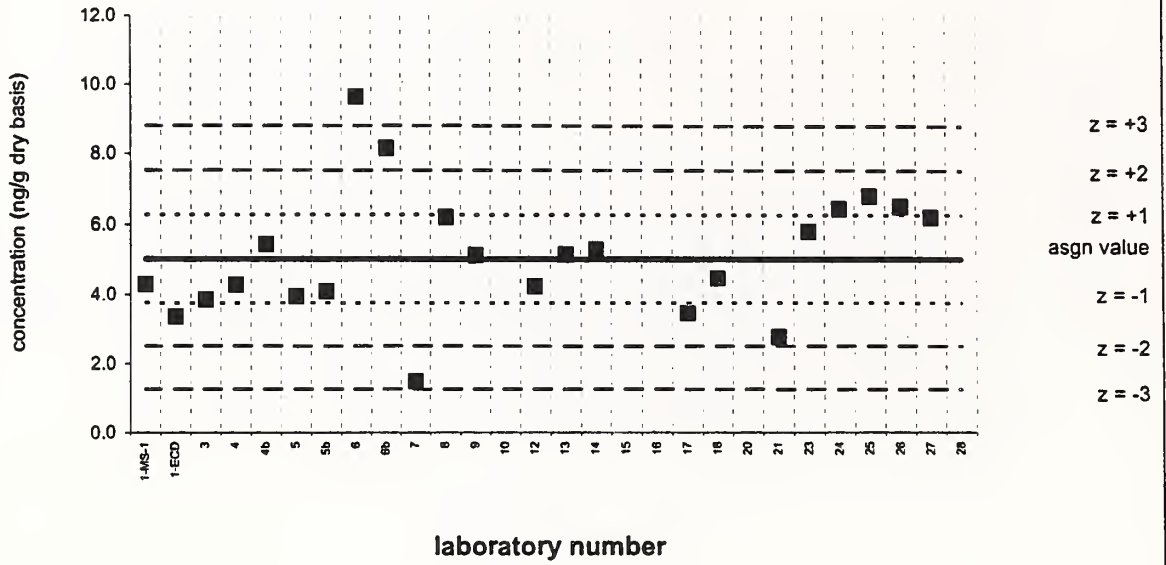


PCB 206

Sediment XI (QA02SED11)

Assigned value = 5.02 ng/g s = 1.84 ng/g 95% CL = 0.84 ng/g (dry basis)

Reported Results: 24 Quantitative Results: 23

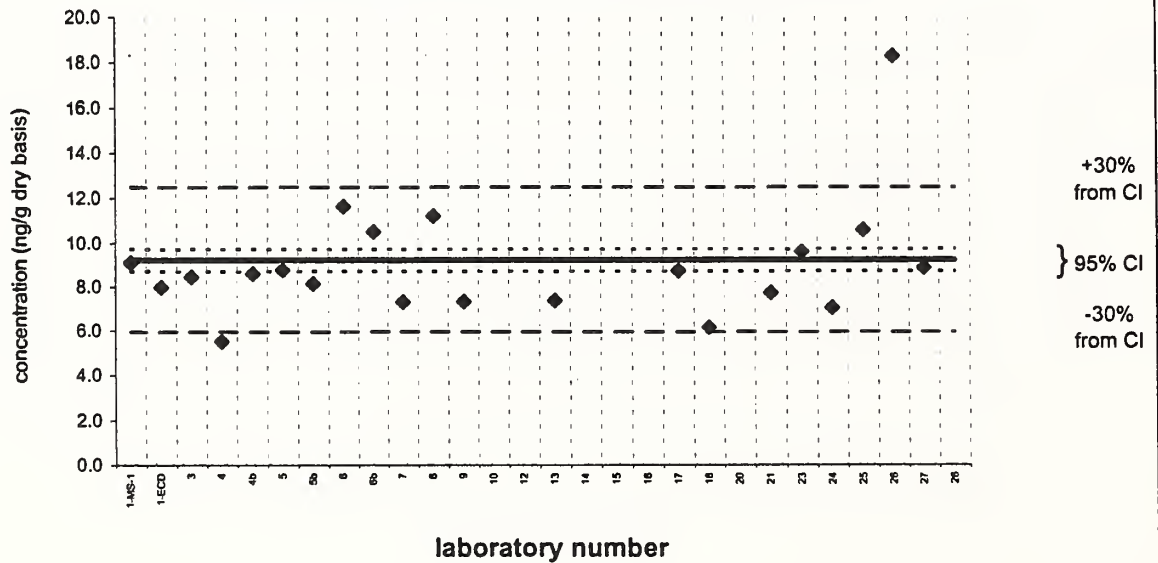


PCB 206

SRM 1944

Certified Value = 9.21 ± 0.51 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 21

