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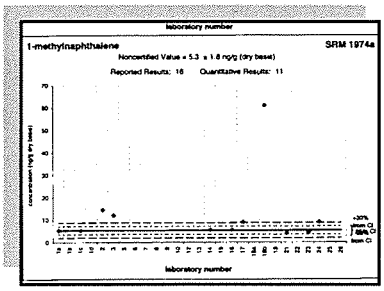
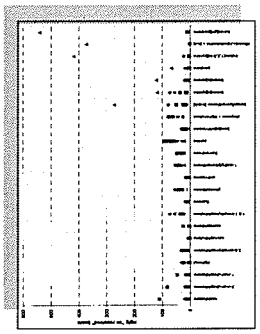
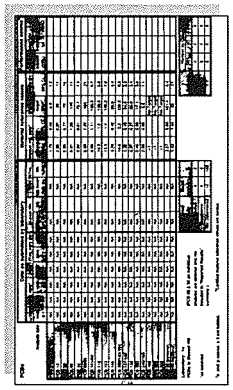
National Status and Trends Program
for Marine Environmental Quality

NIST/NOAA NS&T/EPA EMAP Intercomparison Exercise Program for Organic Contaminants in the Marine Environment:

Description and Results of 1997 Organic Intercomparison Exercises







Silver Spring, Maryland
June 1998

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NIST/NOAA NS&T/EPA EMAP Intercomparison Exercise Program for Organic Contaminants in the Marine Environment

Description and Results of 1997 Organic Intercomparison Exercises

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Intercomparison Exercise Program
for Organic Contaminants in the Marine Environment

Description and Results of 1997 Organic Intercomparison Exercises

Exercise Materials: Mussel Tissue VIII (QA97TIS8)
Marine Sediment VII (QA97SED7)

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Abstract

In support of marine monitoring measurement programs, NIST, in cooperation with the NOAA National Status and Trends Program (NS&T), and the EPA Environmental Monitoring and Assessment Program (EMAP), 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 contaminates in environmental samples. In this report, results of the 1997 exercises of the NIST/NOAA NS&T/EPA EMAP Intercomparison Exercise Program for Organic Contaminants in the Marine Environment are described in which selected polychlorinated biphenyl (PCB) congeners, chlorinated pesticides, and polycyclic aromatic hydrocarbons (PAH) were determined in Mussel Tissue Homogenate VIII and Marine Sediment VII exercise materials. The analytical methods used by each participating laboratory in this performance-based program are summarized.

Introduction

The preparation and distribution of two materials, Mussel Tissue VIII (QA97TIS8) and Marine Sediment VII (QA97SED7), used in interlaboratory comparison exercises of 1997 for the NIST/NOAA-NS&T/EPA-EMAP Organics Quality Assurance Program and the 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 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 for the past eleven years by the NOAA National Status and Trends (NS&T) Marine Monitoring Program [1,2,3]. Upon inception, the EPA Environmental Monitoring and Assessment Program (EMAP) joined the existing NIST/NOAA NS&T effort. For this program, NIST efforts focus on providing mechanisms for assessing the interlaboratory and temporal comparability of data, and on improving measurements for the monitoring of organic contaminants such as polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl congeners (PCBs), 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 semi-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. Since 1993, private sector and other laboratories that cannot 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. 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 the methods currently being used by that laboratory for analysis of similar materials for its program customers. The target analytes are listed in Table 1.

For the annual intercomparison exercises, samples of two natural-matrix-based 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 homogenates or wetted marine sediment, have target contaminant levels in the 1 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 provide a mechanism for assessing the comparability of data being produced by the participating laboratories for 64 target analytes and percent moisture.

Sources and Preparation of Materials used in 1997 Intercomparison Exercises

Marine Sediment VII. Marine Sediment VII was prepared from NIST SRM 1941a (collected from Baltimore Harbor) and candidate NIST SRM 1944 (collected from six sites in the vicinity of New York Bay and Newark Bay). The sediment material was issued as a wet sediment to more closely match the matrix of wet sediments being analyzed by the laboratories.

Clear, 2-oz, wide-mouth, glass bottles were rinsed with deionized water, thermally cleaned at 500 °C for 18 h in a ventilated oven, cooled, capped, and labeled. Each label contained the material's name and code (Marine Sediment VII, QA97SED7) 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 SRM 1941a sediment and water. A calibrated balance (resolution of 0.00001g) was used for weighing the SRM 1944 sediment. For each sample, 10.00 g of SRM 1941a and 1.001 g of the candidate SRM 1944 sediment (as received) were weighed into a tared bottle and the contents were gently stirred. 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, 10.0 g of HPLC-grade water was added by pipet to each tared bottle of sediment. (Preliminary trials had shown that a minimum of 10 g of water would moisten 11 g of this sediment mixture.) The mass of each 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 °C, each bottle of material was stored at -80 °C until shipped. The bottles were never inverted until the wet samples had been frozen in the bottom of the bottles. The material has not been enriched or spiked with any of the analytes of interest in this intercomparison exercise.

Summary statistics of preparation of Marine Sediment VII:

	SRM 1941a	SRM 1944	HPLC water
mean, g	10.000	1.001083	10.010
median, g	10.000	1.001040	10.010
number	105	105	105
standard deviation, g	0.000	0.000514	0.008
CV (as %)	0.00	0.05	0.08
95% CL, g	0.000	0.000099	0.002
minimum, g	10.00	1.00010	10.00
maximum, g	10.00	1.00249	10.03

95% confidence interval for water: 10.009 to 10.012 g/sample
95% confidence interval for SRM 1944: 1.000983 to 1.001182 g/sample

Mussel Tissue VIII. Mussel Tissue VIII exercise materials were relabeled bottles of candidate NIST RM 8046, GESREM III Mussel, a freeze-dried tissue homogenate from mussels collected in Guanabara Bay, South America. A 3-g (dry basis) sample of Mussel Tissue VIII corresponds to approximately 20 g of the original wet mussel tissue homogenate prior to freeze-drying.

Each of the two bottles sent to each participant contained approximately 10 g (dry basis) of Mussel Tissue VIII. This freeze-dried mussel tissue homogenate material had not been enriched or spiked. Each 4-oz amber glass bottle had a Teflon-lined screw cap and was sealed in a Mylar bag (to reduce sample absorption of moisture from the air). Each bag was labeled with an individual bottle number as well as the material's name and code (Mussel Tissue VIII, QA97TIS8). An additional identical label was stapled to each bag to be put on the bottle when the bag was opened. The bottles as originally sent were labeled as NIST RM 8046, GESREM III Mussel.

Typically for these exercises, each participant is told to use an amount of material for each analysis that corresponds to the amount of marine bivalve tissue (wet basis) the participating laboratory would typically analyze as prescribed in its protocols. However, because preliminary NIST analyses of this material indicated that the concentrations of many of these analytes were lower than in SRM 1974a Mussel Tissue, the participants were told that some target analyte concentrations were lower than those of previous tissue exercise materials and that additional material was sent so that the sample size used could be increased if this would be appropriate for their program. (See exercise instructions in Appendix A.)

Percent Moisture Determinations

Marine Sediment VII. Each bottle of Marine Sediment VII, as prepared, contained 10.00 g of SRM 1941a sediment plus 1.00108 g of SRM 1944 sediment plus 10.01 g (see preparation statistics above) of HPLC water. For the purposes of this exercise, the calculated value for the percent water in the Marine Sediment VII samples is based on the mean of 10.01 g of water added to each bottle because the variability of the water mass added (0.08%) is much smaller than the expected analytical variability. However, the SRM 1941a sediment, as received, contained 2.21% moisture and the SRM 1944 sediment, as received, contained 1.25% moisture (n=22, s=0.07% water, CV 5.3%). The calculated assigned value for the percent moisture includes these components as well. For evaluation of exercise results, the NIST assigned value for moisture content in Marine Sediment VII (with the uncertainty expressed as the 95% confidence interval) is:

$$NIST_{assigned\ value} = 48.75 \pm 0.03\%\ \text{moisture}$$

Mussel Tissue VIII. The exercise results for the freeze-dried Mussel Tissue VIII are reported and compared on an "as received" basis and an assigned value for the moisture content of this material was not determined.

Storage and Distribution of Materials

Each jar of Marine Sediment VII material was stored at -80 °C and each bottle of Mussel Tissue VIII was stored at room temperature in the dark 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 shown 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 by overnight delivery:

Exercise 1: Marine Sediment VII (QA97SED7)
- Three jars of Marine Sediment VII material (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: Mussel Tissue VIII (QA97TIS8)
- Two bottles of Mussel Tissue VIII 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 each shipment each participant was asked to analyze each of three replicate samples in a separate batch/set/string/catalog in order to provide a more realistic assessment of laboratory precision and, if possible, to concurrently analyze NIST SRM 1941a, "Organics in Marine Sediment" with Marine Sediment VII and NIST SRM 1974a, "Organics in Mussel Tissue" with Mussel Tissue VIII. Laboratories were requested to submit results for these exercises by December 1, 1997.

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. In essence, the laboratory's performance on concurrent reference material analyses was used to determine if that laboratory's results would be included 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, assigned values standard deviations, and 95% confidence limits had been

calculated, **all** reported results for the Mussel VIII and Sediment VII materials were evaluated relative to these exercise "assigned values."

Laboratory data submission: Each participating laboratory was to submit data from three replicate determinations of the "unknown" materials (Mussel VIII and Sediment VII) and were requested to report results of concurrent analyses of SRM 1974a, a mussel homogenate reference material [4], and SRM 1941a, a marine sediment reference material [5]. Laboratories were requested to report these results, as if three figures were significant, and brief descriptions of their extraction, cleanup, and analytical procedures.

Determination of laboratory analyte means: The laboratory analyte mean of the S1, S2, and S3 results was calculated. 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 NA's, etc.; 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: 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 confidence interval for analytes listed in the Certificates of Analysis for SRM 1941a and SRM 1974a. For each analyte of interest not certified in these materials, a "target" concentration and the associated uncertainty were calculated. The targets for SRM 1941a were based on noncertified concentrations of SRM 1941a, results of the 1992 Sediment III exercise in which SRM 1941a was used as the "unknown material," and exercise results when SRM 1941a was used as a control. Similarly, the targets for SRM 1974a were based on noncertified concentrations of SRM 1974a, results of the 1993 Tissue V exercise in which SRM 1974a was used as the "unknown material," and exercise results when SRM 1974a was used as a 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 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," ½ 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.

For the 1998 exercises, NIST-Gaithersburg (Lab 1) used two extraction techniques: soxhlet and pressurized fluid extraction. (See Appendices G and H for summaries of methods used.) NIST-

Gaithersburg used two different columns of different selectivity for the analysis for the PCB and pesticide components in Tissue VIII and utilized gas chromatography with electron capture detection and gas chromatography with mass spectrographic detection for Sediment VII. NIST-Gaithersburg also used HPLC-Fluorescence for the determination of PAHs in Tissue VIII. Schantz et al. has reported results of the validation of these methods with NIST and European Bureau of Community Reference (BCR) reference materials [6] and of a comparison of soxhlet extraction and pressurized fluid extraction of a number of sediment, tissue, dust, and particulate matter certified reference materials [7].

By using a candidate reference material for the 1997 tissue material, and a defined mixture of a candidate certified reference material (CRM) and a CRM for the sediment exercise material, eventual comparisons of the exercise assigned values and the results of the individual laboratories with calculated values based on certified concentrations for these reference materials can be made for many of the analytes.

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. 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 (Mussel Tissue VIII) and Appendix D (Sediment VII) 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 to 4 and Tables 5 to 7 for the Mussel Tissue VIII and Sediment VII materials, respectively. Included in the means tables are the exercise assigned values, the standard deviation of the assigned value, the percent relative standard deviation (%RSD), and the calculated 95% confidence interval of the assigned value for the percent water, PAH, chlorinated pesticide, and PCB congener analytes as applicable. Figures 1 to 6 show charts of the mean concentrations of reported numerical results by laboratory for the PAHs, pesticides, and PCB congeners, respectively, in Tissue VIII and Sediment VII. Notes included by a laboratory with its data are listed in Appendices E and F. Summaries of the methods used by each laboratory are in Appendices G and H.

In Appendices I (Mussel Tissue VIII) and J (Sediment VII), charts of the mean reported numerical results by laboratory for **each analyte** are shown for the exercise material and the corresponding reference material except in those instances in which the majority of laboratories reported non-quantitative results.

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 shown in a number of ways in this report to facilitate their use by these programs in their acceptability assessment.

IUPAC guidelines [8] describe the use of z-scores and p-scores for assessment of accuracy and precision in intercomparison exercises such as these. 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)

$$\text{z-score} = \frac{\text{bias estimate}}{\text{performance criterion}}$$

$$z = \frac{(x - \overline{X})}{\sigma}$$

where x is the individual laboratory result, $\overline{X}$ 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 particular program. It can be "fixed" and arrived at by perception, prescription, or reference to validated methodology (e.g., $\sigma = 0.125$ X, X is the analyte concentration) or it can be an estimate of the actual variation (e.g., the calculated 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 more problematic than usual.

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

z-score (25% X):

+1 ⇒ laboratory result is 25% higher than the assigned value

-2 ⇒ laboratory result is 50% lower than the assigned value

z-score (s):

+1 ⇒ laboratory result is one "exercise standard deviation" higher than the assigned value
-2 ⇒ laboratory result is "two exercise standard deviations" lower than the assigned value

From a scientific point of view, IUPAC does not recommend the classification of z-scores but allows that it is possible to classify scores, e. g.:

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

The Tables in Appendices C (Tissue VIII) and D (Sediment VII) 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. Figures 7 to 9 (Tissue VIII) and 10 to 12 (Sediment VII) show the distribution of z-scores (25%) by analyte. Figures 13 to 15 (Tissue VIII) and 16 to 18 (Sediment VII) show the z-scores (25%) by laboratory that are useful for assessing intra- and interlaboratory bias trends and relative performance for the three chemical classes.

Precision Assessment (p-score)

$$p = \frac{\sigma_{lab}}{\sigma_{target}} = \frac{CV_{lab}}{CV_{target}}$$

Prior to the 1994 exercises, participating laboratories typically analyzed the three replicate samples for an exercise with the same sample set, i. e., within one set of samples with the same blank, calibration curve, etc. being applicable for each. Since the repeatability for replicates within a set is generally better than for replicates in different sets, this does not result in data that is very useful for precision (repeatability) assessment. Since 1995, laboratories have been requested to process each replicate in a different sample set for precision assessment. For the calculation of p-scores for this program, the current target CV for the three replicates is 15%.

The Tables in Appendices C (Tissue VIII) and D (Sediment VII) show the calculated p-scores for each laboratory for each reported analyte.

Discussion

These results were discussed at the QA workshop that was held January 27, 1998 in Charleston, SC.

The PAH, chlorinated pesticide, and PCB congener concentrations in the 1997 Tissue VIII are lower than those determined in any of the previous tissue materials in this intercomparison program. Very few quantitative results were reported for a number of chlorinated pesticides in the Tissue VIII and the Sediment VII materials such as the endosulfans, endrin, and oxychlordane. The pesticide concentrations ranged from ca. 1 to 10 ng/g "as received" basis in the freeze-dried Tissue VIII and from ca. 2 to 15 ng/g dry basis in the Sediment VII except for HCB with an assigned value of 49 ng/g. Twelve of the exercise assigned values for Tissue VIII and eleven of those for Sediment VII are reported as "less than" a specified value. For eight of the remaining ten Tissue VIII assigned values, the calculated relative standard deviation (%RSD) of the values ranged from 19 to 37%, similar to the variability observed in previous exercises even at the lower levels. Heptachlor and γ-HCH, at <2 ng/g levels, showed more variability. The calculated %RSD ranged from 26 to 53% of the eleven remaining Sediment VII analytes.

The PCB congeners ranged in concentration from 1 to 15 ng/g "as received" basis in the Tissue VIII material. The exercise assigned value %RSD ranged from 21 to 49%. The 23 sets of results for PCB congeners included ten sets in which PCB 66 was determined separately from PCB 95. In the Sediment VII, the PCB concentrations ranged from 1 to 19 ng/g dry and the %RSD of the assigned values ranged from 18 to 39% with the exception of PCB 195; the %RSD for 17 of the PCB congeners was <30%. Very few of the PCB results were provided as qualitative information and numerical assigned values were calculated for all PCB analytes of interest.

The PAH concentrations in Tissue VIII ranged from 1 to 70 ng/g "as received" with the assigned value %RSD ranging from 14 to 59%. The least comparable PAH analyte was anthracene. In the Sediment VII, PAHs ranged from 75 to 1850 ng/g dry. The assigned value %RSD for 20 of the 23 PAH analytes ranged from 16 to 30%. As in past exercises, acenaphthylene results are the least comparable.

For the reported laboratory means of the triplicate analyses of each material by each laboratory, 88.0% of the results for the Mussel Tissue VIII material and 88.8% for the Sediment VII material were within 50% of the exercise assigned value. The within-laboratory reproducibility results of the reported triplicate results show that 84.0% of the Tissue VIII relative standard deviations (%RSD) and 93.1% of the Sediment VII %RSDs were less than 30%. For the 1997 exercises, the data provided in the various figures and tables of this report can be used for assessing the comparability of results of the 64 analytes of interest in this program and the performance of an individual laboratory. Summaries of the numbers of z-scores and p-scores by category for each laboratory are shown in Tables 8 and 9 (Tissue VIII z-scores), 10 and 11 (Sediment VII z-scores), 12 (Tissue VIII p-scores), and 13 (Sediment VII p-scores). Summaries of the median of the absolute z- and p-scores by laboratory are shown in Tables 14 and 15. For both the sediment and mussel tissue 1997 exercises, 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 were the PAHs and PCB congeners. In these exercises, interlaboratory variability is a greater contributor to measurement incomparability than is the intralaboratory variability. Laboratories 4, 11, 12, 20, 24, 26, and 27 are in their first or second years of participation in these exercises. For the 1997 exercises, the results of these laboratories are more comparable with laboratories that have participated in this program for more than two years than we have seen in past exercises; however many of these "new" laboratories have personnel that have years of experience in these analyses and some of these personnel have participated in these exercises while working for other laboratories. Laboratories reporting concurrent reference material analyses results typically showed better performance than those who 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 listed 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. For example, one laboratory reported a mean concentration of 35 ng/g of aldrin that has an exercise assigned value of <2 ng/g. 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, and reproducibility of data being produced by the participating laboratories. Exercise materials similar in matrix, form, and analyte concentration to typical samples being 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 between-laboratory bias such that the analytical variability is significantly less than the sampling variability should be an achievable goal.

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Table 1: Analytes[a] 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
gamma-HCH (gamma-BHC, Lindane)	2,4'-DDD
heptachlor	4,4'-DDD
heptachlor epoxide	2,4'-DDT
cis-chlordane (alpha-chlordane)	4,4'-DDT
trans-chlordane (gamma-chlordane)	aldrin
oxychlordane	dieldrin
cis-nonachlor	endrin
trans-nonachlor	endosulfan I
mirex	endosulfan II

Polychlorinated Biphenyl Congeners

PCB No.	*Compound Name*
8	2,4'-dichlorobiphenyl
18	2,2',5-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
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
153	2,2',4,4',5,5'-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
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
2-methylnaphthalene
1-methylnaphthalene
biphenyl
2,6-dimethylnaphthalene
acenaphthylene
acenaphthene
1,6,7-trimethylnaphthalene
fluorene
phenanthrene
anthracene
1-methylphenanthrene
fluoranthene
pyrene
benz[*a*]anthracene
chrysene
benzofluoranthenes [*b*+*j*+*k*]
benzo[*e*]pyrene
benzo[*a*]pyrene
perylene
indeno[1,2,3-*cd*]pyrene
dibenz[*a,h*]anthracene
benzo[*ghi*]perylene

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[a]Please note that the following are typically reported by exercise participants as the sums of the indicated components:

PAH
chrysene + triphenylene
benzo[*b*]- + benzo[*j*]- + benzo[*k*]fluoranthene
dibenz[*a,h*]anthracene + dibenz[*a,c*]anthracene

PCB congeners
PCB 66 + PCB 95[b]
PCB 101 + PCB 90
PCB 138 + PCB 163 + PCB 164
PCB 187 + PCB 182 + PCB 159
PCB 170 + PCB 190

[b]Because PCB 66 and PCB 95 can now be separated by a significant number of participants, we have changed the table for reporting results this year so that participants may report these as two separate concentrations or as the sum of PCBs 66 and 95.

Table 2. Mussel Tissue VIII (QA97TIS8): Laboratory means of three replicates and exercise assigned values - PAHs

(reported as if three figures were significant)

ng/g (as received)

Laboratory No.	1a	1b	1c	1e	2	3	5	6	7	8	9	10	12	13
naphthalene	19.9		20.6	NA	14.4	18.0	<8	DL	NA	14.0	NA	**5.96**	<19	NA
2-methylnaphthalene	19.4		19.6	NA	17.7	16.4	<6	DL	NA	13.3	NA	**5.54**	NA	NA
1-methylnaphthalene	17.5		17.9	NA	13.4	14.5	<6	NA	NA	8.26	NA	**7.50**	NA	NA
biphenyl	6.87		6.91	NA	7.33	**21.3**	<14	NA	NA	6.86	NA	**33.1**	NA	NA
2,6-dimethylnaphthalene	21.7		20.8	NA	**21.0**	**31.8**	<10	NA	NA	13.7	NA	**14.3**	NA	NA
acenaphthylene	<3		<3	NA	5.55	<6.4	<14	DL	NA	<5	NA	**9.29**	NA	NA
acenaphthene	4.11		4.24	NA	6.42	<4.7	<3.5	DL	NA	<5	NA	**2.72**	2.75	NA
1,6,7-trimethylnaphthalene	26.3		25.7	NA	**73.1**	32.3	21.3	NA	NA	NA	NA	**57.7**	NA	NA
fluorene	10.5		10.3	9.57	15.9	13.8	<14	DL	NA	9.73	<21	**18.0**	**7.20**	NA
phenanthrene	31.2		30.3	39.5	38.8	43.9	30.2	DL	NA	37.9	43.2	**28.2**	28.7	NA
anthracene	10.7		10.5	other	**10.1**	**15.9**	<14	DL	NA	5.17	<11.4	**9.79**	2.13	NA
1-methylphenanthrene	41.8		41.4	NA	51.9	48.5	32.8	NA	NA	47.2	NA	**21.3**	NA	NA
fluoranthene	38.8		37.6	37.6	38.7	43.8	**28.7**	DL	NA	30.5	**47.0**	**22.2**	28.0	NA
pyrene	76.5		75.5	76.9	87.5	88.6	**44.3**	DL	NA	51.3	**93.1**	**29.9**	49.3	NA
benz[a]anthracene	19.5		18.8	20.5	16.7	25.5	25.0	DL	NA	22.5	**23.2**	**5.46**	NA	NA
chrysene + triphenylene	72.9		73.1	NA	67.9	**69.8**	**66.7**	other	NA	**45.5**	78.9	**27.7**	42.7	NA
benzofluoranthenes [b+j+k]	19.2		19.0	NA	17.8	**78.2**	15.2	other	NA	24.5	50.9	**272**	19.2	NA
benzo[e]pyrene	12.5		12.6	NA	11.8	**73.0**	<11	NA	NA	16.9	36.6	**118**	**55.9**	NA
benzo[a]pyrene	8.25		8.45	8.14	8.64	19.6	<4	DL	NA	7.92	<18	**122**	**5.13**	NA
perylene	3.73		3.52	other	5.66	10.3	<14	NA	NA	<5	<20	**67.4**	NA	NA
indeno[1,2,3-cd]pyrene	5.22		5.44	3.73	3.38	**23.0**	<14	DL	NA	<5	<18	**419**	6.13	NA
dibenz[a,h]anthracene + [a,c]	1.91		1.93	NA	1.46	<3.6	<14	other	NA	<5	<25	**374**	1.37	NA
benzo[ghi]perylene	9.29		9.32	9.58	8.03	<5.8	<14	DL	NA	8.54	<24	**541**	12.4	NA

Table 2. (Mussel Tissue VIII (QA97TIS8) - PAHs) (continued)

ng/g (as received)

													Exercise Assigned			
14	15	16	17	18a	18b	19	21	22	23	24	25	26	Value	s	%RSD	95% CI
7.53	NA	8.87	**12.1**	NA	**111**	NA	7.30	14.2	7.03	**21.7**	**<7**	NA	13.2	5.3	40	3.8
16.0	NA	7.70	4.98	NA	**82.7**	NA	8.13	11.1	9.51	**8.94**	<7	NA	13.1	5.1	39	3.4
5.00	NA	5.71	7.80	NA	**47.5**	NA	4.52	< 10	5.82	**9.02**	<7	NA	10.0	5.3	52	3.8
4.21	NA	3.03	<10	NA	**25.3**	NA	1.87	< 10	2.25	5.76	<7	NA	5.01	2.19	44	1.69
13.1	NA	11.7	na	NA	**29.0**	NA	11.3	10.9	5.95	13.3	<7	NA	13.6	4.9	36	3.8
2.76	NA	1.17	<10	NA	<1	NA	1.22	< 10	1.80	**5.37**	<5	NA	<3			
3.25	NA	4.44	<10	NA	**25.5**	NA	1.98	< 10	3.96	<0.25	<5	NA	3.89	1.32	34	1.11
33.6	NA	52.0	na	NA	24.6	NA	36.3	27.4	26.4	36.8	**51.9**	NA	31.1	8.6	27	5.7
8.29	NA	9.74	<10	NA	10.1	NA	7.57	< 10	7.86	9.31	8.90	NA	10.1	2.3	23	1.4
29.3	NA	29.8	11.6	55.0	36.7	NA	33.3	36.2	31.4	34.4	34.8	NA	34.5	8.5	25	4.1
3.64	NA	4.37	<10	3.90	<2	NA	2.99	< 10	**5.0**	**10.0**	4.47	NA	5.32	3.12	59	2.40
41.8	NA	45.2	na	NA	39.4	NA	46.7	50.3	42.7	27.3	56.6	NA	43.8	7.6	17	4.4
30.4	NA	32.9	29.3	42.4	29.1	NA	43.3	28.7	32.5	36.1	37.7	NA	35.1	5.3	15	2.7
64.4	NA	66.5	**17.7**	73.4	64.8	NA	80.1	61.9	68.3	59.4	80.5	NA	70.3	11.6	17	6.2
15.7	NA	16.9	**12.0**	31.9	20.2	NA	16.8	18.8	25.5	**23.1**	25.9	NA	21.3	4.6	21	2.5
60.6	NA	63.1	**28.3**	NA	65.3	NA	65.6	76.8	68.8	64.0	76.6	NA	67.4	9.4	14	5.7
17.9	NA	30.1	12.6	11.8	25.1	NA	17.9	20.6	21.9	21.2	28.1	NA	21.9	8.9	41	4.6
11.7	NA	19.0	12.0	17.0	16.8	NA	11.0	14.4	16.1	13.0	18.6	NA	16.0	6.3	39	3.5
DL	NA	8.05	<10	6.41	5.79	NA	4.81	< 10	8.44	5.52	<10	NA	8.34	3.80	46	2.41
DL	NA	7.13	<10	NA	<3	NA	2.33	< 10	3.44	**20.0**	<10	NA	5.16	2.78	54	2.57
DL	NA	3.67	<10	NA	<5	NA	2.26	< 10	3.74	6.45	4.93	NA	4.50	1.34	30	0.96
DL	NA	2.13	<10	NA	2.06	NA	0.80	< 10	1.84	2.56	<5	NA	1.78	0.51	29	0.39
5.82	NA	11.4	3.95	7.00	8.02	NA	6.24	< 10	8.51	9.37	13.9	NA	8.75	2.54	29	1.41

Table 3. Mussel Tissue VIII (QA97TIS8): Laboratory means of three replicates and exercise assigned values - Pesticides

(reported as if three figures were significant)

ng/g (as received)

Laboratory No.	1a	1b	1c	1d	2	3	5	6	7	8	9	10	12	13
alpha-HCH	<2	<2	<2	<2	<0.29	NA	NA	DL	<1	NA	NA	NA	NA	<5
hexachlorobenzene	<2	<2	<2	<2	0.30	0.24	<0.14	NA	0.76	NA	DL	NA	NA	<5
gamma-HCH	<2	<2	<2	<2	0.88	1.36	0.88	DL	<1	NA	DL	0.53	NA	<5
heptachlor	<2	<2	<2	<2	0.92	1.80	0.72	DL	<1	NA	NA	NA	NA	<5
aldrin	<2	<2	<2	<2	<0.40	<0.7	<0.26	DL	<1	NA	NA	NA	NA	<5
heptachlor epoxide	<2	<2	<2	<2	1.30	<0.5	0.79	0.71	<1	NA	NA	NA	NA	<5
oxychlordane	<2	<2	<2	<2	<0.34	NA	NA	DL	<2	NA	NA	NA	NA	<5
trans-chlordane	<2	<2	<2	<2	2.98	NA	NA	DL	**2.88**	NA	NA	1.03	NA	<5
2,4'-DDE	1.88	1.90	1.87	1.82	1.10	<0.8	<0.5	**7.78**	<1	NA	NA	NA	NA	<5
endosulfan I	<2	<2	<2	<2	DL	NA	NA	DL	<1	NA	NA	NA	NA	NA
cis-chlordane	1.51	1.46	1.50	1.49	1.04	1.71	**1.46**	**2.13**	1.29	NA	DL	0.44	NA	<5
trans-nonachlor	1.43	1.40	1.52	1.47	0.94	1.86	**1.44**	**3.33**	1.22	NA	DL	NA	NA	<5
dieldrin	6.47	6.38	6.19	6.16	9.47	other	5.16	DL	2.29	NA	NA	NA	NA	<5
4,4'-DDE	14.3	14.0	13.7	13.8	12.4	10.6	**8.36**	5.56	5.09	NA	6.56	4.67	NA	**6.15**
2,4'-DDD	3.14	3.03	2.94	3.02	5.85	other	3.70	**7.64**	1.99	NA	NA	0.61	NA	<5
endrin	<2	<2	<2	<2	1.27	NA	NA	**DL**	0.50	NA	NA	NA	NA	<5
endosulfan II	<2	<2	<2	<2	<0.30	NA	NA	DL	1.32	NA	NA	NA	NA	NA
4,4'-DDD	4.68	4.52	4.63	4.51	3.40	4.74	**4.65**	1.89	1.92	NA	1.75	1.78	NA	<5
2,4'-DDT	<2	<2	<2	<2	2.28	2.97	**1.97**	DL	<1	NA	NA	0.24	NA	<5
cis-nonachlor	<2	<2	<2	<2	2.16	NA	NA	DL	<1	NA	NA	NA	NA	<5
4,4'-DDT	1.05	1.06	1.13	1.09	1.91	**3.71**	**2.11**	**4.45**	<1	NA	DL	1.41	NA	<5
mirex	<2	<2	<2	<2	<0.74	0.79	<0.5	DL	<1	NA	NA	NA	NA	<5

Table 3. (Mussel Tissue VIII (QA97TIS8) - pesticides) (continued)

ng/g (as received)

14	15	16	17	18a	18b	19	21	22	23	24	25	26	Exercise Assigned Value	s	%RSD	95% CI
0.63	**NA**	NA	**<10**	NA	NA	<1.6	NA	< 1	0.23	NA	NA	2.10	<2			
0.31	**<3**	NA	**<10**	0.47	NA	<1.6	<0.4	< 1	0.32	NA	<1	0.42	<1			
1.39	**<3**	NA	**<10**	2.83	NA	<1.6	0.81	< 0.8	0.45	NA	1.27	2.66	1.31	0.82	63	0.59
DL	**<3**	NA	**<10**	0.60	NA	<1.6	<0.75	1.15	0.20	NA	<1	0.59	0.86	0.51	60	0.47
DL	**<3**	NA	**<10**	**4.84**	NA	<1.6	<0.6	< 1	<0.66	NA	<1	DL	<1			
DL	**<3**	NA	**<10**	<0.1	NA	<1.6	1.90	< 1	0.48	NA	<1	0.44	<2			
DL	**<3**	NA	**<10**	NA	NA	NA	<0.9	< 1	NA	NA	NA	1.30	<1			
1.93	**<3**	NA	**<10**	NA	NA	2.22	<0.5	< 1	1.93	NA	NA	3.16	<2			
DL	**<3**	NA	**1.38**	<0.06	NA	<1.6	<2.4	< 3	<0.66	NA	**1.79**	**0.93**	1.71	0.35	20	0.43
DL	**<3**	NA	**<10**	NA	NA	<1.6	NA	< 1	<0.66	NA	<1	DL	<2			
1.05	**<3**	NA	**<10**	1.43	NA	1.11	0.77	< 1	0.54	NA	<1	0.75	1.18	0.40	34	0.24
1.01	**<3**	NA	**<10**	<0.1	NA	1.04	1.29	< 1	0.26	NA	<1	**0.29**	1.22	0.42	34	0.28
8.41	**<3**	NA	**<10**	**2.30**	NA	4.70	4.52	5.49	4.27	NA	3.89	2.65	5.79	1.89	33	1.20
9.56	**5.04**	NA	**4.47**	11.3	NA	9.47	7.77	7.54	10.3	NA	7.69	5.47	9.77	3.44	35	1.91
3.54	**<3**	NA	**3.18**	3.72	NA	2.74	3.54	< 5	3.83	NA	3.22	2.13	3.07	0.58	19	0.37
3.05	**<3**	NA	**<10**	NA	NA	<1.6	NA	< 6	0.92	NA	NA	DL	<2			
2.32	**<3**	NA	**<10**	NA	NA	<1.6	NA	< 3	<0.66	NA	<2	1.03	<2			
4.33	**<3**	NA	**22.6**	1.75	NA	4.08	3.36	< 3	4.46	NA	4.61	2.03	3.45	1.27	37	0.70
3.15	**<3**	NA	**<10**	<0.15	NA	<1.6	2.41	< 4	0.89	NA	2.64	1.55	<3			
2.79	**2.20**	NA	**<10**	NA	NA	<1.6	1.12	< 1	<0.66	NA	NA	1.00	<2			
1.15	**<3**	NA	**<10**	1.59	NA	2.03	1.27	< 4	1.34	NA	**2.90**	1.38	1.37	0.32	24	0.21
DL	**<3**	NA	**<10**	<0.16	NA	<1.6	0.59	< 1	0.29	NA	<2	DL	<1			

Table 4. Mussel Tissue VIII (QA97TIS8): Laboratory means of three replicates and exercise assigned values - PCBs

(reported as if three figures were significant)

ng/g (as received)

Laboratory No.	1a	1b	1c	1d	2	3	5	6	7	8	9	10	12	13
PCB 8	2.46	2.11	2.17	2.09	**5.69**	2.99	**1.53**	0.98	**4.33**	**11.6**	2.00	0.93	NA	NA
PCB 18	2.83	2.86	2.65	2.59	2.14	2.00	**2.31**	2.92	**5.05**	3.34	2.81	1.67	NA	NA
PCB 28	5.28	4.55	4.64	4.58	8.73	5.76	**8.47**	7.42	**22.9**	10.0	4.76	4.32	8.15	NA
PCB 52	8.17	8.02	7.63	7.83	14.6	15.9	**7.36**	8.72	**32.0**	6.17	5.32	4.21	7.95	NA
PCB 44	3.88	3.79	3.63	3.61	3.81	3.06	**3.44**	DL	**15.3**	1.96	1.09	1.51	NA	NA
PCB 66/95	10.8	9.54	10.8	9.37	11.2	9.3	**3.5**	na	16.3	6.28	**2.74**	**2.69**	NA	NA
PCB 101/90	12.5	12.6	12.6	12.7	11.3	9.1	**9.7**	other	**51.9**	6.38	6.92	5.96	11.6	NA
PCB 118	11.1	11.3	11.1	11.2	16.8	10.6	**9.8**	5.58	**35.9**	6.40	8.20	7.28	NA	NA
PCB 153	13.8	14.5	14.8	15.4	19.2	13.6	**12.9**	other	**16.6**	9.47	11.4	9.02	**25.3**	NA
PCB 105	4.31	4.27	4.41	4.23	2.79	5.14	**4.47**	2.39	**8.94**	2.15	2.88	3.04	NA	NA
PCB 138/163/164	17.3	17.3	17.2	17.6	15.8	17.0	**13.4**	other	**17.2**	7.26	11.4	10.7	28.3	NA
PCB 187/182	4.34	4.14	4.01	4.27	5.11	4.99	**5.25**	other	4.19	2.93	3.66	4.62	NA	NA
PCB 128	2.21	2.45	2.33	2.34	2.32	2.68	**2.38**	**4.62**	2.81	1.49	1.31	1.26	NA	NA
PCB 180	7.19	6.97	7.19	7.33	**38.9**	6.27	**6.75**	DL	5.27	4.17	5.01	4.83	####	NA
PCB 170/190	2.70	2.65	2.55	2.74	**8.77**	3.32	**3.80**	other	2.29	2.55	**1.89**	2.11	NA	NA
PCB 195	<2	<2	<2	<2	0.44	0.87	**<0.4**	DL	<0.5	<1	DL	0.14	NA	NA
PCB 206	<2	<2	<2	<2	<0.40	0.35	**<0.3**	DL	<0.5	<1	DL	NA	NA	NA
PCB 209	<2	<2	<2	<2	<0.65	0.85	**<0.4**	DL	<0.5	<1	DL	NA	NA	NA
PCB 66	na	4.05	na	4.06	na	na	**na**	DL	na	2.48	na	2.19	NA	NA
PCB 95	na	5.50	na	5.31	na	na	**na**	NA	na	3.80	na	2.00	NA	NA

Table 4. (Mussel Tissue VIII (QA97TIS8) - PCBs) (continued)

ng/g (as received)

													Exercise Assigned			
14	15	16	17	18a	18b	19	21	22	23	24	25	26	Value	s	%RSD	95% CI
0.93	<3	NA	0.24	3.67	NA	1.45	NA	1.18	1.73	NA	<2	1.94	1.79	0.88	49	0.49
1.78	<3	NA	1.14	**6.14**	NA	3.21	5.62	1.78	1.25	NA	<2	1.57	2.28	0.70	31	0.37
5.80	**6.45**	NA	**3.60**	5.57	NA	5.42	5.75	4.40	5.81	NA	5.5	4.7	5.85	1.60	27	0.77
7.21	**6.15**	NA	3.38	11.9	NA	8.09	13.9	9.11	6.52	NA	7.3	6.1	8.41	3.31	39	1.55
2.06	<3	NA	2.68	4.11	NA	1.86	4.47	1.64	1.47	NA	4.79	1.27	2.82	1.22	43	0.61
na	**7.18**	NA	5.00	3.50	NA	6.93	NA	8.9	NA	NA	3.8	NA	8.89	3.49	39	2.22
8.26	**7.77**	NA	7.82	10.1	NA	8.43	11.9	8.4	10.9	NA	8.6	7.0	9.63	2.31	24	1.11
15.9	**8.50**	NA	13.3	9.94	NA	8.92	12.4	9.4	17.0	NA	9.8	10.4	10.9	3.2	29	1.5
13.0	**9.79**	NA	14.9	12.3	NA	12.1	18.8	11.4	15.4	NA	11.2	9.7	13.3	2.9	22	1.4
3.04	**4.15**	NA	3.86	3.02	NA	2.91	2.84	2.89	**7.36**	NA	2.45	2.53	3.29	0.85	26	0.42
11.9	**9.62**	NA	13.7	13.4	NA	12.1	18.1	12.2	17.4	NA	8.8	9.2	14.6	4.8	33	2.3
3.77	**3.29**	NA	3.49	5.31	NA	4.31	5.67	3.22	5.82	NA	3.51	2.78	4.22	0.87	21	0.42
1.91	<3	NA	**4.20**	2.09	NA	2.31	2.00	1.93	3.10	NA	1.70	1.09	2.07	0.55	26	0.27
32.6	<3	NA	**1.05**	6.99	NA	5.34	9.80	5.26	6.93	NA	5.10	4.90	6.46	1.86	29	0.96
3.06	**2.91**	NA	**0.31**	5.98	NA	2.68	3.81	2.17	4.40	NA	**2.10**	1.77	2.98	1.07	36	0.59
0.24	<3	NA	<5	<0.12	NA	<0.8	<0.37	< 1	<0.66	NA	<2	DL	<1			
DL	<3	NA	<5	<0.1	NA	<0.8	<0.38	< 1	<0.66	NA	<2	DL	<1			
DL	<3	NA	<5	<0.1	NA	NA	<0.45	< 1	<0.66	NA	<2	DL	<1			
3.24	na	NA	<5	na	NA	na	4.91	4.45	3.15	NA	na	2.38	3.56	0.96	27	0.80
5.52	na	NA	<5	na	NA	na	na	4.46	NA	NA	na	NA	4.43	1.37	31	1.44

Table 5. Marine Sediment VII (QA97SED7): Laboratory means of three replicates and exercise assigned values - Water and PAHs

(reported as if three figures were significant)

Laboratory No.	1a	1b	1c	1d	2	3	4	5	6	7	8	9	10	11	12
Water (percent)	47.8	47.8	47.8	47.8	47.5	49.1	47.7	48.6	48.1	48.3	48.1	49.3	48.6	51.2	47.6

PAHs ng/g dry basis

Laboratory No.	1a	1b	1c	1d	2	3	4	5	6	7	8	9	10	11	12
naphthalene	1055		1052		579	**573**	550	1018	970	NA	712	NA	**215**	710	**181**
2-methylnaphthalene	375		384		201	287	222	431	257	NA	305	NA	**87**	310	**NA**
1-methylnaphthalene	187		184		108	152	123	222	NA	NA	148	NA	134	154	**NA**
biphenyl	190		188		61.8	98.5	65.1	188	NA	NA	78.7	NA	109	88.2	**NA**
2,6-dimethylnaphthalene	181		182		123	209	145	241	NA	NA	156	NA	82	175	**NA**
acenaphthylene	52.2		53.3		117	130	80.2	59.9	197	NA	41.6	NA	122	134	**NA**
acenaphthene	85.5		88.9		58.2	73.8	**80.7**	89.9	DL	NA	58.5	NA	43.2	79.3	**54.9**
1,6,7-trimethylnaphthalene	81.1		86.8		76.2	**45.5**	**155**	66.8	NA	NA	NA	NA	60.0	121	**NA**
fluorene	160		165		95	120	100	191	153	NA	103	**53**	96	142	**82**
phenanthrene	913		926		626	766	999	1243	797	NA	757	660	493	989	**726**
anthracene	309		320		236	306	261	361	330	NA	175	202	179	337	**182**
1-methylphenanthrene	233		243		151	186	185	253	NA	NA	178	NA	NA	239	**NA**
fluoranthene	1720		1728		1133	1433	1497	1493	1403	NA	1122	1830	884	1957	**1378**
pyrene	1621		1619		1145	1373	1333	1427	1190	NA	**1012**	1780	879	1820	**1141**
benz[a]anthracene	811		815		575	674	863	877	587	NA	738	608	458	912	**442**
chrysene + triphenylene	1021		1044		686	643	815	1247	other	NA	661	803	673	1253	**650**
benzofluoranthenes [b+j+k]	2034		2044		1151	2620	1836	2227	other	NA	1879	2483	1126	2493	**1409**
benzo[e]pyrene	813		799		480	1063	786	1009	NA	NA	840	807	475	868	**1981**
benzo[a]pyrene	934		968		554	880	683	820	540	NA	608	719	538	1034	**772**
perylene	512		519		230	488	285	465	NA	NA	358	393	302	567	**NA**
indeno[1,2,3-cd]pyrene	710		714		464	529	711	740	377	NA	618	339	478	957	**950**
dibenz[a,h]anthracene + [a,c]	178		181		116	180	177	**<0.02**	other	NA	150	113	**115**	223	**145**
benzo[ghi]perylene	734		736		475	493	595	595	357	NA	620	331	572	803	**703**

Table 5. (Marine Sediment VII (QA97SED7) - Water and PAHs) (continued)

Study Statistics

13	14	15	16	17	18a	18b	19	20	21	22	24	26	27	Mean	s	%RSD	95% CI
52.0	49.0	47.8	51.1	51.0	49.4	49.4	48.9	49.3	50.2	49.7	50.2	48.2	48.3	49.0	1.2	3	0.5

ng/g dry basis

Exercise Assigned

13	14	15	16	17	18a	18b	19	20	21	22	24	26	27	Value	s	%RSD	95% CI
469	625	NA	937	969	N/A	408	NA	NA	1060	1040	821	NA	632	821	218	27	116
NA	264	NA	410	220	N/A	210	NA	NA	379	394	217	NA	275	290	91	31	45
NA	139	NA	217	107	N/A	107	NA	NA	231	200	100	NA	134	157	44	28	24
NA	79.4	NA	92.9	76.0	N/A	86.6	NA	NA	109	110	**74.0**	NA	**83.1**	106	44	41	23
159	118	NA	187	NA	N/A	96	NA	NA	213	123	178	NA	193	162	43	27	22
175	101	NA	43.5	46.0	N/A	45.2	NA	NA	71.0	92.9	**279**	NA	**153**	91.9	47.8	52	24.6
54.2	73.5	NA	83.2	90.0	N/A	**102**	NA	NA	84.9	85.3	90.7	NA	74.4	75.8	14.8	19	7.9
NA	46.7	NA	122	NA	N/A	**26.5**	NA	NA	83.3	57.5	109	NA	115	85.4	25.9	30	16.5
88	113	NA	160	137	127	**78.3**	NA	NA	136	139	132	NA	113	132	27	20	13
654	912	NA	779	1047	969	978	NA	NA	1077	896	971	NA	821	870	176	20	80
276	276	NA	216	280	423	317	NA	NA	326	271	429	NA	353	294	69	24	32
154	230	NA	182	NA	N/A	213	NA	NA	250	192	188	NA	188	204	33	16	18
1110	1703	NA	1330	1330	1577	1563	NA	NA	2017	1533	1490	NA	1640	1500	286	19	130
1051	1597	NA	1233	**1307**	1643	1563	NA	NA	1850	1477	1440	NA	1407	1445	264	18	127
563	819	NA	685	683	811	871	NA	NA	866	790	812	NA	849	746	128	17	58
763	1103	NA	876	**2033**	**670**	1063	NA	NA	1120	1103	906	NA	1034	934	202	22	100
1296	2003	NA	**2194**	1383	1118	2080	NA	NA	1990	1780	1750	NA	1827	1848	460	25	222
NA	810	NA	**934**	680	781	754	NA	NA	836	771	698	NA	699	776	145	19	72
552	771	NA	935	787	895	869	NA	NA	859	877	840	NA	772	783	152	19	69
NA	359	NA	**617**	247	414	392	NA	NA	411	424	345	NA	348	392	94	24	47
527	658	NA	761	**593**	498	741	NA	NA	703	659	659	NA	639	624	147	24	69
154	153	NA	**276**	147	**77**	139	NA	NA	160	179	123	NA	166	159	28	18	15
400	630	NA	843	597	605	623	NA	NA	737	669	476	NA	516	591	138	23	63

Table 6. Marine Sediment VII (QA97SED7): Laboratory means of three replicates and exercise assigned values - Pesticides

(reported as if three figures were significant)

ng/g dry basis

Laboratory No.	1a	1b	1c	1d	2	3	4	5	6	7	8	9	10	11	12
alpha-HCH	<2	<2	<2	<2	ND	NA	<2.4	NA	DL	<2	NA	NA	NA	<2.0	NA
hexachlorobenzene	62.3	65.6	65.5	64.2	50.7	42.2	51.7	44.3	other	62.6	NA	37.4	**9.8**	NA	NA
gamma-HCH	<2	<2	<2	<2	0.05	<0.6	<0.75	0.52	DL	<2	NA	DL	0.59	<2.0	NA
heptachlor	<2	<2	<2	<2	ND	<0.5	<0.32	0.55	DL	<2	NA	NA	NA	<2.0	NA
aldrin	<2	<2	<2	<2	ND	<0.7	<1.4	<0.35	DL	<2	NA	NA	NA	<2.0	NA
heptachlor epoxide	<2	<2	<2	<2	3.18	<0.5	<3.1	<0.35	DL	<2	NA	NA	NA	NA	NA
oxychlordane	<2	<2	<2	<2	0.90	NA	<2.4	NA	DL	<2	NA	NA	NA	<2.0	NA
trans-chlordane	2.11	2.05	2.06	2.03	Other	NA	3.65	NA	DL	3.31	NA	NA	4.67	4.10	NA
2,4'-DDE	2.40	2.40	2.43	2.35	1.38	<0.8	<1.6	4.44	3.16	<2	NA	NA	0.73	<2.0	NA
endosulfan I	<2	<2	<2	<2	ND	NA	NA	NA	DL	<2	NA	NA	NA	<2.0	NA
cis-chlordane	3.50	3.64	3.62	3.59	3.04	6.31	4.30	5.68	3.82	1.75	NA	3.47	4.58	3.50	NA
trans-nonachlor	1.83	1.84	1.83	1.83	1.50	2.85	**3.45**	2.67	0.81	1.49	NA	1.96	0.92	1.50	NA
dieldrin	1.66	1.70	1.59	1.65	1.70	other	3.40	2.71	DL	1.28	NA	NA	NA	2.55	NA
4,4'-DDE	13.6	13.8	13.6	13.4	9.7	17.1	8.4	8.7	6.8	8.80	NA	11.6	12.1	15.0	NA
2,4'-DDD	4.22	4.77	4.75	4.75	5.09	other	<1.6	4.10	**11.3**	2.79	NA	NA	1.77	<4.1	NA
endrin	<2	<2	<2	<2	ND	NA	<2.4	NA	2.00	<2	NA	NA	NA	<8.1	NA
endosulfan II	<2	<2	<2	<2	1.77	NA	NA	NA	DL	<2	NA	NA	NA	<2.0	NA
4,4'-DDD	14.1	14.3	14.5	14.6	12.3	NA	<0.86	12.1	12.6	8.34	NA	15.9	11.6	13.5	NA
2,4'-DDT	<2	<2	<2	<2	1.58	<1	<0.48	<0.35	DL	<2	NA	NA	NA	<2.0	NA
cis-nonachlor	<2	<2	<2	<2	1.47	NA	<0.72	NA	DL	2.93	NA	NA	1.14	<2.0	NA
4,4'-DDT	12.1	12.0	12.2	12.1	13.5	NA	<2.4	3.7	**10.2**	12.3	NA	16.2	15.1	5.95	NA
mirex	<2	<2	<2	<2	ND	1.11	<0.75	<0.35	DL	<2	NA	NA	NA	<6.1	NA

Table 6. (Marine Sediment VII (QA97SED7): Pesticides) (continued)

ng/g dry basis

														Exercise Assigned			
13	14	15	16	17	18a	18b	19	20	21	22	24	26	27	Value	s	%RSD	95% C
<2.5	NA	NA	NA	<10	NA	NA	<0.8	NA	N/A	< 0.2	NA	**7.02**	<1.6	<2			
30.4	63.9	43.6	NA	19.3	39.7	NA	29.0	NA	64.9	50.2	NA	40.0	52.3	49.0	13.9	28	6.7
<2.5	<6.9	<3	NA	<10	0.85	NA	<0.8	NA	1.55	< 0.2	NA	0.69	<1	<2			
<2.5	2.09	<3	NA	<10	1.03	NA	<0.8	NA	2.95	2.12	NA	**5.05**	2.58	<2			
<2.5	**35.8**	<3	NA	<10	<0.02	NA	<0.8	NA	<0.26	< 0.5	NA	DL	<1	<2			
<2.5	<0.8	<3	NA	<10	<0.1	NA	<0.8	NA	2.39	< 0.5	NA	DL	4.09	<3			
<2.5	NA	<3	NA	<10	NA	NA	NA	NA	2.28	3.96	NA	4.27	**1.09**	<2			
<2.5	NA	<3	NA	<10	NA	NA	3.69	NA	**20.5**	5.54	NA	1.74	3.40	3.20	1.21	38	0.82
<2.5	1.51	<3	NA	**8.77**	**4.22**	NA	1.37	NA	**5.79**	2.10	NA	4.29	0.62	2.25	1.19	53	0.72
<2.5	0.68	<3	NA	<10	NA	NA	<0.8	NA	N/A	< 0.5	NA	DL	NA	<2			
<2.5	**9.36**	<3	NA	<10	5.75	NA	2.96	NA	3.10	2.95	NA	2.71	3.71	3.79	1.13	30	0.56
<2.5	2.89	3.57	NA	<10	3.14	NA	1.84	NA	**3.19**	2.12	NA	1.34	1.28	1.96	0.75	38	0.37
<2.5	2.06	<3	NA	<10	**10.2**	NA	2.09	NA	4.21	1.27	NA	0.82	2.89	2.10	0.90	43	0.52
7.2	13.2	14.2	NA	<10	**16.0**	NA	8.2	NA	8.0	13.0	NA	8.92	11.5	11.3	2.9	26	1.4
<2.5	**11.9**	6.26	NA	2.13	5.62	NA	4.19	NA	**11.6**	7.14	NA	5.26	5.22	4.54	1.45	32	0.80
<5.0	NA	<3	NA	<10	NA	NA	<0.8	NA	N/A	< 2	NA	DL	<1.8	<2			
NA	<0.25	<3	NA	<10	NA	NA	<0.8	NA	N/A	< 1	NA	DL	**34.2**	<2			
10.7	24.0	21.1	NA	<10	15.1	NA	10.9	NA	17.6	16.5	NA	11.3	16.6	14.4	3.7	25.4	1.8
<5.0	2.65	<3	NA	4.70	<0.15	NA	<0.8	NA	2.16	2.68	NA	1.90	0.70	<3			
<2.5	NA	<3	NA	<10	NA	NA	0.96	NA	1.17	0.84	NA	0.88	1.98	<2			
9.87	**27.3**	8.21	NA	19.3	15.7	NA	14.2	NA	**15.6**	13.0	NA	6.25	**12.2**	12.2	3.9	31.7	2.1
<2.5	0.59	<3	NA	<10	<0.16	NA	<0.8	NA	0.62	< 0.5	NA	DL	<.5	<2			

Table 7. Marine Sediment VII (QA97SED7): Laboratory means of three replicates and exercise assigned values - PCBs

(reported as if three figures were significant)

ng/g dry basis

Laboratory No.	1a	1b	1c	1d	2	3	4	5	6	7	8	9	10	11	12
PCB 8	3.29	3.32	3.27	3.27	4.47	4.27	4.63	3.88	3.07	2.14	4.50	3.59	3.30	<2.0	**NA**
PCB 18	5.52	5.68	5.64	5.61	7.73	5.85	7.70	6.64	4.62	4.10	8.45	5.03	4.42	**12.5**	**NA**
PCB 28	16.2	16.2	16.0	16.3	20.7	11.0	12.2	9.8	11.8	11.5	24.8	13.0	11.6	20.5	**26.9**
PCB 52	13.4	13.4	13.5	13.4	14.1	10.7	11.1	15.9	7.5	12.6	12.4	14.1	11.3	16.5	**18.0**
PCB 44	9.74	9.85	9.80	9.88	8.89	9.63	7.37	11.13	7.08	9.76	8.59	9.24	10.4	12.00	**NA**
PCB 66/95	23.0	25.4	23.4	25.7	20.6	20.8	other	7.9	other	11.1	18.9	13.4	**9.79**	NA	**NA**
PCB 101/90	16.4	16.6	16.5	16.8	16.2	14.9	8.8	15.1	other	15.2	12.9	20.7	13.7	19.5	**18.5**
PCB 118	14.2	14.4	14.7	14.6	**11.4**	13.4	11.3	10.2	10.1	14.2	9.2	13.6	10.9	16.0	**NA**
PCB 153	22.4	22.6	22.3	22.7	17.8	15.6	**6.4**	**13.3**	other	13.4	16.8	23.3	13.6	17.5	**31.0**
PCB 105	5.50	5.58	5.57	5.56	3.37	6.75	2.80	6.54	2.58	4.03	3.60	6.67	8.02	<6	**NA**
PCB 138/163/164	17.3	17.4	17.5	18.0	14.8	19.8	7.7	12.6	other	11.6	11.5	19.2	17.6	19.0	**30.0**
PCB 187/182	8.19	8.68	8.75	8.65	7.12	8.86	3.20	7.27	other	6.52	5.52	11.43	8.42	9.70	**NA**
PCB 128	2.45	2.49	2.48	2.44	3.00	4.94	2.30	2.47	1.23	2.41	1.89	2.46	3.50	4.45	**NA**
PCB 180	9.34	9.37	9.30	9.77	9.98	12.55	5.07	11.33	DL	8.64	9.30	12.6	11.0	13.0	**15.4**
PCB 170/190	4.85	4.79	4.73	4.77	Other	6.40	<1.2	4.93	other	4.15	4.59	**18.8**	3.76	6.95	**NA**
PCB 195	<2	<2	<2	<2	2.38	1.38	<0.82	2.82	DL	0.82	1.03	3.09	0.95	2.00	**NA**
PCB 206	4.22	4.17	4.21	4.13	3.01	4.66	NA	**16.7**	DL	2.97	3.10	5.04	4.76	5.15	**NA**
PCB 209	8.17	8.18	8.22	8.21	5.82	9.75	NA	7.75	DL	6.35	6.94	11.5	10.1	11.0	**NA**
PCB 66	na	12.8	na	12.9	na	na	9.10	na	DL	na	9.07	**na**	9.79	16.0	**na**
PCB 95	na	12.7	na	12.8	na	na	8.95	na	NA	na	9.85	**na**	7.83	NA	**na**

Table 7. (Marine Sediment VII (QA97SED7): PCBs) (continued)

ng/g dry basis

														Exercise Assigned			
13	14	15	16	17	18a	18b	19	20	21	22	24	26	27	Value	s	%RSD	95% C
NA	**7.97**	2.95	NA	3.57	5.72	NA	2.49	3.95	N/A	4.73	**<0.1**	4.11	**10.9**	3.73	0.84	23	0.40
NA	**12.8**	**<3**	NA	7.27	**0.86**	NA	5.42	7.25	10.8	9.17	7.01	7.48	**7.92**	6.57	1.71	26	0.80
NA	18.7	8.7	NA	16.2	11.4	NA	11.1	14.6	12.9	11.9	19.9	13.1	**35.5**	14.6	4.1	28	1.8
NA	17.9	**<3**	NA	**14.7**	15.5	NA	10.7	15.4	18.5	16.1	21.4	14.1	14.7	14.0	3.0	22	1.3
NA	11.6	<8	NA	**<5**	11.8	NA	7.69	10.9	11.0	10.4	15.3	8.69	11.4	10.1	1.8	18	0.8
NA	17.5	20.5	NA	7.4	13.7	NA	17.2	17.3	na	31.5	18.9	NA	27.0	19.0	6.4	34	3.1
NA	18.9	**17.8**	NA	5.0	19.4	NA	11.5	19.5	22.1	18.2	28.7	15.4	20.6	16.6	4.7	29	2.1
NA	19.1	13.5	NA	5.8	13.4	NA	10.3	13.2	11.3	11.6	10.7	12.5	15.7	12.7	2.7	21	1.1
NA	19.1	20.4	NA	8.3	23.7	NA	12.6	19.4	23.2	18.1	**14.0**	16.0	23.4	18.7	4.3	23	2.0
NA	4.71	**9.13**	NA	<5	5.24	NA	4.44	4.88	3.41	4.34	**11.7**	4.13	4.48	4.87	1.40	29	0.64
NA	26.5	18.3	NA	8.0	23.8	NA	13.8	19.7	18.4	17.3	17.2	12.1	28.5	17.0	5.0	30	2.1
NA	**26.6**	9.41	NA	3.97	12.5	NA	5.28	10.7	9.01	7.06	6.52	4.71	10.7	7.92	2.39	30	1.03
NA	4.79	3.01	NA	<5	2.69	NA	2.03	3.82	1.27	3.04	1.57	1.09	**1.61**	2.69	1.05	39	0.46
NA	16.9	9.07	NA	**<5**	11.2	NA	7.41	12.1	12.2	12.4	2.68	8.98	12.6	10.4	2.9	28	1.3
NA	**4.38**	6.13	NA	<5	6.34	NA	3.39	5.72	4.27	4.48	6.95	2.71	**38.8**	4.99	1.20	24	0.60
NA	**4.96**	2.98	NA	<5	0.54	NA	0.89	2.17	0.87	1.15	0.32	0.87	3.48	1.56	0.93	60	0.51
NA	**16.8**	3.84	NA	<5	3.92	NA	2.57	5.20	2.59	4.31	3.79	DL	4.02	3.98	0.82	21	0.39
NA	14.6	8.41	NA	<5	7.56	NA	NA	9.73	8.35	9.11	14.9	3.86	12.1	9.34	2.45	26	1.15
NA	**na**	na	NA	**<5**	na	NA	na	na	12.4	17.8	NA	10.9	13.2	12.4	2.9	23	2.1
NA	**na**	na	NA	**<5**	na	NA	na	na	na	13.7	NA	NA	13.8	11.4	2.4	21	2.2

Table 8. Mussel VIII: Summary of number of z-scores (25%) by laboratory by category - PAHs

Laboratory	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U
1a	96	4	18	3	1
1b	0	0	0	0	0
1c	96	4	18	2	2
1d	0	0	0	0	0
1e	35	9	8	0	0
2	100	0	17	3	2
3	83	17	**11**	**0**	**8**
5	35	65	8	0	0
6	0	70	0	0	0
7	0	0	0	0	0
8	74	22	17	0	0
9	30	30	**5**	**0**	***2***
10	100	0	**5**	**6**	**11**
12	57	4	11	1	1
13	0	0	0	0	0
14	83	17	17	1	0
15	0	0	0	0	0
16	100	0	21	1	0
17	48	39	6	5	0
18a	39	0	8	1	0
18b	83	17	**13**	**0**	**6**
19	0	0	0	0	0
21	100	0	18	4	0
22	52	48	12	0	0
23	100	0	20	2	0
24	96	4	18	1	2
25	57	43	11	2	0
26	0	0	0	0	0

Bolded if >20% of z-scores were "U"

Italicized if >10% but <20% of z-scores were "U"

Table 9. Mussel VIII: Summary of number of z-scores by laboratory by category - pesticides and PCBs

	Pesticides					PCBs				
Laboratory	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U
1a	36	64	8	0	0	83	17	15	0	0
1b	36	64	8	0	0	83	17	15	0	0
1c	36	64	8	0	0	83	17	15	0	0
1d	36	64	8	0	0	83	17	15	0	0
1e	0	0	0	0	0	0	0	0	0	0
2	73	27	*8*	*1*	*1*	89	11	**10**	**2**	**3**
3	46	23	**4**	**1**	**2**	100	0	12	2	1
5	50	18	8	1	0	83	17	14	1	0
6	36	59	**2**	**0**	**5**	39	56	*6*	*0*	*1*
7	46	55	5	1	0	83	17	**6**	**0**	**9**
8	0	0	0	0	0	83	17	12	2	1
9	9	23	2	0	0	83	17	13	2	0
10	36	0	*2*	*3*	*1*	89	0	14	1	0
12	0	0	0	0	0	33	0	**3**	**1**	**2**
13	5	86	1	0	0	0	0	0	0	0
14	68	32	8	0	0	83	11	13	0	1
15	9	86	1	0	0	56	44	10	0	0
16	0	0	0	0	0	0	0	0	0	0
17	18	82	**2**	**1**	**1**	83	17	**10**	**1**	**4**
18a	46	23	*6*	*1*	*1*	83	17	**11**	**1**	**3**
18b	0	0	0	0	0	0	0	0	0	0
19	36	59	7	0	0	83	11	15	0	0
21	55	27	8	0	0	72	17	9	3	1
22	14	86	3	0	0	83	17	15	0	0
23	73	23	**5**	**2**	**2**	78	17	12	1	1
24	0	0	0	0	0	0	0	0	0	0
25	36	41	*6*	*0*	*1*	72	28	11	2	0
26	77	23	**7**	**1**	**2**	78	17	13	1	0

Bolded if >20% of z-scores were "U"

Italicized if >10% but <20% of z-scores were "U"

z category:		
≤ 2	Satisfactory	S
2 to 3	Questionable	Q
≥ 3	Unsatisfactory	U

Table 10. Sediment VII: Summary of number of z-scores (25%) by laboratory by category - PAHs

Laboratory	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U
1a	100	0	22	0	1
1b	0	0	0	0	0
1c	100	0	22	0	1
1d	0	0	0	0	0
2	100	0	23	0	0
3	100	0	23	0	0
4	100	0	22	0	1
5	96	4	21	0	1
6	52	17	11	0	1
7	0	0	0	0	0
8	96	0	21	1	0
9	61	0	13	1	0
10	96	0	20	2	0
11	100	0	22	1	0
12	65	0	*12*	*1*	*2*
13	74	0	16	0	1
14	100	0	23	0	0
15	0	0	0	0	0
16	100	0	20	3	0
17	87	0	19	0	1
18a	61	39	13	1	0
18b	100	0	20	3	0
19	0	0	0	0	0
20	0	0	0	0	0
21	100	0	23	0	0
22	100	0	23	0	0
24	100	0	22	0	1
26	0	0	0	0	0
27	100	0	22	1	0

Bolded if >20% of z-scores were "U"

Italicized if >10% but <20% of z-scores were "U"

Table 11. Sediment VII: Summary of number of z-scores by laboratory by category - pesticides and PCBs

	Pesticides					PCBs				
Laboratory	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U	Results, % Quantitative	Results, % Qualitative	Number of z (25%) by category S	Q	U
1a	46	55	10	0	0	94	6	17	0	0
1b	46	55	10	0	0	94	6	17	0	0
1c	46	55	10	0	0	94	6	17	0	0
1d	46	55	10	0	0	94	6	17	0	0
2	68	32	9	0	0	89	11	15	1	1
3	23	36	2	2	0	100	0	17	0	1
4	27	64	*4*	*1*	*1*	72	17	9	4	0
5	50	18	*7*	*1*	*1*	100	0	*15*	*1*	*2*
6	36	64	*5*	*1*	*1*	44	56	7	1	0
7	46	55	8	1	0	100	0	18	0	0
8	0	0	0	0	0	100	0	17	1	0
9	27	5	6	0	0	100	0	*16*	*0*	*2*
10	50	0	*5*	*3*	*1*	100	0	17	1	0
11	32	59	6	1	0	83	11	13	1	1
12	0	0	0	0	0	33	0	**3**	**1**	**2**
13	18	77	4	0	0	0	0	0	0	0
14	64	14	**5**	**1**	**3**	100	0	**8**	**4**	**6**
15	27	68	*5*	*0*	*1*	83	17	*13*	*0*	*2*
16	0	0	0	0	0	0	0	0	0	0
17	23	77	**0**	**3**	**1**	56	44	5	5	0
18a	50	18	**5**	**2**	**2**	100	0	14	3	1
18b	0	0	0	0	0	0	0	0	0	0
19	50	45	10	0	0	94	0	17	0	0
20	0	0	0	0	0	100	0	18	0	0
21	77	5	**5**	**1**	**4**	89	0	14	2	0
22	64	36	8	2	0	100	0	17	1	0
24	0	0	0	0	0	94	6	*10*	*5*	*2*
26	73	27	*8*	*1*	*1*	89	6	14	2	0
27	73	23	9	1	0	100	0	**13**	**1**	**4**

Bolded if >20% of z-scores were "U"

Italicized if >10% but <20% of z-scores were "U"

z category:

≤ 2	**Satisfactory**	**S**
2 to 3	**Questionable**	**Q**
≥ 3	**Unsatisfactory**	**U**

Table 12. Mussel VIII: Summary of number of p-scores (15%) by laboratory by category

	PAHs			Pesticides			PCBs		
	Number of p-scores by category			Number of p-scores by category			Number of p-scores by category		
Laboratory	S	Q	U	S	Q	U	S	Q	U
1a	22	0	0	8	0	0	15	0	0
1b	0	0	0	8	0	0	15	0	0
1c	22	0	0	8	0	0	15	0	0
1d	0	0	0	8	0	0	15	0	0
1e	8	0	0	0	0	0	0	0	0
2	*18*	*1*	*4*	**7**	**4**	**5**	15	1	0
3	14	4	1	**2**	**5**	**3**	15	2	1
5	7	0	0	11	0	0	15	0	0
6	0	0	0	**4**	**2**	**2**	*5*	*1*	*1*
7	0	0	0	9	1	0	15	0	0
8	16	1	0	0	0	0	14	0	1
9	7	0	0	2	0	0	13	2	0
10	*10*	*9*	*4*	9	0	0	14	1	0
12	12	1	0	0	0	0	6	0	0
13	0	0	0	1	0	0	0	0	0
14	**11**	**3**	**5**	**9**	**0**	**6**	**7**	**5**	**3**
15	0	0	0	2	0	0	10	0	0
16	*17*	*2*	*4*	0	0	0	0	0	0
17	10	1	0	4	0	0	11	3	1
18a	9	0	0	**3**	**2**	**5**	**6**	**6**	**3**
18b	*13*	*3*	*3*	0	0	0	0	0	0
19	0	0	0	8	0	0	15	0	0
21	23	0	0	11	0	0	13	0	0
22	12	0	0	3	0	0	15	0	0
23	21	2	0	16	0	0	14	0	0
24	0	0	0	0	0	0	0	0	0
25	13	0	0	8	0	0	13	0	0
26	0	0	0	**1**	**3**	**13**	*12*	*0*	*2*
Acceptable	**1a,1c,1e,3,5,8,9,12, 17,18a,21,22,23,25**			**1a,1b,1c,1d,5,7, 10,19,21,23,25**			**1a,1b,1c,1d,2,3,5,7,8,9, 10,12,15,17,19,21,22,23,25**		
Fair	**14**						**6,26**		
Others				**2,3,6,14,18a,26**			**14,18a**		
Few analytes determined				**9,13,15,17,22,**					

Bolded if >20% of p-scores were "U" *Italics if >10% but <20% of p-scores were "U"*

Table 13. Sediment VII: Summary of number of p-scores (15%) by laboratory by category

	PAHs			Pesticides			PCBs		
	Number of p-scores by category			Number of p-scores by category			Number of p-scores by category		
Laboratory	S	Q	U	S	Q	U	S	Q	U
1a	23	0	0	10	0	0	17	0	0
1b	0	0	0	10	0	0	17	0	0
1c	23	0	0	10	0	0	17	0	0
1d	0	0	0	10	0	0	17	0	0
2	23	0	0	**10**	**1**	**3**	15	1	1
3	23	0	0	5	0	0	18	0	0
4	22	1	0	*5*	*0*	*1*	12	0	1
5	22	0	0	11	0	0	18	0	0
6	4	7	1	**2**	**4**	**2**	**1**	**3**	**4**
7	0	0	0	10	0	0	18	0	0
8	22	0	0	0	0	0	18	0	0
9	14	0	0	6	0	0	18	0	0
10	20	1	1	10	0	1	18	0	0
11	22	1	0	6	1	0	14	0	1
12	15	0	0	0	0	0	6	0	0
13	13	4	0	3	1	0	0	0	0
14	21	1	1	**9**	**2**	**3**	*13*	*3*	*2*
15	0	0	0	6	0	0	14	0	1
16	23	0	0	0	0	0	0	0	0
17	20	0	0	5	0	0	9	1	0
18a	14	0	0	10	0	1	15	3	0
18b	18	3	2	0	0	0	0	0	0
19	0	0	0	11	0	0	17	0	0
20	0	0	0	0	0	0	18	0	0
21	23	0	0	17	0	0	16	0	0
22	23	0	0	14	0	0	18	0	0
24	0	0	0	0	0	0	0	0	0
26	0	0	0	8	7	1	15	1	0
27	23	0	0	15	1	0	18	0	0
Acceptable	**1a,1c,2,3,4,5,6,8,9,10,11,12, 13,14,16,17,18a,18b,21,22,27**			**1a,1b,1c,1d,3,5,7,9,10,11, 15,17,18a,19,21,22,26,27**			**1a,1b,1c,1d,2,3,4,5,7,8,9,10,11, 12,15,17,18a,19,20,21,22,26,27**		
Fair				**4**			**14**		
Others				**2,6,14**			**6**		
Few analytes determined				**13**					

Bolded if >20% of p-scores were "U" *Italics if >10% but <20% of p-scores were "U"*

Table 14. Mussel Tissue VIII: Summary of median |z-scores| and |p-scores| by laboratory

Laboratory	median |z| (25%) PAH	Pesticides	PCB	median |p| (15%) PAH	Pesticides	PCB
1a	0.5	0.8	0.4	0.3	0.4	0.5
1b		0.7	0.7		0.4	0.4
1c	0.5	0.8	0.6	0.2	0.3	0.3
1d		0.8	0.5		0.4	0.3
1e	0.3			0.3		
2	0.9	1.2	1.4	0.8	*2.1*	0.6
3	1.5	1.8	0.4	0.9	*2.2*	0.9
5	0.9	0.8	0.6	0.2	0.3	0.1
6		**6.0**	1.1		1.8	1.1
7		1.6	**4.8**		0.8	0.4
8	0.3		1.3	1.0		1.2
9	1.3	1.6	0.9	0.7	0.8	0.7
10	**3.1**	*2.2*	1.3	*2.2*	0.4	0.4
12	1.2		2.3	0.7		0.5
13		1.5			1.1	
14	0.7	0.6	0.6	1.3	1.9	*2.0*
15		1.9	0.9		0.5	0.7
16	0.7			0.8		
17	1.8	1.5	1.5	1.1	1.6	1.8
18a	0.9	1.0	0.3	0.6	**3.2**	*2.1*
18b	0.6			1.0		
19		0.6	0.5		0.5	0.5
21	1.2	0.7	1.1	0.3	0.1	0.2
22	0.5	0.9	0.6	0.3	0.4	0.2
23	0.3	1.2	1.2	0.6	0.1	0.1
24	0.6					
25	0.6	0.9	0.7	0.5	0.7	0.2
26		1.7	1.1		**3.8**	1.4

2 to 3 *Italics*

≥ 3 **Bolded**

Table 15. Sediment VII: Summary of median |z-scores| and |p-scores| by laboratory

Laboratory	median |z| (25%)			median |p| (15%)		
	PAH	Pesticides	PCB	PAH	Pesticides	PCB
1a	0.6	0.3	0.4	0.2	0.3	0.2
1b		0.3	0.4		0.2	0.1
1c	0.6	0.3	0.4	0.1	0.3	0.1
1d		0.2	0.4		0.3	0.2
2	1.1	0.6	0.5	1.0	1.2	0.9
3	0.5	1.9	0.6	0.3	1.1	0.5
4	0.5	0.8	1.1	0.6	0.2	0.4
5	0.9	1.2	0.6	0.4	0.8	0.4
6	0.7	1.6	1.2	*2.2*	*2.2*	**3.2**
7		1.1	0.8		0.4	0.2
8	0.5		1.0	0.6		0.5
9	0.9	0.4	0.9	0.6	0.4	0.3
10	1.4	1.8	0.8	1.3	0.7	0.3
11	0.9	0.9	1.0	0.9	1.0	0.2
12	1.1		*2.3*	0.2		0.6
13	1.0	1.2		1.5	1.6	
14	0.4	1.9	*2.1*	0.8	1.8	1.6
15		1.4	0.5		0.6	0.7
16	0.8			0.2		
17	0.6	*2.4*	*2.1*	0.4	0.9	0.8
18a	0.5	1.7	0.8	0.2	0.7	0.5
18b	0.6			0.3		
19		0.8	1.0		0.7	0.7
20			0.4			0.4
21	0.6	1.9	0.8	0.4	0.4	0.3
22	0.3	0.6	0.4	0.2	0.3	0.2
24	0.4		1.6			
26		1.2	0.6		1.9	0.9
27	0.4	0.4	1.1	0.3	0.4	0.3

2 to 3 *Italics*

≥ 3 **Bolded**

List of Figures

Figure 1. Mussel Tissue VIII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

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Figure 3. Mussel Tissue VIII: PCB mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

Figure 4. Marine Sediment VII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

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Figure 18. Marine Sediment VII: PCB z-scores (25%) by laboratory

Figure 1a. Mussel Tissue VIII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

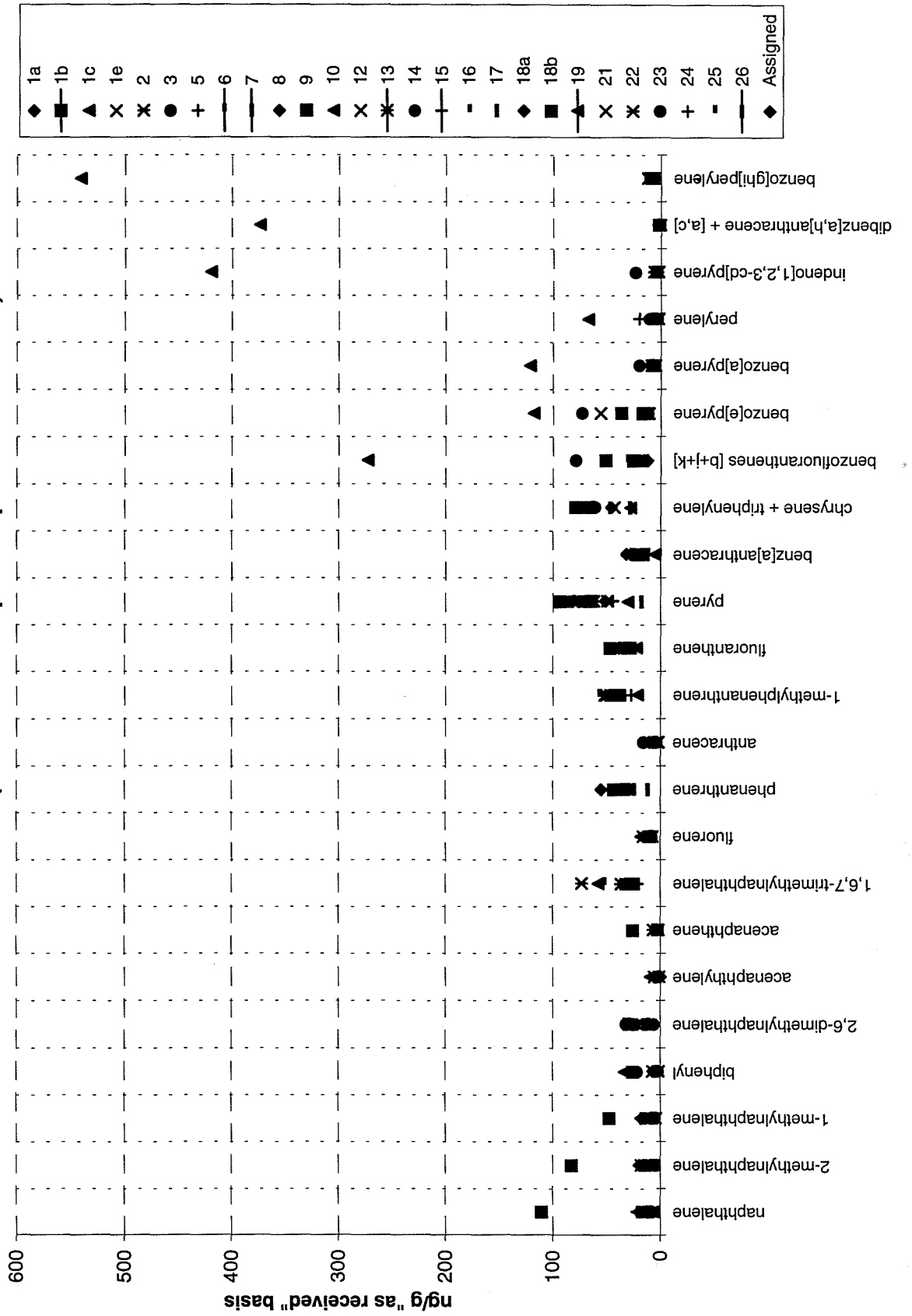


Figure 1b. Mussel Tissue VIII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

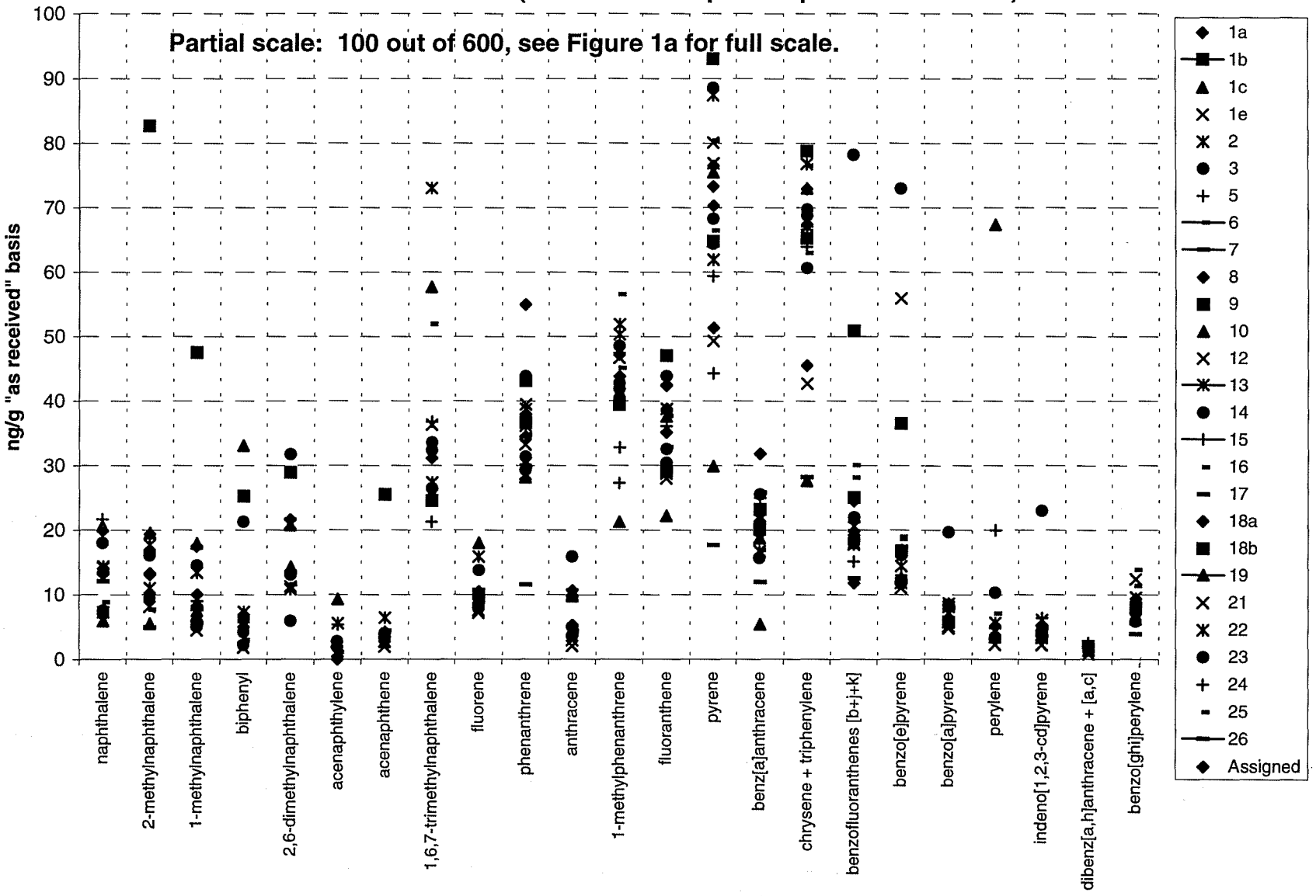
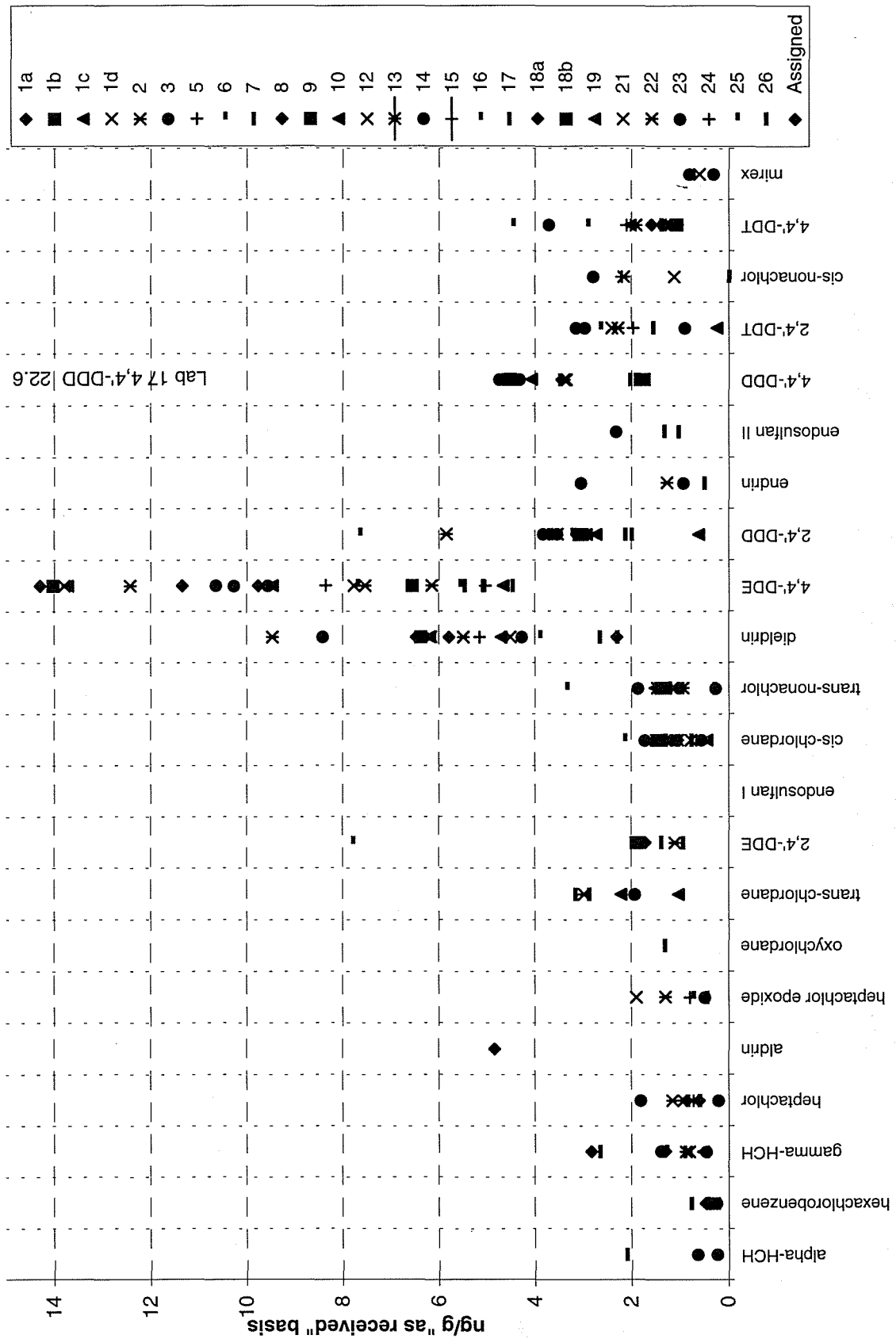


Figure 2. Mussel Tissue VIII: Pesticide mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)



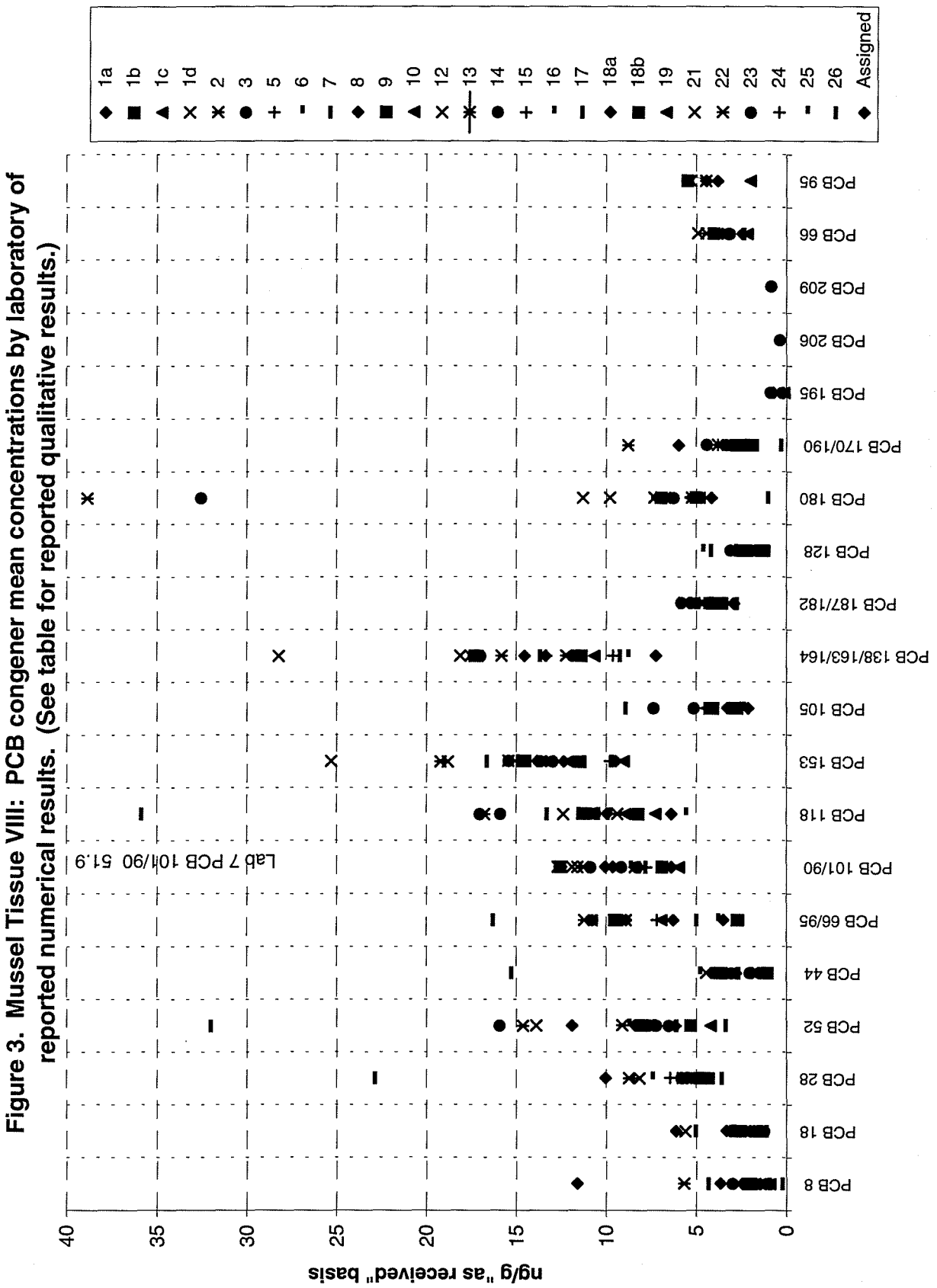


Figure 3. Mussel Tissue VIII: PCB congener mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)
ng/g "as received" basis
0
5
10
15
20
25
30
35
40
PCB 8
PCB 18
PCB 28
PCB 52
PCB 44
PCB 66/95
PCB 101/90
PCB 118
PCB 153
PCB 105
PCB 138/163/164
PCB 187/182
PCB 128
PCB 180
PCB 170/190
PCB 195
PCB 206
PCB 209
PCB 66
PCB 95
Lab 7 PCB 101/90 51.9
1a
1b
1c
1d
2
3
5
6
7
8
9
10
12
13
14
15
16
17
18a
18b
19
21
22
23
24
25
26
Assigned

Figure 4a. Marine Sediment VII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

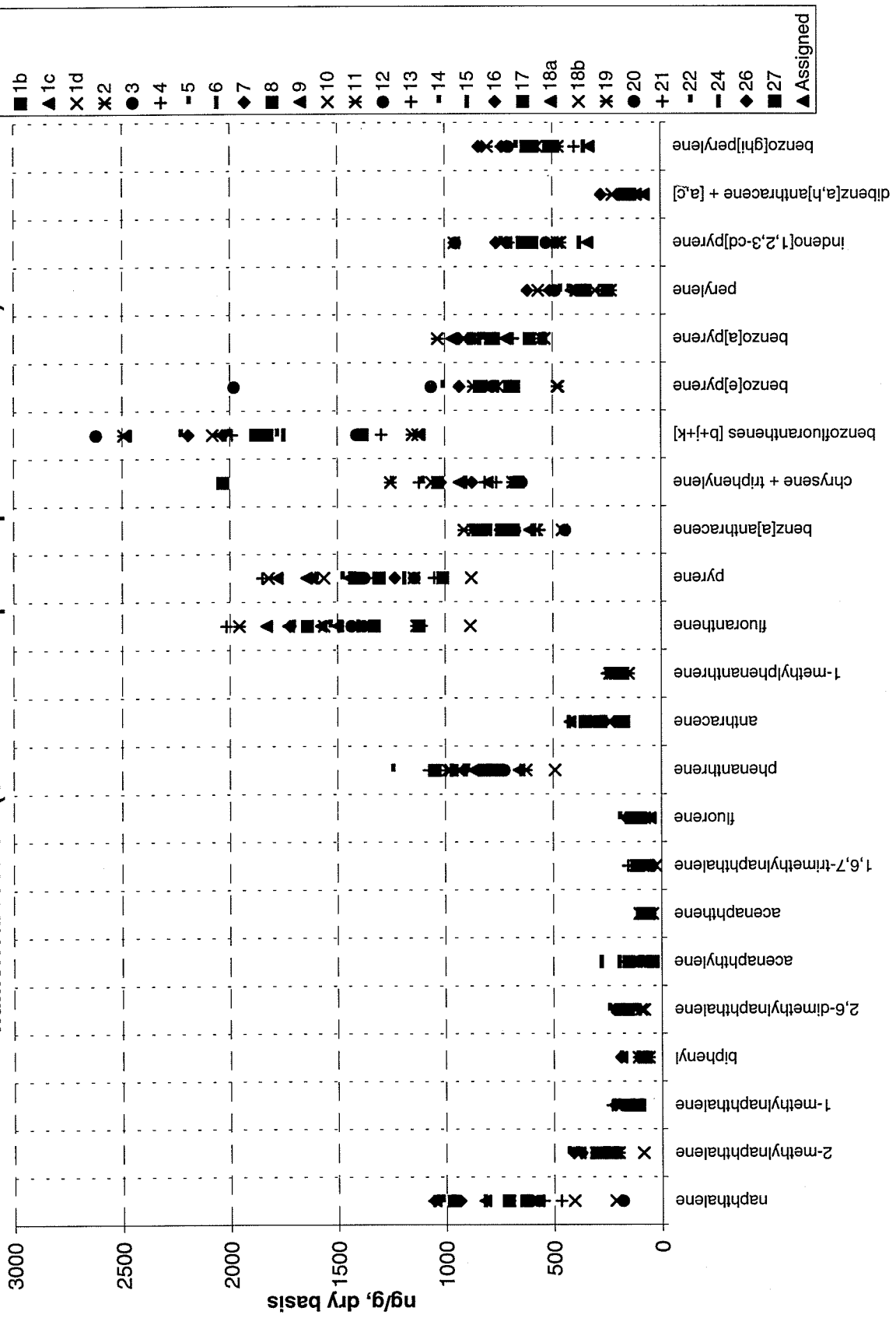


Figure 4b. Marine Sediment VII: PAH mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

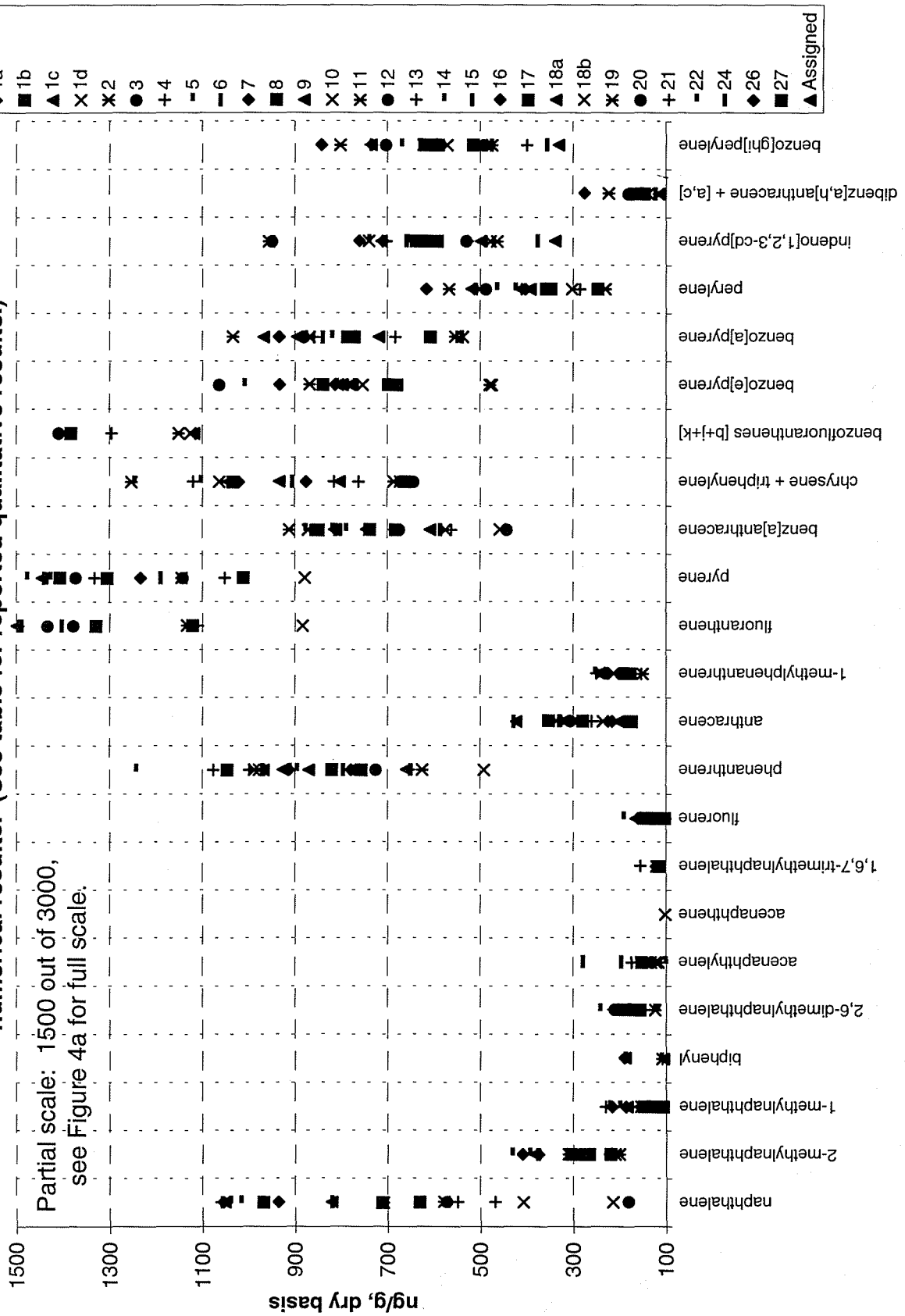


Figure 5a. Marine Sediment VII: Pesticide mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

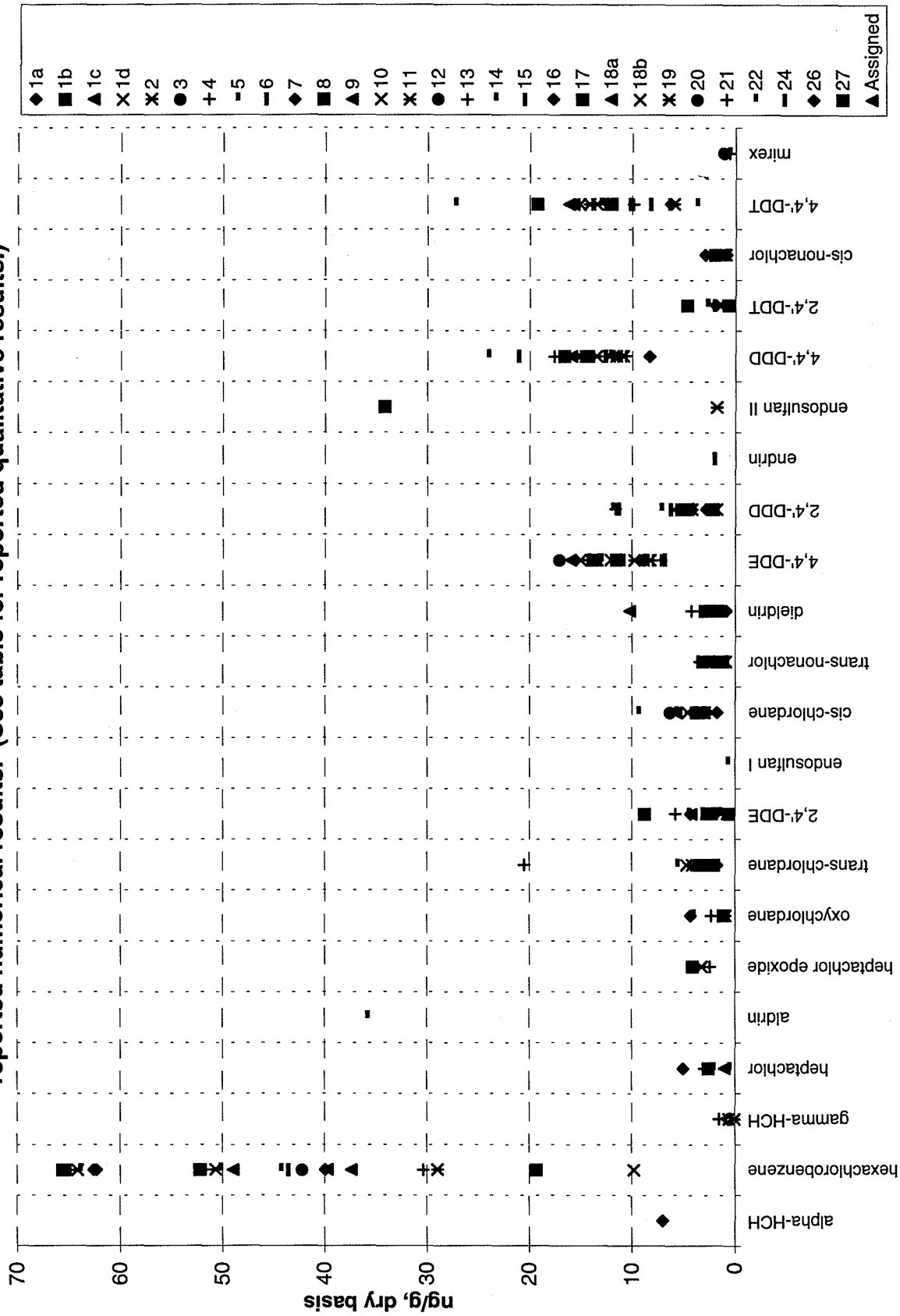
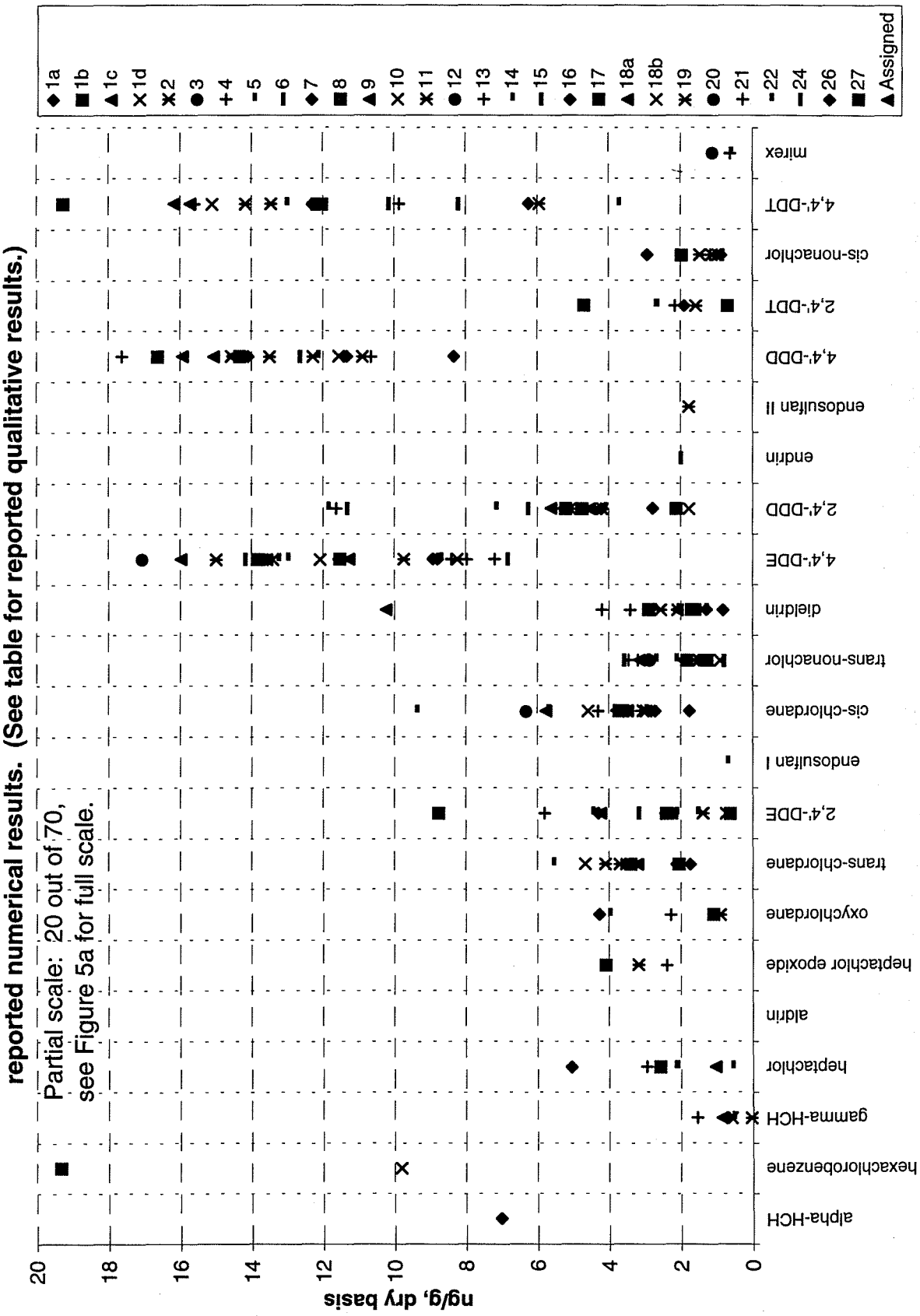


Figure 5b. Marine Sediment VII: Pesticide mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)



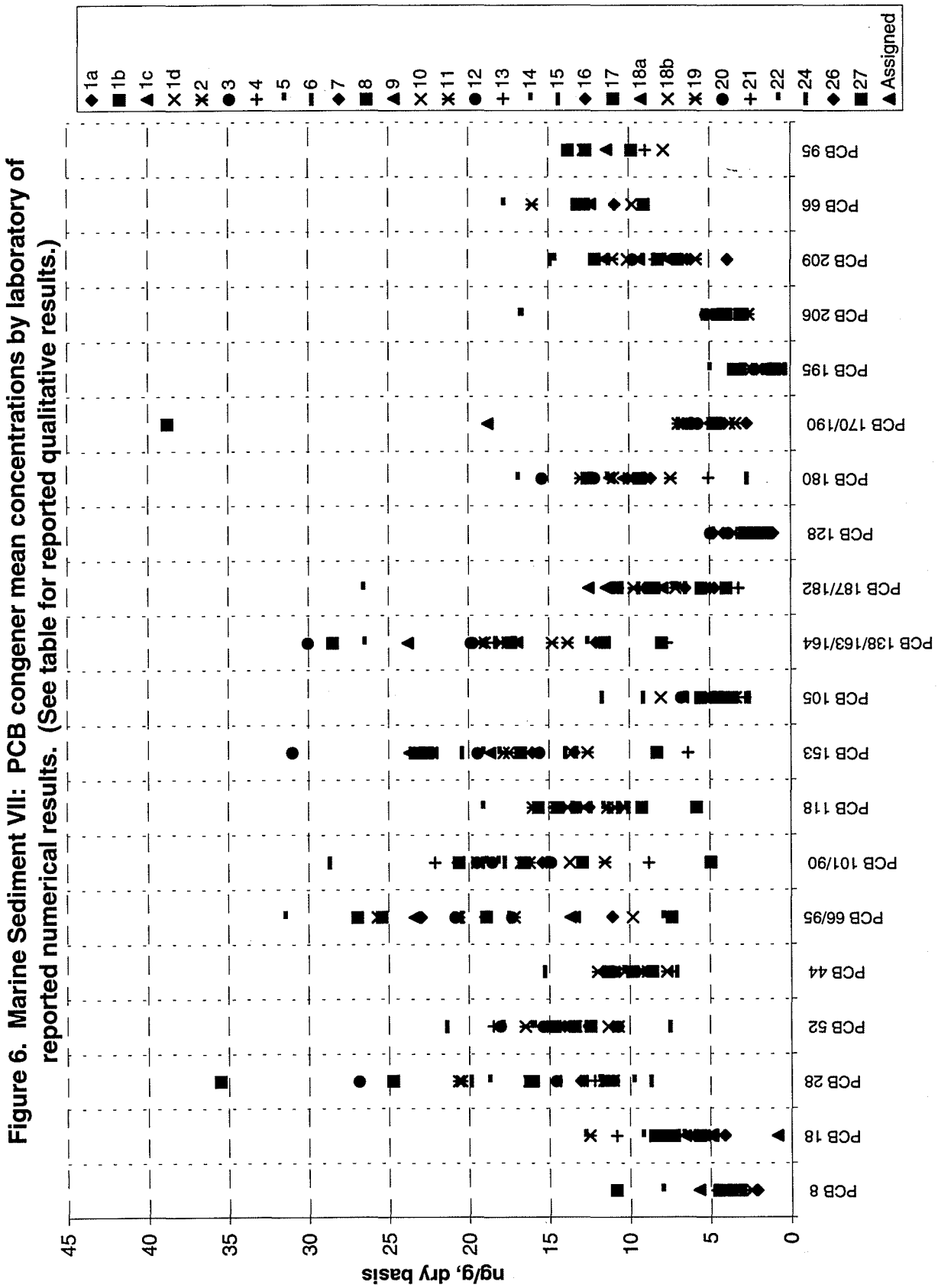


Figure 6. Marine Sediment VII: PCB congener mean concentrations by laboratory of reported numerical results. (See table for reported qualitative results.)

Figure 7. Mussel Tissue VIII: PAH z-scores (25%) by analyte

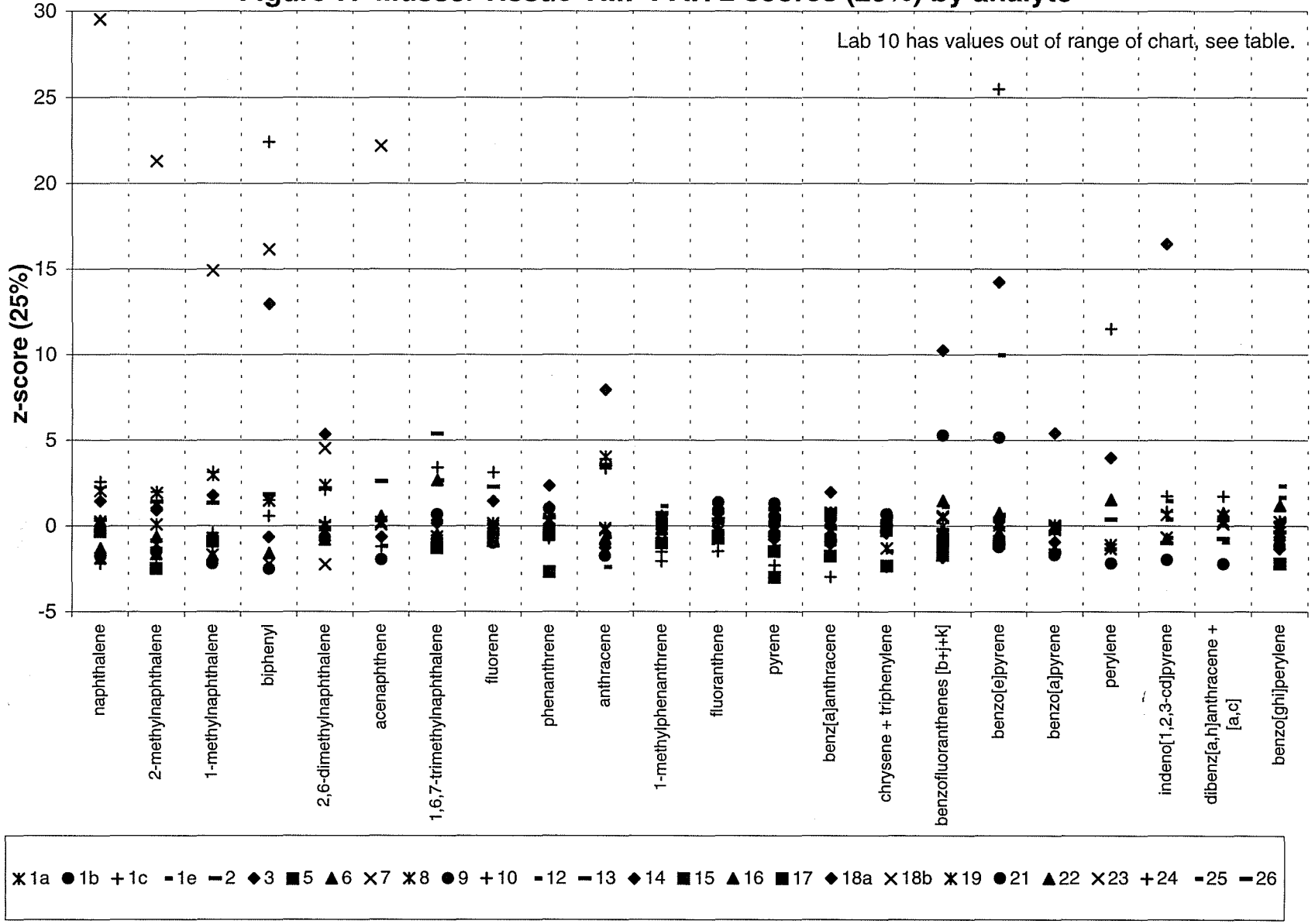


Figure 8. Mussel Tissue VIII: Pesticide z-scores (25%) by analyte

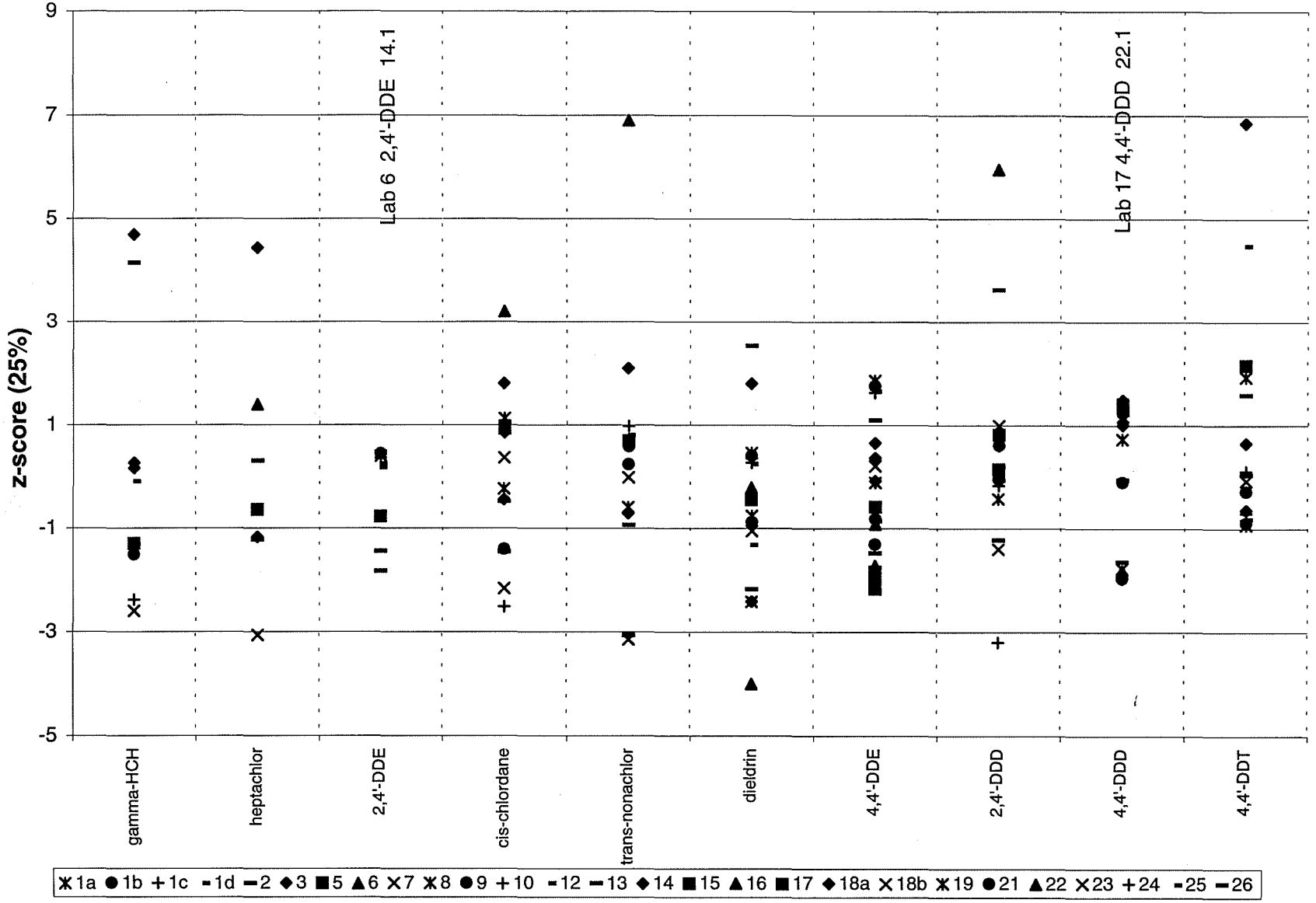


Figure 9. Mussel Tissue VIII: PCB congener z-scores (25%) by analyte

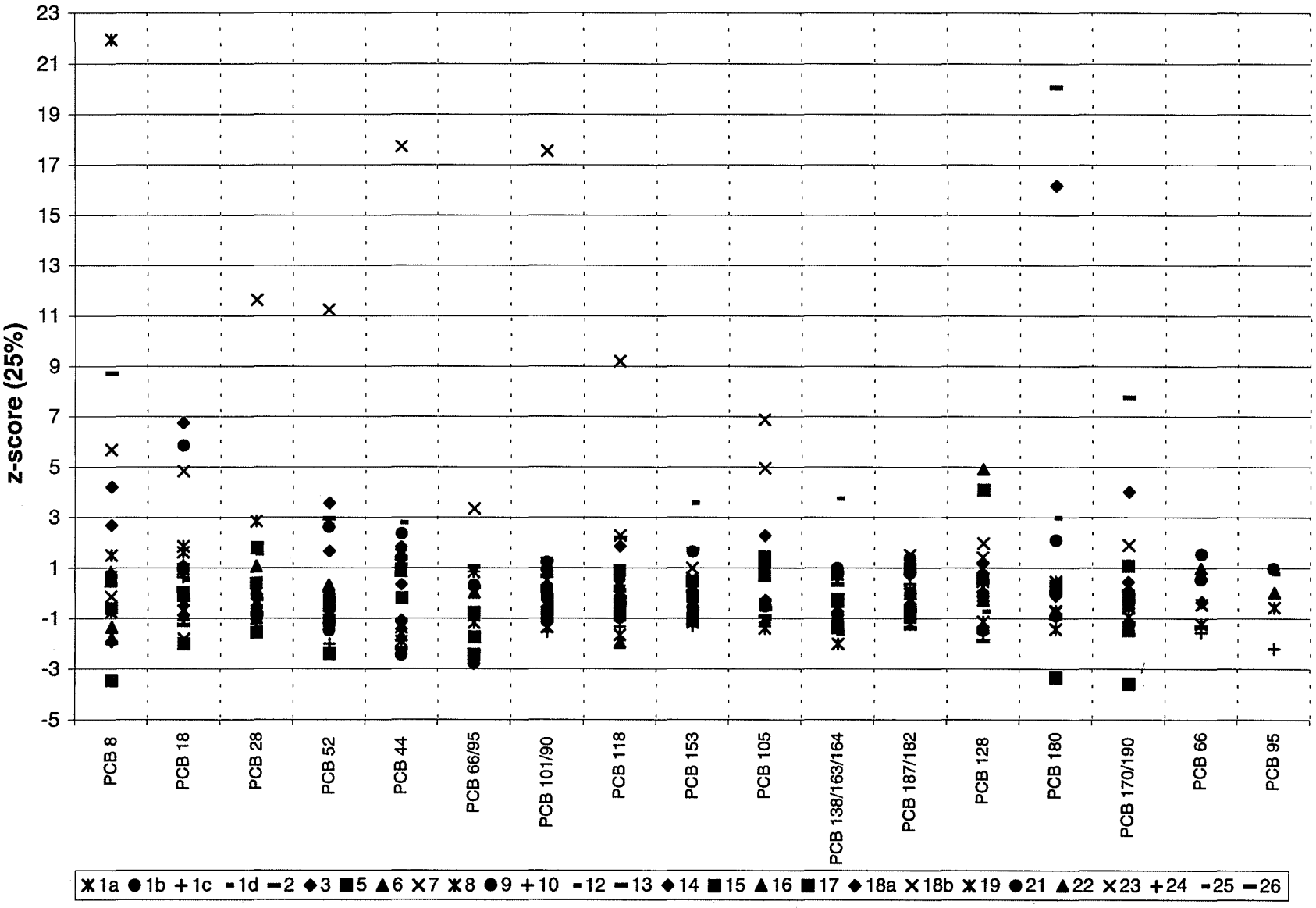


Figure 10. Marine Sediment VII: PAH z-scores (25%) by analyte

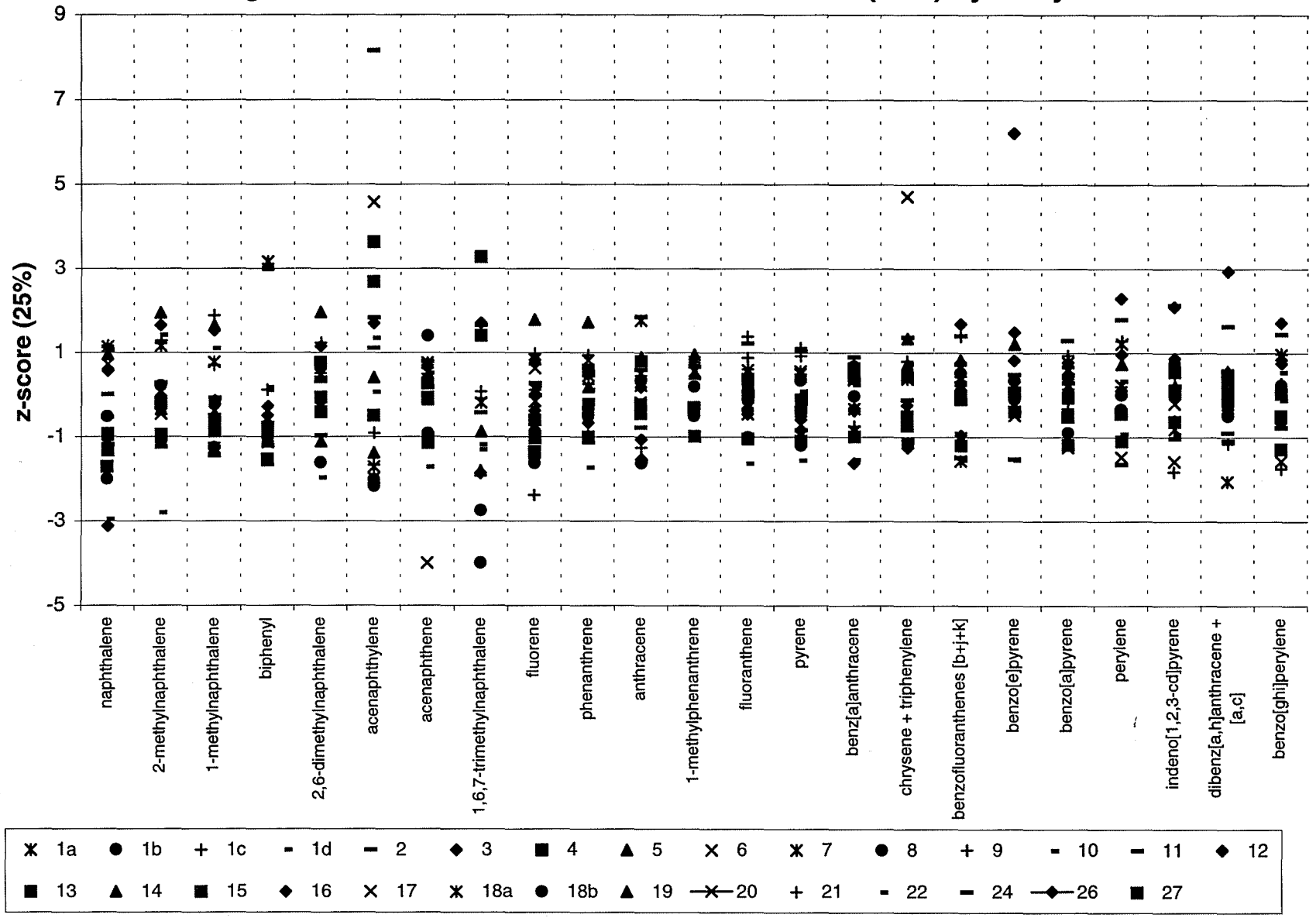
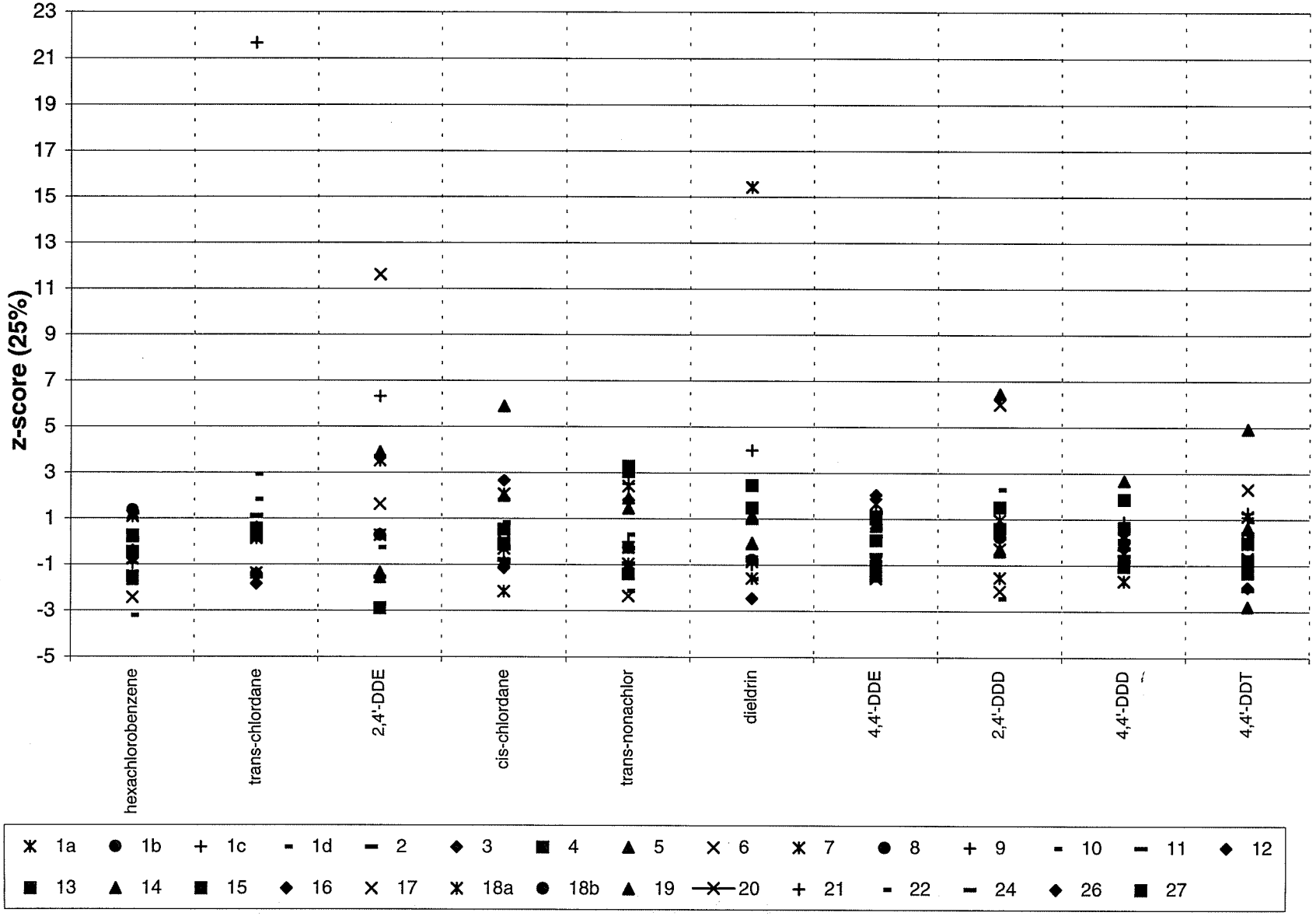


Figure 11. Marine Sediment VII: Pesticide z-scores (25%) by analyte



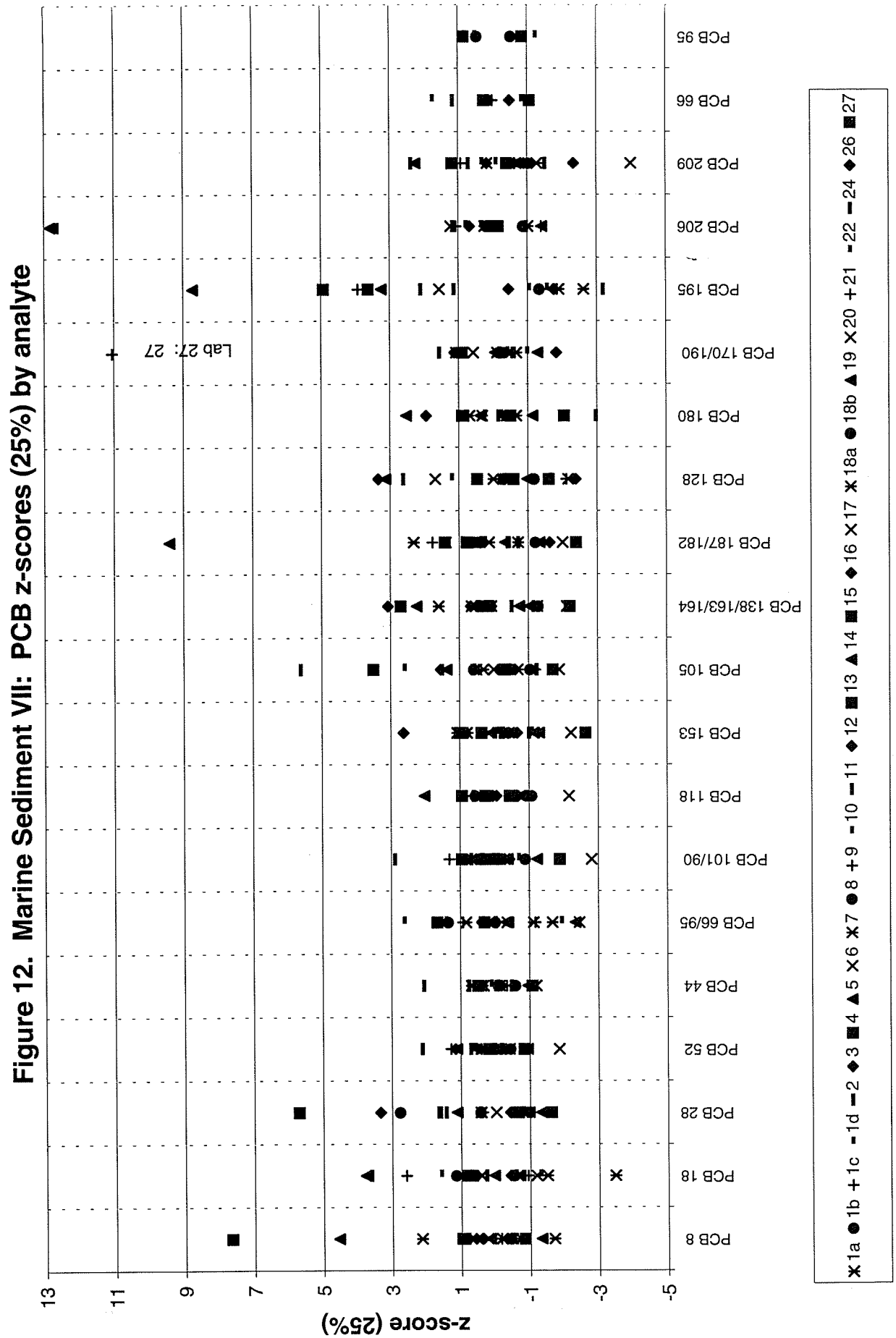
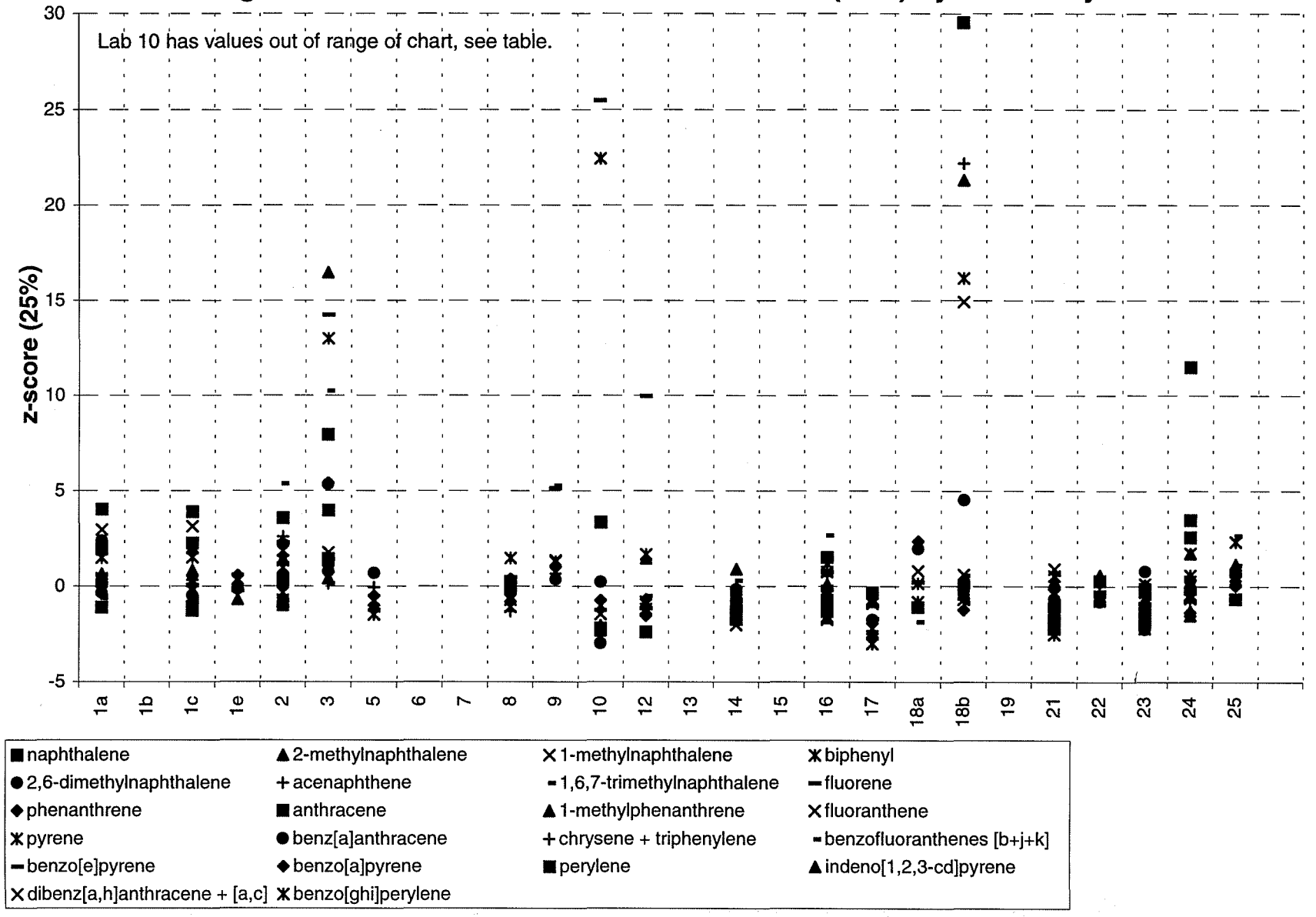


Figure 12. Marine Sediment VII: PCB z-scores (25%) by analyte
z-score (25%)
13
11
9
7
5
3
1
-1
-3
-5
PCB 8
PCB 18
PCB 28
PCB 52
PCB 44
PCB 66/95
PCB 101/90
PCB 118
PCB 153
PCB 105
PCB 138/163/164
PCB 187/182
PCB 128
PCB 180
PCB 170/190
PCB 195
PCB 206
PCB 209
PCB 66
PCB 95
Lab 27: 27
1a 1b +1c -1d 2 3 4 5 6 7 8 +9 -10 11 12 13 14 15 16 17 18a 18b 19 20 +21 -22 -24 26 27

Figure 13. Mussel Tissue VIII: PAH z-scores (25%) by laboratory



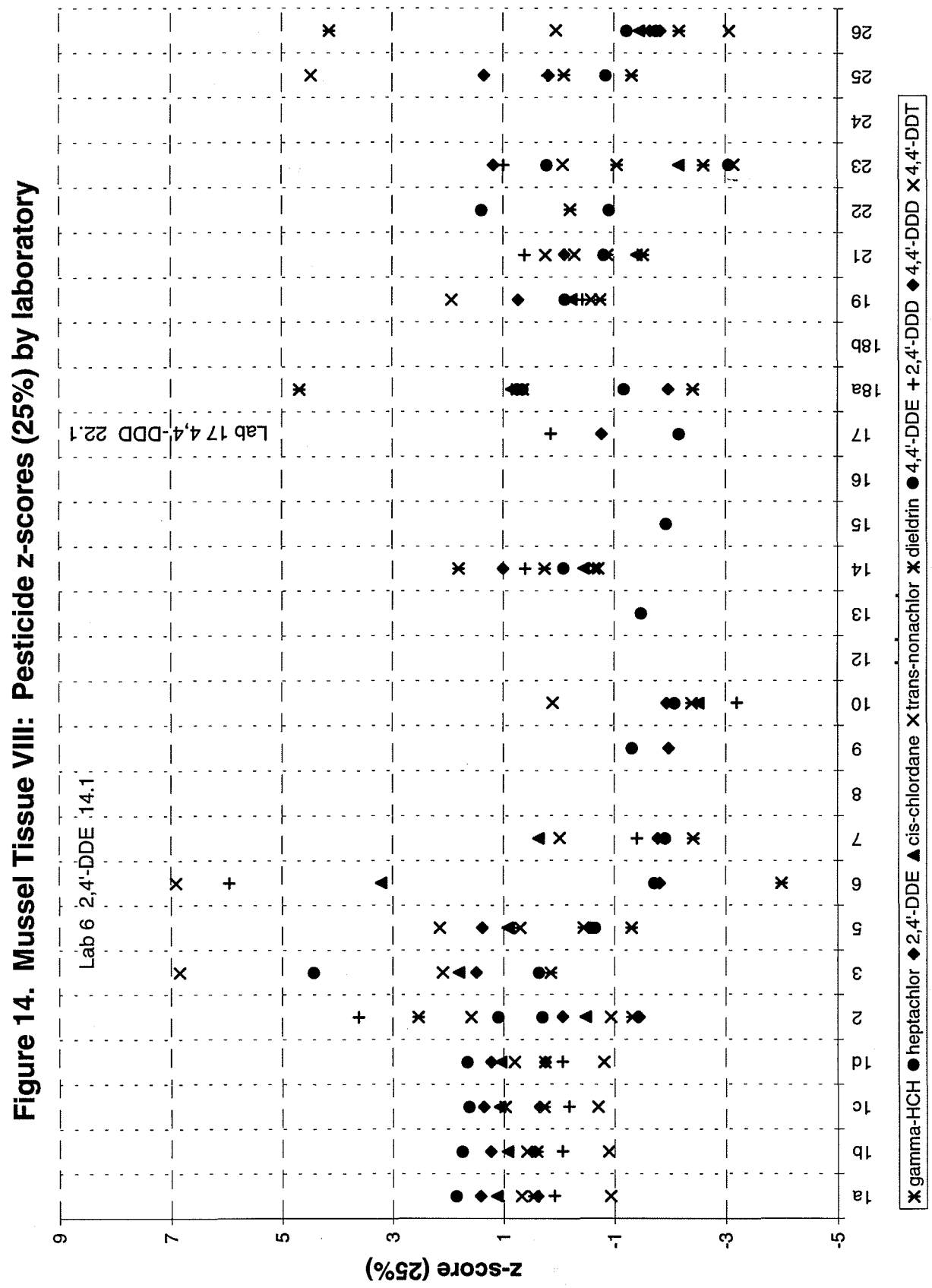


Figure 14. Mussel Tissue VIII: Pesticide z-scores (25%) by laboratory
z-score (25%)
9
7
5
3
1
-1
-3
-5
1a
1b
1c
1d
2
3
5
6
7
8
9
10
12
13
14
15
16
17
18a
18b
19
21
22
23
24
25
26
Lab 6 2,4'-DDE 14.1
Lab 17 4,4'-DDD 22.1
gamma-HCH ● heptachlor ◆ 2,4'-DDE ▲ cis-chlordane X trans-nonachlor ✱ dieldrin ● 4,4'-DDE + 2,4'-DDD ◆ 4,4'-DDD X 4,4'-DDT

Figure 15. Mussel Tissue VIII: PCB z-scores (25%) by laboratory

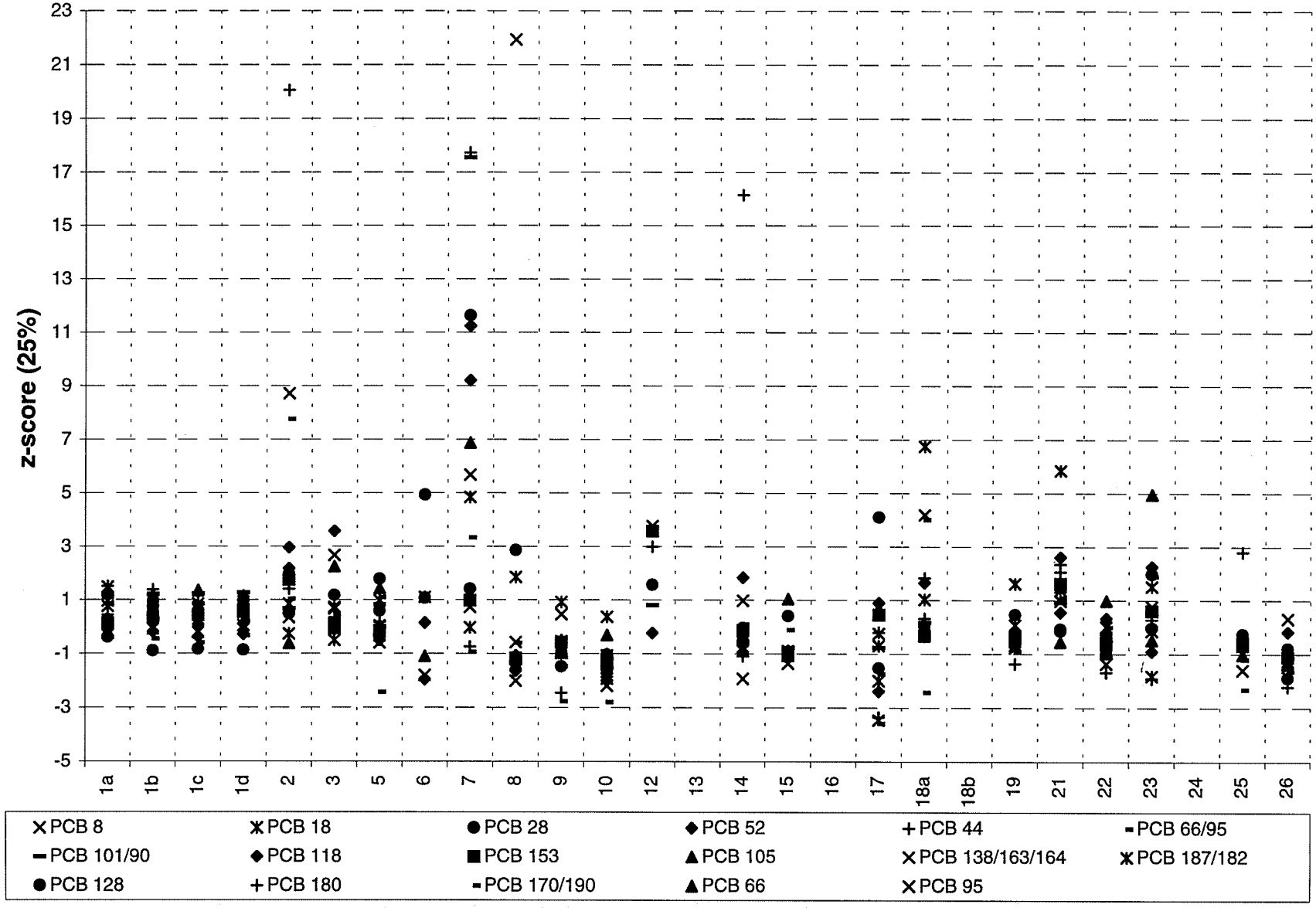


Figure 16. Marine Sediment VII: PAH z-scores (25%) by laboratory

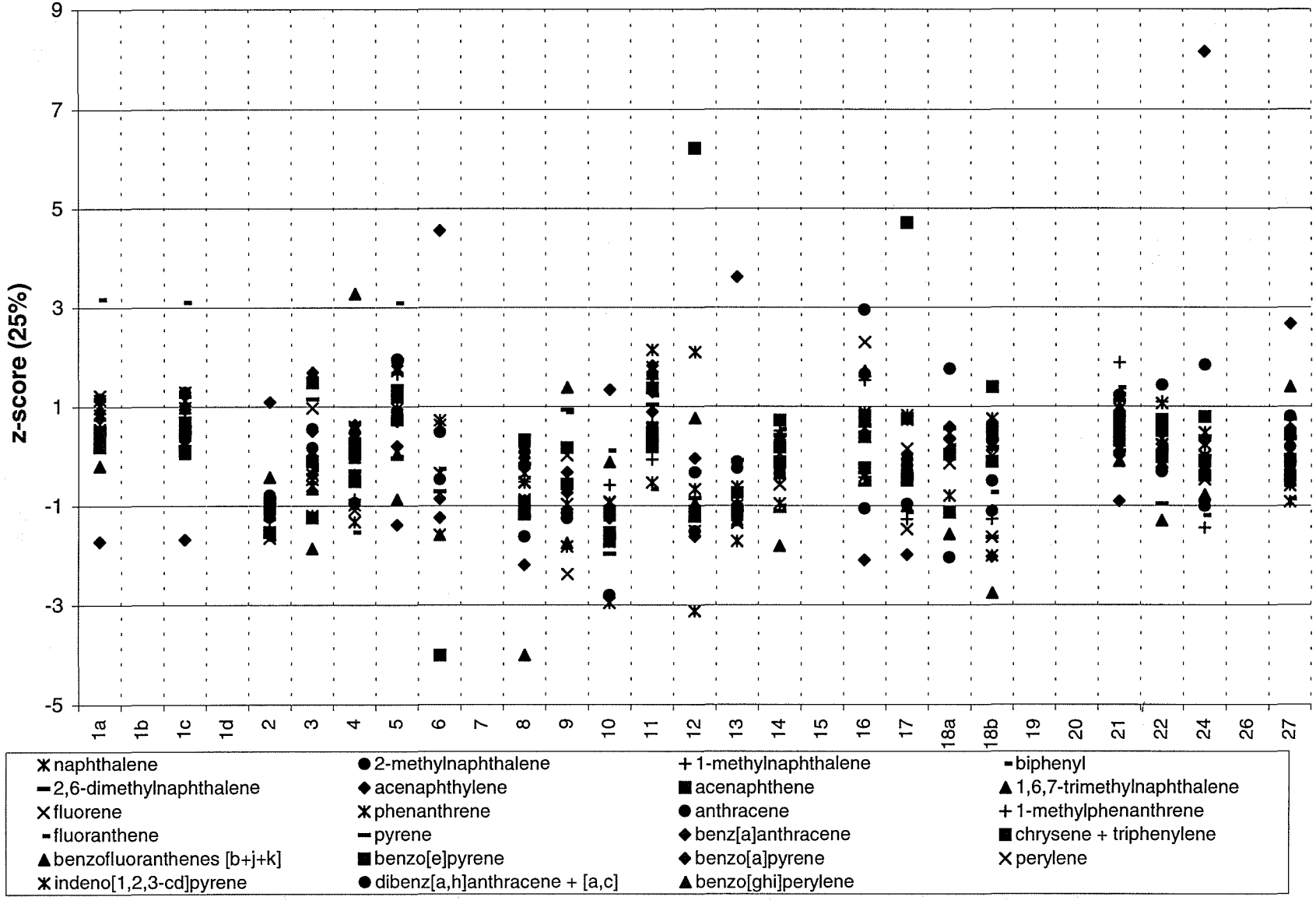


Figure 17. Marine Sediment VII: Pesticide z-scores (25 %) by laboratory

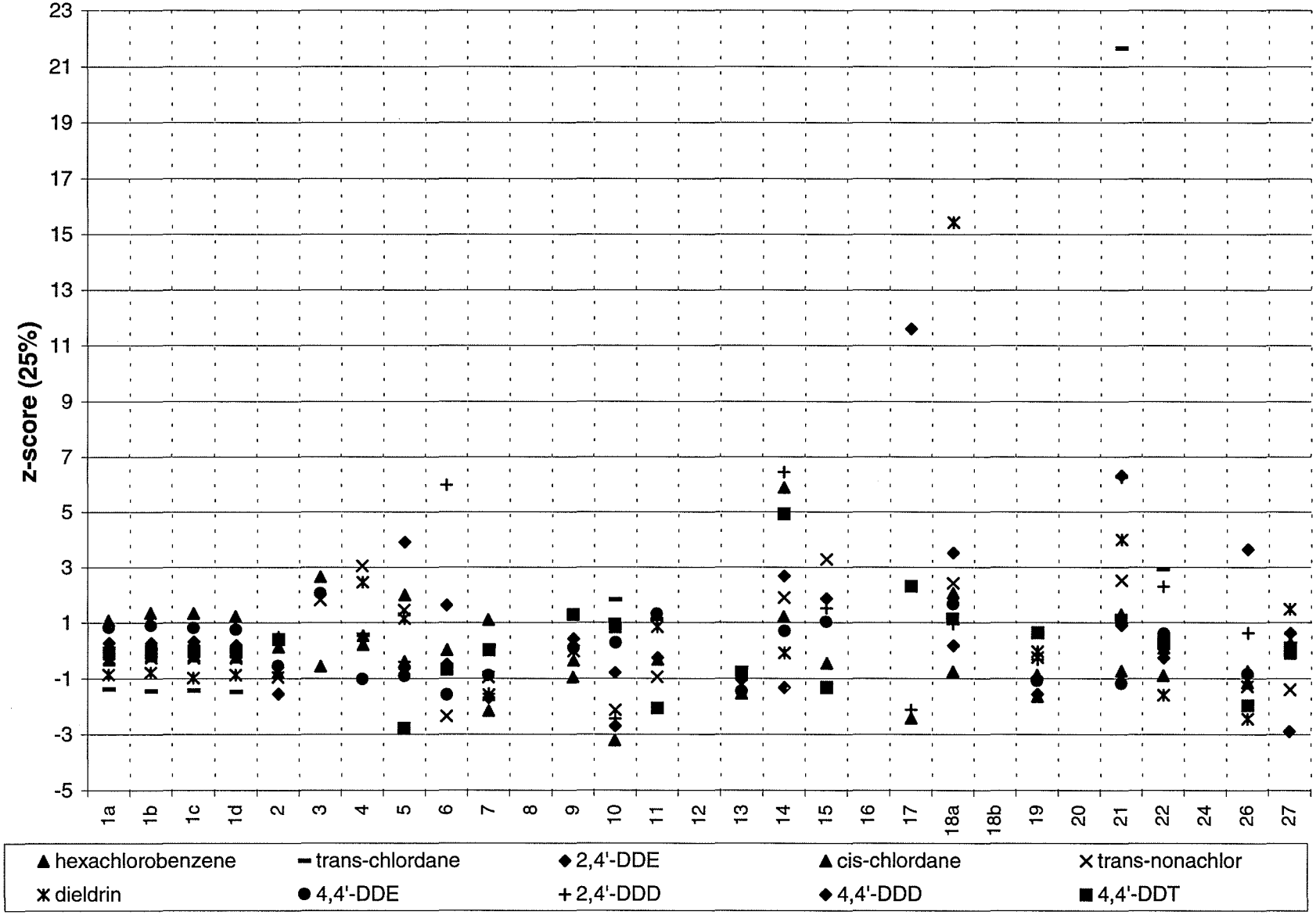
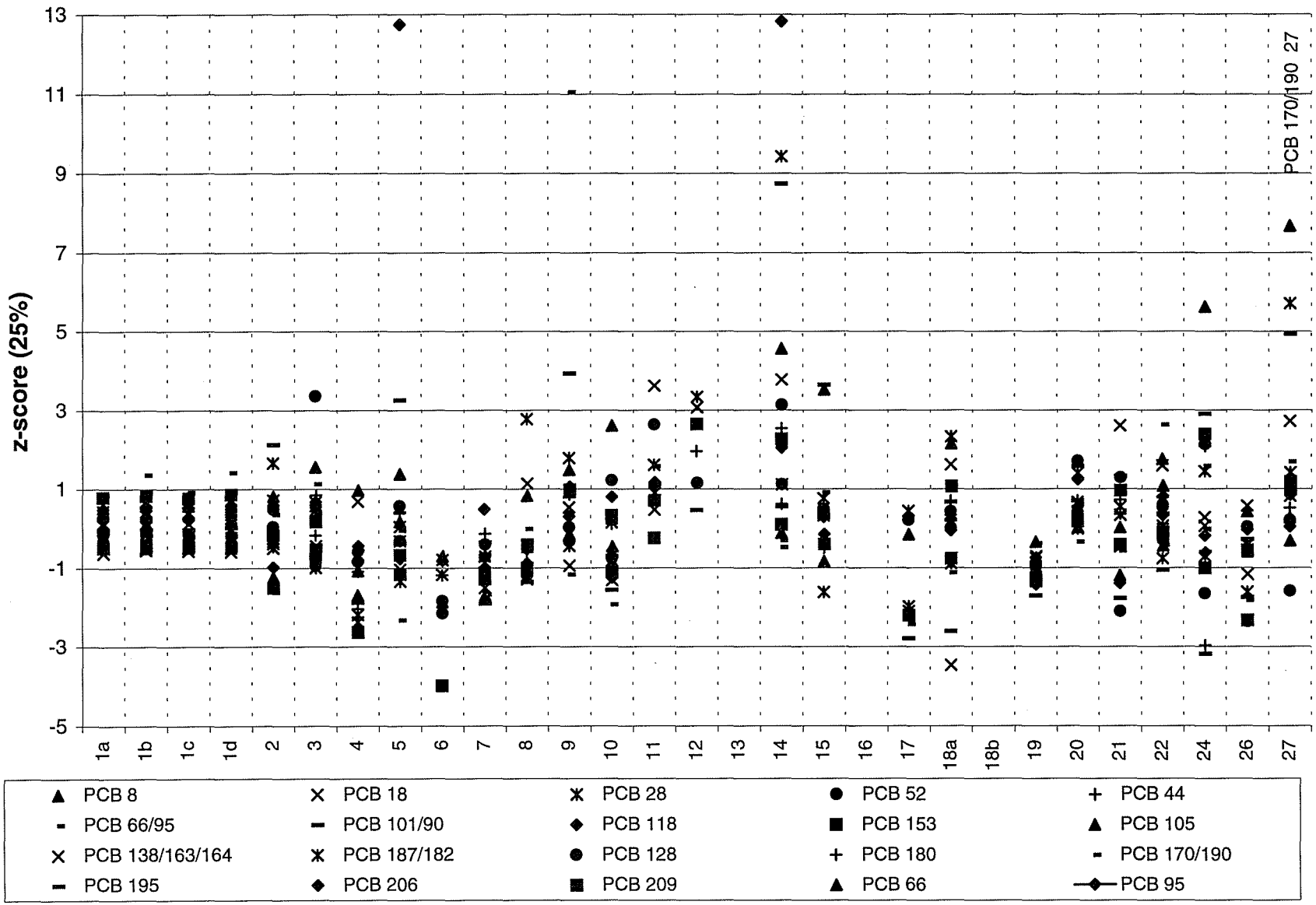


Figure 18. Marine Sediment VII: PCB z-scores (25%) by laboratory



Appendix A: Description, Storage, Use, and Reporting Instructions for Mussel Tissue VIII

NIST Intercomparison Exercise Program for
Organic Contaminants in the Marine Environment

NIST/NOAA-NS&T/EPA-EMAP QA Program

Intercomparison Exercise: Mussel Tissue VIII Description of Materials and Instructions

Intercomparison Exercise Materials:

QA97TIS8 (Mussel Tissue VIII)

Each of the two bottles contains approximately 10 g (dry basis) of Mussel Tissue VIII. This freeze-dried mussel tissue homogenate material has not been enriched or spiked. Each 4-oz amber glass bottle has a Teflon-lined screw cap and is sealed in a Mylar bag (to reduce sample absorption of moisture from the air). The bag is labeled with an individual bottle number as well as the above name. **An additional identical label is stapled to each bag and is to be put on the bottle when the bag is opened.** The bottles as originally sent to you are labeled as NIST RM 8046, GESREM III Mussel.

In addition, three concurrent analyses of SRM 1974a, Organics in Mussel Tissue, are recommended. This frozen mussel tissue is a cryogenically homogenized "fresh" material still containing its endogenous water. (It has **not** been freeze-dried.) This material can be obtained from the NIST Standard Reference Materials Program ($395 for 3 bottles each containing approximately 15 g to 20 g [wet basis] of frozen tissue homogenate plus shipping) (phone: 301/975-6776; fax: 301-975-948-3730).

Storage of Materials:

Mussel Tissue VIII. This material should be stored in the dark at temperatures of 25 °C or lower. The bottle should be tightly closed immediately after removal of a subsample to preserve the integrity of the remaining material for later analysis.

SRM 1974a. This 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, 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 Mussel Tissue VIII and SRM 1974a, using **your** laboratory's and/or program's analytical protocols, for the concentrations (wt/dry wt) of the 22 chlorinated pesticides, 18 polychlorinated biphenyl (PCB) congeners, and 23 polycyclic aromatic hydrocarbon (PAH) compounds[1] of interest in the current NIST Intercomparison Exercise Program for Organic Contaminants in the Marine Environment. These compounds are listed in Table 1.

Typically, the amount of material used for each analysis should correspond to the amount of marine bivalve tissue (wet basis) you would typically analyze as prescribed in your protocols; **however, preliminary analyses of this material indicate that the concentrations of some of these analytes are lower than in SRM 1974a Mussel Tissue. We have included enough material that you can increase your sample size if this would be appropriate for your program. A 3-g (dry basis) sample of Mussel Tissue VIII would correspond to approximately 20 g of the original wet mussel tissue homogenate prior to freeze-drying.**

The results for Mussel Tissue VIII should be reported on a dry basis where the dry basis is defined as the "as received" basis.

You should analyze three replicate samples of Mussel Tissue VIII and at least one, and more if possible, of SRM 1974a in three different batches/sets/strings/catalogs using your protocol for marine bivalve tissue samples. Specifically, we are asking that you analyze one sample of Tissue VIII and one sample of SRM 1974a 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 Mussel Tissue VIII and of the SRM 1974a. 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 SRM 1974a.

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. The more common of these coelutions have been listed in Table 1 and in the data table format shown in Table 2. 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 and/or if other coelution qualifiers not

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

listed are applicable to your data. **Because PCB 66 and PCB 95 can now be separated by a significant number of participants, we have changed the table for reporting results this year so that participants may report these as two separate concentrations or as the sum of PCBs 66 and 95.** 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 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".

The enclosed floppy diskette (DOS format) contains files, any of which you may utilize to report your data. The files TIS8.WK3 is in a LOTUS format, TIS8.XLS is in an EXCEL format, and TIS8.WQ1 is in a QuatroPro format. A text file TIS8.TXT is also provided. If you have any software/hardware conversion problems, please contact Reenie Parris. 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 either via diskette file or as an attached file via e-mail to Reenie M. Parris.

U. S. Postal Service:
Bldg. 222, Room B-208
NIST
Gaithersburg, MD 20899

Commercial Carrier:
Bldg. 222, Room B-208
National Inst. of Standards & Technol. (NIST)
Quince Orchard Road
Gaithersburg, MD 20899

E-mail:
Reenie.Parris@nist.gov

Further Information:

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

Phone: 301-975-3103
FAX: 301-977-0685

June, 1997

Table 1: Analytes[a] 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
gamma-HCH (gamma-BHC, Lindane)	2,4'-DDD
heptachlor	4,4'-DDD
heptachlor epoxide	2,4'-DDT
cis-chlordane (alpha-chlordane)	4,4'-DDT
trans-chlordane (gamma-chlordane)	aldrin
oxychlordane	dieldrin
cis-nonachlor	endrin
trans-nonachlor	endosulfan I
mirex	endosulfan II

Polychlorinated Biphenyl Congeners

PCB No.	*Compound Name*
8	2,4'-dichlorobiphenyl
18	2,2',5-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
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
153	2,2',4,4',5,5'-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
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
2-methylnaphthalene
1-methylnaphthalene
biphenyl
2,6-dimethylnaphthalene
acenaphthylene
acenaphthene
1,6,7-trimethylnaphthalene
fluorene
phenanthrene
anthracene
1-methylphenanthrene
fluoranthene
pyrene
benz[*a*]anthracene
chrysene
benzofluoranthenes [*b*+*j*+*k*]
benzo[*e*]pyrene
benzo[*a*]pyrene
perylene
indeno[1,2,3-*cd*]pyrene
dibenz[*a,h*]anthracene
benzo[*ghi*]perylene

---

[a]Please note that the following are typically reported by exercise participants as the sums of the indicated components:

PAH
chrysene + triphenylene
benzo[*b*]- + benzo[*j*]- + benzo[*k*]fluoranthene
dibenz[*a,h*]anthracene + dibenz[*a,c*]anthracene

PCB congeners
PCB 66 + PCB 95[b]
PCB 101 + PCB 90
PCB 138 + PCB 163 + PCB 164
PCB 187 + PCB 182 + PCB 159
PCB 170 + PCB 190

[b]Because PCB 66 and PCB 95 can now be separated by a significant number of participants, we have changed the table for reporting results this year so that participants may report these as two separate concentrations or as the sum of PCBs 66 and 95.

Table 2. Diskette Data File Format (File: TIS8.*)

NIST Intercomparison Exercise Program for Organics in the Marine Environment
NIST/NOAA-NS&T/EPA-EMAP QA Program
Sample: QA97TIS8 - Mussel Tissue VIII

Please fill in all blanks; Use requested units of concentration; Report results as if 3 figures were significant
DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TABLE. DO NOT MOVE CELLS.

- If necessary, add additional data/information at the end of the table.
- Use one of the following if no concentration is reported for an analyte:
  NA = Not analyzed/determined; <"conc" = <detection limit conc.; Other = other, explain in a note at end of table
  (DL = "below detection limit" may be used, but <"conc", e.g., <8, is preferable.)
  Do not use parentheses or negative numbers to indicate "less than detection limit".

Reporting Date (m/d/y): _____
Laboratory: _____
Submitted by: _____

BRIEF DESCRIPTION OF PROCEDURES USED:

Approximate amount of sample extracted: Tissue VIII _____ g, DRY basis; SRM 1974a _____ g, WET basis
(For Tissue VIII: Dry = "as received")
Method used for determining percentage water: _____

Were "wet" or "dry" samples extracted? Tissue VIII _____ SRM 1974a _____
Extraction method: _____
Extraction solvent: _____
Extraction time: _____
Extraction - other: _____

Sample extract cleanup method: _____

Analytical method used (e.g., GC-FID, GC-ECD):

	Analyt. Instr.	Column Phase	Col. Length, m	Col. i.d., mm	Col. film thickness, µm
PAH					
Pesticides					
PCB Congeners					

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

PAH _____
Pesticides _____
PCB Congeners _____

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

Identity of internal standards/surrogates used that were:

Added PRIOR to extraction of sample:

PAH _____
Pesticides _____
PCB Congeners _____

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

PAH _____
Pesticides _____
PCB Congeners _____

Any others? Added at what point in analyses: _____

PAH _____
Pesticides _____
PCB Congeners _____

IS/surrogate standards used for quantitation calculations were:

_____ those added prior to extraction
_____ those added after extraction/cleanup and just prior to chromatographic analysis

If the IS/surrogates added after extraction/cleanup extraction were used for quantitation,
were results corrected for percent recovery? _____

Percent recovery range:
PAH _____
Pesticides _____
PCB Congeners _____

Calibration Curve

	Points	Conc. Range	Analytes outside of calibration curve calibration range
PAH	_____	_____	_____
Pesticides	_____	_____	_____
PCB Congeners	_____	_____	_____

Were PCB congeners separated from pesticides prior to GC? _____

Using your method, does PCB 132 coelute with PCB 153; or, with PCB 105; or, is it separated from both? _____

Please note any differences in procedures used for SRM 1974a analyses from those for Mussel Tissue VIII described above:

_____

_____

_____

_____

_____

RESULTS:

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

	SRM 1974a (percent)	SRM 1974a (percent)	SRM 1974a (percent)
Water	_____	_____	_____

PAH ANALYSES

	Tissue VIII Batch A Sample 1	Tissue VIII Batch B Sample 2	Tissue VIII Batch C Sample 3	SRM 1974a Batch A Sample 1	SRM 1974a Batch B Sample 2	SRM 1974a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
naphthalene						
2-methylnaphthalene						
1-methylnaphthalene						
biphenyl						
2,6-dimethylnaphthalene						
acenaphthylene						
acenaphthene						
1,6,7-trimethylnaphthalene						
fluorene						
phenanthrene						
anthracene						
1-methylphenanthrene						
fluoranthene						
pyrene						
benz[a]anthracene						
chrysene + triphenylene						
benzofluoranthenes [b+j+k]						
benzo[e]pyrene						
benzo[a]pyrene						
perylene						
indeno[1,2,3-cd]pyrene						
dibenz[a,h]anthracene + [a,c]						
benzo[ghi]perylene						

PESTICIDE ANALYSES

	Tissue VIII Batch A Sample 1	Tissue VIII Batch B Sample 2	Tissue VIII Batch C Sample 3	SRM 1974a Batch A Sample 1	SRM 1974a Batch B Sample 2	SRM 1974a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
alpha-HCH (a-BHC)						
hexachlorobenzene						
gamma-HCH (g-BHC,lindane)						
heptachlor						
aldrin						
heptachlor epoxide						
oxychlordane						
gamma-chlordane						
2,4'-DDE						
endosulfan I						
cis-chlordane (alpha-chlordane)						
trans-nonachlor						
dieldrin						
4,4'-DDE						
2,4'-DDD						
endrin						
endosulfan II						
4,4'-DDD						
2,4'-DDT						
cis-nonachlor						
4,4'-DDT						
mirex						

PCB CONGENER ANALYSES	Tissue VIII Batch A Sample 1	Tissue VIII Batch B Sample 2	Tissue VIII Batch C Sample 3	SRM 1974a Batch A Sample 1	SRM 1974a Batch B Sample 2	SRM 1974a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
PCB 8						
PCB 18						
PCB 28						
PCB 52						
PCB 44						
***PCB 66/95**						
PCB 101/90						
PCB 118						
PCB 153						
PCB 105						
PCB 138/163/164						
PCB 187/182/159						
PCB 128						
PCB 180						
PCB 170/190						
PCB 195						
PCB 206						
PCB 209						
***PCB 66**						
***PCB 95**						

*** You may report PCB 66/PCB 95 as a sum and/or as individual congeners.**

(Any additional data/information should be added here.)

Appendix B: Description, Storage, Use, and Reporting Instructions for Marine Sediment VII

Intercomparison Exercise: Marine Sediment VII Description of Materials and Instructions

Intercomparison Exercise Materials:

QA97SED7 (Marine Sediment VII)

Each of the three jars contains 21 g (wet basis) of Marine Sediment VII. This wetted sediment was prepared from materials that were collected from several East coast sites and then combined, freeze-dried, sieved, blended, homogenized, 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 1941a, Organics in Marine Sediment, are recommended. This material can be obtained from the NIST Standard Reference Materials Program ($365/50 g (dry basis) (phone: 301/975-6776; fax: 301-975-948-3730).

Storage of Materials:

Marine Sediment Material. This Marine Sediment VII 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 VII and SRM 1941a, using **your** laboratory's and/or program's analytical protocols, for the concentrations (mass/mass [dry basis]) of the 23 polycyclic aromatic hydrocarbon (PAH) compounds, 22 chlorinated pesticides and 18 polychlorinated biphenyl (PCB) congeners[1] 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 VII material should be determined so the results can be reported on a dry basis. You should have received enough material so that you can perform separate determinations for the water content if you do not dry your sediment samples prior to analysis.

[1]If 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.

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

You should analyze three samples of Marine Sediment VII and at least one, and more if possible, of SRM 1941a 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 VII and one sample of SRM 1941a 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 VII and of SRM 1941a. 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 VII.

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. The more common of these coelutions have been listed in Table 1 and in the data table format as shown in Table 2. 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 and/or if other coelution qualifiers not listed are applicable to your data. **Because PCB 66 and PCB 95 can now be separated by a significant number of participants, we have changed the table for reporting results this year so that participants may report these as two separate concentrations or as the sum of PCBs 66 and 95.** 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".

The enclosed floppy diskette (DOS format) contains files, any of which you may utilize to report your data. The file SED7.WK3 is in a LOTUS format, SED7.XLS is in an EXCEL format, and SED7.WQ1

is in a QuatroPro format. A text files SED7.TXT is also provided. If you have any software/hardware conversion problems, please contact Reenie Parris. 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 either via diskette file or as an attached file via e-mail to Reenie M. Parris.

U. S. Postal Service:
Bldg. 222, Room B-208
NIST
Gaithersburg, MD 20899

Commercial Carrier:
Bldg. 222, Room B-208
National Inst. of Standards & Technol. (NIST)
Quince Orchard Road
Gaithersburg, MD 20899

E-mail:
Reenie.Parris@nist.gov

Further Information:

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

Phone: 301-975-3103
FAX: 301-977-0685

May, 1997

Table 1: Analytes[a] 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
gamma-HCH (gamma-BHC, Lindane)	2,4'-DDD
heptachlor	4,4'-DDD
heptachlor epoxide	2,4'-DDT
cis-chlordane (alpha-chlordane)	4,4'-DDT
trans-chlordane (gamma-chlordane)	aldrin
oxychlordane	dieldrin
cis-nonachlor	endrin
trans-nonachlor	endosulfan I
mirex	endosulfan II

Polychlorinated Biphenyl Congeners

PCB No.	*Compound Name*
8	2,4'-dichlorobiphenyl
18	2,2',5-trichlorobiphenyl
28	2,4,4'-trichlorobiphenyl
44	2,2',3,5'-tetrachlorobiphenyl
52	2,2',5,5'-tetrachlorobiphenyl
66	2,3',4,4'-tetrachlorobiphenyl
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
153	2,2',4,4',5,5'-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
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
2-methylnaphthalene
1-methylnaphthalene
biphenyl
2,6-dimethylnaphthalene
acenaphthylene
acenaphthene
1,6,7-trimethylnaphthalene
fluorene
phenanthrene
anthracene
1-methylphenanthrene
fluoranthene
pyrene
benz[*a*]anthracene
chrysene
benzofluoranthenes [*b*+*j*+*k*]
benzo[*e*]pyrene
benzo[*a*]pyrene
perylene
indeno[1,2,3-*cd*]pyrene
dibenz[*a,h*]anthracene
benzo[*ghi*]perylene

---

[a]Please note that the following are typically reported by exercise participants as the sums of the indicated components:

PAH
chrysene + triphenylene
benzo[*b*]- + benzo[*j*]- + benzo[*k*]fluoranthene
dibenz[*a,h*]anthracene + dibenz[*a,c*]anthracene

PCB congeners
PCB 66 + PCB 95[b]
PCB 101 + PCB 90
PCB 138 + PCB 163 + PCB 164
PCB 187 + PCB 182 + PCB 159
PCB 170 + PCB 190

[b]Because PCB 66 and PCB 95 can now be separated by a significant number of participants, we have changed the table for reporting results this year so that participants may report these as two separate concentrations or as the sum of PCBs 66 and 95.

Table 2. Diskette Data File Format (File: SED7.*)

NIST Intercomparison Exercise Program for Organics in the Marine Environment
NIST/NOAA-NS&T/EPA-EMAP QA Program
Sample: QA97SED7 - Marine Sediment VII

Please fill in all blanks; Use requested units of concentration; Report results as if 3 figures were significant
DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TABLE. DO NOT MOVE CELLS.

- If necessary, add additional data/information at the end of the table.
- Use one of the following if no concentration is reported for an analyte:
  NA = Not analyzed/determined; <"conc" = <detection limit conc.; Other = other, explain in a note at end of table
  (DL = "below detection limit" may be used, but <"conc", e.g., <8, is preferable.)
  Do not use parentheses or negative numbers to indicate "less than detection limit".

Reporting Date (m/d/y): _____
Laboratory: _____
Submitted by: _____

BRIEF DESCRIPTION OF PROCEDURES USED:

Approximate amount of sample extracted: Sediment VII _____ g, wet basis; SRM 1941a _____ g, dry basis

Method used for determining percentage water: _____

Were "wet" or "dry" samples extracted? Sediment VII _____ SRM 1941a _____
Extraction method: _____
Extraction solvent: _____
Extraction time: _____
Extraction - other: _____

Sample extract cleanup method: _____

Analytical method used (e.g., GC-FID, GC-ECD):

	Analyt. Instr.	Column Phase	Col. Length, m	Col. i.d., mm	Col. film thickness, µm
PAH					
Pesticides					
PCB Congeners					

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

PAH _____
Pesticides _____
PCB Congeners _____

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

Identity of internal standards/surrogates used that were:

Added PRIOR to extraction of sample:

PAH _____
Pesticides _____
PCB Congeners _____

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

PAH _____
Pesticides _____
PCB Congeners _____

Any others? Added at what point in analyses: _____

PAH _____
Pesticides _____
PCB Congeners _____

IS/surrogate standards used for quantitation calculations were:

_____ those added prior to extraction
_____ those added after extraction/cleanup and just prior to chromatographic analysis

If the IS/surrogates added after extraction/cleanup extraction were used for quantitation, were results corrected for percent recovery? _____

Percent recovery range:

PAH _____
Pesticides _____
PCB Congeners _____

Calibration Curve

	Points	Conc. Range	Analytes outside of calibration curve calibration range
PAH			
Pesticides			
PCB Congeners			

Were PCB congeners separated from pesticides prior to GC? _____

Using your method, does PCB 132 coelute with PCB 153; or, with PCB 105; or, is it separated from both? _____

Please note any differences in procedures used for SRM 1941a analyses from those for Marine Sediment VII described above:

_____

_____

_____

_____

_____

RESULTS:

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

	Sediment VII (percent)	Sediment VII (percent)	Sediment VII (percent)
Water			

PAH ANALYSES	Sediment VII Batch A Sample 1	Sediment VII Batch B Sample 2	Sediment VII Batch C Sample 3	SRM 1941a Batch A Sample 1	SRM 1941a Batch B Sample 2	SRM 1941a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Sediment VII Sample 1 (ng/g dry wt)	Sediment VII Sample 2 (ng/g dry wt)	Sediment VII Sample 3 (ng/g dry wt)	SRM 1941a Sample 1 (ng/g dry wt)	SRM 1941a Sample 2 (ng/g dry wt)	SRM 1941a Sample 3 (ng/g dry wt)
naphthalene						
2-methylnaphthalene						
1-methylnaphthalene						
biphenyl						
2,6-dimethylnaphthalene						
acenaphthylene						
acenaphthene						
1,6,7-trimethylnaphthalene						
fluorene						
phenanthrene						
anthracene						
1-methylphenanthrene						
fluoranthene						
pyrene						
benz[a]anthracene						
chrysene + triphenylene						
benzofluoranthenes [b+j+k]						
benzo[e]pyrene						
benzo[a]pyrene						
perylene						
indeno[1,2,3-cd]pyrene						
dibenz[a,h]anthracene + [a,c]						
benzo[ghi]perylene						

PESTICIDE ANALYSES	Sediment VII Batch A Sample 1	Sediment VII Batch B Sample 2	Sediment VII Batch C Sample 3	SRM 1941a Batch A Sample 1	SRM 1941a Batch B Sample 2	SRM 1941a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Sediment VII Sample 1 (ng/g dry wt)	Sediment VII Sample 2 (ng/g dry wt)	Sediment VII Sample 3 (ng/g dry wt)	SRM 1941a Sample 1 (ng/g dry wt)	SRM 1941a Sample 2 (ng/g dry wt)	SRM 1941a Sample 3 (ng/g dry wt)
alpha-HCH (a-BHC)						
hexachlorobenzene						
gamma-HCH (g-BHC,lindane)						
heptachlor						
aldrin						
heptachlor epoxide						
oxychlordane						
gamma-chlordane						
2,4'-DDE						
endosulfan I						
cis-chlordane (alpha-chlordane)						
trans-nonachlor						
dieldrin						
4,4'-DDE						
2,4'-DDD						
endrin						
endosulfan II						
4,4'-DDD						
2,4'-DDT						
cis-nonachlor						
4,4'-DDT						
mirex						

PCB CONGENER ANALYSES	Sediment VII Batch A Sample 1	Sediment VII Batch B Sample 2	Sediment VII Batch C Sample 3	SRM 1941a Batch A Sample 1	SRM 1941a Batch B Sample 2	SRM 1941a Batch C Sample 3
Analyst (Initials)						
Date(s) of measurements (m/d/y)						
Sample Jar number						

	Sediment VII Sample 1 (ng/g dry wt)	Sediment VII Sample 2 (ng/g dry wt)	Sediment VII Sample 3 (ng/g dry wt)	SRM 1941a Sample 1 (ng/g dry wt)	SRM 1941a Sample 2 (ng/g dry wt)	SRM 1941a Sample 3 (ng/g dry wt)
PCB 8						
PCB 18						
PCB 28						
PCB 52						
PCB 44						
***PCB 66/95**						
PCB 101/90						
PCB 118						
PCB 153						
PCB 105						
PCB 138/163/164						
PCB 187/182/159						
PCB 128						
PCB 180						
PCB 170/190						
PCB 195						
PCB 206						
PCB 209						
***PCB 66**						
***PCB 95**						

*** You may report PCB 66/PCB 95 as a sum and/or as individual congeners.**

(Any additional data/information should be added here.)

