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Final Summary Report to the Narragansett Bay Project Office: Assessment of Organic Contaminants in Narragansett Bay Sediments and Hard Shell Clams

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Assessment of Organic Contaminants in Narragansett Bay Sediments and Hard Shell Clams

by

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SUMMARY

As part of a multidisciplinary investigation on the sediments of Narragansett Bay, sediment trap materials, surface sediments, hard shell clams (Mercenaria mercenaria) and sediment cores from throughout the bay were analyzed for organic contaminants including: polychlorinated biphenyls (PCBs), petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), substituted benzotriazoles (BZTs), bis (2-ethylhexyl) phthalate (DEHP) and coprostanol (COP). The objectives of this particular study were to provide information on the source, transport and biogeochemical fate of organic contaminants in the bay; while the overall goals of the investigation were to characterize the sediments and sedimentary processes of the Narragansett Bay system based on the results of integrated biological, chemical and geological studies.

Sediment Trap Materials

The sediment trap samples showed a trend of decreasing concentration for most components from Fox Point to Ohio Ledge, suggesting that the source(s) of these contaminants were pollution discharges (e.g., industrial and municipal effluents, CSOs, spills and runoff,) to the upper Providence River and its tributaries. In general, the agreement between the results from the present sediment trap study and older suspended solids data (1985-86) was quite good. However, the PHC concentrations reported in 1977 were considerably higher than the more recent values, but it is difficult, if not impossible, to determine if changes have really occurred based on the limited number of samples analyzed and procedural variations in the different studies.

In the case of BZT concentrations and their ratios (C_{10}-BZT/Cl-BZT), there was a maximum amount of both BZTs and a minimum ratio in trap material at a Providence River station about 7 km south of Fox Point (i.e., adjacent to the Pawtuxet Cove entrance). This trend with distance is probably due to the source of the BZTs to the Providence River which is the Pawtuxet River via Pawtuxet Cove. The BZT ratio indicates a change in the relative amounts of the two compounds over the distance from the point of entry, i.e., there is a trend of increasing values with distance from Pawtuxet Cove (ratio = 1.5) to Ohio Ledge (ratio = 3.2). The ratio for sediment trap material from the Pawtuxet River was 1.0 - 2.0; since these values are generally lower than any

others reported, it suggests that the river is the major source of the material in the Pawtuxet Cove traps.

The relationships between contaminant concentrations in sediment trap material and surface sediments were quite good. For Ar 1254, the sediment levels were about twice the trap values. Conversely, the hydrocarbon concentrations in trap material were about 1.5 times as high for PHCs and about equal in pyrene, relative to the surface sediments. (In all cases, the correlations were significant at the 95% confidence level). In general, these data support the concept that the chemical composition of particulate material and surface sediments are closely related, and that the former could be a major source of contaminants to the underlying surface sediments. It is also possible that resuspended surface sediments could contribute to the particulate material in the water column depending on a number of factors such as bottom currents and extent of bioturbation.

There was a significant relationship between the concentration of Cl-BZT in trap material and surface sediments; however, the relationship for the C_{10}-BZT was not as good, and there is presently no explanation for these differences other than that the production of Cl-BZT started in 1963 and ceased in 1972, while that of the C_{10}-BZT started in 1970 and continued to 1985. (The log Kow for both BZTs are essentially the same, Pruell & Quinn, 1985.) Perhaps, the former BZT is more uniformally distributed in particulate material and sediments than the more recently discharged C_{10}-BZT. Changes in the BZT ratio (C_{10}/Cl)of trap material may be due to a number of reasons including: the preferential retention of the C_{10}-BZT and/or loss of Cl-BZT due to various biogeochemical reactions, and the resuspension of more recent sediments containing higher concentrations of the C_{10}-BZT. This trend would be in agreement with the low ratio in Pawtuxet River surface sediments relative to sediment from the other locations where the ratios generally increase as found in the trap material. For example, the BZT ratio in surface sediments from Ohio Ledge is 7.2, in the mid-bay it is 8.2 and at the west passage the ratio is 9.5 (significant at the 95% confidence level).

Surface Sediments and Clams

In general, the levels of all contaminants were highest in the Providence River sediments and decreased exponentially with distance downbay, with the lowest values usually found at the mouth of the bay. The major exception was a station in Newport Harbor in the lower east passage, where the concentrations of PHCs, PCBs and COP were relatively high and similar to some of the upper bay stations. The sources of the contaminants at this station may be related to sewage effluent , CSO discharges and runnoff to the harbor area.

One way of evaluating the distribution of various contaminants in surface sediments is to compare the half distances for these components (defined as the distance in which the highest contaminant concentration decreases by 50%). A comparison of values for the east and west transects obtained in this study showed some small differences. For most components (exceptions are BZTs) the half distances were longer in the east transect, suggesting additional sources of contaminants to that area. This may be due to several reasons including the influence of Newport effluents etc., different water circulation patterns in the two passages, and possible influences from Mount Hope Bay. Organic carbon had the longest half distance due to a large number of sources throughout the bay, and the BZTs had the lowest values since their only source is the Providence River via the Pawtuxet River. Finally, the PHCs, PAHs, PCBs (sometimes measured as specific chlorobiphenyl (CB) cogeners) and coprostanol had similar half distances, suggesting major sources in the Providence River as well as smaller additional inputs throughout the bay.

Five of the contaminants (CB 101, CB 138, PHCs, C_{10}-BZT and Cl-BZT) showed significant correlations (95% confidence level or better) between sediment and clam concentrations, and all values decreased with distance from the Providence River. These sediment components are hydrophobic and are strongly partitioned into the clams' lipids. Based on the data from this study, it may be possible to identify areas of the bay from which clams are harvested for commercial use. For example, clams suspected of being taken from areas closed to shellfishing could be analyzed for these 5 contaminants and the results converted to sediment location using the relationships developed in this investigation.

Trends from older investigations were generally similar to those observed in the present study; namely, highest concentrations in Providence River sediments and clams with decreasing amounts downbay. The range of previous values brackets those obtained in this study. Given the variations in station location, collection procedures, processing techniques and analytical methods, it is impossible to determine at the present time, if the concentrations have significantly changed over the past 15-20 years.

Sediment Cores

Highest levels and deepest penetration of PCBs (measured as CB 138) were in the Fox Point core which had a fairly uniform concentration down to 72 cm, but increased at 110 cm and remained about the same at the bottom of the core (147 cm). The other cores showed less penetration ranging from 42 cm (bottom of core) at Conimicut Point to 13 cm at Fields Point where the CB 138 values reached background (< 0.1 ng/g) concentration. Apparently, the latter core site is a non-depositional area in contrast to Fox Point which has a relatively high sedimentation rate.

The distribution of PHCs and pyrene were similar in some respects. In both cases, Fox Point had the highest level and deepest penetration with relatively constant values down to 147 cm. The PHCs never quite reached background levels in these cores (Ohio Ledge and Fields Point were the closest to background), but the pyrene did reach this level in two cores including the Fields Point core which again had the shallowest penetration (18 cm).

Similar distributions were shown by COP and DEHP in that the Fox Point core had the highest levels and deepest penetration - a slight increase down to 110 cm followed by a prominent decrease to 147 cm. None of the cores reached background values for DEHP, but Ohio Ledge and Conimicut Point came very close. The COP reached background in only the Fields Point core but it rapidly increased again.

It is impossible to adequately explain all of the trends in sediment core distributions with only the organic contaminent results. However, a detailed evaluation of all of the data (i.e., trace metals, organic components, biological species, pollen and geochemical analyses and radiometric

dating) is currently being prepared in order to provide information on historical trends as recorded in the bay sediment cores (King et al., 1992).

TABLE OF CONTENTS

I. INTRODUCTION

In July 1987, as part of a multidisciplinary investigation on the sediments of Narragansett Bay (Dr. John King, PI), we began a 2-year study of organic contaminants in the water column, sediments and hard shell clams (Mercenaria mercenaria) of the bay. During the first year, we analyzed surface sediment samples from 21 locations throughout the bay, clam samples from 10 stations and sediment cores from 6 locations. Samples analyzed during the second year included sediment trap material from 7 locations and sediment cores from 8 stations in the bay.

The contaminants analyzed in this study cover a wide range of organic pollutants that enter Narragansett Bay and include polychlorinated biphenyls (PCBs) and specific chlorobiphenyl (CB) congeners, petroleum hydrocarbons (PHCs), polycyclic aromatic hydrocarbons (PAHs), substituted benzotriazoles (C_{10}-and chloro(Cl)-BZTs), the phthalic acid ester - bis (2-ethylhexyl) phthalate (DEHP) and the fecal sterol - coprostanol (COP). Most of these components are routinely found in the waters and sediments of estuaries and coastal areas, and they have been used to assess the impact of chemical contamination on the near-shore marine environment (e.g., NOAA's National States and Trend Program - O'Connor and Ehler, 1991).

Our objectives in this particular study were to provide information on the source, transport and biogeochemical fate of organic contaminants in the bay. The overall goals of the investigation were to characterize the sediments and sedimentary processes of the Narragansett Bay system based on the results of integrated biological, chemical and geological studies of the sediments under the direction of Dr. John King at the Graduate School of Oceanography, University of Rhode Island (King et al., 1991, King et al., 1992).

II. EXPERIMENTAL

1. Samples

Surface sediments (LeBlanc, 1989) were collected from a total of 25 stations throughout the bay and the Providence River in August and October, 1985 and in June, 1986 (Figure 1). The stations range from Fox Point in the Providence River (station 1, 1a - same station sampled in both years) to station 21 at the mouth of the west passage. Short cores (16.5 cm diameter) were

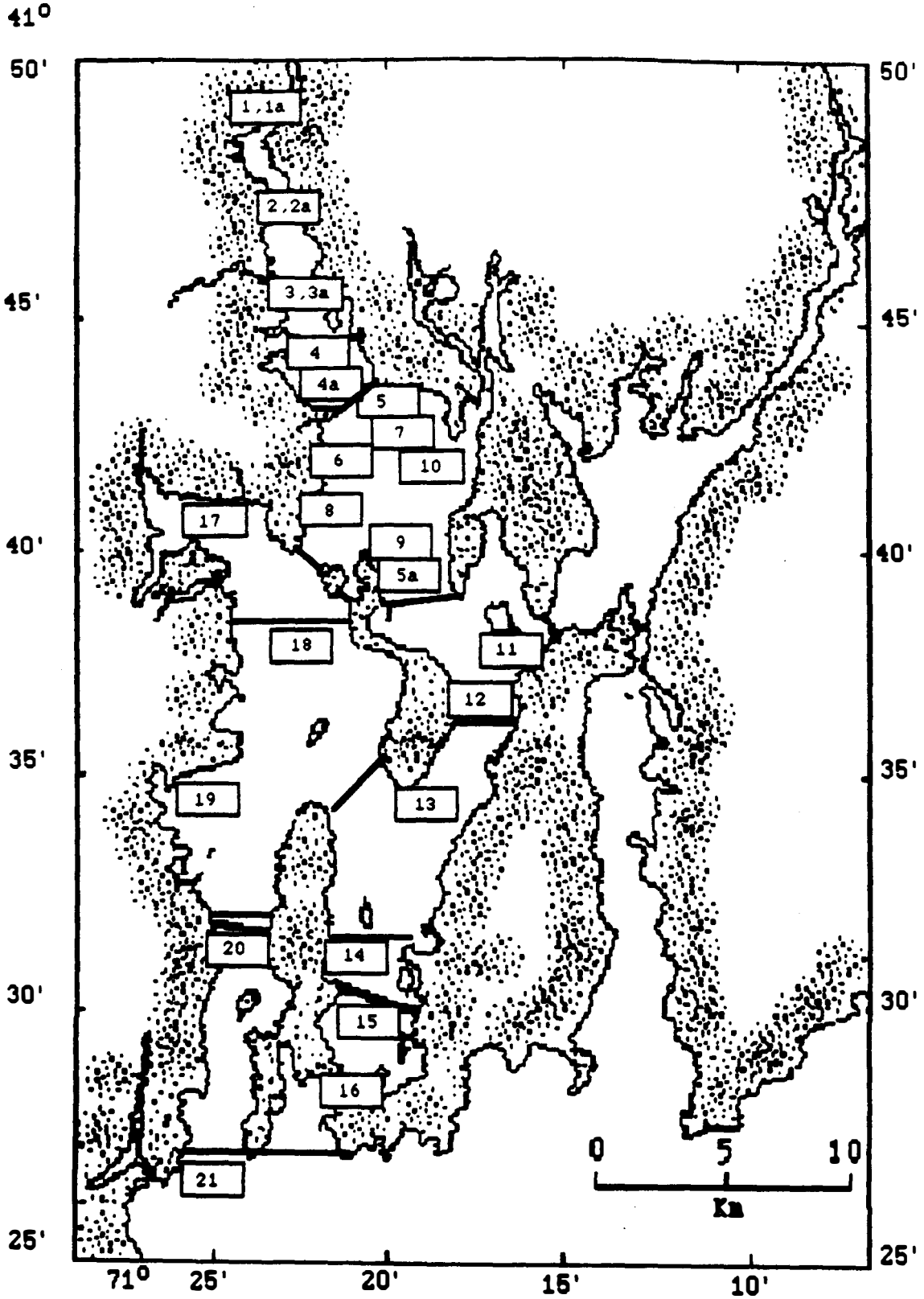


Figure 1. Location of surface sediment stations in Narragansett Bay. (From Latimer et al., 1991.) When two numbers are reported, the second is labeled with a letter and represents samples collected one year later; for example, station 1 (1985) and station 1a (1986).

obtained by diver and the top 0.5 cm (including the surface flocculent layer) was carefully scraped and stored in glass jars at -20 °C until analyzed. Longer core samples were also collected by diver at four sites (Fox Point, Fields Point, Conimicut Point and Ohio Ledge) in June, 1986 by forcing a polycarbonate tube (7 cm diameter) into the sediment. These cores (30-60 cm in length), were stored at -20 °C until they were sectioned and analyzed.

The other samples analyzed in this study were collected by John King (sediment cores and sediment trap material) and Sheldon Pratt (Mercenaria mercenaria samples). Complete details on the collection and processing of these samples can be found in the appropriate chapters of the final report (King et al., 1991, King et al., 1992). The sediment core sections and trap material (in glass jars) and intact clams (wrapped in aluminum foil) were stored at -20°C until analyzed.

2. Analyses

In general, the samples were extracted with methanol (sediments) or methanobic KOH (clam samples) to isolate the organic contaminants. After solvent exchange into hexane, the extracts were separated into 3 fractions using silica gel column chromatography (Figure 2). The organic contaminants in the different fractions were measured by glass capillary gas chromatography (GC) relative to internal standards,and the results from selected samples were confirmed by combined gas chromatography/mass spectrometry (GC/MS). The analytical methods have been described in detail by Latimer (1989), Latimer et al. (1990a, 1990b, 1991, 1992), LeBlanc (1989), LeBlanc et al. (1992), Pruell et al (1984), and Pruell and Quinn (1985). Our quality assurance plan has been completely outlined in the work/quality assurance document for this investigation (King, 1988) and a copy is included in the Appendix A of this report. Some of the major features of the plan are as follows:

a) Precision. The precision of our procedures was measured as the relative standard deviation (RSD) of triplicate analyses, which were conducted on selected samples over the course of the project. In most cases, the RSDs were 10% or better.

b) Accuracy. The accuracy of our procedures is measured as percent recovery of a standard mixture (containing petroleum hydrocarbons, PAHs, PCBs, phthalates and coprostanol)

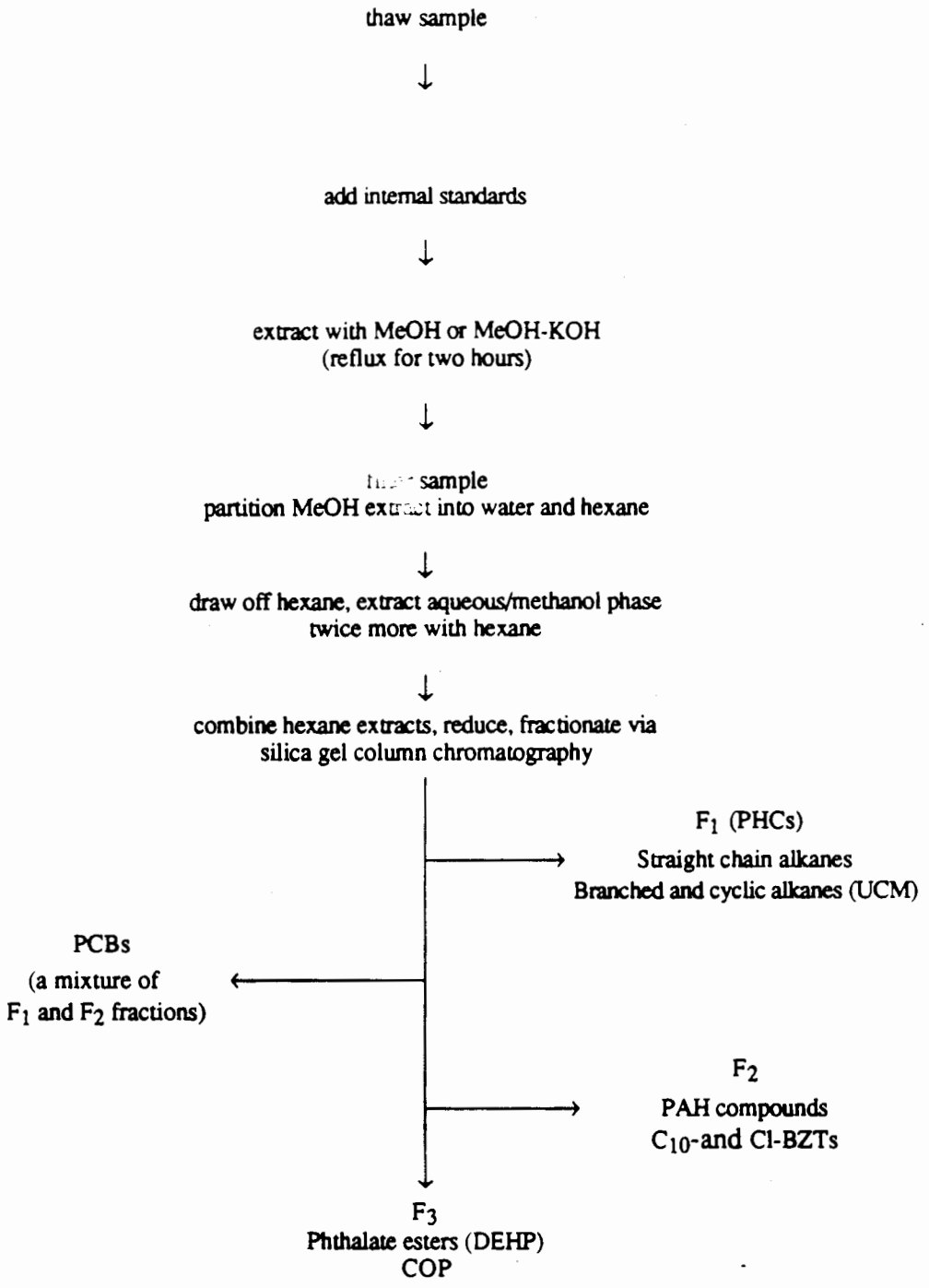


Figure 2. Flow chart of the procedures for the extraction and separation of organic contaminants in sediment trap material, sediments and hard shell clams (From LeBlanc, 1989). F_1, F_2 and F_3 are the three fractions isolated from column chromatography.

spiked into blank samples at concentrations similar to the lower values that were determined in the field samples. These fortified blanks were analyzed over the course of the project. In most cases, the recoveries were within 80-120 percent of the concentration in the spike mixture, and in many cases the values were within ±10%. In addition, accuracy was also measured as percent recovery of specific organics in Standard Reference Materials (SRM), including NBS SRM 1649. (Urban Dust-PAHs) and Canadian NRC SRM HS-2 (PCBs in marine sediment) carried through the entire analytical procedure. This was done several times over the course of the project, and most of the recoveries were within 70-130 percent of the stated values, and many were within ±10% of this value.

c) Comparability. The samples were collected, prepared, and analyzed using established procedures that the Organic Geochemistry Laboratory at the Graduate School of Oceanography has used over the past 15 years. These procedures have been thoroughly tested and used in several successful intra- and interlaboratory comparisons. In addition, most of these procedures have been reported in over 70 articles which have been published in refereed scientific journals such as those listed in the reference section.

d) Limit of detection. The detection limits for our FID-GC analyses were between 0.01 and 1.0 ug/g, depending on the specific component (e.g. individual PAH or total PHCs) being measured in sample. Values below these levels are reported as none detected (N.D.). In the case of ECD-GC analyses, the detection limits are between 0.1 and 1.0 ng/g, depending on the specific component measured. The detection limits of our analyses for a 1-10 g (dry weight) sample are usually as follows:

Component	Detection Limit (dry weight basis)
PHCs (total)	1 µg/g
PAHs (individual PAH)	10 ng/g
PCBs (total)	1 ng/g
PCBs (individual congener)	0.1 ng/g
COP	10-40 ng/g

BZTs (individual BZT)	10 ng/g
DEHP	10-40 ng/g

III. RESULTS AND DISCUSSION

The complete data sets are included in the appendix of this report. However, for discussion purposes, only representative sections of the data were selected in order to illustrate spatial and temporal trends, and to describe geochemical processes. The criteria for selection of specific components were as follows:

a) They have been measure[d] in other studies (e.g. suspended solids, S.S.);

b) They represent different c[hem]ical classes.(For example, pyrene (Pyr) and fluoranthene (Flr) are important PAHs, Aroclor (Ar) 1254 is a major PCB mixture, CB 101, 138 and 209 are major PCB congeners, and DEHP is a common phthalic acid ester;

c) They are regulated under EPA water quality criteria (e.g., PCBs);

d) They are useful in tracing specific sources of contamination (e.g., COP is an indicator of municipal sewage discharges and BZTs are specific to the discharge of a chemical plant on the Pawtuxet River over known periods of time).

1. Sediment Trap Materials.

a) Variability of trap materials

Sediment trap materials were collected about 1.5 m above the sediments at five locations during March 20th to April 13, 1989 (King et al., 1991). At the Pawtuxet Cove station, samples were also collected from March 10-20th. Most sediment trap collections consisted of six different samples (A, B, C, D, center and Gardner traps - Figure 3). The variability in the organic contaminant analyses of these samples is presented in Table 1. For example, the precision of the first Pawtuxet Cove trap samples (Ptux Cv 1, 3/10/89) ranged from an RSD of 20% for Ar 1254 to 53% for pyrene (Pyr). Based on the average environmental variation of particulate samples from the Blackstone River (Quinn et al., 1987) and Pawtuxet River (Quinn et al., 1985), several of the sediment trap samples exceeded the expected variability for some of the contaminants (i.e. RSDs

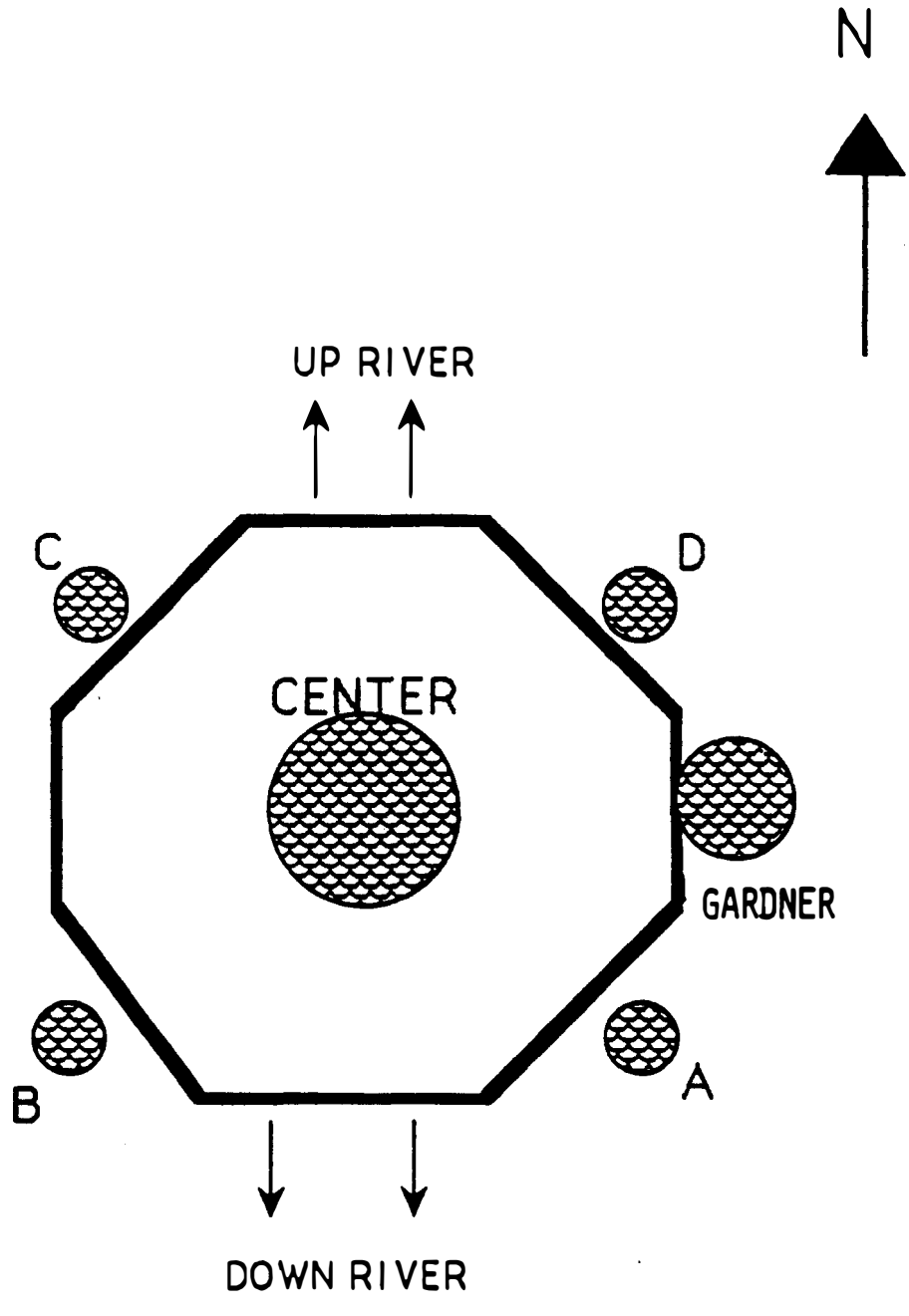


Figure 3. Design of the sediment trap array used in this study. (From King et al., 1991.)

Table 1. Comparison of the variability in concentrations between the sediments collected in the six different traps. Variations are expressed as the relative standard deviations from the means (%). Locations are: Pawtuxet Cove, Fields Point, Fox Point, Conimicut Point and Ohio Ledge.

	Ptux. Cv. 1	Ptux. Cv. 2	Fields Pt.	Fox[a] Pt.	Con. Pt.	Ohio Ledge
PHCs	29	NA	27	5.6[b]	NA	NA
Ar 1254	20	32[c]	NA	6.8[d]	NA	NA
PYR	53	27	20	4.2	28	28
C_{10}-BZT	41	42	38	16	49	40
Cl-BZT	43	64	33	19	45	37
C_{10}/Cl BZT	16	37	8.7	18	17	7.5
Mass[e]	74	32	49	21	65	46

[a]Fox Point trap did not include trap B due to inadequate sample;

[b]excludes traps A, D and center overflow which were not analyzed;

[c]trap B and Gardner comparison only;

[d]excludes center trap which was not analyze.

[e]preliminary data (J. King et al., 1991).

NA = not analyzed.

greater than: PHCs = 50%, PAHs = 35%, Ar 1254 and BZTs = 20%). However, given the variability of direction, changes in flow rate and time of sampling, this is not surprising.

The results of the analyses of individual sediment trap samples from Pawtuxet Cove #1 are shown in Figure 4. Pyrene, C_{10}-BZT and Cl-BZT showed the greatest variability, and these contaminants were generally higher in concentration in the C, D traps (combined due to small sample size). In contrast, the Fox Point traps (Figure 5) showed the least variability

For most of the locations, the RSDs for PHCs, and Ar 1254 did not exceed the expected levels indicated above; however, BZTs were variable for all sites (Table 1). The C, D and Gardner traps showed the highest concentrations at most of the locations. At Fox Point, there were no significant variations for any of the contaminants in the six traps and the Gardner trap sample values were very close to the average values (Figure 5). Therefore, based on these results and the recommendation of John King (personal communication), the Gardner trap samples were selected to be representative of the sediment trap materials and were the only trap samples analyzed at all five locations.

b) Comparison with previous data

A comparison of organic contaminants in sediment trap materials and other samples from Narragansett Bay is shown in Table 2. The sediment trap samples showed a trend of decreasing concentration for all components (except the BZTs) from Fox Point to Ohio Ledge suggesting that the source(s) of these contaminants were the upper river and/or its tributaries which converge at Fox Point. Since the BZTs only enter the Providence River via Pawtuxet Cove (Pruell and Quinn, 1985), their concentrations are highest at the stations closest to the point of entry - i.e. Fields Point or Conimicut Point. This same trend has been observed in surface sediments from the Providence River (Table 2). In general, the agreement between the results from the present sediment trap study and older suspended solids data (1985-86) is quite good. However, the PHC concentrations reported by Schultz and Quinn (1977) are considerably higher than the more recent values. This may indicate a substantial decrease in concentration over the 12 years between the investigations or it may be due to differences in the sample collection procedures and analytical methods used in

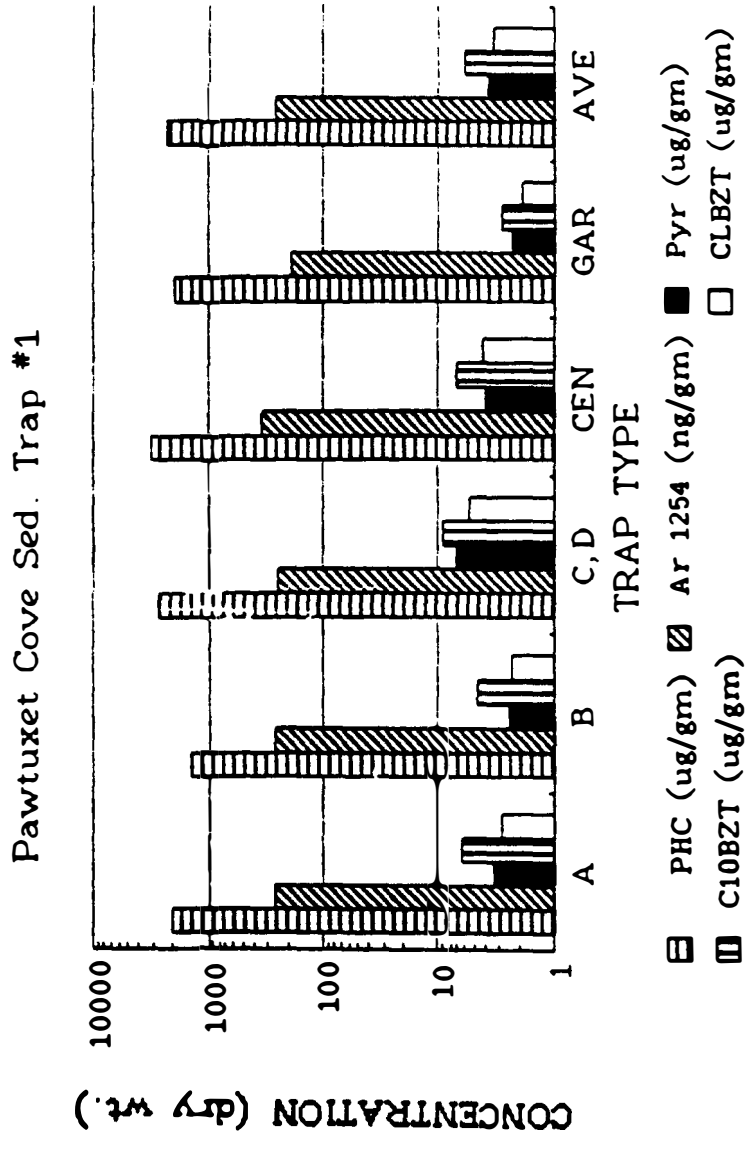


Figure 4. Concentrations of organic contaminants in sediment trap samples form Pawtuxet Cove trap #1.

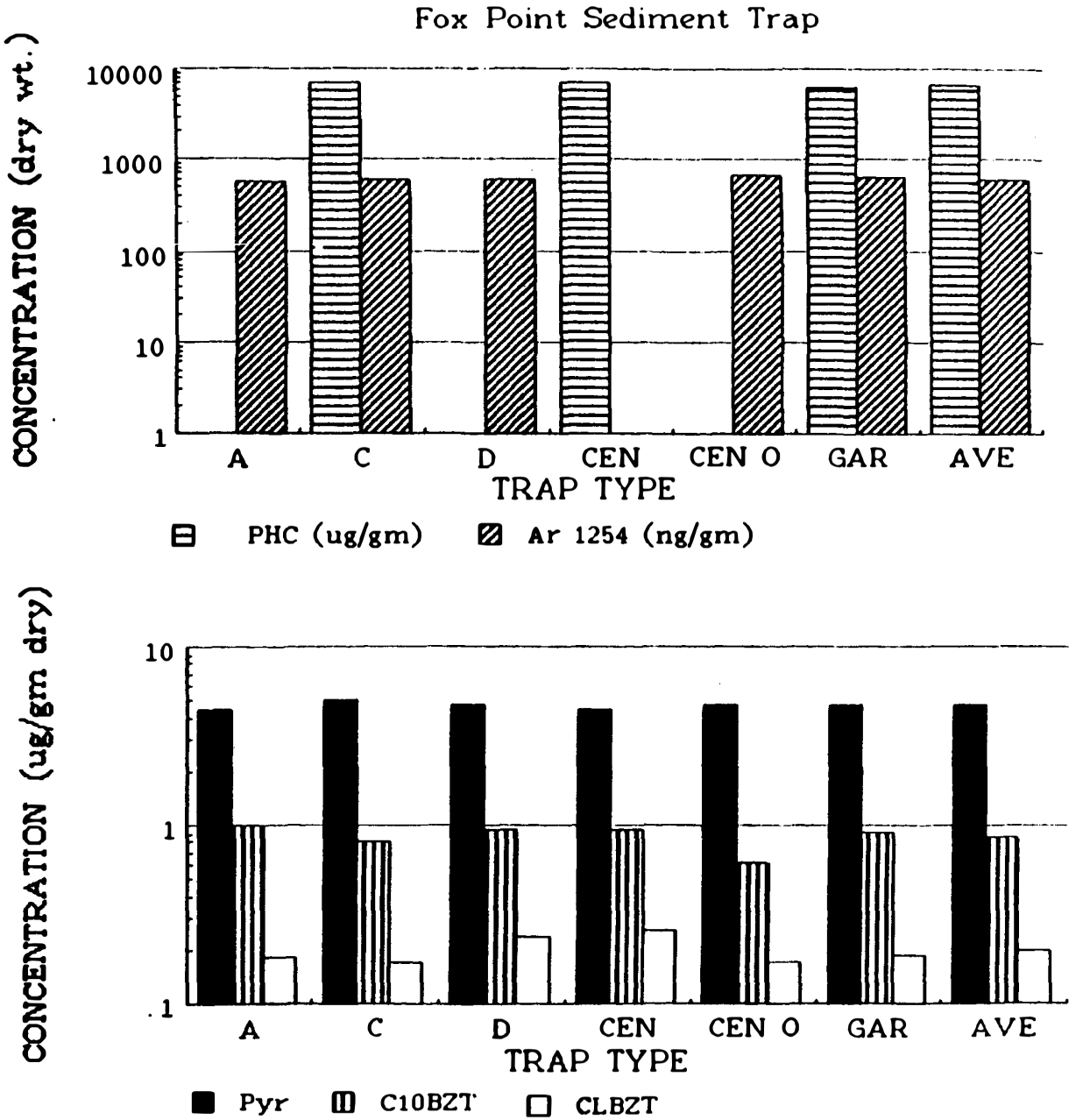


Figure 5. Concentrations of organic contaminants in sediment trap samples from Fox Point. (CEN is the center trap overflow.)