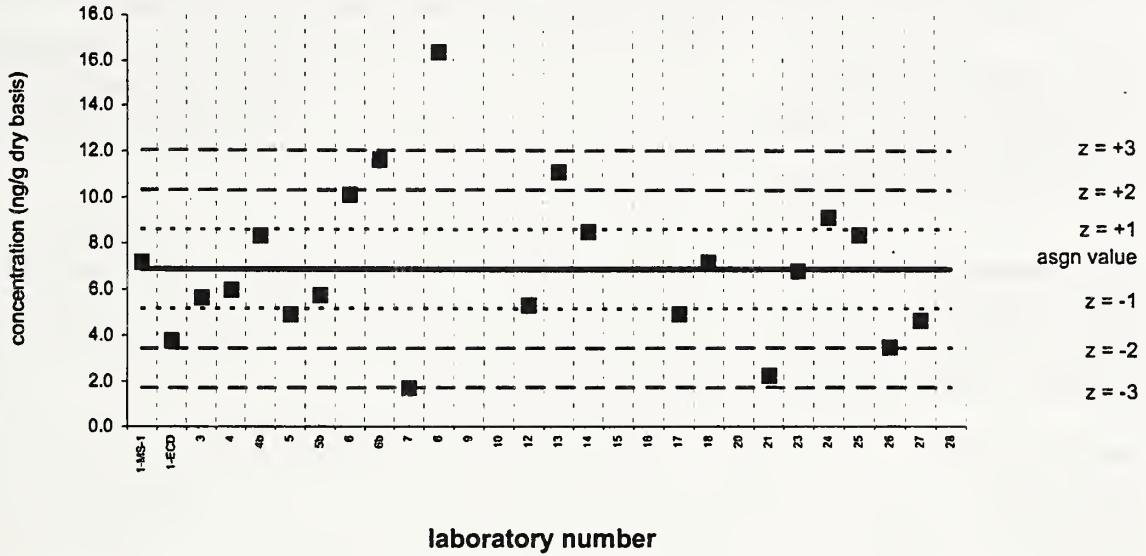


PCB 209

Sediment XI (QA02SED11)

Assigned value = 6.88 ng/g s = 3.46 ng/g 95% CL = 1.57 ng/g (dry basis)

Reported Results: 23 Quantitative Results: 22

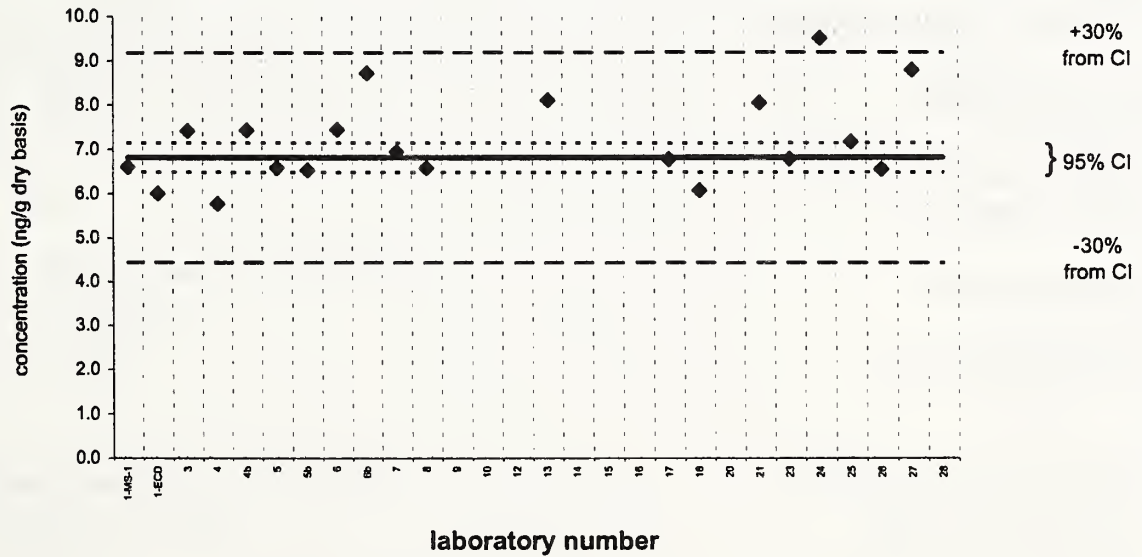


PCB 209

SRM 1944

Certified Value = 6.81 ± 0.33 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20