Appendix C: Results by Laboratory, Mussel Tissue VIII

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 1a

Reporting Date: 1/5/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	19.5	21.1	19.1	23.6	23.1	22.5	19.9	5.3	23.1	2.4	13.2	3.8	**23.5**	**4.4**	2.0	1.3	0.4
2-methylnaphthalene	18.3	20.7	19.1	10.0	10.4	10.1	19.4	6.3	10.2	2.2	13.1	3.4	10.2	1.5	1.9	1.2	0.4
1-methylnaphthalene	16.4	18.9	17.2	5.32	5.17	5.11	17.5	7.3	5.20	2.1	10.0	3.8	5.3	1.8	3.0	1.4	0.5
biphenyl	6.29	7.77	6.56	5.25	5.07	5.16	6.87	11.5	5.16	1.7	5.01	1.69	5.11	0.33	1.5	0.8	0.8
2,6-dimethylnaphthalene	20.6	22.9	21.5	4.44	3.98	4.14	21.7	5.3	4.19	5.6	13.6	3.8	5.3	1.8	2.4	1.6	0.4
acenaphthylene	<3	<3	<3	5.12	5.33	5.31	<3		5.25	2.2	<3		5.25	0.38			
acenaphthene	4.12	4.31	3.89	3.07	3.22	3.16	4.11	5.1	3.15	2.4	3.89	1.11	3.15	0.26	0.2	0.2	0.3
1,6,7-trimethylnaphthalene	25.1	27.4	26.4	4.43	3.87	3.99	26.3	4.4	4.10	7.2	31.1	5.7	6.6	2.0	-0.6	-0.6	0.3
fluorene	11.0	10.5	10.0	5.90	5.63	5.72	10.5	5.0	5.75	2.4	10.1	1.4	5.72	0.91	0.2	0.2	0.3
phenanthrene	28.5	30.6	34.6	21.5	22.9	22.4	31.2	9.9	22.3	3.2	34.5	4.1	**22.2**	**2.4**	-0.4	-0.4	0.7
anthracene	10.8	9.96	11.3	6.15	6.34	6.44	10.7	6.3	6.31	2.3	5.32	2.40	**6.1**	**1.7**	**4.0**	1.7	0.4
1-methylphenanthrene	42.6	43.1	39.7	10.5	10.6	10.9	41.8	4.4	10.7	2.0	43.8	4.4	10.5	4.8	-0.2	-0.3	0.3
fluoranthene	38.3	37.9	40.1	166	171	163	38.8	3.0	167	2.4	35.1	2.7	**163.7**	**9.1**	0.4	0.7	0.2
pyrene	79.9	73.4	76.3	158	155	159	76.5	4.3	157	1.3	70.3	6.2	**151.6**	**6.6**	0.4	0.5	0.3
benz[a]anthracene	19.9	18.8	19.7	33.2	32.9	34.1	19.5	3.0	33.4	1.9	21.3	2.5	**32.5**	**4.7**	-0.4	-0.4	0.2
chrysene + triphenylene	73.2	71.1	74.5	95.6	94.1	94.6	72.9	2.4	94.8	0.8	67.4	5.7	**94.9**	**8.2**	0.3	0.6	0.2
benzofluoranthenes [b+j+k]	19.8	18.4	19.3	83.7	87.3	85.2	19.2	3.7	85.4	2.1	21.9	4.6	87.1	6.2	-0.5	-0.3	0.2
benzo[e]pyrene	12.4	13.6	11.4	83.9	82.4	84.6	12.5	8.8	83.6	1.3	16.0	3.5	**84.0**	**1.9**	-0.9	-0.6	0.6
benzo[a]pyrene	8.22	8.72	7.81	15.7	16.3	16.2	8.25	5.5	16.1	2.0	8.34	2.41	**15.63**	**0.65**	0.0	0.0	0.4
perylene	3.83	3.75	3.61	7.77	7.63	7.71	3.73	3.0	7.70	0.9	5.16	2.57	**7.68**	**0.27**	-1.1	-0.5	0.2
indeno[1,2,3-cd]pyrene	5.21	5.60	4.85	15.1	15.8	14.6	5.22	7.2	15.2	4.0	4.50	0.96	**14.2**	**2.8**	0.6	0.5	0.5
dibenz[a,h]anthracene + [a,c]	1.84	1.96	1.93	3.10	3.05	3.11	1.91	3.3	3.09	1.0	1.78	0.39	3.00	0.20	0.3	0.2	0.2
benzo[ghi]perylene	8.95	9.82	9.11	21.6	22.8	22.1	9.29	5.0	22.2	2.7	8.75	1.41	**22.0**	**2.2**	0.2	0.2	0.3

Laboratory: 1a

PAH in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	1	4
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	18	22	22
2 to 3	3	0	0
≥ 3	1	0	0

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: **1a**
Reporting Date: 1/5/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 7/21/97 S 1	10/8/97 S 2	10/22/97 S 3	SRM 1974a, ng/g dry 7/21/97 S 1	10/8/97 S 2	10/22/97 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
hexachlorobenzene	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		1.31	0.59	no target				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		0.86	0.47	no target				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
oxychlordane	<2	<2	<2	3.13	3.03	2.98	<2		3.05	2.5	<1		no target				
trans-chlordane	<2	<2	<2	15.3	15.9	16.2	<2		15.8	2.9	<2		**16.6**	**1.7**			
2,4'-DDE	2.02	1.76	1.87	5.11	5.26	5.10	1.88	6.9	5.16	1.7	1.71	0.43	5.26	0.27	0.4	0.5	0.5
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
cis-chlordane	1.56	1.62	1.36	17.1	16.9	16.6	1.51	9.0	16.9	1.5	1.18	0.24	**17.2**	**2.8**	1.1	1.0	0.6
trans-nonachlor	1.45	1.51	1.33	16.6	17.1	16.2	1.43	6.4	16.6	2.7	1.22	0.28	**18.0**	**3.6**	0.7	0.6	0.4
dieldrin	6.93	6.22	6.25	6.23	6.18	6.09	6.47	6.2	6.17	1.2	5.79	1.20	6.2	1.3	0.5	1.9	0.4
4,4'-DDE	13.8	14.6	14.5	46.5	44.9	48.1	14.3	3.0	46.5	3.4	9.77	1.91	**51.2**	**5.5**	1.9	**13.1**	0.2
2,4'-DDD	2.83	3.12	3.47	13.1	12.8	14.0	3.14	10.2	13.3	4.7	3.07	0.37	13.7	2.8	0.1	0.2	0.7
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
4,4'-DDD	4.58	4.28	5.18	45.7	42.8	43.7	4.68	9.8	44.1	3.4	3.45	0.70	**43.0**	**6.3**	1.4	**3.5**	0.7
2,4'-DDT	<2	<2	<2	9.12	9.04	8.88	<2		9.01	1.4	<3		8.5	1.9			
cis-nonachlor	<2	<2	<2	6.98	6.73	6.82	<2		6.84	1.9	<2		**6.84**	**0.90**			
4,4'-DDT	1.04	1.00	1.12	3.68	3.94	3.81	1.05	5.9	3.81	3.4	1.37	0.21	**3.91**	**0.59**	-0.9	-0.9	0.4
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				

Laboratory: 1a
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	14	64
Not Determined	0	0

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

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 1a

Reporting Date: 1/5/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	2.26	2.65	2.46	<2	<2	<2	2.46	7.9	<2		1.79	0.49	5.8	1.2	1.5	0.8	0.5
PCB 18	3.09	2.61	2.79	28.9	27.3	26.1	2.83	8.6	27.4	5.1	2.28	0.37	33	11	1.0	0.6	0.6
PCB 28	5.04	4.82	5.99	78.1	74.5	74.2	5.28	11.8	75.6	2.9	5.85	0.77	79	15	-0.4	-0.6	0.8
PCB 52	7.65	7.66	9.20	111	105	113	8.17	10.9	110	3.8	8.41	1.55	**115**	**11**	-0.1	-0.3	0.7
PCB 44	3.99	3.87	3.79	74.6	72.1	71.7	3.88	2.6	72.8	2.2	2.82	0.61	**72.7**	**7.4**	1.5	1.2	0.2
PCB 66/95	11.2	10.3	10.8	176	172	170	10.8	4.2	173	1.8	8.89	2.22	**184**	**21**	0.8	2.1	0.3
PCB 101/90	12.6	13.1	11.8	136	129	125	12.5	5.2	130	4.3	9.63	1.11	**128.3**	**9.7**	1.2	**3.3**	0.3
PCB 118	10.1	11.5	11.8	133	129	129	11.1	8.2	130	1.8	10.9	1.5	**130.8**	**3.6**	0.1	0.3	0.5
PCB 153	14.3	13.6	13.6	141	140	149	13.8	2.9	143	3.4	13.3	1.4	**145.2**	**7.6**	0.1	0.6	0.2
PCB 105	3.95	4.84	4.14	52.8	53.8	54.0	4.31	10.9	53.5	1.2	3.29	0.42	**53.0**	**3.4**	1.2	1.2	0.7
PCB 138/163/164	17.1	17.3	17.6	139	132	136	17.3	1.5	136	2.6	14.6	2.3	**133.5**	**9.5**	0.8	**3.2**	0.1
PCB 187/182	4.49	4.63	3.91	36.7	34.2	34.7	4.34	8.8	35.2	3.8	4.22	0.42	**34.0**	**2.3**	0.1	0.1	0.6
PCB 128	2.41	2.11	2.10	25.1	22.6	22.5	2.21	8.0	23.4	6.3	2.07	0.27	**22.0**	**3.4**	0.3	0.2	0.5
PCB 180	6.80	7.69	7.07	17.3	17.0	16.4	7.19	6.3	16.9	2.7	6.46	0.96	**17.1**	**3.8**	0.4	0.8	0.4
PCB 170/190	2.84	2.65	2.60	5.56	5.78	5.47	2.70	4.7	5.60	2.8	2.98	0.59	**5.5**	**1.1**	-0.4	-0.3	0.3
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 206	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 209	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 1a

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1b**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 1b
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1b

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 1/5/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97	10/8/97	10/22/97	7/21/97	10/8/97	10/22/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
hexachlorobenzene	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		1.31	0.59	no target				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		0.86	0.47	no target				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
oxychlordane	<2	<2	<2	2.87	3.04	3.01	<2		2.97	3.1	<1		no target				
trans-chlordane	<2	<2	<2	15.9	16.3	15.8	<2		16.0	1.7	<2		**16.6**	**1.7**			
2,4'-DDE	1.99	1.83	1.89	5.27	5.14	5.11	1.90	4.2	5.17	1.6	1.71	0.43	5.26	0.27	0.4	0.5	0.3
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
cis-chlordane	1.44	1.61	1.32	16.9	17.2	16.2	1.46	10.0	16.8	3.1	1.18	0.24	**17.2**	**2.8**	0.9	0.8	0.7
trans-nonachlor	1.36	1.52	1.32	16.7	17.6	16.0	1.40	7.6	16.8	4.8	1.22	0.28	**18.0**	**3.6**	0.6	0.5	0.5
dieldrin	6.62	6.18	6.34	6.22	6.19	6.11	6.38	3.5	6.17	0.9	5.79	1.20	6.2	1.3	0.4	1.7	0.2
4,4'-DDE	14.6	13.6	13.9	45.7	45.1	47.5	14.0	3.7	46.1	2.7	9.77	1.91	**51.2**	**5.5**	1.7	**12.3**	0.2
2,4'-DDD	3.11	2.98	2.99	13.7	12.9	13.7	3.03	2.4	13.4	3.4	3.07	0.37	13.7	2.8	-0.1	-0.1	0.2
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
4,4'-DDD	4.44	4.26	4.87	44.7	41.7	42.8	4.52	6.9	43.1	3.5	3.45	0.70	**43.0**	**6.3**	1.2	**3.1**	0.5
2,4'-DDT	<2	<2	<2	8.79	8.93	8.91	<2		8.88	0.9	<3		8.5	1.9			
cis-nonachlor	<2	<2	<2	6.66	6.82	6.81	<2		6.76	1.3	<2		**6.84**	**0.90**[i]			
4,4'-DDT	0.99	1.16	1.04	3.62	3.85	3.88	1.06	8.1	3.78	3.8	1.37	0.21	**3.91**	**0.59**	-0.9	-0.9	0.5
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				

Laboratory: 1b
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	14	64
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: **1b**

Reporting Date: 1/5/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	1.98	2.21	2.14	<2	<2	<2	2.11	5.6	<2		1.79	0.49	5.8	1.2	0.7	0.4	0.4
PCB 18	2.98	2.76	2.84	26.4	28.1	27.5	2.86	3.9	27.3	3.2	2.28	0.37	33	11	1.0	0.7	0.3
PCB 28	4.48	5.19	3.97	77.3	73.9	76.3	4.55	13.5	75.8	2.3	5.85	0.77	79	15	-0.9	-1.5	0.9
PCB 52	7.77	7.35	8.93	110	102	111	8.02	10.2	108	4.6	8.41	1.55	**115**	**11**	-0.2	-0.4	0.7
PCB 44	3.82	3.94	3.62	70.9	73.4	72.7	3.79	4.3	72.3	1.8	2.82	0.61	**72.7**	**7.4**	1.4	1.1	0.3
PCB 66/95	9.66	9.57	9.40	166	167	166	9.54	1.4	166	0.3	8.89	2.22	**184**	**21**	0.3	0.7	0.1
PCB 101/90	13.5	11.9	12.3	133	125	127	12.6	6.6	128	3.2	9.63	1.11	**128.3**	**9.7**	1.2	**3.3**	0.4
PCB 118	11.5	11.9	10.5	131	125	126	11.3	6.4	127	2.5	10.9	1.5	**130.8**	**3.6**	0.2	0.5	0.4
PCB 153	14.7	14.9	13.9	141	150	148	14.5	3.6	146	3.2	13.3	1.4	**145.2**	**7.6**	0.3	1.3	0.2
PCB 105	3.88	4.72	4.21	51.7	53.1	53.2	4.27	9.9	52.7	1.6	3.29	0.42	**53.0**	**3.4**	1.2	1.1	0.7
PCB 138/163/164	16.9	17.2	17.9	131	129	138	17.3	3.0	133	3.6	14.6	2.3	**133.5**	**9.5**	0.8	**3.2**	0.2
PCB 187/182	4.31	4.24	3.87	35.6	33.2	34.7	4.14	5.7	34.5	3.5	4.22	0.42	**34.0**	**2.3**	-0.1	-0.1	0.4
PCB 128	2.66	2.31	2.37	24.9	23.6	23..9	2.45	7.7	24.3	3.8	2.07	0.27	**22.0**	**3.4**	0.7	0.4	0.5
PCB 180	6.66	7.03	7.23	16.2	17.3	16.9	6.97	4.1	16.8	3.3	6.46	0.96	**17.1**	**3.8**	0.3	0.6	0.3
PCB 170/190	2.99	2.74	2.23	5.36	5.72	5.27	2.65	14.6	5.45	4.4	2.98	0.59	**5.5**	**1.1**	-0.4	-0.4	1.0
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 206	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 209	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 66 (optional)	4.50	3.75	3.89	96.7	100	97.2	4.05	9.9	97.8	1.5	3.57	0.80	**101.4**	**4.4**	0.5	0.5	0.7
PCB 95 (optional)	5.16	5.82	5.51	68.9	67.2	69.2	5.50	6.0	68.4	1.6	4.43	1.44	**83**	**17**	1.0	1.2	0.4

Laboratory: 1b

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1c**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	20.4	21.1	20.4	23.6	24.1	22.9	20.6	2.0	23.5	2.6	13.2	3.8	**23.5**	**4.4**	2.3	1.4	0.1
2-methylnaphthalene	19.0	20.4	19.3	10.5	9.9	10.2	19.6	3.8	10.2	3.0	13.1	3.4	10.2	1.5	2.0	1.3	0.3
1-methylnaphthalene	17.7	18.2	17.9	5.42	5.09	5.17	17.9	1.4	5.23	3.3	10.0	3.8	5.3	1.8	**3.1**	1.5	0.1
biphenyl	6.98	7.03	6.72	5.11	5.20	5.19	6.91	2.4	5.17	1.0	5.01	1.69	5.11	0.33	1.5	0.9	0.2
2,6-dimethylnaphthalene	21.1	20.9	20.4	3.99	4.02	4.19	20.8	1.7	4.07	2.7	13.6	3.8	5.3	1.8	2.1	1.5	0.1
acenaphthylene	<3	<3	<3	5.36	5.16	5.21	<3		5.24	2.0	<3		5.25	0.38			
acenaphthene	4.44	4.09	4.18	3.15	3.29	3.22	4.24	4.3	3.22	2.2	3.89	1.11	3.15	0.26	0.4	0.3	0.3
1,6,7-trimethylnaphthalene	25.1	26.1	25.9	4.44	4.08	3.81	25.7	2.1	4.11	7.7	31.1	5.7	6.6	2.0	-0.7	-0.6	0.1
fluorene	10.8	10.2	9.82	5.83	5.55	5.72	10.3	4.8	5.70	2.5	10.1	1.4	5.72	0.91	0.1	0.1	0.3
phenanthrene	29.5	29.9	31.6	21.8	22.2	23.4	30.3	3.7	22.5	3.7	34.5	4.1	**22.2**	**2.4**	-0.5	-0.5	0.2
anthracene	11.00	10.40	10.10	6.66	6.25	6.32	10.5	4.4	6.41	3.4	5.32	2.40	**6.1**	**1.7**	**3.9**	1.7	0.3
1-methylphenanthrene	42.3	42.9	38.9	10.0	10.5	10.7	41.4	5.2	10.4	3.5	43.8	4.4	10.5	4.8	-0.2	-0.3	0.3
fluoranthene	34.7	38.9	39.2	172	184	164	37.6	6.7	173	5.8	35.1	2.7	**163.7**	**9.1**	0.3	0.5	0.4
pyrene	78.0	72.9	75.7	155	159	148	75.5	3.4	154	3.6	70.3	6.2	**151.6**	**6.6**	0.3	0.4	0.2
benz[a]anthracene	18.4	18.3	19.6	31.0	33.9	34.1	18.8	3.9	33.0	5.3	21.3	2.5	**32.5**	**4.7**	-0.5	-0.6	0.3
chrysene + triphenylene	70.9	74.2	74.1	94.2	96.7	95.2	73.1	2.6	95.4	1.3	67.4	5.7	**94.9**	**8.2**	0.3	0.6	0.2
benzofluoranthenes [b+j+k]	19.0	18.9	19.2	86.2	86.9	86.1	19.0	0.8	86.4	0.5	21.9	4.6	87.1	6.2	-0.5	-0.3	0.1
benzo[e]pyrene	12.7	13.3	11.9	84.2	81.9	86.2	12.6	5.6	84.1	2.6	16.0	3.5	**84.0**	**1.9**	-0.8	-0.5	0.4
benzo[a]pyrene	8.12	8.88	8.35	16.2	15.2	16.4	8.45	4.6	15.9	4.0	8.34	2.41	**15.63**	**0.65**	0.1	0.0	0.3
perylene	3.62	3.33	3.61	7.90	7.37	7.52	3.52	4.7	7.60	3.6	5.16	2.57	**7.68**	**0.27**	-1.3	-0.6	0.3
indeno[1,2,3-cd]pyrene	5.55	5.72	5.06	15.2	14.9	14.6	5.44	6.3	14.9	2.0	4.50	0.96	**14.2**	**2.8**	0.8	0.7	0.4
dibenz[a,h]anthracene + [a,c]	1.90	1.89	1.99	3.26	3.06	3.22	1.93	2.9	3.18	3.3	1.78	0.39	3.00	0.20	0.3	0.3	0.2
benzo[ghi]perylene	9.46	8.99	9.52	22.5	21.8	21.9	9.32	3.1	22.1	1.7	8.75	1.41	**22.0**	**2.2**	0.3	0.2	0.2

Laboratory: 1c
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	1	4
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	18	22	22
2 to 3	2	0	0
≥ 3	2	0	0

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 1c

Reporting Date: 1/5/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	10/8/97 S 2	10/22/97 S 3	7/21/97 S 1	10/8/97 S 2	10/22/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
hexachlorobenzene	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		1.31	0.59	no target				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		0.86	0.47	no target				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
oxychlordane	<2	<2	<2	3.01	2.99	3.19	<2		3.06	3.6	<1		no target				
trans-chlordane	<2	<2	<2	14.8	16.1	15.3	<2		15.4	4.3	<2		**16.6**	**1.7**			
2,4'-DDE	1.80	1.98	1.82	5.26	5.19	5.03	1.87	5.3	5.16	2.3	1.71	0.43	5.26	0.27	0.4	0.4	0.4
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
cis-chlordane	1.62	1.36	1.52	16.6	17.9	16.2	1.50	8.7	16.9	5.3	1.18	0.24	**17.2**	**2.8**	1.1	0.9	0.6
trans-nonachlor	1.66	1.53	1.37	16.9	16.9	15.8	1.52	9.6	16.5	3.8	1.22	0.28	**18.0**	**3.6**	1.0	0.9	0.6
dieldrin	6.26	6.09	6.22	6.18	6.09	6.11	6.19	1.4	6.13	0.8	5.79	1.20	6.2	1.3	0.3	1.1	0.1
4,4'-DDE	14.2	13.9	13.1	46.2	47.2	46.2	13.7	4.1	46.5	1.2	9.77	1.91	**51.2**	**5.5**	1.6	**11.4**	0.3
2,4'-DDD	2.89	3.10	2.82	12.2	13.4	13.9	2.94	5.0	13.2	6.6	3.07	0.37	13.7	2.8	-0.2	-0.4	0.3
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
4,4'-DDD	4.62	4.44	4.83	44.6	40.2	41.7	4.63	4.2	42.2	5.3	3.45	0.70	**43.0**	**6.3**	1.4	**3.4**	0.3
2,4'-DDT	<2	<2	<2	8.88	8.26	8.93	<2		8.69	4.3	<3		8.5	1.9			
cis-nonachlor	<2	<2	<2	6.72	6.66	6.93	<2		6.77	2.1	<2		**6.84**	**0.90**			
4,4'-DDT	1.03	1.11	1.25	3.52	3.90	3.72	1.13	9.9	3.71	5.1	1.37	0.21	**3.91**	**0.59**	-0.7	-0.7	0.7
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				

Laboratory: 1c
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	14	64
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1c

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 1/5/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	2.11	2.10	2.31	<2	<2	<2	2.17	5.5	<2		1.79	0.49	5.8	1.2	0.9	0.4	0.4
PCB 18	2.73	2.35	2.88	27.3	27.9	28.1	2.65	10.3	27.8	1.5	2.28	0.37	33	11	0.6	0.4	0.7
PCB 28	4.33	4.62	4.98	76.2	74.1	77.2	4.64	7.0	75.8	2.1	5.85	0.77	79	15	-0.8	-1.4	0.5
PCB 52	7.54	7.27	8.09	112	100	105	7.63	5.5	106	5.7	8.41	1.55	**115**	**11**	-0.4	-0.9	0.4
PCB 44	3.77	3.67	3.45	67.2	70.9	70.3	3.63	4.5	69.5	2.9	2.82	0.61	**72.7**	**7.4**	1.2	0.9	0.3
PCB 66/95	10.9	10.5	11.0	177	173	171	10.8	2.4	174	1.8	8.89	2.22	**184**	**21**	0.9	2.2	0.2
PCB 101/90	12.5	12.1	13.2	136	129	122	12.6	4.4	129	5.4	9.63	1.11	**128.3**	**9.7**	1.2	**3.4**	0.3
PCB 118	10.9	11.1	11.3	133	120	125	11.1	1.8	126	5.2	10.9	1.5	**130.8**	**3.6**	0.1	0.3	0.1
PCB 153	15.0	15.2	14.2	145	151	157	14.8	3.6	151	4.0	13.3	1.4	**145.2**	**7.6**	0.4	1.7	0.2
PCB 105	4.09	4.62	4.52	50.2	54.1	54.9	4.41	6.4	53.1	4.7	3.29	0.42	**53.0**	**3.4**	1.4	1.3	0.4
PCB 138/163/164	16.6	17.2	17.7	130	122	137	17.2	3.2	130	5.8	14.6	2.3	**133.5**	**9.5**	0.7	3.0	0.2
PCB 187/182	3.99	4.25	3.78	34.1	33.9	34.2	4.01	5.9	34.1	0.4	4.22	0.42	**34.0**	**2.3**	-0.2	-0.2	0.4
PCB 128	2.41	2.22	2.35	23.6	24.1	24.6	2.33	4.2	24.1	2.1	2.07	0.27	**22.0**	**3.4**	0.5	0.3	0.3
PCB 180	7.22	7.32	7.02	16.8	17.4	17.7	7.19	2.1	17.3	2.6	6.46	0.96	**17.1**	**3.8**	0.4	0.8	0.1
PCB 170/190	2.87	2.36	2.41	5.26	5.55	5.62	2.55	11.0	5.48	3.5	2.98	0.59	**5.5**	**1.1**	-0.6	-0.5	0.7
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 206	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 209	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 66 (optional)	na	na	na	na	na	na	na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	na	na	na	na	na	na	na		na		4.43	1.44	**83**	**17**			

Laboratory: 1c

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1d

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 1/5/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 1d
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1d**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	10/8/97 S 2	10/22/97 S 3	7/21/97 S 1	10/8/97 S 2	10/22/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
hexachlorobenzene	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		1.31	0.59	no target				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		0.86	0.47	no target				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
oxychlordane	<2	<2	<2	3.21	2.83	3.09	<2		3.04	6.4	<1		no target				
trans-chlordane	<2	<2	<2	15.2	16.2	15.2	<2		15.5	3.7	<2		**16.6**	**1.7**			
2,4'-DDE	1.77	1.93	1.76	5.26	5.10	5.11	1.82	5.2	5.16	1.7	1.71	0.43	5.26	0.27	0.2	0.3	0.3
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
cis-chlordane	1.33	1.62	1.52	16.0	17.2	16.8	1.49	9.9	16.7	3.7	1.18	0.24	**17.2**	**2.8**	1.0	0.9	0.7
trans-nonachlor	1.56	1.45	1.39	15.5	16.2	16.7	1.47	5.9	16.1	3.7	1.22	0.28	**18.0**	**3.6**	0.8	0.7	0.4
dieldrin	6.02	6.22	6.24	6.02	6.15	6.13	6.16	2.0	6.10	1.1	5.79	1.20	6.2	1.3	0.3	1.1	0.1
4,4'-DDE	13.6	13.7	14.1	44.7	47.8	46.1	13.8	1.9	46.2	3.4	9.77	1.91	**51.2**	**5.5**	1.7	**11.6**	0.1
2,4'-DDD	2.92	2.97	3.17	11.9	13.3	13.2	3.02	4.4	12.8	6.1	3.07	0.37	13.7	2.8	-0.1	-0.1	0.3
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		no target				
4,4'-DDD	4.56	4.25	4.72	43.6	40.2	44.3	4.51	5.3	42.7	5.1	3.45	0.70	**43.0**	**6.3**	1.2	**3.1**	0.4
2,4'-DDT	<2	<2	<2	7.98	8.17	8.33	<2		8.16	2.1	<3		8.5	1.9			
cis-nonachlor	<2	<2	<2	6.73	6.53	6.99	<2		6.75	3.4	<2		**6.84**	**0.90**			
4,4'-DDT	1.00	1.17	1.11	3.33	3.87	3.72	1.09	8.1	3.64	7.7	1.37	0.21	**3.91**	**0.59**	-0.8	-0.8	0.5
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<1		no target				

Laboratory: 1d
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	14	64
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1d**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	1.98	2.03	2.25	<2	<2	<2	2.09	6.9	<2		1.79	0.49	5.8	1.2	0.7	0.3	0.5
PCB 18	2.62	2.41	2.73	27.3	27.1	28.3	2.59	6.3	27.6	2.3	2.28	0.37	33	11	0.5	0.3	0.4
PCB 28	4.32	4.44	4.98	75.8	76.2	76.3	4.58	7.7	76.1	0.3	5.85	0.77	79	15	-0.9	-1.4	0.5
PCB 52	8.35	7.66	7.49	110	107	102	7.83	5.8	106	3.8	8.41	1.55	**115**	**11**	-0.3	-0.7	0.4
PCB 44	3.72	3.81	3.29	66.9	69.7	68.2	3.61	7.7	68.3	2.1	2.82	0.61	**72.7**	**7.4**	1.1	0.9	0.5
PCB 66/95	9.81	9.44	8.85	189	193	195	9.37	5.2	192	1.8	8.89	2.22	**184**	**21**	0.2	0.5	0.3
PCB 101/90	12.1	12.8	13.2	133	125	125	12.7	4.4	128	3.6	9.63	1.11	**128.3**	**9.7**	1.3	**3.5**	0.3
PCB 118	10.9	11.2	11.5	136	121	122	11.2	2.7	126	6.6	10.9	1.5	**130.8**	**3.6**	0.1	0.4	0.2
PCB 153	15.2	15.3	15.8	149	157	153	15.4	2.1	153	2.6	13.3	1.4	**145.2**	**7.6**	0.6	2.4	0.1
PCB 105	3.93	4.47	4.29	53.2	55.4	55.1	4.23	6.5	54.6	2.2	3.29	0.42	**53.0**	**3.4**	1.1	1.1	0.4
PCB 138/163/164	17.2	18.2	17.3	136	126	133	17.6	3.1	132	3.9	14.6	2.3	**133.5**	**9.5**	0.8	**3.4**	0.2
PCB 187/182	4.52	4.31	3.98	34.2	34.6	34.9	4.27	6.4	34.6	1.0	4.22	0.42	**34.0**	**2.3**	0.1	0.1	0.4
PCB 128	2.33	2.29	2.39	25.1	24.6	24.1	2.34	2.2	24.6	2.0	2.07	0.27	**22.0**	**3.4**	0.5	0.3	0.1
PCB 180	7.67	7.02	7.31	16.6	17.3	17.9	7.33	4.4	17.3	3.8	6.46	0.96	**17.1**	**3.8**	0.5	1.0	0.3
PCB 170/190	2.80	2.69	2.74	5.55	5.92	5.27	2.74	2.0	5.58	5.8	2.98	0.59	**5.5**	**1.1**	-0.3	-0.3	0.1
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 206	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 209	<2	<2	<2	<2	<2	<2	<2		<2		<1		No Target				
PCB 66 (optional)	4.72	3.92	3.54	100	103	110	4.06	14.8	104	5.0	3.57	0.80	**101.4**	**4.4**	0.6	0.6	1.0
PCB 95 (optional)	5.09	5.52	5.31	88.9	90.2	85.3	5.31	4.1	88.1	2.9	4.43	1.44	**83**	**17**	0.8	1.0	0.3

Laboratory: 1d

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1e**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	7/21/97 S 1	7/21/97 S 2	7/21/97 S 3	7/21/97 S 1	7/21/97 S 2	7/21/97 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	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	9.59	9.23	9.88	other	other	other	9.57	3.4	other*		10.1	1.4	5.72	0.91	-0.2	-0.2	0.2
phenanthrene	39.0	39.1	40.3	other	other	other	39.5	1.8	other		34.5	4.1	**22.2**	**2.4**	0.6	0.6	0.1
anthracene	other	other	other	other	other	other	other		other		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	37.5	38.2	37.2	other	other	other	37.6	1.4	other		35.1	2.7	**163.7**	**9.1**	0.3	0.5	0.1
pyrene	80.5	79.4	70.9	other	other	other	76.9	6.8	other		70.3	6.2	**151.6**	**6.6**	0.4	0.6	0.5
benz[a]anthracene	20.7	19.6	21.3	other	other	other	20.5	4.2	other		21.3	2.5	**32.5**	**4.7**	-0.2	-0.2	0.3
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	8.09	8.11	8.23	other	other	other	8.14	0.9	other		8.34	2.41	**15.63**	**0.65**	-0.1	-0.1	0.1
perylene	other	other	other	other	other	other	other		other		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	3.60	4.11	3.47	other	other	other	3.73	9.1	other		4.50	0.96	**14.2**	**2.8**	-0.7	-0.6	0.6
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	9.83	8.99	9.93	other	other	other	9.58	5.4	other		8.75	1.41	**22.0**	**2.2**	0.4	0.3	0.4

Laboratory: 1e
PAH in Mussel VIII

*as received

*SRM 2974 used as control.
See Lab Notes Section.

Reported Results	No. of Analytes	%
Quantitative	8	35
Qualitative	2	9
Not Determined	13	57

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1e**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	SRM 1974a, ng/g dry 1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 1e
Pesticides in Mussel VIII

*as received

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1e**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/5/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	1/0/00 S 1	1/0/00 S 2	1/0/00 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	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		5.85	0.77	79	15			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		8.41	1.55	**115**	**11**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		9.63	1.11	**128.3**	**9.7**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		13.3	1.4	**145.2**	**7.6**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 1e
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 2**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 10/15/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	8/23/97 S 1	8/23/97 S 2	8/23/97 S 3	8/23/97 S 1	8/23/97 S 2	8/23/97 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	8.7	10.2	24.3	7.7	13.2	33.7	14.4	59.7	18.2	75.2	13.2	3.8	**23.5**	**4.4**	0.4	0.2	**4.0**
2-methylnaphthalene	7.6	11.0	34.6	6.3	13.8	45.5	17.7	83.0	21.9	95.1	13.1	3.4	10.2	1.5	1.4	0.9	**5.5**
1-methylnaphthalene	6.1	10.4	23.8	6.11	10.50	26.90	13.4	68.9	14.50	75.6	10.0	3.8	5.3	1.8	1.3	0.6	**4.6**
biphenyl	7.10	8.65	6.24	5.24	4.69	6.22	7.33	16.7	5.38	14.4	5.01	1.69	5.11	0.33	1.9	1.1	1.1
2,6-dimethylnaphthalene	16.3	18.2	28.6	6.2	8.3	22.4	21.0	31.5	12.3	71.9	13.6	3.8	5.3	1.8	2.2	1.5	2.1
acenaphthylene	5.20	6.13	5.32	9.02	8.43	6.25	5.55	9.1	7.90	18.5	<3		5.25	0.38			0.6
acenaphthene	7.60	6.07	5.60	3.22	4.35	4.36	6.42	16.3	3.98	16.5	3.89	1.11	3.15	0.26	2.6	1.9	1.1
1,6,7-trimethylnaphthalene	71.7	75.7	71.8	1.8	10.3	12.6	73.1	3.1	8.23	69.2	31.1	5.7	6.6	2.0	**5.4**	**4.9**	0.2
fluorene	15.8	14.3	17.6	6.94	6.62	9.89	15.9	10.4	7.82	23.1	10.1	1.4	5.72	0.91	2.3	2.5	0.7
phenanthrene	36.0	38.1	42.3	12.2	17.1	23.3	39	8.3	17.5	31.7	34.5	4.1	**22.2**	**2.4**	0.5	0.5	0.6
anthracene	10.20	10.10	9.92	13.80	18.30	17.70	10.07	1.4	16.60	14.7	5.32	2.40	**6.1**	**1.7**	**3.6**	1.5	0.1
1-methylphenanthrene	50.1	53.6	51.9	7.2	10.6	14.8	51.9	3.4	10.9	35.3	43.8	4.4	10.5	4.8	0.7	1.1	0.2
fluoranthene	34.1	38.4	43.7	140	178	169	39	12.4	162	12.2	35.1	2.7	**163.7**	**9.1**	0.4	0.7	0.8
pyrene	80.2	87.3	94.9	128	166	166	87	8.4	153	14.3	70.3	6.2	**151.6**	**6.6**	1.0	1.5	0.6
benz[a]anthracene	18.9	15.8	15.5	33.9	32.6	31.3	16.7	11.2	32.6	4.0	21.3	2.5	**32.5**	**4.7**	-0.9	-1.0	0.7
chrysene + triphenylene	74.4	63.6	65.8	76.8	91.9	80.9	68	8.4	83.2	9.4	67.4	5.7	**94.9**	**8.2**	0.0	0.1	0.6
benzofluoranthenes [b+j+k]	21.1	18.7	13.5	71.1	78.3	69.5	18	21.9	73.0	6.4	21.9	4.6	87.1	6.2	-0.8	-0.5	1.5
benzo[e]pyrene	12.5	10.5	12.4	73.5	87.1	74.6	11.8	9.6	78.4	9.6	16.0	3.5	**84.0**	**1.9**	-1.0	-0.7	0.6
benzo[a]pyrene	8.77	9.57	7.57	17.2	20.0	15.5	8.6	11.7	17.6	12.9	8.34	2.41	**15.63**	**0.65**	0.1	0.1	0.8
perylene	10.70	2.90	3.39	8.79	9.37	8.58	5.66	77.1	8.91	4.6	5.16	2.57	**7.68**	**0.27**	0.4	0.2	**5.1**
indeno[1,2,3-cd]pyrene	3.97	3.11	3.07	11.0	12.2	10.8	3.4	15.0	11.3	6.7	4.50	0.96	**14.2**	**2.8**	-1.0	-0.8	1.0
dibenz[a,h]anthracene + [a,c]	1.81	1.13	1.44	3.62	3.50	3.18	1.46	23.3	3.43	6.6	1.78	0.39	3.00	0.20	-0.7	-0.6	1.6
benzo[ghi]perylene	8.23	7.57	8.30	23.1	25.4	24.7	8.0	5.0	24.4	4.8	8.75	1.41	**22.0**	**2.2**	-0.3	-0.3	0.3

Laboratory: 2
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	20	18
2 to 3	3	1	1
≥ 3	2	1	4

*as received

[a]z- and p-scores ≥ 3 are bolded. [b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 2**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 10/15/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	6/29/97 S 1	7/19/97 S 2	7/20/97 S 3	6/29/97 S 1	7/19/97 S 2	7/20/97 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%)
alpha-HCH	<0.29	<0.29	<0.28	1.32	<0.40	<0.43	<0.29		<0.40		<2		no target				
hexachlorobenzene	0.23	0.40	0.26	0.18	0.21	0.35	0.30	30.6	0.25	36.8	<1		no target				2.0
gamma-HCH	0.64	1.10	0.89	0.45	0.36	0.25	0.88	26.3	0.35	28.3	1.31	0.59	no target		-1.3	-1.2	1.8
heptachlor	1.26	<0.45	0.58	<0.59	<0.64	<0.68	0.92	52.3	<0.68		0.86	0.47	no target		0.3	0.2	**3.5**
aldrin	<0.41	<0.40	<0.39	<0.52	<0.57	<0.60	<0.40		<0.60		<1		no target				
heptachlor epoxide	2.16	<0.32	0.44	<0.41	1.52	1.76	1.30	93.6	1.64	10.3	<2		no target				**6.2**
oxychlordane	<0.34	<0.34	0.11	5.82	9.92	9.50	<0.34		8.41	26.8	<1		no target				
trans-chlordane	1.32	4.05	3.58	12.7	14.4	13.4	2.98	48.9	13.5	6.3	<2		**16.6**	**1.7**			**3.3**
2,4'-DDE	1.02	1.28	0.99	4.02	<0.49	<0.52	1.10	14.5	<0.52		1.71	0.43	5.26	0.27	-1.4	-1.8	1.0
endosulfan I	DL	DL	DL	NA	NA	NA	DL		NA		<2		no target				
cis-chlordane	0.63	1.52	0.97	17.4	15.7	14.7	1.04	43.2	15.9	8.6	1.18	0.24	**17.2**	**2.8**	-0.5	-0.4	2.9
trans-nonachlor	0.46	1.47	0.88	15.8	16.3	15.2	0.94	54.2	15.8	3.5	1.22	0.28	**18.0**	**3.6**	-0.9	-0.8	**3.6**
dieldrin	8.81	9.19	10.40	6.60	10.9	10.6	9.47	8.8	9.37	25.6	5.79	1.20	6.2	1.3	2.5	**10.6**	0.6
4,4'-DDE	10.5	13.4	13.4	49.7	51.4	50.3	12.4	13.5	50.5	1.7	9.77	1.91	**51.2**	**5.5**	1.1	**7.7**	0.9
2,4'-DDD	6.28	5.06	6.20	18.3	16.8	16.1	5.85	11.7	17.1	6.6	3.07	0.37	13.7	2.8	**3.6**	**8.0**	0.8
endrin	0.66	<0.83	1.88	1.14	<1.17	<1.24	1.27	67.9	<1.24		<2		no target				**4.5**
endosulfan II	<0.31	<0.30	0.28	4.63	3.87	5.70	<0.30		4.73	19.4	<2		no target				
4,4'-DDD	2.70	3.77	3.73	44.6	42.2	39.4	3.40	17.8	42.1	6.2	3.45	0.70	**43.0**	**6.3**	-0.1	-0.2	1.2
2,4'-DDT	1.75	2.56	2.53	7.79	11.8	10.7	2.28	20.1	10.1	20.5	<3		8.5	1.9			1.3
cis-nonachlor	1.28	2.71	2.49	10.1	12.6	11.5	2.16	35.6	11.4	11.0	<2		**6.84**	**0.90**			2.4
4,4'-DDT	1.19	2.37	2.17	3.37	3.33	3.23	1.91	33.1	3.31	2.2	1.37	0.21	**3.91**	**0.59**	1.6	1.6	2.2
mirex	<0.74	<0.73	<0.71	1.32	1.25	1.15	<0.74		1.24	6.9	<1		no target				

Laboratory: 2
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	16	73
Qualitative	6	27
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	7	7
2 to 3	1	0	4
≥ 3	1	3	5

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 2

Reporting Date: 10/15/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	6/29/97 S 1	6/29/97 S 2	6/29/97 S 3	6/29/97 S 1	6/29/97 S 2	6/29/97 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	5.69	6.29	5.09	4.54	5.71	9.16	5.69	10.5	6.47	37.1	1.79	0.49	5.8	1.2	**8.7**	**4.4**	0.7
PCB 18	2.31	2.10	2.00	29.4	31.0	28.0	2.14	7.4	29.5	5.1	2.28	0.37	33	11	-0.3	-0.2	0.5
PCB 28	9.62	8.62	7.96	76.8	91.1	89.0	8.73	9.6	85.6	9.0	5.85	0.77	79	15	2.0	**3.3**	0.6
PCB 52	13.5	15.8	14.6	111	125	110	14.6	7.9	115	7.3	8.41	1.55	**115**	**11**	3.0	**7.1**	0.5
PCB 44	4.21	3.72	3.50	71.6	81.1	72.6	3.81	9.5	75.1	7.0	2.82	0.61	**72.7**	**7.4**	1.4	1.1	0.6
PCB 66/95	9.9	11.6	12.1	172	208	189	11.2	10.1	190	9.5	8.89	2.22	**184**	**21**	1.0	2.6	0.7
PCB 101/90	10.0	12.7	11.1	132	173	151	11.3	12.1	152	13.5	9.63	1.11	**128.3**	**9.7**	0.7	1.9	0.8
PCB 118	14.8	18.6	17.0	136	178	153	16.8	11.4	156	13.6	10.9	1.5	**130.8**	**3.6**	2.2	**6.7**	0.8
PCB 153	17.7	20.5	19.4	135	236	211	19.2	7.3	194	27.1	13.3	1.4	**145.2**	**7.6**	1.8	**6.7**	0.5
PCB 105	1.81	3.47	3.09	43.4	55.9	40.3	2.79	31.2	46.5	17.7	3.29	0.42	**53.0**	**3.4**	-0.6	-0.6	2.1
PCB 138/163/164	14.8	17.0	15.7	127	153	136	15.8	7.0	139	9.5	14.6	2.3	**133.5**	**9.5**	0.3	1.4	0.5
PCB 187/182	4.87	5.37	5.08	32.0	35.4	32.1	5.11	4.9	33.2	5.8	4.22	0.42	**34.0**	**2.3**	0.8	1.0	0.3
PCB 128	2.26	2.45	2.26	21.2	23.5	20.8	2.32	4.7	21.8	6.7	2.07	0.27	**22.0**	**3.4**	0.5	0.3	0.3
PCB 180	35.3	42.2	39.1	32.5	32.7	30.3	38.9	8.9	31.8	4.2	6.46	0.96	**17.1**	**3.8**	**20.1**	**36.8**	0.6
PCB 170/190	7.52	9.95	8.85	7.00	4.04	4.40	8.77	13.9	5.15	31.4	2.98	0.59	**5.5**	**1.1**	**7.8**	**6.6**	0.9
PCB 195	0.35	0.48	0.48	0.54	<0.57	<0.60	0.44	17.2	<0.60		<1		No Target				1.1
PCB 206	<0.41	<0.40	<0.39	0.58	<0.57	<0.60	<0.40		<0.60		<1		No Target				
PCB 209	<0.66	<0.65	<0.63	1.08	0.47	0.40	<0.65		0.7	57.5	<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 2

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	16	89
Qualitative	2	11
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2[j]	10	7	15
2 to 3	2	1	1
≥ 3	3	7	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 3**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/18/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/16/97 S 1	10/16/97 S 2	10/16/97 S 3	10/16/97 S 1	10/16/97 S 2	10/16/97 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	14.9	21.8	17.2	12.8			18.0	19.7	12.8		13.2	3.8	**23.5**	**4.4**	1.5	0.9	1.3
2-methylnaphthalene	10.5	19.5	19.2	14.7			16.4	31.4	14.7		13.1	3.4	10.2	1.5	1.0	0.7	2.1
1-methylnaphthalene	12.0	16.0	15.5	12.0			14.5	15.0	12.0		10.0	3.8	5.3	1.8	1.8	0.8	1.0
biphenyl	9.18	26.81	27.83	7.00			21.3	49.3	7.00		5.01	1.69	5.11	0.33	**13.0**	**7.4**	**3.3**
2,6-dimethylnaphthalene	27.6	35.1	32.6	8.7			31.8	12.0	8.7		13.6	3.8	5.3	1.8	**5.3**	**3.7**	0.8
acenaphthylene	2.70	<6.4	<6.4	15.9			<6.4		15.9		<3		5.25	0.38			
acenaphthene	8.81	<4.7	<4.7	1.67			<4.7		1.67		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	32.9	31.1	33.0	3.1			32.3	3.4	3.13		31.1	5.7	6.6	2.0	0.2	0.1	0.2
fluorene	12.7	15.9	12.8	7.41			13.8	13.1	7.41		10.1	1.4	5.72	0.91	1.4	1.6	0.9
phenanthrene	40.2	44.6	46.8	21.2			43.9	7.7	21.2		34.5	4.1	**22.2**	**2.4**	1.1	1.1	0.5
anthracene	11.7	17.2	18.7	31.0			15.9	23.0	31.0		5.32	2.40	**6.1**	**1.7**	**8.0**	**3.4**	1.5
1-methylphenanthrene	46.7	50.1	48.7	8.87			48.5	3.5	8.9		43.8	4.4	10.5	4.8	0.4	0.6	0.2
fluoranthene	43.0	41.6	46.7	176			43.8	6.1	176		35.1	2.7	**163.7**	**9.1**	1.0	1.6	0.4
pyrene	82.3	90.2	93.3	166			88.6	6.4	166		70.3	6.2	**151.6**	**6.6**	1.0	1.6	0.4
benz[a]anthracene	24.5	23.6	28.5	31.5			25.5	10.2	31.5		21.3	2.5	**32.5**	**4.7**	0.8	0.9	0.7
chrysene + triphenylene	65.5	66.8	77.0	31.7			69.8	9.0	31.7		67.4	5.7	**94.9**	**8.2**	0.1	0.2	0.6
benzofluoranthenes [b+j+k]	79.6	53.2	102	99.9			78.2	31.2	99.9		21.9	4.6	87.1	6.2	**10.3**	**6.3**	2.1
benzo[e]pyrene	72.0	73.9	N.A.	109			73.0	1.8	109		16.0	3.5	**84.0**	**1.9**	**14.2**	**9.1**	0.1
benzo[a]pyrene	20.9	13.1	24.9	15.3			19.6	30.7	15.3		8.34	2.41	**15.63**	**0.65**	**5.4**	3.0	2.0
perylene	13.2	<6.5	7.37	9.98			10.3	40.2	9.98		5.16	2.57	**7.68**	**0.27**	**4.0**	1.9	2.7
indeno[1,2,3-cd]pyrene	17.1	23.1	28.8	13.5			23.0	25.3	13.5		4.50	0.96	**14.2**	**2.8**	**16.5**	**13.8**	1.7
dibenz[a,h]anthracene + [a,c]	<3.6	<3.6	<3.6	11.8			<3.6		11.8		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	16.3	<5.8	<5.8	28.1			<5.8		28.1		8.75	1.41	**22.0**	**2.2**			

Laboratory: 3
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	19	83
Qualitative	4	17
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	11	12	14
2 to 3	0	1	4
≥ 3	8	6	1

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 3**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/18/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/16/97 S 1	10/21/97 S 2	10/21/97 S 3	10/16/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		no target				
hexachlorobenzene	0.21	0.37	0.14	0.57			0.24	48.8	0.57		<1		no target				**3.3**
gamma-HCH	0.90	1.73	1.44	<0.6			1.36	31.3	<0.6		1.31	0.59	no target		0.2	0.1	2.1
heptachlor	1.12	2.15	2.14	7.07			1.80	32.8	7.07		0.86	0.47	no target		**4.4**	2.7	2.2
aldrin	<0.7	<0.7	<0.7	<0.7			<0.7		<0.7		<1		no target				
heptachlor epoxide	<0.5	<0.5	<0.5	<0.5			<0.5		<0.5		<2		no target				
oxychlordane	N.A.	N.A.	N.A.	N.A.			NA		NA		<1		no target				
trans-chlordane	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	<0.8	3.58	<0.8	<0.8			<0.8		<0.8		1.71	0.43	5.26	0.27			
endosulfan I	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		no target				
cis-chlordane	1.15	2.25	1.75	19.0			1.71	32.0	19.0		1.18	0.24	**17.2**	**2.8**	1.8	1.5	2.1
trans-nonachlor	1.55	2.24	1.80	20.4			1.86	18.8	20.4		1.22	0.28	**18.0**	**3.6**	2.1	1.9	1.3
dieldrin	other	other	other	other			other		other		5.79	1.20	6.2	1.3			
4,4'-DDE	10.8	14.3	6.8	48.0			10.6	35.0	48.0		9.77	1.91	**51.2**	**5.5**	0.4	2.5	2.3
2,4'-DDD	other	2.56	other	other			other		other		3.07	0.37	13.7	2.8			
endrin	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		no target				
endosulfan II	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		no target				
4,4'-DDD	6.61	3.57	4.05	62.0			4.74	34.4	62.0		3.45	0.70	**43.0**	**6.3**	1.5	**3.7**	2.3
2,4'-DDT	1.93	4.74	2.23	8.76			2.97	52.1	8.76		<3		8.5	1.9			**3.5**
cis-nonachlor	N.A.	N.A.	N.A.	N.A.			NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	5.33	1.89	3.90	<0.6			3.71	46.5	<0.6		1.37	0.21	**3.91**	**0.59**	**6.8**	**6.8**	**3.1**
mirex	<0.6	0.66	0.92	<0.6			0.79	23.7	<0.6		<1		no target				1.6

Laboratory: 3
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	5	23
Not Determined	7	32

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

FY97 NIST Intercomparison Exercise

Laboratory No.: 3

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 11/18/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/16/97 S 1	10/16/97 S 2	10/16/97 S 3	10/16/97 S 1	10/16/97 S 2	10/16/97 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	1.80	3.96	3.21	8.20			2.99	36.7	8.20		1.79	0.49	5.8	1.2	2.7	1.4	2.4
PCB 18	1.69	2.56	1.75	26.7			2.00	24.2	26.7		2.28	0.37	33	11	-0.5	-0.3	1.6
PCB 28	4.85	6.05	6.37	81.0			5.76	13.9	81.0		5.85	0.77	79	15	-0.1	-0.1	0.9
PCB 52	11.1	19.0	17.6	94.2			15.9	26.5	94.2		8.41	1.55	**115**	**11**	**3.6**	**8.5**	1.8
PCB 44	2.25	3.51	3.42	67.3			3.06	23.0	67.3		2.82	0.61	**72.7**	**7.4**	0.3	0.3	1.5
PCB 66/95	9.34	9.28	9.31	160			9.31	0.3	160		8.89	2.22	**184**	**21**	0.2	0.5	0.0
PCB 101/90	10.0	8.06	9.43	125			9.15	10.7	125		9.63	1.11	**128.3**	**9.7**	-0.2	-0.5	0.7
PCB 118	11.0	10.4	10.3	121			10.6	3.3	121		10.9	1.5	**130.8**	**3.6**	-0.1	-0.3	0.2
PCB 153	14.3	13.3	13.4	104			13.6	4.0	104		13.3	1.4	**145.2**	**7.6**	0.1	0.3	0.3
PCB 105	6.39	4.72	4.31	66.7			5.14	21.4	66.7		3.29	0.42	**53.0**	**3.4**	2.3	2.1	1.4
PCB 138/163/164	17.8	19.2	14.1	140			17.0	15.5	140		14.6	2.3	**133.5**	**9.5**	0.7	2.8	1.0
PCB 187/182	4.95	5.11	4.90	33.7			4.99	2.2	33.7		4.22	0.42	**34.0**	**2.3**	0.7	0.9	0.1
PCB 128	2.81	2.79	2.44	28.0			2.68	7.7	28.0		2.07	0.27	**22.0**	**3.4**	1.2	0.7	0.5
PCB 180	6.54	6.14	6.12	14.5			6.27	3.8	14.5		6.46	0.96	**17.1**	**3.8**	-0.1	-0.2	0.3
PCB 170/190	3.16	3.50	3.29	2.84			3.32	5.3	2.84		2.98	0.59	**5.5**	**1.1**	0.4	0.4	0.4
PCB 195	0.74	0.89	0.96	<0.6			0.87	13.0	<0.6		<1		No Target				0.9
PCB 206	<0.5	0.43	0.26	<0.5			0.35	36.0	<0.5		<1		No Target				2.4
PCB 209	0.15	1.63	0.76	1.04			0.85	87.9	1.04		<1		No Target				**5.9**
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 3

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 5**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/12/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	/18-11/20/ S 1	/18-11/20/ S 2	/18-11/20/ S 3	/18-11/20/ S 1	/18-11/20/ S 2	/18-11/20/ 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	<=8.2	<=7.5		<66			<8		<66		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	<=5.6	<=5.9		<1			<6		<1		13.1	3.4	10.2	1.5			
1-methylnaphthalene	<=6	<=4.9		<2			<6		<2		10.0	3.8	5.3	1.8			
biphenyl	<14	<14		<66			<14		<66		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	<=9.2	<=11		<3			<10		<3		13.6	3.8	5.3	1.8			
acenaphthylene	<14	<=1.5		<8			<14		<8		<3		5.25	0.38			
acenaphthene	<=1	<=3.6		<66			<3.5		<66		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	21.8	20.7		<2.4			21.3	3.7	<2.4		31.1	5.7	6.6	2.0	-1.3	-1.2	0.2
fluorene	<14	<14		<4			<14		<4		10.1	1.4	5.72	0.91			
phenanthrene	30.4	30.0		<14			30.2	0.9	<14		34.5	4.1	**22.2**	**2.4**	-0.5	-0.5	0.1
anthracene	<14	<14		<0.3			<14		<0.3		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	35.2	30.4		<0.6			32.8	10.3	<0.6		43.8	4.4	10.5	4.8	-1.0	-1.5	0.7
fluoranthene	29.0	28.4		126			28.7	1.5	126		35.1	2.7	**163.7**	**9.1**	-0.7	-1.2	0.1
pyrene	45.4	43.2		85			44.3	3.5	85		70.3	6.2	**151.6**	**6.6**	-1.5	-2.2	0.2
benz[a]anthracene	24.4	25.6		<25			25.0	3.4	<25		21.3	2.5	**32.5**	**4.7**	0.7	0.8	0.2
chrysene + triphenylene	67.2	66.1		79.6			66.7	1.2	79.6		67.4	5.7	**94.9**	**8.2**	0.0	-0.1	0.1
benzofluoranthenes [b+j+k]	<=12	15.2		<42			15.2		<42		21.9	4.6	87.1	6.2	-1.2	-0.8	
benzo[e]pyrene	<=2.8	<=12		<7			<11		<7		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	<=4.4	<=2		<0.6			<4		<0.6		8.34	2.41	**15.63**	**0.65**			
perylene	<14	<=0.6		<66			<14		<66		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	<14	<14		<66			<14		<66		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	<14	<14		<66			<14		<66		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	<14	<14		<66			<14		<66		8.75	1.41	**22.0**	**2.2**			

Laboratory: 5
PAH in Mussel VIII

SRM data converted to dry basis by coordinator.

*as received

Reported Results	No. of Analytes	%
Quantitative	8	35
Qualitative	15	65
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	7	7
2 to 3	0	1	0
≥ 3	0	0	0

[a]z- and p-scores ≥ 3 are bolded. [b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 5**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/12/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	1/4-11/6/9	1/4-11/6/9		1/4-11/6/9			lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	NA	NA		NA			NA		NA		<2		no target				
hexachlorobenzene	<=0.12	<=0.14		<1.1			<0.14		<1.1		<1		no target				
gamma-HCH	0.85	0.91		<0.8			0.88	4.3	<0.8		1.31	0.59	no target		-1.3	-1.2	0.3
heptachlor	0.80	0.64		<1.2			0.72	15.4	<1.2		0.86	0.47	no target		-0.6	-0.4	1.0
aldrin	<=0.26	<=0.24		<0.5			<0.26		<0.5		<1		no target				
heptachlor epoxide	0.69	0.89		8.87			0.79	18.5	8.87		<2		no target				1.2
oxychlordane	NA	NA		NA			NA		NA		<1		no target				
trans-chlordane	NA	NA		NA			NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	<0.48	<0.47		4.91			<0.5		4.91		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA		NA			NA		NA		<2		no target				
cis-chlordane	1.48	1.43		16.5			1.46	2.4	16.5		1.18	0.24	**17.2**	**2.8**	0.9	0.8	0.2
trans-nonachlor	1.49	1.38		17.2			1.44	5.4	17.2		1.22	0.28	**18.0**	**3.6**	0.7	0.6	0.4
dieldrin	4.76	5.55		3.71			5.16	10.8	3.71		5.79	1.20	6.2	1.3	-0.4	-1.8	0.7
4,4'-DDE	8.09	8.63		50.4			8.36	4.6	50.4		9.77	1.91	**51.2**	**5.5**	-0.6	**-4.1**	0.3
2,4'-DDD	3.32	4.08		15.4			3.70	14.5	15.4		3.07	0.37	13.7	2.8	0.8	1.8	1.0
endrin	NA	NA		NA			NA		NA		<2		no target				
endosulfan II	NA	NA		NA			NA		NA		<2		no target				
4,4'-DDD	4.53	4.77		40.1			4.65	3.6	40.1		3.45	0.70	**43.0**	**6.3**	1.4	**3.5**	0.2
2,4'-DDT	1.95	1.99		8.14			1.97	1.4	8.14		<3		8.5	1.9			0.1
cis-nonachlor	NA	NA		NA			NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	2.13	2.08		4.65			2.11	1.7	4.65		1.37	0.21	**3.91**	**0.59**	2.2	2.1	0.1
mirex	<=0.44	<=0.37		<1.3			<0.5		<1.3		<1		no target				

Laboratory: 5
Pesticides in Mussel VIII

SRM data converted to dry basis by coordinator.

*as received

Reported Results	No. of Analytes	%
Quantitative	11	50
Qualitative	4	18
Not Determined	7	32

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	6	11
2 to 3	1	1	0
≥ 3	0	2	0

[a]z- and p-scores ≥ 3 are bolded. [b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 5

Reporting Date: 11/12/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/26/97 S 1	10/26/97 S 2	10/26/97 S 3	10/26/97 S 1	10/26/97 S 2	10/26/97 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	1.70	1.35		3.98			1.53	16.2	3.98		1.79	0.49	5.8	1.2	-0.6	-0.3	1.1
PCB 18	2.34	2.27		25.0			2.31	2.1	25.0		2.28	0.37	33	11	0.0	0.0	0.1
PCB 28	8.57	8.36		85.4			8.47	1.8	85.4		5.85	0.77	79	15	1.8	3.0	0.1
PCB 52	7.35	7.36		76.9			7.36	0.1	76.9		8.41	1.55	**115**	**11**	-0.5	-1.2	0.0
PCB 44	3.49	3.38		55.8			3.44	2.3	55.8		2.82	0.61	**72.7**	**7.4**	0.9	0.7	0.2
PCB 66/95	3.26	3.74		119			3.50	9.7	119		8.89	2.22	**184**	**21**	-2.4	**-6.1**	0.6
PCB 101/90	9.66	9.65		95.7			9.66	0.1	95.7		9.63	1.11	**128.3**	**9.7**	0.0	0.0	0.0
PCB 118	9.89	9.80		88.7			9.85	0.6	88.7		10.9	1.5	**130.8**	**3.6**	-0.4	-1.2	0.0
PCB 153	12.9	12.9		99.2			12.9	0.0	99.2		13.3	1.4	**145.2**	**7.6**	-0.1	-0.5	0.0
PCB 105	4.55	4.38		52.2			4.47	2.7	52.2		3.29	0.42	**53.0**	**3.4**	1.4	1.3	0.2
PCB 138/163/164	13.4	13.3		95.7			13.4	0.5	95.7		14.6	2.3	**133.5**	**9.5**	-0.3	-1.4	0.0
PCB 187/182	5.22	5.27		30.3			5.25	0.7	30.3		4.22	0.42	**34.0**	**2.3**	1.0	1.2	0.0
PCB 128	2.42	2.33		19.1			2.38	2.7	19.1		2.07	0.27	**22.0**	**3.4**	0.6	0.3	0.2
PCB 180	6.82	6.67		14.6			6.75	1.6	14.6		6.46	0.96	**17.1**	**3.8**	0.2	0.3	0.1
PCB 170/190	3.84	3.76		5.83			3.80	1.5	5.83		2.98	0.59	**5.5**	**1.1**	1.1	0.9	0.1
PCB 195	<=0.32	<=0.38		<1.3			<0.4		<1.3		<1		No Target				
PCB 206	<=0.27	<=0.3		<0.4			<0.3		<0.4		<1		No Target				
PCB 209	<0.4	<0.4		<1.3			<0.4		<1.3		<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 5

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

SRM data converted to dry basis by coordinator.

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 6**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/21/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/27/97	10/27/97	10/27/97	10/27/97	10/27/97	10/27/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
naphthalene	DL	DL	DL	DL	DL	DL	DL		DL		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	DL	DL	DL	DL	DL	DL	DL		DL		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	DL	DL	DL	DL	DL	DL	DL		DL		<3		5.25	0.38			
acenaphthene	DL	DL	DL	DL	DL	DL	DL		DL		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	DL	DL	DL	DL	DL	DL	DL		DL		10.1	1.4	5.72	0.91			
phenanthrene	DL	DL	DL	DL	DL	DL	DL		DL		34.5	4.1	**22.2**	**2.4**			
anthracene	DL	DL	DL	DL	DL	DL	DL		DL		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	DL	DL	DL	377	DL	DL	DL		DL		35.1	2.7	**163.7**	**9.1**			
pyrene	DL	DL	DL	377	283	DL	DL		330	20.1	70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	DL	DL	DL	DL	DL	DL	DL		DL		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	other	other	other	other	other	other	other		other		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	other	other	other	other	other	other	other		other		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	DL	DL	DL	DL	DL	DL	DL		DL		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	DL	DL	DL	DL	DL	DL	DL		DL		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	other	other	other	other	other	other	other		other		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	DL	DL	DL	DL	DL	DL	DL		DL		8.75	1.41	**22.0**	**2.2**			

Laboratory: 6
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	16	70
Not Determined	7	30

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 6**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/21/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/30/97 S 1	10/30/97 S 2	10/30/97 S 3	10/30/97 S 1	10/30/97 S 2	10/30/97 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%)
alpha-HCH	DL	DL	DL	DL	DL	DL	DL		DL		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	DL	DL	DL	DL	DL	DL	DL		DL		1.31	0.59	no target				
heptachlor	DL	DL	DL	DL	DL	DL	DL		DL		0.86	0.47	no target				
aldrin	DL	DL	DL	DL	DL	DL	DL		DL		<1		no target				
heptachlor epoxide	0.61	0.82	DL	DL	DL	DL	0.71	20.3	DL		<2		no target				1.4
oxychlordane	DL	2.62	DL	DL	DL	DL	DL		DL		<1		no target				
trans-chlordane	DL	DL	DL	DL	DL	DL	DL		DL		<2		**16.6**	**1.7**			
2,4'-DDE	9.90	DL	5.65	DL	DL	14.20	7.78	38.7	14.2		1.71	0.43	5.26	0.27	**14.1**	**17.5**	2.6
endosulfan I	DL	DL	DL	DL	DL	DL	DL		DL		<2		no target				
cis-chlordane	2.51	2.09	1.78	41.4	54.6	38.7	2.13	17.2	44.9	18.9	1.18	0.24	**17.2**	**2.8**	**3.2**	2.7	1.1
trans-nonachlor	2.44	5.51	2.04	9.3	25.3	9.0	3.33	57.0	14.5	64.3	1.22	0.28	**18.0**	**3.6**	**6.9**	**6.1**	**3.8**
dieldrin	DL	DL	2.56	DL	5.48	DL	DL		DL		5.79	1.20	6.2	1.3			
4,4'-DDE	5.72	6.04	4.91	40.8	48.2	38.2	5.56	10.5	42.4	12.2	9.77	1.91	**51.2**	**5.5**	-1.7	**-12.2**	0.7
2,4'-DDD	5.17	10.1	DL	119	70.4	67.6	7.64	45.7	85.7	33.7	3.07	0.37	13.7	2.8	**6.0**	**13.2**	**3.0**
endrin	DL	5.43	DL	DL	DL	DL	DL		DL		<2		no target				
endosulfan II	DL	DL	DL	3.84	DL	DL	DL		DL		<2		no target				
4,4'-DDD	1.88	1.89	DL	40.7	52.4	20.9	1.89	0.4	38.0	41.9	3.45	0.70	**43.0**	**6.3**	-1.8	**-4.5**	0.0
2,4'-DDT	DL	DL	DL	DL	DL	DL	DL		DL		<3		8.5	1.9			
cis-nonachlor	DL	DL	DL	DL	DL	DL	DL		DL		<2		**6.84**	**0.90**			
4,4'-DDT	2.75	5.67	4.94	53.30	132.00	79.9	4.45	34.1	88.4	45.3	1.37	0.21	**3.91**	**0.59**	**9.0**	**8.9**	2.3
mirex	DL	DL	DL	DL	DL	DL	DL		DL		<1		no target				

Laboratory: 6
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	13	59
Not Determined	1	5

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	2	0	4
2 to 3	0	1	2
≥ 3	5	6	2

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 6

Reporting Date: 11/21/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/30/97 S 1	10/30/97 S 2	10/30/97 S 3	10/30/97 S 1	10/30/97 S 2	10/30/97 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	1.10	0.79	1.06	18.2	DL	3.09	0.98	17.2	10.6	100.4	1.79	0.49	5.8	1.2	-1.8	-0.9	1.1
PCB 18	3.65	3.86	1.24	6.34	21.5	20.4	2.92	49.9	16.1	52.6	2.28	0.37	33	11	1.1	0.7	**3.3**
PCB 28	7.89	7.36	7.01	88.8	108	86.0	7.42	6.0	94.3	12.7	5.85	0.77	79	15	1.1	1.8	0.4
PCB 52	9.25	7.79	9.12	111	122	107	8.72	9.3	113	6.9	8.41	1.55	**115**	**11**	0.1	0.4	0.6
PCB 44	DL	DL	DL	59.4	70.0	59.2	DL		62.9	9.8	2.82	0.61	**72.7**	**7.4**			
PCB 66/95	na	na	na	na	na	na	na		na		8.89	2.22	**184**	**21**			
PCB 101/90	other	other	other	other	other	other	other		other		9.63	1.11	**128.3**	**9.7**			
PCB 118	6.06	5.74	4.94	81.9	87.4	73.2	5.58	10.3	80.8	8.9	10.9	1.5	**130.8**	**3.6**	-1.9	**-6.0**	0.7
PCB 153	other	other	other	other	other	other	other		other		13.3	1.4	**145.2**	**7.6**			
PCB 105	1.53	2.41	3.23	34.6	46.9	40.5	2.39	35.6	40.7	15.1	3.29	0.42	**53.0**	**3.4**	-1.1	-1.0	2.4
PCB 138/163/164	other	other	other	other	other	other	other		other		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	other	other	other	other	other	other	other		other		4.22	0.42	**34.0**	**2.3**			
PCB 128	3.28	4.72	5.87	23.4	15.7	11.3	4.62	28.1	16.8	36.5	2.07	0.27	**22.0**	**3.4**	**4.9**	2.9	1.9
PCB 180	DL	DL	DL	DL	4.76	DL	DL		DL		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	other	other	other	other	other	other	other		other		2.98	0.59	**5.5**	**1.1**			
PCB 195	4.32	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 206	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 209	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 66 (optional)	DL	DL	DL		DL	DL	DL		DL		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 6

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	7	39
Qualitative	10	56
Not Determined	1	6

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 7**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 12/1/97

PAH

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 7
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 7

Reporting Date: 12/1/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/28/97 S 1	10/28/97 S 2	10/28/97 S 3	10/28/97 S 1	10/28/97 S 2	10/28/97 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%)
alpha-HCH	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		<2		no target				
hexachlorobenzene	0.63	0.63	1.03	2.48	2.12	2.45	0.76	30.4	2.35	8.5	<1		no target				2.0
gamma-HCH	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		1.31	0.59	no target				
heptachlor	<1.0	<1.0	<1.0	3.18	2.62	2.64	<1		2.81	11.3	0.86	0.47	no target				
aldrin	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		<1		no target				
heptachlor epoxide	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		<2		no target				
oxychlordane	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2		<2		<1		no target				
trans-chlordane	3.29	2.59	2.75	25.8	22.8	22.9	2.88	12.8	23.8	7.1	<2		**16.6**	**1.7**			0.9
2,4'-DDE	<1.0	<1.0	<1.0	1.51	1.60	1.86	<1		1.66	11.0	1.71	0.43	5.26	0.27			
endosulfan I	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		<2		no target				
cis-chlordane	1.65	1.01	1.21	22.2	20.7	20.1	1.29	25.4	21.0	5.2	1.18	0.24	**17.2**	**2.8**	0.4	0.3	1.7
trans-nonachlor	1.47	1.15	1.03	22.6	21.3	21.4	1.22	18.7	21.8	3.3	1.22	0.28	**18.0**	**3.6**	0.0	0.0	1.2
dieldrin	2.31	2.20	2.37	4.61	4.22	4.50	2.29	3.8	4.44	4.5	5.79	1.20	6.2	1.3	-2.4	**-10.1**	0.3
4,4'-DDE	4.64	5.51	5.11	47.9	46.6	46.8	5.09	8.6	47.1	1.5	9.77	1.91	**51.2**	**5.5**	-1.9	**-13.5**	0.6
2,4'-DDD	2.17	2.03	1.78	13.1	12.5	13.2	1.99	9.9	12.9	2.9	3.07	0.37	13.7	2.8	-1.4	**-3.1**	0.7
endrin	0.50	0.46	0.52	<0.4	<0.4	<0.4	0.50	6.6	<0.4		<2		no target				0.4
endosulfan II	1.63	1.23	1.10	1.05	<1.0	<1.0	1.32	20.9	<1.0		<2		no target				1.4
4,4'-DDD	2.01	1.99	1.75	34.7	34.1	34.9	1.92	7.5	34.6	1.2	3.45	0.70	**43.0**	**6.3**	-1.8	**-4.4**	0.5
2,4'-DDT	<1.0	<1.0	<1.0	5.49	4.97	4.53	<1		5.00	9.6	<3		8.5	1.9			
cis-nonachlor	<1.0	<1.0	<1.0	4.29	4.30	4.48	<1		4.36	2.5	<2		**6.84**	**0.90**			
4,4'-DDT	<1.0	<1.0	<1.0	3.06	2.75	2.07	<1		2.63	19.3	1.37	0.21	**3.91**	**0.59**			
mirex	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1		<1		<1		no target				

Laboratory: 7
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

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

FY97 NIST Intercomparison Exercise

Laboratory No.: 7

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Reporting Date: 12/1/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/28/97 S 1	10/28/97 S 2	10/28/97 S 3	10/28/97 S 1	10/28/97 S 2	10/28/97 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	4.48	4.06	4.45	23.9	18.5	19.5	4.33	5.4	20.6	13.9	1.79	0.49	5.8	1.2	**5.7**	2.9	0.4
PCB 18	5.18	4.53	5.44	50.0	39.8	43.1	5.05	9.3	44.3	11.7	2.28	0.37	33	11	**4.8**	**3.1**	0.6
PCB 28	24.6	22.7	21.3	256	207	231	22.9	7.2	231	10.6	5.85	0.77	79	15	**11.6**	**19.3**	0.5
PCB 52	35.6	31.0	29.5	402	338	349	32.0	9.9	363	9.4	8.41	1.55	**115**	**11**	**11.2**	**26.9**	0.7
PCB 44	16.9	14.5	14.5	234	191	206	15.3	9.1	210	10.4	2.82	0.61	**72.7**	**7.4**	**17.7**	**14.2**	0.6
PCB 66/95	17.5	16.0	15.4	253	221	239	16.3	6.6	238	6.7	8.89	2.22	**184**	**21**	**3.3**	**8.4**	0.4
PCB 101/90	57.3	51.0	47.4	589	513	528	51.9	9.7	543	7.4	9.63	1.11	**128.3**	**9.7**	**17.6**	**48.1**	0.6
PCB 118	38.4	34.9	34.4	410	358	370	35.9	6.1	379	7.2	10.9	1.5	**130.8**	**3.6**	**9.2**	**28.4**	0.4
PCB 153	17.5	16.5	15.9	209	194	197	16.6	4.9	200	4.0	13.3	1.4	**145.2**	**7.6**	1.0	**3.7**	0.3
PCB 105	10.0	8.63	8.19	115	98.5	100	8.94	10.6	105	8.7	3.29	0.42	**53.0**	**3.4**	**6.9**	**6.4**	0.7
PCB 138/163/164	18.2	17.0	16.5	224	203	208	17.2	5.1	212	5.2	14.6	2.3	**133.5**	**9.5**	0.7	**3.0**	0.3
PCB 187/182	4.21	4.34	4.02	35.9	36.0	35.1	4.19	3.8	35.7	1.4	4.22	0.42	**34.0**	**2.3**	0.0	0.0	0.3
PCB 128	2.98	2.78	2.66	33.6	31.6	32.0	2.81	5.8	32.4	3.3	2.07	0.27	**22.0**	**3.4**	1.4	0.8	0.4
PCB 180	5.24	5.45	5.11	17.4	18.3	18.0	5.27	3.3	17.9	2.6	6.46	0.96	**17.1**	**3.8**	-0.7	-1.4	0.2
PCB 170/190	2.24	2.42	2.20	4.39	3.67	3.85	2.29	5.1	3.97	9.4	2.98	0.59	**5.5**	**1.1**	-0.9	-0.8	0.3
PCB 195	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<1		No Target				
PCB 206	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<1		No Target				
PCB 209	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 7

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	4	15
2 to 3	0	1	0
≥ 3	9	10	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 8**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/26/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/6/97	10/6/97	10/6/97	10/6/97	10/6/97	10/6/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
naphthalene	10.7	13.0	18.4	10.1	NA	12.4	14.0	28.2	11.3	14.5	13.2	3.8	**23.5**	**4.4**	0.3	0.2	1.9
2-methylnaphthalene	11.3	12.6	16.1	7.0	NA	6.5	13.3	18.6	6.74	4.9	13.1	3.4	10.2	1.5	0.1	0.1	1.2
1-methylnaphthalene	6.71	8.46	9.60	< 5.00	NA	< 5.00	8.26	17.6	<5		10.0	3.8	5.3	1.8	-0.7	-0.3	1.2
biphenyl	5.71	7.53	7.34	5.53	NA	5.40	6.86	14.6	5.47	1.7	5.01	1.69	5.11	0.33	1.5	0.8	1.0
2,6-dimethylnaphthalene	12.3	13.8	15.0	< 5.00	NA	< 5.00	13.7	9.9	<5		13.6	3.8	5.3	1.8	0.0	0.0	0.7
acenaphthylene	< 5.00	< 5.00	< 5.00	8.24	NA	6.71	<5		7.48	14.5	<3		5.25	0.38			
acenaphthene	< 5.00	< 5.00	< 5.00	< 5.00	NA	< 5.00	<5		<5		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	8.77	10.7	9.73	< 5.00	NA	5.35	9.73	9.9	5.35		10.1	1.4	5.72	0.91	-0.2	-0.2	0.7
phenanthrene	40.2	40.7	32.7	19.3	NA	27.6	37.9	11.8	23.5	25.0	34.5	4.1	**22.2**	**2.4**	0.4	0.4	0.8
anthracene	5.03	6.15	4.32	8.89	NA	9.39	5.17	17.9	9.14	3.9	5.32	2.40	**6.1**	**1.7**	-0.1	0.0	1.2
1-methylphenanthrene	51.0	42.2	48.3	12.4	NA	10.4	47.2	9.6	11.4	12.4	43.8	4.4	10.5	4.8	0.3	0.4	0.6
fluoranthene	36.4	25.6	29.4	178	NA	168	30.5	18.0	173	4.1	35.1	2.7	**163.7**	**9.1**	-0.5	-0.9	1.2
pyrene	69.1	47.8	37.1	159	NA	139	51.3	31.7	149	9.5	70.3	6.2	**151.6**	**6.6**	-1.1	-1.6	2.1
benz[a]anthracene	17.6	23.3	26.6	23.4	NA	28.2	22.5	20.2	25.8	13.2	21.3	2.5	**32.5**	**4.7**	0.2	0.3	1.3
chrysene + triphenylene	42.7	41.8	52.1	38.0	NA	44.5	45.5	12.5	41.3	11.1	67.4	5.7	**94.9**	**8.2**	-1.3	-2.3	0.8
benzofluoranthenes [b+j+k]	24.4	22.2	27.0	76.4	NA	77.1	24.5	9.8	76.8	0.6	21.9	4.6	87.1	6.2	0.5	0.3	0.7
benzo[e]pyrene	17.2	16.4	17.0	95.5	NA	88.5	16.9	2.5	92.0	5.4	16.0	3.5	**84.0**	**1.9**	0.2	0.1	0.2
benzo[a]pyrene	8.65	7.88	7.22	15.7	NA	15.2	7.92	9.0	15.5	2.3	8.34	2.41	**15.63**	**0.65**	-0.2	-0.1	0.6
perylene	< 5.00	< 5.00	< 5.00	6.80	NA	5.61	<5		6.21	13.6	5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	< 5.00	< 5.00	< 5.00	10.8	NA	12.4	<5		11.6	9.8	4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	< 5.00	< 5.00	< 5.00	< 5.00	NA	< 5.00	<5		<5		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	10.1	8.12	7.40	23.0	NA	23.5	8.54	16.4	23.3	1.5	8.75	1.41	**22.0**	**2.2**	-0.1	-0.1	1.1

Laboratory: 8
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	17	74
Qualitative	5	22
Not Determined	1	4

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 8
Reporting Date: 11/26/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* NA S1	NA S2	NA S3	SRM 1974a, ng/g dry NA S1	NA S2	NA S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**[i]			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 8
Pesticides in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 8

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/6/97 S 1	10/6/97 S 2	10/6/97 S 3	10/6/97 S 1	10/6/97 S 2	10/6/97 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	3.11	15.5	16.2	3.69	11.0	3.38	11.6	63.5	6.02	71.6	1.79	0.49	5.8	1.2	**21.9**	**11.2**	**4.2**
PCB 18	2.72	4.06	3.25	23.6	34.8	24.6	3.34	20.2	27.7	22.4	2.28	0.37	33	11	1.9	1.2	1.3
PCB 28	9.31	10.8	10.0	126	130	129	10.0	7.4	128	1.6	5.85	0.77	79	15	2.9	**4.8**	0.5
PCB 52	6.22	6.50	5.80	106	97.4	109	6.17	5.7	104	5.8	8.41	1.55	**115**	**11**	-1.1	-2.5	0.4
PCB 44	2.12	1.95	1.80	68.1	63.1	73.4	1.96	8.2	68.2	7.6	2.82	0.61	**72.7**	**7.4**	-1.2	-1.0	0.5
PCB 66/95	5.75	7.58	5.50	161	179	129	6.28	18.1	156	16.3	8.89	2.22	**184**	**21**	-1.2	-3.0	1.2
PCB 101/90	6.44	7.74	4.97	119	130	98.5	6.38	21.7	116	13.8	9.63	1.11	**128.3**	**9.7**	-1.3	**-3.7**	1.4
PCB 118	6.61	7.02	5.58	107	111	86.1	6.40	11.6	101	13.2	10.9	1.5	**130.8**	**3.6**	-1.6	**-5.1**	0.8
PCB 153	9.75	10.2	8.45	132	131	108	9.47	9.6	124	11.0	13.3	1.4	**145.2**	**7.6**	-1.2	**-4.4**	0.6
PCB 105	2.17	2.62	1.66	43.8	43.6	36.6	2.15	22.3	41.3	9.9	3.29	0.42	**53.0**	**3.4**	-1.4	-1.3	1.5
PCB 138/163/164	6.93	7.36	7.48	131	128	108	7.26	4.0	122	10.2	14.6	2.3	**133.5**	**9.5**	-2.0	**-8.3**	0.3
PCB 187/182	3.14	3.34	2.30	24.4	23.1	19.4	2.93	18.9	22.3	11.6	4.22	0.42	**34.0**	**2.3**	-1.2	-1.5	1.3
PCB 128	1.47	1.92	1.07	16.9	15.5	13.4	1.49	28.6	15.3	11.5	2.07	0.27	**22.0**	**3.4**	-1.1	-0.7	1.9
PCB 180	4.40	4.48	3.63	10.7	9.6	8.8	4.17	11.3	9.70	9.8	6.46	0.96	**17.1**	**3.8**	-1.4	-2.6	0.8
PCB 170/190	1.94	3.21	2.49	3.31	3.95	2.91	2.55	25.0	3.39	15.5	2.98	0.59	**5.5**	**1.1**	-0.6	-0.5	1.7
PCB 195	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	<1		<1		<1		No Target				
PCB 206	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	<1		<1		<1		No Target				
PCB 209	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	<1		<1		<1		No Target				
PCB 66 (optional)	2.28	2.97	2.18	81.6	90.2	64.1	2.48	17.4	78.6	16.9	3.57	0.80	**101.4**	**4.4**	-1.2	-1.2	1.2
PCB 95 (optional)	3.47	4.61	3.32	79.6	88.7	64.5	3.80	18.6	77.6	15.8	4.43	1.44	**83**	**17**	-0.6	-0.7	1.2

Laboratory: 8

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	12	6	14
2 to 3	2	3	0
≥ 3	1	6	1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 9**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/17/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/7/97 S 1	10/7/97 S 2	10/7/97 S 3	10/7/97 S 1	10/7/97 S 2	10/7/97 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	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	<21.2	<16.6	<16.6	<21.5	<16.6	<16.6	<21		<22		10.1	1.4	5.72	0.91			
phenanthrene	41.6	49.1	38.9	29.6	19.5	22.0	43	12.2	23.7	22.2	34.5	4.1	**22.2**	**2.4**	1.0	1.0	0.8
anthracene	<11.4	<8.92	<8.92	<11.6	<8.92	<8.92	<11.4		<12		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	46.1	51.9	43.1	276	220	370	47	9.5	289	26.3	35.1	2.7	**163.7**	**9.1**	1.4	2.2	0.6
pyrene	92.3	102.0	85.0	274	215	350	93	9.2	280	24.2	70.3	6.2	**151.6**	**6.6**	1.3	2.0	0.6
benz[a]anthracene	23.6	26.4	19.7	75.3	70.7	79.7	23.2	14.5	75.2	6.0	21.3	2.5	**32.5**	**4.7**	0.4	0.4	1.0
chrysene + triphenylene	82.9	84.4	69.3	149.0	109.0	107.0	79	10.5	121.7	19.5	67.4	5.7	**94.9**	**8.2**	0.7	1.2	0.7
benzofluoranthenes [b+j+k]	56.9	43.8	51.9	110.0	130.0	146.0	51	13.0	128.7	14.0	21.9	4.6	87.1	6.2	**5.3**	**3.2**	0.9
benzo[e]pyrene	38.8	36.4	34.5	111.0	121.0	114.0	36.6	5.9	115.3	4.4	16.0	3.5	**84.0**	**1.9**	**5.1**	**3.3**	0.4
benzo[a]pyrene	<18.1	<14.2	<14.2	21.0	20.2	28.3	<18		23.2	19.3	8.34	2.41	**15.63**	**0.65**			
perylene	<19.7	<15.4	<15.4	<20	<15.4	<15.4	<20		<20		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	<18.1	<14.1	<14.1	<18.3	<14.1	<14.1	<18		<18		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	<24.8	<19.4	<19.4	<25.2	<19.4	<19.4	<25		<25		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	<23.8	<18.6	<18.6	27.0	26.5	23.6	<24		25.7	7.1	8.75	1.41	**22.0**	**2.2**			

Laboratory: 9
PAH in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	7	30
Qualitative	7	30
Not Determined	9	39

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	4	7
2 to 3	0	1	0
≥ 3	2	2	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 9

Reporting Date: 11/17/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/7/97 S 1	11/3/97 S 2	10/20/97 S 3	10/7/97 S 1	10/20/97 S 2	11/3/97 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	DL	DL	DL	DL	DL	DL	DL		DL		<1		no target				
gamma-HCH	DL	DL	DL	DL	DL	DL	DL		DL		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	DL	DL	DL	14.9	16.0	17.6	DL		16.2	8.4	1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	DL	DL	DL	14.8	14.4	16.1	DL		15.1	5.9	1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	5.6	7.4	6.7	42.3	44.7	46.3	6.56	13.5	44.4	4.5	9.77	1.91	**51.2**	**5.5**	-1.3	**-9.3**	0.9
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	1.56	1.82	1.87	40.5	44.6	45.7	1.75	9.5	43.6	6.3	3.45	0.70	**43.0**	**6.3**	-2.0	**-4.9**	0.6
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	DL	DL	DL	DL	DL	DL	DL		DL		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 9
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	2	9
Qualitative	5	23
Not Determined	15	68

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

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 9

Reporting Date: 11/17/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	10/7/97 S 1	10/7/97 S 2	10/7/97 S 3	10/7/97 S 1	10/7/97 S 2	10/7/97 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	1.61	2.75	1.64	7.49	4.94	4.12	2.00	32.5	5.52	31.9	1.79	0.49	5.8	1.2	0.5	0.2	2.2
PCB 18	1.84	3.29	3.30	10.9	16.3	14.4	2.81	29.9	13.9	19.8	2.28	0.37	33	11	0.9	0.6	2.0
PCB 28	4.52	5.37	4.40	49.6	51.2	48.7	4.76	11.1	49.8	2.5	5.85	0.77	79	15	-0.7	-1.2	0.7
PCB 52	4.70	5.53	5.74	64.5	68.2	68.3	5.32	10.3	67.0	3.2	8.41	1.55	**115**	**11**	-1.5	**-3.5**	0.7
PCB 44	0.78	1.28	1.22	45.5	49.3	48.6	1.09	25.2	47.8	4.2	2.82	0.61	**72.7**	**7.4**	-2.4	-2.0	1.7
PCB 66/95	2.60	3.06	2.57	80.7	83.3	83.0	2.74	10.0	82.3	1.7	8.89	2.22	**184**	**21**	-2.8	**-7.0**	0.7
PCB 101/90	6.39	7.22	7.14	97.6	97.9	104	6.92	6.6	100	3.6	9.63	1.11	**128.3**	**9.7**	-1.1	**-3.1**	0.4
PCB 118	7.39	8.75	8.46	112	112	119	8.20	8.7	114	3.5	10.9	1.5	**130.8**	**3.6**	-1.0	**-3.0**	0.6
PCB 153	10.4	12.2	11.7	132	134	141	11.4	8.1	136	3.5	13.3	1.4	**145.2**	**7.6**	-0.6	-2.2	0.5
PCB 105	2.27	3.24	3.14	52.1	54.6	55.0	2.88	18.5	53.9	2.9	3.29	0.42	**53.0**	**3.4**	-0.5	-0.5	1.2
PCB 138/163/164	10.5	12.2	11.5	115	122	122	11.4	7.5	120	3.4	14.6	2.3	**133.5**	**9.5**	-0.9	**-3.6**	0.5
PCB 187/182	3.13	4.00	3.84	28.8	29.4	30.5	3.66	12.7	29.6	2.9	4.22	0.42	**34.0**	**2.3**	-0.5	-0.6	0.8
PCB 128	0.80	1.53	1.60	18.9	19.3	18.5	1.31	34.1	18.9	2.1	2.07	0.27	**22.0**	**3.4**	-1.5	-0.9	2.3
PCB 180	4.45	5.44	5.14	12.3	12.8	12.3	5.01	10.1	12.5	2.3	6.46	0.96	**17.1**	**3.8**	-0.9	-1.7	0.7
PCB 170/190	1.48	2.11	2.07	1.66	1.91	1.69	1.89	18.7	1.75	7.8	2.98	0.59	**5.5**	**1.1**	-1.5	-1.2	1.2
PCB 195	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 206	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 209	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 9

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	13	9	13
2 to 3	2	1	2
≥ 3	0	5	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 10**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 11/24/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	1/25/1997 S 1	1/25/1997 S 2	1/25/1997 S 3	1/25/1997 S 1	1/25/1997 S 2	1/25/1997 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	4.20	7.72	NA	NA	NA	NA	5.96	41.8	NA		13.2	3.8	**23.5**	**4.4**	-2.2	-1.4	2.8
2-methylnaphthalene	3.52	7.55	NA	NA	NA	NA	5.54	51.5	NA		13.1	3.4	10.2	1.5	-2.3	-1.5	**3.4**
1-methylnaphthalene	5.21	9.80	NA	NA	NA	NA	7.50	43.2	NA		10.0	3.8	5.3	1.8	-1.0	-0.5	2.9
biphenyl	24.3	42.0	NA	NA	NA	NA	33.1	37.8	NA		5.01	1.69	5.11	0.33	**22.4**	**12.8**	2.5
2,6-dimethylnaphthalene	9.9	18.8	NA	NA	NA	NA	14.3	43.6	NA		13.6	3.8	5.3	1.8	0.2	0.2	2.9
acenaphthylene	1.79	16.8	NA	NA	NA	NA	9.29	114.3	NA		<3		5.25	0.38			**7.6**
acenaphthene	2.15	3.29	NA	NA	NA	NA	2.72	29.6	NA		3.89	1.11	3.15	0.26	-1.2	-0.9	2.0
1,6,7-trimethylnaphthalene	21.6	93.8	NA	NA	NA	NA	57.7	88.6	NA		31.1	5.7	6.6	2.0	**3.4**	**3.1**	**5.9**
fluorene	13.8	22.2	NA	NA	NA	NA	18.0	32.9	NA		10.1	1.4	5.72	0.91	**3.1**	**3.4**	2.2
phenanthrene	22.6	33.8	NA	NA	NA	NA	28.2	28.1	NA		34.5	4.1	**22.2**	**2.4**	-0.7	-0.7	1.9
anthracene	8.51	11.1	NA	NA	NA	NA	9.79	18.5	NA		5.32	2.40	**6.1**	**1.7**	**3.4**	1.4	1.2
1-methylphenanthrene	12.6	30.0	NA	NA	NA	NA	21.3	58.0	NA		43.8	4.4	10.5	4.8	-2.1	-3.0	**3.9**
fluoranthene	20.6	23.7	NA	NA	NA	NA	22.2	9.9	NA		35.1	2.7	**163.7**	**9.1**	-1.5	-2.4	0.7
pyrene	26.0	33.9	NA	NA	NA	NA	29.9	18.6	NA		70.3	6.2	**151.6**	**6.6**	-2.3	**-3.5**	1.2
benz[a]anthracene	5.65	5.26	NA	NA	NA	NA	5.46	5.1	NA		21.3	2.5	**32.5**	**4.7**	-3.0	**-3.5**	0.3
chrysene + triphenylene	24.2	31.2	NA	NA	NA	NA	27.7	17.8	NA		67.4	5.7	**94.9**	**8.2**	-2.4	**-4.2**	1.2
benzofluoranthenes [b+j+k]	191	354	NA	NA	NA	NA	272	42.1	NA		21.9	4.6	87.1	6.2	**45.7**	**28.1**	2.8
benzo[e]pyrene	81.8	154	NA	NA	NA	NA	118	43.3	NA		16.0	3.5	**84.0**	**1.9**	**25.5**	**16.2**	2.9
benzo[a]pyrene	84.1	159	NA	NA	NA	NA	122	43.5	NA		8.34	2.41	**15.63**	**0.65**	**54.3**	**29.8**	2.9
perylene	56.0	78.8	NA	NA	NA	NA	67.4	23.9	NA		5.16	2.57	**7.68**	**0.27**	**48.3**	**22.4**	1.6
indeno[1,2,3-cd]pyrene	337	502	NA	NA	NA	NA	419	27.9	NA		4.50	0.96	**14.2**	**2.8**	**369**	**309**	1.9
dibenz[a,h]anthracene + [a,c]	309	439	NA	NA	NA	NA	374	24.6	NA		1.78	0.39	3.00	0.20	**834**	**727**	1.6
benzo[ghi]perylene	419	663	NA	NA	NA	NA	541	31.8	NA		8.75	1.41	**22.0**	**2.2**	**243**	**210**	2.1

Laboratory: 10
PAH in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	7	10
2 to 3	6	2	9
≥ 3	11	13	4

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 10
Reporting Date: 11/24/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/19/97 S 1	11/21/97 S 2	S 3	11/21/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	0.55	0.50	NA	NA	NA	NA	0.53	6.7	NA		1.31	0.59	no target		-2.4	-2.3	0.4
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	0.92	1.14	NA	14.0	NA	NA	1.03	15.1	14.0		<2		**16.6**	**1.7**			1.0
2,4'-DDE	NA	NA	NA	1.89	NA	NA	NA		1.89		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				0.0
cis-chlordane	0.42	0.46	NA	24.0	NA	NA	0.44	6.4	24.0		1.18	0.24	**17.2**	**2.8**	-2.5	-2.1	0.4
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	4.52	4.82	NA	42.9	NA	NA	4.67	4.5	42.9		9.77	1.91	**51.2**	**5.5**	-2.1	**-14.7**	0.3
2,4'-DDD	0.60	0.62	NA	6.65	NA	NA	0.61	2.3	6.65		3.07	0.37	13.7	2.8	**-3.2**	**-7.1**	0.2
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	1.51	2.04	NA	46.4	NA	NA	1.78	21.1	46.4		3.45	0.70	**43.0**	**6.3**	-1.9	**-4.8**	1.4
2,4'-DDT	0.20	0.27	NA	10.5	NA	NA	0.24	21.1	10.5		<3		8.5	1.9			1.4
cis-nonachlor	NA	NA	NA	4.61	NA	NA	NA		4.61		<2		**6.84**	**0.90**			
4,4'-DDT	1.28	1.53	NA	NA	NA	NA	1.41	12.6	NA		1.37	0.21	**3.91**	**0.59**	0.1	0.1	0.8
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 10
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	0	0
Not Determined	14	64

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 10

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 11/24/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/19/97 S 1	11/19/97 S 2	11/19/97 S 3	11/19/97 S 1	11/19/97 S 2	11/19/97 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	0.75	1.11		NA	NA	NA	0.93	27.4	NA		1.79	0.49	5.8	1.2	-1.9	-1.0	1.8
PCB 18	1.63	1.71		25.2			1.67	3.4	25.2		2.28	0.37	33	11	-1.1	-0.7	0.2
PCB 28	4.09	4.55		69.3			4.32	7.5	69.3		5.85	0.77	79	15	-1.0	-1.7	0.5
PCB 52	4.11	4.31		68.6			4.21	3.4	68.6		8.41	1.55	**115**	**11**	-2.0	**-4.8**	0.2
PCB 44	1.46	1.56		75.6			1.51	4.7	75.6		2.82	0.61	**72.7**	**7.4**	-1.9	-1.5	0.3
PCB 66/95	2.11	3.26		80.8			2.69	30.3	80.8		8.89	2.22	**184**	**21**	-2.8	**-7.1**	2.0
PCB 101/90	5.59	6.33		156			5.96	8.8	156		9.63	1.11	**128.3**	**9.7**	-1.5	**-4.2**	0.6
PCB 118	6.80	7.75		134			7.28	9.2	134		10.9	1.5	**130.8**	**3.6**	-1.3	**-4.1**	0.6
PCB 153	8.63	9.40		126			9.02	6.0	126		13.3	1.4	**145.2**	**7.6**	-1.3	**-4.9**	0.4
PCB 105	2.86	3.21		55.4			3.04	8.2	55.4		3.29	0.42	**53.0**	**3.4**	-0.3	-0.3	0.5
PCB 138/163/164	10.2	11.2		140			10.7	6.5	140		14.6	2.3	**133.5**	**9.5**	-1.1	**-4.4**	0.4
PCB 187/182	4.31	4.92		27.5			4.62	9.3	27.5		4.22	0.42	**34.0**	**2.3**	0.4	0.5	0.6
PCB 128	1.20	1.31		25.9			1.26	6.2	25.9		2.07	0.27	**22.0**	**3.4**	-1.6	-0.9	0.4
PCB 180	4.84	4.82		14.2			4.83	0.3	14.2		6.46	0.96	**17.1**	**3.8**	-1.0	-1.9	0.0
PCB 170/190	2.09	2.12		3.84			2.11	1.0	3.84		2.98	0.59	**5.5**	**1.1**	-1.2	-1.0	0.1
PCB 195	NA	0.14		NA	NA	NA	0.14		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	2.11	2.26		80.8			2.19	4.9	80.8		3.57	0.80	**101.4**	**4.4**	-1.5	-1.6	0.3
PCB 95 (optional)	1.86	2.14		46.4			2.00	9.9	46.4		4.43	1.44	**83**	**17**	-2.2	-2.8	0.7

Laboratory: 10

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	16	89
Qualitative	0	0
Not Determined	2	11

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	14	9	14
2 to 3	1	0	1
≥ 3	0	6	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 12

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 12/1/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/17/97 S 1	11/17/97 S 2	11/17/97 S 3	11/17/97 S 1	11/17/97 S 2	11/17/97 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	<4.5	<3.9	<19.2	<7.4	12.2	11.7	<19		12.0	3.0	13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	3.20	2.30	<6.2	<2.4	<2.1	<2.4	2.75	23.1	<2.4		3.89	1.11	3.15	0.26	-1.2	-0.9	1.5
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	6.6	6.0	9.0	12.10	14.40	13.20	7.20	22.0	13.2	8.7	10.1	1.4	5.72	0.91	-1.2	-1.3	1.5
phenanthrene	28.0	25.8	32.2	other	other	other	28.7	11.3	other		34.5	4.1	**22.2**	**2.4**	-0.7	-0.7	0.8
anthracene	1.80	2.00	2.60	0.90	1.10	1.00	2.13	19.5	1.00	10.0	5.32	2.40	**6.1**	**1.7**	-2.4	-1.0	1.3
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	27.9	29.4	26.7	114	129	121	28.0	4.8	121	6.2	35.1	2.7	**163.7**	**9.1**	-0.8	-1.3	0.3
pyrene	50.2	49.0	48.8	162	172	145	49.3	1.5	160	8.6	70.3	6.2	**151.6**	**6.6**	-1.2	-1.8	0.1
benz[a]anthracene	NA	NA	NA	1.70	1.90	1.40	NA		1.67	15.1	21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	41.1	41.0	46.1	62.6	68.9	60.1	42.7	6.8	63.9	7.1	67.4	5.7	**94.9**	**8.2**	-1.5	-2.6	0.5
benzofluoranthenes [b+j+k]	17.4	21.0	19.1	42.8	45.3	42.7	19.2	9.4	43.6	3.4	21.9	4.6	87.1	6.2	-0.5	-0.3	0.6
benzo[e]pyrene	60.3	56.6	50.9	79.3	83.2	79.1	55.9	8.5	80.5	2.9	16.0	3.5	**84.0**	**1.9**	**10.0**	**6.4**	0.6
benzo[a]pyrene	4.20	6.00	5.20	6.40	5.20	5.70	5.13	17.6	5.77	10.5	8.34	2.41	**15.63**	**0.65**	-1.5	-0.8	1.2
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	5.50	6.70	6.20	16.3	14.9	15.5	6.13	9.8	15.6	4.5	4.50	0.96	**14.2**	**2.8**	1.5	1.2	0.7
dibenz[a,h]anthracene + [a,c]	1.40	1.80	0.90	2.30	2.50	3.40	1.37	33.0	2.73	21.4	1.78	0.39	3.00	0.20	-0.9	-0.8	2.2
benzo[ghi]perylene	11.6	12.4	13.2	21.8	20.0	18.4	12.4	6.5	20.1	8.5	8.75	1.41	**22.0**	**2.2**	1.7	1.4	0.4

Laboratory: 12

PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	13	57
Qualitative	1	4
Not Determined	9	39

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 12**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 12/1/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	1/0/00 S 1	1/0/00 S 2	1/0/00 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 12
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

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

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 12

Reporting Date: 12/1/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/4/97 S 1	11/4/97 S 2	11/4/97 S 3	11/4/97 S 1	11/4/97 S 2	11/4/97 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	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	8.10	8.20	NA	111	109	109	8.15	0.9	110	1.2	5.85	0.77	79	15	1.6	2.6	0.1
PCB 52	8.00	7.90	NA	114	118	112	7.95	0.9	115	2.6	8.41	1.55	**115**	**11**	-0.2	-0.5	0.1
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	12.2	11.0	NA	118	118	117	11.6	7.3	118	0.2	9.63	1.11	**128.3**	**9.7**	0.8	2.2	0.5
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	27.1	23.5	NA	163	158	154	25.3	10.1	158	3.1	13.3	1.4	**145.2**	**7.6**	**3.6**	**13.6**	0.7
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	29.6	26.9	NA	152	148	141	28.3	6.8	147	3.7	14.6	2.3	**133.5**	**9.5**	**3.8**	**15.6**	0.5
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	12.0	10.6	NA	21.4	19.5	17.3	11.3	8.8	19.4	10.6	6.46	0.96	**17.1**	**3.8**	3.0	**5.5**	0.6
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 12

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	6	33
Qualitative	0	0
Not Determined	12	67

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 13**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/13/98

PAH

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	SRM 1974a, ng/g dry 1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**[f]			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 13
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 13**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/13/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/14/97 S 1	12/29/97 S 2	1/12/98 S 3	12/14/97 S 1	12/29/97 S 2	1/12/98 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%)
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<2		no target				
hexachlorobenzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<1		no target				
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		1.31	0.59	no target				
heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		0.86	0.47	no target				
aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<1		no target				
heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<2		no target				
oxychlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<1		no target				
trans-chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<2		**16.6**	**1.7**			
2,4'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		1.71	0.43	5.26	0.27			
endosulfan I	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
cis-chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		1.22	0.28	**18.0**	**3.6**			
dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		5.79	1.20	6.2	1.3			
4,4'-DDE	6.9	<5.0	5.4	5.0	3.6	5.4	6.15	17.2	4.67	20.3	9.77	1.91	**51.2**	**5.5**	-1.5	**-10.4**	1.1
2,4'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		3.07	0.37	13.7	2.8			
endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<2		no target				
endosulfan II	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
4,4'-DDD	<5.0	<5.0	<5.0	3.5	4.8	3.9	<5		4.07	16.4	3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<3		8.5	1.9			
cis-nonachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<2		**6.84**	**0.90**			
4,4'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		1.37	0.21	**3.91**	**0.59**			
mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5		<5		<1		no target				

Laboratory: 13
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	1	5
Qualitative	19	86
Not Determined	2	9

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

FY97 NIST Intercomparison Exercise **Laboratory No.: 13**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 1/13/98

PCBs

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S 1	S 2	S 3	SRM 1974a, ng/g dry S 1	S 2	S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		5.85	0.77	79	15			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		8.41	1.55	**115**	**11**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		9.63	1.11	**128.3**	**9.7**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		13.3	1.4	**145.2**	**7.6**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 13
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 14

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 1/6/98

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/9/97 S 1	9/9/97 S 2	9/9/97 S 3	9/9/97 S 1	9/9/97 S 2	9/9/97 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	5.60	8.16	8.82	22.1	27.4	26.5	7.53	22.6	25.3	11.3	13.2	3.8	**23.5**	**4.4**	-1.7	-1.1	1.5
2-methylnaphthalene	6.21	35.3	6.65	10.6	8.11	13.1	16.0	103.8	10.6	23.5	13.1	3.4	10.2	1.5	0.9	0.6	**6.9**
1-methylnaphthalene	4.80	5.57	4.63	4.42	5.06	7.23	5.00	10.0	5.57	26.4	10.0	3.8	5.3	1.8	-2.0	-1.0	0.7
biphenyl	1.51	6.90	DL	5.16	14.6	5.11	4.21	90.5	8.27	65.8	5.01	1.69	5.11	0.33	-0.6	-0.4	**6.0**
2,6-dimethylnaphthalene	11.9	17.7	9.67	DL	DL	DL	13.1	31.5	DL		13.6	3.8	5.3	1.8	-0.1	-0.1	2.1
acenaphthylene	0.94	4.58	DL	4.04	6.48	7.72	2.76	93.4	6.08	30.8	<3		5.25	0.38			**6.2**
acenaphthene	1.87	4.63	DL	4.47	12.2	5.36	3.25	60.0	7.33	57.4	3.89	1.11	3.15	0.26	-0.7	-0.5	**4.0**
1,6,7-trimethylnaphthalene	47.9	25.6	27.1	DL	DL	DL	33.6	37.2	DL		31.1	5.7	6.6	2.0	0.3	0.3	2.5
fluorene	7.67	8.24	8.95	5.89	10.9	7.29	8.29	7.7	8.01	32.0	10.1	1.4	5.72	0.91	-0.7	-0.8	0.5
phenanthrene	28.0	35.1	24.7	18.5	26.6	24.7	29.3	18.2	23.3	18.2	34.5	4.1	**22.2**	**2.4**	-0.6	-0.6	1.2
anthracene	0.00	7.27	DL	4.55	9.99	8.86	3.64	141.4	7.80	36.8	5.32	2.40	**6.1**	**1.7**	-1.3	-0.5	**9.4**
1-methylphenanthrene	45.6	42.8	37.1	6.9	11.1	DL	41.8	10.4	9.00	33.4	43.8	4.4	10.5	4.8	-0.2	-0.3	0.7
fluoranthene	32.9	30.3	28.0	163	152	167	30.4	8.0	161	4.8	35.1	2.7	**163.7**	**9.1**	-0.5	-0.9	0.5
pyrene	62.5	66.8	63.9	148	151	136	64.4	3.4	145	5.4	70.3	6.2	**151.6**	**6.6**	-0.3	-0.5	0.2
benz[a]anthracene	12.4	18.6	16.1	30.1	28.1	28.4	15.7	19.9	28.9	3.6	21.3	2.5	**32.5**	**4.7**	-1.1	-1.2	1.3
chrysene + triphenylene	56.8	70.3	54.8	74.2	79.5	96.0	60.6	13.9	83.2	13.7	67.4	5.7	**94.9**	**8.2**	-0.4	-0.7	0.9
benzofluoranthenes [b+j+k]	15.6	20.9	17.3	61.7	65.1	88.9	17.9	15.1	71.9	20.6	21.9	4.6	87.1	6.2	-0.7	-0.5	1.0
benzo[e]pyrene	10.5	14.1	10.5	72.5	70.2	60.0	11.7	17.6	67.6	9.8	16.0	3.5	**84.0**	**1.9**	-1.1	-0.7	1.2
benzo[a]pyrene	DL	4.22	DL	9.80	12.8	9.02	DL		10.6	19.1	8.34	2.41	**15.63**	**0.65**			
perylene	DL	5.36	DL	5.70	9.84	15.20	DL		10.2	46.5	5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	DL	3.01	DL	22.6	13.1	13.8	DL		16.5	32.0	4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	DL	1.24	DL	2.38	2.98	3.82	DL		3.06	23.7	1.78	0.39	3.00	0.20			
benzo[ghi]perylene	3.43	7.74	6.30	26.6	24.1	19.6	5.82	37.7	23.4	15.2	8.75	1.41	**22.0**	**2.2**	-1.3	-1.2	2.5

Laboratory: 14
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	19	83
Qualitative	4	17
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	18	11
2 to 3	1	0	3
≥ 3	0	0	5

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 14
Reporting Date: 1/6/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/21/97 S 1	10/24/97 S 2	11/26/97 S 3	8/26/97 S 1	10/18/97 S 2	11/23/97 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%)
alpha-HCH	DL	0.71	0.54	NA	NA	NA	0.63	19.4	NA		<2		no target				1.3
hexachlorobenzene	0.09	0.53	DL	NA	NA	NA	0.31	99.0	NA		<1		no target				**6.6**
gamma-HCH	DL	1.56	1.22	NA	NA	NA	1.39	17.3	NA		1.31	0.59	no target		0.3	0.2	1.2
heptachlor	DL	1.95	DL	NA	NA	NA	DL		NA		0.86	0.47	no target				
aldrin	DL	DL	DL	NA	NA	NA	DL		NA		<1		no target				
heptachlor epoxide	DL	0.39	DL	NA	NA	NA	DL		NA		<2		no target				
oxychlordane	DL	0.34	DL	NA	NA	NA	DL		NA		<1		no target				
trans-chlordane	DL	2.06	1.81	16.1	14.8	NA	1.93	9.1	15.4	5.9	<2		**16.6**	**1.7**			0.6
2,4'-DDE	DL	3.14	DL	NA	NA	NA	DL		NA		1.71	0.43	5.26	0.27			
endosulfan I	DL	0.63	DL	NA	NA	NA	DL		NA		<2		no target				
cis-chlordane	0.41	2.44	0.30	20.5	15.6	14.1	1.05	114.8	16.7	19.9	1.18	0.24	**17.2**	**2.8**	-0.4	-0.4	**7.7**
trans-nonachlor	DL	0.97	1.04	20.4	14.8	13.2	1.01	4.9	16.1	23.6	1.22	0.28	**18.0**	**3.6**	-0.7	-0.6	0.3
dieldrin	5.71	10.2	9.37	NA	NA	NA	8.41	28.2	NA		5.79	1.20	6.2	1.3	1.8	**7.6**	1.9
4,4'-DDE	DL	8.72	10.4	49.1	46.9	41.4	9.56	12.4	45.8	8.7	9.77	1.91	**51.2**	**5.5**	-0.1	-0.6	0.8
2,4'-DDD	5.44	2.12	3.05	NA	NA	NA	3.54	48.5	NA		3.07	0.37	13.7	2.8	0.6	1.3	**3.2**
endrin	1.56	4.54	DL	NA	NA	NA	3.05	69.0	NA		<2		no target				**4.6**
endosulfan II	2.04	DL	2.59	NA	NA	NA	2.32	16.8	NA		<2		no target				1.1
4,4'-DDD	4.55	4.10	DL	70.7	41.3	36.3	4.33	7.3	49.4	37.6	3.45	0.70	**43.0**	**6.3**	1.0	2.5	0.5
2,4'-DDT	2.90	4.91	1.64	NA	NA	NA	3.15	52.3	NA		<3		8.5	1.9			**3.5**
cis-nonachlor	4.33	2.44	1.59	15.9	1.10	8.55	2.79	50.4	8.51	86.8	<2		**6.84**	**0.90**			**3.4**
4,4'-DDT	1.25	1.42	0.78	3.78	3.20	7.60	1.15	28.5	4.86	49.2	1.37	0.21	**3.91**	**0.59**	-0.6	-0.6	1.9
mirex	DL	DL	DL	NA	NA	NA	DL		NA		<1		no target				

Laboratory: 14
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	15	68
Qualitative	7	32
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	8	6	9
2 to 3	0	1	0
≥ 3	0	1	6

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 14

Reporting Date: 1/6/98

PCBs

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 9/21/97 S 1	9/21/97 S 2	9/21/97 S 3	SRM 1974a, ng/g dry 9/21/97 S 1	9/21/97 S 2	9/21/97 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	0.39	1.04	1.35	NA	NA	NA	0.93	52.6	NA		1.79	0.49	5.8	1.2	-1.9	-1.0	**3.5**
PCB 18	1.29	0.90	3.16	NA	NA	NA	1.78	67.7	NA		2.28	0.37	33	11	-0.9	-0.6	**4.5**
PCB 28	4.34	7.22	5.84	NA	NA	NA	5.80	24.8	NA		5.85	0.77	79	15	0.0	-0.1	1.7
PCB 52	5.29	8.86	7.49	111	104	96	7.21	25.0	104	7.2	8.41	1.55	**115**	**11**	-0.6	-1.4	1.7
PCB 44	1.15	3.52	1.50	73.8	71.9	65.3	2.06	62.2	70.3	6.4	2.82	0.61	**72.7**	**7.4**	-1.1	-0.9	**4.1**
PCB 66/95	na	na	8.80	163	169	141	na		158	9.2	8.89	2.22	**184**	**21**			
PCB 101/90	6.8	11.1	6.89	130	141	113	8.26	29.4	128	11.2	9.63	1.11	**128.3**	**9.7**	-0.6	-1.6	2.0
PCB 118	10.3	18.3	19.1	138	127	134	15.9	30.6	133	4.0	10.9	1.5	**130.8**	**3.6**	1.8	**5.7**	2.0
PCB 153	12.1	14.4	12.4	170	116	107	13.0	9.5	131	25.8	13.3	1.4	**145.2**	**7.6**	-0.1	-0.4	0.6
PCB 105	2.72	3.73	2.68	62.9	53.3	53.7	3.04	19.6	56.6	9.5	3.29	0.42	**53.0**	**3.4**	-0.3	-0.3	1.3
PCB 138/163/164	11.8	11.4	12.4	134	122	112	11.9	4.1	123	9.2	14.6	2.3	**133.5**	**9.5**	-0.7	**-3.1**	0.3
PCB 187/182	3.61	4.18	3.52	35.9	11.2	26.5	3.77	9.4	24.5	50.9	4.22	0.42	**34.0**	**2.3**	-0.4	-0.5	0.6
PCB 128	1.45	2.83	1.46	24.9	19.1	19.4	1.91	41.4	21.2	15.4	2.07	0.27	**22.0**	**3.4**	-0.3	-0.2	2.8
PCB 180	22.2	46.8	28.7	37.6	11.6	31.1	32.6	39.1	26.7	50.6	6.46	0.96	**17.1**	**3.8**	**16.2**	**29.7**	2.6
PCB 170/190	2.83	4.15	2.21	3.06	4.92	DL	3.06	32.4	3.99	32.8	2.98	0.59	**5.5**	**1.1**	0.1	0.1	2.2
PCB 195	0.24	0.33	0.14	NA	NA	NA	0.24	40.5	NA		<1		No Target				2.7
PCB 206	DL	DL	DL	NA	NA	NA	DL		NA		<1		No Target				
PCB 209	DL	DL	DL	NA	NA	NA	DL		NA		<1		No Target				
PCB 66 (optional)	2.74	3.69	3.28	97.1	na	86.2	3.24	14.7	91.6	8.4	3.57	0.80	**101.4**	**4.4**	-0.4	-0.4	1.0
PCB 95 (optional)	na	na	5.52	65.8	na	54.9	5.52		60.3	12.8	4.43	1.44	**83**	**17**	1.0	1.2	

Laboratory: 14

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	2	11
Not Determined	1	6

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	13	11	7
2 to 3	0	0	5
≥ 3	1	3	3

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 15**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 12/3/97

PAH

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 15
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 15

Reporting Date: 12/3/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/5/97	9/17/97	9/17/97				lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	<3	<3	<3	NA	NA	NA	<3		NA		<1		no target				
gamma-HCH	<3	<3	<3	NA	NA	NA	<3		NA		1.31	0.59	no target				
heptachlor	<3	<3	<3	NA	NA	NA	<3		NA		0.86	0.47	no target				
aldrin	<3	<3	<3	NA	NA	NA	<3		NA		<1		no target				
heptachlor epoxide	<3	<3	<3	NA	NA	NA	<3		NA		<2		no target				
oxychlordane	<3	<3	<3	NA	NA	NA	<3		NA		<1		no target				
trans-chlordane	<3	<3	<3	NA	NA	NA	<3		NA		<2		**16.6**	**1.7**			
2,4'-DDE	<3	<3	<3	NA	NA	NA	<3		NA		1.71	0.43	5.26	0.27			
endosulfan I	<3	<3	<3	NA	NA	NA	<3		NA		<2		no target				
cis-chlordane	<3	<3	<3	NA	NA	NA	<3		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	<3	<3	<3	NA	NA	NA	<3		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	<3	<3	<3	NA	NA	NA	<3		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	5.18	4.92	5.01	NA	NA	NA	5.04	2.6	NA		9.77	1.91	**51.2**	**5.5**	-1.9	**-13.7**	0.2
2,4'-DDD	<3	<3	<3	NA	NA	NA	<3		NA		3.07	0.37	13.7	2.8			
endrin	<3	<3	<3	NA	NA	NA	<3		NA		<2		no target				
endosulfan II	<3	<3	<3	NA	NA	NA	<3		NA		<2		no target				
4,4'-DDD	<3	<3	<3	NA	NA	NA	<3		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	<3	<3	<3	NA	NA	NA	<3		NA		<3		8.5	1.9			
cis-nonachlor	2.51	2.10	2.00	NA	NA	NA	2.20	12.3	NA		<2		**6.84**	**0.90**			0.8
4,4'-DDT	<3	<3	<3	NA	NA	NA	<3		NA		1.37	0.21	**3.91**	**0.59**			
mirex	<3	<3	<3	NA	NA	NA	<3		NA		<1		no target				

Laboratory: 15

Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	2	9
Qualitative	19	86
Not Determined	1	5

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

FY97 NIST Intercomparison Exercise **Laboratory No.: 15**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 12/3/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/5/97 S 1	9/5/97 S 2	9/5/97 S 3	9/5/97 S 1	9/5/97 S 2	9/5/97 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	<3	<3	<3	NA	NA	NA	<3		NA		1.79	0.49	5.8	1.2			
PCB 18	<3	<3	<3	NA	NA	NA	<3		NA		2.28	0.37	33	11			
PCB 28	6.97	5.88	6.50	NA	NA	NA	6.45	8.5	NA		5.85	0.77	79	15	0.4	0.7	0.6
PCB 52	6.40	5.86	6.20	NA	NA	NA	6.15	4.4	NA		8.41	1.55	**115**	**11**	-1.1	-2.6	0.3
PCB 44	<3	<3	<3	NA	NA	NA	<3		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	8.19	6.17	7.18	NA	NA	NA	7.18	14.1	NA		8.89	2.22	**184**	**21**	-0.8	-1.9	0.9
PCB 101/90	8.12	7.09	8.11	NA	NA	NA	7.77	7.6	NA		9.63	1.11	**128.3**	**9.7**	-0.8	-2.1	0.5
PCB 118	10.0	6.62	8.92	NA	NA	NA	8.50	20.1	NA		10.9	1.5	**130.8**	**3.6**	-0.9	-2.7	1.3
PCB 153	10.5	8.48	10.4	NA	NA	NA	9.79	11.6	NA		13.3	1.4	**145.2**	**7.6**	-1.1	**-4.0**	0.8
PCB 105	5.25	3.10	4.10	NA	NA	NA	4.15	25.9	NA		3.29	0.42	**53.0**	**3.4**	1.1	1.0	1.7
PCB 138/163/164	11.0	8.38	9.45	NA	NA	NA	9.62	13.8	NA		14.6	2.3	**133.5**	**9.5**	-1.4	**-5.6**	0.9
PCB 187/182	3.58	3.03	3.25	NA	NA	NA	3.29	8.4	NA		4.22	0.42	**34.0**	**2.3**	-0.9	-1.1	0.6
PCB 128	<3	<3	<3	NA	NA	NA	<3		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	<3	<3	<3	NA	NA	NA	<3		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	2.92	2.90	2.91	NA	NA	NA	2.91	0.3	NA		2.98	0.59	**5.5**	**1.1**	-0.1	-0.1	0.0
PCB 195	<3	<3	<3	NA	NA	NA	<3		NA		<1		No Target				
PCB 206	<3	<3	<3	NA	NA	NA	<3		NA		<1		No Target				
PCB 209	<3	<3	<3	NA	NA	NA	<3		NA		<1		No Target				
PCB 66 (optional)	na	na	na	na	na	na	na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	na	na	na	na	na	na	na		na		4.43	1.44	**83**	**17**			

Laboratory: 15
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	10	56
Qualitative	8	44
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 16

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 12/4/97

PAH

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 8/11/97 S 1	8/11/97 S 2	8/11/97 S 3	SRM 1974a, ng/g dry 8/11/97 S 1	8/11/97 S 2	8/11/97 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	4.19	13.6	8.83	18.7	36.2	25.9	8.87	53.0	26.9	32.7	13.2	3.8	**23.5**	**4.4**	-1.3	-0.8	**3.5**
2-methylnaphthalene	3.95	11.4	7.76	4.15	7.89	8.55	7.70	48.4	6.86	34.6	13.1	3.4	10.2	1.5	-1.6	-1.1	**3.2**
1-methylnaphthalene	2.87	8.59	5.68	4.10	7.23	5.33	5.71	50.1	5.55	28.4	10.0	3.8	5.3	1.8	-1.7	-0.8	**3.3**
biphenyl	1.26	4.15	3.68	1.74	1.46	2.25	3.03	51.2	1.82	22.0	5.01	1.69	5.11	0.33	-1.6	-0.9	**3.4**
2,6-dimethylnaphthalene	10.4	12.8	11.8	1.77	2.38	2.33	11.7	10.3	2.16	15.7	13.6	3.8	5.3	1.8	-0.6	-0.4	0.7
acenaphthylene	1.12	0.95	1.44	1.29	1.07	2.99	1.17	21.5	1.78	58.9	<3		5.25	0.38			1.4
acenaphthene	3.00	5.91	4.41	2.08	3.47	3.60	4.44	32.8	3.05	27.6	3.89	1.11	3.15	0.26	0.6	0.4	2.2
1,6,7-trimethylnaphthalene	47.8	54.0	54.2	5.49	4.11	5.50	52.0	7.0	5.03	15.9	31.1	5.7	6.6	2.0	2.7	2.4	0.5
fluorene	8.6	10.7	10.0	2.76	3.47	3.85	9.74	11.1	3.36	16.5	10.1	1.4	5.72	0.91	-0.1	-0.2	0.7
phenanthrene	25.9	30.4	33.2	13.9	11.3	17.4	29.8	12.3	14.2	21.6	34.5	4.1	**22.2**	**2.4**	-0.5	-0.6	0.8
anthracene	4.08	5.66	3.38	4.52	3.18	2.89	4.37	26.7	3.53	24.6	5.32	2.40	**6.1**	**1.7**	-0.7	-0.3	1.8
1-methylphenanthrene	38.9	48.0	48.6	7.04	7.89	8.82	45.2	12.0	7.92	11.2	43.8	4.4	10.5	4.8	0.1	0.2	0.8
fluoranthene	29.6	33.3	35.8	150	131	159	32.9	9.5	147	9.7	35.1	2.7	**163.7**	**9.1**	-0.3	-0.4	0.6
pyrene	61.6	67.9	70.0	139	119	149	66.5	6.6	136	11.3	70.3	6.2	**151.6**	**6.6**	-0.2	-0.3	0.4
benz[a]anthracene	16.2	14.8	19.8	22.5	16.3	24.7	16.9	15.2	21.2	20.6	21.3	2.5	**32.5**	**4.7**	-0.8	-1.0	1.0
chrysene + triphenylene	63.8	62.9	62.5	74.1	61.9	60.3	63.1	1.1	65.4	11.6	67.4	5.7	**94.9**	**8.2**	-0.3	-0.5	0.1
benzofluoranthenes [b+j+k]	29.8	30.3	30.1	107	84.6	88.8	30.1	0.8	93.5	12.7	21.9	4.6	87.1	6.2	1.5	0.9	0.1
benzo[e]pyrene	19.0	20.5	17.5	109	89.2	85.1	19.0	7.9	94.4	13.5	16.0	3.5	**84.0**	**1.9**	0.8	0.5	0.5
benzo[a]pyrene	8.07	8.63	7.44	18.9	17.2	18.6	8.05	7.4	18.2	5.0	8.34	2.41	**15.63**	**0.65**	-0.1	-0.1	0.5
perylene	5.13	9.63	6.63	12.7	10.1	11.2	7.13	32.1	11.33	11.5	5.16	2.57	**7.68**	**0.27**	1.5	0.7	2.1
indeno[1,2,3-cd]pyrene	3.60	3.44	3.97	13.9	11.1	13.8	3.67	7.4	12.9	12.3	4.50	0.96	**14.2**	**2.8**	-0.7	-0.6	0.5
dibenz[a,h]anthracene + [a,c]	1.49	2.44	2.45	2.35	4.28	3.35	2.13	25.9	3.33	29.0	1.78	0.39	3.00	0.20	0.8	0.7	1.7
benzo[ghi]perylene	11.5	12.0	10.6	30.2	26.1	25.2	11.4	6.2	27.2	9.8	8.75	1.41	**22.0**	**2.2**	1.2	1.0	0.4

Laboratory: 16
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	21	21	17
2 to 3	1	1	2
≥ 3	0	0	4

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 16
Reporting Date: 12/4/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 16
Pesticides in Mussel VIII

*as received

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 16
Reporting Date: 12/4/97

PCBs

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		5.85	0.77	79	15			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		8.41	1.55	**115**	**11**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		9.63	1.11	**128.3**	**9.7**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		13.3	1.4	**145.2**	**7.6**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 16
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 17

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/24/97 S 1	11/24/97 S 2	11/24/97 S 3	11/24/97 S 1	11/24/97 S 2	11/24/97 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	14.1	11.1	11.2	67.8	57.4	62.9	12.1	14.0	62.7	8.3	13.2	3.8	**23.5**	**4.4**	-0.3	-0.2	0.9
2-methylnaphthalene	4.30	3.90	6.74	18.4	14.0	16.1	4.98	30.9	16.2	13.6	13.1	3.4	10.2	1.5	-2.5	-1.6	2.1
1-methylnaphthalene	6.05	8.15	9.21	10.5	7.64	8.92	7.80	20.6	9.02	15.9	10.0	3.8	5.3	1.8	-0.9	-0.4	1.4
biphenyl	<10	<10	<10	<10	<10	<10	<10		<10		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	na	na	na	na	na	na	na		na		13.6	3.8	5.3	1.8			
acenaphthylene	<10	<10	<10	<10	<10	<10	<10		<10		<3		5.25	0.38			
acenaphthene	<10	<10	<10	<10	<10	<10	<10		<10		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	na	na	na	na	na	na	na		na		31.1	5.7	6.6	2.0			
fluorene	<10	<10	<10	<10	<10	<10	<10		<10		10.1	1.4	5.72	0.91			
phenanthrene	10.8	11.6	12.4	32.3	20.4	17.5	11.6	6.9	23.4	33.5	34.5	4.1	**22.2**	**2.4**	-2.7	-2.7	0.5
anthracene	<10	<10	<10	6.26	6.30	4.73	<10		5.76	15.5	5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	na	na	na	na	na	na	na		na		43.8	4.4	10.5	4.8			
fluoranthene	27.7	30.0	30.3	104	87.5	83.2	29.3	4.8	91.4	11.7	35.1	2.7	**163.7**	**9.1**	-0.7	-1.1	0.3
pyrene	17.6	17.4	18.1	64.6	61.7	63.3	17.7	2.0	63.2	2.3	70.3	6.2	**151.6**	**6.6**	-3.0	**-4.5**	0.1
benz[a]anthracene	10.5	10.3	15.2	135	54.0	113	12.0	23.1	101	41.6	21.3	2.5	**32.5**	**4.7**	-1.8	-2.0	1.5
chrysene + triphenylene	26.0	23.6	35.2	170	93.0	210	28.3	21.7	158	37.7	67.4	5.7	**94.9**	**8.2**	-2.3	**-4.2**	1.4
benzofluoranthenes [b+j+k]	10.3	14.3	13.3	36.0	32.1	38.3	12.6	16.5	35.5	8.8	21.9	4.6	87.1	6.2	-1.7	-1.0	1.1
benzo[e]pyrene	11.6	13.6	10.8	53.4	67.0	50.6	12.0	12.0	57.0	15.4	16.0	3.5	**84.0**	**1.9**	-1.0	-0.6	0.8
benzo[a]pyrene	<10	<10	<10	16.5	20.2	16.1	<10		17.6	12.8	8.34	2.41	**15.63**	**0.65**			
perylene	<10	<10	<10	3.01	2.10	4.73	<10		3.28	40.7	5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	<10	<10	<10	<10	<10	<10	<10		<10		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	<10	<10	<10	<10	<10	<10	<10		<10		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	3.60	4.75	3.50	25.4	22.2	23.8	3.95	17.6	23.8	6.7	8.75	1.41	**22.0**	**2.2**	-2.2	-1.9	1.2

Laboratory: 17
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	11	48
Qualitative	9	39
Not Determined	3	13

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	7	10
2 to 3	5	2	1
≥ 3	0	2	0

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 17
Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/24/97 S 1	11/24/97 S 2	11/24/97 S 3	11/24/97 S 1	11/24/97 S 2	11/24/97 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%)
alpha-HCH	<10	<10	<10	<10	<10	<10	<10		<10		<2		no target				
hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10		<10		<1		no target				
gamma-HCH	<10	<10	<10	<10	<10	<10	<10		<10		1.31	0.59	no target				
heptachlor	<10	<10	<10	<10	<10	<10	<10		<10		0.86	0.47	no target				
aldrin	<10	<10	<10	<10	<10	<10	<10		<10		<1		no target				
heptachlor epoxide	<10	<10	<10	<10	<10	<10	<10		<10		<2		no target				
oxychlordane	<10	<10	<10	<10	<10	<10	<10		<10		<1		no target				
trans-chlordane	<10	<10	<10	9.0	6.1	6.1	<10		7.1	23.5	<2		**16.6**	**1.7**			
2,4'-DDE	1.47	1.07	1.61	13.3	13.0	12.5	1.38	20.3	12.9	3.1	1.71	0.43	5.26	0.27	-0.8	-1.0	1.4
endosulfan I	<10	<10	<10	<10	<10	<10	<10		<10		<2		no target				
cis-chlordane	<10	<10	<10	13.5	9.86	11.3	<10		11.6	15.9	1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	<10	<10	<10	11.3	9.65	9.21	<10		10.1	11.0	1.22	0.28	**18.0**	**3.6**			
dieldrin	<10	<10	<10	<10	<10	<10	<10		<10		5.79	1.20	6.2	1.3			
4,4'-DDE	5.54	4.74	3.14	27.1	26.0	24.8	4.47	27.3	26.0	4.4	9.77	1.91	**51.2**	**5.5**	-2.2	**-15.3**	1.8
2,4'-DDD	2.31	3.19	4.04	46.2	31.1	28.4	3.18	27.2	35.2	27.2	3.07	0.37	13.7	2.8	0.1	0.3	1.8
endrin	<10	<10	<10	<10	<10	<10	<10		<10		<2		no target				
endosulfan II	<10	<10	<10	<10	<10	<10	<10		<10		<2		no target				
4,4'-DDD	23.5	23.9	20.3	22.6	22.3	23.9	22.6	8.7	22.9	3.7	3.45	0.70	**43.0**	**6.3**	**22.1**	**55.2**	0.6
2,4'-DDT	<10	<10	<10	<10	<10	<10	<10		<10		<3		8.5	1.9			
cis-nonachlor	<10	<10	<10	3.76	3.15	3.78	<10		3.56	10.0	<2		**6.84**	**0.90**			
4,4'-DDT	<10	<10	<10	<10	<10	<10	<10		<10		1.37	0.21	**3.91**	**0.59**			
mirex	<10	<10	<10	<10	<10	<10	<10		<10		<1		no target				

Laboratory: 17
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	4	18
Qualitative	18	82
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 17

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/24/97 S 1	11/24/97 S 2	11/24/97 S 3	11/24/97 S 1	11/24/97 S 2	11/24/97 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	0.27	0.28	0.17	3.07	2.94	3.69	0.24	25.3	3.23	12.4	1.79	0.49	5.8	1.2	**-3.5**	-1.8	1.7
PCB 18	1.49	0.97	0.97	32.4	29.0	28.8	1.14	26.3	30.1	6.7	2.28	0.37	33	11	-2.0	-1.3	1.8
PCB 28	4.41	3.39	3.00	135	141	142	3.60	20.2	139	2.7	5.85	0.77	79	15	-1.5	-2.6	1.3
PCB 52	4.49	3.26	2.39	80.8	81.6	88.3	3.38	31.2	83.6	4.9	8.41	1.55	**115**	**11**	-2.4	**-5.7**	2.1
PCB 44	3.53	2.77	1.75	74.1	72.4	75.5	2.68	33.3	74.0	2.1	2.82	0.61	**72.7**	**7.4**	-0.2	-0.2	2.2
PCB 66/95	6.24	5.16	3.60	78.4	87.7	88.1	5.00	26.5	84.7	6.5	8.89	2.22	**184**	**21**	-1.8	**-4.4**	1.8
PCB 101/90	9.80	7.93	5.73	101	110	99	7.82	26.1	103	5.6	9.63	1.11	**128.3**	**9.7**	-0.8	-2.1	1.7
PCB 118	16.3	13.1	10.5	98.2	100	102	13.3	21.9	100	1.9	10.9	1.5	**130.8**	**3.6**	0.9	2.8	1.5
PCB 153	18.5	15.3	10.9	122	123	126	14.9	25.7	124	1.7	13.3	1.4	**145.2**	**7.6**	0.5	1.8	1.7
PCB 105	4.72	3.92	2.93	44.6	48.1	42.8	3.86	23.3	45.2	6.0	3.29	0.42	**53.0**	**3.4**	0.7	0.6	1.6
PCB 138/163/164	17.5	13.7	10.0	132	133	135	13.7	27.4	133	1.1	14.6	2.3	**133.5**	**9.5**	-0.2	-1.0	1.8
PCB 187/182	4.35	3.61	2.50	29.0	28.2	31.7	3.49	26.7	29.6	6.2	4.22	0.42	**34.0**	**2.3**	-0.7	-0.8	1.8
PCB 128	4.08	5.72	2.79	41.8	37.9	35.9	4.20	35.0	38.5	7.8	2.07	0.27	**22.0**	**3.4**	**4.1**	2.4	2.3
PCB 180	1.06	1.27	0.81	14.4	18.0	14.8	1.05	22.0	15.7	12.5	6.46	0.96	**17.1**	**3.8**	**-3.4**	**-6.2**	1.5
PCB 170/190	0.16	0.34	0.44	7.56	7.06	11.3	0.31	45.3	8.65	26.9	2.98	0.59	**5.5**	**1.1**	**-3.6**	**-3.0**	**3.0**
PCB 195	<5	<5	<5	<5	<5	<5	<5		<5		<1		No Target				
PCB 206	<5	<5	<5	<5	<5	<5	<5		<5		<1		No Target				
PCB 209	<5	<5	<5	<5	<5	<5	<5		<5		<1		No Target				
PCB 66 (optional)	<6	<5	<5	<5	<5	<5	<5		<5		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	<7	<5	<5	<5	<5	<5	<5		<5		4.43	1.44	**83**	**17**			

Laboratory: 17

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	10	7	11
2 to 3	1	4	3
≥ 3	4	4	1

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18a

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/13/97 S 1	11/13/97 S 2	11/13/97 S 3	11/13/97 S 1	11/13/97 S 2	11/13/97 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	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<3		5.25	0.38			
acenaphthene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		31.1	5.7	6.6	2.0			
fluorene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	62.6	47.4	N/A	22.4	21.9	21.6	55.0	19.5	22.0	1.8	34.5	4.1	**22.2**	**2.4**	2.4	2.4	1.3
anthracene	4.31	3.49	N/A	5.97	5.04	4.99	3.90	14.9	5.33	10.3	5.32	2.40	**6.1**	**1.7**	-1.1	-0.5	1.0
1-methylphenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	41.2	43.5	N/A	165	173	187	42.4	3.8	175	6.4	35.1	2.7	**163.7**	**9.1**	0.8	1.3	0.3
pyrene	68.7	78.0	N/A	144	147	159	73.4	9.0	150	5.3	70.3	6.2	**151.6**	**6.6**	0.2	0.3	0.6
benz[a]anthracene	30.1	33.6	N/A	34.5	29.1	32.5	31.9	7.8	32.0	8.5	21.3	2.5	**32.5**	**4.7**	2.0	2.3	0.5
chrysene + triphenylene	NA	NA	N/A	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	11.9	11.8	N/A	49.2	48.1	55.4	11.8	0.3	50.9	7.7	21.9	4.6	87.1	6.2	-1.8	-1.1	0.0
benzo[e]pyrene	15.2	18.7	N/A	50.9	59.1	64.7	17.0	14.6	58.2	11.9	16.0	3.5	**84.0**	**1.9**	0.2	0.2	1.0
benzo[a]pyrene	6.89	5.92	N/A	14.3	11.7	16.9	6.41	10.7	14.3	18.2	8.34	2.41	**15.63**	**0.65**	-0.9	-0.5	0.7
perylene	NA	NA	N/A	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	N/A	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	1.22	NA	N/A	3.20	5.30	4.48	NA		4.33	24.5	1.78	0.39	3.00	0.20			
benzo[ghi]perylene	6.77	7.23	N/A	20.8	15.6	17.8	7.00	4.6	18.1	14.4	8.75	1.41	**22.0**	**2.2**	-0.8	-0.7	0.3

Laboratory: 18a
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	9	39
Qualitative	0	0
Not Determined	14	61

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	7	9
2 to 3	1	2	0
≥ 3	0	0	0

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 18a
Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/25/97 S 1	11/25/97 S 2	S 3	11/25/97 S 1	11/25/97 S 2	11/25/97 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	0.72	0.56	0.12	<0.06	<0.06	<0.06	0.47	66.4	<0.06		<1		no target				**4.4**
gamma-HCH	3.12	3.14	2.24	4.07	3.64	4.08	2.83	18.2	3.93	6.4	1.31	0.59	no target		**4.7**	**4.4**	1.2
heptachlor	0.73	0.48	**< 0.04**	0.70	0.75	0.75	0.60	28.4	0.73	3.8	0.86	0.47	no target		-1.2	-0.7	1.9
aldrin	6.63	4.63	3.25	11.2	11.7	10.7	4.84	35.2	11.2	4.2	<1		no target				2.3
heptachlor epoxide	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	<0.06	<0.06	<0.06	20.42	21.04	21.51	<0.06		21.0	2.6	1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	2.20	1.84	0.25	15.5	15.6	15.9	1.43	72.3	15.7	1.5	1.18	0.24	**17.2**	**2.8**	0.9	0.7	**4.8**
trans-nonachlor	<0.1	<0.1	<0.1	18.1	18.2	16.2	<0.1		17.5	6.4	1.22	0.28	**18.0**	**3.6**			
dieldrin	2.71	0.93	3.27	58.1	58.0	63.2	2.30	53.0	59.7	5.0	5.79	1.20	6.2	1.3	-2.4	**-10.1**	**3.5**
4,4'-DDE	11.4	9.4	13.3	62.6	62.7	63.5	11.3	17.3	63.0	0.8	9.77	1.91	**51.2**	**5.5**	0.6	**4.6**	1.2
2,4'-DDD	5.61	2.49	3.05	13.2	12.8	12.4	3.72	44.8	12.8	3.3	3.07	0.37	13.7	2.8	0.8	1.9	3.0
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	2.83	1.23	1.19	47.3	49.1	50.0	1.75	53.4	48.8	2.8	3.45	0.70	**43.0**	**6.3**	-2.0	**-4.9**	**3.6**
2,4'-DDT	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15		<0.15		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	2.43	1.50	0.83	1.76	2.39	1.35	1.59	50.6	1.84	28.6	1.37	0.21	**3.91**	**0.59**	0.6	0.6	**3.4**
mirex	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16		<0.16		<1		no target				

Laboratory: 18a
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	5	23
Not Determined	7	32

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	6	4	3
2 to 3	1	0	2
≥ 3	1	4	5

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 18a

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/25/97 S 1	11/25/97 S 2	11/25/97 S 3	11/25/97 S 1	11/25/97 S 2	11/25/97 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	5.72	2.42	2.87	<0.13	<0.13	<0.13	3.67	48.8	<0.13	#DIV/0!	1.79	0.49	5.8	1.2	**4.2**	2.1	**3.3**
PCB 18	9.96	4.66	3.80	1.0	1.0	4.6	6.14	54.3	2.2	95.1	2.28	0.37	33	11	**6.8**	**4.4**	**3.6**
PCB 28	5.66	6.75	4.31	36.9	36.9	38.0	5.57	22.0	37.3	1.7	5.85	0.77	79	15	-0.2	-0.3	1.5
PCB 52	16.0	9.84	9.88	103	102	102	11.9	29.8	102	0.5	8.41	1.55	**115**	**11**	1.7	**4.0**	2.0
PCB 44	4.54	2.71	5.08	69.7	69.8	68.9	4.11	30.2	69.5	0.7	2.82	0.61	**72.7**	**7.4**	1.8	1.5	2.0
PCB 66/95	6.37	2.35	1.78	110	111	109	3.50	71.4	110	0.6	8.89	2.22	**184**	**21**	-2.4	**-6.1**	**4.8**
PCB 101/90	12.7	10.2	7.21	129	132	134	10.1	27.4	132	2.0	9.63	1.11	**128.3**	**9.7**	0.2	0.5	1.8
PCB 118	11.0	10.6	8.19	128	130	132	9.94	15.4	130	1.4	10.9	1.5	**130.8**	**3.6**	-0.3	-1.1	1.0
PCB 153	14.9	12.6	9.56	137	139	141	12.3	21.5	139	1.6	13.3	1.4	**145.2**	**7.6**	-0.3	-1.1	1.4
PCB 105	3.33	3.29	2.45	49.5	49.9	49.0	3.02	16.5	49.5	0.9	3.29	0.42	**53.0**	**3.4**	-0.3	-0.3	1.1
PCB 138/163/164	15.0	16.5	8.65	147	141	142	13.4	31.2	143	2.3	14.6	2.3	**133.5**	**9.5**	-0.3	-1.3	2.1
PCB 187/182	7.30	5.67	2.96	31.3	30.8	29.8	5.31	41.3	30.6	2.4	4.22	0.42	**34.0**	**2.3**	1.0	1.2	2.8
PCB 128	2.72	2.39	1.16	20.7	20.0	20.2	2.09	39.4	20.3	1.9	2.07	0.27	**22.0**	**3.4**	0.0	0.0	2.6
PCB 180	8.24	8.55	4.19	14.8	14.7	14.2	6.99	34.8	14.6	2.3	6.46	0.96	**17.1**	**3.8**	0.3	0.6	2.3
PCB 170/190	7.56	6.92	3.45	4.68	4.52	7.07	5.98	37.0	5.42	26.3	2.98	0.59	**5.5**	**1.1**	**4.0**	**3.4**	2.5
PCB 195	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	#####	<0.12	#DIV/0!	<1		No Target				#DIV/0!
PCB 206	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	#####	<0.1	#DIV/0!	<1		No Target				#DIV/0!
PCB 209	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	#####	<0.1	#DIV/0!	<1		No Target				#DIV/0!
PCB 66 (optional)	na	na	na	na	na	na	na	#####	na	#DIV/0!	3.57	0.80	**101.4**	**4.4**	#######	######	#DIV/0!
PCB 95 (optional)	na	na	na	na	na	na	na	#####	na	#DIV/0!	4.43	1.44	**83**	**17**	#######	######	#DIV/0!

Laboratory: 18a

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	11	10	6
2 to 3	1	1	6
≥ 3	3	4	3

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18b

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 12/3/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/26/97 S 1	11/26/97 S 2	11/26/97 S 3	11/26/97 S 1	11/26/97 S 2	11/26/97 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	89.7	63.9	178	136	176	164	111	54.1	159	12.9	13.2	3.8	**23.5**	**4.4**	**29.5**	**18.5**	**3.6**
2-methylnaphthalene	63.4	58.8	126	93.4	118	97.7	82.7	45.4	103	12.8	13.1	3.4	10.2	1.5	**21.3**	**13.7**	**3.0**
1-methylnaphthalene	35.6	34.7	72.3	56.40	73.5	53.2	47.5	45.1	61.0	17.9	10.0	3.8	5.3	1.8	**14.9**	**7.1**	**3.0**
biphenyl	21.9	17.8	36.1	35.8	36.8	31.8	25.3	38.0	34.8	7.6	5.01	1.69	5.11	0.33	**16.2**	**9.2**	2.5
2,6-dimethylnaphthalene	25.2	22.6	39.2	33.0	38.4	18.2	29.0	30.8	29.9	35.0	13.6	3.8	5.3	1.8	**4.5**	**3.1**	2.1
acenaphthylene	<1	<1	<1	<1	<1	<1	<1		<1		<3		5.25	0.38			
acenaphthene	<3	18.5	32.5	26.1	30.1	16.9	25.5	38.8	24.4	27.8	3.89	1.11	3.15	0.26	**22.2**	**16.3**	2.6
1,6,7-trimethylnaphthalene	22.8	29.0	21.9	11.6	5.30	5.55	24.6	15.7	7.48	47.7	31.1	5.7	6.6	2.0	-0.8	-0.8	1.0
fluorene	11.3	9.54	9.48	<1	<1	8.02	10.1	10.2	8.02		10.1	1.4	5.72	0.91	0.0	0.0	0.7
phenanthrene	35.7	42.4	31.9	19.9	21.9	28.9	36.7	14.5	23.6	20.1	34.5	4.1	**22.2**	**2.4**	0.2	0.3	1.0
anthracene	<2	<2	<2	2.58	2.97	3.89	<2		3.15	21.4	5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	42.7	43.4	32.2	7.50	9.87	11.6	39.4	15.9	9.66	21.3	43.8	4.4	10.5	4.8	-0.4	-0.6	1.1
fluoranthene	31.2	31.7	24.5	155	153	160	29.1	13.8	156	2.3	35.1	2.7	**163.7**	**9.1**	-0.7	-1.1	0.9
pyrene	68.4	72.7	53.4	151	155	158	64.8	15.6	155	2.3	70.3	6.2	**151.6**	**6.6**	-0.3	-0.5	1.0
benz[a]anthracene	20.4	22.2	18.0	35.9	35.7	37.4	20.2	10.4	36.3	2.6	21.3	2.5	**32.5**	**4.7**	-0.2	-0.3	0.7
chrysene + triphenylene	69.1	72.9	53.9	86.1	89.8	89.7	65.3	15.4	88.5	2.4	67.4	5.7	**94.9**	**8.2**	-0.1	-0.2	1.0
benzofluoranthenes [b+j+k]	28.7	25.7	21.0	89.3	89.0	90.3	25.1	15.4	89.5	0.8	21.9	4.6	87.1	6.2	0.6	0.4	1.0
benzo[e]pyrene	18.5	17.1	14.8	82.2	76.0	81.6	16.8	11.1	79.9	4.3	16.0	3.5	**84.0**	**1.9**	0.2	0.1	0.7
benzo[a]pyrene	6.29	5.83	5.25	13.4	12.8	13.1	5.79	9.0	13.1	2.3	8.34	2.41	**15.63**	**0.65**	-1.2	-0.7	0.6
perylene	<3	<3	<3	11.9	8.70	5.39	<3		8.66	37.6	5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	<5	<5	<5	15.3	17.8	14.1	<5		15.7	12.0	4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	2.33	1.59	2.27	4.44	6.34	5.85	2.06	19.9	5.54	17.8	1.78	0.39	3.00	0.20	0.6	0.5	1.3
benzo[ghi]perylene	8.65	8.59	6.82	23.0	24.9	23.1	8.02	13.0	23.7	4.5	8.75	1.41	**22.0**	**2.2**	-0.3	-0.3	0.9

Laboratory: 18b
PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	19	83
Qualitative	4	17
Not Determined	0	0

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 18b
Reporting Date: 12/3/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 18b
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

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

FY97 NIST Intercomparison Exercise **Laboratory No.: 18b**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 12/3/97

PCBs	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	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	assigned value	95% CL	target value[b]	95% CL	z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		5.85	0.77	79	15			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		8.41	1.55	**115**	**11**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		9.63	1.11	**128.3**	**9.7**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		13.3	1.4	**145.2**	**7.6**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 18b
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	0	0
Not Determined	18	100

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 19

Reporting Date: 12/12/97

PAH

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* S1	S2	S3	SRM 1974a, ng/g dry S1	S2	S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 19
PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 19

Reporting Date: 12/12/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	11/14/97 S 1	11/19/97 S 2	11/26/97 S 3	11/14/97 S 1	11/19/97 S 2	11/26/97 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%)
alpha-HCH	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<2		no target				
hexachlorobenzene	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<1		no target				
gamma-HCH	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		1.31	0.59	no target				
heptachlor	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		0.86	0.47	no target				
aldrin	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<1		no target				
heptachlor epoxide	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<2		no target				
oxychlordane	N.A	N.A	N.A	N.A	N.A	N.A	NA		NA		<1		no target				
trans-chlordane	2.13	2.38	2.15	15.9	15.8	16.7	2.22	6.3	16.1	3.1	<2		**16.6**	**1.7**			0.4
2,4'-DDE	<1.6	<1.6	<1.6	5.72	3.06	7.09	<1.6		5.29	38.7	1.71	0.43	5.26	0.27			
endosulfan I	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<2		no target				
cis-chlordane	0.99	1.27	1.08	15.3	18.1	17.2	1.11	13.1	16.9	8.5	1.18	0.24	**17.2**	**2.8**	-0.2	-0.2	0.9
trans-nonachlor	1.15	1.14	0.83	17.2	17.6	18.5	1.04	17.4	17.8	3.7	1.22	0.28	**18.0**	**3.6**	-0.6	-0.5	1.2
dieldrin	5.07	4.33	4.71	7.45	12.1	6.51	4.70	7.9	8.69	34.5	5.79	1.20	6.2	1.3	-0.8	**-3.1**	0.5
4,4'-DDE	9.32	9.14	10.0	59.3	49.0	49.3	9.47	4.5	52.5	11.2	9.77	1.91	**51.2**	**5.5**	-0.1	-0.8	0.3
2,4'-DDD	2.52	2.89	2.80	13.5	16.4	15.7	2.74	7.1	15.2	10.0	3.07	0.37	13.7	2.8	-0.4	-1.0	0.5
endrin	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<2		no target				
endosulfan II	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<2		no target				
4,4'-DDD	4.12	3.76	4.36	44.5	42.6	48.4	4.08	7.4	45.2	6.5	3.45	0.70	**43.0**	**6.3**	0.7	1.8	0.5
2,4'-DDT	<1.6	<1.6	<1.6	5.46	<2.5	8.80	<1.6		7.13	33.1	<3		8.5	1.9			
cis-nonachlor	<1.6	<1.6	<1.6	6.67	7.62	7.20	<1.6		7.16	6.6	<2		**6.84**	**0.90**			
4,4'-DDT	2.05	2.09	1.94	5.81	4.83	5.24	2.03	3.8	5.29	9.3	1.37	0.21	**3.91**	**0.59**	1.9	1.9	0.3
mirex	<1.6	<1.6	<1.6	<2.5	<2.5	<2.5	<1.6		<2.5		<1		no target				

Laboratory: 19
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	13	59
Not Determined	1	5

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	7	6	8
2 to 3	0	0	0
≥ 3	0	1	0

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 19
Reporting Date: 12/12/97

PCBs

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 11/14/97 S 1	11/14/97 S 2	11/14/97 S 3	SRM 1974a, ng/g dry 11/14/97 S 1	11/14/97 S 2	11/14/97 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	1.43	1.63	1.28	5.80	3.18	4.97	1.45	12.1	4.65	28.8	1.79	0.49	5.8	1.2	-0.8	-0.4	0.8
PCB 18	3.61	2.89	3.13	34.2	46.3	33.1	3.21	11.4	37.9	19.3	2.28	0.37	33	11	1.6	1.1	0.8
PCB 28	5.76	5.66	4.85	91.1	64.0	77.8	5.42	9.2	77.6	17.5	5.85	0.77	79	15	-0.3	-0.5	0.6
PCB 52	8.73	7.35	8.19	124	112	127	8.09	8.6	121	6.6	8.41	1.55	**115**	**11**	-0.2	-0.4	0.6
PCB 44	2.05	1.34	2.18	84.9	74.5	90.0	1.86	24.4	83.1	9.5	2.82	0.61	**72.7**	**7.4**	-1.4	-1.1	1.6
PCB 66/95	7.08	6.98	6.72	188	150	189	6.93	2.7	176	12.7	8.89	2.22	**184**	**21**	-0.9	-2.2	0.2
PCB 101/90	7.85	8.59	8.85	158	111	147	8.43	6.2	139	17.7	9.63	1.11	**128.3**	**9.7**	-0.5	-1.4	0.4
PCB 118	8.46	8.96	9.33	148	108	141	8.92	4.9	132	16.1	10.9	1.5	**130.8**	**3.6**	-0.7	-2.2	0.3
PCB 153	13.1	11.2	12.0	147	109	144	12.1	7.9	133	15.8	13.3	1.4	**145.2**	**7.6**	-0.4	-1.4	0.5
PCB 105	2.42	2.90	3.42	51.7	45.9	59.4	2.91	17.2	52.3	12.9	3.29	0.42	**53.0**	**3.4**	-0.5	-0.4	1.1
PCB 138/163/164	11.7	11.7	12.9	141	108	142	12.1	5.7	130	14.8	14.6	2.3	**133.5**	**9.5**	-0.7	-2.8	0.4
PCB 187/182	4.21	4.06	4.65	32.7	31.0	38.3	4.31	7.1	34.0	11.2	4.22	0.42	**34.0**	**2.3**	0.1	0.1	0.5
PCB 128	2.11	2.40	2.43	22.0	22.0	22.5	2.31	7.6	22.2	1.3	2.07	0.27	**22.0**	**3.4**	0.5	0.3	0.5
PCB 180	5.66	5.26	5.11	16.2	12.1	17.0	5.34	5.3	15.1	17.4	6.46	0.96	**17.1**	**3.8**	-0.7	-1.3	0.4
PCB 170/190	2.48	2.71	2.85	3.67	4.93	4.79	2.68	7.0	4.46	15.5	2.98	0.59	**5.5**	**1.1**	-0.4	-0.3	0.5
PCB 195	<0.8	<0.8	<0.8	<2.5	<2.5	<2.5	<0.8		<2.5		<1		No Target				
PCB 206	<0.8	<0.8	<0.8	<2.5	<2.5	<2.5	<0.8		<2.5		<1		No Target				
PCB 209	N.A	N.A	N.A	N.A	N.A	N.A	NA		NA		<1		No Target				
PCB 66 (optional)							na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)							na		na		4.43	1.44	**83**	**17**			

Laboratory: 19
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	2	11
Not Determined	1	6

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 21

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 12/23/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/22/97 S 1	9/22/97 S 2	9/22/97 S 3	9/22/97 S 1	9/22/97 S 2	9/22/97 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	6.71	7.30	7.89	15.0	N/A	N/A	7.30	8.1	15.0		13.2	3.8	**23.5**	**4.4**	-1.8	-1.1	0.5
2-methylnaphthalene	7.73	8.69	7.98	9.89	N/A	N/A	8.13	6.1	9.89		13.1	3.4	10.2	1.5	-1.5	-1.0	0.4
1-methylnaphthalene	4.26	4.87	4.42	4.07	N/A	N/A	4.52	7.0	4.07		10.0	3.8	5.3	1.8	-2.2	-1.0	0.5
biphenyl	1.75	1.93	1.93	3.13	N/A	N/A	1.87	5.6	3.13		5.01	1.69	5.11	0.33	-2.5	-1.4	0.4
2,6-dimethylnaphthalene	11.1	11.3	11.5	<3.8	N/A	N/A	11.3	1.8	<3.8		13.6	3.8	5.3	1.8	-0.7	-0.5	0.1
acenaphthylene	1.09	1.23	1.34	3.11	N/A	N/A	1.22	10.3	3.11		<3		5.25	0.38			0.7
acenaphthene	1.92	2.07	1.94	<3.8	N/A	N/A	1.98	4.1	<3.8		3.89	1.11	3.15	0.26	-2.0	-1.4	0.3
1,6,7-trimethylnaphthalene	36.1	36.0	36.9	<3.9	N/A	N/A	36.3	1.4	<3.9		31.1	5.7	6.6	2.0	0.7	0.6	0.1
fluorene	7.23	7.44	8.05	3.26	N/A	N/A	7.57	5.6	3.26		10.1	1.4	5.72	0.91	-1.0	-1.1	0.4
phenanthrene	33.9	32.8	33.1	17.9	N/A	N/A	33.3	1.7	17.9		34.5	4.1	**22.2**	**2.4**	-0.1	-0.1	0.1
anthracene	2.67	3.05	3.26	5.05	N/A	N/A	2.99	10.0	5.05		5.32	2.40	**6.1**	**1.7**	-1.7	-0.7	0.7
1-methylphenanthrene	44.3	47.2	48.5	8.09	N/A	N/A	46.7	4.6	8.09		43.8	4.4	10.5	4.8	0.3	0.4	0.3
fluoranthene	42.9	43.3	43.6	202	N/A	N/A	43.3	0.8	202		35.1	2.7	**163.7**	**9.1**	0.9	1.5	0.1
pyrene	77.7	80.8	81.9	180	N/A	N/A	80.1	2.7	180		70.3	6.2	**151.6**	**6.6**	0.6	0.8	0.2
benz[a]anthracene	17.1	16.7	16.6	24.5	N/A	N/A	16.8	1.6	24.5		21.3	2.5	**32.5**	**4.7**	-0.9	-1.0	0.1
chrysene + triphenylene	66.1	66.7	64.1	75.3	N/A	N/A	65.6	2.1	75.3		67.4	5.7	**94.9**	**8.2**	-0.1	-0.2	0.1
benzofluoranthenes [b+j+k]	17.8	17.8	18.2	60.1	N/A	N/A	17.9	1.3	60.1		21.9	4.6	87.1	6.2	-0.7	-0.5	0.1
benzo[e]pyrene	10.9	11.2	11.0	70.5	N/A	N/A	11.0	1.4	70.5		16.0	3.5	**84.0**	**1.9**	-1.2	-0.8	0.1
benzo[a]pyrene	4.83	4.70	4.90	11.5	N/A	N/A	4.81	2.1	11.5		8.34	2.41	**15.63**	**0.65**	-1.7	-0.9	0.1
perylene	2.26	2.46	2.27	6.03	N/A	N/A	2.33	4.8	6.03		5.16	2.57	**7.68**	**0.27**	-2.2	-1.0	0.3
indeno[1,2,3-cd]pyrene	2.24	2.33	2.21	8.99	N/A	N/A	2.26	2.8	8.99		4.50	0.96	**14.2**	**2.8**	-2.0	-1.7	0.2
dibenz[a,h]anthracene + [a,c]	0.85	0.76	0.77	1.49	N/A	N/A	0.80	6.3	1.49		1.78	0.39	3.00	0.20	-2.2	-1.9	0.4
benzo[ghi]perylene	6.54	6.25	5.92	17.9	N/A	N/A	6.24	5.0	17.9		8.75	1.41	**22.0**	**2.2**	-1.2	-1.0	0.3

Laboratory: 21

PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	18	22	23
2 to 3	4	0	0
≥ 3	0	0	0

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 21
Reporting Date: 12/23/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/22/97 S 1	9/22/97 S 2	9/22/97 S 3	9/22/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
hexachlorobenzene	<0.37	<0.43	<0.33	<1.1	N/A	N/A	<0.4		<1.1		<1		no target				
gamma-HCH	0.83	0.82	0.79	<1.3	N/A	N/A	0.81	2.2	<1.3		1.31	0.59	no target		-1.5	-1.4	0.1
heptachlor	<0.64	<0.74	<0.58	<1.9	N/A	N/A	<0.75		<1.9		0.86	0.47	no target				
aldrin	<0.48	<0.56	<0.43	<1.4	N/A	N/A	<0.6		<1.5		<1		no target				
heptachlor epoxide	1.90	<1.3	<1.0	<3.5	N/A	N/A	1.90		<3.5		<2		no target				
oxychlordane	<0.73	<0.86	<0.66	8.91	N/A	N/A	<0.9		8.91		<1		no target				
trans-chlordane	<0.42	<0.5	<0.38	15.2	N/A	N/A	<0.5		15.2		<2		**16.6**	**1.7**			
2,4'-DDE	<2.0	<2.4	<1.8	<6.	N/A	N/A	<2.4		<6		1.71	0.43	5.26	0.27			
endosulfan I	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
cis-chlordane	0.77	0.79	0.75	14.4	N/A	N/A	0.77	2.6	14.4		1.18	0.24	**17.2**	**2.8**	-1.4	-1.2	0.2
trans-nonachlor	1.25	1.32	1.31	18.4	N/A	N/A	1.29	2.9	18.4		1.22	0.28	**18.0**	**3.6**	0.2	0.2	0.2
dieldrin	4.65	4.68	4.22	7.77	N/A	N/A	4.52	5.7	7.77		5.79	1.20	6.2	1.3	-0.9	**-3.7**	0.4
4,4'-DDE	7.69	7.79	7.83	32.4	N/A	N/A	7.77	0.9	32.4		9.77	1.91	**51.2**	**5.5**	-0.8	**-5.8**	0.1
2,4'-DDD	3.51	3.60	3.51	15.7	N/A	N/A	3.54	1.5	15.7		3.07	0.37	13.7	2.8	0.6	1.4	0.1
endrin	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
endosulfan II	N/A	N/A	N/A	N/A	N/A	N/A	NA		NA		<2		no target				
4,4'-DDD	3.40	3.34	3.34	45.2	N/A	N/A	3.36	1.0	45.2		3.45	0.70	**43.0**	**6.3**	-0.1	-0.3	0.1
2,4'-DDT	2.44	2.38	2.42	9.81	N/A	N/A	2.41	1.3	9.81		<3		8.5	1.9			0.1
cis-nonachlor	1.10	1.13	1.12	6.31	N/A	N/A	1.12	1.4	6.31		<2		**6.84**	**0.90**			0.1
4,4'-DDT	1.23	1.29	1.29	2.49	N/A	N/A	1.27	2.7	2.49		1.37	0.21	**3.91**	**0.59**	-0.3	-0.3	0.2
mirex	0.51	<0.57	0.67	<1.5	N/A	N/A	0.59	19.3	<1.5		<1		no target				1.3

Laboratory: 21
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	12	55
Qualitative	6	27
Not Determined	4	18

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	8	6	11
2 to 3	0	0	0
≥ 3	0	2	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 21

Reporting Date: 12/23/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	9/22/97 S 1	9/22/97 S 2	9/22/97 S 3	9/22/97 S 1	9/22/97 S 2	9/22/97 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	N/A	N/A	N/A	N/A	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	6.17	6.07	4.63	35.4	NA	NA	5.62	15.3	35.4		2.28	0.37	33	11	**5.8**	**3.8**	1.0
PCB 28	5.72	5.91	5.63	84.7	NA	NA	5.75	2.5	84.7		5.85	0.77	79	15	-0.1	-0.1	0.2
PCB 52	14.1	14.0	13.6	148	NA	NA	13.9	1.9	148		8.41	1.55	**115**	**11**	2.6	**6.2**	0.1
PCB 44	4.26	4.61	4.55	81.9	NA	NA	4.47	4.2	81.9		2.82	0.61	**72.7**	**7.4**	2.4	1.9	0.3
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	12.0	12.2	11.5	159	NA	NA	11.9	3.0	159		9.63	1.11	**128.3**	**9.7**	0.9	2.6	0.2
PCB 118	12.2	12.6	12.4	142	NA	NA	12.4	1.6	142		10.9	1.5	**130.8**	**3.6**	0.6	1.7	0.1
PCB 153	18.5	18.6	19.3	189	NA	NA	18.8	2.3	189		13.3	1.4	**145.2**	**7.6**	1.6	**6.2**	0.2
PCB 105	2.79	2.99	2.74	54.4	NA	NA	2.84	4.7	54.4		3.29	0.42	**53.0**	**3.4**	-0.5	-0.5	0.3
PCB 138/163/164	17.9	18.1	18.4	154	NA	NA	18.1	1.4	154		14.6	2.3	**133.5**	**9.5**	1.0	**4.1**	0.1
PCB 187/182	5.68	5.73	5.61	40.5	NA	NA	5.67	1.1	40.5		4.22	0.42	**34.0**	**2.3**	1.4	1.7	0.1
PCB 128	1.97	1.99	2.05	20.7	NA	NA	2.00	2.1	20.7		2.07	0.27	**22.0**	**3.4**	-0.1	-0.1	0.1
PCB 180	9.51	9.90	10.0	9.27	NA	NA	9.80	2.6	9.27		6.46	0.96	**17.1**	**3.8**	2.1	**3.8**	0.2
PCB 170/190	3.85	3.88	3.69	5.91	NA	NA	3.81	2.7	5.91		2.98	0.59	**5.5**	**1.1**	1.1	0.9	0.2
PCB 195	<0.32	<0.37	<0.29	1.02	NA	NA	<0.37		1.02		<1		No Target				
PCB 206	<0.33	<0.38	<0.3	<01	NA	NA	<0.38		<1		<1		No Target				
PCB 209	<0.38	<0.44	<0.34	<1.2	NA	NA	<0.45		<1.2		<1		No Target				
PCB 66 (optional)	5.00	5.24	4.52	133	NA	NA	4.92	7.5	133		3.57	0.80	**101.4**	**4.4**	1.5	1.5	0.5
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	na		na		4.43	1.44	**83**	**17**			

Laboratory: 21

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	13	72
Qualitative	3	17
Not Determined	2	11

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	9	7	13
2 to 3	3	1	0
≥ 3	1	5	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 22

Reporting Date: 12/18/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/12/97	12/12/97	12/12/97	12/12/97	12/12/97	12/12/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
naphthalene	12.3	15.9	14.3	23.3			14.2	12.7	23.3		13.2	3.8	**23.5**	**4.4**	0.3	0.2	0.8
2-methylnaphthalene	< 10	11.2	10.9	10.2			11.1	1.9	10.2		13.1	3.4	10.2	1.5	-0.6	-0.4	0.1
1-methylnaphthalene	< 10	< 10	10.2	< 10			< 10		< 10		10.0	3.8	5.3	1.8			
biphenyl	< 10	< 10	< 10	< 10			< 10		< 10		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	< 10	11.5	10.3	< 10			10.9	7.8	< 10		13.6	3.8	5.3	1.8	-0.8	-0.6	0.5
acenaphthylene	< 10	< 10	< 10	< 10			< 10		< 10		<3		5.25	0.38			
acenaphthene	< 10	< 10	< 10	< 10			< 10		< 10		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	27.1	28.3	26.7	< 10			27.4	3.0	< 10		31.1	5.7	6.6	2.0	-0.5	-0.4	0.2
fluorene	< 10	11.0	< 10	< 10			< 10		< 10		10.1	1.4	5.72	0.91			
phenanthrene	34.8	37.8	35.9	21.6			36.2	4.2	21.6		34.5	4.1	**22.2**	**2.4**	0.2	0.2	0.3
anthracene	< 10	< 10	< 10	< 10			< 10		< 10		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	48.1	53.8	49.1	11.7			50.3	6.0	11.7		43.8	4.4	10.5	4.8	0.6	0.9	0.4
fluoranthene	28.3	30.2	27.7	150			28.7	4.5	150		35.1	2.7	**163.7**	**9.1**	-0.7	-1.2	0.3
pyrene	61.7	64.8	59.3	141			61.9	4.5	141		70.3	6.2	**151.6**	**6.6**	-0.5	-0.7	0.3
benz[a]anthracene	18.6	18.9	19.0	28.9			18.8	1.1	28.9		21.3	2.5	**32.5**	**4.7**	-0.5	-0.5	0.1
chrysene + triphenylene	79.6	77.7	73.2	91.3			76.8	4.3	91.3		67.4	5.7	**94.9**	**8.2**	0.6	1.0	0.3
benzofluoranthenes [b+j+k]	20.6	20.6	20.5	67.8			20.6	0.3	67.8		21.9	4.6	87.1	6.2	-0.3	-0.2	0.0
benzo[e]pyrene	14.8	14.2	14.3	75.1			14.4	2.2	75.1		16.0	3.5	**84.0**	**1.9**	-0.4	-0.2	0.1
benzo[a]pyrene	< 10	< 10	< 10	10.8			< 10		10.8		8.34	2.41	**15.63**	**0.65**			
perylene	< 10	< 10	< 10	< 10			< 10		< 10		5.16	2.57	**7.68**	**0.27**$_i$			
indeno[1,2,3-cd]pyrene	< 10	< 10	< 10	15.9			< 10		15.9		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	< 10	< 10	< 10	< 10			< 10		< 10		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	< 10	< 10	10.4	26.5			< 10		26.5		8.75	1.41	**22.0**	**2.2**			

Laboratory: 22

PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	12	52
Qualitative	11	48
Not Determined	0	0

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant)

Laboratory No.: 22
Reporting Date: 12/18/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/12/97 S 1	12/12/97 S 2	12/12/97 S 3	12/12/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	< 1	< 1	< 1	< 1			< 1		< 1		<2		no target				
hexachlorobenzene	< 1	< 1	< 1	< 1			< 1		< 1		<1		no target				
gamma-HCH	< 0.8	< 0.8	< 0.8	< 0.8			< 0.8		< 0.8		1.31	0.59	no target				
heptachlor	1.22	1.20	1.04	7.70			1.15	8.6	7.70		0.86	0.47	no target		1.4	0.9	0.6
aldrin	< 1	< 1	< 1	< 1			< 1		< 1		<1		no target				
heptachlor epoxide	< 1	< 1	< 1	< 1			< 1		< 1		<2		no target				
oxychlordane	< 1	< 1	< 1	< 1			< 1		< 1		<1		no target				
trans-chlordane	< 1	< 1	< 1	13.8			< 1		13.8		<2		**16.6**	**1.7**			
2,4'-DDE	< 3	< 3	< 3	4.64			< 3		4.64		1.71	0.43	5.26	0.27			
endosulfan I	< 1	< 1	< 1	< 1			< 1		< 1		<2		no target				
cis-chlordane	< 1	< 1	< 1	11.0			< 1		11.0		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	< 1	< 1	< 1	15.1			< 1		15.1		1.22	0.28	**18.0**	**3.6**			
dieldrin	5.62	5.59	5.27	4.07			5.49	3.5	4.07		5.79	1.20	6.2	1.3	-0.2	-0.9	0.2
4,4'-DDE	7.16	7.49	7.97	48.1			7.54	5.4	48.1		9.77	1.91	**51.2**	**5.5**	-0.9	**-6.4**	0.4
2,4'-DDD	< 5	< 5	< 5	17.1			< 5		17.1		3.07	0.37	13.7	2.8			
endrin	< 6	< 6	< 6	< 6			< 6		< 6		<2		no target				
endosulfan II	< 3	< 3	< 3	< 3			< 3		< 3		<2		no target				
4,4'-DDD	< 3	< 3	< 3	33.5			< 3		33.5		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	< 4	< 4	< 4	5.11			< 4		5.11		<3		8.5	1.9			
cis-nonachlor	< 1	< 1	< 1	5.31			< 1		5.31		<2		**6.84**	**0.90**			
4,4'-DDT	< 4	< 4	< 4	4.26			< 4		4.26		1.37	0.21	**3.91**	**0.59**			
mirex	< 1	< 1	< 1	< 1			< 1		< 1		<1		no target				

Laboratory: 22
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	3	14
Qualitative	19	86
Not Determined	0	0

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

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 22

Reporting Date: 12/18/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/12/97 S 1	12/12/97 S 2	12/12/97 S 3	12/12/97 S 1	12/12/97 S 2	12/12/97 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	1.08	1.30	1.17	3.68			1.18	9.3	3.68		1.79	0.49	5.8	1.2	-1.4	-0.7	0.6
PCB 18	1.77	1.72	1.86	22.7			1.78	4.0	22.7		2.28	0.37	33	11	-0.9	-0.6	0.3
PCB 28	4.41	4.63	4.17	58.1			4.40	5.2	58.1		5.85	0.77	79	15	-1.0	-1.6	0.3
PCB 52	8.45	8.48	10.4	101			9.11	12.3	101		8.41	1.55	**115**	**11**	0.3	0.8	0.8
PCB 44	1.64	1.60	1.67	59.7			1.64	2.1	59.7		2.82	0.61	**72.7**	**7.4**	-1.7	-1.3	0.1
PCB 66/95	8.95	8.81	8.97	223			8.91	1.0	223		8.89	2.22	**184**	**21**	0.0	0.0	0.1
PCB 101/90	8.35	8.35	8.51	126			8.40	1.1	126		9.63	1.11	**128.3**	**9.7**	-0.5	-1.4	0.1
PCB 118	8.35	11.30	8.48	109			9.38	17.8	109		10.9	1.5	**130.8**	**3.6**	-0.6	-1.7	1.2
PCB 153	11.4	11.2	11.7	116			11.4	2.2	116		13.3	1.4	**145.2**	**7.6**	-0.6	-2.2	0.1
PCB 105	2.80	2.86	3.01	45.9			2.89	3.7	45.9		3.29	0.42	**53.0**	**3.4**	-0.5	-0.5	0.2
PCB 138/163/164	12.3	12.2	12.2	116			12.2	0.5	116		14.6	2.3	**133.5**	**9.5**	-0.6	-2.6	0.0
PCB 187/182	3.22	3.04	3.40	28.0			3.22	5.6	28.0		4.22	0.42	**34.0**	**2.3**	-0.9	-1.1	0.4
PCB 128	1.83	1.91	2.05	19.2			1.93	5.8	19.2		2.07	0.27	**22.0**	**3.4**	-0.3	-0.2	0.4
PCB 180	5.36	5.14	5.27	12.6			5.26	2.1	12.6		6.46	0.96	**17.1**	**3.8**	-0.7	-1.4	0.1
PCB 170/190	2.23	2.09	2.18	3.16			2.17	3.3	3.16		2.98	0.59	**5.5**	**1.1**	-1.1	-0.9	0.2
PCB 195	< 1	< 1	< 1	< 1			< 1		< 1		<1		No Target				
PCB 206	< 1	< 1	< 1	< 1			< 1		< 1		<1		No Target				
PCB 209	< 1	< 1	< 1	< 1			< 1		< 1		<1		No Target				
PCB 66 (optional)	4.49	4.50	4.37	137			4.45	1.6	137		3.57	0.80	**101.4**	**4.4**	1.0	1.0	0.1
PCB 95 (optional)	4.46	4.31	4.60	85.9			4.46	3.3	85.9		4.43	1.44	**83**	**17**	0.0	0.0	0.2

Laboratory: 22

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 23

Reporting Date: 1/19/98

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/12/97	12/12/97	12/12/97	12/12/97	12/12/97	12/12/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
naphthalene	7.44	6.04	7.60	10.6	8.10	10.1	7.03	12.2	9.60	13.8	13.2	3.8	**23.5**	**4.4**	-1.9	-1.2	0.8
2-methylnaphthalene	8.76	8.76	11.0	8.17	7.48	9.83	9.51	13.6	8.49	14.2	13.1	3.4	10.2	1.5	-1.1	-0.7	0.9
1-methylnaphthalene	5.32	5.87	6.28	3.83	4.29	5.05	5.82	8.3	4.39	14.0	10.0	3.8	5.3	1.8	-1.7	-0.8	0.6
biphenyl	2.17	1.92	2.67	4.24	4.24	4.31	2.25	16.9	4.26	0.9	5.01	1.69	5.11	0.33	-2.2	-1.3	1.1
2,6-dimethylnaphthalene	5.61	5.65	6.58	3.83	3.37	1.13	5.95	9.2	2.78	52.0	13.6	3.8	5.3	1.8	-2.3	-1.6	0.6
acenaphthylene	2.41	1.71	1.27	8.08	8.43	6.54	1.80	32.0	7.68	13.1	<3		5.25	0.38			2.1
acenaphthene	4.36	3.00	4.53	3.86	4.72	2.93	3.96	21.2	3.84	23.3	3.89	1.11	3.15	0.26	0.1	0.1	1.4
1,6,7-trimethylnaphthalene	27.8	25.3	26.2	2.15	2.16	1.47	26.4	4.8	1.93	20.5	31.1	5.7	6.6	2.0	-0.6	-0.6	0.3
fluorene	9.03	7.28	7.27	5.59	5.29	5.21	7.86	12.9	5.36	3.7	10.1	1.4	5.72	0.91	-0.9	-1.0	0.9
phenanthrene	33.0	29.9	31.2	20.1	21.4	24.9	31.4	5.0	22.1	11.2	34.5	4.1	**22.2**	**2.4**	-0.4	-0.4	0.3
anthracene	4.97	5.07	4.97	13.00	10.6	11.6	5.00	1.2	11.7	10.3	5.32	2.40	**6.1**	**1.7**	-0.2	-0.1	0.1
1-methylphenanthrene	42.3	42.9	43.0	13.4	10.9	10.0	42.7	0.9	11.4	15.4	43.8	4.4	10.5	4.8	-0.1	-0.1	0.1
fluoranthene	35.5	29.6	32.4	176	174	179	32.5	9.1	176	1.4	35.1	2.7	**163.7**	**9.1**	-0.3	-0.5	0.6
pyrene	71.2	66.8	66.8	165	161	166	68.3	3.7	164	1.6	70.3	6.2	**151.6**	**6.6**	-0.1	-0.2	0.2
benz[a]anthracene	23.7	26.8	26.0	34.4	31.1	34.8	25.5	6.3	33.4	6.1	21.3	2.5	**32.5**	**4.7**	0.8	0.9	0.4
chrysene + triphenylene	73.3	65.4	67.8	86.3	80.8	81.1	68.8	5.9	82.7	3.7	67.4	5.7	**94.9**	**8.2**	0.1	0.2	0.4
benzofluoranthenes [b+j+k]	24.7	19.4	21.7	82.5	82.3	85.1	21.9	12.1	83.3	1.9	21.9	4.6	87.1	6.2	0.0	0.0	0.8
benzo[e]pyrene	16.7	14.4	17.2	93.1	86.6	90.0	16.1	9.3	89.9	3.6	16.0	3.5	**84.0**	**1.9**	0.0	0.0	0.6
benzo[a]pyrene	9.47	6.34	9.52	16.7	16.3	19.3	8.44	21.6	17.4	9.3	8.34	2.41	**15.63**	**0.65**	0.1	0.0	1.4
perylene	3.48	2.97	3.86	8.47	9.16	8.28	3.44	13.0	8.64	5.4	5.16	2.57	**7.68**	**0.27**	-1.3	-0.6	0.9
indeno[1,2,3-cd]pyrene	4.60	2.43	4.18	14.3	13.2	13.6	3.74	30.8	13.7	4.1	4.50	0.96	**14.2**	**2.8**	-0.7	-0.6	2.1
dibenz[a,h]anthracene + [a,c]	1.90	1.64	1.98	3.05	2.74	2.85	1.84	9.7	2.88	5.5	1.78	0.39	3.00	0.20	0.1	0.1	0.6
benzo[ghi]perylene	9.13	7.14	9.26	23.6	22.4	23.1	8.51	14.0	23.0	2.6	8.75	1.41	**22.0**	**2.2**	-0.1	-0.1	0.9

Laboratory: 23
PAH in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	20	22	21
2 to 3	2	0	2
≥ 3	0	0	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 23
Reporting Date: 1/19/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/17/97 S 1	12/17/97 S 2	12/17/97 S 3	12/17/97 S 1	12/17/97 S 2	12/17/97 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%)
alpha-HCH	0.26	0.25	0.17	0.84	0.89	0.99	0.23	21.2	0.90	8.7	<2		no target				1.4
hexachlorobenzene	0.33	0.31	0.33	0.30	0.30	0.31	0.32	4.4	0.31	2.1	<1		no target				0.3
gamma-HCH	0.46	0.46	0.45	0.49	0.49	0.51	0.45	1.0	0.49	2.2	1.31	0.59	no target		-2.6	-2.5	0.1
heptachlor	0.20	0.20	0.20	0.72	0.64	0.67	0.20	0.8	0.68	5.9	0.86	0.47	no target		**-3.1**	-1.9	0.1
aldrin	<0.66	<0.66	<0.66	<1.3	<1	<1.2	<0.66		<1.3		<1		no target				
heptachlor epoxide	0.48	0.48	0.48	5.14	5.24	5.66	0.48	0.6	5.35	5.2	<2		no target				0.0
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	1.96	1.93	1.89	15.0	15.1	15.8	1.93	1.8	15.3	2.8	<2		**16.6**	**1.7**			0.1
2,4'-DDE	<0.66	<0.66	<0.66	7.08	5.66	5.95	<0.66		6.23	12.0	1.71	0.43	5.26	0.27			
endosulfan I	<0.66	<0.66	<0.66	<1.3	<1	<1.2	<0.66		<1.3		<2		no target				
cis-chlordane	0.55	0.54	0.54	16.2	15.9	16.2	0.54	0.5	16.1	1.1	1.18	0.24	**17.2**	**2.8**	-2.2	-1.8	0.0
trans-nonachlor	0.26	0.26	0.26	17.4	14.6	15.3	0.26	0.2	15.8	9.2	1.22	0.28	**18.0**	**3.6**	**-3.1**	-2.8	0.0
dieldrin	4.27	4.31	4.24	7.45	5.98	6.55	4.27	0.8	6.66	11.1	5.79	1.20	6.2	1.3	-1.0	**-4.4**	0.1
4,4'-DDE	10.3	10.3	10.2	49.6	45.7	50.6	10.3	0.6	48.6	5.3	9.77	1.91	**51.2**	**5.5**	0.2	1.4	0.0
2,4'-DDD	3.82	3.88	3.79	17.6	20.9	19.4	3.83	1.2	19.3	8.6	3.07	0.37	13.7	2.8	1.0	2.2	0.1
endrin	0.92	0.93	0.93	<1.3	<1	<1.2	0.92	0.6	<1.3		<2		no target				0.0
endosulfan II	<0.66	<0.66	<0.66	<1.3	6.37	5.20	<0.66		5.79	14.3	<2		no target				
4,4'-DDD	4.47	4.48	4.44	51.4	49.8	55.0	4.46	0.5	52.1	5.1	3.45	0.70	**43.0**	**6.3**	1.2	2.9	0.0
2,4'-DDT	0.89	0.88	0.91	7.02	8.65	8.96	0.89	1.3	8.21	12.7	<3		8.5	1.9			0.1
cis-nonachlor	<0.66	<0.66	<0.66	8.34	7.68	6.48	<0.66		7.50	12.6	<2		**6.84**	**0.90**			
4,4'-DDT	1.34	1.34	1.34	3.54	3.46	3.73	1.34	0.0	3.58	3.9	1.37	0.21	**3.91**	**0.59**	-0.1	-0.1	0.0
mirex	0.30	0.30	0.29	0.87	0.88	0.88	0.29	1.2	0.87	0.7	<1		no target				0.1

Laboratory: 23
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	16	73
Qualitative	5	23
Not Determined	1	5

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	5	4	16
2 to 3	2	4	0
≥ 3	2	1	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 23

Reporting Date: 1/19/98

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/17/97 S 1	12/17/97 S 2	12/17/97 S 3	12/17/97 S 1	12/17/97 S 2	12/17/97 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	1.76	1.71	1.72	3.14	3.88	3.51	1.73	1.5	3.51	10.5	1.79	0.49	5.8	1.2	-0.1	-0.1	0.1
PCB 18	1.20	1.26	1.29	24.6	23.9	24.5	1.25	3.7	24.3	1.6	2.28	0.37	33	11	-1.8	-1.2	0.2
PCB 28	5.16	7.12	5.15	79.4	70.1	74.2	5.81	19.5	74.6	6.3	5.85	0.77	79	15	0.0	0.0	1.3
PCB 52	6.49	6.69	6.37	95.8	94.0	97.4	6.52	2.5	95.7	1.8	8.41	1.55	**115**	**11**	-0.9	-2.1	0.2
PCB 44	1.48	1.47	1.47	65.9	65.3	68.5	1.47	0.4	66.6	2.6	2.82	0.61	**72.7**	**7.4**	-1.9	-1.5	0.0
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	10.9	10.9	10.8	128	123	128	10.9	0.5	126	2.3	9.63	1.11	**128.3**	**9.7**	0.5	1.4	0.0
PCB 118	17.3	17.3	16.5	144	138	142	17.0	2.7	141	2.2	10.9	1.5	**130.8**	**3.6**	2.3	**7.0**	0.2
PCB 153	15.4	15.4	15.4	161	158	164	15.4	0.0	161	1.9	13.3	1.4	**145.2**	**7.6**	0.6	2.3	0.0
PCB 105	7.36	7.38	7.34	57.8	61.2	54.2	7.36	0.3	57.7	6.1	3.29	0.42	**53.0**	**3.4**	**5.0**	**4.6**	0.0
PCB 138/163/164	17.6	17.6	16.9	143	154	159	17.4	2.3	152	5.4	14.6	2.3	**133.5**	**9.5**	0.8	**3.2**	0.2
PCB 187/182	5.97	5.93	5.55	40.6	41.4	44.4	5.82	4.0	42.1	4.8	4.22	0.42	**34.0**	**2.3**	1.5	1.8	0.3
PCB 128	3.10	3.13	3.06	25.0	26.9	27.8	3.10	1.1	26.6	5.4	2.07	0.27	**22.0**	**3.4**	2.0	1.2	0.1
PCB 180	6.91	6.91	6.97	15.5	17.0	15.8	6.93	0.5	16.1	4.9	6.46	0.96	**17.1**	**3.8**	0.3	0.5	0.0
PCB 170/190	4.45	4.44	4.31	6.45	6.26	5.97	4.40	1.8	6.23	3.9	2.98	0.59	**5.5**	**1.1**	1.9	1.6	0.1
PCB 195	<0.66	<0.66	<0.66	<1.3	<1	<1.2	<0.66		<1.3		<1		No Target				
PCB 206	<0.66	<0.66	<0.66	<1.3	<1	<1.2	<0.66		<1.3		<1		No Target				
PCB 209	<0.66	<0.66	<0.66	0.26	0.28	0.29	<0.66		0.28	5.5	<1		No Target				
PCB 66 (optional)	3.15	3.16	3.14	106	92.6	98.0	3.15	0.3	98.9	6.8	3.57	0.80	**101.4**	**4.4**	-0.5	-0.5	0.0
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 23

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	14	78
Qualitative	3	17
Not Determined	1	6

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	12	9	14
2 to 3	1	2	0
≥ 3	1	3	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 24

Reporting Date: 1/15/98

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	1/13/98 S 1	1/13/98 S 2	1/13/98 S 3	1/13/98 S 1	1/13/98 S 2	1/13/98 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	21.7	NA	NA	56.2	NA	NA	21.7		56.2		13.2	3.8	**23.5**	**4.4**	2.6	1.6	
2-methylnaphthalene	8.94	NA	NA	32.6	NA	NA	8.94		32.6		13.1	3.4	10.2	1.5	-1.3	-0.8	
1-methylnaphthalene	9.02	NA	NA	9.00	NA	NA	9.02		9.00		10.0	3.8	5.3	1.8	-0.4	-0.2	
biphenyl	5.76	NA	NA	<1.40	NA	NA	5.76		<1.40		5.01	1.69	5.11	0.33	0.6	0.3	
2,6-dimethylnaphthalene	13.3	NA	NA	<1.40	NA	NA	13.3		<1.40		13.6	3.8	5.3	1.8	-0.1	-0.1	
acenaphthylene	5.37	NA	NA	26.6	NA	NA	5.37		26.6		<3		5.25	0.38			
acenaphthene	<0.25	NA	NA	<1.40	NA	NA	<0.25		<1.40		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	36.8	NA	NA	7.7	NA	NA	36.8		7.70		31.1	5.7	6.6	2.0	0.7	0.7	
fluorene	9.31	NA	NA	<1.40	NA	NA	9.31		<1.40		10.1	1.4	5.72	0.91	-0.3	-0.3	
phenanthrene	34.4	NA	NA	27.0	NA	NA	34.4		27.0		34.5	4.1	**22.2**	**2.4**	0.0	0.0	
anthracene	9.96	NA	NA	46.7	NA	NA	9.96		46.7		5.32	2.40	**6.1**	**1.7**	**3.5**	1.5	
1-methylphenanthrene	27.3	NA	NA	14.0	NA	NA	27.3		14.0		43.8	4.4	10.5	4.8	-1.5	-2.2	
fluoranthene	36.1	NA	NA	199	NA	NA	36.1		199		35.1	2.7	**163.7**	**9.1**	0.1	0.2	
pyrene	59.4	NA	NA	183	NA	NA	59.4		183		70.3	6.2	**151.6**	**6.6**	-0.6	-0.9	
benz[a]anthracene	23.1	NA	NA	47.9	NA	NA	23.1		47.9		21.3	2.5	**32.5**	**4.7**	0.3	0.4	
chrysene + triphenylene	64.0	NA	NA	95.5	NA	NA	64.0		95.5		67.4	5.7	**94.9**	**8.2**	-0.2	-0.4	
benzofluoranthenes [b+j+k]	21.2	NA	NA	70.6	NA	NA	21.2		70.6		21.9	4.6	87.1	6.2	-0.1	-0.1	
benzo[e]pyrene	13.0	NA	NA	74.3	NA	NA	13.0		74.3		16.0	3.5	**84.0**	**1.9**	-0.7	-0.5	
benzo[a]pyrene	5.52	NA	NA	20.8	NA	NA	5.52		20.8		8.34	2.41	**15.63**	**0.65**	-1.4	-0.7	
perylene	20.0	NA	NA	9.20	NA	NA	20.0		9.20		5.16	2.57	**7.68**	**0.27**	**11.5**	**5.3**	
indeno[1,2,3-cd]pyrene	6.45	NA	NA	9.6	NA	NA	6.45		9.62		4.50	0.96	**14.2**	**2.8**	1.7	1.5	
dibenz[a,h]anthracene + [a,c]	2.56	NA	NA	<1.40	NA	NA	2.56		<1.40		1.78	0.39	3.00	0.20	1.7	1.5	
benzo[ghi]perylene	9.37	NA	NA	14.9	NA	NA	9.37		14.9		8.75	1.41	**22.0**	**2.2**	0.3	0.2	