Table 2. Comparison of sediment trap data with other data in Narragansett Bay

	µg/gm PHCs	ng/gm Ar 1254	ng/gm CB 101	ng/gm CB 209	µg/gm PYR	µg/gm C_{10}-BZT	µg/gm Cl-BZT	C_{10}/Cl BZT
			(concentration - dry weight basis)					
Sediment Traps [1](bottom waters, 1989 - this study)								
Fox Pt.	6220	638	57.8	19.0	4.8	0.91	0.19	4.8
Fields Pt.	4110	294	23.8	12.3	3.2	1.41	0.59	2.4
Con. Pt.	861	89	7.2	3.6	1.3	0.64	0.25	2.6
Ohio Ledge	630	102	7.8	2.7	0.6	0.39	0.12	3.2
TSS. (surface waters, 1985-86 - Quinn et al., 1988)								
Fox Pt.	5860	1100	110	17.0	2.8	ND	ND	ND
Con. Pt.	3710	896	96	13.0	1.3	ND	ND	ND
W. Passage	1670	329	16	3.0	0.8	ND	ND	ND
E. Passage	2540	1040	116	13.0	1.4	ND	ND	ND
TSS (bottom waters, 1985-86 - Quinn et al., 1988)								
Fox Pt.	4210	809	78.0	20.0	2.2	ND	ND	ND
Con. Pt.	1320	202	19.0	7.0	1.1	0.10	0.03	3.1
W. Passage	1200	515	53.0	8.0	0.9	ND	ND	ND
E. Passage	1250	332	45.0	10.0	1.4	ND	ND	ND
TSS (surface waters, 1977 - Schultz and Quinn, 1977)								
Fox Pt.	34,800	NA	NA	NA	NA	NA	NA	NA
Fields Pt.	15,000	NA	NA	NA	NA	NA	NA	NA
Con. Pt.	9,100	NA	NA	NA	NA	NA	NA	NA
Ohio Ledge	3,400	NA	NA	NA	NA	NA	NA	NA
Surface sediment (top 0.5 cm, 1985-86 - Appendix C)								
Fox Pt.[2]	4270	1170	93.4	29.5	4.8	1.54	0.38	4.0
Fields Pt.[3]	2250	551	33.9	15.4	1.0	8.46	1.29	6.6
Con. Pt.[4]	659	108	9.4	4.4	0.46	4.37	0.77	5.7
Ohio Ledge[5]	587	198	15.8	10.3	0.36	2.94	0.41	7.2
Sediment Cores (0-10 cm, Van Vleet and Quinn, 1978)								
Fox Pt.	1410	NA	NA	NA	NA	NA	NA	NA
Fields Pt.	5410	NA	NA	NA	NA	NA	NA	NA
Con. Pt.	570	NA	NA	NA	NA	NA	NA	NA
Sediment Cores (Pruell, 1984)								
Fox Pt.[6]	**8320**	NA	NA	NA	5.3	3.8	0.51	7.5
Fields Pt.[6]	**2490**	NA	NA	NA	0.83	2.6	0.35	7.4
Con. Pt.[6]	**1500**	NA	NA	NA	0.75	7.6	1.4	5.4
Ohio Ledge[7]	612	NA	NA	NA	0.63	0.86	0.21	4.1
Sea Grant Cores (0-2.5 cm, 1986 - Appendix D)								
Fox Pt.	NA	1020	76.7	22.9	6.4	1.34	0.32	4.2
Fields Pt.	1730	379	35.5	14.2	1.5	6.43	1.26	5.1
Con. Pt.	1240	359	26.7	11.1	0.79	10.8	2.20	4.9
Ohio Ledge	868	167	12.8	7.3	0.47	2.87	0.57	5.0

[1]Gardner Trap; [2]St. 1, 1a; [3]St. 2, 2a; [4]St. 4, 4a; [5]St. 5a; [6]0-5 cm; [7]0-2.5 cm; NA = not analyzed; ND = none detected.

these studies. Thus, it is difficult, if not impossible, to determine if changes in suspended sediments have really occurred, based on the limited number of samples and procedural differences in the two studies.

c) Comparison with surface sediments

The relationship between contaminant concentrations in both sediment trap material and surface sediments vs distance from Fox Point is illustrated in Figures 6 and 7, and they show a trend of decreasing concentration with distance from Fox Point. For the PHCs, Ar 1254 and CB 209, the relationships (based on R^2 values) for the trap material is somewhat better than for the sediments. Also, the apparent rate of decrease in concentration is sometimes higher for the trap material (in this case, PHCs - Figure 6), perhaps due to fairly rapid settling of larger contaminant particles in the Providence River and upper bay. (Pruell and Quinn, 1985).

In the case of BZT concentrations and their ratios (C_{10}-BZT/Cl-BZT), the relationship shows a maximum concentration of both BZTs (Figure 8a) and a minimum ratio in trap material (Figure 8b) at a station about 7 km south of Fox Point, i.e. Pawtuxet Cove. As previously indicated, this trend with distance is due to the source of the BZTs to the Providence River (Pawtuxet River via Pawtuxet Cove). The BZT ratio indicates a change in the relative amounts of the two compounds over the 7 km distance from the point of entry because the sample collected in Pawtuxet Cove has a relatively larger amount of Cl-BZT than the other samples, thereby giving the lowest C_{10}/Cl ratio. It is interesting to note that the ratio for sediment trap material from the Pawtuxet River in May 1989 was 1.1 (Table 3). Particulate samples collected at the mouth of the river gave values of 1.0 for October 1988 and 2.0 for May 1989 (Latimer et al., 1992). These values are generally lower than any other particulate values reported in Table 3 and suggest that the Pawtuxet River is the source of the material in the Pawtuxet Cove trap with a ratio of 1.5 (Figure 8b). One possible explanation for the concentration trend is that suspended material from the Pawtuxet River, is transported both up the Providence River (towards Fox Point) and down the river (towards Conimicut Point) depending on the tidal cycle. Thus, the expected concentration trend with distance would be similar to that shown in Figure 8a with a maximum at the entrance of

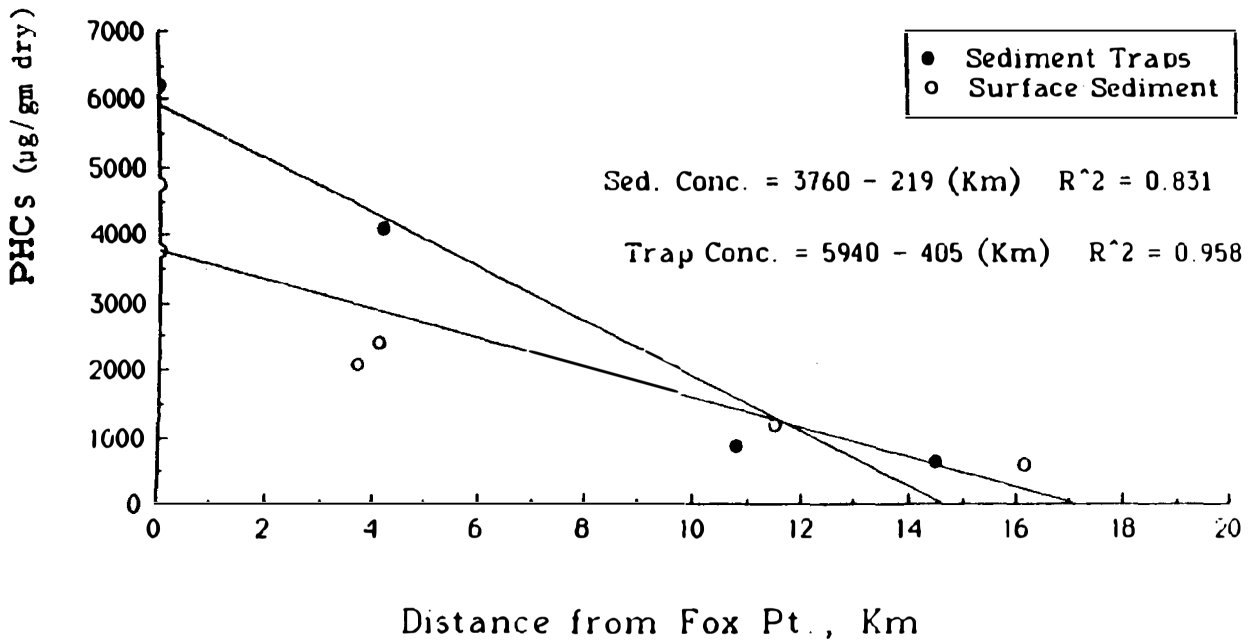
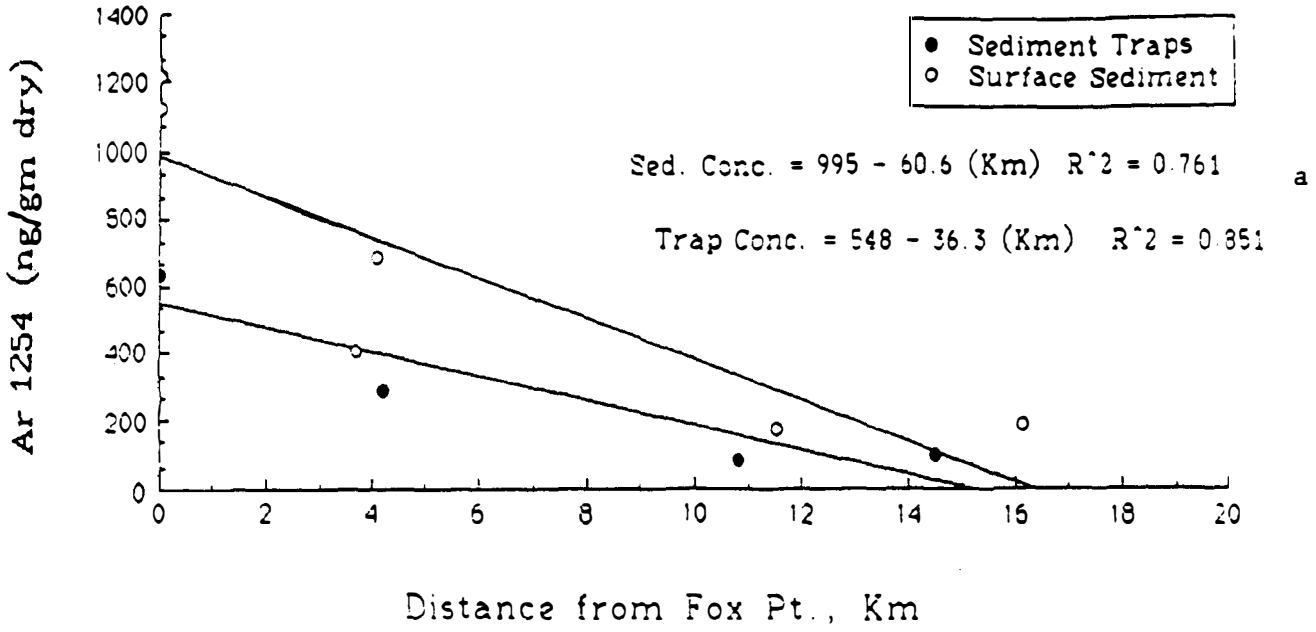


Figure 6. Concentrations of PHCs (ug/g dry) in sediment trap samples and surface sediments vs distance from Fox Point.



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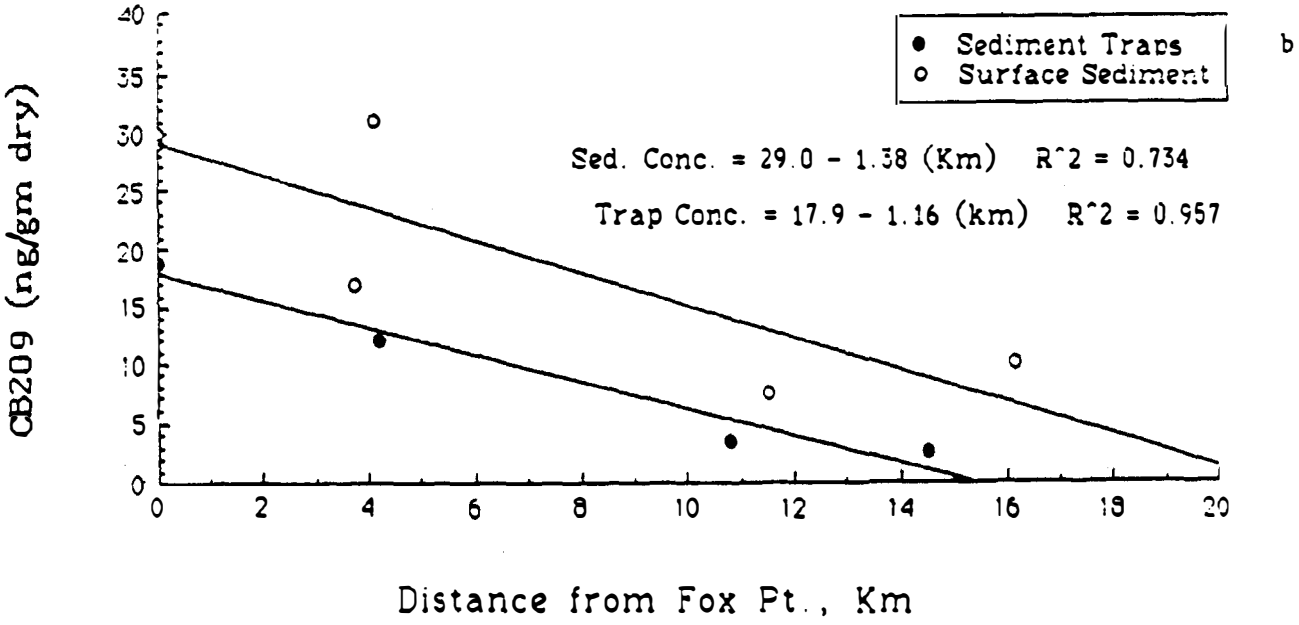
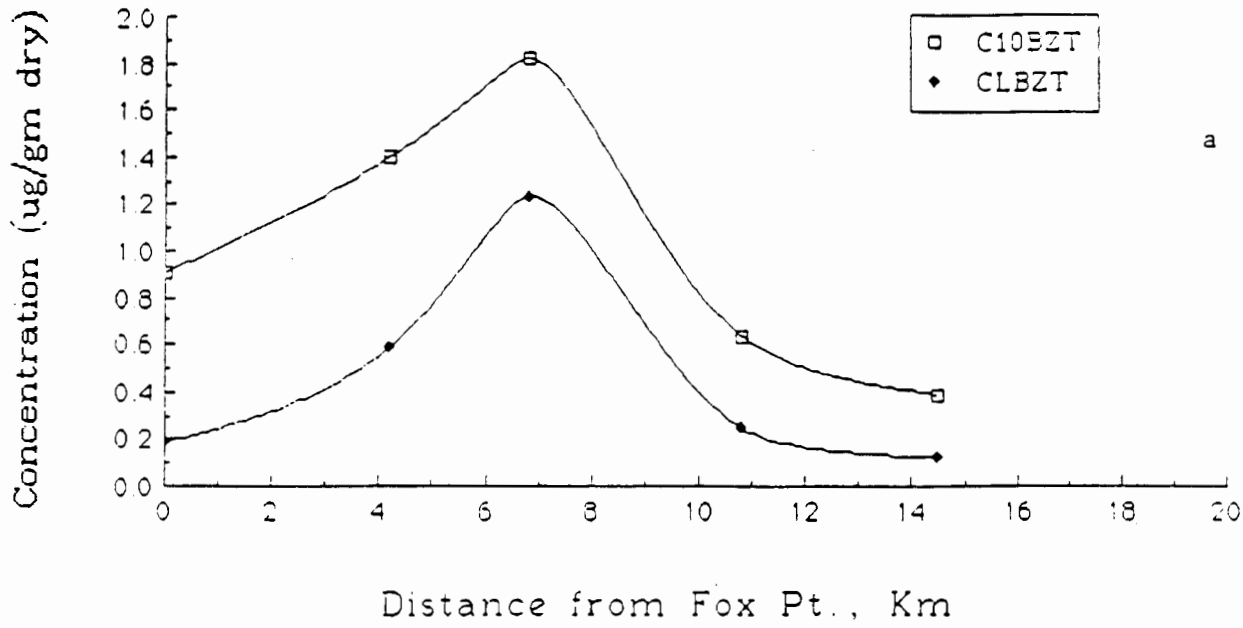


b

Figure 7. Concentrationsof Ar1254 (a) and CB209 (b) in sediment trap samples and surface sediments vs distance from Fox Point.



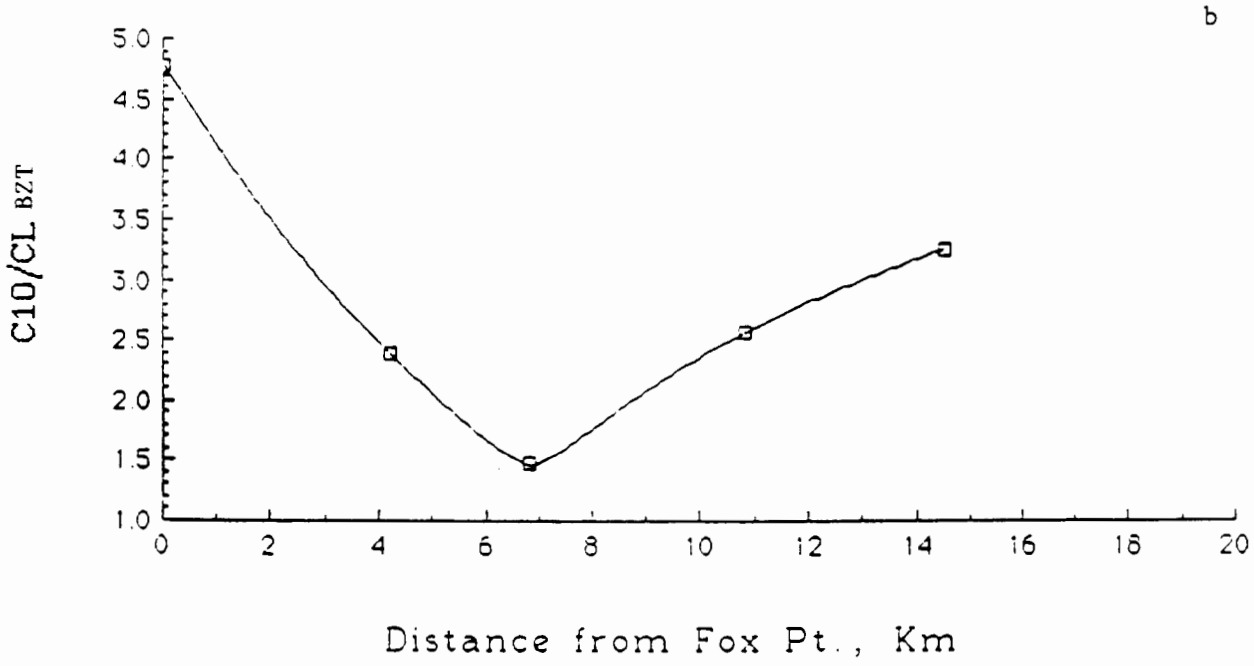


Figure 8. Concentrations (a) and ratio (b) of BZTs in sediment trap samples vs distance from Fox Point.

Table 3. Comparisons of C_{10}/Cl BZT ratios from various studies with sediment trap results.

Site/type	Ptux. River	Ptux. Cv.1	Fox Pt.	Fields Pt.	Con. Pt.	Ohio Ledge
Gardner sed. traps	1.1	1.5	4.8	2.4	2.6	3.2
TSS (bottom waters)[1]			ND	ND	3.1	ND
Surface Seds.[2]			4.0	6.6	5.7	7.2
Surface Seds.[3]			7.6	7.5	5.5	4.1
Surface Seds.[4]	0.1					
Surface Seds.[5]		3.1				
Surface Seds.[6]	2.2					
Surface Seds.[7]	0.1					

[1]Samples collected during bay wide cruises 1985-86 (particulate fraction only); Quinn et al., 1988.

[2]The top 0.5 cm of sediment; 1985-86; this study.

[3]The top 5 cm of sediment for Fox Pt., Fields Pt., and Con. Pt.; the top 2.5 cm of sediment for the Ohio Ledge site; 1979-80; Pruell, 1984.

[4]The top 2 cm of a sediment core collected from Rhodes-on-the-Pawtuxet; 1987; this study.

[5]The top 3 cm of a sediment core collected in the cove; 1987; this study.

[6]The top 1 cm of a sediment core collected from Rhodes-on-the-Pawtuxet; 1983; Quinn et al., 1985.

[7]The top 1 cm of a sediment core collected from Rhodes-on-the-Pawtuxet; 1984; Quinn et al., 1985.

ND = none detected.

Pawtuxet Cove to the Providence River and decreasing concentrations towards Fox Point and Conimicut Point.

The relationships between contaminant concentrations in sediment trap material and surface sediments is shown in Figure 9. For Ar 1254, the sediment levels were about twice the trap values, but the correlation was still very good ($R^2 = 0.976$; Figure 9a). Reasons for the differences in concentrations are not clear but some possibilities include the following: dilution of trap material with biogenic particulate matter, relatively rapid chemical and/or microbial degration of some suspended PCBs in the water column, enrichment of surface sediment PCBs from deeper in the sediment via bioturbation and/or colloidal particle transport in interstitial waters.

Considering the relationship for hydrocarbons, the concentration in trap material is about 1.5 times as high in PHCs (Figure 9b) and about equal in pyrene (Figure 9c) relative to the surface sediment. In both cases, the correlations were good ($R^2 > 0.91$, significant at the 95% confidence level). In general, the data support the concept that the chemical composition of particulate material and surface sediments are closely related, and that the former could be a major source of contaminants to the underlying surface sediments (e.g., Figure 9 b and c). It is also possible that resuspended surface sediments could contribute to the particulate material in the water column (e.g., Figure 9a) depending on a number of factors such as bottom currents and bioturbation.

There was a significant relationship between the concentration of Cl-BZT in trap material and surface sediments (Figure 10). However the relationship for the C_{10}-BZT was not as good, and there is presently no explanation for these differences other than that the production of Cl-BZT started in 1963 and ceased in 1972, while that of the C_{10}-BZT started in 1970 and continued to 1985. (The log Kow for both BZTs are essentially the same - Pruell and Quinn, 1985.) Perhaps, the Cl-BZT is more uniformally distributed in particulate material and sediments than the more recently discharged C_{10}-BZT

A comparison of C_{10}-BZT/Cl-BZT ratios from various studies in Narragansett Bay is presented in Table 3. The value for Pawtuxet River sediment trap material is 1.1. Particulate material from this river ranges from 1.0 to 2.0, Latimer et al., 1992). In the case of trap material

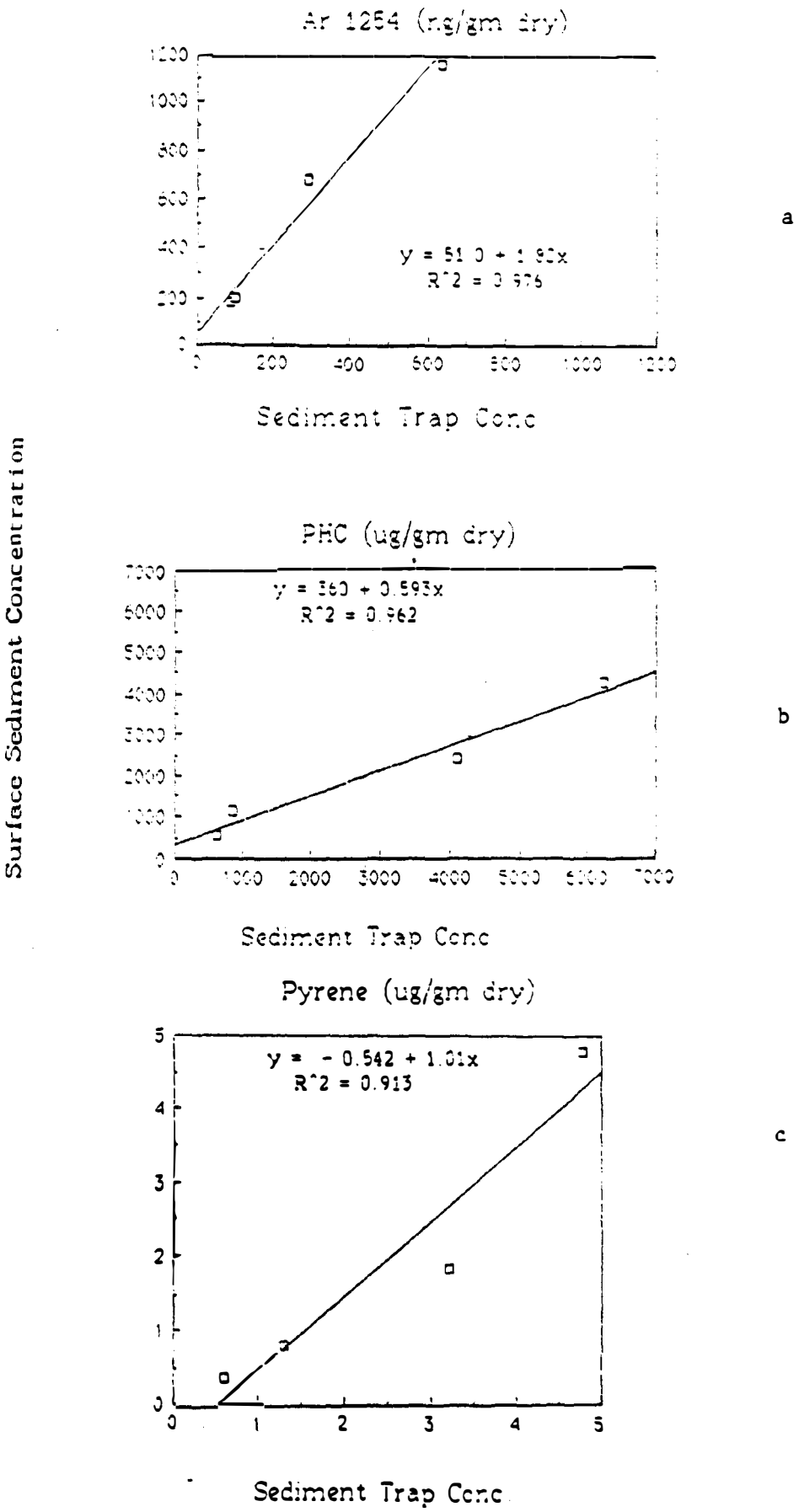


Figure 9. Concentrations of Arl254 (a), PHCs (b) and pyrene (c) in sediment trap samples vs surface sediments.

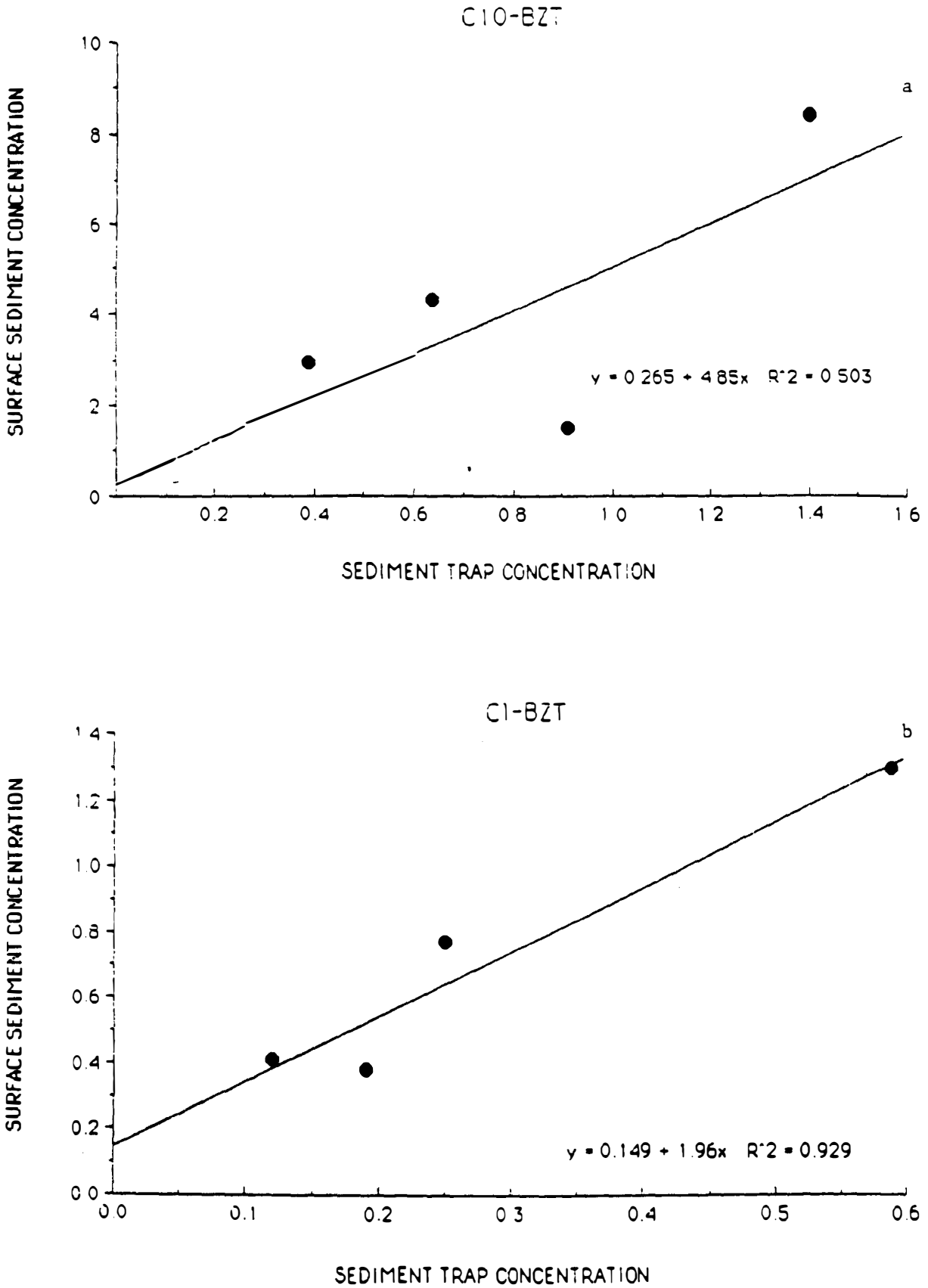


Figure 10. Concentrations (ug/g dry) of C_{10}-BZT (a) and C1-BZT (b) in sediment trap samples vs surface sediments.

from other locations, there seems to be a trend of increasing values with distance from Pawtuxet Cove (ratio = 1.5). However, the Fox Point value (4.8) seems high relative to that at Ohio Ledge (3.2) which is about the same distance away from Pawtuxet Cove. The values at Fields Point and Conimicut Point are about the same. (The ratio in TSS from bottom water at Conimicut Point is in good agreement with the trap sample, but this is probably fortuitous and not the result of any constant process since the samples were collected some four years apart.)

Changes in the BZT ratio of trap material may be due to a number of reasons including: the preferential retention of the C_{10}-BZT and/or loss of Cl-BZT due to various biogeochemical reactions, and the resuspension of more recent sediments containing higher concentrations of the C_{10}-BZT. This trend would be in agreement with the low ratio in Pawtuxet River surface sediments relative to sediment from the other locations (Table 3) where the ratios generally increase as was found for the trap material. For example, the BZT ratio in surface sediments from Ohio Ledge is 7.2, in the mid-bay it is 8.2 (appendix) and at the west passage the ratio is 9.5 (appendix). This relationship is significant at the 95% confidence level and is shown in Figure 11.

2. Surface Sediments and Clams

a) Sediments

The concentrations of various contaminants in surface sediments from the bay are shown in Figure 12 (PHCs), Figure 13 (total PCBs), Figure 14 (C_{10}-BZT) and Figure 15 (COP). In general, the levels of all pollutants are highest in the Providence River and they decrease exponentially with distance downbay, with the lowest values usually found at the mouth of the bay. This is due to the large number of contaminant discharges to the Providence River including municipal and industrial effluents, CSOs, urban runoff and inputs from tributaries. The major exception is station 15, Newport Harbor in the lower east passage, where the concentrations of PHCs, PCBs and COP are relatively high and similar to some of the upper bay stations. The source(s) of the contaminants at station 15 may be related to sewage effluent, CSO discharges and runnoff to the harbor area.

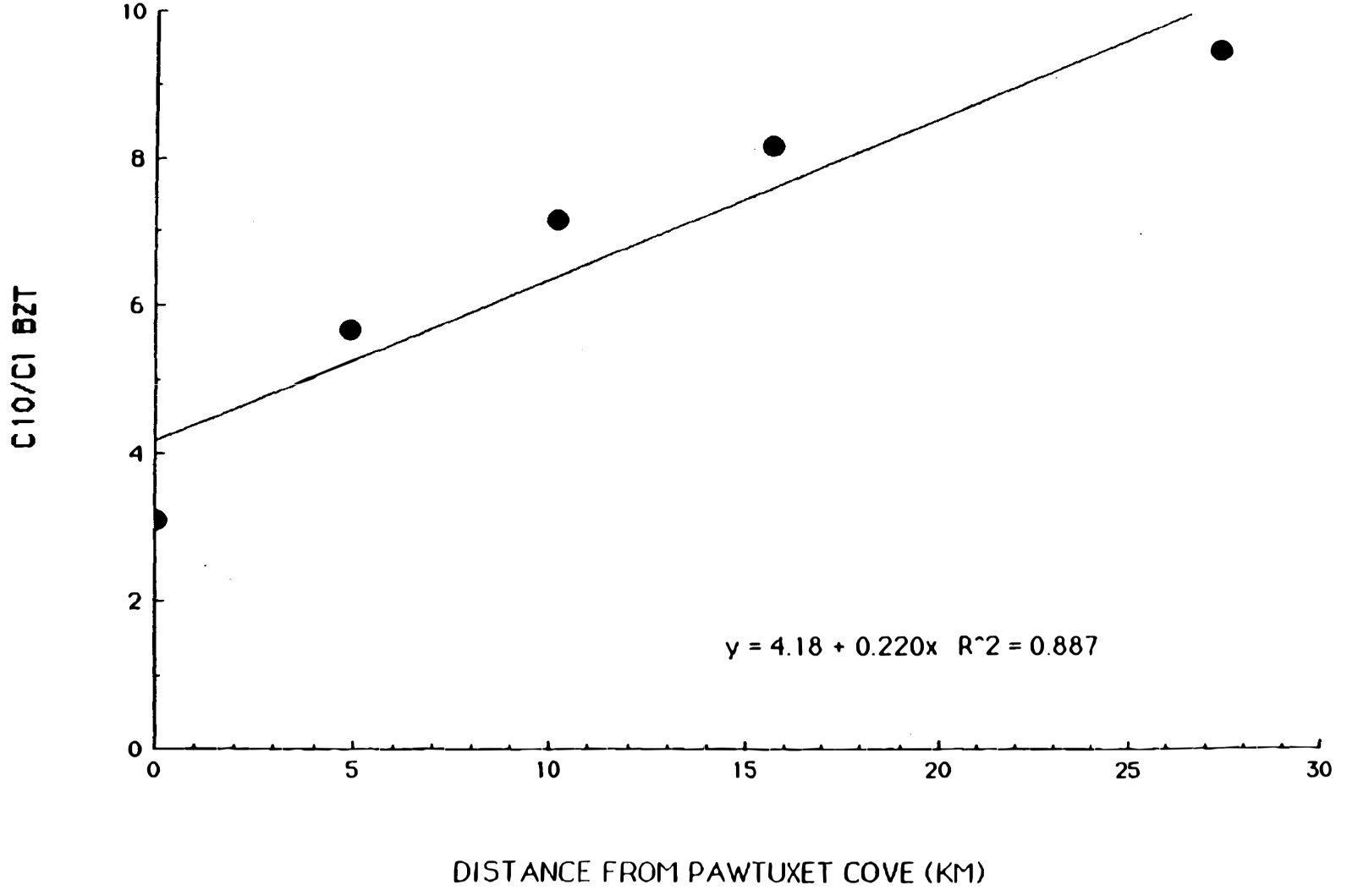


Figure 11. Ratio of BZTs in surface sediments vs distance from Pawtuxet Cove.