Appendix K: List of Laboratories Participating in 2002 Intercomparison Exercises

For this exercise, data were received from the following laboratories within the required timeframe. (This listing does NOT correspond to the laboratory number identification codes used in this report which were assigned in order of receipt of data with the exception of NIST which is Laboratory #1 in this exercise. The same code was used for both exercises.)

Academy of Natural Sciences
1900 Benjamin Franklin Parkway
Philadelphia, PA 19103
Jeffrey Ashley / Matt Welhelm

ALS Environmental
1988 Triumph Street
Vancouver, BC V5L 1K5
Blair Easton / Patrick Mueller

Arthur D. Little, Inc.
20 Acorn Park
Cambridge, MA 02140
Rick Purdy

Axys Analytical Services, LTD
2045 Mills Road West
P.O. Box 2219
Sidney, BC V8L3S8
Canada
Dale Hoover / Laurie Phillips

B& B Laboratories
1902 Pinon
College Station, TX 77845
Sue MacDonald

Battelle Columbus
505 King Ave
Columbus, OH 43201
Mary Schrock

Battelle Duxbury Operations
397 Washington Street
Duxbury, MA 02332
Greg Durell / Bob Lizotte

Bedford Institute of Oceanography
Marine Environmental Sciences Division
1 Challenger Drive
P.O. Box 1006
Dartmouth, NS B2Y 4A2
Jocelyne Hellou/Sean Stellar

Chesapeake Biological Laboratory
1 Williams Street, P.O. Box 38
Solomons, MD 20688-0038
Joel Baker / Dan Liebert

City of Los Angeles
Environmental Monitoring Division
12000 Vista del Mar
Playa del Rey, CA 90293
Lucy Jao / Ofelia Kim

East Bay Municipal Utility District
PO Box 24055, MS 59
Oakland, CA 94623
François Rodigari

EnChem, Inc
525 Science Drive
Madison, WI 53711
Todd Noltemeyer

Environment Canada
Environmental Sciences Centre
P. O. Box 23005
Moncton, New Brunswick E1A6S8
Canada
Martin Leger

King County Environmental Laboratory
322 West Ewing Street
Seattle, WA 98119
Michael Doubrava

Manchester Environmental Laboratory
7411 Beach Drive East
Port Orchard, WA 98366
Karin Feddersen

Mississippi State Chemical Laboratory
112 Hand Lab
Morrell Road
Mississippi State, MS 39762
Paul Brignac / Christine Lusk

Murray State University
Department of Chemistry
456 Blackburn Science Bldg.
Murray KY 42071-3346
Bommanna G. Loganathan

NIST
100 Bureau Drive, Stop 8392
Gaithersburg, MD 20899-8392
Michele Schantz / Dianne Poster

NIST-Charleston Laboratory
219 Fort Johnson Road
Charleston, SC 29412-911 0
John Kucklick

NOAA-NMFS-NEFSC
James J. Howard Marine Science Lab at Sandy Hook
74 Magruder Road
Highlands, NJ 07732
Ashok Deshpande

NOAA-NMFS
2725 Montlake Boulevard, East
Seattle, WA 98112
Donald Brown / Jennie Bolton

NOAA/NOS/CCEHBR
219 Fort Johnson Road
Charleston, SC 29412
Dan Bearden

Philip Analytical Services
5555 North Service Road
Burlington, Ontario L7M4A6
Canada
Shari Typer / Ada Blythe

Orange County Sanitation District
Environmental Sciences Laboratory
10844 Ellis Avenue
Fountain Valley, CA 92708
Kim Christensen

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
David Thal

STL Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Patrick Rainey / Michael Flournoy
Texas A & M University
GERG
833 Graham Road
College Station, TX 77845
Terry Wade

USGS
National Water Quality Laboratory
PO Box 25046
Denver Federal Center
Bldg 95, Ent E3, MS 407
Denver, CO 80225-0048
Mary Cast / Tom Maloney

Woods Hole Group Environmental Lab
375 Paramount Dr, Suite B
Raynham, MA 02767
Elizabeth Porta / Peter Kane