Laboratory: 24

PAH in Mussel VIII

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	1	4
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	18	19	0
2 to 3	1	1	0
≥ 3	2	1	0

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 24
Reporting Date: 1/15/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	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)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		1.31	0.59	no target				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		0.86	0.47	no target				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		1.71	0.43	5.26	0.27			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.22	0.28	**18.0**	**3.6**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		5.79	1.20	6.2	1.3			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		9.77	1.91	**51.2**	**5.5**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.07	0.37	13.7	2.8			
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		no target				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		3.45	0.70	**43.0**	**6.3**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		8.5	1.9			
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		1.37	0.21	**3.91**	**0.59**			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<1		no target				

Laboratory: 24
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	0	0
Not Determined	22	100

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

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 24
Reporting Date: 1/15/98

PCBs

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* NA S1	NA S2	NA S3	SRM 1974a, ng/g dry NA S1	NA S2	NA S3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		1.79	0.49	5.8	1.2			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		2.28	0.37	33	11			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		5.85	0.77	79	15			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		8.41	1.55	**115**	**11**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		2.82	0.61	**72.7**	**7.4**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		9.63	1.11	**128.3**	**9.7**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		10.9	1.5	**130.8**	**3.6**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		13.3	1.4	**145.2**	**7.6**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		3.29	0.42	**53.0**	**3.4**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		14.6	2.3	**133.5**	**9.5**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		4.22	0.42	**34.0**	**2.3**			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.07	0.27	**22.0**	**3.4**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		6.46	0.96	**17.1**	**3.8**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		2.98	0.59	**5.5**	**1.1**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		<1		No Target				
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 24
PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 25**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 01/22/98

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	01/17/98 S 1	01/17/98 S 2	01/17/98 S 3	01/17/98 S 1	01/17/98 S 2	01/17/98 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	<7	<7	<7	12.0			<7		12.0		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	<7	<7	<7	<7			<7		<7		13.1	3.4	10.2	1.5			
1-methylnaphthalene	<7	<7	<7	<7			<7		<7		10.0	3.8	5.3	1.8			
biphenyl	<7	<7	<7	<7			<7		<7		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	<7	<7	<7	<7			<7		<7		13.6	3.8	5.3	1.8			
acenaphthylene	<5	<5	<5	<5			<5		<5		<3		5.25	0.38			
acenaphthene	<5	<5	<5	<5			<5		<5		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	52.4	48.7	54.6	36.9			51.9	5.7	36.9		31.1	5.7	6.6	2.0	2.7	2.4	0.4
fluorene	9.30	8.10	9.30	3.20			8.90	7.8	3.20		10.1	1.4	5.72	0.91	-0.5	-0.5	0.5
phenanthrene	36.3	33.2	35.0	25.4			34.8	4.5	25.4		34.5	4.1	**22.2**	**2.4**	0.0	0.0	0.3
anthracene	4.90	4.10	4.40	3.90			4.47	9.0	3.90		5.32	2.40	**6.1**	**1.7**	-0.6	-0.3	0.6
1-methylphenanthrene	59.8	52.8	57.1	14.7			56.6	6.2	14.7		43.8	4.4	10.5	4.8	1.2	1.7	0.4
fluoranthene	39.9	34.8	38.3	148			37.7	6.9	148		35.1	2.7	**163.7**	**9.1**	0.3	0.5	0.5
pyrene	86.1	75.6	79.7	138			80.5	6.6	138		70.3	6.2	**151.6**	**6.6**	0.6	0.9	0.4
benz[a]anthracene	25.5	22.4	29.7	30.0			25.9	14.2	30.0		21.3	2.5	**32.5**	**4.7**	0.8	1.0	0.9
chrysene + triphenylene	80.7	70.0	79.1	79.1			76.6	7.5	79.1		67.4	5.7	**94.9**	**8.2**	0.5	1.0	0.5
benzofluoranthenes [b+j+k]	28.6	25.4	30.4	83.8			28.1	9.0	83.8		21.9	4.6	87.1	6.2	1.1	0.7	0.6
benzo[e]pyrene	18.5	17.0	20.4	89.4			18.6	9.1	89.4		16.0	3.5	**84.0**	**1.9**	0.7	0.4	0.6
benzo[a]pyrene	<10	<10	<10	13.8			<10		13.8		8.34	2.41	**15.63**	**0.65**			
perylene	<10	<10	<10	<10			<10		<10		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	4.90	5.10	4.80	12.7			4.93	3.1	12.7		4.50	0.96	**14.2**	**2.8**	0.4	0.3	0.2
dibenz[a,h]anthracene + [a,c]	<5	<5	<5	<5			<5		<5		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	14.0	13.6	14.0	30.3			13.9	1.7	30.3		8.75	1.41	**22.0**	**2.2**	2.3	2.0	0.1

Laboratory: 25
PAH in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	13	57
Qualitative	10	43
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 25**

Sample: QA97TIS8 - Mussel Tissue VIII (data reported as if three figures were significant) Reporting Date: 01/22/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	01/11/98	01/11/98	01/11/98	01/11/98			lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	NA	NA	NA	NA			NA		NA		<2		no target				
hexachlorobenzene	<1	<1	<1	<1			<1		<1		<1		no target				
gamma-HCH	1.29	1.16	1.37	<1			1.27	8.3	<1		1.31	0.59	no target		-0.1	-0.1	0.6
heptachlor	<1	<1	<1	<1			<1		<1		0.86	0.47	no target				
aldrin	<1	<1	<1	<1			<1		<1		<1		no target				
heptachlor epoxide	<1	<1	1.25	<1			<1		<1		<2		no target				
oxychlordane	NA	NA	NA	NA			NA		NA		<1		no target				
trans-chlordane	NA	NA	NA	NA			NA		NA		<2		**16.6**	**1.7**			
2,4'-DDE	2.00	1.59	1.78	20.5			1.79	11.5	20.5		1.71	0.43	5.26	0.27	0.2	0.2	0.8
endosulfan I	<1	<1	<1	<1			<1		<1		<2		no target				
cis-chlordane	<1	<1	<1	12.8			<1		12.8		1.18	0.24	**17.2**	**2.8**			
trans-nonachlor	<1	<1	<1	12.2			<1		12.2		1.22	0.28	**18.0**	**3.6**			
dieldrin	4.27	3.50	3.90	3.45			3.89	9.9	3.45		5.79	1.20	6.2	1.3	-1.3	**-5.5**	0.7
4,4'-DDE	7.68	7.42	7.96	45.4			7.69	3.5	45.4		9.77	1.91	**51.2**	**5.5**	-0.9	**-6.0**	0.2
2,4'-DDD	3.05	2.93	3.69	11.7			3.22	12.7	11.7		3.07	0.37	13.7	2.8	0.2	0.4	0.8
endrin	NA	NA	NA	NA			NA		NA		<2		no target				
endosulfan II	<2	<2	<2	<2			<2		<2		<2		no target				
4,4'-DDD	4.61	4.11	5.12	35.5			4.61	10.9	35.5		3.45	0.70	**43.0**	**6.3**	1.3	**3.3**	0.7
2,4'-DDT	3.04	2.10	2.77	8.52			2.64	18.4	8.52		<3		8.5	1.9			1.2
cis-nonachlor	NA	NA	NA	NA			NA		NA		<2		**6.84**	**0.90**			
4,4'-DDT	3.18	2.42	3.09	4.58			2.90	14.3	4.58		1.37	0.21	**3.91**	**0.59**	**4.5**	**4.4**	1.0
mirex	<2	<2	<2	<2			<2		<2		<1		no target				

Laboratory: 25
Pesticides in Mussel VIII

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	9	41
Not Determined	5	23

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

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 25

Reporting Date: 01/22/98

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	01/11/98 S1	01/11/98 S2	01/11/98 S3	01/11/98 S1	01/11/98 S2	01/11/98 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	<2	<2	4.25	na	na	<2		4.25		1.79	0.49	5.8	1.2			
PCB 18	<2	<2	<2	23.9	na	na	<2		23.9		2.28	0.37	33	11			
PCB 28	5.35	5.59	5.51	87.2	na	na	5.48	2.2	87.2		5.85	0.77	79	15	-0.3	-0.4	0.1
PCB 52	7.03	7.57	7.35	106	na	na	7.32	3.7	106		8.41	1.55	**115**	**11**	-0.5	-1.2	0.2
PCB 44	4.69	4.97	4.72	76.3	na	na	4.79	3.2	76.3		2.82	0.61	**72.7**	**7.4**	2.8	2.2	0.2
PCB 66/95	3.57	3.78	3.97	109	na	na	3.77	5.3	109		8.89	2.22	**184**	**21**	-2.3	**-5.8**	0.4
PCB 101/90	8.37	8.82	8.70	138	na	na	8.63	2.7	138		9.63	1.11	**128.3**	**9.7**	-0.4	-1.1	0.2
PCB 118	9.44	10.20	9.63	125	na	na	9.76	4.1	125		10.9	1.5	**130.8**	**3.6**	-0.4	-1.3	0.3
PCB 153	10.9	11.5	11.3	134	na	na	11.2	2.7	134		13.3	1.4	**145.2**	**7.6**	-0.6	-2.4	0.2
PCB 105	2.24	2.73	2.38	49.6	na	na	2.45	10.3	49.6		3.29	0.42	**53.0**	**3.4**	-1.0	-1.0	0.7
PCB 138/163/164	8.57	8.99	8.74	118	na	na	8.8	2.4	118		14.6	2.3	**133.5**	**9.5**	-1.6	**-6.6**	0.2
PCB 187/182	3.43	3.90	3.19	32.7	na	na	3.51	10.3	32.7		4.22	0.42	**34.0**	**2.3**	-0.7	-0.8	0.7
PCB 128	1.87	1.68	1.55	18.4	na	na	1.70	9.5	18.4		2.07	0.27	**22.0**	**3.4**	-0.7	-0.4	0.6
PCB 180	4.92	5.27	5.10	11.3	na	na	5.10	3.4	11.3		6.46	0.96	**17.1**	**3.8**	-0.8	-1.6	0.2
PCB 170/190	1.97	2.21	2.11	0.60	na	na	2.10	5.7	0.60		2.98	0.59	**5.5**	**1.1**	-1.2	-1.0	0.4
PCB 195	<2	<2	<2	<2	na	na	<2		<2		<1		No Target				
PCB 206	<2	<2	<2	<2	na	na	<2		<2		<1		No Target				
PCB 209	<2	<2	<2	<2	na	na	<2		<2		<1		No Target				
PCB 66 (optional)	na	na	na	na	na	na	na		na		3.57	0.80	**101.4**	**4.4**			
PCB 95 (optional)	na	na	na	na	na	na	na		na		4.43	1.44	**83**	**17**			

Laboratory: 25

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	13	72
Qualitative	5	28
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	11	9	13
2 to 3	2	2	0
≥ 3	0	2	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 26

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Reporting Date: 1/23/98

PAH

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
	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	assigned value	95% CL	target value[b]	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.2	3.8	**23.5**	**4.4**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.1	3.4	10.2	1.5			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		10.0	3.8	5.3	1.8			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		5.01	1.69	5.11	0.33			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		13.6	3.8	5.3	1.8			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		<3		5.25	0.38			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		3.89	1.11	3.15	0.26			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		31.1	5.7	6.6	2.0			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		10.1	1.4	5.72	0.91			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		34.5	4.1	**22.2**	**2.4**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		5.32	2.40	**6.1**	**1.7**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		43.8	4.4	10.5	4.8			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		35.1	2.7	**163.7**	**9.1**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		70.3	6.2	**151.6**	**6.6**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		21.3	2.5	**32.5**	**4.7**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		67.4	5.7	**94.9**	**8.2**			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		21.9	4.6	87.1	6.2			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		16.0	3.5	**84.0**	**1.9**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		8.34	2.41	**15.63**	**0.65**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		5.16	2.57	**7.68**	**0.27**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		4.50	0.96	**14.2**	**2.8**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		1.78	0.39	3.00	0.20			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		8.75	1.41	**22.0**	**2.2**			

Laboratory: 26

PAH in Mussel VIII

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

*as received

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 26
Reporting Date: 1/23/98

PESTICIDES

Analysis date	Data as submitted by laboratory: Mussel VIII, ng/g* 12/31/97 S 1	1/9/98 S 2	1/12/98 S 3	SRM 1974a, ng/g dry 12/31/97 S 1	1/9/98 S 2	1/12/98 S 3	Mussel VIII lab mean ng/g dry	Mussel VIII lab %RSD	SRM 1974a lab mean ng/g dry	SRM 1974a lab %RSD	Material reference values: Mussel VIII, ng/g* assigned value	95% CL	SRM 1974a, ng/g dry target value[b]	95% CL	Performance scores[a] Mussel VIII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	3.07	2.03	1.19	7.38	5.53	2.97	2.10	44.9	5.29	41.8	<2		no target				3.0
hexachlorobenzene	0.18	0.25	0.82	2.04	2.39	2.70	0.42	84.3	2.38	13.9	<1		no target				**5.6**
gamma-HCH	4.34	2.17	1.46	5.75	1.17	2.28	2.66	56.5	3.07	77.9	1.31	0.59	no target		**4.1**	**3.9**	**3.8**
heptachlor	0.46	0.24	1.08	2.81	3.15	9.81	0.59	73.4	5.26	75.1	0.86	0.47	no target		-1.2	-0.8	**4.9**
aldrin	DL	DL	DL	DL	DL	DL	DL		DL		<1		no target				
heptachlor epoxide	0.68	0.39	0.25	4.49	1.49	1.12	0.44	49.8	2.37	78.1	<2		no target				**3.3**
oxychlordane	1.59	0.66	1.66	63.62	63.40	74.10	1.30	42.8	67.04	9.1	<1		no target				2.9
trans-chlordane	5.55	2.43	1.51	15.8	16.9	14.6	3.16	66.9	15.8	7.3	<2		**16.6**	**1.7**			**4.5**
2,4'-DDE	0.82	0.39	1.58	22.60	22.80	44.00	0.93	64.8	29.80	41.3	1.71	0.43	5.26	0.27	-1.8	-2.3	**4.3**
endosulfan I	DL	DL	DL	DL	DL	DL	DL		DL		<2		no target				
cis-chlordane	1.22	0.61	0.43	24.3	22.2	17.1	0.75	55.0	21.2	17.5	1.18	0.24	**17.2**	**2.8**	-1.4	-1.2	**3.7**
trans-nonachlor	0.57	0.12	0.17	22.3	20.0	15.8	0.29	86.0	19.4	17.0	1.22	0.28	**18.0**	**3.6**	**-3.1**	-2.7	**5.7**
dieldrin	3.57	2.73	1.66	9.73	9.08	13.30	2.65	36.1	10.70	21.2	5.79	1.20	6.2	1.3	-2.2	**-9.1**	2.4
4,4'-DDE	7.0	5.0	4.5	48.0	47.9	60.0	5.47	24.5	52.0	13.4	9.77	1.91	**51.2**	**5.5**	-1.8	**-12.4**	1.6
2,4'-DDD	3.23	1.82	1.34	21.0	17.2	13.4	2.13	46.1	17.2	22.1	3.07	0.37	13.7	2.8	-1.2	-2.7	**3.1**
endrin	DL	DL	DL	DL	DL	DL	DL		DL		<2		no target				
endosulfan II	2.10	0.41	0.57	<0.4 ng	<0.4 ng	<0.4 ng	1.03	90.9	DL		<2		no target				**6.1**
4,4'-DDD	3.35	1.53	1.22	45.3	49.2	34.7	2.03	56.6	43.1	17.4	3.45	0.70	**43.0**	**6.3**	-1.6	**-4.1**	**3.8**
2,4'-DDT	1.75	0.75	2.15	<0.2 ng	<0.2 ng	<0.2 ng	1.55	46.5	DL		<3		8.5	1.9			**3.1**
cis-nonachlor	DL	DL	1.00	DL	DL	DL	DL		DL		<2		**6.84**	**0.90**			
4,4'-DDT	1.09	0.57	2.49	3.05	5.84	NA	1.38	71.8	4.45	44.4	1.37	0.21	**3.91**	**0.59**	0.0	0.0	**4.8**
mirex	DL	DL	DL	DL	DL	DL	DL		DL		<1		no target				

Laboratory: 26
Pesticides in Mussel VIII

*as received

Reported Results	No. of Analytes	%
Quantitative	17	77
Qualitative	5	23
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	7	3	1
2 to 3	1	3	3
≥ 3	2	4	13

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97TIS8 - Mussel Tissue VIII

(data reported as if three figures were significant)

Laboratory No.: 26

Reporting Date: 1/23/98

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Mussel VIII, ng/g*			SRM 1974a, ng/g dry			Mussel VIII		SRM 1974a		Mussel VIII, ng/g*		SRM 1974a, ng/g dry		Mussel VIII		
Analysis date	12/31/97 S 1	12/31/97 S 2	12/31/97 S 3	12/31/97 S 1	12/31/97 S 2	12/31/97 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	3.05	1.15	1.61	DL	DL	DL	1.94	51.2	DL		1.79	0.49	5.8	1.2	0.3	0.2	**3.4**
PCB 18	1.77	1.20	1.74	18.2	20.2	31.8	1.57	20.4	23.4	31.4	2.28	0.37	33	11	-1.3	-0.8	1.4
PCB 28	5.67	4.47	3.99	104	104	97.0	4.71	18.4	102	4.0	5.85	0.77	79	15	-0.8	-1.3	1.2
PCB 52	7.23	5.93	5.18	133	135	128	6.11	17.0	132	2.7	8.41	1.55	**115**	**11**	-1.1	-2.6	1.1
PCB 44	1.44	1.01	1.35	84.0	84.9	80.6	1.27	17.9	83.2	2.7	2.82	0.61	**72.7**	**7.4**	-2.2	-1.8	1.2
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		8.89	2.22	**184**	**21**			
PCB 101/90	8.29	6.90	5.74	176	166	160	6.98	18.3	167	4.8	9.63	1.11	**128.3**	**9.7**	-1.1	**-3.0**	1.2
PCB 118	12.7	11.1	7.52	191	173	158	10.4	25.4	174	9.5	10.9	1.5	**130.8**	**3.6**	-0.2	-0.5	1.7
PCB 153	11.8	9.8	7.43	183	166	158	9.69	22.6	169	7.6	13.3	1.4	**145.2**	**7.6**	-1.1	**-4.2**	1.5
PCB 105	2.93	2.55	2.10	71.9	68.0	63.6	2.53	16.4	67.8	6.1	3.29	0.42	**53.0**	**3.4**	-0.9	-0.9	1.1
PCB 138/163/164	11.6	8.68	7.42	163	163	147	9.23	23.2	158	5.9	14.6	2.3	**133.5**	**9.5**	-1.5	**-6.1**	1.5
PCB 187/182	3.50	2.41	2.42	32.7	34.0	39.0	2.78	22.6	35.2	9.4	4.22	0.42	**34.0**	**2.3**	-1.4	-1.6	1.5
PCB 128	1.23	0.86	1.19	17.8	19.3	25.6	1.09	18.6	20.9	19.8	2.07	0.27	**22.0**	**3.4**	-1.9	-1.1	1.2
PCB 180	4.21	7.91	2.59	18.6	28.9	19.4	4.90	55.6	22.3	25.7	6.46	0.96	**17.1**	**3.8**	-1.0	-1.8	**3.7**
PCB 170/190	2.28	1.43	1.59	3.36	4.27	6.56	1.77	25.6	4.73	34.9	2.98	0.59	**5.5**	**1.1**	-1.6	-1.4	1.7
PCB 195	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 206	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 209	DL	DL	DL	DL	DL	DL	DL		DL		<1		No Target				
PCB 66 (optional)	2.83	2.29	2.03	148	137	125	2.38	17.1	137	8.4	3.57	0.80	**101.4**	**4.4**	-1.3	-1.3	1.1
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		4.43	1.44	**83**	**17**			

Laboratory: 26

PCBs in Mussel VIII

*as received

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	14	78
Qualitative	3	17
Not Determined	1	6

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	13	10	12
2 to 3	1	1	0
≥ 3	0	3	2

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

Appendix D: Results by Laboratory, Sediment VII

FY97 NIST Intercomparison Exercise

Laboratory No.: 1a

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/22/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/18/97 S 2	11/18/97 S 3	11/18/97 S 1	11/18/97 S 2	11/18/97 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	1068	1036	1062	1014	1087	1045	1055	1.6	1049	3.5	821	116	**1010**	**140**	1.1	1.1	0.1
2-methylnaphthalene	382	368	374	355	317	312	375	1.9	328	7.2	290	45	325	60	1.2	0.9	0.1
1-methylnaphthalene	196	181	184	158	133	141	187	4.2	144	8.9	157	24	150	30	0.8	0.7	0.3
biphenyl	192	188	189	180	173	174	190	1.1	176	2.2	106	23	175	18	**3.2**	1.9	0.1
2,6-dimethylnaphthalene	182	175	186	122	133	119	181	3.1	125	5.9	162	22	120	24	0.5	0.4	0.2
acenaphthylene	49.4	53.8	53.4	38.8	39.5	37.3	52.2	4.7	38.5	2.9	91.9	24.6	37	14	-1.7	-0.8	0.3
acenaphthene	89.5	81.6	85.5	38.1	42.6	41.9	85.5	4.6	40.9	5.9	75.8	7.9	41	10	0.5	0.7	0.3
1,6,7-trimethylnaphthalene	77.7	79.8	85.8	51.2	45.5	46.1	81.1	5.2	47.6	6.6	85.4	16.5	48	10	-0.2	-0.2	0.3
fluorene	163	166	152	97.2	95.4	96.2	160	4.6	96.3	0.9	132	13	**97.3**	**8.6**	0.8	1.0	0.3
phenanthrene	890	933	917	457	493	488	913	2.4	479	4.1	870	80	**489**	**23**	0.2	0.2	0.2
anthracene	329	303	296	182	184	178	309	5.6	181	1.7	294	32	**184**	**14**	0.2	0.2	0.4
1-methylphenanthrene	239	234	225	102	105	100	233	3.0	102	2.5	204	18	101	27	0.6	0.9	0.2
fluoranthene	1739	1696	1725	942	981	978	1720	1.3	967	2.2	1500	130	**981**	**78**	0.6	0.8	0.1
pyrene	1619	1648	1597	795	821	805	1621	1.6	807	1.6	1445	127	**811**	**24**	0.5	0.7	0.1
benz[a]anthracene	810	827	797	441	436	421	811	1.9	433	2.4	746	58	**427**	**25**	0.4	0.5	0.1
chrysene + triphenylene	1011	1008	1045	587	565	586	1021	2.0	579	2.1	934	100	577	35	0.4	0.4	0.1
benzofluoranthenes [b+j+k]	2012	2056	2033	1489	1506	1441	2034	1.1	1479	2.3	1848	222	1441	150	0.4	0.4	0.1
benzo[e]pyrene	812	838	789	536	548	562	813	3.0	549	2.4	776	72	**553**	**59**	0.2	0.3	0.2
benzo[a]pyrene	898	955	949	603	626	631	934	3.4	620	2.4	783	69	**628**	**52**	0.8	1.0	0.2
perylene	514	502	521	434	458	455	512	1.9	449	2.9	392	47	**452**	**58**	1.2	1.3	0.1
indeno[1,2,3-cd]pyrene	721	709	701	518	494	503	710	1.4	505	2.4	624	69	**501**	**72**	0.6	0.6	0.1
dibenz[a,h]anthracene + [a,c]	186	171	177	113	111	129	178	4.2	118	8.4	159	15	**117**	**14**	0.5	0.7	0.3
benzo[ghi]perylene	717	731	755	528	524	527	734	2.6	526	0.4	591	63	**525**	**67**	1.0	1.0	0.2

Laboratory: 1a
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	22	23	23
2 to 3	0	0	0
≥ 3	1	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 1a

Reporting Date: 12/22/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/24/97 S 2	11/28/97 S 3	11/18/97 S 1	11/24/97 S 2	11/28/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
hexachlorobenzene	60.9	68.1	58.0	69.9	70.2	71.4	62.3	8.3	70.5	1.1	49.0	6.7	**70**	**25**	1.1	1.0	0.6
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
oxychlordane	<2	<2	<2	<2	<2	<2	<2		<2		<2		2.59	0.20			
trans-chlordane	1.95	1.99	2.38	1.49	1.44	1.55	2.11	11.3	1.49	3.7	3.20	0.82	<2		-1.4	-0.1	0.8
2,4'-DDE	2.47	2.41	2.33	0.77	0.74	0.72	2.40	2.9	0.74	3.8	2.25	0.72	**0.73**	**0.11**	0.3	0.0	0.2
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
cis-chlordane	3.51	3.65	3.33	2.31	2.29	2.38	3.50	4.6	2.33	2.0	3.79	0.56	**2.33**	**0.56**	-0.3	0.0	0.3
trans-nonachlor	1.83	1.82	1.85	1.29	1.31	1.20	1.83	0.8	1.27	4.6	1.96	0.37	**1.26**	**0.13**	-0.3	0.0	0.1
dieldrin	1.62	1.67	1.69	1.39	1.22	1.27	1.66	2.2	1.29	6.8	2.10	0.52	1.26	0.37	-0.8	0.0	0.1
4,4'-DDE	13.5	13.9	13.5	6.66	6.49	6.51	13.6	1.7	6.55	1.4	11.3	1.4	**6.59**	**0.56**	0.8	0.2	0.1
2,4'-DDD	4.44	4.10	4.11	1.33	1.51	1.29	4.22	4.6	1.38	8.5	4.54	0.80	<2		-0.3	0.0	0.3
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDD	14.9	13.7	13.7	5.22	5.01	5.09	14.1	4.9	5.11	2.1	14.4	1.8	**5.06**	**0.56**	-0.1	0.0	0.3
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
cis-nonachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDT	12.1	12.2	11.9	1.55	1.22	1.31	12.1	1.3	1.36	12.5	12.2	2.1	1.25	0.10	0.0	0.0	0.1
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				

Laboratory: 1a
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1a

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/22/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/18/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 11/18/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	3.45	3.22	3.19	1.44	1.27	1.33	3.29	4.3	1.35	6.4	3.73	0.40	1.39	0.19	-0.5	-0.5	0.3
PCB 18	5.63	5.49	5.45	1.11	1.05	1.21	5.52	1.7	1.12	7.2	6.57	0.80	1.15	0.16	-0.6	-1.2	0.1
PCB 28	15.8	16.3	16.6	9.89	9.73	9.81	16.2	2.5	9.81	0.8	14.6	1.8	9.80	3.70	0.4	1.9	0.2
PCB 52	13.6	13.1	13.5	6.98	6.66	6.87	13.4	2.0	6.84	2.4	14.0	1.3	**6.89**	**0.56**	-0.2	-0.7	0.1
PCB 44	9.57	10.0	9.67	4.87	4.76	4.71	9.74	2.3	4.78	1.7	10.1	0.8	**4.80**	**0.62**	-0.1	-0.4	0.2
PCB 66/95	23.1	22.6	23.2	14.1	13.8	14.4	23.0	1.4	14.1	2.1	19.0	3.1	**14.3**	**2.5**	0.8	**4.7**	0.1
PCB 101/90	16.0	17.1	16.2	11.0	10.7	11.3	16.4	3.6	11.0	2.7	16.6	2.1	**11.0**	**1.6**	0.0	-0.2	0.2
PCB 118	14.6	14.4	13.6	10.60	9.82	9.03	14.2	3.7	9.82	8.0	12.7	1.1	**10.0**	**1.1**	0.5	1.8	0.2
PCB 153	22.8	22.8	21.5	16.8	17.5	17.6	22.4	3.4	17.3	2.5	18.7	2.0	**17.6**	**1.9**	0.8	**4.4**	0.2
PCB 105	5.54	5.33	5.62	3.66	3.87	3.56	5.50	2.7	3.70	4.3	4.87	0.64	**3.65**	**0.27**	0.5	0.7	0.2
PCB 138/163/164	17.4	16.6	17.9	13.3	13.8	12.6	17.3	3.8	13.2	4.6	17.0	2.1	**13.38**	**0.97**	0.1	0.4	0.3
PCB 187/182	8.21	7.82	8.54	7.09	6.78	6.99	8.19	4.4	6.95	2.3	7.92	1.03	7.0	2.6	0.1	0.3	0.3
PCB 128	2.29	2.66	2.41	2.06	1.98	1.83	2.45	7.7	1.96	6.0	2.69	0.46	**1.87**	**0.32**	-0.3	-0.3	0.5
PCB 180	9.65	8.94	9.44	5.88	5.69	5.92	9.34	3.9	5.83	2.1	10.4	1.3	**5.83**	**0.58**	-0.4	-1.2	0.3
PCB 170/190	4.83	4.77	4.96	3.23	2.98	2.99	4.85	2.0	3.07	4.6	4.99	0.60	**3.00**	**0.46**	-0.1	-0.2	0.1
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		1.56	0.51	<3				
PCB 206	4.19	4.25	4.22	3.55	3.39	3.51	4.22	0.7	3.48	2.4	3.98	0.39	**3.67**	**0.87**	0.2	0.3	0.0
PCB 209	8.19	8.11	8.21	8.55	8.38	8.39	8.17	0.6	8.44	1.1	9.34	1.15	**8.34**	**0.49**	-0.5	-1.4	0.0
PCB 66 (optional)	na	na	na	na	na	na	na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	na	na	na	na	na	na	na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 1a

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	1	6
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water S 1	S 2	S 3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.8	47.8	47.8	47.8	0.1	48.75	0.03	49.0	0.5	-0.1	-0.9	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1b

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/30/97

PAH

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
	11/18/97 S 1	11/18/97 S 2	11/18/97 S 3	11/18/97 S 1	11/18/97 S 2	11/18/97 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	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 1b
PAH in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: **1b**

Reporting Date: 12/30/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/24/97 S 2	11/28/97 S 3	11/18/97 S 1	11/24/97 S 2	11/28/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
hexachlorobenzene	66.3	64.5	66.1	72.5	72.7	70.9	65.6	1.5	72.0	1.4	49.0	6.7	**70**	**25**	1.4	1.2	0.1
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
oxychlordane	<2	<2	<2	<2	<2	<2	<2		<2		<2		2.59	0.20			
trans-chlordane	2.00	2.05	2.11	1.55	1.65	1.52	2.05	2.7	1.57	4.3	3.20	0.82	<2		-1.4	-0.1	0.2
2,4'-DDE	2.39	2.33	2.48	<1	<1	<1	2.40	3.1	<1		2.25	0.72	**0.73**	**0.11**	0.3	0.0	0.2
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
cis-chlordane	3.77	3.53	3.63	2.43	2.31	2.38	3.64	3.3	2.37	2.5	3.79	0.56	**2.33**	**0.56**	-0.2	0.0	0.2
trans-nonachlor	1.95	1.78	1.79	1.28	1.31	1.34	1.84	5.2	1.31	2.3	1.96	0.37	**1.26**	**0.13**	-0.2	0.0	0.3
dieldrin	1.67	1.80	1.62	1.22	1.39	1.28	1.70	5.5	1.30	6.6	2.10	0.52	1.26	0.37	-0.8	0.0	0.4
4,4'-DDE	13.9	14.0	13.6	6.55	6.73	6.69	13.8	1.5	6.66	1.4	11.3	1.4	**6.59**	**0.56**	0.9	0.2	0.1
2,4'-DDD	4.80	4.67	4.83	1.54	1.52	1.48	4.77	1.8	1.51	2.0	4.54	0.80	<2		0.2	0.0	0.1
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDD	14.5	13.8	14.7	5.00	4.98	5.12	14.3	3.3	5.03	1.5	14.4	1.8	**5.06**	**0.56**	0.0	0.0	0.2
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
cis-nonachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDT	11.9	12.1	12.1	1.23	1.38	1.34	12.0	1.0	1.32	5.9	12.2	2.1	1.25	0.10	-0.1	0.0	0.1
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				

Laboratory: 1b

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1b

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 12/30/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/18/97 S 2	11/18/97 S 3	11/18/97 S 1	11/18/97 S 2	11/18/97 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	3.33	3.21	3.42	1.33	1.39	1.39	3.32	3.2	1.37	2.5	3.73	0.40	1.39	0.19	-0.4	-0.5	0.2
PCB 18	5.59	5.74	5.70	1.21	1.22	1.09	5.68	1.4	1.17	6.2	6.57	0.80	1.15	0.16	-0.5	-1.1	0.1
PCB 28	16.4	16.1	16.2	9.90	9.65	9.68	16.2	0.9	9.74	1.4	14.6	1.8	9.80	3.70	0.4	1.9	0.1
PCB 52	13.4	13.2	13.7	6.84	6.73	6.89	13.4	1.9	6.82	1.2	14.0	1.3	**6.89**	**0.56**	-0.2	-0.7	0.1
PCB 44	10.0	9.7	9.8	4.75	4.87	4.59	9.85	1.2	4.74	3.0	10.1	0.8	**4.80**	**0.62**	-0.1	-0.3	0.1
PCB 66/95	25.6	25.6	25.1	14.4	14.5	14.1	25.4	1.1	14.3	1.4	19.0	3.1	**14.3**	**2.5**	1.4	**7.6**	0.1
PCB 101/90	16.9	16.3	16.5	10.7	11.3	11.1	16.6	1.8	11.0	2.8	16.6	2.1	**11.0**	**1.6**	0.0	-0.1	0.1
PCB 118	14.4	14.2	14.7	9.99	10.4	9.88	14.4	1.7	10.1	2.7	12.7	1.1	**10.0**	**1.1**	0.6	2.1	0.1
PCB 153	22.8	22.5	22.4	17.8	17.3	17.6	22.6	0.9	17.6	1.4	18.7	2.0	**17.6**	**1.9**	0.8	**4.6**	0.1
PCB 105	5.67	5.48	5.58	3.76	3.56	3.59	5.58	1.7	3.64	3.0	4.87	0.64	**3.65**	**0.27**	0.6	0.8	0.1
PCB 138/163/164	17.4	17.9	16.8	13.6	13.9	13.6	17.4	3.2	13.7	1.3	17.0	2.1	**13.38**	**0.97**	0.1	0.4	0.2
PCB 187/182	8.88	8.56	8.61	7.09	6.89	6.99	8.68	2.0	6.99	1.4	7.92	1.03	7.0	2.6	0.4	0.9	0.1
PCB 128	2.57	2.47	2.44	1.88	1.98	2.21	2.49	2.7	2.02	8.4	2.69	0.46	**1.87**	**0.32**	-0.3	-0.2	0.2
PCB 180	9.34	9.56	9.21	5.88	5.67	5.81	9.37	1.9	5.79	1.8	10.4	1.3	**5.83**	**0.58**	-0.4	-1.2	0.1
PCB 170/190	4.87	4.67	4.82	2.98	2.84	2.99	4.79	2.2	2.94	2.9	4.99	0.60	**3.00**	**0.46**	-0.2	-0.2	0.1
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		1.56	0.51	<3				
PCB 206	4.29	4.04	4.17	3.76	3.59	3.72	4.17	3.0	3.69	2.4	3.98	0.39	**3.67**	**0.87**	0.2	0.2	0.2
PCB 209	8.22	8.17	8.16	8.44	8.48	8.52	8.18	0.4	8.48	0.5	9.34	1.15	**8.34**	**0.49**	-0.5	-1.4	0.0
PCB 66 (optional)	12.9	12.9	12.5	6.66	6.98	6.49	12.77	1.8	6.71	3.7	12.4	2.1	**6.8**	**1.4**	0.1	0.4	0.1
PCB 95 (optional)	12.7	12.7	12.6	7.77	7.48	7.61	12.67	0.5	7.62	1.9	11.4	2.2	**7.5**	**1.1**	0.5	1.5	0.0

Laboratory: 1b

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	1	6
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water				lab, % water			Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3		mean	%RSD		assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	47.8	47.8	47.8		47.8	0.1		48.75	0.03	49.0	0.5	-0.1	-0.9	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1c

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/30/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/18/97 S 2	11/18/97 S 3	11/18/97 S 1	11/18/97 S 2	11/18/97 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	1100	1022	1034	1043	1031	1012	1052	4.0	1029	1.5	821	116	**1010**	**140**	1.1	1.1	0.3
2-methylnaphthalene	366	398	387	322	336	327	384	4.2	328	2.2	290	45	325	60	1.3	1.0	0.3
1-methylnaphthalene	186	178	188	152	144	153	184	2.9	150	3.3	157	24	150	30	0.7	0.6	0.2
biphenyl	187	197	181	177	167	169	188	4.3	171	3.1	106	23	175	18	**3.1**	1.9	0.3
2,6-dimethylnaphthalene	188	177	182	122	117	116	182	3.0	118	2.7	162	22	120	24	0.5	0.5	0.2
acenaphthylene	53.9	52.1	53.9	36.9	37.7	38.0	53.3	1.9	37.5	1.5	91.9	24.6	37	14	-1.7	-0.8	0.1
acenaphthene	89.0	89.6	88.1	40.8	40.3	41.7	88.9	0.8	40.9	1.7	75.8	7.9	41	10	0.7	0.9	0.1
1,6,7-trimethylnaphthalene	88.5	86.7	85.1	49.8	47.6	48.4	86.8	2.0	48.6	2.3	85.4	16.5	48	10	0.1	0.1	0.1
fluorene	167	164	164	98.1	97.0	96.9	165	1.0	97.3	0.7	132	13	**97.3**	**8.6**	1.0	1.2	0.1
phenanthrene	943	925	911	498	472	482	926	1.7	484	2.7	870	80	**489**	**23**	0.3	0.3	0.1
anthracene	329	322	309	184	188	190	320	3.2	187	1.6	294	32	**184**	**14**	0.3	0.4	0.2
1-methylphenanthrene	241	233	256	103	111	100	243	4.8	105	5.4	204	18	101	27	0.8	1.2	0.3
fluoranthene	1765	1711	1709	987	995	971	1728	1.8	984	1.2	1500	130	**981**	**78**	0.6	0.8	0.1
pyrene	1634	1620	1603	813	809	801	1619	1.0	808	0.8	1445	127	**811**	**24**	0.5	0.7	0.1
benz[a]anthracene	804	822	818	427	431	433	815	1.2	430	0.7	746	58	**427**	**25**	0.4	0.5	0.1
chrysene + triphenylene	1054	1031	1048	587	549	573	1044	1.1	570	3.4	934	100	577	35	0.5	0.5	0.1
benzofluoranthenes [b+j+k]	2054	2046	2031	1427	1449	1478	2044	0.6	1451	1.8	1848	222	1441	150	0.4	0.4	0.0
benzo[e]pyrene	804	800	793	552	541	539	799	0.7	544	1.3	776	72	**553**	**59**	0.1	0.2	0.0
benzo[a]pyrene	987	956	961	643	629	619	968	1.7	630	1.9	783	69	**628**	**52**	0.9	1.2	0.1
perylene	516	509	532	463	441	459	519	2.3	454	2.6	392	47	**452**	**58**	1.3	1.3	0.2
indeno[1,2,3-cd]pyrene	709	718	714	497	506	518	714	0.6	507	2.1	624	69	**501**	**72**	0.6	0.6	0.0
dibenz[a,h]anthracene + [a,c]	187	176	180	111	109	114	181	3.1	111	2.3	159	15	**117**	**14**	0.6	0.8	0.2
benzo[ghi]perylene	737	748	722	529	515	538	736	1.8	527	2.2	591	63	**525**	**67**	1.0	1.0	0.1

Laboratory: 1c
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	22	23	23
2 to 3	0	0	0
≥ 3	1	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 1c
Reporting Date: 12/30/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/24/97 S 2	11/28/97 S 3	11/18/97 S 1	11/24/97 S 2	11/28/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
hexachlorobenzene	64.9	66.2	65.3	69.9	71.4	71.2	65.5	1.0	70.8	1.1	49.0	6.7	**70**	**25**	1.3	1.2	0.1
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
oxychlordane	<2	<2	<2	<2	<2	<2	<2		<2		<2		2.59	0.20			
trans-chlordane	2.05	2.16	1.98	1.45	1.56	1.81	2.06	4.4	1.61	11.5	3.20	0.82	<2		-1.4	-0.1	0.3
2,4'-DDE	2.39	2.31	2.58	<1	<1	<1	2.43	5.7	<1		2.25	0.72	**0.73**	**0.11**	0.3	0.0	0.4
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
cis-chlordane	3.65	3.71	3.51	2.39	2.25	2.31	3.62	2.8	2.32	3.0	3.79	0.56	**2.33**	**0.56**	-0.2	0.0	0.2
trans-nonachlor	1.90	1.78	1.82	1.22	1.32	1.31	1.83	3.3	1.28	4.3	1.96	0.37	**1.26**	**0.13**	-0.3	0.0	0.2
dieldrin	1.68	1.52	1.58	1.36	1.21	1.22	1.59	5.1	1.26	6.6	2.10	0.52	1.26	0.37	-1.0	0.0	0.3
4,4'-DDE	14.8	12.6	13.3	6.62	6.51	6.66	13.6	8.3	6.60	1.2	11.3	1.4	**6.59**	**0.56**	0.8	0.2	0.6
2,4'-DDD	4.47	4.89	4.90	1.43	1.39	1.62	4.75	5.2	1.48	8.3	4.54	0.80	<2		0.2	0.0	0.3
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDD	15.0	14.2	14.4	5.17	5.16	5.09	14.5	2.9	5.14	0.8	14.4	1.8	**5.06**	**0.56**	0.0	0.0	0.2
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
cis-nonachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDT	12.4	12.3	11.8	1.21	1.30	1.26	12.2	2.6	1.26	3.6	12.2	2.1	1.25	0.10	0.0	0.0	0.2
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				

Laboratory: 1c
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1c

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/30/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/18/97 S1	S2	S3	SRM 1941a, ng/g dry 11/18/97 S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	3.28	3.21	3.33	1.43	1.40	1.32	3.27	1.8	1.38	4.1	3.73	0.40	1.39	0.19	-0.5	-0.5	0.1
PCB 18	5.62	5.71	5.59	1.16	1.11	1.19	5.64	1.1	1.15	3.5	6.57	0.80	1.15	0.16	-0.6	-1.1	0.1
PCB 28	16.8	15.4	15.9	9.77	9.98	9.81	16.0	4.4	9.85	1.1	14.6	1.8	9.80	3.70	0.4	1.6	0.3
PCB 52	13.5	13.7	13.3	6.47	6.98	6.71	13.5	1.4	6.72	3.8	14.0	1.3	**6.89**	**0.56**	-0.1	-0.6	0.1
PCB 44	9.90	9.67	9.82	4.44	5.09	4.82	9.80	1.2	4.78	6.8	10.1	0.8	**4.80**	**0.62**	-0.1	-0.3	0.1
PCB 66/95	22.9	23.6	23.7	14.6	14.1	14.2	23.4	1.9	14.3	1.9	19.0	3.1	**14.3**	**2.5**	0.9	**5.2**	0.1
PCB 101/90	16.9	16.4	16.3	11.5	11.3	10.8	16.5	1.9	11.2	3.2	16.6	2.1	**11.0**	**1.6**	0.0	-0.1	0.1
PCB 118	14.4	14.8	14.9	10.4	10.6	9.89	14.7	1.8	10.3	3.6	12.7	1.1	**10.0**	**1.1**	0.6	2.4	0.1
PCB 153	22.2	21.8	22.9	17.8	17.2	17.9	22.3	2.5	17.6	2.1	18.7	2.0	**17.6**	**1.9**	0.8	**4.3**	0.2
PCB 105	5.45	5.66	5.61	3.34	3.66	3.68	5.57	2.0	3.56	5.4	4.87	0.64	**3.65**	**0.27**	0.6	0.8	0.1
PCB 138/163/164	18.9	16.4	17.3	13.9	13.2	13.1	17.5	7.2	13.4	3.3	17.0	2.1	**13.38**	**0.97**	0.1	0.6	0.5
PCB 187/182	8.64	8.89	8.71	6.98	6.90	7.23	8.75	1.5	7.04	2.4	7.92	1.03	7.0	2.6	0.4	1.0	0.1
PCB 128	2.46	2.41	2.57	1.78	1.98	1.79	2.48	3.3	1.85	6.1	2.69	0.46	**1.87**	**0.32**	-0.3	-0.2	0.2
PCB 180	9.07	9.45	9.37	5.78	5.80	5.92	9.30	2.2	5.83	1.3	10.4	1.3	**5.83**	**0.58**	-0.4	-1.3	0.1
PCB 170/190	5.09	4.52	4.59	3.05	2.89	2.94	4.73	6.6	2.96	2.8	4.99	0.60	**3.00**	**0.46**	-0.2	-0.3	0.4
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		1.56	0.51	<3				
PCB 206	4.44	4.06	4.12	3.36	3.67	3.73	4.21	4.9	3.59	5.5	3.98	0.39	**3.67**	**0.87**	0.2	0.3	0.3
PCB 209	8.21	8.09	8.37	8.56	8.55	8.34	8.22	1.7	8.48	1.5	9.34	1.15	**8.34**	**0.49**	-0.5	-1.3	0.1
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 1c

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	1	6
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.8	47.8	47.8	47.8	0.1	48.75	0.03	49.0	0.5	-0.1	-0.9	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1d**

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant) Reporting Date: 12/30/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/18/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 11/18/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 1d
PAH in Sediment VII

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 1d**

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant) Reporting Date: 12/30/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/18/97 S 1	11/24/97 S 2	11/28/97 S 3	11/18/97 S 1	11/24/97 S 2	11/28/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
hexachlorobenzene	64.2	65.1	63.2	71.1	70.7	69.1	64.2	1.5	70.3	1.5	49.0	6.7	**70**	**25**	1.2	1.1	0.1
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
oxychlordane	<2	<2	<2	<2	<2	<2	<2		<2		<2		2.59	0.20			
trans-chlordane	2.11	2.09	1.89	1.51	1.33	1.45	2.03	6.0	1.43	6.4	3.20	0.82	<2		-1.5	-0.1	0.4
2,4'-DDE	2.45	2.38	2.23	<1	<1	<1	2.35	4.8	<1		2.25	0.72	**0.73**	**0.11**	0.2	0.0	0.3
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
cis-chlordane	3.56	3.78	3.44	2.21	2.45	2.21	3.59	4.8	2.29	6.1	3.79	0.56	**2.33**	**0.56**	-0.2	0.0	0.3
trans-nonachlor	1.81	1.73	1.94	1.21	1.34	1.22	1.83	5.8	1.26	5.8	1.96	0.37	**1.26**	**0.13**	-0.3	0.0	0.4
dieldrin	1.55	1.67	1.73	1.22	1.19	1.31	1.65	5.6	1.24	5.0	2.10	0.52	1.26	0.37	-0.9	0.0	0.4
4,4'-DDE	12.2	14.2	13.8	6.76	6.42	6.52	13.4	7.9	6.57	2.7	11.3	1.4	**6.59**	**0.56**	0.8	0.2	0.5
2,4'-DDD	4.48	5.01	4.76	1.55	1.38	1.48	4.75	5.6	1.47	5.8	4.54	0.80	<2		0.2	0.0	0.4
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDD	13.9	15.1	14.7	4.98	4.79	5.13	14.6	4.2	4.97	3.4	14.4	1.8	**5.06**	**0.56**	0.0	0.0	0.3
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
cis-nonachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDT	11.9	12.3	12.1	1.11	1.33	1.31	12.1	1.7	1.25	9.7	12.2	2.1	1.25	0.10	0.0	0.0	0.1
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				

Laboratory: 1d
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded. [b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 1d

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/30/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/18/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 11/18/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	3.22	3.17	3.43	1.31	1.44	1.28	3.27	4.2	1.34	6.3	3.73	0.40	1.39	0.19	-0.5	-0.5	0.3
PCB 18	5.67	5.42	5.74	1.02	1.16	1.19	5.61	3.0	1.12	8.1	6.57	0.80	1.15	0.16	-0.6	-1.1	0.2
PCB 28	16.6	16.1	16.2	9.84	9.93	9.73	16.3	1.6	9.83	1.0	14.6	1.8	9.80	3.70	0.5	2.0	0.1
PCB 52	13.6	13.4	13.1	6.99	6.93	6.73	13.4	1.9	6.88	2.0	14.0	1.3	**6.89**	**0.56**	-0.2	-0.7	0.1
PCB 44	9.79	9.93	9.91	4.89	4.93	4.67	9.88	0.8	4.83	2.9	10.1	0.8	**4.80**	**0.62**	-0.1	-0.3	0.1
PCB 66/95	27.0	24.7	25.4	14.1	14.8	14.3	25.7	4.6	14.4	2.3	19.0	3.1	**14.3**	**2.5**	1.4	**7.9**	0.3
PCB 101/90	16.8	16.6	16.9	10.5	11.,4	10.9	16.8	0.9	10.7	2.6	16.6	2.1	**11.0**	**1.6**	0.0	0.2	0.1
PCB 118	14.4	14.8	14.5	9.98	9.99	10.4	14.6	1.4	10.1	2.4	12.7	1.1	**10.0**	**1.1**	0.6	2.3	0.1
PCB 153	23.6	23.0	21.6	17.1	16.9	18.2	22.7	4.5	17.4	4.0	18.7	2.0	**17.6**	**1.9**	0.9	**4.8**	0.3
PCB 105	5.67	5.52	5.49	3.87	3.67	3.52	5.56	1.7	3.69	4.8	4.87	0.64	**3.65**	**0.27**	0.6	0.8	0.1
PCB 138/163/164	17.9	17.2	18.9	13.2	13.7	13.9	18.0	4.7	13.6	2.7	17.0	2.1	**13.38**	**0.97**	0.2	1.2	0.3
PCB 187/182	8.78	8.67	8.51	7.07	7.27	7.01	8.65	1.6	7.12	1.9	7.92	1.03	7.0	2.6	0.4	0.9	0.1
PCB 128	2.67	2.22	2.43	1.98	1.74	1.82	2.44	9.2	1.85	6.6	2.69	0.46	**1.87**	**0.32**	-0.4	-0.3	0.6
PCB 180	10.0	10.0	9.3	5.88	5.73	5.95	9.77	3.9	5.85	1.9	10.4	1.3	**5.83**	**0.58**	-0.2	-0.7	0.3
PCB 170/190	4.56	4.98	4.78	2.98	3.11	3.05	4.77	4.4	3.05	2.1	4.99	0.60	**3.00**	**0.46**	-0.2	-0.3	0.3
PCB 195	<2	<2	<2	<2	<2	<2	<2		<2		1.56	0.51	<3				
PCB 206	4.22	4.02	4.14	3.98	3.52	3.61	4.13	2.4	3.70	6.6	3.98	0.39	**3.67**	**0.87**	0.1	0.2	0.2
PCB 209	8.09	8.22	8.31	8.44	8.39	8.21	8.21	1.3	8.35	1.4	9.34	1.15	**8.34**	**0.49**	-0.5	-1.3	0.1
PCB 66 (optional)	13.8	12.4	12.5	6.67	6.89	6.92	12.9	6.1	6.83	2.0	12.4	2.1	**6.8**	**1.4**	0.2	0.6	0.4
PCB 95 (optional)	13.2	12.3	12.9	7.45	7.88	7.41	12.8	3.6	7.58	3.4	11.4	2.2	**7.5**	**1.1**	0.5	1.7	0.2

Laboratory: 1d

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	1	6
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water S 1	S 2	S 3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.8	47.8	47.8	47.8	0.1	48.75	0.03	49.0	0.5	-0.1	-0.9	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 2

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/19/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/6/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 11/6/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	492	661	583	616	1010	1060	579	14.6	895	27.2	821	116	**1010**	**140**	-1.2	-1.1	1.0
2-methylnaphthalene	155	247	201	186	321	364	201	22.8	290	32.0	290	45	325	60	-1.2	-1.0	1.5
1-methylnaphthalene	91.1	127	105	95	175	195	108	16.8	155	34.3	157	24	150	30	-1.3	-1.1	1.1
biphenyl	56.0	69.6	59.7	65.4	92.3	79.7	61.8	11.4	79.1	17.0	106	23	175	18	-1.7	-1.0	0.8
2,6-dimethylnaphthalene	110	140	120	98	143	124	123	12.4	122	18.5	162	22	120	24	-1.0	-0.9	0.8
acenaphthylene	126	124	101	84.5	61.3	65.4	117	11.9	70.4	17.6	91.9	24.6	37	14	1.1	0.5	0.8
acenaphthene	51.3	62.3	60.9	32.4	39.8	41.8	58.2	10.3	38.0	13.0	75.8	7.9	41	10	-0.9	-1.2	0.7
1,6,7-trimethylnaphthalene	67.8	89.8	71.0	28.2	39.7	37.7	76.2	15.6	35.2	17.5	85.4	16.5	48	10	-0.4	-0.4	1.0
fluorene	89.7	103	93.0	67.3	77.2	62.6	95.2	7.3	69.0	10.8	132	13	**97.3**	**8.6**	-1.1	-1.4	0.5
phenanthrene	530	695	652	336	489	488	626	13.7	438	20.1	870	80	**489**	**23**	-1.1	-1.4	0.9
anthracene	201	279	228	164	178	204	236	16.8	182	11.2	294	32	**184**	**14**	-0.8	-0.8	1.1
1-methylphenanthrene	120	169	165	56.3	97.3	106	151	18.0	86.5	30.7	204	18	101	27	-1.0	-1.6	1.2
fluoranthene	1040	1250	1110	777	970	877	1133	9.4	875	11.0	1500	130	**981**	**78**	-1.0	-1.3	0.6
pyrene	995	1240	1200	641	746	676	1145	11.5	688	7.8	1445	127	**811**	**24**	-0.8	-1.1	0.8
benz[a]anthracene	533	628	564	376	482	386	575	8.4	415	14.1	746	58	**427**	**25**	-0.9	-1.3	0.6
chrysene + triphenylene	615	755	689	418	581	535	686	10.2	511	16.4	934	100	577	35	-1.1	-1.2	0.7
benzofluoranthenes [b+j+k]	954	1290	1210	842	1380	1180	1151	15.2	1134	24.0	1848	222	1441	150	-1.5	-1.5	1.0
benzo[e]pyrene	398	528	513	353	568	470	480	14.8	464	23.2	776	72	**553**	**59**	-1.5	-2.0	1.0
benzo[a]pyrene	460	640	561	343	505	431	554	16.3	426	19.0	783	69	**628**	**52**	-1.2	-1.5	1.1
perylene	227	259	205	290	304	314	230	11.8	303	4.0	392	47	**452**	**58**	-1.7	-1.7	0.8
indeno[1,2,3-cd]pyrene	359	535	498	333	516	537	464	20.0	462	24.3	624	69	**501**	**72**	-1.0	-1.1	1.3
dibenz[a,h]anthracene + [a,c]	83.2	138	127	80.8	128	109	116	25.0	106	22.4	159	15	**117**	**14**	-1.1	-1.5	1.7
benzo[ghi]perylene	350	562	513	327	544	536	475	23.4	469	26.2	591	63	**525**	**67**	-0.8	-0.8	1.6

Laboratory: 2

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	23	22	23
2 to 3	0	1	0
≥ 3	0	0	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 2

Reporting Date: 12/19/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/1/97	12/17/97	11/5/97	10/31/97	12/16/97	11/4/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	ND	ND	ND	ND	ND	ND	ND		ND		<2		<2				
hexachlorobenzene	46.9	51.7	53.5	51.4	62.9	75.9	50.7	6.7	63.4	19.3	49.0	6.7	**70**	**25**	0.1	0.1	0.4
gamma-HCH	0.05	ND	ND	ND	ND	2.16	0.05		ND		<2		<2				
heptachlor	ND	ND	ND	0.86	ND	ND	ND		ND		<2		<2				
aldrin	ND	ND	ND	ND	ND	ND	ND		ND		<2		<2				
heptachlor epoxide	3.09	3.29	3.16	5.33	2.17	3.20	3.18	3.2	3.57	45.2	<3		<2				0.2
oxychlordane	0.52	1.43	0.74	ND	ND	0.51	0.90	52.9	ND		<2		2.59	0.20			**3.5**
trans-chlordane	2.91	Other	Other	3.10	1.41	1.10	Other		1.87	57.6	3.20	0.82	<2				
2,4'-DDE	1.13	1.68	1.33	0.57	ND	ND	1.38	20.3	ND		2.25	0.72	**0.73**	**0.11**	-1.5	-0.1	1.4
endosulfan I	NA	NA	NA	NA	NA	NA	ND		ND		<2		<2				
cis-chlordane	2.65	2.99	3.49	1.85	1.19	1.97	3.04	13.9	1.67	25.1	3.79	0.56	**2.33**	**0.56**	-0.8	-0.1	0.9
trans-nonachlor	1.51	1.59	1.39	0.87	0.65	1.21	1.50	6.6	0.91	31.1	1.96	0.37	**1.26**	**0.13**	-0.9	0.0	0.4
dieldrin	1.20	2.45	1.44	0.50	2.35	1.41	1.70	39.1	1.42	65.0	2.10	0.52	1.26	0.37	-0.8	0.0	2.6
4,4'-DDE	8.07	12.2	8.98	4.32	5.24	7.28	9.74	22.1	5.61	26.9	11.3	1.4	**6.59**	**0.56**	-0.5	-0.1	1.5
2,4'-DDD	5.62	4.45	5.20	1.45	2.12	1.88	5.09	11.6	1.82	18.8	4.54	0.80	<2		0.5	0.0	0.8
endrin	ND	ND	ND	ND	ND	ND	ND		ND		<2		<2				
endosulfan II	2.08	0.71	2.53	1.07	ND	4.92	1.77	53.6	3.00	90.9	<2		<2				**3.6**
4,4'-DDD	10.2	15.2	11.4	2.24	3.48	4.56	12.3	21.4	3.43	33.9	14.4	1.8	**5.06**	**0.56**	-0.6	-0.2	1.4
2,4'-DDT	1.03	3.24	0.46	0.71	ND	0.15	1.58	93.3	0.43	92.0	<3		<2				**6.2**
cis-nonachlor	1.68	1.22	1.50	0.37	ND	1.30	1.47	15.7	0.84	78.2	<2		<2				1.0
4,4'-DDT	14.3	12.9	13.1	ND	ND	ND	13.5	5.4	ND		12.2	2.1	1.25	0.10	0.4	0.1	0.4
mirex	0.22	ND	ND	0.12	ND	0.30	ND		0.21	61.4	<2		<2				

Laboratory: 2
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	15	68
Qualitative	7	32
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	9	9	10
2 to 3	0	0	1
≥ 3	0	0	3

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 2

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/19/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/1/97 S1	11/1/97 S2	11/1/97 S3	SRM 1941a, ng/g dry 11/1/97 S1	11/1/97 S2	11/1/97 S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	4.74	4.89	3.78	4.57	2.76	3.50	4.47	13.4	3.61	25.2	3.73	0.40	1.39	0.19	0.8	0.9	0.9
PCB 18	6.67	8.85	7.66	3.24	10.4	2.23	7.73	14.2	5.30	84.4	6.57	0.80	1.15	0.16	0.7	1.4	0.9
PCB 28	15.0	24.4	22.6	8.54	11.7	11.8	20.7	24.2	10.7	17.2	14.6	1.8	9.80	3.70	1.6	**7.1**	1.6
PCB 52	11.8	14.4	16.0	9.02	10.4	12.4	14.1	15.2	10.6	15.8	14.0	1.3	**6.89**	**0.56**	0.0	0.1	1.0
PCB 44	8.61	9.13	8.93	5.43	5.58	6.95	8.89	3.0	5.98	14.0	10.1	0.8	**4.80**	**0.62**	-0.5	-1.4	0.2
PCB 66/95	18.5	22.7	20.7	10.4	7.78	7.54	20.6	10.1	8.6	18.5	19.0	3.1	**14.3**	**2.5**	0.3	1.9	0.7
PCB 101/90	11.9	19.3	17.5	7.4	10.7	13.1	16.2	23.7	10.4	27.5	16.6	2.1	**11.0**	**1.6**	-0.1	-0.5	1.6
PCB 118	10.9	12.4	10.9	5.04	34.6	38.8	11.4	7.7	26.2	70.4	12.7	1.1	**10.0**	**1.1**	-0.4	-1.5	0.5
PCB 153	15.7	19.9	17.9	10.4	16.1	17.7	17.8	11.6	14.7	26.0	18.7	2.0	**17.6**	**1.9**	-0.2	-1.0	0.8
PCB 105	3.22	3.63	3.26	1.81	8.92	3.86	3.37	6.7	4.86	75.2	4.87	0.64	**3.65**	**0.27**	-1.2	-1.8	0.4
PCB 138/163/164	12.9	15.8	15.7	6.64	9.05	18.8	14.8	10.9	11.5	55.9	17.0	2.1	**13.38**	**0.97**	-0.5	-2.6	0.7
PCB 187/182	6.74	6.43	8.19	3.75	4.51	7.21		13.2	5.16	35.3	7.92	1.03	7.0	2.6	**-4.0**	**-9.4**	0.9
PCB 128	1.21	3.97	3.82	1.51	1.57	3.49	3.00	51.7	2.19	51.4	2.69	0.46	**1.87**	**0.32**	0.5	0.4	**3.4**
PCB 180	9.9	10.7	9.4	5.56	7.71	11.16	10.0	6.8	8.15	34.6	10.4	1.3	**5.83**	**0.58**	-0.1	-0.5	0.5
PCB 170/190	Other	Other	Other	Other	Other	Other	Other		Other		4.99	0.60	**3.00**	**0.46**			
PCB 195	2.23	2.50	2.41	1.44	2.17	3.61	2.38	5.8	2.41	46.0	1.56	0.51	<3		2.1	1.0	0.4
PCB 206	2.04	3.49	3.51	4.33	2.29	4.53	3.01	28.0	3.72	33.3	3.98	0.39	**3.67**	**0.87**	-1.0	-1.1	1.9
PCB 209	3.47	6.59	7.39	3.30	6.10	12.5	5.82	35.6	7.30	64.6	9.34	1.15	**8.34**	**0.49**	-1.5	**-4.2**	2.4
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 2

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	16	89
Qualitative	2	11
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.4	48.0	47.2	47.5	0.9	48.75	0.03	49.0	0.5	-0.1	-1.2	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 3

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/18/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/16/97 S 1	10/16/97 S 2	10/16/97 S 3	10/16/97 S 1	10/16/97 S 2	10/16/97 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	560	587	571	508	552		573	2.4	530	5.9	821	116	**1010**	**140**	-1.2	-1.1	0.2
2-methylnaphthalene	288	283	289	233	239		287	1.1	236	2.0	290	45	325	60	0.0	0.0	0.1
1-methylnaphthalene	154	147	153	114	119		152	2.6	117	2.9	157	24	150	30	-0.1	-0.1	0.2
biphenyl	98	94	103	84	85		99	4.3	84	1.3	106	23	175	18	-0.3	-0.2	0.3
2,6-dimethylnaphthalene	212	198	217	135	137		209	4.7	136	0.7	162	22	120	24	1.2	1.1	0.3
acenaphthylene	130	131	131	80.2	73.8		130	0.7	77.0	5.9	91.9	24.6	37	14	1.7	0.8	0.0
acenaphthene	74.2	76.6	70.5	33.0	36.7		73.8	4.2	34.8	7.4	75.8	7.9	41	10	-0.1	-0.1	0.3
1,6,7-trimethylnaphthalene	47.5	43.2	45.6	14.8	17.9		45.5	4.7	16.4	13.2	85.4	16.5	48	10	-1.9	-1.5	0.3
fluorene	119	122	119	59.9	66.8		120	1.6	63.4	7.6	132	13	**97.3**	**8.6**	-0.4	-0.5	0.1
phenanthrene	748	789	761	333	375		766	2.7	354	8.4	870	80	**489**	**23**	-0.5	-0.6	0.2
anthracene	292	315	311	168	175		306	4.1	172	2.7	294	32	**184**	**14**	0.2	0.2	0.3
1-methylphenanthrene	145	218	194	61	54		186	20.0	57	9.3	204	18	101	27	-0.4	-0.5	1.3
fluoranthene	1370	1480	1450	779	831		1433	4.0	805	4.5	1500	130	**981**	**78**	-0.2	-0.2	0.3
pyrene	1350	1410	1360	659	705		1373	2.3	682	4.8	1445	127	**811**	**24**	-0.2	-0.3	0.2
benz[a]anthracene	633	745	644	409	397		674	9.1	403	2.1	746	58	**427**	**25**	-0.4	-0.6	0.6
chrysene + triphenylene	611	666	654	427	442		643	4.5	434	2.4	934	100	577	35	-1.2	-1.4	0.3
benzofluoranthenes [b+j+k]	2500	2710	2650	1580	1800		2620	4.1	1690	9.2	1848	222	1441	150	1.7	1.7	0.3
benzo[e]pyrene	1050	1060	1080	653	741		1063	1.4	697	8.9	776	72	**553**	**59**	1.5	2.0	0.1
benzo[a]pyrene	855	929	856	577	635		880	4.8	606	6.7	783	69	**628**	**52**	0.5	0.6	0.3
perylene	475	495	492	414	456		488	2.2	435	6.8	392	47	**452**	**58**	1.0	1.0	0.1
indeno[1,2,3-cd]pyrene	527	537	524	449	466		529	1.3	458	2.5	624	69	**501**	**72**[i]	-0.6	-0.6	0.1
dibenz[a,h]anthracene + [a,c]	177	184	180	126	150		180	2.0	138	12.3	159	15	**117**	**14**	0.5	0.8	0.1
benzo[ghi]perylene	493	519	466	482	504		493	5.4	493	3.1	591	63	**525**	**67**	-0.7	-0.7	0.4

Laboratory: 3
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 3

Reporting Date: 11/18/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/16/97	10/21/97	10/21/97	10/16/97	10/21/97		lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		<2				
hexachlorobenzene	40.4	43.0	43.3	57.8	55.6		42.2	3.8	56.7	2.8	49.0	6.7	**70**	**25**	-0.6	-0.5	0.3
gamma-HCH	<0.6	<0.6	<0.6	<0.6	<0.6		<0.6		<0.6		<2		<2				
heptachlor	<0.5	<0.5	<0.5	1.19	1.12		<0.5		1.15	4.5	<2		<2				
aldrin	<0.7	<0.7	<0.7	<0.7	<0.7		<0.7		<0.7		<2		<2				
heptachlor epoxide	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5		<0.5		<3		<2				
oxychlordane	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		2.59	0.20			
trans-chlordane	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		3.20	0.82	<2				
2,4'-DDE	<0.8	2.75	<0.8	<0.8	<0.8		<0.8		<0.8		2.25	0.72	**0.73**	**0.11**			
endosulfan I	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		<2				
cis-chlordane	5.04	7.01	6.87	3.56	3.56		6.31	17.4	3.56	0.1	3.79	0.56	**2.33**	**0.56**	2.7	0.2	1.2
trans-nonachlor	2.32	3.18	3.04	1.53	1.63		2.85	16.1	1.58	4.2	1.96	0.37	**1.26**	**0.13**	1.8	0.1	1.1
dieldrin	other	other	other	other	other		other		other		2.10	0.52	1.26	0.37			
4,4'-DDE	14.2	20.9	16.2	7.52	7.40		17.1	20.2	7.46	1.1	11.3	1.4	**6.59**	**0.56**	2.1	0.4	1.3
2,4'-DDD	other	6.63	other	other	other		other		other		4.54	0.80	<2				
endrin	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		<2				
endosulfan II	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		<2				
4,4'-DDD	N.A.	15.1	N.A.	12.99	11.30		NA		12.14	9.8	14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	<1.0	3.62	<1.0	<1.0	<1.0		<1		<1		<3		<2				
cis-nonachlor	N.A.	N.A.	N.A.	N.A.	N.A.		NA		NA		<2		<2				
4,4'-DDT	N.A.	24.1	N.A.	<0.6	<0.6		NA		<0.6		12.2	2.1	1.25	0.10			
mirex	0.94	1.16	1.23	<0.6	<0.6		1.11	13.5	<0.6		<2		<2				0.9

Laboratory: 3

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	5	23
Qualitative	8	36
Not Determined	9	41

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 3

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/18/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/16/97 S1	10/16/97 S2	10/16/97 S3	10/16/97 S1	10/16/97 S2	10/16/97 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	4.12	4.35	4.34	3.07	2.87		4.27	3.1	2.97	4.7	3.73	0.40	1.39	0.19	0.6	0.6	0.2
PCB 18	5.71	5.89	5.95	2.68	2.49		5.85	2.1	2.59	5.4	6.57	0.80	1.15	0.16	-0.4	-0.9	0.1
PCB 28	10.7	11.2	11.2	5.45	5.49		11.0	2.7	5.47	0.5	14.6	1.8	9.80	3.70	-1.0	**-4.3**	0.2
PCB 52	10.3	10.8	11.1	7.53	7.31		10.7	3.8	7.42	2.1	14.0	1.3	**6.89**	**0.56**	-0.9	**-3.9**	0.3
PCB 44	8.3	10.3	10.2	5.40	5.66		9.6	11.6	5.53	3.4	10.1	0.8	**4.80**	**0.62**	-0.2	-0.5	0.8
PCB 66/95	17.9	22.3	22.3	14.6	14.8		20.8	12.2	14.7	0.8	19.0	3.1	**14.3**	**2.5**	0.4	2.2	0.8
PCB 101/90	12.6	15.9	16.1	11.7	11.8		14.9	13.1	11.7	0.4	16.6	2.1	**11.0**	**1.6**	-0.4	-2.1	0.9
PCB 118	11.6	14.4	14.2	10.3	10.8		13.4	11.7	10.5	3.1	12.7	1.1	**10.0**	**1.1**	0.2	0.9	0.8
PCB 153	13.2	16.7	16.9	13.8	13.7		15.6	13.2	13.8	0.6	18.7	2.0	**17.6**	**1.9**	-0.7	**-3.7**	0.9
PCB 105	5.42	7.16	7.68	4.51	3.98		6.75	17.5	4.24	8.9	4.87	0.64	**3.65**	**0.27**	1.5	2.2	1.2
PCB 138/163/164	20.3	20.1	19.2	14.2	13.5		19.8	2.9	13.8	3.1	17.0	2.1	**13.38**	**0.97**	0.7	**3.4**	0.2
PCB 187/182	8.95	9.39	8.25	6.93	6.51		8.86	6.5	6.72	4.4	7.92	1.03	7.0	2.6	0.5	1.1	0.4
PCB 128	3.71	5.65	5.46	3.33	2.44		4.94	21.7	2.89	21.7	2.69	0.46	**1.87**	**0.32**	**3.3**	2.7	1.4
PCB 180	12.6	13.0	12.1	9.98	10.00		12.6	3.6	9.99	0.1	10.4	1.3	**5.83**	**0.58**	0.8	2.6	0.2
PCB 170/190	6.49	6.71	5.99	4.50	4.78		6.40	5.8	4.64	4.3	4.99	0.60	**3.00**	**0.46**	1.1	1.7	0.4
PCB 195	1.15	1.50	1.49	0.96	1.05		1.38	14.6	1.01	6.7	1.56	0.51	<3		-0.5	-0.2	1.0
PCB 206	4.66	5.07	4.23	5.07	5.07		4.66	9.1	5.07	0.1	3.98	0.39	**3.67**	**0.87**	0.7	0.8	0.6
PCB 209	9.92	10.2	9.09	12.6	11.9		9.75	6.0	12.3	4.3	9.34	1.15	**8.34**	**0.49**	0.2	0.5	0.4
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 3

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	9	18
2 to 3	0	5	0
≥ 3	1	4	0

Water in Sediment VII

	Sediment VII, % water				lab, % water			Sed VII, % water		Exercise, % water		Sediment VII, water		
	S1	S2	S3		mean	%RSD		assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	49.1	49.0	49.2		49.1	0.2		48.75	0.03	49.0	0.5	0.0	0.1	0.0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 4

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/31/97 S1	S2	S3	SRM 1941a, ng/g dry 10/31/97 S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	542	621	486	750	721	640	550	12.3	704	8.1	821	116	**1010**	**140**	-1.3	-1.2	0.8
2-methylnaphthalene	215	246	205	292	270	210	222	9.6	257	16.5	290	45	325	60	-0.9	-0.7	0.6
1-methylnaphthalene	123	136	110	150	144	135	123	10.6	143	5.3	157	24	150	30	-0.9	-0.8	0.7
biphenyl	65	71	59	81	79	66	65	9.1	76	11.2	106	23	175	18	-1.5	-0.9	0.6
2,6-dimethylnaphthalene	140	155	140	134	106	122	145	6.0	121	11.6	162	22	120	24	-0.4	-0.4	0.4
acenaphthylene	83.5	80.0	77.1	63.2	56.1	55.5	80.2	4.0	58.3	7.4	91.9	24.6	37	14	-0.5	-0.2	0.3
acenaphthene	99.7	79.9	62.5	71.3	68.5	54.9	80.7	23.1	64.9	13.5	75.8	7.9	41	10	0.3	0.3	1.5
1,6,7-trimethylnaphthalene	155	183	128	128	108	102.0	155	17.7	113	12.1	85.4	16.5	48	10	**3.3**	2.7	1.2
fluorene	112	97	91	97.6	86.9	74.4	100	11.0	86.3	13.5	132	13	**97.3**	**8.6**	-1.0	-1.2	0.7
phenanthrene	1280	1020	698	731	613	509	999	29.2	618	18.0	870	80	**489**	**23**	0.6	0.7	1.9
anthracene	301	268	213	260	211	192	261	17.1	221	15.9	294	32	**184**	**14**	-0.5	-0.5	1.1
1-methylphenanthrene	214	230	110	126	104	111	185	35.3	114	9.9	204	18	101	27	-0.4	-0.6	2.4
fluoranthene	1770	1500	1220	1130	1040	771	1497	18.4	980	19.1	1500	130	**981**	**78**	0.0	0.0	1.2
pyrene	1510	1360	1130	876	802	628	1333	14.4	769	16.6	1445	127	**811**	**24**	-0.3	-0.4	1.0
benz[a]anthracene	887	879	822	543	501	452	863	4.1	499	9.1	746	58	**427**	**25**	0.6	0.9	0.3
chrysene + triphenylene	840	826	780	640	541	532	815	3.8	571	10.5	934	100	577	35	-0.5	-0.6	0.3
benzofluoranthenes [b+j+k]	1920	1919	1668	1441	1482	1255	1836	7.9	1393	8.7	1848	222	1441	150	0.0	0.0	0.5
benzo[e]pyrene	808	797	752	540	550	499	786	3.8	530	5.1	776	72	**553**	**59**	0.1	0.1	0.3
benzo[a]pyrene	701	718	631	527	549	470	683	6.7	515	7.9	783	69	**628**	**52**[c]	-0.5	-0.7	0.4
perylene	269	304	283	363	370	346	285	6.2	360	3.4	392	47	**452**	**58**	-1.1	-1.1	0.4
indeno[1,2,3-cd]pyrene	717	690	727	635	667	656	711	2.7	653	2.5	624	69	**501**	**72**	0.6	0.6	0.2
dibenz[a,h]anthracene + [a,c]	181	170	181	143	148	139	177	3.6	143	3.1	159	15	**117**	**14**	0.5	0.7	0.2
benzo[ghi]perylene	608	587	590	546	581	536	595	1.9	554	4.3	591	63	**525**	**67**	0.0	0.0	0.1

Laboratory: 4
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 4

Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/10/97 S 1	11/11/97 S 2	11/14/97 S 3	11/10/97 S 1	11/11/97 S 2	11/14/97 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%)
alpha-HCH	<2.4	<0.744	<2.40	<2.00	<2.00	<2.00	<2.4		<2		<2		<2				
hexachlorobenzene	51.0	53.0	51.0	63.0	63.0	60.0	51.7	2.2	62.0	2.8	49.0	6.7	**70**	**25**	0.2	0.2	0.1
gamma-HCH	<0.744	<0.744	<0.744	<0.620	<0.620	<0.620	<0.75		0.62		<2		<2				
heptachlor	<0.312	<0.312	<0.312	<0.26	<0.260	<0.260	<0.32		<0.26		<2		<2				
aldrin	<1.42	<1.42	<1.42	<1.18	<1.18	<1.18	<1.4		<1.2		<2		<2				
heptachlor epoxide	<3.10	<3.10	<3.10	<2.58	<2.58	<2.58	<3.1		<2.6		<3		<2				
oxychlordane	<2.40	<2.40	<2.40	<2.00	<2.00	1.80	<2.4		<2		<2		2.59	0.20			
trans-chlordane	<4.00	3.90	3.40	<0.38	2.80	2.60	3.65	9.7	2.70	5.2	3.20	0.82	<2		0.6	0.0	0.6
2,4'-DDE	<1.56	6.30	<1.56	<1.3	3.80	2.20	<1.6		3.00	37.7	2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	4.40	<0.456	4.20	3.60	3.70	3.70	4.30	3.3	3.67	1.6	3.79	0.56	**2.33**	**0.56**	0.5	0.0	0.2
trans-nonachlor	3.50	3.40	<0.720	3.00	2.30	3.10	3.45	2.0	2.80	15.6	1.96	0.37	**1.26**	**0.13**	**3.0**	0.1	0.1
dieldrin	4.50	2.30	<1.20	3.10	2.90	3.40	3.40	45.8	3.13	8.0	2.10	0.52	1.26	0.37	2.5	0.1	**3.1**
4,4'-DDE	8.50	8.30	<0.384	<0.320	3.50	4.90	8.40	1.7	4.20	23.6	11.3	1.4	**6.59**	**0.56**	-1.0	-0.2	0.1
2,4'-DDD	<1.63	<1.63	<1.63	<1.36	<1.36	<1.36	<1.6		<1.4		4.54	0.80	<2				
endrin	<2.40	<2.40	<2.40	<2.00	<2.00	<2.00	<2.4		<2		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	<0.864	16.0	<0.864	<0.720	17.00	4.90	<0.86		10.95	78.1	14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	<0.480	<0.480	<0.480	<0.400	<0.400	<0.400	<0.48		<0.4		<3		<2				
cis-nonachlor	<0.720	<0.720	2.20	<0.600	<0.600	<0.600	<0.72		<0.6		<2		<2				
4,4'-DDT	<2.40	<2.40	<2.40	<2.00	<2.00	<2.00	<2.4		<2		12.2	2.1	1.25	0.10			
mirex	<0.744	<0.744	<0.744	<0.620	<0.620	<0.620	<0.75		<0.62		<2		<2				

Laboratory: 4

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	6	27
Qualitative	14	64
Not Determined	2	9

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	4	6	5
2 to 3	1	0	0
≥ 3	1	0	1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 4

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/10/97 S1	11/10/97 S2	11/10/97 S3	11/10/97 S1	11/10/97 S2	11/10/97 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	5.60	3.70	4.60	<2.34	<2.34	1.20	4.63	20.5	<2.4		3.73	0.40	1.39	0.19	1.0	1.1	1.4
PCB 18	7.80	7.40	7.90	2.90	3.00	3.10	7.70	3.4	3.00	3.3	6.57	0.80	1.15	0.16	0.7	1.3	0.2
PCB 28	12.0	12.0	12.6	7.00	7.40	7.50	12.2	2.8	7.30	3.6	14.6	1.8	9.80	3.70	-0.7	-2.9	0.2
PCB 52	11.0	11.0	11.2	8.30	7.90	8.30	11.1	1.0	8.17	2.8	14.0	1.3	**6.89**	**0.56**	-0.8	**-3.5**	0.1
PCB 44	7.40	7.40	7.30	4.80	4.60	4.70	7.37	0.8	4.70	2.1	10.1	0.8	**4.80**	**0.62**	-1.1	**-3.2**	0.1
PCB 66/95				0.0			other		other		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	12.0	11.0	3.40	10.0	10.0	10.5	8.80	53.4	10.2	2.8	16.6	2.1	**11.0**	**1.6**	-1.9	**-9.3**	**3.6**
PCB 118	12.0	9.2	12.6	8.80	11.00	10.10	11.3	16.1	9.97	11.1	12.7	1.1	**10.0**	**1.1**	-0.4	-1.7	1.1
PCB 153	6.10	6.20	6.80	5.40	5.40	5.40	6.37	5.9	5.40	0.0	18.7	2.0	**17.6**	**1.9**	-2.6	**-14.6**	0.4
PCB 105	2.50	2.90	3.00	1.70	2.20	2.10	2.80	9.4	2.00	13.2	4.87	0.64	**3.65**	**0.27**	-1.7	-2.4	0.6
PCB 138/163/164	6.80	7.60	8.60	6.10	5.60	6.80	7.67	11.8	6.17	9.8	17.0	2.1	**13.38**	**0.97**	-2.2	**-11.0**	0.8
PCB 187/182	3.10	3.30	3.20	2.80	2.80	2.80	3.20	3.1	2.80	0.0	7.92	1.03	7.0	2.6	-2.4	**-5.6**	0.2
PCB 128	2.30	2.30	2.30	1.60	1.90	1.90	2.30	0.0	1.80	9.6	2.69	0.46	**1.87**	**0.32**	-0.6	-0.5	0.0
PCB 180	4.60	6.10	4.50	4.10	3.90	4.30	5.07	17.7	4.10	4.9	10.4	1.3	**5.83**	**0.58**	-2.0	**-6.3**	1.2
PCB 170/190	2.70	<1.13	<1.13	2.40	2.20	2.20	<1.2		2.27	5.1	4.99	0.60	**3.00**	**0.46**			
PCB 195	<0.816	<0.816	<0.816	<0.680	<0.680	<0.680	<0.82		<0.68		1.56	0.51	<3				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		3.98	0.39	**3.67**	**0.87**			
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	9.10	9.10	9.10	6.80	6.50	6.60	9.10	0.0	6.63	2.3	12.4	2.1	**6.8**	**1.4**	-1.1	**-3.9**	0.0
PCB 95 (optional)	<2.40	8.70	9.20	7.70	7.00	7.20	8.95	4.0	7.30	4.9	11.4	2.2	**7.5**	**1.1**	-0.8	-2.9	0.3

Laboratory: 4

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	13	72
Qualitative	3	17
Not Determined	2	11

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	9	4	12
2 to 3	4	2	0
≥ 3	0	7	1

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S1	S2	S3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	47.0	49.0	47.0	47.7	2.4	48.75	0.03	49.0	0.5	-0.1	-1.0	0.2

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 5

Reporting Date: 10/30/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/3/97 S 1	11/3/97 S 2	11/3/97 S 3	11/3/97 S 1	11/3/97 S 2	11/3/97 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	1040	983	1030	927			1018	3.0	927		821	116	**1010**	**140**	1.0	0.9	0.2
2-methylnaphthalene	404	454	436	374			431	5.9	374		290	45	325	60	1.9	1.5	0.4
1-methylnaphthalene	210	234	221	188			222	5.4	188		157	24	150	30	1.6	1.5	0.4
biphenyl	195	184	184	115			188	3.4	115		106	23	175	18	**3.1**	1.9	0.2
2,6-dimethylnaphthalene	231	244	249	179			241	3.9	179		162	22	120	24	1.9	1.8	0.3
acenaphthylene	58.4	65.1	56.1	34.9			59.9	7.8	34.9		91.9	24.6	37	14	-1.4	-0.7	0.5
acenaphthene	79.9	97.4	92.3	44.0			89.9	10.0	44.0		75.8	7.9	41	10	0.7	0.9	0.7
1,6,7-trimethylnaphthalene	62.3	69.4	68.8	35.4			66.8	5.9	35.4		85.4	16.5	48	10	-0.9	-0.7	0.4
fluorene	184	207	183	75.8			191	7.1	75.8		132	13	**97.3**	**8.6**	1.8	2.2	0.5
phenanthrene	1160	1350	1220	585			1243	7.8	585		870	80	**489**	**23**	1.7	2.1	0.5
anthracene	335	390	357	210			361	7.7	210		294	32	**184**	**14**	0.9	1.0	0.5
1-methylphenanthrene	235	269	255	83.2			253	6.8	83.2		204	18	101	27	1.0	1.5	0.5
fluoranthene	1320	1560	1600	869			1493	10.1	869		1500	130	**981**	**78**	0.0	0.0	0.7
pyrene	1120	1580	1580	782			1427	18.6	782		1445	127	**811**	**24**	0.0	-0.1	1.2
benz[a]anthracene	848	877	906	438			877	3.3	438		746	58	**427**	**25**	0.7	1.0	0.2
chrysene + triphenylene	1200	1200	1340	646			1247	6.5	646		934	100	577	35	1.3	1.5	0.4
benzofluoranthenes [b+j+k]	2070	2340	2270	1540			2227	6.3	1540		1848	222	1441	150	0.8	0.8	0.4
benzo[e]pyrene	886	1040	1100	708			1009	10.9	708		776	72	**553**	**59**	1.2	1.6	0.7
benzo[a]pyrene	767	828	864	518			820	6.0	518		783	69	**628**	**52**	0.2	0.2	0.4
perylene	457	475	462	398			465	2.0	398		392	47	**452**	**58**	0.7	0.8	0.1
indeno[1,2,3-cd]pyrene	762	721	736	443			740	2.8	443		624	69	**501**	**72**	0.7	0.8	0.2
dibenz[a,h]anthracene + [a,c]	<0.012	<0.011	<0.011	82.3			<0.02		82.3		159	15	**117**	**14**			
benzo[ghi]perylene	613	596	576	362			595	3.1	362		591	63	**525**	**67**	0.0	0.0	0.2

Laboratory: 5

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	1	4
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	21	20	22
2 to 3	0	2	0
≥ 3	1	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 5

Reporting Date: 10/30/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/24/97 S 1	10/24/97 S 2	10/24/97 S 3	10/24/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA			NA		NA		<2		<2				
hexachlorobenzene	46.6	49.1	37.1	50.4			44.3	14.3	50.4		49.0	6.7	**70**	**25**	-0.4	-0.3	1.0
gamma-HCH	0.61	0.51	0.44	<=0.237			0.52	16.4	<0.24		<2		<2				1.1
heptachlor	0.49	0.55	0.61	<0.350			0.55	10.6	<0.35		<2		<2				0.7
aldrin	<0.350	<0.350	<0.350	<0.350			<0.35		<0.35		<2		<2				
heptachlor epoxide	<0.350	<0.350	<0.350	<0.350			<0.35		<0.35		<3		<2				
oxychlordane	NA	NA	NA	NA			NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA			NA		NA		3.20	0.82	<2				
2,4'-DDE	4.37	4.70	4.24	1.24			4.44	5.3	1.24		2.25	0.72	**0.73**	**0.11**	**3.9**	0.2	0.4
endosulfan I	NA	NA	NA	NA			NA		NA		<2		<2				
cis-chlordane	5.66	6.14	5.25	2.49			5.68	7.8	2.49		3.79	0.56	**2.33**	**0.56**	2.0	0.1	0.5
trans-nonachlor	2.54	2.96	2.52	1.00			2.67	9.3	1.00		1.96	0.37	**1.26**	**0.13**	1.5	0.1	0.6
dieldrin	2.26	3.06	2.82	1.07			2.71	15.1	1.07		2.10	0.52	1.26	0.37	1.2	0.0	1.0
4,4'-DDE	8.72	9.21	8.17	4.38			8.70	6.0	4.38		11.3	1.4	**6.59**	**0.56**	-0.9	-0.2	0.4
2,4'-DDD	3.70	4.62	3.97	1.18			4.10	11.5	1.18		4.54	0.80	<2		-0.4	0.0	0.8
endrin	NA	NA	NA	NA			NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA			NA		NA		<2		<2				
4,4'-DDD	12.3	13.9	10.2	5.70			12.1	15.3	5.70		14.4	1.8	**5.06**	**0.56**	-0.6	-0.2	1.0
2,4'-DDT	<0.350	<0.350	<0.350	<=0.256			<0.35		<0.26		<3		<2				
cis-nonachlor	NA	NA	NA	NA			NA		NA		<2		<2				
4,4'-DDT	3.78	4.50	2.87	1.19			3.72	22.0	1.19		12.2	2.1	1.25	0.10	-2.8	-0.6	1.5
mirex	<0.350	<=0.348	<=0.331	<0.350			<0.35		<0.35		<2		<2				

Laboratory: 5
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	11	50
Qualitative	4	18
Not Determined	7	32

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	7	9	11
2 to 3	1	0	0
≥ 3	1	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 5

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 10/30/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/26/97 S1	10/26/97 S2	10/26/97 S3	10/26/97 S1	10/26/97 S2	10/26/97 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	3.28	4.39	3.97	1.26			3.88	14.4	1.26		3.73	0.40	1.39	0.19	0.2	0.2	1.0
PCB 18	6.52	6.95	6.44	2.36			6.64	4.1	2.36		6.57	0.80	1.15	0.16	0.0	0.1	0.3
PCB 28	9.09	9.63	10.6	5.74			9.77	7.8	5.74		14.6	1.8	9.80	3.70	-1.3	**-5.8**	0.5
PCB 52	15.9	17.2	14.7	4.80			15.9	7.8	4.80		14.0	1.3	**6.89**	**0.56**	0.6	2.3	0.5
PCB 44	11.1	11.8	10.5	4.53			11.1	5.8	4.53		10.1	0.8	**4.80**	**0.62**	0.4	1.2	0.4
PCB 66/95	7.67	8.54	7.48	7.54			7.90	7.2	7.54		19.0	3.1	**14.3**	**2.5**	-2.3	**-13.2**	0.5
PCB 101/90	15.1	16.0	14.1	6.8			15.1	6.3	6.8		16.6	2.1	**11.0**	**1.6**	-0.4	-1.9	0.4
PCB 118	10.2	10.6	9.8	5.91			10.2	4.1	5.91		12.7	1.1	**10.0**	**1.1**	-0.8	-2.9	0.3
PCB 153	13.5	13.8	12.6	8.52			13.3	4.7	8.52		18.7	2.0	**17.6**	**1.9**	-1.2	**-6.4**	0.3
PCB 105	6.53	6.83	6.25	3.54			6.54	4.4	3.54		4.87	0.64	**3.65**	**0.27**	1.4	2.0	0.3
PCB 138/163/164	12.8	13.0	12.0	7.65			12.6	4.2	7.65		17.0	2.1	**13.38**	**0.97**	-1.0	**-5.2**	0.3
PCB 187/182	7.17	7.78	6.86	4.41			7.27	6.4	4.41		7.92	1.03	7.0	2.6	-0.3	-0.8	0.4
PCB 128	2.51	2.55	2.34	1.52			2.47	4.5	1.52		2.69	0.46	**1.87**	**0.32**	-0.3	-0.3	0.3
PCB 180	11.4	12.0	10.6	7.96			11.3	6.2	7.96		10.4	1.3	**5.83**	**0.58**	0.4	1.2	0.4
PCB 170/190	5.08	5.13	4.58	3.00			4.93	6.2	3.00		4.99	0.60	**3.00**	**0.46**	-0.1	-0.1	0.4
PCB 195	2.95	3.04	2.48	1.95			2.82	10.7	1.95		1.56	0.51	<3		**3.2**	1.5	0.7
PCB 206	15.2	19.3	15.5	14.6			16.7	13.7	14.6		3.98	0.39	**3.67**	**0.87**	**12.7**	**15.0**	0.9
PCB 209	7.89	8.39	6.96	5.97			7.75	9.4	5.97		9.34	1.15	**8.34**	**0.49**	-0.7	-1.9	0.6
PCB 66 (optional)							na		an		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 5

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	15	11	18
2 to 3	1	2	0
≥ 3	2	5	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S1	S2	S3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	48.6	48.5	48.8	48.6	0.3	48.75	0.03	49.0	0.5	0.0	-0.3	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 6

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/21/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/27/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 10/27/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	1320	920	670	1060	870	1030	970	33.8	987	10.4	821	116	**1010**	**140**	0.7	0.7	2.3
2-methylnaphthalene	390	230	150	260	250	260	257	47.6	257	2.2	290	45	325	60	-0.5	-0.4	**3.2**
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	270.0	170.0	150.0	120.0	120.0	120.0	196.7	32.7	120.0	0.0	91.9	24.6	37	14	**4.6**	2.2	2.2
acenaphthene	DL	DL	40.0	50.0	60.0	60.0	DL		56.7	10.2	75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	230	130	100	100.0	100.0	110.0	153	44.4	103.3	5.6	132	13	**97.3**	**8.6**	0.6	0.8	3.0
phenanthrene	1120	730	540	520	490	530	797	37.1	513	4.1	870	80	**489**	**23**	-0.3	-0.4	2.5
anthracene	470	290	230	230	220	250	330	37.8	233	6.5	294	32	**184**	**14**	0.5	0.5	2.5
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	1900	1310	1000	1010	970	970	1403	32.6	983	2.3	1500	130	**981**	**78**	-0.3	-0.3	2.2
pyrene	1630	1120	820	750	740	710	1190	34.4	733	2.8	1445	127	**811**	**24**	-0.7	-1.0	2.3
benz[a]anthracene	760	540	460	360	420	380	587	26.5	387	7.9	746	58	**427**	**25**	-0.9	-1.2	1.8
chrysene + triphenylene	other	other	other	other	other	other	other		other		934	100	577	35			
benzofluoranthenes [b+j+k]	other	other	other	other	other	other	other		other		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	700	500	420	450	440	440	540	26.7	443	1.3	783	69	**628**	**52**	-1.2	-1.6	1.8
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	470	370	290	440	430	320	377	23.9	397	16.8	624	69	**501**	**72**	-1.6	-1.7	1.6
dibenz[a,h]anthracene + [a,c]	other	other	other	other	other	other	other		other		159	15	**117**	**14**			
benzo[ghi]perylene	410	370	290	420	390	260	357	17.1	357	23.8	591	63	**525**	**67**	-1.6	-1.7	1.1

Laboratory: 6
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	12	52
Qualitative	4	17
Not Determined	7	30

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	11	11	4
2 to 3	0	1	7
≥ 3	1	0	1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 6
Reporting Date: 11/21/97

PESTICIDES

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/30/97 S1	S2 10/30/97	S3 11/17/97	SRM 1941a, ng/g dry S1 10/30/97	S2 10/30/97	S3 11/17/97	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
hexachlorobenzene	other	other	other	other	other	other	other		other		49.0	6.7	**70**	**25**			
gamma-HCH	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
heptachlor	DL	DL	DL	DL	2.19	DL	DL		DL		<2		<2				
aldrin	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
heptachlor epoxide	DL	DL	DL	DL	DL	DL	DL		DL		<3		<2				
oxychlordane	DL	DL	DL	DL	DL	DL	DL		DL		<2		2.59	0.20			
trans-chlordane	DL	DL	DL	DL	DL	DL	DL		DL		3.20	0.82	<2				
2,4'-DDE	2.97	2.91	3.60	0.64	2.46	DL	3.16	12.1	1.55	82.9	2.25	0.72	**0.73**	**0.11**	1.6	0.1	0.8
endosulfan I	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
cis-chlordane	5.51	3.12	2.83	2.68	2.99	DL	3.82	38.5	2.84	7.7	3.79	0.56	**2.33**	**0.56**	0.0	0.0	2.6
trans-nonachlor	1.01	0.61	DL	0.54	0.65	DL	0.81	34.9	0.60	13.2	1.96	0.37	**1.26**	**0.13**	-2.3	-0.1	2.3
dieldrin	DL	DL	1.12	DL	0.43	DL	DL		DL		2.10	0.52	1.26	0.37			
4,4'-DDE	8.8	4.4	7.3	3.29	4.26	3.06	6.8	32.2	3.54	18.0	11.3	1.4	**6.59**	**0.56**	-1.6	-0.3	2.1
2,4'-DDD	13.20	7.97	12.80	6.25	8.42	5.05	11.32	25.7	6.57	26.0	4.54	0.80	<2		**6.0**	0.5	1.7
endrin	3.58	0.41	DL	2.14	DL	DL	2.00	112.4	DL		<2		<2				**7.5**
endosulfan II	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
4,4'-DDD	16.7	9.0	12.2	4.01	4.46	4.88	12.6	30.4	4.45	9.8	14.4	1.8	**5.06**	**0.56**	-0.5	-0.1	2.0
2,4'-DDT	DL	DL	DL	DL	DL	DL	DL		DL		<3		<2				
cis-nonachlor	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
4,4'-DDT	17.9	8.6	4.0	1.71	3.51	7.41	10.2	69.7	4.21	69.2	12.2	2.1	1.25	0.10	-0.7	-0.1	**4.6**
mirex	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				

Laboratory: 6
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	8	36
Qualitative	14	64
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	7	2
2 to 3	1	0	4
≥ 3	1	0	2

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 6

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/21/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/30/97 S1	S2	S3	SRM 1941a, ng/g dry 10/30/97 S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	4.22	2.78	2.21	2.15	2.36	DL	3.07	33.7	2.26	6.6	3.73	0.40	1.39	0.19	-0.7	-0.8	2.2
PCB 18	7.48	1.64	4.75	4.05	6.11	2.98	4.62	63.2	4.38	36.3	6.57	0.80	1.15	0.16	-1.2	-2.3	**4.2**
PCB 28	18.5	11.6	5.17	8.37	9.46	5.89	11.8	56.7	7.91	23.1	14.6	1.8	9.80	3.70	-0.8	**-3.4**	**3.8**
PCB 52	12.8	7.32	2.34	6.78	7.70	DL	7.49	69.9	7.24	9.0	14.0	1.3	**6.89**	**0.56**	-1.9	**-7.7**	**4.7**
PCB 44	9.77	5.84	5.62	4.98	5.68	DL	7.08	33.0	5.33	9.3	10.1	0.8	**4.80**	**0.62**	-1.2	**-3.6**	2.2
PCB 66/95							other		other		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	other	other	other	other	other	other	other		other		16.6	2.1	**11.0**	**1.6**			
PCB 118	14.6	7.13	8.47	13.0	14.1	4.68	10.1	39.6	10.6	48.6	12.7	1.1	**10.0**	**1.1**	-0.8	**-3.1**	2.6
PCB 153	other	other	other	other	other	other	other		other		18.7	2.0	**17.6**	**1.9**			
PCB 105	3.12	2.01	2.60	1.72	2.34	1.47	2.58	21.6	1.84	24.3	4.87	0.64	**3.65**	**0.27**	-1.9	-2.7	1.4
PCB 138/163/164	other	other	other	other	other	other	other		other		17.0	2.1	**13.38**	**0.97**			
PCB 187/182	other	other	other	other	other	other	other		other		7.92	1.03	7.0	2.6			
PCB 128	1.42	0.20	2.07	1.60	1.29	1.18	1.23	77.2	1.36	16.1	2.69	0.46	**1.87**	**0.32**	-2.2	-1.7	**5.1**
PCB 180	0.6	DL	DL	0.39	0.64	DL	DL		0.52	34.2	10.4	1.3	**5.83**	**0.58**			
PCB 170/190	other	other	other	other	other	other	other		other		4.99	0.60	**3.00**	**0.46**			
PCB 195	DL	DL	3.29	0.39	DL	DL	DL		DL		1.56	0.51	<3				
PCB 206	DL	DL	DL	DL	DL	DL	DL		DL		3.98	0.39	**3.67**	**0.87**			
PCB 209	DL	DL	14.0	4.52	DL	DL	DL		DL		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	DL	DL	DL	DL	DL	DL	DL		DL		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 6

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	8	44
Qualitative	10	56
Not Determined	0	0

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	48.4	48.1	47.8	48.1	0.6	48.75	0.03	49.0	0.5	-0.1	-0.7	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 7

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/1/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Material reference values: Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Performance scores[a] Sediment VII		
	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	assigned value	95% CL	target value[b]	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 7
PAH in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 7

Reporting Date: 12/1/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/6/97 S 1	11/6/97 S 2	11/6/97 S 3	11/6/97 S 1	11/6/97 S 2	11/6/97 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%)
alpha-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
hexachlorobenzene	62.8	62.1	62.9	72.4	70.3	78.2	62.6	0.7	73.6	5.6	49.0	6.7	**70**	**25**	1.1	1.0	0.0
gamma-HCH	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
aldrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
heptachlor epoxide	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
oxychlordane	<2	<2	<2	<2	<2	<2	<2		<2		<2		2.59	0.20			
trans-chlordane	3.65	2.75	3.53	1.61	1.53	1.40	3.31	14.8	1.51	7.0	3.20	0.82	<2		0.1	0.0	1.0
2,4'-DDE	<2	<2	<2	<2	<2	<2	<2		<2		2.25	0.72	**0.73**	**0.11**			
endosulfan I	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
cis-chlordane	1.80	1.69	1.76	1.24	1.09	1.78	1.75	3.2	1.37	26.5	3.79	0.56	**2.33**	**0.56**	-2.2	-0.1	0.2
trans-nonachlor	1.51	1.63	1.34	<2	<2	<2	1.49	9.8	<2		1.96	0.37	**1.26**	**0.13**	-0.9	0.0	0.7
dieldrin	1.36	1.18	1.29	<1	<1	<1	1.28	7.1	<2		2.10	0.52	1.26	0.37	-1.6	-0.1	0.5
4,4'-DDE	8.39	8.99	9.01	3.80	4.10	3.74	8.80	4.0	3.88	5.0	11.3	1.4	**6.59**	**0.56**	-0.9	-0.2	0.3
2,4'-DDD	2.75	2.96	2.65	<2	<2	<2	2.79	5.7	<2		4.54	0.80	<2		-1.5	-0.1	0.4
endrin	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
endosulfan II	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				
4,4'-DDD	8.10	8.45	8.46	2.37	2.47	2.43	8.34	2.5	2.42	2.1	14.4	1.8	**5.06**	**0.56**	-1.7	-0.4	0.2
2,4'-DDT	<2	<2	<2	<2	<2	<2	<2		<2		<3		<2				
cis-nonachlor	2.84	2.70	3.25	1.85	2.48	1.76	2.93	9.8	2.03	19.3	<2		<2				0.7
4,4'-DDT	11.2	13.2	12.5	1.21	1.00	0.56	12.3	8.3	0.92	35.7	12.2	2.1	1.25	0.10	0.0	0.0	0.6
mirex	<2	<2	<2	<2	<2	<2	<2		<2		<2		<2				

Laboratory: 7

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	10	46
Qualitative	12	55
Not Determined	0	0

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	8	9	10
2 to 3	1	0	0
≥ 3	0	0	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 7

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/1/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/6/97 S1	S2	S3	SRM 1941a, ng/g dry 11/6/97 S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	2.21	2.25	1.97	0.91	0.80	0.87	2.14	7.1	0.86	6.4	3.73	0.40	1.39	0.19	-1.7	-1.9	0.5
PCB 18	4.02	4.20	4.08	1.75	1.86	2.04	4.10	2.2	1.88	7.8	6.57	0.80	1.15	0.16	-1.5	-2.9	0.1
PCB 28	11.9	11.0	11.6	7.25	6.21	6.19	11.5	4.0	6.55	9.3	14.6	1.8	9.80	3.70	-0.9	**-3.7**	0.3
PCB 52	11.4	12.9	13.4	9.74	8.72	8.15	12.6	8.3	8.87	9.1	14.0	1.3	**6.89**	**0.56**	-0.4	-1.7	0.6
PCB 44	9.49	9.88	9.90	6.27	6.36	5.07	9.76	2.4	5.90	12.2	10.1	0.8	**4.80**	**0.62**	-0.1	-0.4	0.2
PCB 66/95	11.5	10.7	11.0	7.40	7.03	6.96	11.1	3.7	7.13	3.3	19.0	3.1	**14.3**	**2.5**	-1.7	**-9.4**	0.2
PCB 101/90	14.5	15.0	16.0	14.6	13.3	11.3	15.2	5.0	13.1	12.7	16.6	2.1	**11.0**	**1.6**	-0.4	-1.7	0.3
PCB 118	14.3	13.9	14.3	11.3	10.1	10.6	14.2	1.6	10.7	5.7	12.7	1.1	**10.0**	**1.1**	0.5	1.8	0.1
PCB 153	13.2	13.3	13.8	10.1	10.0	10.7	13.4	2.4	10.3	3.7	18.7	2.0	**17.6**	**1.9**	-1.1	**-6.2**	0.2
PCB 105	4.14	4.49	3.45	3.51	3.13	1.39	4.03	13.1	2.68	42.2	4.87	0.64	**3.65**	**0.27**	-0.7	-1.0	0.9
PCB 138/163/164	11.7	11.1	12.1	10.4	9.8	11.2	11.6	4.3	10.5	6.7	17.0	2.1	**13.38**	**0.97**	-1.3	**-6.3**	0.3
PCB 187/182	6.75	6.12	6.68	5.26	4.65	4.95	6.52	5.3	4.95	6.2	7.92	1.03	7.0	2.6	-0.7	-1.7	0.4
PCB 128	2.32	2.41	2.50	1.76	1.35	1.40	2.41	3.7	1.50	14.9	2.69	0.46	**1.87**	**0.32**	-0.4	-0.3	0.2
PCB 180	8.53	8.50	8.88	6.40	6.65	7.25	8.64	2.4	6.77	6.5	10.4	1.3	**5.83**	**0.58**	-0.7	-2.0	0.2
PCB 170/190	4.09	4.07	4.30	3.00	3.20	3.32	4.15	3.1	3.17	5.1	4.99	0.60	**3.00**	**0.46**	-0.7	-1.0	0.2
PCB 195	0.82	0.84	0.79	0.68	0.67	0.77	0.82	2.8	0.71	7.4	1.56	0.51	<3		-1.9	-0.9	0.2
PCB 206	2.64	3.07	3.19	3.03	3.08	4.17	2.97	9.7	3.43	18.8	3.98	0.39	**3.67**	**0.87**	-1.0	-1.2	0.6
PCB 209	6.38	6.18	6.50	7.70	8.05	8.44	6.35	2.5	8.06	4.6	9.34	1.15	**8.34**	**0.49**	-1.3	**-3.5**	0.2
PCB 66 (optional)	na	na	na	na			na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	na	na	na	na			na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 7

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	18	11	18
2 to 3	0	2	0
≥ 3	0	5	0

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	48.1	48.4	48.3	48.3	0.3	48.75	0.03	49.0	0.5	0.0	-0.6	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 8

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/6/97 S 1	10/6/97 S 2	10/6/97 S 3	10/6/97 S 1	10/6/97 S 2	10/6/97 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	683	679	775	738	739	667	712	7.6	715	5.8	821	116	**1010**	**140**	-0.5	-0.5	0.5
2-methylnaphthalene	278	293	344	285	272	265	305	11.3	274	3.7	290	45	325	60	0.2	0.2	0.8
1-methylnaphthalene	134	139	171	138	138	125	148	13.6	134	5.6	157	24	150	30	-0.2	-0.2	0.9
biphenyl	73.3	76.0	86.8	71.6	72.1	65.2	78.7	9.1	69.6	5.5	106	23	175	18	-1.0	-0.6	0.6
2,6-dimethylnaphthalene	141	154	173	119	118	114	156	10.3	117	2.3	162	22	120	24	-0.2	-0.1	0.7
acenaphthylene	40.0	36.9	47.8	34.8	33.1	37.0	41.6	13.5	35.0	5.6	91.9	24.6	37	14	-2.2	-1.1	0.9
acenaphthene	56.8	51.9	66.7	34.8	24.9	26.1	58.5	12.9	28.6	18.9	75.8	7.9	41	10	-0.9	-1.2	0.9
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	105	100	105	71.6	57.8	55.3	103	2.8	61.6	14.3	132	13	**97.3**	**8.6**	-0.9	-1.1	0.2
phenanthrene	670	748	854	440	414	378	757	12.2	411	7.6	870	80	**489**	**23**	-0.5	-0.6	0.8
anthracene	167	156	202	159	121	121	175	13.7	134	16.4	294	32	**184**	**14**	-1.6	-1.7	0.9
1-methylphenanthrene	153	184	196	96.9	104	80.6	178	12.5	93.8	12.8	204	18	101	27	-0.5	-0.8	0.8
fluoranthene	1018	1110	1238	786	667	562	1122	9.8	672	16.7	1500	130	**981**	**78**	-1.0	-1.3	0.7
pyrene	920	1005	1110	636	535	427	1012	9.4	533	19.6	1445	127	**811**	**24**	-1.2	-1.6	0.6
benz[a]anthracene	754	728	733	502	431	391	738	1.9	441	12.7	746	58	**427**	**25**	0.0	-0.1	0.1
chrysene + triphenylene	649	668	666	487	430	405	661	1.6	441	9.5	934	100	577	35	-1.2	-1.4	0.1
benzofluoranthenes [b+j+k]	1891	1846	1900	1645	1477	1422	1879	1.5	1515	7.7	1848	222	1441	150	0.1	0.1	0.1
benzo[e]pyrene	857	820	842	771	661	619	840	2.2	684	11.5	776	72	**553**	**59**	0.3	0.4	0.1
benzo[a]pyrene	684	574	565	628	431	403	608	10.9	487	25.2	783	69	**628**	**52**	-0.9	-1.2	0.7
perylene	384	359	330	473	361	342	358	7.6	392	18.1	392	47	**452**	**58**	-0.4	-0.4	0.5
indeno[1,2,3-cd]pyrene	655	603	597	538	517	463	618	5.2	506	7.6	624	69	**501**	**72**	0.0	0.0	0.3
dibenz[a,h]anthracene + [a,c]	155	150	146	117	114	103	150	3.0	111	6.6	159	15	**117**	**14**	-0.2	-0.3	0.2
benzo[ghi]perylene	662	606	593	563	517	452	620	5.9	511	10.9	591	63	**525**	**67**	0.2	0.2	0.4

Laboratory: 8
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	0	0
Not Determined	1	4

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Laboratory No.: 8
Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	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)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 8
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	0	0
Not Determined	22	100

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 8

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/6/97 S 1	10/6/97 S 2	10/6/97 S 3	10/6/97 S 1	10/6/97 S 2	10/5/97 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	4.98	4.03	4.49	2.84	2.67	3.03	4.50	10.6	2.85	6.3	3.73	0.40	1.39	0.19	0.8	0.9	0.7
PCB 18	9.57	7.28	8.49	3.50	4.09	3.93	8.45	13.6	3.84	7.9	6.57	0.80	1.15	0.16	1.1	2.2	0.9
PCB 28	26.2	23.6	24.5	12.1	13.2	10.6	24.8	5.3	12.0	10.9	14.6	1.8	9.80	3.70	2.8	**12.0**	0.4
PCB 52	12.2	12.1	13.0	7.18	7.30	6.76	12.4	4.0	7.08	4.0	14.0	1.3	**6.89**	**0.56**	-0.4	-1.9	0.3
PCB 44	8.24	8.57	8.96	4.67	4.49	4.12	8.59	4.2	4.43	6.3	10.1	0.8	**4.80**	**0.62**	-0.6	-1.8	0.3
PCB 66/95	20.3	19.4	17.1	11.4	11.1	10.5	18.9	8.5	11.0	4.0	19.0	3.1	**14.3**	**2.5**	0.0	-0.1	0.6
PCB 101/90	13.8	12.8	12.2	8.48	8.85	7.44	12.9	6.2	8.26	8.9	16.6	2.1	**11.0**	**1.6**	-0.9	**-4.4**	0.4
PCB 118	10.0	9.37	8.36	6.51	7.13	5.18	9.23	8.8	6.27	15.9	12.7	1.1	**10.0**	**1.1**	-1.1	**-4.1**	0.6
PCB 153	17.8	17.3	15.2	13.2	12.9	10.4	16.8	8.2	12.2	12.6	18.7	2.0	**17.6**	**1.9**	-0.4	-2.3	0.5
PCB 105	3.70	3.75	3.34	2.18	2.39	1.83	3.60	6.2	2.13	13.3	4.87	0.64	**3.65**	**0.27**	-1.0	-1.5	0.4
PCB 138/163/164	12.0	12.4	10.2	8.72	8.70	6.96	11.5	10.2	8.13	12.4	17.0	2.1	**13.38**	**0.97**	-1.3	**-6.5**	0.7
PCB 187/182	6.07	5.80	4.70	4.58	4.82	3.33	5.52	13.1	4.24	18.9	7.92	1.03	7.0	2.6	-1.2	-2.8	0.9
PCB 128	2.04	1.87	1.77	1.41	1.46	1.20	1.89	7.2	1.36	10.2	2.69	0.46	**1.87**	**0.32**	-1.2	-0.9	0.5
PCB 180	9.68	10.1	8.13	7.98	8.03	5.69	9.30	11.2	7.23	18.5	10.4	1.3	**5.83**	**0.58**	-0.4	-1.2	0.7
PCB 170/190	4.83	4.32	4.61	3.30	3.51	3.19	4.59	5.6	3.33	4.9	4.99	0.60	**3.00**	**0.46**	-0.3	-0.5	0.4
PCB 195	1.11	0.96	1.03	< 1.00	< 1.00	< 1.00	1.03	7.3	<1		1.56	0.51	<3		-1.3	-0.6	0.5
PCB 206	3.23	3.00	3.08	2.90	3.11	3.01	3.10	3.8	3.01	3.5	3.98	0.39	**3.67**	**0.87**	-0.9	-1.0	0.3
PCB 209	6.83	6.95	7.03	8.09	8.21	6.65	6.94	1.5	7.65	11.3	9.34	1.15	**8.34**	**0.49**	-1.0	-2.8	0.1
PCB 66 (optional)	10.40	9.41	7.40	5.31	4.98	4.72	9.07	16.9	5.00	5.9	12.4	2.1	**6.8**	**1.4**	-1.1	**-3.9**	1.1
PCB 95 (optional)	9.85	9.98	9.73	6.09	6.07	5.80	9.85	1.3	5.99	2.7	11.4	2.2	**7.5**	**1.1**[f]	-0.5	-1.8	0.1

Laboratory: 8

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	17	10	18
2 to 3	1	4	0
≥ 3	0	4	0

Water in Sediment VII

	Sediment VII, % water				lab, % water			Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3		mean	%RSD		assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	48.0	47.8	48.5		48.1	0.7		48.75	0.03	49.0	0.5	-0.1	-0.7	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 9

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/17/97

PAH

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
	10/7/97 S 1	10/7/97 S 2	10/7/97 S 3	10/7/97 S 1	10/7/97 S 2	10/7/97 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	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	46.3	61.3	52.5	34.4	49.1	35.9	53.4	14.1	39.8	20.3	132	13	**97.3**	**8.6**	-2.4	-2.9	0.9
phenanthrene	682	667	630	369	496	323	660	4.1	396	22.6	870	80	**489**	**23**	-1.0	-1.2	0.3
anthracene	220	174	213	138	193	119	202	12.2	150	25.6	294	32	**184**	**14**	-1.3	-1.3	0.8
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	1900	1870	1720	1160	1360	1120	1830	5.3	1213	10.6	1500	130	**981**	**78**	0.9	1.2	0.4
pyrene	1850	1800	1690	1030	1200	957	1780	4.6	1062	11.7	1445	127	**811**	**24**	0.9	1.3	0.3
benz[a]anthracene	623	608	594	328	389	317	608	2.4	345	11.3	746	58	**427**	**25**	-0.7	-1.1	0.2
chrysene + triphenylene	754	918	738	424	512	447	803	12.4	461	9.9	934	100	577	35	-0.6	-0.6	0.8
benzofluoranthenes [b+j+k]	2600	2170	2680	1640	2100	1350	2483	11.0	1697	22.3	1848	222	1441	150	1.4	1.4	0.7
benzo[e]pyrene	823	791	808	526	697	471	807	2.0	565	20.9	776	72	**553**	**59**	0.2	0.2	0.1
benzo[a]pyrene	763	658	735	466	618	413	719	7.6	499	21.3	783	69	**628**	**52**	-0.3	-0.4	0.5
perylene	403	399	376	344	489	337	393	3.7	390	22.0	392	47	**452**	**58**	0.0	0.0	0.2
indeno[1,2,3-cd]pyrene	346	415	256	231	426	296	339	23.5	318	31.3	624	69	**501**	**72**	-1.8	-1.9	1.6
dibenz[a,h]anthracene + [a,c]	121	127	91	71	109	85	113	16.9	88	21.5	159	15	**117**	**14**	-1.1	-1.6	1.1
benzo[ghi]perylene	332	422	239	214	408	287	331	27.6	303	32.3	591	63	**525**	**67**	-1.8	-1.9	1.8

Laboratory: 9

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	14	61
Qualitative	0	0
Not Determined	9	39

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 9

Reporting Date: 11/17/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/7/97 S 1	10/20/97 S 2	11/3/97 S 3	10/7/97 S 1	10/20/97 S 2	11/3/97 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	40.1	36.5	35.6	39.2	39.2	38.8	37.4	6.4	39.1	0.6	49.0	6.7	**70**	**25**	-0.9	-0.8	0.4
gamma-HCH	DL	DL	DL	DL	DL	DL	DL		DL		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	3.59	3.10	3.73	1.79	1.74	1.66	3.47	9.5	1.73	3.8	3.79	0.56	**2.33**	**0.56**	-0.3	0.0	0.6
trans-nonachlor	2.09	1.70	2.08	0.61	1.08	1.49	1.96	11.4	1.06	41.5	1.96	0.37	**1.26**	**0.13**	0.0	0.0	0.8
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	11.0	11.4	12.3	5.93	5.97	6.17	11.6	5.8	6.02	2.1	11.3	1.4	**6.59**	**0.56**	0.1	0.0	0.4
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	16.3	15.2	16.3	7.17	5.99	5.18	15.9	4.0	6.11	16.4	14.4	1.8	**5.06**	**0.56**	0.4	0.1	0.3
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	17.0	16.1	15.4	DL	DL	DL	16.2	5.0	DL		12.2	2.1	1.25	0.10	1.3	0.3	0.3
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 9

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	6	27
Qualitative	1	5
Not Determined	15	68

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 9

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/17/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/7/97 S 1	10/7/97 S 2	10/7/97 S 3	10/7/97 S 1	10/7/97 S 2	10/7/97 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	3.98	2.83	3.95	4.67	2.57	3.22	3.59	18.3	3.49	30.8	3.73	0.40	1.39	0.19	-0.1	-0.2	1.2
PCB 18	5.18	4.31	5.60	2.82	1.98	2.37	5.03	13.1	2.39	17.6	6.57	0.80	1.15	0.16	-0.9	-1.8	0.9
PCB 28	13.2	12.9	12.9	5.63	5.59	5.33	13.0	1.3	5.52	3.0	14.6	1.8	9.80	3.70	-0.5	-2.0	0.1
PCB 52	14.3	13.8	14.1	6.34	6.97	6.22	14.1	1.8	6.51	6.2	14.0	1.3	**6.89**	**0.56**	0.0	0.1	0.1
PCB 44	9.06	8.90	9.75	3.84	4.11	4.01	9.24	4.9	3.99	3.4	10.1	0.8	**4.80**	**0.62**	-0.3	-1.0	0.3
PCB 66/95	13.4	13.6	13.3	7.1	7.7	6.9	13.4	1.1	7.2	6.3	19.0	3.1	**14.3**	**2.5**	-1.2	**-6.6**	0.1
PCB 101/90	20.4	20.2	21.5	13.1	13.9	12.3	20.7	3.4	13.1	6.1	16.6	2.1	**11.0**	**1.6**	1.0	**4.8**	0.2
PCB 118	13.2	13.2	14.4	8.54	9.37	8.91	13.6	5.1	8.94	4.7	12.7	1.1	**10.0**	**1.1**	0.3	1.1	0.3
PCB 153	22.5	22.8	24.6	14.8	16.1	15.2	23.3	4.9	15.4	4.3	18.7	2.0	**17.6**	**1.9**	1.0	**5.5**	0.3
PCB 105	6.29	6.61	7.11	3.96	4.37	4.36	6.67	6.2	4.23	5.5	4.87	0.64	**3.65**	**0.27**	1.5	2.1	0.4
PCB 138/163/164	18.5	18.8	20.3	13.2	13.9	12.9	19.2	5.0	13.3	3.8	17.0	2.1	**13.38**	**0.97**	0.5	2.6	0.3
PCB 187/182	11.2	11.0	12.1	8.87	9.38	9.13	11.4	5.1	9.13	2.8	7.92	1.03	7.0	2.6	1.8	**4.2**	0.3
PCB 128	2.42	2.40	2.56	1.49	1.63	1.53	2.46	3.5	1.55	4.7	2.69	0.46	**1.87**	**0.32**	-0.3	-0.3	0.2
PCB 180	12.7	12.6	12.5	9.40	9.89	8.97	12.6	0.8	9.42	4.9	10.4	1.3	**5.83**	**0.58**	0.9	2.7	0.1
PCB 170/190	18.5	19.0	18.9	18.0	20.7	18.7	18.8	1.4	19.1	7.3	4.99	0.60	**3.00**	**0.46**	**11.1**	**16.4**	0.1
PCB 195	3.11	3.07	3.09	2.71	2.87	2.61	3.09	0.6	2.73	4.8	1.56	0.51	<3		**3.9**	1.8	0.0
PCB 206	5.21	5.29	4.63	4.40	4.65	3.93	5.04	7.1	4.33	8.4	3.98	0.39	**3.67**	**0.87**	1.1	1.3	0.5
PCB 209	11.7	11.7	11.1	11.4	12.3	10.5	11.5	3.0	11.4	7.9	9.34	1.15	**8.34**	**0.49**	0.9	2.6	0.2
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 9

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	16	9	18
2 to 3	0	4	0
≥ 3	2	5	0

Water in Sediment VII

	Sediment VII, % water				lab, % water			Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3		mean	%RSD		assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	50.0	48.0	50.0		49.3	2.3		48.75	0.03	49.0	0.5	0.0	0.3	0.2

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 10

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/25/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/23/1997 S 1	11/23/1997 S 2	11/23/1997 S 3	11/23/1997 S 1	11/23/1997 S 2	11/23/1997 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	228	269	148	302			215	28.5	302		821	116	**1010**	**140**	-3.0	-2.8	1.9
2-methylnaphthalene	91.6	104	64.5	102			86.8	23.4	102		290	45	325	60	-2.8	-2.2	1.6
1-methylnaphthalene	141	153	107	103			134	17.7	103		157	24	150	30	-0.6	-0.5	1.2
biphenyl	116	117	92.9	86.5			109	12.5	86.5		106	23	175	18	0.1	0.1	0.8
2,6-dimethylnaphthalene	86.2	104	55.9	70.3			82.1	29.7	70.3		162	22	120	24	-2.0	-1.9	2.0
acenaphthylene	125	147	95.5	67.5			122	21.0	67.5		91.9	24.6	37	14	1.3	0.6	1.4
acenaphthene	47.4	50.3	31.8	30.9			43.2	23.0	30.9		75.8	7.9	41	10	-1.7	-2.2	1.5
1,6,7-trimethylnaphthalene	61.0	68.7	50.2	45.8			60.0	15.5	45.8		85.4	16.5	48	10	-1.2	-1.0	1.0
fluorene	91.0	120	76.2	59.1			95.8	23.3	59.1		132	13	**97.3**	**8.6**	-1.1	-1.4	1.6
phenanthrene	528	588	362	329			493	23.7	329		870	80	**489**	**23**	-1.7	-2.2	1.6
anthracene	185	206	145	129			179	17.2	129		294	32	**184**	**14**	-1.6	-1.7	1.1
1-methylphenanthrene	NA	NA	NA	NA			NA		NA		204	18	101	27			
fluoranthene	880	1065	706	699			884	20.3	699		1500	130	**981**	**78**	-1.6	-2.2	1.4
pyrene	874	1062	700	577			879	20.6	577		1445	127	**811**	**24**	-1.6	-2.1	1.4
benz[a]anthracene	468	520	385	367			458	14.9	367		746	58	**427**	**25**	-1.5	-2.3	1.0
chrysene + triphenylene	627	903	488	539			673	31.4	539		934	100	577	35	-1.1	-1.3	2.1
benzofluoranthenes [b+j+k]	1138	1337	902	1374			1126	19.3	1374		1848	222	1441	150	-1.6	-1.6	1.3
benzo[e]pyrene	475	563	388	620			475	18.4	620		776	72	**553**	**59**	-1.6	-2.1	1.2
benzo[a]pyrene	552	630	431	566			538	18.6	566		783	69	**628**	**52**	-1.3	-1.6	1.2
perylene	340	318	249	499			302	15.8	499		392	47	**452**	**58**	-0.9	-1.0	1.1
indeno[1,2,3-cd]pyrene	476	553	407	609			478	15.3	609		624	69	**501**	**72**	-0.9	-1.0	1.0
dibenz[a,h]anthracene + [a,c]	49	181	NA	226			115	81.6	226		159	15	**117**	**14**	-1.1	-1.5	**5.4**
benzo[ghi]perylene	566	672	478	665			572	17.0	665		591	63	**525**	**67**	-0.1	-0.1	1.1

Laboratory: 10

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	22	96
Qualitative	0	0
Not Determined	1	4

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	20	14	20
2 to 3	2	8	1
≥ 3	0	0	1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Laboratory No.: 10
Reporting Date: 11/25/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/19/97 S 1	11/19/97 S 2	11/21/97 S 3	11/21/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	9.61	8.92	10.9	7.60	NA	NA	9.81	10.2	7.60		49.0	6.7	**70**	**25**	**-3.2**	-2.8	0.7
gamma-HCH	0.65	0.50	0.62	NA	NA	NA	0.59	13.5	NA		<2		<2				0.9
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	4.43	4.85	4.72	2.34	NA	NA	4.67	4.6	2.34		3.20	0.82	<2		1.8	0.1	0.3
2,4'-DDE	0.54	0.81	0.84	0.18	NA	NA	0.73	22.6	0.18		2.25	0.72	**0.73**	**0.11**	-2.7	-0.1	1.5
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	4.56	4.72	4.47	2.38	NA	NA	4.58	2.8	2.38		3.79	0.56	**2.33**	**0.56**	0.8	0.1	0.2
trans-nonachlor	0.66	1.18	0.91	1.07	NA	NA	0.92	28.4	1.07		1.96	0.37	**1.26**	**0.13**	-2.1	-0.1	1.9
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	12.1	12.4	11.7	5.57	NA	NA	12.1	2.7	5.57		11.3	1.4	**6.59**	**0.56**	0.3	0.1	0.2
2,4'-DDD	1.77	1.59	1.96	NA	NA	NA	1.77	10.4	NA		4.54	0.80	<2		-2.4	-0.2	0.7
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	12.5	11.3	10.9	4.02	NA	NA	11.6	7.1	4.02		14.4	1.8	**5.06**	**0.56**	-0.8	-0.2	0.5
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	0.55	1.25	1.62	NA	NA	NA	1.14	47.7	NA		<2		<2				**3.2**
4,4'-DDT	14.3	16.8	14.3	2.19	NA	NA	15.1	9.8	2.19		12.2	2.1	1.25	0.10	1.0	0.2	0.7
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 10
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	11	50
Qualitative	0	0
Not Determined	11	50

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	8	10
2 to 3	3	1	0
≥ 3	1	0	1

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 10

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/25/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/19/97 S 1	11/19/97 S 2	11/19/97 S 3	11/19/97 S 1	11/19/97 S 2	11/19/97 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	3.64	3.25	3.00	0.98			3.30	9.8	0.98		3.73	0.40	1.39	0.19	-0.5	-0.5	0.7
PCB 18	4.71	4.14	4.42	1.10			4.42	6.4	1.10		6.57	0.80	1.15	0.16	-1.3	-2.5	0.4
PCB 28	11.1	12.2	11.5	4.00			11.6	4.8	4.00		14.6	1.8	9.80	3.70	-0.8	**-3.6**	0.3
PCB 52	11.3	11.3	11.4	7.70			11.3	0.5	7.70		14.0	1.3	**6.89**	**0.56**	-0.8	**-3.2**	0.0
PCB 44	10.0	10.5	10.6	4.75			10.4	3.4	4.75		10.1	0.8	**4.80**	**0.62**	0.1	0.3	0.2
PCB 66/95	10.0	9.73	9.65	4.97			9.79	1.9	4.97		19.0	3.1	**14.3**	**2.5**	-1.9	**-10.9**	0.1
PCB 101/90	13.8	13.8	13.5	9.59			13.7	1.2	9.59		16.6	2.1	**11.0**	**1.6**	-0.7	**-3.5**	0.1
PCB 118	10.8	11.5	10.4	8.65			10.9	5.0	8.65		12.7	1.1	**10.0**	**1.1**	-0.6	-2.1	0.3
PCB 153	14.2	13.4	13.1	10.2			13.6	4.2	10.2		18.7	2.0	**17.6**	**1.9**	-1.1	**-6.0**	0.3
PCB 105	8.30	8.24	7.53	2.84			8.02	5.3	2.84		4.87	0.64	**3.65**	**0.27**	2.6	**3.7**	0.4
PCB 138/163/164	17.2	19.0	16.5	10.8			17.6	7.5	10.8		17.0	2.1	**13.38**	**0.97**	0.1	0.7	0.5
PCB 187/182	7.94	9.32	8.00	NA			8.42	9.3	NA		7.92	1.03	7.0	2.6	0.3	0.6	0.6
PCB 128	3.68	3.40	3.41	2.05			3.50	4.5	2.05		2.69	0.46	**1.87**	**0.32**	1.2	1.0	0.3
PCB 180	10.4	11.7	10.8	5.12			11.0	6.3	5.12		10.4	1.3	**5.83**	**0.58**	0.2	0.7	0.4
PCB 170/190	4.30	3.58	3.40	2.93			3.76	12.7	2.93		4.99	0.60	**3.00**	**0.46**	-1.0	-1.5	0.8
PCB 195	0.98	0.94	0.92	NA			0.95	3.2	NA		1.56	0.51	<3		-1.6	-0.7	0.2
PCB 206	4.53	4.92	4.84	3.10			4.76	4.3	3.10		3.98	0.39	**3.67**	**0.87**	0.8	0.9	0.3
PCB 209	9.82	10.1	10.3	8.91			10.1	2.3	8.91		9.34	1.15	**8.34**	**0.49**	0.3	0.9	0.2
PCB 66 (optional)	10.0	9.73	9.65	4.97			9.79	1.9	4.97		12.4	2.1	**6.8**	**1.4**	-0.8	**-3.1**	0.1
PCB 95 (optional)	8.11	7.64	7.73	6.06			7.83	3.2	6.06		11.4	2.2	**7.5**	**1.1**	-1.2	**-4.2**	0.2

Laboratory: 10

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	10	18
2 to 3	1	2	0
≥ 3	0	6	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	49.2	48.5	48.1	48.6	1.2	48.75	0.03	49.0	0.5	0.0	-0.3	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 11

Reporting Date: 12/1/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Material reference values: Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Performance scores[a]: Sediment VII		
	9/26/97 S 1	9/26/97 S 2	9/26/97 S 3	9/26/97 S 1	9/26/97 S 2	9/26/97 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	812	609	708	866	674	784	710	14.3	775	12.4	821	116	**1010**	**140**	-0.5	-0.5	1.0
2-methylnaphthalene	344	252	334	329	265	295	310	16.3	296	10.8	290	45	325	60	0.3	0.2	1.1
1-methylnaphthalene	162	138	163	153	134	152	154	9.2	146	7.3	157	24	150	30	-0.1	-0.1	0.6
biphenyl	97.9	75.3	91.4	82.6	77.2	80.1	88.2	13.2	80.0	3.4	106	23	175	18	-0.7	-0.4	0.9
2,6-dimethylnaphthalene	185	149	190	138	118	153	175	12.8	136	12.9	162	22	120	24	0.3	0.3	0.9
acenaphthylene	129	124	148	81.0	79.0	77.8	134	9.5	79.3	2.0	91.9	24.6	37	14	1.8	0.9	0.6
acenaphthene	76.3	77.4	84.3	40.5	37.8	40.0	79.3	5.5	39.4	3.6	75.8	7.9	41	10	0.2	0.2	0.4
1,6,7-trimethylnaphthalene	130	111	121	64.7	40.2	46.2	121	7.9	50.4	25.4	85.4	16.5	48	10	1.7	1.4	0.5
fluorene	150	124	151	78.9	70.1	78.6	142	10.8	75.9	6.6	132	13	**97.3**	**8.6**	0.3	0.3	0.7
phenanthrene	976	870	1120	487	473	486	989	12.7	482	1.6	870	80	**489**	**23**	0.5	0.7	0.8
anthracene	367	287	356	205	198	197	337	12.9	200	2.2	294	32	**184**	**14**	0.6	0.6	0.9
1-methylphenanthrene	263	217	237	101	71.2	98.3	239	9.7	90.2	18.3	204	18	101	27	0.7	1.0	0.6
fluoranthene	1900	1820	2150	822	1010	974	1957	8.8	935	10.7	1500	130	**981**	**78**	1.2	1.6	0.6
pyrene	1800	1810	1850	657	845	776	1820	1.5	759	12.5	1445	127	**811**	**24**	1.0	1.4	0.1
benz[a]anthracene	923	774	1040	425	407	478	912	14.6	437	8.5	746	58	**427**	**25**	0.9	1.3	1.0
chrysene + triphenylene	1230	1120	1410	560	651	704	1253	11.7	638	11.4	934	100	577	35	1.4	1.6	0.8
benzofluoranthenes [b+j+k]	2516	2117	2845	1487	1580	1759	2493	14.6	1609	8.6	1848	222	1441	150	1.4	1.4	1.0
benzo[e]pyrene	850	761	993	505	568	574	868	13.5	549	7.0	776	72	**553**	**59**	0.5	0.6	0.9
benzo[a]pyrene	984	878	1240	591	616	628	1034	18.0	612	3.1	783	69	**628**	**52**	1.3	1.7	1.2
perylene	566	466	670	425	456	495	567	18.0	459	7.6	392	47	**452**	**58**	1.8	1.9	1.2
indeno[1,2,3-cd]pyrene	900	700	1270	713	645	609	957	30.2	656	8.1	624	69	**501**	**72**	2.1	2.3	2.0
dibenz[a,h]anthracene + [a,c]	203	176	291	145	138	155	223	26.9	146	5.9	159	15	**117**	**14**	1.6	2.3	1.8
benzo[ghi]perylene	764	624	1020	505	560	546	803	25.0	537	5.3	591	63	**525**	**67**	1.4	1.5	1.7

Laboratory: 11
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Laboratory No.: 11
Reporting Date: 12/1/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	-	10/24/97	11/8/97	10/3/97	10/10/97	11/9/97	lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
heptachlor	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
aldrin	NA	<5.9	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
heptachlor epoxide	NA	NA	NA	<0.79	<0.77	<0.8	NA		<0.8		<3		<2				
oxychlordane	NA	<2.0	<2.0	0.55	0.39	<0.8	<2.0		0.47	24.1	<2		2.59	0.20			
trans-chlordane	NA	3.80	4.40	2.00	1.90	2.20	4.10	10.3	2.03	7.5	3.20	0.82	<2		1.1	0.1	0.7
2,4'-DDE	NA	<14	<2.0	<5.4	<6.2	<0.8	<2.0		<6.2		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
cis-chlordane	NA	3.20	3.80	2.40	2.10	2.50	3.50	12.1	2.33	8.9	3.79	0.56	**2.33**	**0.56**	-0.3	0.0	0.8
trans-nonachlor	NA	1.20	1.80	1.10	1.20	1.40	1.50	28.3	1.23	12.4	1.96	0.37	**1.26**	**0.13**	-0.9	0.0	1.9
dieldrin	NA	3.20	1.90	1.90	1.00	2.90	2.55	36.0	1.93	49.2	2.10	0.52	1.26	0.37	0.8	0.0	2.4
4,4'-DDE	NA	13.0	17.0	6.60	7.20	8.60	15.0	18.9	7.47	13.7	11.3	1.4	**6.59**	**0.56**	1.3	0.3	1.3
2,4'-DDD	NA	<4.1	<2.0	<0.79	<0.77	<1.3	<4.1		<0.8		4.54	0.80	<2				
endrin	NA	<8.1	<4.0	<5.3	<0.77	<4.3	<8.1		<5.3		<2		<2				
endosulfan II	NA	<2.0	<2.0	<3.5	<0.77	<0.8	<2.0		<0.8		<2		<2				
4,4'-DDD	NA	12.0	15.0	4.00	3.60	4.00	13.5	15.7	3.87	6.0	14.4	1.8	**5.06**	**0.56**	-0.2	-0.1	1.0
2,4'-DDT	NA	<2.0	<2.0	<0.79	<2.4	<0.8	<2.0		<0.8		<3		<2				
cis-nonachlor	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		<2		<2				
4,4'-DDT	NA	5.70	6.20	1.50	1.40	1.80	5.95	5.9	1.57	13.3	12.2	2.1	1.25	0.10	-2.1	-0.5	0.4
mirex	NA	<6.1	<2.0	<0.79	<0.77	<0.8	<6.1		<0.8		<2		<2				

Laboratory: 11
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	7	32
Qualitative	13	59
Not Determined	2	9

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 11

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/1/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry S1	S2	S3	SRM 1941a, ng/g dry S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	<2.0	<2.0	<0.79	<0.77	<0.8	<2.0		<0.8		3.73	0.40	1.39	0.19			
PCB 18	NA	13.0	12.0	4.90	4.20	5.60	12.5	5.7	4.90	14.3	6.57	0.80	1.15	0.16	**3.6**	**7.0**	0.4
PCB 28	NA	21.0	20.0	7.60	7.30	9.20	20.5	3.4	8.03	12.7	14.6	1.8	9.80	3.70	1.6	**6.9**	0.2
PCB 52	NA	17.0	16.0	7.00	7.20	8.80	16.5	4.3	7.67	12.9	14.0	1.3	**6.89**	**0.56**	0.7	3.0	0.3
PCB 44	NA	12.0	12.0	5.00	5.10	6.10	12.0	0.0	5.40	11.3	10.1	0.8	**4.80**	**0.62**	0.8	2.3	0.0
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	NA	20.0	19.0	9.4	10.0	12.0	19.5	3.6	10.5	13.0	16.6	2.1	**11.0**	**1.6**	0.7	**3.4**	0.2
PCB 118	NA	17.0	15.0	8.40	8.70	9.90	16.0	8.8	9.00	8.8	12.7	1.1	**10.0**	**1.1**	1.1	**4.0**	0.6
PCB 153	NA	17.0	18.0	9.8	10.0	12.0	17.5	4.0	10.6	11.5	18.7	2.0	**17.6**	**1.9**	-0.3	-1.4	0.3
PCB 105	NA	<2.0	6.00	<0.79	<0.77	3.80	<6		<0.79		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	NA	19.0	19.0	9.10	9.30	11.0	19.0	0.0	9.80	10.7	17.0	2.1	**13.38**	**0.97**	0.5	2.4	0.0
PCB 187/182	NA	9.90	9.50	5.30	5.60	6.60	9.70	2.9	5.83	11.7	7.92	1.03	7.0	2.6	0.9	2.1	0.2
PCB 128	NA	6.50	2.40	1.60	1.60	1.90	4.45	65.1	1.70	10.2	2.69	0.46	**1.87**	**0.32**	2.6	2.1	**4.3**
PCB 180	NA	13.0	13.0	7.60	7.60	9.20	13.0	0.0	8.13	11.4	10.4	1.3	**5.83**	**0.58**	1.0	**3.1**	0.0
PCB 170/190	NA	7.10	6.80	4.00	4.10	5.00	6.95	3.1	4.37	12.6	4.99	0.60	**3.00**	**0.46**	1.6	2.3	0.2
PCB 195	NA	2.00	2.00	1.30	1.40	1.70	2.00	0.0	1.47	14.2	1.56	0.51	<3		1.1	0.5	0.0
PCB 206	NA	5.10	5.20	3.70	3.90	4.70	5.15	1.4	4.10	12.9	3.98	0.39	**3.67**	**0.87**	1.2	1.4	0.1
PCB 209	NA	11.0	11.0	8.30	8.80	11.00	11.0	0.0	9.37	15.3	9.34	1.15	**8.34**	**0.49**	0.7	2.0	0.0
PCB 66 (optional)	NA	19.0	13.0	5.80	8.70	7.30	16.0	26.5	7.27	20.0	12.4	2.1	**6.8**	**1.4**	1.2	**4.3**	1.8
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 11

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	2	11
Not Determined	1	6

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	13	4	14
2 to 3	1	6	0
≥ 3	1	5	1

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	50.2	51.9	51.4	51.2	1.7	48.75	0.03	49.0	0.5	0.2	1.8	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 12

Reporting Date: 12/1/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/5/97 S 1	11/5/97 S 2	11/5/97 S 3	11/5/97 S 1	11/5/97 S 2	11/5/97 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	183	179	<73.5	NA	NA	NA	181	1.8	NA		821	116	**1010**	**140**	**-3.1**	-2.9	0.1
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	59.4	59.5	45.9	NA	NA	NA	54.9	14.2	NA		75.8	7.9	41	10	-1.1	-1.4	0.9
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	86	75	85	NA	NA	NA	82	7.2	NA		132	13	**97.3**	**8.6**	-1.5	-1.9	0.5
phenanthrene	744	707	726	NA	NA	NA	726	2.5	NA		870	80	**489**	**23**	-0.7	-0.8	0.2
anthracene	189	175	182	NA	NA	NA	182	3.9	NA		294	32	**184**	**14**	-1.5	-1.6	0.3
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	1384	1349	1401	NA	NA	NA	1378	1.9	NA		1500	130	**981**	**78**	-0.3	-0.4	0.1
pyrene	1152,1	1111	1172	NA	NA	NA	1141	3.8	NA		1445	127	**811**	**24**	-0.8	-1.2	0.3
benz[a]anthracene	438	428	461	NA	NA	NA	442	3.8	NA		746	58	**427**	**25**	-1.6	-2.4	0.3
chrysene + triphenylene	646	634	672	NA	NA	NA	650	3.0	NA		934	100	577	35	-1.2	-1.4	0.2
benzofluoranthenes [b+j+k]	1371	1436	1419	NA	NA	NA	1409	2.4	NA		1848	222	1441	150	-1.0	-1.0	0.2
benzo[e]pyrene	2000	1952	1990	NA	NA	NA	1981	1.3	NA		776	72	**553**	**59**	**6.2**	**8.3**	0.1
benzo[a]pyrene	776	754	786	NA	NA	NA	772	2.1	NA		783	69	**628**	**52**	-0.1	-0.1	0.1
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	1016	884	950	NA	NA	NA	950	6.9	NA		624	69	**501**	**72**	2.1	2.2	0.5
dibenz[a,h]anthracene + [a,c]	146	140	150	NA	NA	NA	145	3.6	NA		159	15	**117**	**14**	-0.3	-0.5	0.2
benzo[ghi]perylene	648	753	708	NA	NA	NA	703	7.5	NA		591	63	**525**	**67**	0.8	0.8	0.5

Laboratory: 12
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	15	65
Qualitative	0	0
Not Determined	8	35

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 12

Reporting Date: 12/1/97

PESTICIDES

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
	1/0/00 S 1	1/0/00 S 2	1/0/00 S 3	1/0/00 S 1	1/0/00 S 2	1/0/00 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 12
Pesticides in Sediment VII

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 12

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/1/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/3/97 S 1	11/3/97 S 2	11/3/97 S 3	11/3/97 S 1	11/3/97 S 2	11/3/97 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	NA	NA	NA	NA	NA	NA	NA		NA		3.73	0.40	1.39	0.19			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		6.57	0.80	1.15	0.16			
PCB 28	30.1	25.2	25.3	NA	NA	NA	26.9	10.4	NA		14.6	1.8	9.80	3.70	**3.3**	**14.5**	0.7
PCB 52	19.7	17.5	16.9	NA	NA	NA	18.0	8.2	NA		14.0	1.3	**6.89**	**0.56**	1.2	**4.8**	0.5
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		10.1	0.8	**4.80**	**0.62**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	20.1	16.8	18.7	NA	NA	NA	18.5	8.9	NA		16.6	2.1	**11.0**	**1.6**	0.5	2.2	0.6
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		12.7	1.1	**10.0**	**1.1**			
PCB 153	30.7	29.6	32.7	NA	NA	NA	31.0	5.1	NA		18.7	2.0	**17.6**	**1.9**	2.6	**14.6**	0.3
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	30.4	27.3	32.4	NA	NA	NA	30.0	8.6	NA		17.0	2.1	**13.38**	**0.97**	**3.1**	**15.5**	0.6
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		7.92	1.03	7.0	2.6			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.69	0.46	**1.87**	**0.32**			
PCB 180	15.9	14.4	15.9	NA	NA	NA	15.4	5.6	NA		10.4	1.3	**5.83**	**0.58**	1.9	**6.0**	0.4
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		4.99	0.60	**3.00**	**0.46**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		1.56	0.51	<3				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		3.98	0.39	**3.67**	**0.87**			
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 12

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	6	33
Qualitative	0	0
Not Determined	12	67

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

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	48.0	47.6	47.1	47.6	0.9	48.75	0.03	49.0	0.5	-0.1	-1.1	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 13

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/17/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/22/97 S 1	11/22/97 S 2	11/22/97 S 3	11/22/97 S 1	11/22/97 S 2	11/22/97 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	354	456	596	559	539	515	469	25.9	538	4.1	821	116	**1010**	**140**	-1.7	-1.6	1.7
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	124	132	221	151	119	128	159	33.9	133	12.4	162	22	120	24	-0.1	-0.1	2.3
acenaphthylene	130	161	234	97.7	79.2	93.3	175	30.5	90.1	10.7	91.9	24.6	37	14	**3.6**	1.7	2.0
acenaphthene	40.2	48.5	74.0	33.3	27.5	26.0	54.2	32.5	28.9	13.3	75.8	7.9	41	10	-1.1	-1.5	2.2
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	70	91	102	46.8	51.4	61.6	88	18.3	53.3	14.2	132	13	**97.3**	**8.6**	-1.4	-1.7	1.2
phenanthrene	529	652	780	399	337	354	654	19.2	363	8.8	870	80	**489**	**23**	-1.0	-1.2	1.3
anthracene	220	262	347	179	144	174	276	23.4	166	11.4	294	32	**184**	**14**	-0.2	-0.3	1.6
1-methylphenanthrene	132	169	161	70.2	70.8	69.6	154	12.6	70.2	0.9	204	18	101	27	-1.0	-1.5	0.8
fluoranthene	910	1080	1340	715	708	660	1110	19.5	694	4.3	1500	130	**981**	**78**	-1.0	-1.4	1.3
pyrene	874	1000	1280	590	514	574	1051	19.8	559	7.2	1445	127	**811**	**24**	-1.1	-1.5	1.3
benz[a]anthracene	461	551	676	347	290	327	563	19.2	321	9.0	746	58	**427**	**25**	-1.0	-1.4	1.3
chrysene + triphenylene	648	749	891	504	433	472	763	16.0	470	7.6	934	100	577	35	-0.7	-0.9	1.1
benzofluoranthenes [b+j+k]	1004	1306	1579	1056	831	1056	1296	22.2	981	13.2	1848	222	1441	150	-1.2	-1.2	1.5
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	440	533	683	433	365	395	552	22.2	398	8.6	783	69	**628**	**52**	-1.2	-1.5	1.5
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	411	464	706	404	352	440	527	29.8	399	11.1	624	69	**501**	**72**[c]	-0.6	-0.7	2.0
dibenz[a,h]anthracene + [a,c]	123	126	213	116	90	113	154	33.2	106	13.7	159	15	**117**	**14**	-0.1	-0.2	2.2
benzo[ghi]perylene	299	390	510	265	288	368	400	26.5	307	17.6	591	63	**525**	**67**	-1.3	-1.4	1.8

Laboratory: 13
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	17	74
Qualitative	0	0
Not Determined	6	26

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	16	17	13
2 to 3	0	0	4
≥ 3	1	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 13

Reporting Date: 12/17/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/17/97 S 1	10/14/97 S 2	10/27/97 S 3	10/17/97 S 1	10/14/97 S 2	10/27/97 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%)
alpha-HCH	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
hexachlorobenzene	27.1	29.2	34.8	52.2	56.4	166.0	30.4	13.1	91.5	70.5	49.0	6.7	**70**	**25**	-1.5	-1.3	0.9
gamma-HCH	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
heptachlor	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
aldrin	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
heptachlor epoxide	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<3		<2				
oxychlordane	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		2.59	0.20			
trans-chlordane	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		3.20	0.82	<2				
2,4'-DDE	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		2.25	0.72	**0.73**	**0.11**			
endosulfan I	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
cis-chlordane	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		1.96	0.37	**1.26**	**0.13**			
dieldrin	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		2.10	0.52	1.26	0.37			
4,4'-DDE	5.1	7.7	8.8	3.21	2.83	6.11	7.2	26.7	4.05	44.3	11.3	1.4	**6.59**	**0.56**	-1.4	-0.3	1.8
2,4'-DDD	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		4.54	0.80	<2				
endrin	<5.0	<5.0	<5.0	<4.0	<2.0	<3.0	<5.0		<4.0		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	7.96	11.4	12.6	2.61	3.48	3.57	10.7	22.6	3.22	16.5	14.4	1.8	**5.06**	**0.56**	-1.0	-0.3	1.5
2,4'-DDT	<5.0	<5.0	<5.0	<4.0	<2.0	<3.0	<5.0		<4.0		<3		<2				
cis-nonachlor	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				
4,4'-DDT	6.78	9.03	13.8	<4.0	<2.0	<3.0	9.87	36.3	<4.0		12.2	2.1	1.25	0.10	-0.8	-0.2	2.4
mirex	<2.5	<2.5	<2.5	<2.0	<1.0	<1.5	<2.5		<2.0		<2		<2				

Laboratory: 13

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	4	18
Qualitative	17	77
Not Determined	1	5

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 13**

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant) Reporting Date: 12/17/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry S1	S2	S3	SRM 1941a, ng/g dry S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		3.73	0.40	1.39	0.19			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		6.57	0.80	1.15	0.16			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		14.6	1.8	9.80	3.70			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		14.0	1.3	**6.89**	**0.56**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		10.1	0.8	**4.80**	**0.62**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		16.6	2.1	**11.0**	**1.6**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		12.7	1.1	**10.0**	**1.1**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		18.7	2.0	**17.6**	**1.9**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		17.0	2.1	**13.38**	**0.97**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		7.92	1.03	7.0	2.6			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.69	0.46	**1.87**	**0.32**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		10.4	1.3	**5.83**	**0.58**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		4.99	0.60	**3.00**	**0.46**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		1.56	0.51	<3				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		3.98	0.39	**3.67**	**0.87**			
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 13

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	51.5	53.0	51.5	52.0	1.7	48.75	0.03	49.0	0.5	0.3	2.5	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 14

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 11/24/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	9/21/97 S 1	9/21/97 S 2	9/21/97 S 3	9/21/97 S 1	9/21/97 S 2	9/21/97 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	747	584	543	808	800	740	625	17.3	783	4.7	821	116	**1010**	**140**	-1.0	-0.9	1.2
2-methylnaphthalene	328	246	219	305	320	277	264	21.5	301	7.3	290	45	325	60	-0.4	-0.3	1.4
1-methylnaphthalene	180	130	108	159	164	131	139	26.5	151	11.8	157	24	150	30	-0.5	-0.4	1.8
biphenyl	95.5	78.6	64.2	75.8	89.1	50.4	79.4	19.7	71.8	27.4	106	23	175	18	-1.0	-0.6	1.3
2,6-dimethylnaphthalene	211	63.9	77.6	133	54.7	48.5	118	69.2	78.7	59.8	162	22	120	24	-1.1	-1.0	**4.6**
acenaphthylene	135	112	55.7	21.0	25.7	22.2	101	40.4	23.0	10.6	91.9	24.6	37	14	0.4	0.2	2.7
acenaphthene	86.4	76.9	57.3	65.9	61.0	28.8	73.5	20.2	51.9	38.8	75.8	7.9	41	10	-0.1	-0.2	1.3
1,6,7-trimethylnaphthalene	53.3	47.3	39.6	37.7	38.7	27.5	46.7	14.7	34.6	17.9	85.4	16.5	48	10	-1.8	-1.5	1.0
fluorene	128	121	91	67.6	70.2	47.5	113	17.2	61.8	20.1	132	13	**97.3**	**8.6**	-0.6	-0.7	1.1
phenanthrene	934	947	854	428	429	400	912	5.5	419	3.9	870	80	**489**	**23**	0.2	0.2	0.4
anthracene	279	291	259	170	156	143	276	5.9	156	8.6	294	32	**184**	**14**	-0.2	-0.3	0.4
1-methylphenanthrene	211	248	231	76	116	96	230	8.1	96	20.7	204	18	101	27	0.5	0.8	0.5
fluoranthene	1610	1740	1760	823	1090	967	1703	4.8	960	13.9	1500	130	**981**	**78**	0.5	0.7	0.3
pyrene	1540	1620	1630	659	873	756	1597	3.1	763	14.1	1445	127	**811**	**24**	0.4	0.6	0.2
benz[a]anthracene	711	841	904	341	362	345	819	12.0	349	3.2	746	58	**427**	**25**	0.4	0.6	0.8
chrysene + triphenylene	1030	1090	1190	539	554	531	1103	7.3	541	2.2	934	100	577	35	0.7	0.8	0.5
benzofluoranthenes [b+j+k]	1790	1970	2250	1170	1260	1280	2003	11.6	1237	4.7	1848	222	1441	150	0.3	0.3	0.8
benzo[e]pyrene	766	772	892	491	491	490	810	8.8	491	0.1	776	72	**553**	**59**	0.2	0.2	0.6
benzo[a]pyrene	672	779	861	441	439	429	771	12.3	436	1.5	783	69	**628**	**52**$_f$	-0.1	-0.1	0.8
perylene	340	368	370	309	301	259	359	4.7	290	9.3	392	47	**452**	**58**	-0.3	-0.3	0.3
indeno[1,2,3-cd]pyrene	671	641	662	468	435	402	658	2.3	435	7.6	624	69	**501**	**72**	0.2	0.2	0.2
dibenz[a,h]anthracene + [a,c]	178	124	156	112	86.4	86.0	153	17.8	94.8	15.7	159	15	**117**	**14**	-0.2	-0.2	1.2
benzo[ghi]perylene	671	607	612	466	422	350	630	5.6	413	14.2	591	63	**525**	**67**	0.3	0.3	0.4

Laboratory: 14
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	23	23	21
2 to 3	0	0	1
≥ 3	0	0	1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 14

Reporting Date: 11/24/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	9/25/97 S 1	9/25/97 S 2	10/5/97 S 3	9/25/97 S 1	9/25/97 S 2	10/5/97 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	60.8	67.0	NA	68.2	64.3	NA	63.9	6.9	66.3	4.2	49.0	6.7	**70**	**25**	1.2	1.1	0.5
gamma-HCH	<0.242	<6.89	NA	NA	NA	NA	<6.9		NA		<2		<2				
heptachlor	5.66	0.35	0.26	NA	NA	NA	2.09	148.3	NA		<2		<2				**9.9**
aldrin	37.0	44.5	26.0	NA	NA	NA	**35.8**	26.0	NA		<2		<2				1.7
heptachlor epoxide	<0.215	0.23	<0.756	NA	NA	NA	<0.8		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	2.78	0.23	<0.878	0.92	0.89	0.44	1.51	119.8	0.75	35.8	2.25	0.72	**0.73**	**0.11**	-1.3	-0.1	**8.0**
endosulfan I	0.75	0.67	0.63	NA	NA	NA	0.68	8.5	NA		<2		<2				0.6
cis-chlordane	11.6	10.1	6.38	3.49	3.32	3.33	9.36	28.7	3.38	2.8	3.79	0.56	**2.33**	**0.56**	**5.9**	0.4	1.9
trans-nonachlor	3.17	2.95	2.54	1.73	1.33	1.37	2.89	11.1	1.48	14.9	1.96	0.37	**1.26**	**0.13**	1.9	0.1	0.7
dieldrin	2.78	1.98	1.43	NA	NA	NA	2.06	32.9	NA		2.10	0.52	1.26	0.37	-0.1	0.0	2.2
4,4'-DDE	14.4	12.6	12.7	4.71	5.74	5.43	13.2	7.6	5.29	10.0	11.3	1.4	**6.59**	**0.56**	0.7	0.1	0.5
2,4'-DDD	15.0	12.1	8.46	NA	NA	NA	11.9	27.6	NA		4.54	0.80	<2		**6.5**	0.5	1.8
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	<0.215	<0.247	8.83	NA	NA	NA	<0.25		NA		<2		<2				
4,4'-DDD	24.7	24.1	23.3	5.57	5.40	6.76	24.0	2.9	5.91	12.5	14.4	1.8	**5.06**	**0.56**	2.7	0.7	0.2
2,4'-DDT	3.17	1.36	3.43	NA	NA	NA	2.65	42.5	NA		<3		<2				2.8
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	25.2	35.1	21.5	NA	NA	NA	27.3	25.8	NA		12.2	2.1	1.25	0.10	**4.9**	1.1	1.7
mirex	0.90	0.29	NA	NA	NA	NA	0.59	72.9	NA		<2		<2				**4.9**

Laboratory: 14

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	14	64
Qualitative	3	14
Not Determined	5	23

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 14

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/24/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	9/25/97 S 1	9/25/97 S 2	9/25/97 S 3	9/25/97 S 1	9/25/97 S 2	9/25/97 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	9.23	10.40	4.28	NA	NA	NA	7.97	40.8	NA		3.73	0.40	1.39	0.19	**4.6**	**5.0**	2.7
PCB 18	12.9	20.1	5.27	NA	NA	NA	12.8	58.1	NA		6.57	0.80	1.15	0.16	**3.8**	**7.3**	**3.9**
PCB 28	21.6	22.3	12.3	NA	NA	NA	18.7	29.8	NA		14.6	1.8	9.80	3.70	1.1	**4.8**	2.0
PCB 52	19.5	20.1	14.1	8.40	8.37	8.40	17.9	18.5	8.39	0.2	14.0	1.3	**6.89**	**0.56**	1.1	**4.6**	1.2
PCB 44	12.9	14.0	8.0	5.50	5.64	4.30	11.6	27.7	5.15	14.3	10.1	0.8	**4.80**	**0.62**	0.6	1.8	1.8
PCB 66/95	19.2	20.6	12.7	9.1	8.8	7.7	17.5	24.1	8.5	8.9	19.0	3.1	**14.3**	**2.5**	-0.3	-1.8	1.6
PCB 101/90	19.9	22.8	14.0	13.3	12.8	9.3	18.9	23.7	11.8	18.3	16.6	2.1	**11.0**	**1.6**	0.5	2.7	1.6
PCB 118	19.4	22.8	15.1	10.6	10.4	11.4	19.1	20.2	10.8	4.9	12.7	1.1	**10.0**	**1.1**	2.0	**7.6**	1.3
PCB 153	19.5	21.8	16.0	13.0	11.8	12.2	19.1	15.3	12.3	5.0	18.7	2.0	**17.6**	**1.9**	0.1	0.5	1.0
PCB 105	4.89	3.94	5.30	2.48	2.57	3.56	4.71	14.8	2.87	20.9	4.87	0.64	**3.65**	**0.27**	-0.1	-0.2	1.0
PCB 138/163/164	28.2	29.8	21.5	17.5	16.3	17.1	26.5	16.6	17.0	3.6	17.0	2.1	**13.38**	**0.97**	2.2	**11.3**	1.1
PCB 187/182	27.8	29.6	22.3	NA	NA	NA	26.6	14.3	NA		7.92	1.03	7.0	2.6	**9.4**	**22.1**	1.0
PCB 128	4.98	6.18	3.22	2.75	2.64	2.71	4.79	31.1	2.70	2.1	2.69	0.46	**1.87**	**0.32**	**3.1**	2.5	2.1
PCB 180	17.2	18.5	15.0	11.7	10.5	11.6	16.9	10.5	11.3	5.9	10.4	1.3	**5.83**	**0.58**	2.5	**7.8**	0.7
PCB 170/190	4.06	4.89	4.19	16.9	58.7	32.0	4.38	10.2	35.9	59.0	4.99	0.60	**3.00**	**0.46**	-0.5	-0.7	0.7
PCB 195	4.89	7.12	2.87	NA	NA	NA	4.96	42.9	NA		1.56	0.51	<3		**8.7**	**4.0**	2.9
PCB 206	27.5	3.8	19.0	29.6	27.3	24.7	16.8	71.8	27.2	9.0	3.98	0.39	**3.67**	**0.87**	**12.8**	**15.1**	**4.8**
PCB 209	14.3	19.1	10.4	14.1	12.0	10.9	14.6	29.8	12.3	13.2	9.34	1.15	**8.34**	**0.49**	2.3	**6.2**	2.0
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 14

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	5	13
2 to 3	4	2	3
≥ 3	6	11	2

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	48.2	49.4	49.2	49.0	1.3	48.75	0.03	49.0	0.5	0.0	0.0	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 15

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/3/97

PAH

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
	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	assigned value	95% CL	target value[b]	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 15
PAH in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 15
Reporting Date: 12/3/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/25/97	11/21/97	11/21/97	11/21/97			lab mean	lab	lab mean	lab	assigned		target		z-score	z-score	p-score
	S 1	S 2	S 3	S 1	S 2	S 3	ng/g dry	%RSD	ng/g dry	%RSD	value	95% CL	value[b]	95% CL	(25%)	(s)	(15%)
alpha-HCH	NA	NA	NA	NA			NA		NA		<2		<2				
hexachlorobenzene	42.0	44.2	44.5	67.3			43.6	3.1	67.3		49.0	6.7	**70**	**25**	-0.4	-0.4	0.2
gamma-HCH	<3	<3	<3	<3			<3		<3		<2		<2				
heptachlor	<3	<3	<3	<3			<3		<3		<2		<2				
aldrin	<3	<3	<3	<3			<3		<3		<2		<2				
heptachlor epoxide	<3	<3	<3	<3			<3		<3		<3		<2				
oxychlordane	<3	<3	<3	<3			<3		<3		<2		2.59	0.20			
trans-chlordane	<3	<3	<3	<3			<3		<3		3.20	0.82	<2				
2,4'-DDE	<3	<3	<3	<3			<3		<3		2.25	0.72	**0.73**	**0.11**			
endosulfan I	<3	<3	<3	<3			<3		<3		<2		<2				
cis-chlordane	<3	<3	<3	<3			<3		<3		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	3.96	3.47	3.27	1.33			3.57	10.0	1.33		1.96	0.37	**1.26**	**0.13**	**3.3**	0.1	0.7
dieldrin	<3	<3	<3	<3			<3		<3		2.10	0.52	1.26	0.37			
4,4'-DDE	13.0	15.1	14.5	7.44			14.2	7.3	7.44		11.3	1.4	**6.59**	**0.56**	1.0	0.2	0.5
2,4'-DDD	6.00	6.99	5.80	<3			6.26	10.2	<3		4.54	0.80	<2		1.5	0.1	0.7
endrin	<3	<3	<3	<3			<3		<3		<2		<2				
endosulfan II	<3	<3	<3	<3			<3		<3		<2		<2				
4,4'-DDD	21.0	20.7	21.6	4.89			21.1	2.2	4.89		14.4	1.8	**5.06**	**0.56**	1.9	0.5	0.1
2,4'-DDT	<3	<3	<3	<3			<3		<3		<3		<2				
cis-nonachlor	<3	<3	<3	<3			<3		<3		<2		<2				
4,4'-DDT	7.23	7.39	10.0	<3			8.2	19.0	<3		12.2	2.1	1.25	0.10	-1.3	-0.3	1.3
mirex	<3	<3	<3	<3			<3		<3		<2		<2				

Laboratory: 15
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	6	27
Qualitative	15	68
Not Determined	1	5

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 15

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/3/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/25/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 11/25/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	2.70	3.20	<3	3.57			2.95	12.0	3.57		3.73	0.40	1.39	0.19	-0.8	-0.9	0.8
PCB 18	<3	<3	<3	3.68			<3		3.68		6.57	0.80	1.15	0.16			
PCB 28	7.80	9.50	8.80	8.31			8.70	9.8	8.31		14.6	1.8	9.80	3.70	-1.6	**-7.0**	0.7
PCB 52	<3	<3	<3	9.71			<3		9.71		14.0	1.3	**6.89**	**0.56**			
PCB 44	<8	<8	<8	<8			<8		<8		10.1	0.8	**4.80**	**0.62**			
PCB 66/95	18.7	19.9	22.8	19.2			20.5	10.3	19.2		19.0	3.1	**14.3**	**2.5**	0.3	1.7	0.7
PCB 101/90	17.9	16.3	19.2	19.1			17.8	8.2	19.1		16.6	2.1	**11.0**	**1.6**	0.3	1.4	0.5
PCB 118	12.3	13.4	14.9	12.8			13.5	9.6	12.8		12.7	1.1	**10.0**	**1.1**	0.3	1.0	0.6
PCB 153	20.4	20.4	20.5	18.3			20.4	0.3	18.3		18.7	2.0	**17.6**	**1.9**	0.4	2.1	0.0
PCB 105	9.60	7.10	10.7	9.62			9.13	20.2	9.62		4.87	0.64	**3.65**	**0.27**	**3.5**	**5.1**	1.3
PCB 138/163/164	13.7	19.9	21.4	19.4			18.3	22.3	19.4		17.0	2.1	**13.38**	**0.97**	0.3	1.6	1.5
PCB 187/182	9.62	9.44	9.17	9.29			9.41	2.4	9.29		7.92	1.03	7.0	2.6	0.8	1.8	0.2
PCB 128	2.73	3.06	3.24	2.19			3.01	8.6	2.19		2.69	0.46	**1.87**	**0.32**	0.5	0.4	0.6
PCB 180	5.50	7.80	13.9	6.40			9.07	47.9	6.40		10.4	1.3	**5.83**	**0.58**	-0.5	-1.5	**3.2**
PCB 170/190	4.70	6.53	7.15	5.88			6.13	20.8	5.88		4.99	0.60	**3.00**	**0.46**	0.9	1.3	1.4
PCB 195	2.76	3.19	<3	<3			2.98	10.2	<3		1.56	0.51	<3		**3.6**	1.7	0.7
PCB 206	3.70	4.38	3.43	6.40			3.84	12.8	6.40		3.98	0.39	**3.67**	**0.87**	-0.1	-0.2	0.9
PCB 209	7.50	7.46	10.3	10.5			8.41	19.2	10.5		9.34	1.15	**8.34**	**0.49**	-0.4	-1.1	1.3
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 15

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	15	83
Qualitative	3	17
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	13	12	14
2 to 3	0	1	0
≥ 3	2	2	1

Water in Sediment VII

	Sediment VII, % water S 1	S 2	S 3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.8	48.4	47.3	47.8	1.2	48.75	0.03	49.0	0.5	-0.1	-0.9	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 16

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/4/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Material reference values: Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Performance scores[a] Sediment VII		
	8/19/97 S1	8/19/97 S2	8/19/97 S3	8/19/97 S1	8/19/97 S2	8/19/97 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	951	946	913	908	888	850	937	2.2	882	3.3	821	116	**1010**	**140**	0.6	0.5	0.1
2-methylnaphthalene	414	420	395	307	304	331	410	3.2	314	4.7	290	45	325	60	1.6	1.3	0.2
1-methylnaphthalene	220	213	217	172	160	170	217	1.6	167	3.8	157	24	150	30	1.5	1.3	0.1
biphenyl	94.1	95.9	88.6	80.3	86.7	79.5	92.9	4.1	82.2	4.8	106	23	175	18	-0.5	-0.3	0.3
2,6-dimethylnaphthalene	195	196	171	133	141	118	187	7.6	131	8.9	162	22	120	24	0.6	0.6	0.5
acenaphthylene	37.5	46.6	46.5	34.0	40.5	32.9	43.5	12.0	35.8	11.5	91.9	24.6	37	14	-2.1	-1.0	0.8
acenaphthene	82.9	85.6	81.1	48.8	53.5	42.2	83.2	2.7	48.2	11.8	75.8	7.9	41	10	0.4	0.5	0.2
1,6,7-trimethylnaphthalene	123	120	122	74.5	70.2	61.9	122	1.3	68.9	9.3	85.4	16.5	48	10	1.7	1.4	0.1
fluorene	150	166	163	96.9	101.0	97.4	160	5.3	98.4	2.3	132	13	**97.3**	**8.6**	0.8	1.0	0.4
phenanthrene	762	777	798	409	425	402	779	2.3	412	2.9	870	80	**489**	**23**	-0.4	-0.5	0.2
anthracene	215	215	219	148	148	129	216	1.1	142	7.7	294	32	**184**	**14**	-1.1	-1.1	0.1
1-methylphenanthrene	182	179	184	93.5	90.2	70.7	182	1.4	84.8	14.5	204	18	101	27	-0.4	-0.7	0.1
fluoranthene	1270	1290	1430	878	815	741	1330	6.6	811	8.5	1500	130	**981**	**78**	-0.5	-0.6	0.4
pyrene	1160	1230	1310	728	653	598	1233	6.1	660	9.9	1445	127	**811**	**24**	-0.6	-0.8	0.4
benz[a]anthracene	683	702	670	364	388	315	685	2.3	356	10.5	746	58	**427**	**25**	-0.3	-0.5	0.2
chrysene + triphenylene	867	880	880	523	522	493	876	0.9	513	3.3	934	100	577	35	-0.3	-0.3	0.1
benzofluoranthenes [b+j+k]	2150	2201	2230	2320	2060	2050	2194	1.8	2143	7.1	1848	222	1441	150	0.7	0.8	0.1
benzo[e]pyrene	941	920	940	912	798	825	934	1.3	845	7.1	776	72	**553**	**59**	0.8	1.1	0.1
benzo[a]pyrene	957	933	915	725	718	649	935	2.3	697	6.0	783	69	**628**	**52**[f]	0.8	1.0	0.2
perylene	610	623	617	714	673	665	617	1.1	684	3.8	392	47	**452**	**58**	2.3	2.4	0.1
indeno[1,2,3-cd]pyrene	791	779	713	635	686	582	761	5.5	634	8.2	624	69	**501**	**72**	0.9	0.9	0.4
dibenz[a,h]anthracene + [a,c]	267	289	271	191	205	169	276	4.3	188	9.6	159	15	**117**	**14**	2.9	**4.1**	0.3
benzo[ghi]perylene	860	864	805	633	722	647	843	3.9	667	7.2	591	63	**525**	**67**	1.7	1.8	0.3

Laboratory: 16
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	20	21	23
2 to 3	3	1	0
≥ 3	0	1	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 16
Reporting Date: 12/4/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	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	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		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 16
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	0	0
Qualitative	0	0
Not Determined	22	100

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 16

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/4/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry S1	S2	S3	SRM 1941a, ng/g dry S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		3.73	0.40	1.39	0.19			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		6.57	0.80	1.15	0.16			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		14.6	1.8	9.80	3.70			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		14.0	1.3	**6.89**	**0.56**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		10.1	0.8	**4.80**	**0.62**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		16.6	2.1	**11.0**	**1.6**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		12.7	1.1	**10.0**	**1.1**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		18.7	2.0	**17.6**	**1.9**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		17.0	2.1	**13.38**	**0.97**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		7.92	1.03	7.0	2.6			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.69	0.46	**1.87**	**0.32**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		10.4	1.3	**5.83**	**0.58**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		4.99	0.60	**3.00**	**0.46**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		1.56	0.51	<3				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		3.98	0.39	**3.67**	**0.87**			
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 16

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	52.8	52.9	47.5	51.1	6.0	48.75	0.03	49.0	0.5	0.2	1.7	0.4

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 17

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/2/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/13/97 S 1	11/13/97 S 2	11/13/97 S 3	11/13/97 S 1	11/13/97 S 2	11/13/97 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	1020	932	955	1160	1240	1250	969	4.7	1217	4.1	821	116	**1010**	**140**	0.7	0.7	0.3
2-methylnaphthalene	234	222	203	235	263	280	220	7.1	259	8.8	290	45	325	60	-1.0	-0.8	0.5
1-methylnaphthalene	113	106	102	115	120	135	107	5.2	123	8.4	157	24	150	30	-1.3	-1.1	0.3
biphenyl	80	73	75	85	75	60	76	4.7	73	17.2	106	23	175	18	-1.1	-0.7	0.3
2,6-dimethylnaphthalene	na	na	na	na	na	na	NA		NA		162	22	120	24			
acenaphthylene	51.0	44.0	43.0	41.0	45.0	47.0	46.0	9.5	44.3	6.9	91.9	24.6	37	14	-2.0	-1.0	0.6
acenaphthene	90.0	96.0	84.0	54.0	57.0	55.0	90.0	6.7	55.3	2.8	75.8	7.9	41	10	0.7	1.0	0.4
1,6,7-trimethylnaphthalene	na	na	na	na	na	na	NA		NA		85.4	16.5	48	10			
fluorene	127	139	145	96.0	103.0	104.0	137	6.7	101.0	4.3	132	13	**97.3**	**8.6**	0.1	0.2	0.4
phenanthrene	1230	960	952	486	454	586	1047	15.1	509	13.5	870	80	**489**	**23**	0.8	1.0	1.0
anthracene	325	233	281	183	167	206	280	16.5	185	10.6	294	32	**184**	**14**	-0.2	-0.2	1.1
1-methylphenanthrene	na	na	na	na	na	na	NA		NA		204	18	101	27			
fluoranthene	1420	1140	1430	708	628	822	1330	12.4	719	13.6	1500	130	**981**	**78**	-0.5	-0.6	0.8
pyrene	1410	1100	1410	310	476	660	1307	13.7	482	36.3	1445	127	**811**	**24**	-0.4	-0.5	0.9
benz[a]anthracene	700	620	730	340	370	409	683	8.3	373	9.3	746	58	**427**	**25**	-0.3	-0.5	0.6
chrysene + triphenylene	1950	2090	2060	1030	935	1220	2033	3.6	1062	13.7	934	100	577	35	**4.7**	**5.4**	0.2
benzofluoranthenes [b+j+k]	1370	1350	1430	1090	990	1240	1383	3.0	1107	11.4	1848	222	1441	150	-1.0	-1.0	0.2
benzo[e]pyrene	690	650	700	460	477	582	680	3.9	506	13.1	776	72	**553**	**59**	-0.5	-0.7	0.3
benzo[a]pyrene	800	770	790	447	473	546	787	1.9	489	10.5	783	69	**628**	**52**	0.0	0.0	0.1
perylene	250	240	250	290	298	325	247	2.3	304	6.0	392	47	**452**	**58**	-1.5	-1.5	0.2
indeno[1,2,3-cd]pyrene	595	585	600	760	798	962	593	1.3	840	12.8	624	69	**501**	**72**	-0.2	-0.2	0.1
dibenz[a,h]anthracene + [a,c]	160	120	160	113	105	132	147	15.7	117	11.9	159	15	**117**	**14**	-0.3	-0.4	1.0
benzo[ghi]perylene	605	585	600	448	509	642	597	1.7	533	18.6	591	63	**525**	**67**	0.0	0.0	0.1

Laboratory: 17

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	20	87
Qualitative	0	0
Not Determined	3	13

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Laboratory No.: 17
Reporting Date: 12/2/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/13/97 S1	11/13/97 S2	11/13/97 S3	11/13/97 S1	11/13/97 S2	11/13/97 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	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
hexachlorobenzene	16.0	22.0	20.0	62.5	63.6	71.0	19.3	15.8	65.7	7.0	49.0	6.7	**70**	**25**	-2.4	-2.1	1.1
gamma-HCH	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
heptachlor	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
aldrin	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
heptachlor epoxide	<10	<10	<10	<10	<10	<10	<10		<10		<3		<2				
oxychlordane	<10	<10	<10	<10	<10	<10	<10		<10		<2		2.59	0.20			
trans-chlordane	<10	<10	<10	<10	<10	<10	<10		<10		3.20	0.82	<2				
2,4'-DDE	8.00	10.00	8.30	<10	<10	<10	8.77	12.3	<10		2.25	0.72	**0.73**	**0.11**	**11.6**	0.5	0.8
endosulfan I	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
cis-chlordane	<10	<10	<10	<10	<10	<10	<10		<10		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	<10	<10	<10	<10	<10	<10	<10		<10		1.96	0.37	**1.26**	**0.13**			
dieldrin	<10	<10	<10	<10	<10	<10	<10		<10		2.10	0.52	1.26	0.37			
4,4'-DDE	<10	<10	<10	<10	<10	<10	<10		<10		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	2.30	1.80	2.30	<10	<10	<10	2.13	13.5	<10		4.54	0.80	<2		-2.1	-0.2	0.9
endrin	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
endosulfan II	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
4,4'-DDD	<10	<10	<10	<10	<10	<10	<10		<10		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	5.20	3.80	5.10	<10	<10	<10	4.70	16.6	<10		<3		<2				1.1
cis-nonachlor	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				
4,4'-DDT	18.7	19.9	19.2	<10	<10	<10	19.3	3.1	<10		12.2	2.1	1.25	0.10	2.3	0.5	0.2
mirex	<10	<10	<10	<10	<10	<10	<10		<10		<2		<2				

Laboratory: 17
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	5	23
Qualitative	17	77
Not Determined	0	0

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 17

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 12/2/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/13/97 S 1	11/13/97 S 2	11/13/97 S 3	11/13/97 S 1	11/13/97 S 2	11/13/97 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	3.50	3.50	3.70	2.70	3.00	3.30	3.57	3.2	3.00	10.0	3.73	0.40	1.39	0.19	-0.2	-0.2	0.2
PCB 18	7.10	7.20	7.50	6.90	5.90	4.90	7.27	2.9	5.90	16.9	6.57	0.80	1.15	0.16	0.4	0.8	0.2
PCB 28	16.1	15.3	17.1	13.30	13.30	13.20	16.2	5.6	13.27	0.4	14.6	1.8	9.80	3.70	0.4	1.8	0.4
PCB 52	14.6	12.9	16.5	14.60	16.30	16.50	14.7	12.3	15.80	6.6	14.0	1.3	**6.89**	**0.56**	0.2	0.8	0.8
PCB 44	<5	<5	<5	4.00	5.90	4.90	<5		4.93	19.3	10.1	0.8	**4.80**	**0.62**			
PCB 66/95	6.60	7.90	7.60	9.30	8.90	11.5	7.37	9.2	9.90	14.1	19.0	3.1	**14.3**	**2.5**	-2.4	**-13.8**	0.6
PCB 101/90	4.50	6.10	4.30	10.6	10.4	14.8	4.97	19.9	11.9	20.8	16.6	2.1	**11.0**	**1.6**	-2.8	**-13.8**	1.3
PCB 118	4.50	7.00	6.00	13.3	11.8	14.8	5.83	21.6	13.3	11.3	12.7	1.1	**10.0**	**1.1**	-2.2	**-8.1**	1.4
PCB 153	9.40	7.90	7.60	10.6	13.3	14.8	8.30	11.6	12.9	16.5	18.7	2.0	**17.6**	**1.9**	-2.2	**-12.3**	0.8
PCB 105	<5	<5	<5	<5	<5	<5	<5		<5		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	7.20	10.5	6.30	10.6	11.9	13.2	8.00	27.6	11.9	10.9	17.0	2.1	**13.38**	**0.97**	-2.1	**-10.6**	1.8
PCB 187/182	4.20	2.60	5.10	2.70	4.40	4.90	3.97	31.9	4.00	28.8	7.92	1.03	7.0	2.6	-2.0	**-4.7**	2.1
PCB 128	<5	<5	<5	6.60	8.40	11.50	<5		8.83	28.1	2.69	0.46	**1.87**	**0.32**			
PCB 180	<5	<5	<5	9.30	8.90	9.90	<5		9.37	5.4	10.4	1.3	**5.83**	**0.58**			
PCB 170/190	<5	<5	<5	<5	<5	<5	<5		<5		4.99	0.60	**3.00**	**0.46**			
PCB 195	<5	<5	<5	<5	<5	<5	<5		<5		1.56	0.51	<3				
PCB 206	<5	<5	<5	<5	<5	<5	<5		<5		3.98	0.39	**3.67**	**0.87**			
PCB 209	<5	<5	<5	6.60	6.70	8.20	<5		7.17	12.5	9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	<5	<5	<5	<5	<5	<5	<5		<5		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	<5	<5	<5	<5	<5	<5	<5		<5		11.4	2.2	**7.5**	**1.1**			

Laboratory: 17

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	10	56
Qualitative	8	44
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	4	9
2 to 3	5	0	1
≥ 3	0	6	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	51.0	51.0	51.0	51.0	0.0	48.75	0.03	49.0	0.5	0.2	1.7	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18a

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/22/97 S 1	10/22/97 S 2	10/22/97 S 3	SRM 1941a, ng/g dry 10/22/97 S 1	10/22/97 S 2	10/22/97 S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		821	116	**1010**	**140**			
2-methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		290	45	325	60			
1-methylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		157	24	150	30			
biphenyl	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		106	23	175	18			
2,6-dimethylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		162	22	120	24			
acenaphthylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		91.9	24.6	37	14			
acenaphthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		85.4	16.5	48	10			
fluorene	128	110	144	77.8	109	70.6	127	13.4	85.8	23.8	132	13	**97.3**	**8.6**	-0.2	-0.2	0.9
phenanthrene	965	1000	941	487	486	491	969	3.1	488	0.5	870	80	**489**	**23**	0.5	0.6	0.2
anthracene	394	470	405	213	269	219	423	9.7	234	13.2	294	32	**184**	**14**	1.7	1.9	0.6
1-methylphenanthrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A		204	18	101	27			
fluoranthene	1570	1630	1530	828	828	815	1577	3.2	824	0.9	1500	130	**981**	**78**	0.2	0.3	0.2
pyrene	1590	1700	1640	762	811	793	1643	3.4	789	3.1	1445	127	**811**	**24**	0.6	0.8	0.2
benz[a]anthracene	788	831	814	404	480	402	811	2.7	429	10.4	746	58	**427**	**25**	0.3	0.5	0.2
chrysene + triphenylene	639	663	708	330	408	329	670	5.2	356	12.7	934	100	577	35	-1.1	-1.3	0.3
benzofluoranthenes [b+j+k]	1095	1121	1138	884	1068	849	1118	1.9	934	12.6	1848	222	1441	150	-1.6	-1.6	0.1
benzo[e]pyrene	714	798	830	538	675	527	781	7.7	580	14.2	776	72	**553**	**59**	0.0	0.0	0.5
benzo[a]pyrene	879	921	886	582	683	560	895	2.5	608	10.8	783	69	**628**	**52**	0.6	0.7	0.2
perylene	414	412	416	340	346	360	414	0.5	349	2.9	392	47	**452**	**58**	0.2	0.2	0.0
indeno[1,2,3-cd]pyrene	493	507	495	349	363	385	498	1.5	366	5.0	624	69	**501**	**72**	-0.8	-0.9	0.1
dibenz[a,h]anthracene + [a,c]	77.9	77.8	75.5	61.2	68.1	55.0	77.1	1.8	61.4	10.7	159	15	**117**	**14**	-2.1	-2.9	0.1
benzo[ghi]perylene	598	607	609	489	582	460	605	1.0	510	12.5	591	63	**525**	**67**	0.1	0.1	0.1