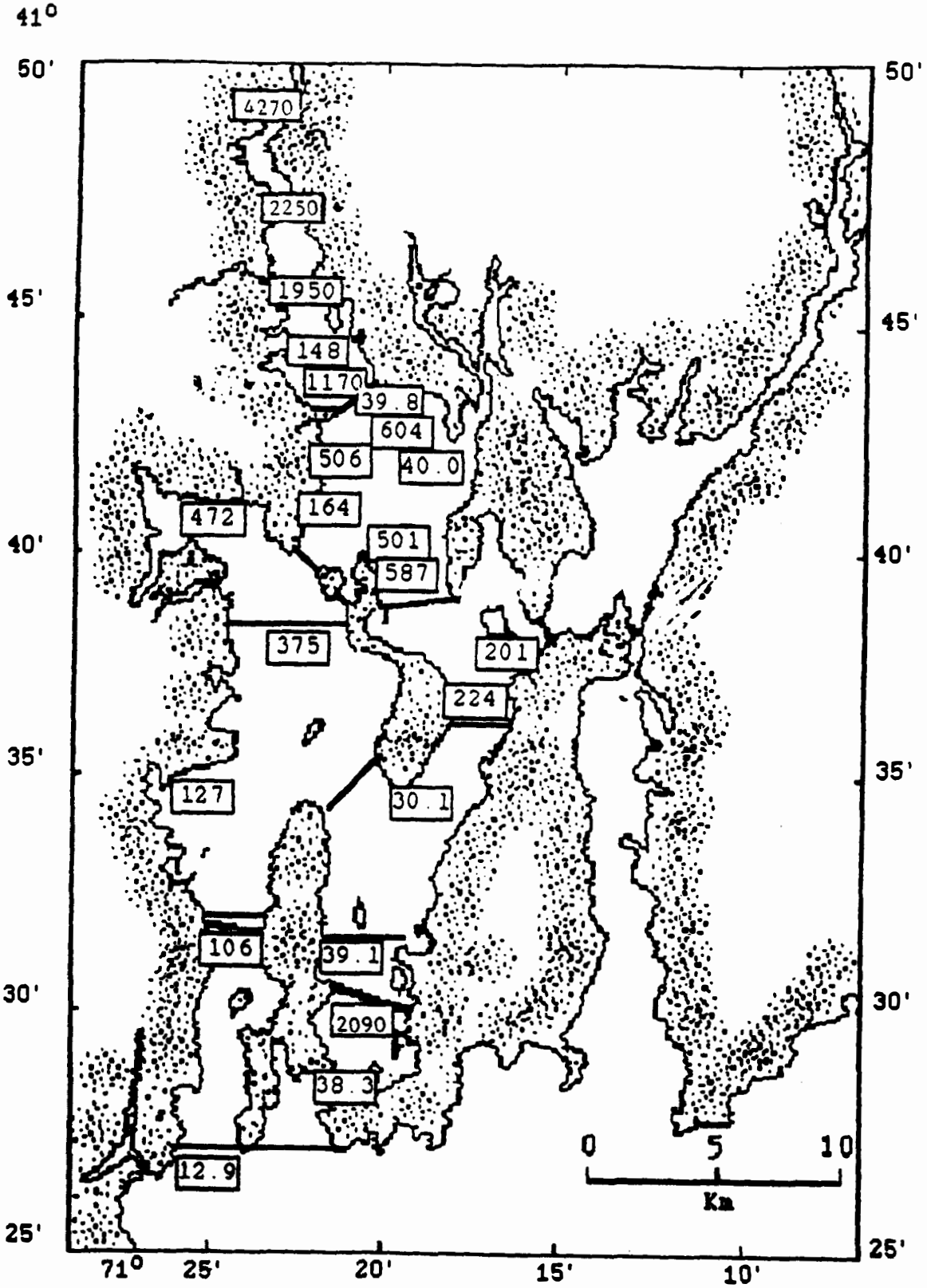
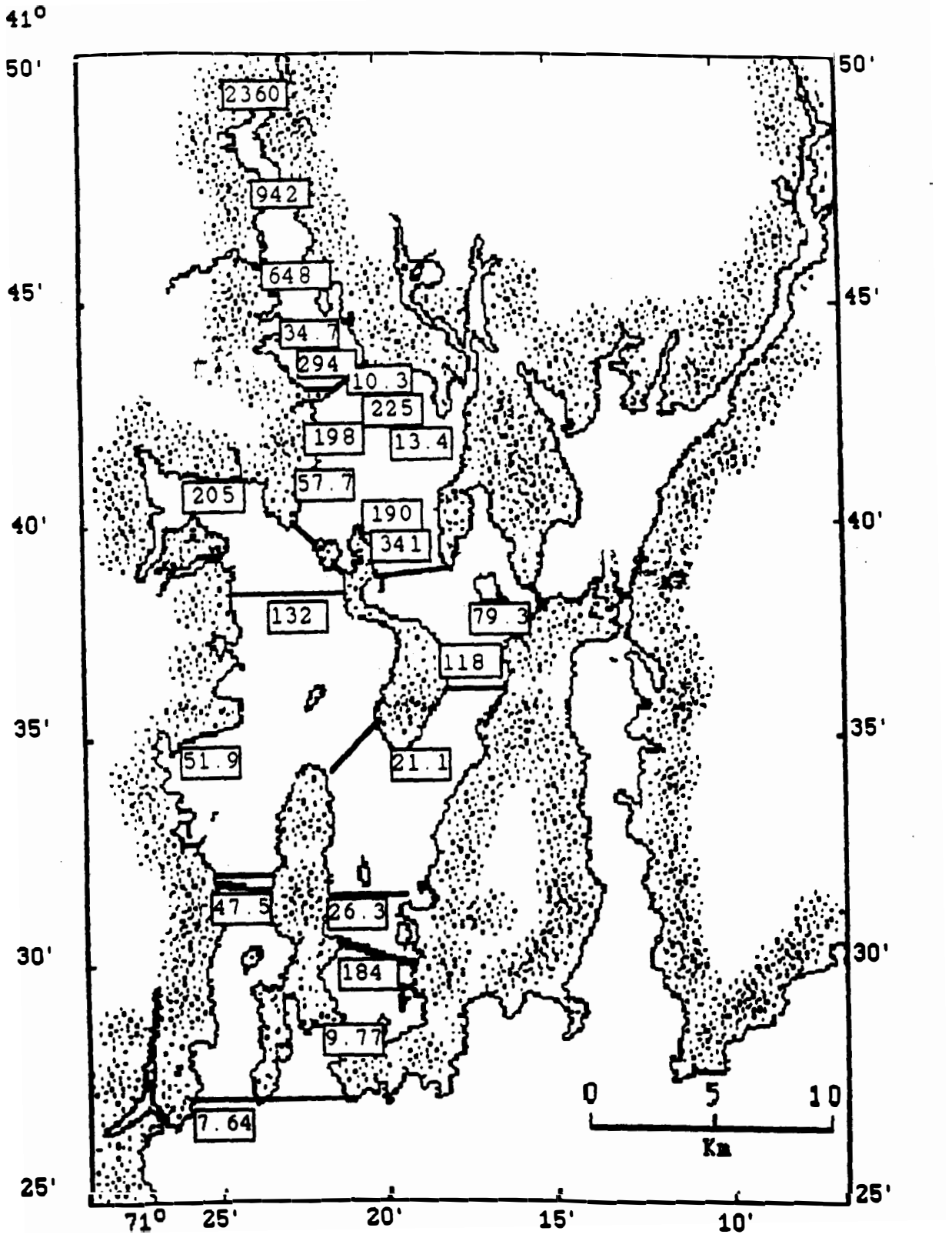


Figure 12. Concentrations of PHCs in surface sediments (µg/g dry) from Narragansett Bay.



* Sum of Ar 1242 + Ar 1254 + Ar 1260 = Total PCBs.

Figure 13. Concentrations of total PCBs in surface sediments (ng/g dry) from Narragansett Bay.

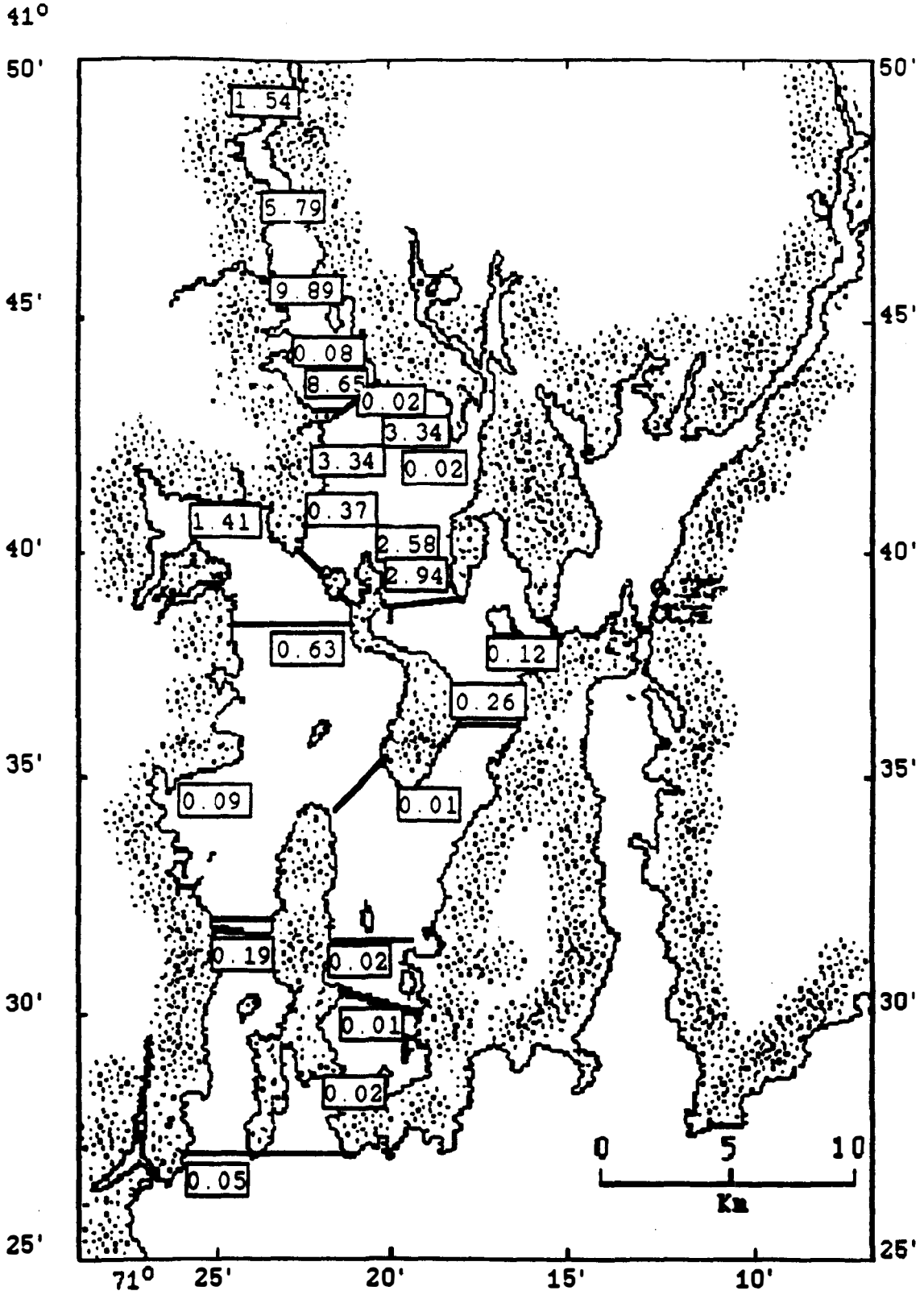


Figure 14. Concentrations of C_{10}-BZT in surface sediment (µg/g dry) from Narragansett Bay.

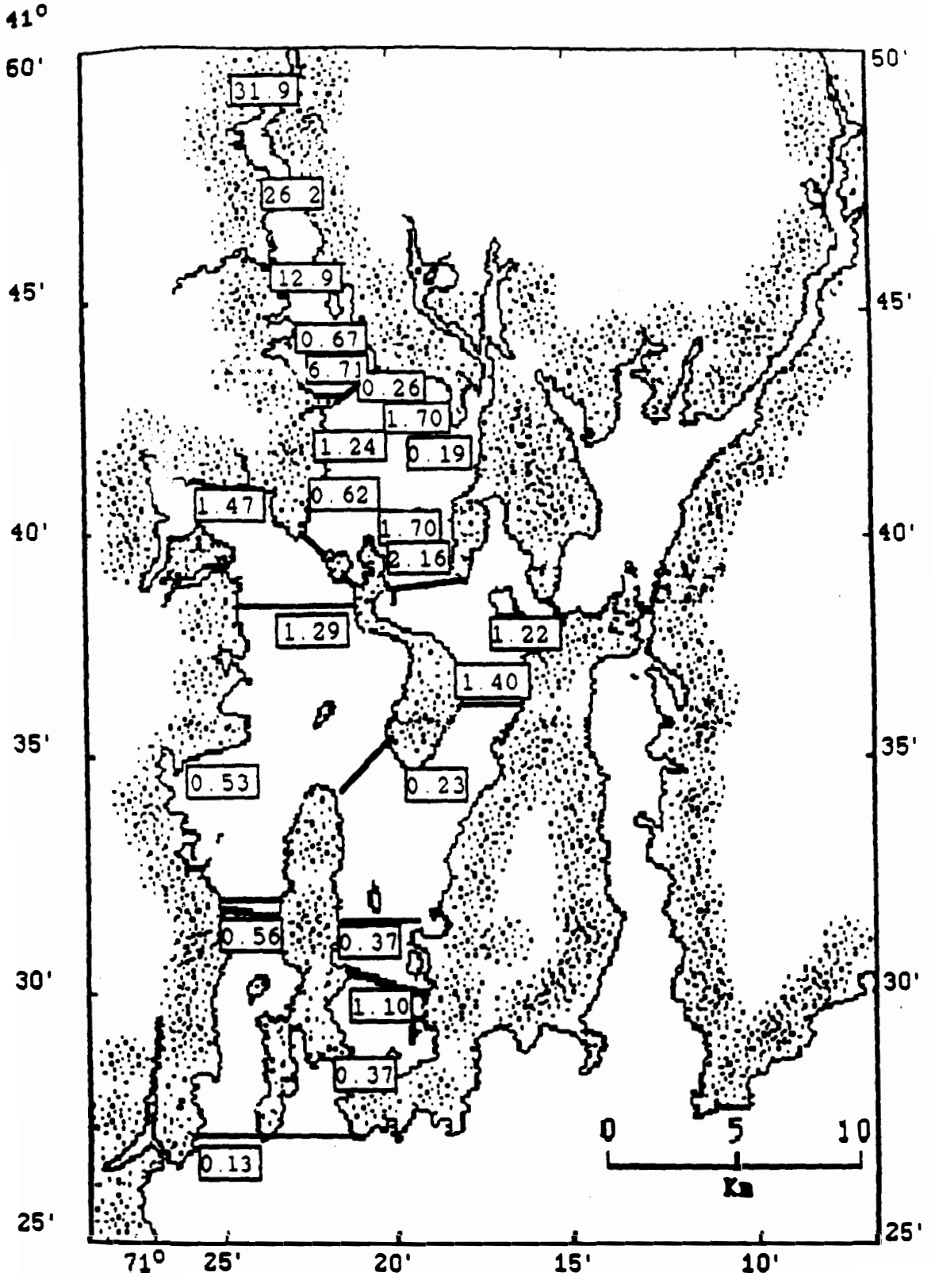
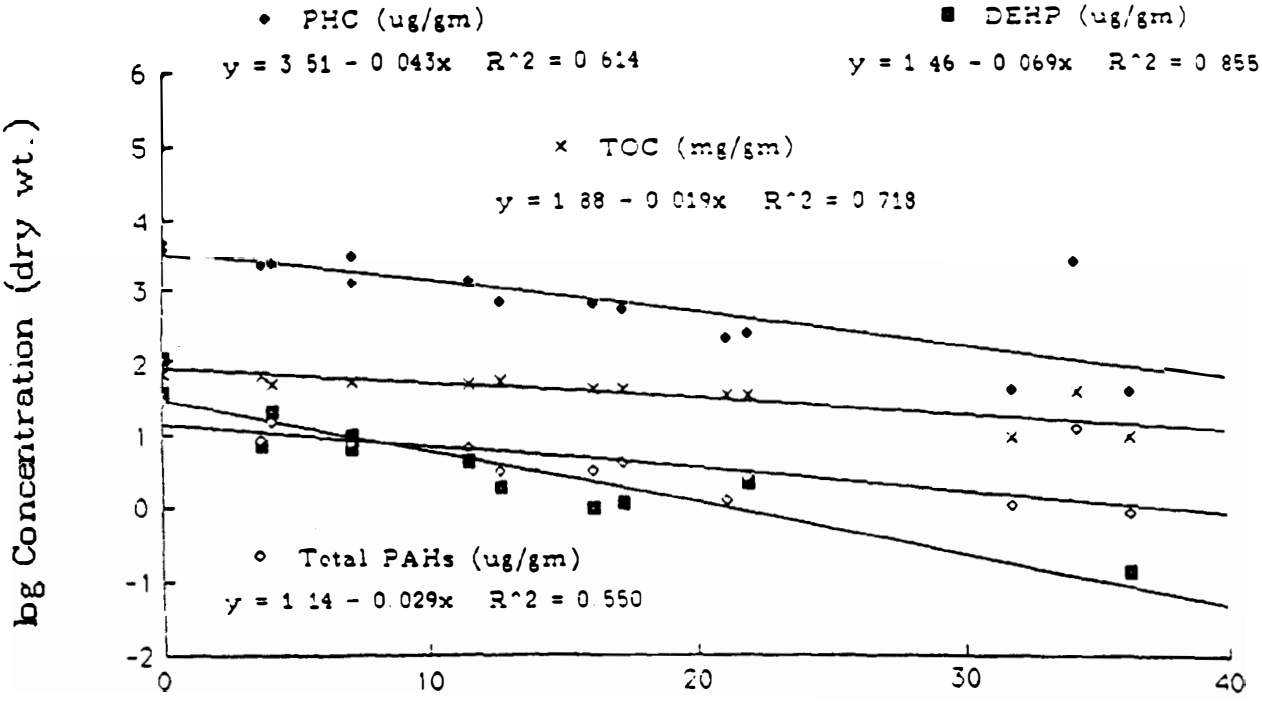


Figure 15. Concentrations of COP in surface sediments (µg/g dry) from Narragansett Bay.

One way of evaluating the distribution of various contaminants in surface sediments is to compare the half distances for these components (defined as the distance in which the initial contaminant concentration at the Fox Point Station, except BZTs which have highest concentrations at Station 3 near Pawtuxet Cove, decreases by 50%; Pruell and Quinn, 1985). It is calculated by plotting the log of the concentration (units/g sediment) vs distance, and determining the slope of the line which is then divided into the log of 2 ($d_{1/2}$ = log 2/slope). The plots of the various contaminants vs distance are shown for the east transect (Figures 16 and 17) and the west transect (Figures 18 and 19) and summarized in Table 4. For comparison, this table also includes the values calculated by Pruell and Quinn (1985) for 9 stations ranging from Fox Point in the Providence River through the west passage (only 2 stations) to Rhode Island Sound. In general, there is good agreement between the older values and those obtained for the west transect in the present study. Normalizing the concentrations to sediment organic carbon did not substantially change the strength of the correlation with distance (LeBlanc, 1989).

A comparison of values for the east and west transects obtained in the present study show some differences (Table 4). For most components (exceptions are BZTs) the half distances are longer in the east transect, suggesting additional sources of contaminants which would reduce the slopes of the lines. This may be due to several reasons including the influence of Newport effluents, different water circulation patterns in the two passages, and possible influences from Mount Hope Bay. Organic carbon has the longest half distance due to a large number of sources throughout the bay, and the BZTs have lowest values since their only source is the Pawtuxet River which empties into the Providence River via Pawtuxet Cove about 7 km south of Fox Point (note concentration maxima for BZTs in Figures 16 and 18). The DEHP in the west transect also has a short half distance suggesting that, like the BZTs, its only source is the Providence River. However, this is unlikely since this phthalate is a common pollutant found in other sources of contamination to the bay. The observed trends for DEHP in the east transect are in agreement with the 1985 data and seem more reasonable. The total PAHs have a longer half distance than the PHCs - possibly because of additional inputs to the mid and lower bay (e.g. atmospheric



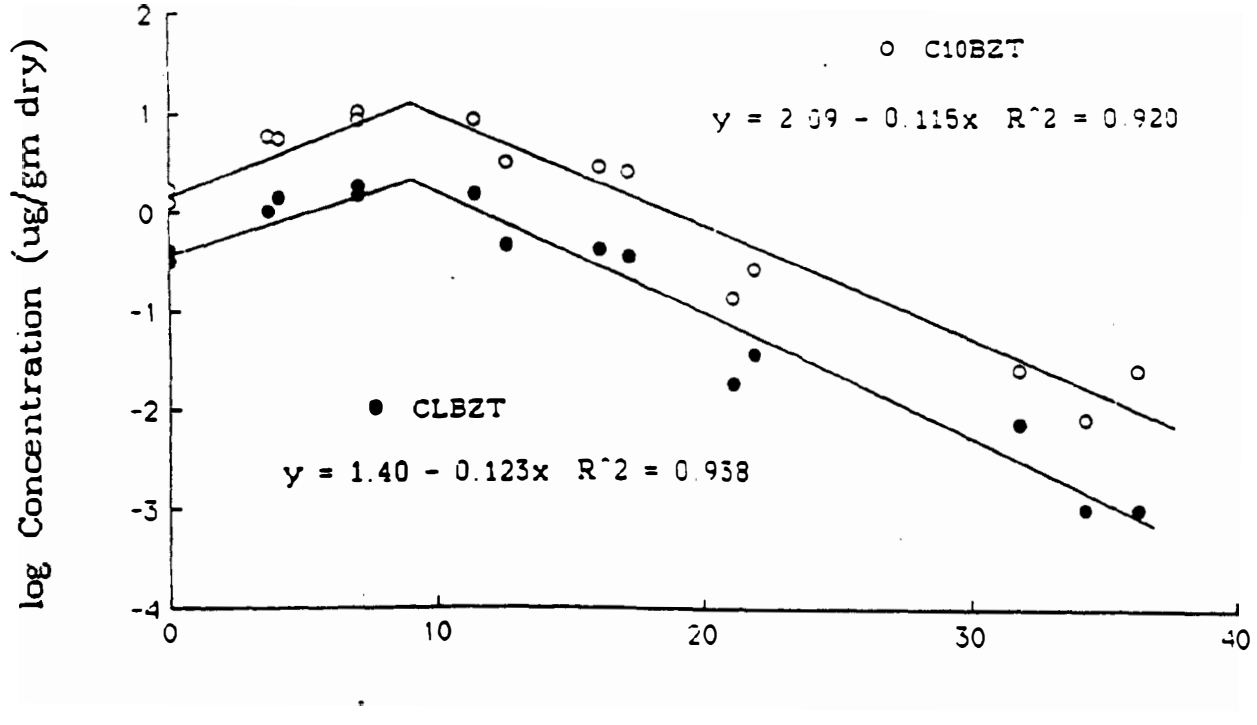


Figure 16. Concentrations of organic contaminants in surface sediments vs distance from Fox Point (East Transect).

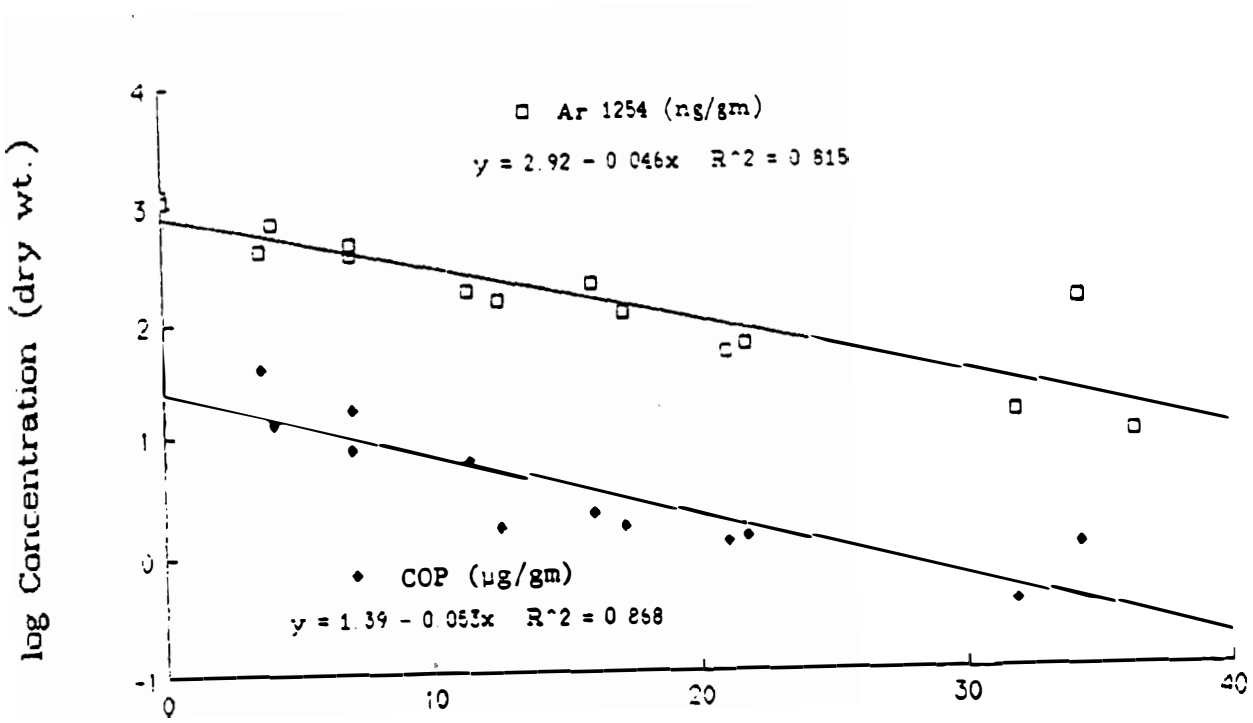
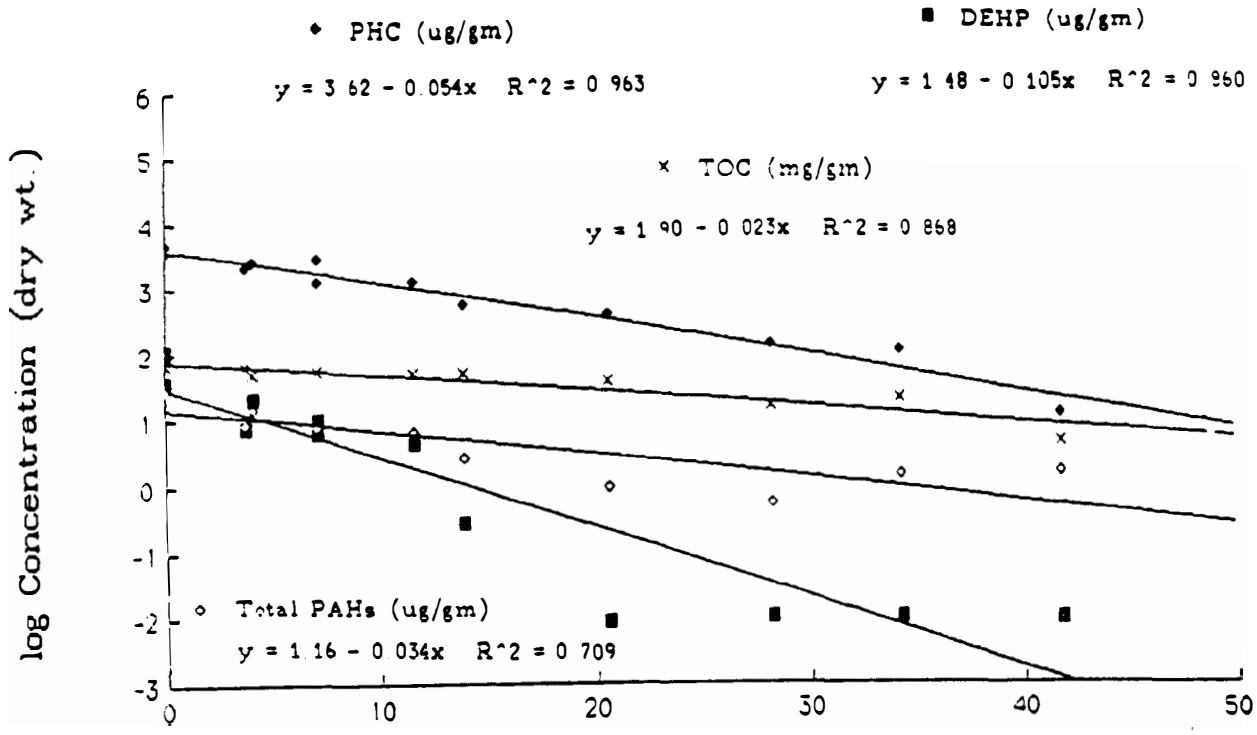


Figure 17. Concentrations of organic contaminants in surface sediments vs distance from Fox Point (East Transect).



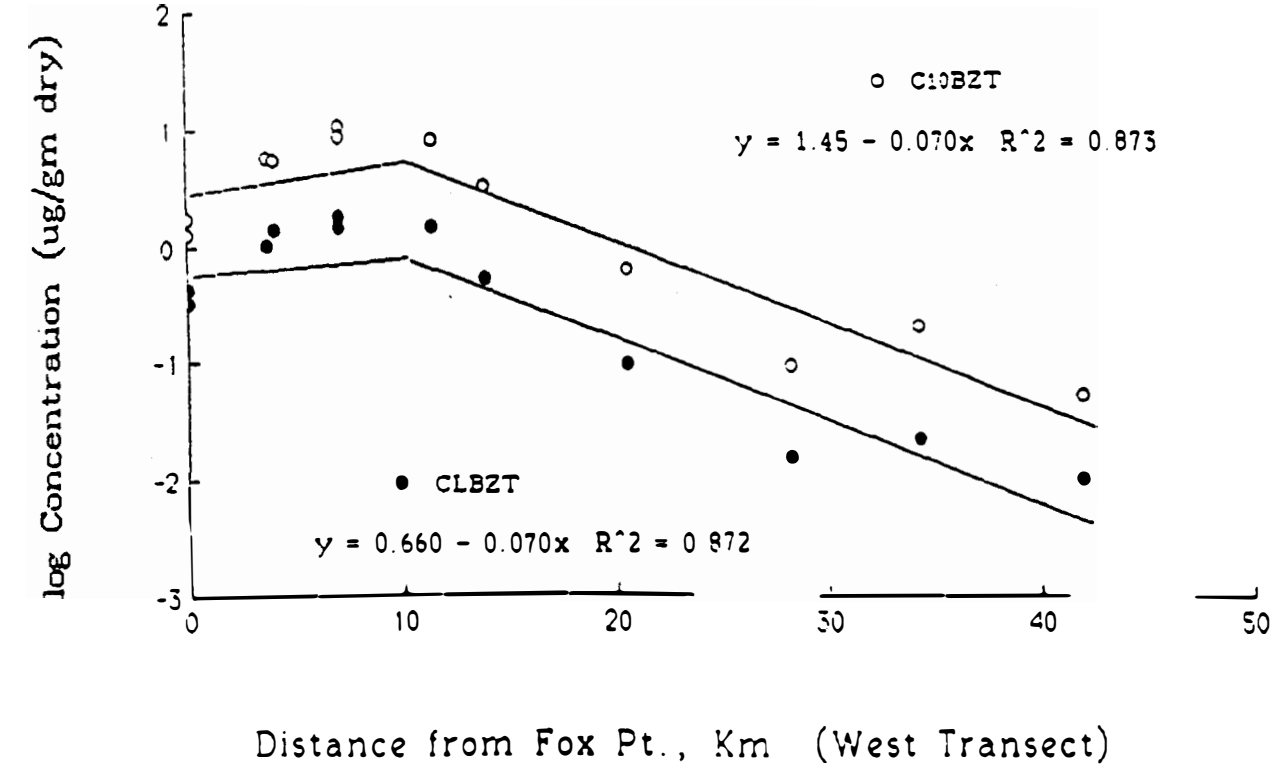


Figure 18. Concentrations of organic contaminants in surface sediments vs distance from Fox Point (West Transect).

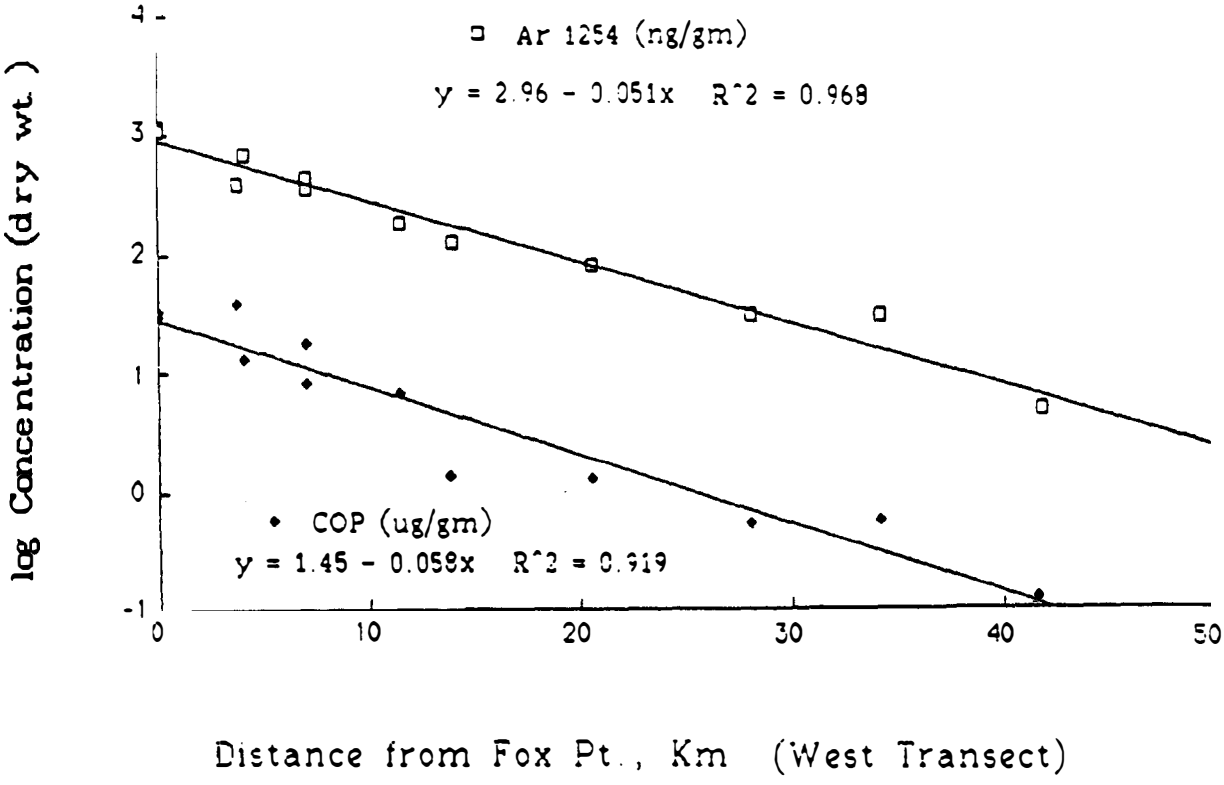


Figure 19. Concentrations of organic contaminants in surface sediments vs distance from Fox Point (West Transect).

Table 4. Half-distances[1] calculated for organic constituents in Narragansett Bay surface sediments.