Laboratory: 18a
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	14	61
Qualitative	9	39
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 18a
Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/25/97 S 1	11/25/97 S 2	11/25/97 S 3	11/25/97 S 1	11/25/97 S 2	11/25/97 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%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	34.7	46.4	38.2	51.2	54.7	64.3	39.7	15.0	56.7	11.9	49.0	6.7	**70**	**25**	-0.8	-0.7	1.0
gamma-HCH	0.66	0.92	0.98	1.09	< 0.08	1.13	0.85	20.1	1.11	2.3	<2		<2				1.3
heptachlor	1.13	1.06	0.92	0.98	1.00	0.91	1.03	10.1	0.97	4.9	<2		<2				0.7
aldrin	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.02		<0.02		<2		<2				
heptachlor epoxide	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1		<0.1		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	3.83	4.25	4.59	2.76	3.17	2.68	4.22	9.0	2.87	9.2	2.25	0.72	**0.73**	**0.11**	**3.5**	0.1	0.6
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	5.40	5.72	6.13	3.93	4.09	4.02	5.75	6.4	4.02	2.0	3.79	0.56	**2.33**	**0.56**	2.1	0.1	0.4
trans-nonachlor	2.73	3.39	3.30	2.04	2.02	2.06	3.14	11.4	2.04	1.0	1.96	0.37	**1.26**	**0.13**	2.4	0.1	0.8
dieldrin	9.71	10.2	10.8	5.37	5.47	5.89	10.2	5.4	5.58	4.9	2.10	0.52	1.26	0.37	**15.4**	0.6	0.4
4,4'-DDE	14.7	16.3	17.0	9.55	10.0	9.79	16.0	7.4	9.79	2.4	11.3	1.4	**6.59**	**0.56**	1.7	0.3	0.5
2,4'-DDD	4.18	5.58	7.11	2.97	2.81	3.07	5.62	26.1	2.95	4.5	4.54	0.80	<2		1.0	0.1	1.7
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	18.8	5.4	21.0	< 0.243	< 0.243	< 0.243	15.1	56.0	<0.25		14.4	1.8	**5.06**	**0.56**	0.2	0.0	**3.7**
2,4'-DDT	< 0.14	< 0.14	< 0.14	0.86	0.96	0.88	<0.15		0.90	5.5	<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	16.5	15.1	15.6	< 0.016	< 0.016	< 0.016	15.7	4.7	<0.02		12.2	2.1	1.25	0.10	1.2	0.3	0.3
mirex	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	<0.16		<0.16		<2		<2				

Laboratory: 18a
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	11	50
Qualitative	4	18
Not Determined	7	32

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	5	9	10
2 to 3	2	0	0
≥ 3	2	0	1

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18a

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/25/97 S 1	11/25/97 S 2	11/25/97 S 3	11/25/97 S 1	11/25/97 S 2	11/25/97 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	5.33	6.34	5.50	2.77	2.63	3.49	5.72	9.4	2.96	15.6	3.73	0.40	1.39	0.19	2.1	2.4	0.6
PCB 18	0.83	1.18	0.57	0.93	1.02	0.10	0.86	35.6	0.68	74.2	6.57	0.80	1.15	0.16	**-3.5**	**-6.8**	2.4
PCB 28	10.4	11.6	12.2	6.12	5.97	6.27	11.4	8.2	6.12	2.5	14.6	1.8	9.80	3.70	-0.9	**-3.8**	0.5
PCB 52	15.0	15.5	15.8	10.0	10.4	10.4	15.5	2.4	10.3	1.9	14.0	1.3	**6.89**	**0.56**	0.4	1.7	0.2
PCB 44	10.6	12.8	12.0	6.10	6.11	6.92	11.8	9.7	6.38	7.4	10.1	0.8	**4.80**	**0.62**	0.7	2.0	0.6
PCB 66/95	11.3	14.0	15.7	9.47	9.50	9.58	13.7	16.4	9.52	0.6	19.0	3.1	**14.3**	**2.5**	-1.1	**-6.3**	1.1
PCB 101/90	19.4	19.3	19.5	12.7	14.5	12.8	19.4	0.5	13.3	7.4	16.6	2.1	**11.0**	**1.6**	0.7	**3.3**	0.0
PCB 118	13.1	13.2	13.8	9.99	10.21	9.19	13.4	3.0	9.80	5.5	12.7	1.1	**10.0**	**1.1**	0.2	0.8	0.2
PCB 153	24.5	24.7	21.8	17.3	17.4	17.2	23.7	6.8	17.3	0.5	18.7	2.0	**17.6**	**1.9**	1.1	**5.9**	0.5
PCB 105	4.66	5.21	5.86	4.23	4.41	4.01	5.24	11.5	4.22	4.7	4.87	0.64	**3.65**	**0.27**	0.3	0.4	0.8
PCB 138/163/164	23.6	27.0	20.8	11.5	12.0	12.2	23.8	13.0	11.9	3.0	17.0	2.1	**13.38**	**0.97**	1.6	**8.1**	0.9
PCB 187/182	12.4	13.0	12.1	8.84	9.42	9.73	12.5	3.5	9.33	4.8	7.92	1.03	7.0	2.6	2.3	**5.4**	0.2
PCB 128	2.58	2.77	2.71	1.98	2.07	2.19	2.69	3.5	2.08	4.8	2.69	0.46	**1.87**	**0.32**	0.0	0.0	0.2
PCB 180	11.2	11.2	11.2	8.02	9.81	8.45	11.2	0.3	8.76	10.7	10.4	1.3	**5.83**	**0.58**	0.3	1.0	0.0
PCB 170/190	5.97	6.90	6.15	5.08	5.12	5.11	6.34	7.7	5.10	0.4	4.99	0.60	**3.00**	**0.46**	1.1	1.6	0.5
PCB 195	0.35	0.77	0.49	1.01	0.69	0.60	0.54	39.4	0.77	28.4	1.56	0.51	<3		-2.6	-1.2	2.6
PCB 206	3.20	5.71	2.85	3.89	4.43	4.54	3.92	39.8	4.29	8.1	3.98	0.39	**3.67**	**0.87**	-0.1	-0.1	2.7
PCB 209	7.22	8.01	7.45	9.07	9.34	10.04	7.56	5.4	9.48	5.3	9.34	1.15	**8.34**	**0.49**	-0.8	-2.1	0.4
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 18a

PCBs In Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	14	8	15
2 to 3	3	3	3
≥ 3	1	7	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	49.5	49.4	49.4	49.4	0.1	48.75	0.03	49.0	0.5	0.1	0.4	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18b

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 11/26/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/14/97 S 1	11/14/97 S 2	11/14/97 S 3	11/14/97 S 1	11/14/97 S 2	11/14/97 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	118	654	452	753	763	972	408	66.3	829	14.9	821	116	**1010**	**140**	-2.0	-1.9	**4.4**
2-methylnaphthalene	91.2	303	235	318	342	398	210	51.6	353	11.6	290	45	325	60	-1.1	-0.9	**3.4**
1-methylnaphthalene	59.8	148	114	152	162	204	107	41.5	173	16.0	157	24	150	30	-1.3	-1.1	2.8
biphenyl	55.1	120	84.6	109	118	146	86.6	37.5	124	15.5	106	23	175	18	-0.7	-0.4	2.5
2,6-dimethylnaphthalene	67.8	115	105	102	117	150	95.9	25.9	123	20.0	162	22	120	24	-1.6	-1.5	1.7
acenaphthylene	45.0	43.4	47.2	55.0	56.7	75.2	45.2	4.2	62.3	18.0	91.9	24.6	37	14	-2.0	-1.0	0.3
acenaphthene	107	95.6	104	76.2	80.5	93.4	102	5.8	83.4	10.7	75.8	7.9	41	10	1.4	1.8	0.4
1,6,7-trimethylnaphthalene	18.0	35.2	26.3	15.2	17.6	20.0	26.5	32.5	17.6	13.6	85.4	16.5	48	10	-2.8	-2.3	2.2
fluorene	60	99	76	40.9	50.9	51.8	78	25.3	47.9	12.6	132	13	**97.3**	**8.6**	-1.6	-2.0	1.7
phenanthrene	950	974	1010	487	525	511	978	3.1	508	3.8	870	80	**489**	**23**	0.5	0.6	0.2
anthracene	301	318	331	191	201	203	317	4.8	198	3.2	294	32	**184**	**14**	0.3	0.3	0.3
1-methylphenanthrene	210	212	218	85	88	97	213	2.0	90	6.9	204	18	101	27	0.2	0.3	0.1
fluoranthene	1560	1550	1580	842	872	892	1563	1.0	869	2.9	1500	130	**981**	**78**	0.2	0.2	0.1
pyrene	1550	1560	1580	722	723	730	1563	1.0	725	0.6	1445	127	**811**	**24**	0.3	0.5	0.1
benz[a]anthracene	864	868	882	460	466	466	871	1.1	464	0.7	746	58	**427**	**25**	0.7	1.0	0.1
chrysene + triphenylene	1080	1070	1040	580	595	591	1063	2.0	589	1.3	934	100	577	35	0.6	0.6	0.1
benzofluoranthenes [b+j+k]	2170	2030	2040	1530	1560	1510	2080	3.8	1533	1.6	1848	222	1441	150	0.5	0.5	0.3
benzo[e]pyrene	754	785	722	479	471	523	754	4.2	491	5.7	776	72	**553**	**59**	-0.1	-0.2	0.3
benzo[a]pyrene	858	890	858	519	501	547	869	2.1	522	4.4	783	69	**628**	**52**	0.4	0.6	0.1
perylene	401	391	383	325	332	360	392	2.3	339	5.5	392	47	**452**	**58**	0.0	0.0	0.2
indeno[1,2,3-cd]pyrene	753	756	713	521	515	549	741	3.2	528	3.4	624	69	**501**	**72**	0.7	0.8	0.2
dibenz[a,h]anthracene + [a,c]	140	141	135	91	87	93	139	2.3	91	3.7	159	15	**117**	**14**	-0.5	-0.7	0.2
benzo[ghi]perylene	645	644	580	449	429	462	623	6.0	447	3.7	591	63	**525**	**67**	0.2	0.2	0.4

Laboratory: 18b
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	20	21	18
2 to 3	3	2	3
≥ 3	0	0	2

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 18b
Reporting Date: 11/26/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	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	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		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 18b
Pesticides in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 18b

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 11/26/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry S1	S2	S3	SRM 1941a, ng/g dry S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	NA	NA	NA	NA	NA	NA	NA		NA		3.73	0.40	1.39	0.19			
PCB 18	NA	NA	NA	NA	NA	NA	NA		NA		6.57	0.80	1.15	0.16			
PCB 28	NA	NA	NA	NA	NA	NA	NA		NA		14.6	1.8	9.80	3.70			
PCB 52	NA	NA	NA	NA	NA	NA	NA		NA		14.0	1.3	**6.89**	**0.56**			
PCB 44	NA	NA	NA	NA	NA	NA	NA		NA		10.1	0.8	**4.80**	**0.62**			
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	NA	NA	NA	NA	NA	NA	NA		NA		16.6	2.1	**11.0**	**1.6**			
PCB 118	NA	NA	NA	NA	NA	NA	NA		NA		12.7	1.1	**10.0**	**1.1**			
PCB 153	NA	NA	NA	NA	NA	NA	NA		NA		18.7	2.0	**17.6**	**1.9**			
PCB 105	NA	NA	NA	NA	NA	NA	NA		NA		4.87	0.64	**3.65**	**0.27**			
PCB 138/163/164	NA	NA	NA	NA	NA	NA	NA		NA		17.0	2.1	**13.38**	**0.97**			
PCB 187/182	NA	NA	NA	NA	NA	NA	NA		NA		7.92	1.03	7.0	2.6			
PCB 128	NA	NA	NA	NA	NA	NA	NA		NA		2.69	0.46	**1.87**	**0.32**			
PCB 180	NA	NA	NA	NA	NA	NA	NA		NA		10.4	1.3	**5.83**	**0.58**			
PCB 170/190	NA	NA	NA	NA	NA	NA	NA		NA		4.99	0.60	**3.00**	**0.46**			
PCB 195	NA	NA	NA	NA	NA	NA	NA		NA		1.56	0.51	<3				
PCB 206	NA	NA	NA	NA	NA	NA	NA		NA		3.98	0.39	**3.67**	**0.87**			
PCB 209	NA	NA	NA	NA	NA	NA	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 18b
PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

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

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	49.4	49.4	49.4	49.4	0.0	48.75	0.03	49.0	0.5	0.1	0.4	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 19**

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant) Reporting Date: 12/12/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry S1	S2	S3	SRM 1941a, ng/g dry S1	S2	S3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 19
PAH in Sediment VII

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 19
Reporting Date: 12/12/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/14/97 S 1	11/19/97 S 2	11/26/97 S 3	11/14/97 S 1	11/19/97 S 2	11/26/97 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%)
alpha-HCH	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
hexachlorobenzene	31.9	31.1	23.9	55.6	53.2	53.5	29.0	15.2	54.1	2.4	49.0	6.7	**70**	**25**	-1.6	-1.4	1.0
gamma-HCH	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
heptachlor	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
aldrin	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
heptachlor epoxide	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<3		<2				
oxychlordane	N.A	N.A	N.A	N.A	N.A	N.A	NA		NA		<2		2.59	0.20			
trans-chlordane	4.00	3.41	3.67	<2	<2	<2	3.69	8.0	<2		3.20	0.82	<2		0.6	0.0	0.5
2,4'-DDE	1.18	1.25	1.69	0.47	0.31	0.69	1.37	20.1	0.49	39.0	2.25	0.72	**0.73**	**0.11**	-1.6	-0.1	1.3
endosulfan I	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
cis-chlordane	3.32	2.67	2.89	2.14	2.09	2.28	2.96	11.2	2.17	4.5	3.79	0.56	**2.33**	**0.56**	-0.9	-0.1	0.7
trans-nonachlor	1.84	2.01	1.68	1.32	1.19	1.31	1.84	9.0	1.27	5.7	1.96	0.37	**1.26**	**0.13**	-0.2	0.0	0.6
dieldrin	2.10	2.11	2.05	1.35	1.31	1.26	2.09	1.5	1.31	3.5	2.10	0.52	1.26	0.37	0.0	0.0	0.1
4,4'-DDE	7.97	9.21	7.52	5.86	7.26	5.94	8.23	10.6	6.35	12.4	11.3	1.4	**6.59**	**0.56**	-1.1	-0.2	0.7
2,4'-DDD	4.50	3.96	4.10	<2	<2	<2	4.19	6.7	<2		4.54	0.80	<2		-0.3	0.0	0.4
endrin	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
endosulfan II	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				
4,4'-DDD	11.6	11.3	9.78	5.01	5.00	4.65	10.9	9.0	4.89	4.2	14.4	1.8	**5.06**	**0.56**	-1.0	-0.3	0.6
2,4'-DDT	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<3		<2				
cis-nonachlor	0.84	1.09	0.96	<2	<2	<2	0.96	13.1	<2		<2		<2				0.9
4,4'-DDT	13.7	16.1	12.7	0.98	1.12	1.15	14.2	12.3	1.08	8.6	12.2	2.1	1.25	0.10	0.6	0.1	0.8
mirex	<0.8	<0.8	<0.8	<0.5	<0.5	<0.5	<0.8		<0.5		<2		<2				

Laboratory: 19
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	11	50
Qualitative	10	45
Not Determined	1	5

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 19

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/12/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	11/14/97 S 1	11/14/97 S 2	11/14/97 S 3	11/14/97 S 1	11/14/97 S 2	11/14/97 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	2.69	2.47	2.32	1.42	1.61	1.41	2.49	7.5	1.48	7.6	3.73	0.40	1.39	0.19	-1.3	-1.5	0.5
PCB 18	5.80	4.95	5.50	2.44	2.71	2.24	5.42	8.0	2.46	9.6	6.57	0.80	1.15	0.16	-0.7	-1.4	0.5
PCB 28	11.8	10.8	10.6	7.53	7.35	8.23	11.1	5.8	7.70	6.0	14.6	1.8	9.80	3.70	-1.0	**-4.2**	0.4
PCB 52	12.0	10.2	10.0	6.58	7.38	7.28	10.7	10.3	7.08	6.2	14.0	1.3	**6.89**	**0.56**	-0.9	**-3.9**	0.7
PCB 44	8.89	7.27	6.91	5.76	4.49	5.00	7.69	13.7	5.08	12.6	10.1	0.8	**4.80**	**0.62**	-1.0	-2.8	0.9
PCB 66/95	16.5	17.5	17.5	14.3	14.2	13.2	17.2	3.4	13.9	4.4	19.0	3.1	**14.3**	**2.5**	-0.4	-2.2	0.2
PCB 101/90	13.2	11.3	10.1	11.1	10.5	10.5	11.5	13.6	10.7	3.2	16.6	2.1	**11.0**	**1.6**	-1.2	**-6.0**	0.9
PCB 118	10.9	9.9	10.1	9.55	9.36	10.30	10.3	5.1	9.74	5.1	12.7	1.1	**10.0**	**1.1**	-0.7	-2.8	0.3
PCB 153	14.3	12.2	11.3	13.1	12.2	13.7	12.6	12.2	13.0	5.8	18.7	2.0	**17.6**	**1.9**	-1.3	**-7.2**	0.8
PCB 105	4.06	5.61	3.65	2.72	4.22	3.46	4.44	23.3	3.47	21.6	4.87	0.64	**3.65**	**0.27**	-0.4	-0.5	1.6
PCB 138/163/164	13.9	13.8	13.8	12.8	13.3	13.8	13.8	0.4	13.3	3.8	17.0	2.1	**13.38**	**0.97**	-0.7	**-3.7**	0.0
PCB 187/182	5.71	5.83	4.29	5.98	6.47	5.80	5.28	16.2	6.08	5.7	7.92	1.03	7.0	2.6	-1.3	**-3.1**	1.1
PCB 128	2.13	2.05	1.91	1.81	1.74	1.62	2.03	5.5	1.72	5.6	2.69	0.46	**1.87**	**0.32**	-1.0	-0.8	0.4
PCB 180	8.48	7.57	6.17	6.87	8.76	6.94	7.41	15.7	7.52	14.2	10.4	1.3	**5.83**	**0.58**	-1.1	**-3.5**	1.0
PCB 170/190	3.80	3.05	3,32	2.89	3.68	2.94	3.39	11.2	3.17	14.0	4.99	0.60	**3.00**	**0.46**	-1.3	-1.9	0.7
PCB 195	0.88	0.88	0.92	0.89	0.70	0.84	0.89	2.9	0.81	12.0	1.56	0.51	<3		-1.7	-0.8	0.2
PCB 206	2.84	2.79	2.09	3.59	4.27	3.56	2.57	16.3	3.81	10.5	3.98	0.39	**3.67**	**0.87**	-1.4	-1.7	1.1
PCB 209	N.A	N.A	N.A	N.A	N.A	N.A	NA		NA		9.34	1.15	**8.34**	**0.49**			
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 19

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	0	0
Not Determined	1	6

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	7	17
2 to 3	0	3	0
≥ 3	0	7	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	48.9	48.9	48.8	48.9	0.1	48.75	0.03	49.0	0.5	0.0	-0.1	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 20

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant)

Reporting Date: 12/17/97

PAH

Analysis date	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
	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	assigned value	95% CL	target value[b]	95% CL	z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 20
PAH in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 20

Reporting Date: 12/17/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	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	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		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 20

Pesticides in Sediment VII

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

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 20

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/17/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/12/97 S1	S2	S3	SRM 1941a, ng/g dry 11/12/97 S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	3.90	4.00	3.94	1.70	2.02	1.80	3.95	1.3	1.84	8.9	3.73	0.40	1.39	0.19	0.2	0.3	0.1
PCB 18	7.38	7.46	6.90	2.80	2.84	2.74	7.25	4.2	2.79	1.8	6.57	0.80	1.15	0.16	0.4	0.8	0.3
PCB 28	14.2	15.5	14.0	6.90	6.77	6.80	14.6	5.6	6.82	1.0	14.6	1.8	9.80	3.70	0.0	-0.1	0.4
PCB 52	16.1	15.9	14.1	8.61	8.37	8.78	15.4	7.2	8.59	2.4	14.0	1.3	**6.89**	**0.56**	0.4	1.6	0.5
PCB 44	11.2	10.1	11.5	4.84	6.02	4.84	10.9	6.7	5.23	13.0	10.1	0.8	**4.80**	**0.62**	0.3	1.0	0.4
PCB 66/95	17.5	16.5	17.9	9.2	11.3	8.5	17.3	4.2	9.7	15.2	19.0	3.1	**14.3**	**2.5**	-0.4	-2.0	0.3
PCB 101/90	20.9	19.7	17.9	13.1	13.4	14.9	19.5	7.7	13.8	7.0	16.6	2.1	**11.0**	**1.6**	0.7	**3.4**	0.5
PCB 118	14.2	13.7	11.8	9.05	9.12	10.90	13.2	9.6	9.69	10.8	12.7	1.1	**10.0**	**1.1**	0.2	0.7	0.6
PCB 153	20.7	20.0	17.6	13.4	13.3	14.6	19.4	8.4	13.8	5.3	18.7	2.0	**17.6**	**1.9**	0.2	0.9	0.6
PCB 105	5.20	5.02	4.42	2.91	3.16	3.98	4.88	8.4	3.35	16.7	4.87	0.64	**3.65**	**0.27**	0.0	0.0	0.6
PCB 138/163/164	21.4	19.9	17.9	13.8	14.3	16.1	19.7	8.9	14.7	8.2	17.0	2.1	**13.38**	**0.97**	0.6	**3.3**	0.6
PCB 187/182	10.6	11.0	10.4	8.48	8.65	8.05	10.7	2.9	8.39	3.7	7.92	1.03	7.0	2.6	1.4	**3.3**	0.2
PCB 128	4.47	3.78	3.22	2.57	2.57	3.50	3.82	16.4	2.88	18.6	2.69	0.46	**1.87**	**0.32**	1.7	1.3	1.1
PCB 180	12.4	12.6	11.4	9.30	9.50	9.61	12.1	5.3	9.47	1.7	10.4	1.3	**5.83**	**0.58**	0.7	2.1	0.4
PCB 170/190	5.92	5.93	5.30	4.39	4.49	4.28	5.72	6.3	4.39	2.4	4.99	0.60	**3.00**	**0.46**	0.6	0.9	0.4
PCB 195	2.01	2.26	2.23	1.68	1.65	1.68	2.17	6.3	1.67	1.0	1.56	0.51	<3		1.6	0.7	0.4
PCB 206	5.34	5.40	4.86	4.81	4.78	4.77	5.20	5.7	4.79	0.4	3.98	0.39	**3.67**	**0.87**	1.2	1.4	0.4
PCB 209	9.83	10.40	8.97	10.7	10.7	10.5	9.73	7.4	10.6	1.1	9.34	1.15	**8.34**	**0.49**	0.2	0.5	0.5
PCB 66 (optional)							na		na		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)							na		na		11.4	2.2	**7.5**	**1.1**			

Laboratory: 20

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	18	13	18
2 to 3	0	2	0
≥ 3	0	3	0

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	49.3	49.6	48.9	49.3	0.7	48.75	0.03	49.0	0.5	0.0	0.3	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 21

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/23/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 10/10/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 10/10/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	1090	1070	1020	1030			1060	3.4	1030		821	116	**1010**	**140**	1.2	1.1	0.2
2-methylnaphthalene	378	381	379	346			379	0.4	346		290	45	325	60	1.2	1.0	0.0
1-methylnaphthalene	239	228	225	199			231	3.2	199		157	24	150	30	1.9	1.7	0.2
biphenyl	113	104	109	96.4			109	4.1	96.4		106	23	175	18	0.1	0.1	0.3
2,6-dimethylnaphthalene	209	217	212	154			213	1.9	154		162	22	120	24	1.2	1.2	0.1
acenaphthylene	71.3	75.1	66.6	46.4			71.0	6.0	46.4		91.9	24.6	37	14	-0.9	-0.4	0.4
acenaphthene	90.5	84.6	79.5	40.4			84.9	6.5	40.4		75.8	7.9	41	10	0.5	0.6	0.4
1,6,7-trimethylnaphthalene	94.1	77.0	78.9	36.7			83.3	11.2	36.7		85.4	16.5	48	10	-0.1	-0.1	0.7
fluorene	145	140	124	87.3			136	8.0	87.3		132	13	**97.3**	**8.6**	0.1	0.1	0.5
phenanthrene	1140	1070	1020	558			1077	5.6	558		870	80	**489**	**23**	0.9	1.2	0.4
anthracene	328	343	307	201			326	5.5	201		294	32	**184**	**14**	0.4	0.5	0.4
1-methylphenanthrene	265	241	245	105			250	5.1	105		204	18	101	27	0.9	1.4	0.3
fluoranthene	2140	2050	1860	1050			2017	7.1	1050		1500	130	**981**	**78**	1.4	1.8	0.5
pyrene	1920	1880	1750	883			1850	4.8	883		1445	127	**811**	**24**	1.1	1.5	0.3
benz[a]anthracene	856	926	816	412			866	6.4	412		746	58	**427**	**25**	0.6	0.9	0.4
chrysene + triphenylene	1120	1190	1050	571			1120	6.3	571		934	100	577	35	0.8	0.9	0.4
benzofluoranthenes [b+j+k]	1990	2120	1860	1330			1990	6.5	1330		1848	222	1441	150	0.3	0.3	0.4
benzo[e]pyrene	845	881	781	549			836	6.1	549		776	72	**553**	**59**	0.3	0.4	0.4
benzo[a]pyrene	846	921	810	538			859	6.6	538		783	69	**628**	**52**	0.4	0.5	0.4
perylene	418	418	397	374			411	2.9	374		392	47	**452**	**58**	0.2	0.2	0.2
indeno[1,2,3-cd]pyrene	707	751	650	489			703	7.2	489		624	69	**501**	**72**	0.5	0.5	0.5
dibenz[a,h]anthracene + [a,c]	154	172	155	98			160	6.3	98		159	15	**117**	**14**	0.0	0.1	0.4
benzo[ghi]perylene	766	762	683	505			737	6.4	505		591	63	**525**	**67**	1.0	1.1	0.4

Laboratory: 21
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 21
Reporting Date: 12/23/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/10/97 S 1	10/10/97 S 2	10/10/97 S 3	10/10/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	N/A	N/A	N/A	N/A			NA		NA		<2		<2				
hexachlorobenzene	68.3	64.3	62.0	76.5			64.9	4.9	76.5		49.0	6.7	**70**	**25**	1.3	1.1	0.3
gamma-HCH	1.64	1.50	1.50	1.24			1.55	5.2	1.24		<2		<2				0.3
heptachlor	3.09	2.98	2.77	0.51			2.95	5.5	0.51		<2		<2				0.4
aldrin	<0.262	<0.244	<0.242	0.93			<0.26		0.93		<2		<2				
heptachlor epoxide	2.53	2.33	2.31	6.02			2.39	5.1	6.02		<3		<2				0.3
oxychlordane	2.38	2.28	2.17	<0.435			2.28	4.6	<0.44		<2		2.59	0.20			0.3
trans-chlordane	21.3	20.0	20.2	10.3			20.5	3.4	10.3		3.20	0.82	<2		**21.7**	1.2	0.2
2,4'-DDE	6.01	5.83	5.54	<1.35			5.79	4.1	<1.4		2.25	0.72	**0.73**	**0.11**	**6.3**	0.3	0.3
endosulfan I	N\A	N\A	N\A	N\A			NA		NA		<2		<2				
cis-chlordane	3.61	3.14	2.56	1.88			3.10	16.9	1.88		3.79	0.56	**2.33**	**0.56**	-0.7	0.0	1.1
trans-nonachlor	3.29	3.16	3.12	2.72			3.19	2.8	2.72		1.96	0.37	**1.26**	**0.13**	2.5	0.1	0.2
dieldrin	4.45	4.15	4.02	2.56			4.21	5.2	2.56		2.10	0.52	1.26	0.37	**4.0**	0.2	0.3
4,4'-DDE	8.79	7.89	7.23	4.04			7.97	9.8	4.04		11.3	1.4	**6.59**	**0.56**	-1.2	-0.2	0.7
2,4'-DDD	12.9	11.3	10.7	6.06			11.6	9.8	6.06		4.54	0.80	<2		**6.3**	0.5	0.7
endrin	N/A	N\A	N\A	N\A			NA		NA		<2		<2				
endosulfan II	N/A	N\A	N\A	N\A			NA		NA		<2		<2				
4,4'-DDD	16.7	17.3	18.9	6.06			17.6	6.4	6.06		14.4	1.8	**5.06**	**0.56**	0.9	0.2	0.4
2,4'-DDT	2.45	2.03	1.99	<0.0488			2.16	11.8	<0.05		<3		<2				0.8
cis-nonachlor	1.26	1.17	1.09	0.90			1.17	7.2	0.90		<2		<2				0.5
4,4'-DDT	14.7	17.8	14.3	3.81			15.6	12.3	3.81		12.2	2.1	1.25	0.10	1.1	0.2	0.8
mirex	0.60	0.56	0.71	0.92			0.62	12.8	0.92		<2		<2				0.9

Laboratory: 21
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	17	77
Qualitative	1	5
Not Determined	4	18

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	5	10	17
2 to 3	1	0	0
≥ 3	4	0	0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 21

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/23/97

PCBs

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	10/10/97 S 1	10/10/97 S 2	10/10/97 S 3	10/10/97 S 1	10/10/97 S 2	10/10/97 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	N/A	N/A	N/A	N/A			NA		NA		3.73	0.40	1.39	0.19			
PCB 18	11.2	11.0	10.3	5.40			10.8	4.4	5.40		6.57	0.80	1.15	0.16	2.6	**5.0**	0.3
PCB 28	13.3	13.1	12.3	5.45			12.9	4.1	5.45		14.6	1.8	9.80	3.70	-0.5	-2.1	0.3
PCB 52	19.1	18.9	17.5	10.5			18.5	4.7	10.5		14.0	1.3	**6.89**	**0.56**	1.3	**5.3**	0.3
PCB 44	11.4	11.2	10.4	5.90			11.0	4.8	5.90		10.1	0.8	**4.80**	**0.62**	0.4	1.1	0.3
PCB 66/95	na	na	na	na			NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	22.9	22.8	20.7	15.8			22.1	5.6	15.8		16.6	2.1	**11.0**	**1.6**	1.3	**6.5**	0.4
PCB 118	11.7	11.7	10.6	7.98			11.3	5.6	7.98		12.7	1.1	**10.0**	**1.1**	-0.4	-1.6	0.4
PCB 153	24.2	23.4	21.9	16.0			23.2	5.0	16.0		18.7	2.0	**17.6**	**1.9**	1.0	**5.3**	0.3
PCB 105	3.39	3.63	3.22	2.37			3.41	6.0	2.37		4.87	0.64	**3.65**	**0.27**	-1.2	-1.7	0.4
PCB 138/163/164	18.9	18.9	17.4	13.2			18.4	4.7	13.2		17.0	2.1	**13.38**	**0.97**	0.3	1.7	0.3
PCB 187/182	9.45	8.91	8.67	3.61			9.01	4.4	3.61		7.92	1.03	7.0	2.6	0.6	1.3	0.3
PCB 128	1.37	1.27	1.16	2.96			1.27	8.3	2.96		2.69	0.46	**1.87**	**0.32**	-2.1	-1.7	0.6
PCB 180	12.6	12.1	12.0	5.54			12.2	2.6	5.54		10.4	1.3	**5.83**	**0.58**	0.7	2.2	0.2
PCB 170/190	4.64	4.21	3.97	6.60			4.27	7.9	6.60		4.99	0.60	**3.00**	**0.46**	-0.6	-0.9	0.5
PCB 195	0.90	0.85	0.85	2.33			0.87	3.2	2.33		1.56	0.51	<3		-1.8	-0.8	0.2
PCB 206	2.68	2.61	2.48	3.06			2.59	3.9	3.06		3.98	0.39	**3.67**	**0.87**	-1.4	-1.6	0.3
PCB 209	8.62	8.44	7.99	12.4			8.35	3.9	12.4		9.34	1.15	**8.34**	**0.49**	-0.4	-1.2	0.3
PCB 66 (optional)	13.2	12.5	11.6	7.34			12.4	6.5	7.34		12.4	2.1	**6.8**	**1.4**	0.0	0.0	0.4
PCB 95 (optional)							NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 21

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	16	89
Qualitative	0	0
Not Determined	2	11

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	14	10	16
2 to 3	2	2	0
≥ 3	0	4	0

Water in Sediment VII

	Sediment VII, % water			lab, % water		Sed VII, % water		Exercise, % water		Sediment VII, water		
	S 1	S 2	S 3	mean	%RSD	assigned	95% CL	mean	95% CL	z (25%)	z (s)	p (15%)
water	49.5	50.7	50.5	50.2	1.3	48.75	0.03	49.0	0.5	0.1	1.0	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 22

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/18/97

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	12/4/97 S 1	12/4/97 S 2	12/4/97 S 3	12/4/97 S 1	12/4/97 S 2	12/4/97 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	1000	1060	1060	893			1040	3.3	893		821	116	**1010**	**140**	1.1	1.0	0.2
2-methylnaphthalene	384	399	398	327			394	2.1	327		290	45	325	60	1.4	1.1	0.1
1-methylnaphthalene	201	199	200	159			200	0.5	159		157	24	150	30	1.1	1.0	0.0
biphenyl	109	109	113	97.3			110	2.1	97.3		106	23	175	18	0.2	0.1	0.1
2,6-dimethylnaphthalene	123	126	121	81.7			123	2.0	81.7		162	22	120	24	-1.0	-0.9	0.1
acenaphthylene	86.4	103.0	89.3	54.3			92.9	9.5	54.3		91.9	24.6	37	14	0.0	0.0	0.6
acenaphthene	89.9	86.5	79.5	38.3			85.3	6.2	38.3		75.8	7.9	41	10	0.5	0.6	0.4
1,6,7-trimethylnaphthalene	53.8	62.5	56.1	29.5			57.5	7.8	29.5		85.4	16.5	48	10	-1.3	-1.1	0.5
fluorene	138	142	138	80.8			139	1.7	80.8		132	13	**97.3**	**8.6**	0.2	0.3	0.1
phenanthrene	835	943	910	450			896	6.2	450		870	80	**489**	**23**	0.1	0.1	0.4
anthracene	261	283	268	166			271	4.2	166		294	32	**184**	**14**	-0.3	-0.3	0.3
1-methylphenanthrene	177	201	198	76.0			192	6.8	76.0		204	18	101	27	-0.2	-0.4	0.5
fluoranthene	1530	1580	1490	847			1533	2.9	847		1500	130	**981**	**78**	0.1	0.1	0.2
pyrene	1490	1510	1430	691			1477	2.8	691		1445	127	**811**	**24**	0.1	0.1	0.2
benz[a]anthracene	785	811	773	412			790	2.5	412		746	58	**427**	**25**	0.2	0.3	0.2
chrysene + triphenylene	1160	1080	1070	660			1103	4.5	660		934	100	577	35	0.7	0.8	0.3
benzofluoranthenes [b+j+k]	1850	1760	1730	1350			1780	3.5	1350		1848	222	1441	150	-0.1	-0.1	0.2
benzo[e]pyrene	783	783	746	575			771	2.8	575		776	72	**553**	**59**	0.0	0.0	0.2
benzo[a]pyrene	896	898	836	566			877	4.0	566		783	69	**628**	**52**	0.5	0.6	0.3
perylene	430	426	416	396			424	1.7	396		392	47	**452**	**58**	0.3	0.3	0.1
indeno[1,2,3-cd]pyrene	655	678	645	522			659	2.6	522		624	69	**501**	**72**	0.2	0.2	0.2
dibenz[a,h]anthracene + [a,c]	184	184	168	134			179	5.2	134		159	15	**117**	**14**	0.5	0.7	0.3
benzo[ghi]perylene	670	681	655	521			669	2.0	521		591	63	**525**	**67**	0.5	0.6	0.1

Laboratory: 22
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 22

Reporting Date: 12/18/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	12/22/97 S 1	12/22/97 S 2	12/22/97 S 3	12/22/97 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	< 0.2	< 0.2	< 0.2	< 0.2			< 0.2		< 0.2		<2		<2				
hexachlorobenzene	49.2	48.9	52.4	60.1			50.2	3.9	60.1		49.0	6.7	**70**	**25**	0.1	0.1	0.3
gamma-HCH	< 0.2	< 0.2	< 0.2	< 0.2			< 0.2		< 0.2		<2		<2				
heptachlor	2.01	2.22	2.13	0.79			2.12	5.0	0.79		<2		<2				0.3
aldrin	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5		<2		<2				
heptachlor epoxide	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5		<3		<2				
oxychlordane	4.20	3.86	3.83	0.97			3.96	5.2	0.97		<2		2.59	0.20			0.3
trans-chlordane	5.58	5.27	5.76	2.97			5.54	4.5	2.97		3.20	0.82	<2		2.9	0.2	0.3
2,4'-DDE	2.09	2.13	2.09	< 1			2.10	1.1	< 1		2.25	0.72	**0.73**	**0.11**	-0.3	0.0	0.1
endosulfan I	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5		<2		<2				
cis-chlordane	2.82	2.81	3.21	2.41			2.95	7.7	2.41		3.79	0.56	**2.33**	**0.56**	-0.9	-0.1	0.5
trans-nonachlor	2.23	1.98	2.14	1.00			2.12	6.0	1.00		1.96	0.37	**1.26**	**0.13**	0.3	0.0	0.4
dieldrin	1.21	1.43	1.17	< 0.5			1.27	11.0	< 0.5		2.10	0.52	1.26	0.37	-1.6	-0.1	0.7
4,4'-DDE	12.3	13.3	13.3	7.09			13.0	4.5	7.09		11.3	1.4	**6.59**	**0.56**	0.6	0.1	0.3
2,4'-DDD	7.00	7.19	7.22	3.24			7.14	1.7	3.24		4.54	0.80	<2		2.3	0.2	0.1
endrin	< 2	< 2	< 2	< 2			< 2		< 2		<2		<2				
endosulfan II	< 1	< 1	< 1	< 1			< 1		< 1		<2		<2				
4,4'-DDD	17.2	15.5	16.9	5.66			16.5	5.5	5.66		14.4	1.8	**5.06**	**0.56**	0.6	0.2	0.4
2,4'-DDT	2.65	2.68	2.72	1.19			2.68	1.3	1.19		<3		<2				0.1
cis-nonachlor	0.92	0.86	0.74	0.69			0.84	10.7	0.69		<2		<2				0.7
4,4'-DDT	12.2	14.9	11.9	1.31			13.0	12.7	1.31		12.2	2.1	1.25	0.10	0.3	0.1	0.8
mirex	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5		< 0.5		<2		<2				

Laboratory: 22

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	14	64
Qualitative	8	36
Not Determined	0	0

	Number by Category		
Category	z (25%)	z (s)	p (15%)
≤ 2	8	10	14
2 to 3	2	0	0
≥ 3	0	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 22

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 12/18/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 11/17/97 S1	S2	S3	SRM 1941a, ng/g dry 11/17/97 S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	4.77	4.69	4.74	2.28			4.73	0.9	2.28		3.73	0.40	1.39	0.19	1.1	1.2	0.1
PCB 18	9.01	9.36	9.15	3.40			9.17	1.9	3.40		6.57	0.80	1.15	0.16	1.6	**3.1**	0.1
PCB 28	11.5	12.1	12.0	5.66			11.9	2.7	5.66		14.6	1.8	9.80	3.70	-0.8	**-3.3**	0.2
PCB 52	15.5	16.3	16.4	7.98			16.1	3.1	7.98		14.0	1.3	**6.89**	**0.56**	0.6	2.5	0.2
PCB 44	10.1	10.5	10.5	5.04			10.4	2.2	5.04		10.1	0.8	**4.80**	**0.62**	0.1	0.3	0.1
PCB 66/95	31.0	32.3	31.1	18.1			31.5	2.3	18.1		19.0	3.1	**14.3**	**2.5**	2.6	**14.8**	0.2
PCB 101/90	18.1	18.4	18.0	11.0			18.2	1.1	11.0		16.6	2.1	**11.0**	**1.6**	0.4	1.8	0.1
PCB 118	11.2	11.7	11.9	7.44			11.6	3.1	7.44		12.7	1.1	**10.0**	**1.1**	-0.3	-1.3	0.2
PCB 153	17.8	17.7	18.8	13.3			18.1	3.4	13.3		18.7	2.0	**17.6**	**1.9**	-0.1	-0.7	0.2
PCB 105	4.27	4.37	4.37	2.57			4.34	1.3	2.57		4.87	0.64	**3.65**	**0.27**	-0.4	-0.6	0.1
PCB 138/163/164	17.0	17.1	17.7	12.6			17.3	2.2	12.6		17.0	2.1	**13.38**	**0.97**	0.1	0.3	0.1
PCB 187/182	7.06	6.81	7.30	5.44			7.06	3.5	5.44		7.92	1.03	7.0	2.6	-0.4	-1.0	0.2
PCB 128	3.08	2.90	3.15	0.78			3.04	4.2	0.78		2.69	0.46	**1.87**	**0.32**	0.5	0.4	0.3
PCB 180	12.4	12.3	12.5	9.73			12.4	0.8	9.73		10.4	1.3	**5.83**	**0.58**	0.8	2.4	0.1
PCB 170/190	4.42	4.44	4.57	3.37			4.48	1.8	3.37		4.99	0.60	**3.00**	**0.46**	-0.4	-0.6	0.1
PCB 195	1.15	1.11	1.19	0.99			1.15	3.5	0.99		1.56	0.51	<3		-1.0	-0.5	0.2
PCB 206	4.21	4.18	4.54	4.36			4.31	4.6	4.36		3.98	0.39	**3.67**	**0.87**	0.3	0.4	0.3
PCB 209	9.03	8.65	9.65	10.3			9.11	5.5	10.3		9.34	1.15	**8.34**	**0.49**	-0.1	-0.3	0.4
PCB 66 (optional)	17.8	18.1	17.5	10.0			17.8	1.7	10.0		12.4	2.1	**6.8**	**1.4**	1.7	**6.4**	0.1
PCB 95 (optional)	13.2	14.2	13.6	8.11			13.7	3.7	8.11		11.4	2.2	**7.5**	**1.1**	0.8	2.7	0.2

Laboratory: 22

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	17	13	18
2 to 3	1	2	0
≥ 3	0	3	0

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	49.6	49.7	49.9	49.7	0.3	48.75	0.03	49.0	0.5	0.1	0.6	0.0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 24

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 1/15/98

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 1/14/98 S 1	S 2	S 3	SRM 1941a, ng/g dry 1/14/98 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	821	NA	NA	690	NA	NA	821		690		821	116	**1010**	**140**	0.0	0.0	
2-methylnaphthalene	217	NA	NA	180	NA	NA	217		180		290	45	325	60	-1.0	-0.8	
1-methylnaphthalene	100	NA	NA	84.6	NA	NA	100		84.6		157	24	150	30	-1.5	-1.3	
biphenyl	74.0	NA	NA	60.0	NA	NA	74.0		60.0		106	23	175	18	-1.2	-0.7	
2,6-dimethylnaphthalene	178	NA	NA	106	NA	NA	178		106		162	22	120	24	0.4	0.4	
acenaphthylene	279	NA	NA	117	NA	NA	279		117		91.9	24.6	37	14	**8.1**	**3.9**	
acenaphthene	90.7	NA	NA	43.8	NA	NA	90.7		43.8		75.8	7.9	41	10	0.8	1.0	
1,6,7-trimethylnaphthalene	109	NA	NA	46.1	NA	NA	109		46.1		85.4	16.5	48	10	1.1	0.9	
fluorene	132	NA	NA	64.9	NA	NA	132		64.9		132	13	**97.3**	**8.6**	0.0	0.0	
phenanthrene	971	NA	NA	420	NA	NA	971		420		870	80	**489**	**23**	0.5	0.6	
anthracene	429	NA	NA	208	NA	NA	429		208		294	32	**184**	**14**	1.8	1.9	
1-methylphenanthrene	188	NA	NA	66	NA	NA	188		66		204	18	101	27	-0.3	-0.5	
fluoranthene	1490	NA	NA	729	NA	NA	1490		729		1500	130	**981**	**78**	0.0	0.0	
pyrene	1440	NA	NA	617	NA	NA	1440		617		1445	127	**811**	**24**	0.0	0.0	
benz[a]anthracene	812	NA	NA	389	NA	NA	812		389		746	58	**427**	**25**	0.4	0.5	
chrysene + triphenylene	906	NA	NA	443	NA	NA	906		443		934	100	577	35	-0.1	-0.1	
benzofluoranthenes [b+j+k]	1750	NA	NA	1100	NA	NA	1750		1100		1848	222	1441	150	-0.2	-0.2	
benzo[e]pyrene	698	NA	NA	437	NA	NA	698		437		776	72	**553**	**59**	-0.4	-0.5	
benzo[a]pyrene	840	NA	NA	492	NA	NA	840		492		783	69	**628**	**52**	0.3	0.4	
perylene	345	NA	NA	293	NA	NA	345		293		392	47	**452**	**58**	-0.5	-0.5	
indeno[1,2,3-cd]pyrene	659	NA	NA	417	NA	NA	659		417		624	69	**501**	**72**	0.2	0.2	
dibenz[a,h]anthracene + [a,c]	123	NA	NA	73.7	NA	NA	123		73.7		159	15	**117**	**14**	-0.9	-1.3	
benzo[ghi]perylene	476	NA	NA	360	NA	NA	476		360		591	63	**525**	**67**	-0.8	-0.8	

Laboratory: 24

PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise
Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 24
Reporting Date: 1/15/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	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)	p-score (15%)
alpha-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA		NA		49.0	6.7	**70**	**25**			
gamma-HCH	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
aldrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
oxychlordane	NA	NA	NA	NA	NA	NA	NA		NA		<2		2.59	0.20			
trans-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.20	0.82	<2				
2,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		2.25	0.72	**0.73**	**0.11**			
endosulfan I	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
cis-chlordane	NA	NA	NA	NA	NA	NA	NA		NA		3.79	0.56	**2.33**	**0.56**			
trans-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		1.96	0.37	**1.26**	**0.13**			
dieldrin	NA	NA	NA	NA	NA	NA	NA		NA		2.10	0.52	1.26	0.37			
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA		NA		11.3	1.4	**6.59**	**0.56**			
2,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		4.54	0.80	<2				
endrin	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
endosulfan II	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA		NA		14.4	1.8	**5.06**	**0.56**			
2,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		<3		<2				
cis-nonachlor	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA		NA		12.2	2.1	1.25	0.10			
mirex	NA	NA	NA	NA	NA	NA	NA		NA		<2		<2				

Laboratory: 24
Pesticides in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 24

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 1/15/98

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 1/12/98 S1	S2	S3	SRM 1941a, ng/g dry 1/12/98 S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	<0.102	NA	NA	1.48	NA	NA	<0.1		1.48		3.73	0.40	1.39	0.19			
PCB 18	7.01	NA	NA	2.17	NA	NA	7.01		2.17		6.57	0.80	1.15	0.16	0.3	0.5	
PCB 28	19.9	NA	NA	6.77	NA	NA	19.9		6.77		14.6	1.8	9.80	3.70	1.4	**6.2**	
PCB 52	21.4	NA	NA	8.53	NA	NA	21.4		8.53		14.0	1.3	**6.89**	**0.56**	2.1	**8.8**	
PCB 44	15.3	NA	NA	4.88	NA	NA	15.3		4.88		10.1	0.8	**4.80**	**0.62**	2.1	**6.2**	
PCB 66/95	18.9	NA	NA	9.44	NA	NA	18.9		9.44		19.0	3.1	**14.3**	**2.5**	0.0	-0.1	
PCB 101/90	28.7	NA	NA	9.31	NA	NA	28.7		9.31		16.6	2.1	**11.0**	**1.6**	2.9	**14.3**	
PCB 118	10.7	NA	NA	4.03	NA	NA	10.7		4.03		12.7	1.1	**10.0**	**1.1**	-0.6	-2.3	
PCB 153	14.0	NA	NA	5.24	NA	NA	14.0		5.24		18.7	2.0	**17.6**	**1.9**	-1.0	**-5.5**	
PCB 105	11.7	NA	NA	5.09	NA	NA	11.7		5.09		4.87	0.64	**3.65**	**0.27**	**5.6**	**8.1**	
PCB 138/163/164	17.2	NA	NA	5.96	NA	NA	17.2		5.96		17.0	2.1	**13.38**	**0.97**	0.1	0.3	
PCB 187/182	6.52	NA	NA	2.67	NA	NA	6.52		2.67		7.92	1.03	7.0	2.6	-0.7	-1.7	
PCB 128	1.57	NA	NA	0.56	NA	NA	1.57		0.56		2.69	0.46	**1.87**	**0.32**	-1.7	-1.3	
PCB 180	2.68	NA	NA	1.25	NA	NA	2.68		1.25		10.4	1.3	**5.83**	**0.58**	-3.0	**-9.1**	
PCB 170/190	6.95	NA	NA	3.08	NA	NA	6.95		3.08		4.99	0.60	**3.00**	**0.46**	1.6	2.3	
PCB 195	0.32	NA	NA	0.46	NA	NA	0.32		0.46		1.56	0.51	<3		**-3.2**	-1.5	
PCB 206	3.79	NA	NA	2.45	NA	NA	3.79		2.45		3.98	0.39	**3.67**	**0.87**	-0.2	-0.2	
PCB 209	14.9	NA	NA	4.93	NA	NA	14.9		4.93		9.34	1.15	**8.34**	**0.49**	2.4	**6.6**	
PCB 66 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		12.4	2.1	**6.8**	**1.4**			
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 24

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	17	94
Qualitative	1	6
Not Determined	0	0

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	10	7	0
2 to 3	5	2	0
≥ 3	2	8	0

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	50.2	NA	NA	50.2		48.75	0.03	49.0	0.5	0.1	1.0	

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise **Laboratory No.: 26**

Sample: QA97SED7 - Marine Sediment VII (data reported as if three figures were significant) Reporting Date: 1/22/97

PAH

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 12/31/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 12/31/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	Sediment VII lab %RSD	SRM 1941a lab mean ng/g dry	SRM 1941a lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
naphthalene	NA	NA	NA	NA	NA	NA	NA		NA		821	116	**1010**	**140**			
2-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		290	45	325	60			
1-methylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		157	24	150	30			
biphenyl	NA	NA	NA	NA	NA	NA	NA		NA		106	23	175	18			
2,6-dimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		162	22	120	24			
acenaphthylene	NA	NA	NA	NA	NA	NA	NA		NA		91.9	24.6	37	14			
acenaphthene	NA	NA	NA	NA	NA	NA	NA		NA		75.8	7.9	41	10			
1,6,7-trimethylnaphthalene	NA	NA	NA	NA	NA	NA	NA		NA		85.4	16.5	48	10			
fluorene	NA	NA	NA	NA	NA	NA	NA		NA		132	13	**97.3**	**8.6**			
phenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		870	80	**489**	**23**			
anthracene	NA	NA	NA	NA	NA	NA	NA		NA		294	32	**184**	**14**			
1-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA		NA		204	18	101	27			
fluoranthene	NA	NA	NA	NA	NA	NA	NA		NA		1500	130	**981**	**78**			
pyrene	NA	NA	NA	NA	NA	NA	NA		NA		1445	127	**811**	**24**			
benz[a]anthracene	NA	NA	NA	NA	NA	NA	NA		NA		746	58	**427**	**25**			
chrysene + triphenylene	NA	NA	NA	NA	NA	NA	NA		NA		934	100	577	35			
benzofluoranthenes [b+j+k]	NA	NA	NA	NA	NA	NA	NA		NA		1848	222	1441	150			
benzo[e]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		776	72	**553**	**59**			
benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		783	69	**628**	**52**			
perylene	NA	NA	NA	NA	NA	NA	NA		NA		392	47	**452**	**58**			
indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA		NA		624	69	**501**	**72**			
dibenz[a,h]anthracene + [a,c]	NA	NA	NA	NA	NA	NA	NA		NA		159	15	**117**	**14**			
benzo[ghi]perylene	NA	NA	NA	NA	NA	NA	NA		NA		591	63	**525**	**67**			

Laboratory: 26
PAH in Sediment VII

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

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 26

Reporting Date: 1/22/97

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	12/31/97 S 1	1/9/98 S 2	1/12/98 S 3	12/31/97 S 1	1/9/98 S 2	1/12/98 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%)
alpha-HCH	NA	9.01	5.03	9.67	NA	5.77	7.02	40.1	7.72	35.7	<2		<2				2.7
hexachlorobenzene	36.2	47.2	36.5	32.5	73.5	61.0	40.0	15.7	55.7	37.7	49.0	6.7	**70**	**25**	-0.7	-0.6	1.0
gamma-HCH	NA	0.69	0.69	1.21	NA	0.79	0.69	0.0	1.00	29.7	<2		<2				0.0
heptachlor	3.78	7.78	3.58	4.57	4.36	4.96	5.05	46.9	4.63	6.6	<2		<2				**3.1**
aldrin	NA	DL	DL	DL	NA	DL	DL		DL		<2		<2				
heptachlor epoxide	NA	DL	DL	0.34	NA	0.13	DL		0.24	63.2	<3		<2				
oxychlordane	4.39	3.91	4.51	3.38	2.62	3.46	4.27	7.4	3.15	14.7	<2		2.59	0.20			0.5
trans-chlordane	NA	2.13	1.34	2.21	NA	1.25	1.74	32.2	1.73	39.2	3.20	0.82	<2		-1.8	-0.1	2.1
2,4'-DDE	4.63	3.91	4.34	2.95	2.11	3.42	4.29	8.4	2.83	23.5	2.25	0.72	**0.73**	**0.11**	**3.6**	0.1	0.6
endosulfan I	NA	DL	DL	0.39	NA	0.52	DL		0.46	20.2	<2		<2				
cis-chlordane	NA	3.46	1.96	2.35	NA	1.36	2.71	39.1	1.86	37.7	3.79	0.56	**2.33**	**0.56**	-1.1	-0.1	2.6
trans-nonachlor	NA	1.64	1.03	1.30	NA	0.83	1.34	32.3	1.07	31.2	1.96	0.37	**1.26**	**0.13**	-1.3	0.0	2.2
dieldrin	NA	0.93	0.71	0.74	NA	0.66	0.82	19.0	0.70	8.1	2.10	0.52	1.26	0.37	-2.4	-0.1	1.3
4,4'-DDE	8.50	9.83	8.44	5.91	5.94	6.14	8.92	8.8	6.00	2.1	11.3	1.4	**6.59**	**0.56**	-0.8	-0.2	0.6
2,4'-DDD	NA	6.71	3.81	2.06	NA	1.32	5.26	39.0	1.69	31.0	4.54	0.80	<2		0.6	0.1	2.6
endrin	NA	DL	DL	DL	NA	DL	DL		DL		<2		<2				
endosulfan II	NA	DL	DL	DL	NA	DL	DL		DL		<2		<2				
4,4'-DDD	NA	14.8	7.90	5.91	NA	3.76	11.3	42.9	4.84	31.4	14.4	1.8	**5.06**	**0.56**	-0.8	-0.2	2.9
2,4'-DDT	1.54	1.35	2.81	1.33	1.35	2.82	1.90	41.8	1.83	46.6	<3		<2				2.8
cis-nonachlor	NA	1.03	0.73	1.09	NA	0.78	0.88	24.1	0.94	23.4	<2		<2				1.6
4,4'-DDT	NA	5.88	6.61	0.79	NA	2.85	6.25	8.3	1.82	80.0	12.2	2.1	1.25	0.10	-2.0	-0.4	0.6
mirex	DL	DL	DL	DL	DL	0.71	DL		DL		<2		<2				

Laboratory: 26
Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	16	73
Qualitative	6	27
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	8	10	8
2 to 3	1	0	7
≥ 3	1	0	1

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 26

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 1/22/97

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 12/31/97 S 1	S 2	S 3	SRM 1941a, ng/g dry 12/31/97 S 1	S 2	S 3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a] Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	4.31	4.13	3.88	3.01	2.86	3.50	4.11	5.3	3.12	10.7	3.73	0.40	1.39	0.19	0.4	0.5	0.4
PCB 18	8.08	7.62	6.75	3.86	3.25	3.96	7.48	9.0	3.69	10.4	6.57	0.80	1.15	0.16	0.6	1.1	0.6
PCB 28	12.5	15.0	11.7	8.00	8.24	7.81	13.1	13.2	8.02	2.7	14.6	1.8	9.80	3.70	-0.4	-1.9	0.9
PCB 52	15.1	15.6	11.5	13.3	10.8	10.5	14.1	15.9	11.5	13.0	14.0	1.3	**6.89**	**0.56**	0.0	0.1	1.1
PCB 44	8.70	9.80	7.57	6.51	7.06	6.14	8.69	12.8	6.57	7.0	10.1	0.8	**4.80**	**0.62**	-0.6	-1.7	0.9
PCB 66/95	NA	NA	NA	NA	NA	NA	NA		NA		19.0	3.1	**14.3**	**2.5**			
PCB 101/90	14.8	17.7	13.8	14.4	15.2	13.4	15.4	13.1	14.3	6.3	16.6	2.1	**11.0**	**1.6**	-0.3	-1.4	0.9
PCB 118	11.9	14.4	11.2	11.0	12.6	11.0	12.5	13.5	11.5	8.0	12.7	1.1	**10.0**	**1.1**	-0.1	-0.2	0.9
PCB 153	14.9	18.8	14.4	17.1	16.6	15.5	16.0	15.0	16.4	5.0	18.7	2.0	**17.6**	**1.9**	-0.6	**-3.1**	1.0
PCB 105	3.71	4.46	4.22	3.29	3.90	3.65	4.13	9.3	3.61	8.5	4.87	0.64	**3.65**	**0.27**	-0.6	-0.9	0.6
PCB 138/163/164	12.4	14.0	9.8	9.9	10.3	9.9	12.1	17.6	10.0	2.2	17.0	2.1	**13.38**	**0.97**	-1.2	**-5.8**	1.2
PCB 187/182	4.49	5.44	4.19	4.75	5.08	5.13	4.71	13.9	4.99	4.1	7.92	1.03	7.0	2.6	-1.6	**-3.8**	0.9
PCB 128	0.96	0.87	1.43	0.86	0.88	1.56	1.09	27.7	1.10	36.2	2.69	0.46	**1.87**	**0.32**	-2.4	-1.9	1.8
PCB 180	8.64	10.6	7.66	9.00	9.69	9.21	8.98	16.9	9.30	3.8	10.4	1.3	**5.83**	**0.58**	-0.5	-1.6	1.1
PCB 170/190	2.62	2.80	2.70	2.56	2.95	3.22	2.71	3.3	2.91	11.4	4.99	0.60	**3.00**	**0.46**	-1.8	-2.7	0.2
PCB 195	0.73	0.58	1.31	1.57	1.68	1.47	0.87	44.1	1.57	6.7	1.56	0.51	<3		-1.8	-0.8	2.9
PCB 206	DL	DL	DL	14.3	NA	8.77	DL		11.5	33.7	3.98	0.39	**3.67**	**0.87**			
PCB 209	3.67	4.16	3.76	4.03	7.82	4.09	3.86	6.8	5.31	40.9	9.34	1.15	**8.34**	**0.49**	-2.3	**-6.5**	0.5
PCB 66 (optional)	9.91	12.7	10.0	8.87	7.36	7.99	10.9	14.6	8.07	9.4	12.4	2.1	**6.8**	**1.4**	-0.5	-1.8	1.0
PCB 95 (optional)	NA	NA	NA	NA	NA	NA	NA		NA		11.4	2.2	**7.5**	**1.1**			

Laboratory: 26

PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	16	89
Qualitative	1	6
Not Determined	1	6

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	14	11	15
2 to 3	2	1	1
≥ 3	0	4	0

Water in Sediment VII

	Sediment VII, % water S 1	S 2	S 3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	47.7	47.9	49.0	48.2	1.5	48.75	0.03	49.0	0.5	0.0	-0.6	0.1

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 27

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 1/26/98

PAH

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	15/98, 1/19/ S 1	15/98, 1/19/ S 2	15/98, 1/19/ S 3	15/98, 1/19/ S 1	15/98, 1/19/ S 2	15/98, 1/19/ 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	625	623	647	570	630	664	632	2.1	621	7.7	821	116	**1010**	**140**	-0.9	-0.9	0.1
2-methylnaphthalene	267	278	281	220	228	234	275	2.7	227	3.1	290	45	325	60	-0.2	-0.2	0.2
1-methylnaphthalene	131	135	137	103	109	102	134	2.4	105	3.6	157	24	150	30	-0.6	-0.5	0.2
biphenyl	79.2	82.8	87.2	67.3	79.2	79.2	83.1	4.9	75.2	9.1	106	23	175	18	-0.9	-0.5	0.3
2,6-dimethylnaphthalene	193	192	194	127	122	129	193	0.6	126	2.9	162	22	120	24	0.7	0.7	0.0
acenaphthylene	143	161	156	91.0	72.5	72.2	153	6.0	78.6	13.7	91.9	24.6	37	14	2.7	1.3	0.4
acenaphthene	73.0	73.6	76.7	38.4	37.9	37.2	74.4	2.7	37.8	1.6	75.8	7.9	41	10	-0.1	-0.1	0.2
1,6,7-trimethylnaphthalene	112	119	115	58.1	48.3	53.4	115	3.0	53.3	9.2	85.4	16.5	48	10	1.4	1.2	0.2
fluorene	112	111	116	61.9	62.6	62.0	113	2.3	62.2	0.6	132	13	**97.3**	**8.6**	-0.6	-0.7	0.2
phenanthrene	831	789	843	383	394	403	821	3.4	393	2.5	870	80	**489**	**23**	-0.2	-0.3	0.2
anthracene	367	362	332	220	212	212	353	5.4	215	2.2	294	32	**184**	**14**	0.8	0.8	0.4
1-methylphenanthrene	192	187	186	57.5	69.4	72.5	188	1.8	66.5	11.9	204	18	101	27	-0.3	-0.5	0.1
fluoranthene	1680	1650	1590	902	844	865	1640	2.8	870	3.4	1500	130	**981**	**78**	0.4	0.5	0.2
pyrene	1350	1400	1470	786	762	715	1407	4.3	754	4.8	1445	127	**811**	**24**	-0.1	-0.1	0.3
benz[a]anthracene	801	852	896	438	398	381	849	5.6	406	7.2	746	58	**427**	**25**	0.6	0.8	0.4
chrysene + triphenylene	992	1020	1090	587	568	528	1034	4.9	561	5.4	934	100	577	35	0.4	0.5	0.3
benzofluoranthenes [b+j+k]	1680	1820	1980	1140	1170	1160	1827	8.2	1157	1.3	1848	222	1441	150	0.0	0.0	0.5
benzo[e]pyrene	653	707	736	453	450	439	699	6.0	447	1.6	776	72	**553**	**59**	-0.4	-0.5	0.4
benzo[a]pyrene	681	796	841	479	454	435	772	10.7	456	4.8	783	69	**628**	**52**	-0.1	-0.1	0.7
perylene	334	364	347	309	341	314	348	4.2	321	5.4	392	47	**452**	**58**	-0.4	-0.5	0.3
indeno[1,2,3-cd]pyrene	557	646	715	492	463	473	639	12.4	476	3.1	624	69	**501**	**72**	0.1	0.1	0.8
dibenz[a,h]anthracene + [a,c]	147	166	185	120	110	113	166	11.6	114	4.5	159	15	**117**	**14**	0.2	0.3	0.8
benzo[ghi]perylene	446	519	583	399	388	394	516	13.2	394	1.4	591	63	**525**	**67**	-0.5	-0.5	0.9

Laboratory: 27
PAH in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	23	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category z (25%)	z (s)	p (15%)
≤ 2	22	23	23
2 to 3	1	0	0
≥ 3	0	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Laboratory No.: 27

Reporting Date: 1/26/98

PESTICIDES

	Data as submitted by laboratory										Material reference values				Performance scores[a]		
	Sediment VII, ng/g dry			SRM 1941a, ng/g dry			Sediment VII		SRM 1941a		Sediment VII, ng/g dry		SRM 1941a, ng/g dry		Sediment VII		
Analysis date	1/20/98 S 1	1/20/98 S 2	1/20/98 S 3	1/20/98 S 1	1/20/98 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	z-score (25%)	z-score (s)	p-score (15%)
alpha-HCH	<0.972	<0.991	<1.57	16.6	19.6		<1.6		18.1	11.7	<2		<2				
hexachlorobenzene	52.9	51.8	52.1	60.4	64.2		52.3	1.1	62.3	4.3	49.0	6.7	**70**	**25**	0.3	0.2	0.1
gamma-HCH	<0.693	<0.706	<1.12	1.43	1.81		<1		1.62	16.6	<2		<2				
heptachlor	2.46	2.54	2.74	<0.736	<0.736		2.58	5.6	<0.736		<2		<2				0.4
aldrin	<0.672	<0.685	<1.08	<0.862	<0.862		<1		<0.862		<2		<2				
heptachlor epoxide	4.00	4.07	4.21	3.64	3.77		4.09	2.6	3.71	2.5	<3		<2				0.2
oxychlordane	1.21	1.02	1.04	0.92	0.59		1.09	9.6	0.76	30.8	<2		2.59	0.20			0.6
trans-chlordane	3.19	3.15	3.85	4.33	6.55		3.40	11.6	5.44	28.9	3.20	0.82	<2		0.3	0.0	0.8
2,4'-DDE	0.47	0.69	0.71	0.52	0.72		0.62	21.8	0.62	23.2	2.25	0.72	**0.73**	**0.11**	-2.9	-0.1	1.5
endosulfan I	NA**	NA**	NA**	NA**	NA**		NA		NA		<2		<2				
cis-chlordane	3.89	3.37	3.88	1.80	2.53		3.71	8.0	2.17	23.8	3.79	0.56	**2.33**	**0.56**	-0.1	0.0	0.5
trans-nonachlor	1.19	1.22	1.42	1.34	1.49		1.28	9.8	1.42	7.5	1.96	0.37	**1.26**	**0.13**	-1.4	0.0	0.7
dieldrin	3.08	2.70	2.89	1.15	1.80		2.89	6.6	1.48	31.2	2.10	0.52	1.26	0.37	1.5	0.1	0.4
4,4'-DDE	11.7	11.2	11.7	6.96	7.04		11.5	2.5	7.00	0.8	11.3	1.4	**6.59**	**0.56**	0.1	0.0	0.2
2,4'-DDD	4.95	4.87	5.83	1.52	2.05		5.22	10.2	1.79	21.0	4.54	0.80	<2		0.6	0.0	0.7
endrin	<1.12	<1.14	<1.79	0.30	0.30		<1.8		0.30	1.9	<2		<2				
endosulfan II	35.6	33.6	33.4	29.4	31.6		**34.2**	3.6	**30.5**	5.1	<2		<2				0.2
4,4'-DDD	17.5	16.2	16.2	3.44	3.59		16.6	4.5	3.52	3.0	14.4	1.8	**5.06**	**0.56**	0.6	0.2	0.3
2,4'-DDT	0.71	0.48	0.90	0.42	0.30		0.70	30.4	0.36	24.7	<3		<2				2.0
cis-nonachlor	2.01	1.90	2.02	1.61	1.73		1.98	3.4	1.67	5.1	<2		<2				0.2
4,4'-DDT	12.9	12.1	11.5	2.18	2.27		12.2	5.8	2.23	2.9	12.2	2.1	1.25	0.10	0.0	0.0	0.4
mirex	<0.330	<0.336	<0.531	0.21	0.22		<.5		0.21	4.3	<2		<2				

Laboratory: 27

Pesticides in Sediment VII

Reported Results	No. of Analytes	%
Quantitative	16	73
Qualitative	5	23
Not Determined	1	5

Category	Number by Category		
	z (25%)	z (s)	p (15%)
≤ 2	9	10	15
2 to 3	1	0	1
≥ 3	0	0	0

[a] z- and p-scores ≥ 3 are bolded.

[b] Certified material reference values are bolded.

FY97 NIST Intercomparison Exercise

Laboratory No.: 27

Sample: QA97SED7 - Marine Sediment VII

(data reported as if three figures were significant)

Reporting Date: 1/26/98

PCBs

Analysis date	Data as submitted by laboratory: Sediment VII, ng/g dry 1/20/98 S1	S2	S3	SRM 1941a, ng/g dry 1/20/98 S1	S2	S3	Sediment VII lab mean ng/g dry	lab %RSD	SRM 1941a lab mean ng/g dry	lab %RSD	Material reference values: Sediment VII, ng/g dry assigned value	95% CL	SRM 1941a, ng/g dry target value[b]	95% CL	Performance scores[a]: Sediment VII z-score (25%)	z-score (s)	p-score (15%)
PCB 8	12.3	10.2	10.1	11.6	13.9		10.9	11.4	12.8	12.8	3.73	0.40	1.39	0.19	**7.7**	**8.5**	0.8
PCB 18	7.11	8.51	8.13	2.33	2.90		7.92	9.1	2.62	15.4	6.57	0.80	1.15	0.16	0.8	1.6	0.6
PCB 28	35.6	34.2	36.8	25.4	33.4		35.5	3.7	29.4	19.2	14.6	1.8	9.80	3.70	**5.7**	**24.7**	0.2
PCB 52	14.3	14.7	15.0	6.58	5.84		14.7	2.4	6.21	8.4	14.0	1.3	**6.89**	**0.56**	0.2	0.8	0.2
PCB 44	11.4	11.0	11.7	4.28	4.71		11.4	3.1	4.50	6.8	10.1	0.8	**4.80**	**0.62**	0.5	1.5	0.2
PCB 66/95	26.8	27.7	26.4	12.1	15.6		27.0	2.5	13.8	17.9	19.0	3.1	**14.3**	**2.5**	1.7	**9.4**	0.2
PCB 101/90	21.3	20.4	20.2	11.6	13.5		20.6	2.8	12.6	10.7	16.6	2.1	**11.0**	**1.6**	1.0	**4.7**	0.2
PCB 118	15.3	15.8	15.9	7.22	8.20		15.7	2.1	7.71	9.0	12.7	1.1	**10.0**	**1.1**	0.9	**3.6**	0.1
PCB 153	23.5	25.4	21.2	13.1	13.1		23.4	9.0	13.1	0.0	18.7	2.0	**17.6**	**1.9**	1.0	**5.6**	0.6
PCB 105	4.84	4.22	4.37	2.20	4.40		4.48	7.2	3.30	47.1	4.87	0.64	**3.65**	**0.27**	-0.3	-0.5	0.5
PCB 138/163/164	28.1	29.8	27.6	15.9	15.5		28.5	4.0	15.7	1.8	17.0	2.1	**13.38**	**0.97**	2.7	**13.6**	0.3
PCB 187/182	11.5	10.7	10.0	5.37	5.44		10.7	7.0	5.41	0.9	7.92	1.03	7.0	2.6	1.4	**3.3**	0.5
PCB 128	1.50	1.35	1.99	0.87	0.82		1.61	20.7	0.85	4.2	2.69	0.46	**1.87**	**0.32**	-1.6	-1.3	1.4
PCB 180	13.3	12.4	12.1	7.71	8.26		12.6	5.0	7.99	4.9	10.4	1.3	**5.83**	**0.58**	0.9	2.7	0.3
PCB 170/190	35.7	40.3	40.4	49.4	57.8		38.8	6.9	53.6	11.1	4.99	0.60	**3.00**	**0.46**	**27.1**	**40.0**	0.5
PCB 195	3.78	3.60	3.07	2.45	2.75		3.48	10.6	2.60	8.2	1.56	0.51	<3		**4.9**	2.3	0.7
PCB 206	4.21	4.00	3.84	2.95	2.82		4.02	4.6	2.89	3.2	3.98	0.39	**3.67**	**0.87**	0.0	0.0	0.3
PCB 209	12.3	11.6	12.4	10.5	10.2		12.1	3.6	10.4	2.0	9.34	1.15	**8.34**	**0.49**	1.2	**3.3**	0.2
PCB 66 (optional)	13.2	13.7	12.7	5.90	7.15		13.2	3.8	6.53	13.5	12.4	2.1	**6.8**	**1.4**	0.3	1.0	0.3
PCB 95 (optional)	13.6	14.0	13.7	6.16	8.40		13.8	1.5	7.28	21.8	11.4	2.2	**7.5**	**1.1**	0.8	2.8	0.1

Laboratory: 27
PCBs in Sediment VII

(PCB 66 & 95 as individual analytes are optional and not included in "Reported Results" summary.)

Reported Results	No. of Analytes	%
Quantitative	18	100
Qualitative	0	0
Not Determined	0	0

Category	Number by Category: z (25%)	z (s)	p (15%)
≤ 2	13	6	18
2 to 3	1	2	0
≥ 3	4	10	0

Water in Sediment VII

	Sediment VII, % water S1	S2	S3	lab, % water mean	%RSD	Sed VII, % water assigned	95% CL	Exercise, % water mean	95% CL	Sediment VII, water z (25%)	z (s)	p (15%)
water	48.4	48.3	48.3	48.3	0.1	48.75	0.03	49.0	0.5	0.0	-0.5	0.0

[a]z- and p-scores ≥ 3 are bolded.

[b]Certified material reference values are bolded.

Appendix E: Laboratory Notes Accompanying Data, Mussel Tissue VIII

Mussel Tissue VIII: Notes included with e-files used for data submission by the participating laboratories

Lab Notes

1a-d None

2
1. PCB8 co-elutes with PCB5
2. PCB18 co-elutes with PCB17
3. PCB153 co-elutes with PCB132
4. PCB138 coelutes with PCB160
5. PCB187 is reported as a single isomer
6. PCB195 co-elutes with PCB208
7. The following PCBs exceeded calibration range in the SRM1974a: Sample 1 (PCB66/95); Sample 2 (PCB66/95, PCB101/90, PCB118, PCB153); Sample 3 (PCB66/95, PCB153).

3
dieldrin: sulfuric acid treatment removes analyte.
2,4'-DDD: coelutes with BZ077 and BZ154.
Pesticides-Sample #2: 2,4'-& 4,4'-DDE, 2,4'-& 4,4'-DDD, 2,4-& 4,4'-DDT were measured by GC-MS.

	Tissue VIII	Tissue VIII	Tissue VIII
Water, percent	9.27	11.9	12.04

5 < not detected (numerical value is estimated MDL); <= detected but less than MDL extracts; suggest supplying all future tissue for intercalibration exercises in wet and/or "fresh" condition.

6 PAH Analysis

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
chrysene	DL	DL	DL	660	DL	DL
triphenylene	NA	NA	NA	NA	NA	NA
benzofluoranthenes [b+k	DL	DL	DL	DL	DL	DL
benzofluoranthene [j]	NA	NA	NA	NA	NA	NA
dibenz[a,h]anthracene	DL	DL	DL	DL	DL	DL
dibenz[a,c]anthracene	NA	NA	NA	NA	NA	NA

Lab Notes

6 cont. PCB Congener Analysis

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
PCB 101	3.64	0.961	1.96	77.8	90.1	34.5
PCB 90	NA	NA	NA	NA	NA	NA
*PCB 153/168	DL	5.57	4.41	102	124	88.4
PCB 138	7.07	6.77	DL	74.1	DL	64.3
PCB 163/164	NA	NA	NA	NA	NA	NA
PCB 187	4.2	4.4	3.29	DL	18.5	14
PCB 182/159	NA	NA	NA	NA	NA	NA
PCB 170	2.77	2.68	DL	DL	DL	DL
PCB 190	NA	NA	NA	NA	NA	NA

*PCB 153 coelutes with PCB 168 in DB-XLB column; PCB 153 & PCB 105 coelute in DB-5 columr

7 None

8 None

9 None

10

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)
PCB 31	2.5	2.89	42.36
PCB 70	1.33	1.61	58.34
PCB 149	4.29	5.14	68.11
PCB 87	0.43	0.42	45.96
PCB 99	1.52	1.67	58.48
PCB 110	1.42	1.97	60.09

12 None

13 None

14 The second Tissue VIII sample processed was approxiamtely twice the weight of the first and third aliquot. (9 g vs. 4 g)
NA = Not Analyzed

15 None

16 None

17 None

Lab Notes

18a Using HPLC/fluorescence detection, B(b)F & B(k)F were totally resolved & are reported here separately .

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)	SRM 1974a Sample 2 (ng/g dry wt)	SRM 1974a Sample 3 (ng/g dry wt)
Benzo(k)fluoranthene	4.27	4.43	0	18.8	18.5	20.4
Benzo(b)fluoranthene	7.6	7.39	0	30.4	29.6	35

trans-nonachlor was not confirmed on second column

18b The extracted mass of Tissue VIII, Batch C was roughly twice that of the other two tissues. (i.e.; 2.2g versus 1.2g)

19 None

21 None

22

	Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)
alpha-chlordene	< 1	< 1	< 1	1.31
gamma-chlordene	< 1	< 1	< 1	1.54
chlorpyrifos	6.56	7.32	6	5.62
dacthal	< 2	< 2	< 2	< 2
p,p'-DDMS	< 20	< 20	< 20	< 20
p,p'-DDMU	< 5	< 5	< 5	5.62
p,p'-dichlorobenzophenol	< 25	< 25	< 25	< 25
endosulfan sulfate	< 5	< 5	< 5	< 5
beta-HCH	< 3	< 3	< 3	< 3
delta-HCH	< 2	< 2	< 2	< 2
methoxychlor	< 15	< 15	< 15	< 15

Lab	Notes				
22 cont.		Tissue VIII Sample 1 (ng/g dry wt)	Tissue VIII Sample 2 (ng/g dry wt)	Tissue VIII Sample 3 (ng/g dry wt)	SRM 1974a Sample 1 (ng/g dry wt)
	PCB 5	< 1	< 1	< 1	< 1
	PCB 27	< 1	< 1	< 1	5.39
	PCB 29	< 1	< 1	< 1	< 1
	PCB 31	3.78	3.54	3.48	51.4
	PCB 49	1.19	1.1	< 1	58.1
	PCB 70	2.65	2.69	2.85	91.9
	PCB 74	2.46	2.89	2.55	72.9
	PCB 87	< 1	< 1	1	48.5
	PCB 97	2.72	2.8	2.8	37.5
	PCB 99	3.8	3.71	4.04	61.8
	PCB 110	7.17	7.45	7.07	113
	PCB 132	1.35	1.3	1.3	23.9
	PCB 137	< 1	< 1	< 1	2.63
	PCB 149	5.96	5.73	6.04	72.6
	PCB 151	2.89	2.85	2.89	22.2
	PCB 156	< 1	< 1	< 1	8.44
	PCB 157	< 1	< 1	< 1	7.16
	PCB 158	< 1	< 1	< 1	12.5
	PCB 174	1.28	1.23	1.33	< 1
	PCB 177	1.54	1.48	1.47	12.3
	PCB 183	< 1	< 1	< 1	14.7
	PCB 189	< 1	< 1	< 1	< 1
	PCB 194	< 1	< 1	< 1	< 1
	PCB 201	< 1	< 1	< 1	< 1
	PCB 203	< 1	< 1	< 1	< 1
	Aroclor 1248	< 100	< 100	100	1300
	Aroclor 1254	100	130	110	1300
	Aroclor 1260	< 50	< 50	< 50	< 50

23	None
24	None
25	Anthracene and indeno[1,2,3-cd]pyrene have detection limits of 5 ng/g.
26	Heptachlor coelutes with PCB congener 51 and this may bias the reported result

Appendix F: Laboratory Notes Accompanying Data, Sediment VII

Marine Sediment VII: Notes included with e-files used for data submission by the participating laboratories

Lab Notes

1a-d None

2 1. Concentrations reported for PCB8 include the PCB5 coelutant (PCB8/5).
2. Concentrations reported for PCB18 include the PCB17 coelutant (PCB18/17).
3. Concentrations reported for PCB153 include the PCB132 coelutant (PCB153/132).
4. Concentrations reported for PCB138/163/164 are for the PCB138/160 coeluting pair (PCB138/160).
5. Concentrations reported for PCB187/182/159 are for PCB187 primarily. PCB182 and PCB159 do not contribute significantly.
6. Concentrations reported for PCB195 include the PCB208 coelutant (PCB195/208).
7. Analysis dates for for Sediment VII and SRM 1941a in Batches A and B don't match because of the required dilutions.
8. "Other" indicates analytical interference that prevented quantitation.
9. Dry weight percents for SRM 1941a were determined to be 98.0%, 99.0% and 98.0%, respectively.
Results for SRM 1941a are reported on a "dry weight" basis, NOT on an "as received" basis.
10. 2,4'-DDE and Endosulfan I co-elute.
11. Endosulfan II co-elutes with PCB135 under some conditions.

3 Pesticides-Sample #2:
dieldrin: sulfuric acid treatment removes analyte.
2,4'-DDD: co-elutes with BZ077 and BZ154.
2,4' & 4,4'-DDE, 2,4' & 4,4'-DDD, 2,4 & 4,4'-DDT were measured by GC-MS.
Water in SRM 1941a: 2.21%

4 None

5 < + detected but below MDL

PAH ANALYSES	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)	SRM 1941a Sample 2 (ng/g dry)	SRM 1941a Sample 3 (ng/g dry)
chrysene	1070	730	570	550	570	550
tryphenylene	NA	NA	NA	NA	NA	NA
benzofluoranthenes (b+k)	1880	1060	820	1190	1210	1220
benzofluoranthene (j)	NA	NA	NA	NA	NA	NA
dibenz(a,h)anthracene	140	100	80	110	110	90
dibenz(a,c)anthracene	NA	NA	NA	NA	NA	NA
hexachlorobenzene	60	DL	60	80	70	80

PESTICIDE ANALYSES
hexachlorobenzene Not analyzed with Pesticides, analyzed with PAH

Lab Notes

5 cont. PCB Congener Analysis

	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)	SRM 1941a Sample 2 (ng/g dry)	SRM 1941a Sample 3 (ng/g dry)
PCB 101	11.8	5.86	6.78	7.07	~9.53	8.71
PCB 90	NA	NA	NA	NA	NA	NA
*PCB 153/168	10.2	5.31	11.8	7.98	9.62	5.7
PCB 138	9.85	6.36	5.93	5.56	4.43	3.8
PCB 163/164	NA	NA	NA	NA	NA	NA
PCB 187	4.41	1.61	5.99	3.62	4.49	1.84
PCB 182/159	NA	NA	NA	NA	NA	NA
PCB 170	7.38	DL	4.07	DL	10.5	1.19
PCB 190	NA	NA	NA	NA	NA	NA

*PCB 153 coelutes with PCB 168 in DB-XLB column.
PCB 153 coelutes with PCB 105 in DB-5 column.

7 None

8 None

9 None

10

	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)
PCB 31	8.91	8.13	6.48	1.97
PCB 70	12.21	14.71	8.48	4.2
PCB 149	13.36	14.12	13.8	8.41
PCB 87	4.19	4.36	3.7	2.21
PCB 99	3.96	7.3	4.16	3.7
PCB 110	8.16	9.01	8.52	8.43

11 trans-nonachlor & dieldrin were tentatively identfied in both Sediment 7and 1941a; and dieldrin was tentatively identified in 1941a
It is our contention that oxychlordane has been mis-identified in the 1941a reference material and is actually gamma-chlordane. It has been reported as oxychlordane for convenience.

(Coordinator's note: Under the GC/MS conditions used for analysis, oxychlordane and gamma-chlordane are separated both in time and by molecular ion. The ion used for quantitation of oxychlordane is 389 and that used for gamma-chlordane is 371. In addition, the two compounds are separated by 3.9 min under the conditions used. Therefore, NIST does not believe that oxychlordane was mis-identified in SRM 1941a.

12 None

13 Note: Chrysene + triphenylene: These numbers are based on Crysene only.
Note 2: benzofluoranthenes: These values are based on b + k only.

Lab Notes

14

	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)	SRM 1941a Sample 2 (ng/g dry)	SRM 1941a Sample 3 (ng/g dry)
Endosulfan sulfate	5.29	6.45	<0.685	NA	NA	NA
Cl4(49)	14.9	14.4	10.1	7.35	7.08	5.55
Cl5(87)	8.12	8.78	6.96	6.07	5.12	4.79
Cl7(183)	3.07	3.45	3.02	NA	NA	NA
Cl7(184)	<0.287	<0.329	<2.11	NA	NA	NA

< = sample specific detection limit NA = Not Analyzed

15 None

16 None

17 None

18a Using HPLC /Fluorescence detection , B(b)F and B(k)F were totally resolved and are reported here

	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)	SRM 1941a Sample 2 (ng/g dry)	SRM 1941a Sample 3 (ng/g dry)
Benzo(b)fluorenthene	687	713	729	539	658	520
Benzo(k)fluoranthene	408	408	409	345	410	329

trans-nonachlor was not confirmed on second column

18b None

19 None

20 1) NIST SRM 2262 was used to make up the calibration solutions (native compounds)
2) Moisture determination on SRM1941a : 3.4%,3.4%,3.6% was observed.
Average of these three values used to calculate dry weight for SRM 1941a

21 Interfering compounds coelute with congeners 170/190 and 209, making accurate quantification of these congeners impossible.

Lab Notes

22

Additional Pesticides	Sediment VII Sample 1 (ng/g dry)	Sediment VII Sample 2 (ng/g dry)	Sediment VII Sample 3 (ng/g dry)	SRM 1941a Sample 1 (ng/g dry)
alpha-chlordene	0.842	0.728	0.838	0.52
chlorpyrifos	< 1	< 1	< 1	< 1
dacthal	< 0.2	< 0.2	< 0.2	< 0.2
p,p'-dichlorobenzophenone	18.9	21.8	20.1	< 3
endosulfan sulfate	< 2	< 2	< 2	< 2
beta-HCH	< 1	< 1	< 1	< 1
delta-HCH	< 0.5	< 0.5	< 0.5	< 0.5
methoxychlor	< 1.5	< 1.5	< 1.5	< 1.5
oxadiazon	ND	ND	ND	ND
p,p'-DDMS	18.3	17.4	17.5	< 3
p,p'-DDMU	4.68	5.57	5.5	< 2
gamma-chlordene	1.31	1.2	1.35	0.88
Additional PCBs				
PCB5	< 0.5	< 0.5	< 0.5	0.694
PCB27	0.988	1.06	1.1	< 0.5
PCB29	< 0.5	< 0.5	< 0.5	< 0.5
PCB31	13.7	14.8	15.6	6.25
PCB49	8.2	8.57	8.55	4.54
PCB70	13.2	14.1	13.9	6.27
PCB74	6.13	6.02	6.15	3.54
PCB87	5.1	5.35	5.48	2.98
PCB97	4.52	4.82	4.8	2.91
PCB99	8.17	8.22	8.34	5.73
PCB110	16.3	16.9	17	11.1
PCB132	4.57	4.56	4.81	3.13
PCB137	0.711	0.67	0.727	< 0.5
PCB149	16	16.1	16.6	11.1
PCB151	5.4	5.35	5.98	3.6
PCB156	1.69	1.95	2.01	1.13
PCB157	< 0.5	< 0.5	< 0.5	< 0.5
PCB158	3.54	3.33	3.97	2.47
PCB174	4.64	4.54	4.89	3.57
PCB177	3.76	3.62	3.73	2.9
PCB183	3.12	2.85	2.97	2.24
PCB189	0.572	0.515	0.511	< 0.5
PCB194	3.4	3.35	3.58	2.92
PCB201	3.71	3.66	4.02	3.18
PCB203	4	3.96	4.11	3.24
Aroclor 1248	300	320	330	140
Aroclor 1254	86	98	89	56
Aroclor 1260	130	150	140	160

24 None

Lab	Notes
26	Note that two samples did not properly fractionate, sediment VII set 1 and SRM 1941 set 2, many of the pesticides for these two samples are not reported. Heptachlor coelutes with PCB congener 51 and this may bias the reported concentration
27	** Endosulfan I coelutes with 2,4' DDE

Appendix G: Laboratory Methods Used, Mussel Tissue VIII

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
1a	Mussel VIII, g (as rcvd)	3	freeze drying
1/5/97	SRM 1974a, g (wet basis)	15	
1b	Mussel VIII, g (as rcvd)	3	freeze drying
1/5/97	SRM 1974a, g (wet basis)	15	
1c	Mussel VIII, g (as rcvd)	3	freeze drying
1/5/97	SRM 1974a, g (wet basis)	15	
1d	Mussel VIII, g (as rcvd)	3	freeze drying
1/5/97	SRM 1974a, g (wet basis)	15	
1e	Mussel VIII, g (as rcvd)	4	
1/5/97	SRM 1974a, g (wet basis)	0	
2	Mussel VIII, g (as rcvd)	2	A 0.5 - 1.0 gram aliquot of material was dried at 60 - 65 C to constant weight. Percent water was calculated based on weight loss.
10/15/97	SRM 1974a, g (wet basis)	10	
3	Mussel VIII, g (as rcvd)	3.7	Sample heated at 110-120 degree C. to constant weight.
11/18/97	SRM 1974a, g (wet basis)	11.4	
5	Mussel VIII, g (as rcvd)	5	
11/12/97	SRM 1974a, g (wet basis)	13	
6	Mussel VIII, g (as rcvd)	3	Gravimetric
11/21/97	SRM 1974a, g (wet basis)	6	
7	Mussel VIII, g (as rcvd)	3.5	Approx. 2 g tissue dried for 48 hrs at 70 deg C, cooled in a dessicator before weighing
12/1/97	SRM 1974a, g (wet basis)	13	
8	Mussel VIII, g (as rcvd)	2.2	Total Solids at 105C by gravimetric
11/26/97	SRM 1974a, g (wet basis)	22	
9	Mussel VIII, g (as rcvd)	0.65	Weighed approximately 2 grams of sample into a preweighed aluminum pan and dried for 24 hours in an oven set at 120 degrees centigrade to get the dry weight. To calculate the percent of water the dry weight was divided by the wet weight and multiplied by 100
11/17/97	SRM 1974a, g (wet basis)	6	
10	Mussel VIII, g (as rcvd)	6	Weighed 1 g of sample with analytical balance with an accuracy of 0.0002 g Dried the sample in oven at 104 degrees C for 1 hour. Weighed the sample on same balance to get the final dry weight.
11/24/97	SRM 1974a, g (wet basis)	9.6	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
12	Mussel VIII, g (as rcvd)	6.9	
12/1/97	SRM 1974a, g (wet basis)	3.8	
13	Mussel VIII, g (as rcvd)	6.7	
1/13/98	SRM 1974a, g (wet basis)	15	
14	Mussel VIII, g (as rcvd)	5	Aliquot removed, placed in pre-weighed aluminum weighing pan, dried overnight at ~120 C.
1/6/98	SRM 1974a, g (wet basis)	5	
15	Mussel VIII, g (as rcvd)	10.23	
12/3/97	SRM 1974a, g (wet basis)		
16	Mussel VIII, g (as rcvd)	4	Gravimetric, i.e., sample weighed into tared weighing dish, placed in drying oven at 60 C for 24 hours and reweighed. Difference in weights is amount of moisture.
12/4/97	SRM 1974a, g (wet basis)	20	
17	Mussel VIII, g (as rcvd)	2.5	Weighed approximately 2 grams of smaple into a preweighed aluminum pan. Samples were dried overnight at 120 degree C. Samples were transfered to a dessicator and allowed to coll before reweighing.
11/26/97	SRM 1974a, g (wet basis)	8	
18a	Mussel VIII, g (as rcvd)	1.2	
11/26/97	SRM 1974a, g (wet basis)	4.6	
18b	Mussel VIII, g (as rcvd)	1.2	Between 2.0 and 8.0 grams of sample were weighed into aluminum weighing pans. The pan with the sample was then placed into an aluminum foil envelope and allowed to dry for 24 hours at 100 C.
12/3/97	SRM 1974a, g (wet basis)	4.6	
19	Mussel VIII, g (as rcvd)	5	Approx. 1 g wet sample was weighed, oven dried overnight at 120 degree Celsius and reweighed.
12/12/97	SRM 1974a, g (wet basis)	15	
21	Mussel VIII, g (as rcvd)	1	Gravimetric with oven drying
12/23/97	SRM 1974a, g (wet basis)	3	
22	Mussel VIII, g (as rcvd)	3	Percentage of net weight loss of a 3g tissue aliquot dried 24 hours at 105°C.
12/18/97	SRM 1974a, g (wet basis)	3	
23	Mussel VIII, g (as rcvd)	3.01	added approximately 3 g of tissue to tared pan, weighed, heated at 105 C for 18 hours, reweighed
1/19/98	SRM 1974a, g (wet basis)	14.8	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
24	Mussel VIII, g (as rcvd)	4.03	An aliquot of the sample was placed in a disposable tin and weighed. It was then placed in oven at 105oC for eighteen hours and reweighed.
1/15/98	SRM 1974a, g (wet basis)	12.7	
25	Mussel VIII, g (as rcvd)	3	Weighed 1 g of wet tissue and dried in oven for 5 hours at 110 degrees celius
01/22/98	SRM 1974a, g (wet basis)	7	
26	Mussel VIII, g (as rcvd)	5	Wet samples weighted, then dried for 24 h at 100 deg. C., cooled in a dessicator, then reweighed.
1/23/98	SRM 1974a, g (wet basis)	2	

Summary of Methods Used **Mussel Tissue VIII QA97TIS8**

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
1a	PFE	methylene chloride	5 min equilibrium time, 5 min static	100 C, 2000 psi
1b	PFE	methylene chloride	5 min equilibrium time, 5 min static	100 C, 2000 psi
1c	Soxhlet	methylene chloride	18 h	
1d	Soxhlet	methylene chloride	18 h	
1e	Soxhlet	methylene chloride	16-20 h	
2	Tissumizer	Methylene chloride	3 minutes, 3 times, pooled extracts	Samples were dried with ~40 g sodium sulfate prior to extraction.
3	Metabolic shaker of sample and solvents at 50 degrees C.	Acetonitrile and hexane.	One (1) hour.	Cool, add water, centrifuge & draw off hexane layer; repeat with hexane 2x
5	soxhlet	methylene chloride	16 h	
6	Soxhlet extraction (SW-846 Method 3540)	2:1 Methylene chloride:acetone	20 Hours	
7	Orbit shaker, 3 times	Methylene chloride	Approximately 15 h	
8	sample mixed with anhydrous sodium sulfate and activated coper; extracted 3 times using rotary tumbler	methylene chloride	3x for total of 38 h: first 16 h, second 6 h, and last 16 h	rotated at 40 rpm in 500ml Teflon bottle
9	The samples were extracted using Microwave Solvent Extraction.	30mls of 80/20 acetone/hexane	15 min microwave extraction at 115 C and ~ an hour to cool to room temperature.	hexane layer was volume reduced to 1mL
10	sonication	MeCl2/ Acetone 1:1; 75 ml 4x	2	solvent exchange to hexane using turbovap.
12	column extraction (standard room temperature)	n-hexane/acetone (2:1)	18 h	
13	soxhlet	methylene chloride	overnight	
14	NOAA, 1993 (Peven and Uhler).	DCM	Three two-minute homogenization steps, followed by one 0.5 hr shake.	

Summary of Methods Used **Mussel Tissue VIII QA97TIS8**

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
15	Soxhlet extraction	Methylene chloride	16 hours	
16	tissuemiser	methylene chloride	3 minutes	Sample was extracted 3 times with fresh aliquots of solvent (each extraction - 1 minute)
17	Soxhlet Extraction	Dichloromethane	18 hours	
18a	Pressurize Fluid Extraction	Methylene Chloride	Three cycles at 5.0 minutes per cycle; Temperature = 100 C; Pressure= 2000 psi	
18b	Pressurized Fluid Extraction	Dichloromethane	Three cycles at 5.0 minutes per cycle; Temperature = 100 C; Pressure= 2000 psi	
19	Soxhlet	Methylene Chloride	18 hours	
21	NOAA Technical Memorandum NOS ORCA 71 Volume IV, Chapter 2	methylene chloride		sodium sulfate added to samples and solvent prior to extraction
22	1-3 g of the freeze-dried material was homogenized 2x with MeCl2 and Na2SO4 using a Tekmar Tissumizer.	MeCl2	3 minutes per homogenization with MeCl2	
23	tissumizer	methylene chloride (3 x 100 mL)	2 minutes x 3 extractions	samples wese mixed with sodium sulfate, spiked with surrogate compounds, and extracted with methylene chloride using a tissuemizer
24	Tissuemized the sample with an Ultra-Turrax T-25 unit three times in solvent.	Methylene Chloride	3 minutes per tissuemizing	NA
25	Polytron	Dichloromethane	3 times 2.0 minutes each	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
26	Samples were mixed with sodium sulfate (ca. 20:1) then extracted uing an Accelerated Solvent Extractor	dichloromethane	31 minutes	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Wet or dry samples extracted? Tissue VIII	SRM 1974a	Sample extract cleanup method
1a-d	dry	wet	SEC for removal of high molecular weight interferences LC-aminopropylsilane column for separation of PCB and lower polarity pesticides from more polar pesticides
1e	dry	used dry SRM 2974	amino SPE column LC-aminopropylsilane column for separation of PAHs into isomer classes
2	as received	as received	1. Silica/alumina column cleanup: 10 g alumina (400C) activation) deactivated with 1% water, 20 g silica gel (170C activation) deactivated with 5% water. Sample placed on SiAl column, eluted with 200 mL 50:50 pentane:DCM. 2. HPLC gel permeation cleanup.
3	"dry" samples	wet sample	Cleanup using silica gel column chromatography to give one fraction using 70% hexane/ 30% dichloromethane. Split fraction and treat PCB/OCP portion with concentrated sulfuric acid before GC analysis. Treat PAH portion with saponification(0.5N KOH in methanol) before GC analysis.
5	dry	wet	pass through 18.0g 1.0% H20 deactivated Florisil; F1-120 ml hexane; F2-150 ml 30% CH2Cl2 in hexane; F3-200 ml 50% CH2Cl2 in hexane
6	Dry	Wet	Acetonitrile Partitioning with hexane saturated acetone Florisil column clean-up (SW-846 Method 3620)
7	Dry	Wet	Florisil column
8	wet	wet	Alumina-Silica Gel and GPC
9	DRY	WET	Extracts were cleaned up with Silica Gel Chromatography, which separated PCBs and pesticide into two fractions. Fractions were volume reduced, brought to 1ml and analyzed separately.
10	wet	wet	acid cleaned and copper cleaned PAH: Gel Permeation Cleanup
12	dry	dry	PAH: Gel-permeation chromatography (GPC), Bio-Beads S-X3, 200-400 mesh; ethylacetate/cyclohexane 1:1, 2ml/min PCB congeners: 1. Sulphuric acid coated silica gel column, n-hexane; 2. GPC column: Bio-Beads S-X3, benzene; 3. C18 cartridge, acetonitrile
13	dry	dry	Sodium Sufate Filtration column GPC Alumina/silica clean-up column
14	dry	wet	Alumina (20 g F-20, 2% deactivated) column; HPLC/GPC (Krahn method)
15	Dry		Florisil dry column chromatography, silica gel column chormatography. PCBs fraction was treated with concentrated sulfuric acid.
16	dry	'wet	Sample extract was cleaned and fractionated into aliphatic and aromatic components on a silica gel and alumina column eluted with pentane and methylene chloride. Aromatic fraction was further cleaned on an HPLC gel permeation system

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Wet or dry samples extracted? Tissue VIII	SRM 1974a	Sample extract cleanup method
17	dry	wet	Extracts were cleaned up using high performance GPC on porous divinylbenzene copolymer gel to remove the majority of the lipids. The extracts were then fractionated using a semipreparative aminosilane column.
18a			Clean-up procedure began with gel permeation chromatography and followed with solid phase extraction (cyanopropyl). After extraction and all clean-up steps, each extract was concentrated to 500 uL on an automatic
18b	Na2SO4 dried	Na2SO4 dried	Clean-up consisted of gel permeation chromatography, followed by activated copper and solid phase extraction (cyanopropyl). After extraction and all clean-up steps, each extract was concentrated to 500 uL on an automatic concentrator (TurboVap).
19	dry	wet	GPC/Aminopropylsilane Column/Sulfuric Acid Sulfuric Acid
21	dry	wet	See reference above.
22	dry	wet	25% of sample was eluted through a Si/Al column. An F1 fraction containing the PCBs and less polar pesticides was collected in 1% pentane in MeCl2, and an F2 fraction was collected in 100% MeCl2. The remaining 50% of sample was eluted through a Si/Al column for AH analysis. The F2 and AH fractions were further cleaned by SEC/HPLC. The volume of the extract was reduced using a combination of rotary evaporation, temperature controlled boiling, and nitrogen gas evaporation before and after elution through the cleanup/fractionation columns.
23	dry	wet	extract cleaned using 20 g F20 alumina column followed by GPC cleanup using HPLC
25	wet	wet	Gel Permeation Chromatography Fractionation and cleanup: 7% Deactivated Silica gel
24	dry	wet	Sample passed through 20 grams of activated alumina. The one hundred ml aliquot was reduced to 1 ml and analyzed by GC/MS.
26	dry	dry	Gel Permeation Chromatography followed by fractionation using prep HPLC (amino column)

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
1a	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5 MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
1b	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5 MS	CPSil5/C18	CPSil5/C18	Pesticides:	IS
	Col. Length, m:	60	50	50	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.1	0.1		
1c	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5 MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
1d	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5 MS	CP Sil5/C18CB	CP Sil5/C18CB	Pesticides:	IS
	Col. Length, m:	60	50	50	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.1	0.1		
1e	Instrument:	LC-FI			PAH	IS
	Column Phase:	polymeric C18			Pesticides:	
	Col. Length, m:	25 cm			PCBs:	
	Col. Inner Diameter, mm:	4.6 mm				
	Col. film thickness, µm:					
2	Instrument:	GC-MSD	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB5-MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
3	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	XLB	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30M	60M	60M	PCBs:	IS
	Col. Inner Diameter, mm:	0.25mm	0.25mm	0.25mm		
	Col. film thickness, µm:	0.25µm	0.25µm	0.25µm		
5	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	ES
	Column Phase:	DB-XLB	DB-5/DB-1701	DB-5	Pesticides:	ES
	Col. Length, m:	30	30	30	PCBs:	ES
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
6	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5	DB-5/DB-XLB	DB-5/DB-XLB	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.32	0.32		
	Col. film thickness, µm:	0.25	0.25	0.25		
7	Instrument:		GC-ECD	GC-ECD	PAH	
	Column Phase:		DB5 & DB17	DB5 & DB17	Pesticides:	ES
	Col. Length, m:		60 m	60 m	PCBs:	ES
	Col. Inner Diameter, mm:		0.25 mm	0.25 mm		
	Col. film thickness, µm:		0.25 microns	0.25 microns		
8	Instrument:	GC-MS	NA	GC-MS	PAH	IS
	Column Phase:	DB5-ms	NA	DB5-ms	Pesticides:	NA
	Col. Length, m:	30	NA	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	NA	0.32		
	Col. film thickness, µm:	0.25	NA	0.25		
9	Instrument:	GC-MSD	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5(J&W)	DB-5(J&W)	DB-5(J&W)	Pesticides:	IS
	Col. Length, m:	30m	30m	30m	PCBs:	IS
	Col. Inner Diameter, mm:	0.25mm	0.25mm	0.25mm		
	Col. film thickness, µm:	0.25um	0.25um	0.25um		
10	Instrument:	HP 5890II	HP 5890II	HP 5890II	PAH	IS
	Column Phase:	RTX-MS	RTX-1/RTX-35	RTX-1/RTX-35	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
12	Instrument:	HPLC-FD		HRGC, LRMS	PAH	ES
	Column Phase:	Bakerbond PAH C-18		DB 5 MS	Pesticides:	
	Col. Length, m:	250 mm		60	PCBs:	IS
	Col. Inner Diameter, mm:	3 mm		0.25		
	Col. film thickness, µm:			0.1		
13	Instrument:		ECD		PAH	
	Column Phase:		RTX5/DR1701		Pesticides:	ES
	Col. Length, m:		30		PCBs:	
	Col. Inner Diameter, mm:		0.25			
	Col. film thickness, µm:		0.25			
14	Instrument:	HP-5972	HP-5890	HP-5890	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		

Summary of Methods Used **Mussel Tissue VIII QA97TIS8**

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
15	Instrument:		GC-ECD	GC-ECD	PAH	
	Column Phase:		DB-5	DB-5	Pesticides:	ES
	Col. Length, m:		30	30	PCBs:	ES
	Col. Inner Diameter, mm:		0.25	0.25		
	Col. film thickness, µm:		0.25	0.25		
16	Instrument:	GC-MSD			PAH	IS
	Column Phase:	5% phenyl methyl silicone			Pesticides:	
	Col. Length, m:	25			PCBs:	
	Col. Inner Diameter, mm:	0.2				
	Col. film thickness, µm:	0.33				
17	Instrument:	GC/MS	GC/MS	GC/MS	PAH	IS
	Column Phase:	DB-5	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	.32	.32	.32		
	Col. film thickness, µm:	.25	.25	.25		
18a	Instrument:	HPLC/Fluorescence	dual column GC-ECD	dual column GC ECD	PAH	IS
	Column Phase:	Supelcosil LC-PAH	5% diphenyl-95%dimethyl / 50% methyl-50%phenyl	5% diphenyl-95%dimethyl / 50% methyl-50%phenyl	Pesticides:	IS
	Col. Length, m:	25cm	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	4.5 mm	0.25	0.25		
	Col. film thickness, µm:		0.25	0.25		
18b	Instrument:	GC-ITMS			PAH	IS
	Column Phase:	DB-5ms			Pesticides:	
	Col. Length, m:	30			PCBs:	
	Col. Inner Diameter, mm:	0.25				
	Col. film thickness, µm:	0.25				
19	Instrument:		HP 5890	HP 5890	PAH	
	Column Phase:		DB-5/DB-1701	DB-5/DB-1701	Pesticides:	ES
	Col. Length, m:		60	60	PCBs:	ES
	Col. Inner Diameter, mm:		0.32	0.32		
	Col. film thickness, µm:		0.25	0.25		
21	Instrument:	GC/MS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	DB-5	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30m	30m	30m	PCBs:	IS
	Col. Inner Diameter, mm:	0.25 mm	0.25 mm	0.25 mm		
	Col. film thickness, µm:	0.25 microns	0.25 microns	0.25 microns		

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
22	Instrument:	GC-MSD	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB5ms	DB 17 / DB 5	DB 17 / DB 5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
23	Instrument:	GC/MS/SIM	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5MS	RTX-5	RTX	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
24	Instrument:	GC/MS	NA	NA	PAH	IS
	Column Phase:	RTx-5	NA	NA	Pesticides:	NA
	Col. Length, m:	30 m	NA	NA	PCBs:	NA
	Col. Inner Diameter, mm:	0.25 mm	NA	NA		
	Col. film thickness, µm:	0.25 µm	NA	NA		
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
25	Instrument:	HRGC-MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5MS	DB-5 and DB-17	DB-5 and DB-17	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
26	Instrument:		GC-ECD	GC-ECD	PAH	
	Column Phase:		DB-5	DB-5	Pesticides:	IS
	Col. Length, m:		60 m	60 m	PCBs:	IS
	Col. Inner Diameter, mm:		0.25 mm	0.25 mm		
	Col. film thickness, µm:		0.25 um	0.25 um		

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatographic analysis	Other(s)
1a-d	PAH:	Naph-d8, biphenyl-d10, acenath-d10, phen-d10, fluoran-d10, pyrene-d10, b[a]a d12, b[a]p-d12, perylene-d12, b[ghi]p-d12, in[123-cd]p-d14	none	none
	Pesticides:	4,4'-DDD-d8, 4,4'-DDT-d8	none	none
	PCBs:	PCB 103, PCB 198	none	none
1e	PAH:	phenanthrene-d10, pyrene-d10, fluoranthene-d10, triphenylene-d12, B[a]A-d12, perylene-d12, B[a]P-d12, B[ghi]P-d12, DB[ah]A-d14	none	none
	Pesticides:			
	PCBs:			
2	PAH:	d8-naphthalene, d10-acenaphthene, d10-phenanthrene, d12-chrysene, d12-perylene	d10-fluorene, d12-benzo(a)pyrene	none
	Pesticides:	PCB103, PCB198, dibromooctafluorobiphenyl (DBOFB)	tetrachloro-m-xylene (TCMX)	
	PCBs:	PCB103, PCB198, dibromooctafluorobiphenyl (DBOFB)	tetrachloro-m-xylene (TCMX)	
3	PAH:	NAP-d8, ACT-d10, ANT-d10, BAP-d12.		o-terphenyl
	Pesticides:	DBOFB, BZ103, BZ198.		BZ100
	PCBs:	DBOFB, BZ103, BZ198.		BZ100
5	PAH:			
	Pesticides:			
	PCBs:			
6	PAH:		Phenanthrene-D10, Chrysene-D12, Perylene-D12, Acenaphthene-D10, Naphthalene-D8, 1,2-Dichlorobenzene-D4	
	Pesticides:		2,4'-Dibromooctafluorobiphenyl	
	PCBs:		2,4-Dibromooctafluorobiphenyl	
7	PAH:			
	Pesticides:			
	PCBs:			
8	PAH:	Naphthalene-13C6, Benzo(ghi)perylene-13C12, Fluoranthene-d10	none	none
	Pesticides:	NA	NA	NA
	PCBs:	PCB 28-13C12, PCB 153-13C12, PCB 194-13C12, 4,4'-Dibromooctafluorobiphenyl	none	none

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatographic analysis	Other(s)
9	PAH:			X
	Pesticides:			X
	PCBs:			X
10	PAH:	2-FLUOROBIPHENYL /TERPHENYL-D14	Semivolatile Internal Standard Mix	N/A
	Pesticides:	TCX	DBFOB for IS	N/A
	PCBs:	TCX	DBFOB for IS	N/A
12	PAH:			
	Pesticides:			
	PCBs:			13C12-PCB 28, 52, 77, 101, 105, 126, 138, 153, 169, 180, 209; (recovery standard: 13C12-1,2,3,4-TCDD) added after extraction and just prior to cleanup
13	PAH:			
	Pesticides:			
	PCBs:			
14	PAH:	naphthalene-d8, phenanthrene-d10, chrysene-d12	fluorene-d10, acenaphthene-d10, benzo[a]pyrene-d12	
	Pesticides:	Cl3(34), Cl5(112)	Cl3(29), Cl6(166)	Cl5(103)
	PCBs:	Cl3(34), Cl5(112)	Cl3(29), Cl6(166)	Cl5(103) prior to extraction
15	PAH:			
	Pesticides:			
	PCBs:			
16	PAH:	deuterated Naphthalene, Acenaphthene, Phenanthrene, Chrysene, Benzo-a-pyrene, Perylene	Hexamethylbenzene	deuterated Anthracene and Benz-a-Anthracene
	Pesticides:			
	PCBs:			added just prior to HPLC cleanup
17	PAH:	Bromononane, Octanophenone	Phenanthrene d-10, Chrysene d-12	
	Pesticides:	Isodrin	Phenanthrene d-10, Chrysene d-12	
	PCBs:	Dibromobiphenyl	Phenanthrene d-10, Chrysene d-12	

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatographic analysis	Other(s)
18a	PAH:	d- phenanthrene, d- fluoranthene and d-perylene	None	None
	Pesticides:	pcb103, pcb198		d- phenanthrene, d-fluoranthene and d-perylene
	PCBs:	pcb103, pcb198		
18b	PAH:	D10-acenaphthene, D10-phenanthrene, D10-fluoranthene and D12-perylene		
	Pesticides:			
	PCBs:			
19	PAH:			
	Pesticides:			
	PCBs:			
21	PAH:	naphthalene-d8, acenaphthene-d10, benzo[a]perylene-d12	hexamethylbenzene	phenanthrene-d10, biphenyl-d10, fluorene-d10
	Pesticides:	4,4-dibromooctafluorobiphenyl	tetrachloro-m-xylene	tetrachloro-o-xylene
	PCBs:	4,4-dibromooctafluorobiphenyl	tetrachloro-m-xylene	tetrachloro-o-xylene Just prior to clean-up
22	PAH:	d8-NPH, d10-ACE, d10-PYR, d12-BAA, d12-BEP, d12-PER, d12-BGP	HMB, d12-CHR	d10-FLA for dilution analysis.
	Pesticides:	d8-p'p'-DDD	Dibromo-octafluoro Biphenyl	TCOX for dilution analysis.
	PCBs:	PCB 103, PCB 207	Dibromo-octafluoro Biphenyl	TCOX for dilution analysis. Yes, Prior to chromatographic analysis
23	PAH:	d8-naphthalene, d10-acenaphthene, d10-phenanthrene, d12-benzo[a]pyrene	d10-fluorene, d12-chrysene	
	Pesticides:	PCB-103, PCB-198, dibromo-octofluorobenzene	tetrachloro-m-xylene	
	PCBs:	PCB-103, PCB-198, dibromo-octofluorobenzene	tetrachloro-m-xylene	
24	PAH:	Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12	Fluorene-d10 and Benzo(a)pyrene-d12	NA
	Pesticides:	NA	NA	NA
	PCBs:	NA	NA	NA

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatographic analysis	Other(s)
25	PAH:	Naphthalene-d8, Acenaphthene-d10,Phenanthrene-d10, Fluoranthene-d10, Chrysene-d12, Benzo(a)Pyrene-d12, Benzo(ghi)Perylene-d12	Fluorene-d10, Pyrene-d10 and Perylene-d12	
	Pesticides:	gamma-Chlordene	4,4'-Dibromooctafluorobiphenyl	
	PCBs:	#103 and #198	4,4'-Dibromooctafluorobiphenyl	
26	PAH:			
	Pesticides:	d8DDT		
	PCBs:	d8DDE; PCBs 103 and 198		

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Int.stds/surrogates used for quantitation were added: prior to extraction	Int.stds/surrogates used for quantitation were added: after extraction/cleanup and just prior tochromatographic analysis	If used those added just prior to chr. analysis, were results recovery corrected?	Percent recovery range (if applicable)	
1a-e	x			PAH Pesticides PCBs	
2	x		NA	PAH Pesticides PCBs	NA NA NA
3	x			PAH Pesticides PCBs	
5				PAH Pesticides PCBs	
6		x	No	PAH Pesticides PCBs	
7				PAH Pesticides PCBs	
8	x			PAH Pesticides PCBs	NA NA NA
9	x			PAH Pesticides PCBs	
10		x		PAH Pesticides PCBs	127 88 88
12		13C12 PCBs		PAH Pesticides PCBs	
13				PAH Pesticides PCBs	
14	x			PAH Pesticides PCBs	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Int.stds/surrogates used for quantitation were added: prior to extraction	Int.stds/surrogates used for quantitation were added: after extraction/cleanup and just prior tochromatographic analysis	If used those added just prior to chr. analysis, were results recovery corrected?	Percent recovery range (if applicable)	
15	DBOFB			PAH	
				Pesticides	80-120
				PCBs	80-120
16	x			PAH	
				Pesticides	
				PCBs	
17		x	yes	PAH	65 to 90 %
				Pesticides	85 to 95 %
				PCBs	85 to 95 %
18a	yes			PAH	
				Pesticides	
				PCBs	
18b				PAH	
				Pesticides	
				PCBs	
19				PAH	
				Pesticides	
				PCBs	
21	X			PAH	
				Pesticides	
				PCBs	
22	yes	no	Not Applicable	PAH	
				Pesticides	
				PCBs	
23	no	yes	yes	PAH	49 to 85
				Pesticides	69 to 101
				PCBs	69 to 101
24	yes	no	yes	PAH	80 - 104
				Pesticides	NA
				PCBs	NA
25		yes	no	PAH	
				Pesticides	
				PCBs	
26	yes			PAH	
				Pesticides	
				PCBs	

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Calibration	PAH	Pesticides	PCBs
01a	Points:	6	6	6
	Conc. Range:	3ng/g-500 ng/g	1 ng/g - 300 ng/g	1 ng/g - 300 ng/g
	Analytes outside of calibr. range:	none	none	none
1b	Points:	6	6	6
	Conc. Range:	3ng/g-500 ng/g	1 ng/g - 300 ng/g	1 ng/g - 300 ng/g
	Analytes outside of calibr. range:	none	none	none
1c	Points:	6	6	6
	Conc. Range:	3ng/g-500 ng/g	1 ng/g - 300 ng/g	1 ng/g - 300 ng/g
	Analytes outside of calibr. range:	none	none	none
1d	Points:	6	6	6
	Conc. Range:	3ng/g-500 ng/g	1 ng/g - 300 ng/g	1 ng/g - 300 ng/g
	Analytes outside of calibr. range:	none	none	none
1e	Points:	6		
	Conc. Range:	3ng/g-500 ng/g		
	Analytes outside of calibr. range:	none		
2	Points:	5	4	4
	Conc. Range:	20 - 1000 pg/uL	5 - 200 pg/uL	5 - 200 pg/uL
	Analytes outside of calibr. range:		Several PCBs in SRM exceeded calibration range	See Notes for Lab 2 TIS8
3	Points:	5	3	3
	Conc. Range:	0.5-20ng	8-100pg	8-100pg
	Analytes outside of calibr. range:			
5	Points:	5	5	5
	Conc. Range:	0.36-7.2 ng	2.4-128 pg	1.9-96 pg
	Analytes outside of calibr. range:			
6	Points:	5	6	6
	Conc. Range:	20-100 ppm	10-100 ppb	10-100 ppb
	Analytes outside of calibr. range:			
7	Points:		5	5
	Conc. Range:		0.3-50 pg/jL	1-20 pg/uL
	Analytes outside of calibr. range:			28, 52, 44, 66, 101, 118, 153, 139
8	Points:	6	NA	5
	Conc. Range:	50 - 5000 ng/ml	NA	20 - 2000 ng/ml
	Analytes outside of calibr. range:	none	NA	none
9	Points:	5	5	5
	Conc. Range:	0.5 - 20 ng/ul	2.45 - 45 pg/ul	2.45 - 45 pg/ul
	Analytes outside of calibr. range:			

Summary of Methods Used **Mussel Tissue VIII QA97TIS8**

Lab No.	Calibration	PAH	Pesticides	PCBs
10	Points:	5	3	3
	Conc. Range:	0.5ng/ml-20ng/ml	2ng/ml-10ng/ml	4ng/ml-20ng/ml
	Analytes outside of calibr. range:			
12	Points:	8		isotope dilution method
	Conc. Range:	0.4-0.998 pg/ul, depends on PAH		
	Analytes outside of calibr. range:	acenaphthene, benz[a]anthracene		
13	Points:		three to six	
	Conc. Range:		5 - 200 pg/uL	
	Analytes outside of calibr. range:		none	
14	Points:	5+	5	5
	Conc. Range:	0.02 - 12 ng/uL	0.008 - 0.12 ng/uL	0.008 - 0.12 ng/uL
	Analytes outside of calibr. range:			
15	Points:		4	4
	Conc. Range:		16, 32, 64, 80 pg/uL	16, 32, 64, 80 pg/uL
	Analytes outside of calibr. range:			
16	Points:	5		
	Conc. Range:	6-1800 ng/g		
	Analytes outside of calibr. range:			
17	Points:	5	5	5
	Conc. Range:	2 to 24 ng	0.5 to 12 ng	0.5 to 12 ng
	Analytes outside of calibr. range:			
18a	Points:	1	3	3
	Conc. Range:	.35 ng/ uL	1.0 - 50 ng/ml	1.0 - 50 ng/ml
	Analytes outside of calibr. range:	Samples were diluted to be within the calibration range		
18b	Points:	5		
	Conc. Range:	ca. 130pg - 6.5ng		
	Analytes outside of calibr. range:			
19	Points:		5	5
	Conc. Range:		5-100 ppb	5-100 ppb
	Analytes outside of calibr. range:			
21	Points:	1	6	6
	Conc. Range:	~3 ng/mL	0.001-0.500 ng/mL	0.001-0.500 ng/mL
	Analytes outside of calibr. range:	N/A	None	None

Summary of Methods Used **Mussel Tissue VIII QA97TIS8**

Lab No.	Calibration	PAH	Pesticides	PCBs
22	Points:	5	7	6
	Conc. Range:	0.02-24 ng/µL	0.0002-2.2 ng/µL	0.0002-1.4 ng/µL
	Analytes outside of calibr. range:			
23	Points:	5	5	5
	Conc. Range:	25 to 5000 ng/mL	5 to 200 ng/mL	5 to 200 ng/mL
	Analytes outside of calibr. range:	none	none	none
24	Points:	5	NA	NA
	Conc. Range:	10 ug/L-1250ug/L	NA	NA
	Analytes outside of calibr. range:	NA	NA	NA
25	Points:	5	4	4
	Conc. Range:	10-1200 ng/ml	5-100 ng/ml	5-100 ng/ml
	Analytes outside of calibr. range:	None	None	None
26	Points:		5	5
	Conc. Range:		0.001-0.1	0.001-0.1
	Analytes outside of calibr. range:			

Summary of Methods Used

Mussel Tissue VIII QA97TIS8

Lab No.	Were PCBs separated from pesticides prior to GC?	Does PCB 132 coelute with PCB 153, PCB 105 or both?	Differences in procedures used for SRM 1974a from those for described Mussel Tissue III
1a-d	yes	separated from both	Mussel tissue VIII was extracted dry; however, sodium sulfate was still used as a dispersing agent. For SRM 1974a, sodium sulfate was used as a drying agent as well as a dispersing agent.
1e			
2	no	PCB 132 co-elutes with PCB153	
3	no		None
5	yes	not certain	SRM1974a was extracted wet; MTVIII was extracted dry (as received)
6	no		
7	no	unknown, 132 not in std mix	1974a needed to be dried with sodium sulfate prior to extracting.
8	no	coelutes with PCB 153 and separates from PCB 105	none
9		PCB 132 coelutes with PCB 153 with our method.	
10	no	132 and 153 separated on both, 132 and 105 separated on one column	no difference PAH: SRM 1974a results were unacceptable. No results were reported.
12	yes	separated from both	Mussel tissue VIII was extracted dry; however, sodium sulfate was still used as a dispersing agent. For SRM 1974a, sodium sulfate was used as a drying agent as well as a dispersing agent.
13	no		none
14	no	separated	
15		PCB-132 co-eluted with PCB 105	
16			
17	yes		Dry sample was weighed, and then wet with a small quanity of DI water, then dried with sodium sulfate.
18a	no	pcb 132 was not analyzed	

Lab No.	Were PCBs separated from pesticides prior to GC?	Does PCB 132 coelute with PCB 153, PCB 105 or both?	Differences in procedures used for SRM 1974a from those for described Mussel Tissue III
18b			
19	Yes		No differences
21	No	Coelutes with PCB 153	
22			
23	no		
24	NA	NA	Both tissues were treated the same way except the SRM had water present and the intercal did not.
25	Yes	132 and 153 co-elute	none
26	yes	yes	

Appendix H: Laboratory Methods Used, Sediment VII

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
1a	Sediment VII, g (wet basis)	20.5	freeze drying
12/22/97	SRM 1941a, g (dry basis)	6	
1b	Sediment VII, g (wet basis)	20.5	freeze drying
12/30/97	SRM 1941a, g (dry basis)	6	
1c	Sediment VII, g (wet basis)	20.5	freeze drying
12/30/97	SRM 1941a, g (dry basis)	6	
1d	Sediment VII, g (wet basis)	20.5	freeze drying
12/30/97	SRM 1941a, g (dry basis)	6	
2	Sediment VII, g (wet basis)	15	An aliquot of sediment is placed in a beaker and weighed. The sample in the beaker is dried in an oven at 50 C to a constant weight and reweighed. The percentage water is calculated based on
12/19/97	SRM 1941a, g (dry basis)	1	
3	Sediment VII, g (wet basis)	15.3	Sample heated at 110-120 C to constant weight.
11/18/97	SRM 1941a, g (dry basis)	2.5	
4	Sediment VII, g (wet basis)	8	EPA 160.3
11/26/97	SRM 1941a, g (dry basis)	5	
5	Sediment VII, g (wet basis)	6	Dry subaliquot of homogenized wet sediment at 105+/-2 C for 24 h; determine %water as difference between wet & dry weights divided by
10/30/97	SRM 1941a, g (dry basis)	10	
6	Sediment VII, g (wet basis)	10 (PAH), 6 (Pest&PCB)	Gravimetric
11/21/97	SRM 1941a, g (dry basis)	10 (PAH), 6 (Pest&PCB)	
7	Sediment VII, g (wet basis)	10	Approx. 5 g tissue dried for 48 h at 70 C, cooled in dessicator before weighing
12/1/97	SRM 1941a, g (dry basis)	5	
8	Sediment VII, g (wet basis)	5	Total solids at 105 C by gravimetry
11/26/97	SRM 1941a, g (dry basis)	2.2	
9	Sediment VII, g (wet basis)	5	Weighed approximately 2 g of sample into a preweighed aluminum pan and dried for 24 h in an oven set at 120 C to get the dry weight. To calculate the percent of water the dry weight was divided by the wet weight and multiplied by 100
11/17/97	SRM 1941a, g (dry basis)	2.51	

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
10	Sediment VII, g (wet basis)	7	Weighed 1 g of sample on an analytical balance with an accuracy of 0.0002 g. It was then dried for 1 h in an oven at 104 C. It was weighed on the same balance to get the final dry weight.
11/25/97	SRM 1941a, g (dry basis)	_	
11	Sediment VII, g (wet basis)	20	SW3540B
12/1/97	SRM 1941a, g (dry basis)	25	
12	Sediment VII, g (wet basis)	17.9	DIN 38 414 Teil 2 (1985) Bestimmung des Wassergehaltes und des Trockenrilckslandes bzw. der Trockensubstanz (S2)
12/1/97	SRM 1941a, g (dry basis)	0	
13	Sediment VII, g (wet basis)	19	Sample placed on a dryer balance and percent moisture determined.
12/17/97	SRM 1941a, g (dry basis)	12	
14	Sediment VII, g (wet basis)	15	Approx. 4 g weighed into a pre-weighed aluminum pan. Sample dried overnight at 120 C and re-weighed to determine % moisture.
11/24/97	SRM 1941a, g (dry basis)	5	
15	Sediment VII, g (wet basis)	20.65g	Entire sample was freeze dried and percent moisture was calculated.
12/3/97	SRM 1941a, g (dry basis)	10.01g	
16	Sediment VII, g (wet basis)	10	Gravimetric, i.e., weigh wet homogenate into tared weighing dish, placed in drying oven at 80 C for 24 h, and reweighed. Weight difference is amount of moisture.
12/4/97	SRM 1941a, g (dry basis)	1.5	
17	Sediment VII, g (wet basis)	9	Weighed approximately 2 g of sample into a preweighed aluminum pan. Samples were dried overnight at 110 C. Samples were transfered to a dessicator and allowed to cool before
12/2/97	SRM 1941a, g (dry basis)	3	
18a	Sediment VII, g (wet basis)	2.5	Between 2.0 and 8.0 g of sample were weighed into aluminum weighing pans. The pan with the sample was then placed into an aluminum foil envelope and allowed to dry for 24 h at 100 C.
11/26/97	SRM 1941a, g (dry basis)	2	

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No./ Reporting Date	Approximate amount of sample extracted:		Procedures used to determine percentage water
18b	Sediment VII, g (wet basis)	2.5	Between 2.0 and 8.0 g of sample were weighed into aluminum weighing pans. The pan with the sample was then placed into an aluminum foil envelope and allowed to dry for 24 h at 100 C.
11/26/97	SRM 1941a, g (dry basis)	2	
19	Sediment VII, g (wet basis)	20	Approx. 1 g wet sample was weighed, oven dried overnight at 120 C and reweighed.
12/12/97	SRM 1941a, g (dry basis)	15	
20	Sediment VII, g (wet basis)	8.6	Oven dry at 105 C till 3 consecutive constant weights acheived (usually overnight)
12/17/97	SRM 1941a, g (dry basis)	4.8	
21	Sediment VII, g (wet basis)	2	Gravimentric with oven drying
12/23/97	SRM 1941a, g (dry basis)	1	
22	Sediment VII, g (wet basis)	5	Percentage of net weight loss of a 5 g wet sediment aliquot dried 24 h at 105 C.
12/18/97	SRM 1941a, g (dry basis)	5	
24	Sediment VII, g (wet basis)	19.6	An aliquot of the sediment was weighed into a disposable dish. The sediment was dried for 18 h at 105 C and reweighed.
1/15/98	SRM 1941a, g (dry basis)	15.02	
26	Sediment VII, g (wet basis)	5g	Wet samples weighted, then dried for 24 h at 100 deg. C., cooled in a dessicator, then
1/22/97	SRM 1941a, g (dry basis)	4g	
27	Sediment VII, g (wet basis)	5.2	gravimetric difference after drying
1/26/98	SRM 1941a, g (dry basis)	2.1	

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
1a	PFE	methylene chloride	5 min equilibrium time, 5 min static	100 C, 2000 psi
1b	PFE	methylene chloride	5 min equilibrium time, 5 min static	100 C, 2000 psi
1c	Soxhlet	methylene chloride	18 h	
1d	Soxhlet	methylene chloride	18 h	
2	Soxhlet	Methylene chloride	8 h	Sediment was dried with sodium sulfate prior to extraction.
3	Metabolic shaker of sample and solvents at 50 C.	Acetonitrile and hexane.	One (1) h	Cool, add water, centrifuge and draw off hexane layer; repeat with hexane twice more.
4	Dionex ASE	methylene chloride	5 min	100 C, 5 min equilibration time,1500->2000 psi, 0.6 times tube volume for flush, purge 45 sec nitrogen at 150 psi
5	Soxhlet	methylene chloride	16 h	
6	Soxhlet extraction (SW-846 Method 3540)	2:1 methylene chloride:acetone	20 h	
7	Orbit shaker, 3 times	methylene chloride	Approximately 15 h	
8	sample mixed with anhydrous sodium sulfate and activated coper; extracted 3 times using rotary tumbler	methylene chloride	three times for total of 38 hrs: first 16 hrs, second 6 hrs, and last 16 hrs	rotated at 40 rpm in 500ml Teflon bottle
9	The samples were extracted using microwave solvent extraction.	30mL of 50/50 acetone/hexane	15 min microwave extraction at 115 C and about an h to cool to room temperature.	The hexane layer was volume reduced to 1mL.
10	sonication	methylene chloride/ acetone 1:1, 75 mL four times	2 min, pulse interval 0.5/0.5 sec	solvent exchanged to hexane using Turbovap
11	Soxhlet	acetone	16 h	

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
12	column extraction (standard room temperature)	n-hexane/acetone (2:1)	18 h	
13	Soxhlet	methylene chloride	12 h	
14	Shaker-table -- three methylene chloride extractions for a total of ~17 h	methylene chloride	~17 h	
15	Soxhlet	methylene chloride	16 h	
16	Sample, drying agent, spike, and extraction solvent agitated on rock tumbling apparatus.	methylene chloride	42 h	Extract decanted from sample and fresh solvent added x 3.
17	Soxhlet	methylene chloride	18 h	Samples were dried with sodium sulfate prior to extraction.
18a	Pressurized Fluid Extraction	methylene chloride	Three cycles at 5.0 min per cycle; Temperature = 100 C; Pressure= 2000 psi	
18b	Pressurized Fluid Extraction	methylene chloride	Three cycles at 5.0 minutes per cycle; Temperature = 100 C; Pressure= 2000 psi	
19	Soxhlet	methylene chloride	18 h	
20	Soxhlet	acetone-hexane 1:1 200mL	24 h	10 g copper added to sample plus sodium sulfate drying agent for both samples and blanks
21	NOAA Technical memorandum NOS ORCA 71 Volume IV, Chapter 2	methylene chloride		sodium sulfate and copper added to samples and solvent prior to extraction
22	5 g wet sediment extracted 3x with methylene chloride, sodium sulfate, and copper in a 250-mL amber bottle by rolling.	methylene chloride	24 h	

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Extraction method	Extraction solvent	Extraction time	Extraction - other
24	Samples were extracted on a shaker table.	methylene chloride	The samples were extracted for 12 h-decanted, 4 h-decanted, and 0.5 h-decanted	
26	Samples were mixed with sodium sulfate (ca. 20:1) then extracted uing an Accelerated Solvent Extractor	dichloromethane	31 minutes	
27	Accelerated Solvent Extraction (Dionex ASE200)	50:50 v/v hexane:dichloromethane	13 min/spl	2000 psi, 100°C, 2 static extraction cycles/spl TurboVap II reduction to 1.0 mL

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Wet or dry samples extracted? Sediment VII	SRM 1941a	Sample extract cleanup method
1a-d	wet	dry	Copper powder used to remove sulfur; Silica solid phase extraction for removal of polar interferences; LC-aminopropylsilane column for separation of PCB and lower polarity pesticides from more polar pesticides
2	dry	dry	Extracts are purified by a silica/alumina column cleanup step. The column is first eluted with 45mL of pentane to remove aliphatic hydrocarbons. Pesticide/PCBs are eluted from the column using 200mL 50:50 pentane:methylene chloride. Copper is used to remove sulfur from the extracts.
3	wet	wet	Removal of elemental surfur via copper powder. Cleanup using silica gel column chromatography to give one fraction, using 70% hexane/30% methylene chloride. Split fraction and treat PCB/OCP portion with concentrated sulfuric acid before GC analysis. No treatment for PAH
4	wet	dry	PAH: Alumina/activated copper PCB/PESTICIDES: Alumina/activated copper; exchange to hexane
5	dry	dry	2.0 g silica gel; fully activated at 130 C; slurry packed w/hexane; F1 (PCBs): 100 mL hexane; F2: 150mL 20% methylene chloride in hexane; F3: 150 ml 50% methylene chloride in hexane
6	wet	dry	Acetonitrile partitioning with hexane saturated acetone Florisil column clean-up (SW-846 Method 3620)
7	wet	dry	Florisil column
8	wet	wet	Alumina-Silica Gel and GPC
9	wet	dry	Extracts were cleaned up with silica gel chromatography, which separated PCBs and pesticide into two fractions. Fractions were volume reduced, brought to 1mL and analyzed separately.
10	wet		acid cleaned and copper cleaned.
11	wet	dry	samples are split 50/50: 50% PAH portion :Silica gel column cleanup. 50% Pest/PCB portion: Hg vortex treatment then florisil column cleanup, 0% and 50% fractions are collected.
12	wet	0	PAH: Gel-permeation chromatography (GPC); Biobeads S-X3: 200-400 mesh; ethylacetate/cyclohexane 1:1, 2 mL/min PCB Congeners: 1. Sulphuric acid coated silica gel column, n-hexane; 2. GPC column: Bio-Beads S-X3, benzene 3. C18 cartridge, acetonitrile
13	wet	dry	Gel permeation chromatography
14	wet	dry	2% deactivated F-20 alumina column (10 g) followed by HPLC/GPC (Krahn et al.) Activated copper cleanup also included

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Wet or dry samples extracted? Sediment VII	SRM 1941a	Sample extract cleanup method
15	dry	dry	Silica gel column chromatography. Silica gel column chromatography and sulfuric acid clean-up for PCBs fraction. Sulfur was removed using activated copper.
16	wet	dry	Extracted is cleaned and separated into aliphatic and aromatic components on an alumina and silica gel column eluted with pentane and methylene chloride. Aromatic fraction is cleaned further on HPLC gel permeation system.
17	wet	dry	Extracts were cleaned up using high performance GPC on porous styrene divinylbenzene copolymer gel to remove the sulfur. The extracts were then fractionated using a semipreparative aminosilane column.
18a	Na2SO4 dried	Na2SO4 dried	Clean-up procedure began with gel permeation chromatography and followed with activated copper and solid phase extraction (cyanopropyl). After extraction and all clean-up steps, each extract was concentrated to 500 uL on an automatic concentrator (TurboVap)
18b	Na2SO4 dried	Na2SO4 dried	Clean-up consisted of gel permeation chromatography, followed by activated copper and solid phase extraction (cyanopropyl). After extraction and all clean-up steps, each extract was concentrated to 500 uL on an automatic concentrator (TurboVap).
19	wet	dry	
20	wet	wet	(1) 20 g 2% water-deactivated Florisil, elute with 300 mL hexane, concentrate via rotovap to 1mL (2) 3.7 g alumina, elute with 50 mL 15% ethy ether in hexane;concentrate via rotovap to 1mL
21	wet	wet	see reference above.
22	wet	dry	50% of sample was eluted through a Si/Al column. An F1 fraction containing the PCBs and less polar pesticides was collected in 1% pentane in MeCl2, and an F2 fraction was collected in 100% methylene chloride. The remaining 50% of sample was eluted through a separate Si/Al column for cleanup prior to GC-MSD analysis. The volume of the extract was reduced using a combination of rotary evaporation, temperature controlled boiling, and nitrogen gas evaporation before and after elution through the cleanup/fractionation columns.
24	wet	dry	The samples were reduced to a final volume of 2-3 mL. Then the extracts wre hexane exchanged. The extract was reduced to a final volume of 1 mL and treated with activated copper to remove sulfur from the samples.
26	dry	dry	Gel Permeation Chromatography followed by fractionation using prep HPLC (amino column)
27	dry	dry	addition of copper granules to extracts for sulfur removal

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
1a	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
1b	Instrument:	GC/MS	GC/MS	GC/MS	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
1c	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
1d	Instrument:	GC/MS	GC/MS	GC/MS	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
2	Instrument:	GC/MS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
3	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	XLB	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
4	Instrument:	GC/MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB5.MS	DB5.MS/DB17.M	DB5.MS/DB17.M	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
5	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	ES
	Column Phase:	DB-XLB	DB-1701/DB-5	DB-5	Pesticides:	ES
	Col. Length, m:	30	30	30	PCBs:	ES
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
6	Instrument:	GC-MS	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5	DB-5/DB-XLB	DB-5/DB-XLB	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.32	0.32		
	Col. film thickness, µm:	0.25	0.25	0.25		
7	Instrument:		GC-ECD	GC-ECD	PAH	NA
	Column Phase:		DB5 & DB17	DB5 & DB17	Pesticides:	ES
	Col. Length, m:		60	60	PCBs:	ES
	Col. Inner Diameter, mm:		0.25	0.25		
	Col. film thickness, µm:		0.25	0.25		
8	Instrument:	GC-MS	NA	GC-MS	PAH	IS
	Column Phase:	DB5-MS	NA	DB5-MS	Pesticides:	NA
	Col. Length, m:	30	NA	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	NA	0.32		
	Col. film thickness, µm:	0.25	NA	0.25		
9	Instrument:	GC-MSD	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB-5(J&W)	DB-5(J&W)	DB-5(J&W)	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
10	Instrument:	HP 5890 II	HP 5890 II	HP 5890 II	PAH	IS
	Column Phase:	RTX-5MS	RTX-1/RTX-35	RTX-1/RTX-35	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
11	Instrument:	GCMS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	DB-5	DB-5/DB-608	DB-5/DB-608	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	ES
	Col. Inner Diameter, mm:	0.25	0.32	0.32		
	Col. film thickness, µm:	0.25	0.5	0.5		
12	Instrument:	HPLC-FD		HRGC, LRMS	PAH	ES
	Column Phase:	Bakerbond PAH C-18		DB 5 MS	Pesticides:	
	Col. Length, m:	0.25		60	PCBs:	IS
	Col. Inner Diameter, mm:	3		0.25		
	Col. film thickness, µm:			0.1		
13	Instrument:	GCMS	GC/ECD		PAH	IS
	Column Phase:	5%Phenyl	RTx5, RTx1701		Pesticides:	IS or ES
	Col. Length, m:	25	30		PCBs:	
	Col. Inner Diameter, mm:	0.2	0.25			
	Col. film thickness, µm:	0.33	0.25			

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
14	Instrument:	GC/MS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	DB-5MS	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
15	Instrument:		GC-ECD	GC-ECD	PAH	
	Column Phase:		DB-5, DB-17	DB-5	Pesticides:	ES
	Col. Length, m:		30	30	PCBs:	ES
	Col. Inner Diameter, mm:		0.25	0.25		
	Col. film thickness, µm:		0.25	0.25		
16	Instrument:	GC-MSD			PAH	IS
	Column Phase:	5% phenyl			Pesticides:	
	Col. Length, m:	25			PCBs:	
	Col. Inner Diameter, mm:	0.2				
	Col. film thickness, µm:	0.33				
17	Instrument:	GC/MS	GC/MS	GC/MS	PAH	IS
	Column Phase:	DB-5	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.32	0.32	0.32		
	Col. film thickness, µm:	0.25	0.25	0.25		
18a	Instrument:	HPLC/Fluorescence	dual column GC-ECD	dual column GC-ECD	PAH	IS
	Column Phase:	Supelcosil LC-PAH	5% diphenyl-95%dimethyl / 50% methyl-	5% diphenyl-95%dimethyl / 50% methyl-	Pesticides:	IS
	Col. Length, m:	0.25	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	4.5	0.25	0.25		
	Col. film thickness, µm:	N/A	0.25	0.25		
18b	Instrument:	GC-ITMS			PAH	IS
	Column Phase:	DB-5MS			Pesticides:	
	Col. Length, m:	30			PCBs:	
	Col. Inner Diameter, mm:	0.25				
	Col. film thickness, µm:	0.25				
19	Instrument:		HP 5890	HP 5890	PAH	
	Column Phase:		DB-5/DB-1701	DB-5/DB-1701	Pesticides:	ES
	Col. Length, m:		60	60	PCBs:	ES
	Col. Inner Diameter, mm:		0.32	0.32		
	Col. film thickness, µm:		0.25	0.25		
20	Instrument:			GC-HRMS	PAH	
	Column Phase:			DB-5	Pesticides:	
	Col. Length, m:			60	PCBs:	IS
	Col. Inner Diameter, mm:			0.25		
	Col. film thickness, µm:			0.25		

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.		PAH	Pesticides	PCB Congeners	Method of quantitation	
21	Instrument:	GC/MS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	DB-5	DB-5	DB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
22	Instrument:	GC-MSD	GC-ECD	GC-ECD	PAH	IS
	Column Phase:	DB5ms	DB 17 / DB 5	DB 17 / DB 5	Pesticides:	IS
	Col. Length, m:	60	60	60	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		
24	Instrument:	GC/MS	NA	GC/ECD	PAH	IS
	Column Phase:	RTx-5	NA	RTx-5	Pesticides:	NA
	Col. Length, m:	30	NA	30	PCBs:	ES
	Col. Inner Diameter, mm:	0.25	NA	0.53		
	Col. film thickness, µm:	0.25	NA	3		
26	Instrument:	NA	GC-ECD	GC-ECD	PAH	
	Column Phase:		DB-5	DB-5	Pesticides:	IS
	Col. Length, m:		60 m	60 m	PCBs:	IS
	Col. Inner Diameter, mm:		0.25 mm	0.25 mm		
	Col. film thickness, µm:		0.25 um	0.25 um		
27	Instrument:	GC/MS	GC/ECD	GC/ECD	PAH	IS
	Column Phase:	HP5-MS	SPB-5	SPB-5	Pesticides:	IS
	Col. Length, m:	30	30	30	PCBs:	IS
	Col. Inner Diameter, mm:	0.25	0.25	0.25		
	Col. film thickness, µm:	0.25	0.25	0.25		

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatogr. analysis	Other(s)
1a-d	PAH:	naphth-d8, biphenyl-d10, acenath-d10, phen-d10, fluoran-d10, pyrene-d10, B[a]A-d10, B[a]P-d12, perylene-d12, B[ghi]P-d12, I[123-cd]P-d14	none	none
	Pesticides:	4,4'-DDD-d8, 4,4'-DDT-d8	none	none
	PCBs:	PCB 103, PCB 198	none	none
2	PAH:	d8-naphthalene, d10-acenaphthene, d10-phenanthrene, d12-chrysene, d12-perylene	d10-fluorene, d12-benzo(a)pyrene	
	Pesticides:	PCB103, PCB198, DBOFB	TCMX	
	PCBs:	PCB103, PCB198, DBOFB	TCMX	
3	PAH:	NAP-d8, ACT-d10, ANT-d10, BAP-d12.		o-terphenyl
	Pesticides:	DBOFB, BZ103, BZ198.		BZ100
	PCBs:	DBOFB, BZ103, BZ198.		BZ100 ES, added just prior to GC analysis to calculate IS recoveries.
4	PAH:	D8-Naphthalene	D10-Fluorene	
	Pesticides:	Dibromooctafluorobiphenyl	Tetrachloro-m-xylene	
	PCBs:	BZ# 103	Tetrachloro-m-xylene	
5	PAH:			
	Pesticides:			
	PCBs:			
6	PAH:		Phenanthrene-D10, Chrysene-D12, Perylene-D12, Acenaphthene-D10, Naphthalene-D8, 1,2-Dichlorobenzene-D4	
	Pesticides:		2,4'-Dibromooctafluorobiphenyl	
	PCBs:		2,4'-Dibromooctafluorobiphenyl	
7	PAH:			
	Pesticides:			
	PCBs:			
8	PAH:	Naphthalene-13C6, Benzo(ghi)perylene-13C12, Fluoranthene-d10	none	none
	Pesticides:	NA	NA	NA
	PCBs:	PCB 28-13C12, PCB 153-13C12, PCB 194-13C12, 4,4'-	none	none

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatogr. analysis	Other(s)
9	PAH:			
	Pesticides:			
	PCBs:			
10	PAH:	2-Fluorobiphenyl / Terphenyl-d14	Semivolatile IS Mix	N/A
	Pesticides:	TCX	DBOFB for IS	N/A
	PCBs:	TCX	DBOFB for IS	N/A
11	PAH:	IS - Pyrene-d10	Naphthalene-d8, Acenphthene-d10, Phenanthrene-d10, Chrysene-d12 and Perylene-d12	
	Pesticides:	Dibutylchoroendate, Tetrachlorometaxylene, 2,2',4,4',5,5'-Dibromooctafluorobiphenyl (DBOB)	Dibromooctafluorobiphenyl (DBOB)	
	PCBs:		NA	
12	PAH:			
	Pesticides:			
	PCBs:			13C12- PCB 23, 52, 77, 101, 105, 126, 138, 169, 180, 209; (recovery std: 13C12- 1,2,3,4-TCDD) added after extraction and just prior to cleanup
13	PAH:	nitrobenzene-d5, 2fluorobiphenyl, terphenyl-d 14	1,4 dichlorobenzene d4naphthalene-d8, Acenaphthene - d10, Crysene-d12, Perylene-d12	
	Pesticides:	Nonachlorobiphenyl, isodrin, alpha-d6 HCH	tetrachloro-m-xylene, deachlorobiphenyl	
	PCBs:			
14	PAH:	naphthalene-d8, phenanthrene-d10, chrysene-d12	acenaphthene-d10, fluorene-d10, benzo[a]pyrene-d12	
	Pesticides:	PCB Congeners (BZ#) 34, 103, 112	PCB Congeners (BZ#) 29, 166	
	PCBs:	PCB Congeners (BZ#) 34, 103, 112	PCB Congeners (BZ#) 29, 166	
15	PAH:			
	Pesticides:			
	PCBs:			
16	PAH:	deuterated Naphthalene, Acenaphthene, Phenanthrene, Chrysene, Benzo-a-Pyrene, Perylene	Hexamethylbenzene	deuterated Anthracene and Benz-a-Anthracene
	Pesticides:			
	PCBs:			added prior to HPLC cleanup

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatogr. analysis	Other(s)
17	PAH:	Bromononane, Octanophenone	Naphthalene d-8, Phenanthrene d-10, Chrysene d-12	
	Pesticides:	Isodrin	Phenanthrene d-10	
	PCBs:	Dibromobiphenyl	Phenanthrene d-10	
18a	PAH:	d- phenanthrene, d- fluoranthene and d- perylene	None	
	Pesticides:	PCB103, PCB198	None	
	PCBs:	PCB103, PCB198	None	
18b	PAH:	D10-acenaphthene, D10-phenanthrene, D10-fluoranthene and D12-perylene		
	Pesticides:			
	PCBs:			
19	PAH:			
	Pesticides:			
	PCBs:			
20	PAH:			
	Pesticides:			
	PCBs:	all fully C-13 IUPAC #'s 28,52,101,118,105,153,138, 180,209	C-13 #169, native 185 (only c-13 #169 used for calculations)	
21	PAH:	naphthalene-d8, acenaphthene-d10, benzo[a]pyrene-d12	hexamethylbenzene	phenanthrene-d10, biphenyl-d10, fluorene-d10
	Pesticides:	4,4-dibromooctafluorobiphenyl	tetrachloro-m-xylene	tetrachloro-o-xylene
	PCBs:	4,4-dibromooctafluorobiphenyl	tetrachloro-m-xylene	tetrachloro-o-xylene
				Just prior to clean-
22	PAH:	d8-NPH, d10-ACE, d10-PYR, d12-BAA, d12-BEP, d12-PER, d12-BGP	HMB, d12-CHR	d10-FLA for dilution analysis.
	Pesticides:	d8-p'p'-DDD	Dibromo-octafluoro Biphenyl	TCOX for dilution analysis.
	PCBs:	PCB 103, PCB 207	Dibromo-octafluoro Biphenyl	TCOX for dilution analysis.
				Yes, prior to chr. analysis
24	PAH:	Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12	Fluorene-d10 and Benzo(a)pyrene-d12	NA
	Pesticides:	NA	NA	NA
	PCBs:	TMX and BZ 198	NA	NA
26	PAH:	NA	NA	
	Pesticides:	d8 DDT; d8DDE	None	
	PCBs:	PCB 103 and 198	None	

Lab No.		Internal standards (IS)/ surrogates added prior to extraction	IS/surrogates added after extraction/cleanup and just prior to chromatogr. analysis	Other(s)
27	PAH:	Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12, Perylene-d12	Fluorene-d10, Pyrene-d10, Benzo(a)Pyrene-d12	none
	Pesticides:	DBOFB, PCB103, PCB198	TCMX (2,4,5,6-tetrachloro-m-Xylene)	none
	PCBs:	DBOFB, PCB103, PCB198	TCMX (2,4,5,6-tetrachloro-m-Xylene)	none

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Int.stds/surrogates used for quantitation were added: prior to extraction	after extraction/cleanup and just prior to chromatographic analysis	If used those added just prior to chr. analysis, were results recovery corrected?	Percent recovery range (if applicable)	
1a-d	x			PAH Pesticides PCBs	
2	x			PAH Pesticides PCBs	
3	x			PAH Pesticides PCBs	
4	x			PAH Pesticides PCBs	46-135% 70-111 90-193
5	DBOFB; DPAHs	DBOFB (F2 & F3 only)	yes (PAHs) no (PCBs/OCPs)	PAH Pesticides PCBs	30-73% 67.6-74.3 67.6-74.3
6		x	No	PAH Pesticides PCBs	
7				PAH Pesticides PCBs	
8	x			PAH Pesticides PCBs	NA NA NA
9	x			PAH Pesticides PCBs	
10		x		PAH Pesticides PCBs	70% 70% 70%
11	Pyrene-d10	DBOB		PAH Pesticides PCBs	Yes Yes Yes
12		13C12 PCBs		PAH Pesticides PCBs	

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Int.stds/surrogates used for quantitation were added: prior to extraction	after extraction/cleanup and just prior to chromatographic analysis	If used those added just prior to chr. analysis, were results recovery corrected?	Percent recovery range (if applicable)	
13	x	x	no	PAH Pesticides PCBs	68-131%
14		x	yes	PAH Pesticides PCBs	50 - 90% 50 - 90% 50 - 90%
15	DBOFB			PAH Pesticides PCBs	 80-130 80-130
16	x			PAH Pesticides PCBs	
17		x	yes	PAH Pesticides PCBs	55 to 80% 70 to 90 % 65 to 90 %
18a	IS	N/A		PAH Pesticides PCBs	
18b				PAH Pesticides PCBs	
19				PAH Pesticides PCBs	
20	x	x	yes	PAH Pesticides PCBs	 90-65; (#209 : 40 - 20)
21	x			PAH Pesticides PCBs	
22	Yes		Not Applicable	PAH Pesticides PCBs	
24	Surrogates	Internal Standards	Yes	PAH Pesticides PCBs	23-72% NA NA

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Int.stds/surrogates used for quantitation were added: prior to extraction	after extraction/cleanup and just prior to chromatographic analysis	If used those added just prior to chr. analysis, were results recovery corrected?	Percent recovery range (if applicable)	
26	Yes	No	NA	PAH Pesticides PCBs	
27	No	Yes	YES	PAH Pesticides PCBs	45-104% 79-116% 79-116%

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Calibration	PAH	Pesticides	PCBs
1a-d	Points:	6	6	6
	Conc. Range:	0.1 ug/g - 2 ug/g	10ng/g-800ng/g	10ng/g-800ng/g
	Analytes outside of calibr. range:	none	none	none
2	Points:	5	5	5
	Conc. Range:	2.5 - 100 ng/uL	5 - 200 ng/uL	5 - 200 ng/uL
	Analytes outside of calibr. range:	(See notes on this page.)		
3	Points:	5	3	3
	Conc. Range:	0.5-20ng	8-100pg	8-100pg
	Analytes outside of calibr. range:			
4	Points:	6	5	5
	Conc. Range:	100-4000ng/mL	5-200ng/mL	5-200ng/mL
	Analytes outside of calibr. range:	0	0	0
5	Points:	5	5	5
	Conc. Range:	0.36-7.2 ng	2.4-128 pg	1.9-96 pg
	Analytes outside of calibr. range:			
6	Points:	5	6	6
	Conc. Range:	20-100 ppm	10-100 ppb	10-100 ppb
	Analytes outside of calibr. range:			
7	Points:		5	5
	Conc. Range:		0.3-50 pg/uL	1-20 pg/uL
	Analytes outside of calibr. range:			
8	Points:	6	NA	5
	Conc. Range:	50 - 5000 ng/mL	NA	20 - 2000 ng/mL
	Analytes outside of calibr. range:	Fluoranthene, Pyrene, Benzo(b)fluoranthene	NA	none
9	Points:	5	5	5
	Conc. Range:	0.5 - 20 ng/uL	2.45 - 45 pg/uL	2.45 - 45 pg/uL
	Analytes outside of calibr. range:			
10	Points:	5	3	3
	Conc. Range:	20ng/mL-160ng/mL	2ng/mL-10ng/mL	4ng/mL-20ng/mL
	Analytes outside of calibr. range:			
11	Points:	8	7	7
	Conc. Range:	0.02 to 3.0 ng on column	5 to 200 ng/mL	5 to 200 ng/mL
	Analytes outside of calibr. range:	diluted into range		
12	Points:	8	0	isotope-dilution method
	Conc. Range:	0,4-998 pg/uL, depends on PAH	0	0
	Analytes outside of calibr. range:	0	0	0
13	Points:	7	6	

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Calibration	PAH	Pesticides	PCBs
	Conc. Range:	25-1000 ng/L	5-200 pg/uL	
	Analytes outside of calibr. range:	none	none	
14	Points:	7	5	5
	Conc. Range:	0.02 - 8 ng/uL	0.008 - 0.12 ng/uL	0.008 - 0.12 ng/uL
	Analytes outside of calibr. range:	none	none	none
15	Points:		4 point	4 point
	Conc. Range:		16, 32, 64, 80 pg/uL	16, 32, 64, 80 pg/uL
	Analytes outside of calibr. range:			
16	Points:	5 point		
	Conc. Range:	6-1800 ng/g		
	Analytes outside of calibr. range:			
17	Points:	5	5	5
	Conc. Range:	2 to 24 ng	0.5 to 12 ng	0.5 to 12 ng
	Analytes outside of calibr. range:			
18a	Points:	1	3	
	Conc. Range:	0.35 ng/ uL	1.0 - 50 ng/mL	
	Analytes outside of calibr. range:	Samples were diluted to be within the calibration range		
18b	Points:	5		
	Conc. Range:	ca. 130pg - 6.5ng		
	Analytes outside of calibr. range:			
19	Points:		5	5
	Conc. Range:		5-100 ppb	5-100 ppb
	Analytes outside of calibr. range:			
20	Points:			4
	Conc. Range:			2 -120 ng/ml
	Analytes outside of calibr. range:			PCB 195 less than or equal to lowest
21	Points:	1	6	6
	Conc. Range:	~ 3 ng/mL	0.001-0.500 ng/mL	0.001-0.500 ng/mL
	Analytes outside of calibr. range:	N/A	None	None
22	Points:	5	7	6
	Conc. Range:	0.02-24 ng/µL	0.0002-2.2 ng/µL	0.0002-1.4 ng/µL
	Analytes outside of calibr. range:			
24	Points:	5	NA	6
	Conc. Range:	10 ug/L-1250ug/L	NA	1 ug/L-150 ug/L
	Analytes outside of calibr. range:	yes	NA	NA
26	Points:		5 points	5 points
	Conc. Range:		0.001 to 0.1 ng/uL	0.001 to 0.1 ng/uL
	Analytes outside of calibr. range:			

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Calibration	PAH	Pesticides	PCBs
27	Points:	5	5	5
	Conc. Range:	20-1000 ng/mL	5-200 ng/mL	5-200 ng/mL
	Analytes outside of calibr. range:	none	none	none

Summary of Methods Used

Marine Sediment VII QA97SED7

Lab No.	Were PCBs separated from pesticides prior to GC?	Does PCB 132 coelute with PCB 153, PCB 105 or both?	Differences in procedures used for SRM 1941a from those for described Marine Sediment VII
1a-d	yes	separated from both	SRM 1941a was extracted dry; however, sodium sulfate was still used as a dispersing agent. For Marine Sediment VII, sodium sulfate was used as a drying agent as well as a dispersing agent.
2	no	(See notes on page 6.)	There were two significant differences: 1. Marine Sediment VII samples had to be diluted 1:10 for PAH analyses. Results for PAHs are reported from the dilution analyses.
3	no	We don't measure BZ132.	NONE
4	no	w/ 105 on DB17, OK on DB5	
5	yes	not certain	
6	no		
7	no	unknown, 132 not in std mix	Marine Sediment VII was dried with sodium sulfate before extracting
8	no	coelutes with PCB 153 and separates from PCB 105	None
9	yes	PCB132 coelutes with PCB153 in our method.	In order to extract 1941a with a wet sediment, (SED7) a calculated volume of water was added to normalize the moisture prior to Microwave Solvent Extraction.
10	no		no difference
11	yes		
12	yes	separated from both	
13	yes	no separate congener analysis performed	Pesticides: no differences PAH: The detection limit of <50 ng/g is based on a 25 g dry wt. sample. If less than 25 g are used the reporting limit is raised to reflect this. The QA97 SED sample had approx. 9.0 g extracted. The SRM 1941a averaged 12 g. Sodium sulfate is added to make up the difference in Soxhlet extraction.
14	no	separated	No processing procedure differences. The PCB/pest analysis was only performed for certified analytes, thus the results are limited.
15	yes	PCB-132 co-eluted with PCB-105	No

Summary of Methods Used **Marine Sediment VII QA97SED7**

Lab No.	Were PCBs separated from pesticides prior to GC?	Does PCB 132 coelute with PCB 153, PCB 105 or both?	Differences in procedures used for SRM 1941a from those for described Marine Sediment VII
16			
17	yes		Dry sample was weighed, and then wet with a small quantity of DI water, then dried with sodium sulfate.
18a	no	PCB 132 was not analyzed	
18b			
19	yes		No differences
20	Y, the more polar ones	132 coelutes on the leading edge of 105	none
21	no	Coelutes with PCB 153	
22	yes	Separated from both	
24	no	Not determined for BZ 132	
26	Yes	Separated	
27	NO	coelutes with PCB153 only	none

Appendix I: Charts of Mussel Tissue VIII and SRM 1974a Results by Analyte

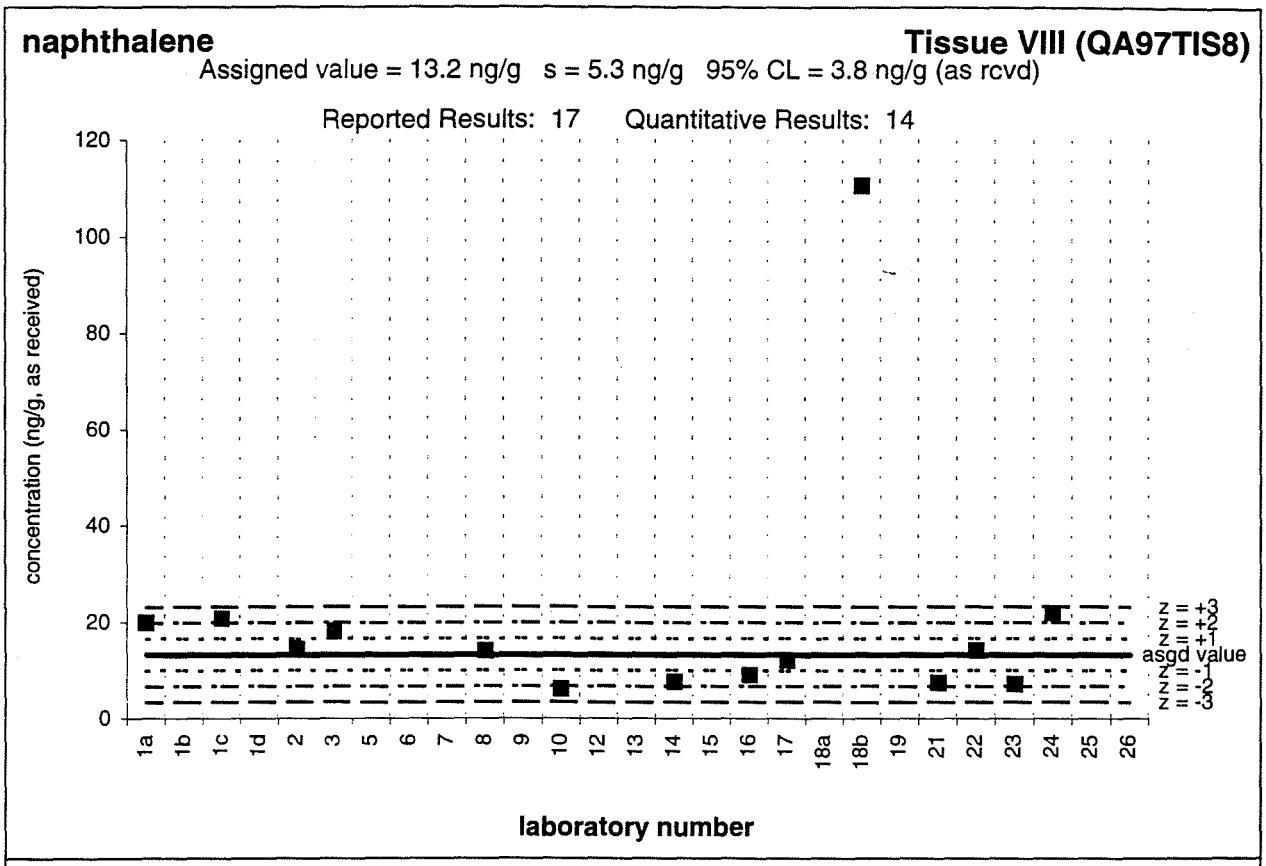
See Tables 2, 3, and 4 and Appendix C for results reported as *<number*, DL, etc.
Charts for analytes with few reported numerical results are not included in this appendix.