Compound	Half-Distance (km) West Transect	East Transect	Pruell et al. 1985
TOC	13.1	15.8	12.5
Total PAHs	8.85	10.4	7.18
PHCs	5.57	7.00	6.40
DEHP	2.87	4.36	4.70
Cl-BZT	4.30	2.45	3.91
C_{10}-BZT	4.30	2.62	3.81
Ar 1254	5.90	6.54	NA
COP	5.19	5.68	NA

[1]Half-distance = log 2/slope of semi-log conc. vs. distance graph

NA = not analyzed

deposition). Finally, the PHCs, PCBs (as Ar 1254) and coprostanol have similar half distances suggesting major sources in the Providence River as well as small additional inputs throughout the bay.

b) Hard shell clams

The concentrations of various contaminants in clams and surface sediments from 9 locations in the bay are shown in Table 5 and plotted in Figures 20 and 21. The congeners (CB 101 and CB 138) were used in place of Ar 1254 because they are less subject to analytical variation and are a more precise measure of the chlorobiphenyl concentrations in environmental samples (Latimer, 1989). The equations, correlation coefficients (R) and confidence levels, are shown in Table 6. Five of the contaminants showed significant correlations (95% confidence level or better) between sediment and clam concentrations. These sediment components are hydrophobic and are strongly partitioned into the clams' lipids. Based on the data from this study, it may be possible to identify areas of the bay from which clams are harvested for commercial use. For example, clams suspected of being taken from areas closed to shellfishing could be analyzed for these 5 contaminants and the results converted to sediment location using the relationships developed from data in Tables 5 and 6 (e.g., Figures 20 and 21)

c) Comparison with previous data

Previous studies on various organic contaminants in surface sediments from Narragansett Bay include the work of Pruell and Quinn (1985) which has been discussed in section 2a. With the exception of that study, the other major investigations have been concerned only with hydrocarbons in the bay's sediments. Quinn (1989) has reviewed these studies and his summary of the available concentration data on PHCs and PAHs in surface sediments is shown in Table 7. In general, the trends are similar to those observed in the present study; namely, highest concentrations in the Providence River with decreasing amounts downbay. The range of previous values brackets those obtained in this study. Given the variations in sediment homogeneity, station location, collection procedures, processing techniques and analytical methods, it is impossible to

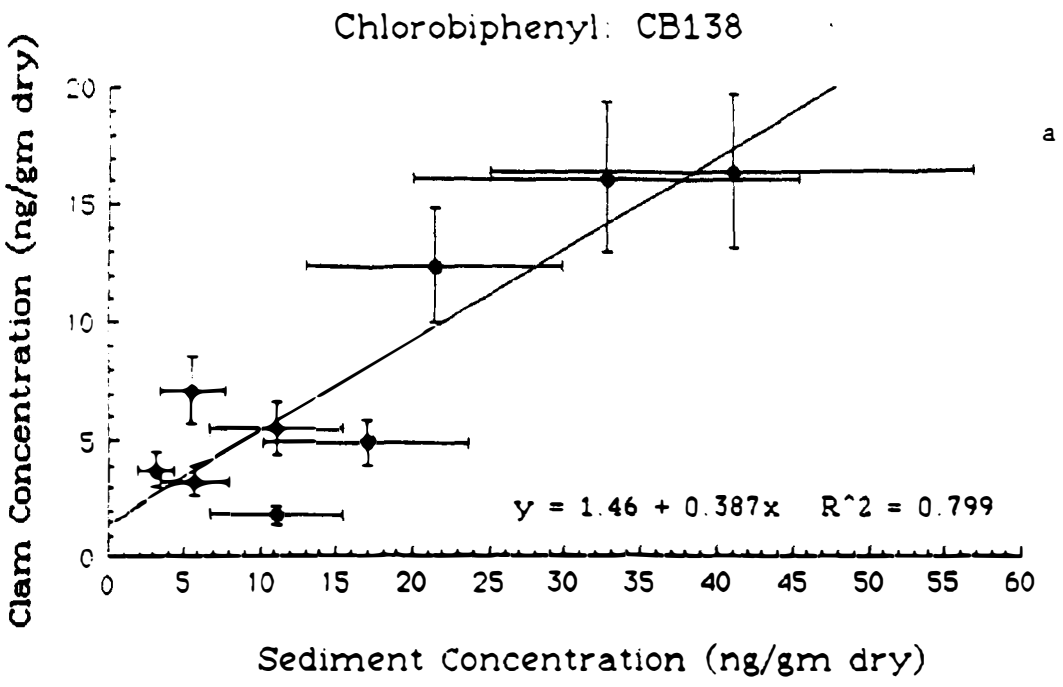
Table 5. Surface sediment and clam contaminant concentration data for various sites throughout Narragansett Bay. All concentrations are on a dry weight basis.[1]

	ng/gm	ng/gm	µg/gm	ng/gm		
	CB 101 CLAM	CB 101 SEDS	CB 138 CLAM	CB 138 SEDS	ΣPHC CLAM	ΣPHC SEDS	C_{10}-BZT CLAM	C_{10}-BZT SEDS
Sabin Pt.	22.8	31.4	16.1	32.7	359	1190	659	10900
Gaspee Pt.	19.5	37.3	16.4	41.0	249	2710	634	8840
Conimicut Pt.	5.87	15.7	4.81	17.0	211	1170	282	8650
Rocky Pt.	2.03	10.9	1.76	11.1	105	506	4.5	3340
Ohio Ledge	12.1	15.8	12.4	21.3	70.8	587	229	2940
Appon. Cove	6.62	18.8	5.42	11.1	44.0	581	7.3	50
Sally Rock	3.67	4.43	3.18	5.78	38.9	345	13.1	400
Mount View	7.31	4.23	7.06	5.65	61.1	193	107	510
Wickford	3.38	2.53	3.65	3.13	59.2	127	2.7	90
Block Island	0.50	0.50	0.50	0.50	8.0	10	1.0	1

	ng/gm	ng/gm	ng/gm	ng/gm		
	Cl BZT CLAM	Cl BZT SEDS	COP CLAM	COP SEDS	FLR CLAM	FLR SEDS	PYR CLAM	PYR SEDS
Sabin Pt.	112	1560	3860	8320	125	881	155	912
Gaspee Pt.	121	1830	3180	1760	93.6	1070	83	1070
Conimicut Pt.	56.4	1550	1010	6710	118	849	97	795
Rocky Pt.	1.0	530	1590	1240	55.0	361	48	298
Ohio Ledge	48.1	410	490	2160	56.8	510	58	355
Appon. Cove	2.4	1	640	3260	50.4	1370	65	1370
Sally Rock	2.1	160	210	2380	44.0	220	40	361
Mount View	21.4	90	750	990	91.7	75	126	52
Wickford	0.5	20	850	530	56.1	94	37	85
Block Island	1.0	1	2090	200	36.0	30	NA	NA

[1]Average dry weight = 13%

NA = not analyzed



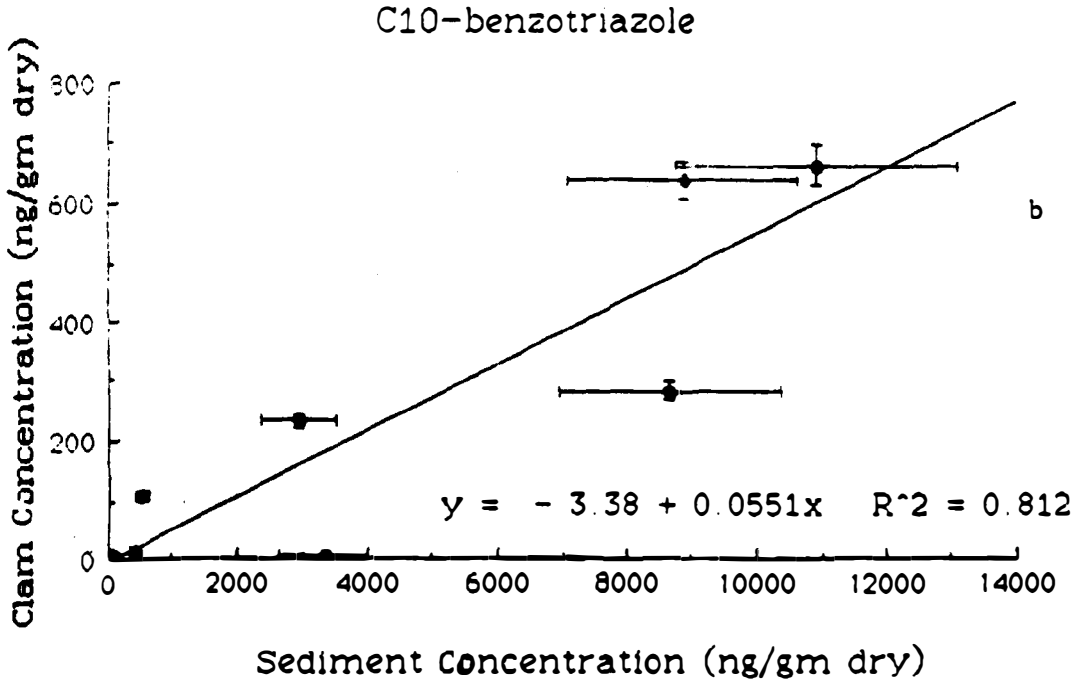
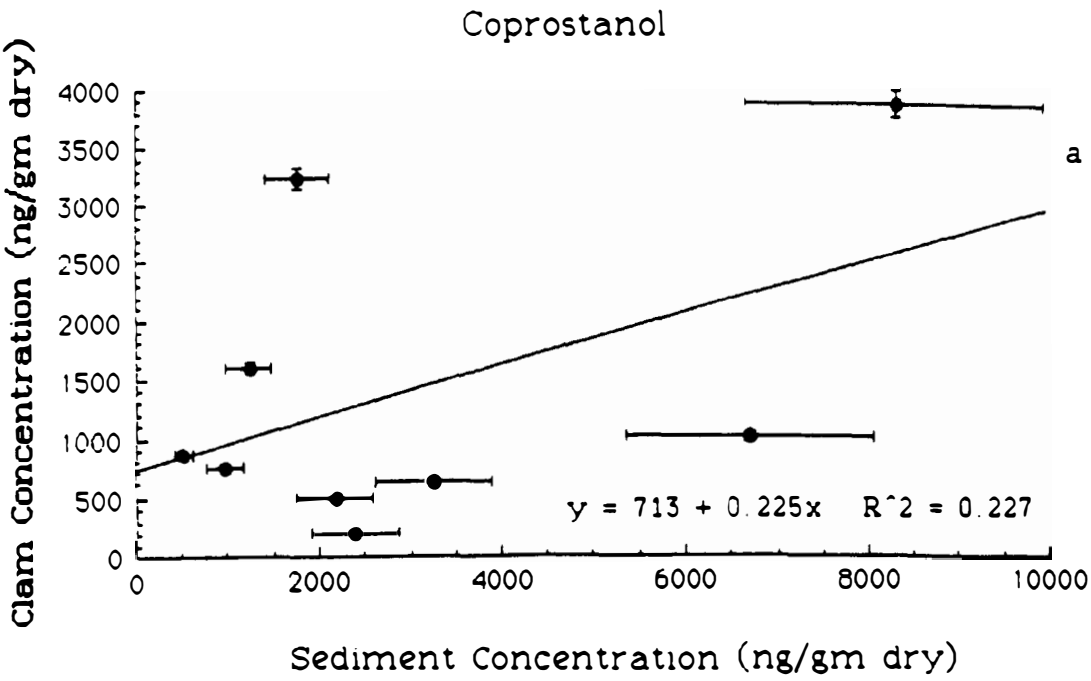


Figure 20. Concentrations of CB138 (a) and C_{10}-BZT (b) in clams vs surface sediments.



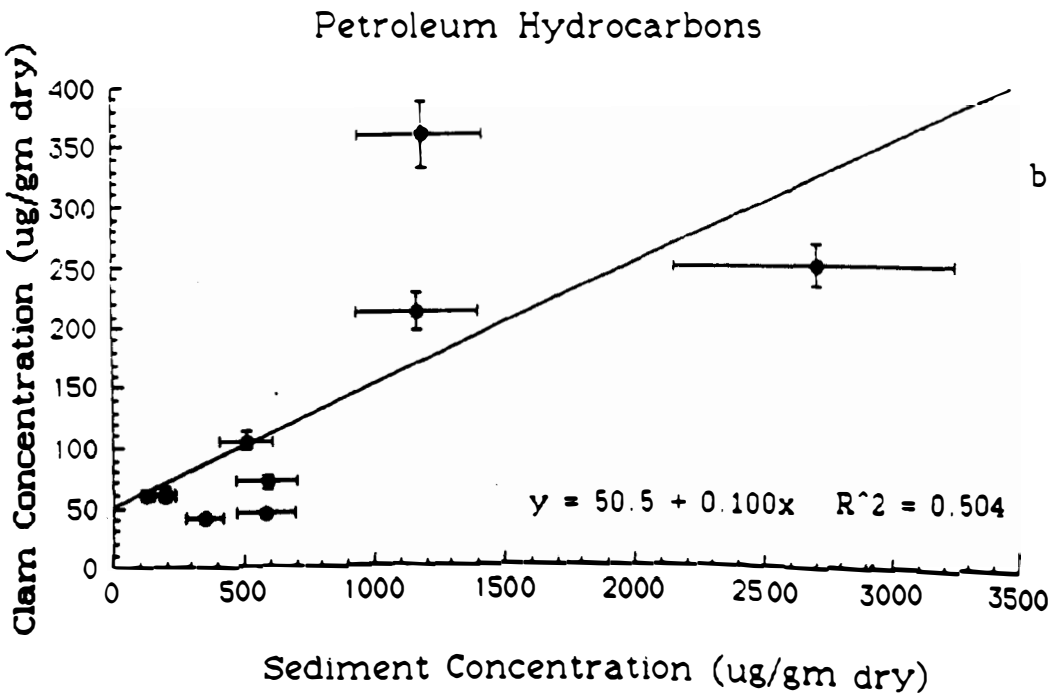


Figure 21. Concentrations of COP (a) and PHCs (b) in clams vs surface sediments.

Table 6. Equations, correlation coefficients (R) and confidence levels for organic contaminants in surface sediments and clams from Narragansett Bay.

Compound	Equation	R	Confidence level
C_{10}-BZT	y = -3.38 + 0.055x	0.901	99%
Cl-BZT	y = 1.24 + 0.058x	0.897	99%
CB 138	y = 1.46 + 0.387x	0.894	99%
CB 101	y = 0.956 + 0.529x	0.869	99%
PHCs	y = 50.5 + 0.100x	0.710	95%
COP	y = 713 + 0.225x	0.476	80%
FLR		0.293	< 50%
PYR		0.249	< 50%

Table 7. Hydrocarbon concentrations in surface sediments from Narragansett Bay.

Location	Concentration (µg/g, dry weight basis) PHCs	PAHs
Seekonk River	2330[f]	41.9[f]
Providence River		
Fox Point	1410[b]; 9120[f]	19.8[f]
Fields Point	2110[a]; 5410[b]; 2950[f]	4.06[f]
Sabin Point	2040[a]; 3540[f]	2.14[f]; 2.1[g]
Pawtuxet Cove	4970[f]	8.04[f]
Gaspee Point	450[b]	
Bullock Point	1616[f]	1.72[f]
Conimicut Point	570[b]; 1710[f]	2.51[f]; 1.6[g]
Upper Bay		
Conimicut Point to Providence Point	710[a]; 454 to 509[c]; 666[f]	1.42[f]; 1.0[g]
Mid-bay		
Providence Point to Conanicut Point	400[a]; 112 to 505[c]; 185[d] 124 to 414[f]; 934[i] 142 to 148[j]; 214[k]	0.20 to 0.34[f] 0.5[g]; 1.1[h]; 9.8[i]; 1.8 to 7.5[l]
East Passage	287[b];35 to 283[c]	
West Passage	110 to 150[a]; 29 to 246[c] 33[k]	
Rhode Island Sound	60[a]; 25[b]; 1 to 301[e] 43 to 48[f]	0.12 to 0.14[f] 2.5[l]

[a]Farrington and Quinn, 1973. Samples collected in 1970-71; top 0-10 cm.
[b]VanVleet and Quinn, 1978. Samples collected in 1975-77; top 0-10 cm.
[c]Hurtt and Quinn, 1979; Appendix 8. Samples collected in 1976-77; top 0-5 cm.
[d]Wade and Quinn, 1979. Samples collected in 1977; top 0-5 cm.
[e]Boehm and Quinn, 1978; Appendix 9. Samples collected in 1975; top 0-10 cm.
[f]Pruell and Quinn, 1985; Appendix 10. Samples collected in 1979-80; top 0-2.5 or 5 cm.
[g]Lake et al., 1979; top 0-10 cm.
[h]Boehm et al., 1987. Samples collected in 1984-85; top 0-1 cm.
[i]Quinn et al., 1980. Samples collected in 1980; top 0-10 cm.
[j]Gearing et al., 1978. Samples collected in 19767-77; top 0-10 cm.
[k]Lake et al., 1980; top 0-10 cm.
[l]National Status and Trends Program, 1988. Samples collected in 1984-87; top 0-1 cm.

From Quinn, 1989.

determine at the present time, if the surface sediment concentrations have significantly changed over the past 15-20 years.

Pruell et al. (1984) reported on the contamination of hard shell clams from 13 commercial seafood stores in Rhode Island. The locations where the clams were collected were obviously not known, but most of the stores indicated that they were harvested from Narragansett Bay and the average concentrations (wet weight) are shown in Table 8. The values for the control samples (Dutch Island) were similar to those at the lower stations from the bay (Table 5), assuming an average of 10% dry weight.

Organic contaminants in clams (collected in 1985 and 1986) from five locations in Narragansett Bay were reported by Pruell et al. (1988). There were no significant differences in contaminant concentrations between the three size classes analyzed; however, there were some differences in concentrations on the two collection dates and between various stations. The results of these analyses are shown in Table 9. The levels of most contaminants were highest in the Providence River; Ohio Ledge clams showed intermediate amounts; and the lowest levels were found in samples from Greenwich Bay, Mount View and Mount Hope Bay. The only contaminant with an FDA action limit was the PCBs and none of the sample values exceeded this limit (2 μg/g wet weight ~ 20 μg/g dry weight). Thus, the trends from this study are similar to those from the present investigation; however, the 1985-86 concentrations are generally higher than our 1987 values. For example, their sum of BZTs for 7 stations in the Providence River has a mean value of 1630 ng/g (Table 9) and our sum for two stations is 764 ng/g (Table 5). However, for other contaminants, the agreement is better (e.g. their 1986 Providence River CB101 ranges from 14.5 to 32.7 ng/g and our values range from 19.5 to 22.8 ng/g; their Providence River pyrene ranges from 40.9 to 119 ng/g and our values range from 83.2 to 155 ng/g). In general, our values for BZTs and CBs in clams are lower than those of Pruell et al. (1988), probably because of poorer extraction efficiency and/or chemical alteration of these compounds by methanalic KOH.

Quinn (1989) reviewed the available literature on hydrocarbon concentrations (total or PHCs) in shellfish from the bay and the results are presented in Table 10. The values from this

Table 8. Concentration of organic contaminants in hard shell clams from Rhode Island seafood stores.

	Concentration (wet weight basis)			
	PHCs (μg/g)	PAHs (ng/g)	C_{10}-BZT (ng/g)	Cl-BZT (ng/g)
Store samples	23.6±12.9	6.3±5.0	31.3±22.7	4.7±2.9
Control samples (Dutch Island)	9.8± 1.8	1.7±0.2	11 ± 0	2.1±0.3

From Pruell et al., 1984.

Table 9. Results of statistical analyses conducted on the sum concentrations of contaminants from several chemical classes measured in the quahogs. All of the size classes and dates were combined from each station. Means from the stations with the same letter group are not significantly different ($p = 0.05$).

Station	Concentration (ng/g, dry weight basis) Sum PCBs	Sum PAHs	Sum BZTs
	MEAN	MEAN	MEAN
Providence River	358 A	427 A	1630 A
Ohio Ledge	285 A B	225 B	749 B
Greenwich Bay	160 C	147 C	445 B C
Mount View	238 B	279 B	367 C
Mount Hope Bay	155 C	274 B	103 D

From Pruell et al., 1988.

Table 10. Hydrocarbon concentrations in shellfish from Narragansett Bay[a].

Date collected	PHCs (µg/g wet weight basis) Providence River	Wickford	Dutch Island or GSO	Other	Reference
1970-1971[b]	14-16	4.1-10	2.9 (GSO)		Farrington & Quinn, 1973
1973[b]	90	9.6			Farrington & Medeiros, 1975
1976[b]	42		5.3-7.1 (DI)		Boehm & Quinn, 1977
1979[b]			8.0-12 (DI)		Pruell *et al.*, 1984
1975[c]				2.6-6.4 R.I. Sound	Boehm & Quinn, 1978
1980[d]				30-38 Allen Harbor	Quinn & Pruell, 1980

[a]Adapted from Pruell *et al.*, 1984;
[b]*Mercenaria mercenaria*;
[c]*Arctica islandica*;
[d]*Mya arenaria*.

From Quinn, 1989.

table and Table 5 (after multiplying values by 0.13 to convert dry weight to wet weight) show essentially the same trend - highest hydrocarbon concentrations in samples from the Providence River decreasing to lower values in samples from Wickford and Dutch Island. For example, the PHC values in clams ranged from 47 ug/g wet (359 µg/g dry) weight at Sabin Point to 8 ug/g wet weight at Wickford (Table 5). This range of values is similar to those reported in Table 10 (5 to 42 ug/g wet weight) using essentially the same methodology and laboratory procedures (excludes Farrington and Medeiros, 1975). Given the similar values and the analytical uncertainties of the procedure, it is impossible at the present time to determine if the PHC concentrations have significantly changed over the last 15-20 years.

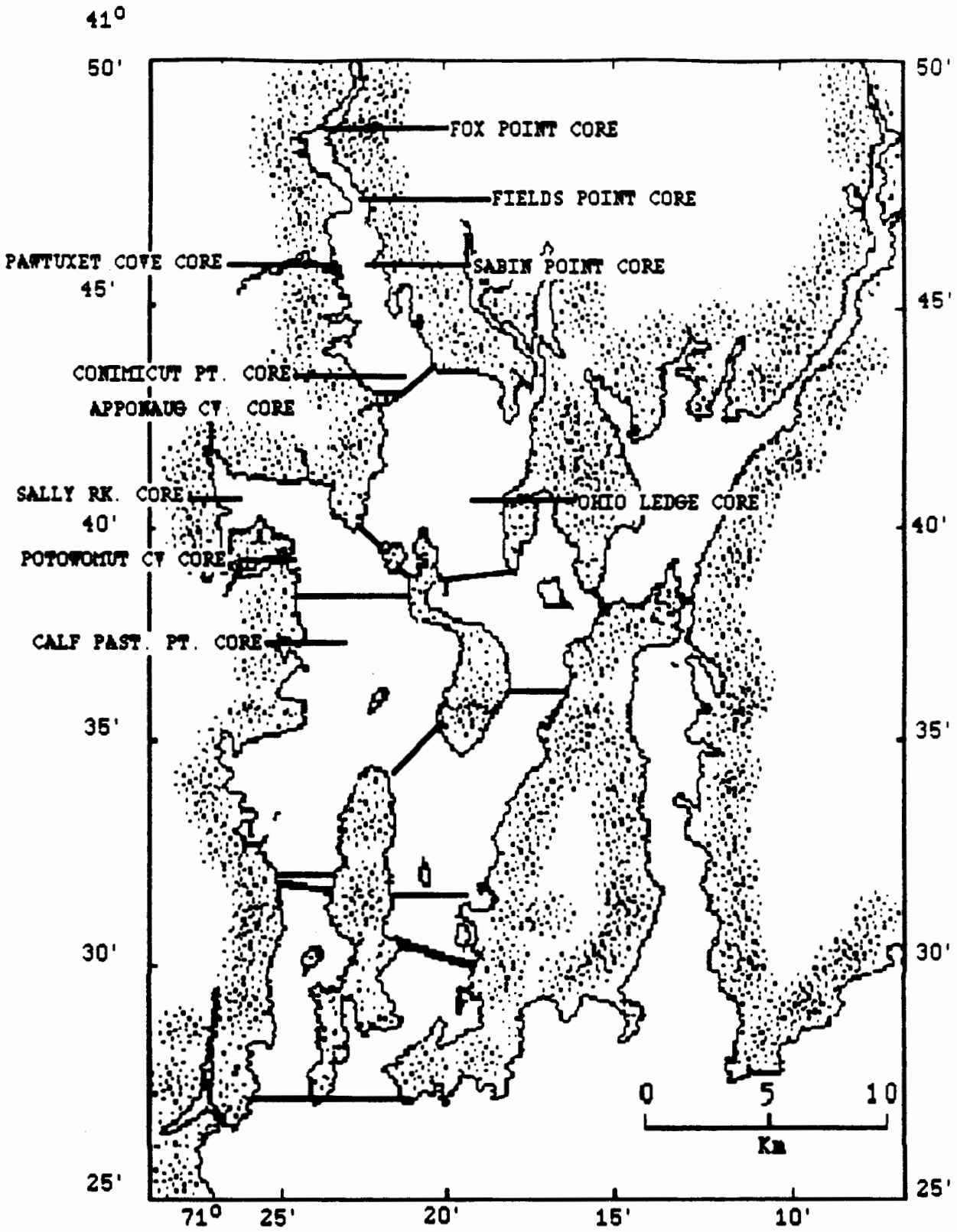
3. Sediment Cores

a) Sediments.

A total of 14 sediment cores from 12 different locations in Narragansett Bay were analyzed for organic contaminants (Figure 22). The objective of this phase of the study was to measure the distribution of these components with depth in the cores. This information, in conjunction with organic contaminant release/termination dates (Table 11), trace metal data, biological species data, pollen and geochemical analyses, and radiometric dating, is currently being reviewed by Dr. John King and co-workers to evaluate the historical trends of pollutant input to the bay. In addition, they will determine the sediment accumulation rate and the rate that contaminants accumulate in the sediments, and he will compare these rates with the bay's input rates for the various pollutants (King et al., 1992).

The distributions of several contaminants with depth in the cores from five different locations are shown in Figures 23 to 28. These specific cores were selected because they are from the Providence River and upper bay - the area of greatest contaminant input and sedimentation. Also, they are from the same general areas as the previously discussed sediment trap material and they provide additional information on these locations.

The highest levels and deepest penetration of CB138 was found in the Fox Point core where it had a fairly uniform concentration down to 72 cm, but increased at 110 cm and remained



Additional Cores not indicated on map:
-RHODES ON THE PAWTUXET RIVER CORE
-SEEKONK RIVER CORE

Figure 22. Locations of sediment core stations in Narragansett Bay.

Table 11. Dates for release and termination of organic contaminants.

Contaminant	Approx. date first release	Termination of release
C_{10}-BZT	1970	1985[2]
Cl-BZT	1963	1972[1]
C_1-BZT	1961[1]	1985[2]
DEHP	1949[3]	ongoing
PCBs	1930[4]	1978
PAHs	1880[5]	ongoing
PHCs	1880[5]	ongoing
COP	1900 (background levels)	ongoing

Other important dates:

COP: 1978-1979[6]: Fields Point Plant broken - discharge of raw sewage in the bay. Should be reflected as a peak in sediment cores. 1970[6]: Very high suspended solids concentration in the Fields Point effluent. Should also see a coprostanol peak.

References:

[1]Lopez-Avilla and Hites (1980)

[2]Ciba Geigy Plant closure

[3]Graham (1973)

[4]Moore and Ramamoorthy (1984)

[5]Hottel and Howard (1971)

[6]Lee *et al.* (1988)

From LeBlanc, 1989.

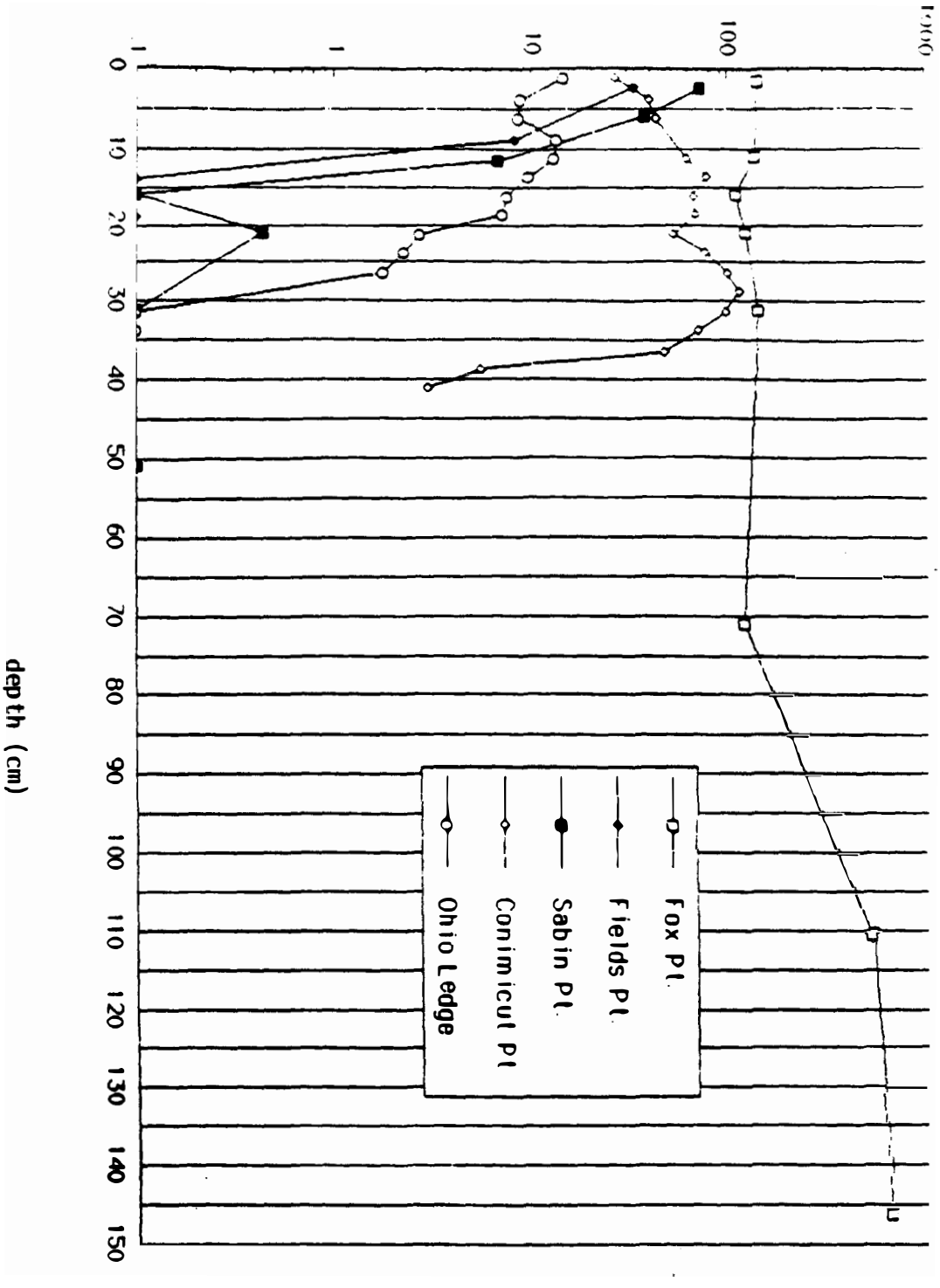


Figure 23. Distribution of CB138 (ng/g dry) with depth in sediment cores.

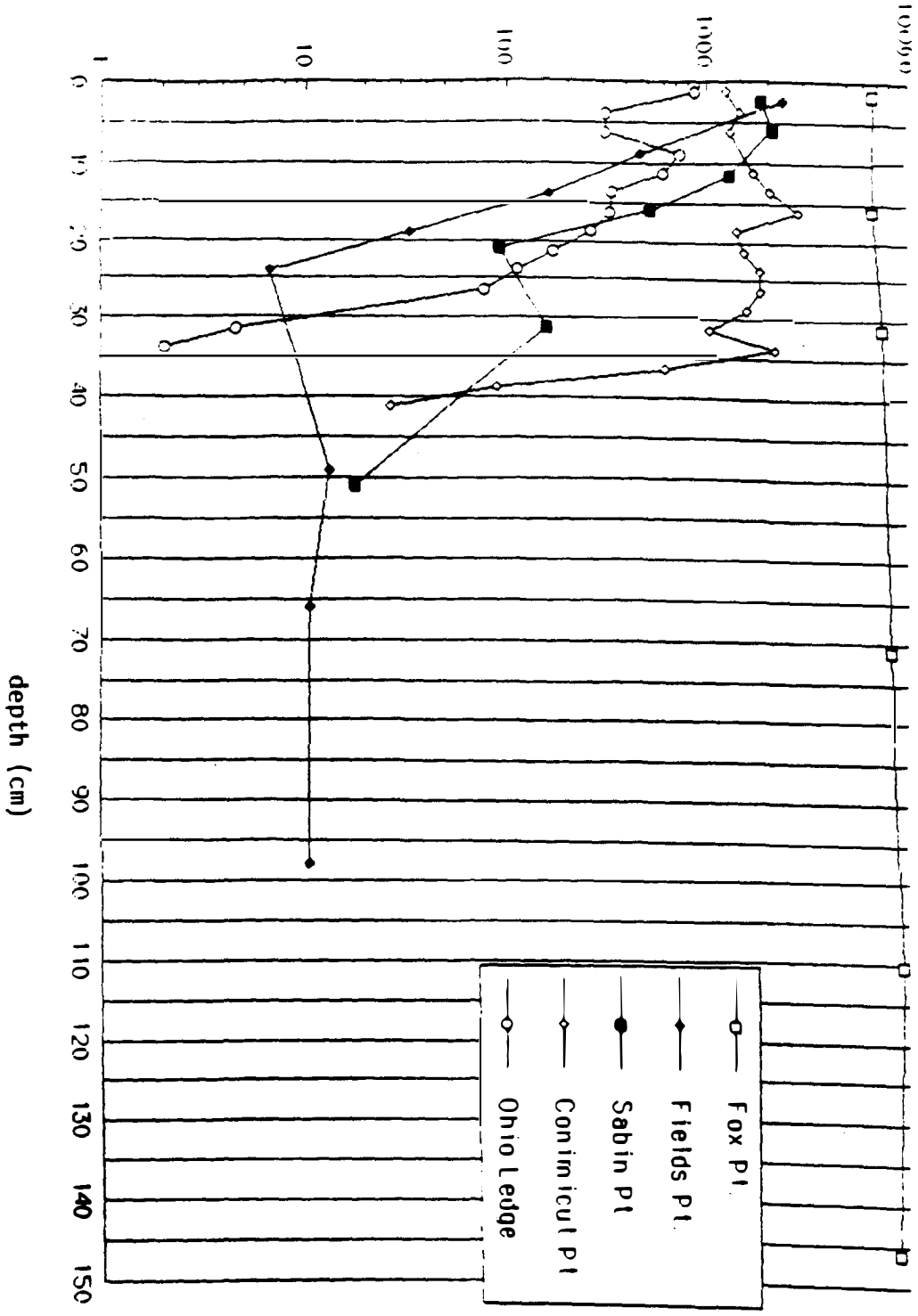


Figure 24. Distribution of PHCs (ug/g dry) with depth in sediment cores.

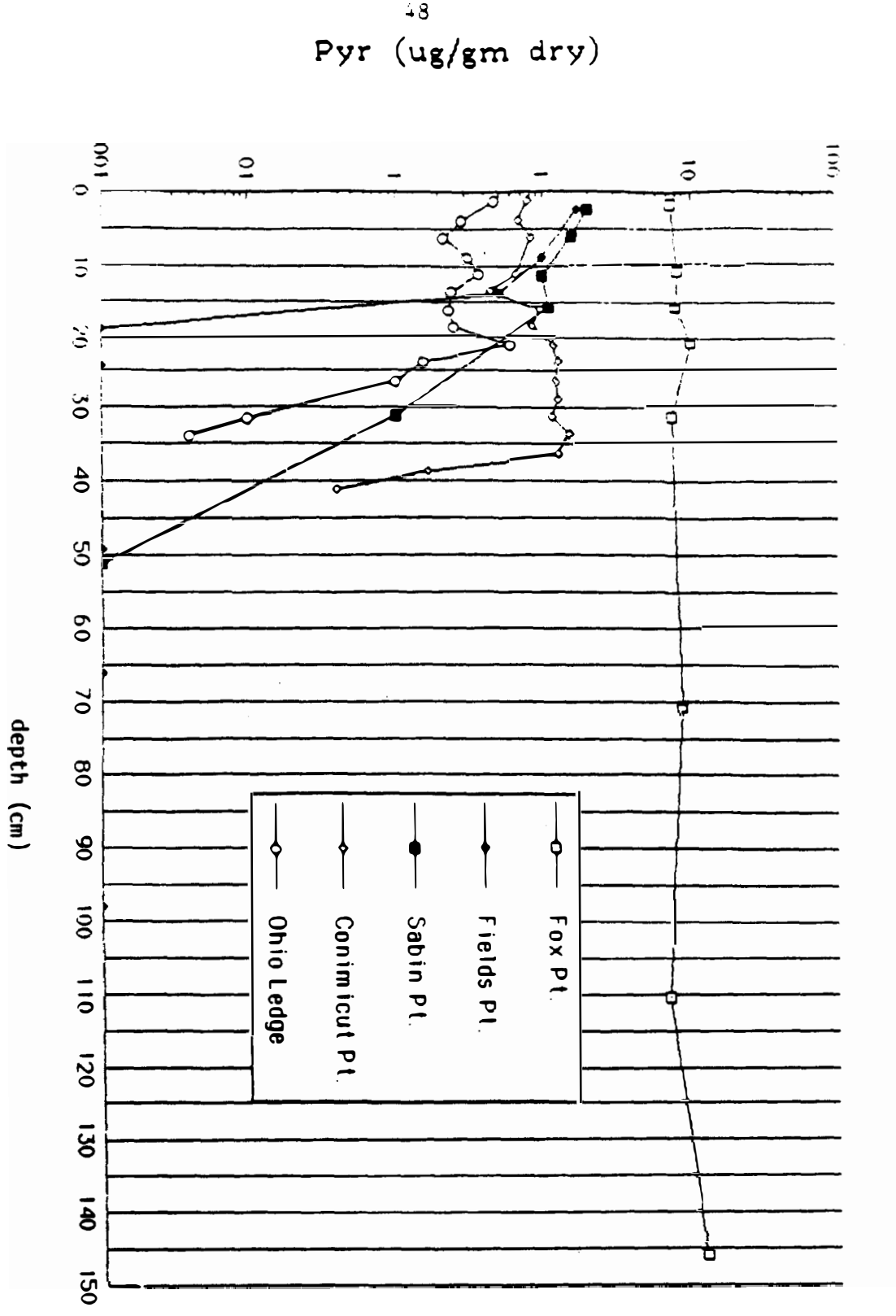


Figure 25. Distribution of Pyrene (µg/g dry) with depth in sediment cores.