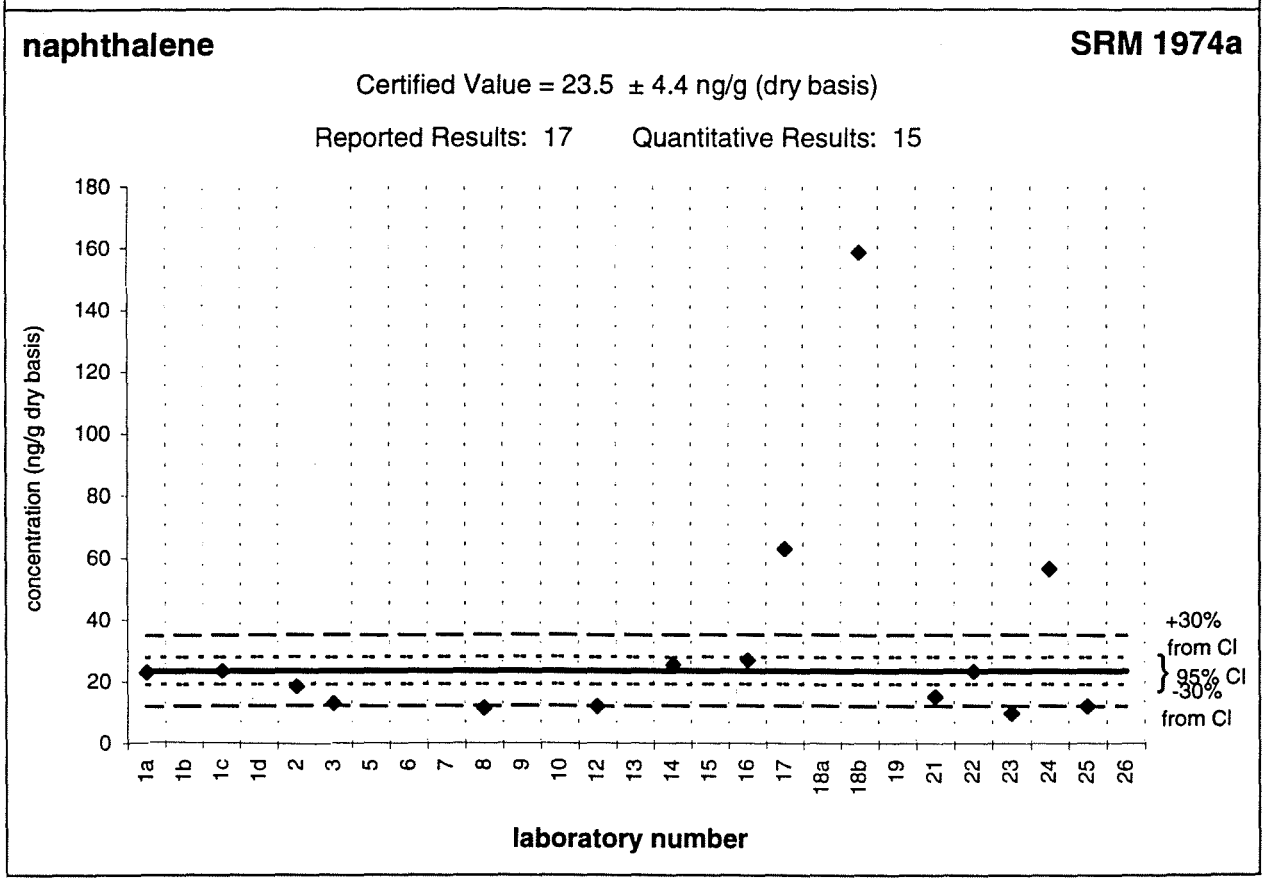
For Mussel Tissue VIII plots:

Solid line:	exercise assigned value
Dotted line:	z = ±1, i. e., 25% from assigned value
Dotted/dashed line:	z = ±2, i. e., 50% from assigned value
Dashed line:	z = ±3, i. e., 75% from assigned value

For SRM 1974a plots:

Solid line:	material certified concentration, certificate information concentration or target value (see caption of each plot)
Dotted line:	95% confidence limits
Dashed line:	30% from 95% confidence limits

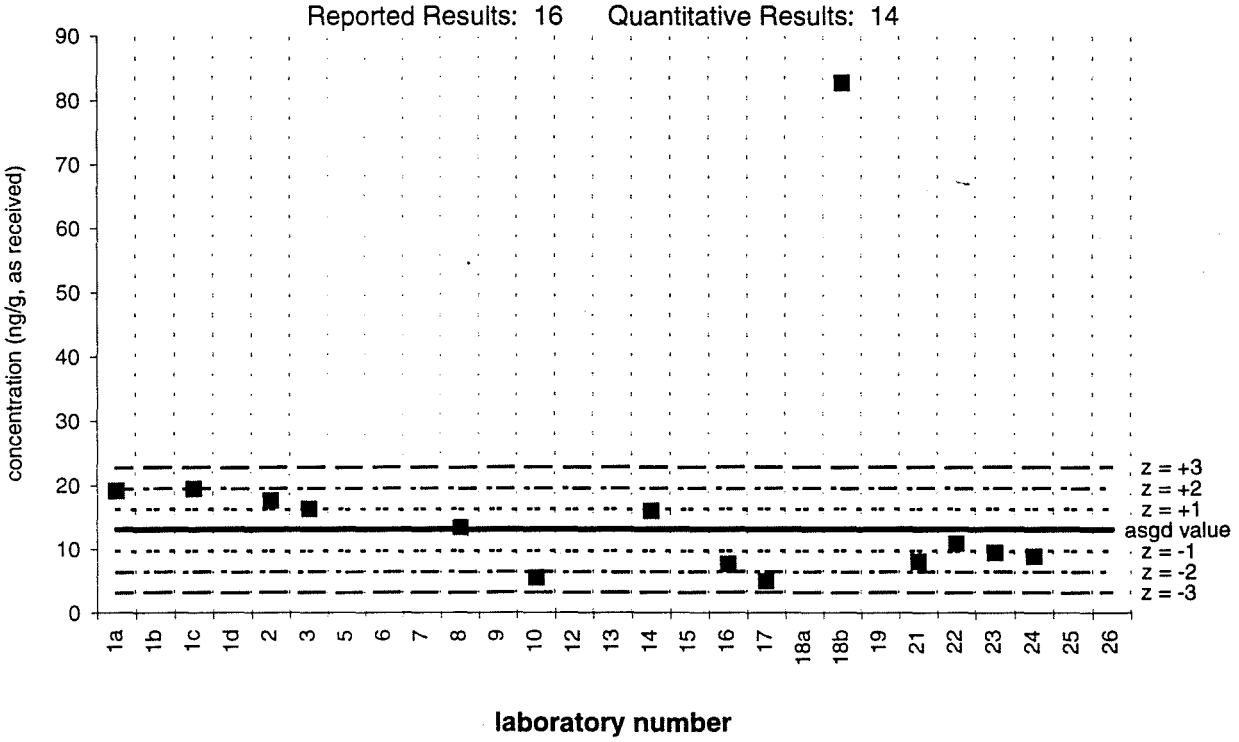

naphthalene
Tissue VIII (QA97TIS8)
Assigned value = 13.2 ng/g s = 5.3 ng/g 95% CL = 3.8 ng/g (as rcvd)
Reported Results: 17 Quantitative Results: 14
concentration (ng/g, as received)
120
100
80
60
40
20
0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number
Z = +3
Z = +2
Z = +1
asgd value
Z = -1
Z = -2
Z = -3


naphthalene
SRM 1974a
Certified Value = 23.5 ± 4.4 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 15
concentration (ng/g dry basis)
180
160
140
120
100
80
60
40
20
0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number
+30% from CI
95% CI
-30% from CI

2-methylnaphthalene — Tissue VIII (QA97TIS8)

Assigned value = 13.1 ng/g s = 5.1 ng/g 95% CL = 3.4 ng/g (as rcvd)

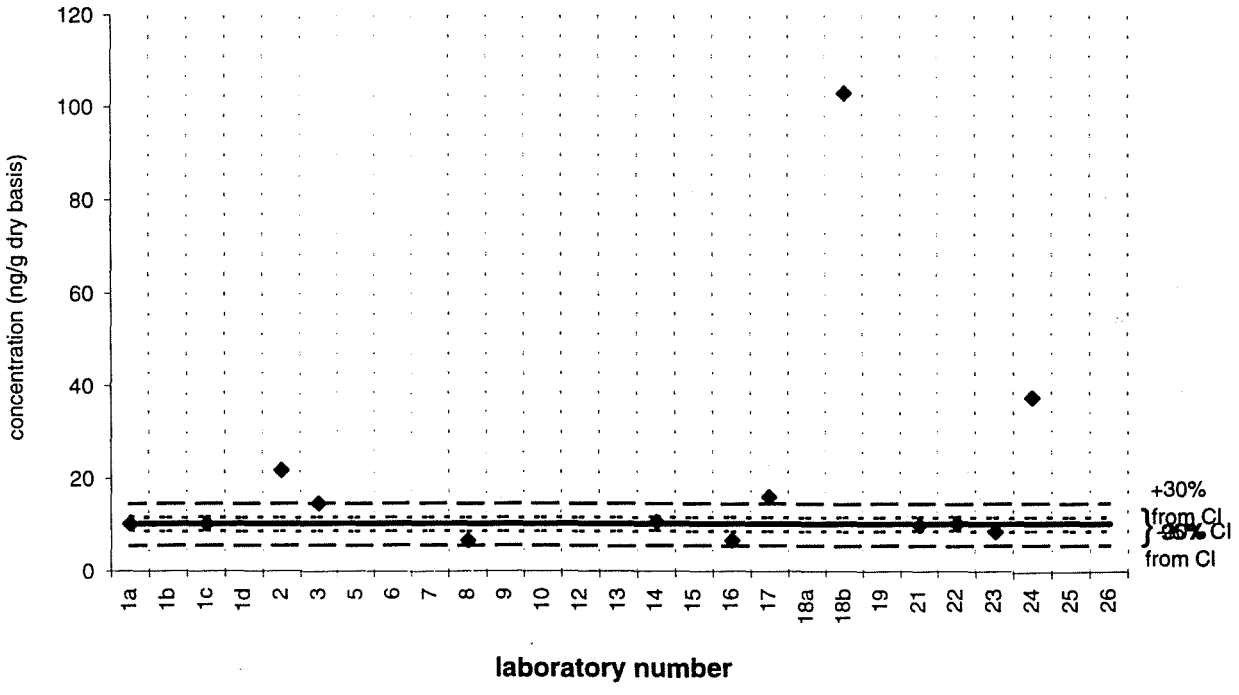
Reported Results: 16 Quantitative Results: 14

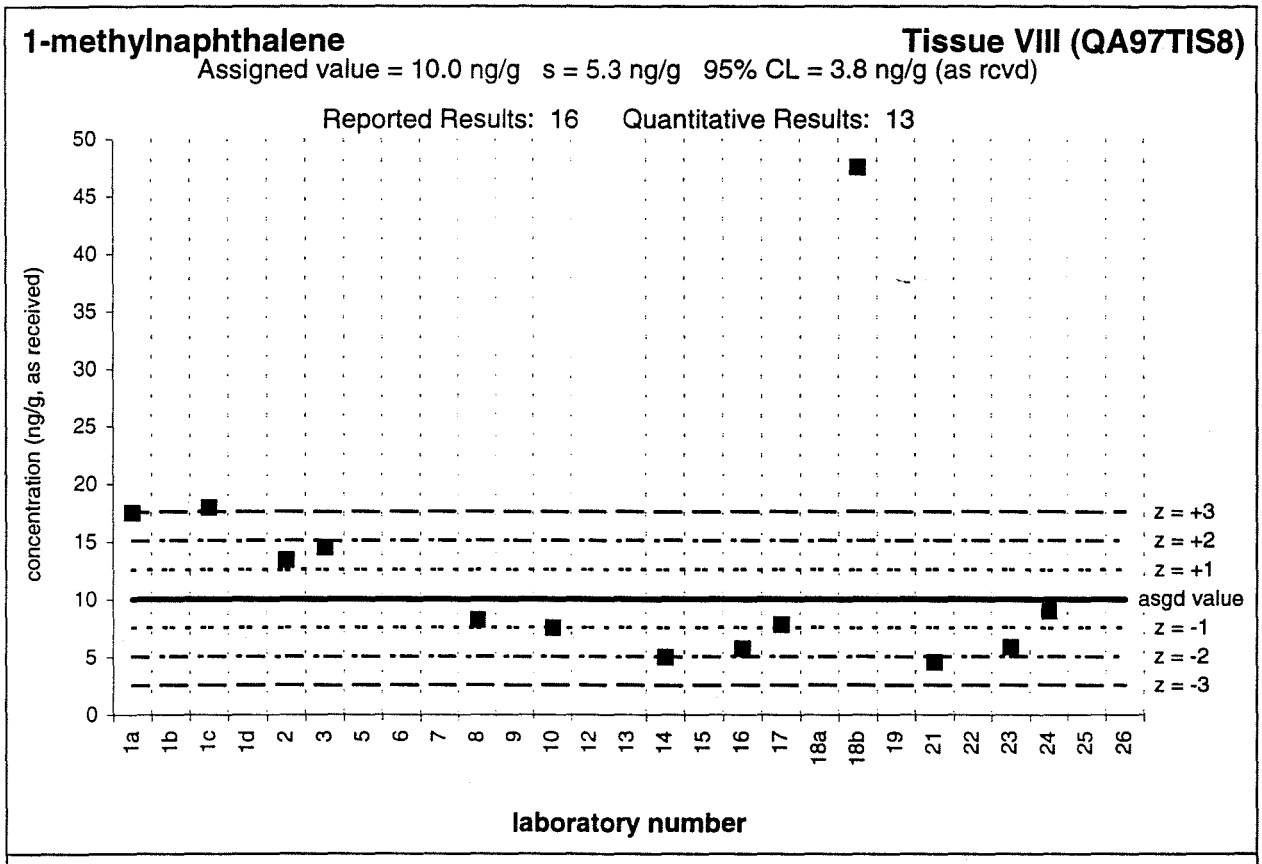


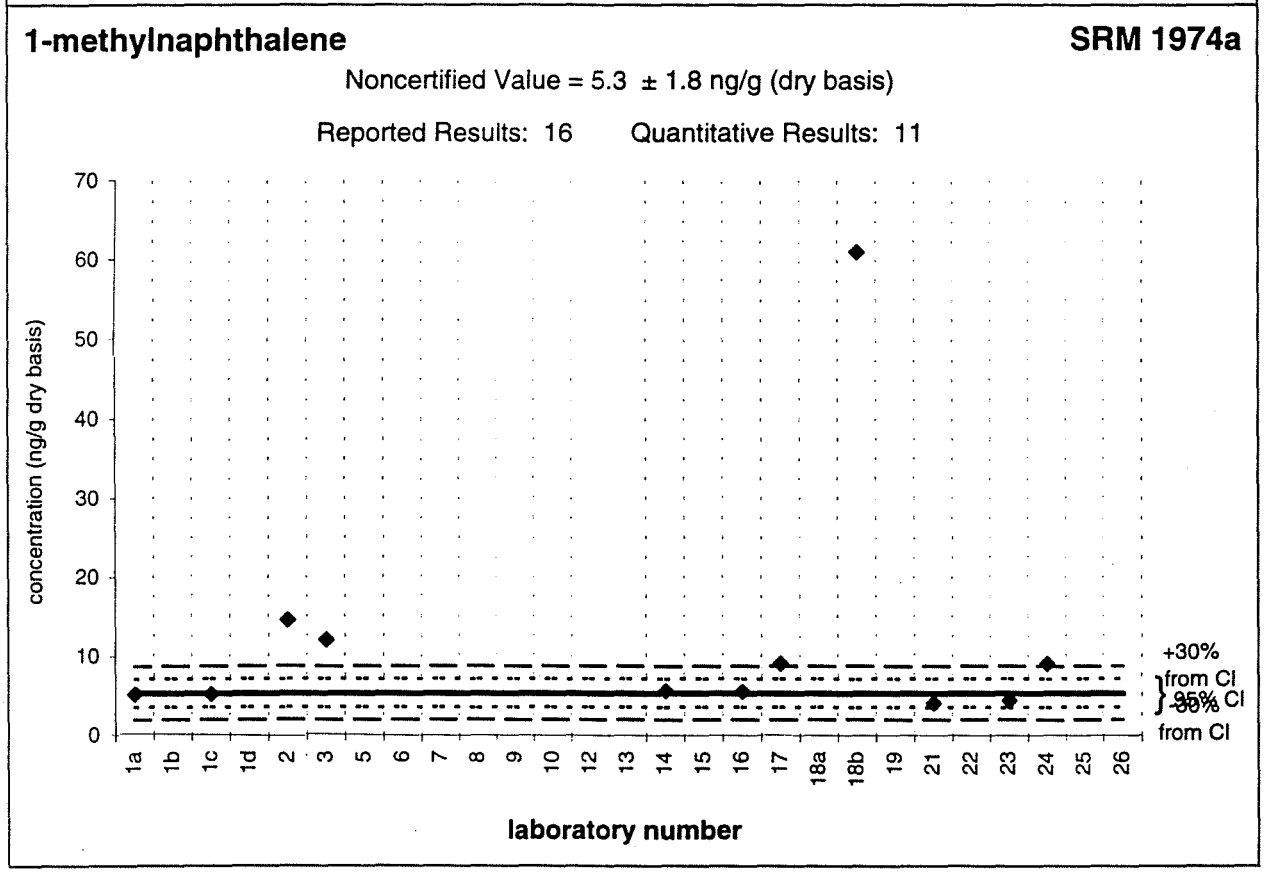
2-methylnaphthalene — SRM 1974a

Noncertified Value = 10.2 ± 1.5 ng/g (dry basis)

Reported Results: 16 Quantitative Results: 13



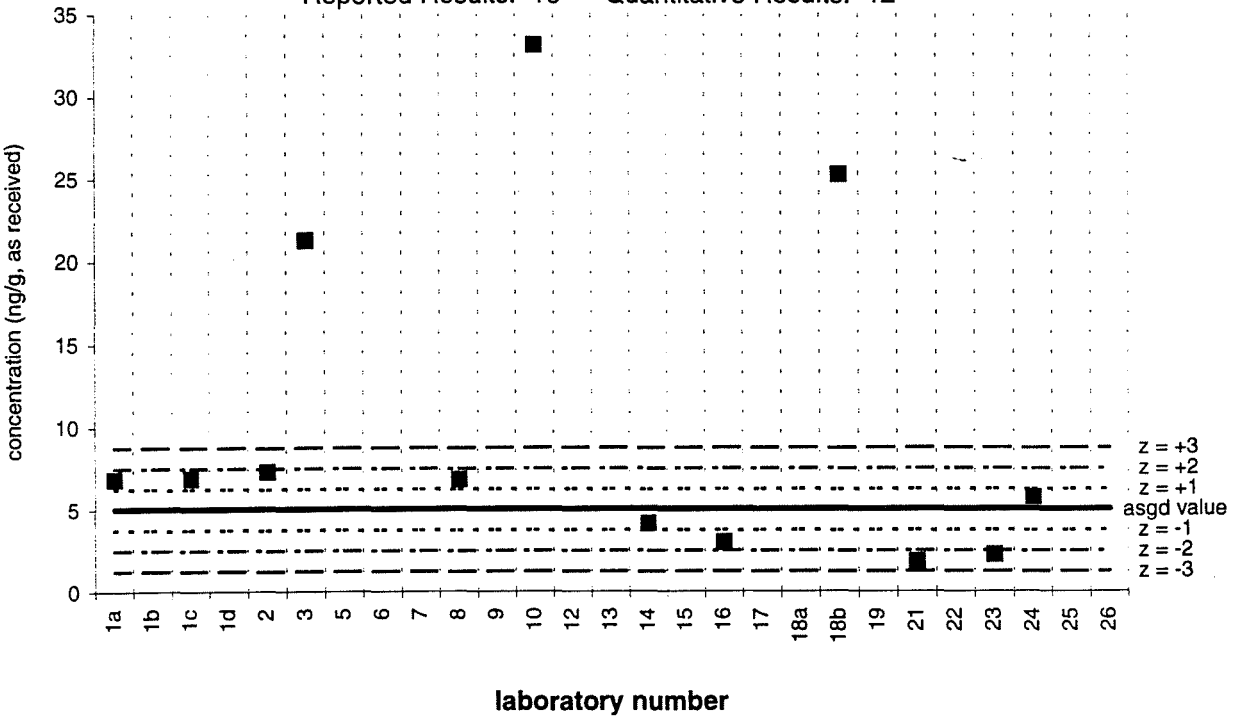

1-methylnaphthalene
Tissue VIII (QA97TIS8)
Assigned value = 10.0 ng/g s = 5.3 ng/g 95% CL = 3.8 ng/g (as rcvd)
Reported Results: 16 Quantitative Results: 13
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


1-methylnaphthalene
SRM 1974a
Noncertified Value = 5.3 ± 1.8 ng/g (dry basis)
Reported Results: 16 Quantitative Results: 11
concentration (ng/g dry basis)
+30% from CI
-30% from CI
95% CI
laboratory number

biphenyl **Tissue VIII (QA97TIS8)**

Assigned value = 5.01 ng/g s = 2.19 ng/g 95% CL = 1.69 ng/g (as rcvd)

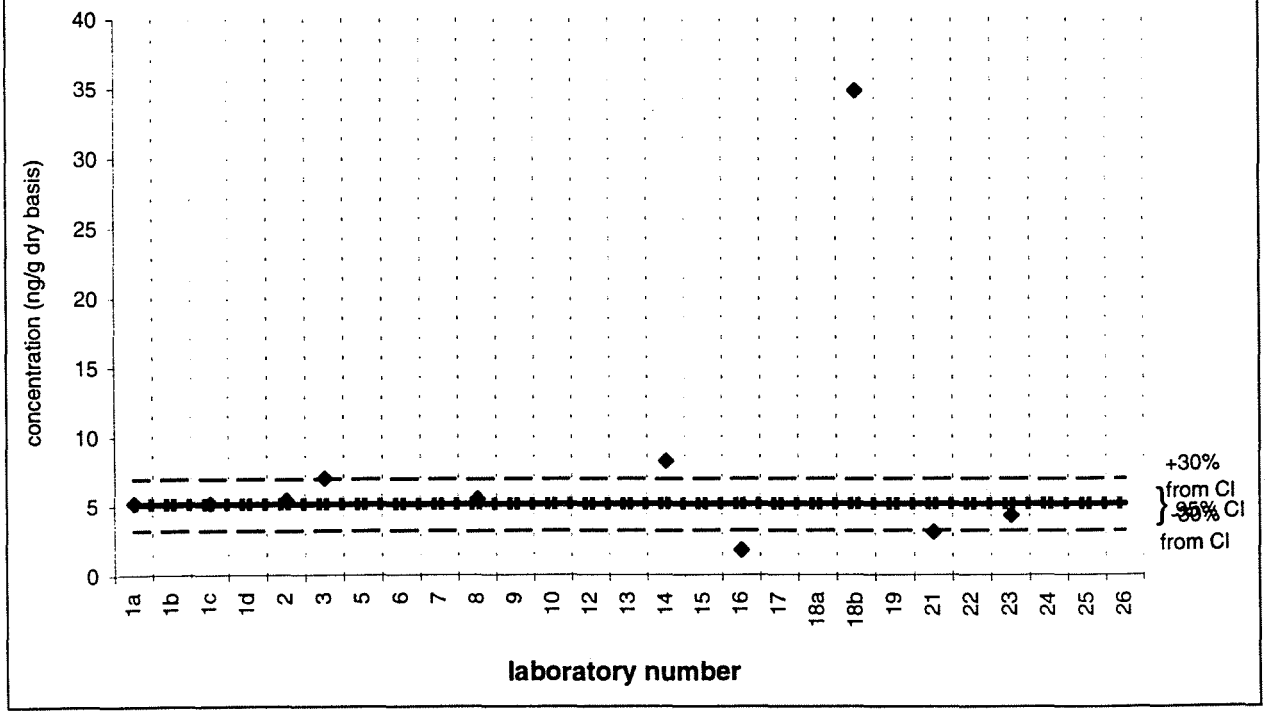
Reported Results: 16 Quantitative Results: 12



biphenyl **SRM 1974a**

Noncertified Value = 5.11 ± 0.33 ng/g (dry basis)

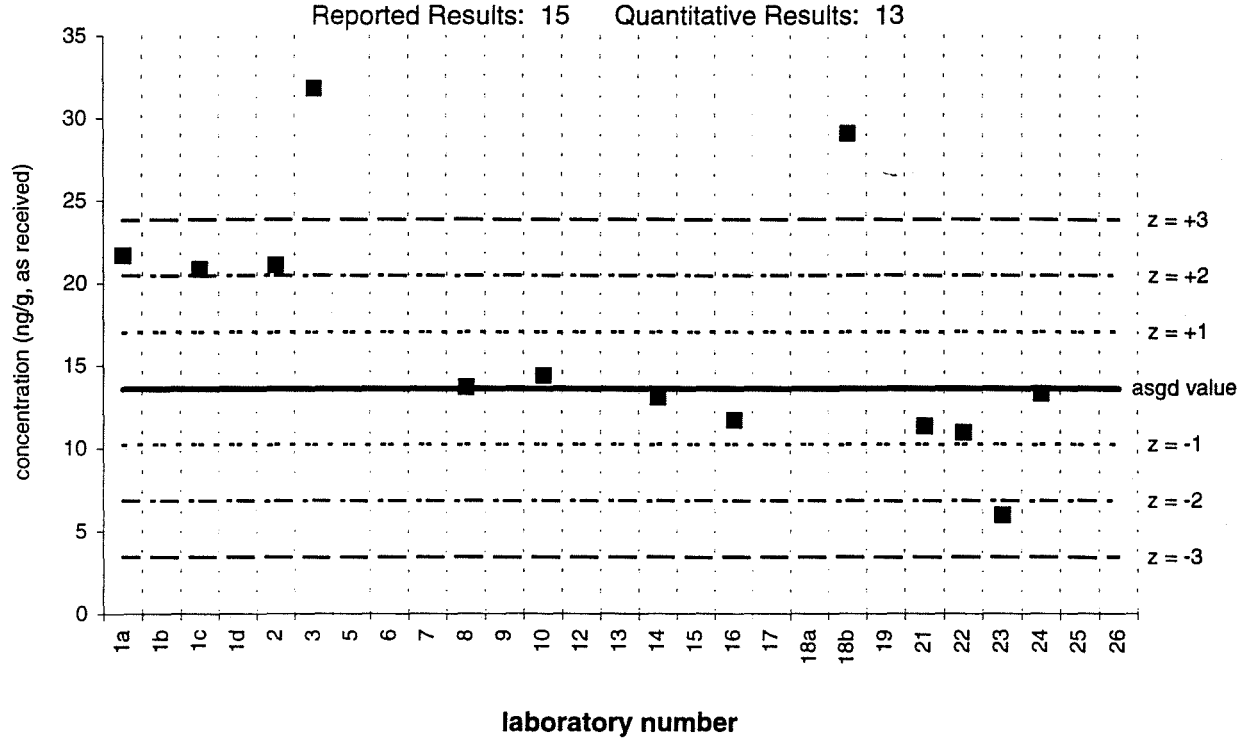
Reported Results: 16 Quantitative Results: 10



2,6-dimethylnaphthalene — Tissue VIII (QA97TIS8)

Assigned value = 13.6 ng/g s = 4.9 ng/g 95% CL = 3.8 ng/g (as rcvd)

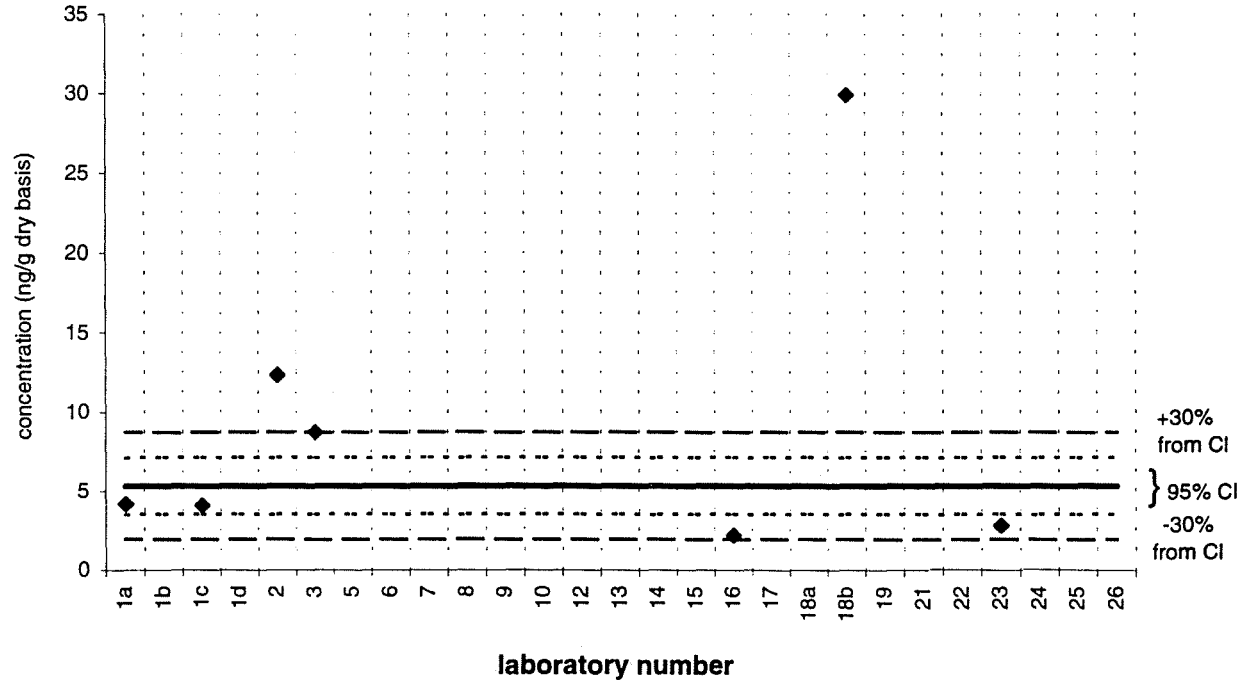
Reported Results: 15 Quantitative Results: 13



2,6-dimethylnaphthalene — SRM 1974a

Target Value = 5.3 ± 1.8 ng/g (dry basis)

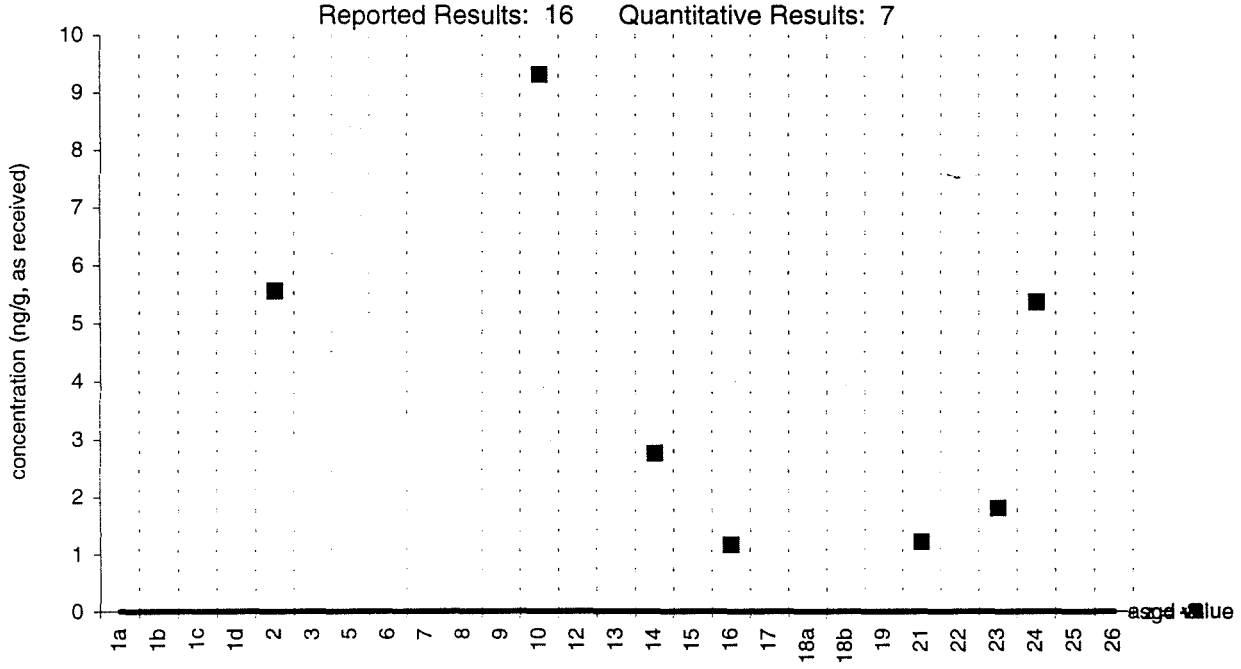
Reported Results: 14 Quantitative Results: 7



acenaphthylene **Tissue VIII (QA97TIS8)**

Assigned value = <3 ng/g (as rcvd)

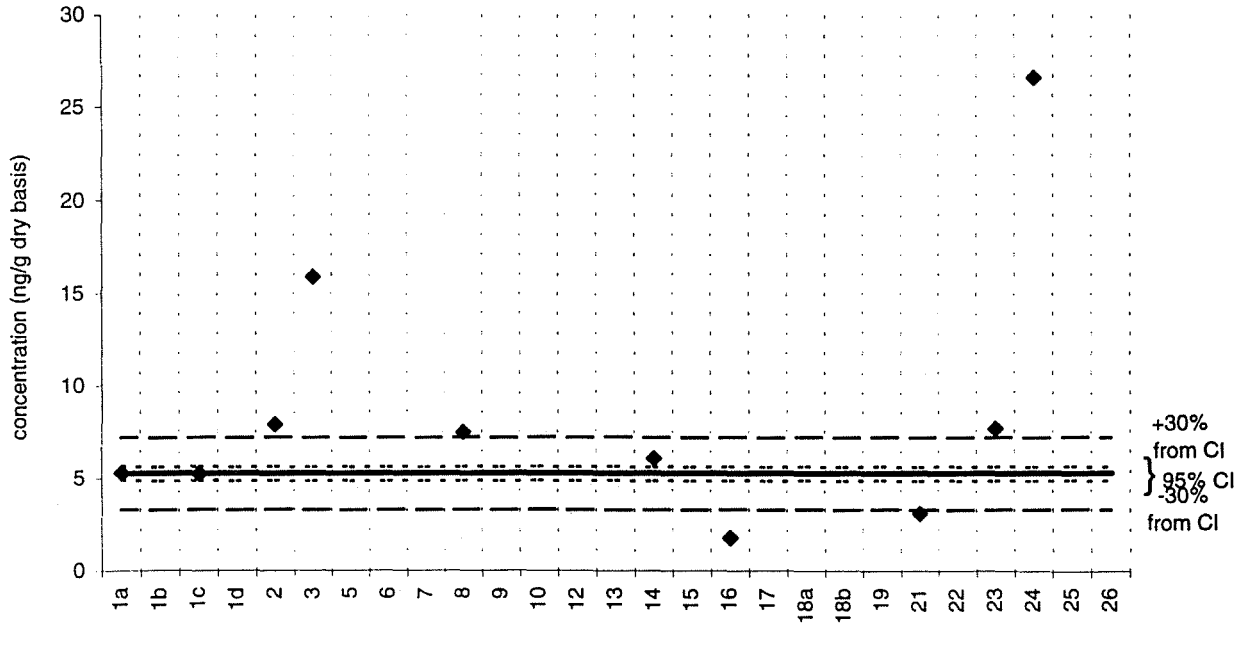
Reported Results: 16 Quantitative Results: 7



acenaphthylene **SRM 1974a**

Noncertified Value = 5.25 ± 0.38 ng/g (dry basis)

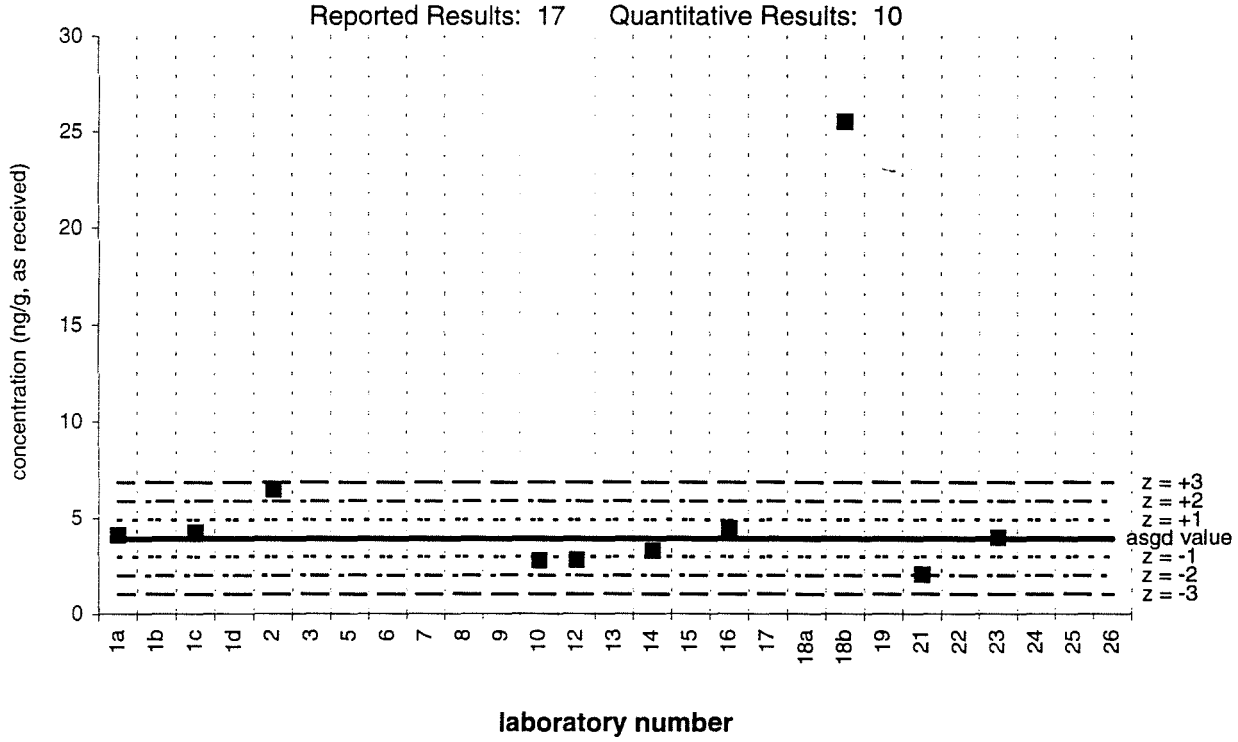
Reported Results: 16 Quantitative Results: 10



acenaphthene **Tissue VIII (QA97TIS8)**

Assigned value = 3.89 ng/g s = 1.32 ng/g 95% CL = 1.11 ng/g (as rcvd)

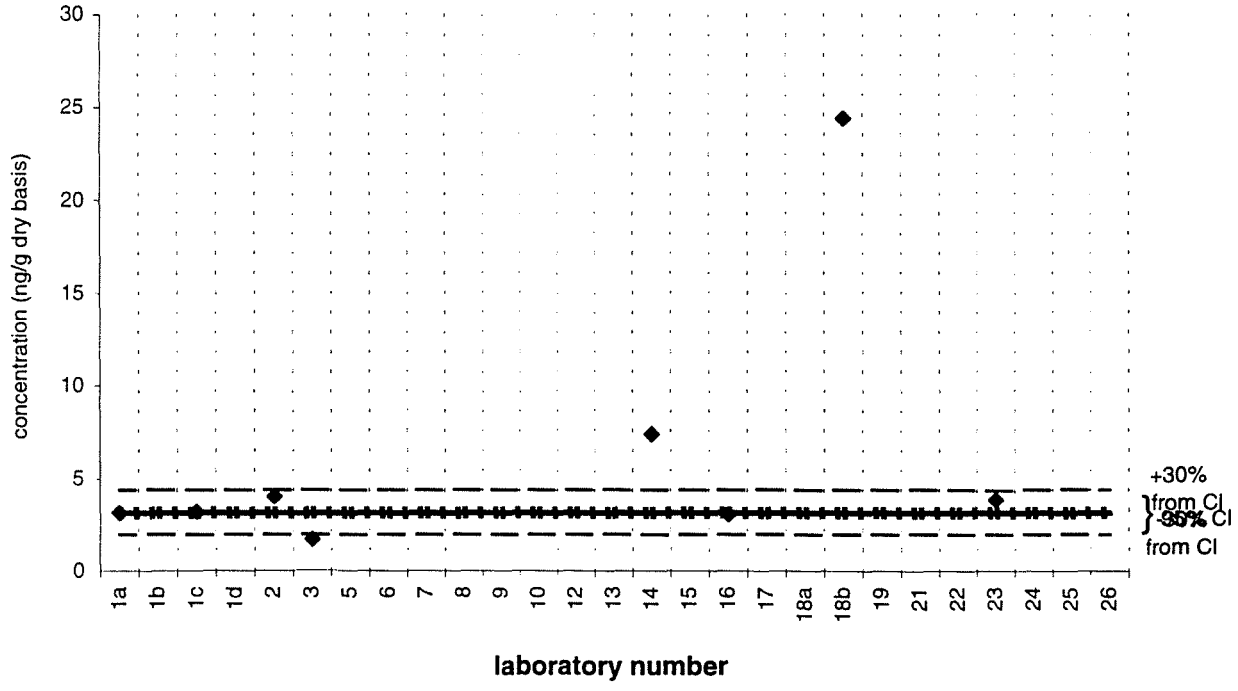
Reported Results: 17 Quantitative Results: 10



acenaphthene **SRM 1974a**

Noncertified Value = 3.15 ± 0.26 ng/g (dry basis)

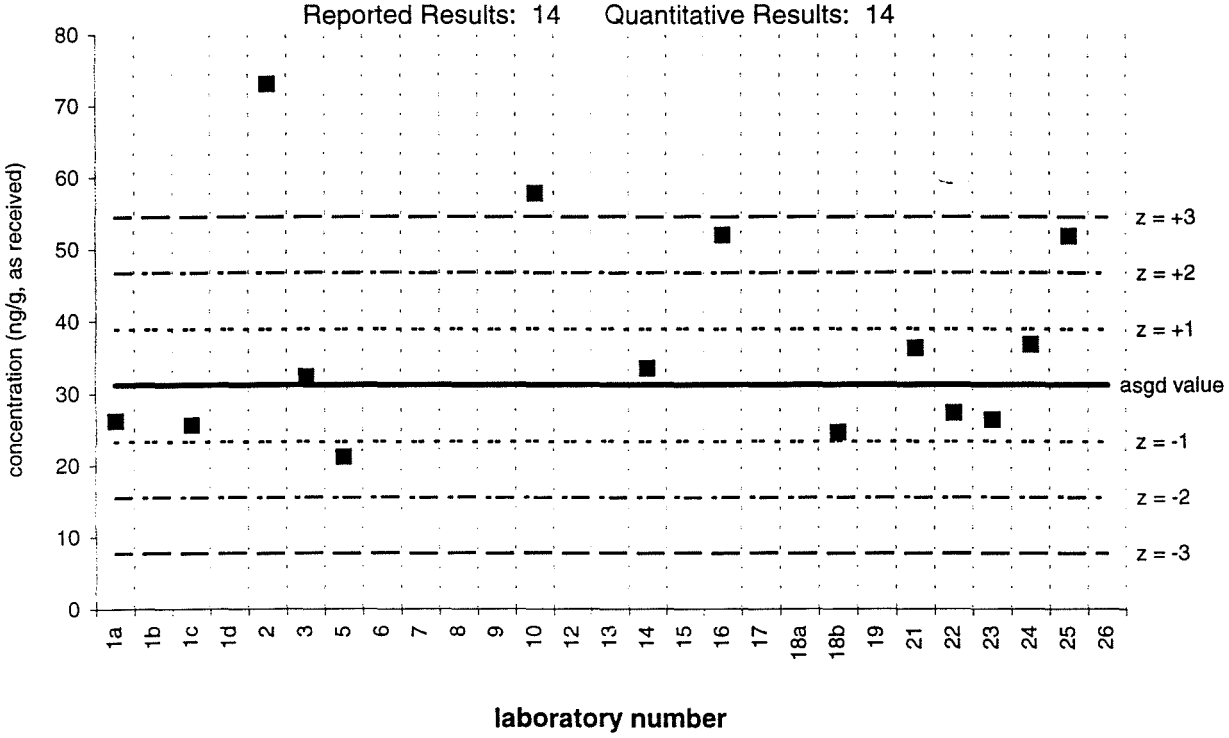
Reported Results: 17 Quantitative Results: 8



1,6,7-trimethylnaphthalene — Tissue VIII (QA97TIS8)

Assigned value = 31.1 ng/g s = 8.6 ng/g 95% CL = 5.7 ng/g (as rcvd)

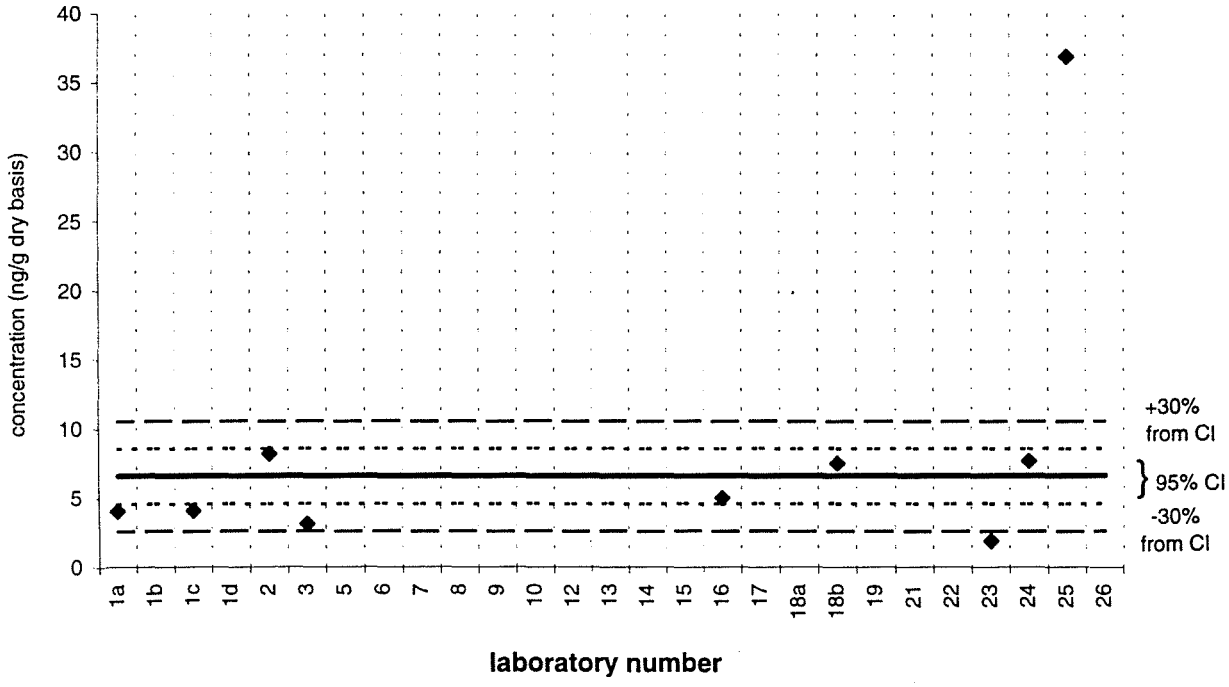
Reported Results: 14 Quantitative Results: 14

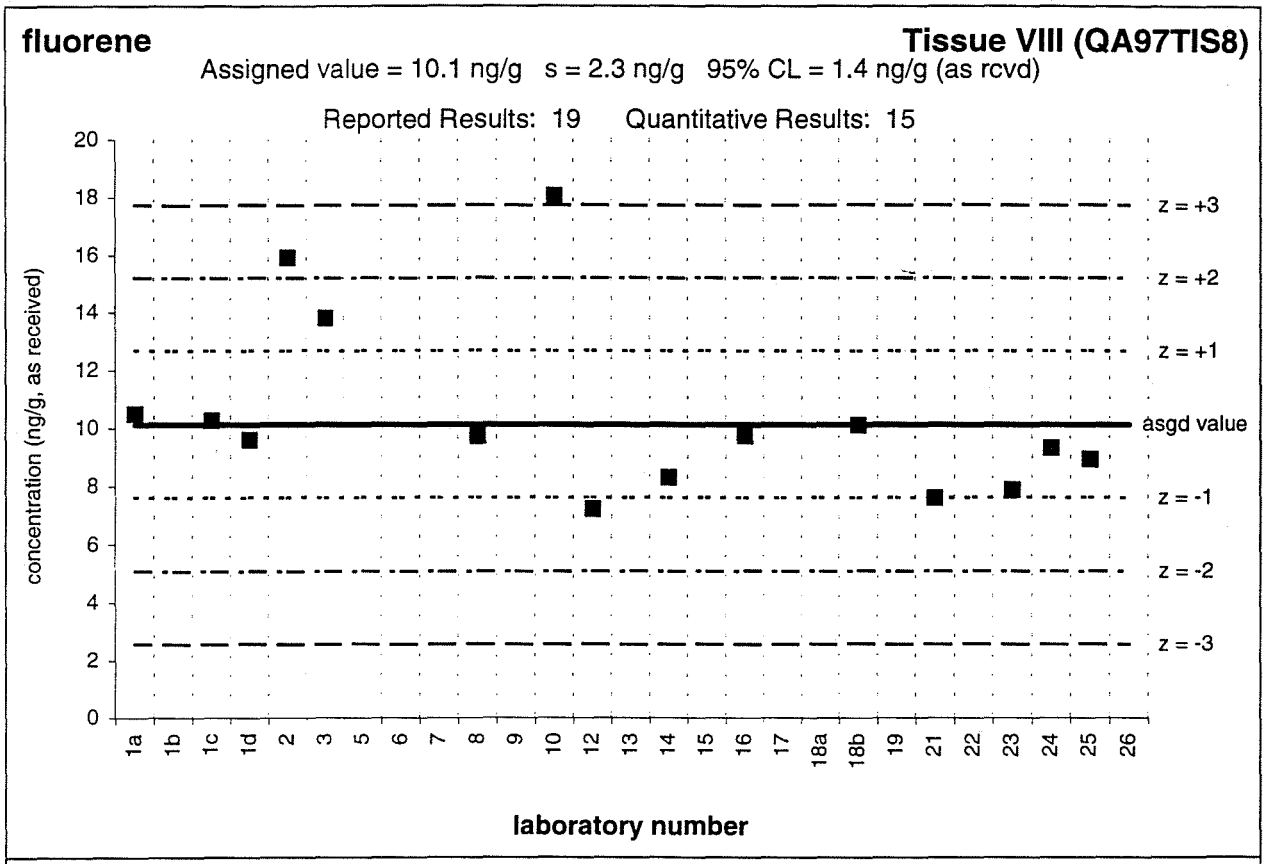


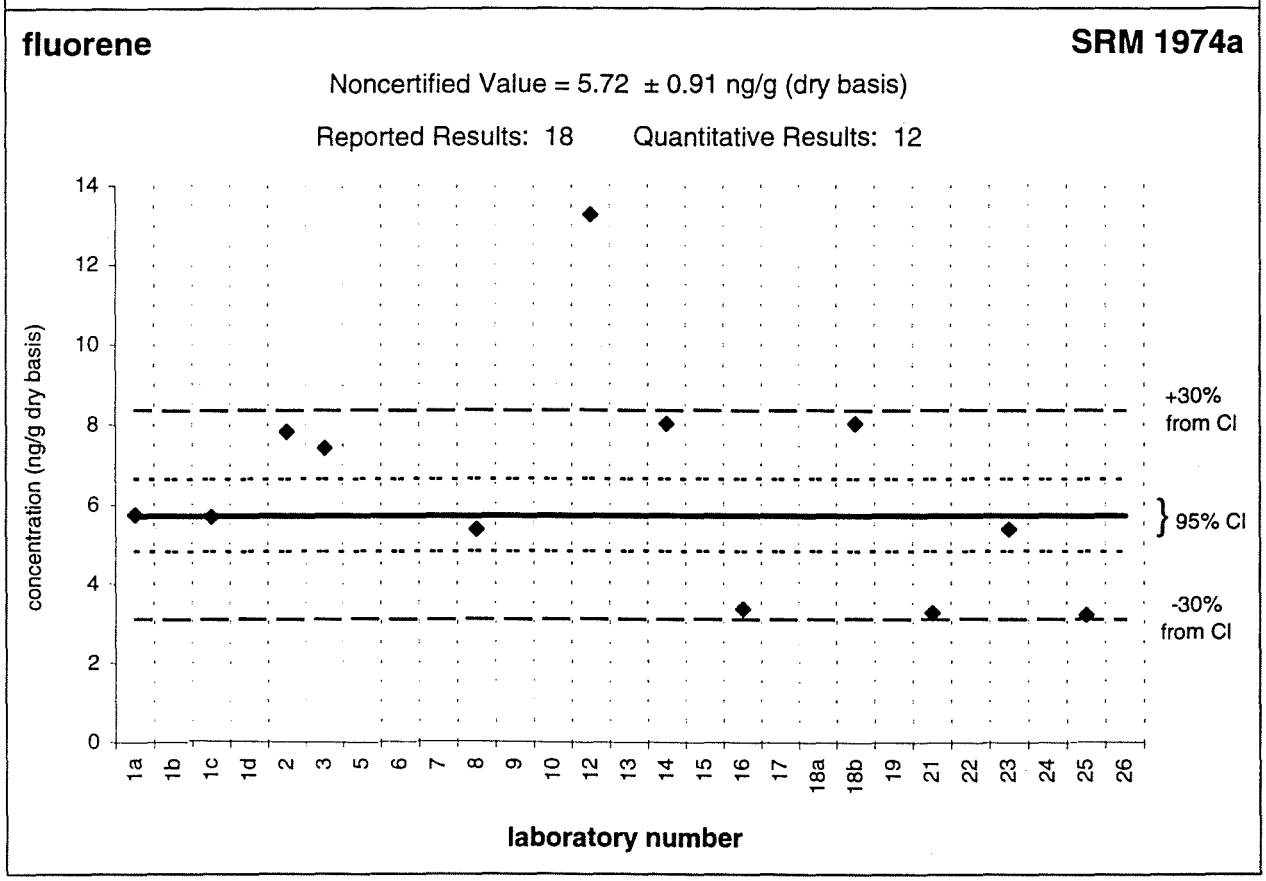
1,6,7-trimethylnaphthalene — SRM 1974a

Target Value = 6.6 ± 2.0 ng/g (dry basis)

Reported Results: 14 Quantitative Results: 9



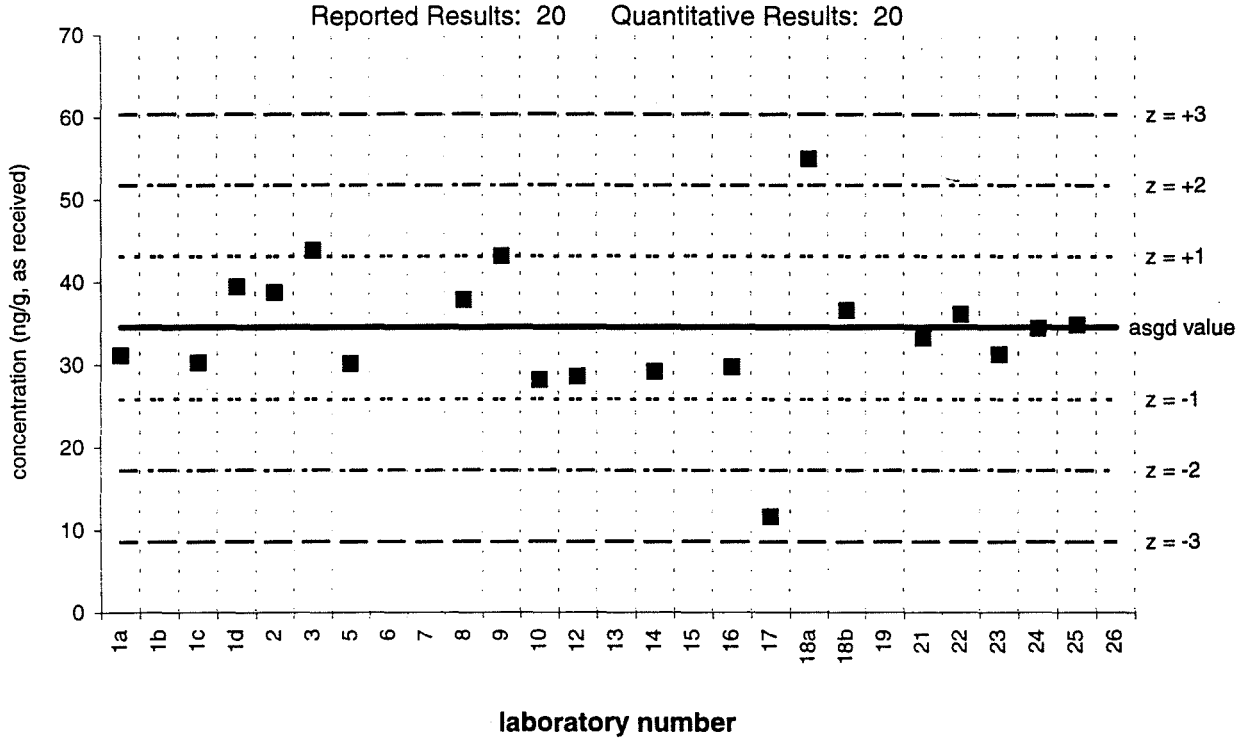

fluorene
Tissue VIII (QA97TIS8)
Assigned value = 10.1 ng/g s = 2.3 ng/g 95% CL = 1.4 ng/g (as rcvd)
Reported Results: 19 Quantitative Results: 15
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


fluorene
SRM 1974a
Noncertified Value = 5.72 ± 0.91 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 12
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

phenanthrene **Tissue VIII (QA97TIS8)**

Assigned value = 34.5 ng/g s = 8.5 ng/g 95% CL = 4.1 ng/g (as rcvd)

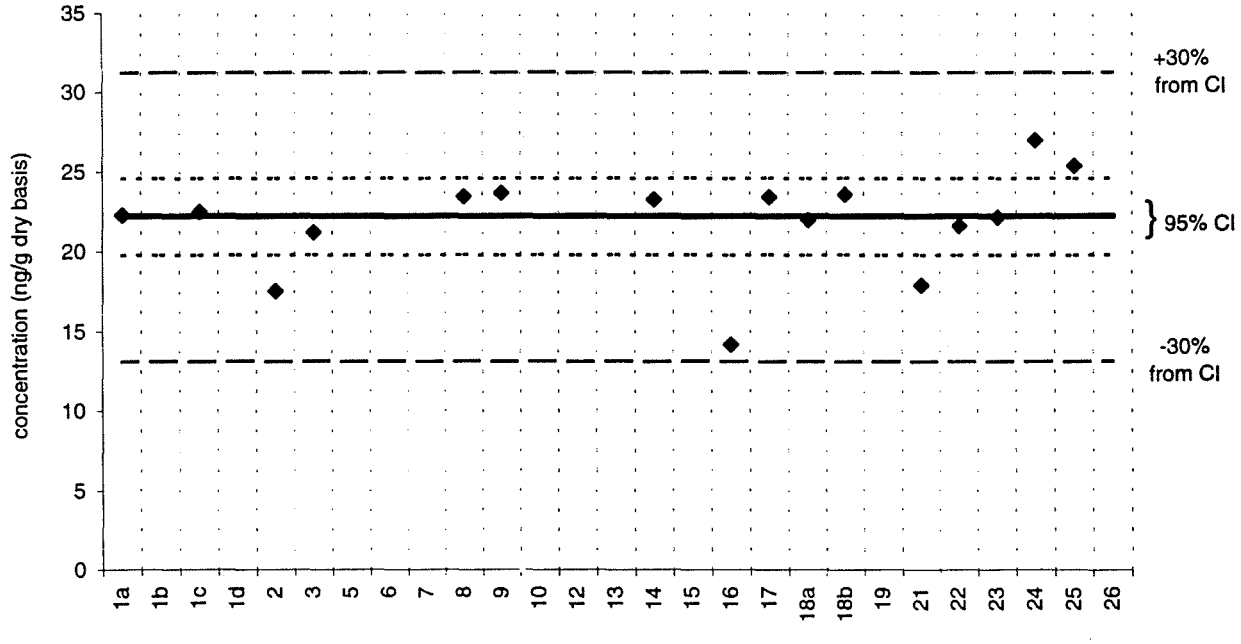
Reported Results: 20 Quantitative Results: 20

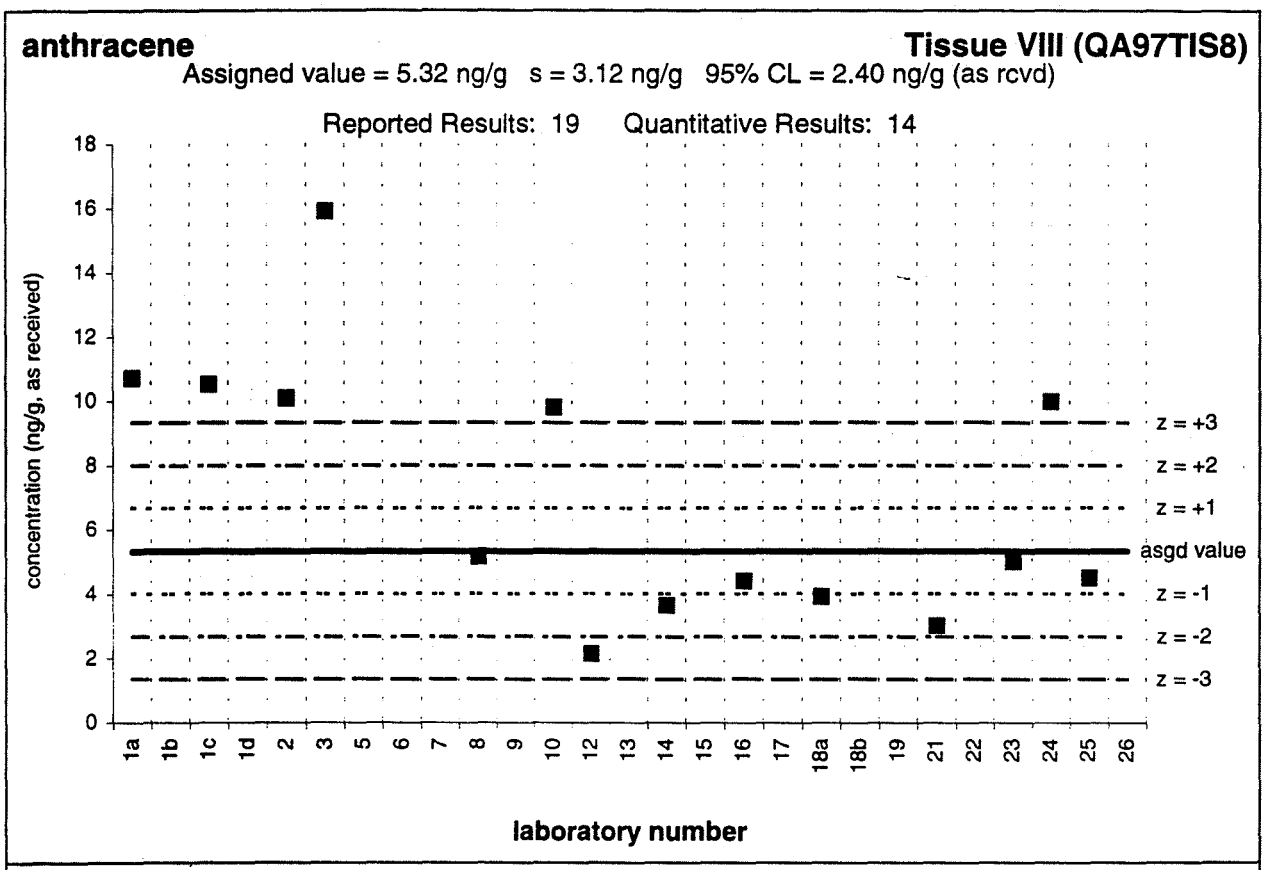


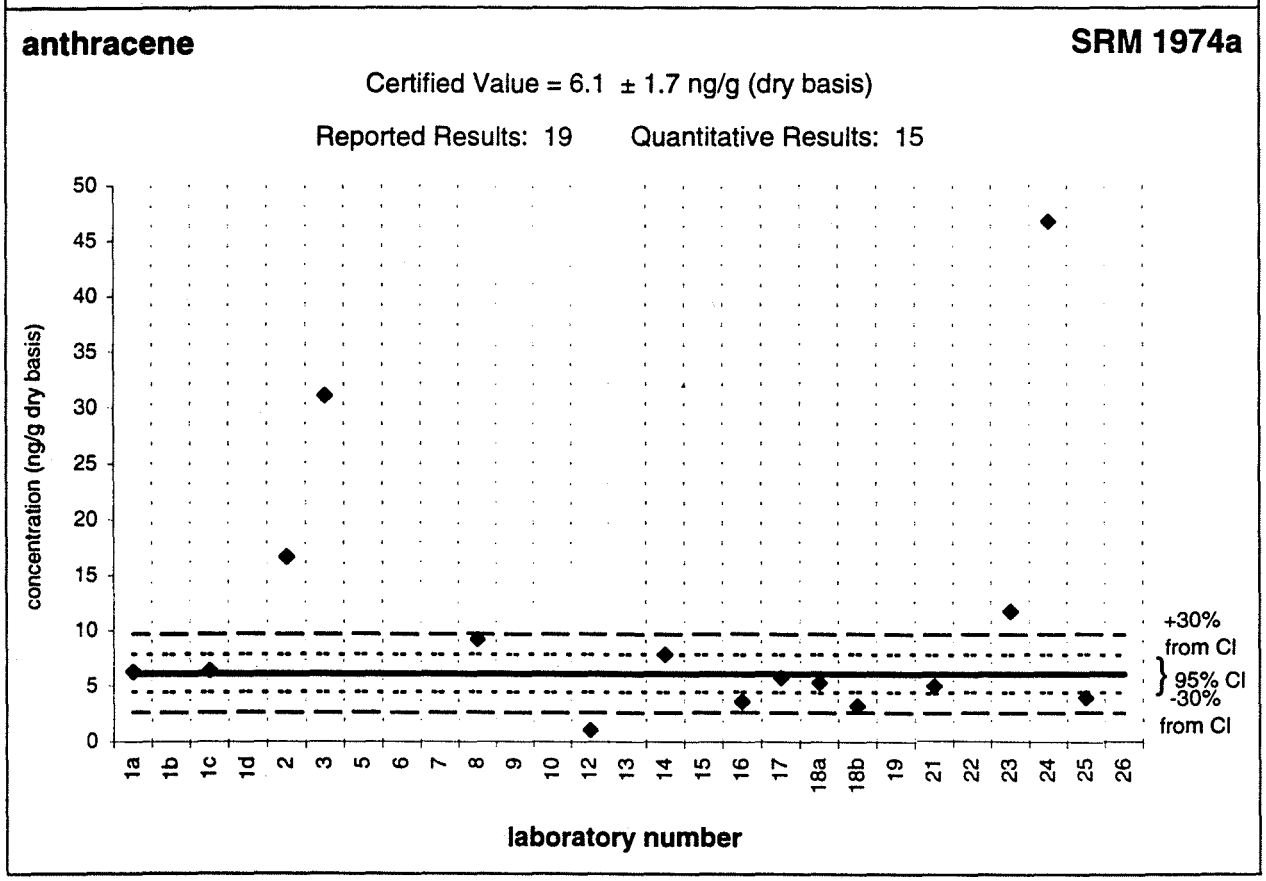
phenanthrene **SRM 1974a**

Certified Value = 22.2 ± 2.4 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 16



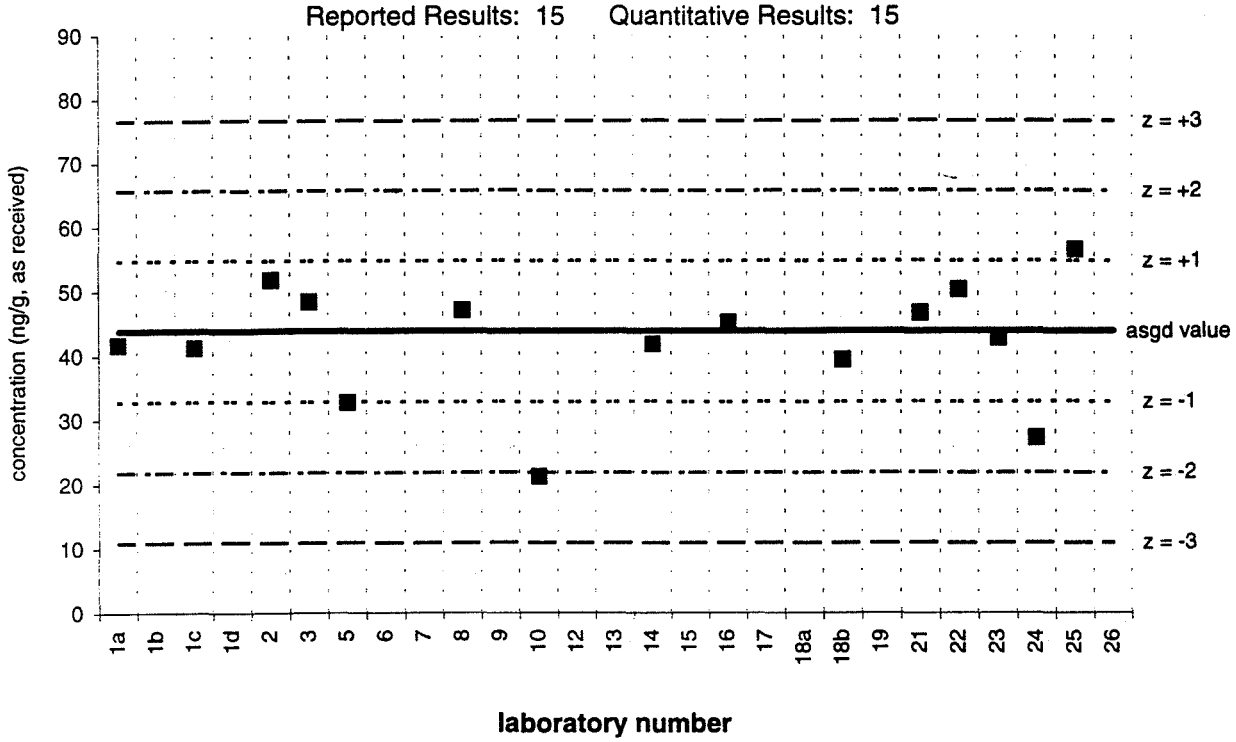

anthracene
Tissue VIII (QA97TIS8)
Assigned value = 5.32 ng/g s = 3.12 ng/g 95% CL = 2.40 ng/g (as rcvd)
Reported Results: 19 Quantitative Results: 14
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


anthracene
SRM 1974a
Certified Value = 6.1 ± 1.7 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 15
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

1-methylphenanthrene — Tissue VIII (QA97TIS8)

Assigned value = 43.8 ng/g s = 7.6 ng/g 95% CL = 4.4 ng/g (as rcvd)

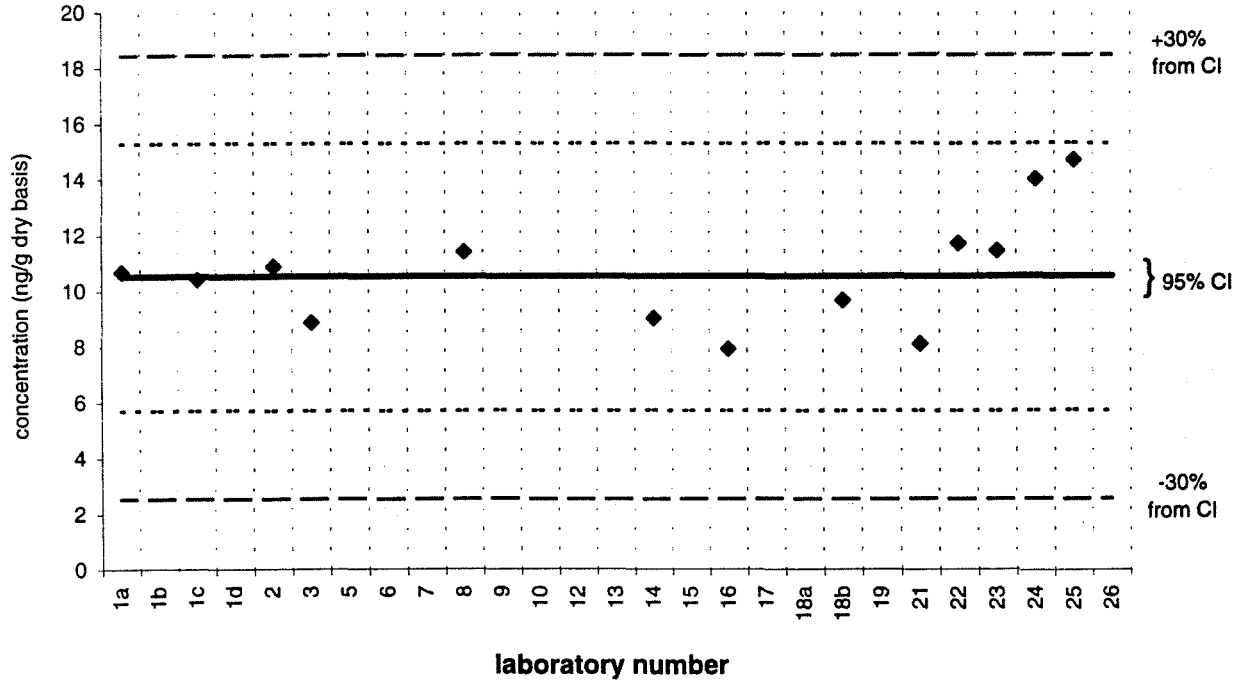
Reported Results: 15 Quantitative Results: 15



1-methylphenanthrene — SRM 1974a

Noncertified Value = 10.5 ± 4.8 ng/g (dry basis)

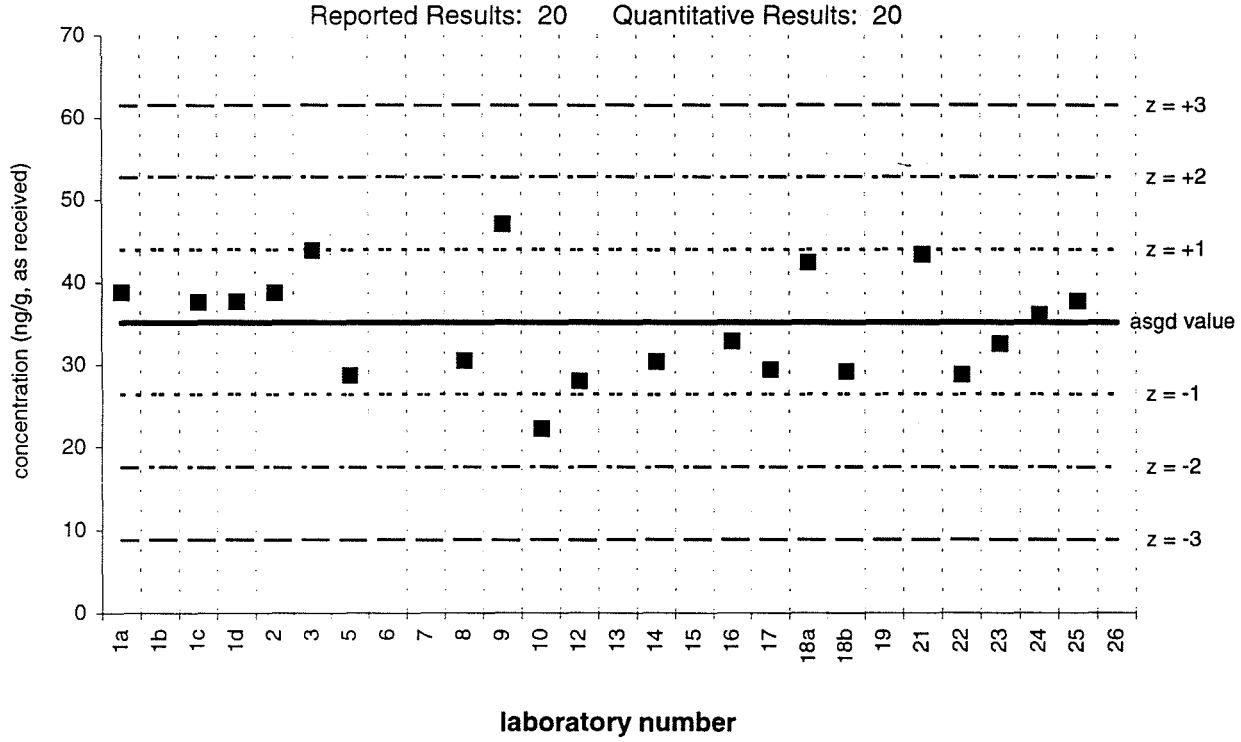
Reported Results: 15 Quantitative Results: 13



fluoranthene **Tissue VIII (QA97TIS8)**

Assigned value = 35.1 ng/g s = 5.3 ng/g 95% CL = 2.7 ng/g (as rcvd)

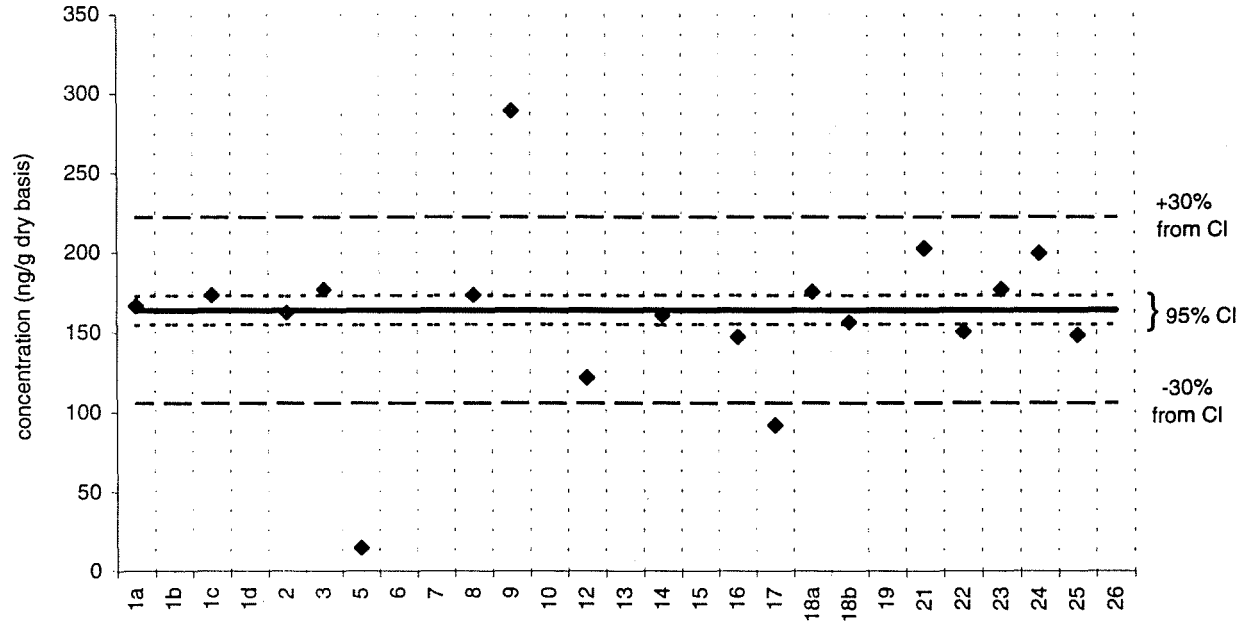
Reported Results: 20 Quantitative Results: 20

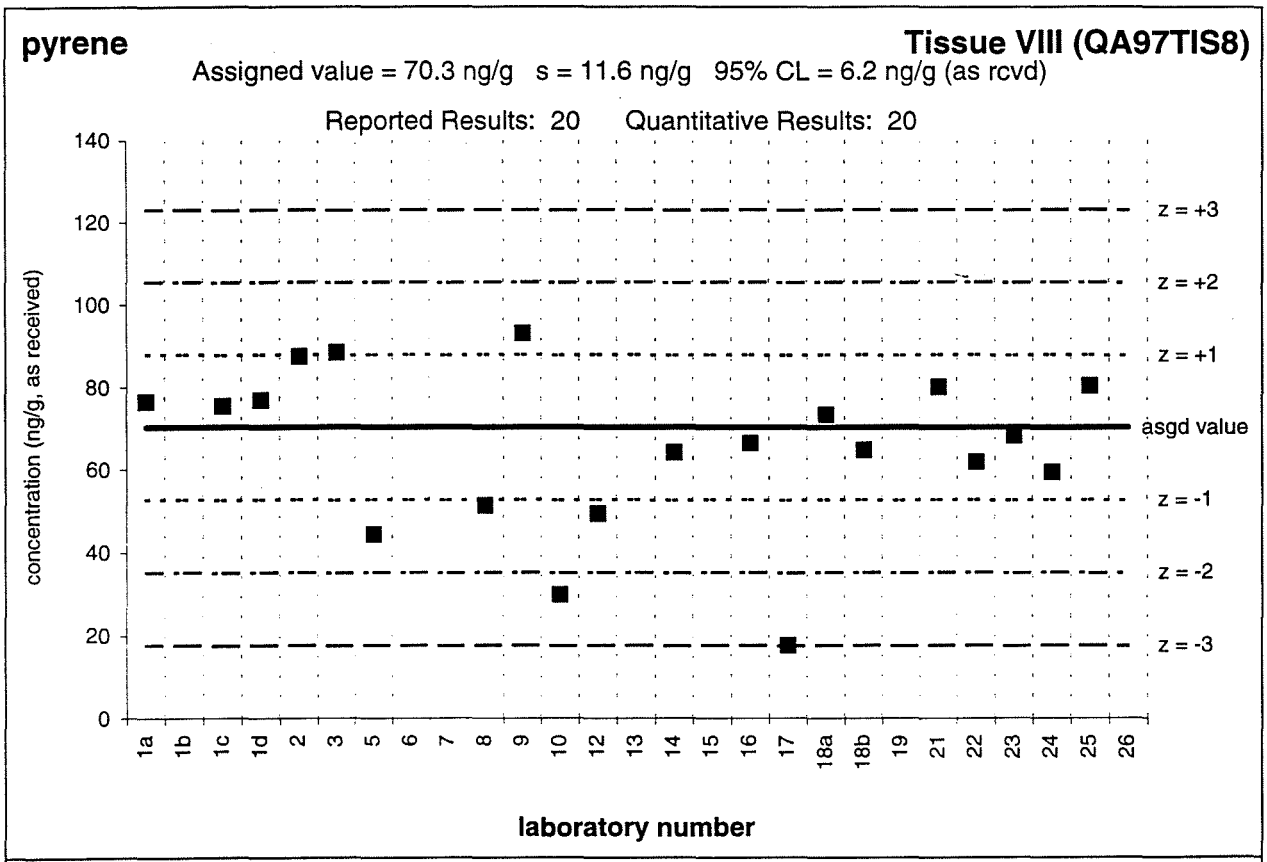


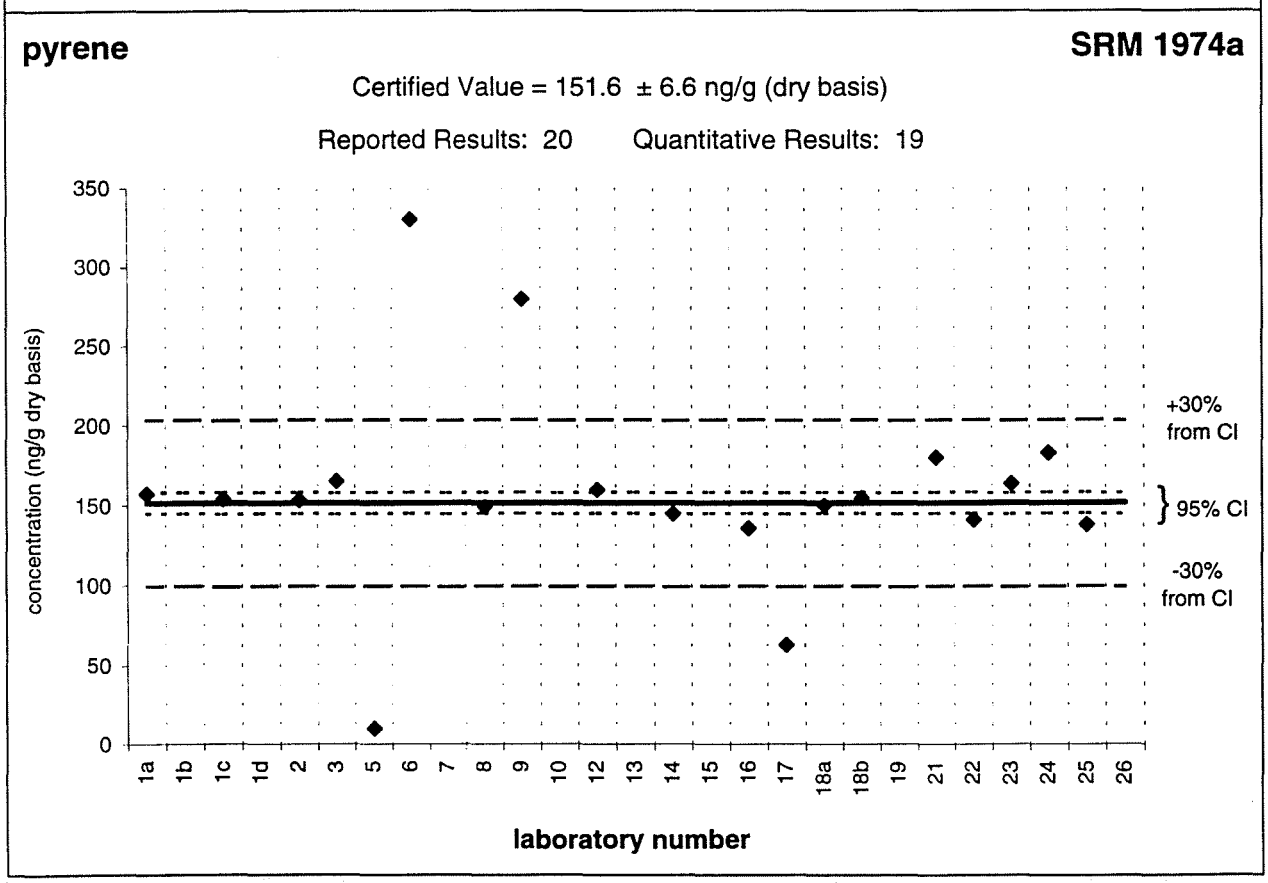
fluoranthene **SRM 1974a**

Certified Value = 163.7 ± 9.1 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 18



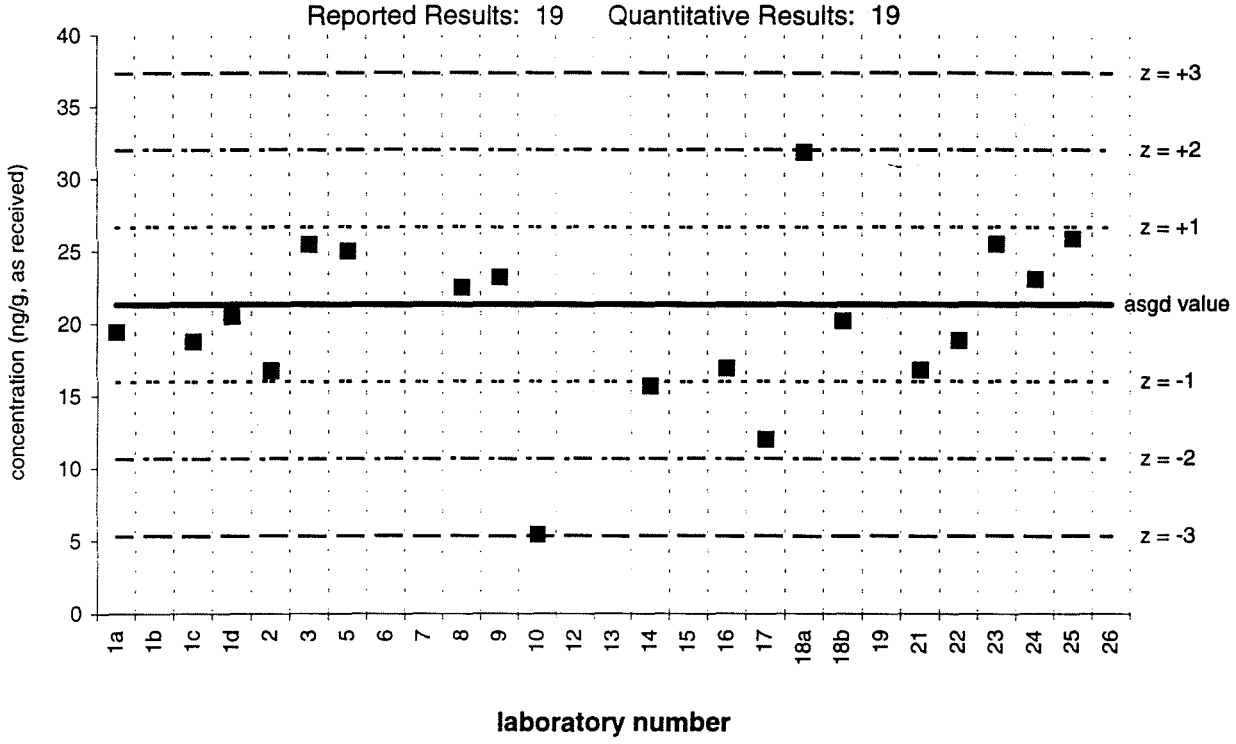

pyrene
Tissue VIII (QA97TIS8)
Assigned value = 70.3 ng/g s = 11.6 ng/g 95% CL = 6.2 ng/g (as rcvd)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g, as received)
140
120
100
80
60
40
20
0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


pyrene
SRM 1974a
Certified Value = 151.6 ± 6.6 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 19
concentration (ng/g dry basis)
350
300
250
200
150
100
50
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

benz[a]anthracene **Tissue VIII (QA97TIS8)**

Assigned value = 21.3 ng/g s = 4.6 ng/g 95% CL = 2.5 ng/g (as rcvd)

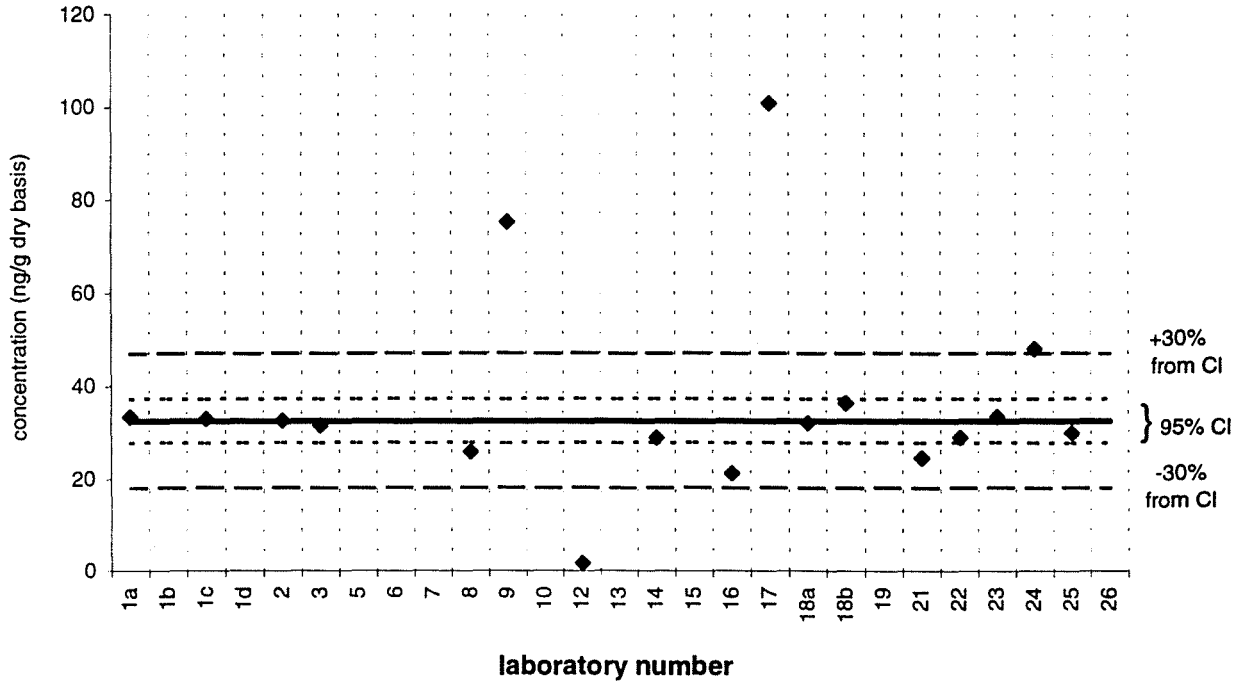
Reported Results: 19 Quantitative Results: 19

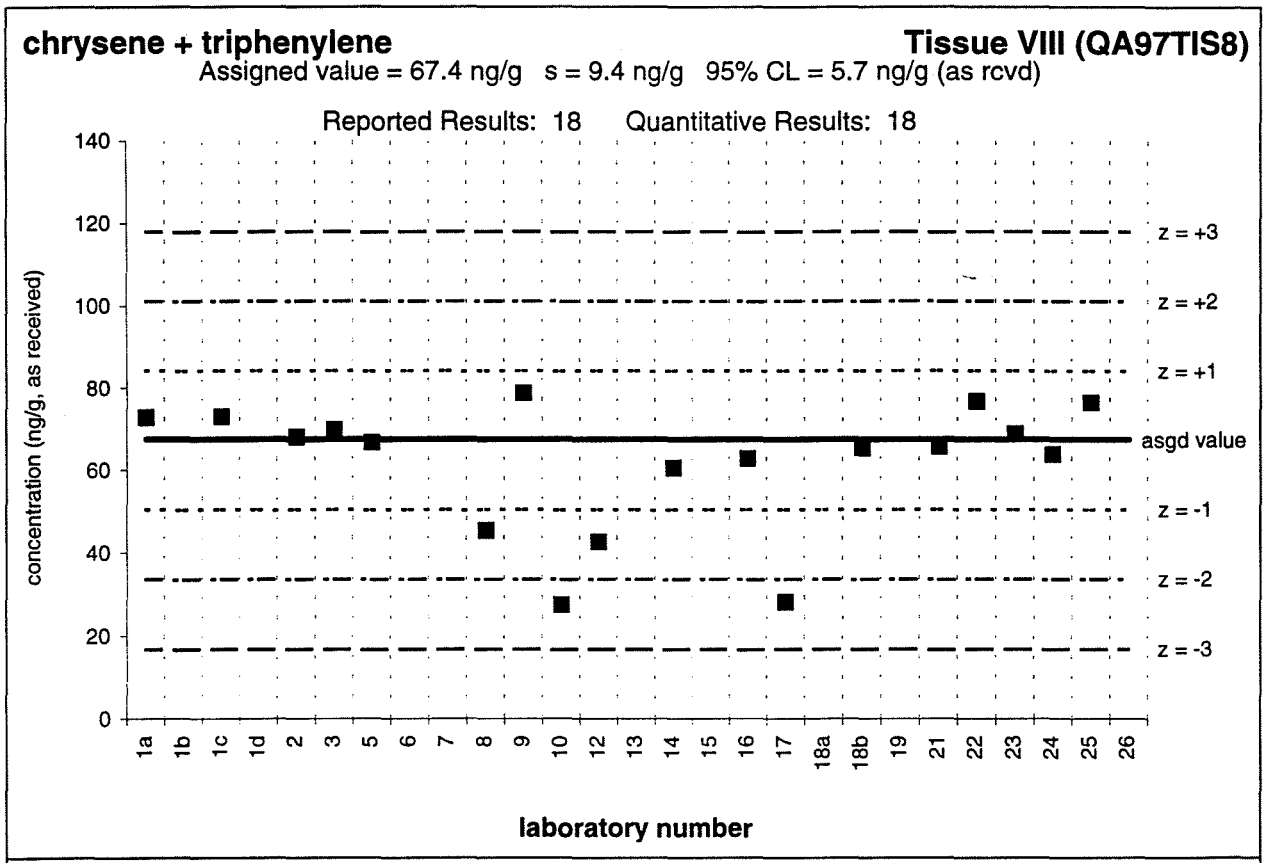


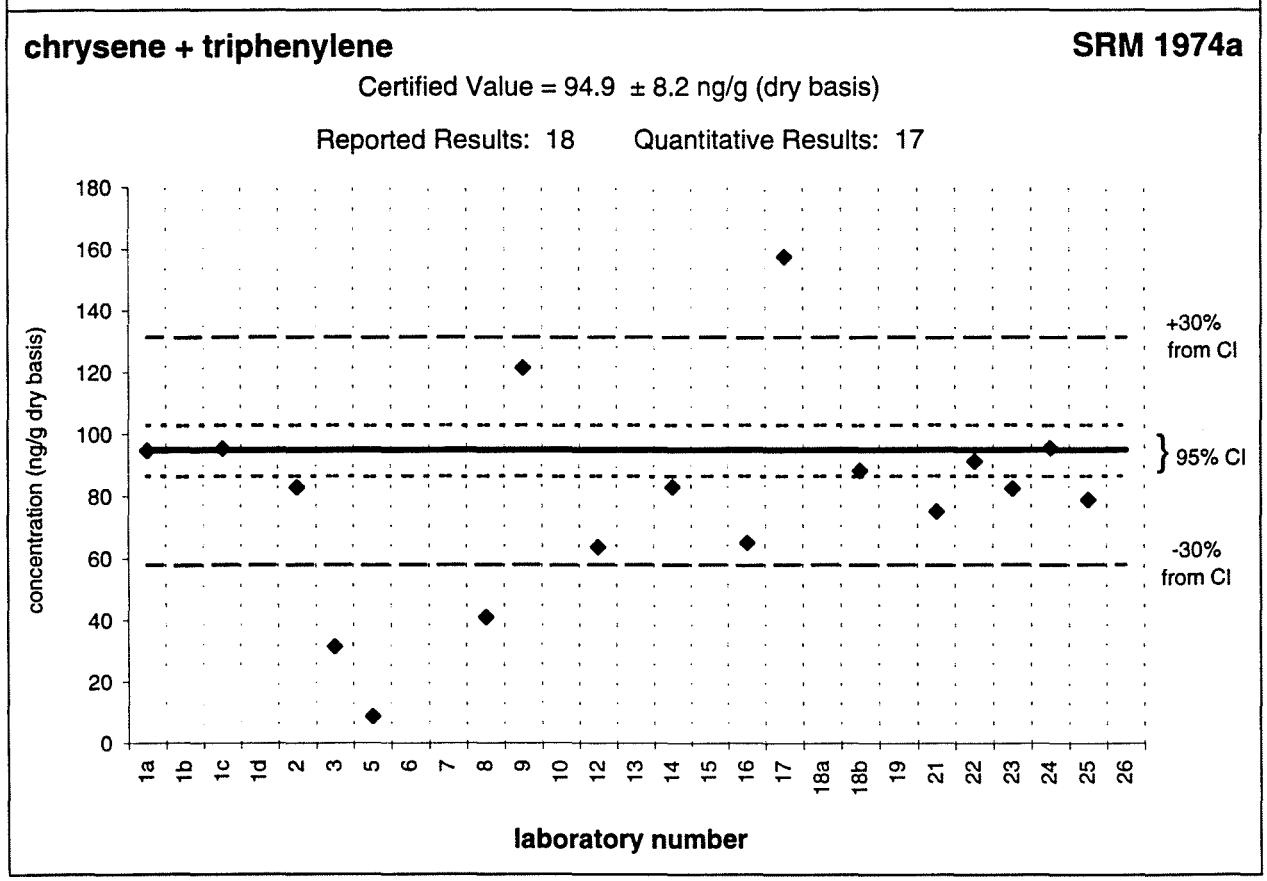
benz[a]anthracene **SRM 1974a**

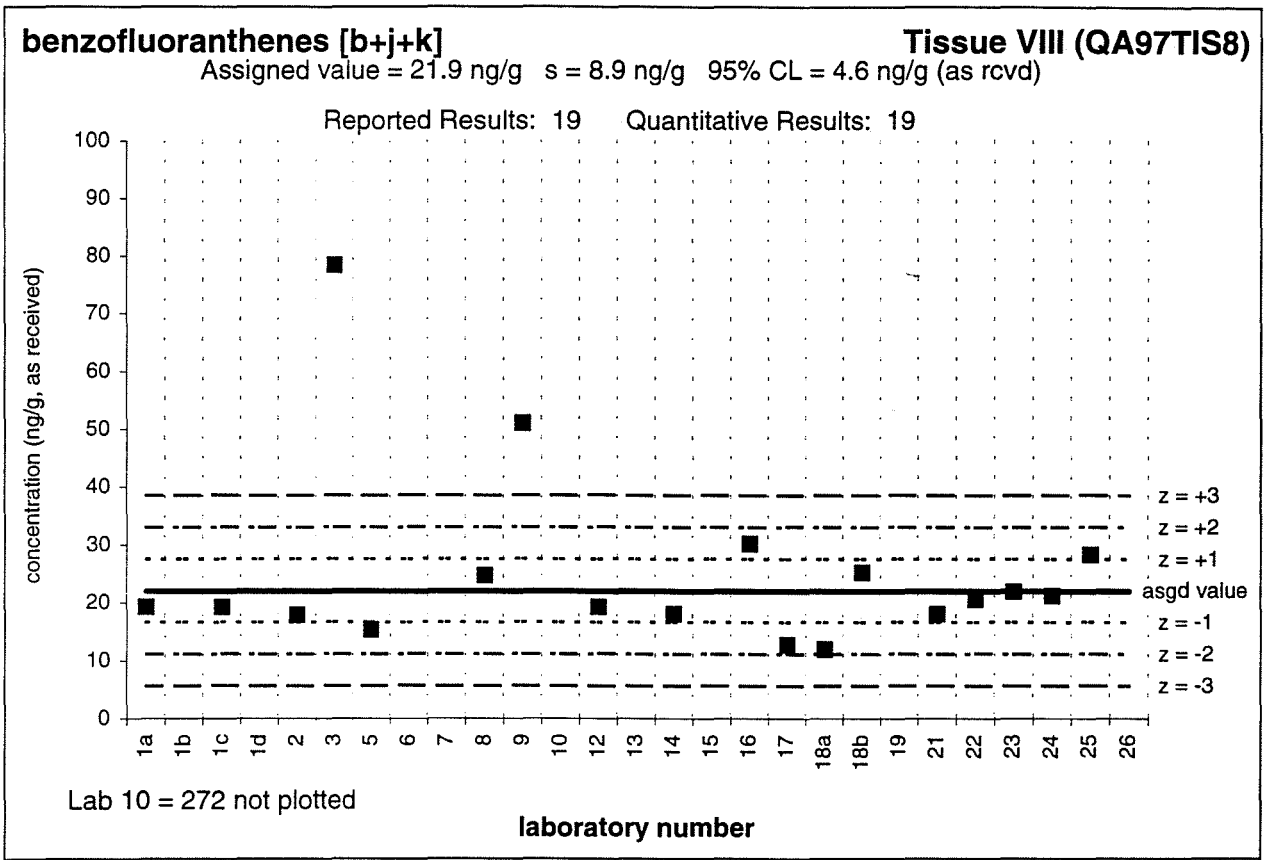
Certified Value = 32.5 ± 4.7 ng/g (dry basis)

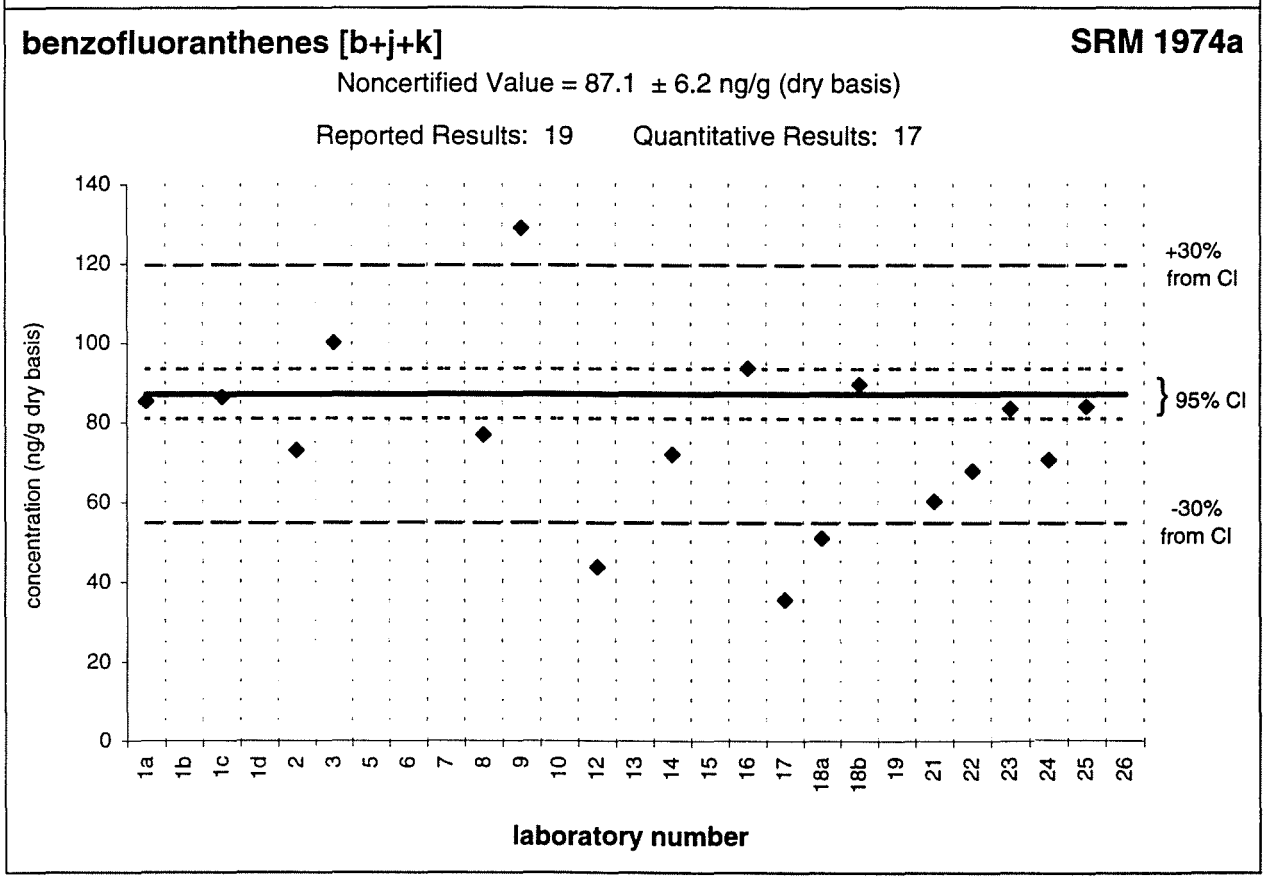
Reported Results: 19 Quantitative Results: 17

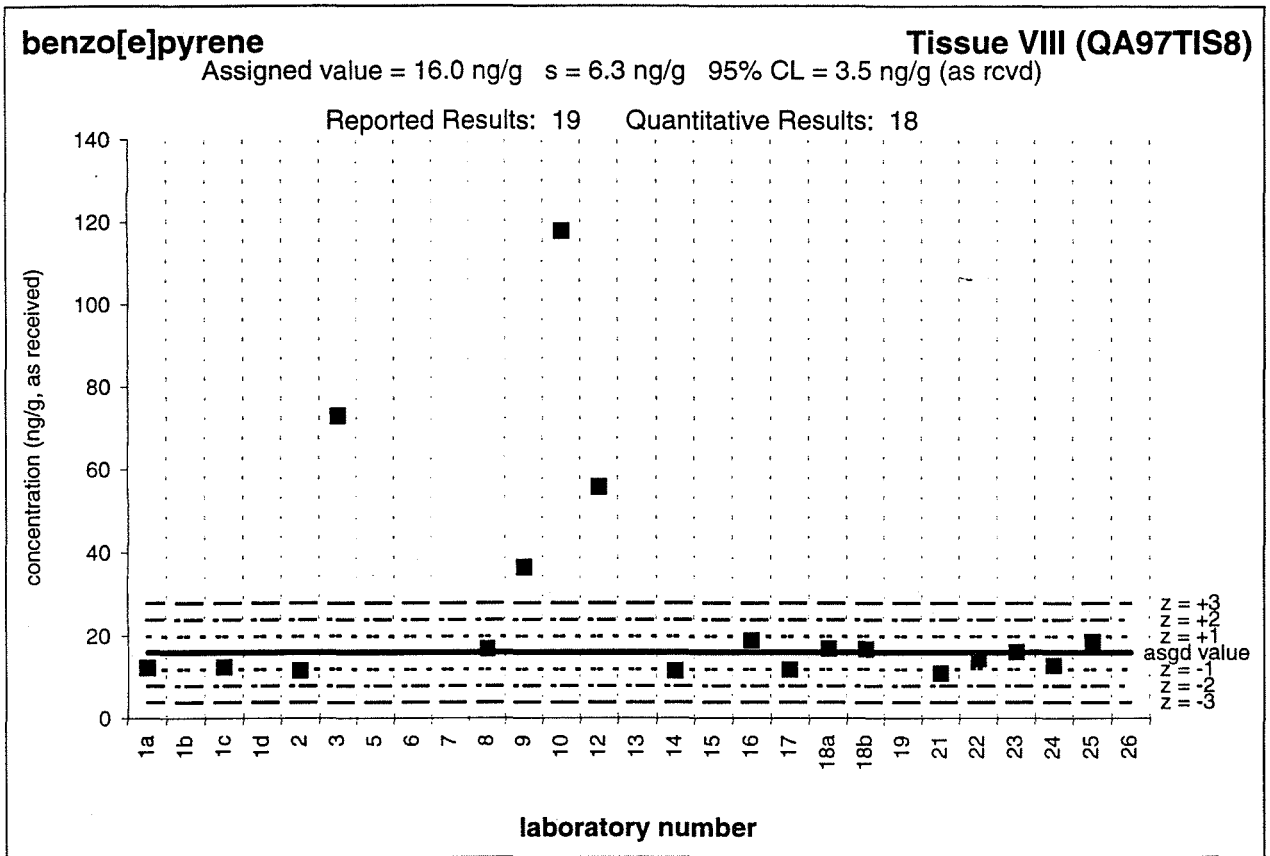


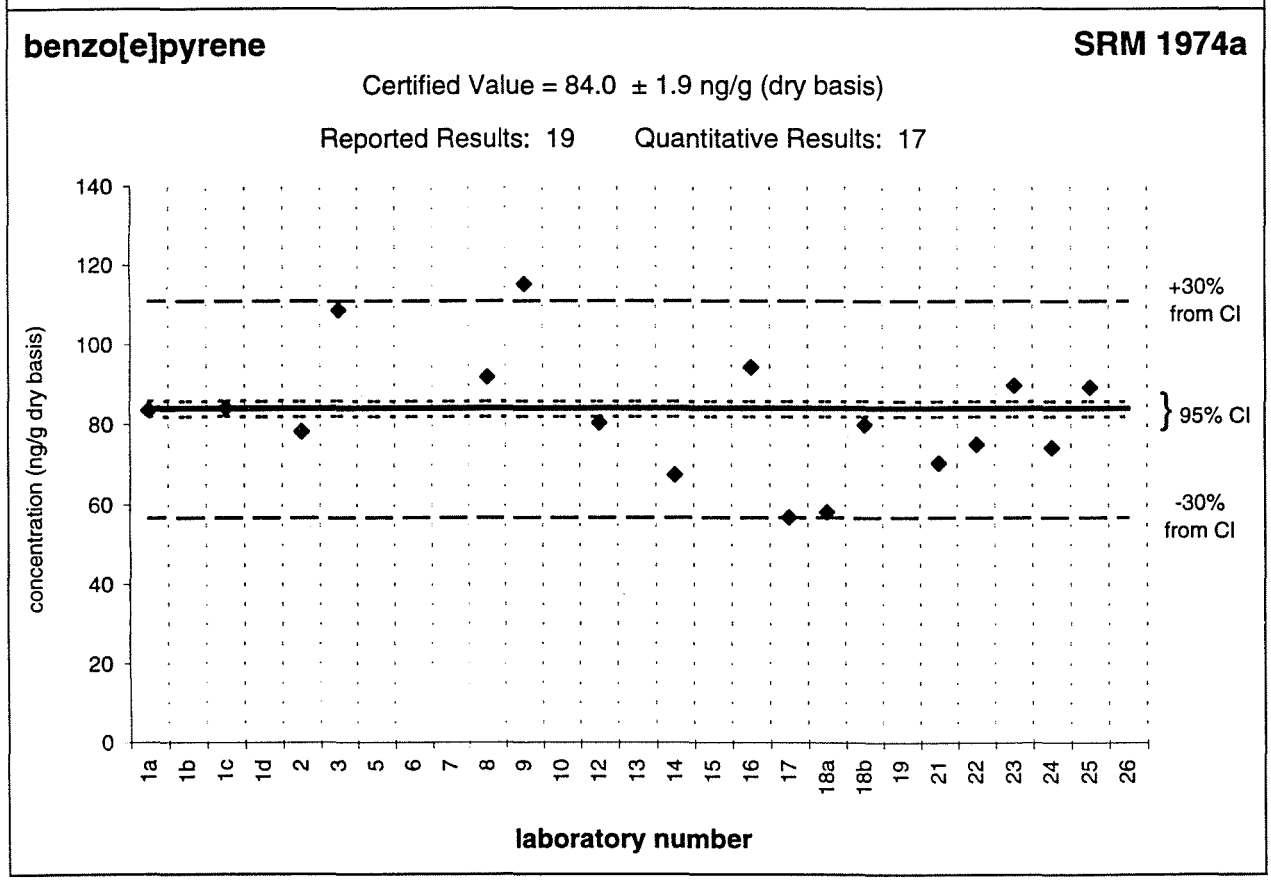

chrysene + triphenylene
Tissue VIII (QA97TIS8)
Assigned value = 67.4 ng/g s = 9.4 ng/g 95% CL = 5.7 ng/g (as rcvd)
Reported Results: 18 Quantitative Results: 18
concentration (ng/g, as received)
140
120
100
80
60
40
20
0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


chrysene + triphenylene
SRM 1974a
Certified Value = 94.9 ± 8.2 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 17
concentration (ng/g dry basis)
180
160
140
120
100
80
60
40
20
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


benzofluoranthenes [b+j+k]
Tissue VIII (QA97TIS8)
Assigned value = 21.9 ng/g s = 8.9 ng/g 95% CL = 4.6 ng/g (as rcvd)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
Lab 10 = 272 not plotted
laboratory number


benzofluoranthenes [b+j+k]
SRM 1974a
Noncertified Value = 87.1 ± 6.2 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 17
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

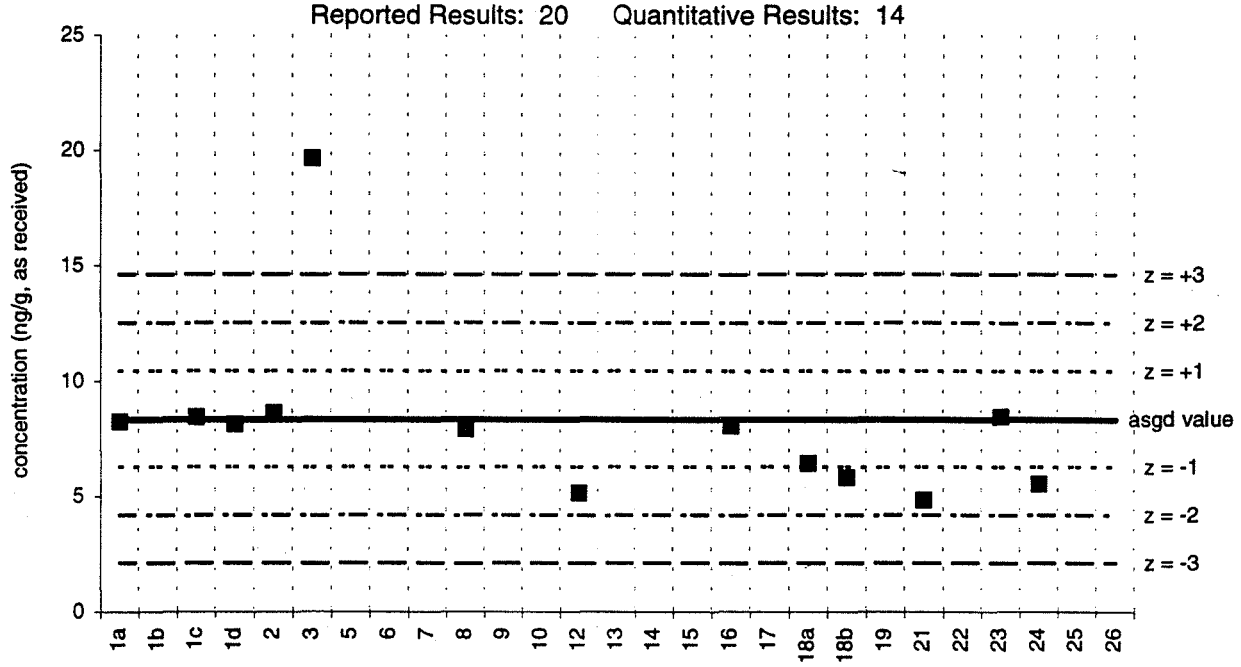

benzo[e]pyrene
Tissue VIII (QA97TIS8)
Assigned value = 16.0 ng/g s = 6.3 ng/g 95% CL = 3.5 ng/g (as rcvd)
Reported Results: 19 Quantitative Results: 18
concentration (ng/g, as received)
140
120
100
80
60
40
20
0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


benzo[e]pyrene
SRM 1974a
Certified Value = 84.0 ± 1.9 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 17
concentration (ng/g dry basis)
140
120
100
80
60
40
20
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

benzo[a]pyrene **Tissue VIII (QA97TIS8)**

Assigned value = 8.34 ng/g s = 3.80 ng/g 95% CL = 2.41 ng/g (as rcvd)

Reported Results: 20 Quantitative Results: 14



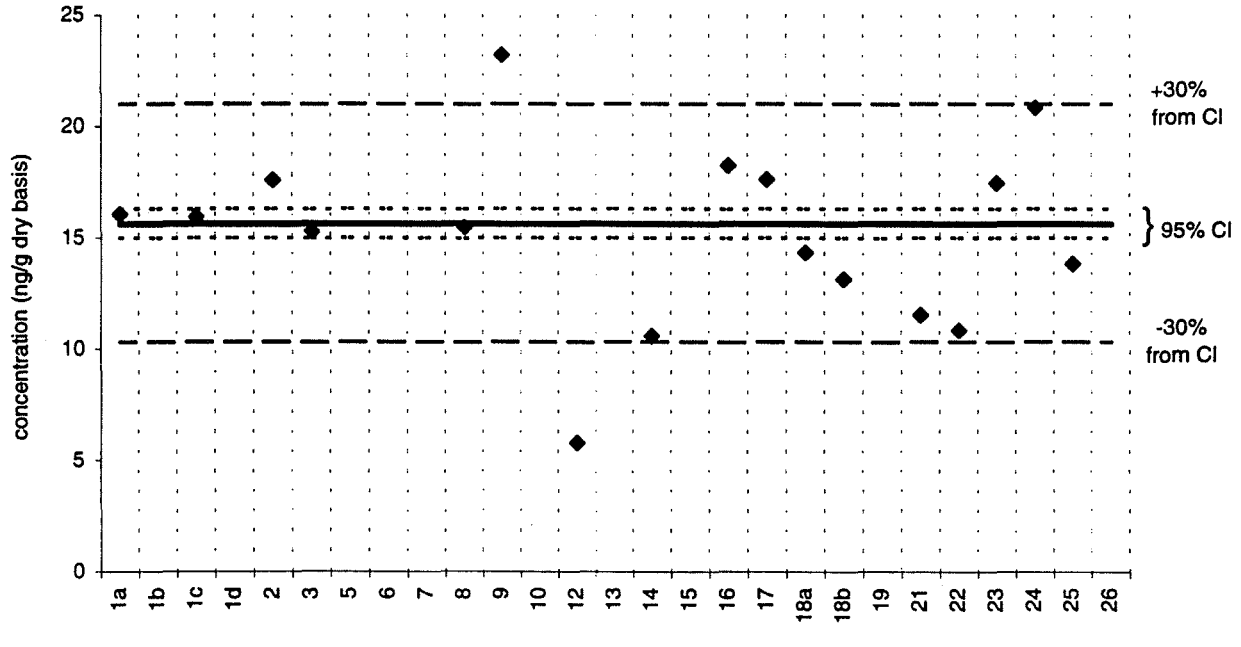
Lab 10 = 122 not plotted

laboratory number

benzo[a]pyrene **SRM 1974a**

Certified Value = 15.63 ± 0.65 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 17

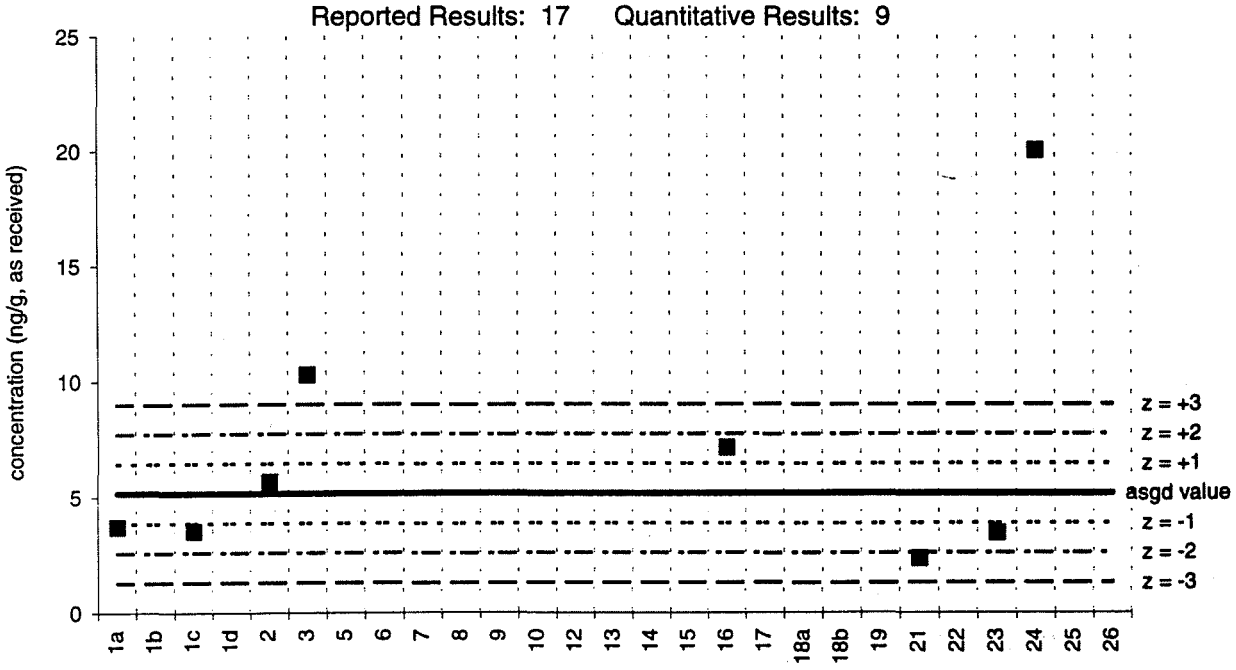


laboratory number

perylene **Tissue VIII (QA97TIS8)**

Assigned value = 5.16 ng/g s = 2.78 ng/g 95% CL = 2.57 ng/g (as rcvd)

Reported Results: 17 Quantitative Results: 9



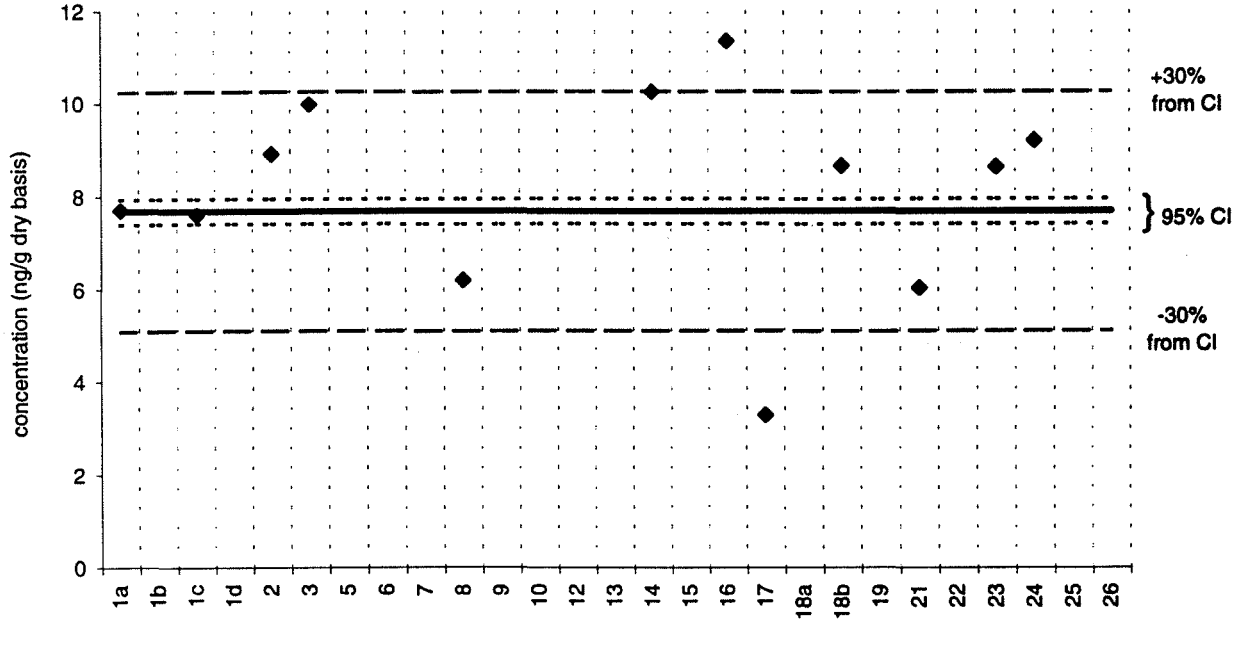
Lab 10 = 67.4 not plotted

laboratory number

perylene **SRM 1974a**

Certified Value = 7.68 ± 0.27 ng/g (dry basis)

Reported Results: 17 Quantitative Results: 12

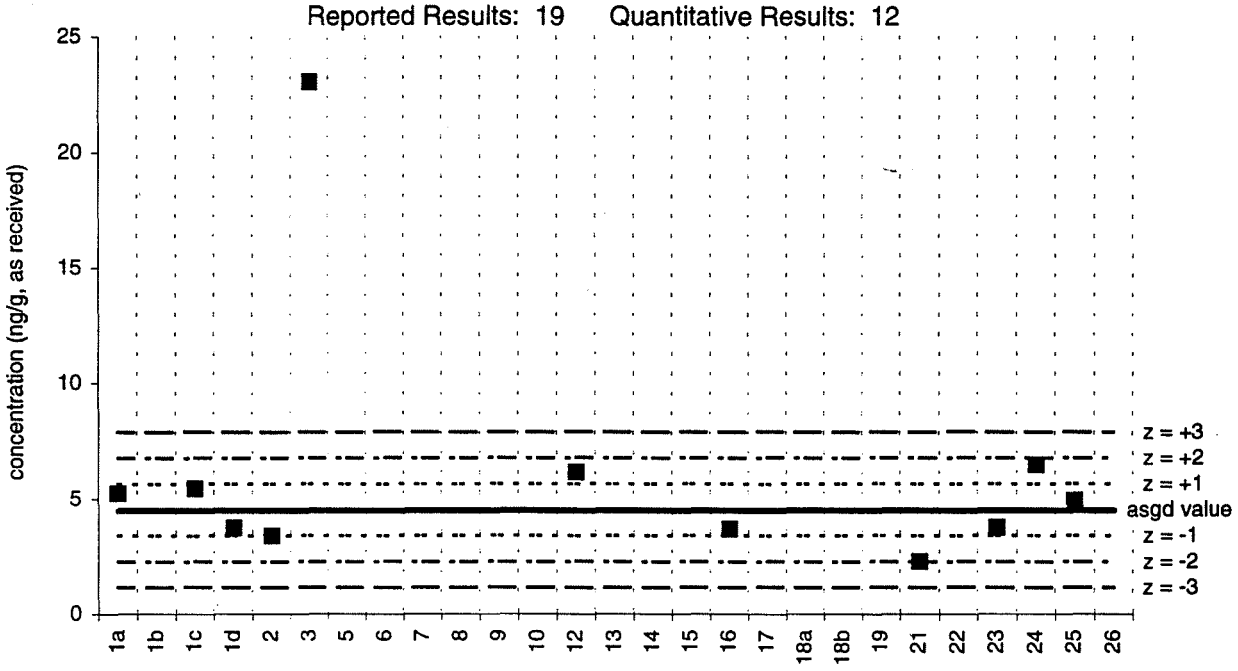


laboratory number

indeno[1,2,3-cd]pyrene **Tissue VIII (QA97TIS8)**

Assigned value = 4.50 ng/g s = 1.34 ng/g 95% CL = 0.96 ng/g (as rcvd)

Reported Results: 19 Quantitative Results: 12

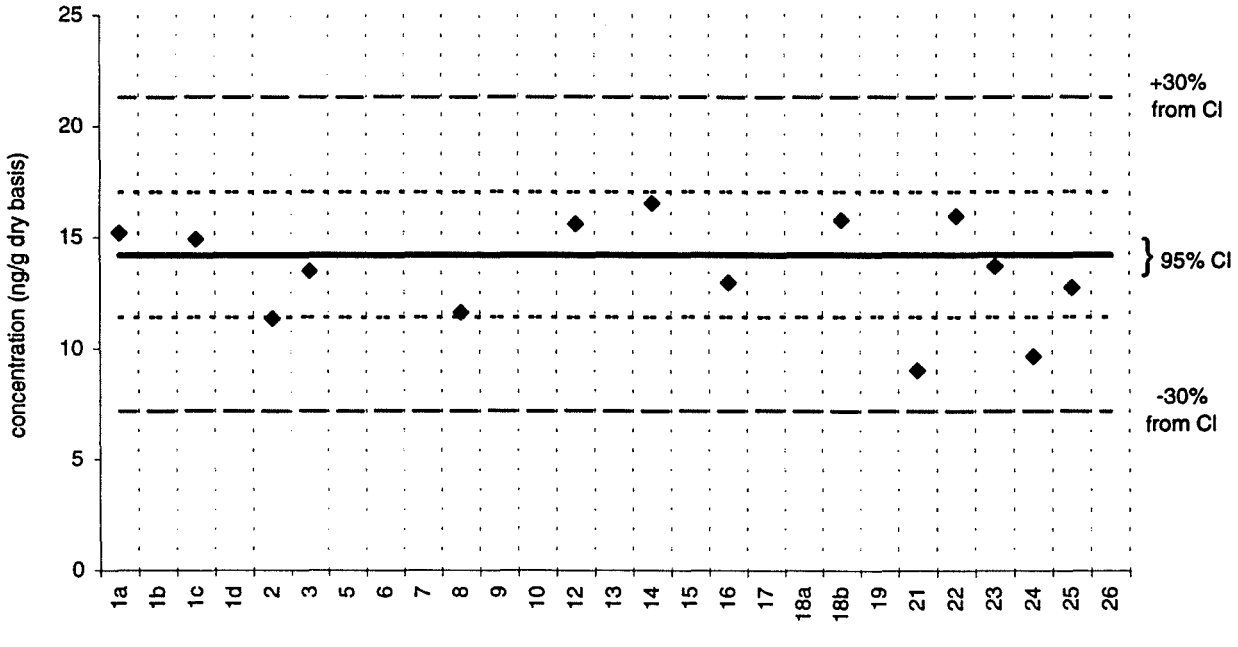


Lab 10 = 419 not plotted

indeno[1,2,3-cd]pyrene **SRM 1974a**

Certified Value = 14.2 ± 2.8 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 14

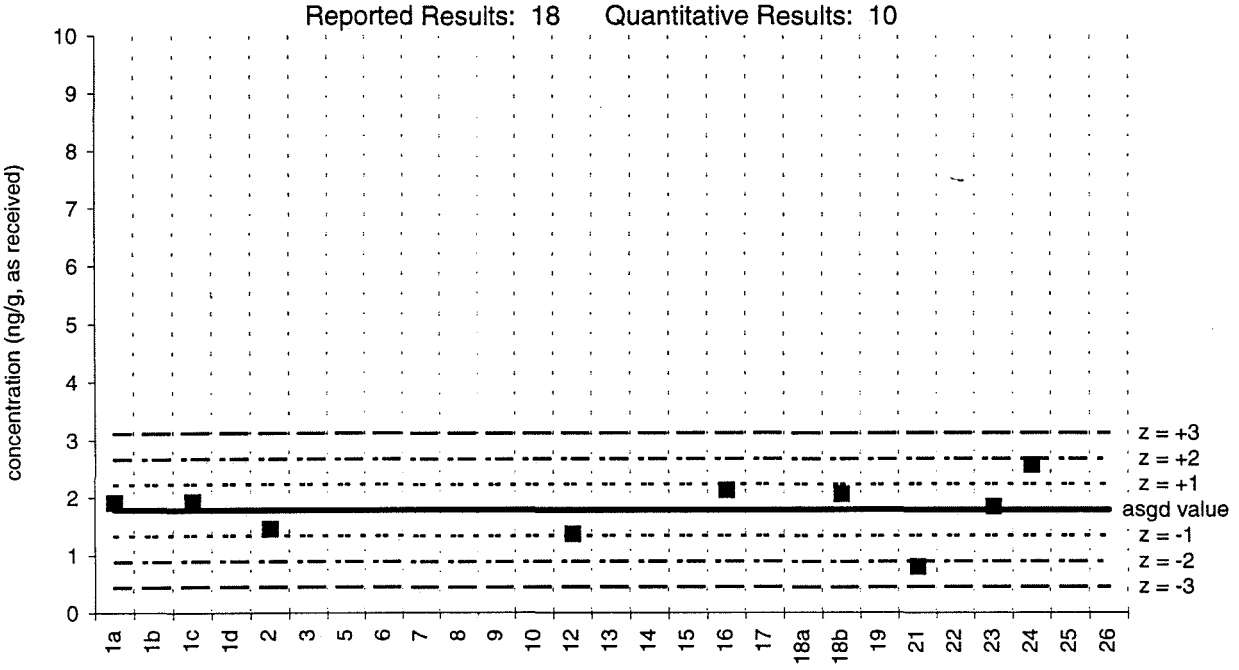


dibenz[a,h]anthracene + [a,c]

Tissue VIII (QA97TIS8)

Assigned value = 1.78 ng/g s = 0.51 ng/g 95% CL = 0.39 ng/g (as rcvd)

Reported Results: 18 Quantitative Results: 10



Lab 10 = 374 not plotted

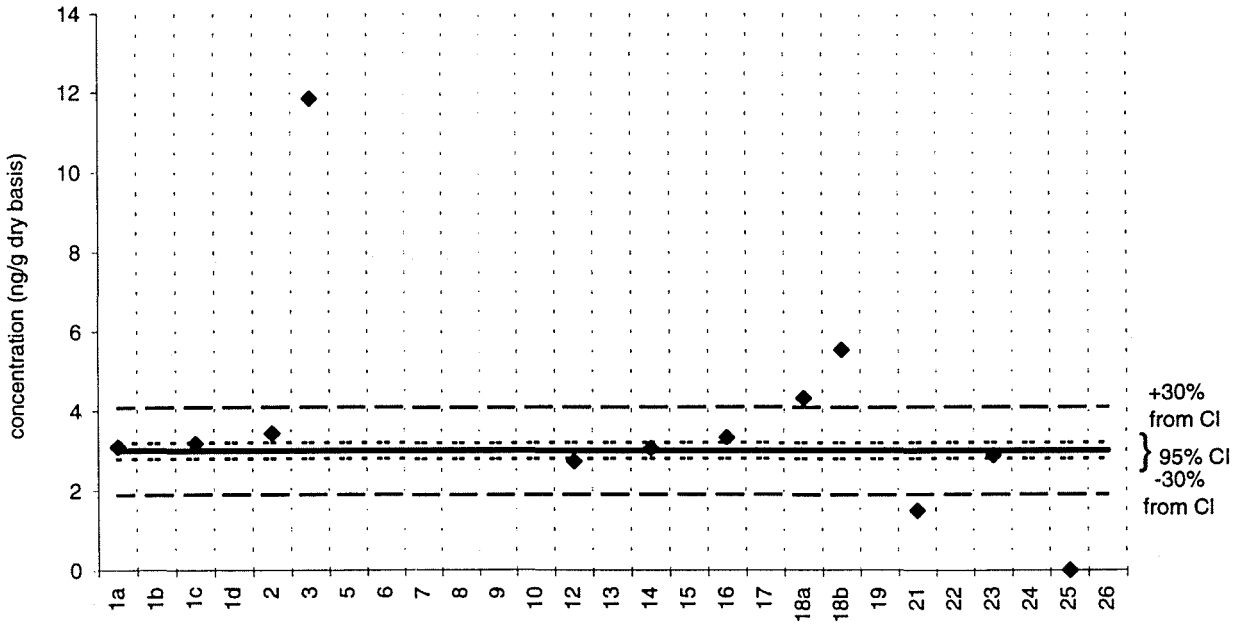
laboratory number

dibenz[a,h]anthracene + [a,c]

SRM 1974a

Noncertified Value = 3.00 ± 0.20 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 11

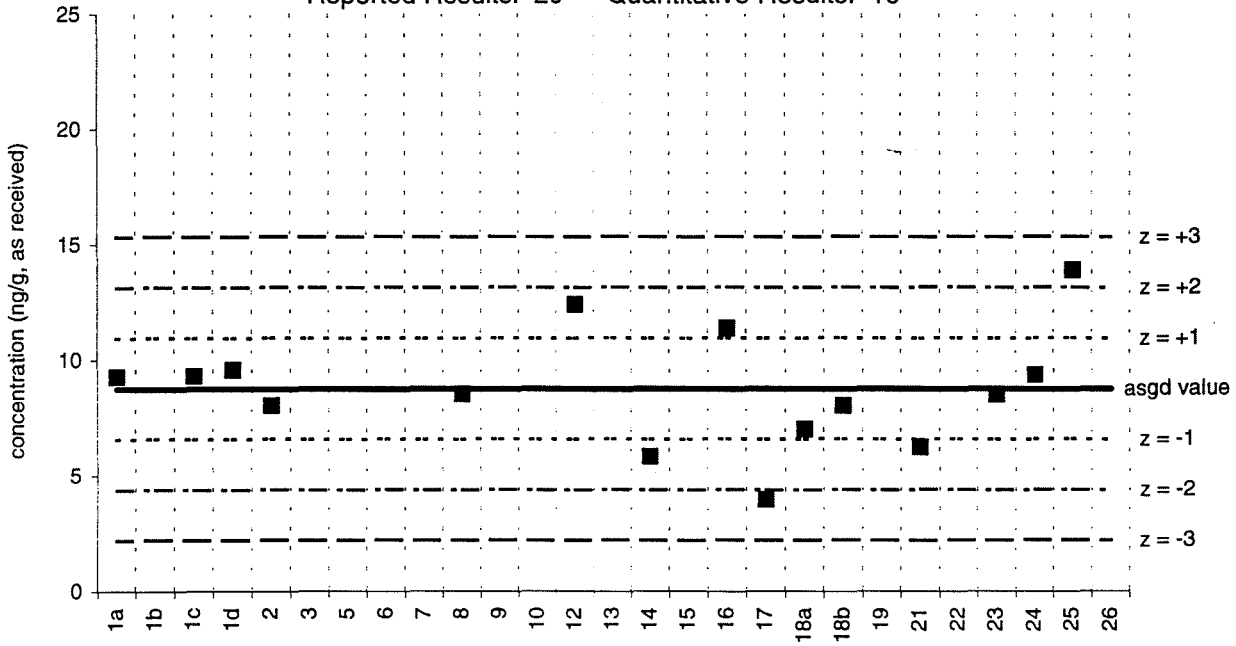


laboratory number

benzo[ghi]perylene **Tissue VIII (QA97TIS8)**

Assigned value = 8.75 ng/g s = 2.54 ng/g 95% CL = 1.41 ng/g (as rcvd)

Reported Results: 20 Quantitative Results: 16



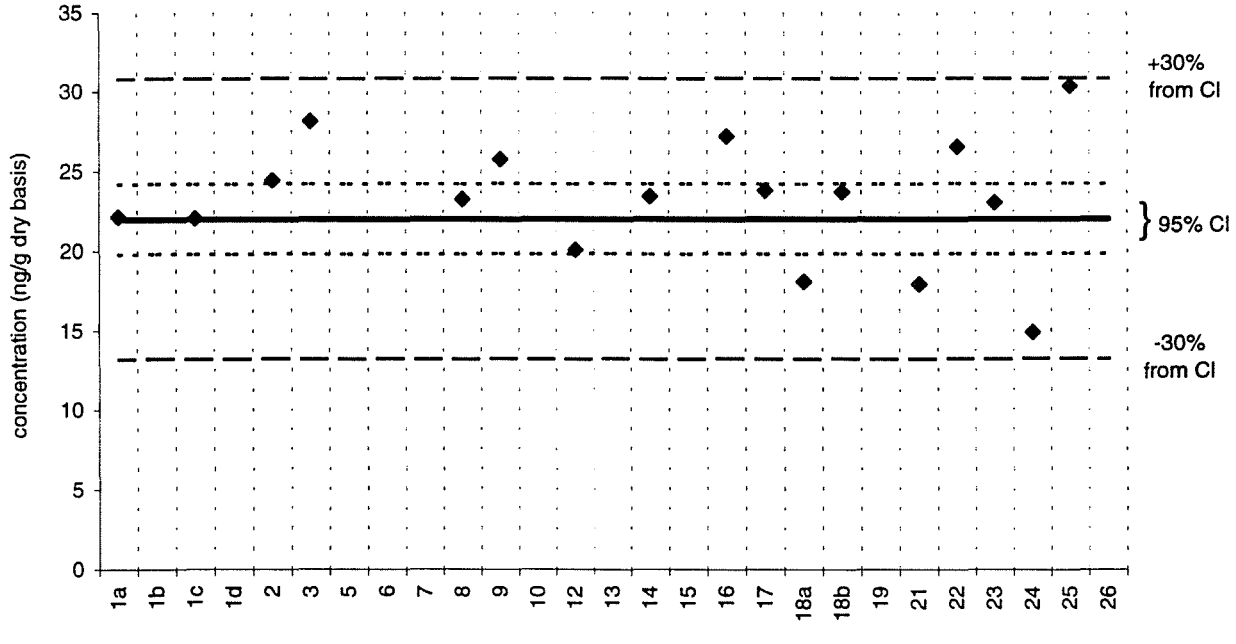
Lab 10 = 541 not plotted

laboratory number

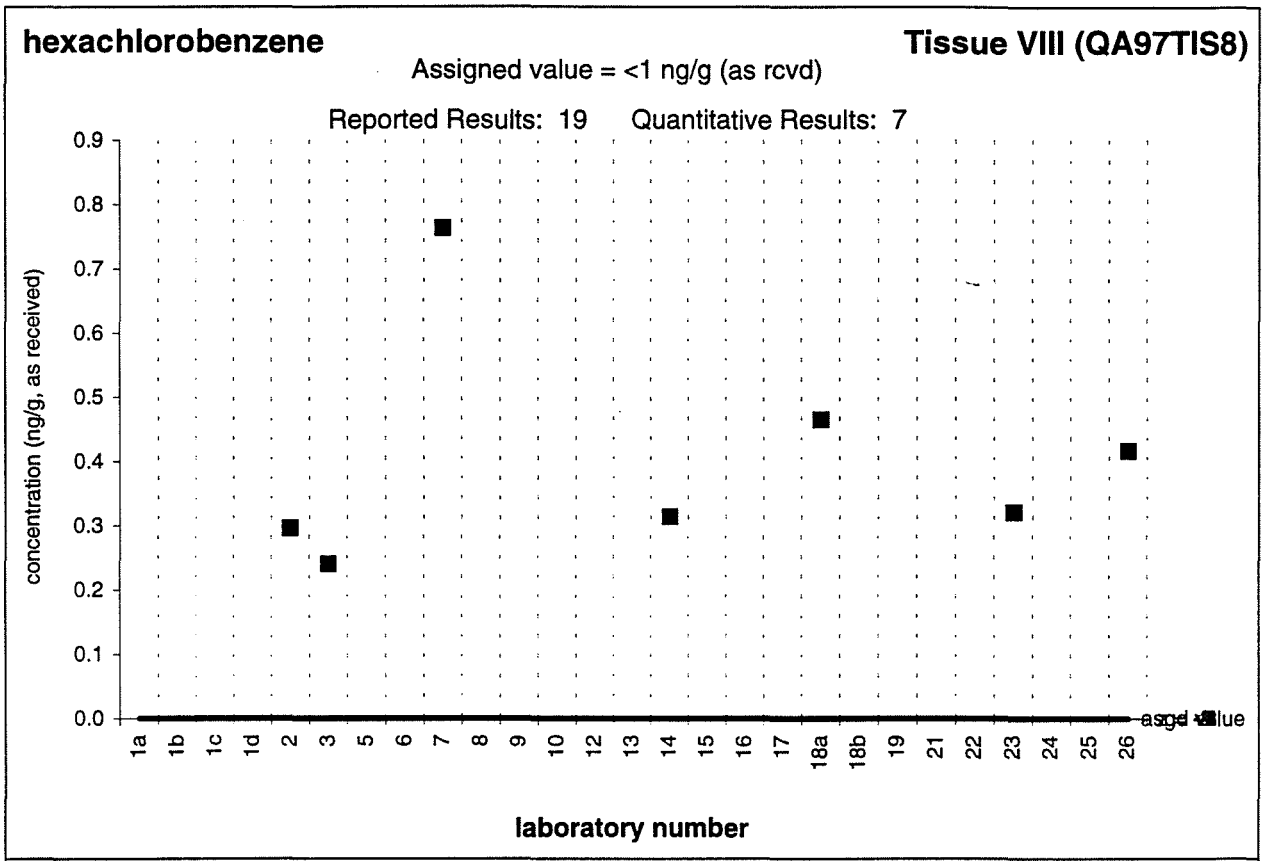
benzo[ghi]perylene **SRM 1974a**

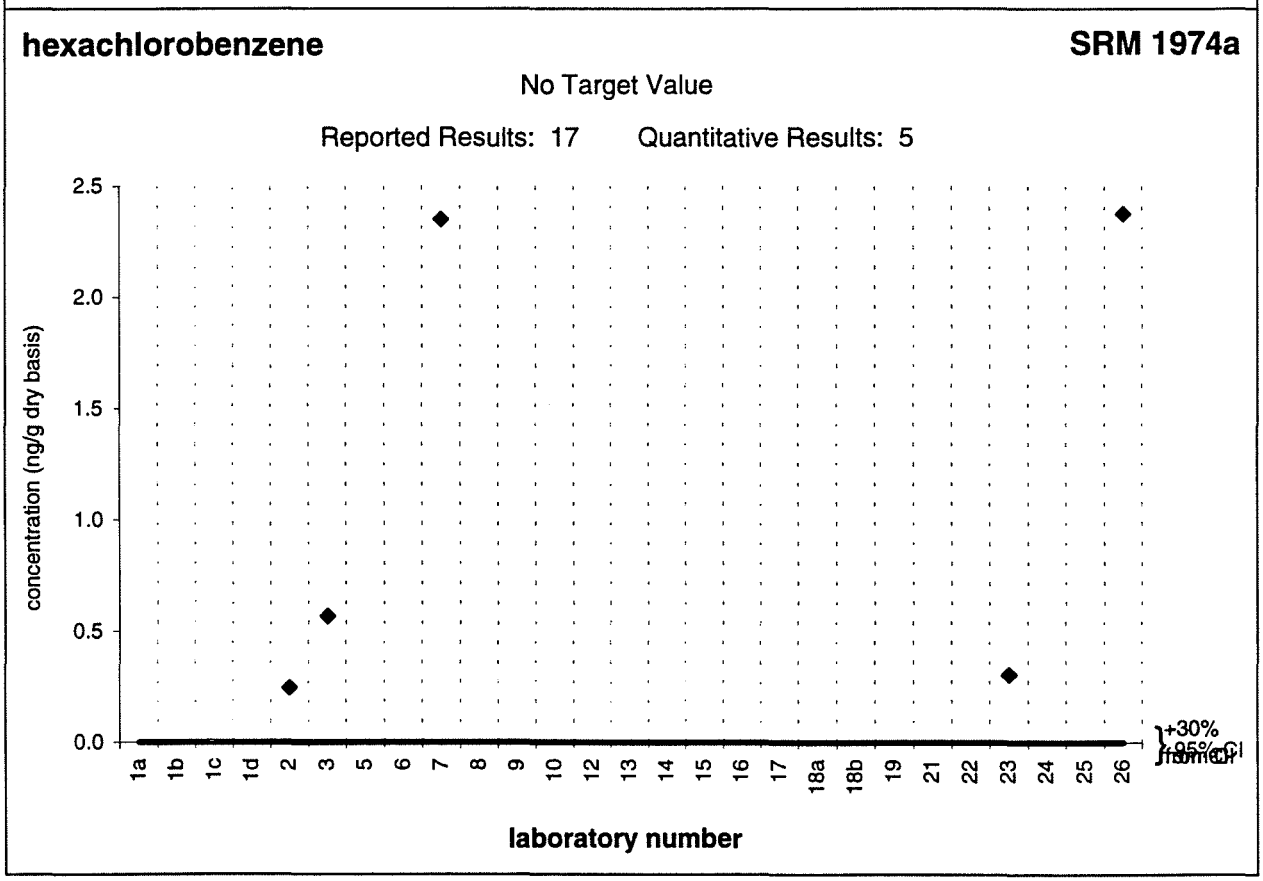
Certified Value = 22.0 ± 2.2 ng/g (dry basis)

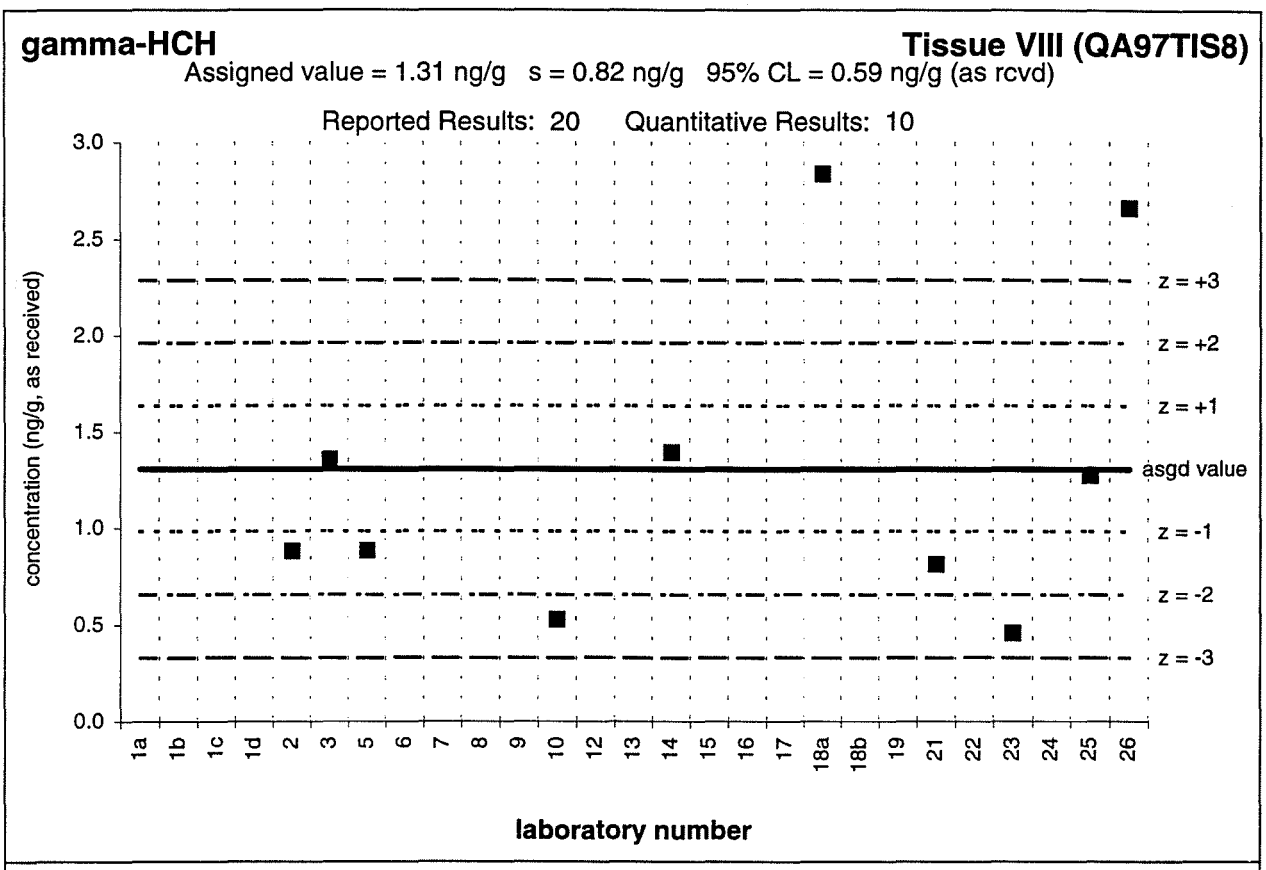
Reported Results: 19 Quantitative Results: 17

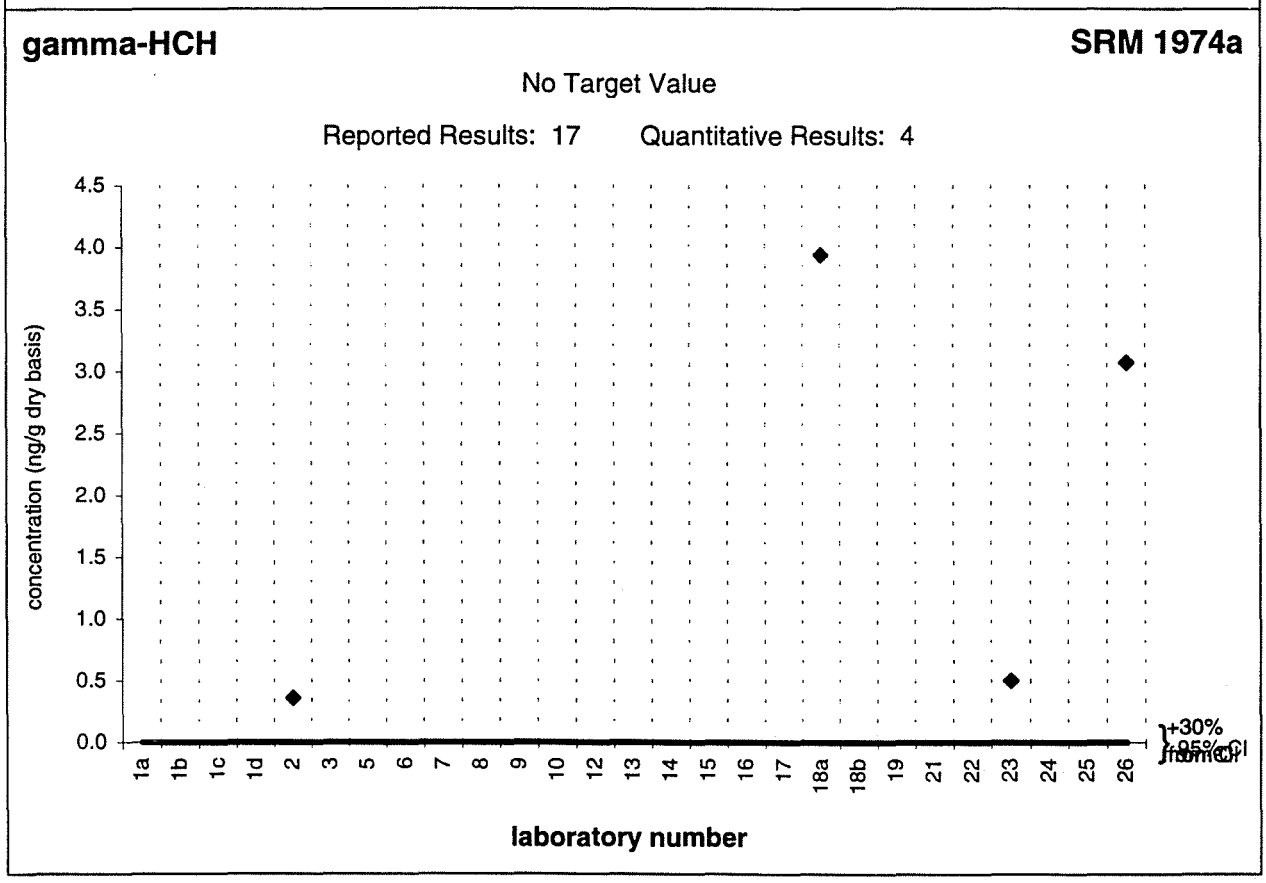


laboratory number


hexachlorobenzene
Tissue VIII (QA97TIS8)
Assigned value = <1 ng/g (as rcvd)
Reported Results: 19
Quantitative Results: 7
concentration (ng/g, as received)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


hexachlorobenzene
SRM 1974a
No Target Value
Reported Results: 17
Quantitative Results: 5
concentration (ng/g dry basis)
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
+30%
laboratory number

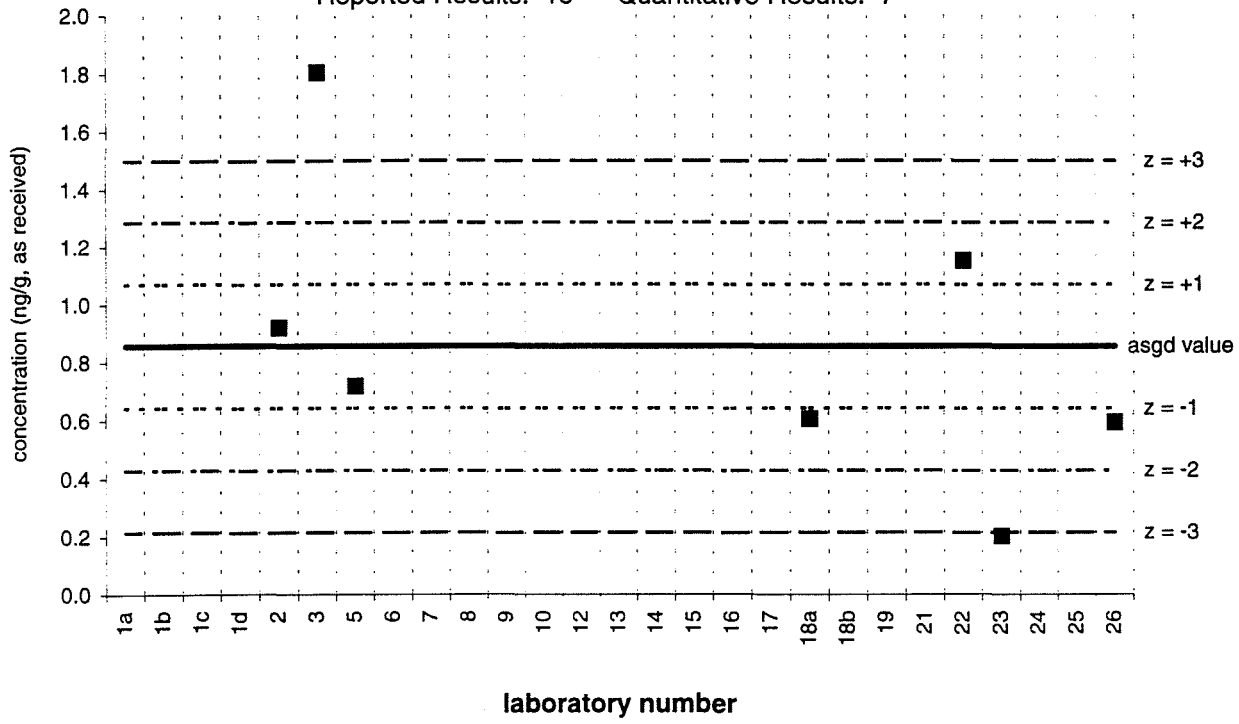

gamma-HCH
Tissue VIII (QA97TIS8)
Assigned value = 1.31 ng/g s = 0.82 ng/g 95% CL = 0.59 ng/g (as rcvd)
Reported Results: 20 Quantitative Results: 10
concentration (ng/g, as received)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


gamma-HCH
SRM 1974a
No Target Value
Reported Results: 17 Quantitative Results: 4
concentration (ng/g dry basis)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30%
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

heptachlor **Tissue VIII (QA97TIS8)**

Assigned value = 0.86 ng/g s = 0.51 ng/g 95% CL = 0.47 ng/g (as rcvd)

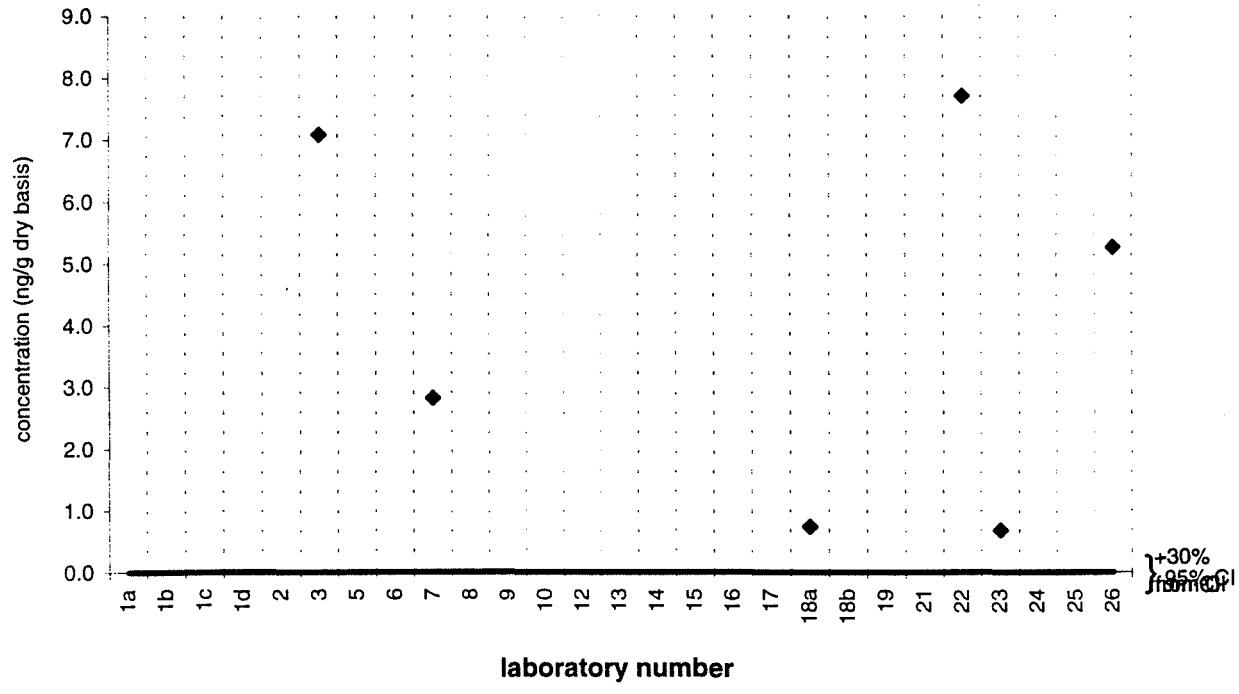
Reported Results: 18 Quantitative Results: 7



heptachlor **SRM 1974a**

No Target Value

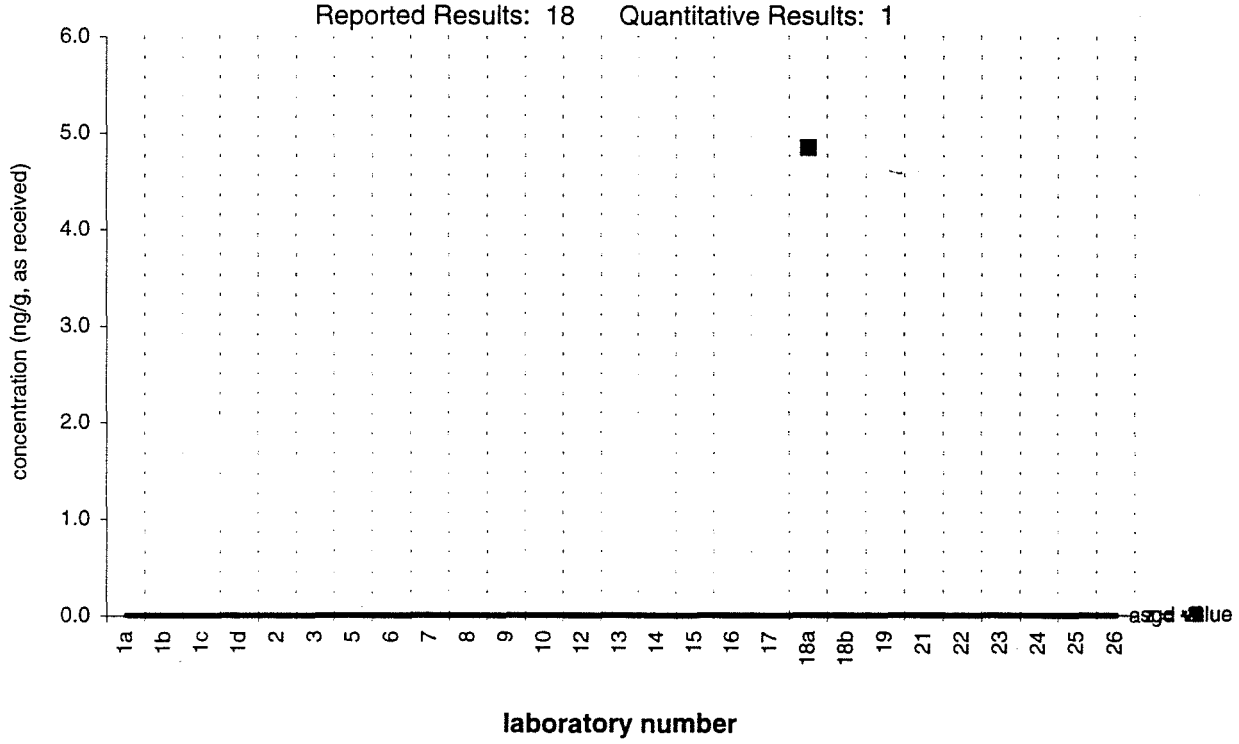
Reported Results: 17 Quantitative Results: 6



aldrin **Tissue VIII (QA97TIS8)**

Assigned value = <1 ng/g (as rcvd)

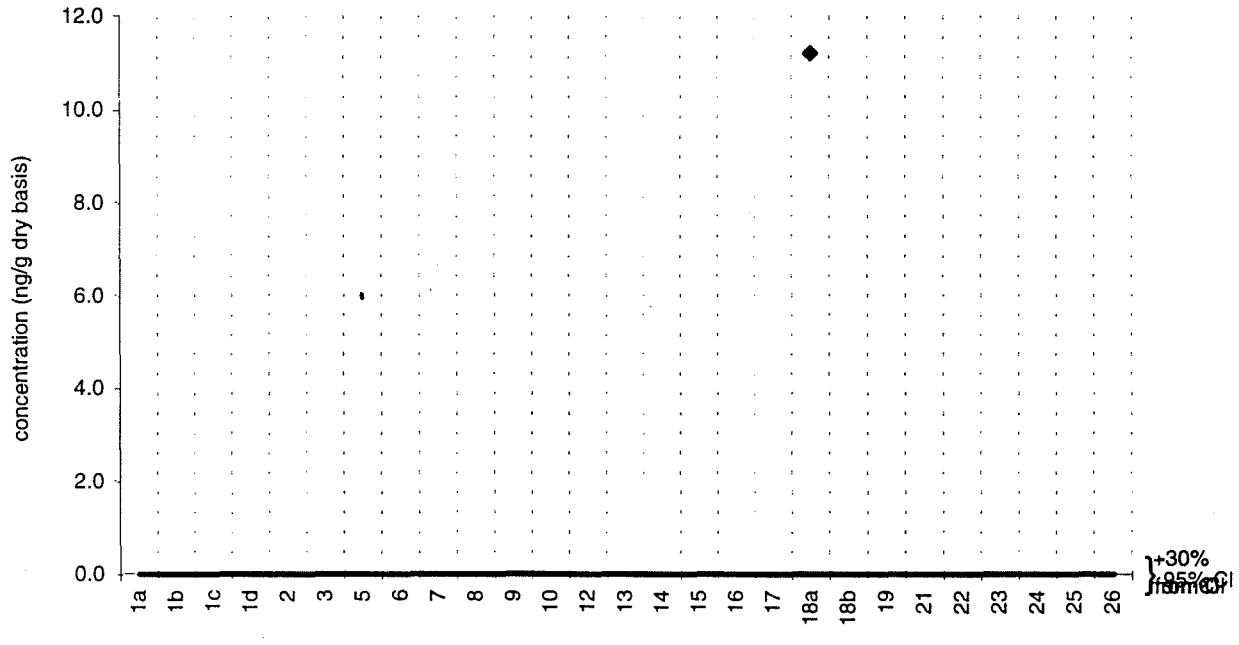
Reported Results: 18 Quantitative Results: 1



aldrin **SRM 1974a**

No Target Value

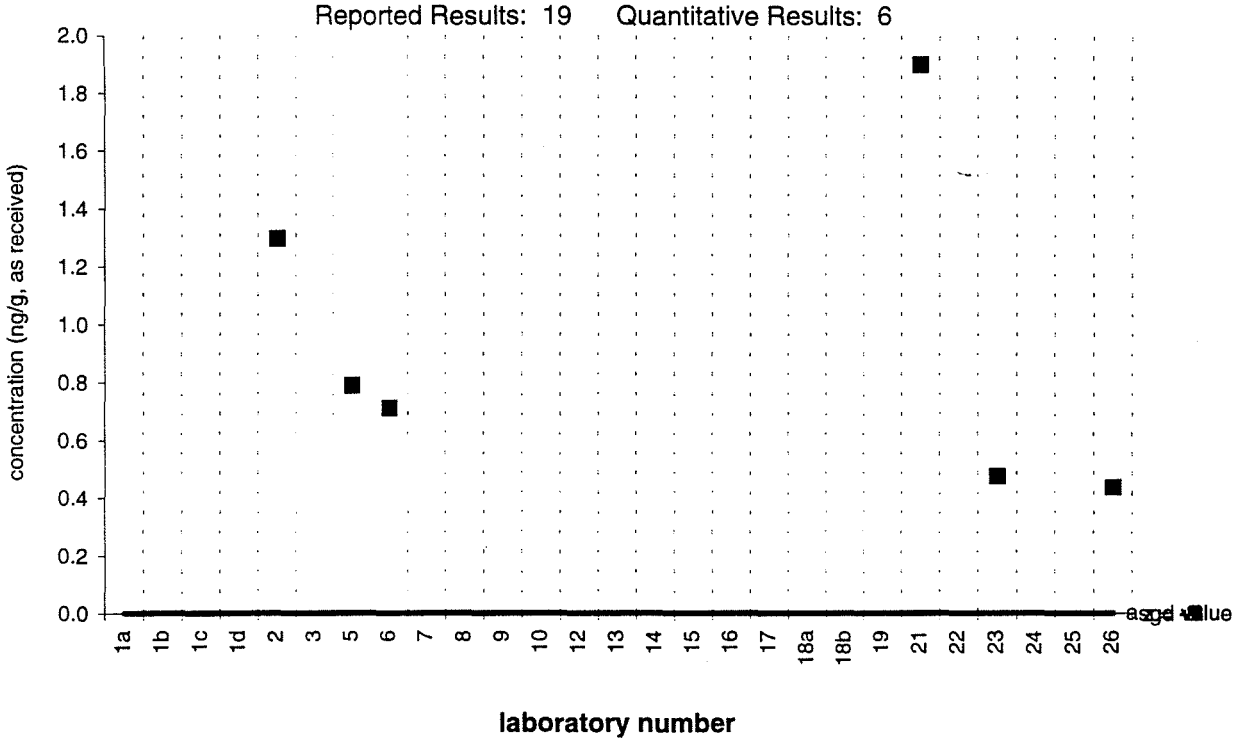
Reported Results: 17 Quantitative Results: 1



heptachlor epoxide **Tissue VIII (QA97TIS8)**

Assigned value = <2 ng/g (as rcvd)

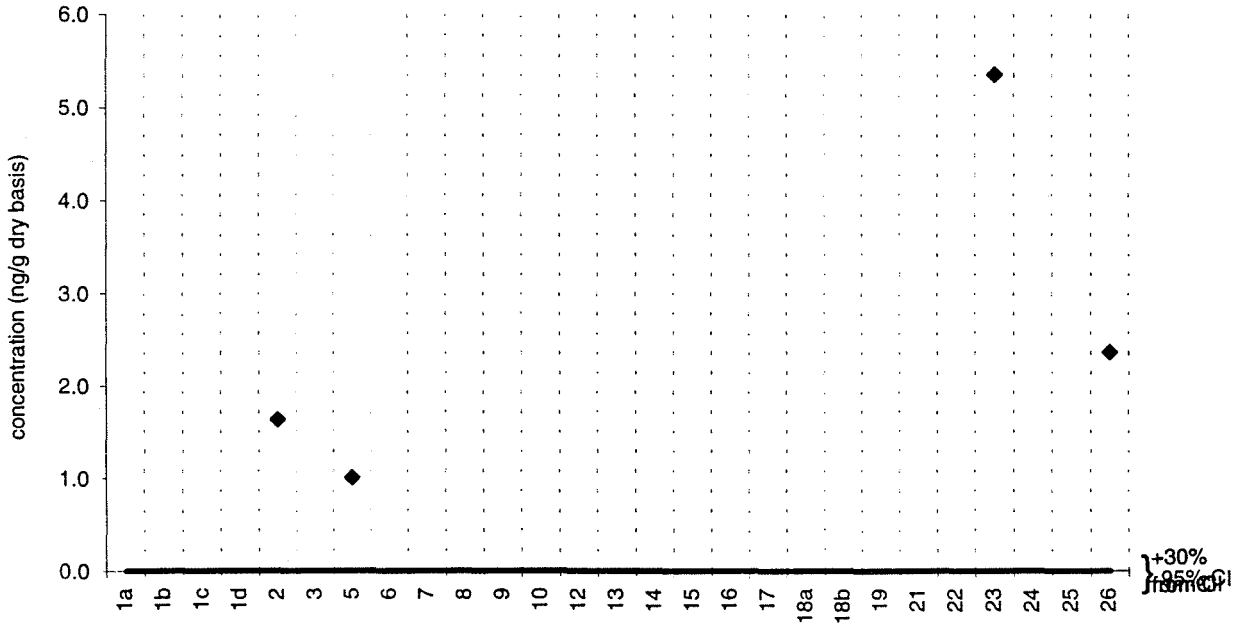
Reported Results: 19 Quantitative Results: 6

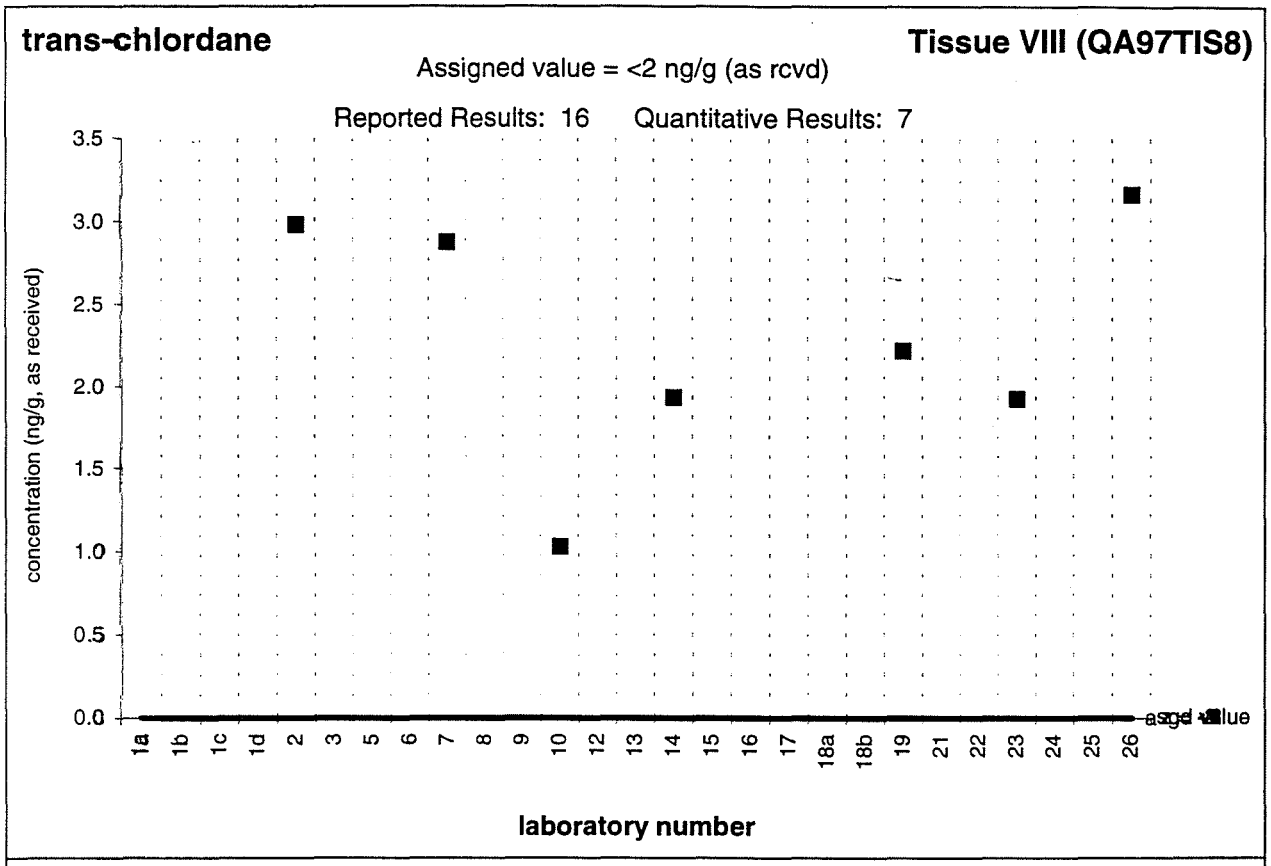


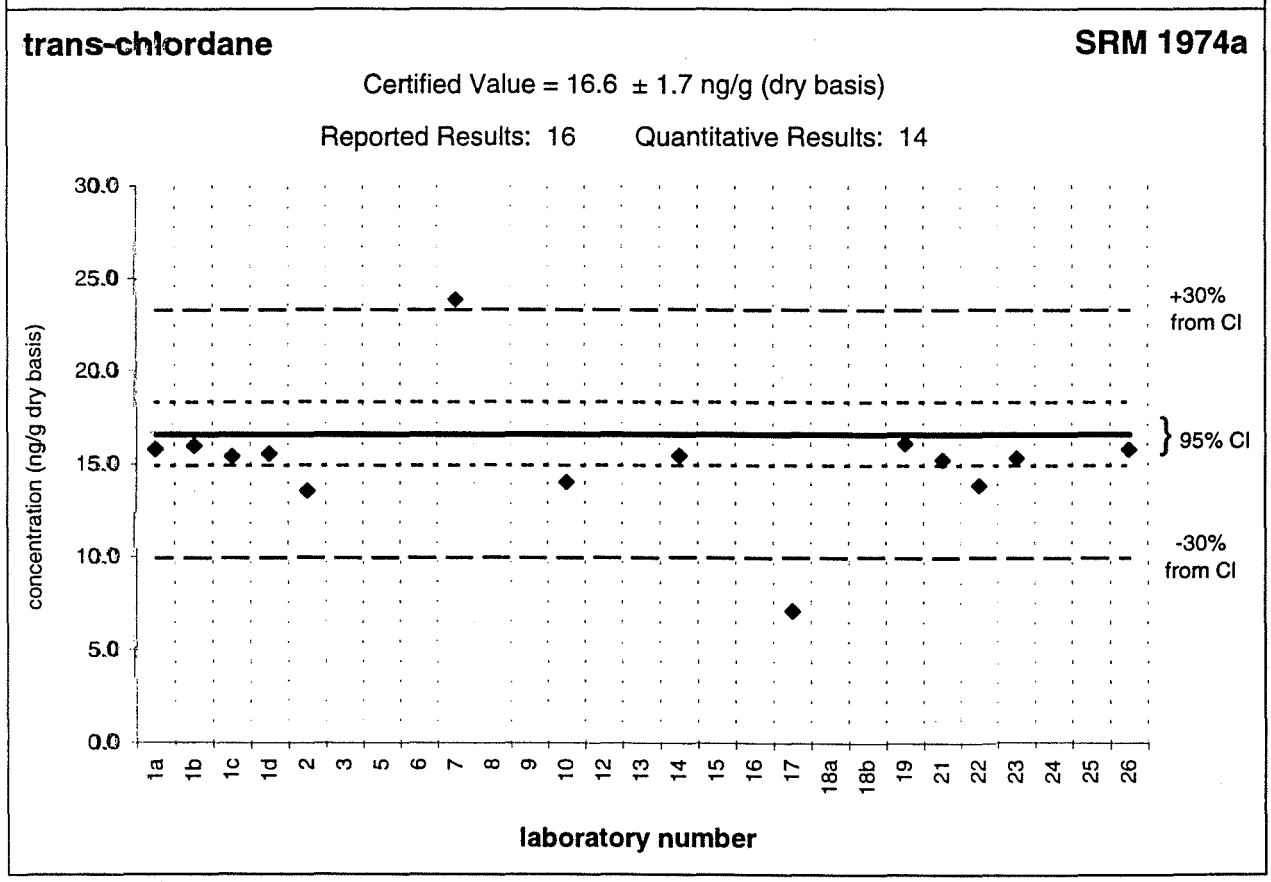
heptachlor epoxide **SRM 1974a**

No Target Value

Reported Results: 17 Quantitative Results: 4



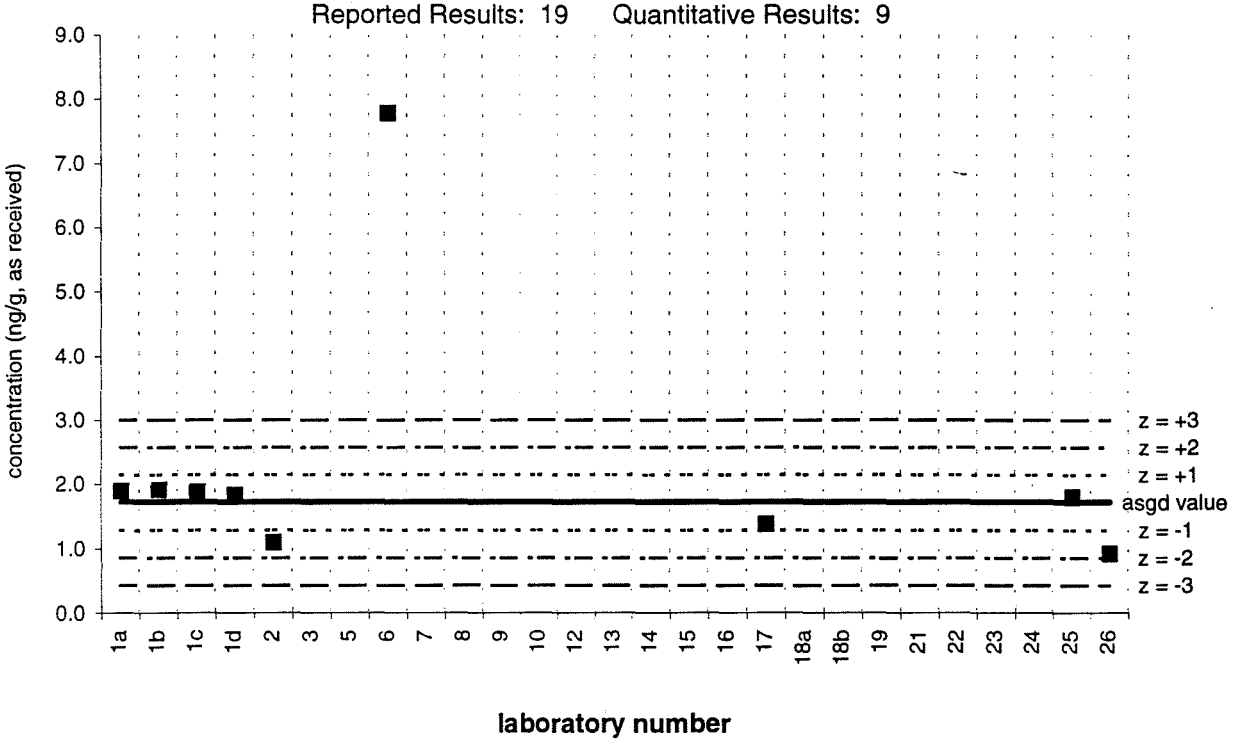

trans-chlordane
Tissue VIII (QA97TIS8)
Assigned value = <2 ng/g (as rcvd)
Reported Results: 16
Quantitative Results: 7
concentration (ng/g, as received)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


trans-chlordane
SRM 1974a
Certified Value = 16.6 ± 1.7 ng/g (dry basis)
Reported Results: 16
Quantitative Results: 14
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

2,4'-DDE **Tissue VIII (QA97TIS8)**

Assigned value = 1.71 ng/g s = 0.35 ng/g 95% CL = 0.43 ng/g (as rcvd)

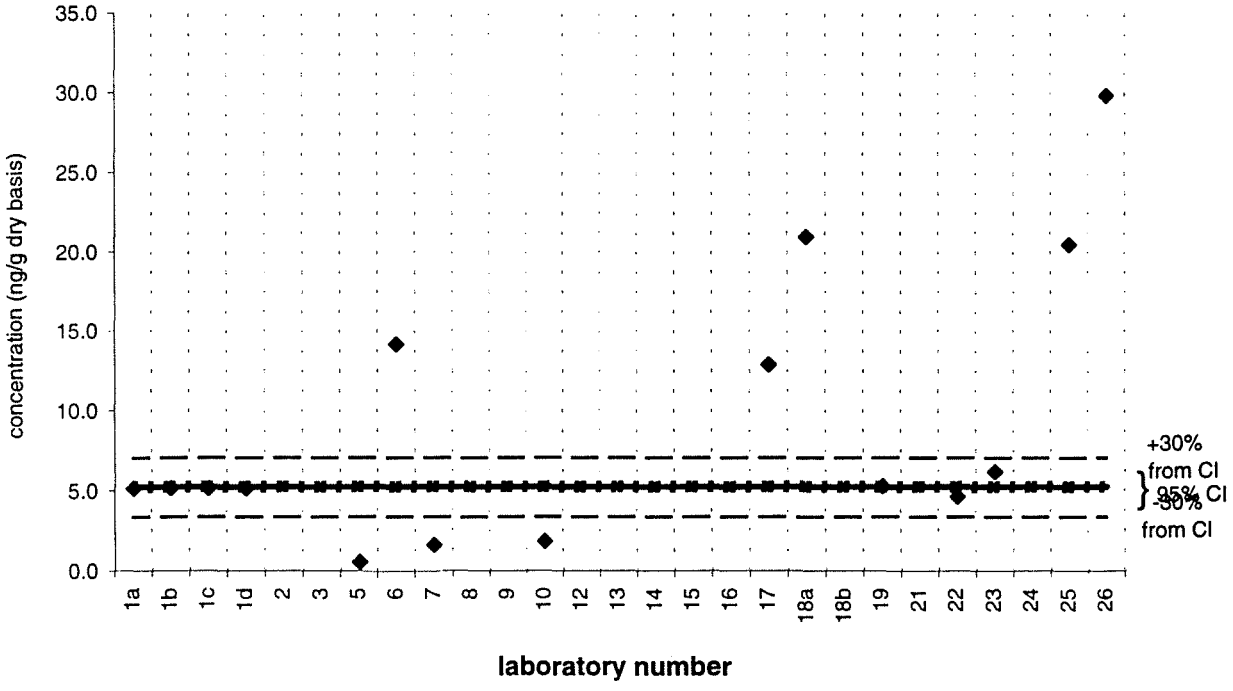
Reported Results: 19 Quantitative Results: 9

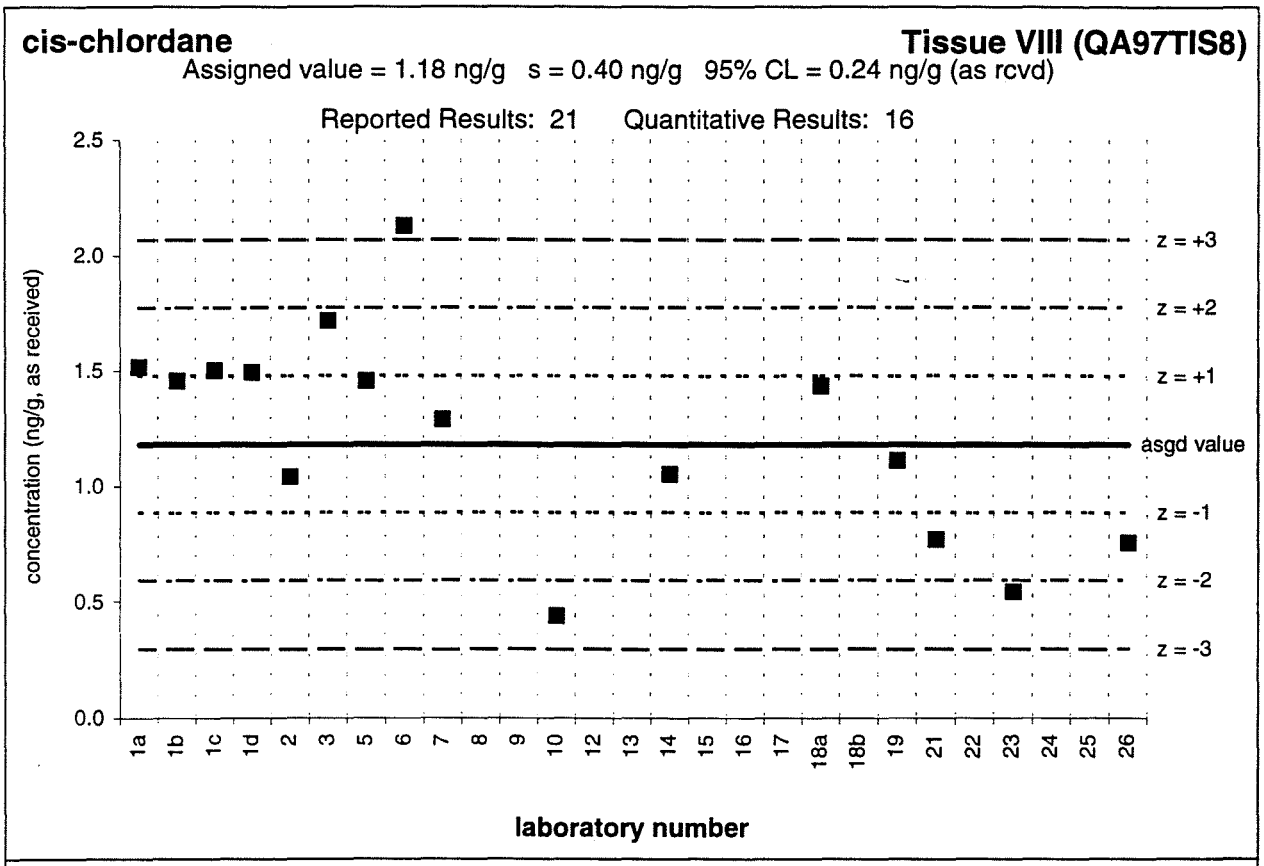


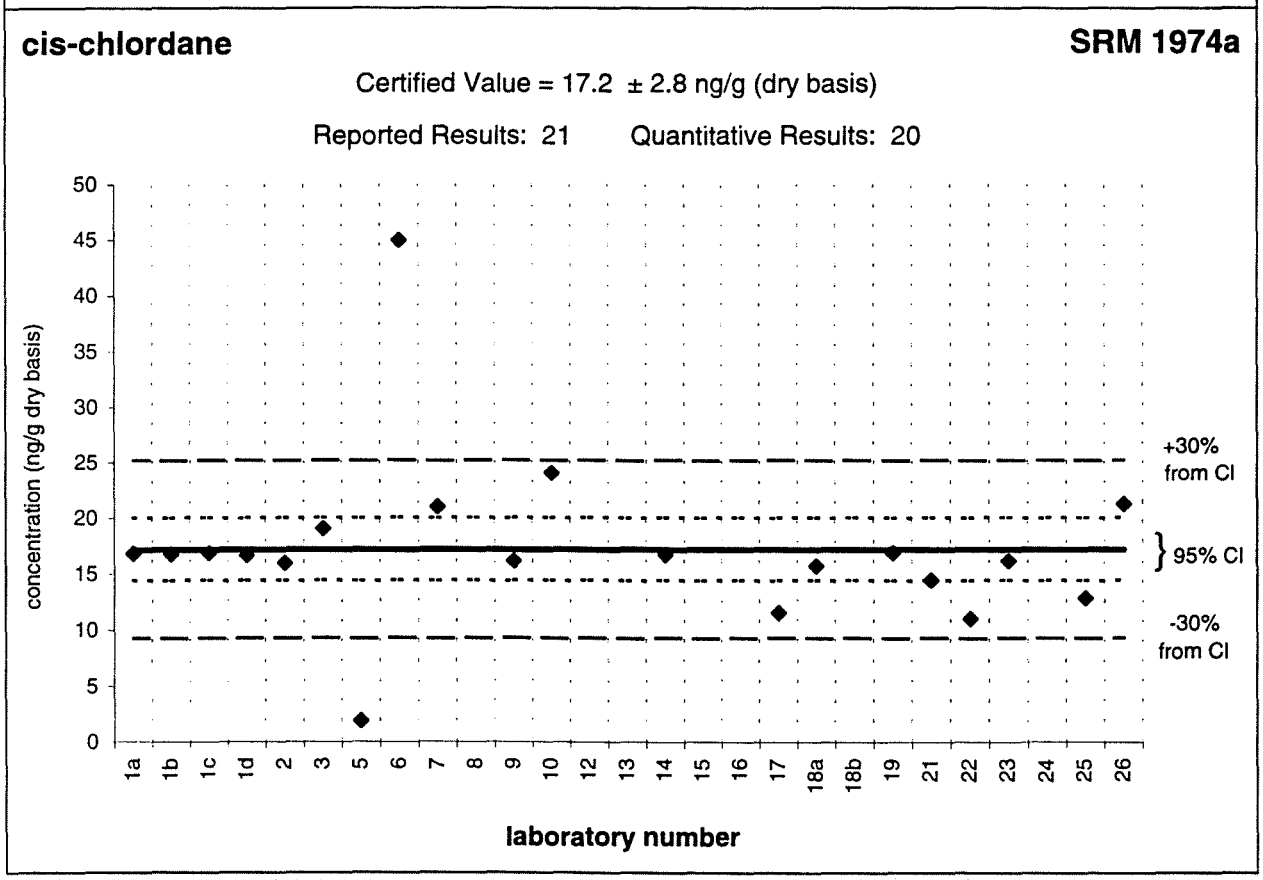
2,4'-DDE **SRM 1974a**

Noncertified Value = 5.26 ± 0.27 ng/g (dry basis)

Reported Results: 19 Quantitative Results: 15



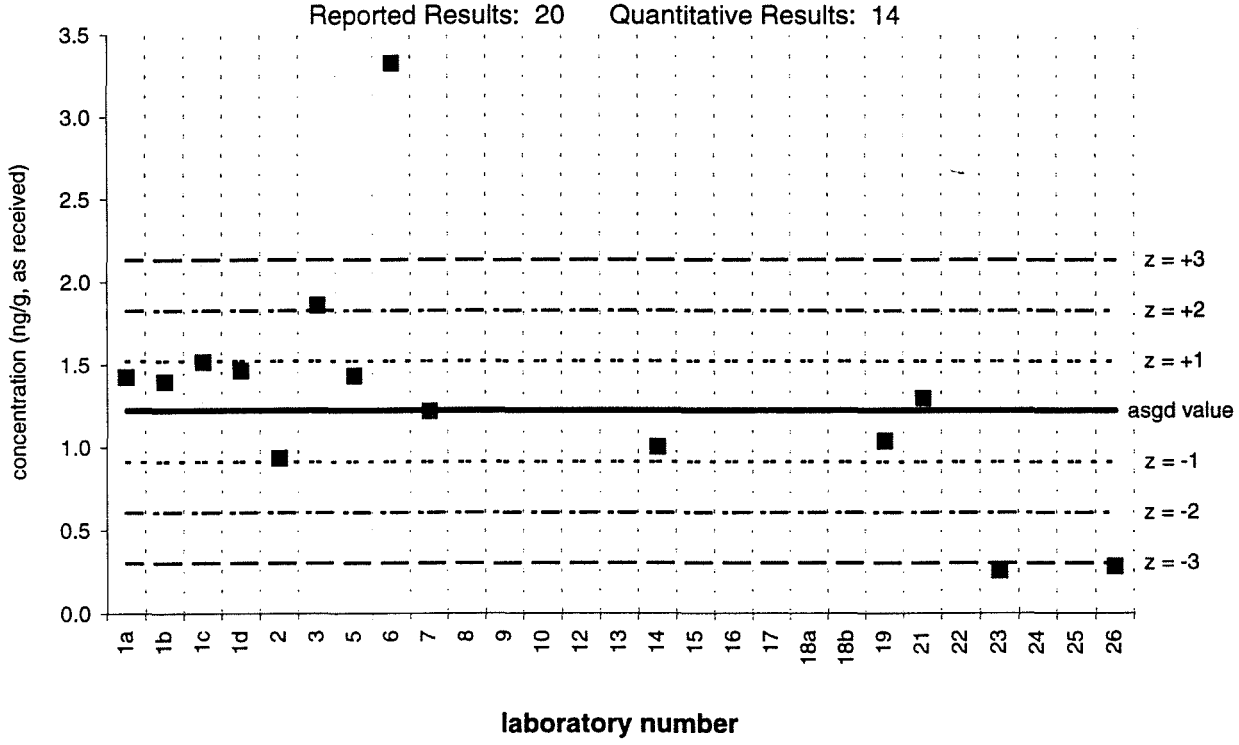

cis-chlordane
Tissue VIII (QA97TIS8)
Assigned value = 1.18 ng/g s = 0.40 ng/g 95% CL = 0.24 ng/g (as rcvd)
Reported Results: 21 Quantitative Results: 16
concentration (ng/g, as received)
2.5
2.0
1.5
1.0
0.5
0.0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


cis-chlordane
SRM 1974a
Certified Value = 17.2 ± 2.8 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 20
concentration (ng/g dry basis)
50
45
40
35
30
25
20
15
10
5
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

trans-nonachlor **Tissue VIII (QA97TIS8)**

Assigned value = 1.22 ng/g s = 0.42 ng/g 95% CL = 0.28 ng/g (as rcvd)

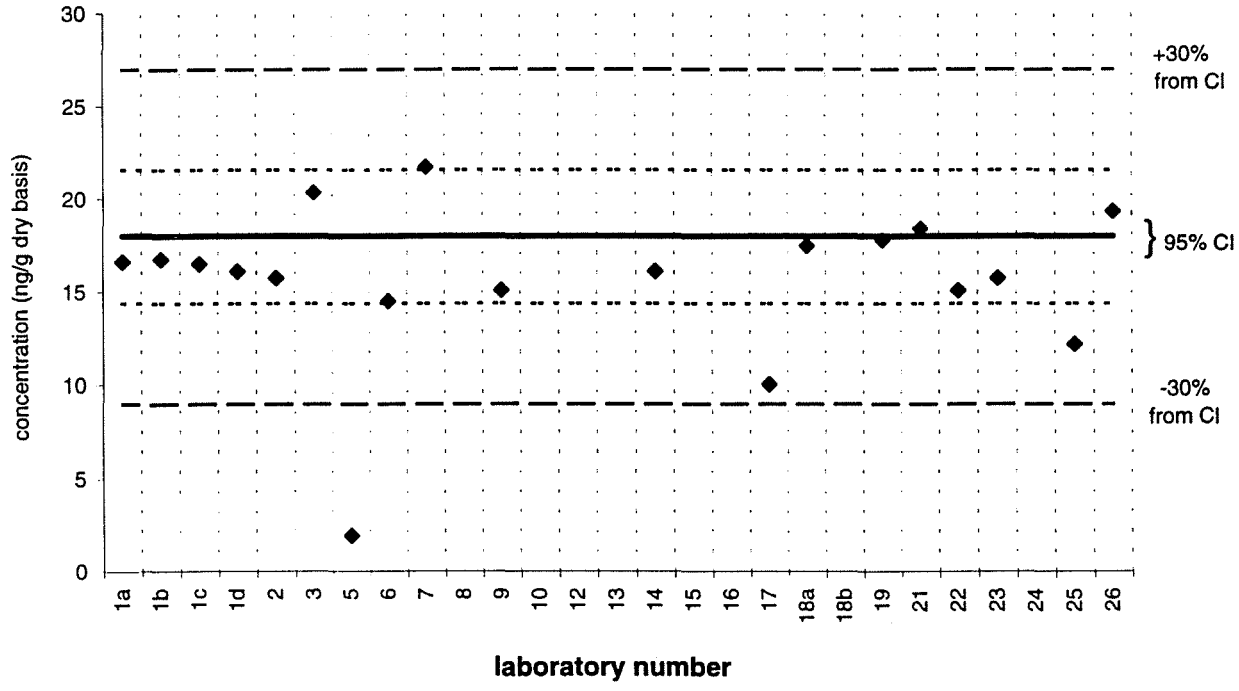
Reported Results: 20 Quantitative Results: 14

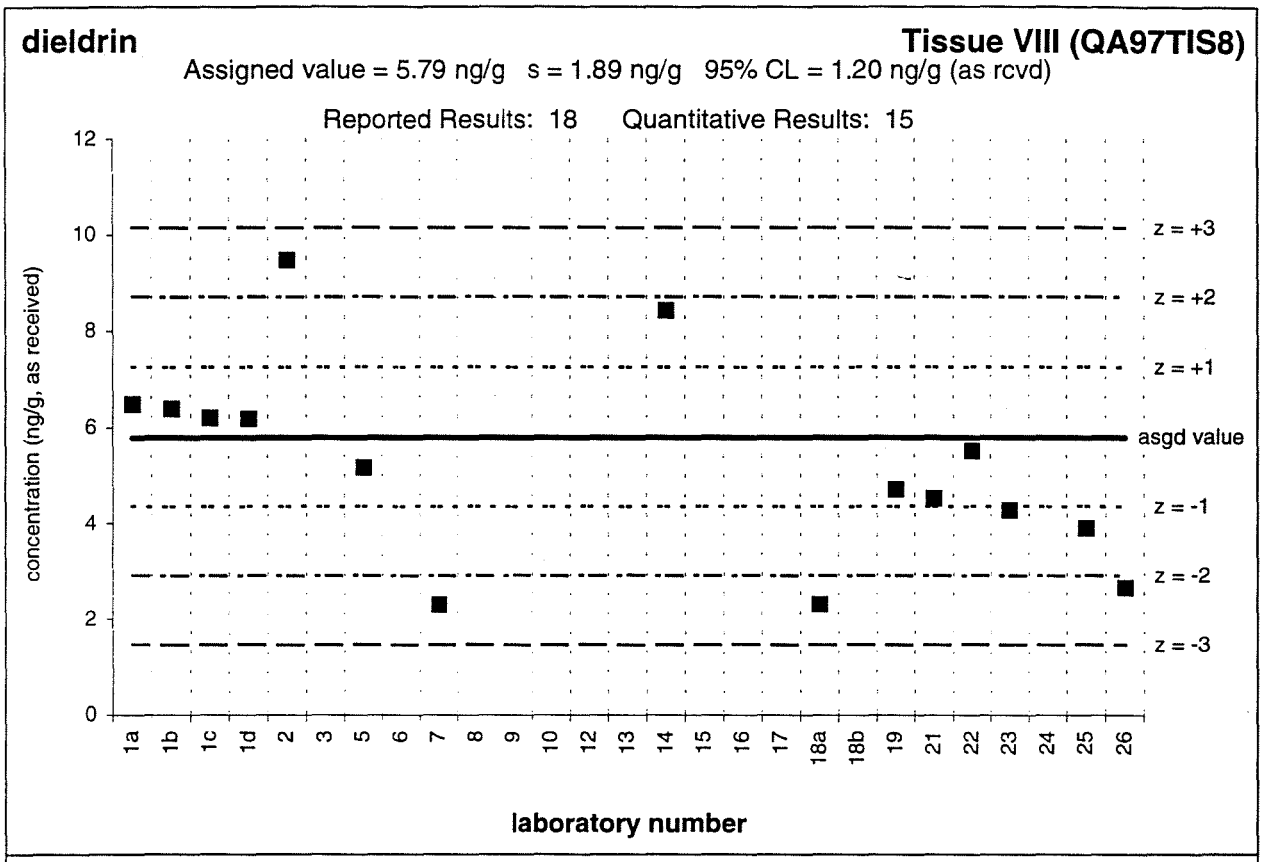


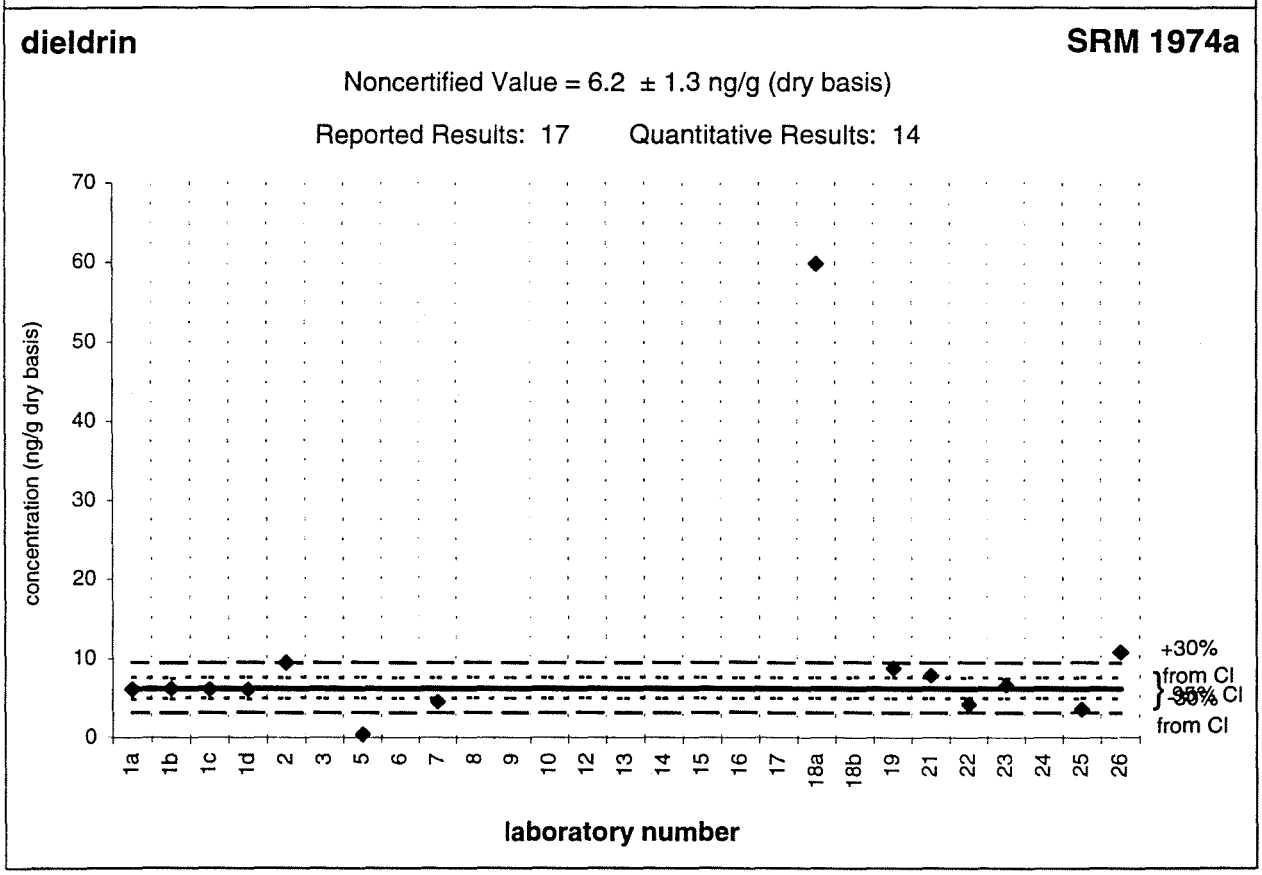
trans-nonachlor **SRM 1974a**

Certified Value = 18.0 ± 3.6 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 19