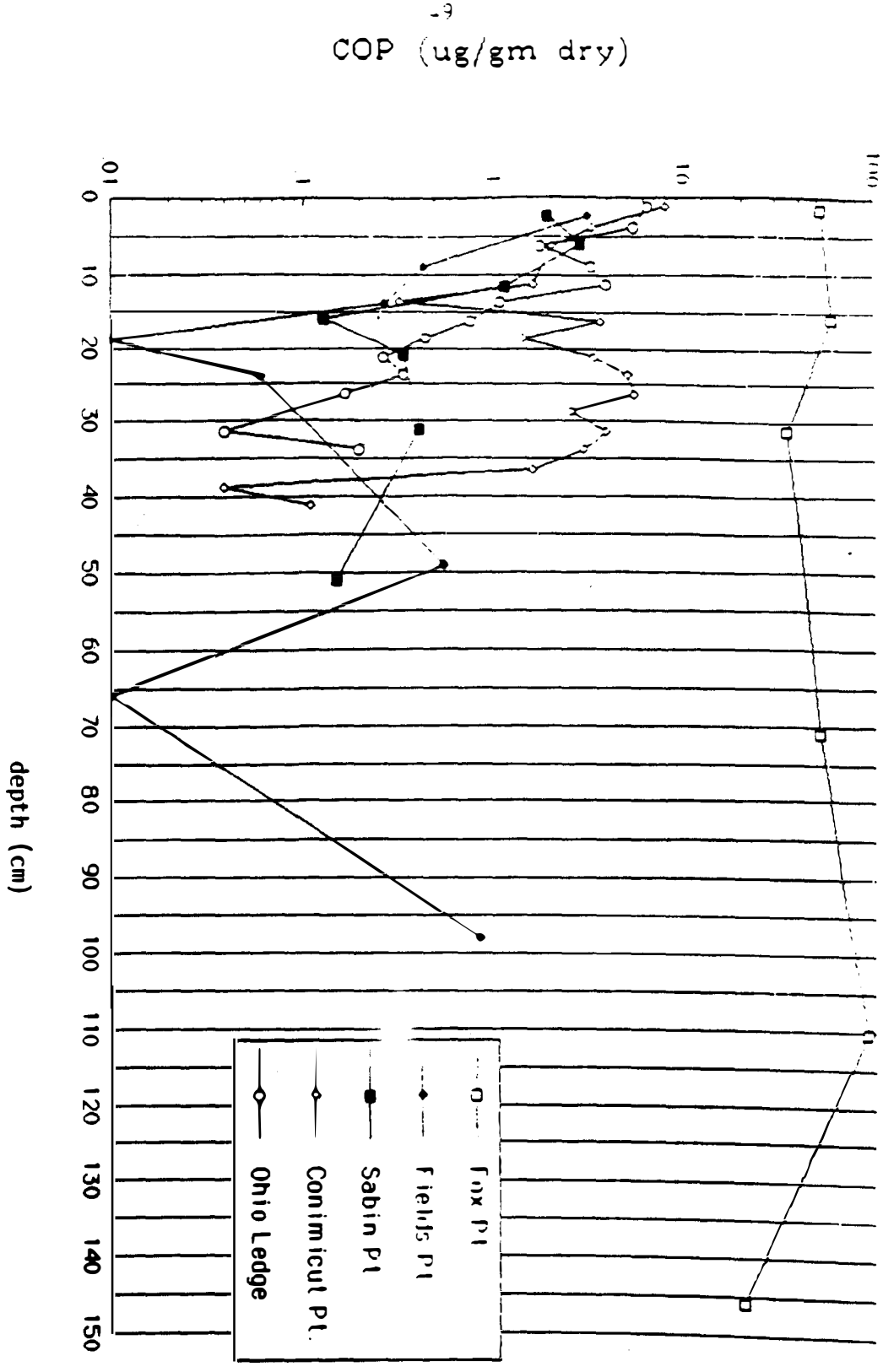


Figure 26. Distribution of COP (ug/g dry) with depth in sediment cores.

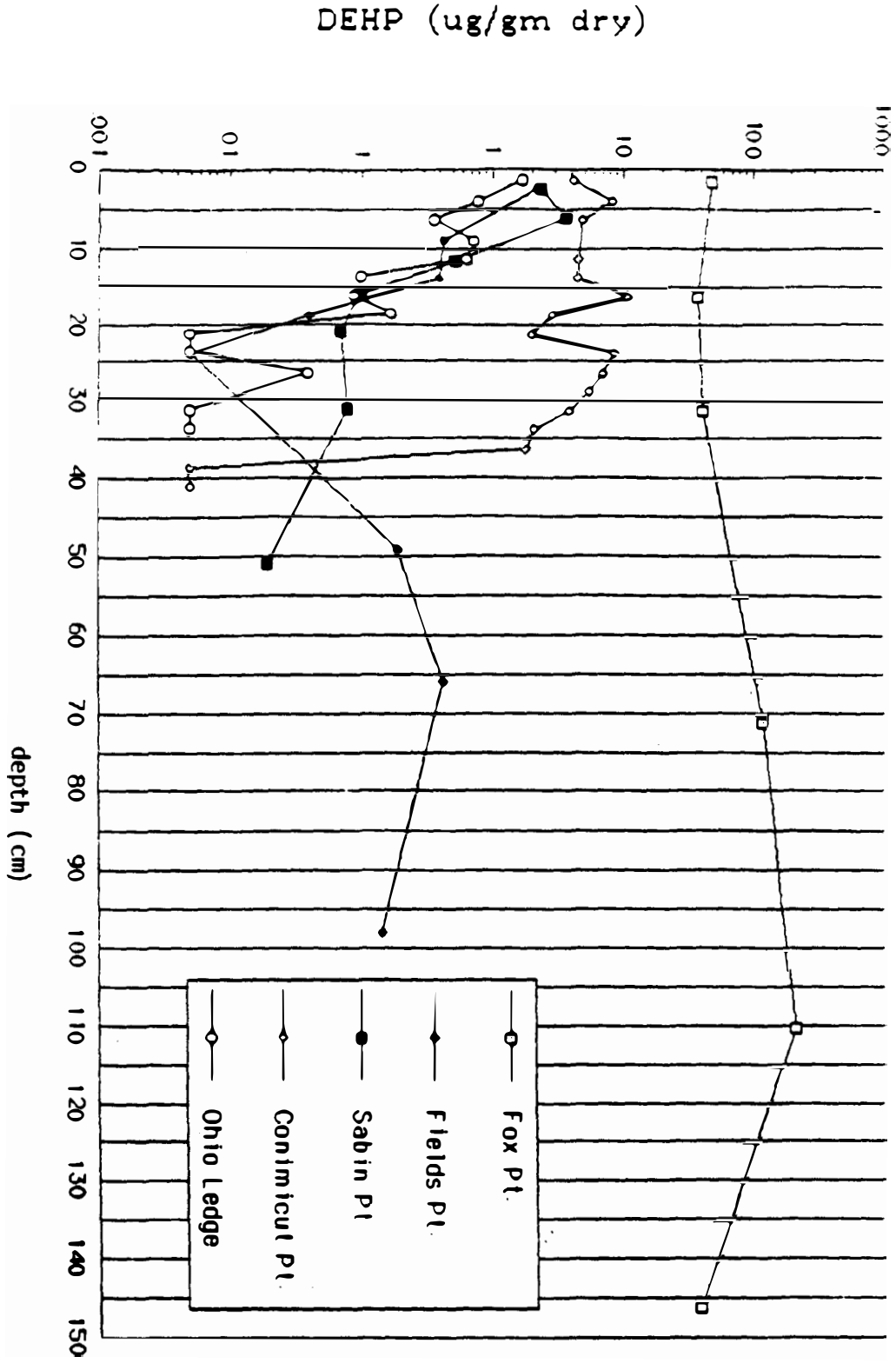


Figure 27. Distribution of DEHP (µg/g dry) with depth in sediment cores.

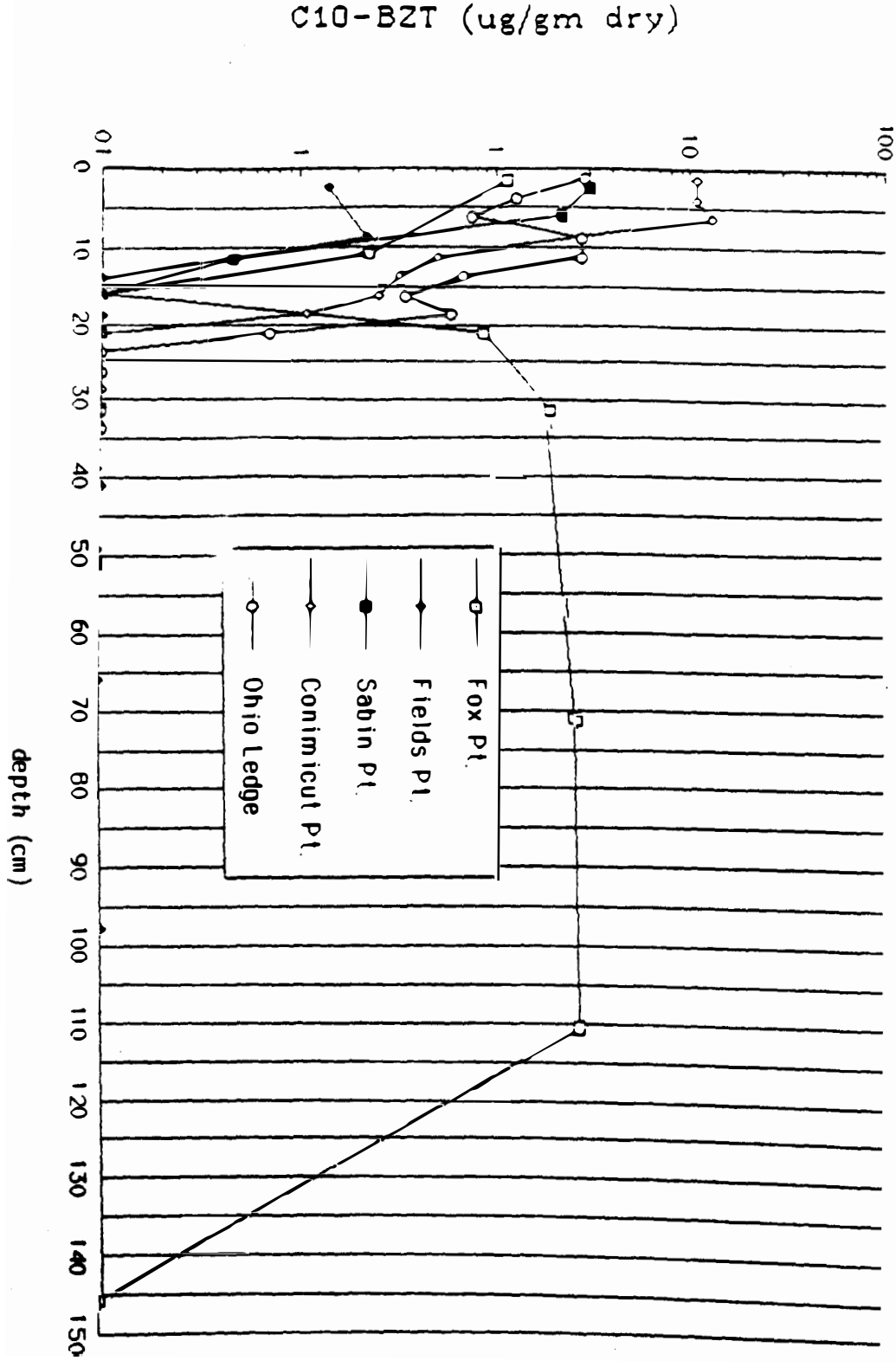


Figure 28. Distribution of C_{10}-BZT (ug/g dry) with depth in sediment cores.

about the same at the bottom of the core (147 cm, Figure 23). The other cores showed less penetration ranging from 42 cm (bottom of core) at Conimicut Point to 13 cm at Fields Point where the CB 138 values reached background (< 0.1 ng/g) concentration. On this basis, the latter is a non-depositional area in contrast to Fox Point which apparently has a very high sedimentation rate. (The Fields Point site was not at the outfall of the Providence Sewage Treatment Plant; it was at a site with a water depth of about 3 meters, thereby allowing sediment resuspension to occur.) When all of the data has been compiled and evaluated, it will be possible to compare the distribution of CB138 (and other organic contaminants) with trace metal data etc., in order to help explain the different distributions in the various cores.

The distribution of PHCs (Figure 24) and pyrene (Figure 25) are similar in some respects. In both cases, Fox Point has the highest level and deepest penetration with relatively constant values down to 147 cm. The PHCs never quite reached background levels (< 1-5 μg/g) in these cores (Ohio Ledge and Fields Point (at 24 cm) were the closest to the background), but the pyrene did reach this level (< 1ng/g) in two of them including the Fields Point core which again had the shallowest penetration - 18 cm.

Similar distributions were shown by COP (Figure 26) and DEHP (Figure 27) in that the Fox Point core had the highest levels and deepest penetration - a slight increase down to 110 cm followed by a prominent decrease to 147 cm. None of the cores reached zero values for DEHP but Ohio Ledge and Conimicut Point came very close (< 10 ng/g). The COP reached background (< 10ng/g) in only the Fields Point core (18 and 67 cm) but it rapidly increased again from 67 cm to 98 cm. This is indeed a unique distribution - in fact all of the Fields Point core data seems different in that the apparent sedimentation rate is low relative to other nearby stations in the Providence River (e.g., Fox Point and Sabin Point). As previously indicated, a detailed consideration of all the data (e.g. metal, Pb 210, pollen, etc.) will be needed to explain the trends at this site.

Figure 28 shows the distribution of C_{10}-BZT with depth in the cores. In this case, the site with the highest surface (top 5 cm) concentration is Conimicut Point. (All other components are higher in the Fox Point surface sediments.) The Fox Point core is relatively constant from 20 cm

to 110 cm, and rapidly decreases to background (10 ng/g) at 147 cm. (For unexplained reasons, the Fox Point core is also background at 15 cm.) All of the other cores reach background at 13 cm (Fields Point) to 23 cm (Ohio Ledge). One of the obvious reasons for the differences in this distribution is that the only source of C_{10} BZT is the Pawtuxet River via Pawtuxet Cove. Thus, it is somewhat surprising that nearby Sabin Point does not have the highest concentration of this compound. However, the water circulation and depositional characteristics of the Providence River probably account for the observed surface concentration trends of Conimicut Point > Sabin Point = Ohio Ledge > Fox Point > Fields Point.

b) Comparison with previous data

A number of studies have reported the distribution of PHCs with depth in Narragansett Bay sediments (e.g. Van Vleet and Quinn, 1978; Hurtt and Quinn, 1979; Wade and Quinn, 1979). However, the only previous investigation concerned with several different organic contaminants in sediment cores from throughout the bay was reported by Pruell and Quinn (1985). Those investigators measured the distributions of PHCs, PAHs, DEHP and BZTs in sediment cores from Conimicut Point, the MERL site north of Jamestown Island and Brenton Reef in Rhode Island Sound. In general, they found decreasing concentrations of contaminants with depth in the cores. The historical record of pollutant inputs to the Providence River was recorded in the Conimicut Point core, but the record was smeared by bioturbation in the core from the MERL site. The core from Brenton Reef showed a subsurface increase for all contaminants and that area may have been influenced by dredge spoil material (from the Providence River) that was accidentally deposited at this location during transport of the material during 1967-1971. A comparison of that data with the results of the present study is shown in Figure 29. In general, the agreement is fair to good; however, there are some major differences (e.g. PAHs) which cannot be explained at this time.

IV. ACKNOWLEDGEMENTS

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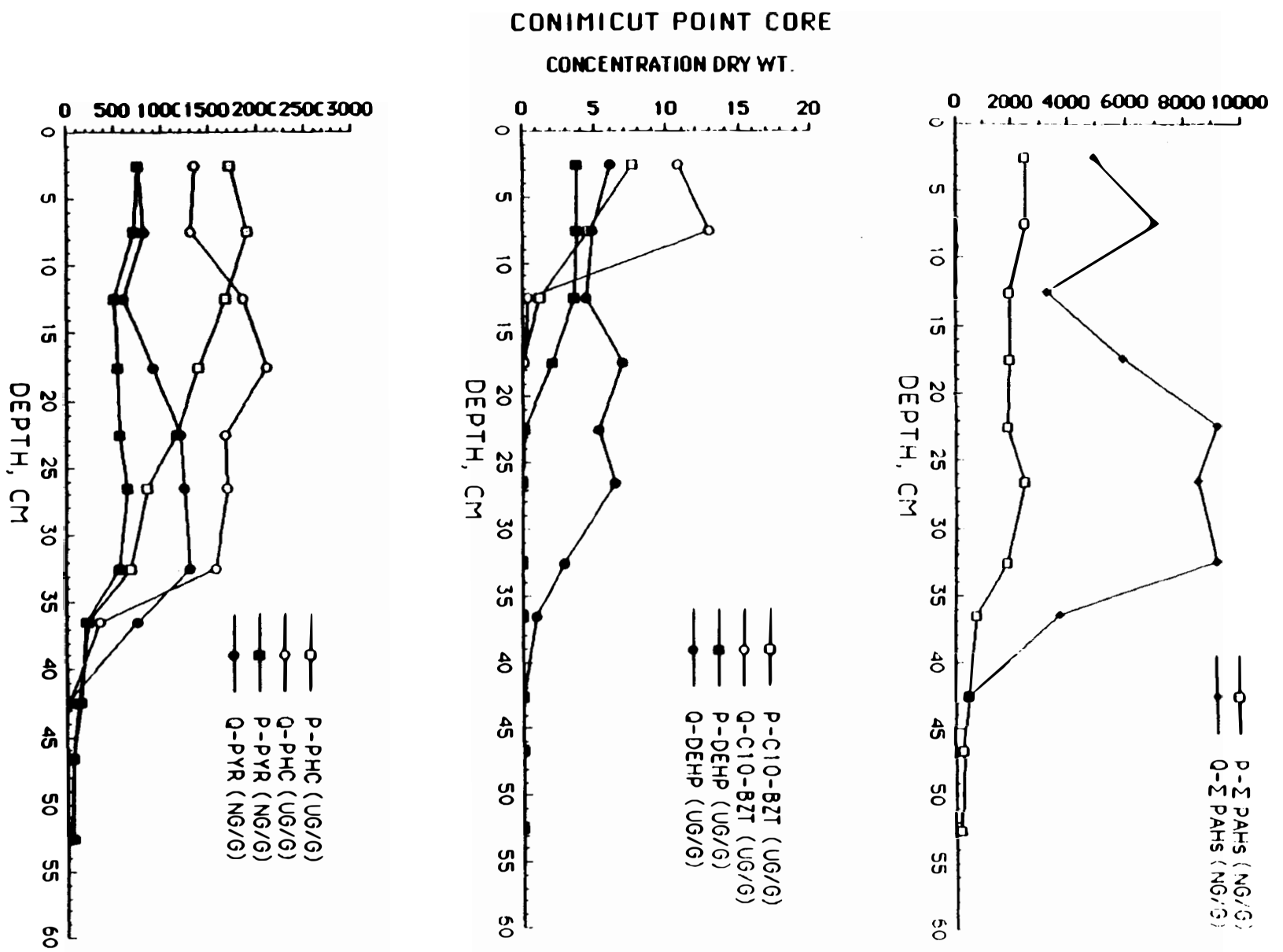

Figure 29. Comparison of Conimicut Point core data from Pruell and Quinn (1985, P) and the present study (Q).

Ms. Linda Nester of the GSO for their help in the preparation of the report. Finally, we thank the reviewers of this report for their helpful comments and suggestions.

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V. REFERENCES

Hurtt, A. C. and J. G. Quinn. 1979. Distribution of hydrocarbons in Narragansett Bay sediment cores. Environmental Science & Technology 13: 829-836.

King, J. W. 1988. Work/quality assurance project plan for a study of the sediments of Narragansett Bay. GSO/URI, 116 pp.

King, J. W., J. G. Quinn, R. McMaster and S. Pratt. 1991. A study of the sediments of Narragansett Bay. Final Report to the Narragansett Bay Project (First Draft), 180 pp..

King, J.W., J. Corbin, J.G. Quinn, R. McMaster and S. Pratt. 1992. A study of sediment cores from Narragansett Bay. Final Report to the Narragansett Bay Project (In Preparation).

Latimer, J. S. 1989. The sources, transport, and fate of polychlorinated biphenyls in Narragansett Bay. Ph.D. dissertation, University of Rhode Island, 414 pp.

Latimer, J.S., E.J. Hoffman, G. Hoffman, J.L. Fasching and J.G. Quinn. 1990a. Sources of petroleum hydrocarbons in urban runoff. Water, Air & Soil Poll. 52: 1-21.

Latimer, J.S., L.A. LeBlanc, J.T. Ellis, J. Zheng and J.G. Quinn. 1990b. The sources of PCBs to the Narragansett Bay estuary. The Sci. of the Total Environ 97/98: 155-167.

Latimer, J.S., L.A. LeBlanc, J.T. Ellis and J.G. Quinn. 1991. The distribution of PCBs in surface sediments of Narragansett Bay, Rhode Island. In: Organic Substances and Sediments in Water, Vol. 2: Processes and Analytical. R.A. Baker, Editor. Lewis Pub., Chelsea, MI, Chap. 11, pp. 221-248.

Latimer, J. S., J. G. Quinn, J. T. Ellis, and L. A. LeBlanc. 1992. Inputs of organic contaminants to Narragansett Bay under wet weather conditions. Final Report to the Narragansett Bay Project, 209 pp.

LeBlanc, L. A. 1989. The geochemistry of coprostanol in waters, surface sediments and sediment cores from Narragansett Bay. M.S. dissertation, University of Rhode Island, 197 pp.

LeBlanc, L.A., J.S. Latimer, J.T. Ellis and J.G. Quinn. 1992. The geochemistry of coprostanol in waters and surface sediments from Narragansett Bay. Estuarine, Coastal & Shelf Sci 34: 439-458.

O'Connor, T.P. and C.N. Ehler. 1991. Results from NOAA National Status and Trends Program on distributions and effects of chemical contamination in the coastal and estuarine United States. Environ. Monit. and Assess 17: 33-49.

Pruell, R. J. 1984. The geochemistry of organic contaminants in Narragansett Bay sediments and the availability of these compounds to the blue mussel, Mytilus edulis. Ph.D. dissertation, University of Rhode Island, 250 pp.

Pruell, R. J., E. J. Hoffman and J. G. Quinn. 1984. Total hydrocarbons, polycyclic aromatic hydrocarbons and synthetic organic compounds in the hard shell clam, Mercenaria mercenaria, purchased at commercial seafood stores. Mar. Environ. Res. 11: 163-181.

Pruell, R. J., D. B. Norwood, R. D. Bowen, R. E. Palmquist, and S. J. Fluck. 1988. Organic contaminants in quahogs, Mercenaria mercenaria, collected from Narragansett Bay. Final Report to the Narragansett Bay Project, 30 pp.

Pruell, R. J. and J. G. Quinn. 1985. Geochemistry of organic contaminants in Narragansett Bay sediments. Est. Coast. Shelf Sci. 21: 295-312.

Quinn, J. G. 1989. A review of the major research studies on petroleum hydrocarbons and polycyclic aromatic hydrocarbons in Narragansett Bay. Final Report to Narragansett Bay Project, 224 pp.

Quinn, J. G., E. J. Hoffman, J. S. Latimer, and C. G. Carey. 1985. A study of the water quality of the Pawtuxet River: chemical monitoring and computer modeling of pollutants. Report to the Division of Water Resources of the Rhode Island Department of Environmental Management, 249 pp.

Quinn, J. G., J. S. Latimer, C. G. Carey, J. T. Ellis, and J. Zheng. 1987. Development of a one dimensional water quality model for the Blackstone River; Part 1: Chemical monitoring of pollutants in the Blackstone River. Final Report to the Narragansett Bay Project Office, 171 pp.

Quinn, J. G., J. S. Latimer, J. T. Ellis, L. A. LeBlanc, and J. Zheng. 1988. Analyses of archived water samples for organic pollutants. Final report to the Narragansett Bay Project Office, 93 pp.

Schultz, D. M. and J. G. Quinn. 1977. Suspended material in Narragansett Bay: fatty acid and hydrocarbon composition. Org. Geochem. 1: 27-36.

Van Vleet, E. S. and J. G. Quinn. 1978. Contribution of chronic petroleum inputs to Narragansett Bay and Rhode Island Sound sediments. Journal of the Fisheries Research Board of Canada 35: 536-543.

Wade, T. L. and J. G. Quinn. 1979. Geochemical distribution of hydrocarbons in sediments from mid-Narragansett Bay, Rhode Island. Organic Geochem. 1: 157-167.

APPENDIX A

Work/Quality Assurance Project Plan

for

A Study of the Sediments of

Narragansett Bay

(From King, 1988)

11.1 ORGANIC CONTAMINANTS AND COPROSTANOL STUDIES:

A. Data Quality Requirements and Assessments

I. *Accuracy*

The accuracy of our procedures is measured as percent recovery of blank samples spiked with a laboratory standard mixture containing petroleum hydrocarbons, PAHs, PCBs, phthalates and coprostanol at concentrations similar to the lower values that we determine in our samples. These fortified blanks are analyzed at least once in twenty samples. In most cases, the recoveries are within 80-120 percent of the spike mixture, and in many cases the values are within ± 10% of the mixture. In addition, accuracy is also measured as percent recovery of specific organics in Standard Reference Materials (SRM), including NBS SRM 1649 (Urban Dust-PAHs) and Canadian NRC SRM HS-2 (PCBs in marine sediment) carried through our entire analytical procedure several times over the course of the project. Again, most of the recoveries are within 80-120 percent of the stated values, and many are within ± 10% of this value.

II. *Precision*

The precision of our procedures is measured as the relative standard deviation (RSD) of triplicate analyses, which are analyzed with every analytical batch over the course of the project. In all cases, the RSDs for both the organic and metal anlayses are 10% or better.

III. *Representativeness*

The representativeness of our sample procedures will be measured by collecting samples from different stations.

The sampling locations will be chosen in order to provide a representative series of samples.

IV. *Comparability*

The samples in this study are collected, prepared, and analyzed using established procedures that our laboratory has used over the past 15 years. These procedures have been thoroughly tested and used in several successful intra and interlaboratory comparisons.

In addition, most of these procedures have been reported in over 70 articles which have been published in refereed scientific journals; such as, Science, Nature, Environmental Science and Technology, Geochimica et Cosmochimica Acta, Organic Geochemistry, Chemical Geology, Marine Chemistry, Marine Biology, Marine Environmental Research, Toxicological and Environmental Chemistry, and The Journal of Water Pollution Control Federation.

V. *Completeness*

The completeness of the study will be measured as the percentage of total samples collected that were completely analyzed. Since all samples will be analyzed, we anticipate achieving 100 percent completeness. If a sample is lost or destroyed during the analytical procedures, that information will be included in our final report.

VI. *Limit of Detection*

Organics

The detection limits for our FID GC analyses are between 0.1 and 0.01 ug/l, depending on which specific component (e.g. individual PAH, individual phthalate, coprostanol) is being measured in a 4 liter sample. Values below these levels are reported as none detected (ND). In the case of ECD GC analyses, the detection limits are between 0.5 and 0.1 ng/l, depending on the specific component measured. The detection limits of our sediment analyses for a 10 g sample are as follows:

petroleum hydrocarbon (total)	1 ug/g dry weight;
PAHs (individual PAH)	10 ng/g dry weight;
PCBs (individual congener)	0.1 ng/g dry weight;
coprostanol	40 ng/g dry weight;
BZTs (individual BZT)	10 ng/g dry weight;
phthalates (individual phthalate)	40 ng/g dry weight.

12. 1 SAMPLING AND ANALYTICAL METHODS:

A. Sampling Methodology

A total of (10) samples will be taken from one core at each site. Samples will be taken a regular interval that will depend on the sedimentation rate at the site. Each sample will be a 2 cm slice of a freeze core. The sample will be taken with titanium tools to prevent contamination.

B. Analytical Methods

I. Organics (See Figure 1)

The detailed analytical methods for the organics are included in the plan on pages 29-32 and have been published (Pruell et al., 1984; Pruell and Quinn, 1985). These methods are modifications of EPA methods, and they have been successfully used in a number of laboratory intercalibrations (Farrington et al., 1976; Hoffman et al., 1984).

II. Filtration and Extraction

After drying to constant weight at room temperature, the samples are reweighed to determine the amount of dry weight of each sample and then stored at -20°C.

Internal standards were added to each sample (dissolved-soluble components) and these solutions were extracted once with a 10% volume of dichloromethane in the original glass sample container. The organic extracts were then isolated, solvent exchanged with hexane and reduced in volume on a rotary evaporator under reduced pressure at <30°C, and stored at room temperature.

Each sample was transferred to a round bottom flask. Internal standards were then added, followed by 50 to 200 ml of methanol, depending on the type and size of the sample. This mixture was refluxed for 2 hrs., cooled, and decanted into a separatory funnel. The sample was rinsed with petroleum ether, and the rinse was combined with the filtrate in the separatory funnel which also contained distilled water in a volume equal to or greater than that of the methanol added to the sample. The water:methanol mixture was extracted 3 times with petroleum ether and the extracts were combined and reduced to ca 15 ml using rotary evaporation and stored at room temperature.

Methanol was selected as the extraction solvent because we have found it to be safe, convenient, and to give quantitation recovery of a wider variety of organic compounds from wet sediments. We do not dry the sediments before extraction because this procedure will result in selective losses of some organic compounds; therefore, the solvent that we use must be miscible with water. We have selected methanol (Pruell and Quinn, 1985).

A rotary evaporator was selected to concentrate the sample extracts because it is a safe and convenient method, and it also gives excellent quantitative recovery of a wide variety of organic compounds (Pruell and Quinn, 1985).

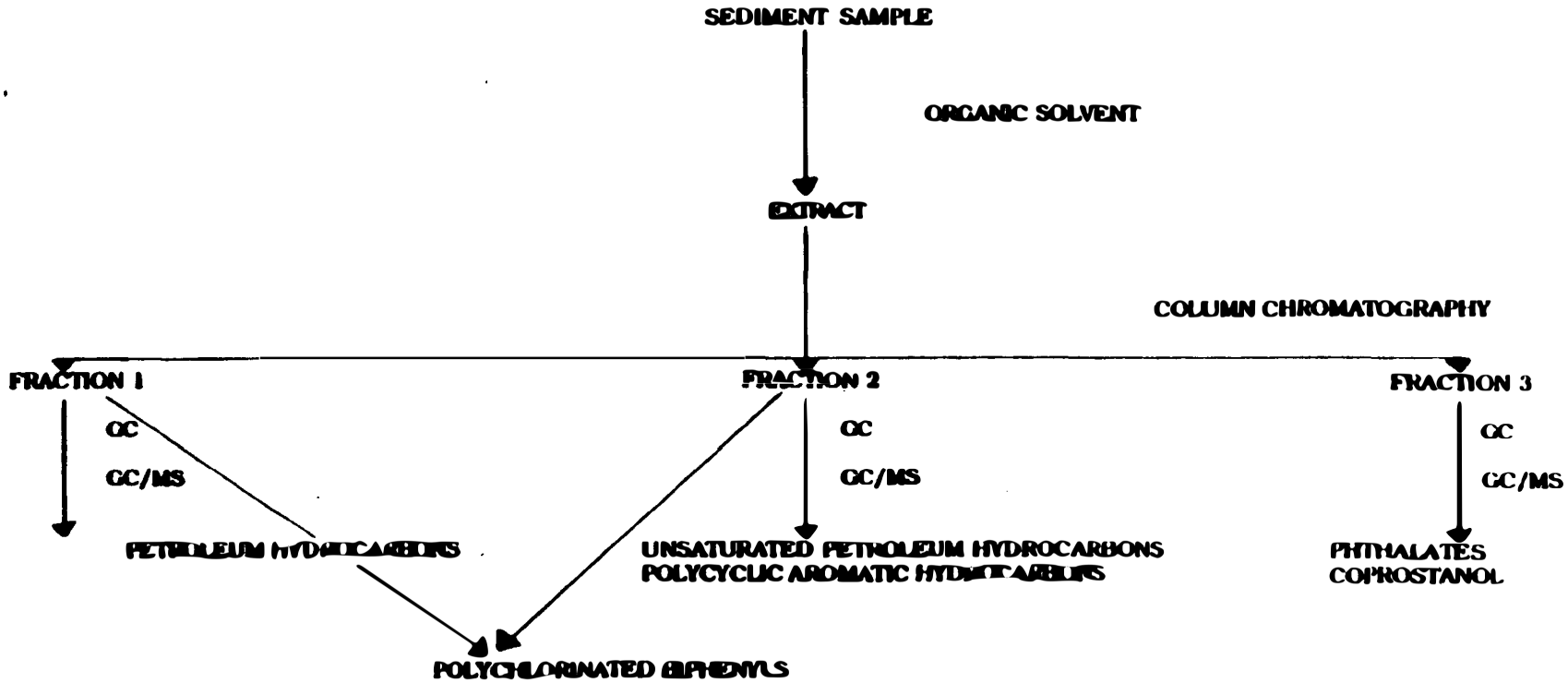

FIGURE 1. FLOW CHART FOR THE ANALYSES OF ORGANIC COMPOUNDS

III. Separation

All extracts were separated into three fractions by silica gel chromatography using a method modified from Pruell and Quinn. 1985. According to this procedure, the sample was reduced in volume to ca 2 ml and charged to a 0.5 cm x 10 cm column of fully activiated silica gel (Grace Grade 922) using nitrogen to produce a flow rate of ca 5 ml/minute. The first fraction (f_1) was eluted with 15 ml of petroleum ether and contains saturated petroleum hydrocarbons. The second fraction (f_2) was then eluted with 15 ml of 80:20 petroleum ether:dichloromethane. This fraction contains unsaturated petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs) with 2-6 fused rings. Phthalic acid esters and coprostanol were eluted into the third fraciton (f_3) using 15 ml of 80:20, dichloromethane:ethyl acetate. In addition, the polychlorinated biphenyls (PCBs) were obtained by charging a known amount of sample to a silica gel column and eluting with 80:20 petroleum ether:dichloromethane. In some cases, a second silica gel column (98:2; petroleum ether; dichloromethane) was required to clean up the PCB fraction.

IV. Analyses

Each fraction was concentrated on a rotary evaporator and analyzed on one of several different Hewlett-Packard gas chromatographs (GC). The f_1 was processed using a 5840A GC (FID) equipped with a 0.25 mm i.d. x 15m DB-5 (0.25 um; J & W, Inc.) fused silica capillary column with helium as the carrier gas (ca 1 ml/min) and temperature programmed from 35 to 290°C at 8°C/min. Second fractions (f_2) were analyzed under similar conditions on a 5890 GC. The f_3 was measured on a 5710A GC (FID) using a 30m DB-1701 (J & W, Inc.) column which was programmed from 150 to 290°C at 4°C/min with a helium flow of ca 1 ml/min. PCBs were analyzed on a 5710A GC (ECD) using a 30m DB-5 column programmed from 100-290°C at 8°C/min with a helium flow of 1 ml/min.

Resolved peaks were quantified against the internal standards using Hewlett Packard integrators (3388A and 3390A). The unresolved complex mixture (UCM) in f_1 and f_2 was measured by planimetry, and its area compared to that of the n-docosane (n-C_{22}) and m-terphenyl internal standards, respectively. Total petroleum hydrocarbons (HC) include the resolved and unresolved components in both fraciton 1 (saturated hydrocarbons) and fraction 2 (unsaturated hydrocarbons). The 16 priority pollutant PAHs in f_2 were also quantified against m-terphenyl. Those

components in f_3 were measured using the n-tricosanol (n-C_{23OH}) internal standard; they included three priority pollutant phthalates, [butyl benzyl-, bis(2-ethylhexyl-), and di-n-octyl-), and corprostanol. The PCBs were quantified against octachloronaphthalene internal standards using 4 peaks from each Aroclor mixture (i.e. 1248, 1254, and 1260). The organochlorine pesticides were also quantified using this internal standard. For purposes of discussion, the saturated and unsaturated HC are summed and called total HC; the 16 PAHs are summed and calle dtotal PAHs; the three phthalates are summed and called total phthalate; and the PCB mixtures are summed and called total PCBs.

Several samples were initially analyzed without the addition of internal standards in order to assess the background levels of these compounds. In all cases the background levels were insignificant when compared with the amount of internal standard added. Authentic standards were obtained for all of the compounds analyzed. Peak identification by retention time was confirmed by gas chromatography-mass spectrometry. The primary method of identification of compounds is by retention time on two different columns and analyses before and after derivativization. A small number of samples are analyzed by combined gas chromatography-mass spectrometry to confirm the qualitative identification of selected compounds. This instrumentation included a Shimadzu gas chromatograph (Model GC-4 Cm) equipped with a 30m SE-52 or DB-5 glass capillary column connected to a Finnigan 1015 mass spectrometer with a Systems Industries data system and Riber 400 D-8 software.

REFERENCES

Pruell, R.J., E.J. Hoffman, and J.G. Quinn. 1984. Total hydrocarbons, polycyclic aromatic hydrocarbons and synthetic organic compounds in the hard shell clam, Mercenaria mercenaria, purchased at commercial seafood stores. Marine Environmental Research, 11: 163-181.

Pruell, R.J. and J.g. Quinn. 1985. Geochemistry of organic contaminants in Narragansett Bay sediments. Estuarine, Coastal and Shelf Science, 21: 295-312.

Farrington, J.W., J.M. Teal, G.C. Medeiros, K.A. Burns, E.A. Robinson, Jr., J.G. Quinn, and T.L. Wade. 1976. Intercalibration of gas chromatographic analyses for hydrocarbons in tissues and extracts of marine organisms. Analytical Chemistry, 48: 1711-1716.

Hoffman, E.J., G.L. Mills, J.S. Latimer, and J.G. Quinn. 1984. Urban runoff as a source of polycyclic aromatic hydrocarbons to coastal waters. Environmental Science & Technology, 18: 580-587.

ORGANIC GEOCHEMISTRY LABORATORY
GRADUATE SCHOOL OF OCEANOGRAPHY

	Abbrev.	Component Name	[CAS]
1.	SS:	suspended solids	
2.	OC:	organic carbon	
3.	F1-RES:	gc resolved fraction 1 saturated petroleum hydrocarbons	
4.	F1-UCM:	gc unresolved fraction 1 saturated petroleum hydrocarbons	
5.	ΣPHC:	sum of RES and UCM saturated petroleum hydrocarbons, F1	
6.	nC15:	pentadecane	629-62-9
7.	nC16:	hexadecane	544-76-3
8.	nC17:	heptadecane	629-78-7
9.	pristane:	pristane	1921-70-6
10.	nC18:	octadecane	593-45-3
11.	phytane:	phytane	638-36-8
12.	nC19:	nonadecane	629-92-5
13.	nC21:	heneicosane	629-94-7
14.	nC23:	tricosane	638-67-5
15.	nC24:	tetracosane	646-31-1
16.	nC25:	pentacosane	629-99-2
17.	nC26:	hexacosane	630-01-3
18.	nC27:	heptacosane	593-49-7
19.	nC28:	octacosane	630-02-4
20.	nC29:	nonacosane	630-03-5
21.	nC30:	triacontane	638-68-6
22.	nC31:	hentriacontane	?
23.	nC32:	dotriacontane	544-85-4
24.	Ar 1242:	PCB formulation: Aroclor 1242	534-692-19
25.	Ar 1254:	PCB formulation: Aroclor 1254	110-976-91
26.	Ar 1260:	PCB formulation: Aroclor 1260	110-968-25
27.	CB101:	2,2',4,5,5'-pentachlorobiphenyl (IUPAC # 101)	37680-73-2
28.	CB151:	2,2',3,5,5',6-hexachlorobiphenyl (IUPAC #151)	52663-63-5
29.	CB153:	2,2',4,4',5,5'-hexachlorobiphenyl (IUPAC #153)	35065-27-1
30.	CB138:	2,2',3,4,4',5'-hexachlorobiphenyl (IUPAC #138)	35065-28-2
31.	CB180:	2,2',3,4,4',5,5'-heptachlorobiphenyl (IUPAC #180)	35065-29-3
32.	CB170:	2,2',3,3',4,4',5-heptachlorobiphenyl (IUPAC #170)	35065-30-6
33.	CB201:	2,2',3,3',4,5',6,6'-octachlorobiphenyl (IUPAC #201)	40186-71-8
34.	CB195:	2,2',3,3',4,4',5,6-octachlorobiphenyl (IUPAC #195)	52663-78-2
35.	CB194:	2,2',3,3',4,4',5,5'-octachlorobiphenyl (IUPAC #194)	35694-08-7
36.	CB209:	-decachlorobiphenyl (IUPAC #209)	2051-24-3
37.	Σ CON:	sum of the specified chlorobiphenyls	
38.	p,p'-DDE:	p,p'-(dichlorodiphenyldichloro)ethene	72-55-9
39.	p,p'-DDD:	p,p'-(dichlorodiphenyldichloro)ethane	72-54-8
40.	p,p'-DDT:	p,p'-(dichlorodiphenyltrichloro)ethane	50-29-3
41.	a-HCH:	1α,2α,3ß,4α,5ß,6ß-hexachorocyclohexane	319-84-6
42.	b-HCH:	1α,2ß,3α,4ß,5α,6ß-hexachorocyclohexane	319-85-7
43.	g-HCH:	1α,2α,3ß,4α,5α,6ß-hexachorocyclohexane (lindane)	58-89-9
44.	Nap:	naphthalene	91-20-3
45.	AcL (ANT):	acenaphthylene	208-96-3

	Abbrev	Component Name	[CAS]
46.	Acn (ANE):	acenaphthene	83-32-9
47.	Flu (FLO):	fluorene	86-73-7
48.	Phe (PHN):	phenanthrene	85-01-08
49.	Ane (ANC):	anthracene	120-12-7
50.	Flr (FLU):	fluoranthene	206-44-0
51.	Pyr:	pyrene	129-00-0
52.	BaA:	benzo (a) anthracene	56-55-3
53.	Chr:	chrysene	218-01-9
54.	B(b+k)F:	benzo (b) fluoranthene+benzo (k) fluoranthene	205-99-2
55.	B(b)F (BbF):	benzo (b) fluoranthene	207-08-9
56	B(k)F (BkF):	benzo (k) fluoranthene	
57.	BaP:	benzo (a) pyrene	50-32-8
58.	InP:	indeno [1,2,3-cd] pyrene	193-39-5
59.	DbA (DaA):	dibenzo [a,h] anthracene	53-70-3
60.	Bpr (BgP):	benzo [ghi] perylene	191-245-2
61.	Σ 16 PAH:	sum of specified polycyclic aromatic hydrocarbons	
62.	Ret:	retene	?
63.	Pyl:	perylene	198-55-0
64.	Squ:	squalene	111-02-4
65.	C10BZT:	c10-benzotriazole	25973-55-1
66.	CLBZT:	chloro-benzotriazole	3964-99-1
67.	C26-AL.	26 carbon normal aldehyde	
68.	C27-AL:	27 carbon normal aldehyde	
69.	C28-AL:	28 carbon normal aldehyde	
70.	C29-AL:	29 carbon normal aldehyde	
71.	C30-AL:	30 carbon normal aldehyde	
72.	C31-AL:	31 carbon normal aldehyde	
73.	C32-AL:	32 carbon normal aldehyde	
74.	BeP:	benzo (e) pyrene	192-97-2
75.	C1BZT:	c1-benzotriazole	2440-22-4
76.	DBP:	di-n-butyl phthalate	84-74-2
77.	BBP:	benzyl butyl phthalate	85-68-7
78.	DEHP (DHP):	di-2-ethylhexyl phthalate	117-81-7
79.	DOP:	di-n-octyl phthalate	117-84-0
80.	COP:	coprostanol	360-68-9
81.	CHLE (CHO):	cholesterol	57-88-5
82.	CHLA:	cholestanol	80-97-7
83.	PHYO:	phytol	150-86-7

APPENDIX B

Sediment Trap Materials

1) Pawtuxet Cove #1
2) Pawtuxet Cove #2
3) Fields Point
4) Fox Point
5) Conimicut Point
6) Ohio Ledge
7) Pawtuxet River
8) Blackstone River

PTUX COVE #1	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
Sample	F1-RES	F1-UCM	Σ PHC	nC15	nC16	nC17	Pristane	nC18	phytane	nC19
A	150.91	1921	2072	0.272	0.204	0.893	0.423	0.459	0.617	0.841
B	106.73	1337	1443	0.405	0.237	1.409	0.509	0.588	0.845	1.020
C,D	153.65	2569	2723	0.000	0.000	1.085	0.675	0.616	1.176	1.182
CENTER	193.99	2854	3048	1.103	0.865	3.303	1.819	1.362	1.810	1.555
GARDENER	153.72	1757	1911	0.366	0.275	0.987	0.730	0.439	0.691	0.807
Mean	151.8	2088	2239	0.4	0.3	1.5	0.8	0.7	1.0	1.1
RSD	20.4	29.5	28.7	95.2	102.7	65.6	68.1	55.1	47.4	28.2
PTUX COVE #2										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	211.50	2178	2389	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean	211.50	2178	2389							
RSD										
FIELDS POINT										
A	229.00	3395	3624	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
B	212.00	2886	3098	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
C	245.50	3031	3277	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
D	145.00	1677	1822	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
CENTER	N.A.	N.A.	N.A.	N.A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	334.30	3774	4108		N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean	233.16	2953	3186							
RSD	29.3	26.8	26.8							

N.A.= not analyzed
N.C.= not calculated
0 = not detected

PTUX COVE #1	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
Sample	nC21	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32
A	2.377	2.178	1.924	4.498	3.291	5.156	3.053	8.939	2.286	7.126	2.015
B	2.145	1.464	1.302	3.145	1.572	3.538	1.756	5.839	1.495	4.403	1.412
C,D	1.969	1.895	2.039	4.519	4.237	5.649	3.036	10.962	2.986	8.115	2.254
CENTER	2.108	1.811	1.907	4.876	4.179	6.269	3.835	12.291	2.722	11.860	2.462
GARDENER	2.040	1.185	1.461	3.354	3.400	6.120	4.292	9.845	2.489	7.325	1.853
Mean	2.1	1.7	1.7	4.1	3.3	5.3	3.2	9.6	2.4	7.8	2.0
RSD	7.3	22.7	18.8	19.0	32.3	20.6	30.2	29.4	23.7	34.6	20.1
PTUX COVE #2											
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean											
RSD											
FIELDS POINT											
A	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
B	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
C	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
D	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean											
RSD											

N.A.= not analyzed
N.C.= not calculated
0 = not detected

PTUX COVE #1	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
Sample	Ar 1242	Ar 1254	Ar 1260	CB101	CB151	CB153	CB138	CB180	CB170	CB201
A	163.90	258.75	136.12	22.444	6.889	15.303	19.727	12.374	5.798	8.626
B	108.40	255.72	120.43	21.646	6.747	14.485	19.293	10.545	5.010	7.424
C,D	140.48	244.94	119.12	19.859	6.000	13.717	18.717	10.616	5.212	7.758
CENTER	147.65	330.88	165.26	26.889	9.377	18.990	24.402	14.040	6.563	9.769
GARDENER	94.79	186.60	105.85	13.710	4.870	10.760	14.590	8.810	4.320	6.790
Mean	131.0	255.4	129.4	20.9	6.8	14.7	19.3	11.3	5.4	8.1
RSD	21.8	20.1	17.6	22.9	24.5	20.3	18.0	17.7	15.7	14.3
PTUX COVE #2										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	286.91	475.76	144.69	44.114	12.593	18.870	27.114	9.846	7.504	9.236
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	179.46	298.93	112.59	27.913	7.898	13.024	18.150	8.331	5.780	7.496
Mean	233.19	387.35	128.64	36.01	10.25	15.95	22.63	9.09	6.64	8.37
RSD	32.6	32.3	17.6	31.8	32.4	25.9	28.0	11.8	18.4	14.7
FIELDS POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	0.000	294.18	263.39	23.810	9.540	24.560	28.540	22.080	9.810	12.620
Mean	0.00	294.18	263.39	23.81	9.54	24.56	28.54	22.08	9.81	12.62
RSD										

N.A.= not analyzed
N.C.= not calculated
0 = not detected

PTUX COVE #1	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
Sample	CB195	CB194	CB209	∑ CON	pp'-DDE	pp'-DDD	pp'-DDT	a-HCH	b-HCH	g-HCH
A	1.081	3.970	11.061	110.27	10.707	0.000	8.404	0.000	0.000	0.000
B	3.545	3.424	8.879	101.00	9.384	0.000	9.455	0.000	0.000	0.000
C,D	3.707	3.545	10.040	99.171	10.434	0.000	12.071	0.000	0.000	0.000
CENTER	5.241	4.497	14.312	134.08	13.633	0.000	0.000	0.000	0.000	0.000
GARDENER	3.360	3.200	8.740	79.150	7.080	0.000	0.000	0.000	0.000	0.000
Mean	4.0	3.7	10.6	104.73	10.2	0.0	6.0	0.0	0.0	0.0
RSD	18.8	13.8	21.5	19.0	23.1		94.0			
PTUX COVE #2										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	1.398	3.772	10.480	147.93	22.114	0.000	0.000	0.000	0.000	0.000
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	1.228	2.843	11.220	106.88	15.858	0.000	0.000	0.000	0.000	0.000
Mean	4.31	3.31	10.85	127.41	18.99	0.00	0.00	0.00	0.00	0.00
RSD	2.8	19.9	4.8	22.8	23.3					
FIELDS POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	1.540	6.920	12.290	154.71	7.640	0.000	0.000	0.000	0.000	0.000
Mean	4.54	6.92	12.29	154.71	7.64	0.00	0.00	0.00	0.00	0.00
RSD										

N.A.= not analyzed
N.C.= not calculated
0 = not detected

PTUX COVE #1	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
Sample	Nap	AcL	Acn	Flu	Phe	Ane	Flr	Pyr	BaA	Chr	B(b+k)F
A	0.0	0.0	0.0	0.0	1.7	0.2	N.C	3.3	1.4	2.6	4.6
B	0.0	0.0	0.0	0.0	1.4	0.4	N.C	2.4	1.1	2.1	3.4
C,D	0.0	0.0	0.0	0.0	1.7	0.1	10.8	7.2	5.0	10.0	16.9
CENTER	0.0	0.0	0.0	0.0	1.8	N.C	8.4	3.9	1.7	3.6	4.1
GARDENER	0.0	0.0	0.0	0.0	1.5	0.2	3.5	2.3	0.9	1.9	3.1
Mean	0.0	0.0	0.0	0.0	1.6	0.2	7.6	3.8	2.0	4.0	6.4
RSD					10.1	55.9	49.2	52.4	83.8	84.1	91.7
PTUX COVE #2											
A	0.0	0.0	0.0	0.1	2.0	0.8	9.0	7.8	2.7	5.1	8.6
B	0.0	0.0	0.0	N.C	2.4	0.5	5.5	4.5	1.8	3.5	7.5
C	0.0	0.0	0.0	N.C	2.6	0.7	5.3	4.3	1.4	2.6	4.8
D	0.0	0.0	0.0	N.C	3.2	0.7	8.4	6.7	2.1	4.1	5.8
CENTER	0.0	0.0	0.0	N.C	1.9	1.0	5.5	4.6	1.8	3.4	6.2
GARDENER	0.0	0.0	0.0	N.C	2.1	0.7	6.2	4.7	1.3	2.3	4.3
Mean	0.00	0.00	0.00	0.10	2.37	0.73	6.65	5.43	1.85	3.50	6.20
RSD					20.5	22.3	24.5	26.8	27.5	29.1	26.2
FIELDS POINT											
A	0.0	0.0	0.0	N.C.	2.3	N.C.	3.2	2.7	1.5	2.6	3.4
B	0.0	0.2	0.0	0.2	0.7	N.C.	2.5	2.6	1.0	1.5	1.9
C	0.0	0.2	0.0	0.0	0.6	N.C.	2.6	2.4	1.1	2.0	2.4
D	0.0	0.1	0.0	0.3	0.6	N.C.	1.9	1.7	0.4	0.7	1.4
CENTER	0.2	0.1	0.0	0.2	0.8	N.C.	2.7	2.8	1.0	1.5	2.2
GARDENER	0.0	0.0	0.0	0.0	1.0	N.C.	3.6	3.2	1.5	2.5	3.0
Mean	0.03	0.10	0.00	0.14	1.00		2.75	2.57	1.08	1.80	2.38
RSD	244.9	89.4		95.8	65.4		21.4	19.5	37.6	39.8	30.5

N.A.= not analyzed
N.C.= not calculated
0 = not detected

PTUX COVE #1	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
Sample	BaP	InP	DbA	Bpr	Σ PAH*	C10BZT	CLBZT	BeP
A	1.4	2.4	0.4	1.8	19.8	6.54	2.93	2.39
B	1.2	2.1	0.4	1.5	16.0	4.63	2.32	1.77
C,D	5.8	9.4	2.1	7.5	76.5	9.45	5.50	7.92
CENTER	2.5	N.C.	N.C.	N.C.	26.0	7.09	4.19	3.25
GARDENER	1.3	1.4	0.3	1.6	18.0	2.90	1.92	1.96
Mean	2.4	3.8	0.8	3.1	31.3	6.1	3.4	3.5
RSD	79.9	97.8	108.5	94.7	81.8	40.7	43.5	74.0
PTUX COVE #2								
A	3.7	4.3	1.1	2.8	48.0	1.89	1.36	4.06
B	3.2	3.3	1.0	2.8	36.0	0.69	0.32	3.38
C	2.0	2.4	0.8	1.7	28.6	1.67	1.79	2.16
D	2.3	2.4	0.7	1.8	30.2	1.15	0.99	2.51
CENTER	2.7	4.7	1.3	2.7	35.8	1.95	2.51	3.12
GARDENER	1.7	1.7	0.5	1.2	26.7	0.75	0.56	1.98
Mean	2.60	3.13	0.90	2.17	35.55	1.35	1.26	2.87
RSD	29.0	37.7	32.2	31.8	21.4	41.8	64.7	27.7
FIELDS POINT								
A	2.2	4.9	1.8	1.7	26.3	0.94	0.38	3.68
B	1.4	3.9	1.5	1.2	18.6	1.15	0.42	1.80
C	1.7	4.3	1.6	1.4	20.3	1.67	0.59	2.95
D	0.9	1.7	0.4	0.6	10.7	0.63	0.28	1.80
CENTER	1.3	3.3	1.3	1.0	18.4	0.69	0.28	2.54
GARDENER	1.9	3.2	1.3	1.6	22.8	1.41	0.59	3.04
Mean	1.57	3.55	1.32	1.25	19.52	1.08	0.42	2.64
RSD	29.6	31.2	37.0	32.7	26.8	37.8	33.2	28.2

N.A.= not analyzed
N.C.= not calculated
0 = not detected

*major PAHs only

	ug/gm F1-RES	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18	ug/gm phytane	ug/gm nC19
FOX POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	673.20	6210	6883	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	499.60	6345	6845	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
CENTER OVERFLOW	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	504.00	5712	6216	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean	558.93	6089	6648							
RSD	17.7	5.5	5.6							
CONIMICUT POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	62.90	797.70	860.60	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean	62.90	797.70	860.60							
RSD										
OHIO LEDGE										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C,D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	44.20	585.70	629.90	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean	44.20	585.70	629.90							
RSD										
RHODES ON PTUX-WET										
GARDENER	65.00	735.00	800.00	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
BLACKSTONE R.-WET										
GARDENER	49.00	521.00	570.00	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
FOX POINT	nC21	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
CENTER OVERFLOW	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean											
RSD											
CONIMICUT POINT											
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean											
RSD											
OHIO LEDGE											
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C,D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
Mean											
RSD											
RHODES ON PTUX-WET											
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
BLACKSTONE R.-WET											
GARDENER	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201
FOX POINT										
A	242.56	578.31	552.36	57.738	24.168	55.308	63.280	50.234	20.280	28.720
C	248.92	592.97	750.10	52.377	26.189	59.283	71.651	65.198	26.698	39.009
D	230.07	582.63	593.98	54.159	23.794	52.178	63.794	53.682	22.411	50.813
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER OVERFLOW	310.78	675.53	674.79	63.230	27.560	61.890	73.650	59.580	24.920	35.150
GARDENER	244.88	637.97	596.89	57.754	25.246	57.430	68.912	54.281	22.474	31.386
Mean	255.44	613.48	633.62	57.05	25.39	57.22	68.26	56.59	23.36	37.02
RSD	12.4	6.8	12.4	7.3	6.0	6.5	6.8	10.3	10.6	23.3
CONIMICUT POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	0.000	89.160	0.000	7.211	2.505	7.697	8.651	6.174	2.587	4.165
Mean	0.00	89.16	0.00	7.21	2.51	7.70	8.65	6.17	2.59	4.17
RSD										
OHIO LEDGE										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C,D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	0.000	101.60	59.580	7.827	2.741	7.173	8.797	4.406	2.096	3.294
Mean	0.00	101.60	59.58	7.83	2.74	7.17	8.80	4.41	2.10	3.29
RSD										
RHODES ON PTUX-WET										
GARDENER	80.750	145.76	0.000	10.182	3.082	6.527	9.082	4.318	2.609	4.309
BLACKSTONE R.-WET										
GARDENER	0.000	137.69	218.03	10.829	5.657	13.843	15.536	18.514	7.814	10.121

N.A.= not analyzed
N.C.= not calculated
0 = not detected

	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm Σ CON	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH
FOX POINT										
A	7.551	14.009	17.215	338.50	14.561	0.000	0.000	0.000	0.000	0.000
C	10.179	21.604	18.377	390.56	15.670	0.000	0.000	0.000	0.000	0.000
D	8.383	16.850	17.916	363.98	17.935	0.000	0.000	0.000	0.000	0.000
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER OVERFLOW	9.970	17.770	20.910	394.63	16.660	0.000	0.000	0.000	0.000	0.000
GARDENER	8.728	15.649	18.965	360.83	15.649	0.000	0.000	0.000	0.000	0.000
Mean	8.96	17.18	18.68	369.70	16.10	0.00	0.00	0.00	0.00	0.00
RSD	12.3	16.6	7.5	6.3	7.9					
CONIMICUT POINT										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	1.651	1.954	3.578	46.173	3.073	0.000	0.000	0.000	0.000	0.000
Mean	1.65	1.95	3.58	46.17	3.07	0.00	0.00	0.00	0.00	0.00
RSD										
OHIO LEDGE										
A	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
B	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
C,D	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
CENTER	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
GARDENER	1.472	1.299	2.736	41.841	3.487	0.000	0.000	0.000	0.000	0.000
Mean	1.47	1.30	2.74	41.84	3.49	0.00	0.00	0.00	0.00	0.00
RSD										
RHODES ON PTUX-WET										
GARDENER	2.836	1.291	8.455	52.691	4.909	0.000	0.000	0.000	0.000	0.000
BLACKSTONE R.-WET										
GARDENER	2.636	6.393	2.043	93.386	1.050	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F
FOX POINT											
A	0.0	0.0	0.0	0.4	1.1	N.C.	4.1	4.5	1.6	2.0	3.3
C	0.0	0.0	0.0	0.4	2.1	N.C.	5.3	5.0	1.8	2.9	3.5
D	0.0	0.0	0.0	0.0	1.3	N.C.	5.1	4.8	1.8	2.8	6.6
CENTER	0.0	0.0	0.0	0.0	1.2	N.C.	5.0	4.5	3.0	4.1	5.6
CENTER OVERFLOW	0.0	0.0	0.0	0.4	2.0	N.C.	5.0	4.8	1.7	2.8	3.6
GARDENER	0.0	0.0	0.0	0.3	1.5	N.C.	4.9	4.8	2.1	2.7	5.7
Mean	0.00	0.00	0.00	0.25	1.53		4.90	4.73	2.00	2.88	4.72
RSD				79.0	27.6		8.5	4.2	25.9	23.6	30.0
CONIMICUT POINT											
A	0.0	0.0	0.1	0.2	0.4	N.C.	1.0	1.0	0.2	0.4	1.0
B	0.0	0.0	0.0	0.1	0.2	N.C.	0.8	0.8	0.3	0.5	0.8
C	0.0	0.0	0.0	0.0	0.1	N.C.	0.9	0.7	0.3	0.5	0.8
D	0.0	0.0	0.0	0.1	0.2	N.C.	0.8	0.6	0.3	0.5	0.8
CENTER	0.0	0.0	0.0	0.1	N.C.	N.C.	1.0	1.0	0.4	0.5	1.4
GARDENER	0.0	0.0	0.0	0.0	0.6	N.C.	1.6	1.3	0.4	0.6	0.9
Mean	0.00	0.00	0.02	0.08	0.30		1.02	0.90	0.32	0.50	0.95
RSD			244.9	90.3	66.7		29.5	28.1	23.8	12.6	24.7
OHIO LEDGE											
A	0.0	0.0	0.0	0.1	0.4	N.C.	0.9	0.8	0.3	0.4	0.8
B	0.0	0.0	0.1	0.1	0.2	N.C.	0.6	0.5	0.1	0.2	0.6
C,D	0.0	0.0	0.1	0.2	0.2	N.C.	0.6	0.5	0.1	0.1	0.3
CENTER	0.0	0.0	0.0	0.1	0.2	N.C.	0.9	0.9	0.3	0.4	0.7
GARDENER	0.0	0.0	0.0	0.1	0.2	N.C.	0.6	0.6	0.3	0.4	1.0
Mean	0.00	0.00	0.04	0.12	0.24		0.72	0.66	0.22	0.30	0.68
RSD			136.9	37.3	37.3		22.8	27.5	49.8	47.1	38.1
RHODES ON PTUX-WET											
GARDENER	0.0	0.0	0.0	0.0	1.2	0.0	3.3	2.6	0.6	1.1	N.C.
BLACKSTONE R.-WET											
GARDENER	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.5	0.1	0.2	N.C.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm Σ PAH*	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP
FOX POINT								
A	2.8	3.5	1.2	2.1	26.6	1.00	0.18	3.33
C	2.7	2.8	0.9	2.0	29.4	0.80	0.17	3.27
D	3.3	4.3	1.3	2.6	33.9	0.95	0.24	3.88
CENTER	3.9	4.5	1.5	2.9	36.2	0.94	0.26	4.13
CENTER OVERFLOW	2.4	3.0	1.0	1.8	28.5	0.62	0.17	2.75
GARDENER	2.8	3.2	0.9	2.3	31.2	0.91	0.19	3.38
Mean	2.98	3.55	1.13	2.28	30.97	0.87	0.20	3.46
RSD	17.9	19.7	21.4	17.8	11.5	16.0	19.2	14.1
CONIMICUT POINT								
A	0.4	1.8	0.9	0.5	7.9	0.38	0.10	0.68
B	0.4	1.1	0.3	0.4	5.7	0.91	0.29	0.79
C	0.4	1.3	0.4	0.4	5.8	1.64	0.53	0.86
D	0.5	0.8	0.2	0.4	5.2	1.12	0.35	0.68
CENTER	0.6	1.2	0.4	0.5	7.1	0.73	0.31	0.97
GARDENER	0.4	0.8	0.3	0.3	7.2	0.64	0.25	0.80
Mean	0.45	1.17	0.42	0.42	6.48	0.90	0.31	0.80
RSD	18.6	31.9	59.6	18.1	16.4	48.6	45.9	13.9
OHIO LEDGE								
A	0.4	0.4	0.1	0.3	4.9	0.20	0.07	0.42
B	0.3	0.5	0.2	0.3	3.7	0.49	0.16	0.44
C,D	0.2	0.4	0.2	0.2	3.1	0.19	0.07	0.34
CENTER	0.4	0.5	0.1	0.3	4.8	0.39	0.14	0.52
GARDENER	0.5	0.7	0.2	0.3	4.9	0.39	0.12	0.62
Mean	0.36	0.50	0.16	0.28	4.28	0.33	0.11	0.47
RSD	31.7	24.5	34.2	16.0	19.4	39.6	36.5	22.7
RHODES ON PTUX-WET								
GARDENER	0.8	N.C.	N.C.	N.C.	9.6	0.31	0.27	1.07
BLACKSTONE R.-WET								
GARDENER	0.4	N.C.	N.C.	N.C.	1.9	0	0	0.71

N.A.= not analyzed
N.C.= not calculated
0 = not detected

*major PAHs only

APPENDIX C

Surface Sediments and Hard Shell Clams

1) Twenty-six surface samples from throughout the bay

2) Nine clam samples from throughout the bay

Surface
Sediments
Dry wt.

Station #	% MOIST.	Km DISTANCE	mg/gm TOC	ug/gm F1 res	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17
1	78.00	0.00	85.64	76.037	3702	3778	0.000	0.000	0.555
1-a	74.00	0.00	66.15	112.15	4643	4755	0.320	0.553	0.325
2	67.00	4.08	49.11	37.012	2380	2417	0.000	0.000	0.000
2-a	78.00	3.71	61.18	60.155	2020	2080	0.433	0.780	0.792
3	76.00	7.04	52.80	26.333	1161	1187	0.253	0.000	0.266
3-a	74.00	7.04	51.82	57.219	2656	2713	0.204	0.000	0.492
4	35.00	9.82	8.54	2.532	145.15	147.68	0.000	0.000	0.125
4-a	69.00	11.49	46.94	85.740	1084	1170	0.000	0.000	0.427
5	35.00	11.86	2.94	0.753	39.044	39.797	0.000	0.000	0.000
5-a	63.00	16.12	39.99	10.370	577.08	587.45	0.000	0.000	0.701
6	64.00	13.90	49.13	4.565	501.75	506.32	0.000	0.000	0.561
7	75.00	12.60	50.29	14.404	589.58	603.98	0.000	0.000	0.502
8	34.00	16.12	12.63	3.731	160.01	163.74	0.060	0.000	0.110
9	68.00	17.23	41.83	11.893	488.69	500.58	0.165	0.000	0.176
10	20.00	14.08	9.99	0.822	39.196	40.018	0.000	0.000	0.033
11	59.00	21.12	33.22	4.733	196.06	200.79	0.059	0.000	0.132
12	56.00	21.87	35.39	6.238	217.56	223.80	0.144	0.000	0.151
13	29.00	25.57	5.57	0.611	29.486	30.097	0.016	0.000	0.044
14	32.00	31.87	8.96	0.877	38.227	39.104	0.000	0.000	0.022
15	48.00	34.28	36.41	52.274	2037	2089	0.000	0.000	0.355
16	36.00	36.32	8.72	1.089	37.226	38.315	0.000	0.000	0.019
17	72.00	15.75	65.82	11.177	461.15	472.33	0.210	0.000	0.863
18	62.00	20.57	37.47	8.750	366.69	375.44	0.000	0.000	0.370
19	50.00	28.17	16.04	3.895	122.73	126.63	0.062	0.000	0.100
20	54.00	34.28	21.71	2.916	103.28	106.20	0.180	0.000	0.114
21	27.00	41.88	4.97	0.245	12.608	12.853	0.000	0.000	0.011
mudhole	71.00		4.80	2.13	7.73	9.86	N.A.	N.A.	N.A.

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ug/gm pristane	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC20	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25
1	1.308	0.000	0.000	0.000	0.000	0.000	0.000	0.794	2.627
1-a	0.356	0.281	2.741	0.000	0.000	0.000	0.608	1.169	1.233
2	0.000	0.000	0.776	0.000	0.000	0.598	0.526	0.000	1.783
2-a	0.504	0.719	1.267	0.648	0.000	0.108	0.411	0.779	3.476
3	0.000	0.000	0.408	0.000	0.162	0.000	0.314	1.002	1.679
3-a	0.000	0.238	1.403	0.236	0.000	0.000	0.309	0.419	2.004
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.411
4-a	0.000	0.000	0.570	0.000	0.000	0.000	0.045	0.448	2.142
5	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.033	0.114
5-a	0.000	0.000	0.000	0.000	0.066	0.000	0.170	0.120	0.774
6	0.000	0.000	0.000	0.000	0.000	0.000	0.133	0.000	0.796
7	0.000	0.000	0.102	0.000	0.046	0.000	0.189	0.121	1.342
8	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.029	0.611
9	0.000	0.000	0.000	0.000	0.000	0.000	0.058	0.193	1.293
10	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.031	0.102
11	0.000	0.000	0.055	0.000	0.000	0.000	0.064	0.152	0.443
12	0.000	0.000	0.000	0.000	0.000	0.000	0.108	0.000	0.390
13	0.000	0.000	0.016	0.000	0.000	0.000	0.019	0.000	0.092
14	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.118
15	0.000	0.000	0.639	0.000	0.566	0.000	1.389	0.840	1.705
16	0.000	0.000	0.000	0.009	0.000	0.000	0.021	0.000	0.089
17	0.000	0.000	0.082	0.000	0.000	0.000	0.191	0.101	1.307
18	0.000	0.000	0.087	0.000	0.000	0.000	0.110	0.113	0.748
19	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.037	0.343
20	0.000	0.000	0.000	0.000	0.059	0.000	0.041	0.000	0.159
21	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.009	0.036
mudhole	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ug/gm nC26	ug/gm nC27	ug/gm nC28	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254
1	0.720	2.225	2.798	3.508	1.000	0.573	0.000	391.30	1218
1-a	0.598	3.151	1.905	5.314	3.525	5.533	0.000	412.74	1123
2	0.000	1.965	0.451	2.650	0.856	1.028	0.427	161.76	693.81
2-a	1.123	2.526	0.768	3.844	1.682	2.940	0.260	0.000	407.97
3	0.460	0.843	0.805	1.612	0.797	1.044	0.170	0.000	360.47
3-a	2.433	3.177	2.044	3.746	1.964	2.605	0.000	0.000	447.48
4	0.080	0.164	0.155	0.284	0.123	0.259	0.000	0.000	34.728
4-a	0.863	1.115	0.368	1.751	0.497	1.091	0.000	0.000	182.13
5	0.055	0.042	0.052	0.067	0.065	0.027	0.000	0.000	10.320
5-a	0.000	0.332	0.301	0.544	0.262	0.621	0.000	0.000	197.73
6	0.000	0.503	0.000	0.000	0.421	0.495	0.000	0.000	125.74
7	0.373	0.669	0.264	0.619	0.386	0.684	0.141	0.000	146.32
8	0.094	0.272	0.116	0.265	0.217	0.139	0.053	0.000	35.957
9	0.308	0.784	0.291	0.580	0.461	0.643	0.190	0.000	112.77
10	0.036	0.082	0.027	0.128	0.046	0.028	0.000	0.000	8.849
11	0.152	0.400	0.154	0.559	0.250	0.486	0.112	0.000	50.197
12	0.079	0.451	0.123	0.643	0.465	0.663	0.169	0.000	57.956
13	0.000	0.052	0.032	0.077	0.040	0.041	0.000	0.000	11.089
14	0.022	0.101	0.133	0.076	0.055	0.029	0.034	0.000	15.295
15	0.624	2.340	1.077	5.910	2.810	1.699	0.000	0.000	136.19
16	0.000	0.057	0.011	0.134	0.067	0.067	0.016	0.000	9.770
17	0.191	0.435	0.177	0.513	0.593	0.430	0.000	0.000	123.67
18	0.265	0.393	0.146	0.416	0.143	0.079	0.073	0.000	79.109
19	0.075	0.287	0.098	0.489	0.198	0.265	0.000	0.000	30.134
20	0.110	0.298	0.078	0.258	0.110	0.229	0.081	0.000	29.797
21	0.012	0.024	0.008	0.023	0.012	0.016	0.000	0.000	4.847
mudhole	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.85

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ng/gm Ar 1260	ng/gm Total	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201
1	799.41	2409	94.284	34.892	72.394	106.132	76.477	30.999	48.300
1-a	774.94	2311	92.413	31.722	66.924	99.437	69.772	30.047	44.608
2	340.40	1196	59.279	16.220	40.161	57.059	31.969	13.212	24.536
2-a	279.34	687.31	36.277	11.785	31.250	41.031	23.937	11.019	16.923
3	211.63	572.10	31.447	8.594	23.818	32.686	17.600	8.741	13.473
3-a	276.36	723.84	37.339	11.266	31.107	40.966	27.107	10.558	16.613
4	0.000	34.728	3.062	0.848	2.557	3.043	1.285	1.110	1.124
4-a	111.93	294.06	15.729	4.995	12.688	16.958	9.322	4.451	6.783
5	0.000	10.320	1.141	0.287	0.883	1.017	0.572	0.189	0.485
5-a	143.31	341.04	15.831	4.858	15.462	21.339	11.777	4.692	10.765
6	71.760	197.50	10.942	4.614	8.814	11.145	5.830	2.583	4.542
7	78.963	225.28	11.990	3.516	9.423	12.875	5.919	2.784	4.676
8	21.702	57.659	3.147	0.926	2.686	3.368	1.810	0.759	1.457
9	77.063	189.83	9.132	3.107	8.954	11.559	7.161	2.814	5.794
10	4.546	13.395	0.691	0.192	0.673	0.729	0.377	0.140	0.303
11	29.066	79.263	3.564	1.168	3.893	4.820	2.573	1.019	2.069
12	60.207	118.16	3.584	1.672	4.764	6.147	4.844	2.062	3.962
13	10.028	21.117	0.660	0.296	0.994	1.194	0.853	0.381	0.751
14	11.051	26.346	1.050	0.417	1.283	1.556	0.992	0.471	0.629
15	47.497	183.69	7.645	2.226	6.587	10.389	3.623	1.747	2.202
16	0.000	9.770	0.746	0.223	0.836	1.090	0.552	0.201	0.335
17	81.437	205.11	8.868	2.168	8.173	10.776	6.210	2.366	11.718
18	53.171	132.28	5.882	1.949	6.105	7.937	4.505	1.785	4.345
19	21.750	51.884	2.526	0.694	2.466	3.125	1.685	0.749	1.578
20	17.734	47.531	1.948	0.610	2.260	3.018	1.221	0.643	1.285
21	2.795	7.642	0.344	0.108	0.377	0.517	0.214	0.090	0.194
mudhole	N.A.	N.A.	0.239	0.076	0.272	0.329	0.152	0.056	0.17