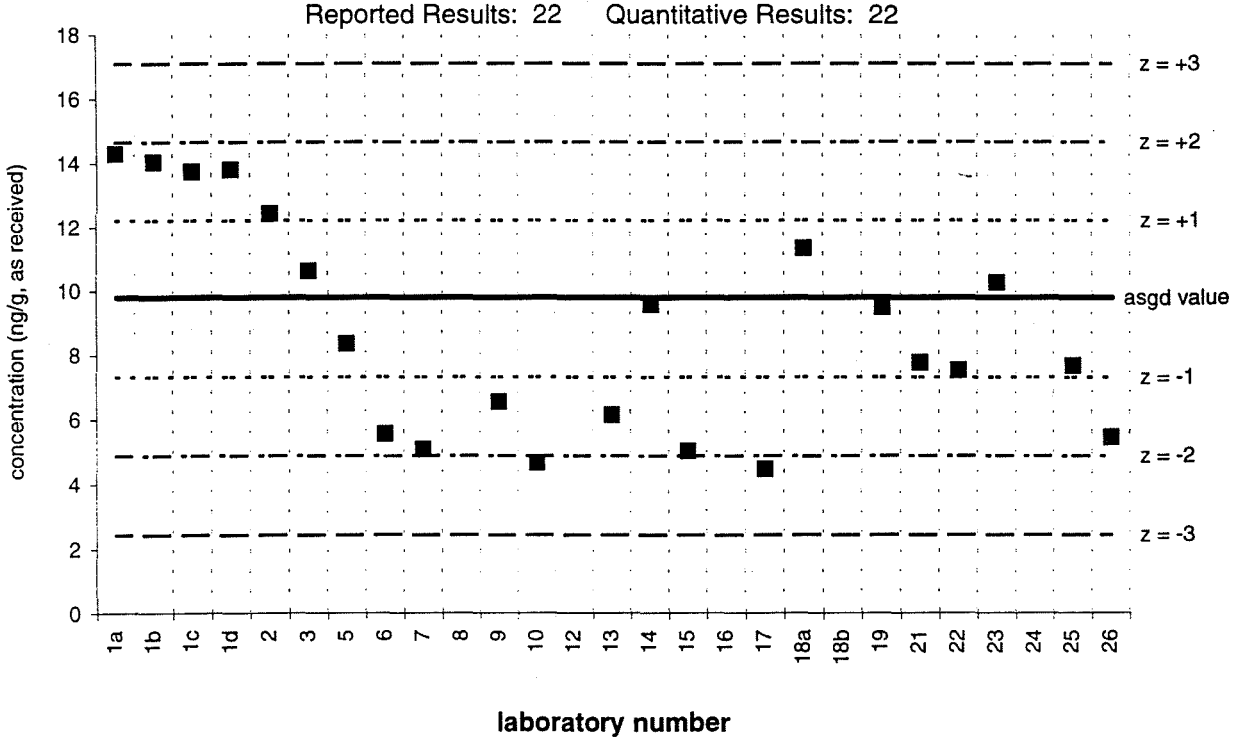

dieldrin
Tissue VIII (QA97TIS8)
Assigned value = 5.79 ng/g s = 1.89 ng/g 95% CL = 1.20 ng/g (as rcvd)
Reported Results: 18 Quantitative Results: 15
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


dieldrin
SRM 1974a
Noncertified Value = 6.2 ± 1.3 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 14
concentration (ng/g dry basis)
+30% from CI
-30% from CI
laboratory number

4,4'-DDE **Tissue VIII (QA97TIS8)**

Assigned value = 9.77 ng/g s = 3.44 ng/g 95% CL = 1.91 ng/g (as rcvd)

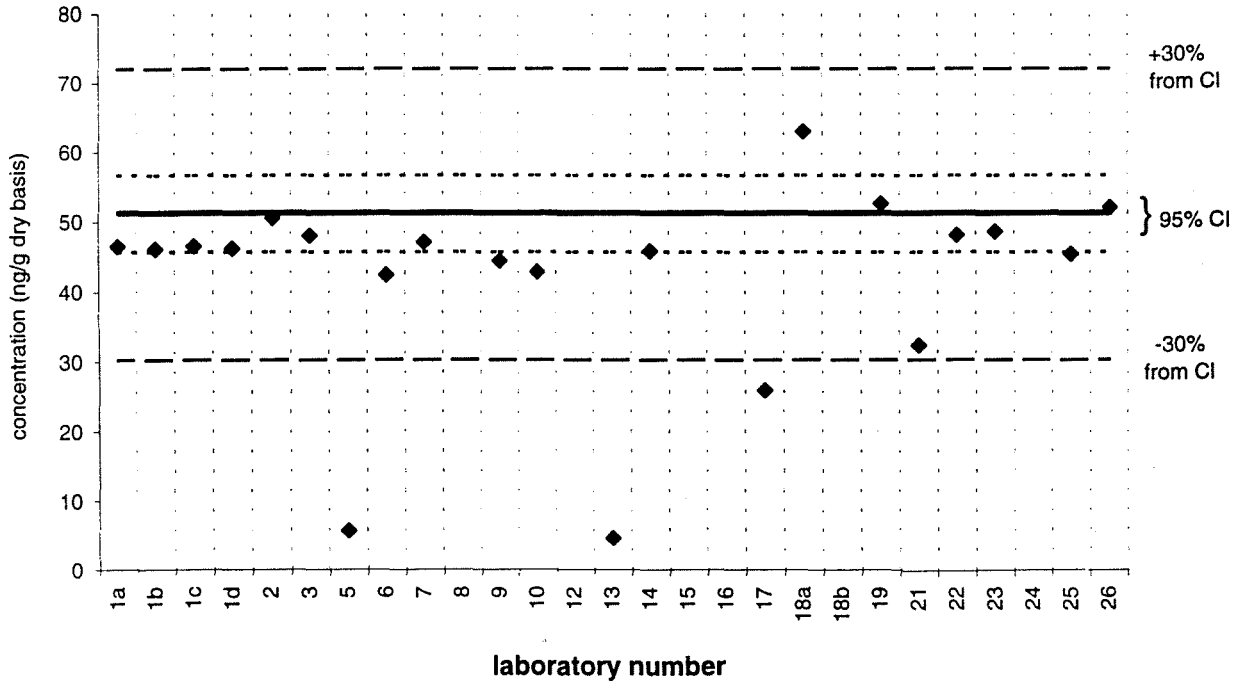
Reported Results: 22 Quantitative Results: 22



4,4'-DDE **SRM 1974a**

Certified Value = 51.2 ± 5.5 ng/g (dry basis)

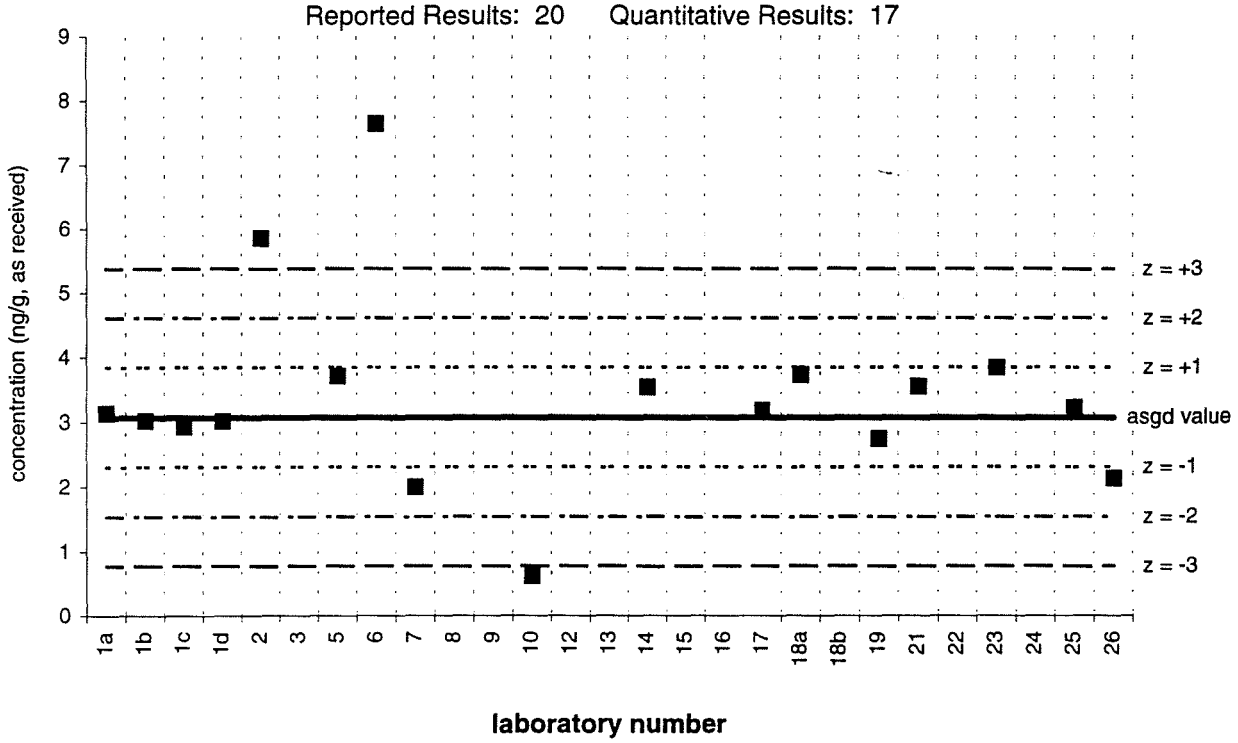
Reported Results: 21 Quantitative Results: 21



2,4'-DDD **Tissue VIII (QA97TIS8)**

Assigned value = 3.07 ng/g s = 0.58 ng/g 95% CL = 0.37 ng/g (as rcvd)

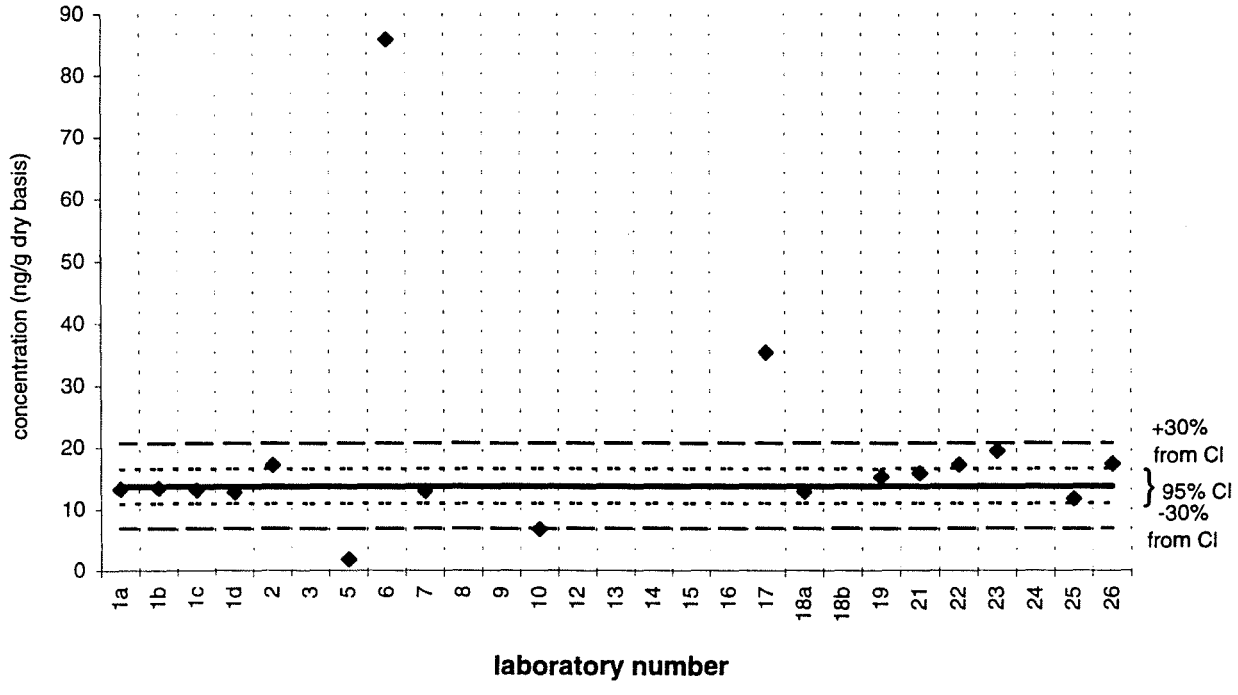
Reported Results: 20 Quantitative Results: 17

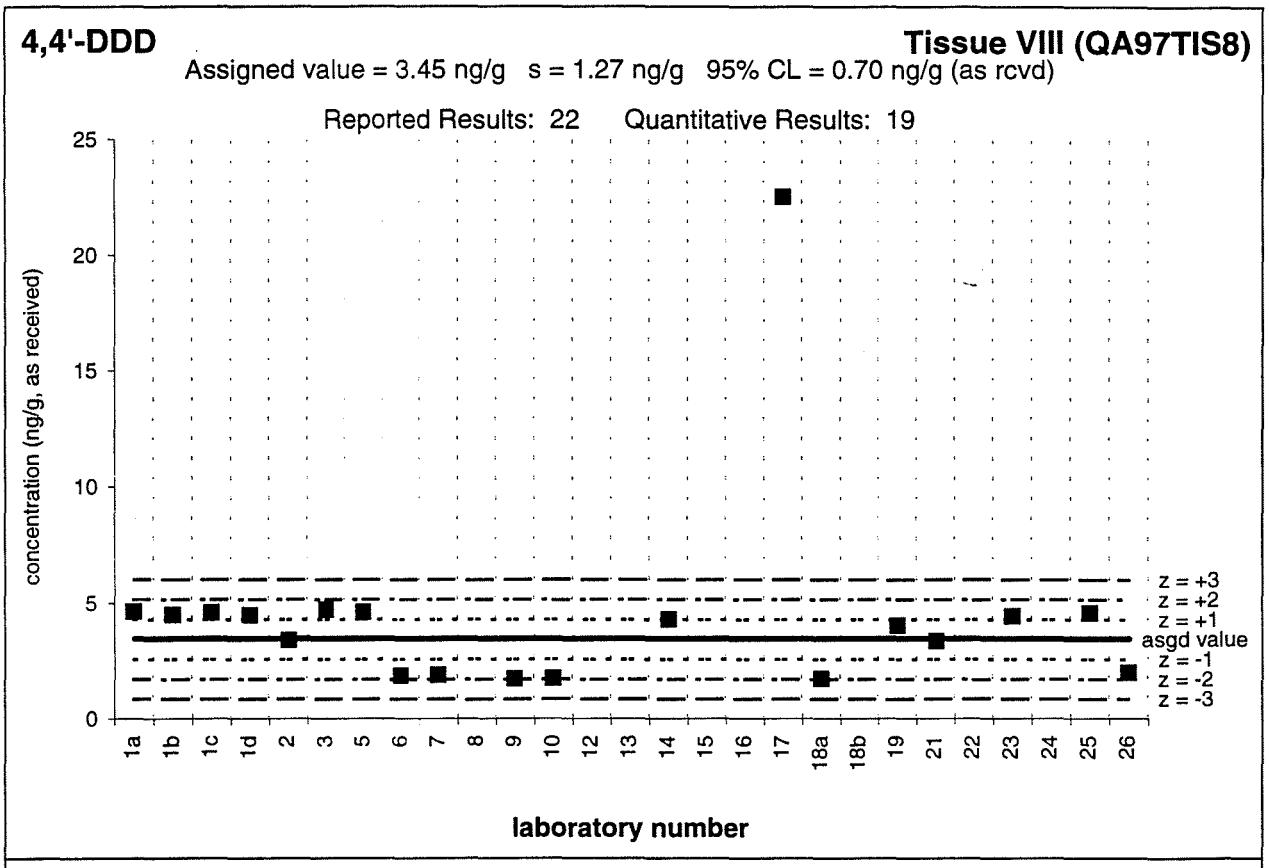


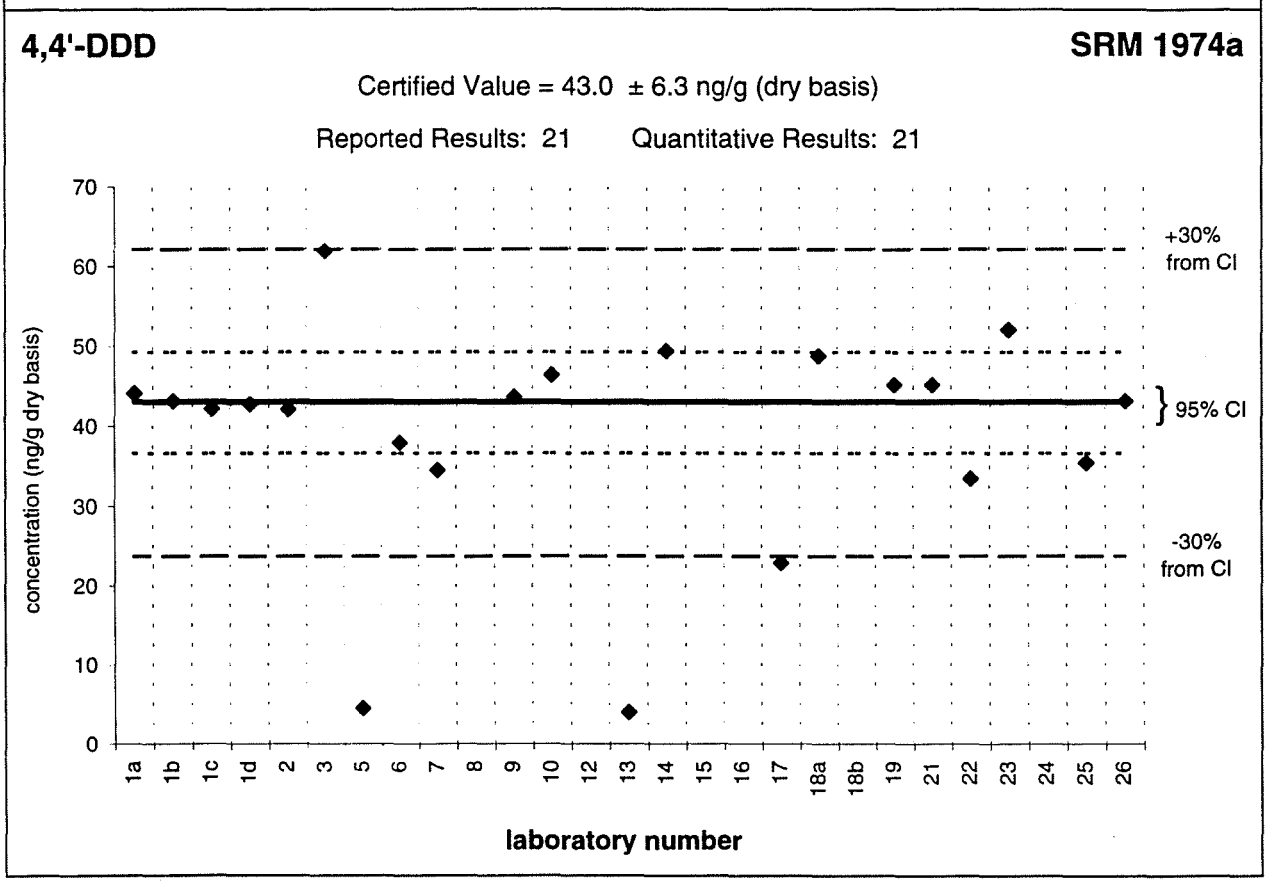
2,4'-DDD **SRM 1974a**

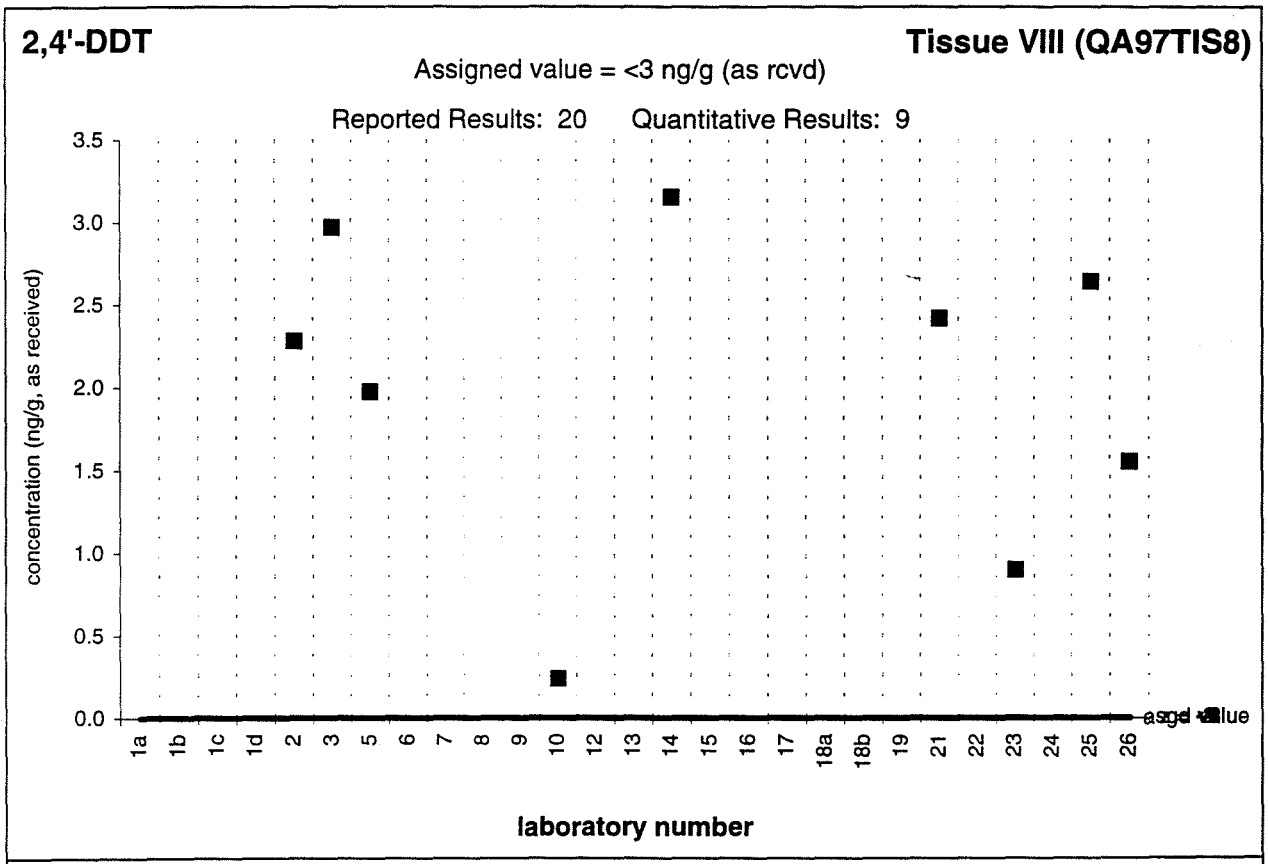
Noncertified Value = 13.7 ± 2.8 ng/g (dry basis)

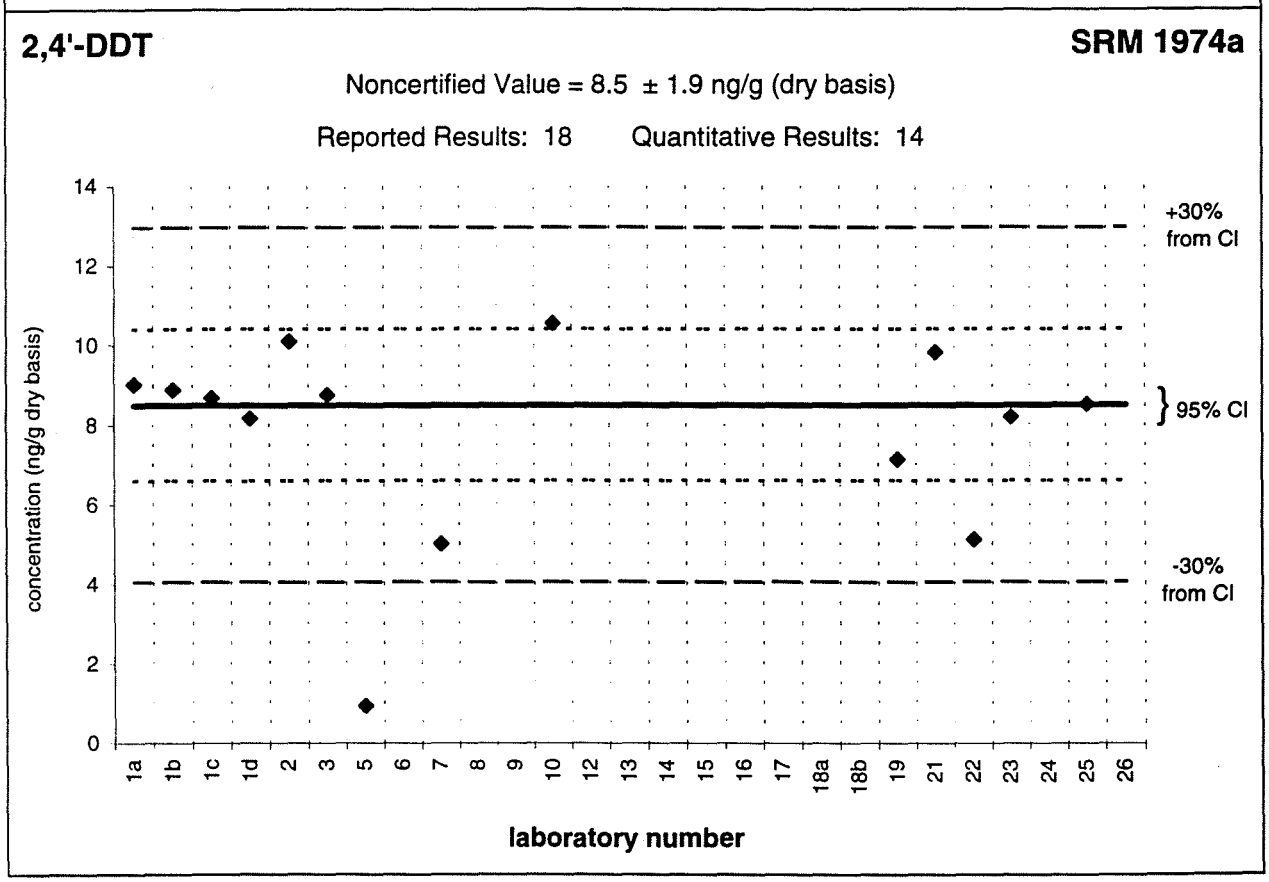
Reported Results: 18 Quantitative Results: 17

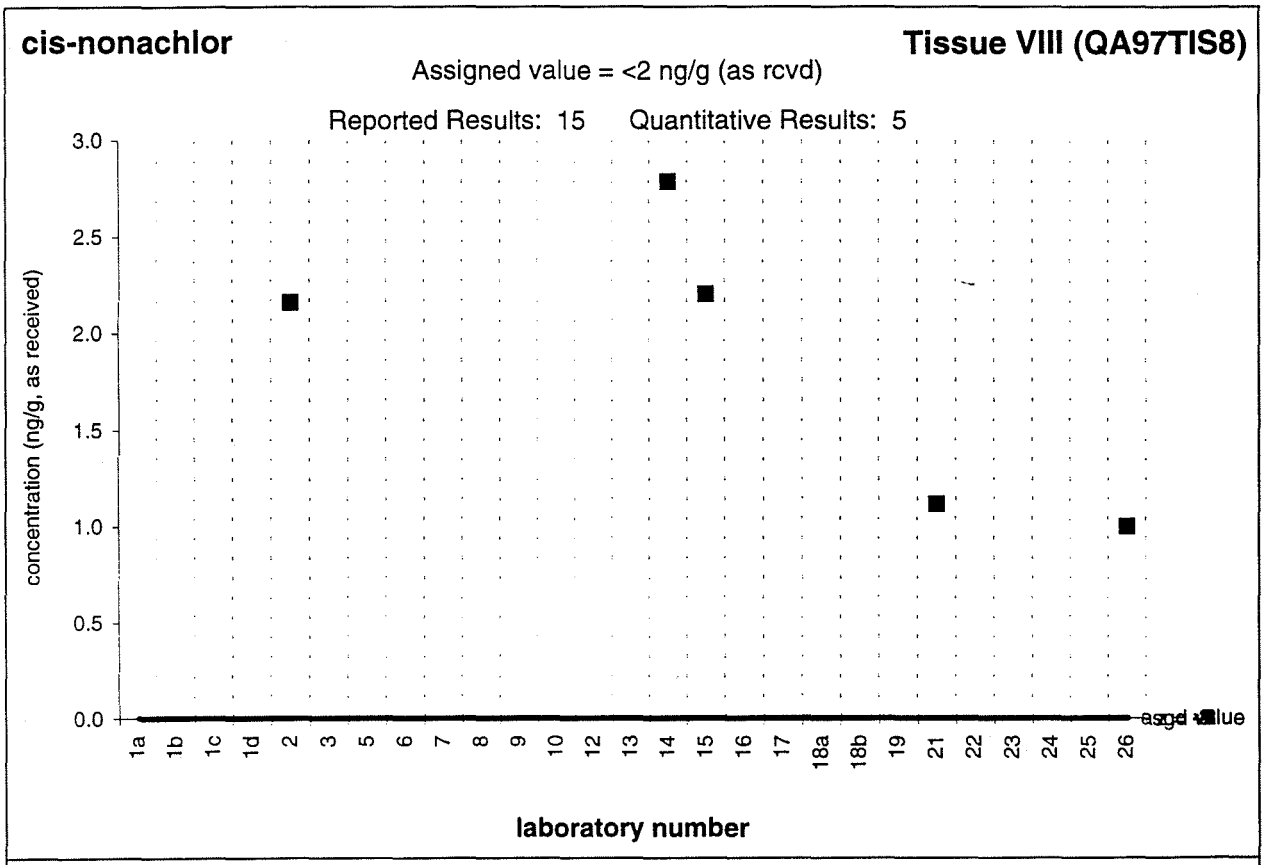


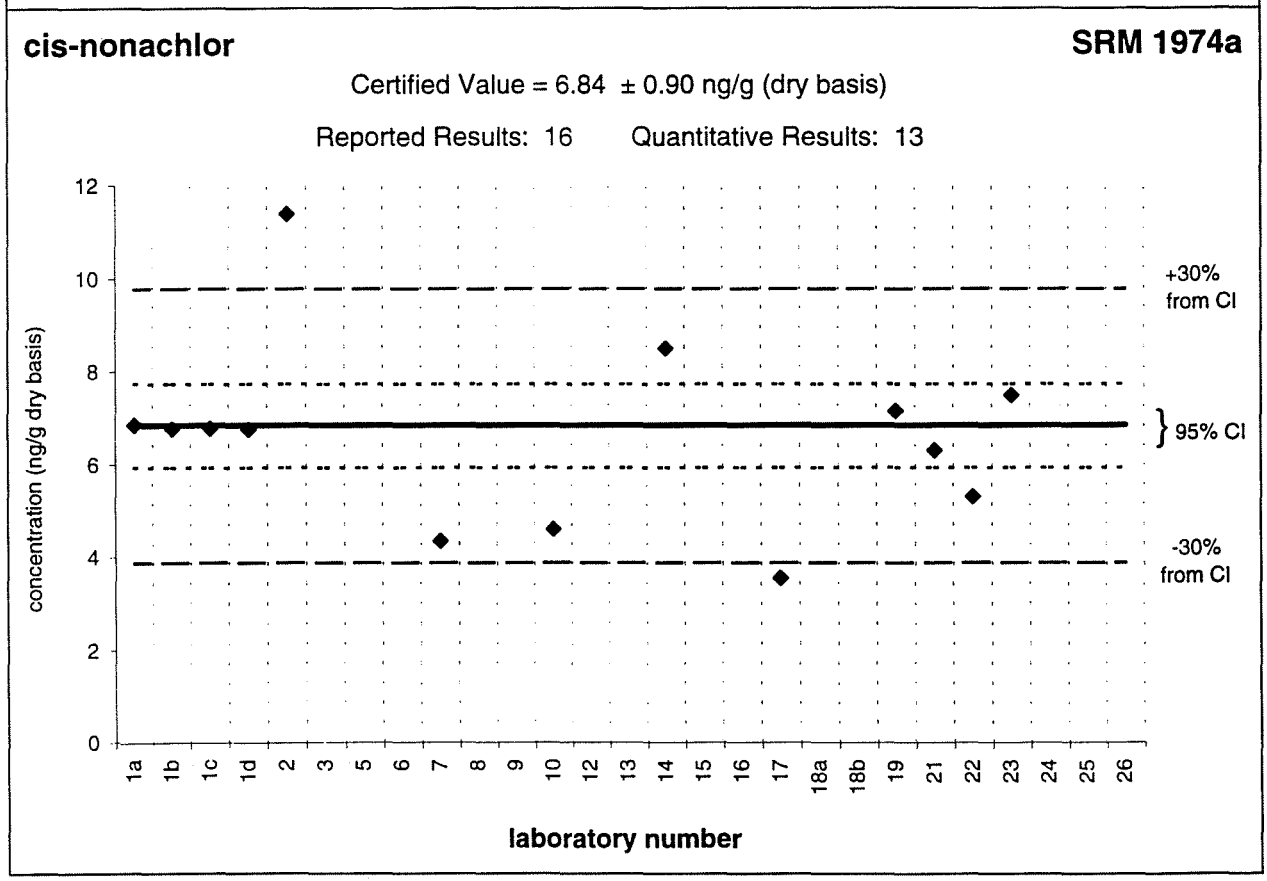

4,4'-DDD
Tissue VIII (QA97TIS8)
Assigned value = 3.45 ng/g s = 1.27 ng/g 95% CL = 0.70 ng/g (as rcvd)
Reported Results: 22 Quantitative Results: 19
concentration (ng/g, as received)
25
20
15
10
5
0
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


4,4'-DDD
SRM 1974a
Certified Value = 43.0 ± 6.3 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
70
60
50
40
30
20
10
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


2,4'-DDT
Tissue VIII (QA97TIS8)
Assigned value = <3 ng/g (as rcvd)
Reported Results: 20
Quantitative Results: 9
concentration (ng/g, as received)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


2,4'-DDT
SRM 1974a
Noncertified Value = 8.5 ± 1.9 ng/g (dry basis)
Reported Results: 18
Quantitative Results: 14
concentration (ng/g dry basis)
14
12
10
8
6
4
2
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

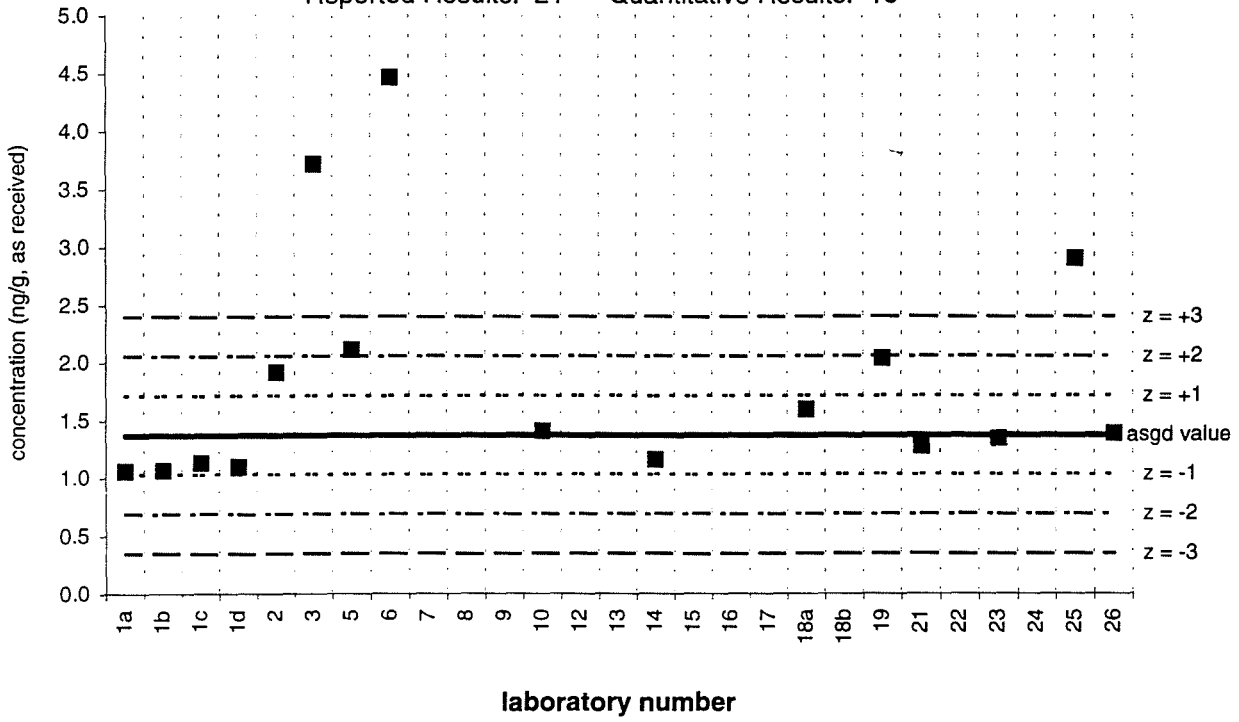

cis-nonachlor
Tissue VIII (QA97TIS8)
Assigned value = <2 ng/g (as rcvd)
Reported Results: 15
Quantitative Results: 5
concentration (ng/g, as received)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number


cis-nonachlor
SRM 1974a
Certified Value = 6.84 ± 0.90 ng/g (dry basis)
Reported Results: 16
Quantitative Results: 13
concentration (ng/g dry basis)
12
10
8
6
4
2
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 5 6 7 8 9 10 12 13 14 15 16 17 18a 18b 19 21 22 23 24 25 26
laboratory number

4,4'-DDT **Tissue VIII (QA97TIS8)**

Assigned value = 1.37 ng/g s = 0.32 ng/g 95% CL = 0.21 ng/g (as rcvd)

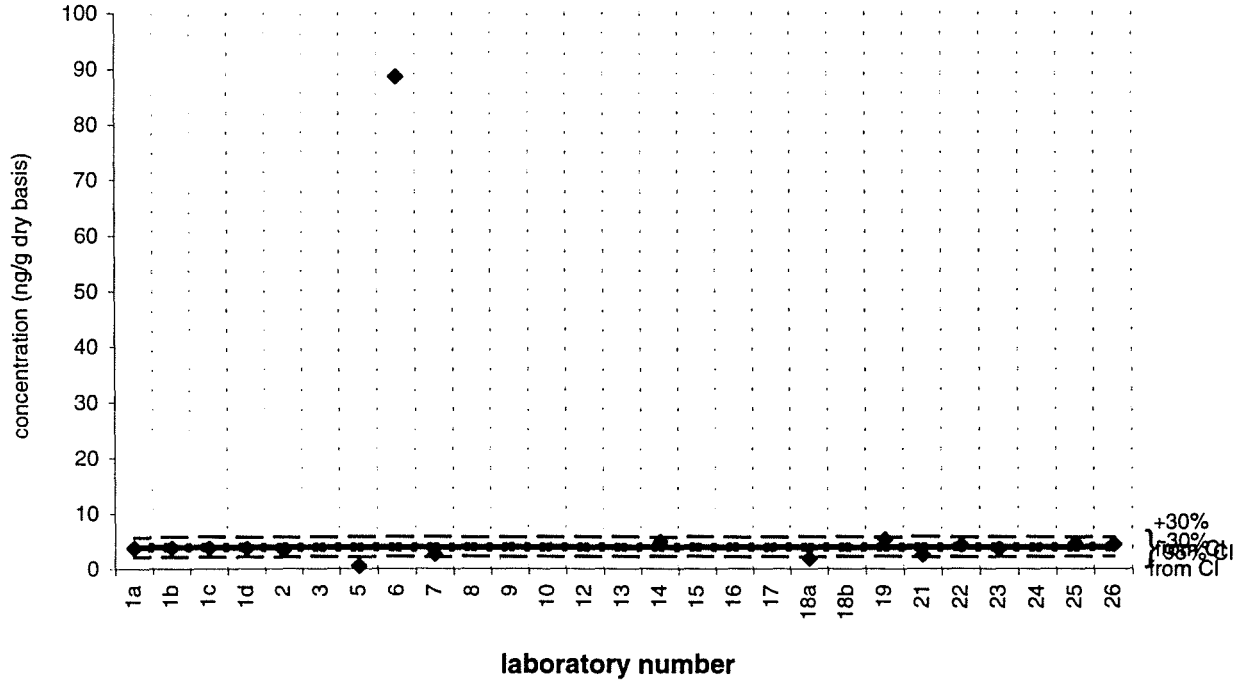
Reported Results: 21 Quantitative Results: 16



4,4'-DDT **SRM 1974a**

Certified Value = 3.91 ± 0.59 ng/g (dry basis)

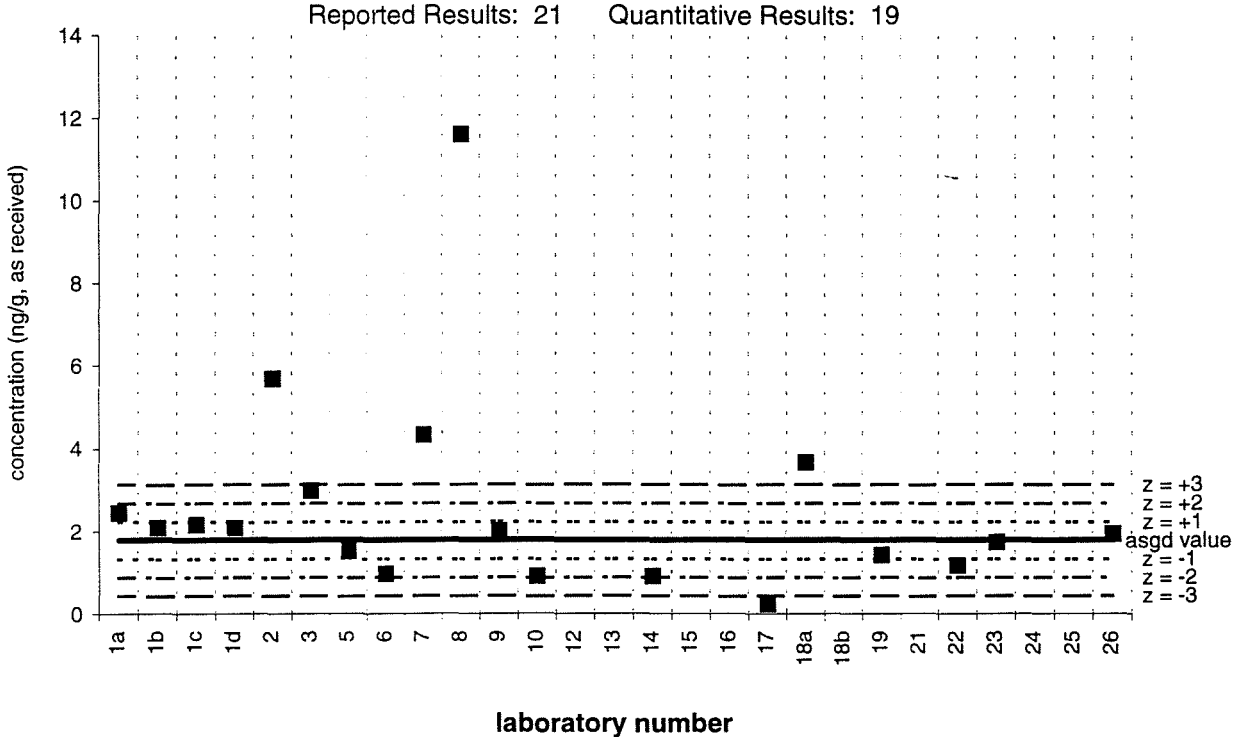
Reported Results: 19 Quantitative Results: 16



PCB 8 **Tissue VIII (QA97TIS8)**

Assigned value = 1.79 ng/g s = 0.88 ng/g 95% CL = 0.49 ng/g (as rcvd)

Reported Results: 21 Quantitative Results: 19

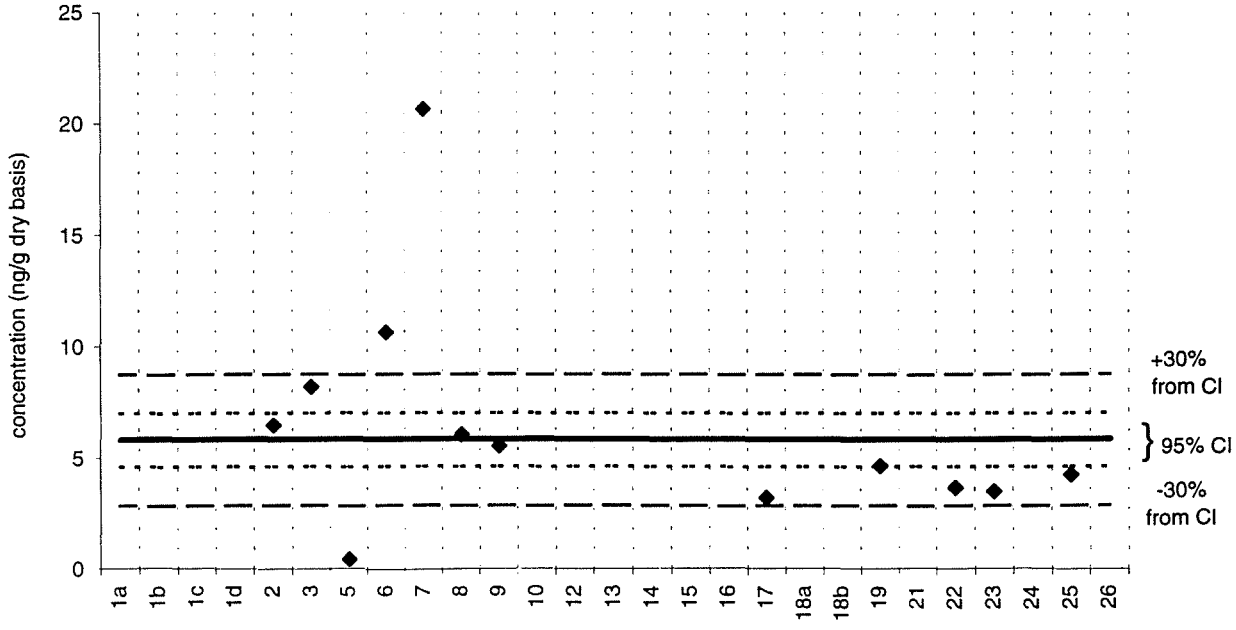


laboratory number

PCB 8 **SRM 1974a**

Target Value = 5.8 ± 1.2 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 12

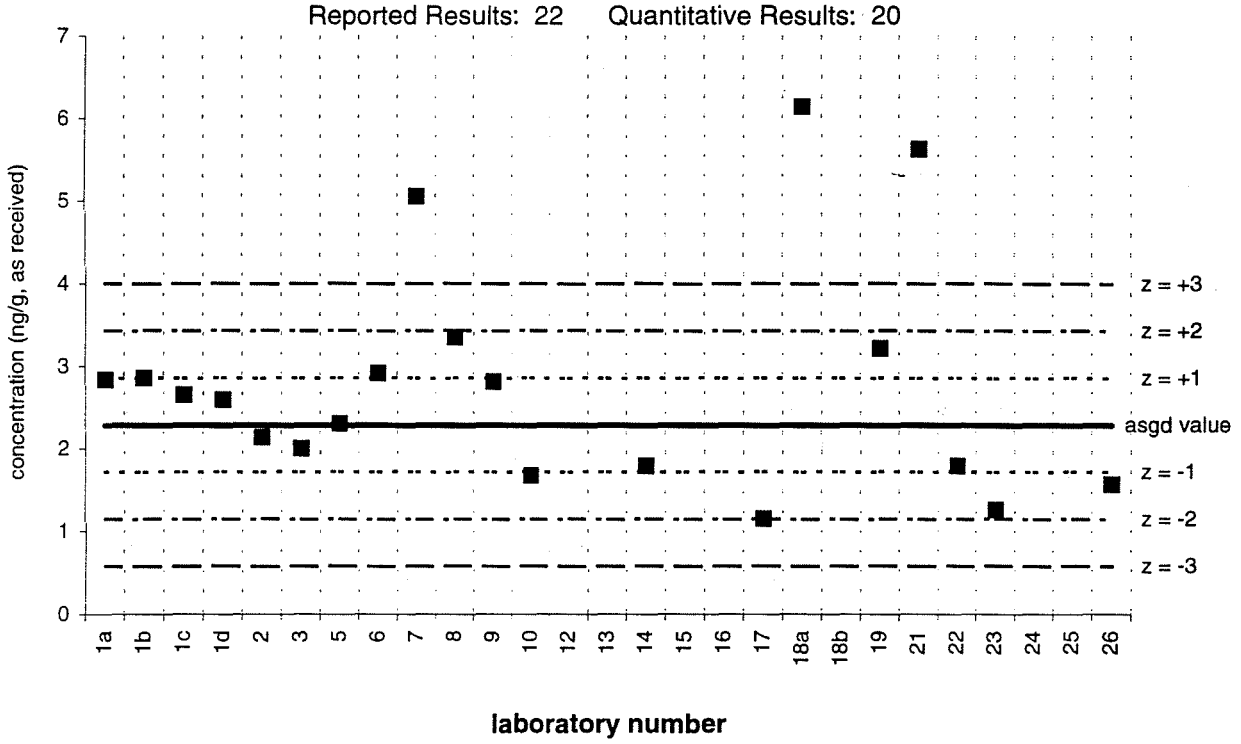


laboratory number

PCB 18 **Tissue VIII (QA97TIS8)**

Assigned value = 2.28 ng/g s = 0.70 ng/g 95% CL = 0.37 ng/g (as rcvd)

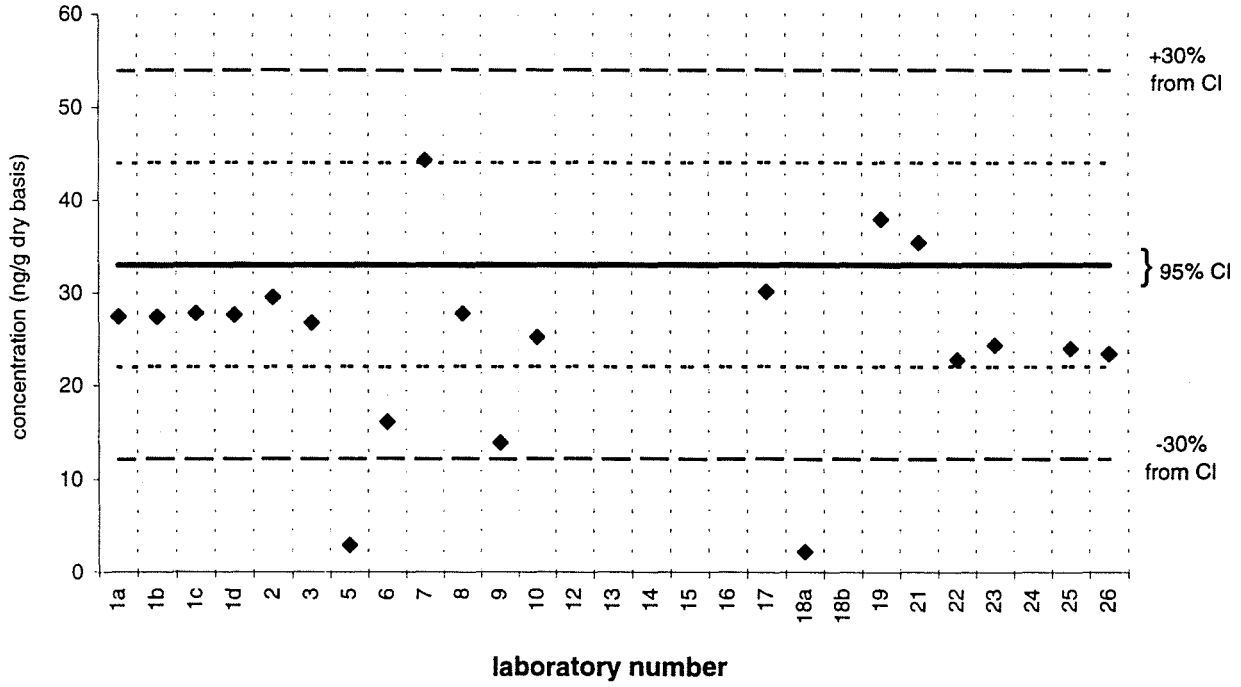
Reported Results: 22 Quantitative Results: 20



PCB 18 **SRM 1974a**

Noncertified Value = 33 ± 11 ng/g (dry basis)

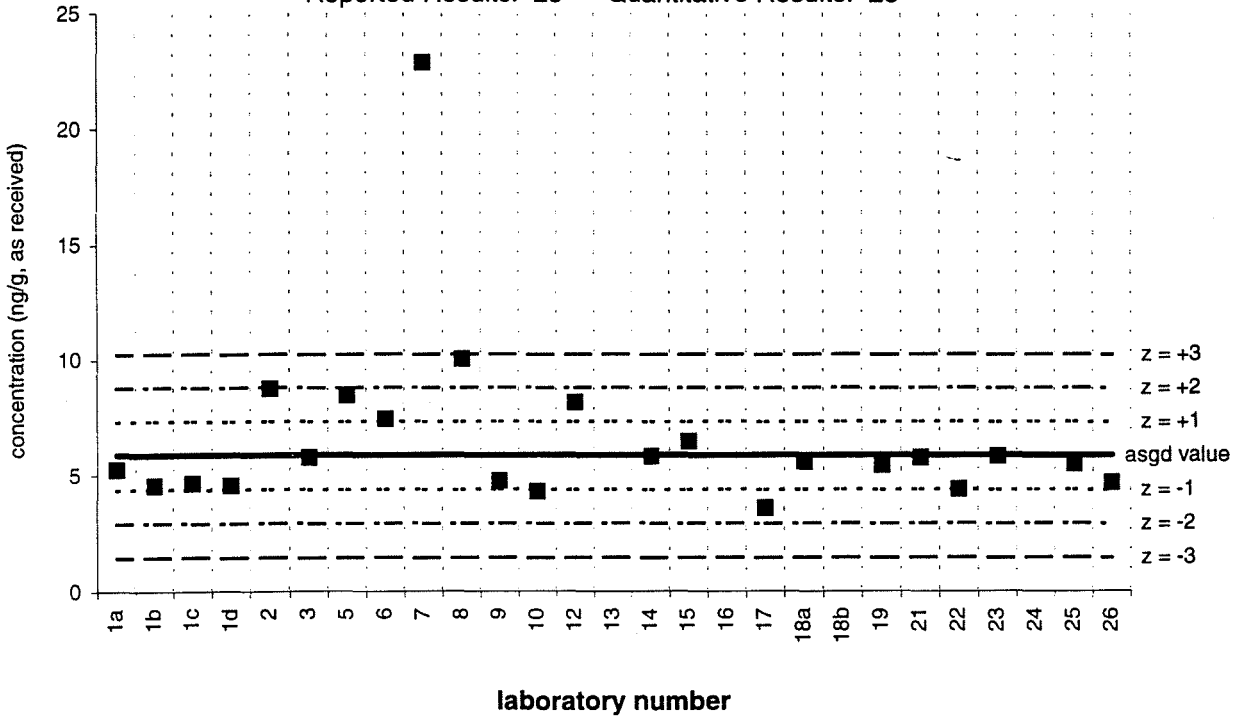
Reported Results: 20 Quantitative Results: 20



PCB 28 **Tissue VIII (QA97TIS8)**

Assigned value = 5.85 ng/g s = 1.60 ng/g 95% CL = 0.77 ng/g (as rcvd)

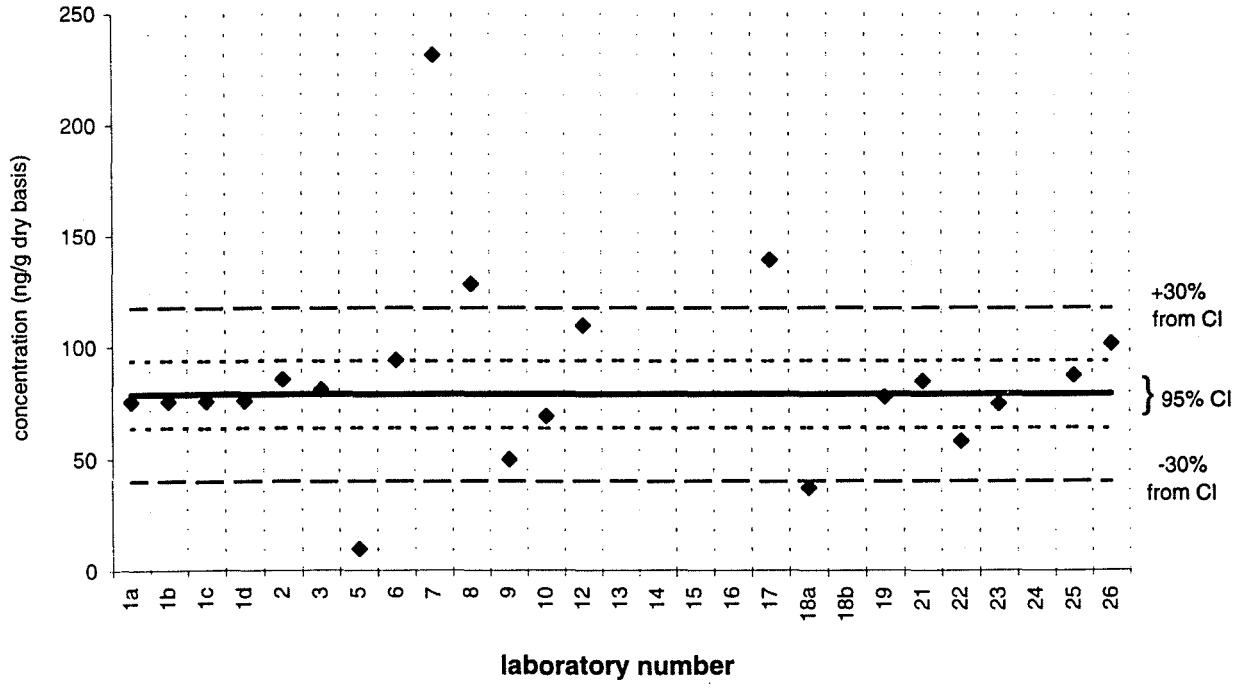
Reported Results: 23 Quantitative Results: 23



PCB 28 **SRM 1974a**

Noncertified Value = 79 ± 15 ng/g (dry basis)

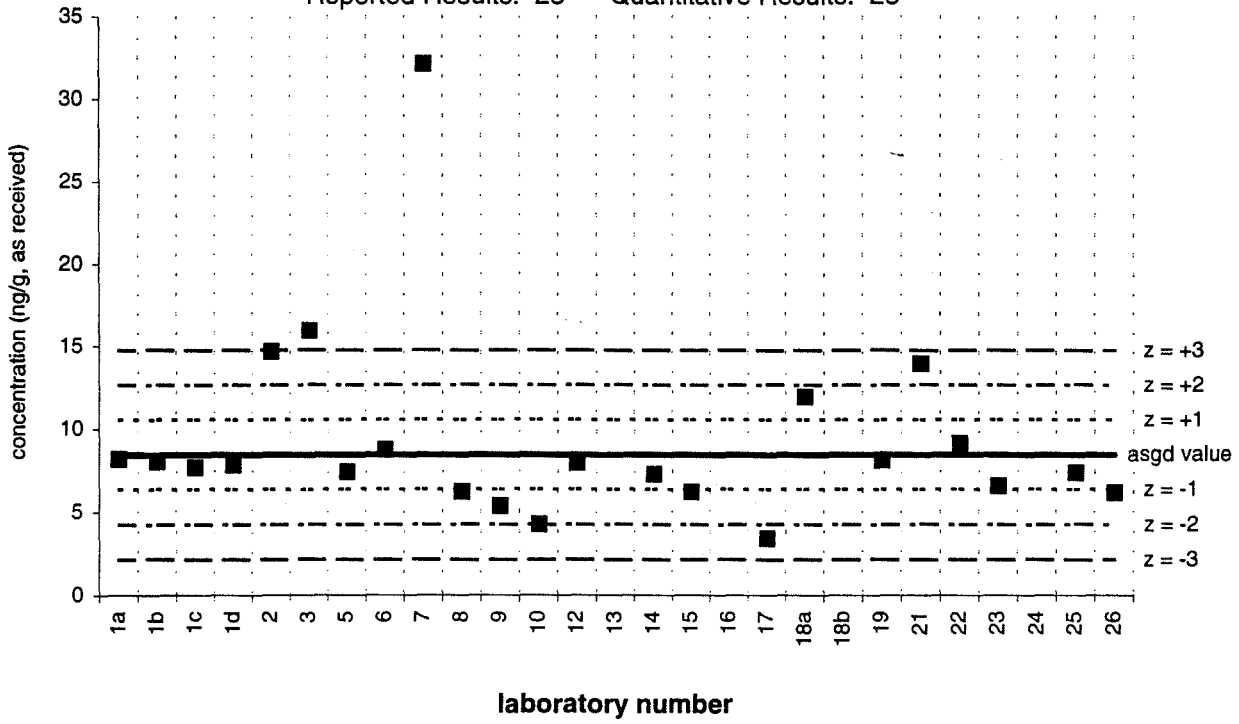
Reported Results: 21 Quantitative Results: 21



PCB 52 **Tissue VIII (QA97TIS8)**

Assigned value = 8.41 ng/g s = 3.31 ng/g 95% CL = 1.55 ng/g (as rcvd)

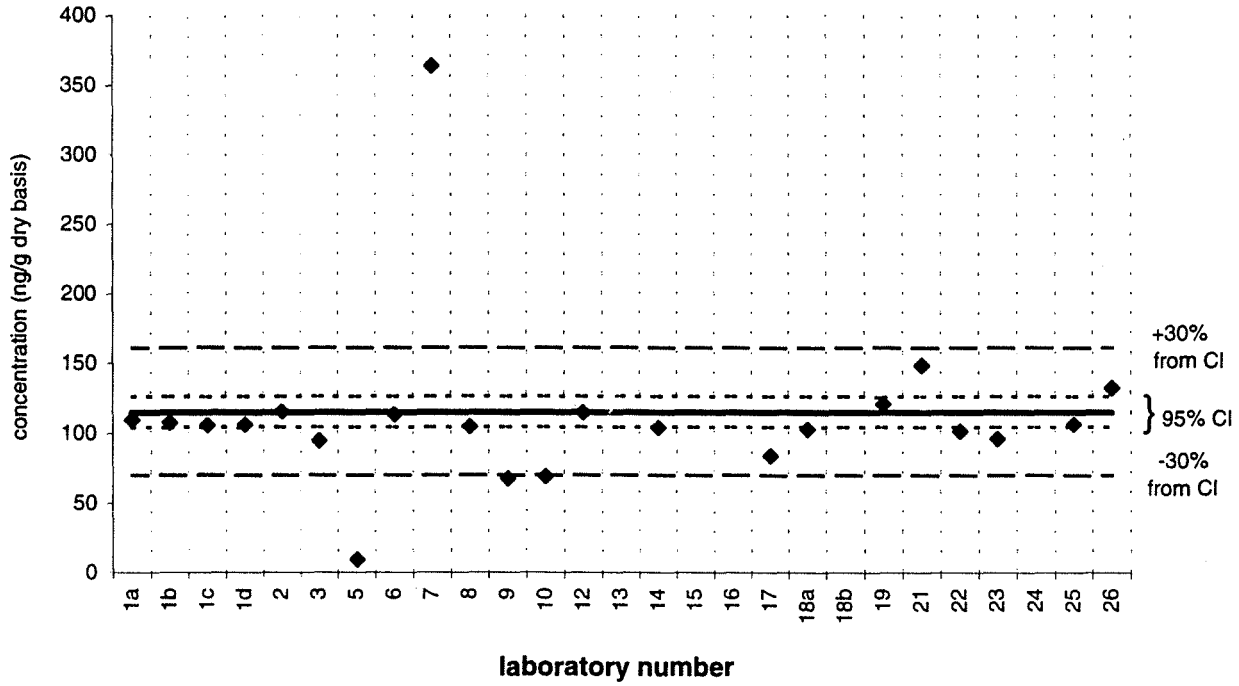
Reported Results: 23 Quantitative Results: 23



PCB 52 **SRM 1974a**

Certified Value = 115 ± 11 ng/g (dry basis)

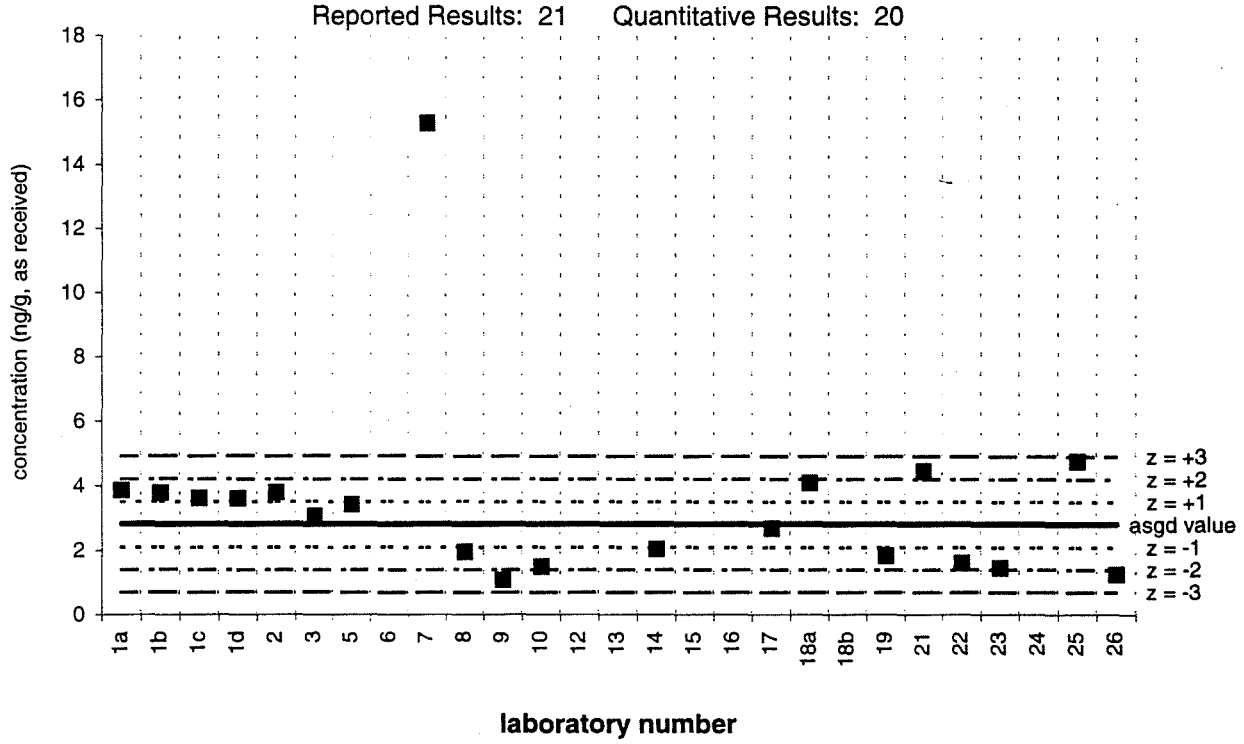
Reported Results: 22 Quantitative Results: 22



PCB 44 **Tissue VIII (QA97TIS8)**

Assigned value = 2.82 ng/g s = 1.22 ng/g 95% CL = 0.61 ng/g (as rcvd)

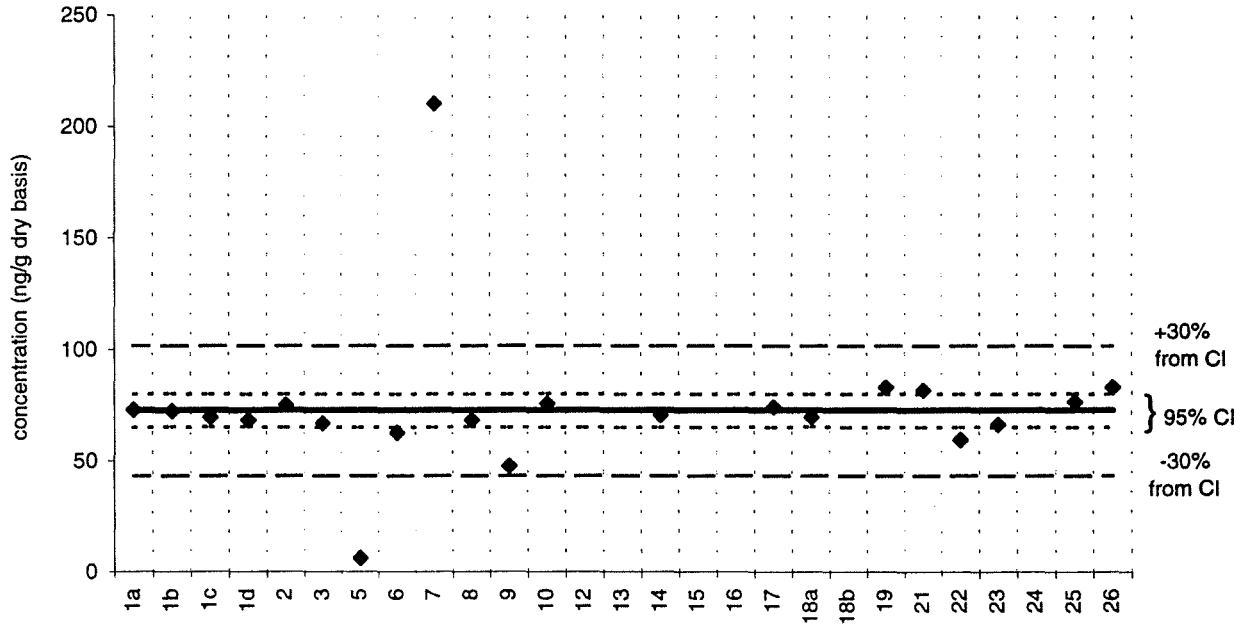
Reported Results: 21 Quantitative Results: 20

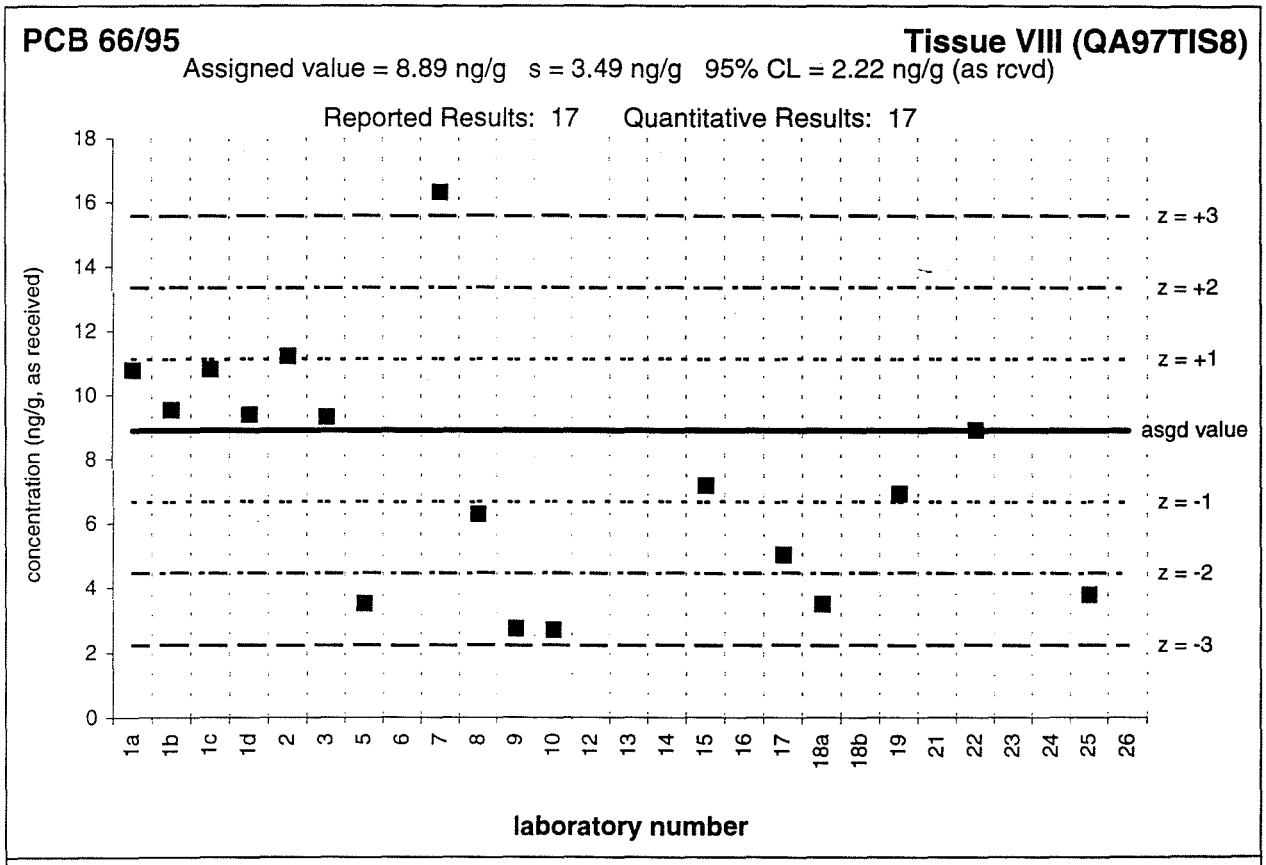


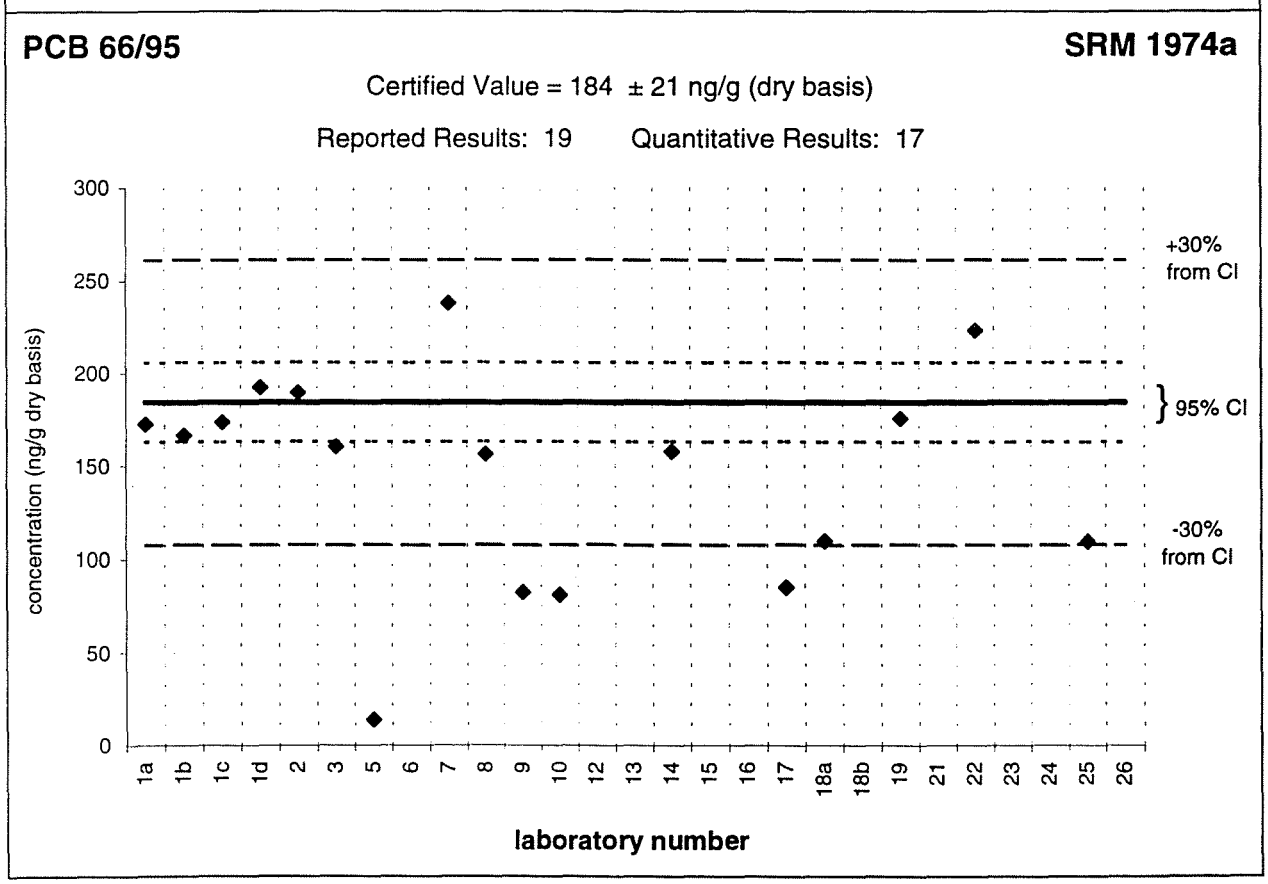
PCB 44 **SRM 1974a**

Certified Value = 72.7 ± 7.4 ng/g (dry basis)

Reported Results: 21 Quantitative Results: 21



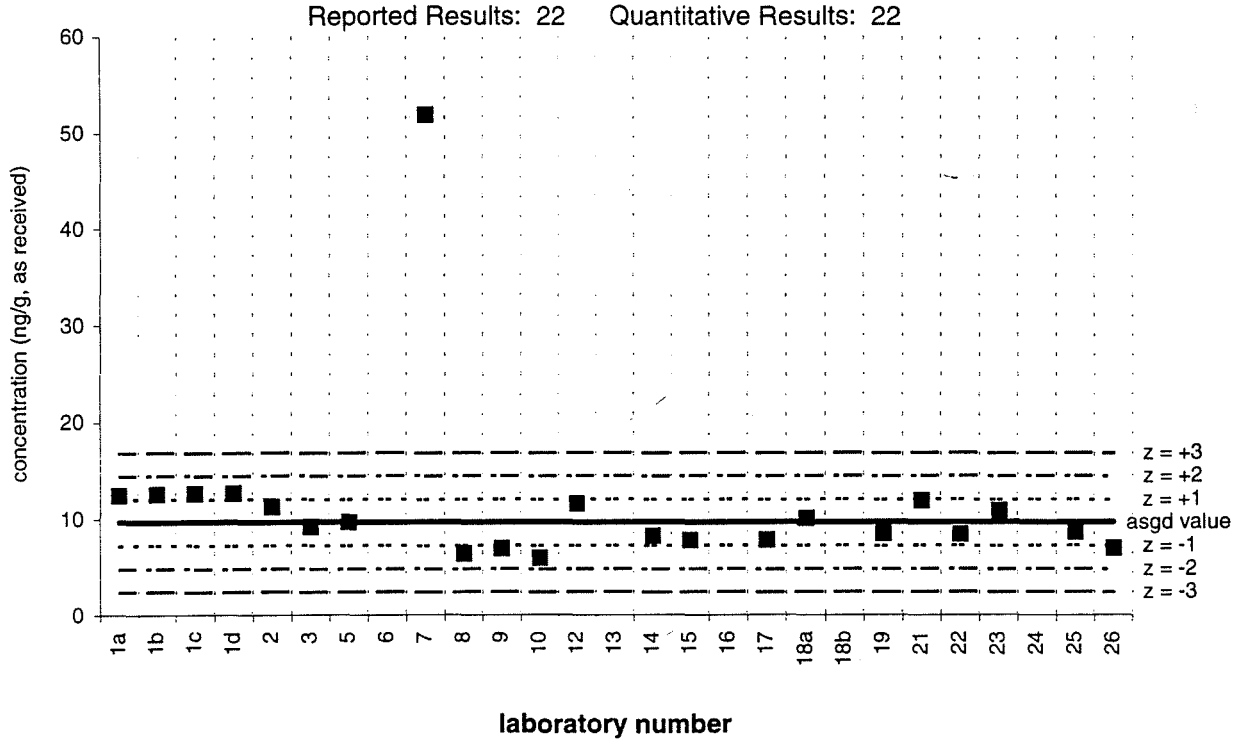

PCB 66/95
Tissue VIII (QA97TIS8)
Assigned value = 8.89 ng/g s = 3.49 ng/g 95% CL = 2.22 ng/g (as rcvd)
Reported Results: 17 Quantitative Results: 17
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


PCB 66/95
SRM 1974a
Certified Value = 184 ± 21 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 17
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

PCB 101/90 **Tissue VIII (QA97TIS8)**

Assigned value = 9.63 ng/g s = 2.31 ng/g 95% CL = 1.11 ng/g (as rcvd)

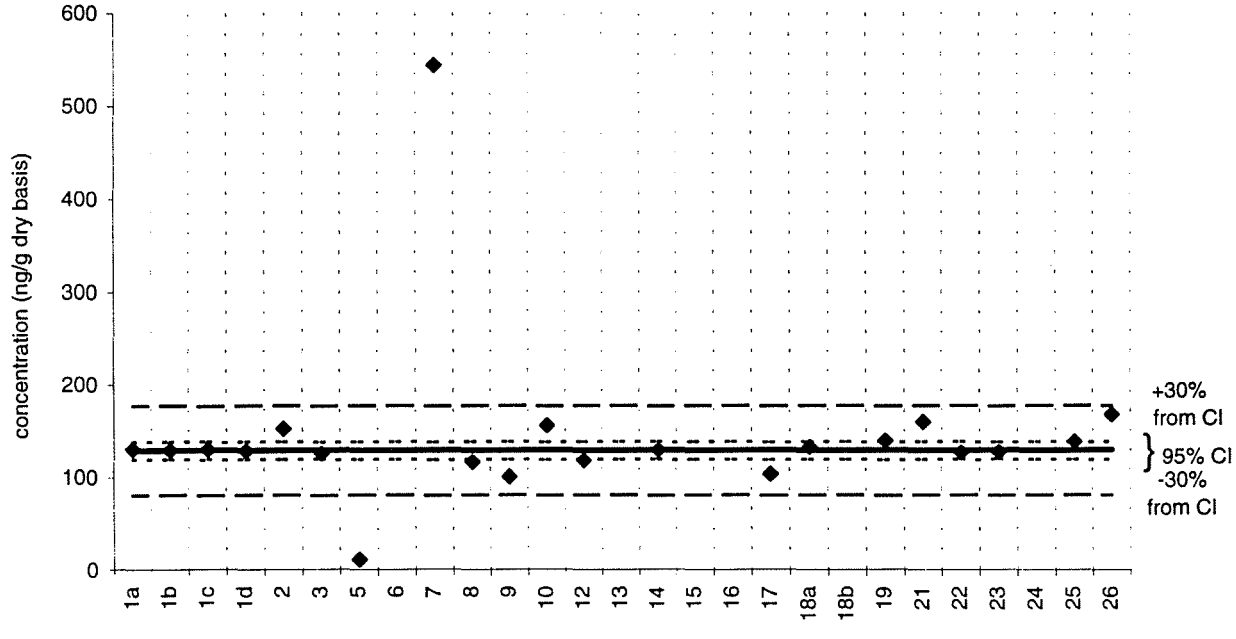
Reported Results: 22 Quantitative Results: 22



PCB 101/90 **SRM 1974a**

Certified Value = 128.3 ± 9.7 ng/g (dry basis)

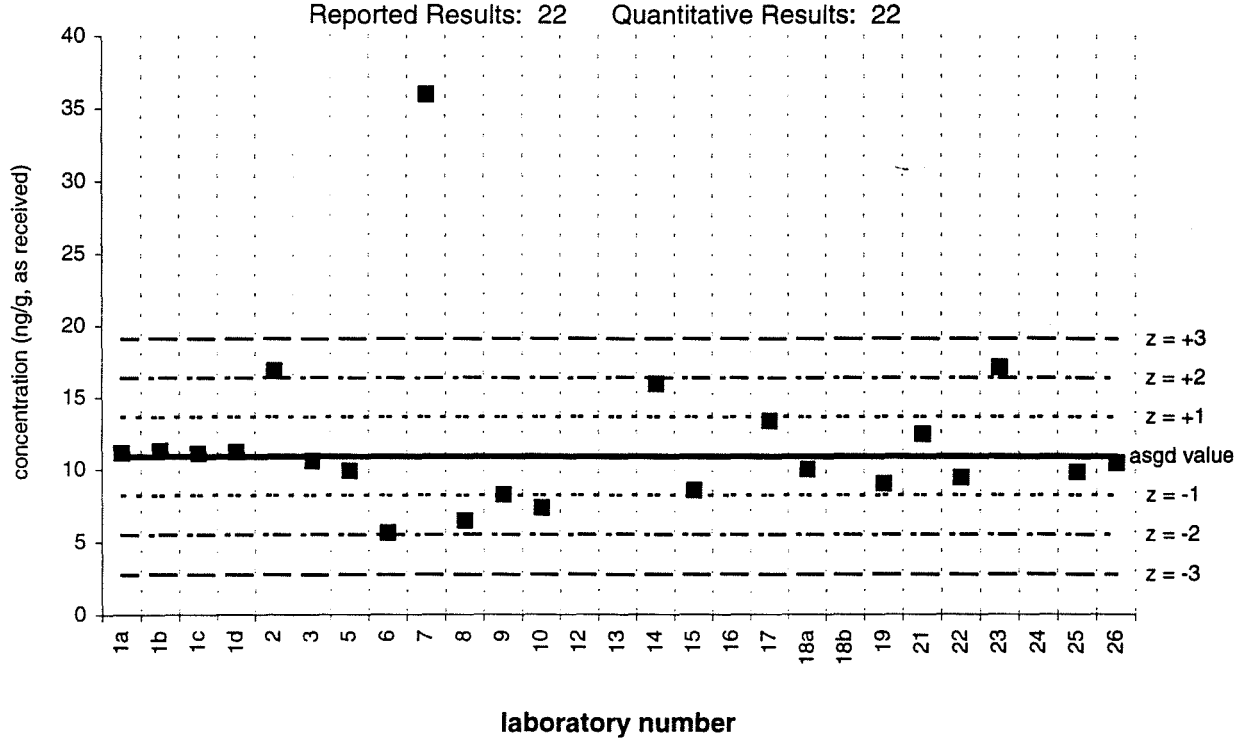
Reported Results: 21 Quantitative Results: 21



PCB 118 **Tissue VIII (QA97TIS8)**

Assigned value = 10.9 ng/g s = 3.2 ng/g 95% CL = 1.5 ng/g (as rcvd)

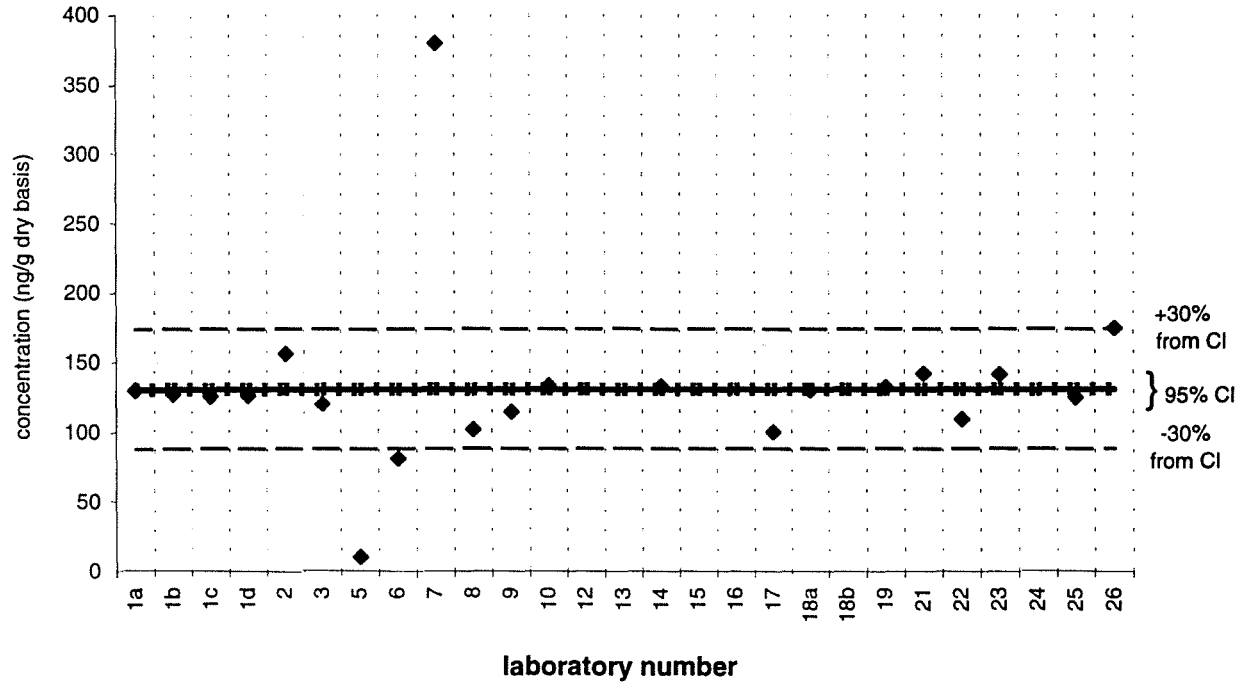
Reported Results: 22 Quantitative Results: 22



PCB 118 **SRM 1974a**

Certified Value = 130.8 ± 3.6 ng/g (dry basis)

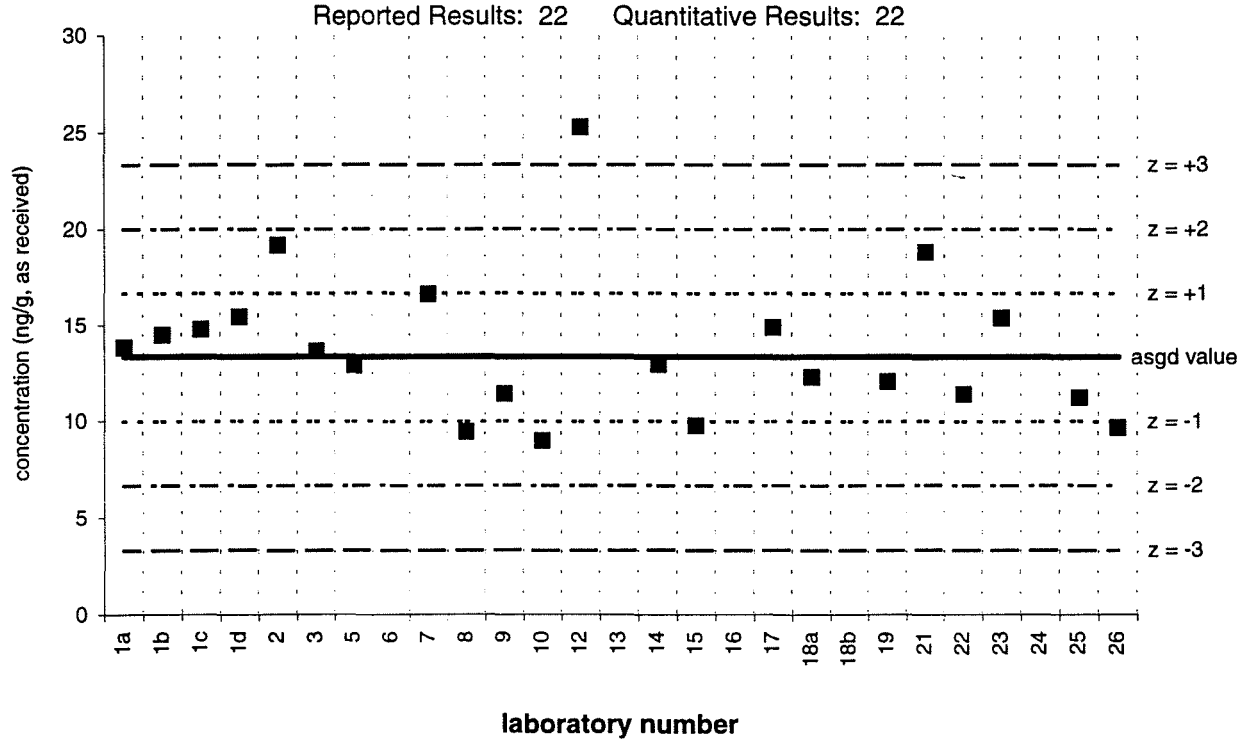
Reported Results: 21 Quantitative Results: 21



PCB 153 **Tissue VIII (QA97TIS8)**

Assigned value = 13.3 ng/g s = 2.9 ng/g 95% CL = 1.4 ng/g (as rcvd)

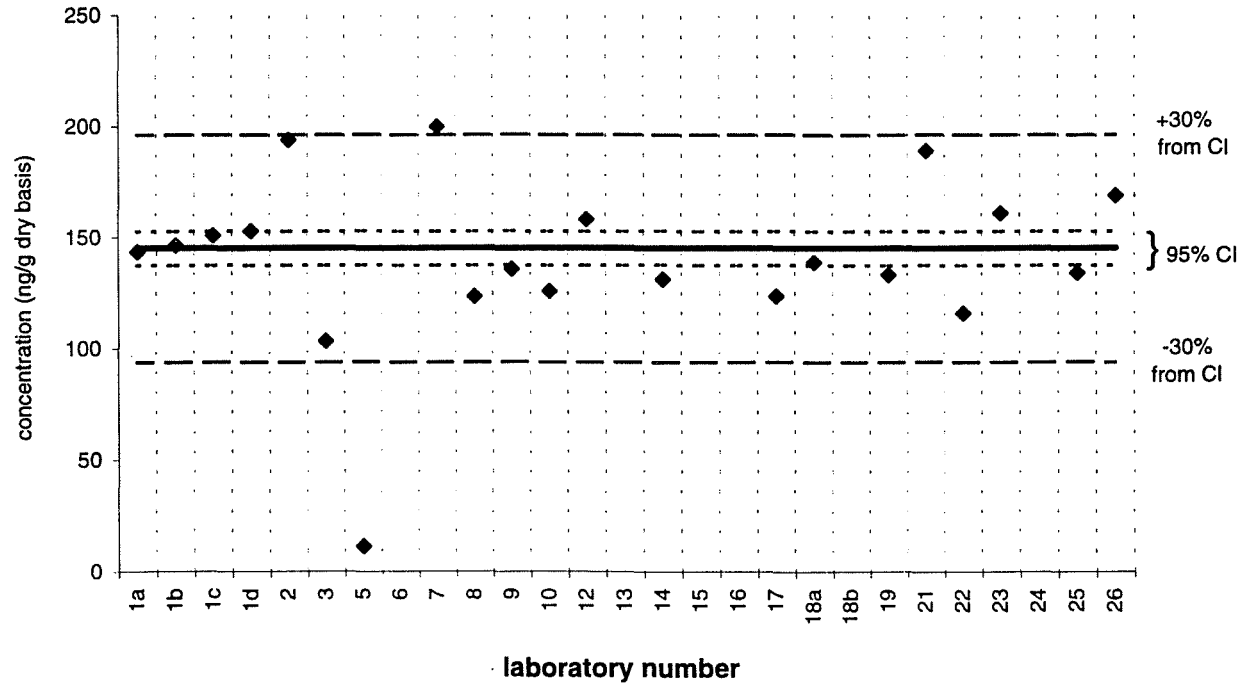
Reported Results: 22 Quantitative Results: 22



PCB 153 **SRM 1974a**

Certified Value = 145.2 ± 7.6 ng/g (dry basis)

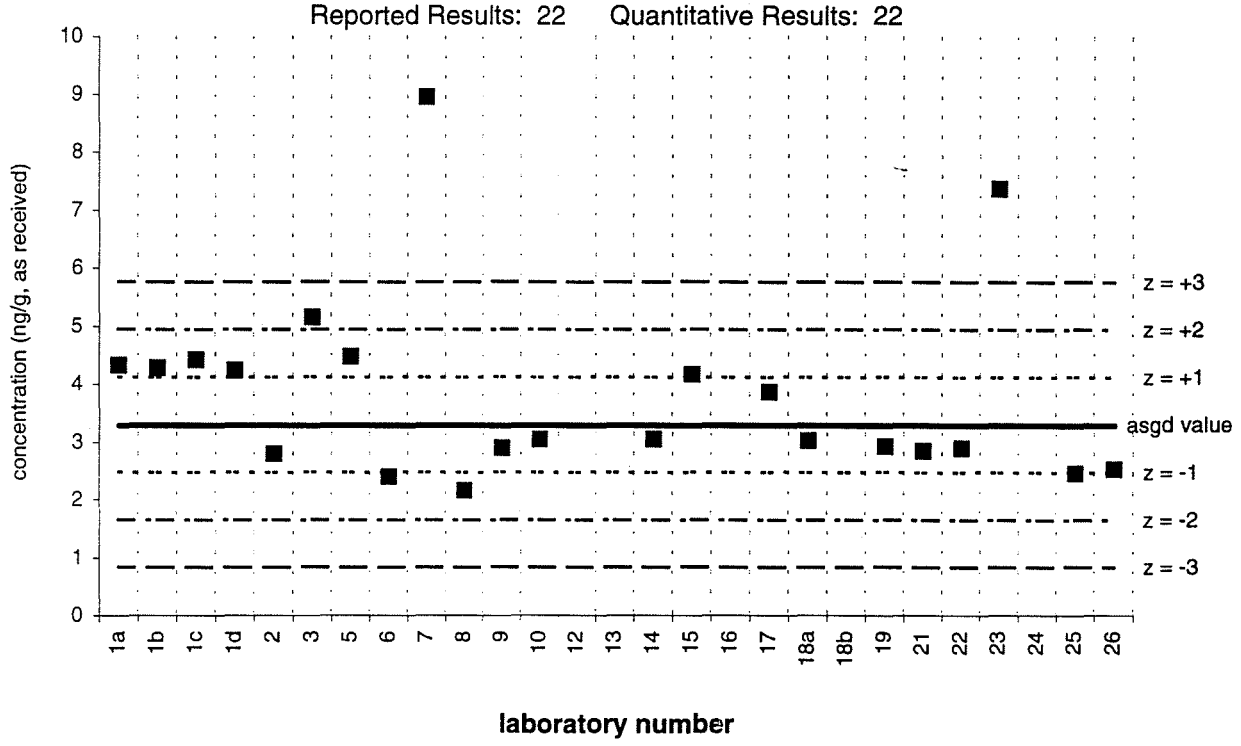
Reported Results: 21 Quantitative Results: 21



PCB 105 **Tissue VIII (QA97TIS8)**

Assigned value = 3.29 ng/g s = 0.85 ng/g 95% CL = 0.42 ng/g (as rcvd)

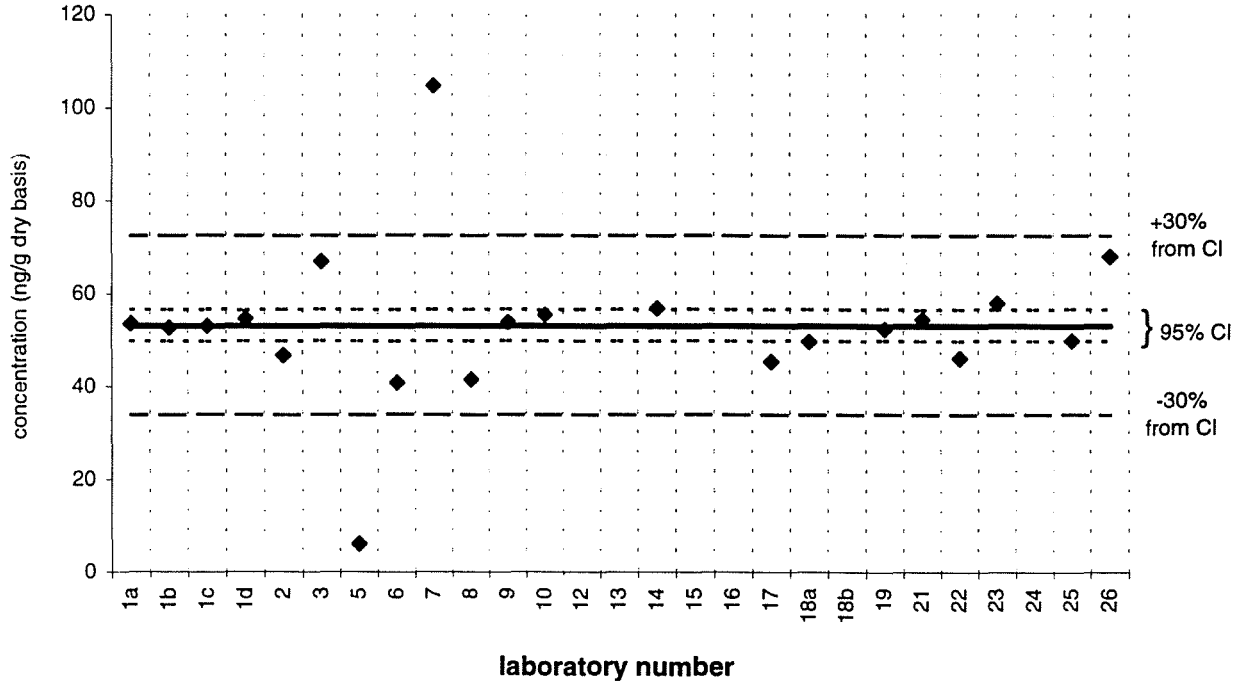
Reported Results: 22 Quantitative Results: 22



PCB 105 **SRM 1974a**

Certified Value = 53.0 ± 3.4 ng/g (dry basis)

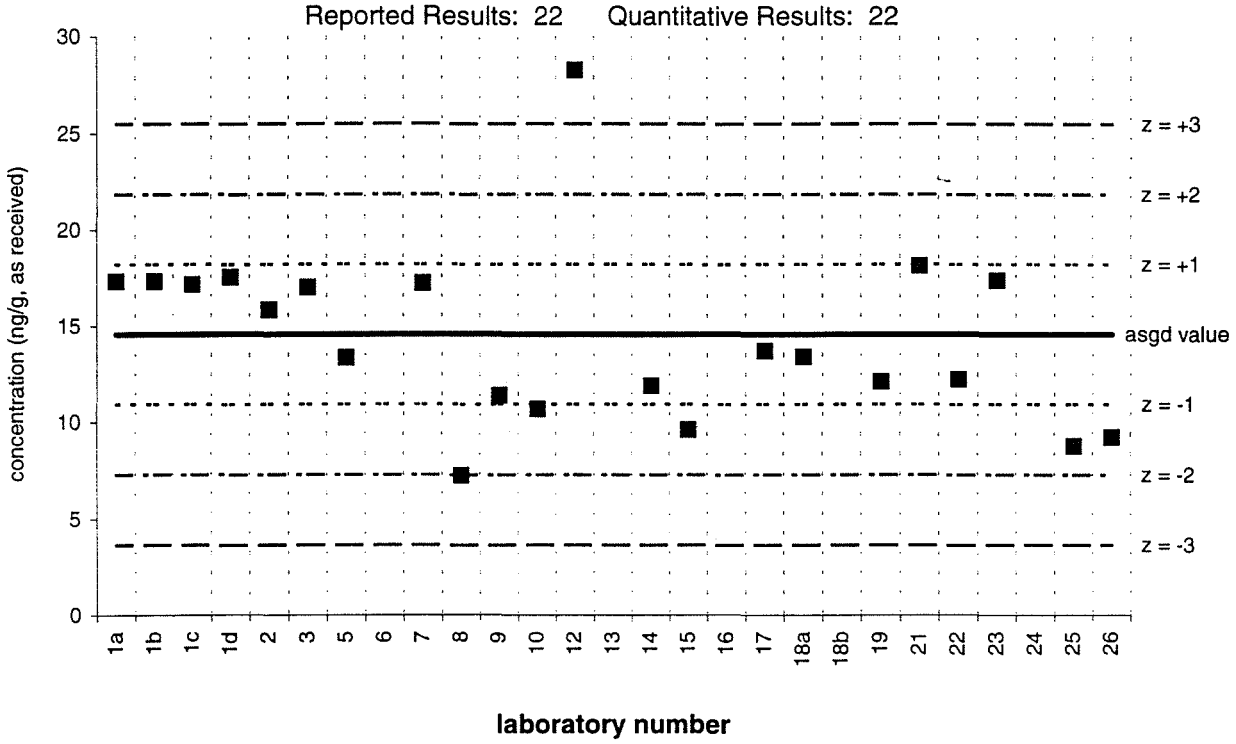
Reported Results: 21 Quantitative Results: 21



PCB 138/163/164 **Tissue VIII (QA97TIS8)**

Assigned value = 14.6 ng/g s = 4.8 ng/g 95% CL = 2.3 ng/g (as rcvd)

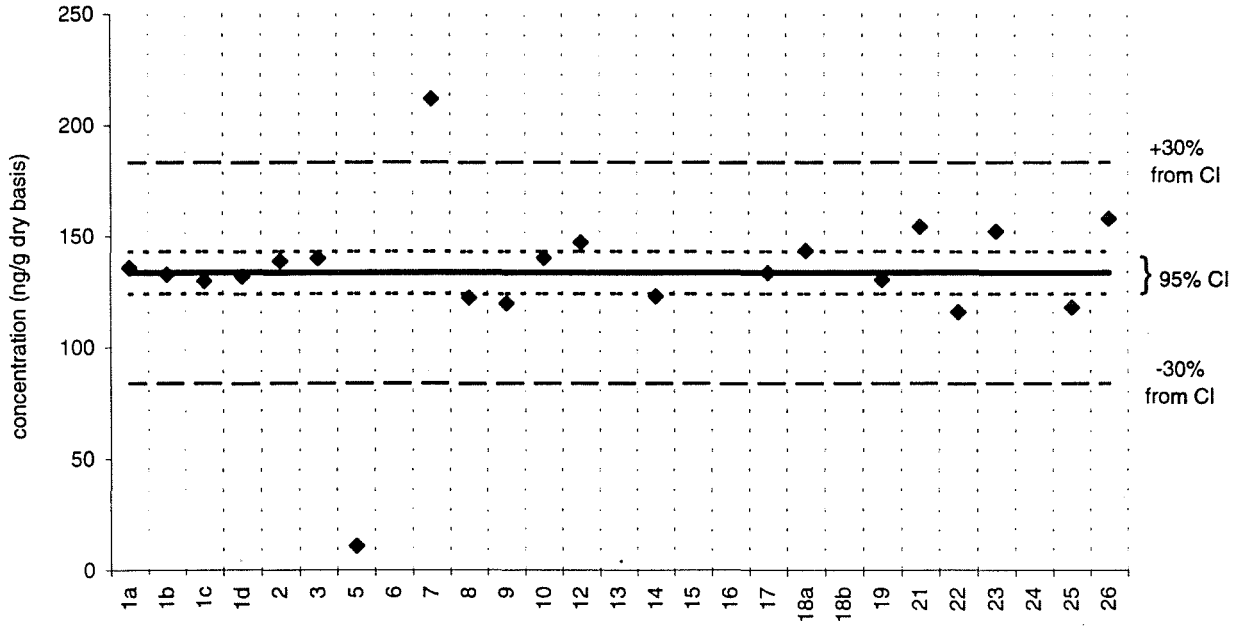
Reported Results: 22 Quantitative Results: 22



PCB 138/163/164 **SRM 1974a**

Certified Value = 133.5 ± 9.5 ng/g (dry basis)

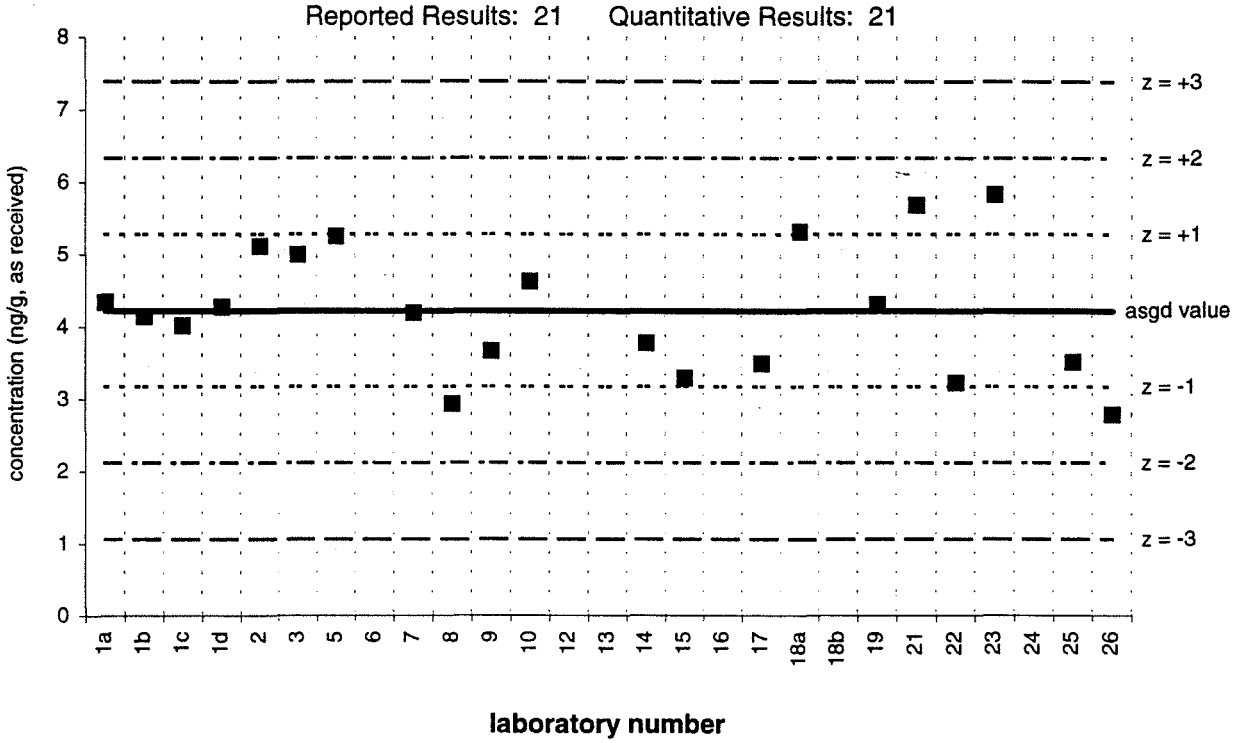
Reported Results: 21 Quantitative Results: 21



PCB 187/182 **Tissue VIII (QA97TIS8)**

Assigned value = 4.22 ng/g s = 0.87 ng/g 95% CL = 0.42 ng/g (as rcvd)

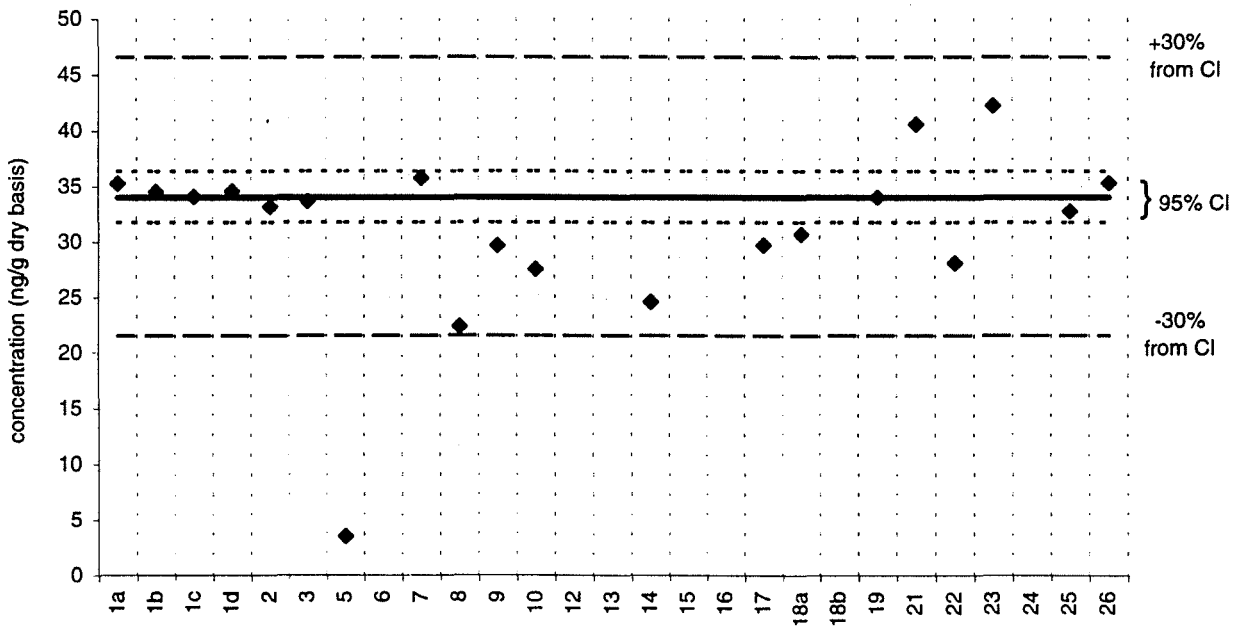
Reported Results: 21 Quantitative Results: 21



PCB 187/182 **SRM 1974a**

Certified Value = 34.0 ± 2.3 ng/g (dry basis)

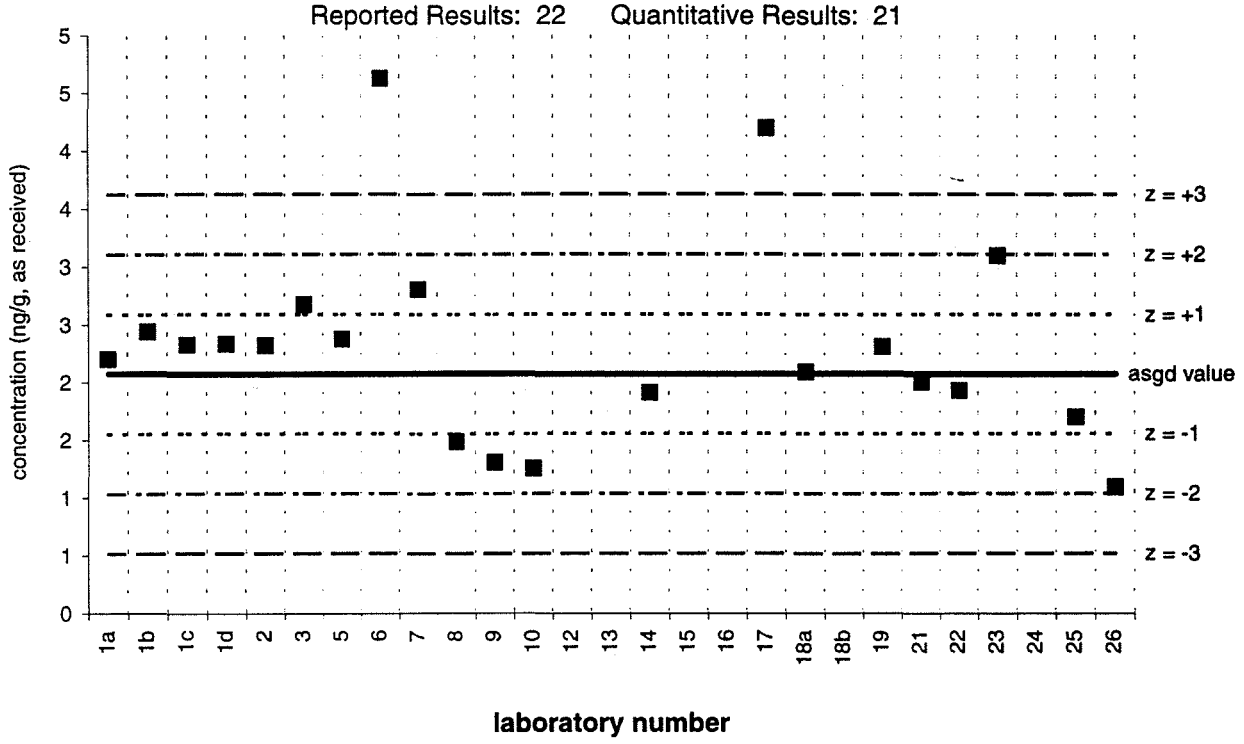
Reported Results: 20 Quantitative Results: 20



PCB 128 **Tissue VIII (QA97TIS8)**

Assigned value = 2.07 ng/g s = 0.55 ng/g 95% CL = 0.27 ng/g (as rcvd)

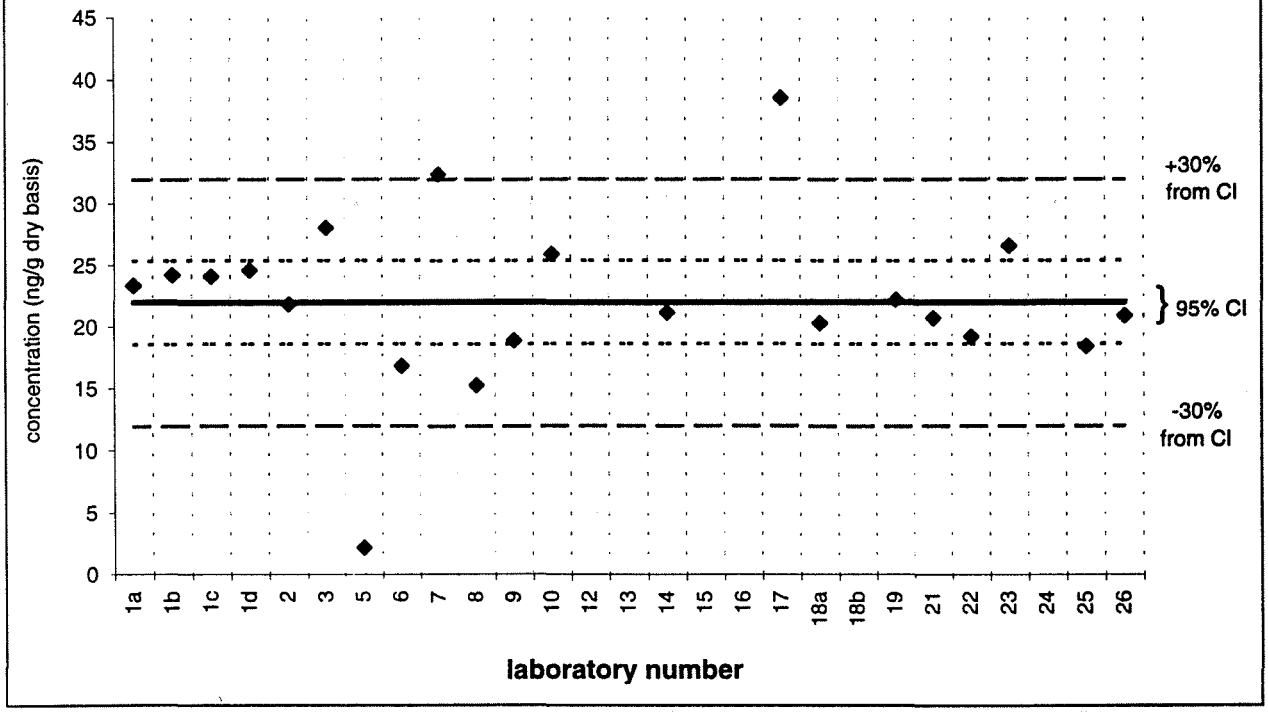
Reported Results: 22 Quantitative Results: 21



PCB 128 **SRM 1974a**

Certified Value = 22.0 ± 3.4 ng/g (dry basis)

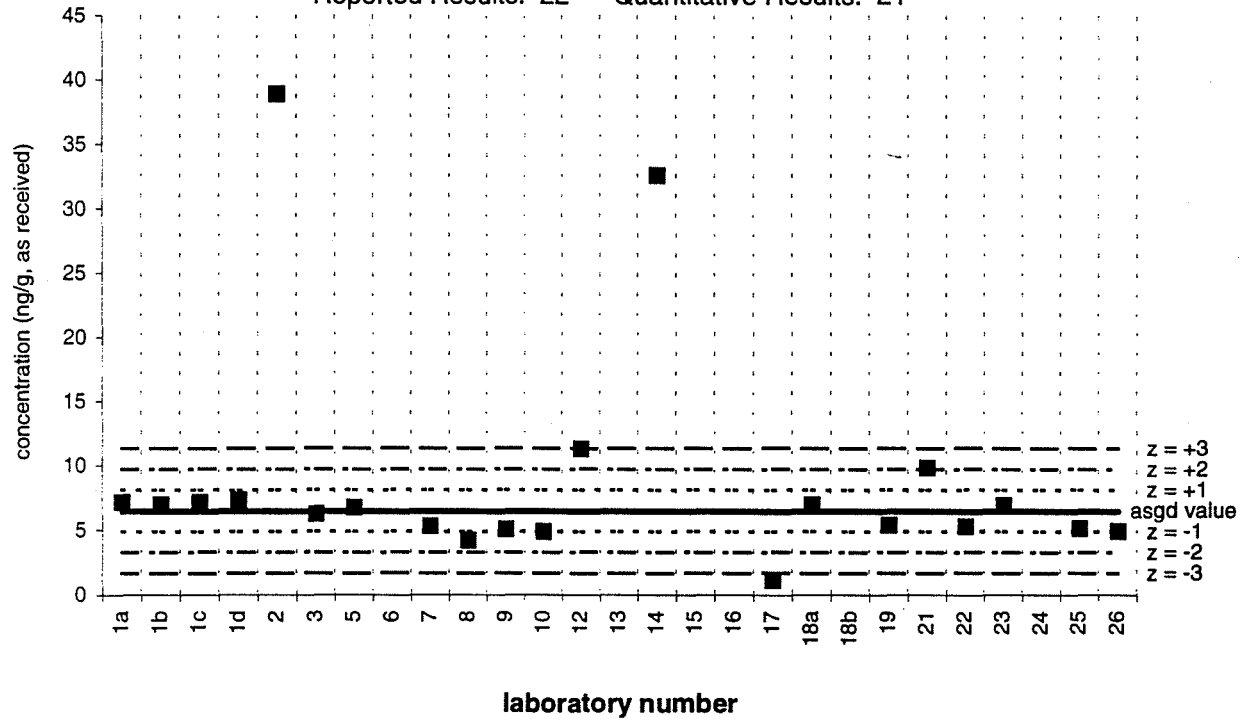
Reported Results: 21 Quantitative Results: 21



PCB 180 **Tissue VIII (QA97TIS8)**

Assigned value = 6.46 ng/g s = 1.86 ng/g 95% CL = 0.96 ng/g (as rcvd)

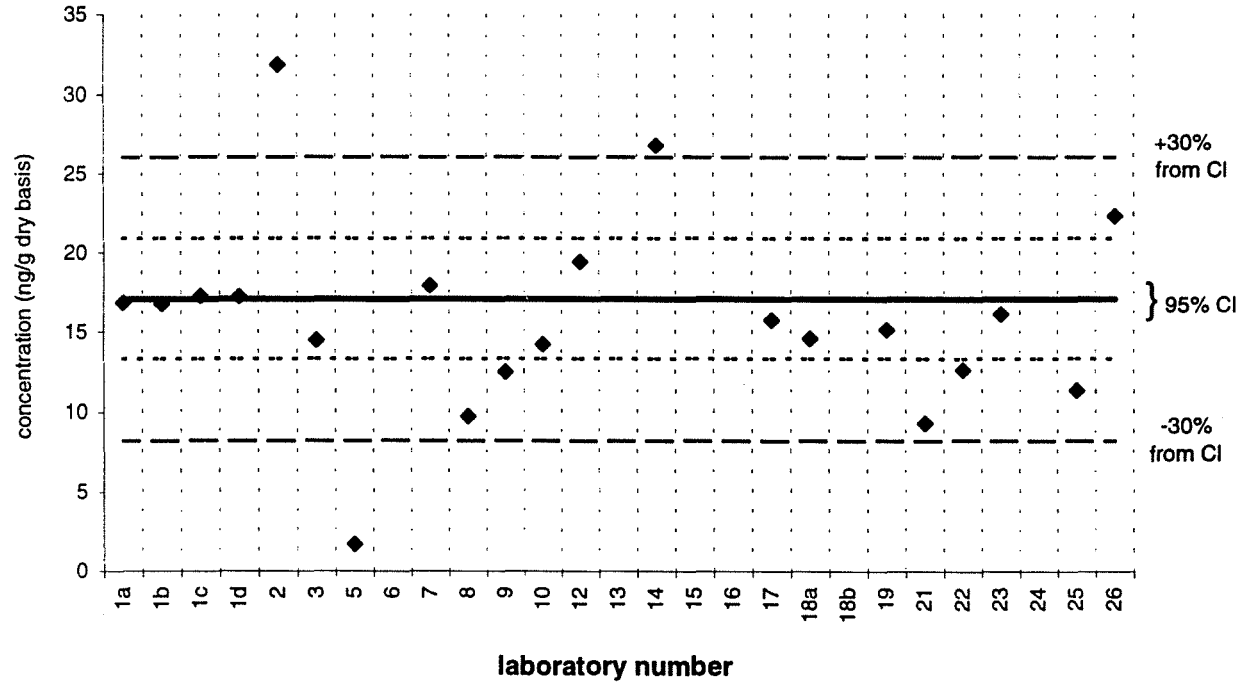
Reported Results: 22 Quantitative Results: 21



PCB 180 **SRM 1974a**

Certified Value = 17.1 ± 3.8 ng/g (dry basis)

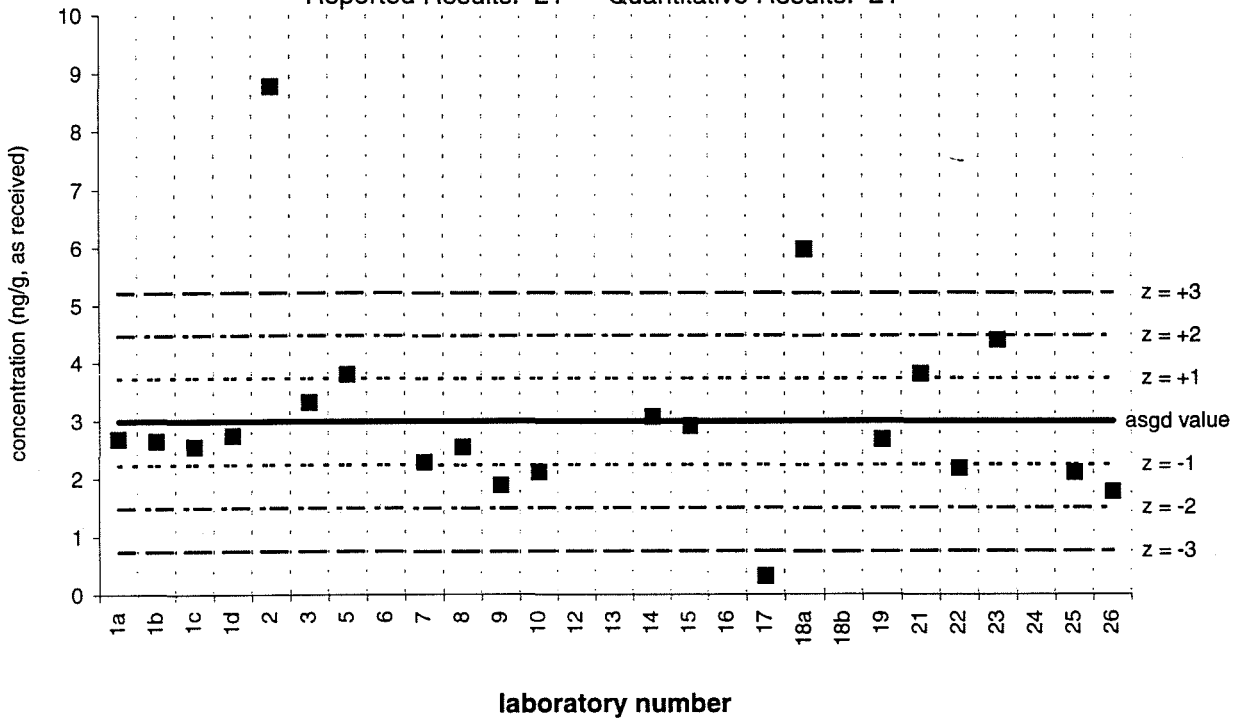
Reported Results: 21 Quantitative Results: 21



PCB 170/190 **Tissue VIII (QA97TIS8)**

Assigned value = 2.98 ng/g s = 1.07 ng/g 95% CL = 0.59 ng/g (as rcvd)

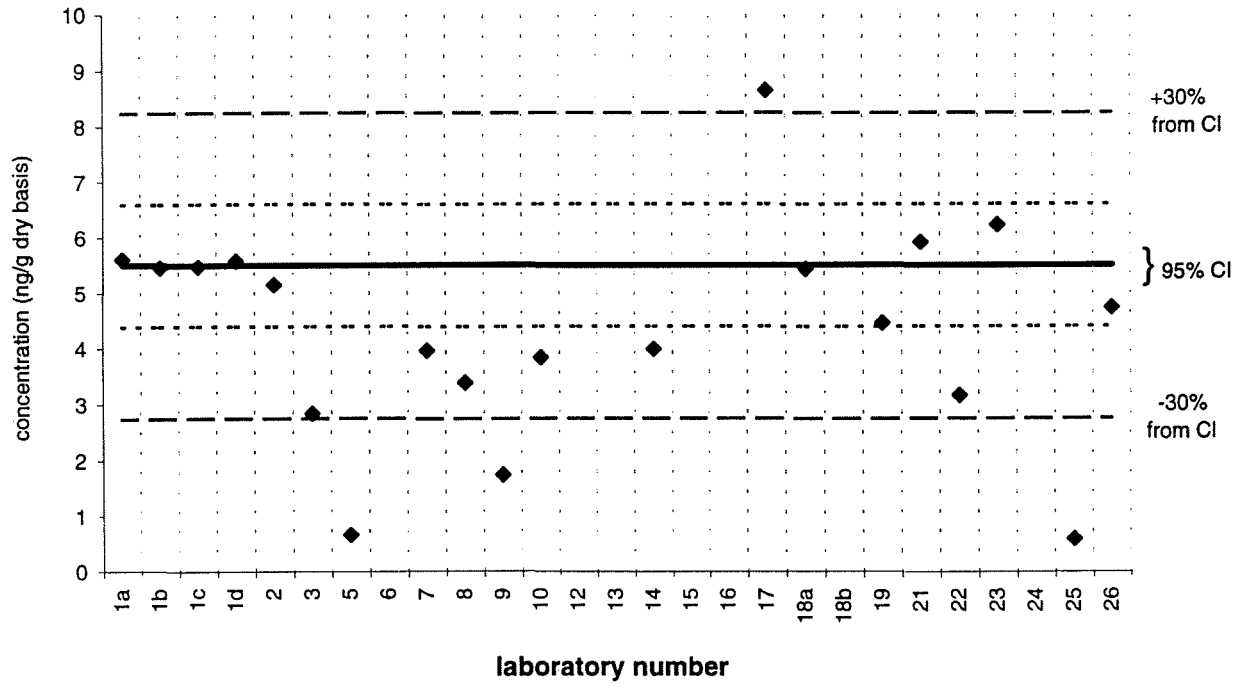
Reported Results: 21 Quantitative Results: 21

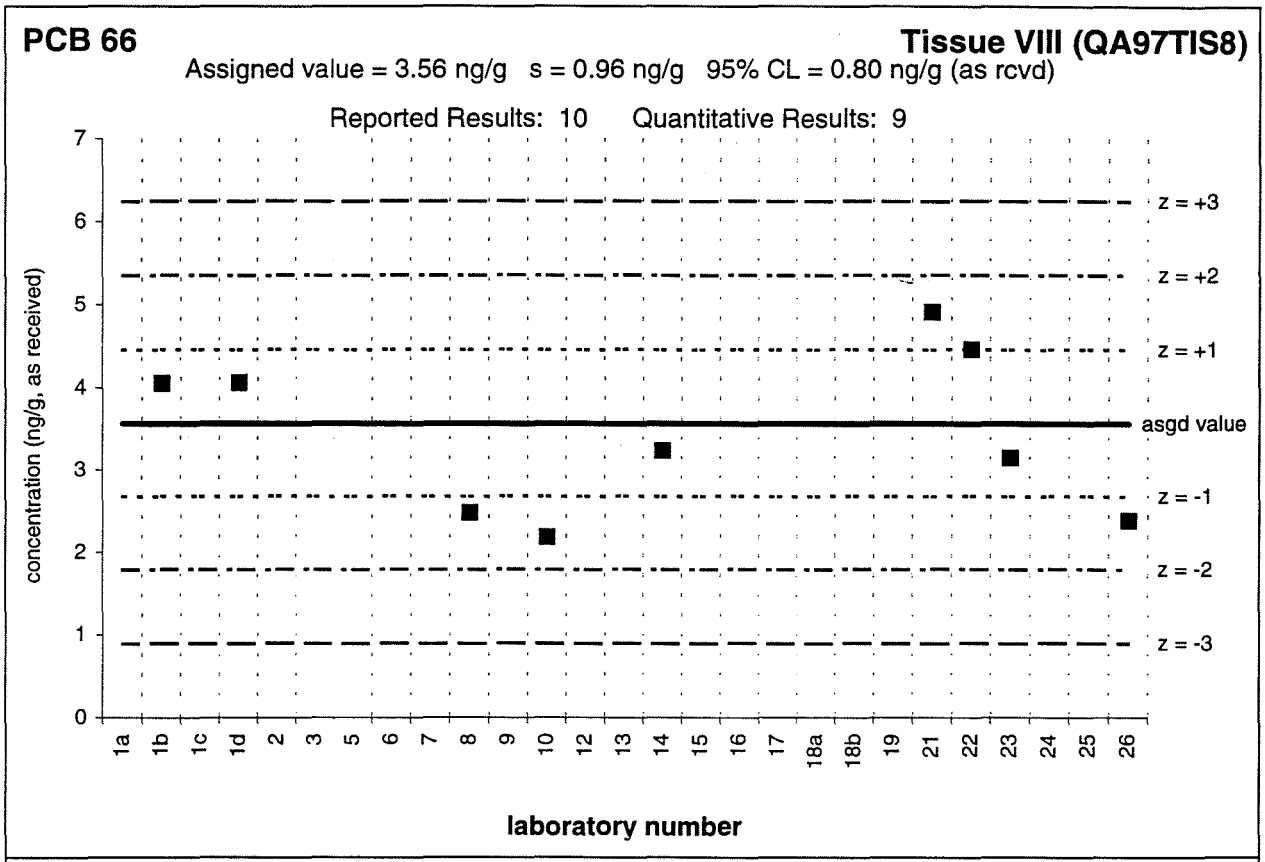


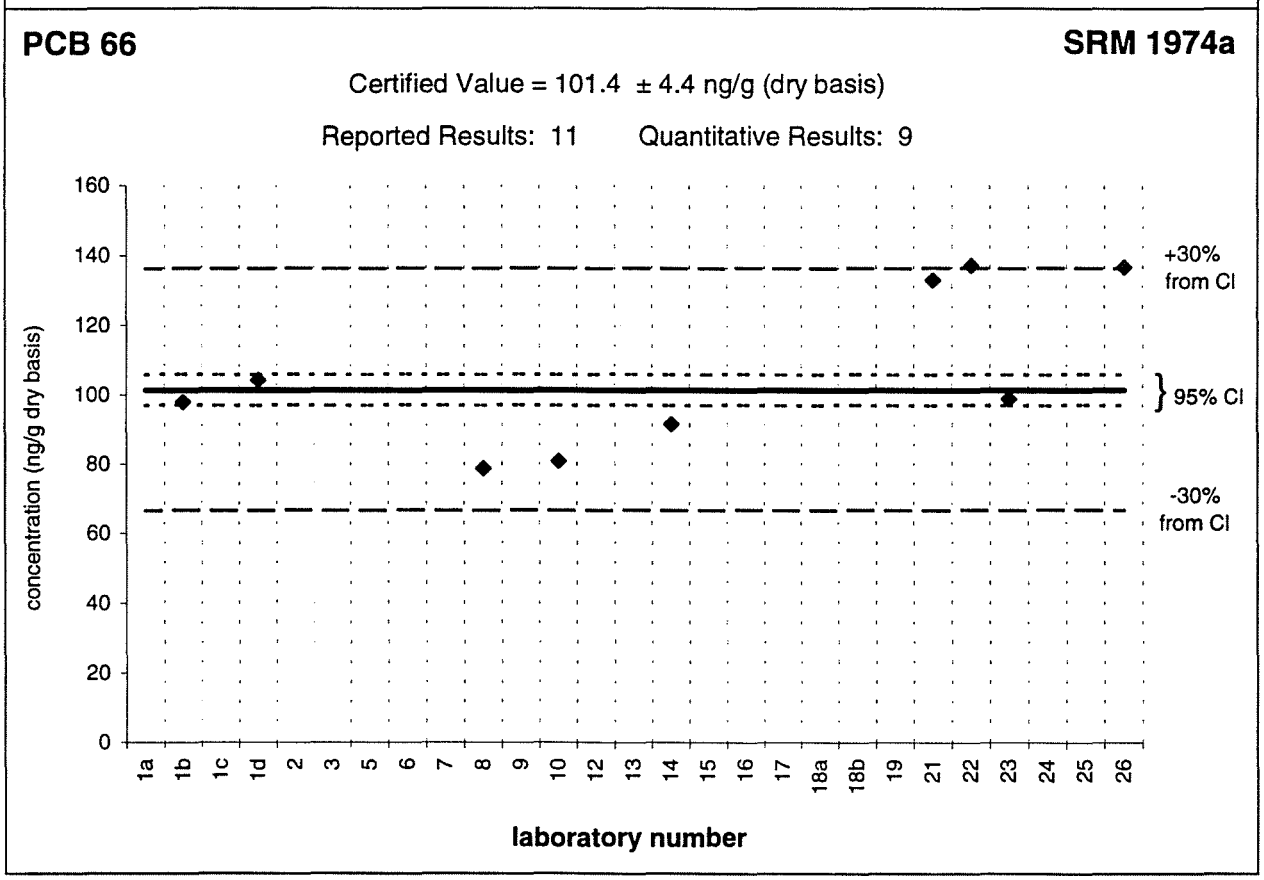
PCB 170/190 **SRM 1974a**

Certified ? ck for 170 Value = 5.5 ± 1.1 ng/g (dry basis)

Reported Results: 20 Quantitative Results: 20



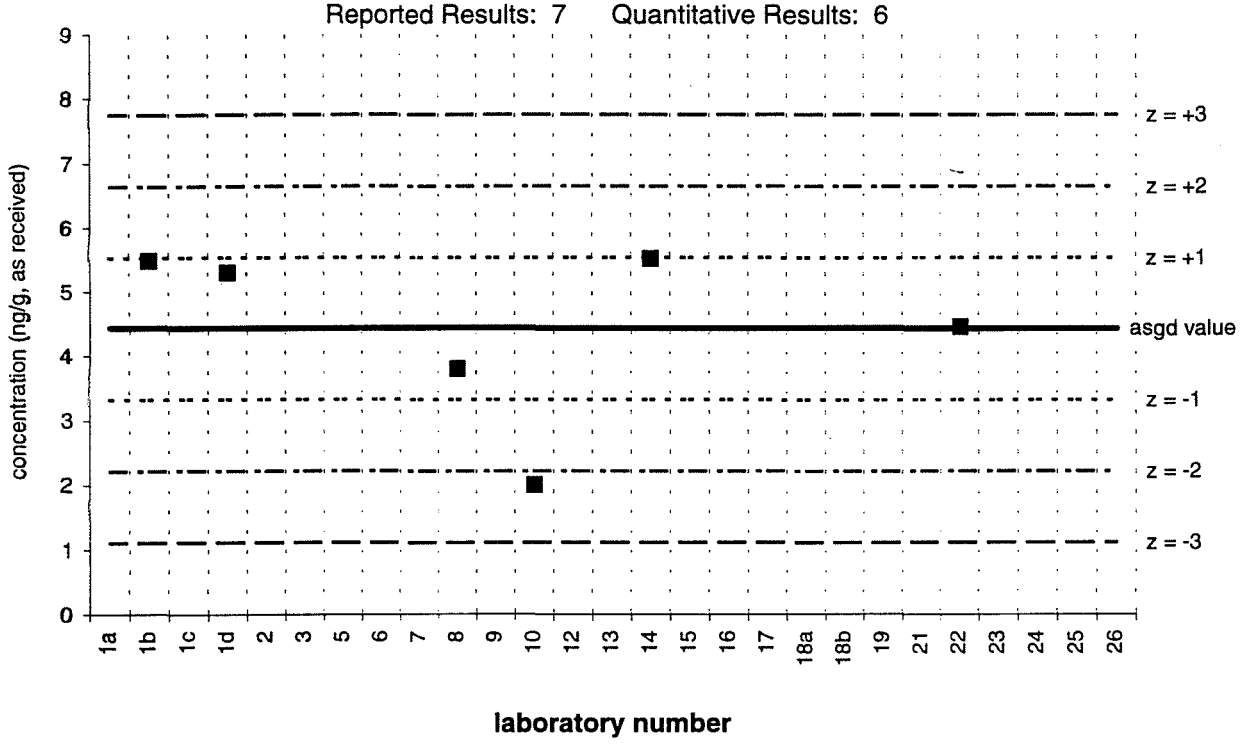

PCB 66
Tissue VIII (QA97TIS8)
Assigned value = 3.56 ng/g s = 0.96 ng/g 95% CL = 0.80 ng/g (as rcvd)
Reported Results: 10 Quantitative Results: 9
concentration (ng/g, as received)
z = +3
z = +2
z = +1
asgd value
z = -1
z = -2
z = -3
laboratory number


PCB 66
SRM 1974a
Certified Value = 101.4 ± 4.4 ng/g (dry basis)
Reported Results: 11 Quantitative Results: 9
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

PCB 95 **Tissue VIII (QA97TIS8)**

Assigned value = 4.43 ng/g s = 1.37 ng/g 95% CL = 1.44 ng/g (as rcvd)

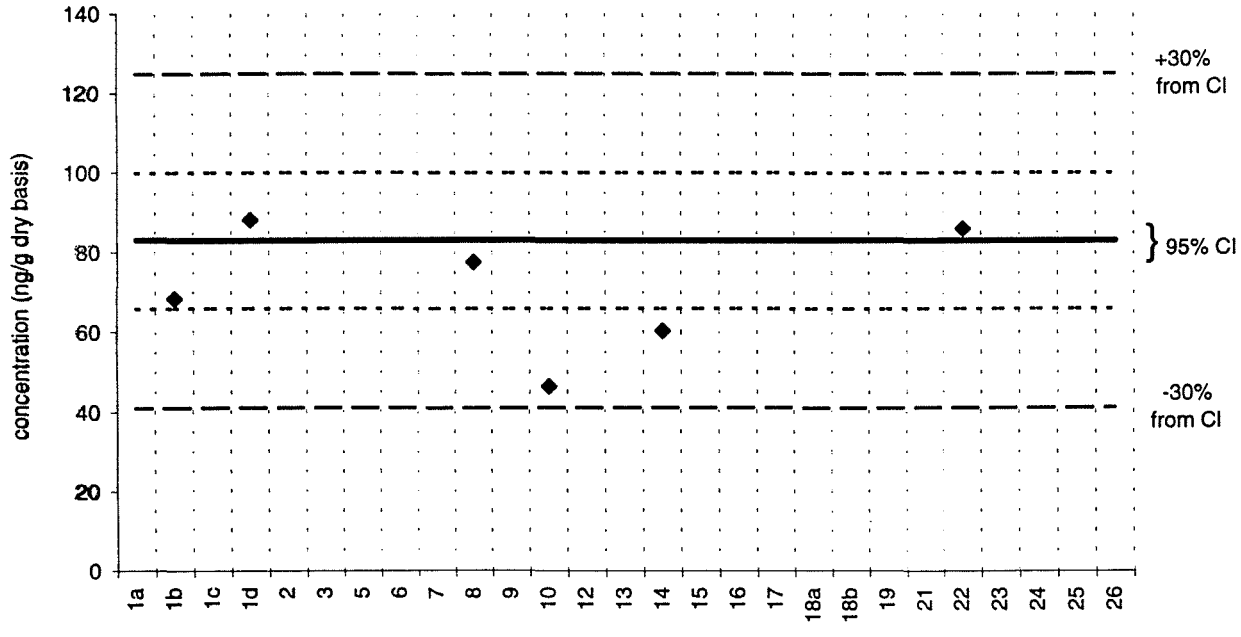
Reported Results: 7 Quantitative Results: 6



PCB 95 **SRM 1974a**

Certified Value = 83 ± 17 ng/g (dry basis)

Reported Results: 10 Quantitative Results: 6



Appendix J: Charts of Sediment VII and SRM 1941a Results by Analyte

See Tables 5, 6, and 7 and Appendix D for results reported as *<number*, DL, etc.
Charts for analytes with few reported numerical results are not included in this appendix.

For Sediment VII plots:

Solid line:	exercise assigned value
Dotted line:	z = ±1, i. e., 25% from assigned value
Dotted/dashed line:	z = ±2, i. e., 50% from assigned value
Dashed line:	z = ±3, i. e., 75% from assigned value

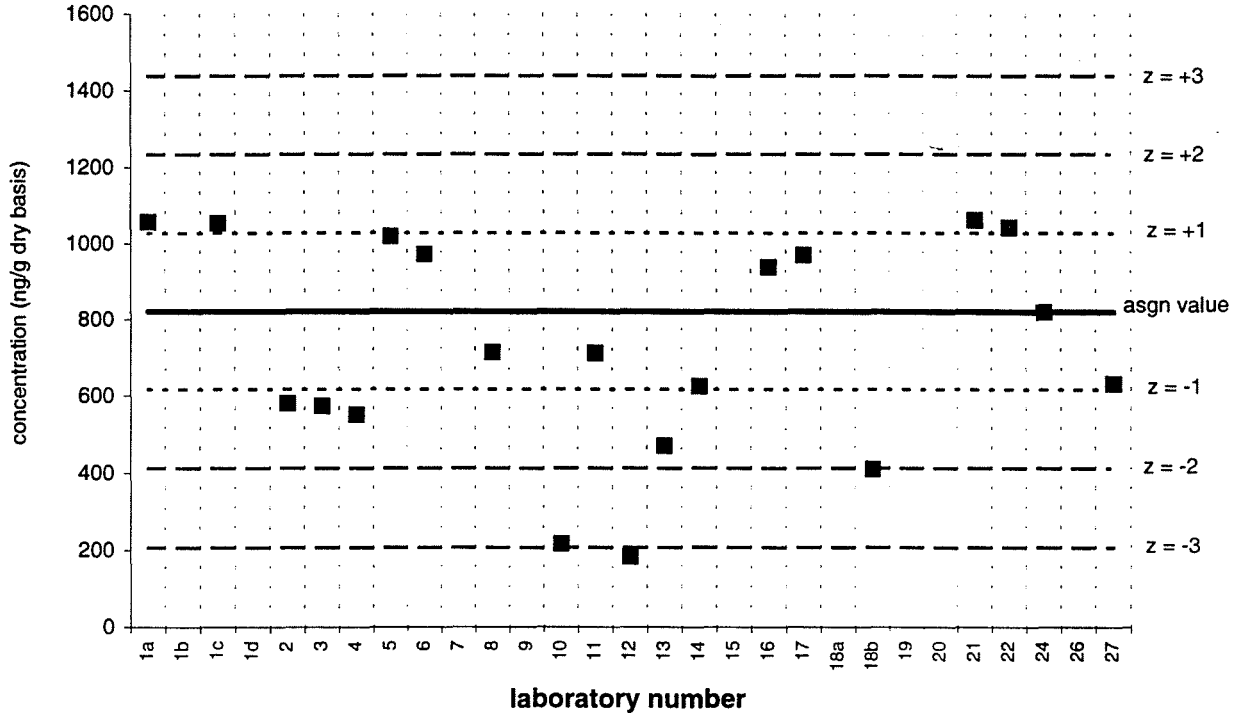
For SRM 1941a plots:

Solid line:	material certified concentration, certificate information concentration or target value (see caption of each plot)
Dotted line:	95% confidence limits
Dashed line:	30% from 95% confidence limits

naphthalene **Sediment VII (QA97SED7)**

Assigned value = 821 ng/g s = 218 ng/g 95% CL = 116 ng/g (dry basis)

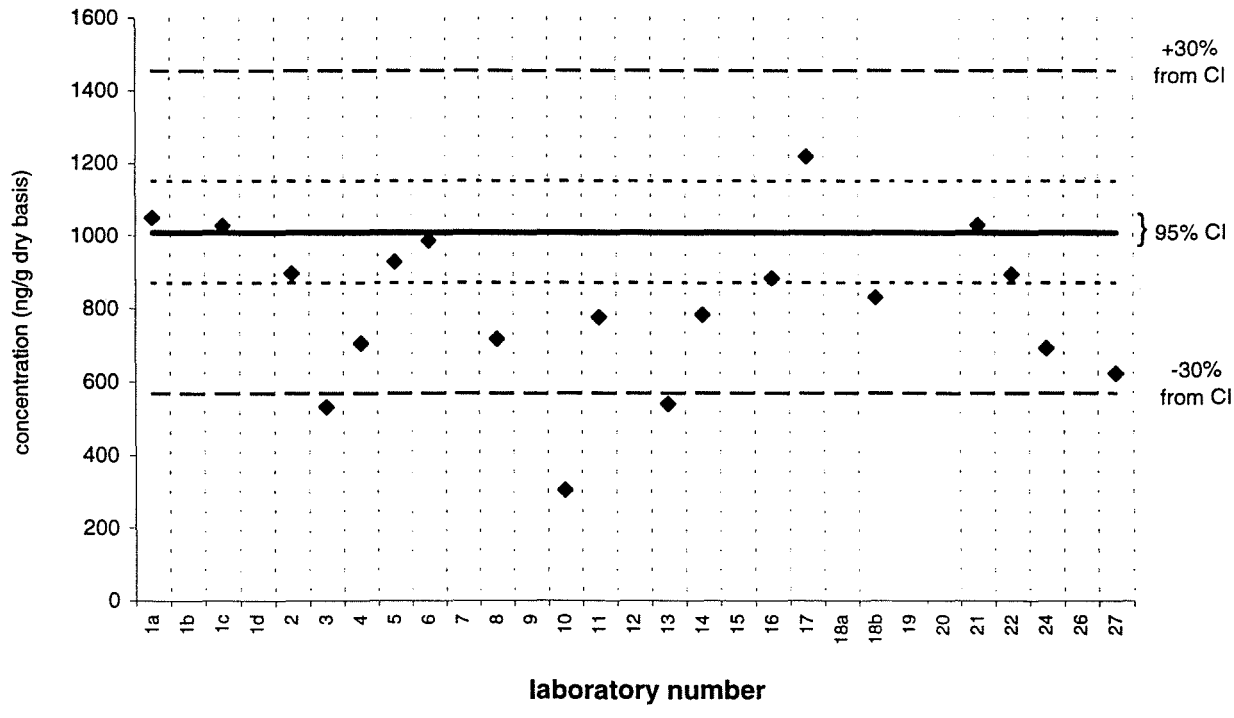
Reported Results: 20 Quantitative Results: 20



naphthalene **SRM 1941a**

Certified Value = 1010 ± 140 ng/g (dry basis)

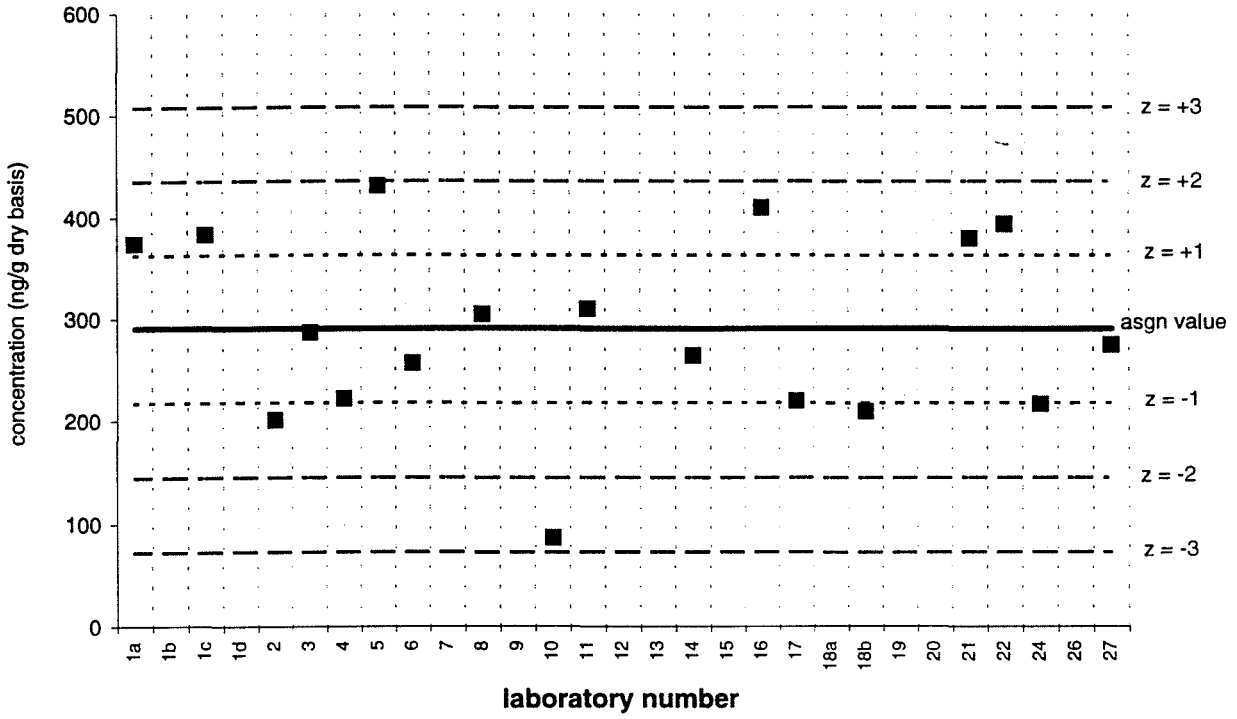
Reported Results: 19 Quantitative Results: 19



2-methylnaphthalene — Sediment VII (QA97SED7)

Assigned value = 290 ng/g s = 91 ng/g 95% CL = 45 ng/g (dry basis)

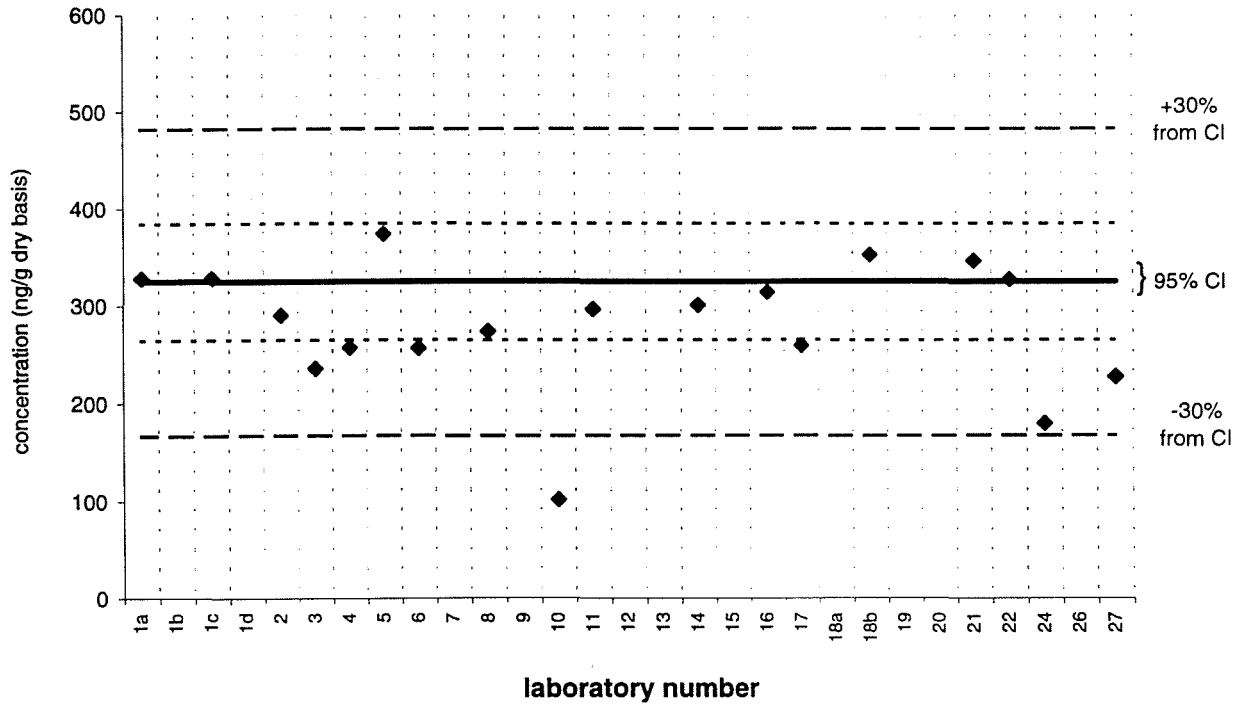
Reported Results: 18 Quantitative Results: 18

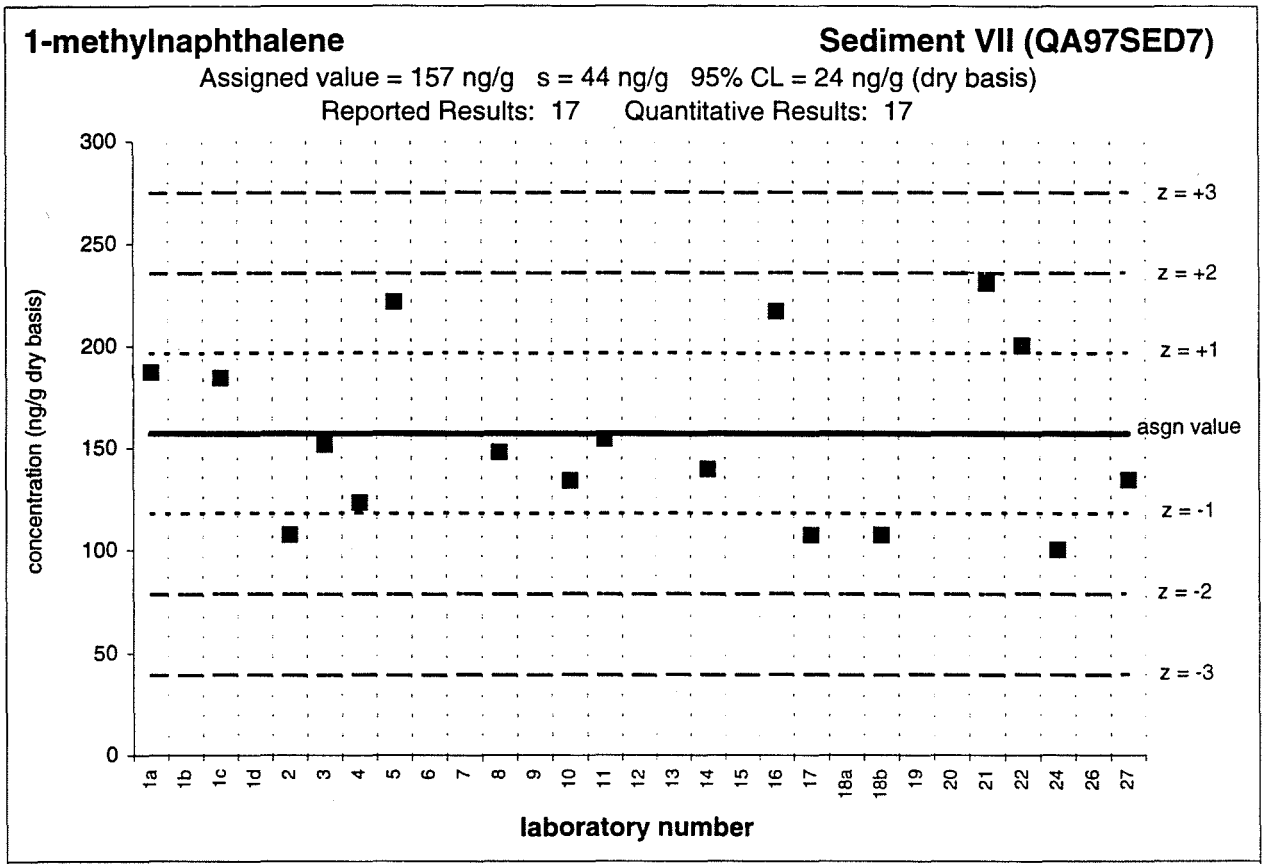


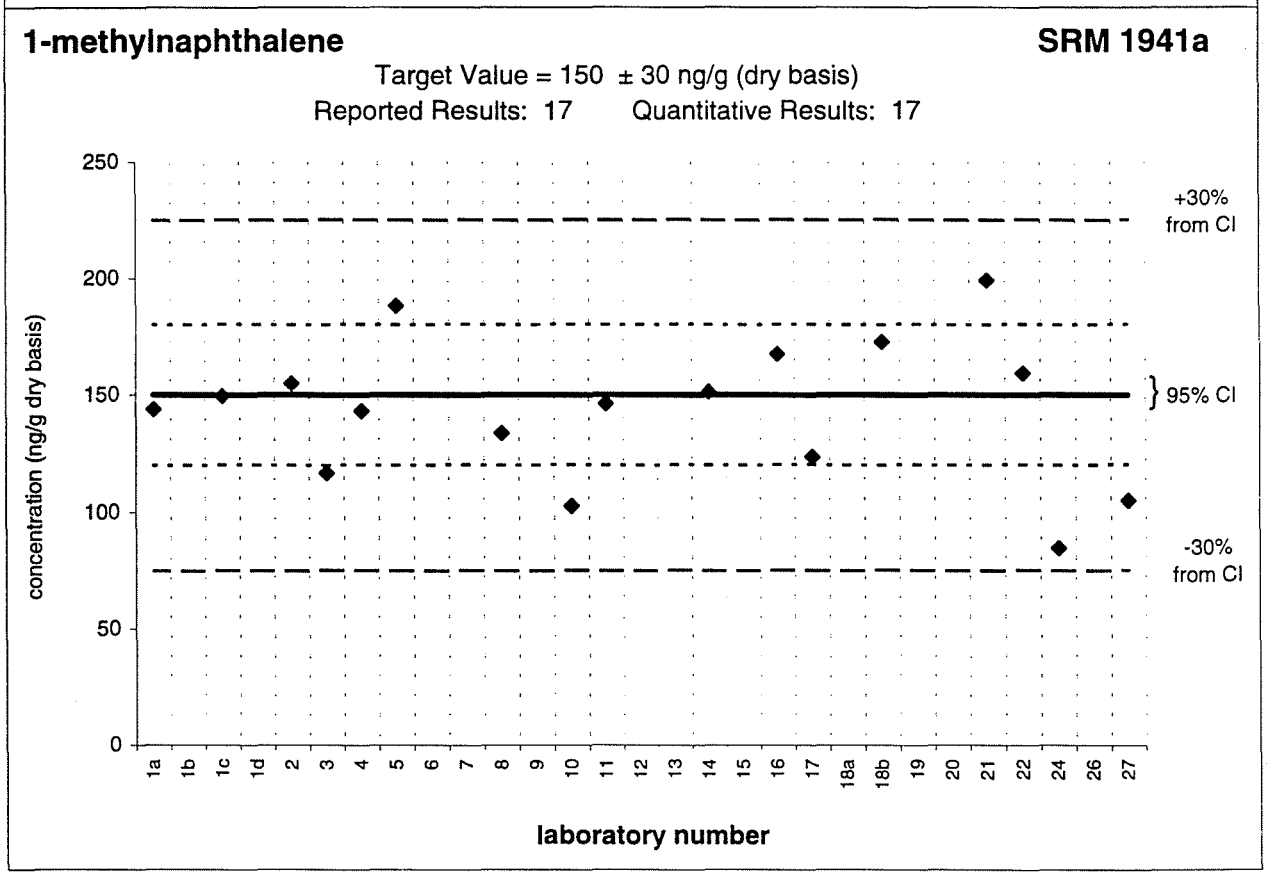
2-methylnaphthalene — SRM 1941a

Target Value = 325 ± 60 ng/g (dry basis)

Reported Results: 18 Quantitative Results: 18



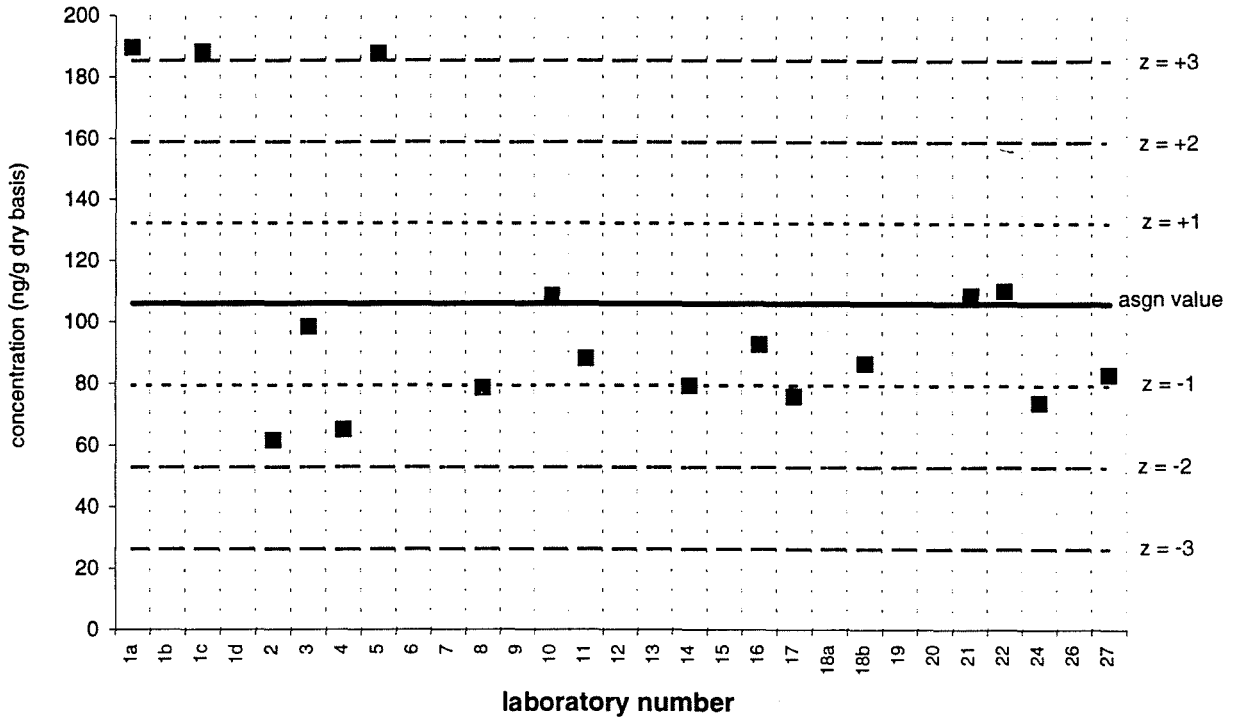

1-methylnaphthalene
Sediment VII (QA97SED7)
Assigned value = 157 ng/g s = 44 ng/g 95% CL = 24 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 17
concentration (ng/g dry basis)
300
250
200
150
100
50
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


1-methylnaphthalene
SRM 1941a
Target Value = 150 ± 30 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 17
concentration (ng/g dry basis)
250
200
150
100
50
0
+30% from CI
} 95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

biphenyl **Sediment VII (QA97SED7)**

Assigned value = 106 ng/g s = 44 ng/g 95% CL = 23 ng/g (dry basis)

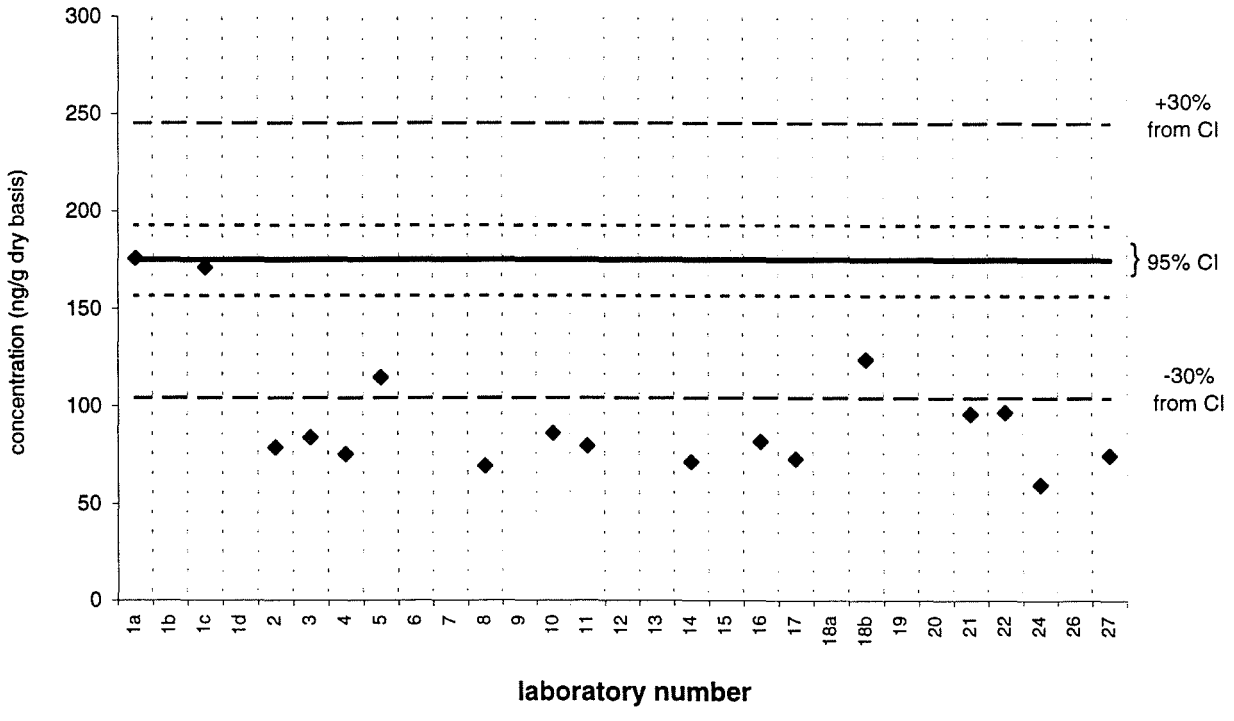
Reported Results: 17 Quantitative Results: 17



biphenyl **SRM 1941a**

Information Value = 175 ± 18 ng/g (dry basis)

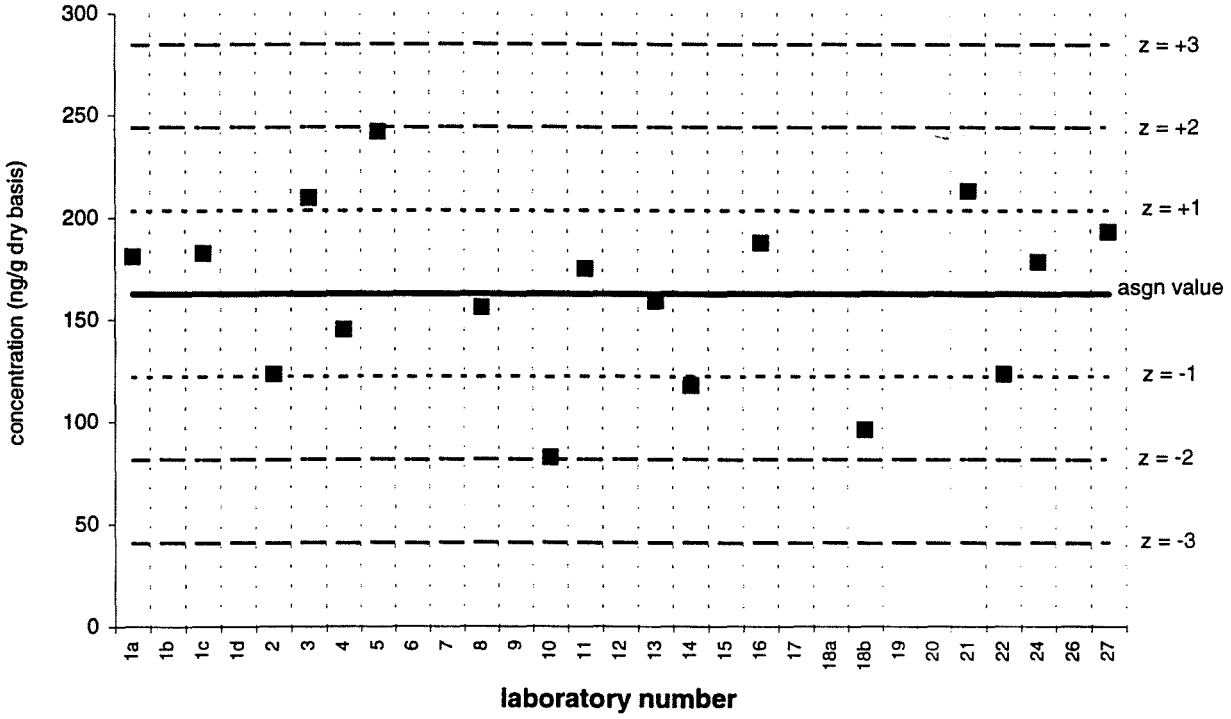
Reported Results: 17 Quantitative Results: 17



2,6-dimethylnaphthalene — Sediment VII (QA97SED7)

Assigned value = 162 ng/g s = 43 ng/g 95% CL = 22 ng/g (dry basis)

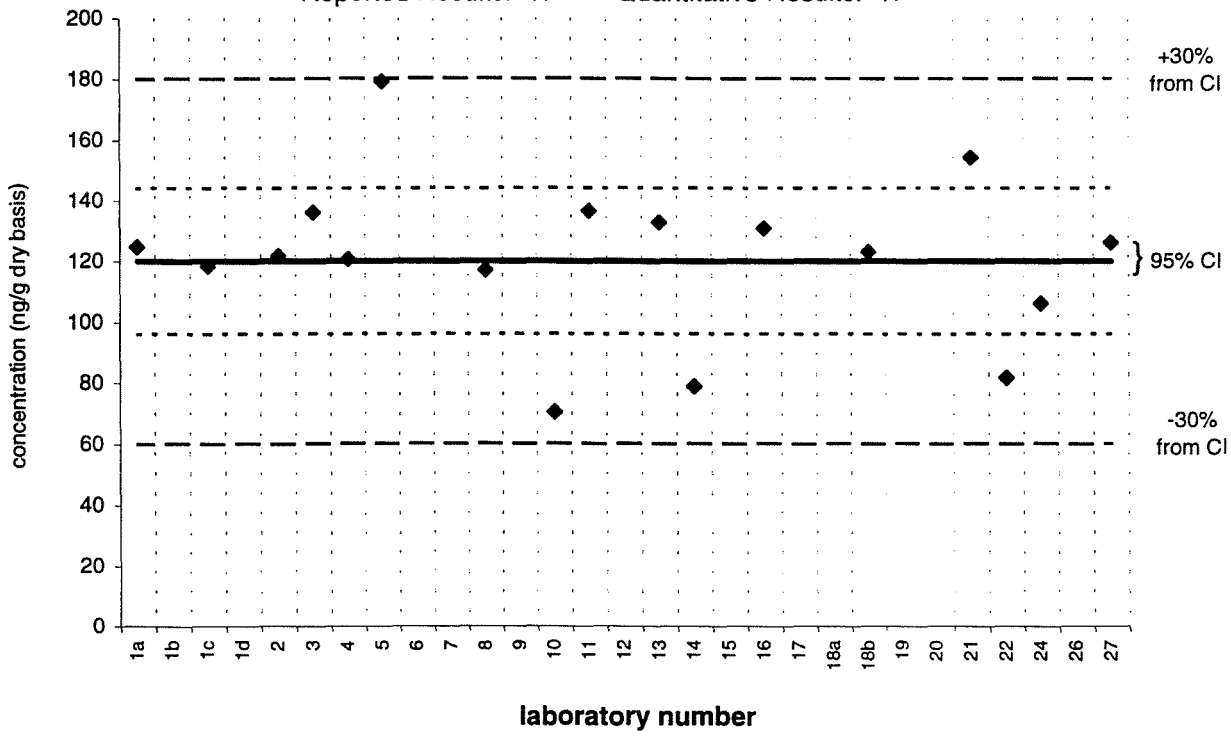
Reported Results: 17 Quantitative Results: 17

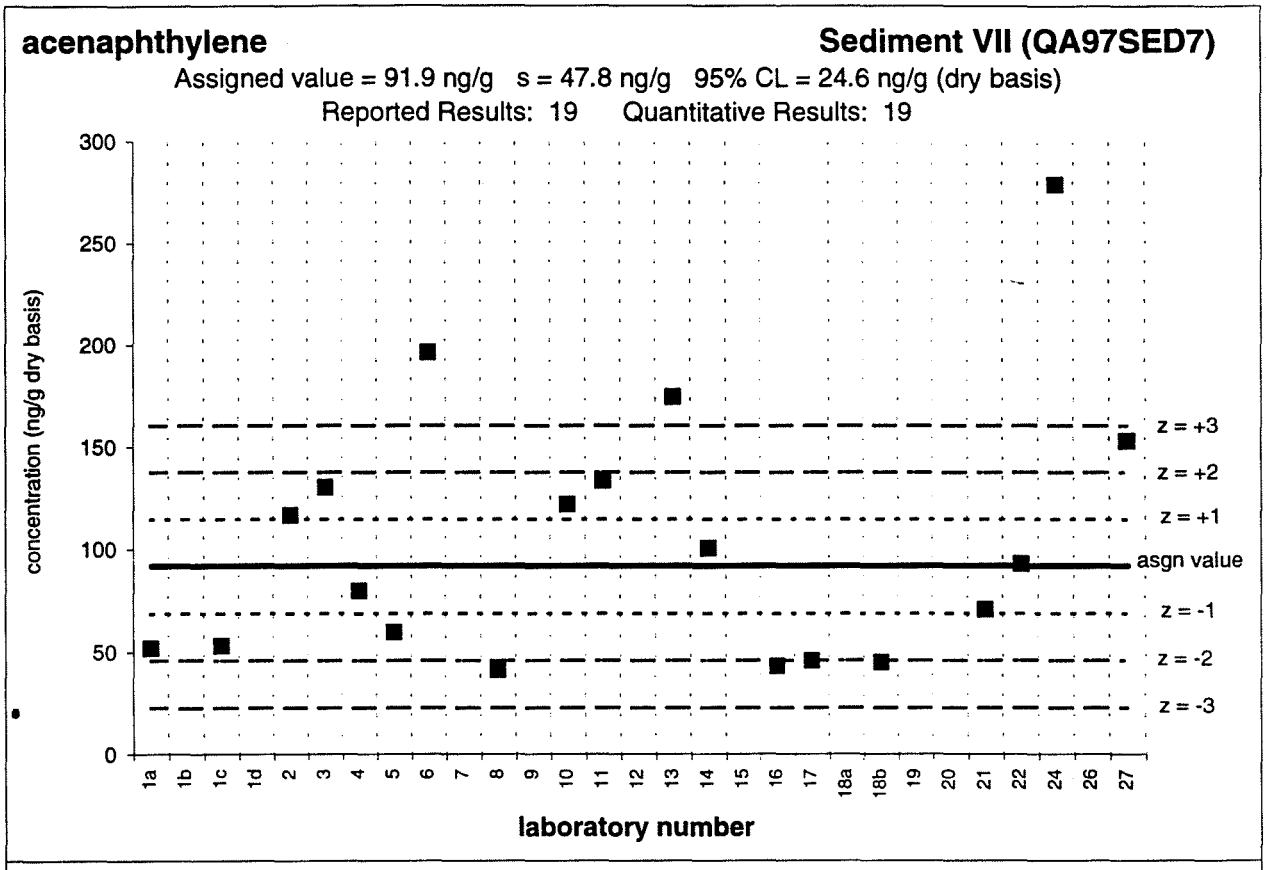


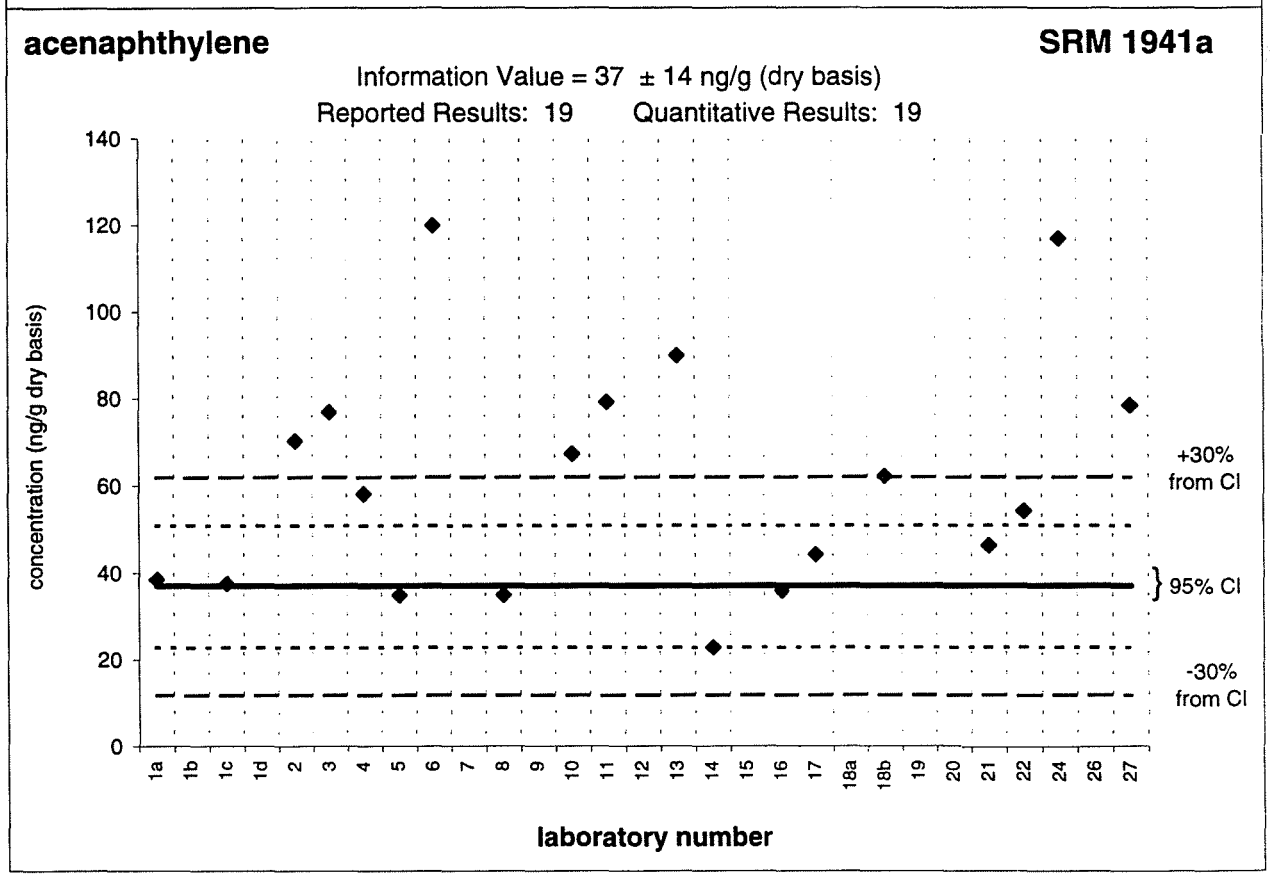
2,6-dimethylnaphthalene — SRM 1941a

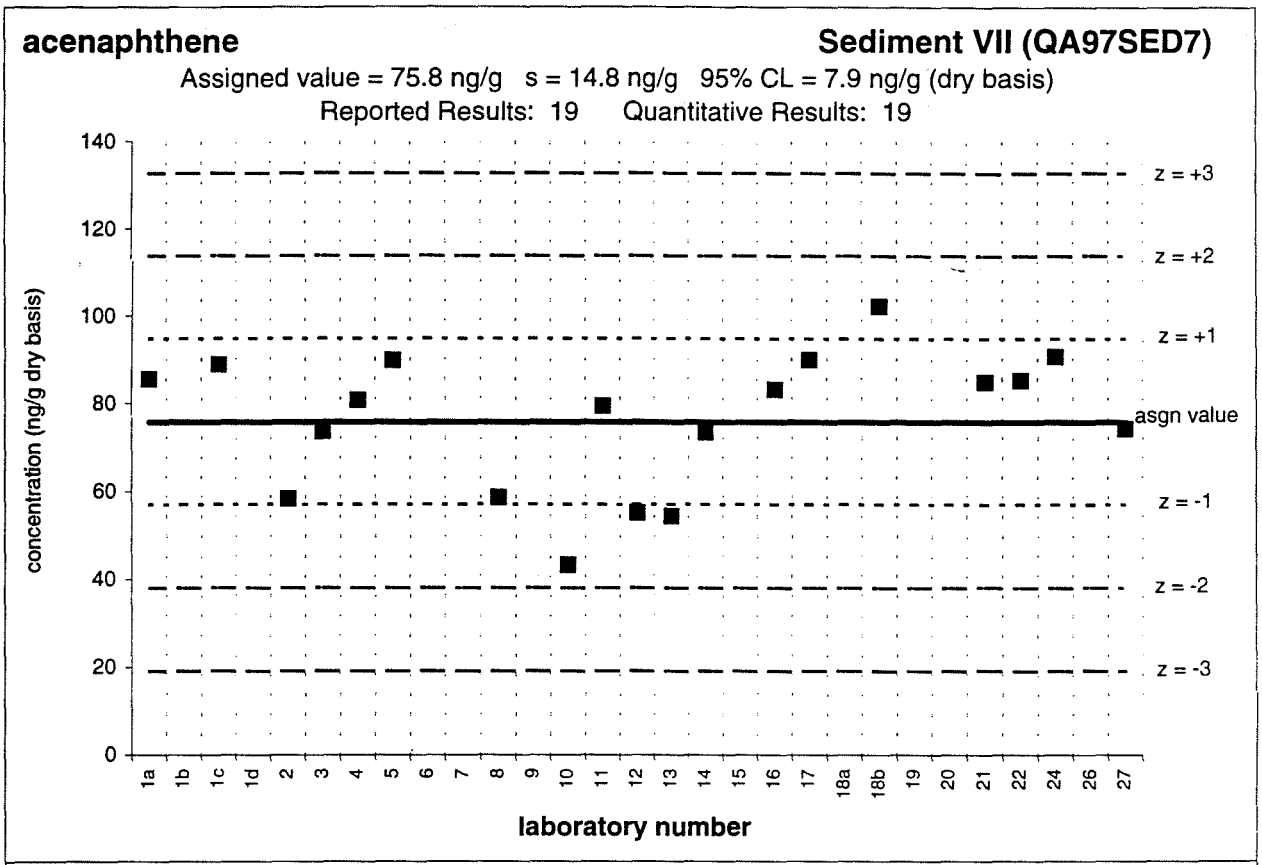
Target Value = 120 ± 24 ng/g (dry basis)