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm sum:	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH
1	13.320	23.672	29.909	530.39	27.203	74.287	0.000	0.000	0.000
1-a	12.290	23.936	29.166	500.31	17.974	62.171	0.000	0.000	0.000
2	12.086	8.570	30.969	294.06	12.886	18.936	0.000	0.000	0.000
2-a	7.448	6.983	17.080	203.73	7.346	10.835	0.000	0.000	0.000
3	5.844	5.508	13.697	161.41	11.152	11.510	0.000	0.000	0.000
3-a	6.792	7.151	16.930	205.83	10.845	14.410	0.000	0.000	0.000
4	0.547	0.402	1.083	15.061	0.780	0.895	0.000	0.000	0.000
4-a	2.979	2.793	7.641	84.338	4.527	5.292	0.000	0.000	0.000
5	0.246	0.137	0.509	5.466	0.256	0.000	0.000	0.000	0.000
5-a	4.360	4.578	10.269	103.93	5.795	5.654	0.000	0.000	0.000
6	3.044	1.704	4.591	57.808	3.313	4.114	0.000	0.000	0.000
7	2.989	2.084	4.661	60.918	5.957	6.661	0.000	0.000	0.000
8	0.888	0.508	1.362	16.912	0.996	0.929	0.000	0.000	0.000
9	2.776	2.102	6.716	60.113	4.257	5.969	0.000	0.000	0.000
10	0.136	0.112	0.282	3.631	0.267	0.395	0.000	0.000	0.000
11	1.032	0.693	2.484	23.313	1.644	1.747	1.616	0.301	0.000
12	1.379	1.537	2.853	32.799	1.575	2.032	3.487	0.373	0.000
13	0.343	0.250	0.716	6.436	0.138	0.111	0.014	0.009	0.000
14	0.264	0.244	0.550	7.456	0.154	0.360	0.009	0.000	0.000
15	0.800	0.953	1.753	37.922	0.317	4.936	1.128	0.000	0.000
16	0.122	0.115	0.313	4.533	0.131	0.282	0.000	0.000	0.000
17	6.193	2.270	9.821	68.561	7.535	8.262	0.544	0.000	0.000
18	2.135	1.287	4.817	40.747	2.895	2.506	0.034	0.000	0.000
19	0.726	0.505	1.545	15.597	0.706	0.805	0.048	0.000	0.000
20	0.601	0.421	1.308	13.313	0.939	0.891	0.122	0.000	0.000
21	0.092	0.063	0.190	2.188	0.046	0.078	0.000	0.000	0.000
mudhole	0.064	0.045	0.136	1.539	0.111	0.193	0.005	0.000	0.000

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr
1	0.000	0.0	0.1	0.3	0.3	1.8	0.7	4.6	4.7
1-a	0.000	0.0	0.0	0.0	0.3	2.8	0.8	5.9	4.9
2	0.000	0.0	0.0	0.0	0.0	0.9	0.0	2.0	1.8
2-a	0.000	0.0	0.0	0.0	0.0	0.5	0.1	1.2	1.1
3	0.000	0.0	0.0	0.0	0.0	0.5	0.1	0.9	0.9
3-a	0.000	0.0	0.0	0.0	0.0	0.4	0.1	1.1	1.1
4	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
4-a	0.000	0.0	0.0	0.0	0.0	0.4	0.1	0.9	0.8
5	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-a	0.000	0.0	0.0	0.0	0.0	0.2	0.1	0.5	0.4
6	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.3
7	0.000	0.0	0.0	0.0	0.0	0.2	0.1	0.5	0.5
8	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
9	0.000	0.0	0.0	0.0	0.0	0.2	0.1	0.6	0.5
10	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2
12	0.000	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.3
13	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
14	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2
15	0.000	0.0	0.0	0.1	0.2	1.3	0.4	1.7	1.4
16	0.000	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
17	0.000	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.3
18	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1
19	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
20	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1
21	0.000	0.0	0.0	0.0	0.0	0.2	0.0	0.3	0.3
mudhole	0.000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm 16 PAHs	ug/gm Ret
1	2.6	2.3	5.7	2.4	1.7	0.5	1.6	29.3	1.6
1-a	2.2	2.5	3.0	2.0	1.5	0.5	1.3	27.7	0.4
2	1.0	1.0	3.5	1.4	1.2	0.5	1.6	14.9	0.0
2-a	0.5	0.6	2.0	0.6	0.5	0.1	1.1	8.3	0.0
3	0.5	0.5	1.5	0.6	0.6	0.1	0.7	6.9	0.0
3-a	0.7	0.6	2.1	0.6	0.5	0.2	0.5	7.9	0.0
4	0.1	0.1	0.2	0.1	0.1	0.0	0.1	1.0	0.0
4-a	0.4	0.4	1.3	0.5	0.4	0.2	0.7	6.1	0.1
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-a	0.1	0.2	0.6	0.2	0.2	0.1	0.4	3.0	0.0
6	0.1	0.2	0.7	0.2	0.2	0.1	0.3	2.6	0.0
7	0.2	0.2	0.6	0.2	0.2	0.1	0.3	3.1	0.0
8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0
9	0.2	0.3	0.8	0.3	0.4	0.2	0.5	4.1	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.1	0.1	0.2	0.1	0.1	0.0	0.1	1.2	0.1
12	0.2	0.2	0.3	0.2	0.2	0.1	0.2	2.4	0.0
13	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0
14	0.1	0.1	0.1	0.1	0.1	0.0	0.1	1.1	0.0
15	0.7	0.8	1.9	0.9	0.9	0.3	0.7	11.3	0.0
16	0.1	0.1	0.1	0.1	0.1	0.0	0.1	1.0	0.0
17	0.2	0.2	0.5	0.2	0.2	0.0	0.3	2.5	0.0
18	0.1	0.1	0.2	0.1	0.1	0.0	0.1	1.1	0.0
19	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.5	0.0
20	0.1	0.1	0.2	0.1	0.1	0.1	0.1	1.2	0.0
21	0.1	0.1	0.2	0.1	0.1	0.1	0.1	1.6	0.0
mudhole	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.1	N.A.

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ug/gm Pyl	ug/gm Squ	ug/gm C10BZT	ug/gm CLBZT	ug/gm C26-AL	ug/gm C27-AL	ug/gm C28-AL	ug/gm C29-AL	ug/gm C30-AL	ug/gm C31-AL
1	1.2	6.1	1.310	0.431	2.032	1.037	2.881	0.830	2.881	0.372
1-a	0.5	2.8	1.765	0.335	2.193	0.775	3.559	1.165	4.409	0.423
2	0.7	1.9	5.597	1.468	1.937	1.059	3.194	1.507	3.055	2.462
2-a	0.4	5.7	5.989	1.032	1.664	1.237	2.878	0.760	2.674	0.748
3	0.4	2.7	10.939	1.557	1.408	1.085	1.843	0.490	2.008	0.388
3-a	0.5	2.2	8.843	1.832	1.084	0.700	1.681	0.367	1.566	0.186
4	0.1	0.7	0.083	0.000	0.092	0.030	0.130	0.066	0.111	0.034
4-a	0.4	1.3	8.648	1.547	1.559	0.894	2.344	0.509	2.167	0.362
5	0.0	0.3	0.024	0.005	0.028	0.011	0.036	0.015	0.040	0.011
5-a	0.2	0.3	2.941	0.413	0.889	0.409	1.322	0.355	1.427	0.233
6	0.3	0.6	3.342	0.525	0.789	0.436	1.087	0.234	1.050	0.149
7	0.3	0.8	3.336	0.469	0.775	0.361	0.905	0.264	0.972	0.155
8	0.0	0.2	0.373	0.050	0.080	0.038	0.107	0.034	0.102	0.015
9	0.3	0.5	2.575	0.353	0.927	0.386	1.352	0.457	1.352	0.322
10	0.0	0.1	0.017	0.002	0.039	0.013	0.041	0.014	0.048	0.008
11	0.1	0.2	0.125	0.017	0.137	0.068	0.170	0.054	0.166	0.027
12	0.1	0.2	0.261	0.034	0.412	0.194	0.528	0.231	0.494	0.085
13	0.0	0.1	0.008	0.000	0.045	0.021	0.048	0.026	0.044	0.008
14	0.0	0.2	0.024	0.007	0.057	0.022	0.054	0.029	0.040	0.008
15	0.4	0.2	0.008	0.000	0.611	0.401	0.672	0.000	0.716	0.215
16	0.1	0.2	0.024	0.000	0.110	0.082	0.128	0.048	0.101	0.020
17	0.1	0.4	1.408	0.203	0.723	0.402	0.861	0.284	1.229	0.190
18	0.1	0.2	0.628	0.097	0.187	0.063	0.242	0.075	0.238	0.040
19	0.0	0.2	0.090	0.015	0.106	0.050	0.131	0.047	0.118	0.025
20	0.1	0.2	0.193	0.022	0.365	0.144	0.491	0.144	0.457	0.091
21	0.1	0.6	0.051	0.000	0.177	0.092	0.202	0.096	0.228	0.048
mudhole	N.A.	N.A.	0.000	0.000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A. not analyzed
0 = not detected

Surface
Sediments
Dry wt.

Station #	ug/gm C32-AL	ug/gm BeP	ug/gm DBP	ug/gm C1BZT	ug/gm BBP	ug/gm DEHP	ug/gm DOP	ug/gm Cop	ug/gm Chole	ug/gm Chola
1	2.095	2.8	0.00	0.00	0.00	109.45	3.53	33.33	23.51	18.33
1-a	1.926	1.6	0.00	0.00	0.48	37.84	0.00	30.50	98.68	0.00
2	3.169	1.6	0.00	0.00	0.00	21.44	0.00	13.20	28.50	4.23
2-a	2.044	0.9	0.00	1.53	0.00	7.30	0.00	39.30	76.22	12.24
3	2.137	1.0	0.00	0.00	0.00	6.25	0.00	8.32	21.42	5.15
3-a	0.875	0.8	0.00	2.14	2.26	9.74	0.00	17.56	47.19	7.12
4	0.128	0.1	0.00	0.05	0.33	0.59	0.00	0.67	2.92	1.44
4-a	1.541	0.7	0.00	1.23	0.00	4.18	0.00	6.71	33.09	4.93
5	0.033	0.0	0.03	0.01	0.04	0.03	0.00	0.26	0.97	0.43
5-a	1.101	0.3	0.00	0.43	0.00	0.94	0.00	2.16	21.85	2.36
6	0.893	0.3	0.00	0.02	0.06	0.28	0.00	1.24	0.87	0.62
7	0.929	0.3	0.00	0.37	1.90	1.94	0.06	1.70	8.98	3.70
8	0.104	0.0	0.20	0.12	0.40	0.00	0.02	0.62	8.45	0.00
9	1.321	0.4	0.28	0.24	0.09	1.18	0.97	1.70	10.01	3.59
10	0.054	0.0	0.04	0.03	0.05	0.15	0.13	0.19	2.82	0.74
11	0.202	0.1	0.00	0.09	0.06	0.00	0.72	1.22	8.58	2.62
12	0.324	0.2	0.00	0.11	0.09	2.12	0.77	1.40	9.25	3.22
13	0.069	0.0	0.08	0.00	0.10	0.00	0.16	0.23	2.46	0.62
14	0.086	0.1	0.00	0.00	0.00	0.00	0.00	0.37	2.00	0.84
15	0.645	0.8	0.00	0.00	0.09	0.00	0.65	1.10	3.19	4.05
16	0.096	0.1	0.00	0.00	0.03	0.14	0.16	0.37	3.12	0.84
17	0.957	0.3	0.00	0.15	0.11	0.00	0.86	1.47	16.29	3.73
18	0.179	0.1	0.00	0.15	0.06	0.00	0.76	1.29	11.00	2.50
19	0.117	0.1	0.00	0.08	0.00	0.00	0.41	0.53	4.25	1.54
20	0.379	0.1	0.06	0.10	0.05	0.00	0.17	0.56	7.15	2.33
21	0.201	0.1	0.01	0.00	0.02	0.00	0.00	0.13	1.07	0.36
mudhole	N.A.	N.A.	N.A.	0.00	0.02	0.01	0.01	0.20	0.81	0.17

N.A. not analyzed
0 = not detected

ALL CONCENTRATIONS ARE ON A DRY WEIGHT BASIS

	ng/gm **CB101**	ng/gm **CB101**	ng/gm **CB138**	ng/gm **CB138**	ug/gm **ΣPHC**	ug/gm **ΣPHC**	ng/gm **C10 BZT**	ng/gm **C10 BZT**
Site	CLAM	SEDS	CLAM	SEDS	CLAM	SEDS	CLAM	SEDS
Sabin Pt	22.79	31.45	16.07	32.69	359.00	1190.00	659.00	10900.00
Gaspee Pt	19.54	37.34	16.42	40.97	249.00	2710.00	634.00	8840.00
Conimicut Pt	5.87	15.73	4.81	16.96	211.00	1170.00	282.00	8650.00
Rocky Pt	2.03	10.94	1.76	11.15	105.00	506.00	4.50	3340.00
Ohio Ledge	12.09	15.83	12.37	21.34	70.80	587.00	229.00	2940.00
Appon. Cove	6.62	18.81	5.42	11.14	44.00	581.00	7.30	50.00
Sally Rock	3.67	4.43	3.18	5.78	38.90	345.00	13.10	400.00
Mount View	7.31	4.23	7.06	5.65	61.10	193.00	107.00	510.00
Wickford	3.38	2.53	3.65	3.13	59.20	127.00	2.70	90.00
Block Island	0.50	0.50	0.50	0.50	8.00	9.90	1.00	1.00

ALL CONCENTRATIONS ARE ON A DRY WEIGHT BASIS

	ng/gm **CL-BZT**	ng/gm **CL-BZT**	ng/gm **COP**	ng/gm **COP**	ng/gm **FLR**	ng/gm **FLR**	ng/gm **PYR**	ng/gm **PYR**
Site	CLAM	SEDS	CLAM	SEDS	CLAM	SEDS	CLAM	SEDS
Sabin Pt	112.00	1560.00	3860.00	8320.00	125.00	881.00	155.00	914.00
Gaspee Pt	121.00	1830.00	3180.00	1760.00	93.60	1070.00	83.20	1070.00
Conimicut Pt	56.40	1550.00	1010.00	6710.00	118.00	849.00	97.00	795.00
Rocky Pt	1.00	530.00	1590.00	1240.00	55.00	361.00	48.30	248.00
Ohio Ledge	48.10	410.00	490.00	2160.00	56.80	510.00	57.50	354.00
Appon. Cove	2.40	1.00	640.00	3260.00	50.40	1370.00	64.50	1370.00
Sally Rock	2.10	160.00	210.00	2380.00	44.00	220.00	39.50	361.00
Mount View	21.40	90.00	750.00	990.00	91.70	75.00	126.00	52.00
Wickford	0.50	20.00	850.00	530.00	56.10	94.00	37.40	85.00
Block Island	1.00	1.00	2090.00	200.00	36.00	30.40		

APPENDIX D

Sediment Cores

1) Apponaug Cove - King
2) Calf Pasture Point - King
3) Conimicut Point - LeBlanc
4) Fields Point - LeBlanc
5) Fields Point - King
6) Fox Point - LeBlanc
7) Fox Point - King
8) Ohio Ledge - LeBlanc
9) Pawtuxet Cove - King
10) Potowomut Cove - King
11) Rhodes/Pawtuxet River - King
12) Sabin Point - King
13) Sally Rock - King
14) Seekonk River - King

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	calculate cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ∑PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18
12-1	0-2	0-2	1	79.294	501.8	581.1	0.000	0.000	1.017	0.000	0.000
12-2	5-7	6.76-11.1	8.94	17.733	548.4	566.2	0.000	0.000	0.939	0.000	0.000
12-3	10-12	17.5-21.7	19.6	80.210	759.4	839.6	0.000	0.000	1.017	0.000	0.000
12-4	15-17	28.5-33.4	31	41.568	541.8	583.4	0.065	0.124	1.103	0.179	0.000
12-5	20-22	40.7-45.5	43.1	27.773	808.7	836.5	0.000	0.000	2.417	0.000	0.000
12-7	30-32	65.2-70.1	67.7	28.626	585.3	613.9	0.000	0.000	1.015	0.000	0.000
12-11	50-52	117-123	120	30.989	55.614	86.603	0.000	0.000	0.415	0.000	0.000
12-13	60-62	145-151	148	13.225	21.422	34.646	0.000	0.000	0.211	0.016	0.025
12-15	70-72	175-182	178	8.112	10.632	18.745	0.000	0.000	0.106	0.000	0.000
12-19	90-95	238-254	246	3.631	3.654	7.285	0.000	0.000	0.090	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	cm depth	measured ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28
12-1	0-2	0.202	0.217	0.338	0.359	0.505	2.092	0.992	2.298	2.113
12-2	5-7	0.274	0.000	0.106	0.208	0.234	1.858	0.670	0.949	0.489
12-3	10-12	0.285	0.869	0.489	1.109	1.833	4.842	1.690	3.131	2.287
12-4	15-17	0.285	0.236	0.491	0.401	0.611	1.915	1.056	1.297	0.870
12-5	20-22	0.579	0.000	0.439	0.199	0.247	1.476	1.623	1.895	1.050
12-7	30-32	0.164	0.000	0.000	0.859	1.042	1.673	1.451	2.035	1.099
12-11	50-52	0.000	0.084	0.126	0.695	0.884	0.879	1.209	1.261	0.766
12-13	60-62	0.000	0.087	0.168	0.382	0.313	0.479	0.498	0.599	0.215
12-15	70-72	0.000	0.042	0.099	0.205	0.106	0.319	0.161	0.491	0.128
12-19	90-95	0.000	0.049	0.126	0.232	0.035	0.286	0.115	0.326	0.101

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1254	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138
12-1	0-2	5.454	3.060	3.839	1.036	157.2	18.811	2.510	10.199	11.143
12-2	5-7	1.665	0.714	1.345	0.214	211.5	18.698	5.982	13.896	15.798
12-3	10-12	7.396	2.479	4.305	1.190	383.5	28.320	6.395	17.438	21.848
12-4	15-17	2.402	1.103	2.164	0.424	203.5	12.810	3.253	9.745	12.685
12-5	20-22	2.548	1.633	1.695	0.321	160.1	11.788	0.000	9.793	11.199
12-7	30-32	4.091	1.595	3.664	0.209	0.000	0.000	0.000	0.000	0.000
12-11	50-52	2.143	0.828	1.597	0.606	0.000	0.000	0.000	0.000	0.000
12-13	60-62	1.192	0.206	0.895	0.119	N.A.	N.A.	N.A.	N.A.	N.A.
12-15	70-72	0.976	0.124	0.829	0.066	N.A.	N.A.	N.A.	N.A.	N.A.
12-19	90-95	0.755	0.111	0.271	0.019	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm ∑ CON	ng/gm pp'-DDE	ng/gm pp'-DDD
12-1	0-2	6.706	1.955	34.406	19.871	3.769	31.594	141.0	7.451	49.685
12-2	5-7	9.493	2.905	39.615	22.681	5.347	37.247	171.7	13.823	61.346
12-3.	10-12	11.988	3.952	43.150	24.705	6.427	41.767	206.0	20.635	151.0
12-4	15-17	9.250	2.586	46.692	23.339	5.521	28.645	154.5	22.823	85.458
12-5	20-22	10.913	3.116	93.308	51.588	10.729	71.914	274.3	27.615	71.567
12-7	30-32	0.000	0.000	58.208	24.380	4.589	41.242	128.4	0.000	0.000
12-11	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12-13	60-62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12-15	70-72	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
12-19	90-95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe
12-1	0-2	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.5
12-2	5-7	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.6
12-3	10-12	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.1	0.5
12-4	15-17	1.125	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.3
12-5	20-22	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.4
12-7	30-32	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.5
12-11	50-52	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.2
12-13	60-62	N.A.	N.A.	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0
12-15	70-72	N.A.	N.A.	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0
12-19	90-95	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr
12-1	0-2	0.2	1.4	1.4	0.5	0.8	1.4	0.4	0.1	0.0	N.C.
12-2	5-7	0.2	2.2	2.3	0.6	1.3	3.1	1.1	0.2	0.0	0.0
12-3	10-12	0.1	1.8	1.7	0.6	1.0	1.9	0.7	N.C.	N.C.	N.C.
12-4	15-17	0.1	0.9	0.9	0.5	0.9	2.1	0.0	0.9	0.3	0.9
12-5	20-22	0.2	0.9	1.0	0.5	1.1	1.5	0.6	0.2	0.0	N.C.
12-7	30-32	0.4	1.1	1.2	0.5	0.8	1.3	0.4	0.0	0.0	N.C.
12-11	50-52	0.1	0.5	0.7	0.3	0.3	0.5	0.2	N.C.	0.1	N.C.
12-13	60-62	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.0	N.C.
12-15	70-72	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12-19	90-95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	Σ 16 PAH ug/gm	Ret ug/gm	Pyl ug/gm	Squ ug/gm	C10BZT ug/gm	CLBZT ug/gm	C26-AL ug/gm	C27-AL ug/gm	C28-AL ug/gm
12-1	0-2	6.7	0.0	0.2	0.4	0.052	0.000	0.623	0.290	0.798
12-2	5-7	11.6	0.0	0.1	0.8	0.382	0.530	0.952	0.675	1.412
12-3	10-12	8.4	0.0	0.3	0.6	0.106	0.103	0.541	0.197	0.988
12-4	15-17	7.8	0.1	0.3	0.6	0.124	0.179	0.454	0.533	0.835
12-5	20-22	6.4	0.1	0.4	0.3	0.000	0.000	0.390	N.C.	0.681
12-7	30-32	6.2	0.1	0.2	0.2	0.000	0.000	0.257	0.111	0.284
12-11	50-52	2.9	0.1	0.2	0.1	0.000	0.000	0.101	N.C.	0.106
12-13	60-62	0.7	0.0	0.2	0.0	0.000	0.000	0.142	0.052	0.119
12-15	70-72	0.0	N.C.	0.1	0.0	0.000	0.000	0.031	0.010	0.036
12-19	90-95	0.0	N.C.	0.2	0.2	0.000	0.000	0.102	N.C.	0.180

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ug/gm C29-AL	ug/gm C30-AL	ug/gm C31-AL	ug/gm C32-AL	ug/gm BeP	ug/gm C1BZT	ug/gm DEHP	ug/gm COP	ug/gm CHLE
12-1	0-2	N.C.	1.085	N.C.	1.001	0.618	4.35	0.840	3.260	9.59
12-2	5-7	N.C.	2.314	N.C.	2.080	1.400	0.130	0.840	0.970	2.89
12-3	10-12	0.234	1.333	0.111	1.257	1.032	0.27	1.630	0.660	3.48
12-4	15-17	0.271	1.217	0.234	0.942	1.109	N.A.	N.A.	N.A.	N.A.
12-5	20-22	0.673	0.877	0.173	0.653	0.846	0.000	2.660	0.900	2.93
12-7	30-32	N.C.	0.359	0.088	0.766	0.607	0.000	0.610	0.540	1.94
12-11	50-52	N.C.	0.123	N.C.	0.060	0.293	0.000	2.550	0.190	0.62
12-13	60-62	0.051	0.120	N.C.	0.069	0.080	0.000	1.610	0.210	0.35
12-15	70-72	0.017	0.049	N.C.	0.045	0.000	0.000	2.380	0.070	1.28
12-19	90-95	0.043	0.206	N.C.	0.222	0.000	0.000	3.520	0.100	0.29

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Apponaug Cove
King Core #12

Sta-slice	measured cm depth	ug/gm CHLA	% DRY
12-1	0-2	5.710	18.3
12-2	5-7	2.940	39.8
12-3	10-12	3.820	38.1
12-4	15-17	N.A.	44.52
12-5	20-22	4.470	44.5
12-7	30-32	4.040	45.4
12-11	50-52	0.630	50.3
12-13	60-62	0.270	52.4
12-15	70-72	0.120	58.8
12-19	90-95	0.260	56.4

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Point
King Core #4

Sta-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ∑PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18
4-1	0-5	0-5	2.50	9.648	183.0	192.6	0.026	0.013	0.163	0.000	0.000
4-2	5-7	5-7.07	6.04	20.021	344.5	364.5	0.000	0.000	0.000	0.000	0.000
4-3	10-12	10.1-12.1	11.10	14.255	250.3	264.6	0.044	0.000	0.184	0.015	0.000
4-4	15-17	15.2-17.4	16.30	15.491	272.7	288.2	0.101	0.000	0.200	0.025	0.000
4-5	20-22	20.6-22.8	21.70	9.296	162.1	171.4	0.059	0.000	0.159	0.000	0.000
4-6	25-27	26.0-28.0	27.00	9.383	151.6	161.0	0.078	0.023	0.157	0.000	0.024
	30-32	31.3-33.5	32.40	7.588	79.739	87.327	0.019	0.000	0.057	0.000	0.000
4-9	40-42	42.8-45.1	43.90	2.629	10.645	13.274	0.005	0.000	0.019	0.000	0.000
4-11	50-52	54.5-56.9	55.70	2.102	6.414	8.516	0.003	0.000	0.018	0.000	0.002

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po:
King Core #4

Sta-slice	cm depth	measured ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28	ug/gm nC29	ug/gm nC30
4-1	0-5	0.000	0.067	N.C.	0.186	0.147	0.347	0.137	0.215	0.131	0.468	0.248
4-2	5-7	0.034	0.061	N.C.	0.372	0.307	0.626	0.355	0.563	0.395	1.344	0.601
4-3	10-12	0.029	0.086	N.C.	0.270	0.202	0.480	0.229	0.378	0.205	0.725	0.315
4-4	15-17	0.029	0.100	N.C.	0.155	0.262	0.572	0.332	0.469	0.257	0.872	0.427
4-5	20-22	0.026	0.151	0.000	0.170	0.177	0.341	0.172	0.237	0.130	0.444	0.218
4-6	25-27	0.018	0.087	0.089	0.186	0.301	0.325	0.209	0.402	0.226	0.757	0.233
	30-32	0.000	0.017	0.060	0.160	0.122	0.643	0.131	0.506	0.214	0.899	0.179
4-9	40-42	0.000	0.012	N.C.	0.104	0.091	0.154	0.073	0.159	0.046	0.250	0.061
4-11	50-52	0.000	0.006	0.000	0.069	0.054	0.130	0.062	0.142	0.043	0.251	0.042

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po.
King Core #4

Sta-slice	measured cm depth	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138
4-1	0-5	0.494	0.131	N.C.	48.830	N.C.	4.231	1.361	4.371	5.646
4-2	5-7	1.131	0.309	N.C.	63.150	N.C.	4.882	1.318	4.150	5.497
4-3	10-12	0.636	0.176	N.C.	78.190	N.C.	5.626	1.562	5.137	7.220
4-4	15-17	0.796	0.212	N.C.	107.380	N.C.	6.720	2.105	5.840	8.591
4-5	20-22	0.386	0.089	N.C.	49.290	N.C.	3.982	1.090	3.205	5.133
4-6	25-27	0.692	0.175	N.C.	34.550	N.C.	2.546	1.014	1.974	7.450
	30-32	0.702	0.086	0.000	3.240	0.000	0.185	0.086	0.151	0.238
4-9	40-42	0.208	0.023	N.C.	0.000	N.C.	0.000	0.000	0.000	0.000
4-11	50-52	0.195	0.017	N.C.	0.000	N.C.	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po:
King Core #4

Sta-slice	measured cm depth	ng/gm [illegible]	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm Σ CON	ng/gm pp'-DDE	ng/gm pp'-DDD
4-1	0-5	3.136	1.227	2.511	1.207	0.902	2.352	26.944	1.711	0.000
4-2	5-7	3.058	1.286	2.675	1.243	0.884	2.299	27.292	1.642	0.000
4-3	10-12	3.407	1.609	2.985	1.502	1.178	2.617	32.843	1.706	0.000
4-4	15-17	3.924	1.705	4.761	2.604	1.211	4.407	41.868	3.000	2.506
4-5	20-22	2.305	0.868	5.666	3.811	0.901	6.901	33.862	1.817	0.000
4-6	25-27	1.710	0.894	4.043	2.392	0.757	2.917	25.697	0.749	1.074
	30-32	0.079	0.000	0.318	0.224	0.044	0.383	1.708	0.090	0.000
4-9	40-42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4-11	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po.
King Core #4

Sta-slice	measured cm depth	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane
4-1	0-5	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4-2	5-7	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4-3	10-12	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4-4	15-17	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4-5	20-22	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0
4-6	25-27	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.1	0.0
	30-32	0.000	0.000	0.000	0.000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4-9	40-42	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	N.C.
4-11	50-52	0.000	0.000	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po.
King Core #4

Sta-slice	measured cm depth	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm ∑16 PAH	ug/gm C10BzT
4-1	0-5	0.1	0.1	N.C.	N.C.	N.C.	0.0	0.0	0.0	0.0	0.2	0.508
4-2	5-7	0.1	0.1	N.C.	N.C.	N.C.	0.1	0.0	0.0	0.0	0.3	0.512
4-3	10-12	0.1	0.1	N.C.	N.C.	0.1	N.C.	N.C.	0.1	0.0	0.4	0.424
4-4	15-17	0.2	0.2	N.C.	0.1	N.C.	0.0	N.C.	N.C.	N.C.	0.5	0.078
4-5	20-22	0.2	0.3	0.1	N.C.	N.C.	N.C.	0.0	N.C.	0.0	0.6	0.051
4-6	25-27	0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.9	0.025
	30-32	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
4-9	40-42	0.0	0.0	N.C.	N.C.	N.C.	N.C.	0.0	0.0	0.0	0.0	0.000
4-11	50-52	N.C.	0.0	N.C.	0.0	N.C.	0.0	0.0	0.0	N.C.	0.0	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Calf Pasture Po:
King Core #4

Sta-slice	measured cm depth	ug/gm CLB$T	ug/gm BeP	ug/gm ClBZT	ug/gm BBP	ug/gm DEHP	ug/gm COP	ug/gm CHLE	ug/gm CHLA	ug/gm PHYO	% DRY
4-1	0-5	0.091	0.041	0.130	0.090	0.430	0.990	2.470	3.110	0.490	55.4
4-2	5-7	0.112	0.056	0.240	0.060	0.330	0.480	1.820	1.020	0.310	57.4
4-3	10-12	0.123	N.C.	0.170	0.070	0.500	0.300	1.120	1.060	0.340	55.4
4-4	15-17	0.062	0.000	0.190	0.060	0.170	0.530	0.700	0.640	0.220	59.2
4-5	20-22	0.030	N.C.	0.040	0.070	0.110	0.130	0.490	0.520	0.310	60.1
4-6	25-27	0.030	0.090	0.060	0.030	0.040	0.020	0.210	0.210	0.110	58.7
	30-32	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	61.1
4-9	40-42	0.000	0.000	0.020	0.040	0.020	0.050	0.140	0.140	0.080	63.9
4-11	50-52	0.000	0.014	0.000	0.040	0.000	0.040	0.060	0.060	0.070	66.6

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Conimicut Pt. Core

St 4a (0-0.5) cm depth	mid-d cm depth	cor.-mid cm depth	cor. cm depth	46.94 mg/gm OC	85.740 ug/gm F1 res	1084.450 ug/gm F1-UCM	1170.190 ug/gm Σ PHC	0.000 ug/gm nC15	0.000 ug/gm nC16
0-2.5	1.25	1.25	0-2.5	48.76	30.200	1208	1238	0.000	0.000
2.5-5.0	3.75	3.83	2.5-5.15	45.67	57.340	1393	1450	0.000	0.342
5.0-7.5	6.25	6.48	5.15-7.8	40.76	30.430	1270	1300	0.000	0.000
10-12.5	11.25	11.78	10.4-13.1	51.52	43.140	1664	1707	0.000	0.000
12.5-15	13.75	14.43	13.1-15.8	49.58	96.760	1927	2024	0.000	0.000
15-17.5	16.25	17.08	15.8-18.4	49.37	65.180	2738	2803	0.000	0.000
17.5-20	18.75	19.87	18.4-21.3	44.11	73.330	1346	1419	0.000	0.000
20-22.5	21.25	22.81	21.3-24.3	44.58	50.280	1452	1502	0.000	0.000
22.5-25	23.75	25.75	24.3-27.2	46.71	52.850	1778	1831	0.000	0.000
25-27.5	26.25	28.69	27.2-30.2	42.38	51.590	1785	1837	0.000	0.000
27.5-30	28.75	31.63	30.2-33.1	50.85	56.430	1504	1560	0.000	0.265
30-32.5	31.25	34.57	33.1-36.0	52.18	27.240	976.5	1004	0.000	0.000
32.5-35	33.75	37.51	36.0-39.0	41.71	59.125	2088	2147	0.130	0.000
35-37.5	36.25	40.60	39.0-42.2	36.29	19.220	590.1	609.3	0.000	0.116
37.5-40	38.75	44.17	42.2-46.1	22.57	2.690	86.980	89.670	0.000	0.000
40-42.5	41.25	48.22	46.1-50.3	21.01	1.290	25.280	26.570	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	0.427	0.000	0.000	0.570	0.000	0.000	0.000	0.045	0.448
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	nC17	pristane	nC18	phytane	nC19	nC20	nC21	nC23	nC24
0-2.5	0.000	0.000	0.000	0.416	0.000	0.047	0.000	0.244	0.141
2.5-5.0	0.888	0.575	0.000	0.652	0.658	i.s.	1.19	0.942	1.244
5.0-7.5	0.154	0.000	0.000	0.570	0.000	0.189	0.000	0.136	0.000
10-12.5	0.284	0.213	0.000	1.449	0.000	0.000	0.000	0.161	0.929
12.5-15	1.111	1.613	0.000	1.596	0.810	0.000	0.000	2.056	2.026
15-17.5	0.000	0.000	0.000	1.773	0.000	0.000	0.000	0.912	1.662
17.5-20	1.509	2.086	0.000	2.351	1.664	i.s.	0.976	1.468	1.326
20-22.5	0.152	0.391	0.000	0.882	0.000	0.000	0.065	0.361	1.445
22.5-25	0.204	0.228	0.000	1.139	0.000	0.121	0.058	0.378	1.156
25-27.5	0.447	0.000	1.734	0.000	0.000	0.000	0.000	0.282	1.531
27.5-30	0.000	0.260	0.000	0.672	0.000	0.000	0.255	0.804	1.702
30-32.5	0.087	0.000	0.000	0.492	0.000	0.030	0.000	0.308	0.561
32.5-35	0.045	0.309	0.000	0.747	0.000	0.187	0.000	0.670	1.318
35-37.5	0.000	0.488	0.000	0.353	0.000	0.029	0.190	0.165	0.396
37.5-40	0.086	0.000	0.000	0.040	0.000	0.000	0.020	0.097	0.051
40-42.5	0.042	0.000	0.000	0.000	0.000	0.000	0.013	0.027	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	2.142	0.863	1.115	0.368	1.751	0.497	1.091	0.000	0.000
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ng/gm
depth	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32	Ar 1242
0-2.5	2.113	0.898	1.607	0.316	1.095	1.021	1.202	0.000	0.000
2.5-5.0	1.557	1.174	1.697	0.866	3.259	2.238	3.116	0.913	0.000
5.0-7.5	2.165	0.805	0.455	0.179	1.289	1.300	0.661	0.379	0.000
10-12.5	1.951	1.400	1.271	1.029	0.653	1.387	1.268	0.453	285.1
12.5-15	3.742	2.428	2.821	2.762	6.071	3.609	4.805	1.986	0.000
15-17.5	5.393	4.001	2.733	2.882	5.002	3.359	3.385	0.480	0.000
17.5-20	2.225	1.531	1.843	1.551	3.784	2.705	2.912	0.962	N.A
20-22.5	2.032	1.643	1.852	1.487	2.201	1.616	2.481	0.588	122.4
22.5-25	2.770	1.918	1.414	1.282	1.897	1.700	1.886	0.615	0.000
25-27.5	3.039	2.035	3.119	3.255	1.963	3.177	2.880	0.487	0.000
27.5-30	3.026	1.177	2.369	1.695	2.338	2.239	2.557	0.269	0.000
30-32.5	0.349	0.760	0.418	0.699	0.606	0.796	0.898	0.424	0.000
32.5-35	2.133	1.669	2.886	1.703	1.511	2.263	2.110	0.466	0.000
35-37.5	0.809	0.827	0.921	0.588	0.757	0.555	0.748	0.230	0.000
37.5-40	0.157	0.085	0.263	0.107	0.336	0.089	0.221	0.035	0.000
40-42.5	0.119	0.000	0.211	0.056	0.179	0.042	0.151	0.013	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5) cm depth	182.125 ng/gm Ar 1254	111.925 ng/gm Ar 1260	15.729 ng/gm CB101	4.995 ng/gm CB151	12.688 ng/gm CB153	16.958 ng/gm CB138	9.322 ng/gm CB180	4.451 ng/gm CB170	6.783 ng/gm CB201
0-2.5	358.5	176.0	26.720	6.930	18.630	26.570	14.220	6.810	10.200
2.5-5.0	428.1	0.000	46.330	12.210	30.400	39.530	0.000	0.000	33.450
5.0-7.5	611.2	258.3	43.500	12.640	27.490	42.310	23.130	9.480	13.010
10-12.5	890.2	350.0	56.010	17.650	40.110	60.780	31.310	16.300	21.180
12.5-15	945.2	N.A.	71.790	22.520	54.660	78.220	37.030	17.100	21.990
15-17.5	840.3	393.6	62.730	19.530	42.480	66.720	35.920	16.930	21.010
17.5-20	806.0	N.A	62.210	21.250	43.530	68.170	35.050	16.700	22.940
20-22.5	711.7	301.9	42.740	13.660	32.990	51.500	26.200	13.430	21.640
22.5-25	849.3	N.A.	68.290	21.250	50.530	75.620	38.500	18.760	20.320
25-27.5	1232	504.9	97.630	29.350	64.290	97.460	45.110	22.370	27.110
27.5-30	1354	N.A.	105.0	33.000	75.000	112.000	48.000	22.000	29.000
30-32.5	1399	422.2	99.030	26.990	62.240	96.920	33.610	16.560	23.770
32.5-35	950.3	264.8	71.780	16.490	43.010	68.880	23.190	10.850	17.310
35-37.5	667.8	239.5	46.860	12.530	30.360	46.670	19.250	8.760	16.270
37.5-40	81.050	27.430	5.550	1.500	3.890	5.500	2.260	0.980	2.180
40-42.5	40.530	19.830	3.230	0.870	2.170	2.970	1.560	0.590	1.440