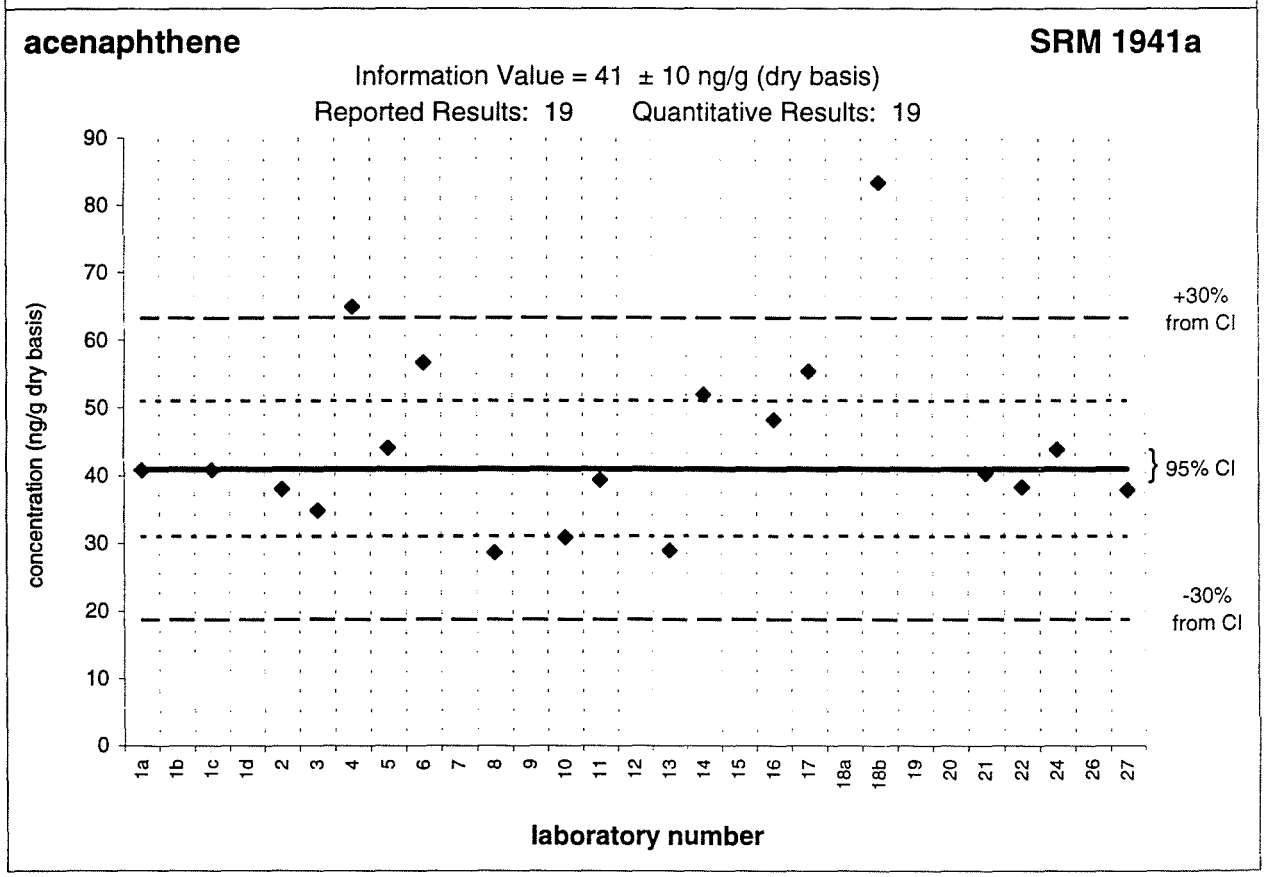
Reported Results: 17 Quantitative Results: 17

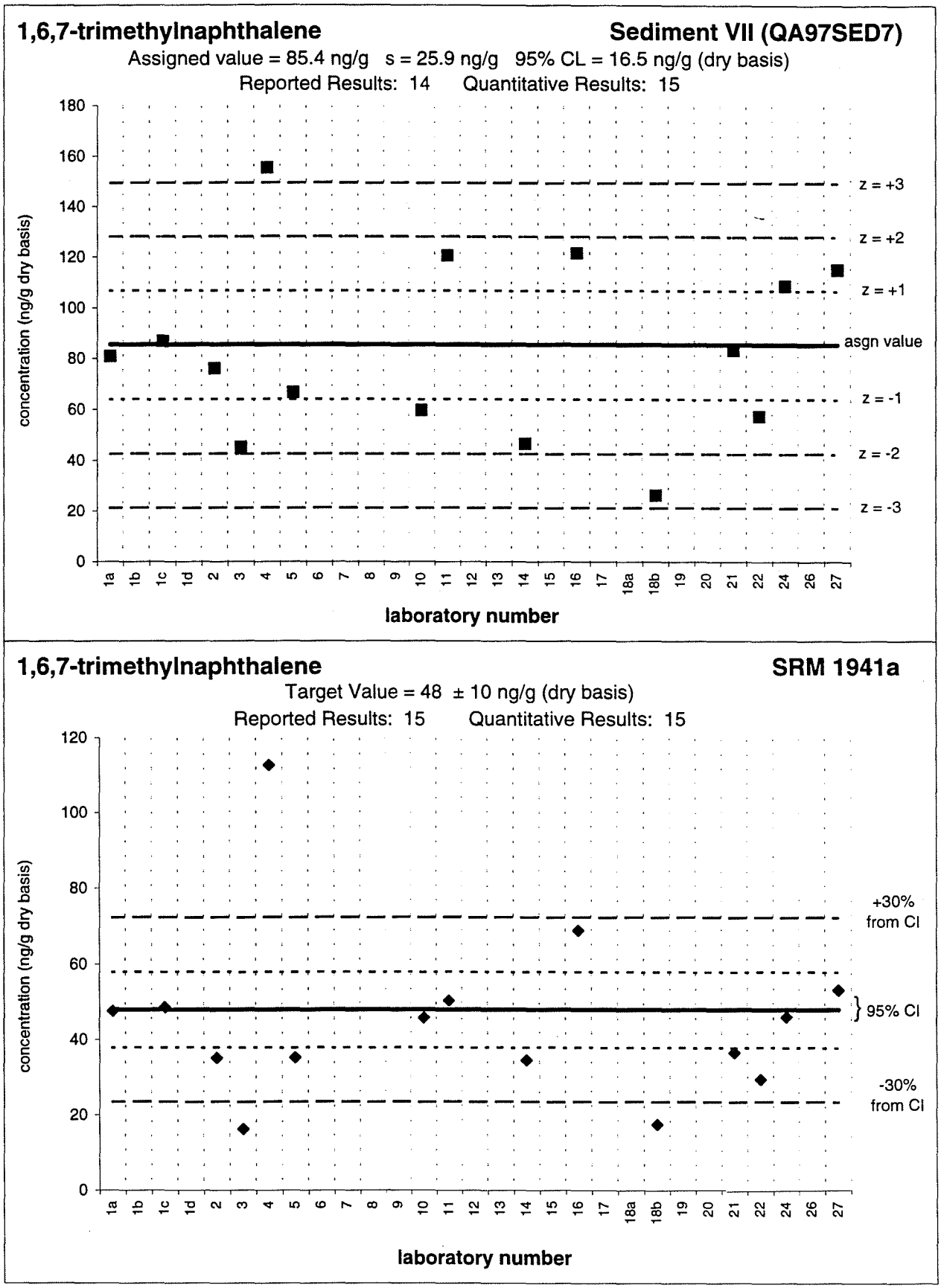


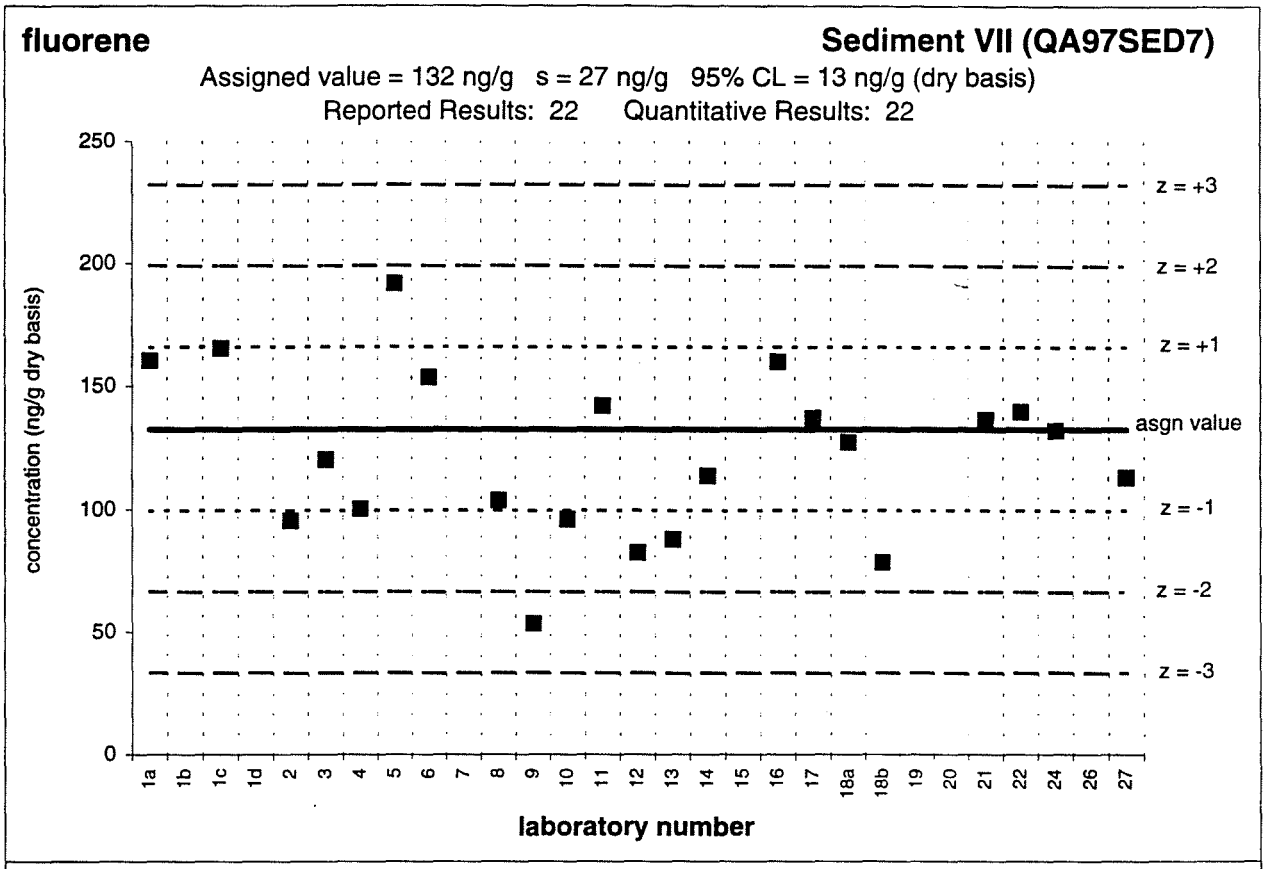

acenaphthylene
Sediment VII (QA97SED7)
Assigned value = 91.9 ng/g s = 47.8 ng/g 95% CL = 24.6 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
300
250
200
150
100
50
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

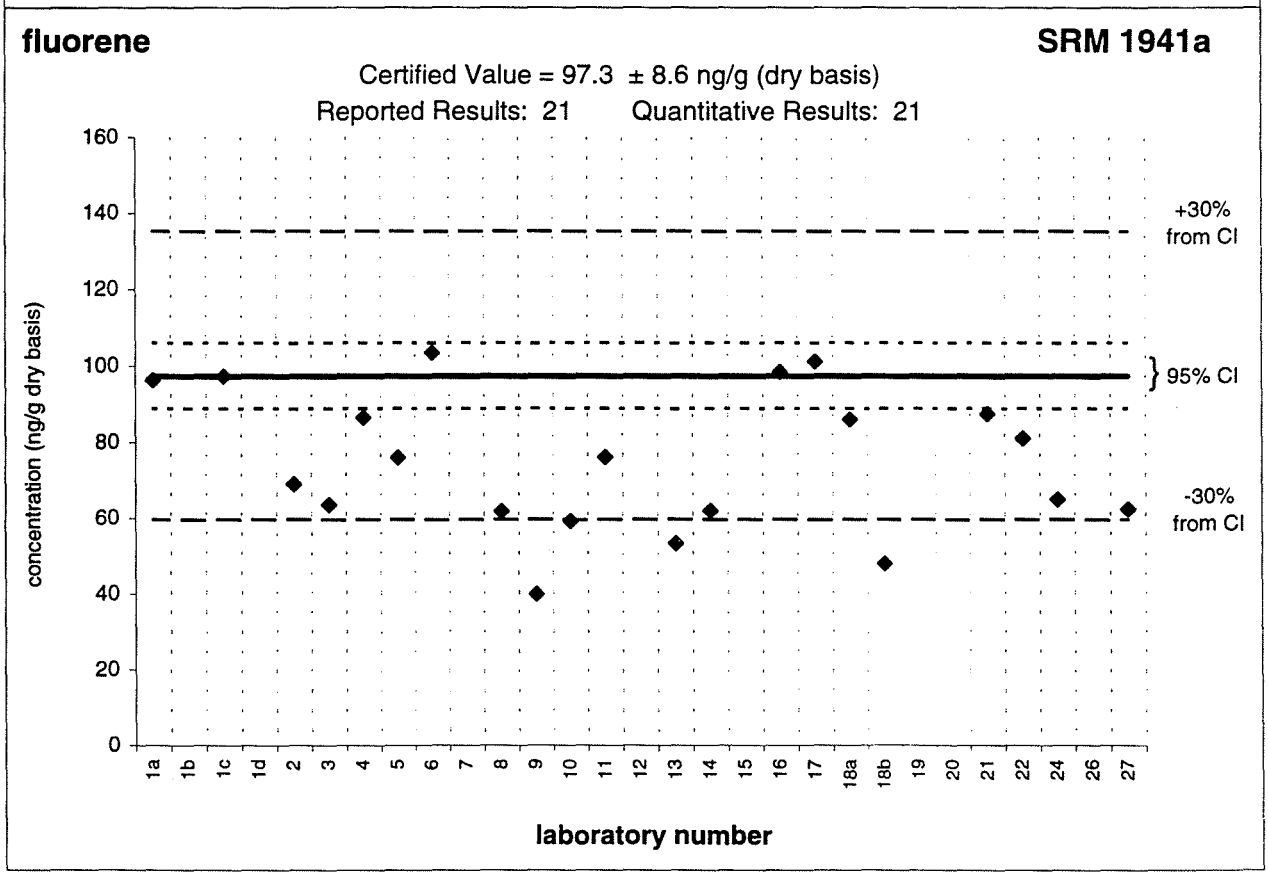

acenaphthylene
SRM 1941a
Information Value = 37 ± 14 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
140
120
100
80
60
40
20
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

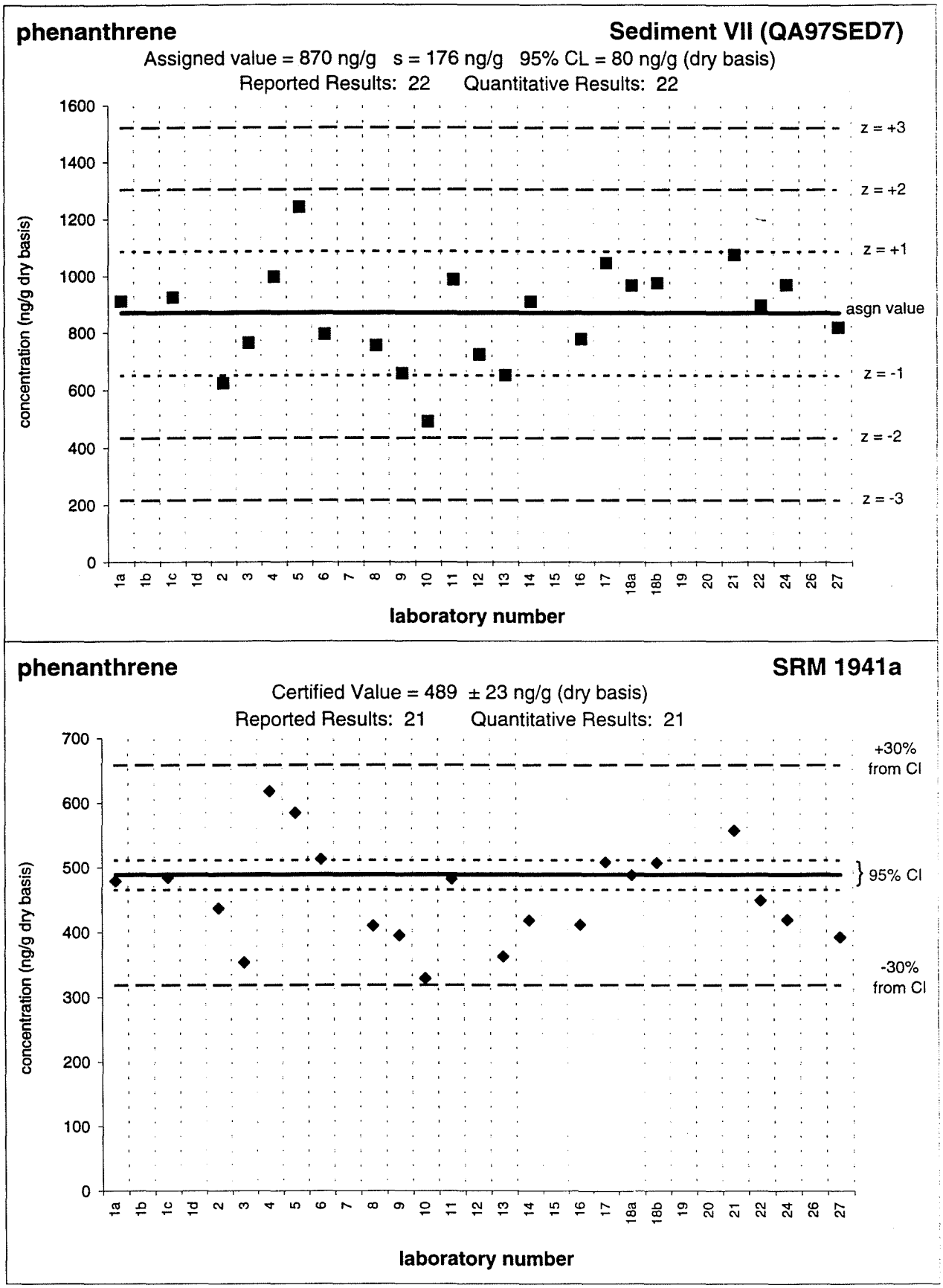

acenaphthene
Sediment VII (QA97SED7)
Assigned value = 75.8 ng/g s = 14.8 ng/g 95% CL = 7.9 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
laboratory number

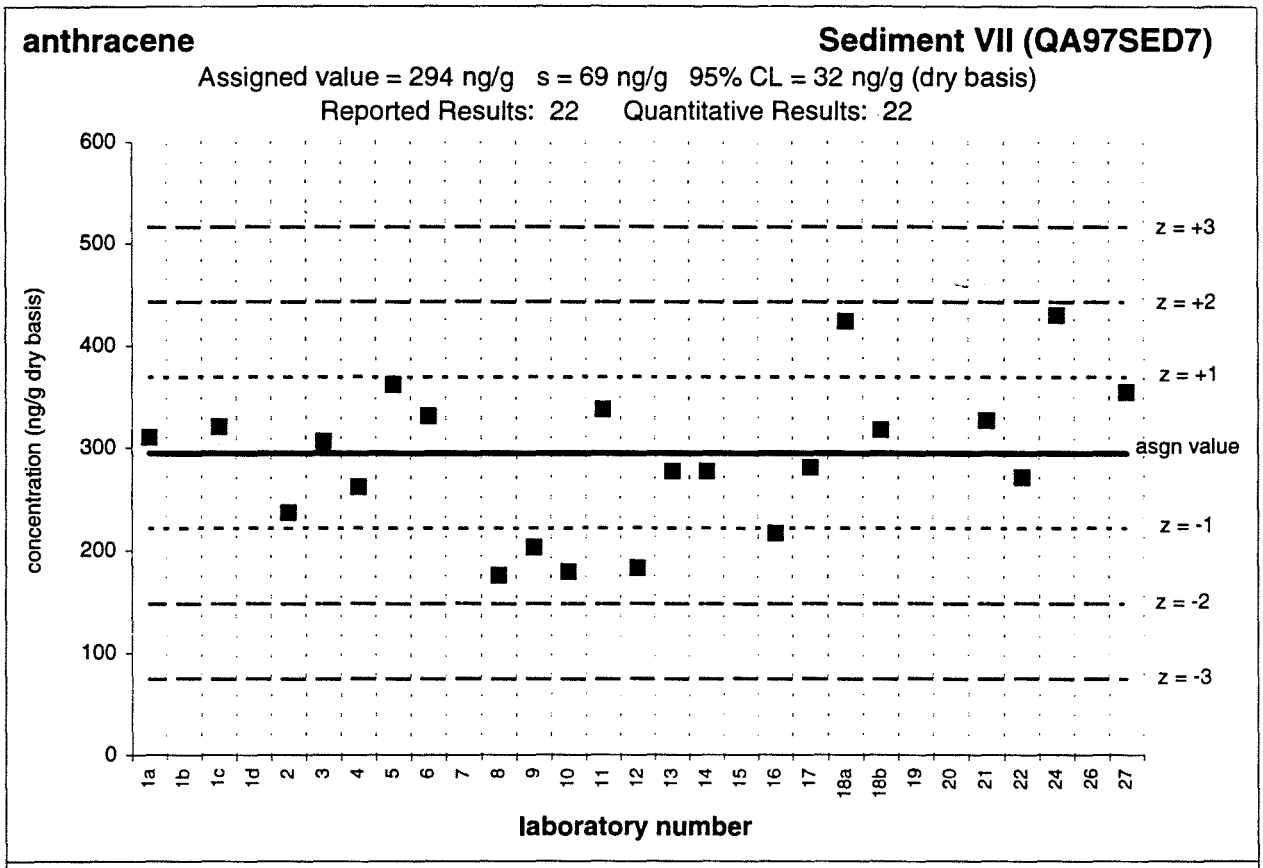

acenaphthene
SRM 1941a
Information Value = 41 ± 10 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

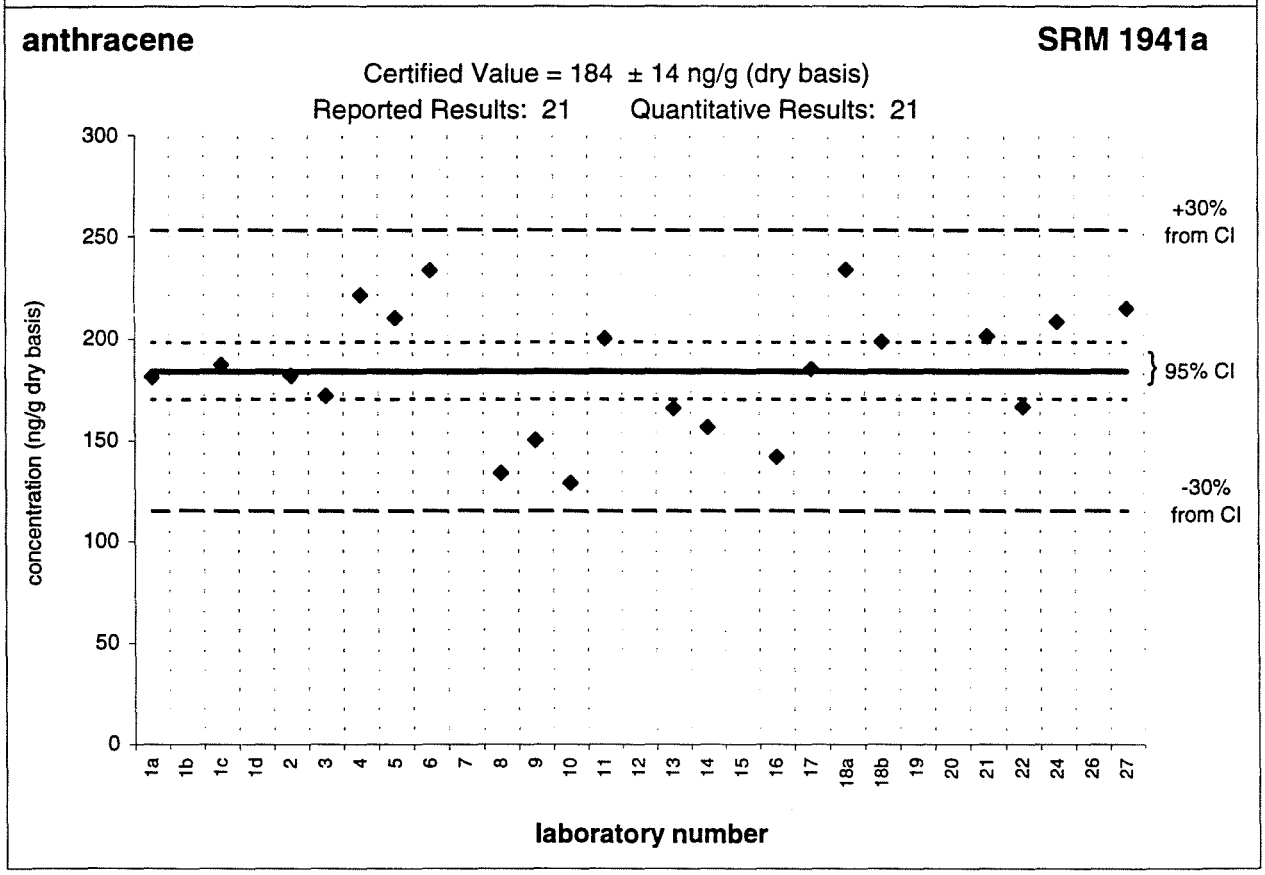

1,6,7-trimethylnaphthalene
Sediment VII (QA97SED7)
Assigned value = 85.4 ng/g s = 25.9 ng/g 95% CL = 16.5 ng/g (dry basis)
Reported Results: 14 Quantitative Results: 15
concentration (ng/g dry basis)
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
laboratory number
1,6,7-trimethylnaphthalene
SRM 1941a
Target Value = 48 ± 10 ng/g (dry basis)
Reported Results: 15 Quantitative Results: 15
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

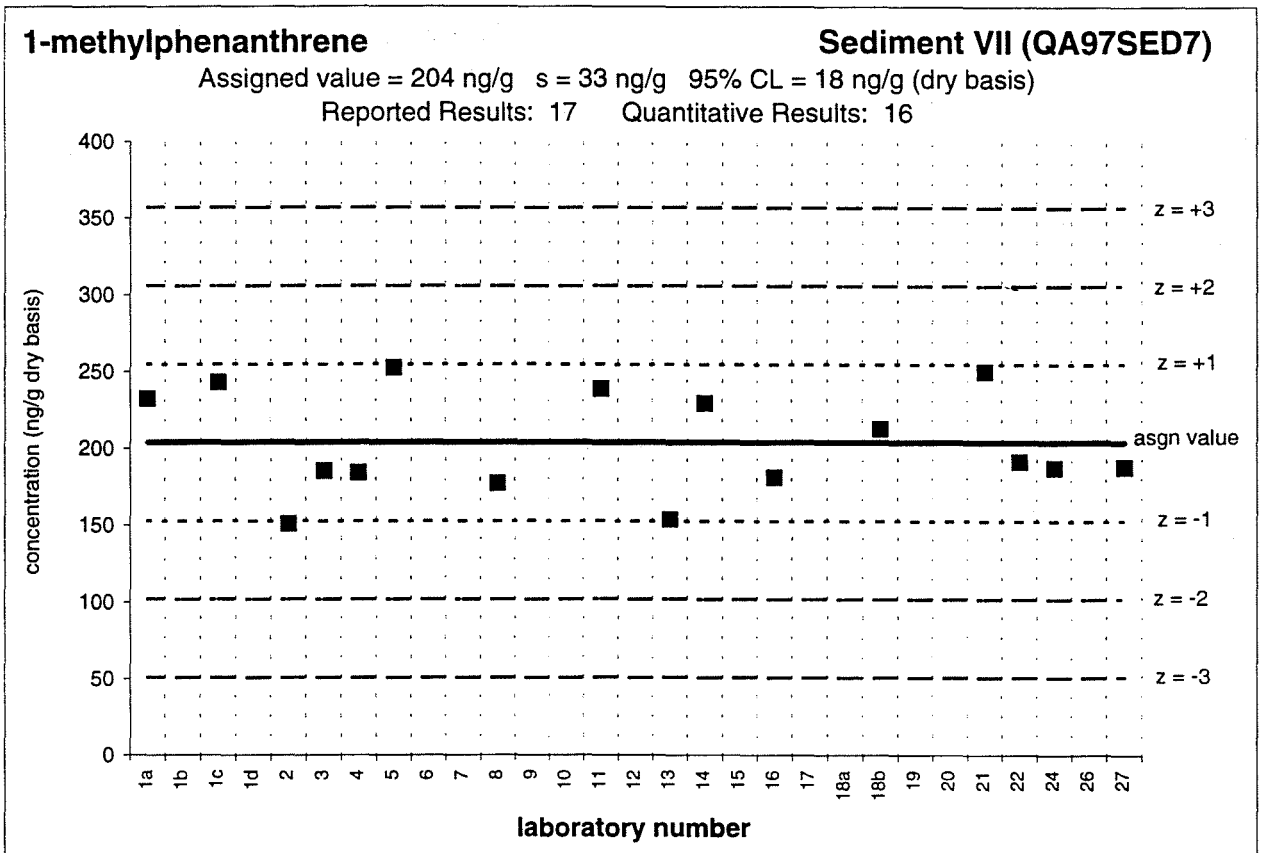

fluorene
Sediment VII (QA97SED7)
Assigned value = 132 ng/g s = 27 ng/g 95% CL = 13 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
250
200
150
100
50
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

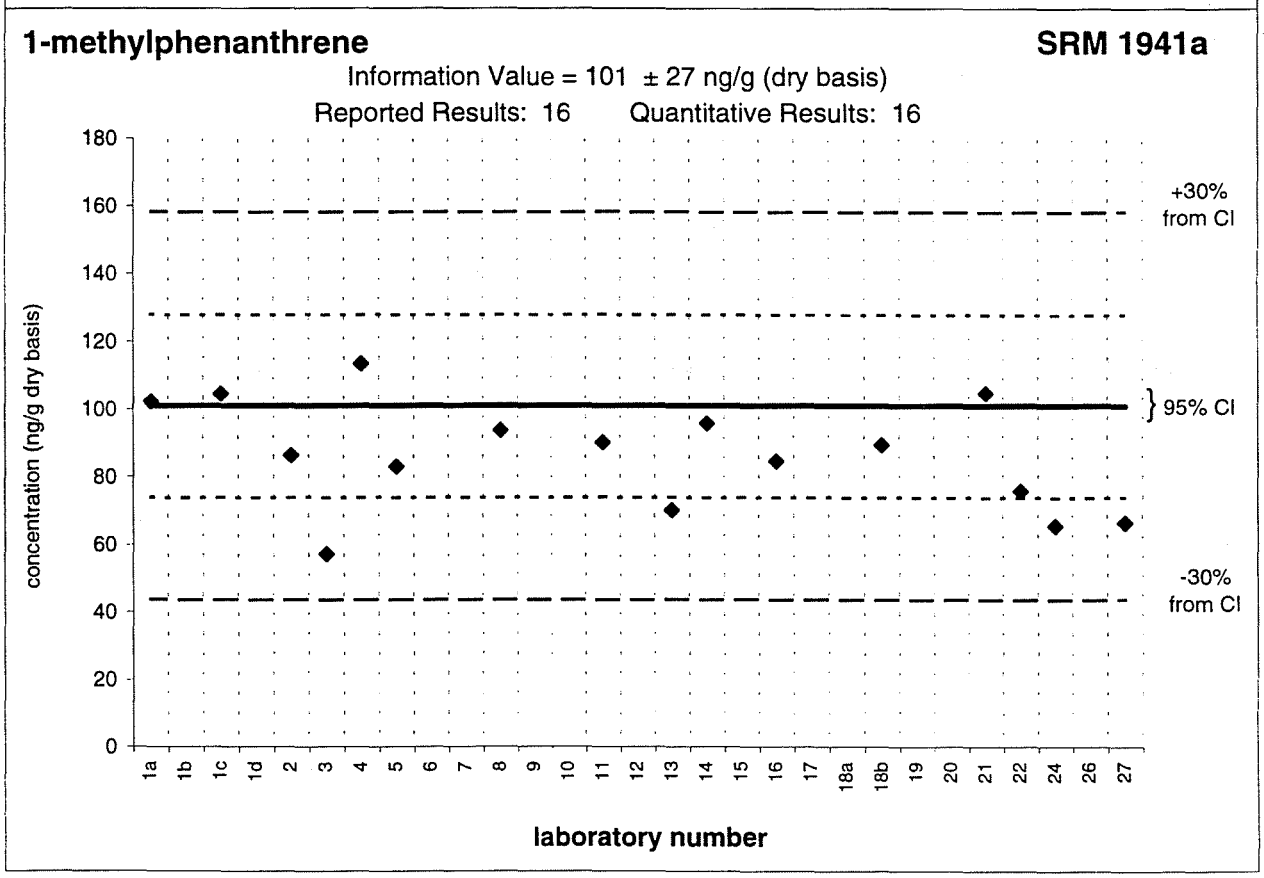

fluorene
SRM 1941a
Certified Value = 97.3 ± 8.6 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
160
140
120
100
80
60
40
20
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

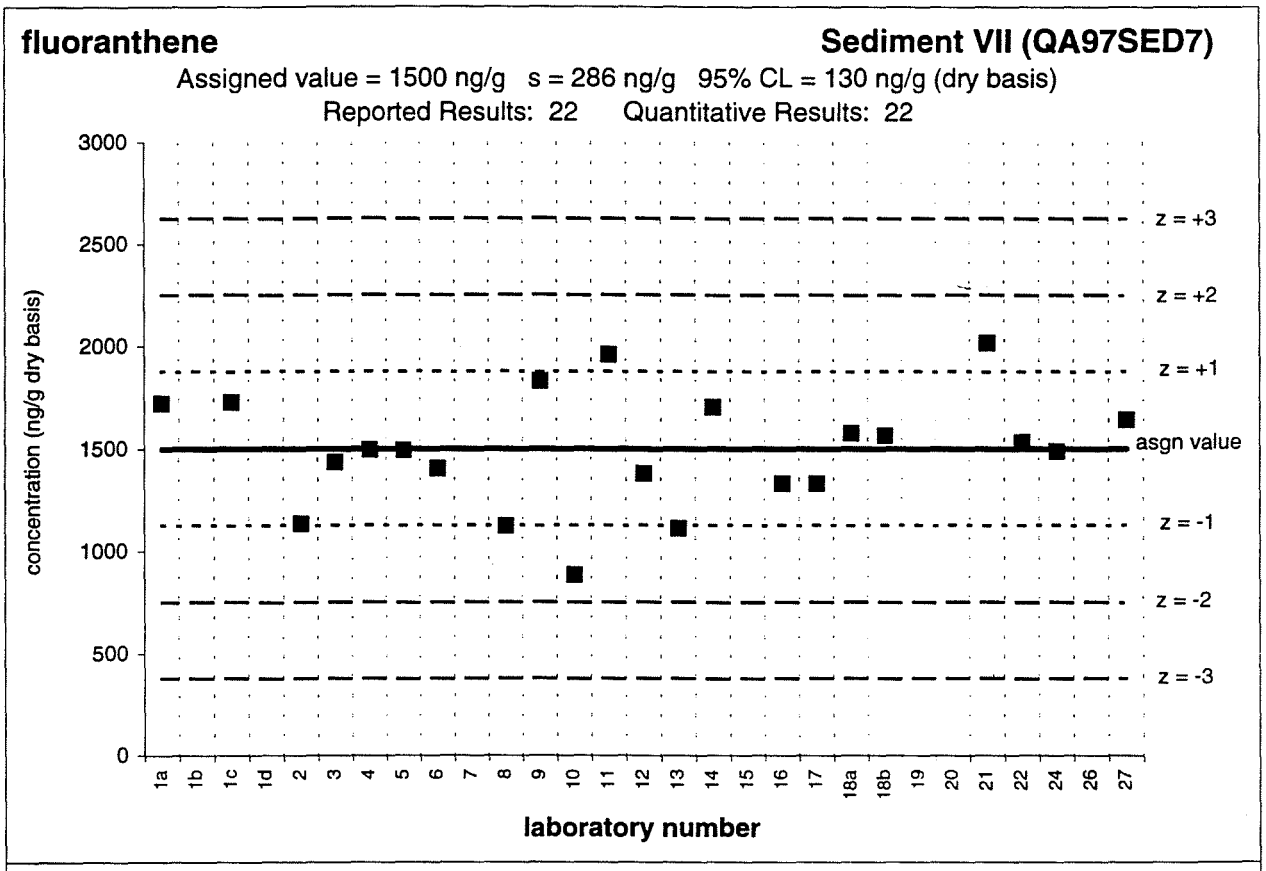

phenanthrene
Sediment VII (QA97SED7)
Assigned value = 870 ng/g s = 176 ng/g 95% CL = 80 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
laboratory number
phenanthrene
SRM 1941a
Certified Value = 489 ± 23 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
+30% from CI
95% CI
-30% from CI
laboratory number

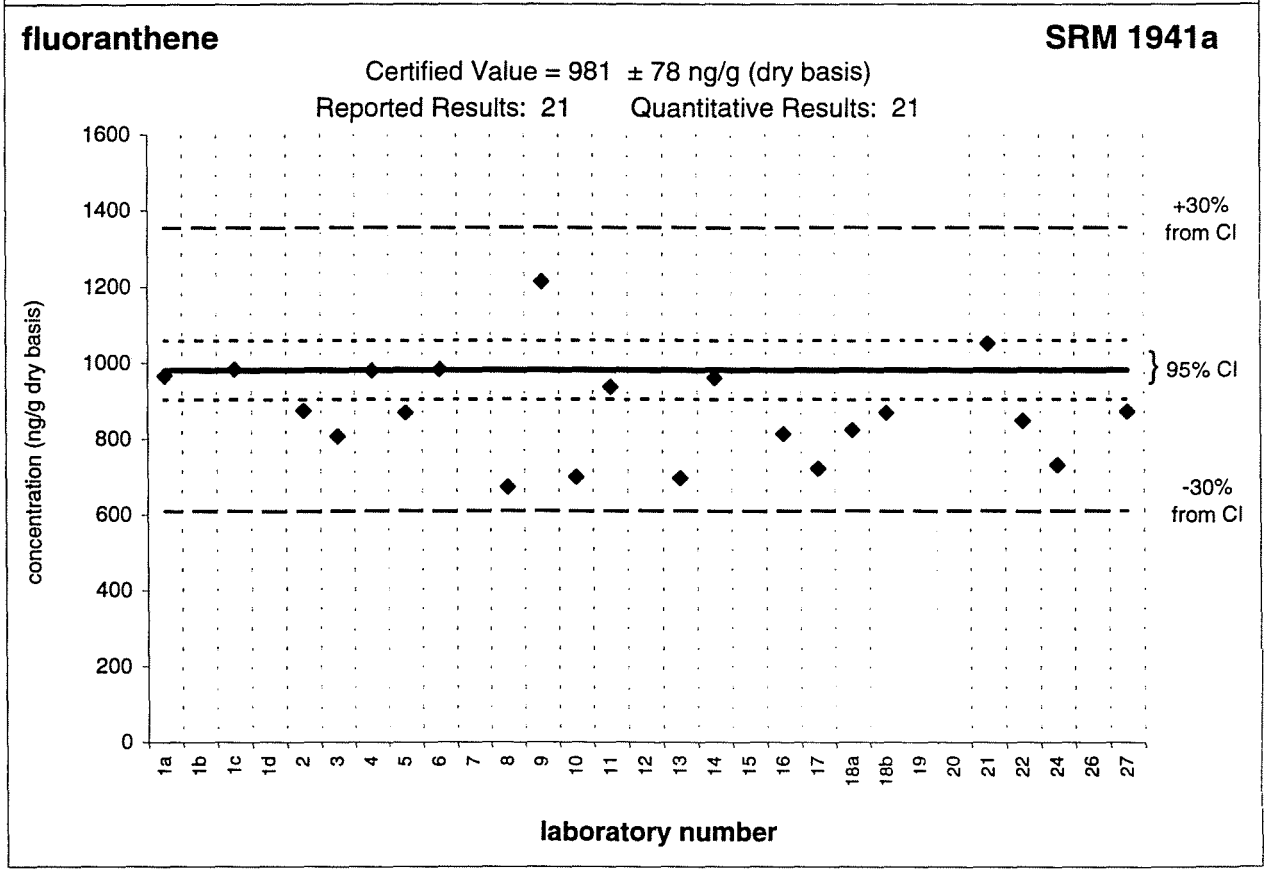

anthracene
Sediment VII (QA97SED7)
Assigned value = 294 ng/g s = 69 ng/g 95% CL = 32 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
600
500
400
300
200
100
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

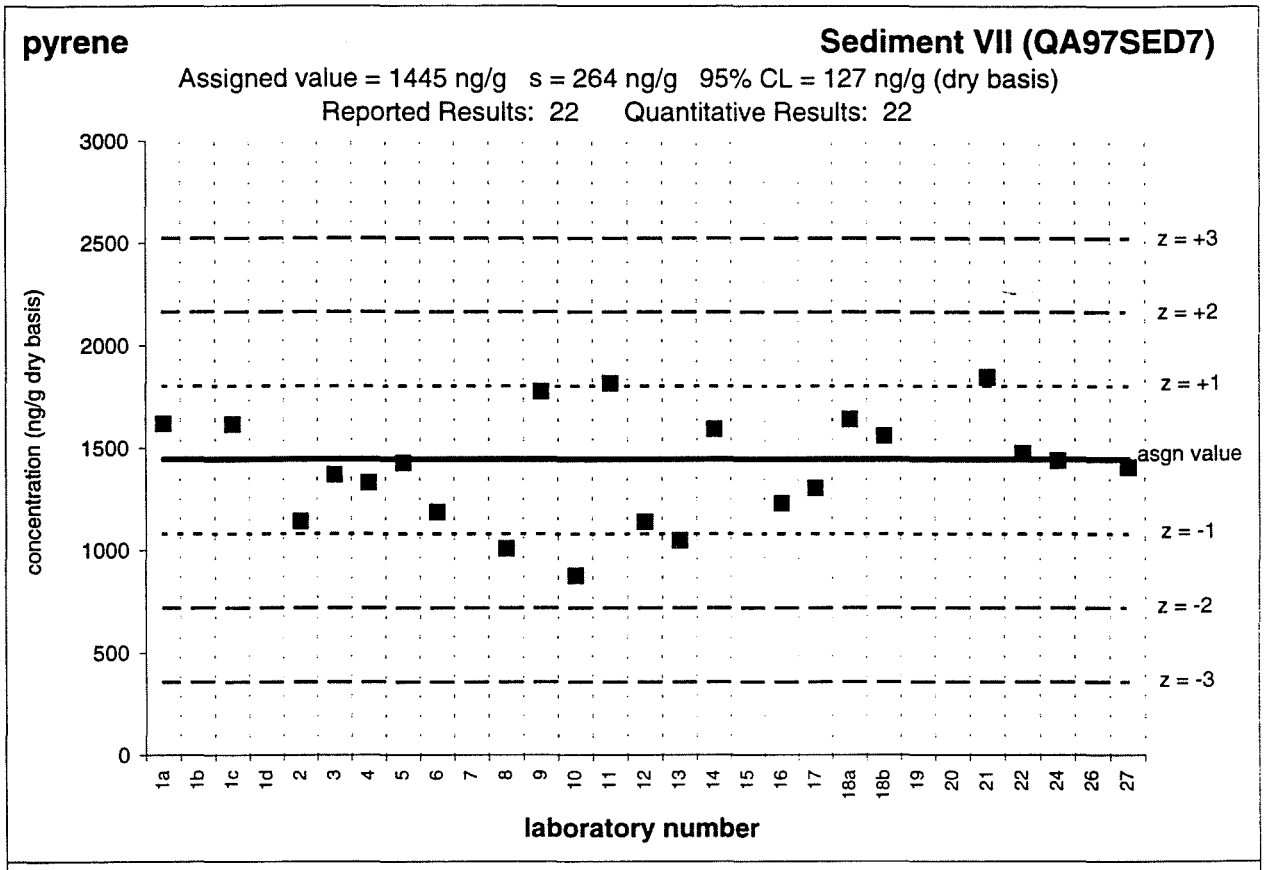

anthracene
SRM 1941a
Certified Value = 184 ± 14 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
300
250
200
150
100
50
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

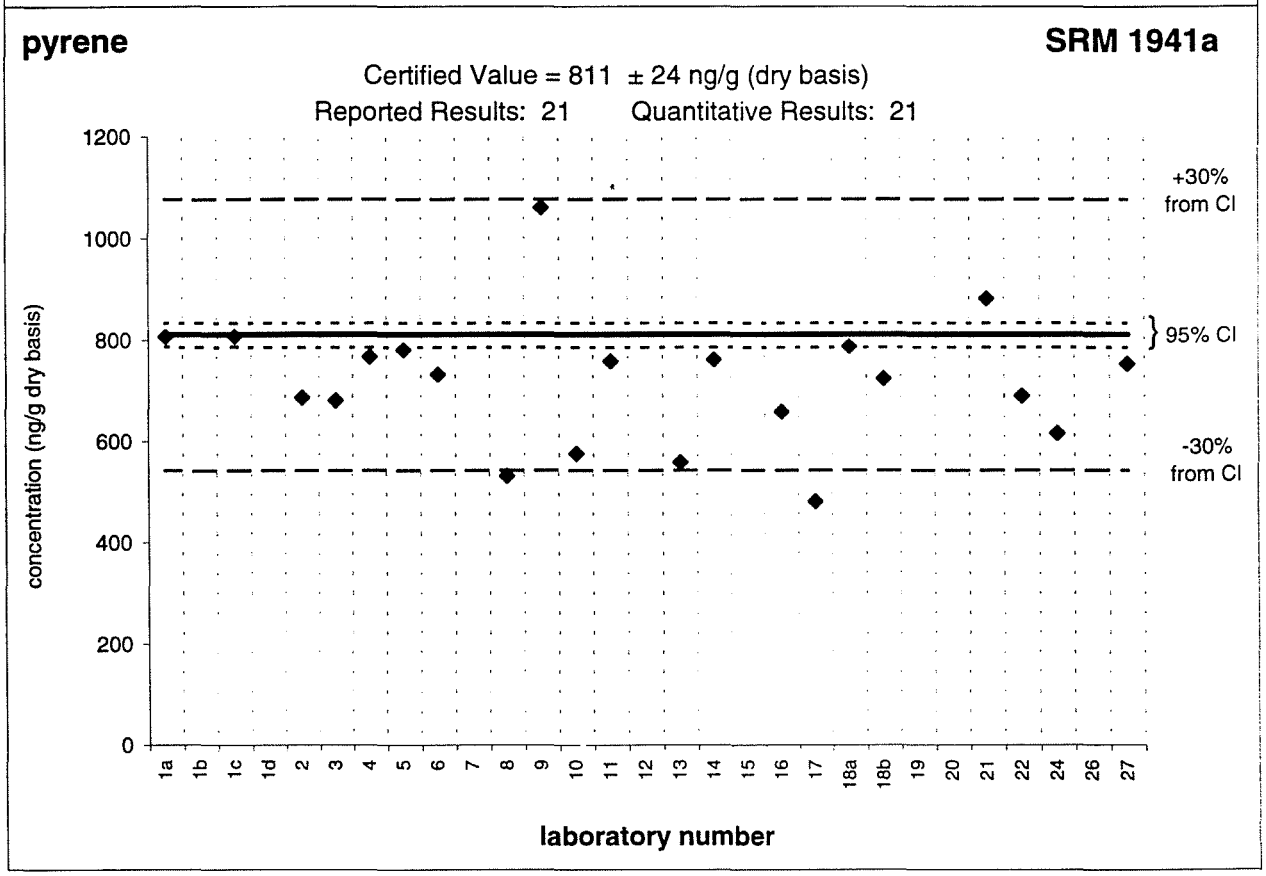

1-methylphenanthrene
Sediment VII (QA97SED7)
Assigned value = 204 ng/g s = 33 ng/g 95% CL = 18 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 16
concentration (ng/g dry basis)
400
350
300
250
200
150
100
50
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


1-methylphenanthrene
SRM 1941a
Information Value = 101 ± 27 ng/g (dry basis)
Reported Results: 16 Quantitative Results: 16
concentration (ng/g dry basis)
180
160
140
120
100
80
60
40
20
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


fluoranthene
Sediment VII (QA97SED7)
Assigned value = 1500 ng/g s = 286 ng/g 95% CL = 130 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
3000
2500
2000
1500
1000
500
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


fluoranthene
SRM 1941a
Certified Value = 981 ± 78 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
1600
1400
1200
1000
800
600
400
200
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

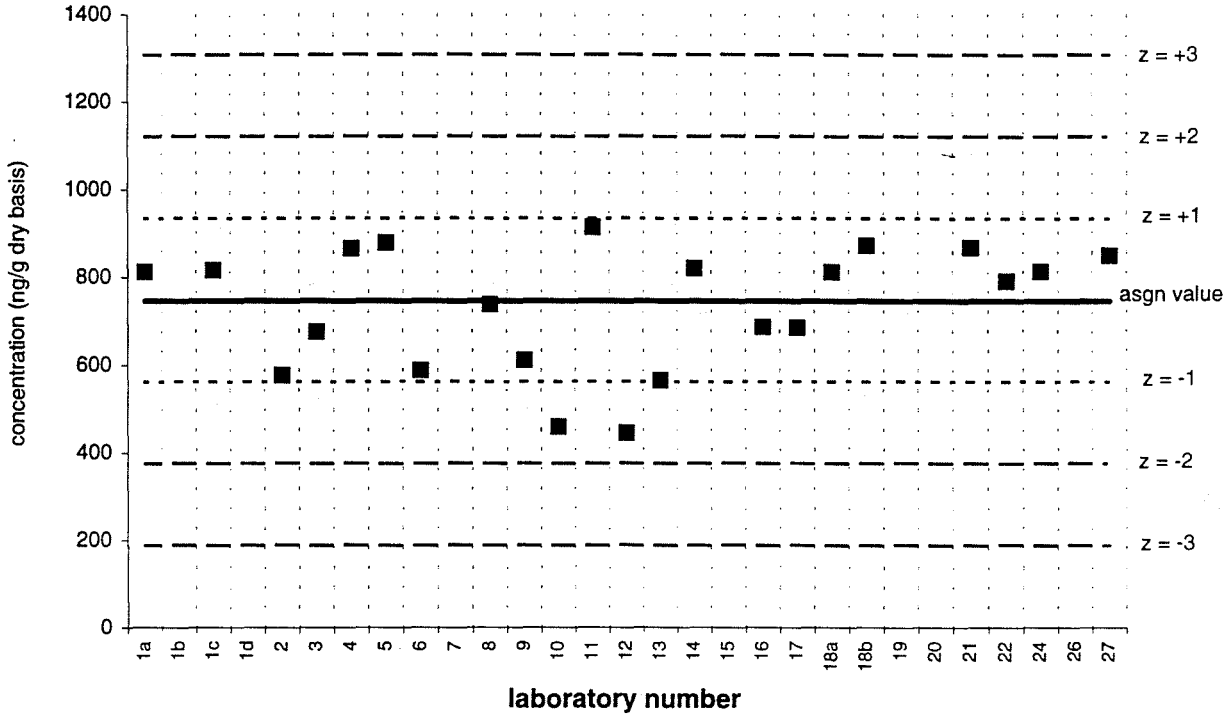

pyrene
Sediment VII (QA97SED7)
Assigned value = 1445 ng/g s = 264 ng/g 95% CL = 127 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
3000
2500
2000
1500
1000
500
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


pyrene
SRM 1941a
Certified Value = 811 ± 24 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
1200
1000
800
600
400
200
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

benz[a]anthracene **Sediment VII (QA97SED7)**

Assigned value = 746 ng/g s = 128 ng/g 95% CL = 58 ng/g (dry basis)

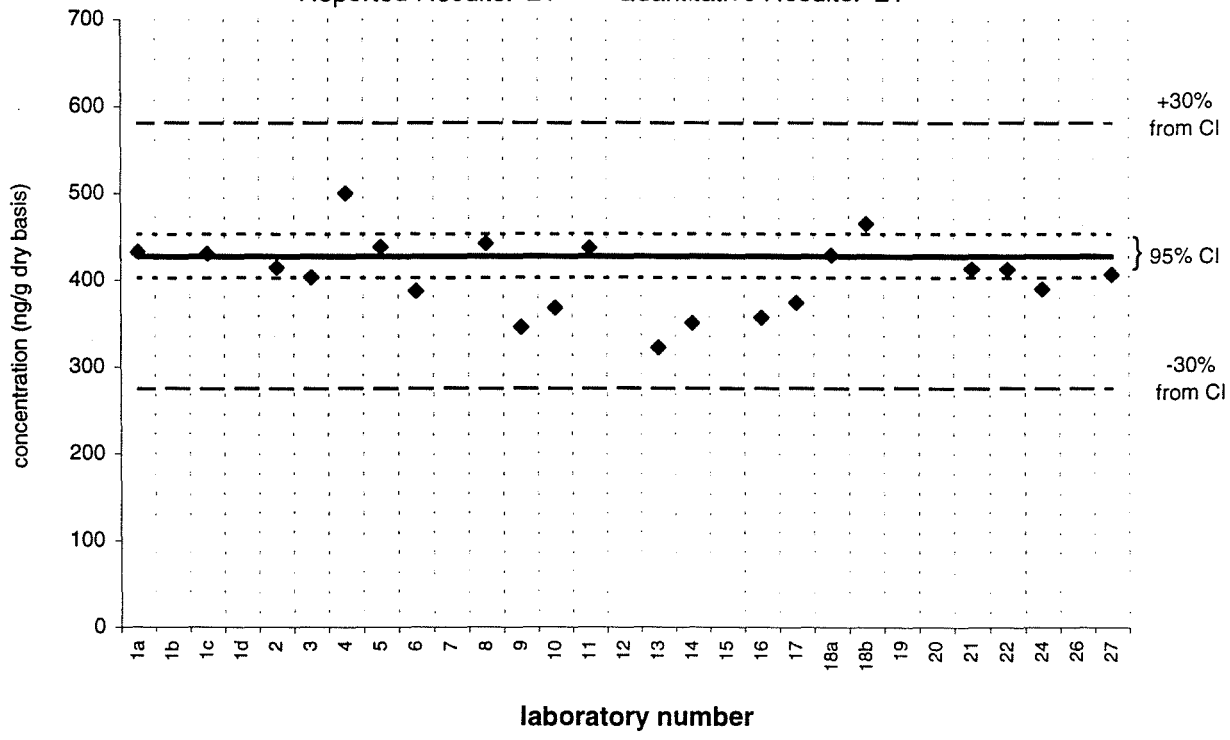
Reported Results: 22 Quantitative Results: 22

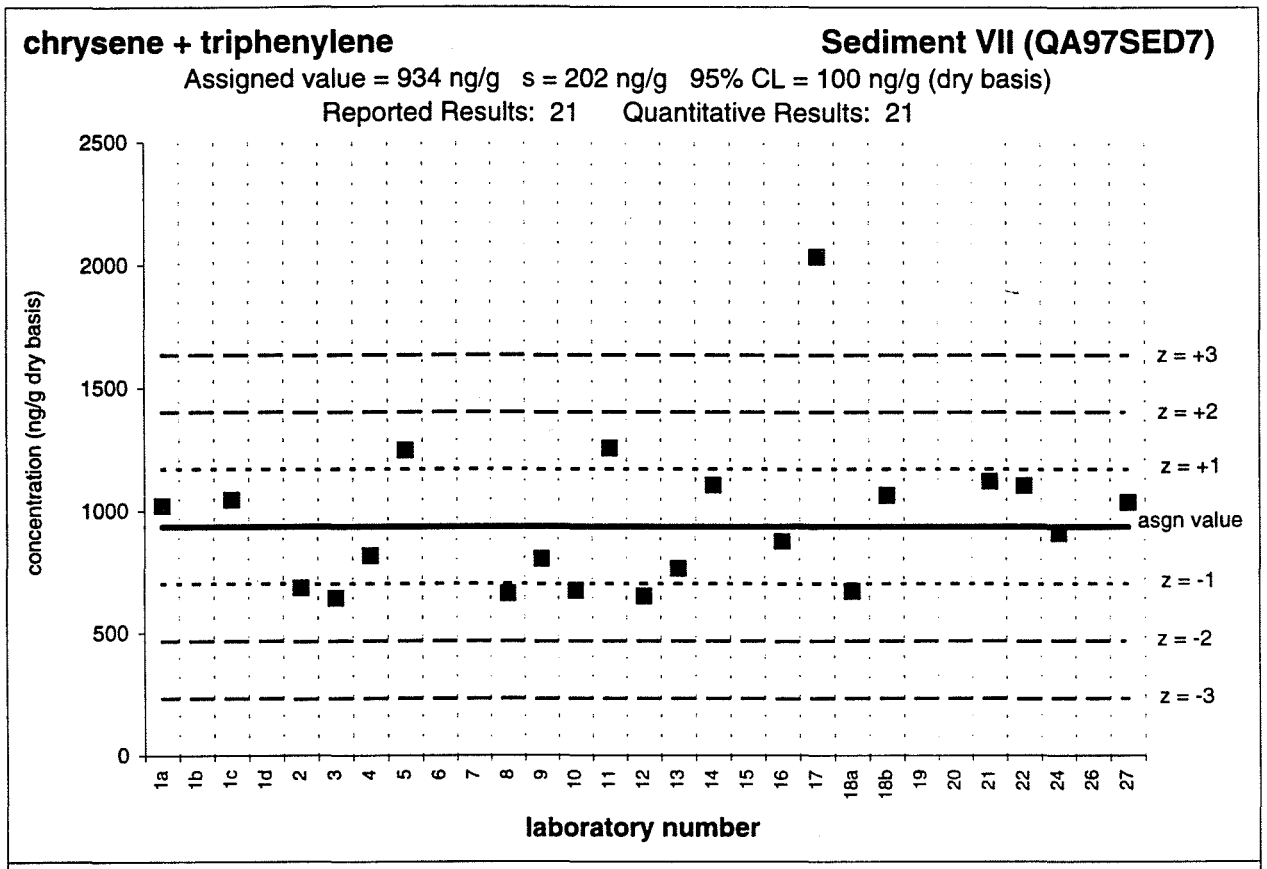


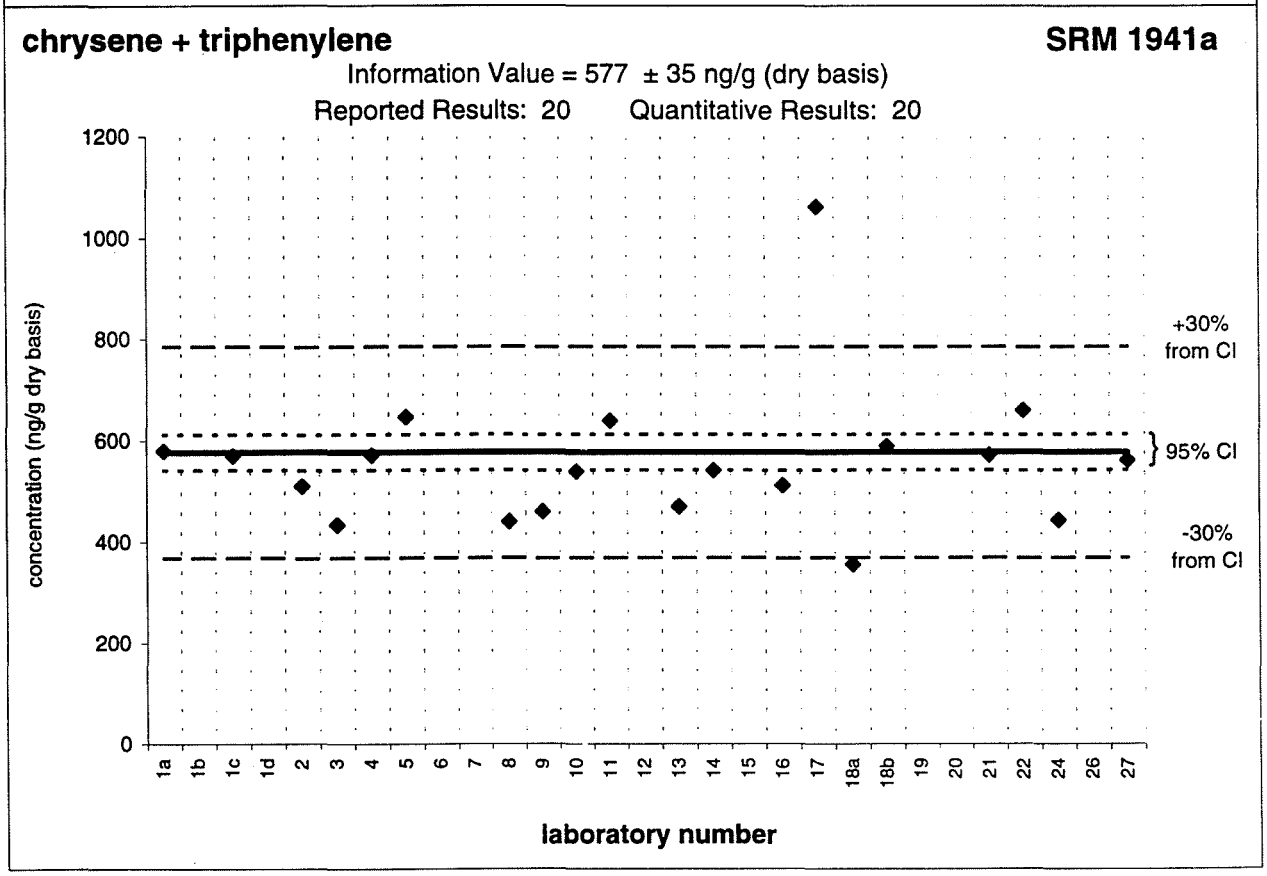
benz[a]anthracene **SRM 1941a**

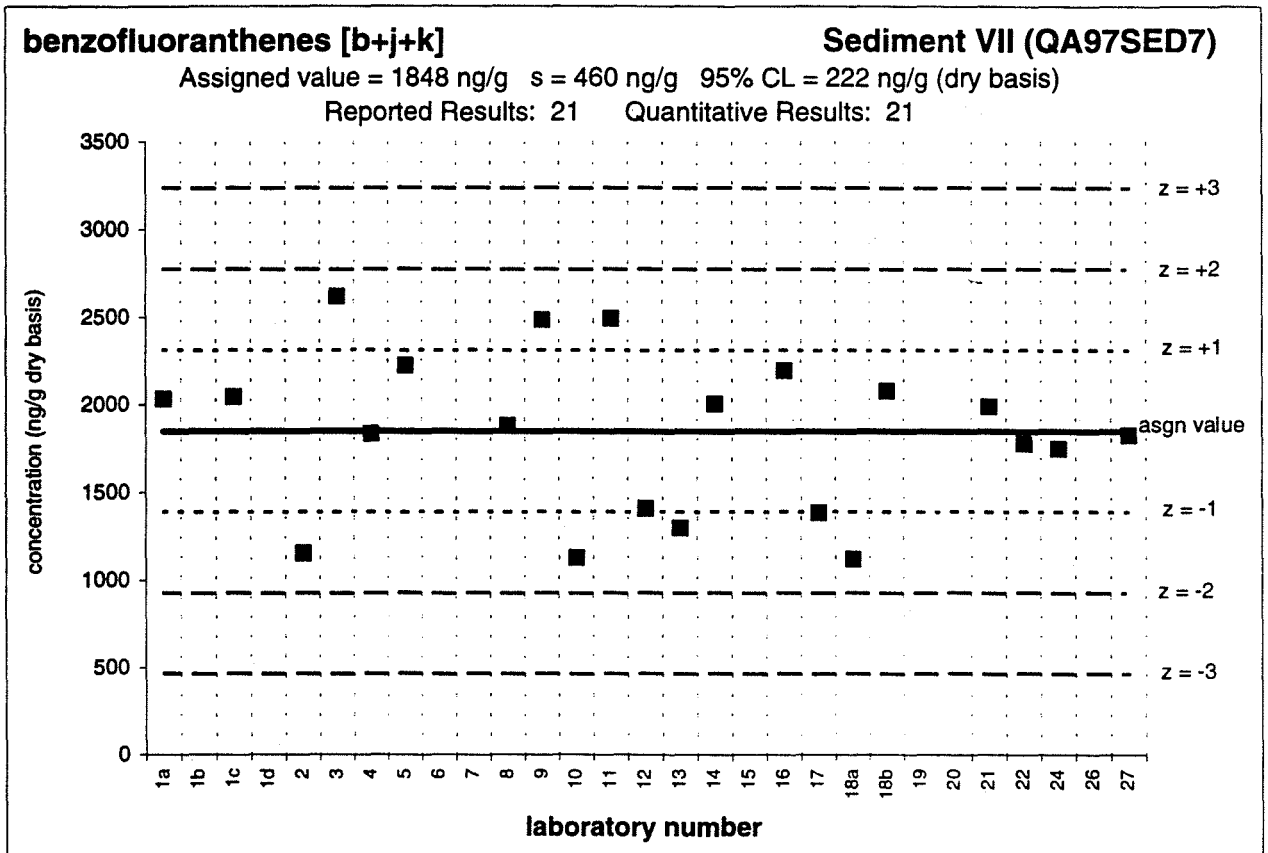
Certified Value = 427 ± 25 ng/g (dry basis)

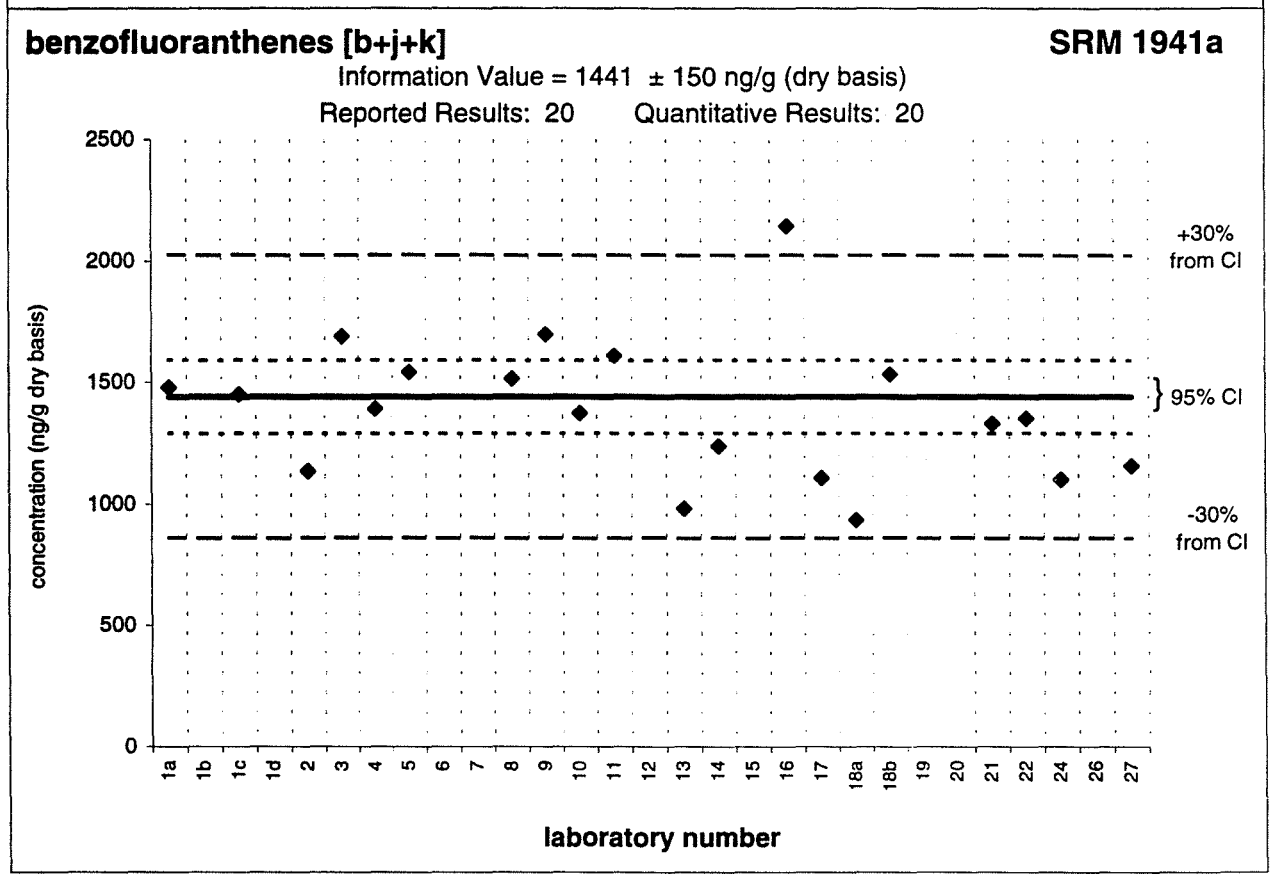
Reported Results: 21 Quantitative Results: 21




chrysene + triphenylene
Sediment VII (QA97SED7)
Assigned value = 934 ng/g s = 202 ng/g 95% CL = 100 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
2500
2000
1500
1000
500
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


chrysene + triphenylene
SRM 1941a
Information Value = 577 ± 35 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g dry basis)
1200
1000
800
600
400
200
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

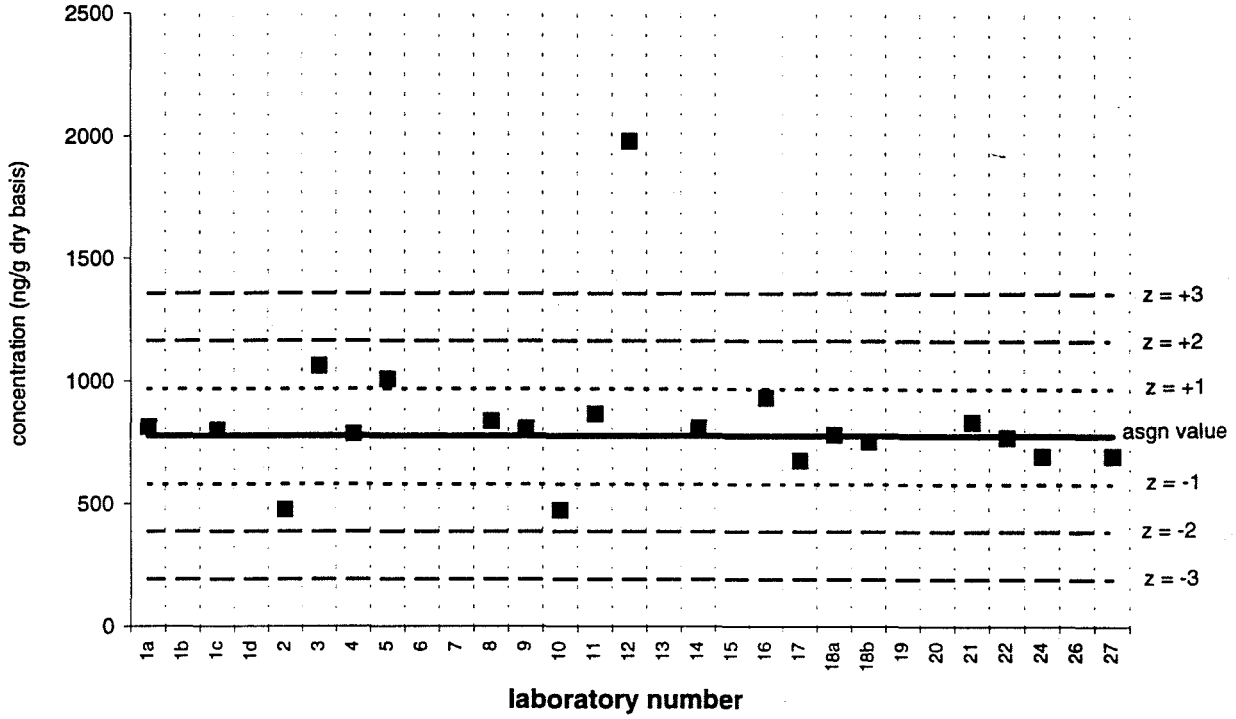

benzofluoranthenes [b+j+k]
Sediment VII (QA97SED7)
Assigned value = 1848 ng/g s = 460 ng/g 95% CL = 222 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
3500
3000
2500
2000
1500
1000
500
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


benzofluoranthenes [b+j+k]
SRM 1941a
Information Value = 1441 ± 150 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g dry basis)
2500
2000
1500
1000
500
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

benzo[e]pyrene **Sediment VII (QA97SED7)**

Assigned value = 776 ng/g s = 145 ng/g 95% CL = 72 ng/g (dry basis)

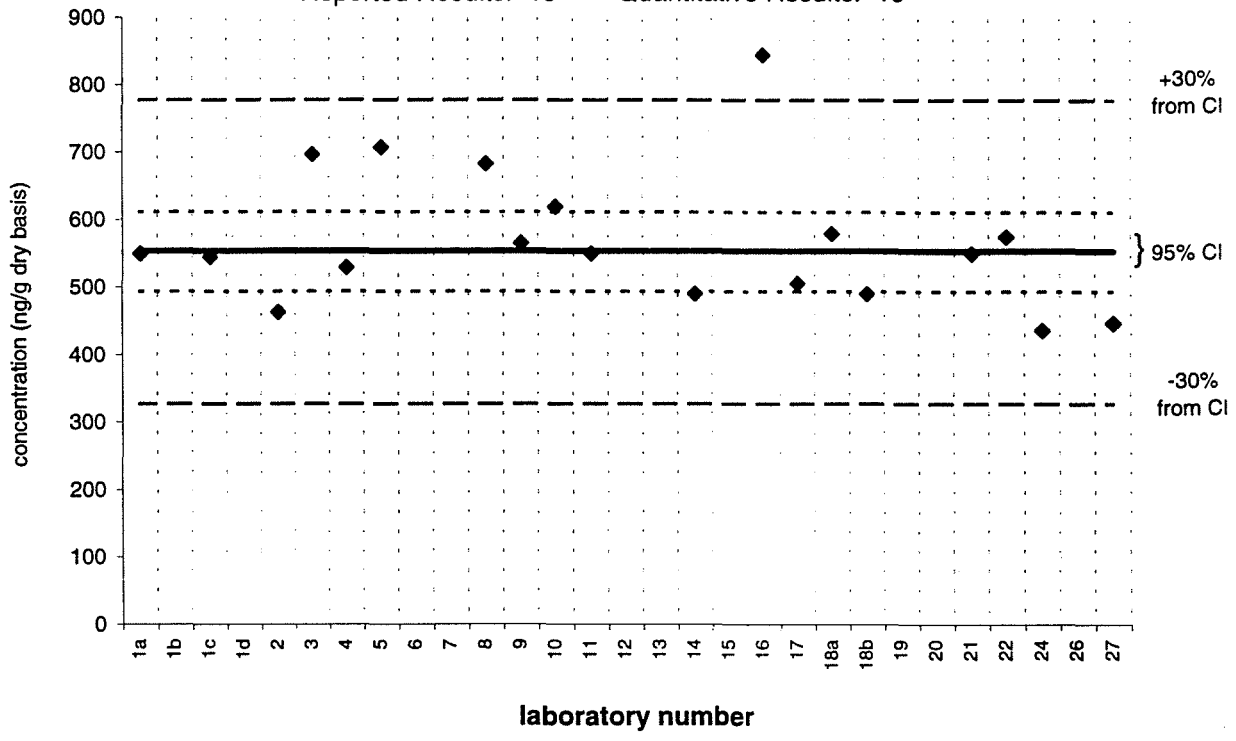
Reported Results: 20 Quantitative Results: 20



benzo[e]pyrene **SRM 1941a**

Certified Value = 553 ± 59 ng/g (dry basis)

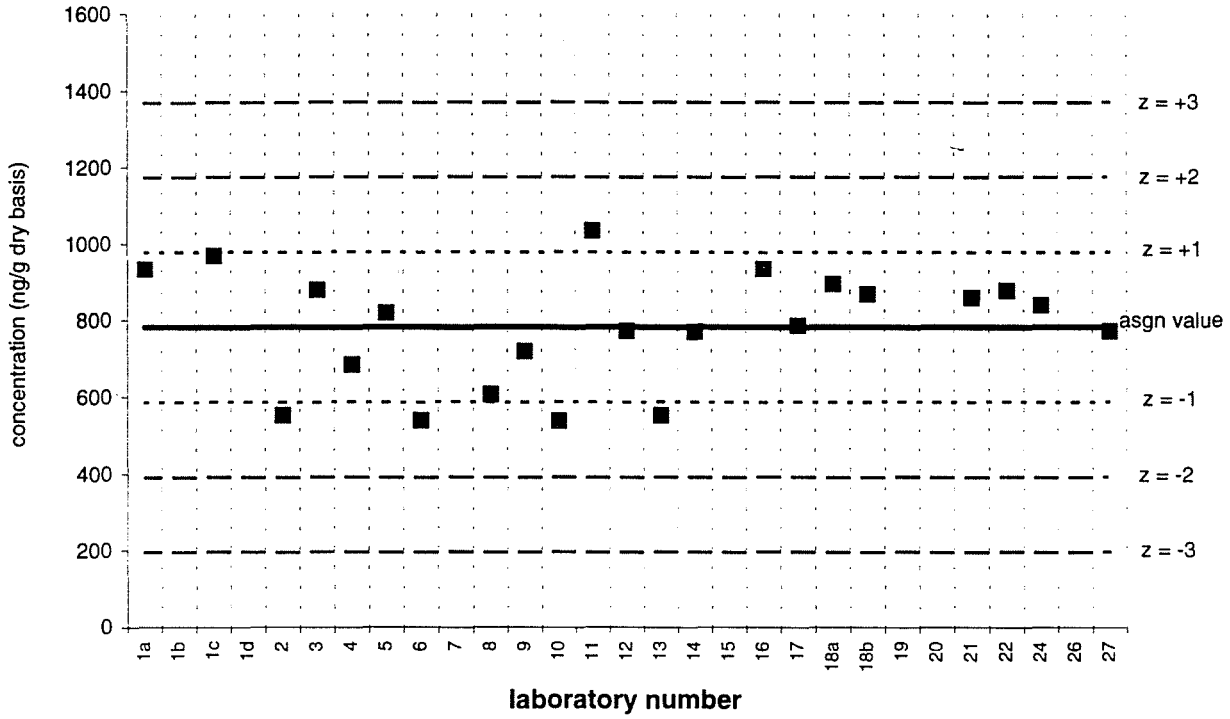
Reported Results: 19 Quantitative Results: 19



benzo[a]pyrene **Sediment VII (QA97SED7)**

Assigned value = 783 ng/g s = 152 ng/g 95% CL = 69 ng/g (dry basis)

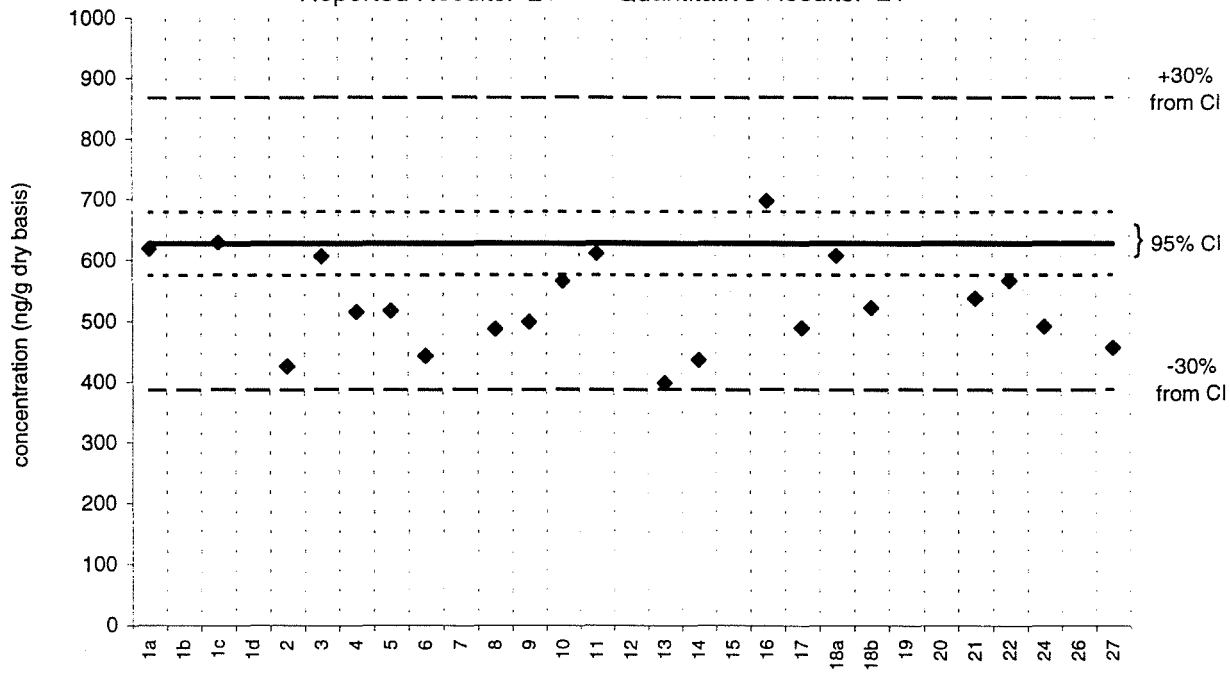
Reported Results: 22 Quantitative Results: 22

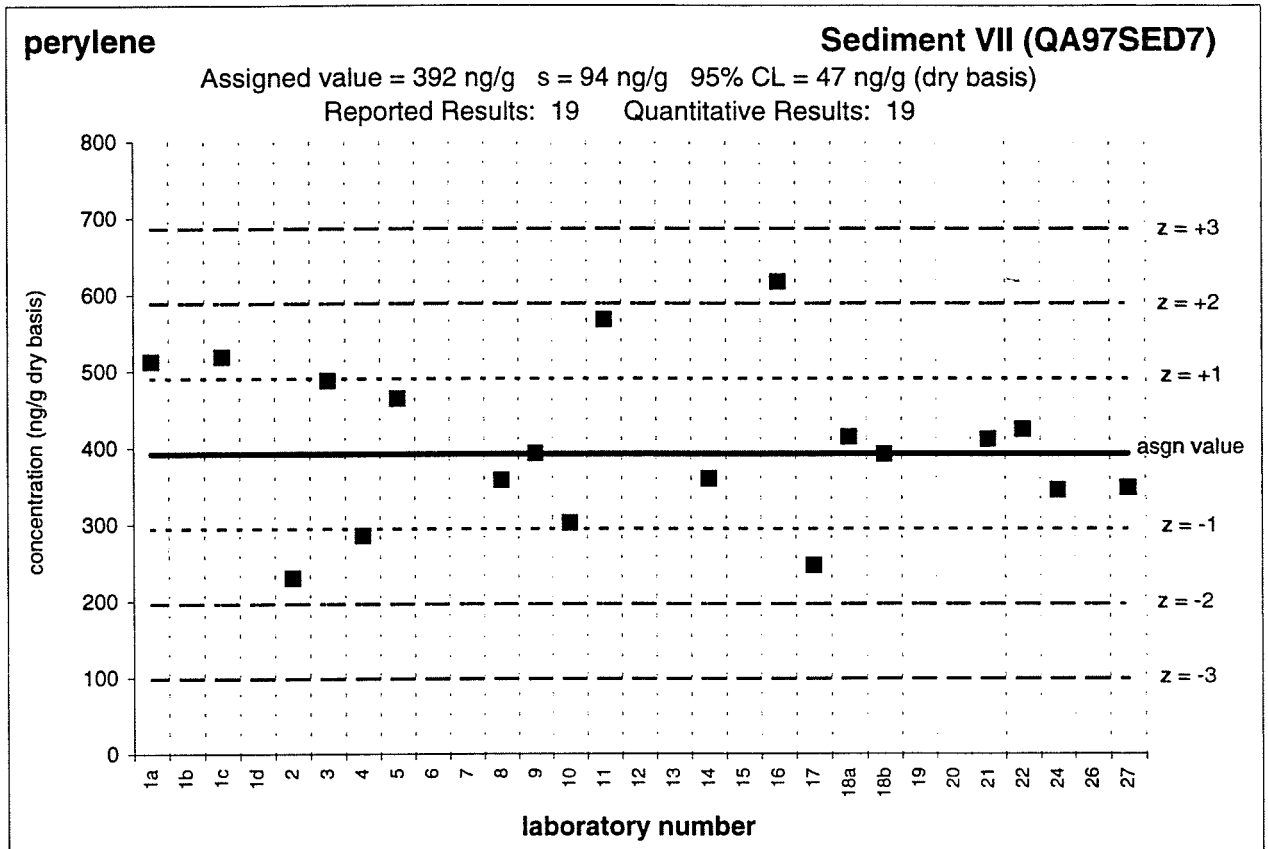


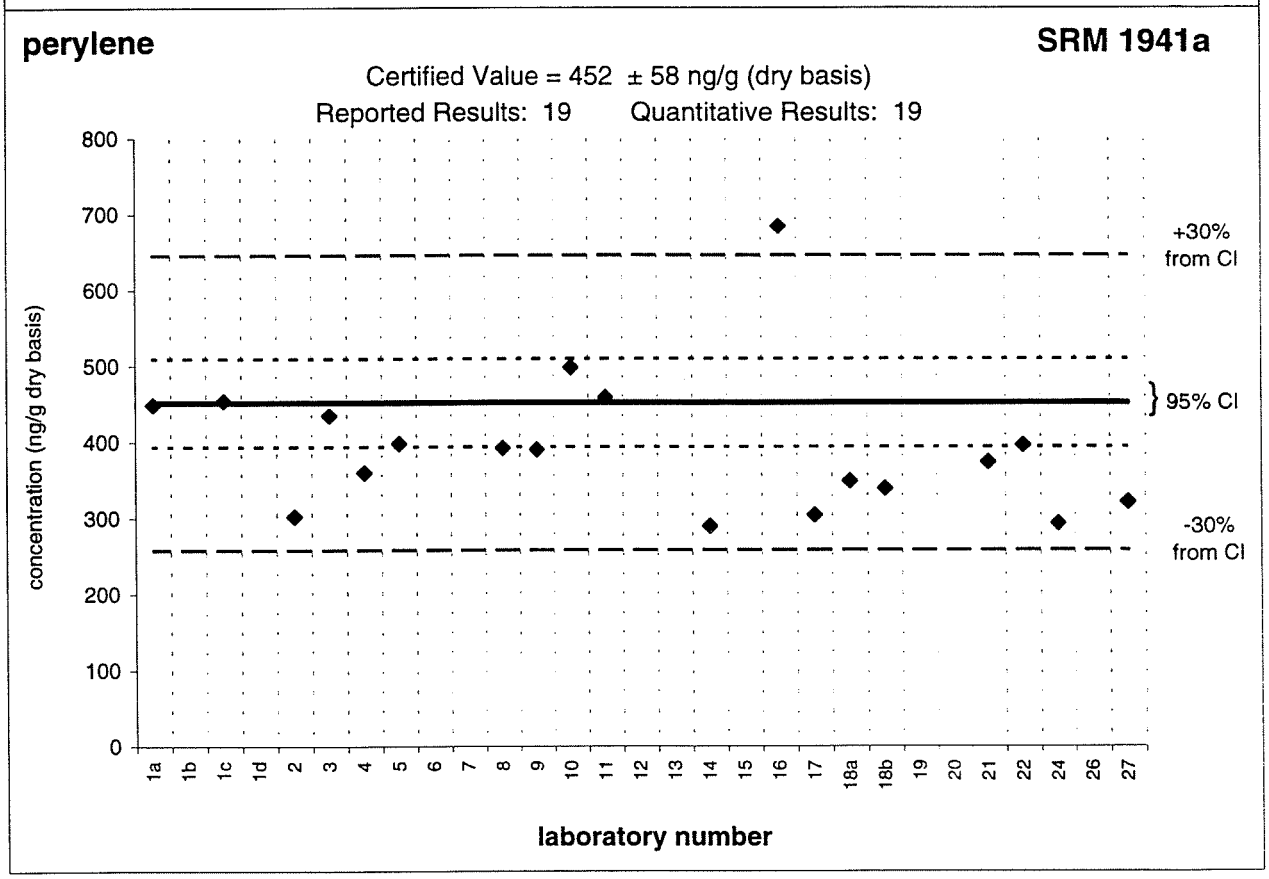
benzo[a]pyrene **SRM 1941a**

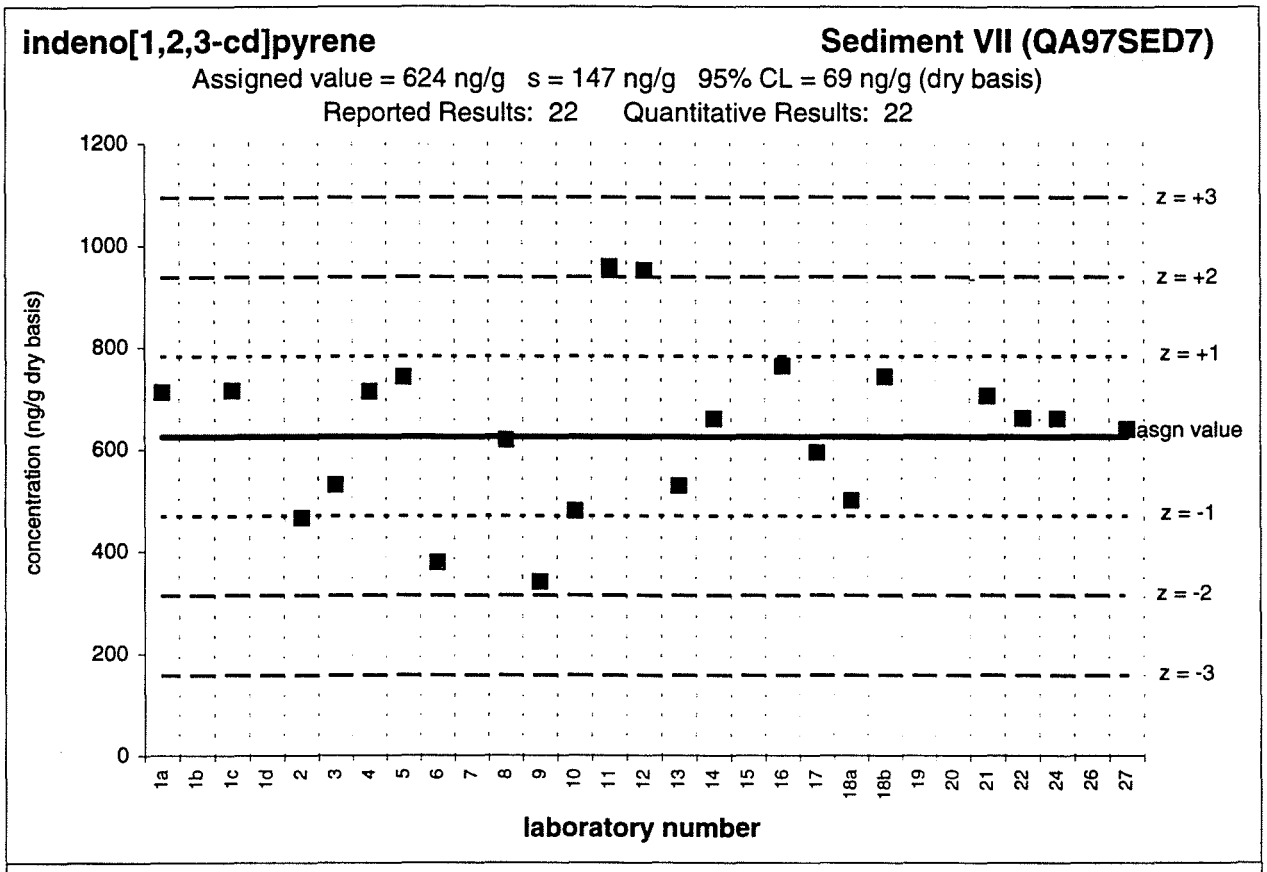
Certified Value = 628 ± 52 ng/g (dry basis)

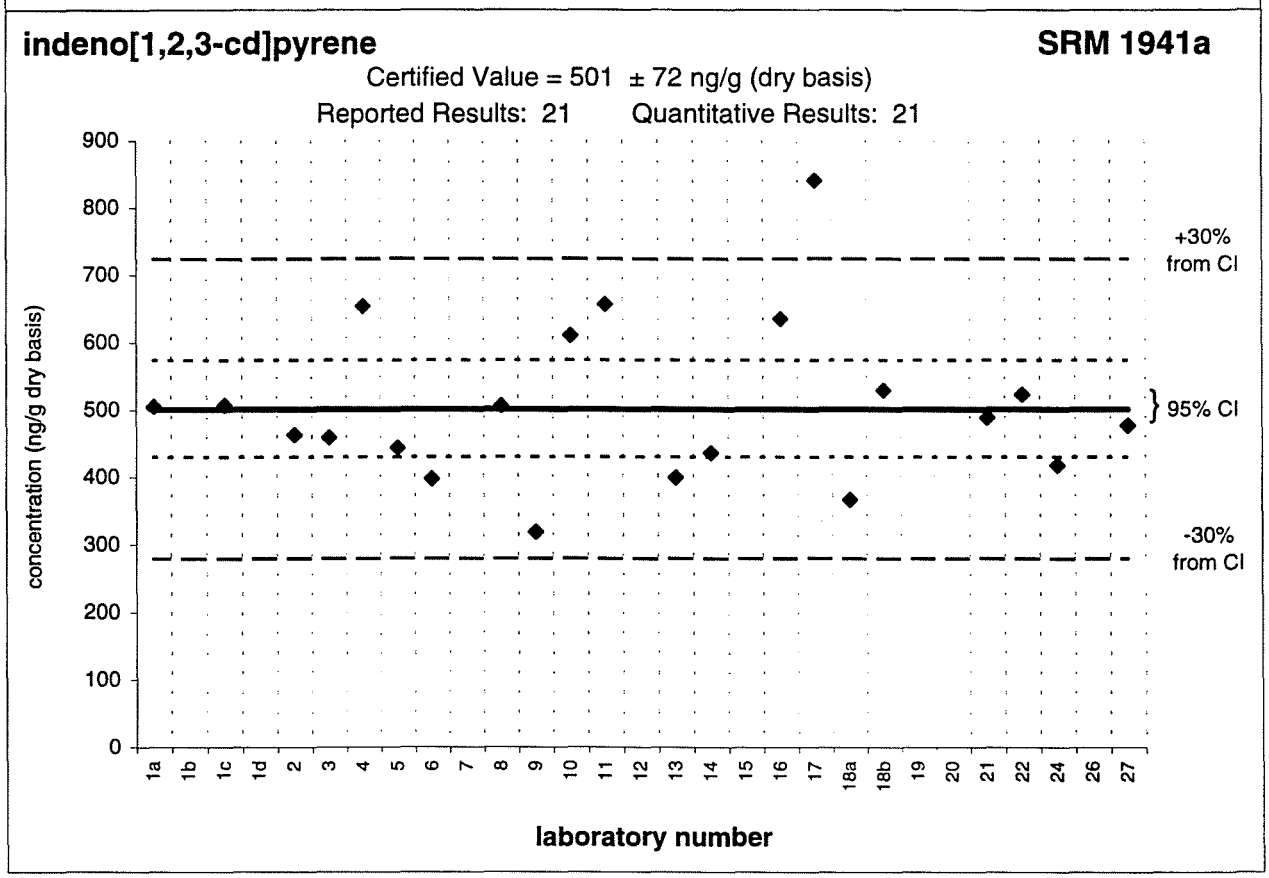
Reported Results: 21 Quantitative Results: 21

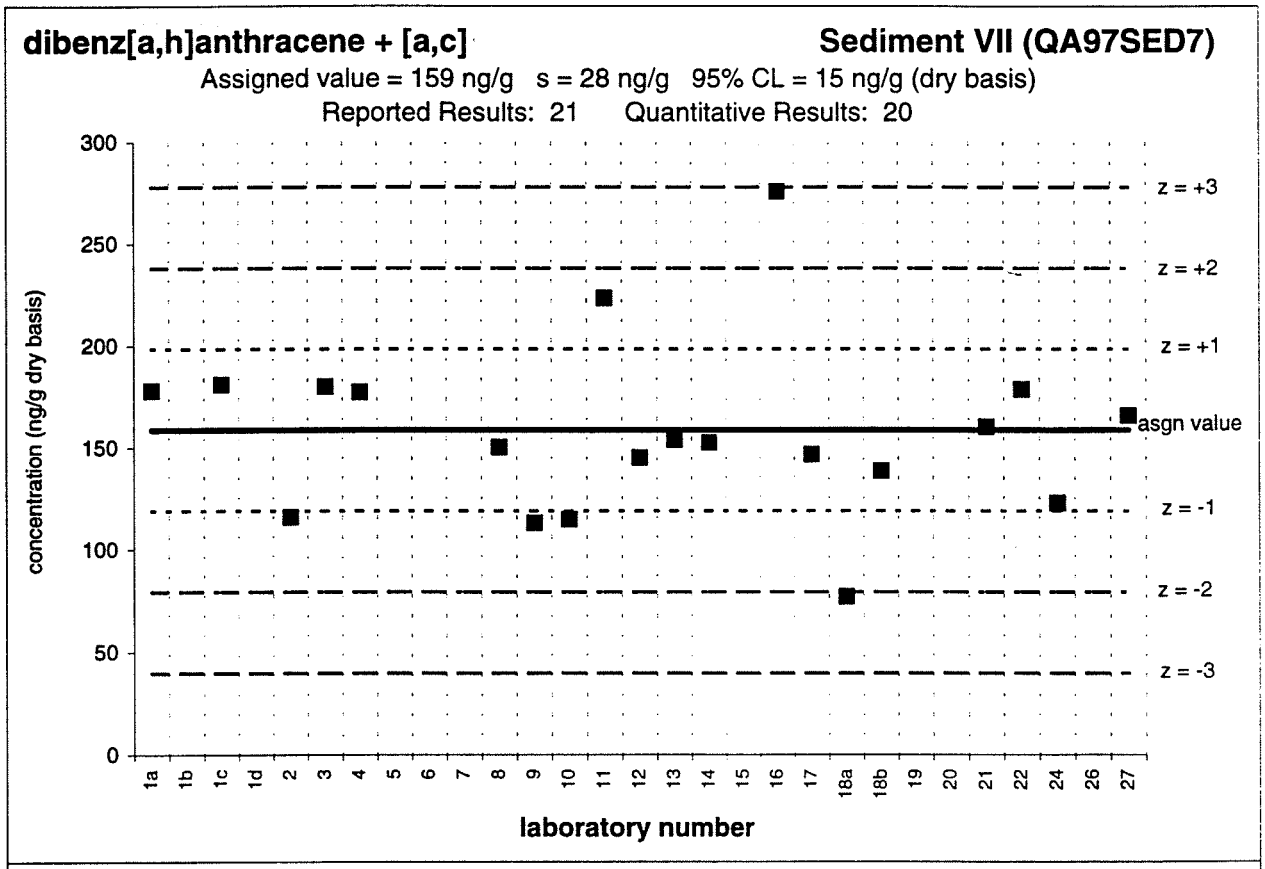


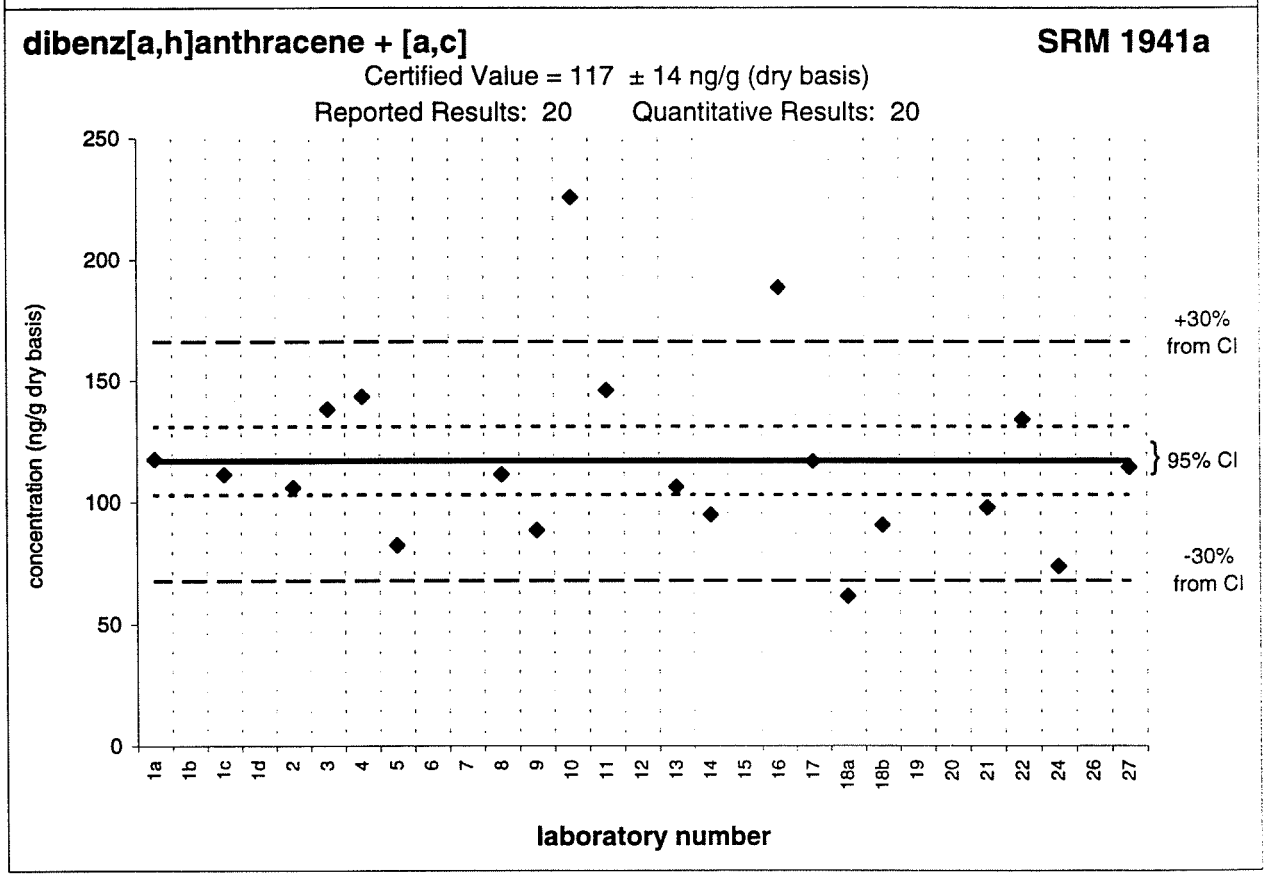

perylene
Sediment VII (QA97SED7)
Assigned value = 392 ng/g s = 94 ng/g 95% CL = 47 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
800
700
600
500
400
300
200
100
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


perylene
SRM 1941a
Certified Value = 452 ± 58 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 19
concentration (ng/g dry basis)
800
700
600
500
400
300
200
100
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


indeno[1,2,3-cd]pyrene
Sediment VII (QA97SED7)
Assigned value = 624 ng/g s = 147 ng/g 95% CL = 69 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
1200
1000
800
600
400
200
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


indeno[1,2,3-cd]pyrene
SRM 1941a
Certified Value = 501 ± 72 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
900
800
700
600
500
400
300
200
100
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

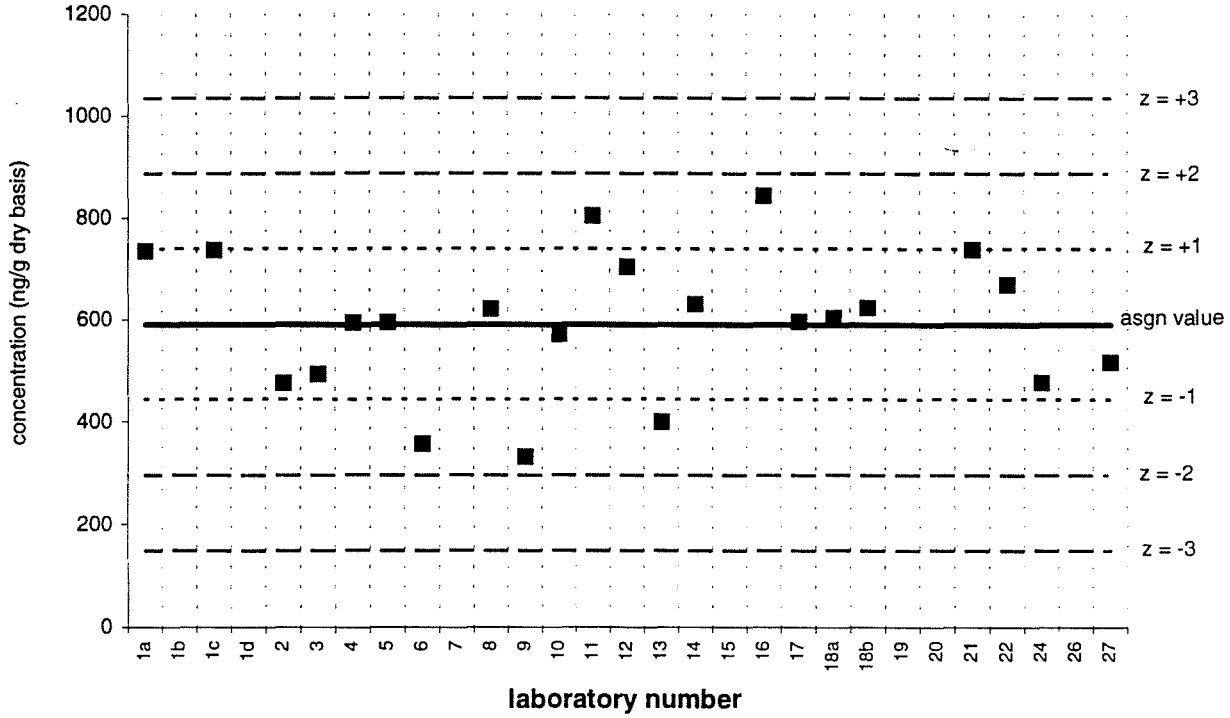

dibenz[a,h]anthracene + [a,c]
Sediment VII (QA97SED7)
Assigned value = 159 ng/g s = 28 ng/g 95% CL = 15 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 20
concentration (ng/g dry basis)
300
250
200
150
100
50
0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


dibenz[a,h]anthracene + [a,c]
SRM 1941a
Certified Value = 117 ± 14 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g dry basis)
250
200
150
100
50
0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

benzo[ghi]perylene **Sediment VII (QA97SED7)**

Assigned value = 591 ng/g s = 138 ng/g 95% CL = 63 ng/g (dry basis)

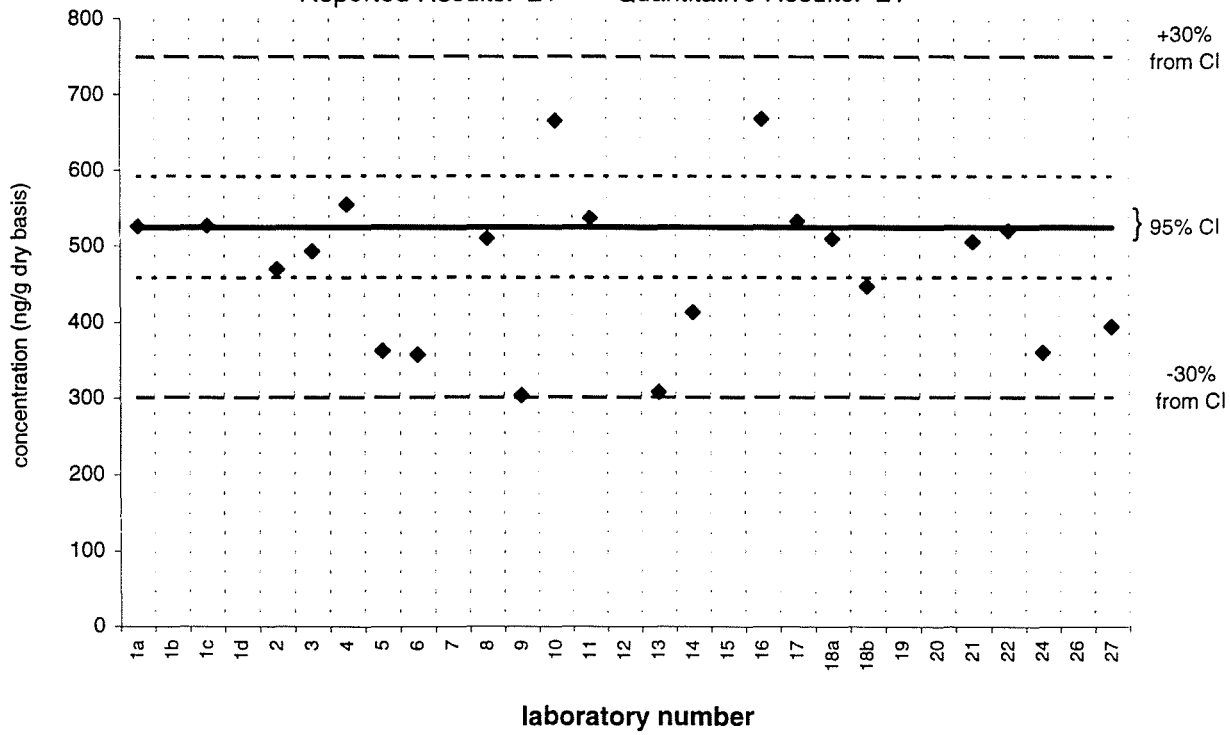
Reported Results: 22 Quantitative Results: 22

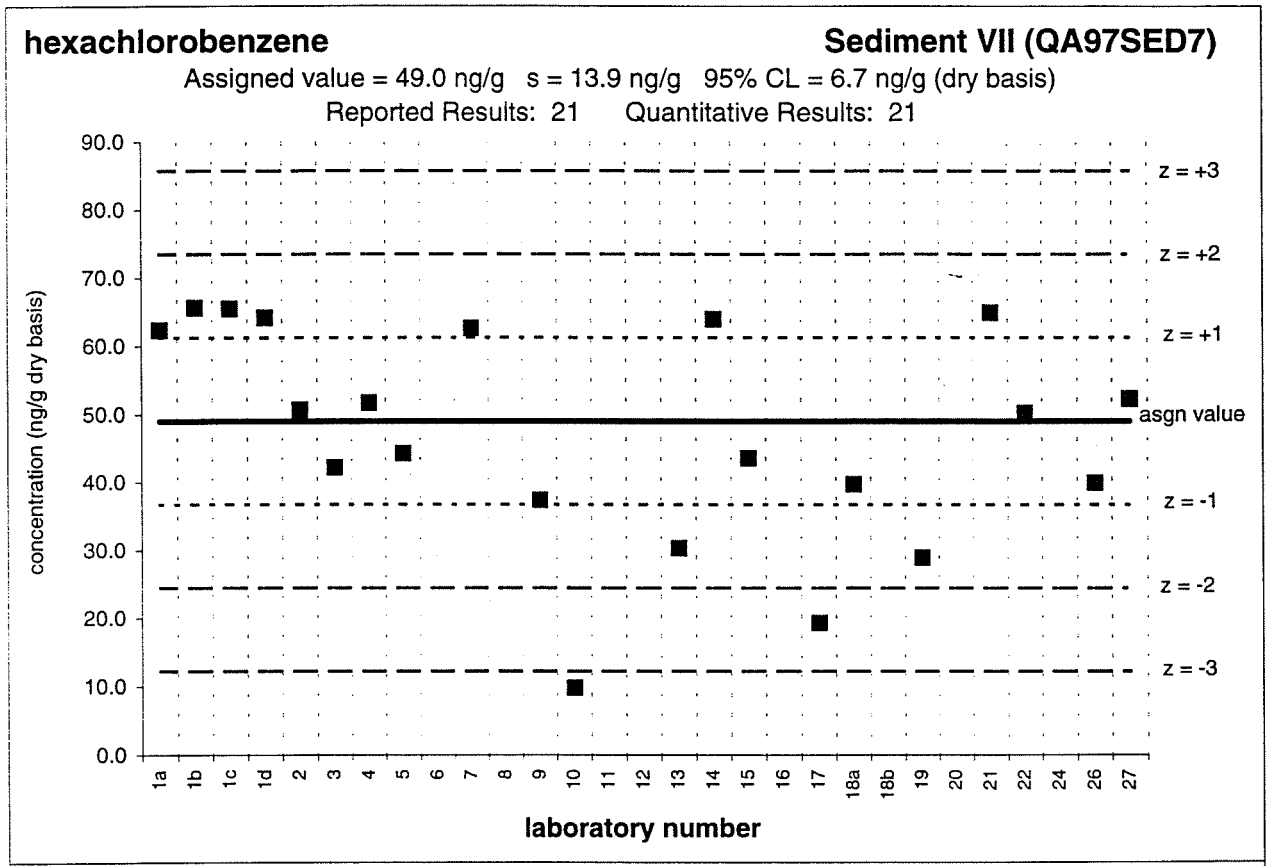


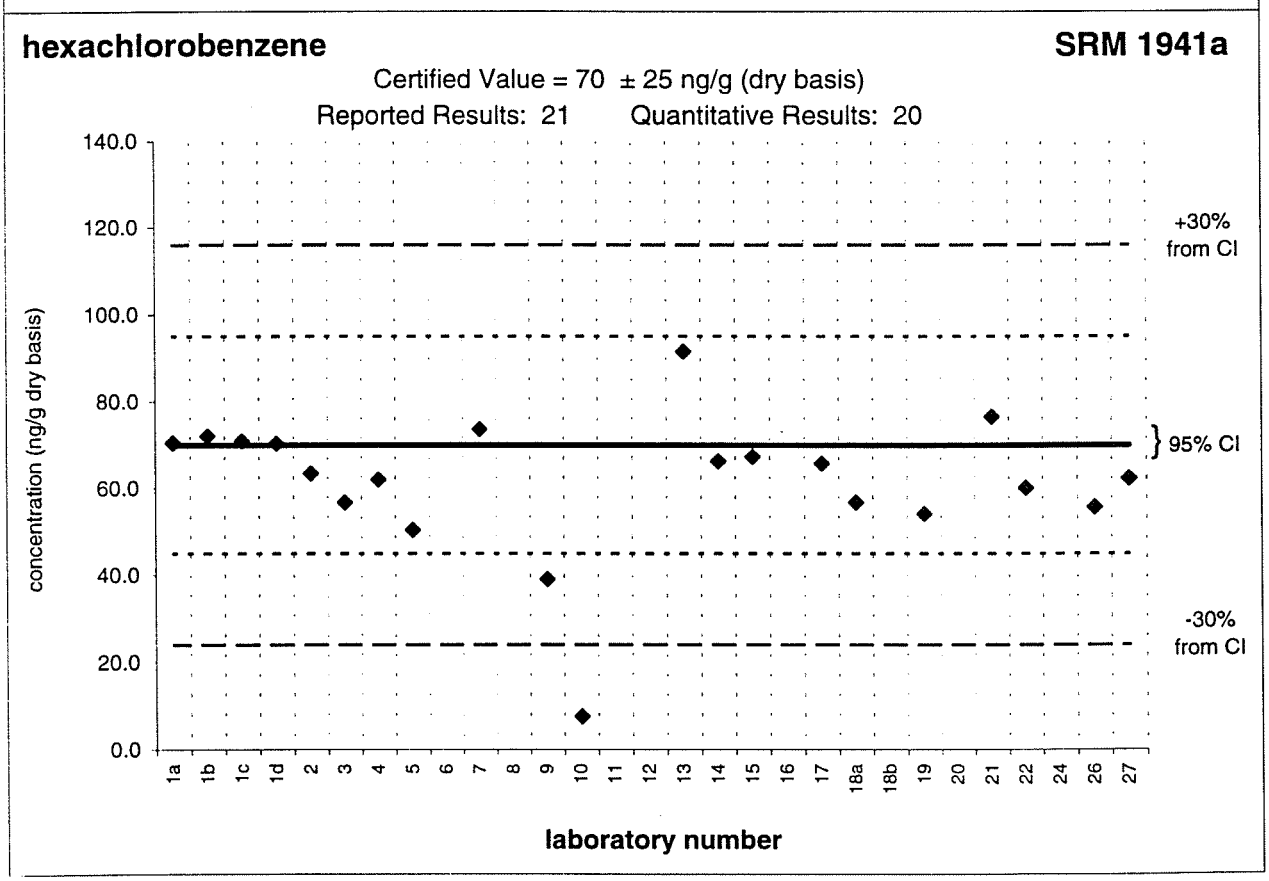
benzo[ghi]perylene **SRM 1941a**

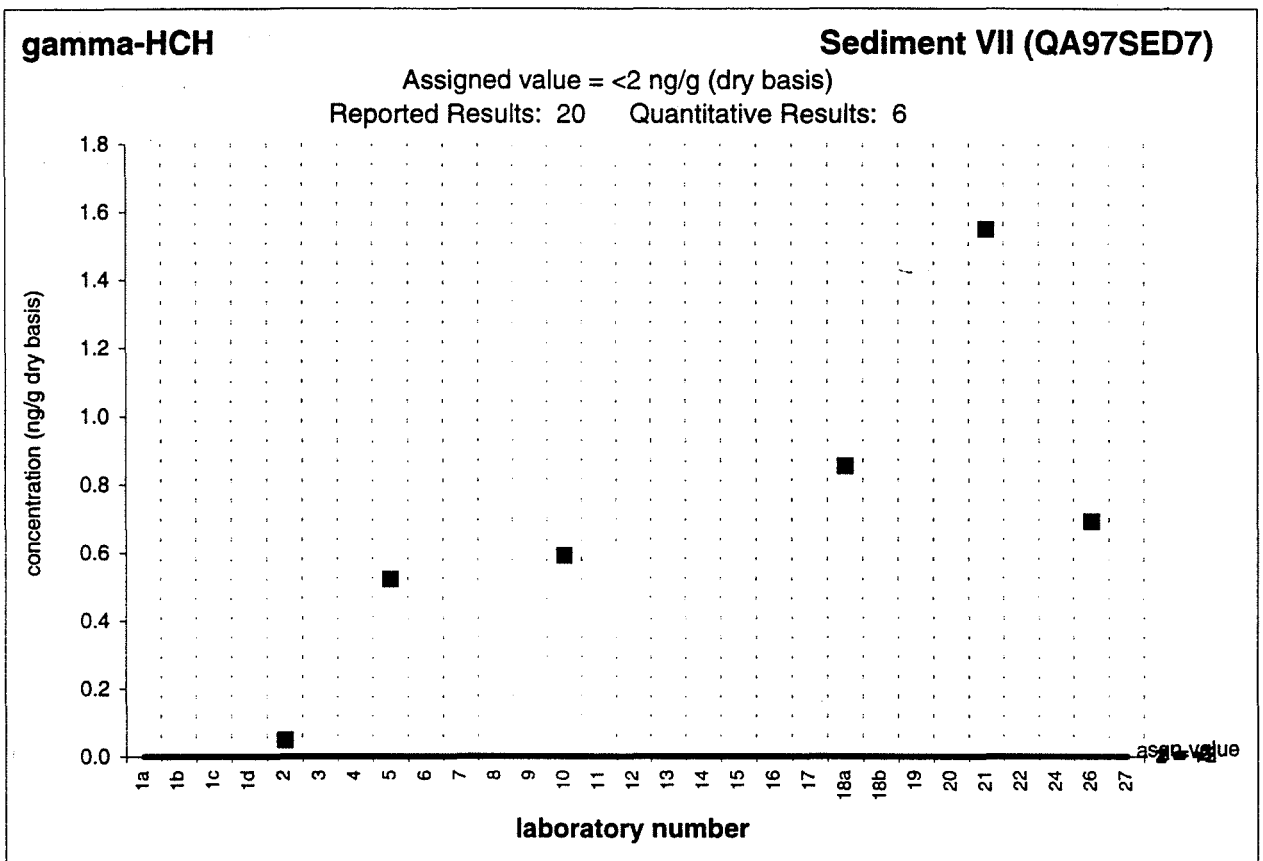
Certified Value = 525 ± 67 ng/g (dry basis)

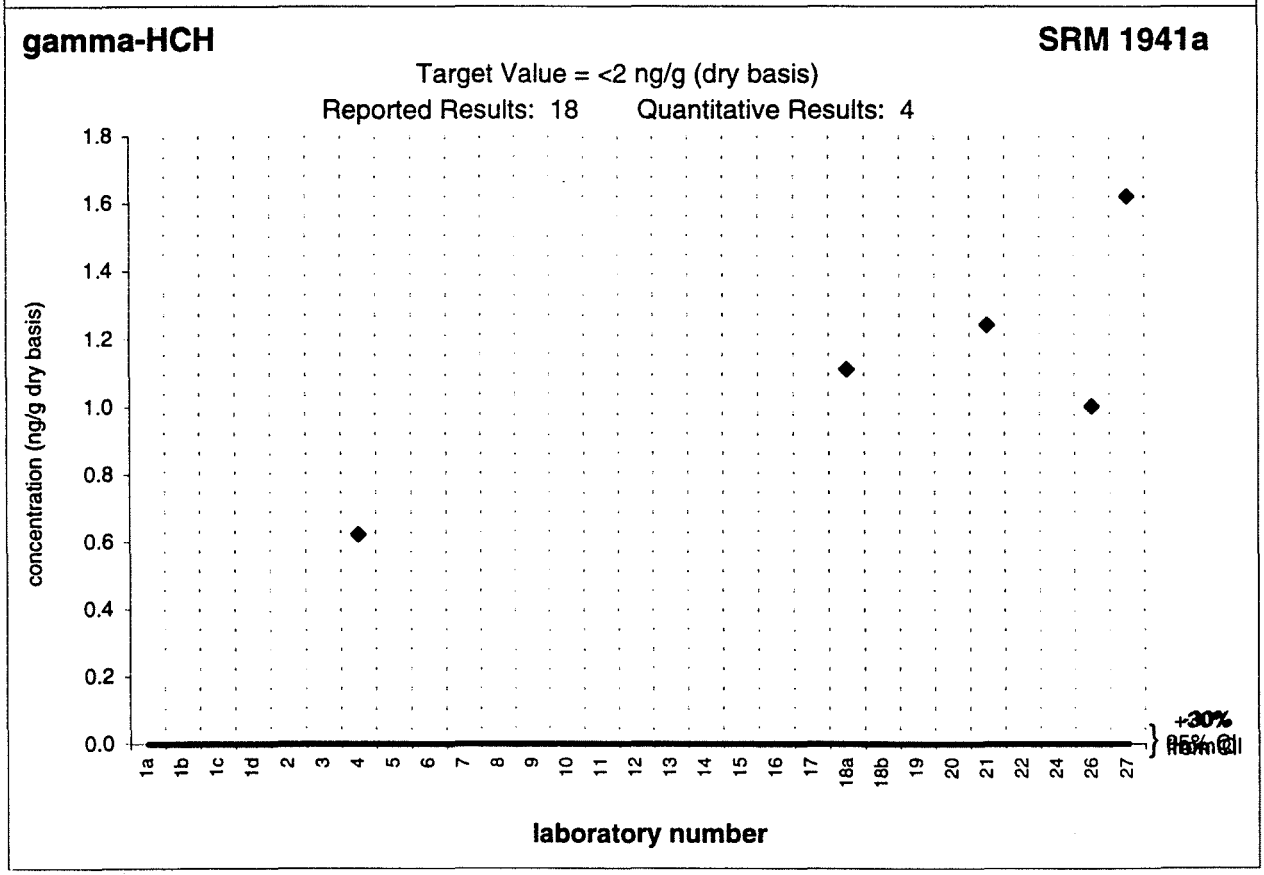
Reported Results: 21 Quantitative Results: 21

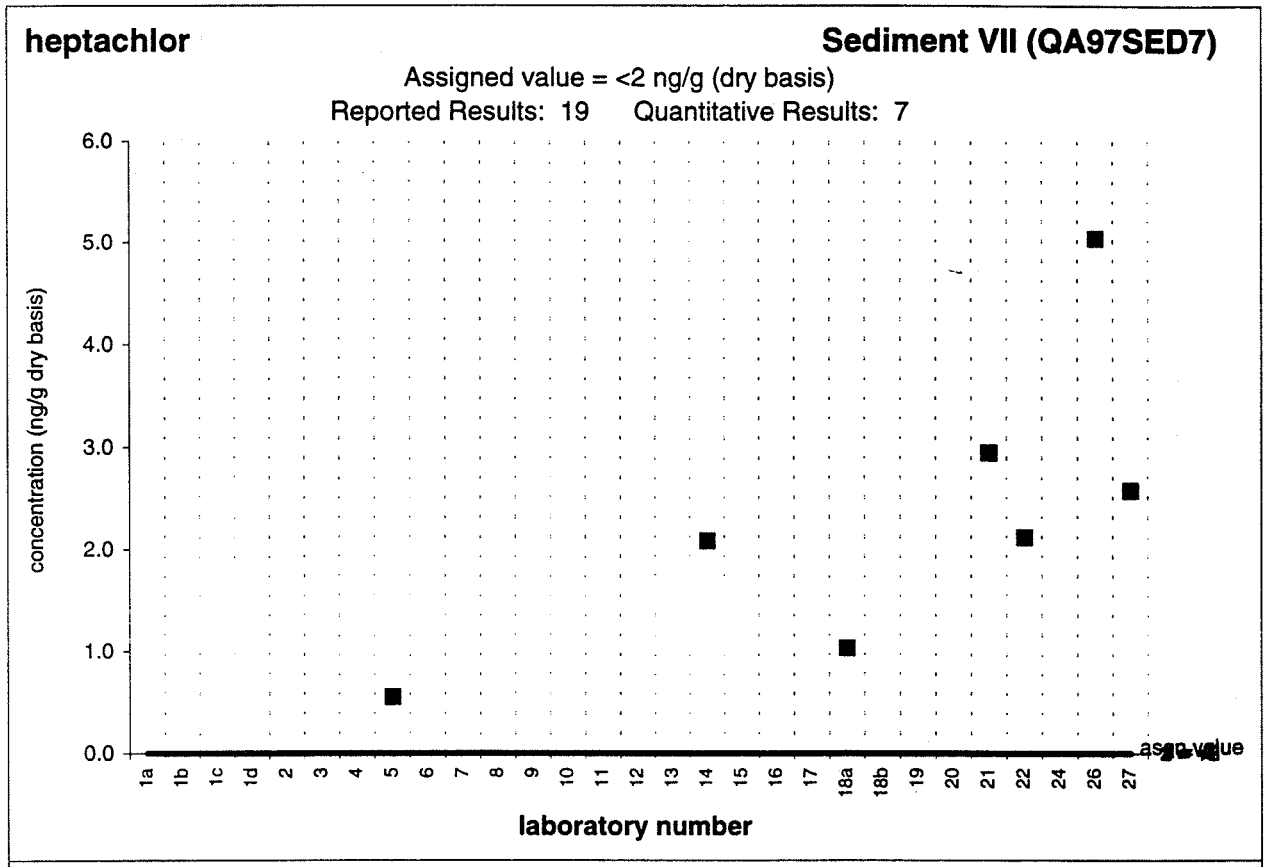


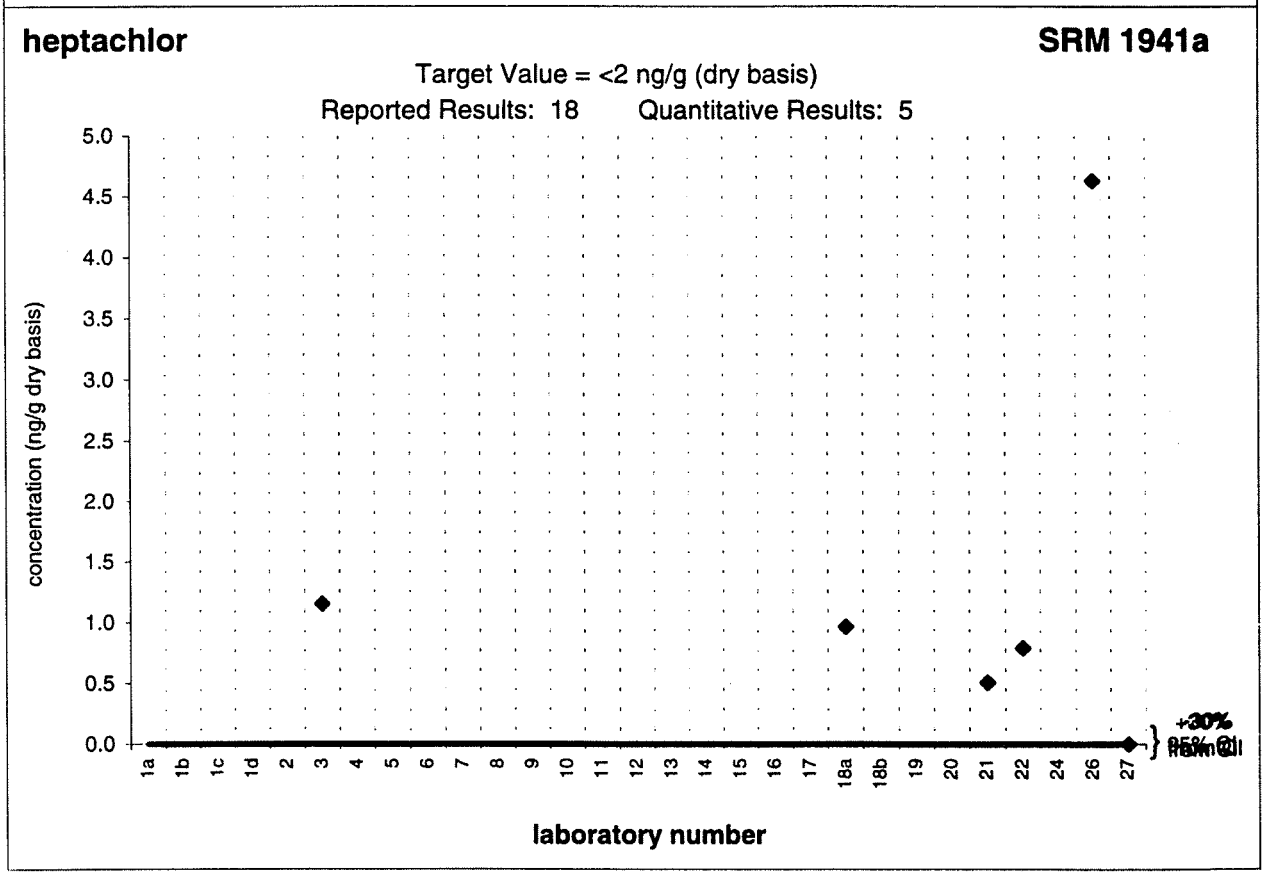

hexachlorobenzene
Sediment VII (QA97SED7)
Assigned value = 49.0 ng/g s = 13.9 ng/g 95% CL = 6.7 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 21
concentration (ng/g dry basis)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

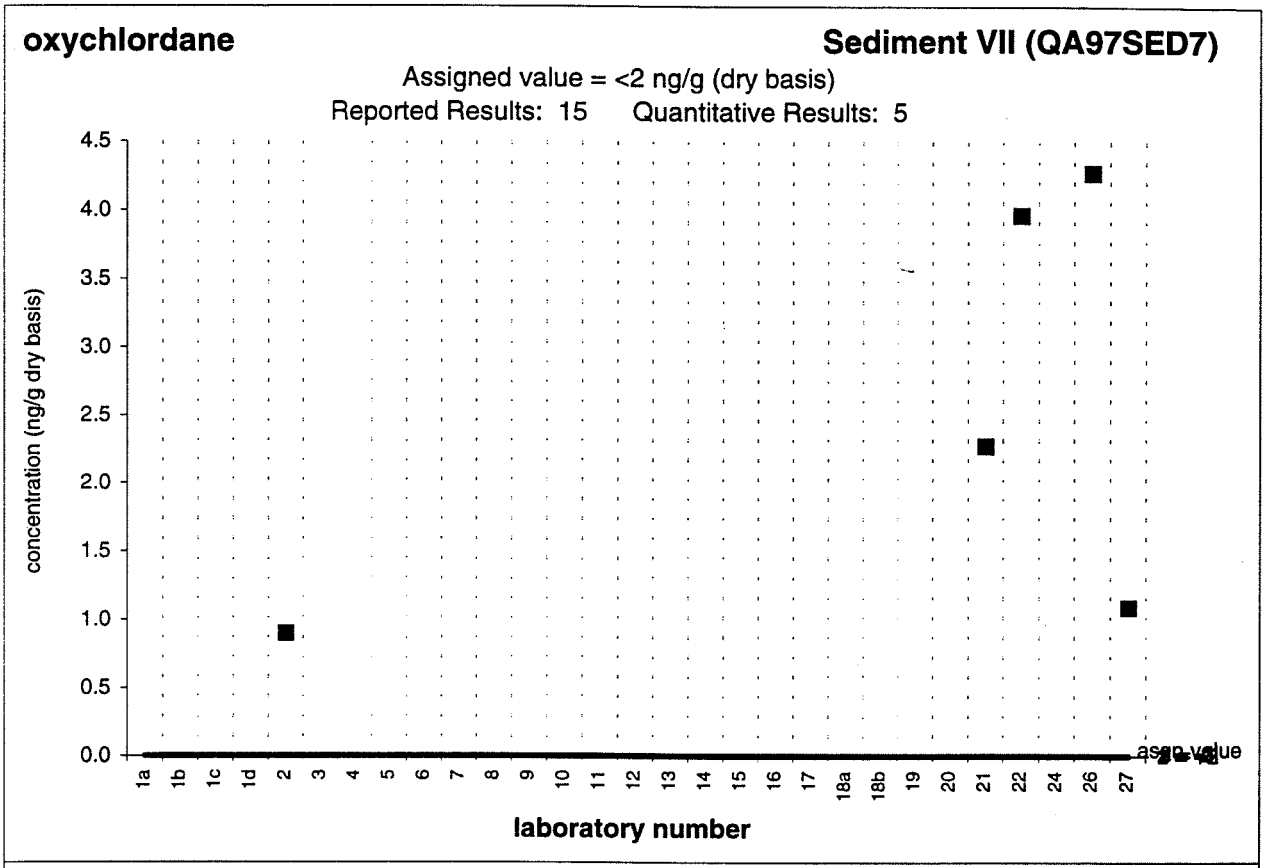

hexachlorobenzene
SRM 1941a
Certified Value = 70 ± 25 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 20
concentration (ng/g dry basis)
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
+30% from CI
} 95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

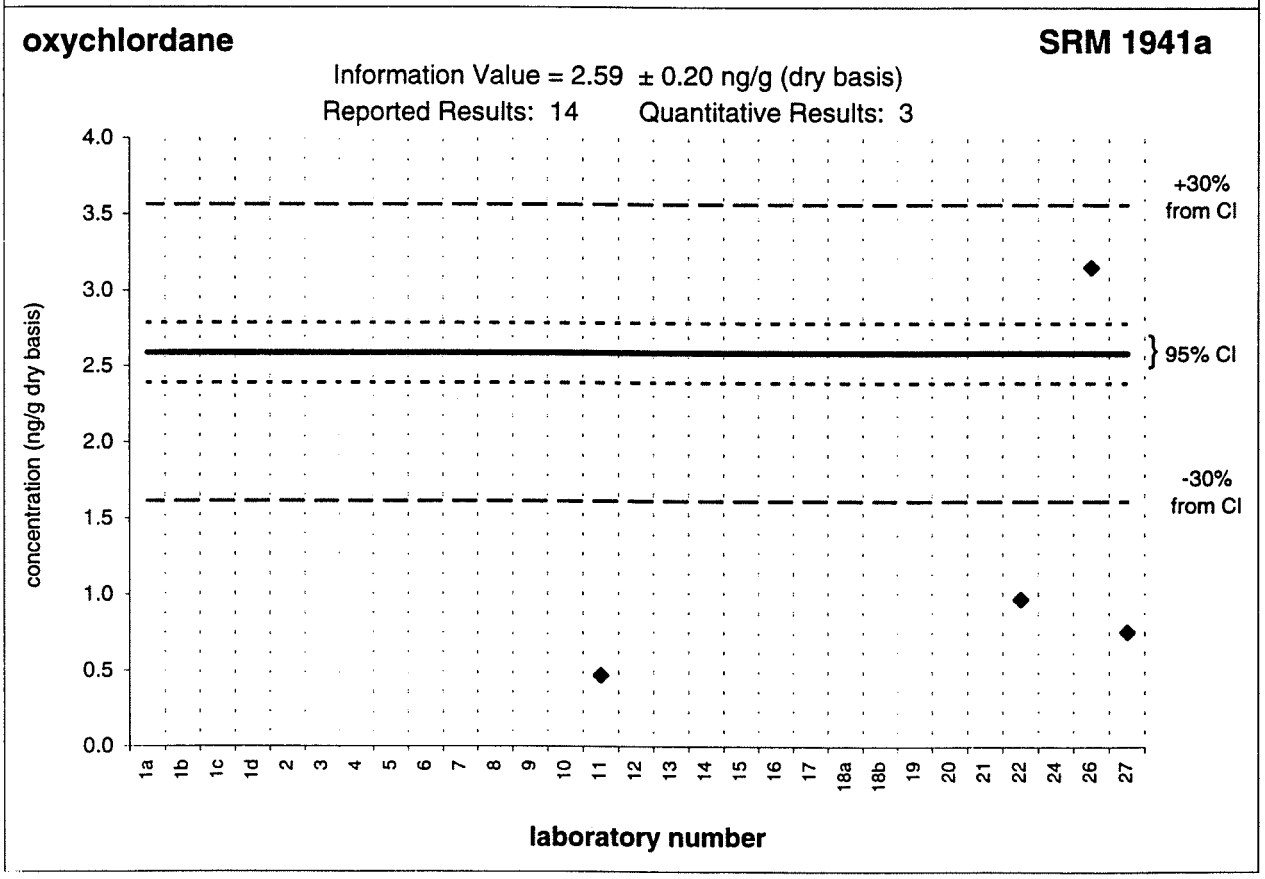

gamma-HCH
Sediment VII (QA97SED7)
Assigned value = <2 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 6
concentration (ng/g dry basis)
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

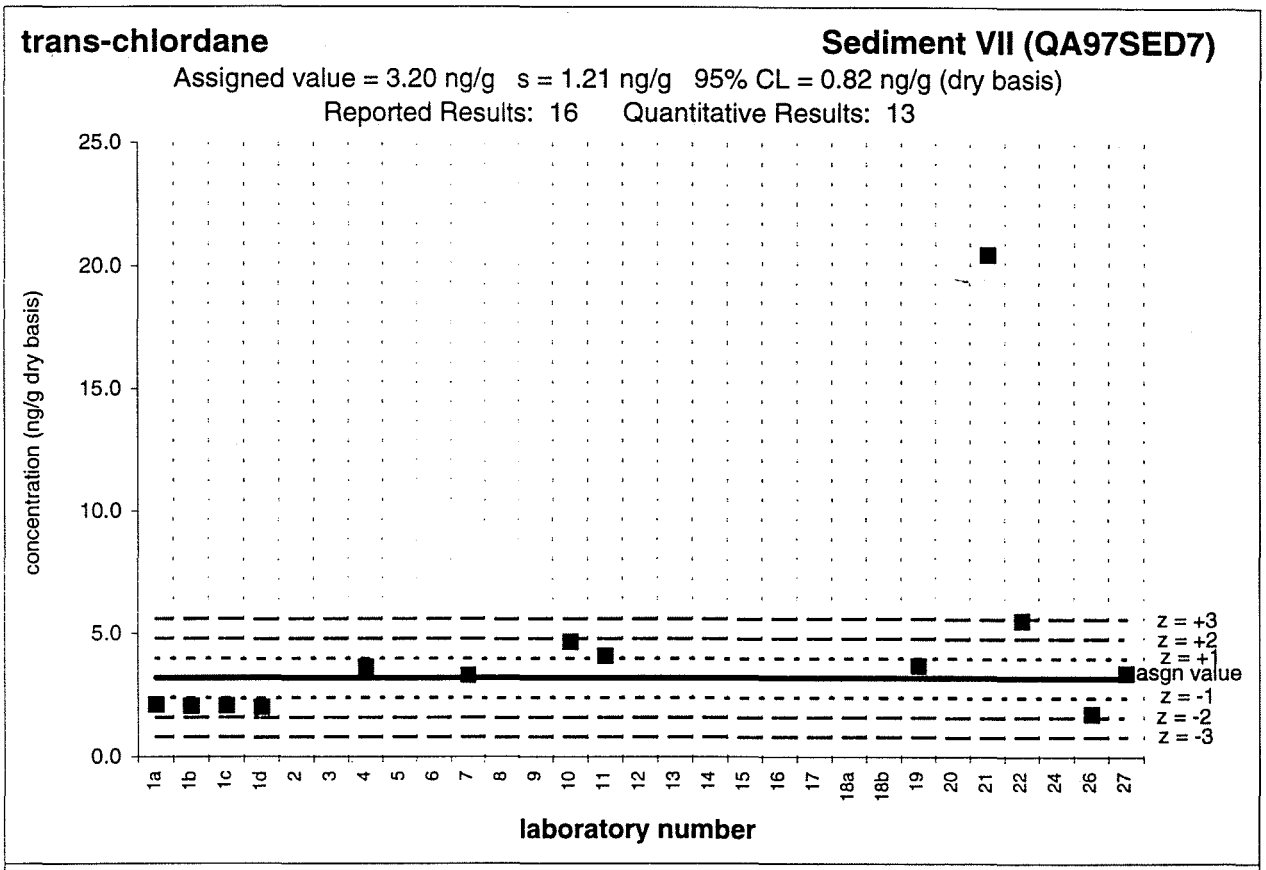

gamma-HCH
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 4
concentration (ng/g dry basis)
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
+30%
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

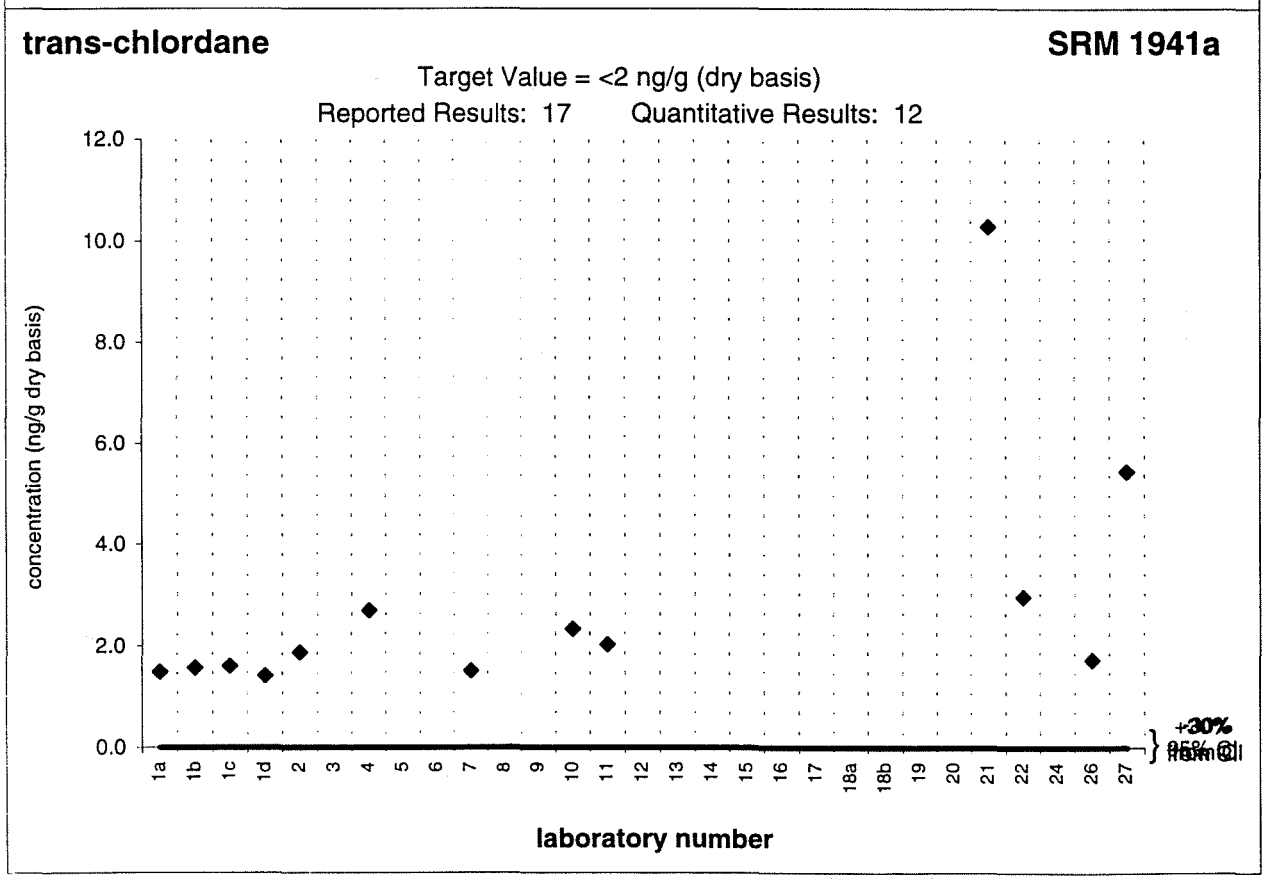

heptachlor
Sediment VII (QA97SED7)
Assigned value = <2 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 7
concentration (ng/g dry basis)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

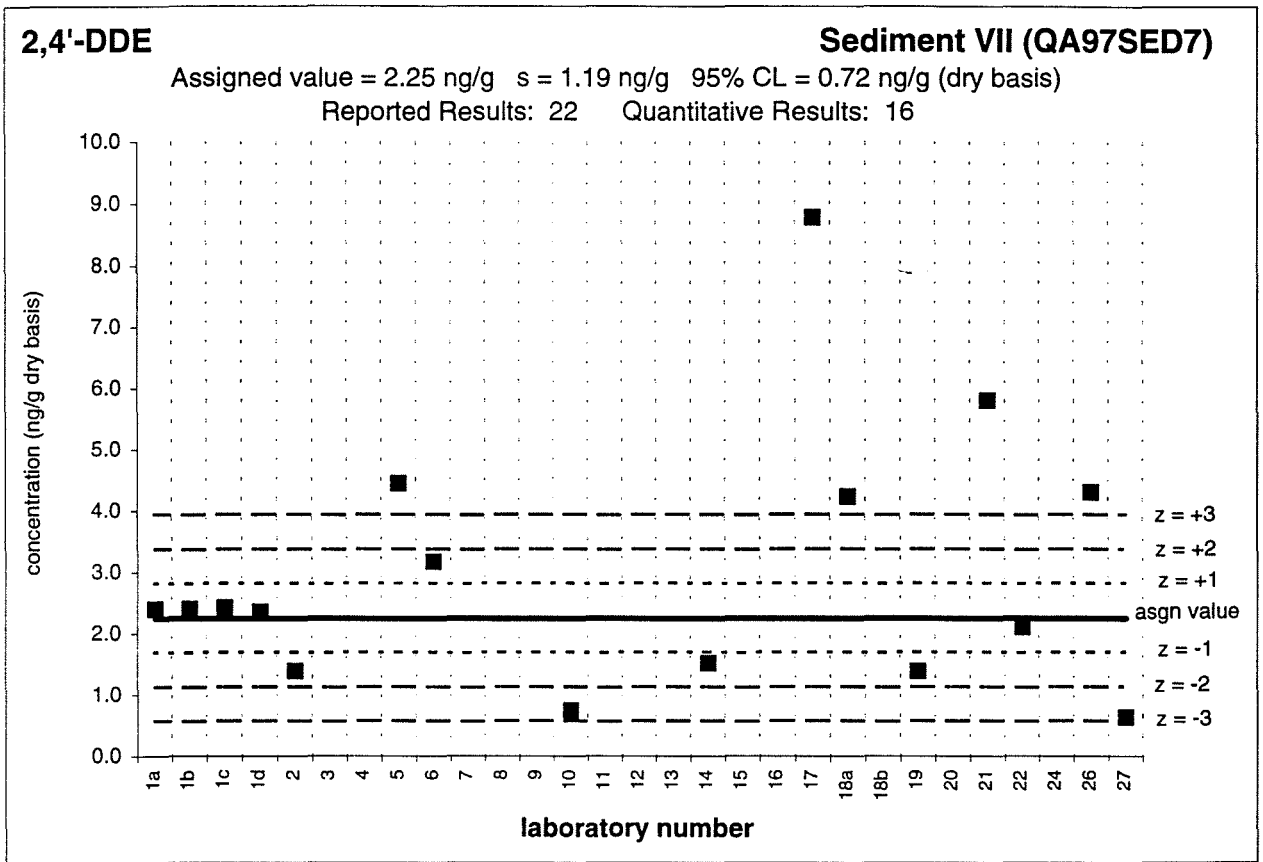

heptachlor
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 5
concentration (ng/g dry basis)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

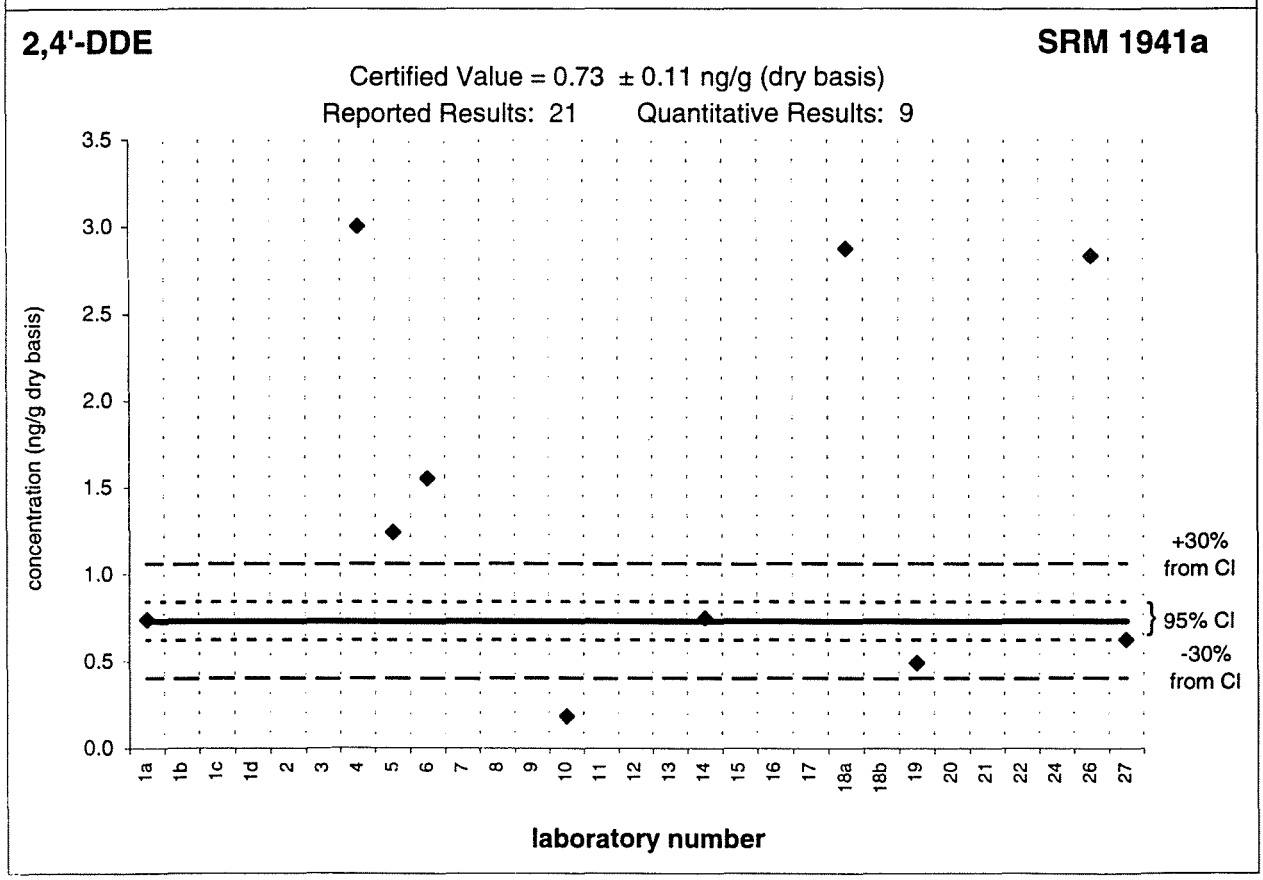

oxychlordane
Sediment VII (QA97SED7)
Assigned value = <2 ng/g (dry basis)
Reported Results: 15
Quantitative Results: 5
concentration (ng/g dry basis)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
asgn value
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

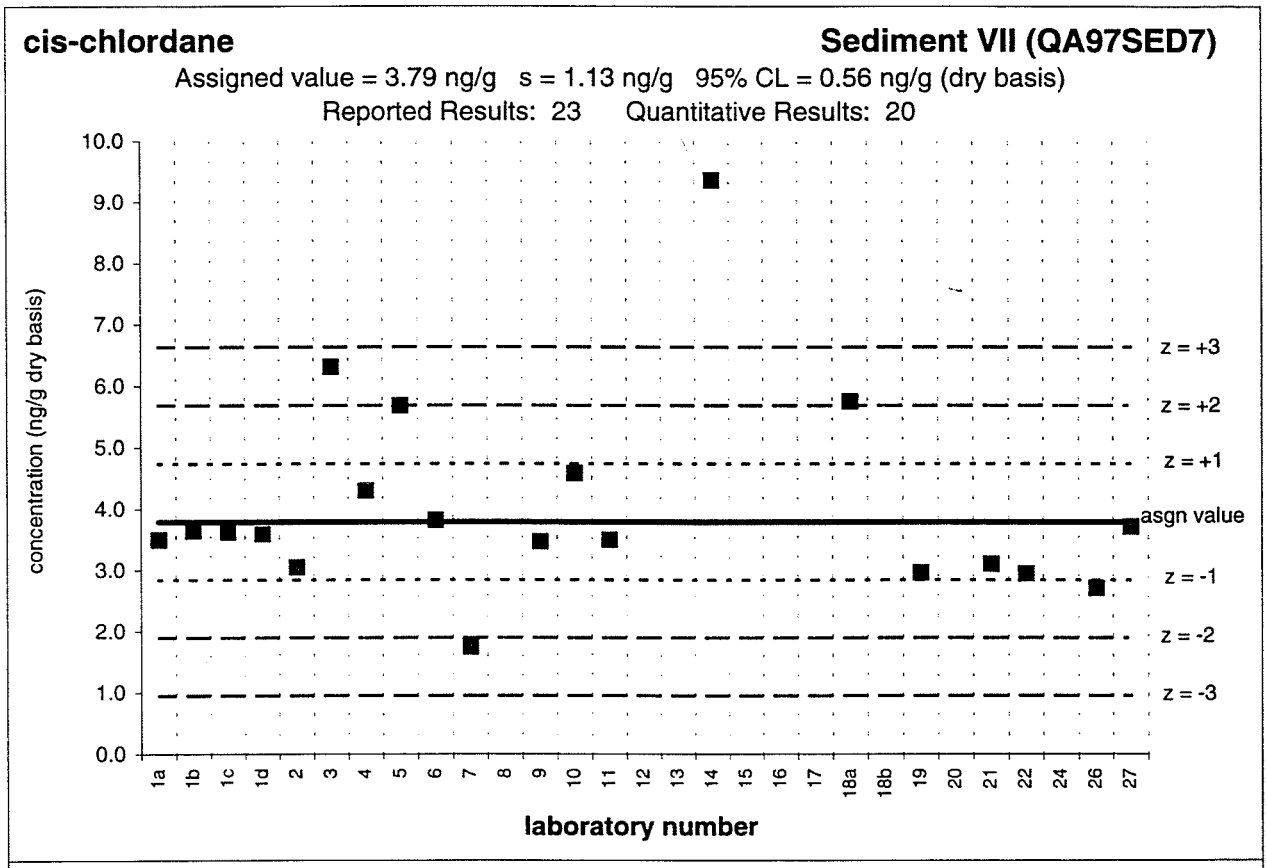

oxychlordane
SRM 1941a
Information Value = 2.59 ± 0.20 ng/g (dry basis)
Reported Results: 14
Quantitative Results: 3
concentration (ng/g dry basis)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

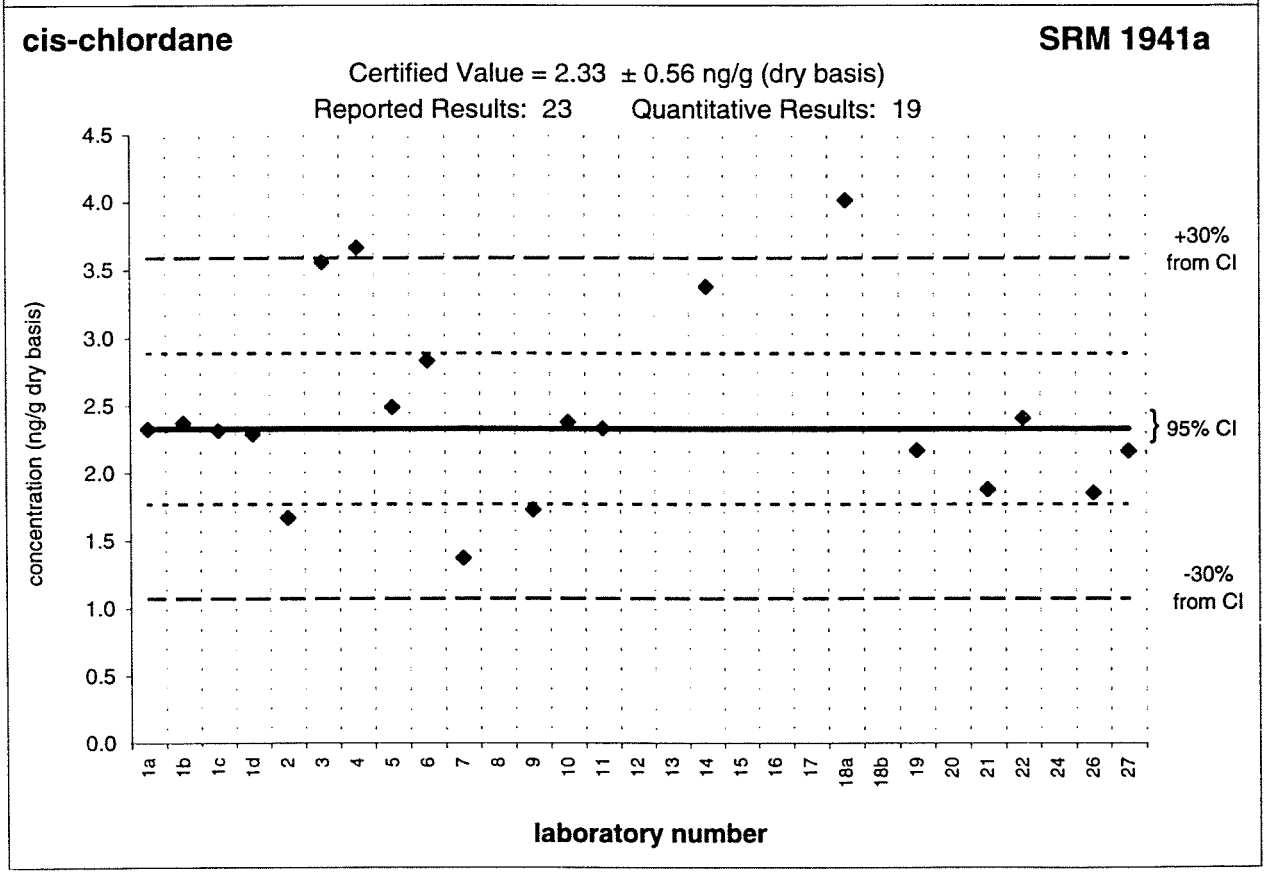

trans-chlordane
Sediment VII (QA97SED7)
Assigned value = 3.20 ng/g s = 1.21 ng/g 95% CL = 0.82 ng/g (dry basis)
Reported Results: 16 Quantitative Results: 13
concentration (ng/g dry basis)
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

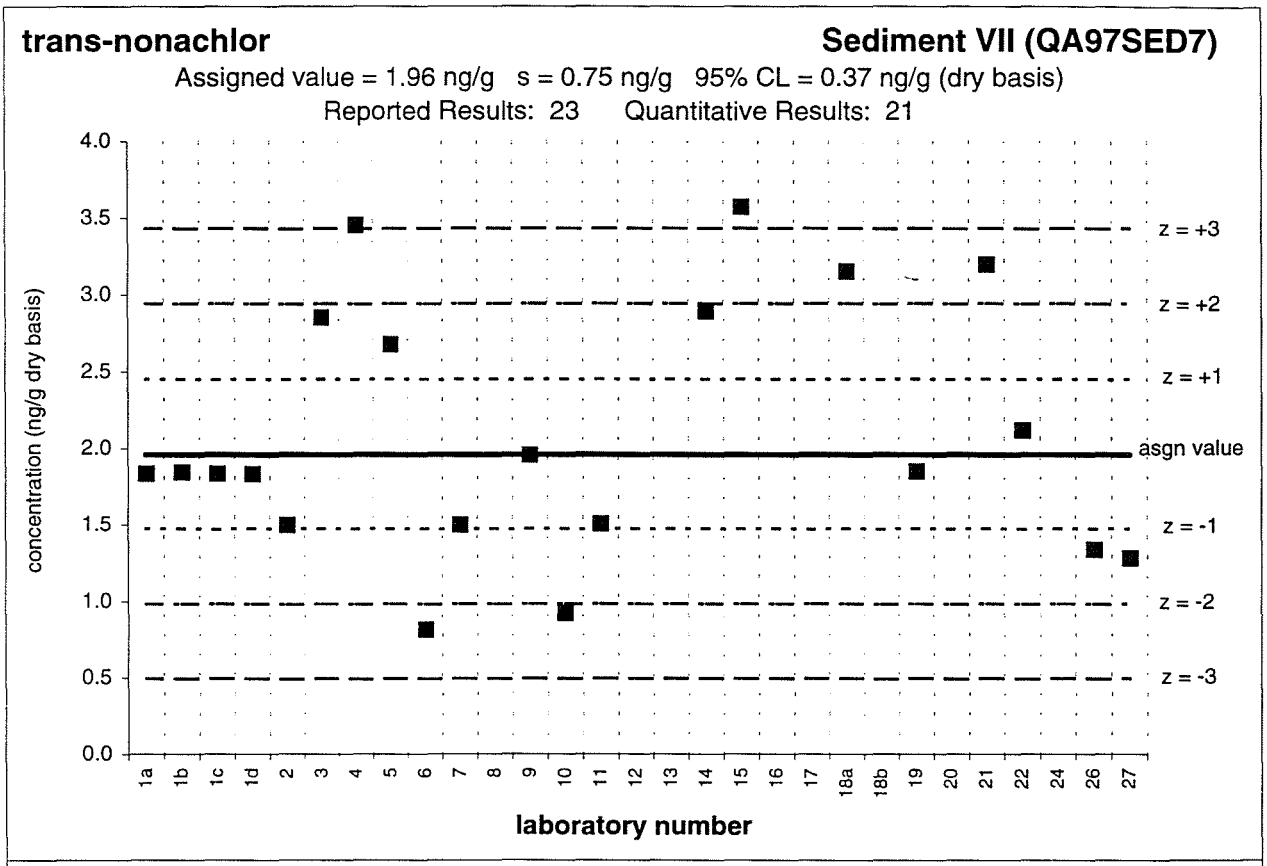

trans-chlordane
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 17 Quantitative Results: 12
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30%
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

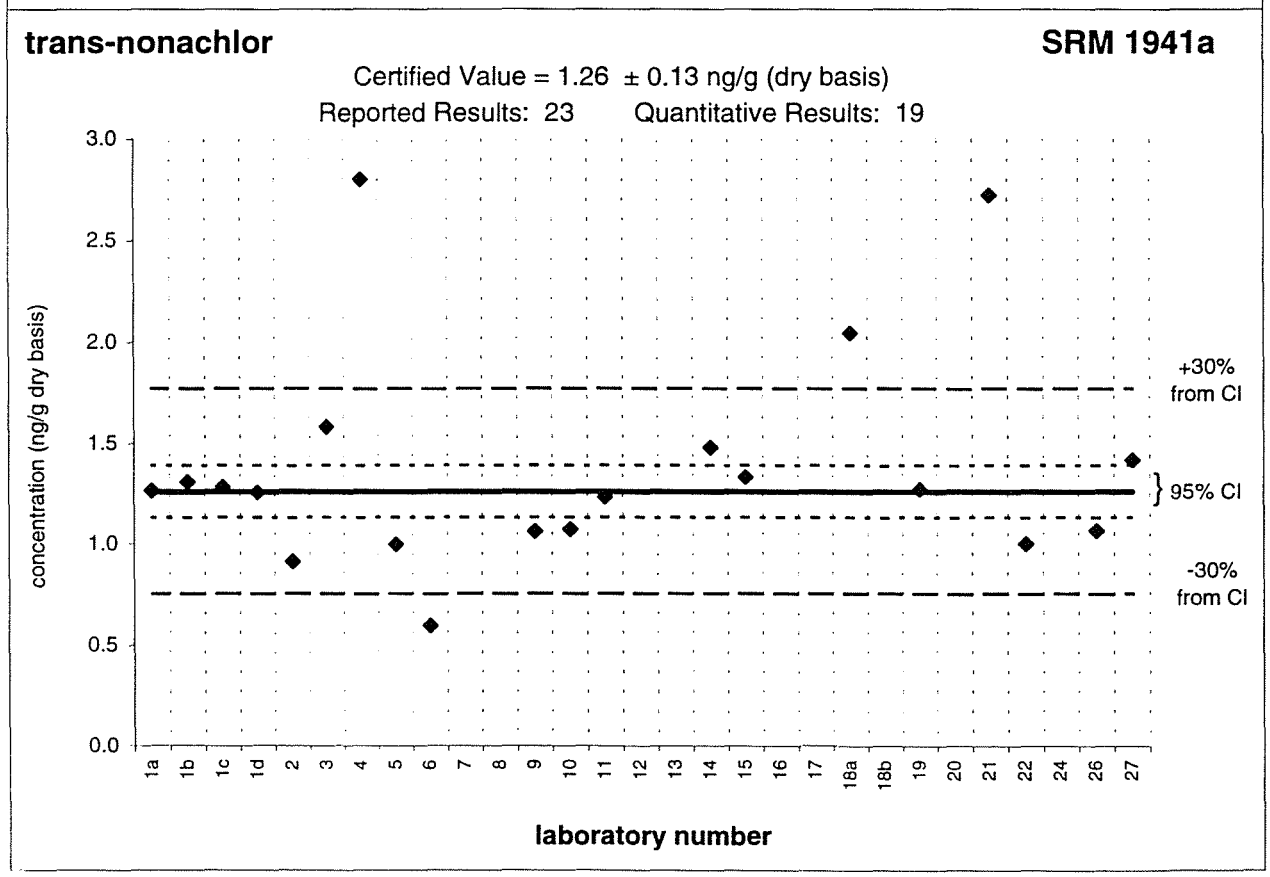

2,4'-DDE
Sediment VII (QA97SED7)
Assigned value = 2.25 ng/g s = 1.19 ng/g 95% CL = 0.72 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 16
concentration (ng/g dry basis)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

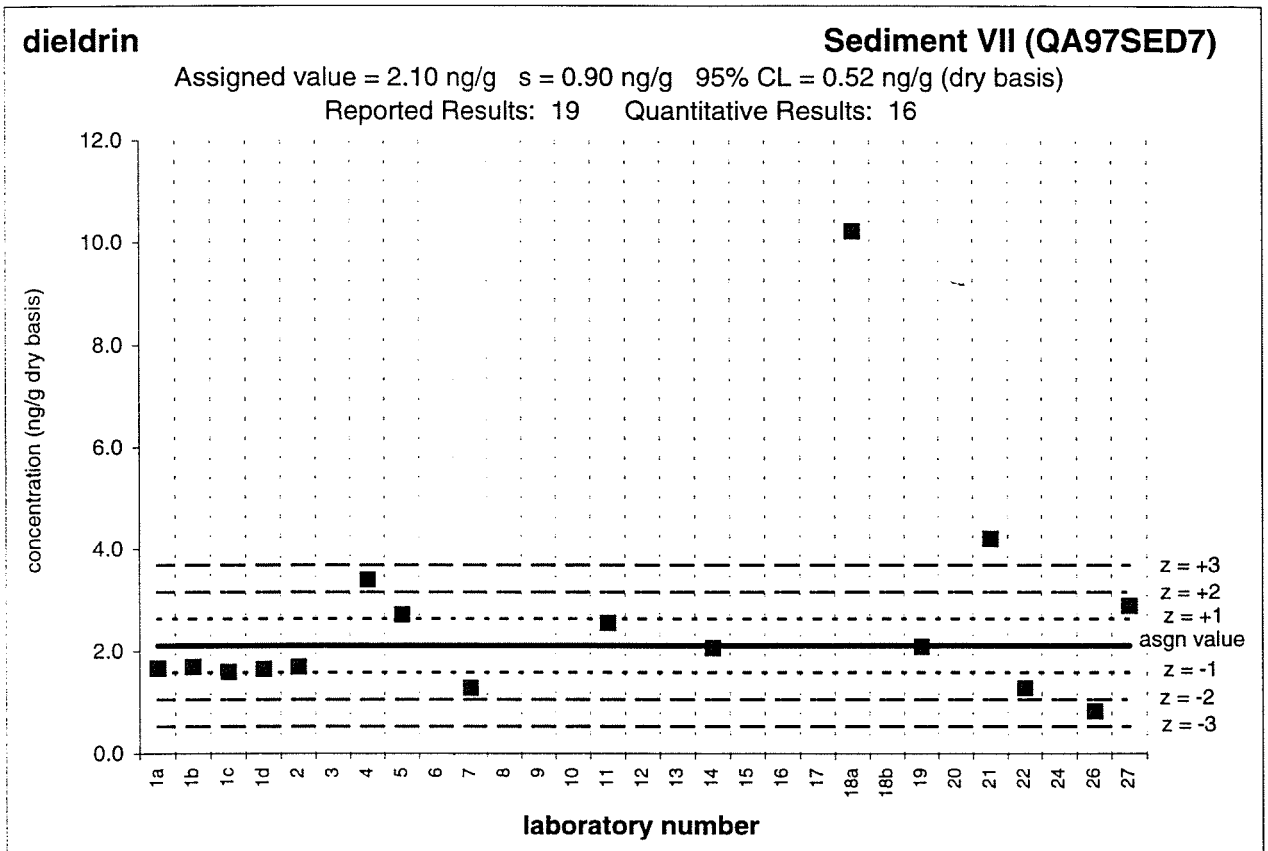

2,4'-DDE
SRM 1941a
Certified Value = 0.73 ± 0.11 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 9
concentration (ng/g dry basis)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

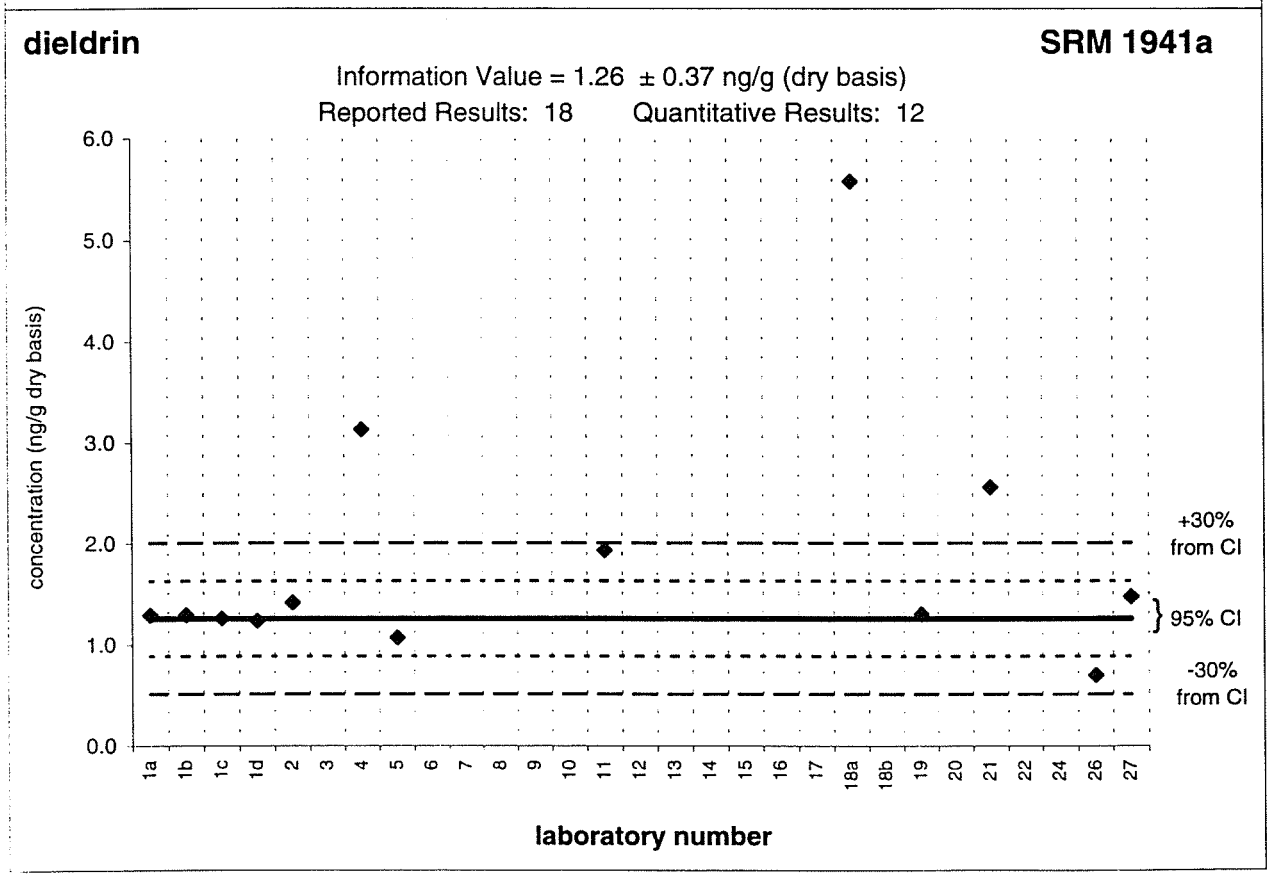

cis-chlordane
Sediment VII (QA97SED7)
Assigned value = 3.79 ng/g s = 1.13 ng/g 95% CL = 0.56 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 20
concentration (ng/g dry basis)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

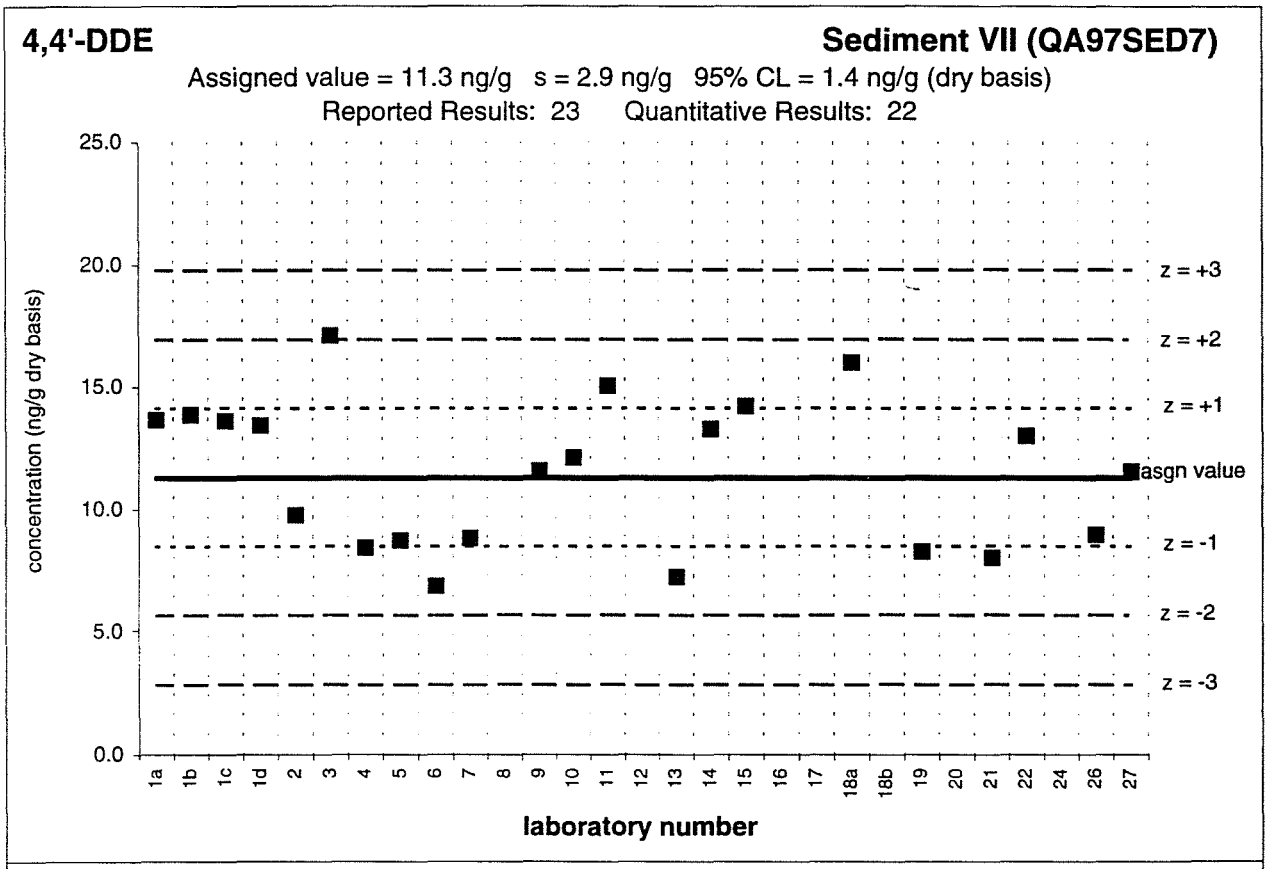

cis-chlordane
SRM 1941a
Certified Value = 2.33 ± 0.56 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 19
concentration (ng/g dry basis)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

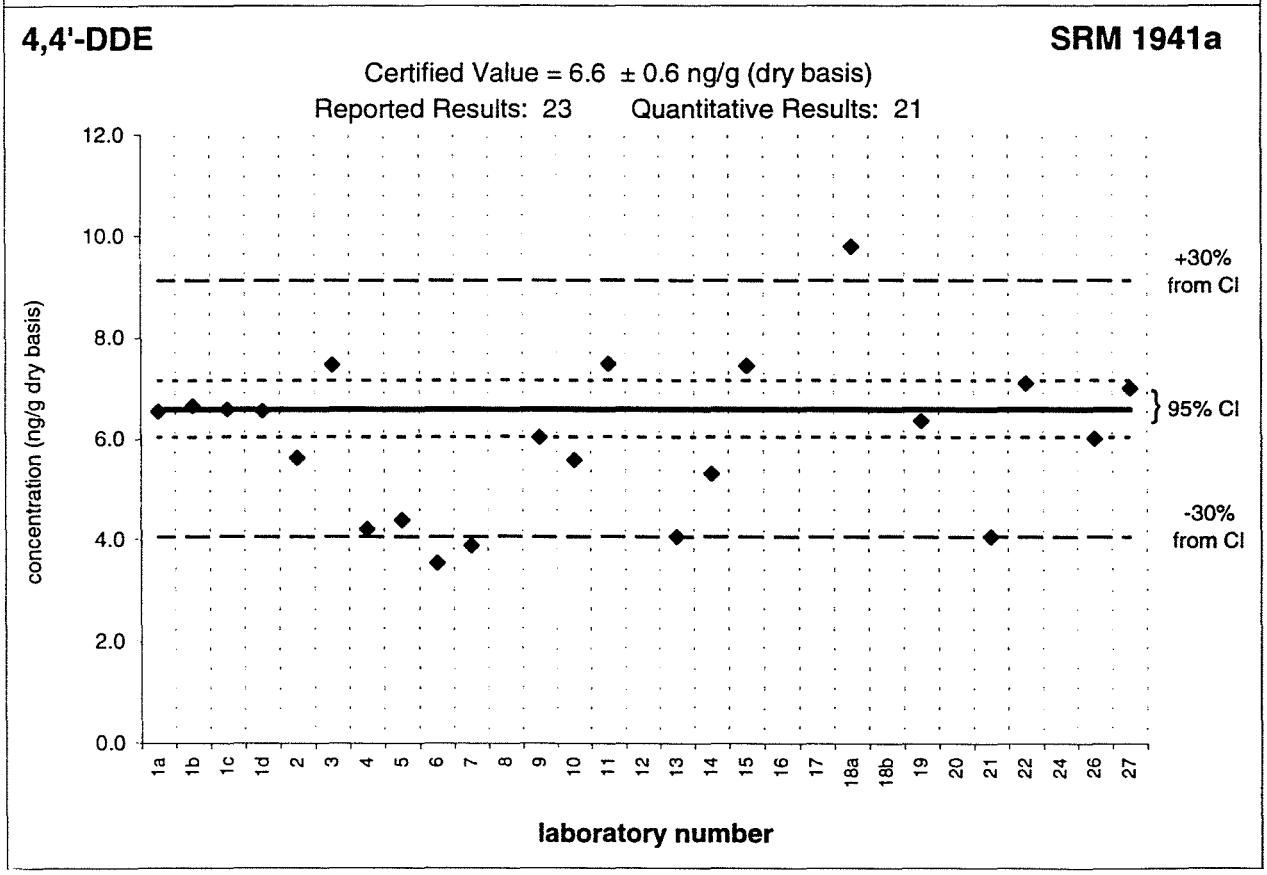

trans-nonachlor
Sediment VII (QA97SED7)
Assigned value = 1.96 ng/g s = 0.75 ng/g 95% CL = 0.37 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 21
concentration (ng/g dry basis)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

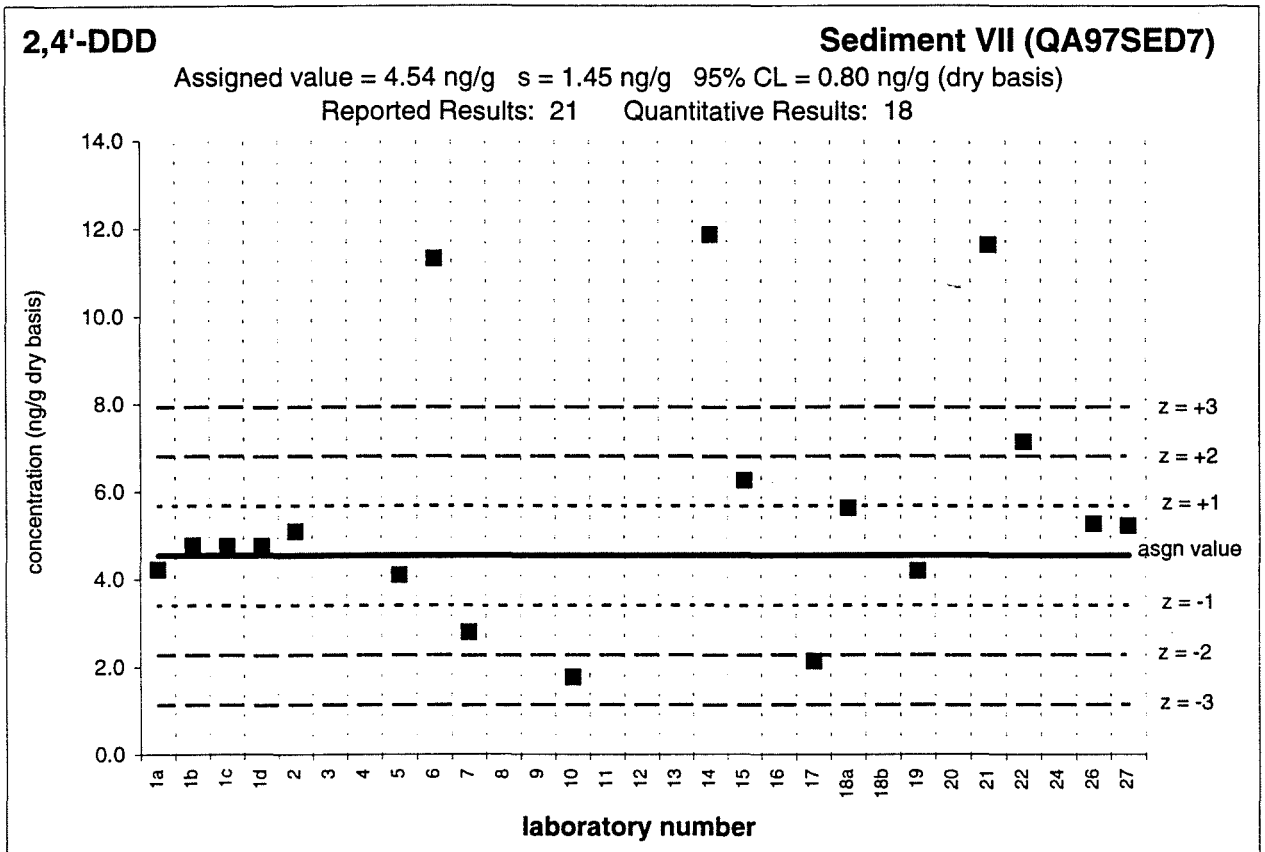

trans-nonachlor
SRM 1941a
Certified Value = 1.26 ± 0.13 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 19
concentration (ng/g dry basis)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

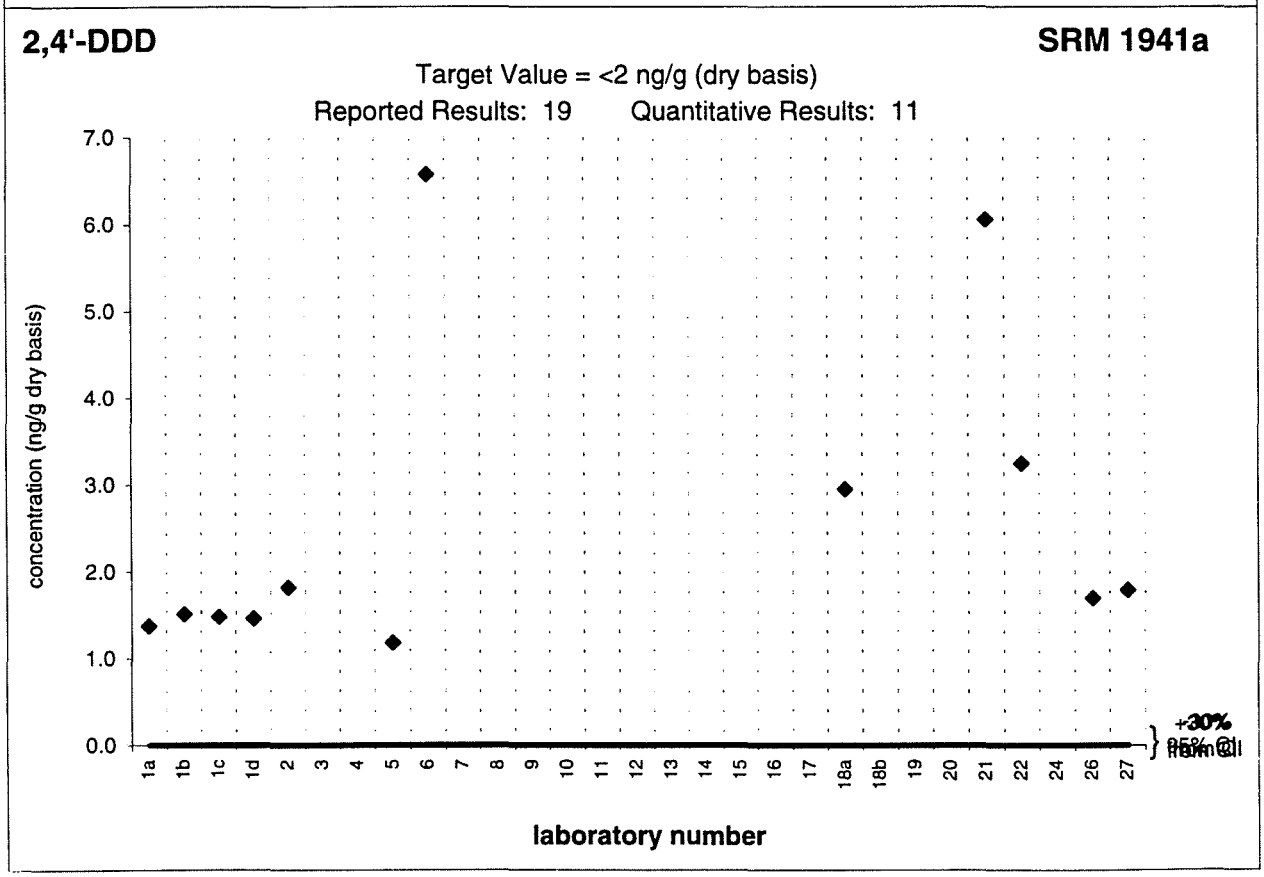

dieldrin
Sediment VII (QA97SED7)
Assigned value = 2.10 ng/g s = 0.90 ng/g 95% CL = 0.52 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 16
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

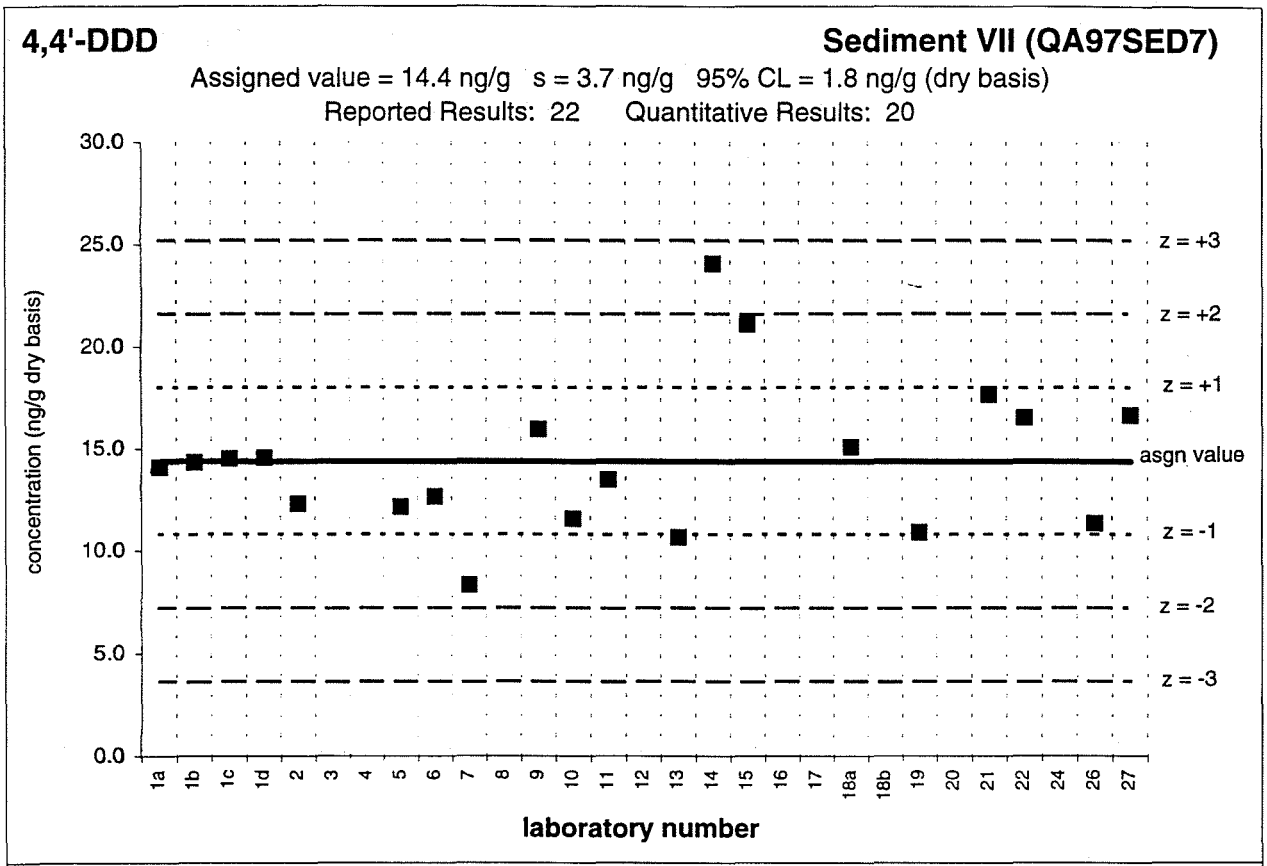

dieldrin
SRM 1941a
Information Value = 1.26 ± 0.37 ng/g (dry basis)
Reported Results: 18 Quantitative Results: 12
concentration (ng/g dry basis)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

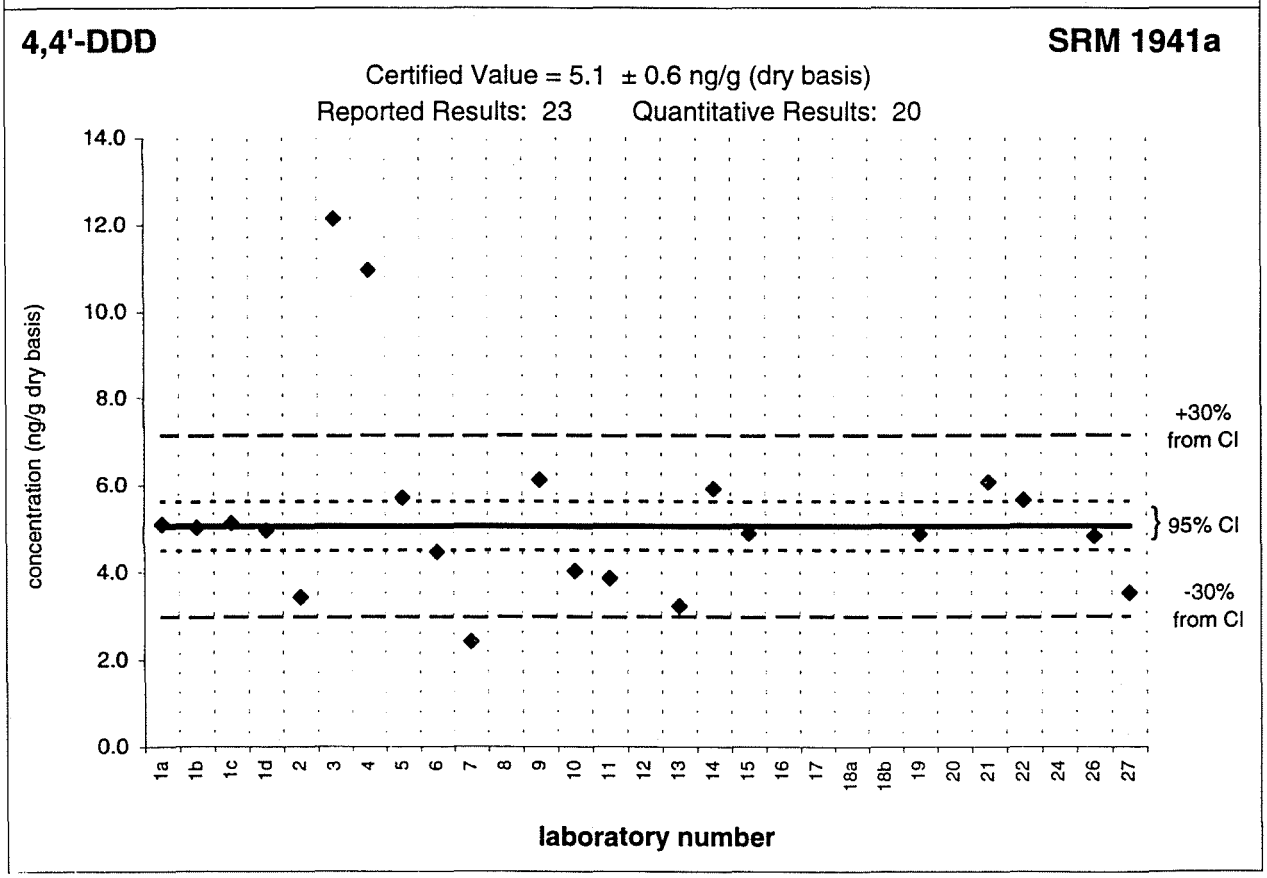

4,4'-DDE
Sediment VII (QA97SED7)
Assigned value = 11.3 ng/g s = 2.9 ng/g 95% CL = 1.4 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 22
concentration (ng/g dry basis)
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

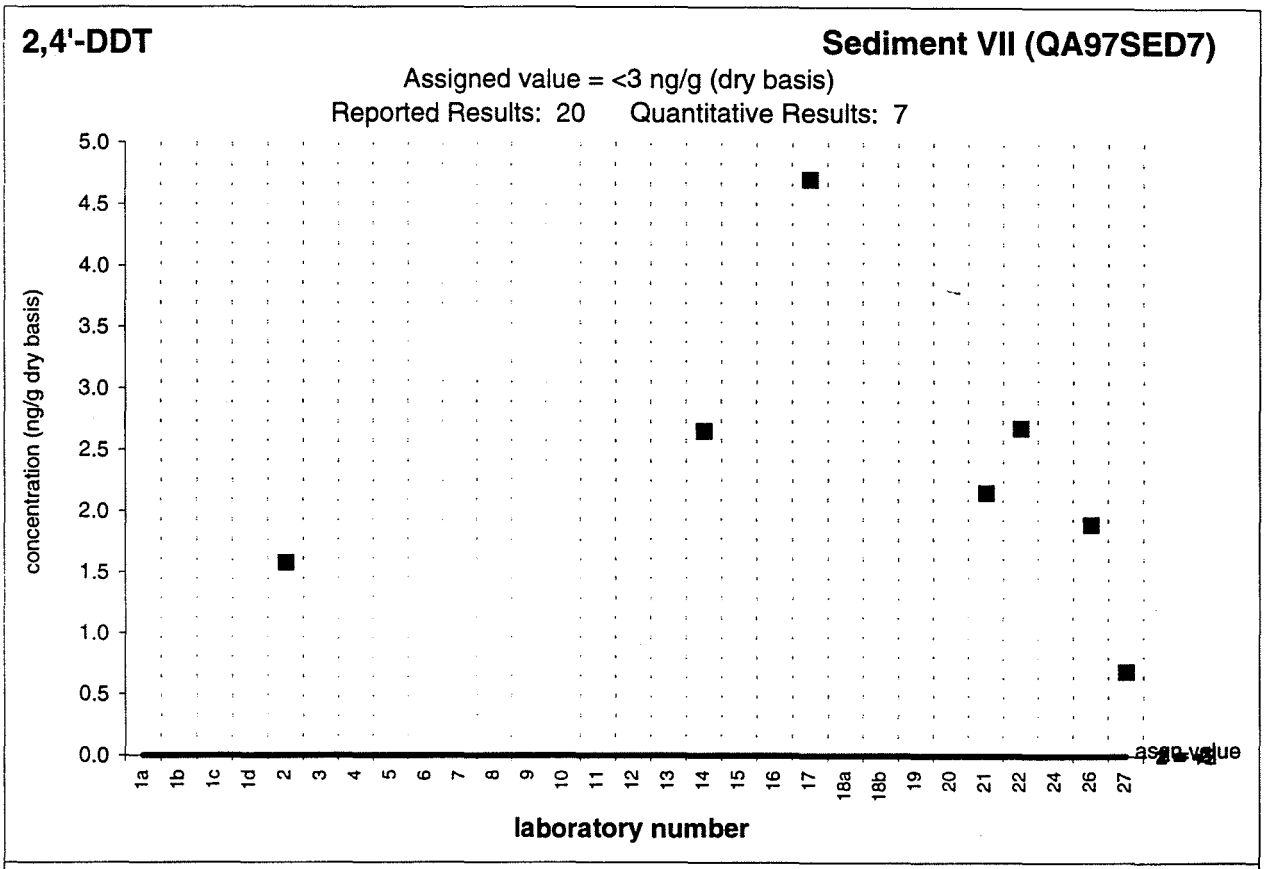

4,4'-DDE
SRM 1941a
Certified Value = 6.6 ± 0.6 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 21
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

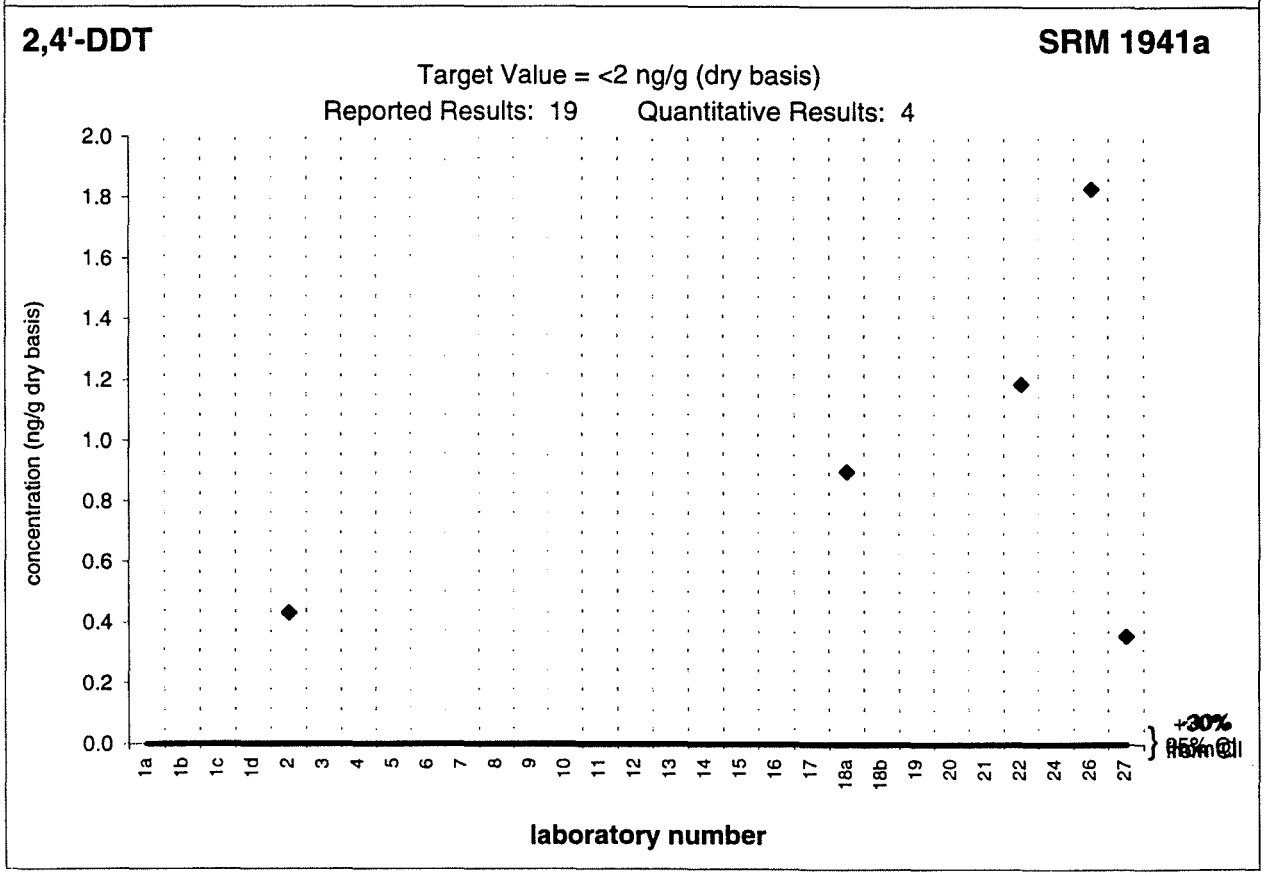

2,4'-DDD
Sediment VII (QA97SED7)
Assigned value = 4.54 ng/g s = 1.45 ng/g 95% CL = 0.80 ng/g (dry basis)
Reported Results: 21 Quantitative Results: 18
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

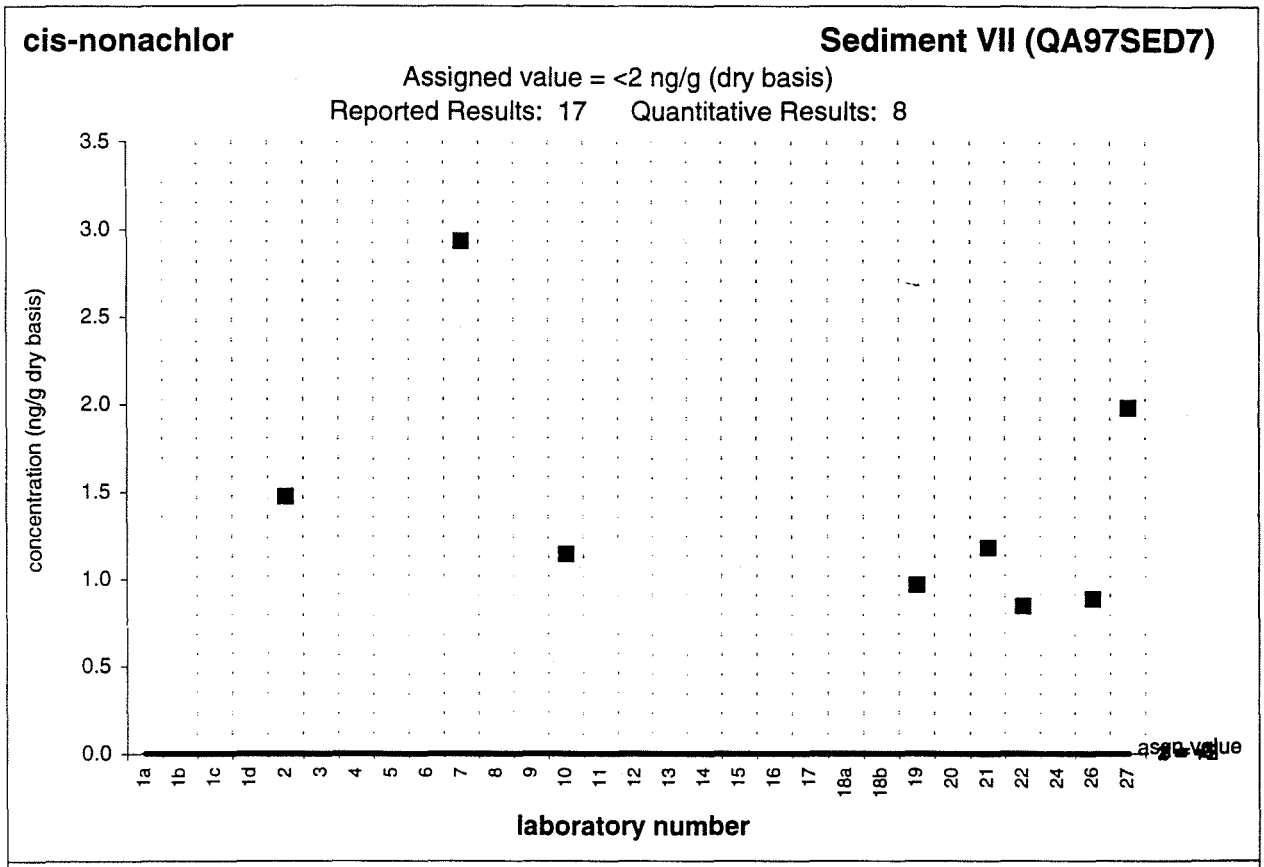

2,4'-DDD
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 11
concentration (ng/g dry basis)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
+30%
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

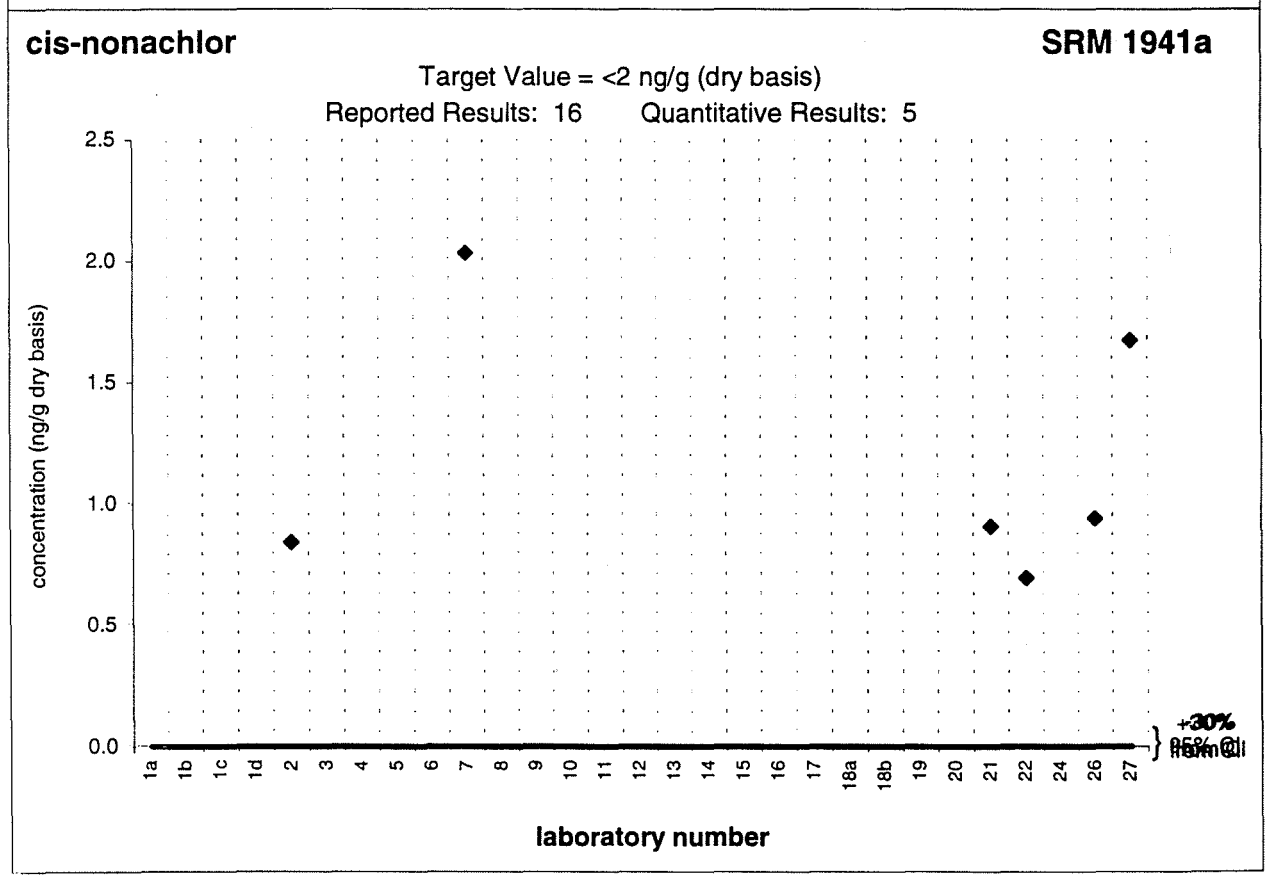

4,4'-DDD
Sediment VII (QA97SED7)
Assigned value = 14.4 ng/g s = 3.7 ng/g 95% CL = 1.8 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 20
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

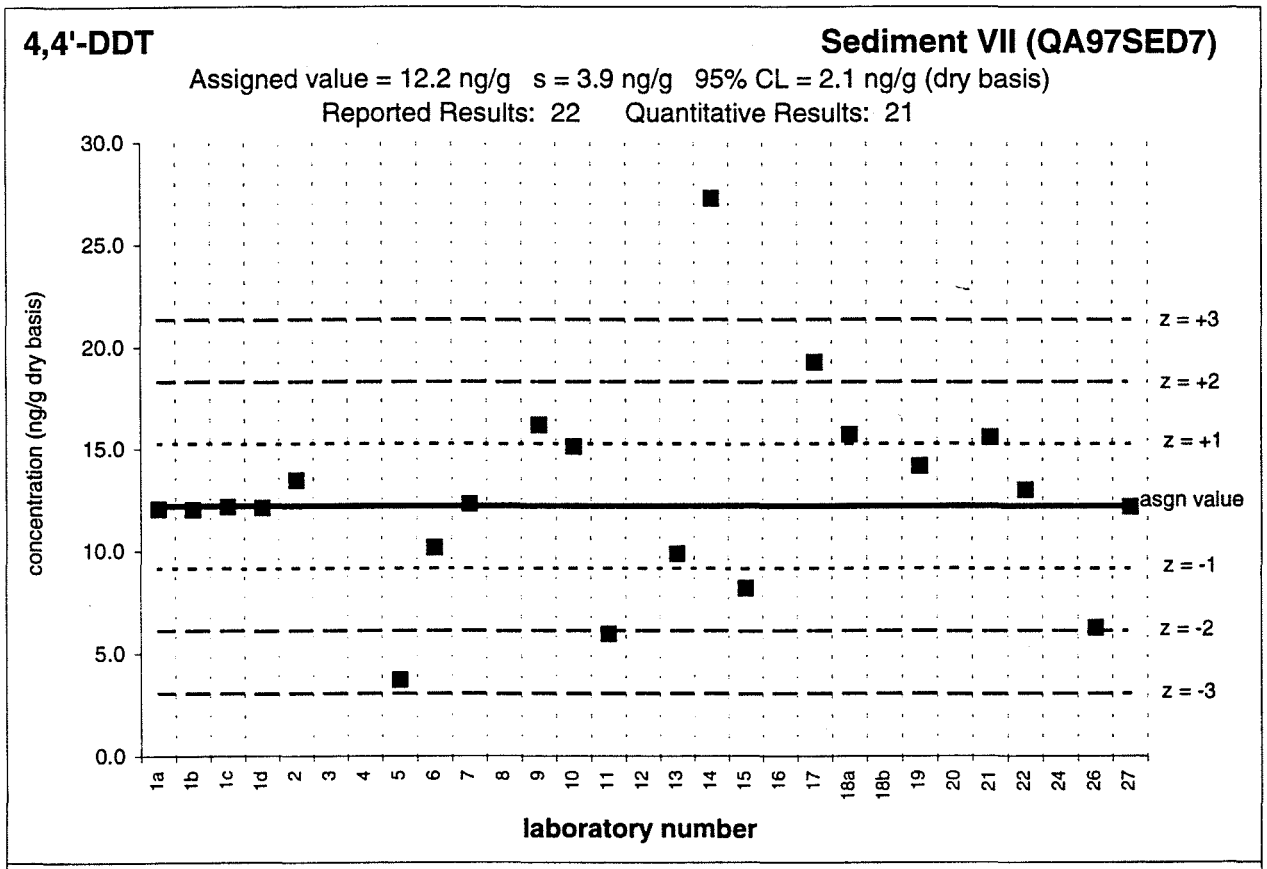

4,4'-DDD
SRM 1941a
Certified Value = 5.1 ± 0.6 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 20
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

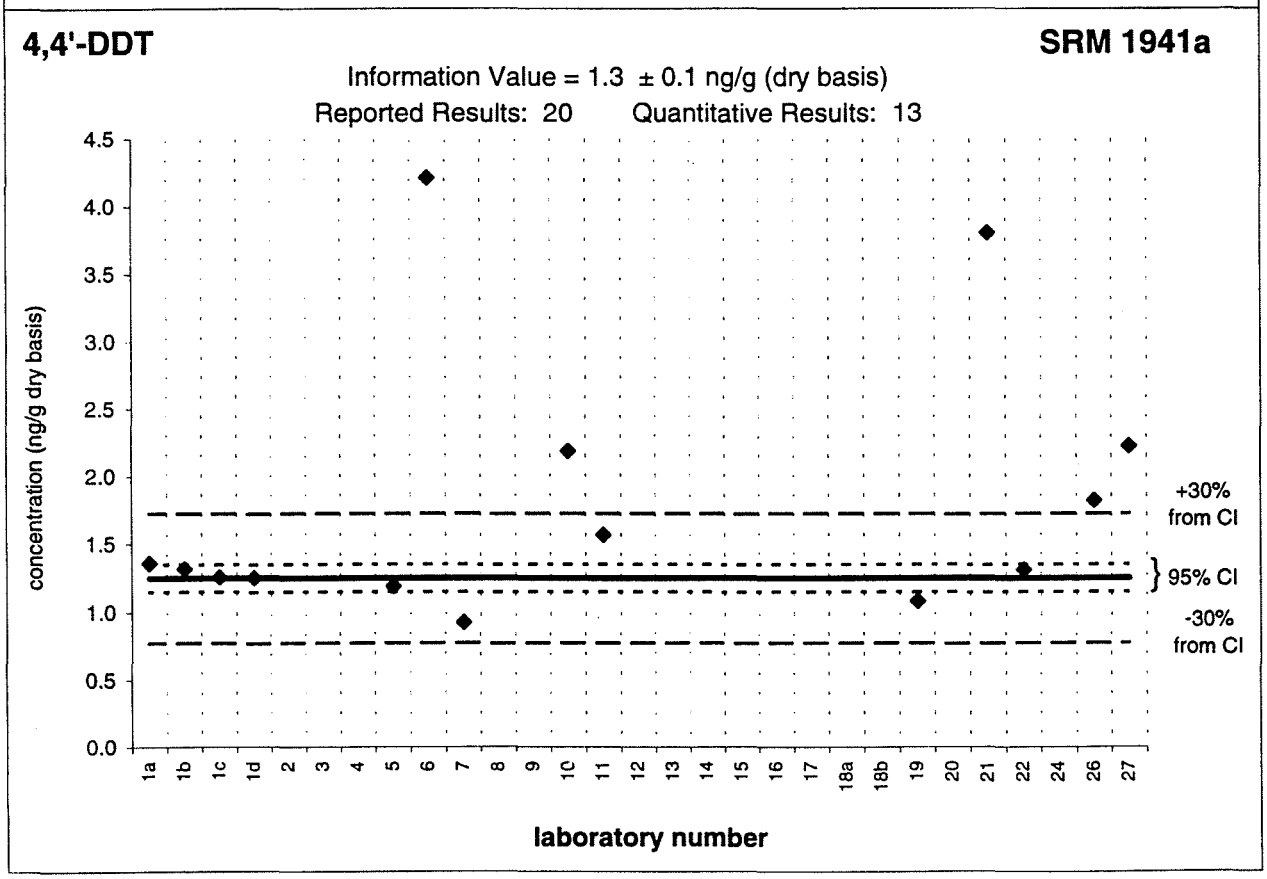

2,4'-DDT
Sediment VII (QA97SED7)
Assigned value = <3 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 7
concentration (ng/g dry basis)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

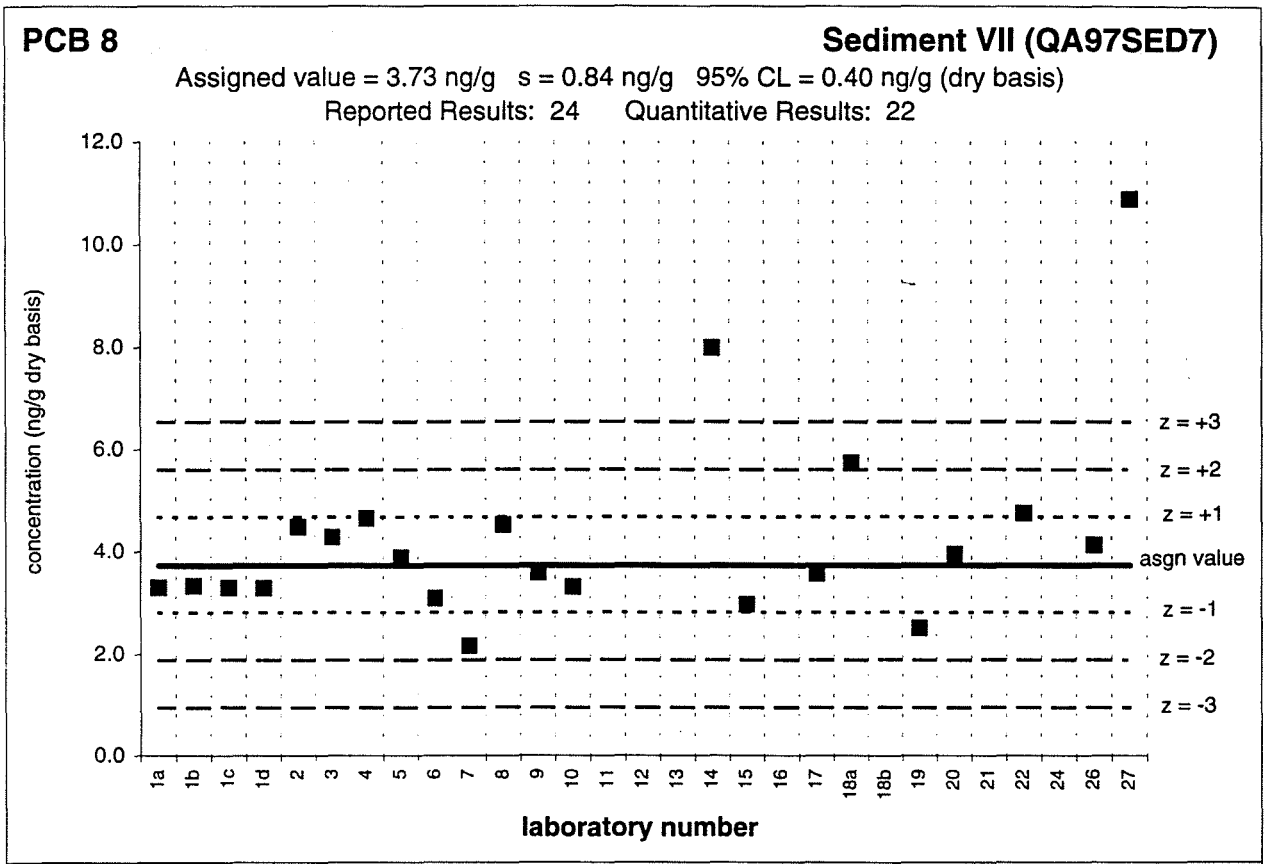

2,4'-DDT
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 19 Quantitative Results: 4
concentration (ng/g dry basis)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
+30%
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

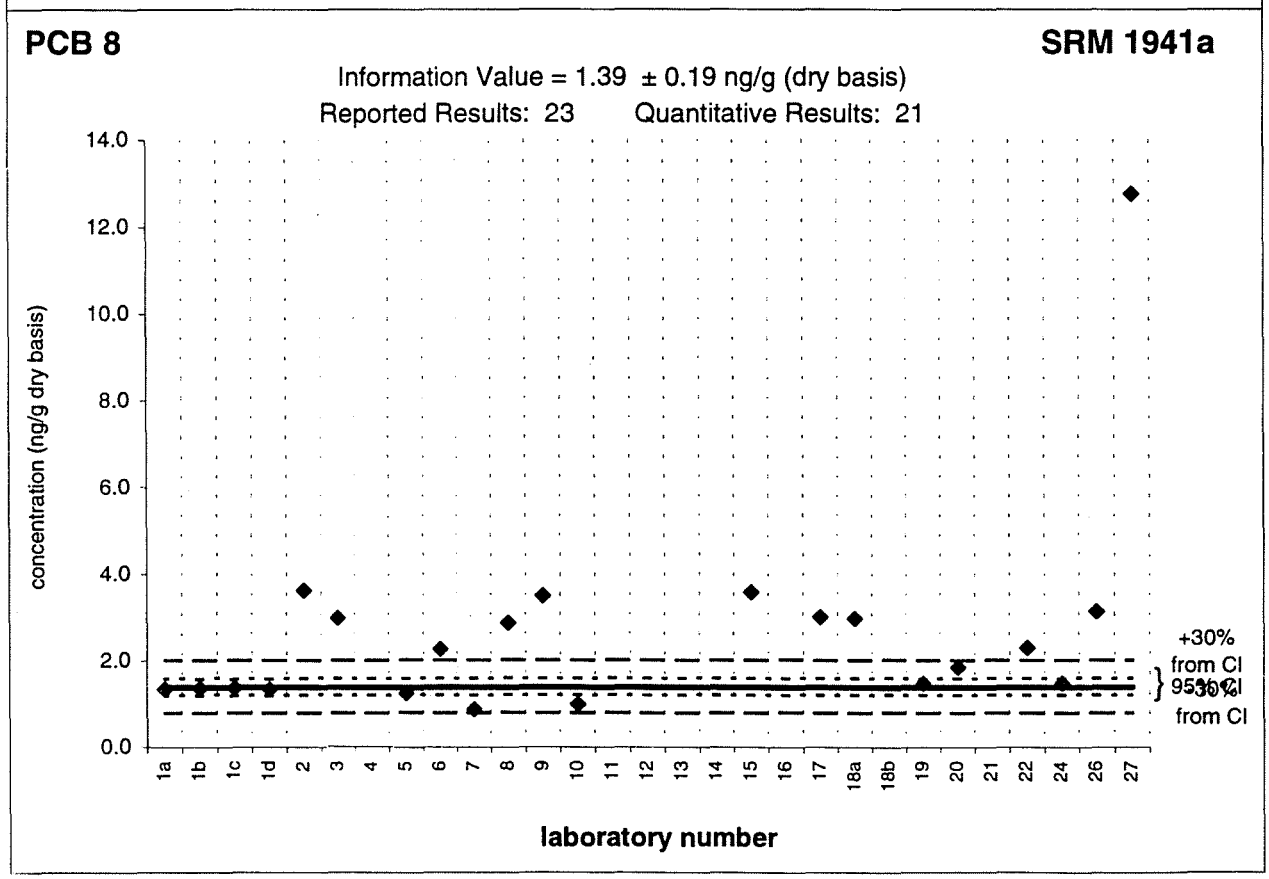

cis-nonachlor
Sediment VII (QA97SED7)
Assigned value = <2 ng/g (dry basis)
Reported Results: 17
Quantitative Results: 8
concentration (ng/g dry basis)
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

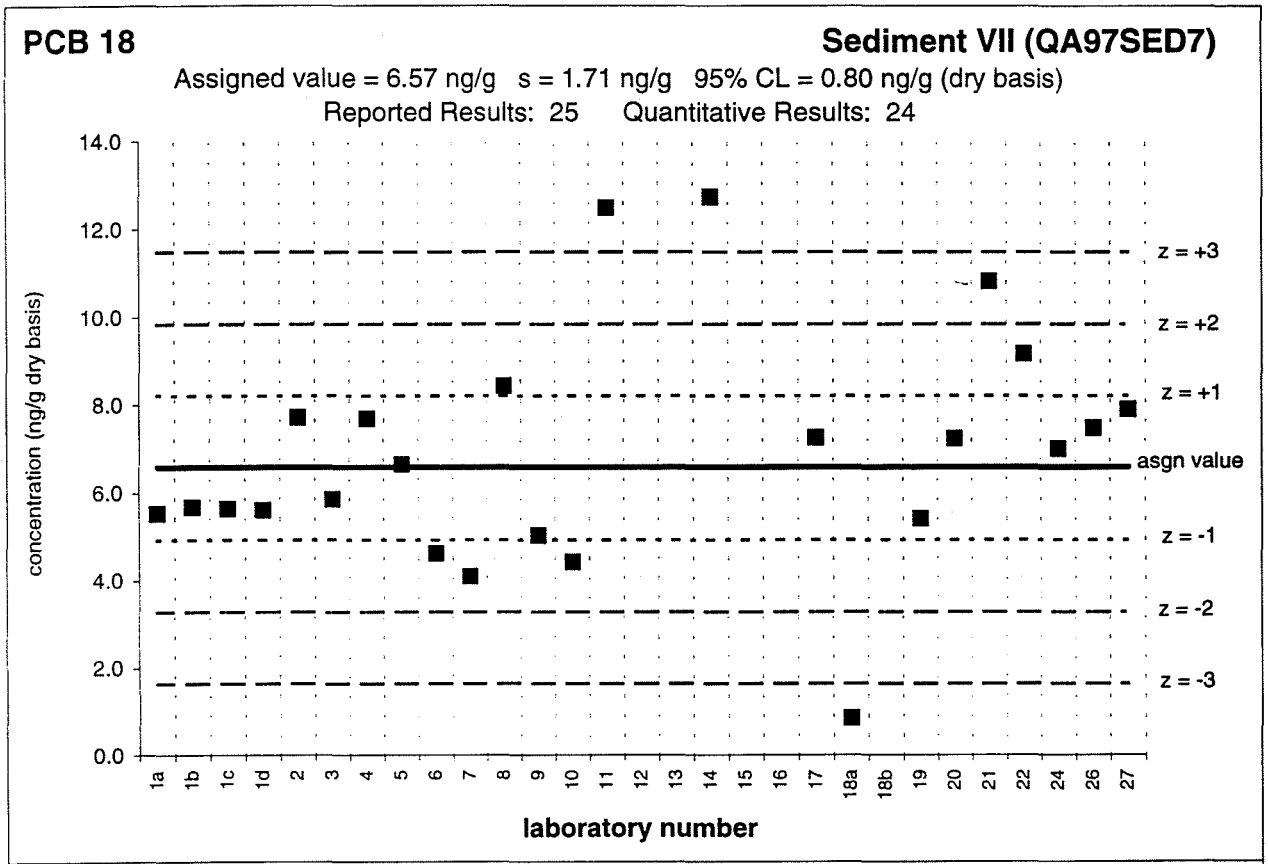

cis-nonachlor
SRM 1941a
Target Value = <2 ng/g (dry basis)
Reported Results: 16
Quantitative Results: 5
concentration (ng/g dry basis)
2.5
2.0
1.5
1.0
0.5
0.0
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

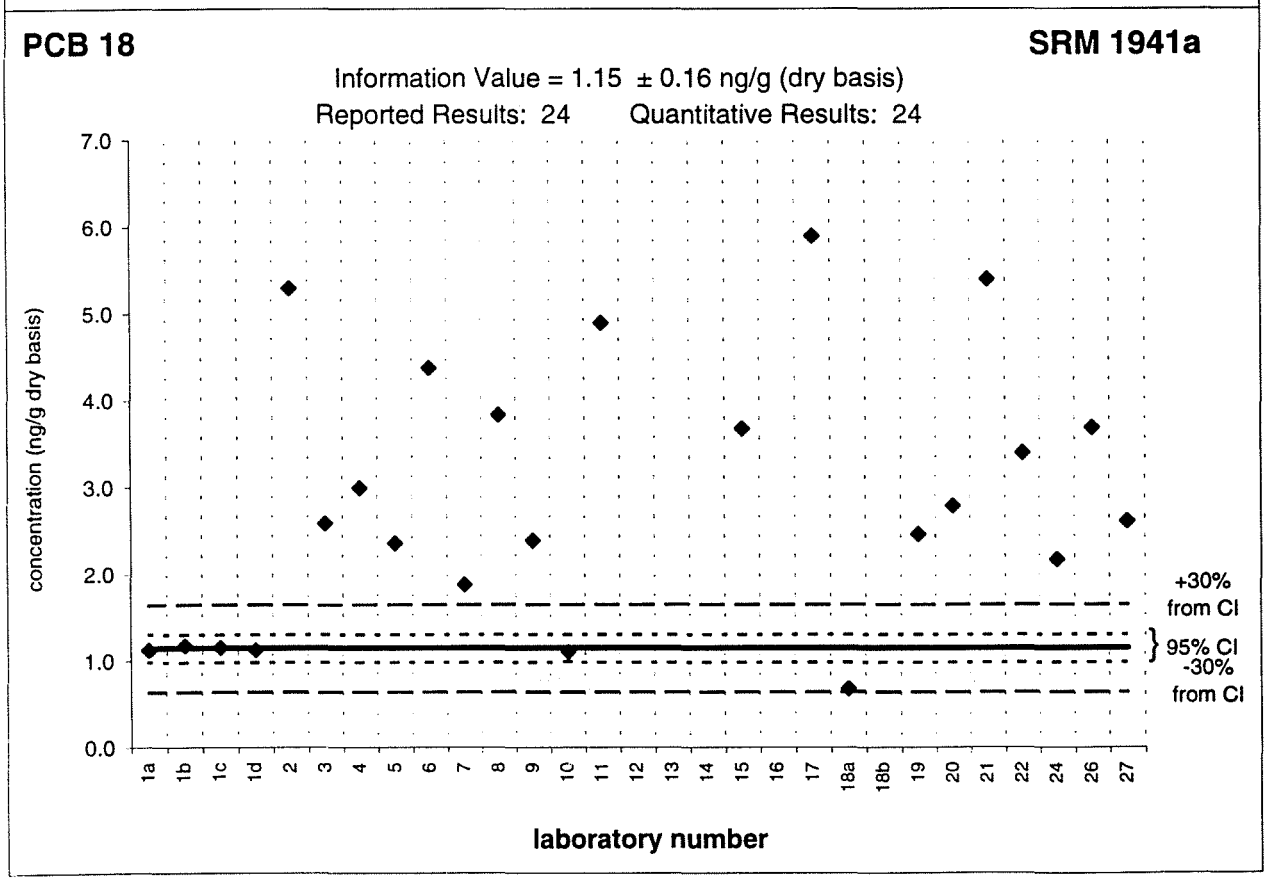

4,4'-DDT
Sediment VII (QA97SED7)
Assigned value = 12.2 ng/g s = 3.9 ng/g 95% CL = 2.1 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 21
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

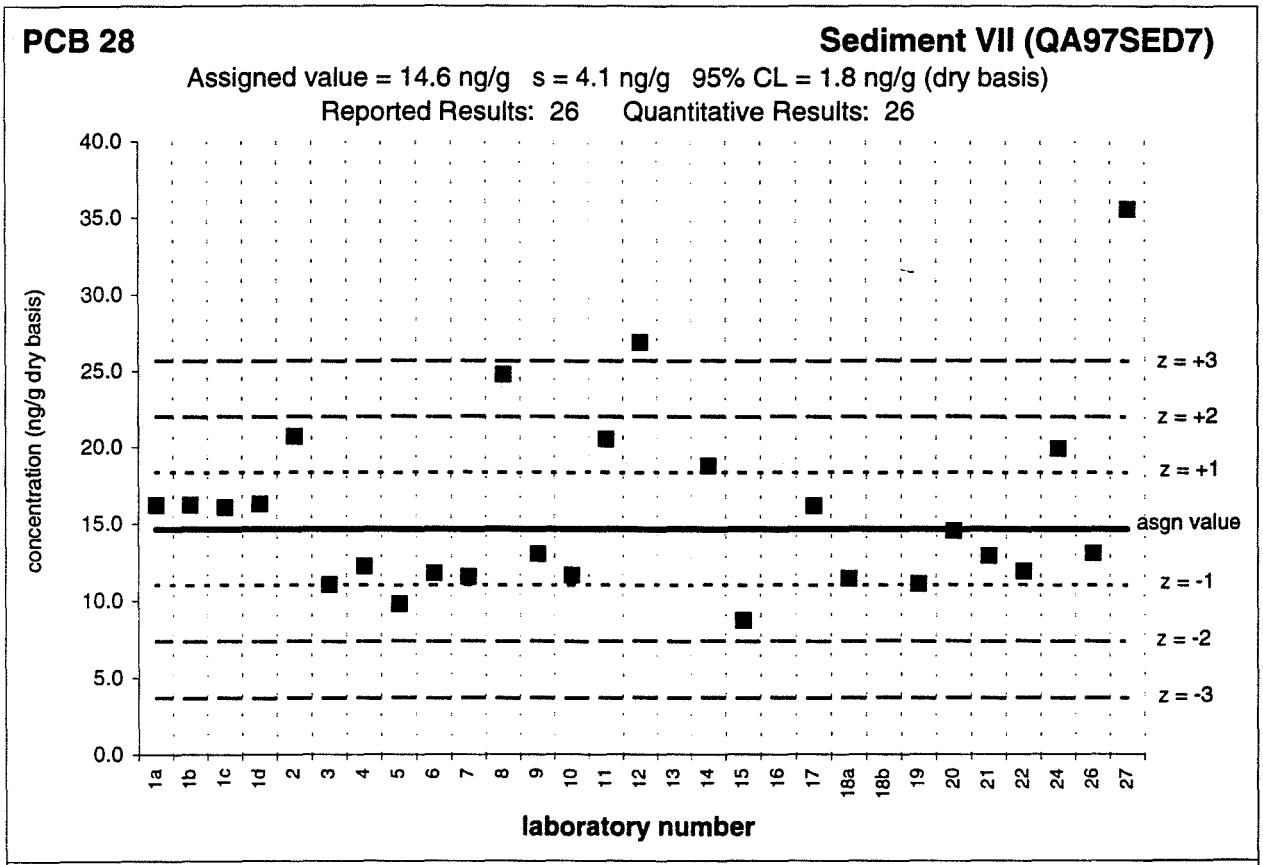

4,4'-DDT
SRM 1941a
Information Value = 1.3 ± 0.1 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 13
concentration (ng/g dry basis)
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

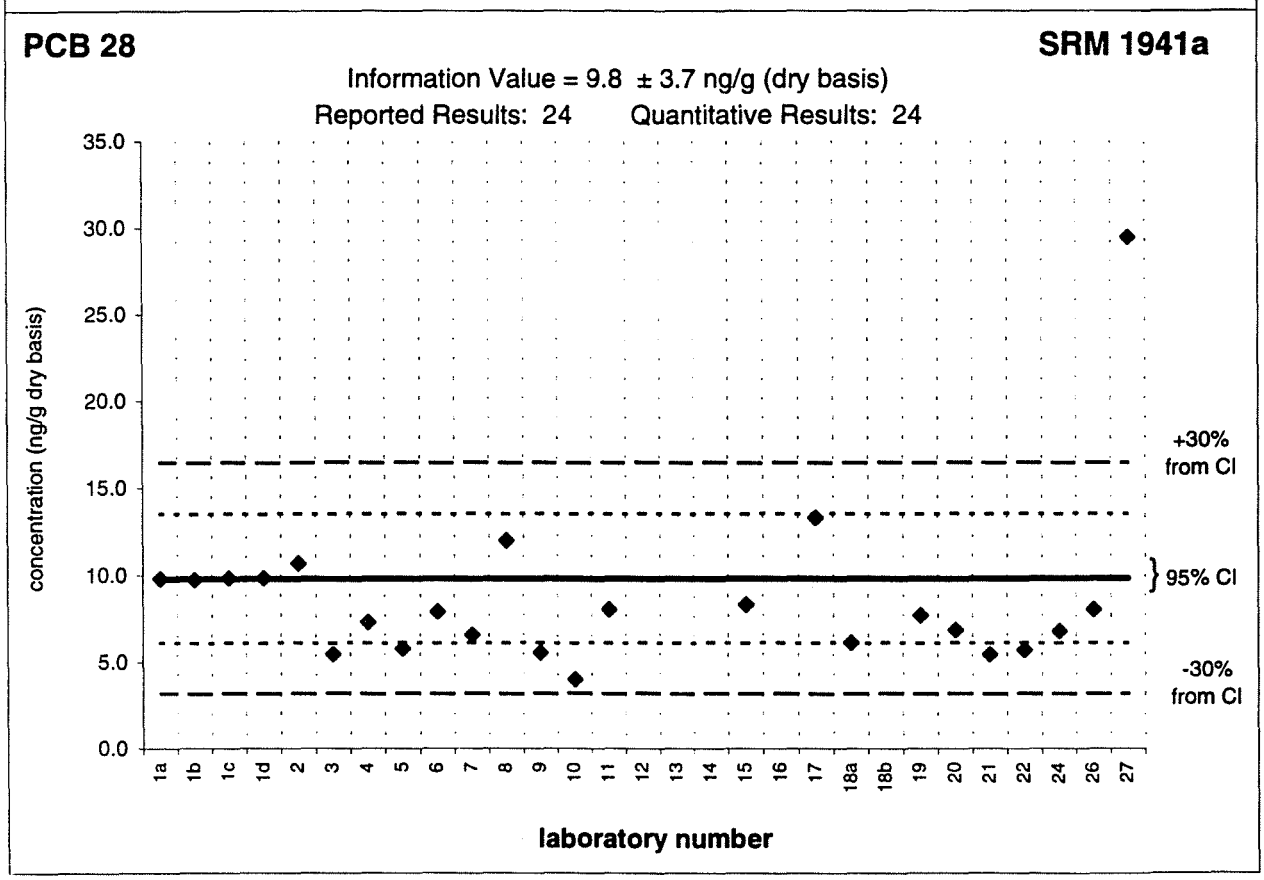

PCB 8
Sediment VII (QA97SED7)
Assigned value = 3.73 ng/g s = 0.84 ng/g 95% CL = 0.40 ng/g (dry basis)
Reported Results: 24 Quantitative Results: 22
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 8
SRM 1941a
Information Value = 1.39 ± 0.19 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 21
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30%
from CI
95% CI
-30%
from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 18
Sediment VII (QA97SED7)
Assigned value = 6.57 ng/g s = 1.71 ng/g 95% CL = 0.80 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 24
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 18
SRM 1941a
Information Value = 1.15 ± 0.16 ng/g (dry basis)
Reported Results: 24 Quantitative Results: 24
concentration (ng/g dry basis)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

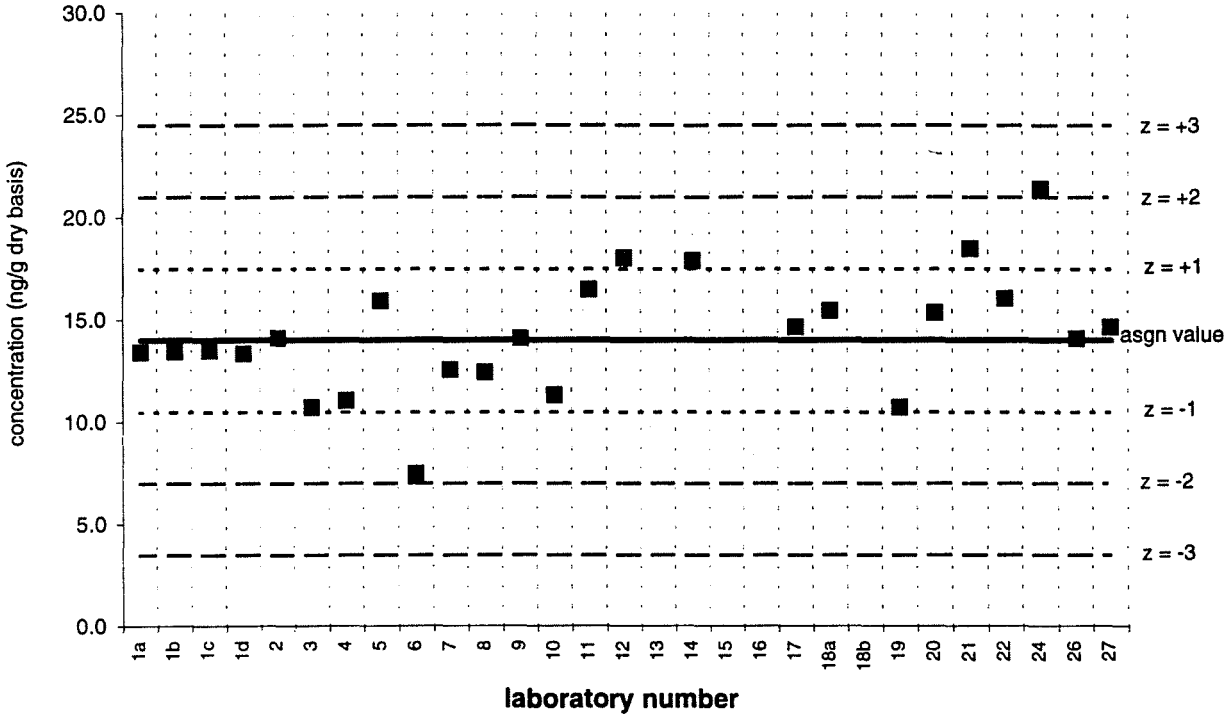

PCB 28
Sediment VII (QA97SED7)
Assigned value = 14.6 ng/g s = 4.1 ng/g 95% CL = 1.8 ng/g (dry basis)
Reported Results: 26 Quantitative Results: 26
concentration (ng/g dry basis)
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 28
SRM 1941a
Information Value = 9.8 ± 3.7 ng/g (dry basis)
Reported Results: 24 Quantitative Results: 24
concentration (ng/g dry basis)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

PCB 52 **Sediment VII (QA97SED7)**

Assigned value = 14.0 ng/g s = 3.0 ng/g 95% CL = 1.3 ng/g (dry basis)

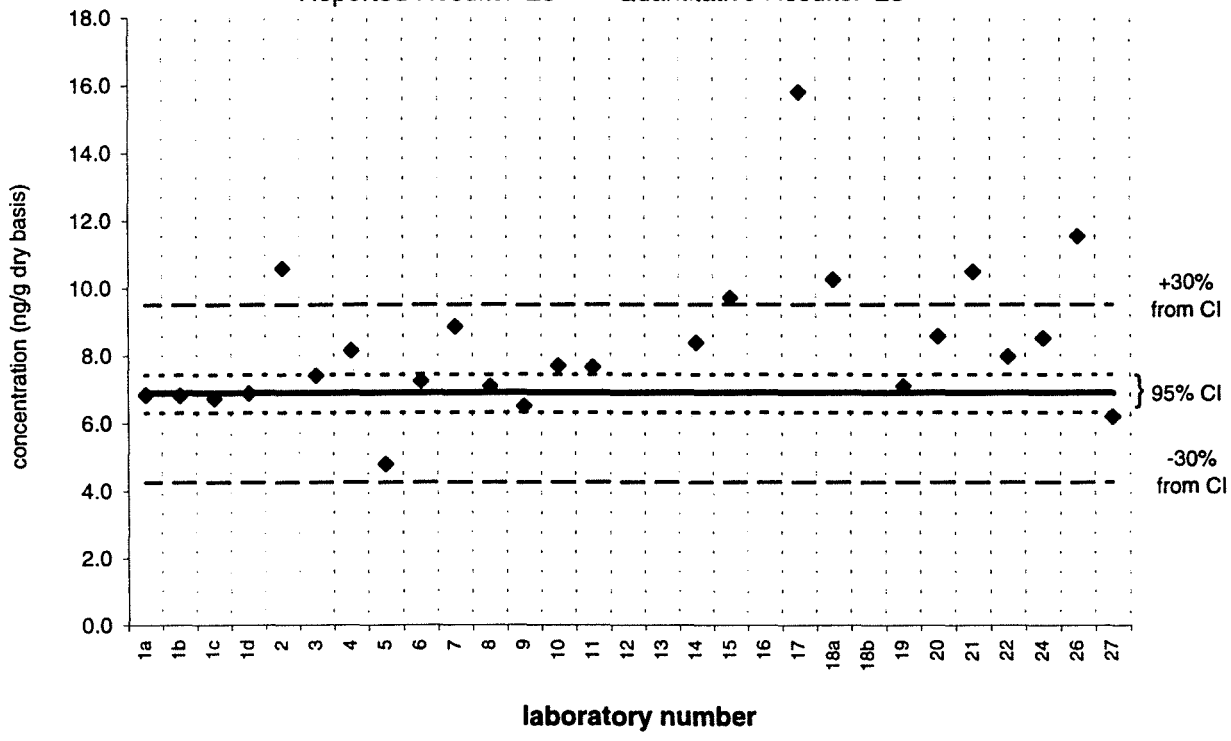
Reported Results: 26 Quantitative Results: 25

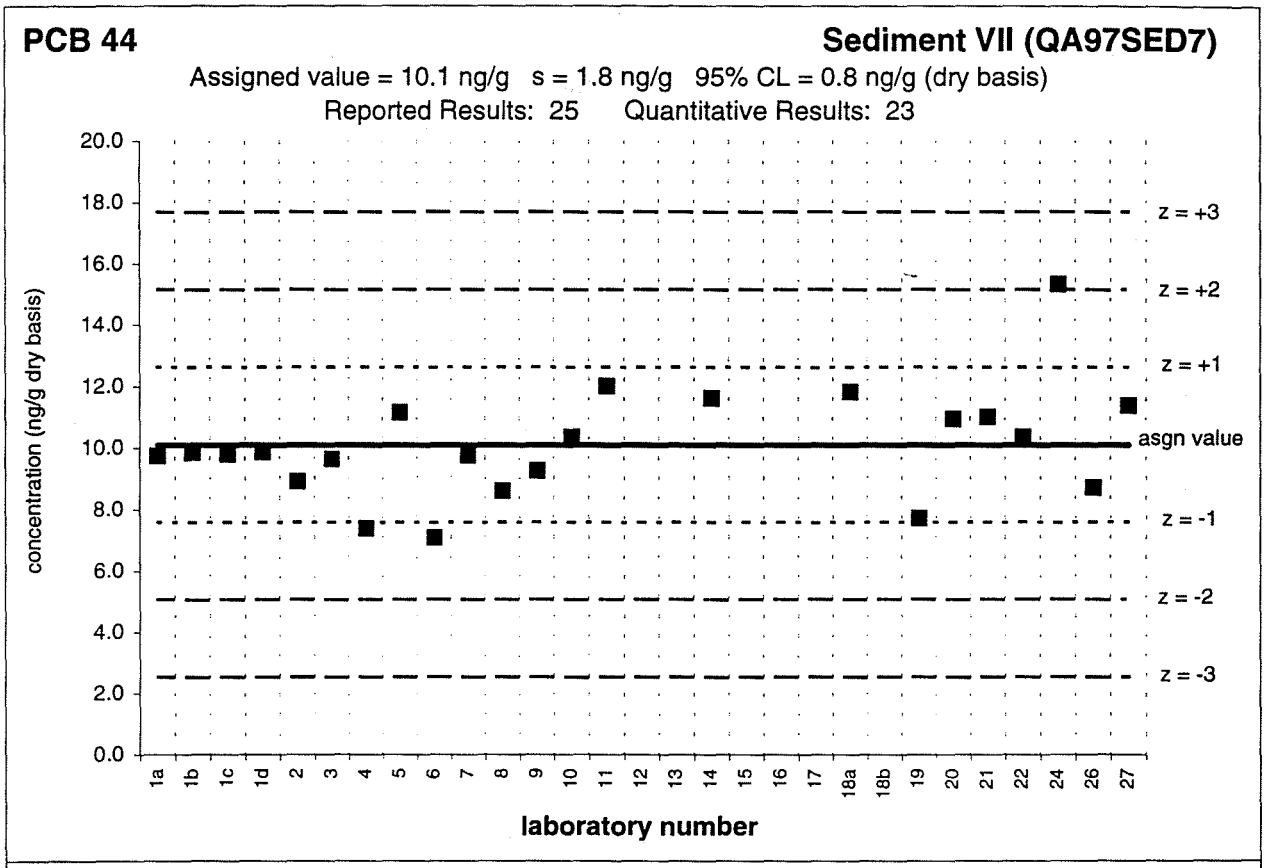


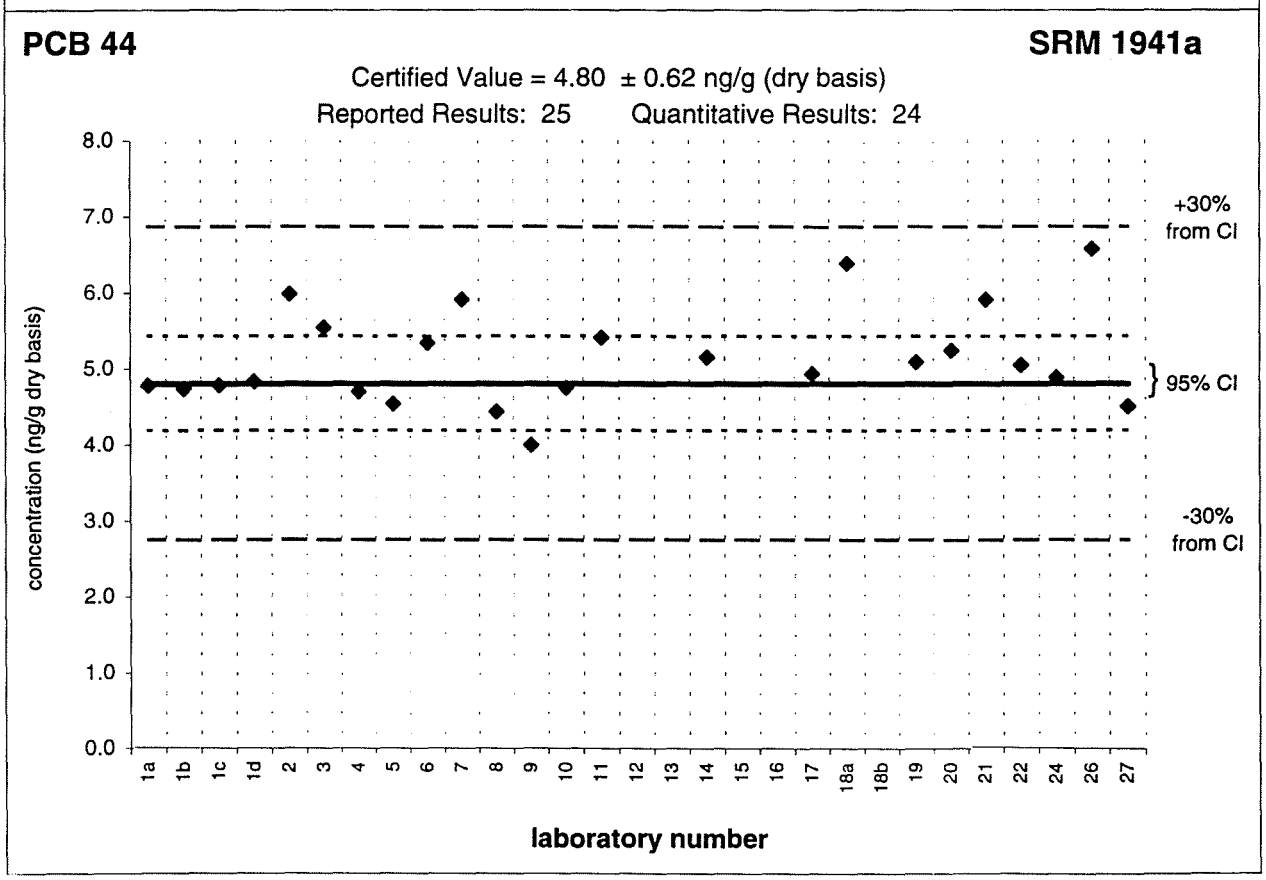
PCB 52 **SRM 1941a**

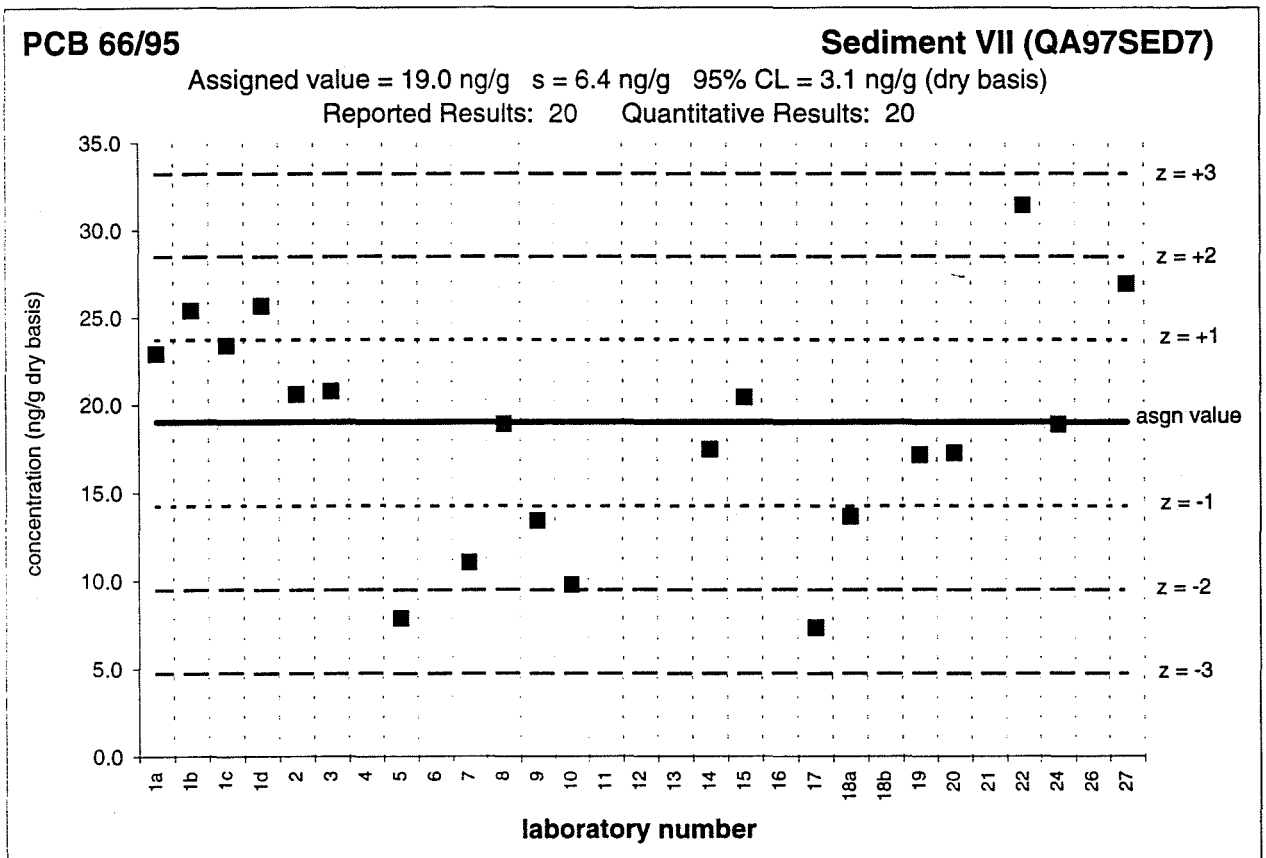
Certified Value = 6.89 ± 0.56 ng/g (dry basis)

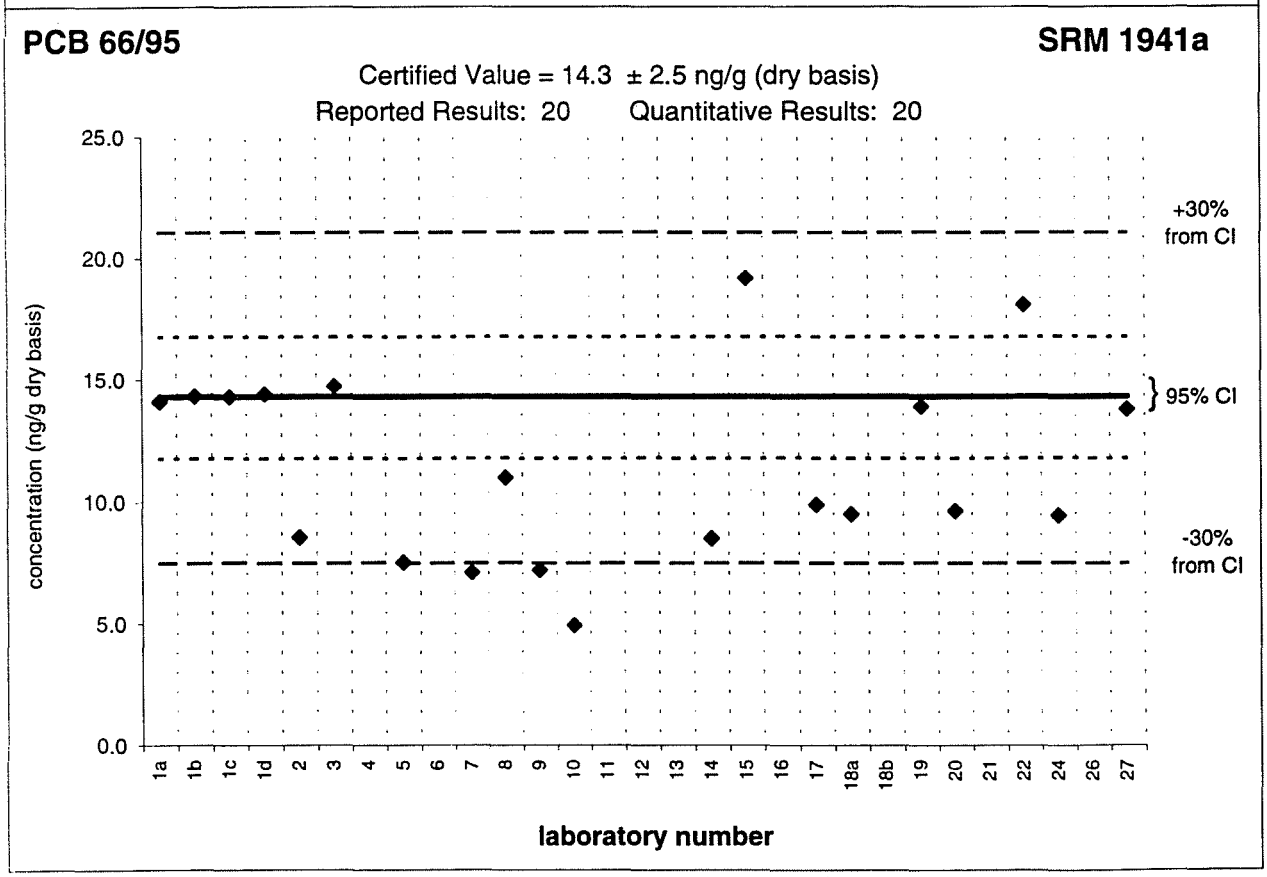
Reported Results: 25 Quantitative Results: 25




PCB 44
Sediment VII (QA97SED7)
Assigned value = 10.1 ng/g s = 1.8 ng/g 95% CL = 0.8 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 23
concentration (ng/g dry basis)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 44
SRM 1941a
Certified Value = 4.80 ± 0.62 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 24
concentration (ng/g dry basis)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

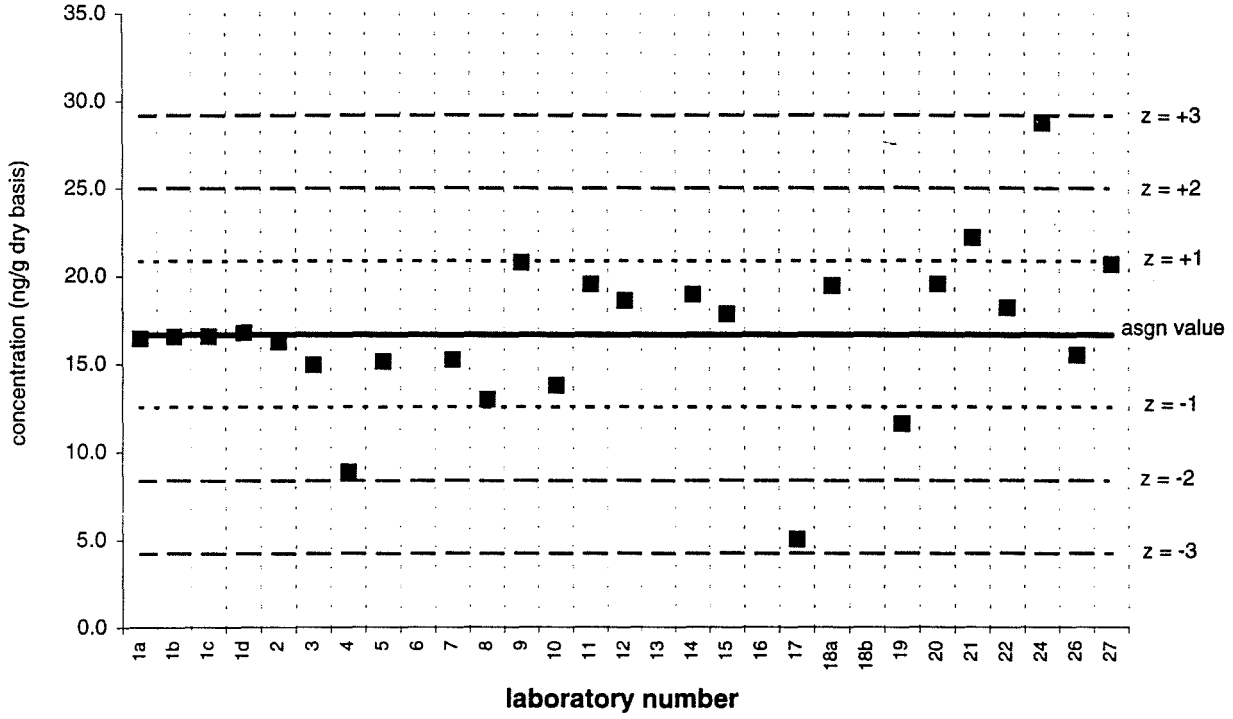

PCB 66/95
Sediment VII (QA97SED7)
Assigned value = 19.0 ng/g s = 6.4 ng/g 95% CL = 3.1 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g dry basis)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 66/95
SRM 1941a
Certified Value = 14.3 ± 2.5 ng/g (dry basis)
Reported Results: 20 Quantitative Results: 20
concentration (ng/g dry basis)
25.0
20.0
15.0
10.0
5.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

PCB 101/90 **Sediment VII (QA97SED7)**

Assigned value = 16.6 ng/g s = 4.7 ng/g 95% CL = 2.1 ng/g (dry basis)

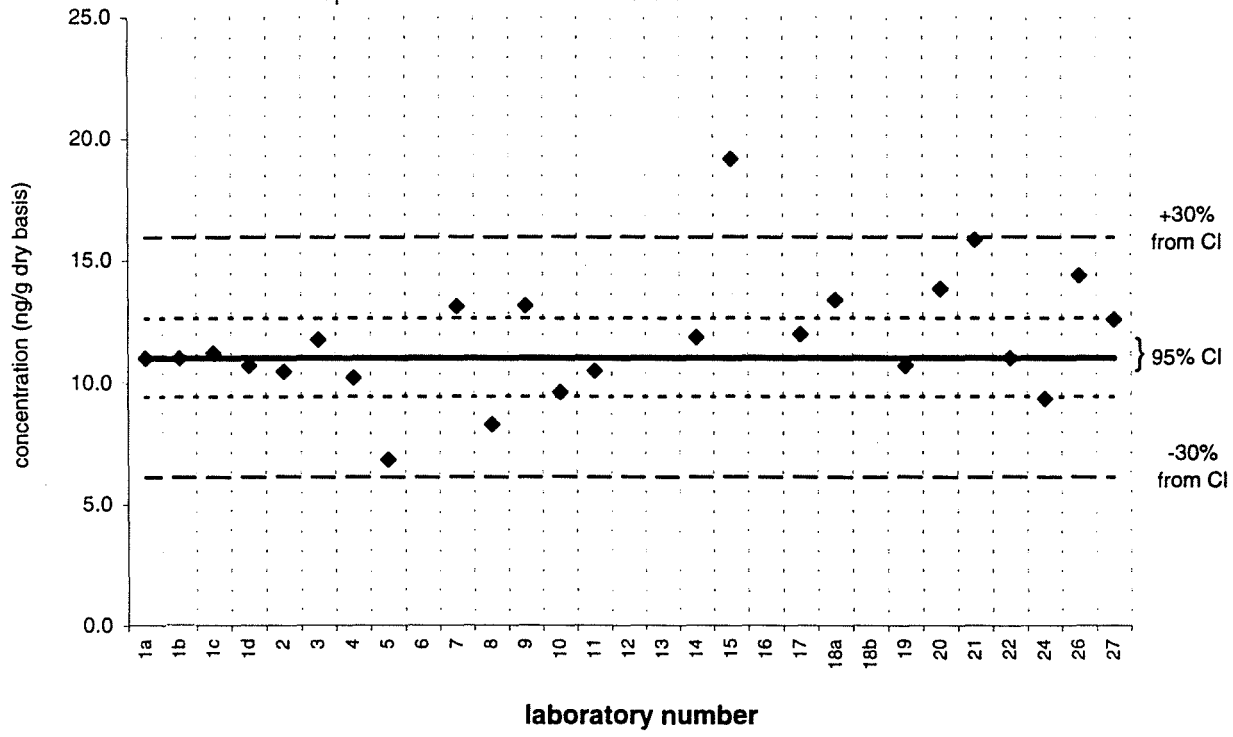
Reported Results: 25 Quantitative Results: 25



PCB 101/90 **SRM 1941a**

Certified Value = 11.0 ± 1.6 ng/g (dry basis)

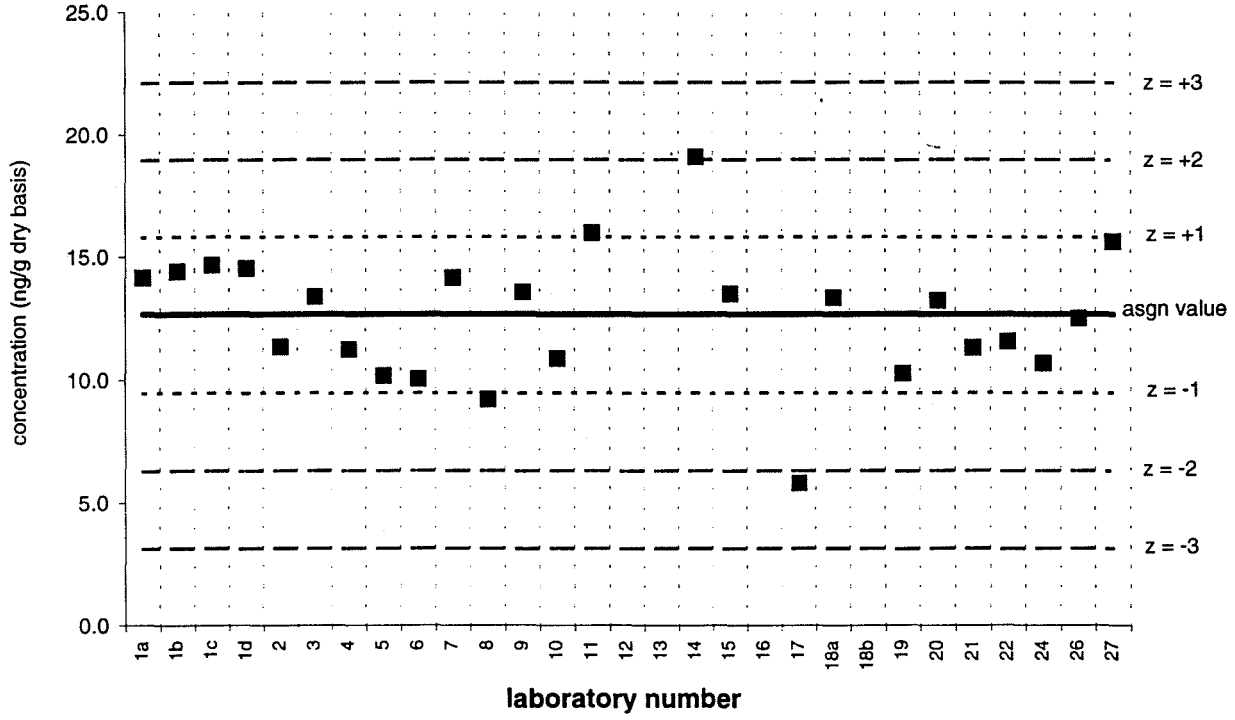
Reported Results: 24 Quantitative Results: 24



PCB 118 **Sediment VII (QA97SED7)**

Assigned value = 12.7 ng/g s = 2.7 ng/g 95% CL = 1.1 ng/g (dry basis)

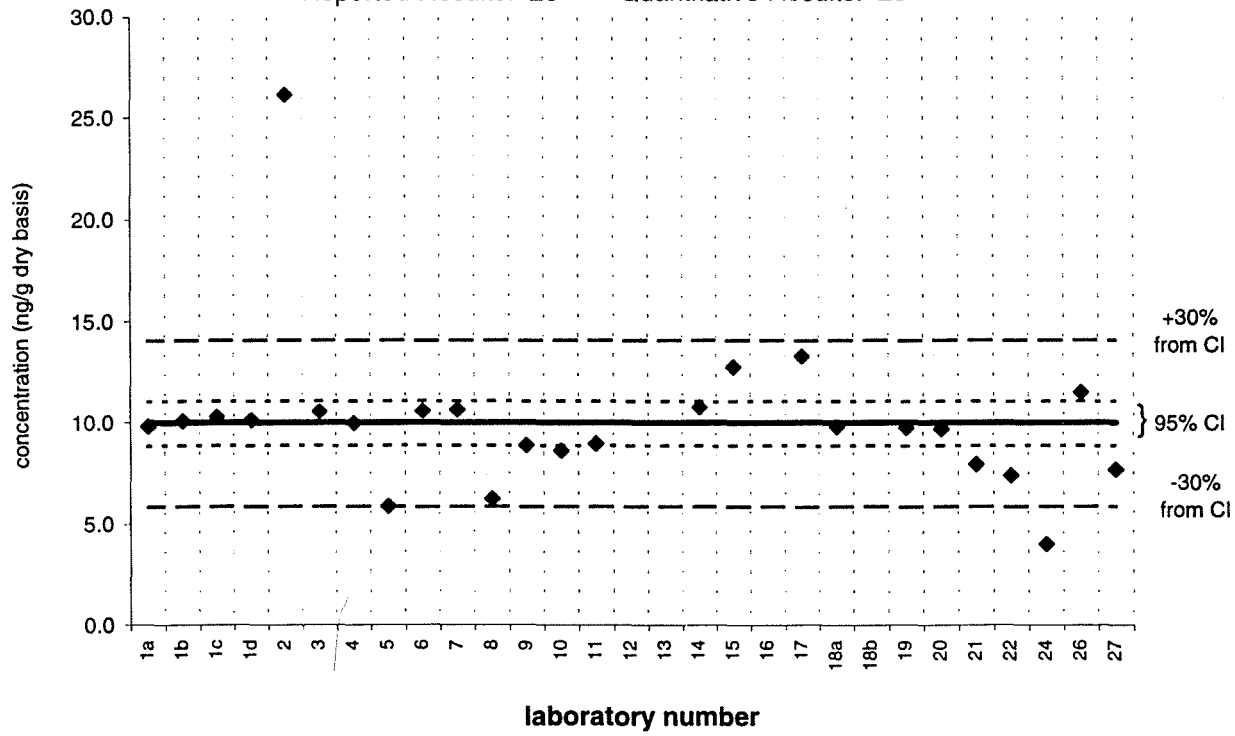
Reported Results: 25 Quantitative Results: 25

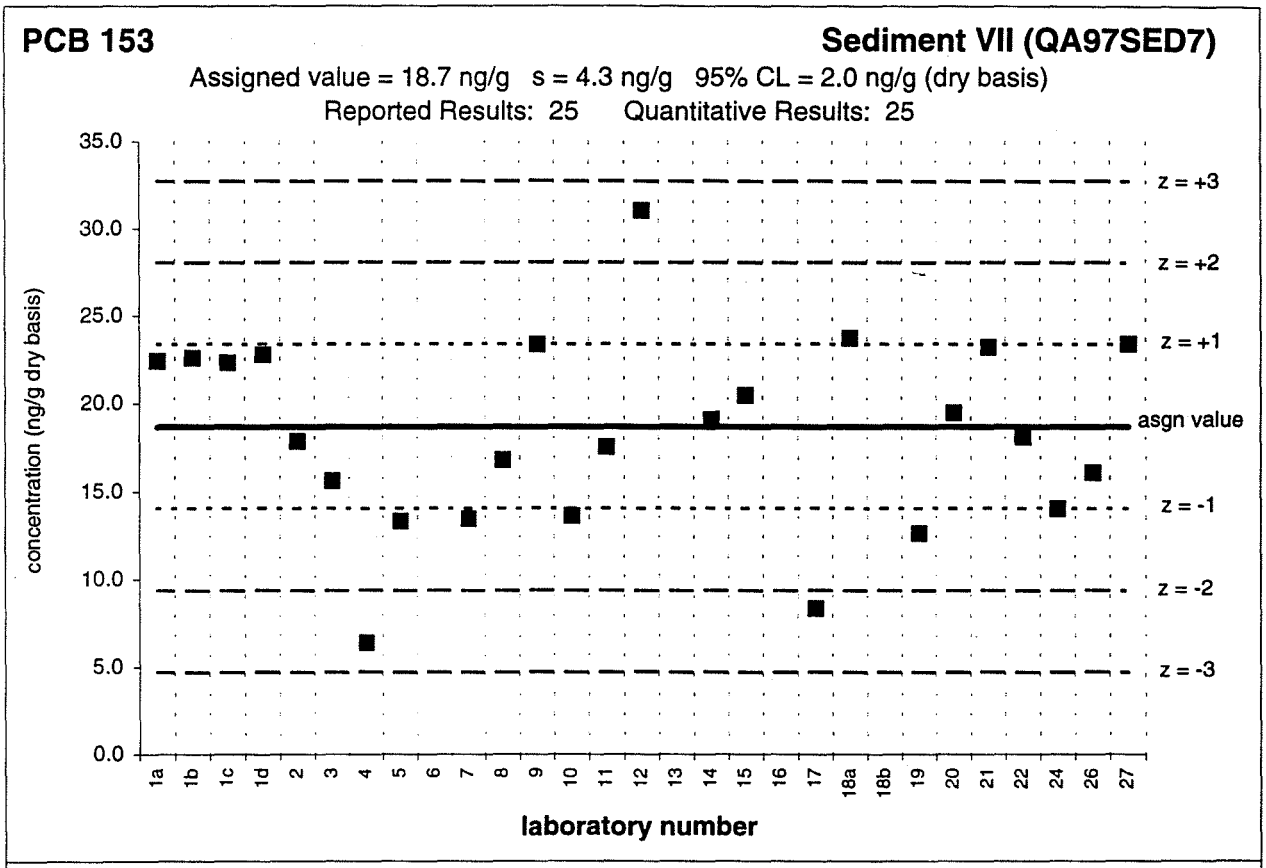


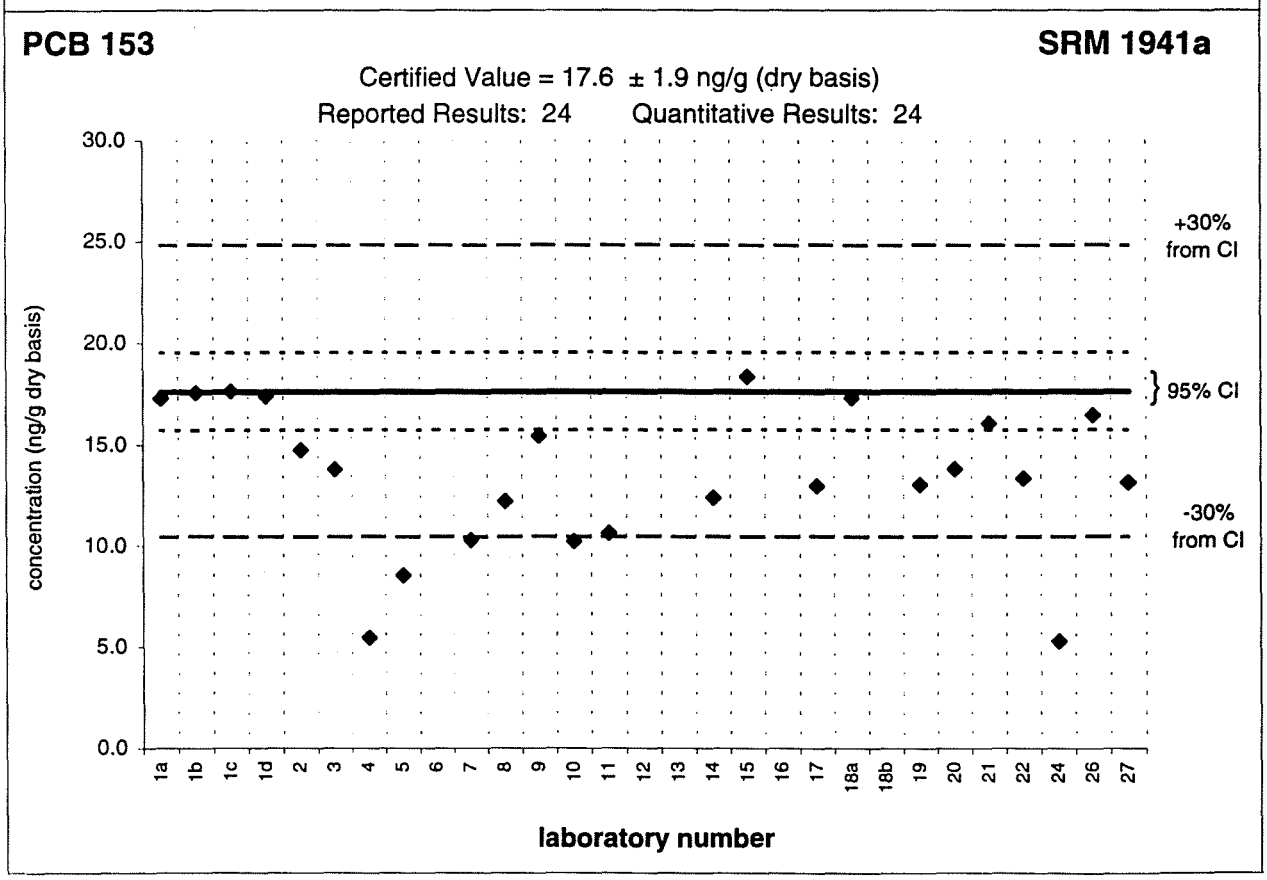
PCB 118 **SRM 1941a**

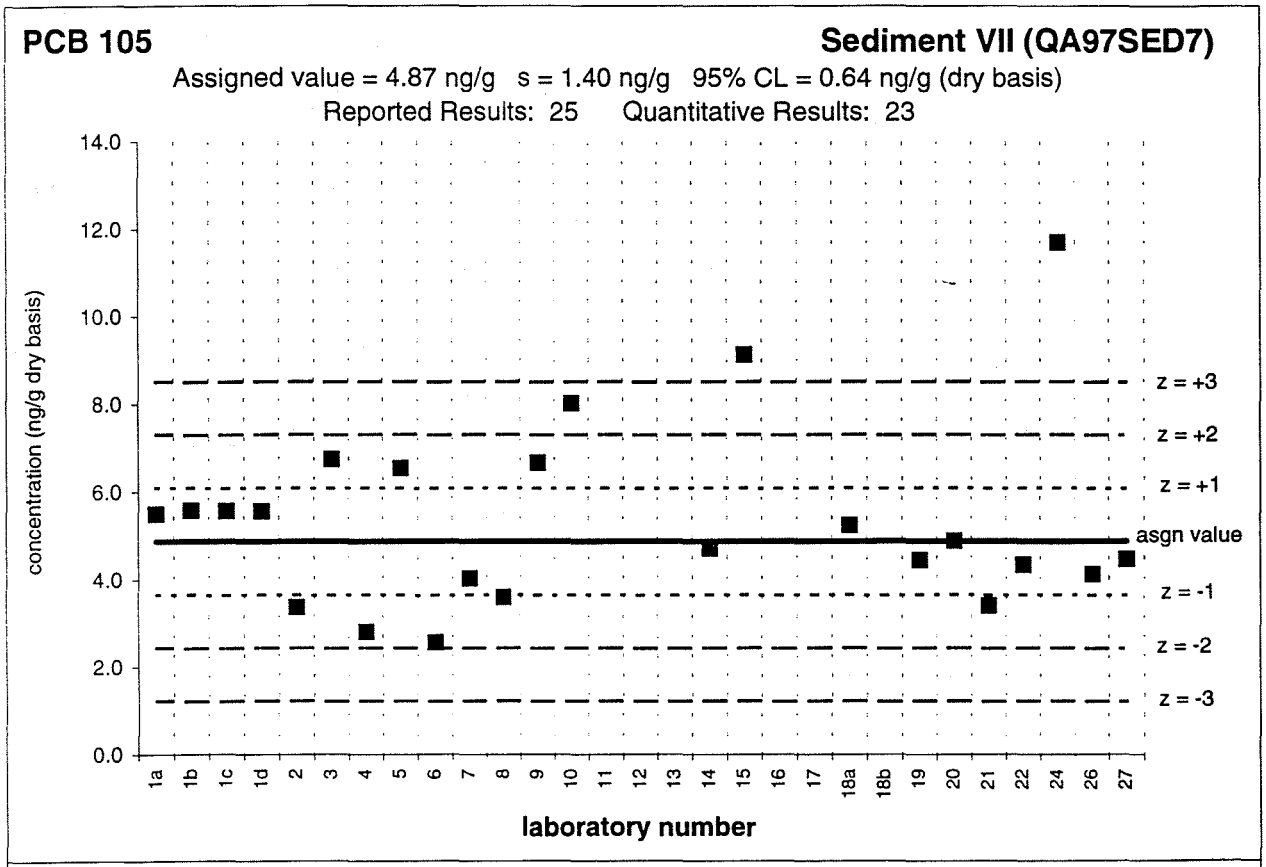
Certified Value = 10.0 ± 1.1 ng/g (dry basis)

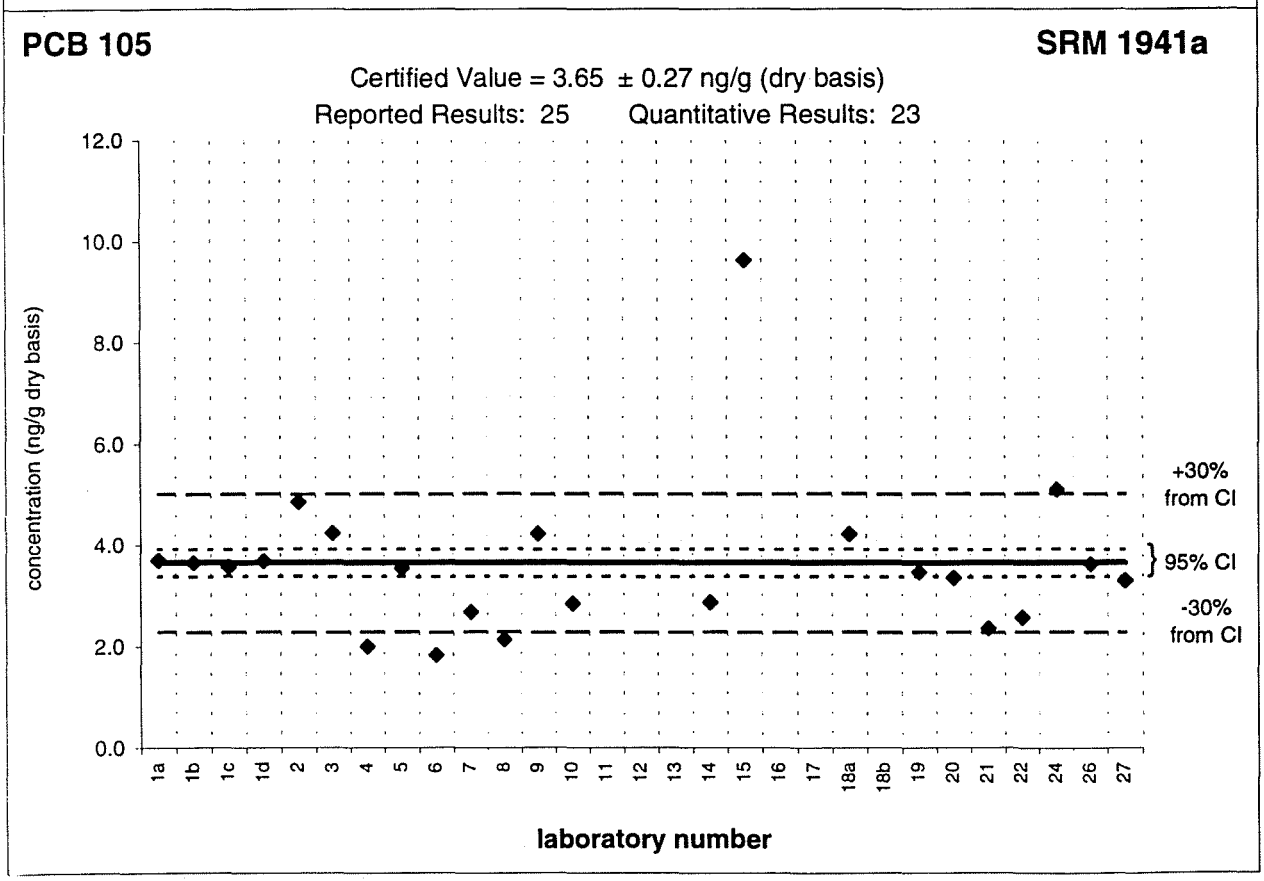
Reported Results: 25 Quantitative Results: 25




PCB 153
Sediment VII (QA97SED7)
Assigned value = 18.7 ng/g s = 4.3 ng/g 95% CL = 2.0 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 25
concentration (ng/g dry basis)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 153
SRM 1941a
Certified Value = 17.6 ± 1.9 ng/g (dry basis)
Reported Results: 24 Quantitative Results: 24
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

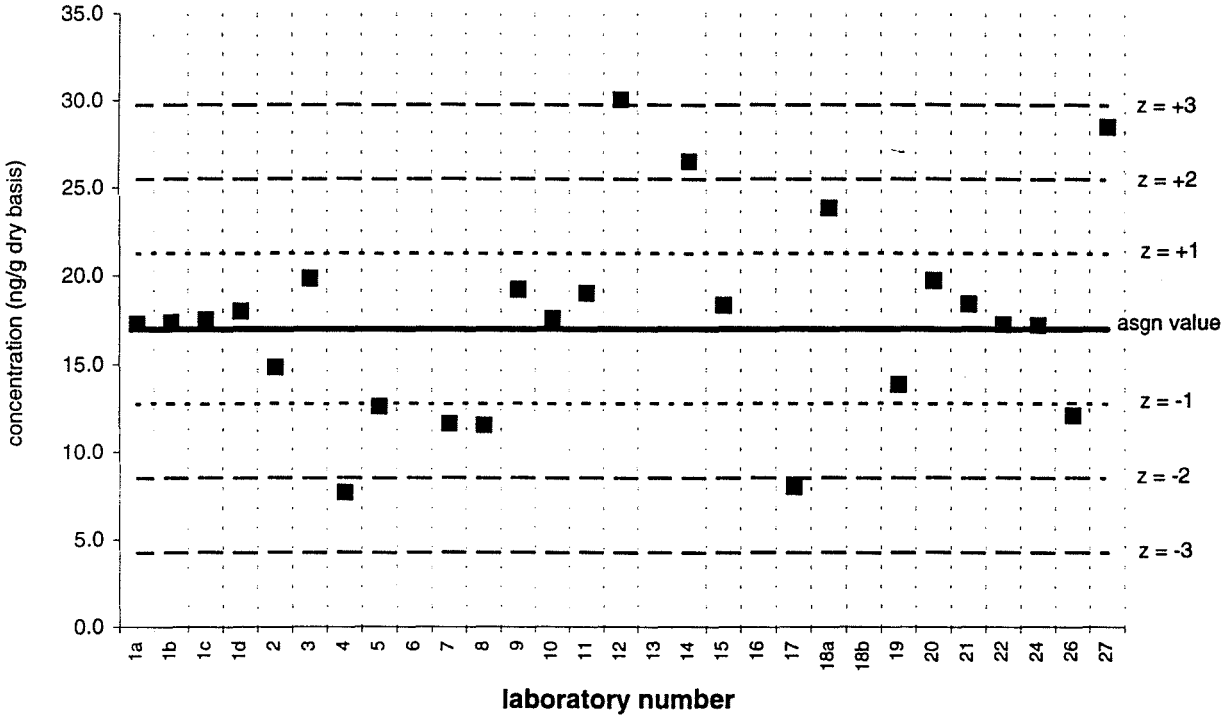

PCB 105
Sediment VII (QA97SED7)
Assigned value = 4.87 ng/g s = 1.40 ng/g 95% CL = 0.64 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 23
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 105
SRM 1941a
Certified Value = 3.65 ± 0.27 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 23
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

PCB 138/163/164 **Sediment VII (QA97SED7)**

Assigned value = 17.0 ng/g s = 5.0 ng/g 95% CL = 2.1 ng/g (dry basis)

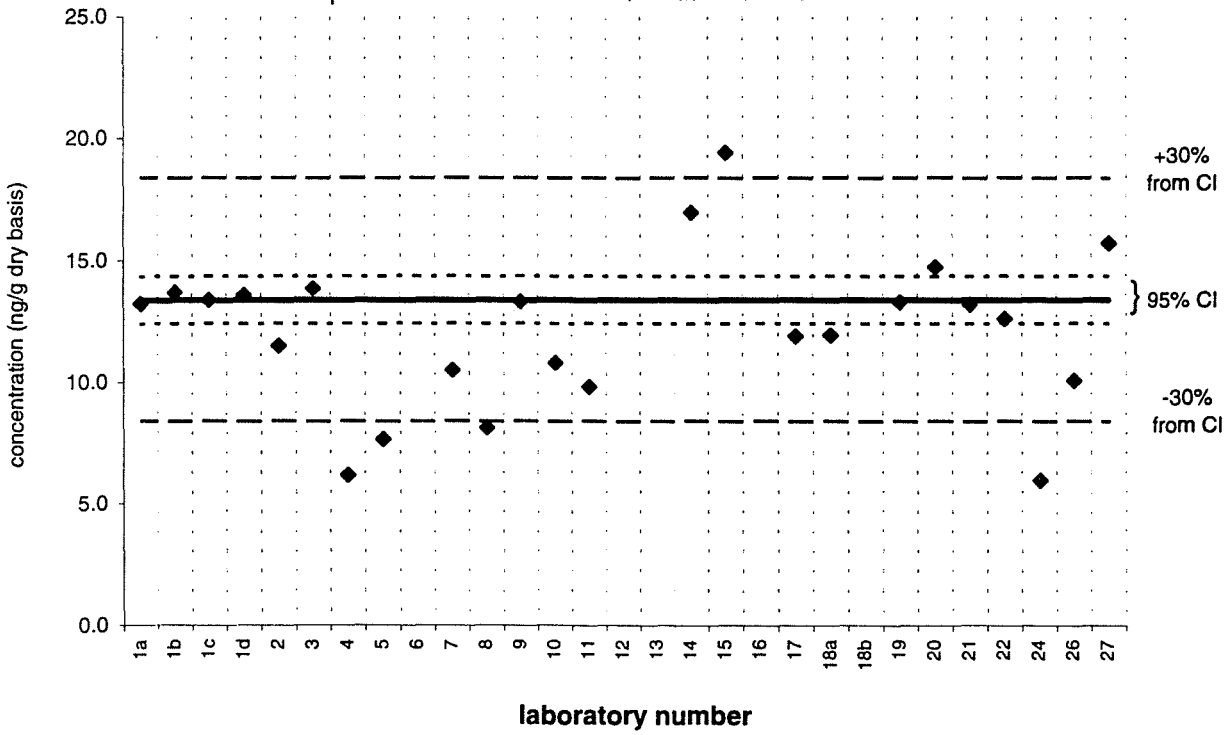
Reported Results: 25 Quantitative Results: 25

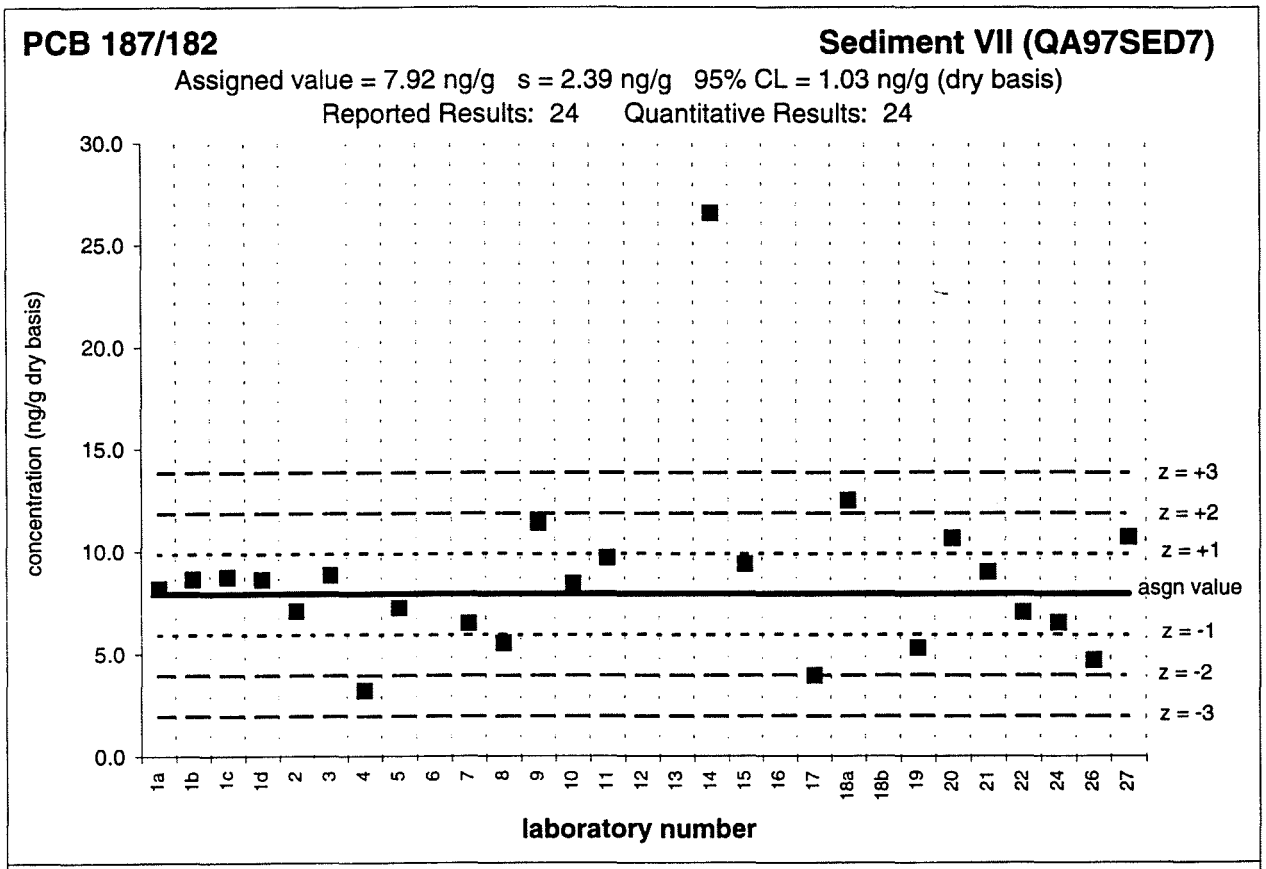


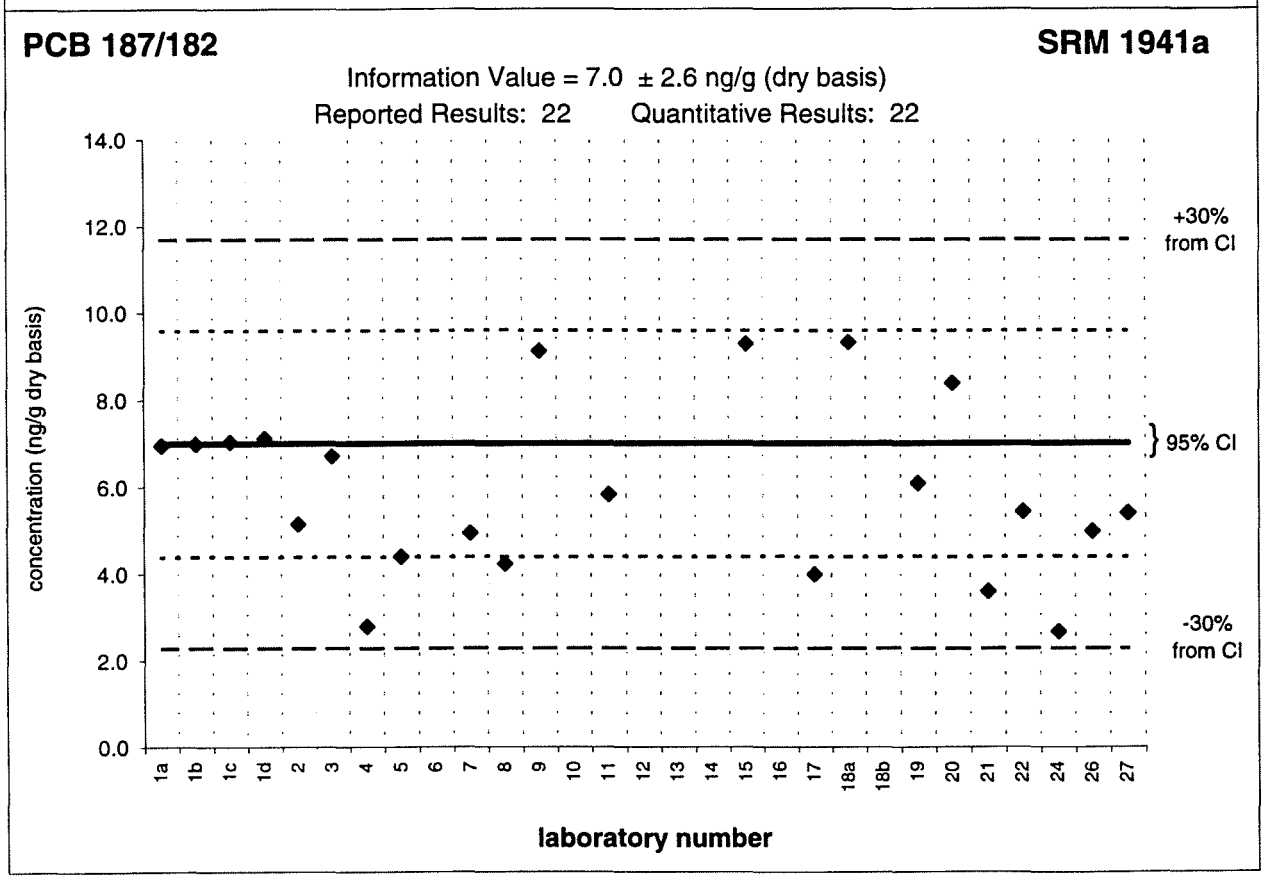
PCB 138/163/164 **SRM 1941a**

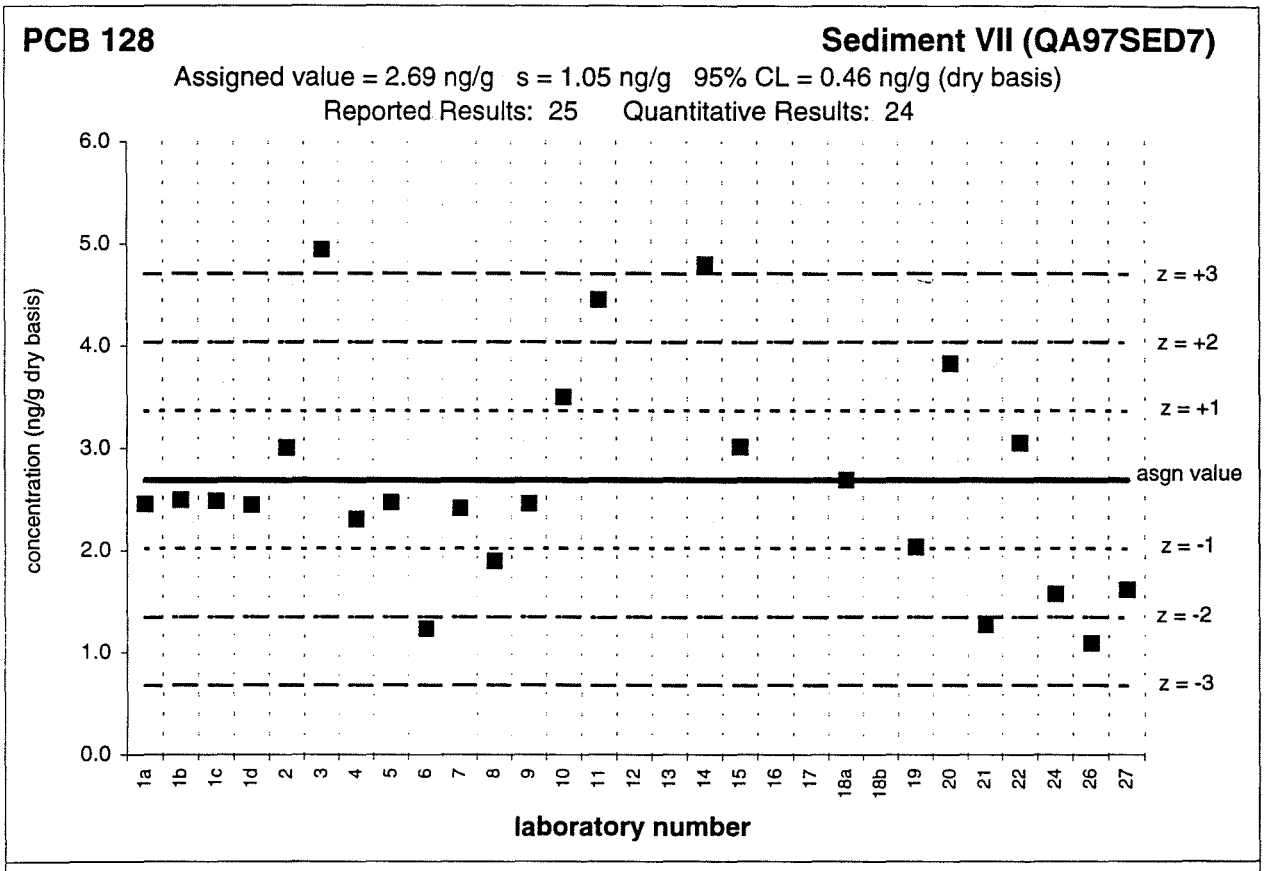
Certified Value = 13.4 ± 1.0 ng/g (dry basis)

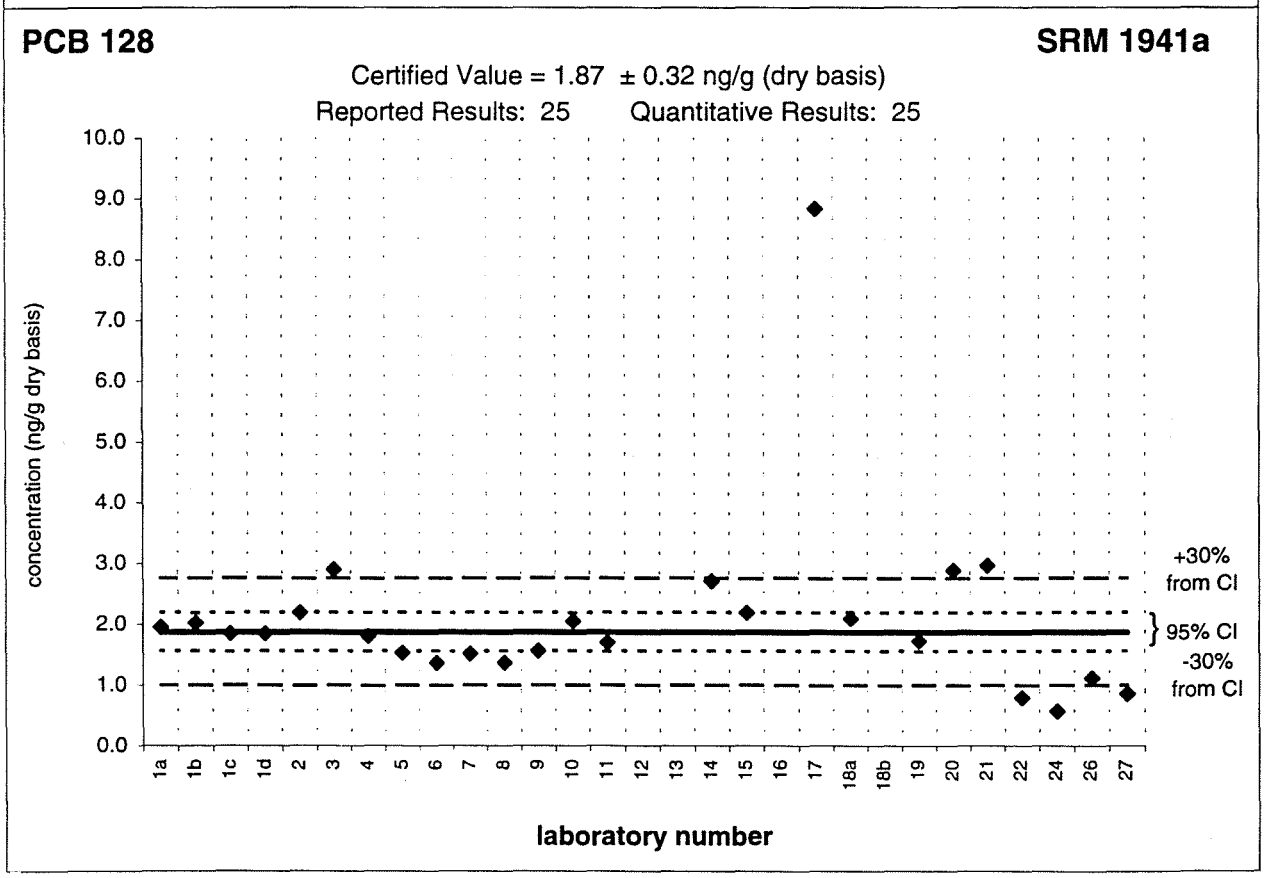
Reported Results: 24 Quantitative Results: 24

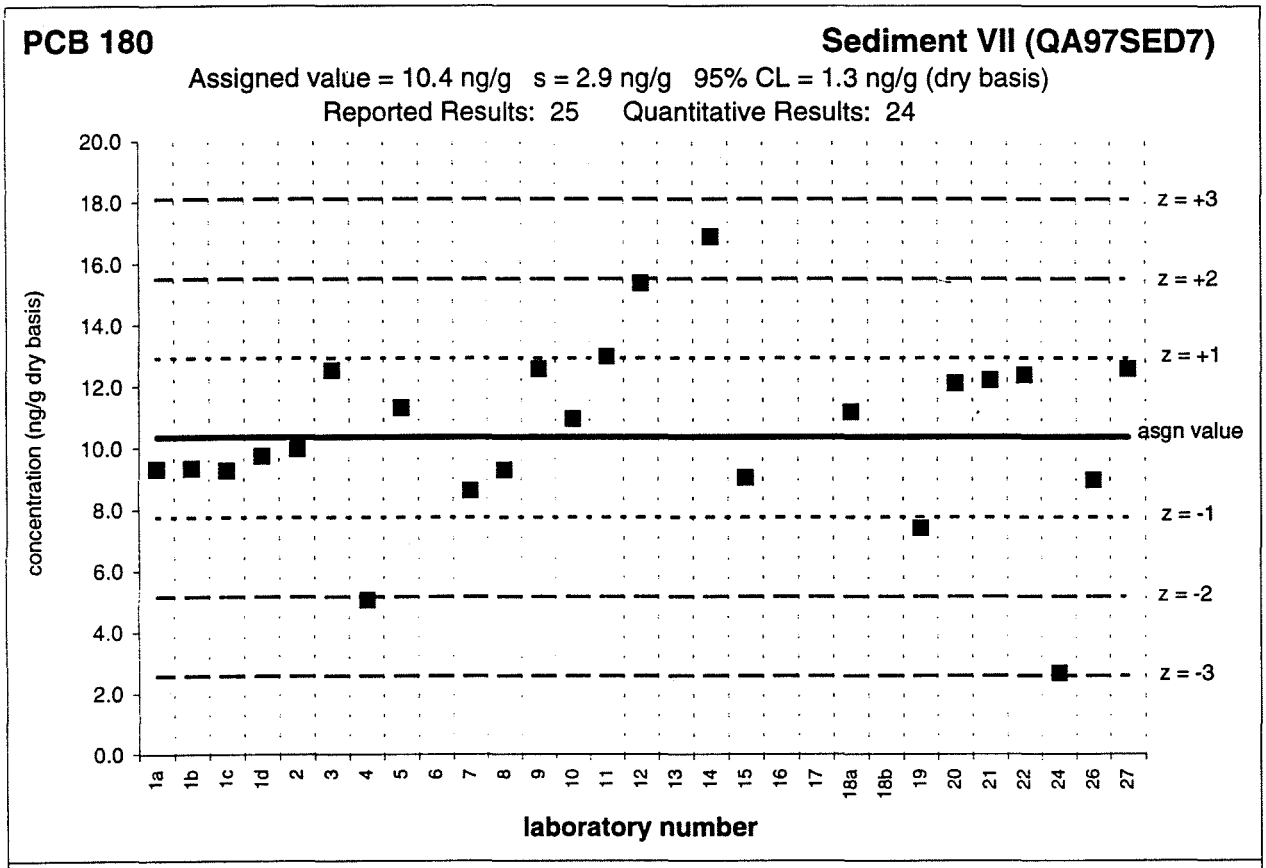


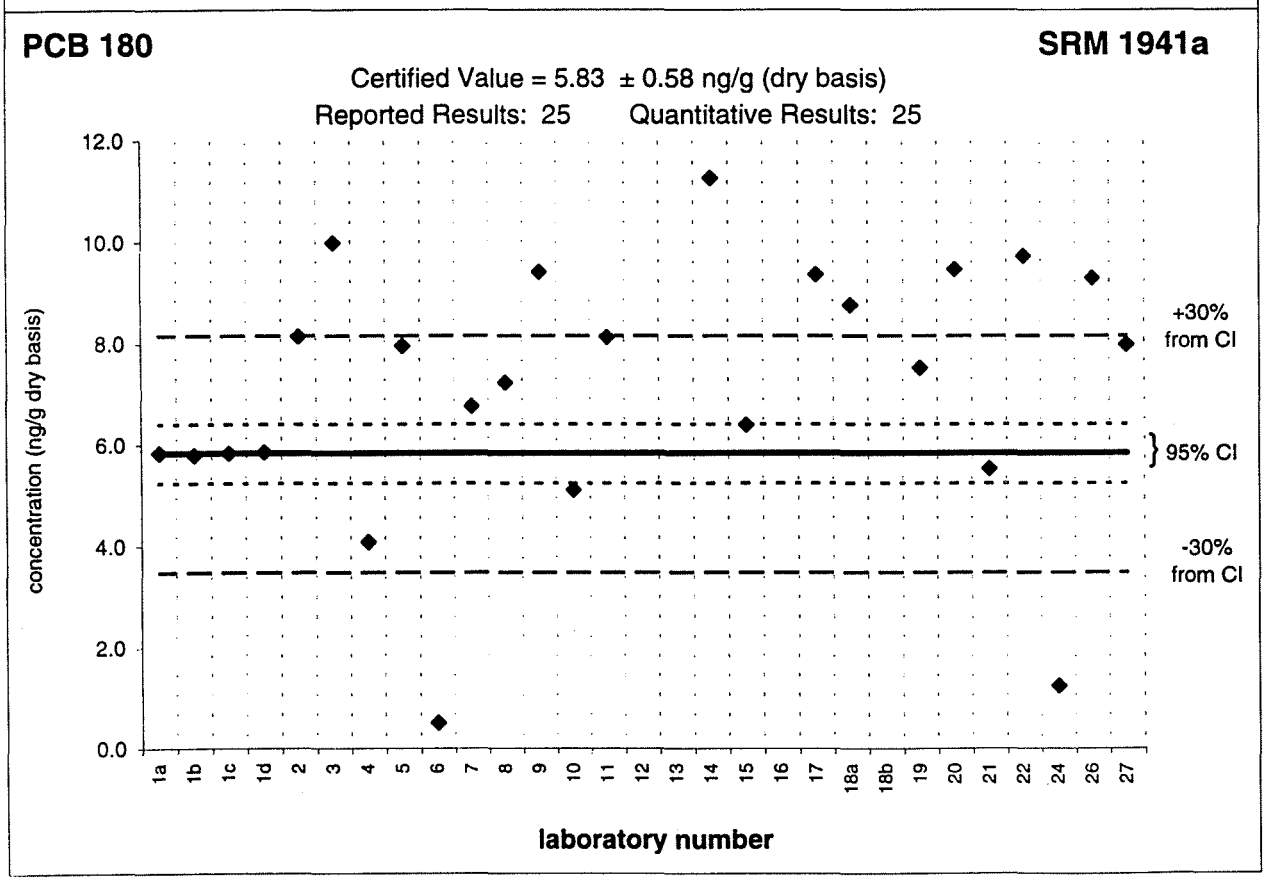

PCB 187/182
Sediment VII (QA97SED7)
Assigned value = 7.92 ng/g s = 2.39 ng/g 95% CL = 1.03 ng/g (dry basis)
Reported Results: 24 Quantitative Results: 24
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

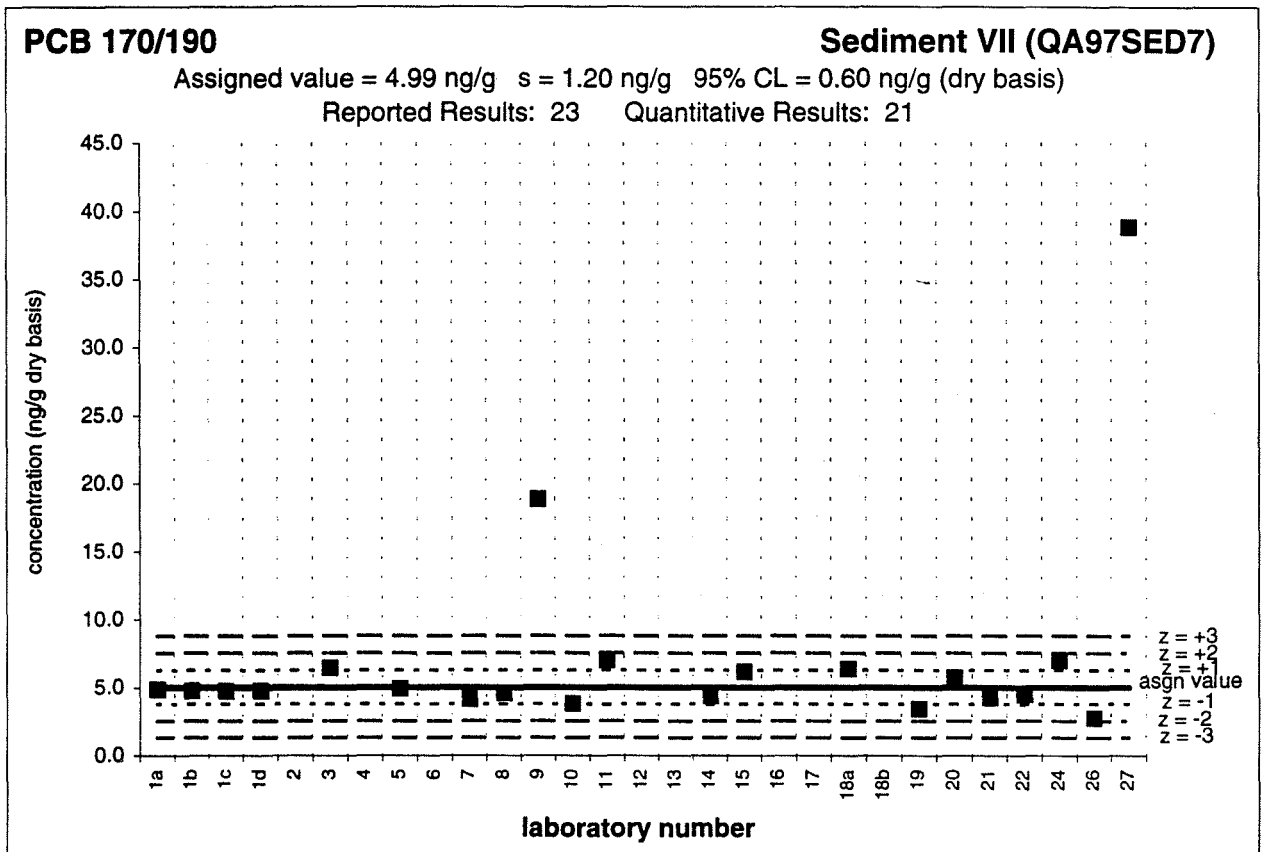

PCB 187/182
SRM 1941a
Information Value = 7.0 ± 2.6 ng/g (dry basis)
Reported Results: 22 Quantitative Results: 22
concentration (ng/g dry basis)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

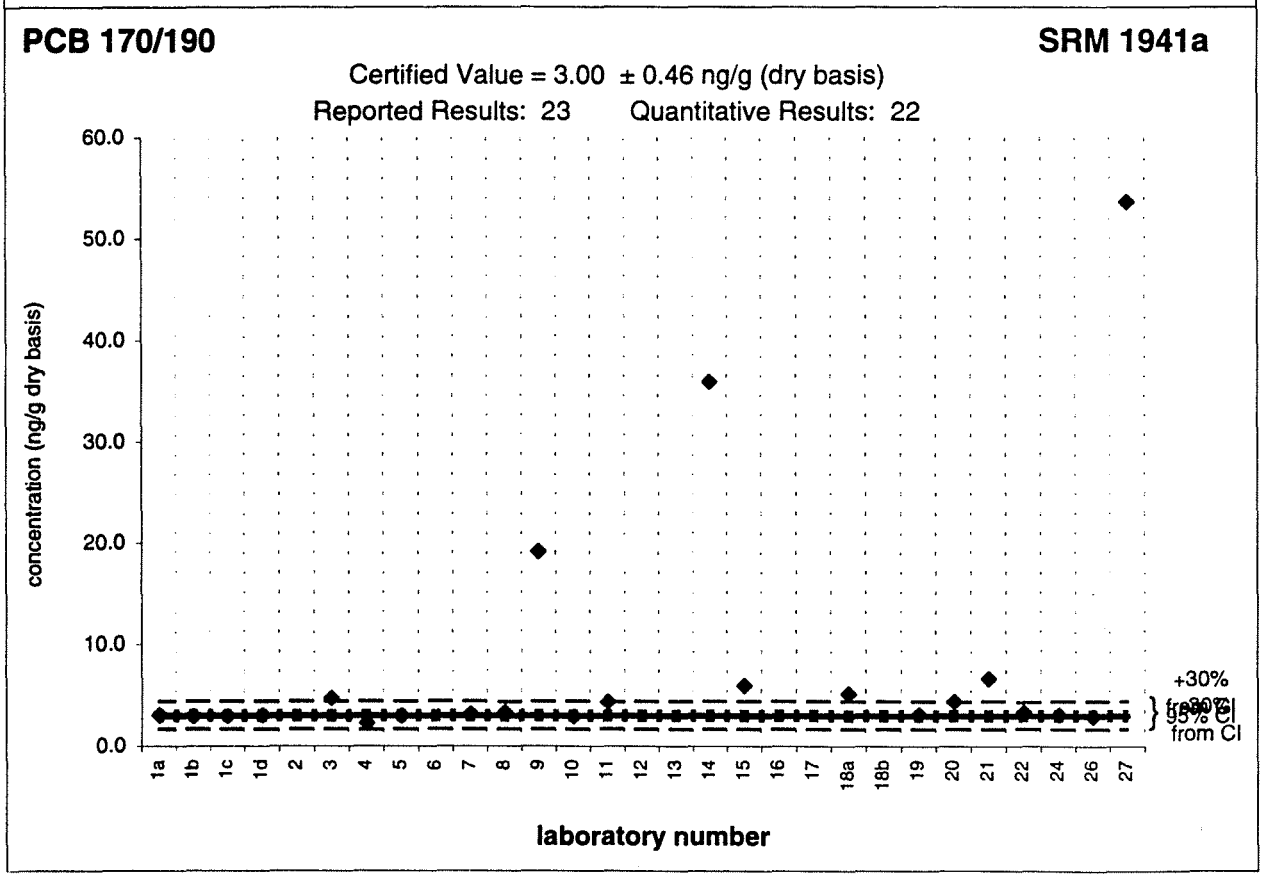

PCB 128
Sediment VII (QA97SED7)
Assigned value = 2.69 ng/g s = 1.05 ng/g 95% CL = 0.46 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 24
concentration (ng/g dry basis)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 128
SRM 1941a
Certified Value = 1.87 ± 0.32 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 25
concentration (ng/g dry basis)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 180
Sediment VII (QA97SED7)
Assigned value = 10.4 ng/g s = 2.9 ng/g 95% CL = 1.3 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 24
concentration (ng/g dry basis)
20.0
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 180
SRM 1941a
Certified Value = 5.83 ± 0.58 ng/g (dry basis)
Reported Results: 25 Quantitative Results: 25
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

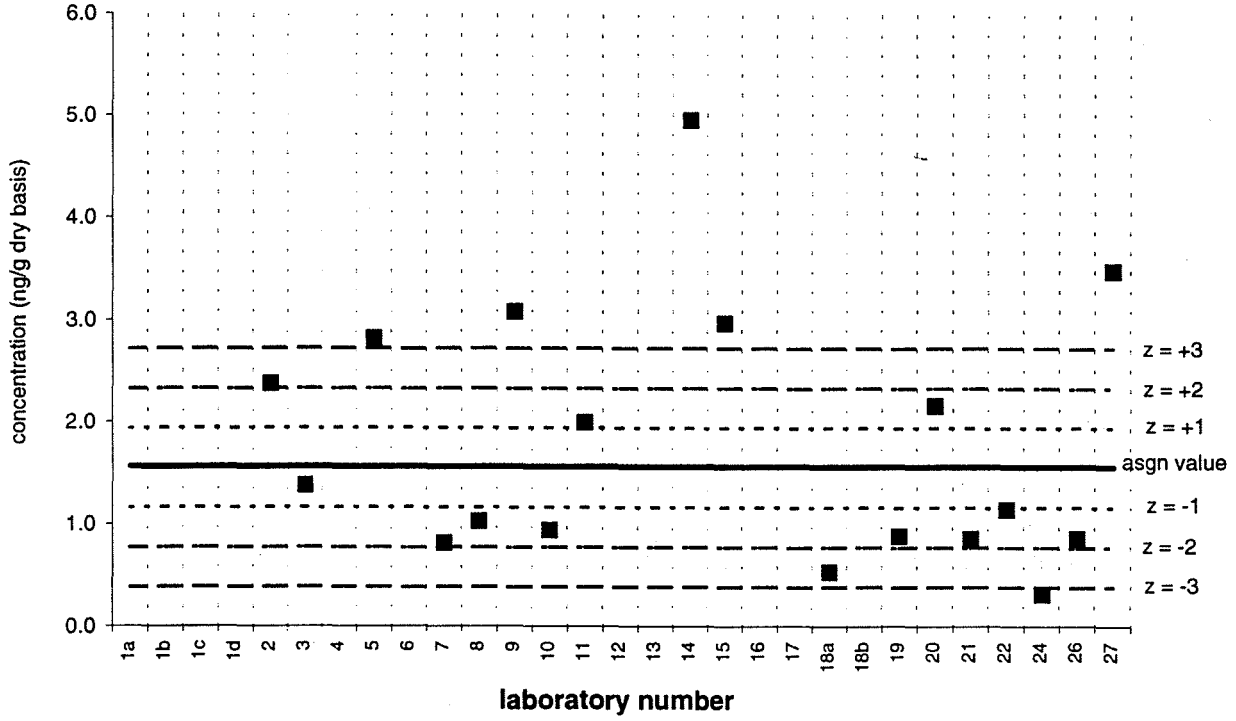

PCB 170/190
Sediment VII (QA97SED7)
Assigned value = 4.99 ng/g s = 1.20 ng/g 95% CL = 0.60 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 21
concentration (ng/g dry basis)
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 170/190
SRM 1941a
Certified Value = 3.00 ± 0.46 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 22
concentration (ng/g dry basis)
60.0
50.0
40.0
30.0
20.0
10.0
0.0
+30%
from CI
95% CI
from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

PCB 195 **Sediment VII (QA97SED7)**

Assigned value = 1.56 ng/g s = 0.93 ng/g 95% CL = 0.51 ng/g (dry basis)

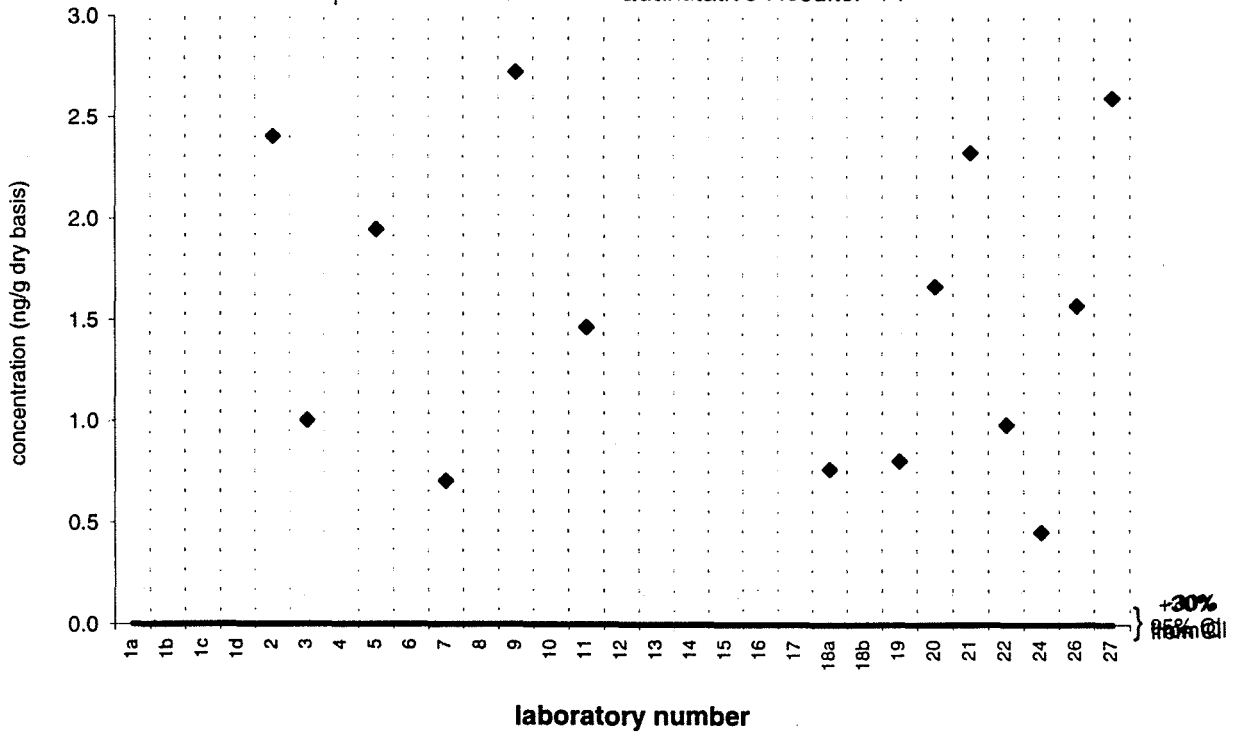
Reported Results: 24 Quantitative Results: 18

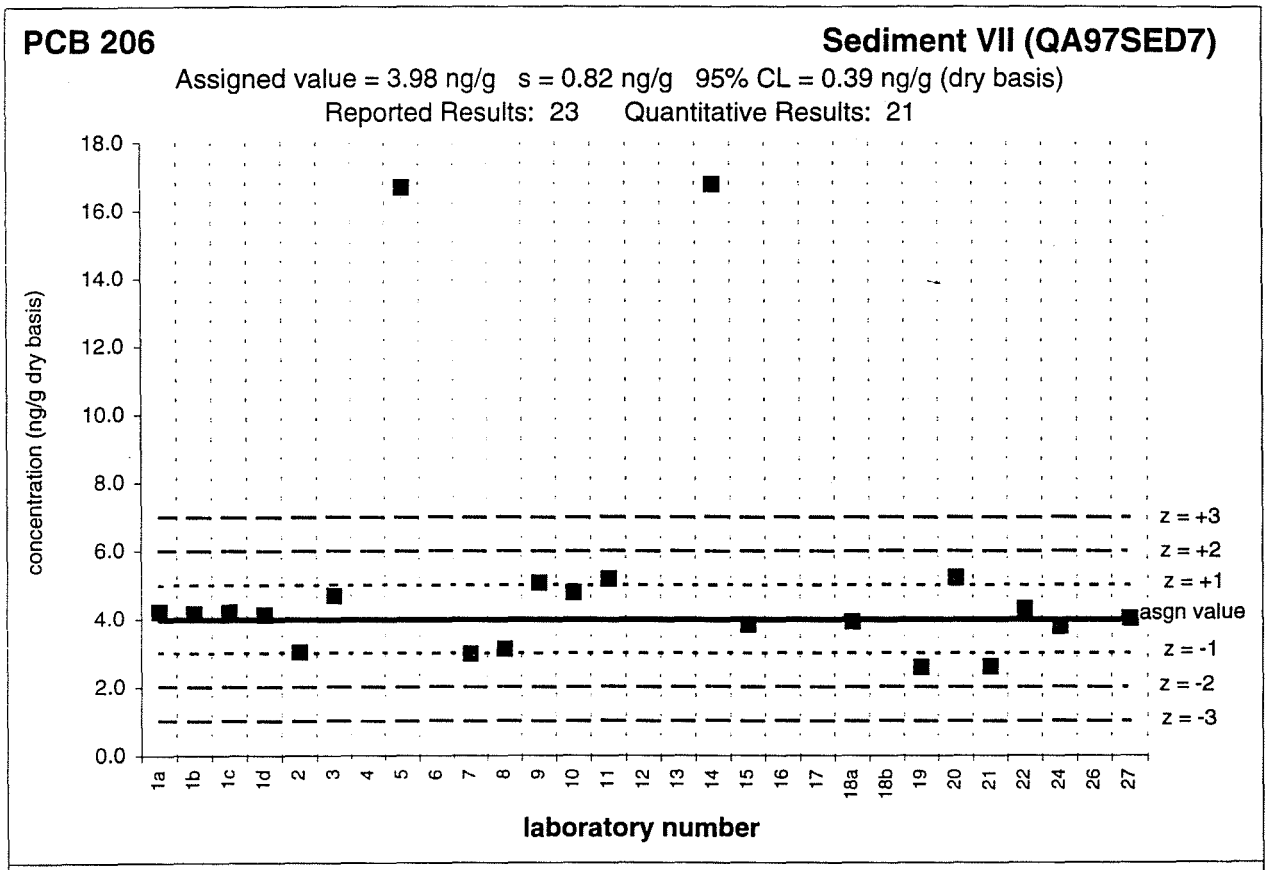


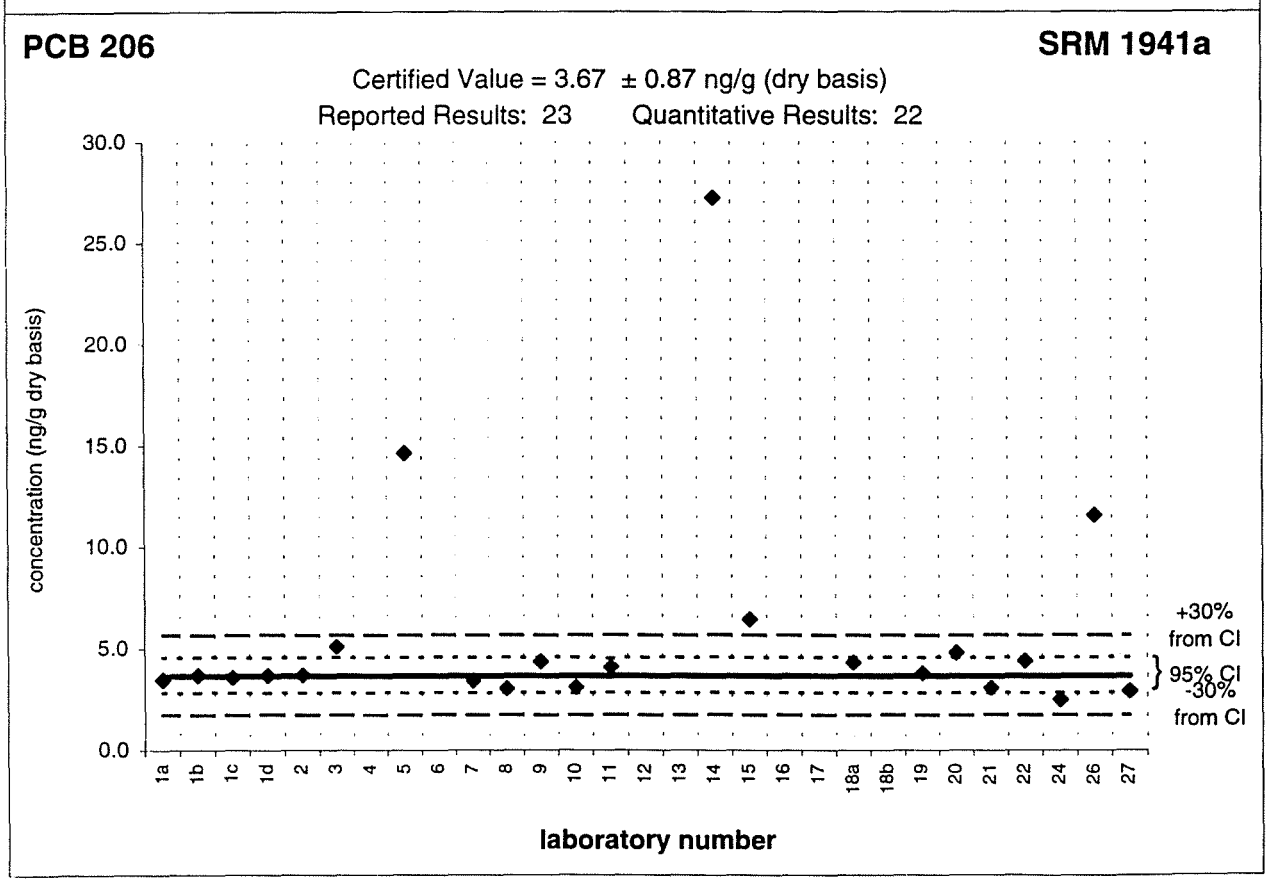
PCB 195 **SRM 1941a**

Target Value = <3 ng/g (dry basis)

Reported Results: 22 Quantitative Results: 14



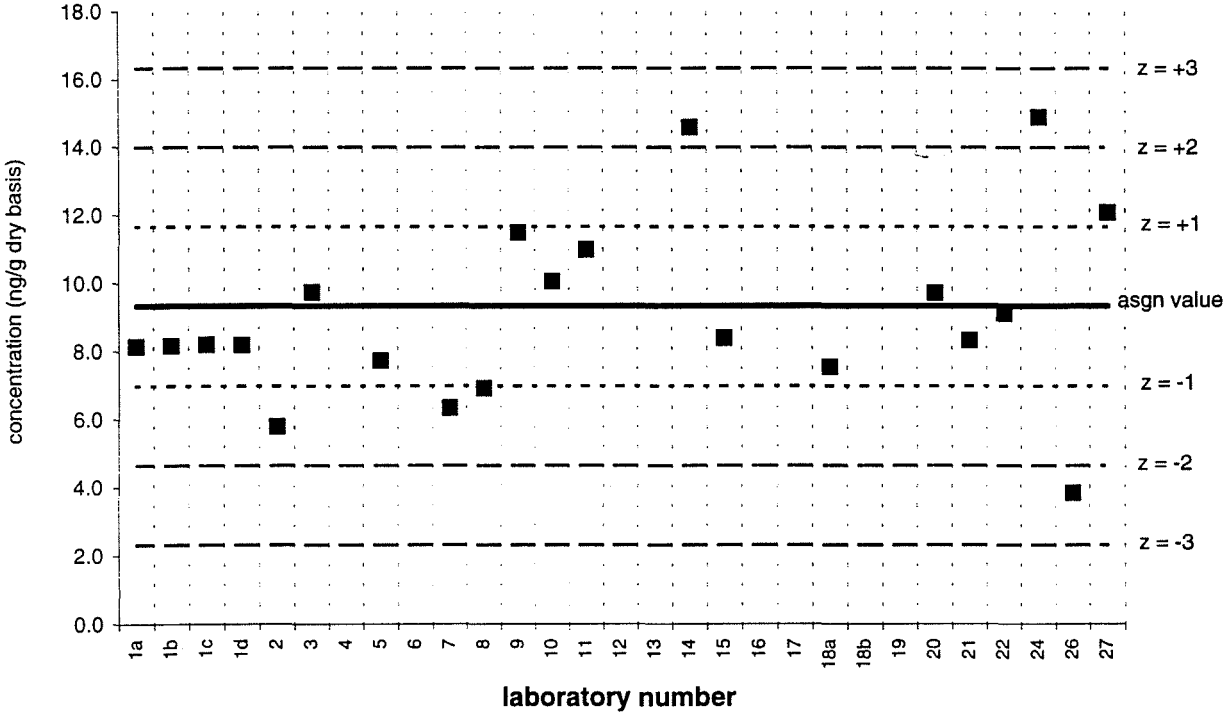

PCB 206
Sediment VII (QA97SED7)
Assigned value = 3.98 ng/g s = 0.82 ng/g 95% CL = 0.39 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 21
concentration (ng/g dry basis)
18.0
16.0
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 206
SRM 1941a
Certified Value = 3.67 ± 0.87 ng/g (dry basis)
Reported Results: 23 Quantitative Results: 22
concentration (ng/g dry basis)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

PCB 209 **Sediment VII (QA97SED7)**

Assigned value = 9.34 ng/g s = 2.45 ng/g 95% CL = 1.15 ng/g (dry basis)

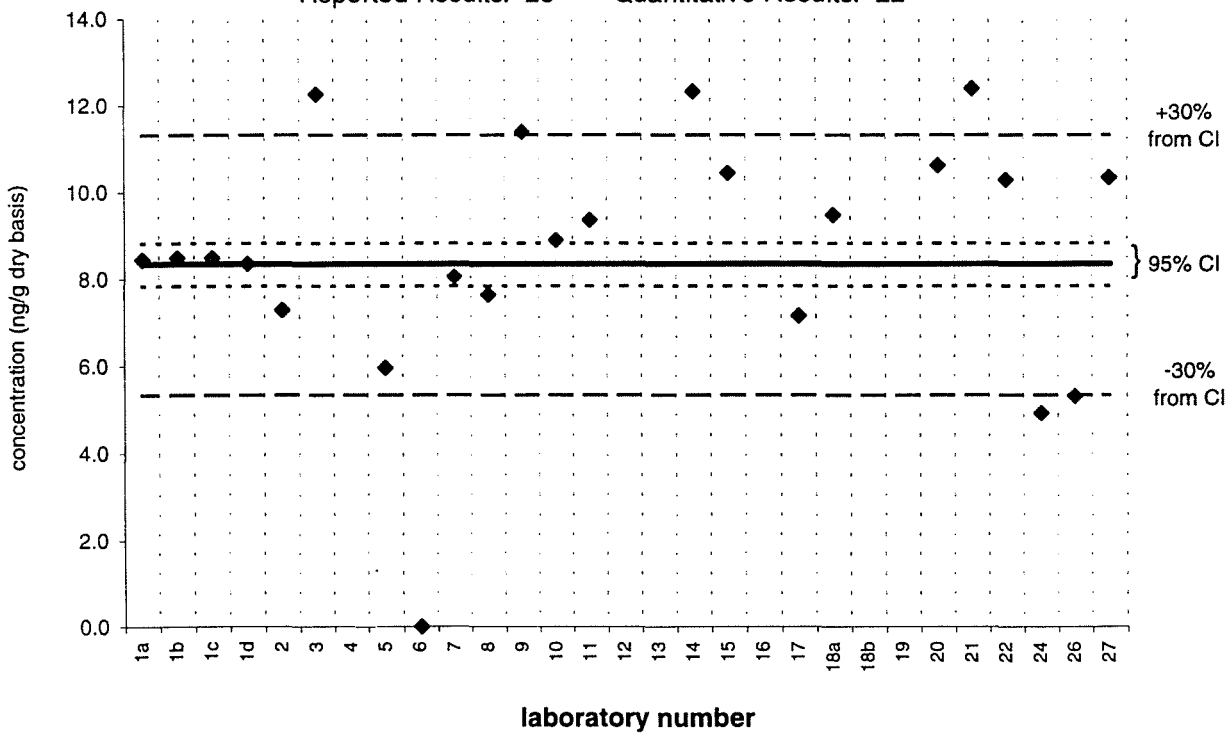
Reported Results: 22 Quantitative Results: 21

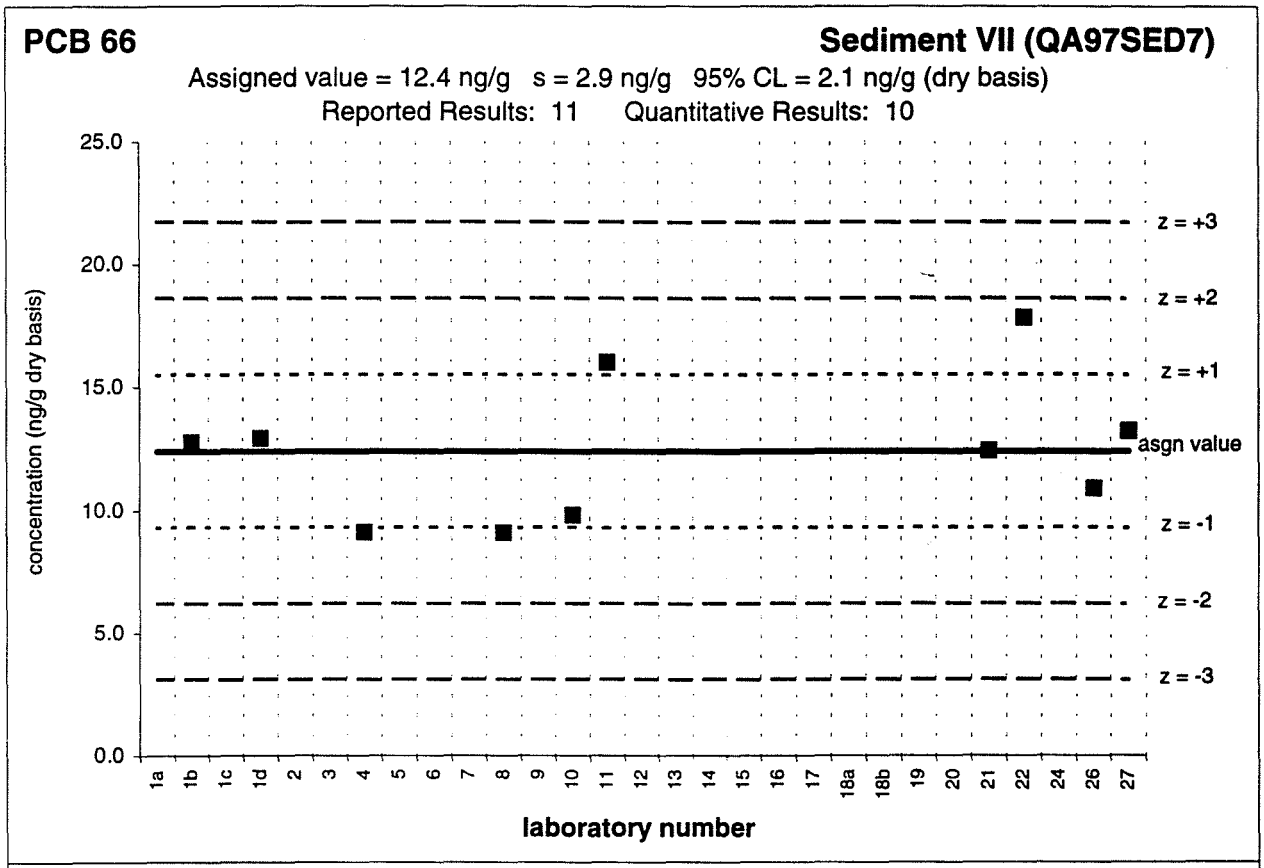


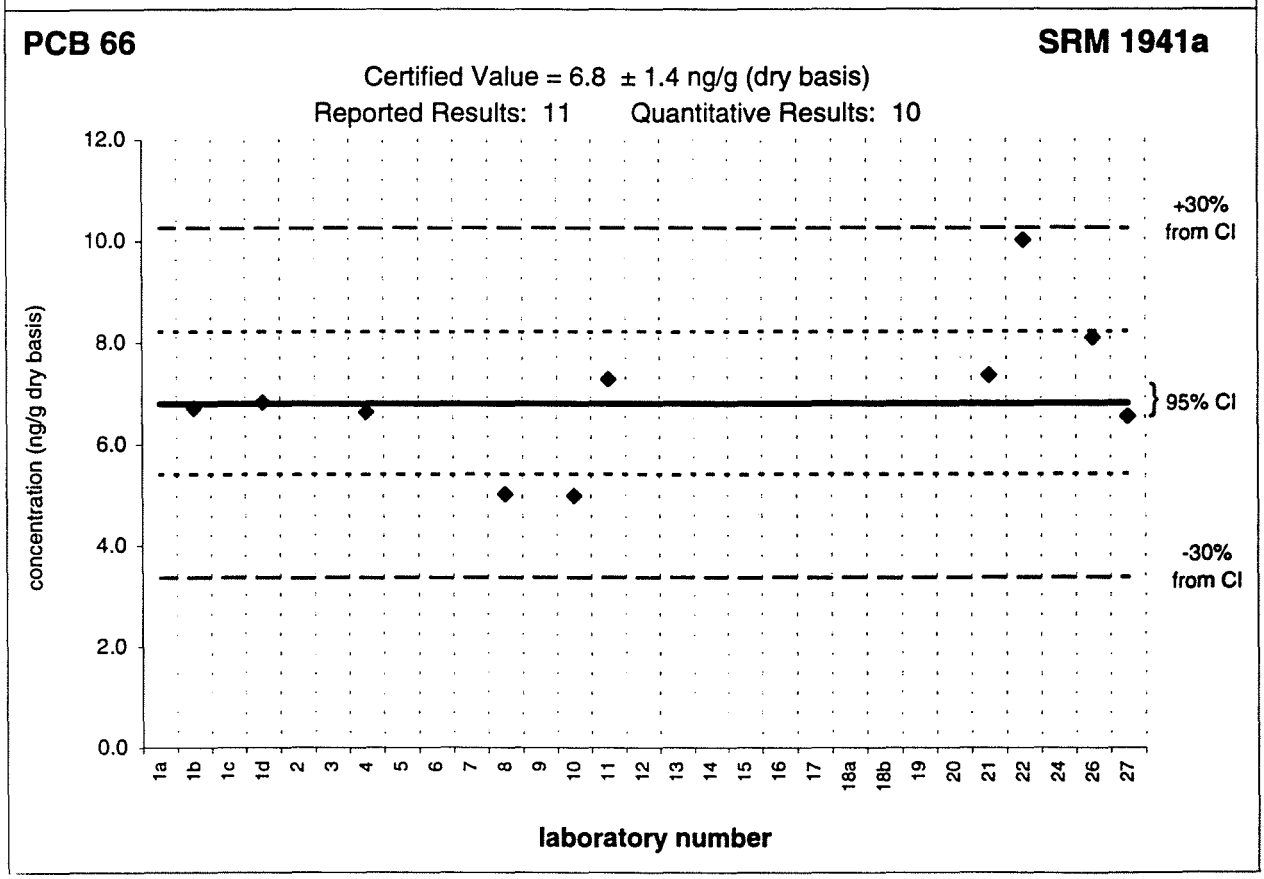
PCB 209 **SRM 1941a**

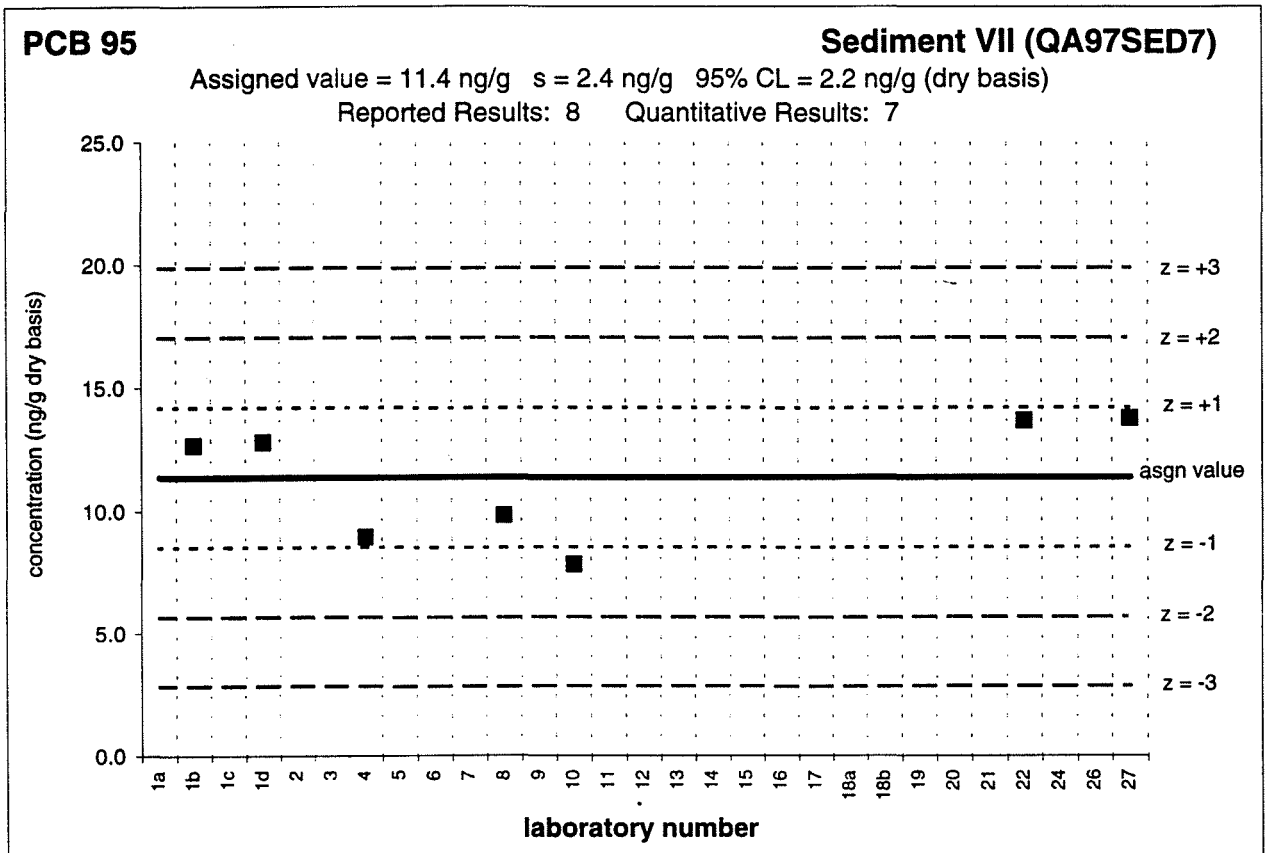
Certified Value = 8.34 ± 0.49 ng/g (dry basis)

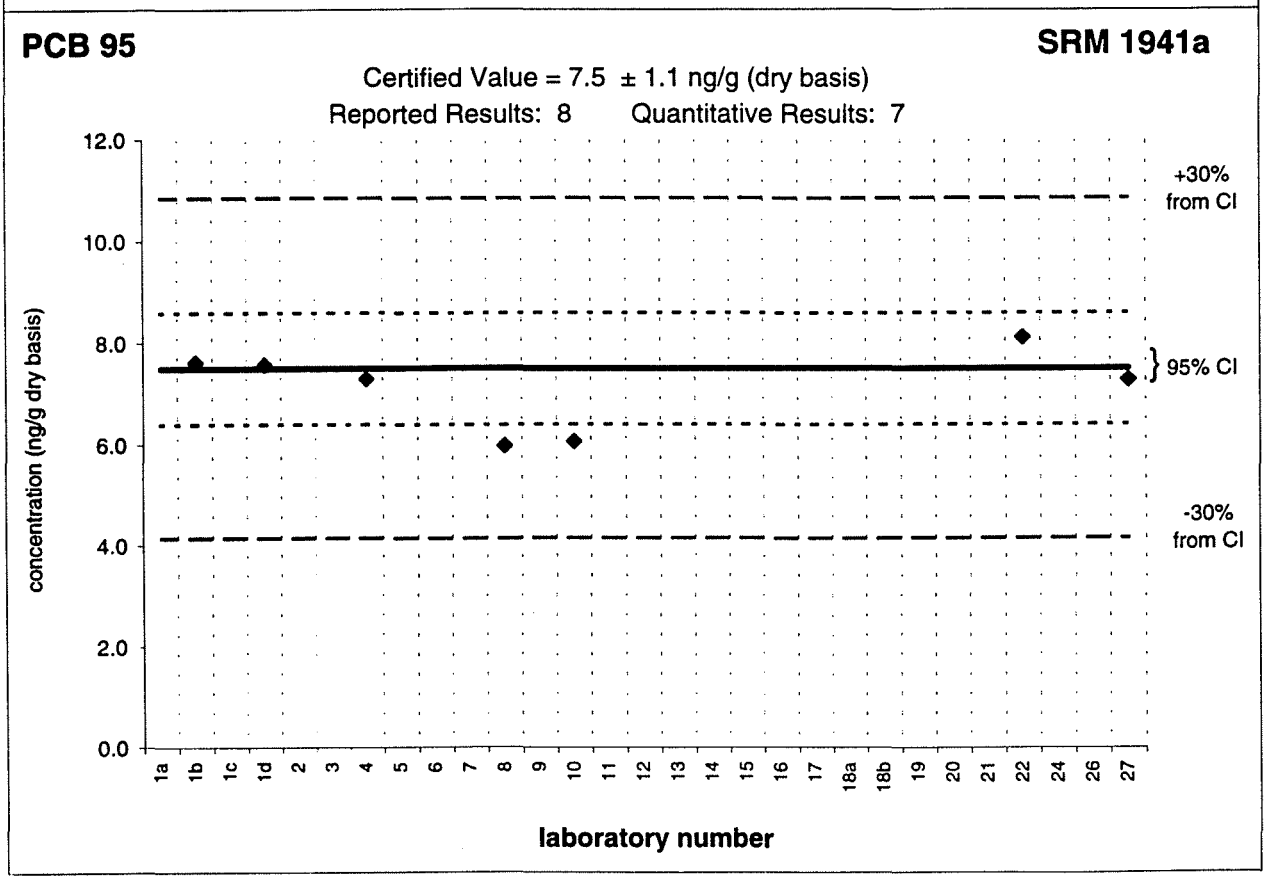
Reported Results: 23 Quantitative Results: 22




PCB 66
Sediment VII (QA97SED7)
Assigned value = 12.4 ng/g s = 2.9 ng/g 95% CL = 2.1 ng/g (dry basis)
Reported Results: 11 Quantitative Results: 10
concentration (ng/g dry basis)
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 66
SRM 1941a
Certified Value = 6.8 ± 1.4 ng/g (dry basis)
Reported Results: 11 Quantitative Results: 10
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 95
Sediment VII (QA97SED7)
Assigned value = 11.4 ng/g s = 2.4 ng/g 95% CL = 2.2 ng/g (dry basis)
Reported Results: 8 Quantitative Results: 7
concentration (ng/g dry basis)
25.0
20.0
15.0
10.0
5.0
0.0
z = +3
z = +2
z = +1
asgn value
z = -1
z = -2
z = -3
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number


PCB 95
SRM 1941a
Certified Value = 7.5 ± 1.1 ng/g (dry basis)
Reported Results: 8 Quantitative Results: 7
concentration (ng/g dry basis)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
+30% from CI
95% CI
-30% from CI
1a 1b 1c 1d 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18a 18b 19 20 21 22 24 26 27
laboratory number

Appendix K: List of Laboratories Participating in 1997 Intercomparison Exercises

For this exercise, data was 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-Gaithersburg which is Laboratory #1 in this exercise. The same code was used with both exercises.)

Arthur D. Little, Inc.
Acorn Park
Cambridge, MA 02140-2390
John Brown

B & B Laboratories
1902A Pinon C
College Station, TX 77845
Bernie B. Bernard

Battelle Ocean Sciences
397 Washington Street
Duxbury, MA 02332
Carole Peven

California Dept. of Fish and Game
Water Pollution Control Laboratory
2005 Nimbus Road
Rancho Cordova, CA 95670
David Crane/Kathleen Regalado

Central Contra Costa Sanitary District
5019 Imhoff Pl
Martinez, CA 94553
Bhupinder Dhaliwal

East Bay Municipal Utility District
EBMUD Laboratory
2020 Wake Avenue
Oakland, CA 94607
John Beland

Environment Canada
Environmental Science Center
P. O. Box 23005
Corner of Morton & Archibald Streets
Moncton, New Brunswick
E1A6S8 Canada
Dr. James Doull/Mireille Abi-Khattar

Environmental Protection Agency (EPA)
Office of Research & Development
Environmental Research Laboratory
27 Tarzwell Drive
Narragansett, RI 02882
Joseph LiVolsi/Richard J. Pruell/Sara Jayaraman

Florida Department of Environmental Protection
2600 Blair Stone Rd. MS6510
Tallahassee, FL 32399
Liang Lin

GSF Institute for Ecological Chemistry
GSF Forschungzentrum
Ingolstaeder Landstrasse 1
D-85764 Oberschleissheim, Germany
Joh. Schmitzer/A. Kettrup

City of Los Angeles
Dept. of Public Works
Environmental Monitoring Division
222 North Sepulveda, Suite 1600
El Segunda, CA 90245
David Thomas/Ofelia C. Kim

Massachusetts Water Resources Authority
190 Taft Ave.
Winthrop, MA 02152
Steve Rhode/Houte Yang

Murray State University
Chemical Services Laboratory
Rm 439 Blackburn Science Bldg.
Murray KY 42071-3306
Bomanna G. Loganathan

National Institute of Standards and Technology (NIST)
B158, Bldg. 222
Gaithersburg, MD 20899
Michele M. Schantz

NIST Charleston
219 Ft. Johnson Road
Charleston, SC 29412
John Kucklick

NOAA National Marine Fisheries Service, F/NWC6
Environmental Conservation Division
2725 Montlake Boulevard, East
Seattle, WA 98112
Donald Brown

NOAA National Marine Fisheries Service
Auke Bay Laboratory
P. O. Box 210155
11305 Glacier Highway
Auke Bay, AK 99821
Marie Larsen

NOAA National Marine Fisheries Service
Charleston Laboratory
217 Ft. Johnson Road
Charleston, SC 29412
Dan Bearden

National Research Council of Canada
Institute for National Measurement Standards, M-12
Montreal Road
Ottawa, Ontario, Canada K1A 0R6
Graeme Gardner/Kathy Frasier

Skidaway Institute of Technology
10 Ocean Science Circle
Savannah , GA 31411
Keith Maruya

Texas A & M University
Geochemical and Environmental Research Group (GERG)
833 Graham Road
College Station, TX 77845
Terry Wade/Laura Chambers

University of California, Santa Cruz
Long Marine Laboratory
Trace Organics Facility
100 Shaffer Road
Santa Cruz, CA 95060
Matt Stoelting/Jon Becker

University of Rhode Island
Graduate School of Oceanography
Organic Geochemistry Laboratory
Horn Bldg., South Ferry Road
Narragansett, RI 02882
James Quinn

U. S. Geological Survey
National Water Quality Laboratory
5293-B Ward Road
Arvada, CO 80002
Ann Watterson

Virginia Bureau of Chemistry
Div. of Consolidated Laboratories
1 North 14th Street
Div. of Water Quality
Richmond, VA 23219
Dave Clark/Gail Johnson

State of Washington
Department of Ecology
Manchester Environmental Laboratory
7411 Beach Drive East
Port Orchard, WA 98366-8204
William R. Kammin/Stuart A. Magoon

Woods Hole Group
375 Paramount Dr., Suite B
Raynham, MA 02767
Pete Kane