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	2.979	2.793	7.641	84.338	4.527	5.292	0.000	0.000	0.000
cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
depth	CB195	CB194	CB209	sum:	pp'-DDE	pp'-DDD	pp'-DDT	a-HCH	b-HCH
0-2.5	5.480	4.820	11.140	131.520	11.400	15.410	0.460	0.000	0.000
2.5-5.0	0.000	0.000	13.770	175.680	11.700	12.140	0.000	0.000	0.000
5.0-7.5	10.160	6.920	13.010	201.660	17.800	20.160	0.000	0.000	0.000
10-12.5	9.710	9.420	23.250	285.710	40.090	51.490	8.510	0.000	0.000
12.5-15	25.260	9.350	22.640	360.540	40.180	35.100	0.000	0.000	0.000
15-17.5	8.350	9.440	19.050	302.150	43.810	54.130	0.000	0.000	0.000
17.5-20	11.880	9.100	26.550	317.380	48.120	49.240	0.000	0.000	0.000
20-22.5	11.540	8.060	29.930	251.700	34.220	45.490	0.000	0.000	0.000
22.5-25	8.930	9.760	26.180	338.140	44.010	34.330	0.000	0.000	0.000
25-27.5	18.310	11.970	70.010	483.610	59.930	57.140	0.000	0.000	0.000
27.5-30	15.000	12.000	49.000	499.000	67.000	74.000	0.000	0.000	0.000
30-32.5	14.350	9.040	44.820	427.330	56.050	75.320	0.000	0.000	0.000
32.5-35	10.660	5.980	30.860	299.000	42.860	56.450	0.000	0.000	0.000
35-37.5	9.940	5.420	28.850	224.910	32.490	44.810	0.000	0.000	0.000
37.5-40	1.210	0.620	3.300	26.980	3.240	5.080	0.000	0.000	0.000
40-42.5	0.570	0.590	1.330	15.310	1.280	1.500	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	0.000	0.0	0.0	0.0	0.0	0.4	0.1	0.8	0.8
cm	ng/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	g-BCH	Nap	AcL	Acn	Flu	Phe	Ane	Flr	Pyr
0-2.5	0.000	0.0	0.0	0.3	0.0	0.4	0.1	0.9	0.8
2.5-5.0	0.000	0.0	0.0	0.0	0.0	0.3	0.0	0.8	0.7
5.0-7.5	0.000	0.0	0.0	0.1	0.0	0.4	0.1	0.9	0.8
10-12.5	0.000	0.2	0.0	0.0	0.0	0.2	0.1	0.6	0.7
12.5-15	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.5
15-17.5	0.000	0.0	0.0	0.0	0.0	0.4	0.1	1.1	1.0
17.5-20	0.000	0.0	0.0	0.0	0.0	0.3	0.0	0.9	0.8
20-22.5	0.000	0.0	0.0	0.0	0.1	0.4	0.1	1.2	1.2
22.5-25	0.000	0.1	0.0	0.0	0.1	0.6	0.1	1.1	1.2
25-27.5	0.000	0.1	0.1	0.0	0.1	0.5	0.2	1.1	1.2
27.5-30	0.000	0.1	0.0	0.0	0.0	0.5	0.1	0.9	1.3
30-32.5	0.000	0.0	0.0	0.0	0.1	0.5	0.1	1.1	1.1
32.5-35	0.000	0.1	0.1	0.0	0.1	0.6	1.0	1.4	1.5
35-37.5	0.000	0.1	0.0	0.0	0.0	0.4	0.1	0.8	1.3
37.5-40	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2
40-42.5	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	0.4	0.4	1.3	0.5	0.4	0.2	0.7	6.0	0.1
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	BaA	Chr	B(b+k)F	BaP	InP	DbA	Bpr	Σ 16 PAH	Ret
0-2.5	0.4	0.4	1.6	0.4	0.5	0.1	0.4	6.3	0.1
2.5-5.0	0.4	0.4	1.0	0.0	0.0	0.0	0.0	3.5	0.0
5.0-7.5	0.5	0.5	2.2	0.6	0.4	0.1	0.4	7.0	0.0
10-12.5	0.4	0.4	0.9	0.3	0.3	0.1	0.3	4.6	0.0
12.5-15	0.3	0.0	0.4	0.0	0.0	0.0	0.2	1.9	0.1
15-17.5	0.4	0.5	1.3	0.7	0.5	0.2	0.5	6.8	0.0
17.5-20	0.6	0.7	1.6	0.0	0.0	0.0	0.0	4.9	0.0
20-22.5	0.6	0.8	1.8	0.9	0.9	0.1	0.7	8.8	0.1
22.5-25	0.6	0.7	1.9	1.1	0.9	0.4	0.8	9.6	0.3
25-27.5	0.6	0.9	1.9	1.0	0.8	0.3	0.8	9.6	0.0
27.5-30	0.5	0.6	1.3	0.7	0.7	0.2	0.6	7.5	0.3
30-32.5	0.5	0.6	1.2	0.5	0.5	0.2	0.4	6.8	0.5
32.5-35	0.8	0.8	2.0	1.0	0.9	0.5	0.8	11.6	0.4
35-37.5	0.5	0.6	1.2	0.4	0.4	0.1	0.4	6.3	0.2
37.5-40	0.1	0.1	0.2	0.1	0.1	0.0	0.1	1.2	0.0
40-42.5	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.5	0.0

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	0.4	1.3	8.648	1.547	1.559	0.894	2.344	0.509	2.167
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	Pyl	Squ	C10BZT	CLBZT	C26-AL	C27-AL	C28-AL	C29-AL	C30-AL
0-2.5	0.3	1.5	10.813	2.205	0.657	0.231	1.005	0.220	0.872
2.5-5.0	0.0	0.6	10.840	3.350	0.730	0.000	0.860	0.000	1.020
5.0-7.5	0.4	0.9	12.867	3.932	0.687	0.984	0.981	0.207	0.890
10-12.5	0.2	0.3	0.508	1.933	0.360	0.293	0.533	0.132	0.534
12.5-15	0.5	0.3	0.320	0.770	0.000	0.410	0.000	0.540	0.000
15-17.5	0.3	0.6	0.254	1.200	0.748	0.318	1.009	1.930	1.097
17.5-20	0.0	1.1	0.110	0.070	0.790	0.000	0.800	0.000	1.050
20-22.5	0.8	0.6	0.000	0.173	1.031	0.823	1.195	0.523	1.076
22.5-25	1.1	1.2	0.000	0.000	1.113	0.600	1.515	0.507	0.937
25-27.5	0.5	0.5	0.000	0.000	0.977	0.559	1.148	0.394	1.431
27.5-30	0.3	0.4	0.000	0.000	0.556	0.202	0.856	0.252	0.900
30-32.5	0.4	0.2	0.000	0.000	0.540	0.324	0.684	0.211	0.666
32.5-35	0.6	0.6	0.000	0.000	1.066	0.495	1.406	0.317	1.097
35-37.5	0.2	0.2	0.000	0.000	0.335	0.220	0.350	0.146	0.319
37.5-40	0.1	0.1	0.000	0.000	0.359	0.150	0.430	0.064	0.474
40-42.5	0.1	0.2	0.000	0.000	0.388	0.146	0.473	0.083	0.504

N.A.= not analyzed
N.C.= not calculated
0= not detected

Conimicut Pt. Core

St 4a (0-0.5)	0.362	1.541	0.678	1.230	4.180	6.710	33.090	4.93
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	C31-AL	C32-AL	BeP	C1BZT	DEHP	Cop	Cholesterol	Cholestanol
0-2.5	0.112	0.605	0.544	0.42	4.13	7.88	17.80	5.00
2.5-5.0	0.000	0.610	0.730	0.00	8.01	3.31	6.68	3.60
5.0-7.5	0.000	0.734	0.616	2.64	4.86	2.00	3.50	2.00
10-12.5	0.096	0.582	0.407	2.74	4.37	1.61	4.16	2.46
12.5-15	0.000	0.000	0.000	0.83	4.49	0.32	1.14	0.70
15-17.5	0.088	0.718	0.562	2.09	10.81	3.66	7.13	2.48
17.5-20	0.000	0.510	0.820	0.42	2.85	1.42	3.47	2.40
20-22.5	0.205	0.891	1.133	0.54	1.95	3.33	5.79	2.43
22.5-25	0.043	0.774	1.237	0.58	8.41	4.97	8.51	6.16
25-27.5	0.108	1.081	0.886	0.44	7.04	5.40	9.25	7.03
27.5-30	0.055	0.557	0.630	0.00	5.54	2.48	4.21	2.80
30-32.5	0.127	0.479	0.494	0.28	3.78	3.88	5.13	3.71
32.5-35	0.067	0.626	1.256	0.00	2.08	2.92	4.77	2.78
35-37.5	0.000	0.264	0.497	0.00	1.87	1.58	3.07	2.36
37.5-40	0.038	0.352	0.090	0.00	0.00	0.04	0.08	0.06
40-42.5	0.058	0.454	0.065	0.01	0.00	0.11	0.14	0.18

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)		mid-d	cor.-mid	cor.	61.18	60.155	2020.192	2080.347	0.433	0.780
	cm	cm	cm	cm	mg/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	depth	depth	depth	OC	F1 res	F1-UCM	∑ PHC	nC15	nC16
	0-2.5	1.25	1.25	0-2.5	136.3	33.440	1694	1727	0.000	0.000
	5-7.5	6.25	6.31	5-7.62	59.12	105.5	2139	2245	N.C.	N.C.
	10-12.5	11.25	11.55	10.2-12.9	65.29	64.270	2516	2580	0.000	0.000
	15-17.5	16.25	16.91	15.5-18.3	60.39	57.025	2224	2281	N.C.	N.C.
	20-22.5	21.25	22.63	21.2-24.1	59.66	63.220	1478	1541	0.000	0.473
	25-27.5	26.25	28.59	26.9-30.3	67.43	73.993	2460	2534	N.C.	N.C.
	30-32.5	31.25	35.33	33.6-37.0	60.28	35.170	2422	2457	0.000	0.000
	32.5-35	33.75	38.78	37.1-40.5	77.02	61.194	2109	2170	N.C.	N.C.
	35-37.5	36.25	42.23	40.5-44.0	67.72	55.290	1810	1865	0.000	0.000
	40-42.5	41.25	49.13	47.4-50.8	68.63	50.730	2359	2410	0.000	0.000
	45-47.5	46.25	56.21	54.3-58.1	61.91	53.350	2207	2260	0.000	0.000
	52.5-55	53.75	67.60	65.7-69.5	64.36	75.370	3440	3515	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)		0.792	0.504	0.719	1.267	0.648	0.000	0.108	0.411	0.779
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	nC17	pristane	nC18	phytane	nC19	nC20	nC21	nC23	nC24
	0-2.5	0.527	0.000	0.000	0.794	0.000	0.000	0.000	0.209	1.533
	5-7.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
	10-12.5	0.000	1.487	2.025	1.181	0.000	0.000	0.000	0.000	0.836
	15-17.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
	20-22.5	0.658	0.000	0.658	1.046	0.000	0.000	0.000	0.826	0.565
	25-27.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
	30-32.5	0.552	0.000	0.000	2.253	0.000	0.000	0.000	0.486	1.568
	32.5-35	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
	35-37.5	1.099	0.648	0.705	1.734	0.219	0.000	0.000	0.188	0.663
	40-42.5	0.000	0.874	0.000	2.571	0.000	0.000	0.000	0.410	0.510
	45-47.5	0.000	0.000	0.334	1.694	0.000	0.000	0.000	0.535	2.332
	52.5-55	0.000	0.000	0.000	1.638	0.000	0.000	0.000	1.036	1.163

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)		3.476	1.123	2.526	0.768	3.844	1.682	2.940	0.260	0.000
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ng/gm
	depth	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32	Ar 1242
	0-2.5	1.690	1.516	1.143	0.890	1.734	1.274	1.143	0.000	0.000
	5-7.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	0.000
	10-12.5	4.306	3.005	2.547	2.891	2.649	3.232	2.062	0.000	0.000
	15-17.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	0.000
	20-22.5	1.996	1.214	1.536	1.626	2.544	1.733	1.332	0.712	0.000
	25-27.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	0.000
	30-32.5	1.414	0.000	1.253	1.040	1.454	1.876	0.000	0.640	0.000
	32.5-35	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	0.000
	35-37.5	1.793	1.581	1.928	1.239	1.740	1.209	2.114	0.830	0.000
	40-42.5	3.068	1.004	1.590	1.700	2.347	2.298	1.336	0.000	0.000
	45-47.5	3.759	1.211	1.827	2.639	2.132	1.381	2.476	0.961	0.000
	52.5-55	4.120	2.466	3.355	1.944	3.634	3.438	1.976	2.024	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)		407.970	279.340	36.277	11.785	31.250	41.031	23.937	11.019	16.923
	cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
	depth	Ar 1254	Ar 1260	CB101	CB151	CB153	CB138	CB180	CB170	CB201
	0-2.5	**379.3**	236.3	35.533	11.622	31.372	39.306	24.233	8.639	15.544
	5-7.5	**449.1**	270.5	39.071	13.639	31.917	45.012	24.469	11.726	18.066
	10-12.5	**457.1**	294.8	44.667	15.194	32.620	46.543	27.791	13.171	19.434
	15-17.5	**464.6**	298.9	46.841	14.886	35.432	46.182	35.068	12.500	19.553
	20-22.5	**397.8**	257.7	38.761	11.783	29.080	40.036	27.775	11.036	16.167
	25-27.5	**517.3**	294.8	48.841	14.159	36.609	50.397	31.781	14.066	21.669
	30-32.5	**783.1**	533.5	66.989	17.661	57.238	69.481	**106.571**	14.280	25.233
	32.5-35	**464.5**	290.2	45.046	12.672	36.885	47.397	27.603	11.061	17.794
	35-37.5	**371.9**	235.8	35.118	11.410	27.410	36.757	23.424	10.813	16.694
	40-42.5	**493.6**	0.000	49.725	16.027	38.745	48.584	34.530	10.356	18.060
	45-47.5	**491.9**	0.000	44.115	13.962	33.901	48.291	23.626	12.879	19.110
	52.5-55	**903.9**	0.000	78.863	26.749	65.377	86.949	55.880	25.611	28.669

Bold data indicates possible interference.

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)		7.448	6.983	17.080	203.732	7.346	10.835	0.000	0.000	0.000
	cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
	depth	CB195	CB194	CB209	sum:	pp'-DDE	pp'-DDD	pp'-DDT	a-HCH	b-HCH
	0-2.5	7.389	6.150	14.222	194.0	6.750	11.411	0.000	0.000	0.000
	5-7.5	6.909	6.369	15.585	212.8	11.087	38.448	0.000	0.000	0.000
	10-12.5	9.388	7.178	16.326	232.3	11.109	16.364	0.000	0.000	0.000
	15-17.5	8.205	7.235	15.402	241.3	10.773	14.212	0.000	0.000	0.000
	20-22.5	6.341	7.181	12.725	200.9	10.906	15.739	0.000	0.000	0.000
	25-27.5	12.000	6.523	19.344	255.4	12.417	18.000	0.000	0.000	0.000
	30-32.5	14.307	7.947	28.693	408.4	11.508	39.974	0.000	0.000	0.000
	32.5-35	12.710	7.985	20.168	239.3	10.237	16.099	0.000	0.000	0.000
	35-37.5	6.410	6.160	13.889	188.1	10.042	14.771	0.000	0.000	0.000
	40-42.5	12.054	8.799	17.168	254.0	13.597	24.537	0.000	0.000	0.000
	45-47.5	9.242	5.989	17.736	228.9	14.962	19.280	0.000	0.000	0.000
	52.5-55	12.960	12.291	20.651	414.0	16.189	28.623	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)	0.000	0.0	0.0	0.0	0.0	0.5	0.1	1.2	1.1
cm	ng/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	g-HCH	Nap	AcL	Acn	Flu	Phe	Ane	Flr	Pyr
0-2.5	0.000	0.0	0.0	0.0	0.0	0.7	0.1	1.6	1.5
5-7.5	0.000	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
10-12.5	0.000	0.0	0.0	0.0	0.0	0.8	0.0	1.9	1.8
15-17.5	0.000	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
20-22.5	0.000	0.0	0.0	0.0	0.0	0.7	0.1	1.8	1.5
25-27.5	0.000	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
30-32.5	0.000	0.0	0.0	0.0	0.1	0.9	0.3	2.2	2.3
32.5-35	0.000	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
35-37.5	0.000	0.0	0.0	0.0	0.0	0.7	0.4	1.5	1.2
40-42.5	0.000	0.0	0.0	0.0	0.0	0.6	0.0	1.8	1.6
45-47.5	0.000	0.0	0.0	0.0	0.0	0.6	0.2	1.6	1.7
52.5-55	0.000	0.0	0.0	0.0	0.0	0.9	0.0	1.9	1.7

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)	0.5	0.6	2.0	0.6	0.5	0.1	1.1		0.0
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	BaA	Chr	B(b+k)F	BaP	InP	DbA	Bpr	Σ 16PAH	Ret
0-2.5	0.5	1.0	2.2	1.9	1.0	0.0	0.7	11.2	0.0
5-7.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
10-12.5	0.6	1.2	2.6	2.5	1.5	0.0	0.9	13.8	0.0
15-17.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
20-22.5	0.5	0.9	1.9	1.3	0.8	0.0	0.7	10.2	0.0
25-27.5	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
30-32.5	0.9	1.5	3.2	2.2	1.4	0.6	1.6	17.2	0.0
32.5-35	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
35-37.5	0.6	1.0	1.6	1.6	1.0	0.4	0.8	10.8	0.3
40-42.5	0.7	1.3	3.2	2.6	0.8	0.3	0.8	13.7	0.0
45-47.5	1.1	1.9	4.6	5.2	1.8	0.0	1.6	20.3	0.0
52.5-55	0.8	1.6	3.0	3.6	1.2	0.0	1.1	15.8	2.1

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)	0.4	5.7	5.989	1.032	1.664	1.237	2.878	0.760	2.674
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	Pyl	Squ	C10BZT	CLBZT	C26-AL	C27-AL	C28-AL	C29-AL	C30-AL
0-2.5	1.1	5.5	6.426	1.261	1.453	1.421	2.530	0.534	2.407
5-7.5	N.C.	N.C.	6.570	1.150	N.C.	N.C.	N.C.	N.C.	N.C.
10-12.5	0.0	12.7	7.928	1.953	2.645	1.523	3.892	2.179	3.903
15-17.5	N.C.	N.C.	6.610	1.310	N.C.	N.C.	N.C.	N.C.	N.C.
20-22.5	0.1	4.9	4.611	0.932	1.718	0.848	2.576	0.455	2.654
25-27.5	N.C.	N.C.	8.630	1.490	N.C.	N.C.	N.C.	N.C.	N.C.
30-32.5	0.4	2.5	8.886	1.715	1.418	0.922	2.634	0.536	2.599
32.5-35	N.C.	N.C.	9.300	1.700	N.C.	N.C.	N.C.	N.C.	N.C.
35-37.5	0.8	4.2	8.043	1.234	1.311	0.789	2.366	0.445	2.366
40-42.5	0.3	4.5	23.335	3.080	1.689	0.936	2.438	0.545	2.440
45-47.5	0.7	3.4	17.450	3.132	1.712	1.530	2.729	1.296	2.606
52.5-55	0.0	4.6	13.292	2.837	1.286	1.123	1.817	0.000	1.769

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fields Point Core

St 2a (0-0.5)	0.748	2.044	0.885	1.530	7.300	39.300	76.219	12.241
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	C31-AL	C32-AL	BeP	C1BzT	DEHP	Cop	Cholesterol	Cholestanol
0-2.5	0.464	1.585	0.886	0.000	10.810	46.230	60.810	11.910
5-7.5	N.C.	N.C.	N.C.	1.720	9.590	38.580	48.990	9.720
10-12.5	0.778	2.447	1.543	3.640	11.550	81.740	89.560	12.430
15-17.5	N.C.	N.C.	N.C.	8.900	11.290	44.170	47.540	11.930
20-22.5	0.496	1.461	0.942	1.840	18.340	46.450	84.710	13.300
25-27.5	N.C.	N.C.	N.C.	1.450	9.700	44.680	50.850	16.900
30-32.5	0.295	1.377	1.307	0.740	24.050	24.050	27.160	9.410
32.5-35	N.C.	N.C.	N.C.	0.000	9.170	54.530	84.960	21.930
35-37.5	0.363	1.730	0.725	0.770	6.580	41.290	41.740	14.630
40-42.5	0.219	1.946	1.137	3.200	13.110	34.450	35.440	21.010
45-47.5	0.381	1.924	2.071	1.510	12.150	16.610	17.040	13.890
52.5-55	0.000	0.928	1.173	4.040	19.750	21.730	24.440	14.770

N.A.= not analyzed
N.C.= not calculated
0= not detected

Site: Fields Pt Core
King Core

Sta-slice	measured cm depth	calc. cm depth	calc. cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ∑ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18
FP-1	0-5	0-5	2.5	140.2	2200	2340	0.000	0.000	0.345	0.368	0.000
FP-2	8-10	8.41-11.0	9.68	20.72	439.5	460.2	0.000	0.000	0.101	0.088	0.066
FP-3	13-15	14.7-17.1	15.9	20.52	142.8	163.3	0.000	0.000	0.049	0.000	0.000
FP-4	18-20	20.9-23.4	22.1	5.74	27.44	33.18	0.000	0.000	0.035	0.000	0.000
FP-5	23-25	27.1-29.4	28.2	6.73	0.00	6.73	0.000	0.000	0.040	0.000	0.000
FP-10	48-50	55.6-57.8	56.7	13.39	0.00	13.39	0.000	0.000	0.030	0.000	0.000
FP-12	65-67	74.9-77.2	76	10.67	0.00	10.67	0.000	0.000	0.000	0.000	0.013
FP-15	94-102	108-118	113	10.68	0.00	10.68	0.000	0.000	0.025	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ta-slice	measured cm depth	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28	ug/gm nC29	ug/gm nC30
FP-1	0-5	0.474	0.226	0.755	1.235	3.574	3.124	1.142	3.453	1.060	3.666	1.254
FP-2	8-10	0.132	0.087	0.000	0.385	0.218	0.541	0.252	0.847	0.241	1.214	0.257
FP-3	13-15	0.000	0.000	0.335	0.310	0.293	0.836	0.451	2.027	0.581	3.754	0.476
FP-4	18-20	0.016	0.017	0.077	0.203	0.107	0.348	0.139	0.600	0.160	1.103	0.147
FP-5	23-25	0.000	0.000	0.000	0.322	0.163	0.544	0.189	0.824	0.195	1.394	0.142
FP-10	48-50	0.000	0.000	0.169	0.266	0.174	0.650	0.271	1.618	0.473	3.598	0.414
FP-12	65-67	0.000	0.015	0.227	0.244	0.112	0.544	0.215	1.178	0.317	2.577	0.281
FP-15	94-102	0.000	0.018	0.175	0.255	0.122	0.575	0.220	1.281	0.327	2.683	0.278

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ts-slice	measured cm depth	ug/gm nC31	ug/gm nC32	ng/gm Ar 1254	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170
FP-1	0-5	4.331	1.322	516.3	50.087	7.532	22.610	32.821	12.909	7.333
FP-2	8-10	1.011	0.207	133.7	14.388	1.836	5.993	8.336	4.299	1.704
FP-3	13-15	2.751	0.280	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FP-4	18-20	0.752	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FP-5	23-25	1.002	0.082	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-10	48-50	2.463	0.216	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-12	65-67	1.780	0.145	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-15	94-102	1.843	0.155	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ta-slice	measured cm depth	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm ∑ CON	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH
FP-1	0-5	8.112	6.146	2.839	8.323	158.7	11.347	0.000	0.000	N.A.
FP-2	8-10	2.376	1.868	1.007	3.505	45.312	0.000	0.000	0.000	N.A.
FP-3	13-15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N.A.
FP-4	18-20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N.A.
FP-5	23-25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-10	48-50	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-12	65-67	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
FP-15	94-102	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ta-slice	measured cm depth	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr
FP-1	0-5	N.A.	N.A.	0.1	0.1	0.0	0.1	0.5	0.0	1.3
FP-2	8-10	N.A.	N.A.	0.0	0.1	0.0	0.0	0.4	0.2	0.7
FP-3	13-15	N.A.	N.A.	0.0	0.0	0.0	0.0	0.1	0.1	0.4
FP-4	18-20	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FP-5	23-25	N.A.	N.A.	0.0	0.0	0.0	0.0	0.1	0.0	0.0
FP-10	48-50	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FP-12	65-67	N.A.	N.A.	0.0	0.0	0.0	0.0	0.1	0.0	0.0
FP-15	94-102	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ta-slice	measured cm depth	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm Σ16 PAH
FP-1	0-5	1.7	0.9	1.3	2.2	0.9	0.6	0.2	1.1	11.0
FP-2	8-10	1.0	0.4	0.5	1.0	0.4	N.C.	N.C.	N.C.	4.7
FP-3	13-15	0.5	0.3	0.4	0.7	0.3	N.C.	N.C.	N.C.	2.8
FP-4	18-20	0.0	0.0	0.0	0.0	0.0	N.C.	0.0	N.C.	0.0
FP-5	23-25	0.0	0.0	0.0	0.1	0.0	N.C.	N.C.	N.C.	0.2
FP-10	48-50	0.0	0.0	0.0	0.0	0.0	N.C.	N.C.	N.C.	0.0
FP-12	65-67	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
FP-15	94-102	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fields Pt Core
King Core

ta-slice	measured cm depth	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP	ug/gm C1BZT	ug/gm DEHP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
FP-1	0-5	0.14	0.05	1.0	1.17	2.17	3.07	3.62	1.48	44.7
FP-2	8-10	0.22	0.04	0.4	0.30	0.43	0.43	0.76	0.32	56.8
FP-3	13-15	0.00	0.00	0.3	0.21	0.40	0.27	0.63	0.06	54.5
FP-4	18-20	0.00	0.00	0.0	0.00	0.04	0.01	0.19	0.13	56.8
FP-5	23-25	0.00	0.00	0.0	0.01	0.00	0.06	0.08	0.09	52.4
FP-10	48-50	0.00	0.00	0.0	0.00	0.19	0.55	0.33	0.00	49.5
FP-12	65-67	0.00	0.00	0.0	0.00	0.42	0.00	0.34	0.00	52.1
FP-15	94-102	0.00	0.00	0.0	0.00	0.15	0.84	0.49	0.47	51.2

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Fox Point Core

St 1a (0-0.5)	mid-d	cor.-mid	cor.	66.15	112.146	4642.844	4754.990	0.320
	cm	cm	cm	mg/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	depth	depth	depth	OC	F1 res	F1-UCM	Σ PHC	nC15
0-2.5	1.25	1.25	0-2.5	61.18	N.A.	N.A.	N.A.	N.A.
7.5-10	8.75	8.95	7.5-10.4	77.03	N.A.	N.A.	N.A.	N.A.
15-17.5	16.25	17.55	16.1-19.0	83.90	N.A.	N.A.	N.A.	N.A.
22.5-25	23.75	26.16	24.7-27.6	84.08	N.A.	N.A.	N.A.	N.A.
25-27.5	26.25	29.07	27.6-30.6	83.12	N.A.	N.A.	N.A.	N.A.
27.5-30	28.75	32.10	30.6-33.6	78.28	N.A.	N.A.	N.A.	N.A.
30-32.5	31.25	35.23	33.6-36.8	72.91	N.A.	N.A.	N.A.	N.A.
32.5-35	33.75	38.47	36.8-40.3	75.43	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		0.553	0.325	0.356	0.281	2.741	0.000	0.000	0.000	0.608
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	nC16	nC17	pristane	nC18	phytane	nC19	nC20	nC21	nC23
	0-2.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	7.5-10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	15-17.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	22.5-25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	25-27.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	27.5-30	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	30-32.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	32.5-35	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		1.169	1.233	0.598	3.151	1.905	5.314	3.525	5.533	0.000
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32
	0-2.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	7.5-10	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	15-17.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	22.5-25	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	25-27.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	27.5-30	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	30-32.5	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	32.5-35	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		412.740	1123.495	774.935	92.413	31.722	66.924	99.437	69.772	30.047
	cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
	depth	Ar 1242	Ar 1254	Ar 1260	CB101	CB151	CB153	CB138	CB180	CB170
	0-2.5	0.000	1021	813.7	76.671	27.295	66.513	94.938	62.780	28.144
	7.5-10	1703	2688	2215	194.7	68.862	147.7	212.2	176.3	72.230
	15-17.5	0.000	4582	3241	369.3	119.3	261.6	345.8	284.8	122.1
	22.5-25	0.000	3553	2875	241.8	96.524	199.0	268.5	237.6	87.080
	25-27.5	0.000	3413	2876	233.3	94.568	201.2	262.5	231.4	86.537
	27.5-30	1905	3191	2210	243.9	89.115	183.9	240.2	207.1	75.711
	30-32.5	1698	2786	2104	203.9	78.974	163.7	225.1	194.5	84.274
	32.5-35	1992	2799	2310	205.7	85.438	168.7	223.4	206.5	94.250

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		44.608	12.290	23.936	29.166	500.313	17.974	62.171	0.000	0.000
	cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
	depth	CB201	CB195	CB194	CB209	sum:	PP'-DDE	PP'-DDD	PP'-DDT	a-HCH
	0-2.5	38.921	interfere.	21.026	22.912	439.2	10.826	35.361	0.000	0.000
	7.5-10	106.7	interfere.	58.990	37.181	1075	45.767	195.8	0.000	0.000
	15-17.5	142.0	interfere.	82.192	49.500	1777	55.836	256.9	0.000	0.000
	22.5-25	152.6	47.376	75.451	117.0	1523	81.254	443.8	0.000	0.000
	25-27.5	153.9	43.841	77.726	99.140	1484	76.800	365.1	0.000	0.000
	27.5-30	116.5	36.464	61.924	84.668	1339	166.1	304.6	0.000	0.000
	30-32.5	106.3	26.195	59.392	58.120	1201	152.9	262.5	0.000	0.000
	32.5-35	110.0	27.692	63.958	35.139	1221	162.1	377.0	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)	0.000	0.000	0.0	0.0	0.0	0.3	2.8	0.8	5.9	4.9
cm	ng/gm	ng/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	b-HCH	g-HCH	Nap	AcL	Acn	Flu	Phe	Ane	Flr	Pyr
0-2.5	0.000	0.000	0.0	0.0	0.0	0.0	3.7	0.9	6.4	6.4
7.5-10	0.000	0.000	0.0	0.2	0.0	0.0	2.6	0.6	5.1	4.9
15-17.5	0.000	0.000	0.4	0.2	0.0	0.0	2.1	0.8	5.7	7.0
22.5-25	0.000	0.000	0.6	0.3	0.3	0.6	2.6	1.4	8.0	8.9
25-27.5	0.000	0.000	0.4	0.2	0.3	[illegible]	2.0	1.0	5.8	6.5
27.5-30	0.000	0.000	0.4	0.2	0.3	.7	2.3	1.0	5.3	6.3
30-32.5	0.000	0.000	0.0	0.2	0.3	0.6	2.7	1.0	7.1	7.5
32.5-35	0.000	0.000	0.0	0.0	0.5	0.8	3.4	1.0	6.3	6.1

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		2.2	2.5	3.0	2.0	1.5	0.5	1.3	27.7	0.4
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	BaA	Chr	B(b+k)F	BaP	InP	DbA	Bpr	∑16 PAHs	Ret
	0-2.5	3.3	4.3	5.9	2.6	2.0	0.5	2.3	38.3	0.0
	7.5-10	3.7	3.8	2.6	4.7	2.6	0.8	2.9	34.5	0.0
	15-17.5	2.7	2.7	6.4	2.4	1.6	0.5	1.6	34.1	0.0
	22.5-25	3.6	5.0	5.7	2.9	1.5	0.5	1.6	43.5	0.0
	25-27.5	3.2	4.1	5.5	2.5	1.8	0.7	1.7	36.3	0.0
	27.5-30	2.5	3.2	6.4	3.8	2.3	1.2	1.9	37.8	0.0
	30-32.5	3.3	4.9	7.8	4.7	3.2	1.0	2.2	46.5	0.0
	32.5-35	2.0	2.9	4.0	2.3	1.2	0.3	0.9	31.7	0.0

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)	0.5	2.8	1.765	0.335	2.193	0.775	3.559	1.165	4.409
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	Pyl	Squ	C10BZT	CLBZT	C26-AL	C27-AL	C28-AL	C29-AL	C30-AL
0-2.5	0.4	3.7	1.340	0.324	2.375	0.882	3.896	1.295	4.347
7.5-10	1.5	3.6	4.585	1.403	3.292	2.061	4.245	0.814	4.838
15-17.5	0.2	2.7	4.403	2.310	1.769	1.847	2.948	1.081	2.962
22.5-25	0.6	2.5	0.000	0.258	1.596	0.983	2.131	0.872	2.273
25-27.5	0.7	2.3	0.000	0.311	2.147	1.297	3.175	1.665	3.541
27.5-30	1.2	3.2	0.000	0.580	2.914	1.794	3.085	2.431	3.222
30-32.5	1.3	4.3	0.000	0.920	3.954	2.206	5.237	1.755	5.329
32.5-35	0.5	3.9	0.000	0.000	2.001	1.145	2.347	0.440	2.699

N.A.= not analyzed
N.C.= not calculated
0= not detected

Fox Point Core

St 1a (0-0.5)		0.423	1.926	1.630	0.000	37.840	30.500	98.684	0.000
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	C31-AL	C32-AL	BeP	C1BZT	DEHP	Cop	Cholesterol	Cholestanol
	0-2.5	0.801	3.253	2.286	2.29	47.53	38.03	50.84	11.41
	7.5-10	0.325	2.426	4.637	1.95	145.71	13.15	23.92	6.09
	15-17.5	0.000	1.395	2.340	1.65	195.38	29.30	28.92	9.94
	22.5-25	0.000	1.119	2.519	3.76	97.08	27.90	57.18	15.65
	25-27.5	0.873	1.949	2.391	1.85	98.75	38.33	63.10	23.82
	27.5-30	0.000	2.063	3.665	3.15	111.36	42.37	48.34	23.57
	30-32.5	0.356	2.155	3.978	1.92	121.77	41.31	58.15	25.54
	32.5-35	0.000	1.123	1.751	2.21	188.86	75.39	75.65	43.02

N.A.= not analyzed
N.C.= not calculated
0= not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ∑PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane
8-1	0-3	0-3	1.5	396.6	6191	6588	0.807	0.435	1.818	3.358
	10-12	10.2-12.4	11.3	356.1	8206	8562	0.000	0.000	1.600	2.340
	15-17	15.8-18.2	17.0	423.7	6339	6762	0.283	0.615	1.694	2.950
	20-22	21.6-23.8	22.7	1259	7444	8703	0.000	0.000	2.110	3.420
8-7	30-32	34.2-37.2	35.7	441.2	7042	7483	0.650	0.000	1.512	3.114
	70-72	96.5-99.7	98.1	837.2	7533	8370	0.000	1.118	2.890	9.123
8-17	109-112	163-169	166.0	725.0	8635	9360	2.374	0.687	4.213	15.424
8-21	145-147	228-232	230.0	634.5	8463	9098	2.786	1.190	3.169	15.080

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27
8-1	0-3	0.571	3.998	1.707	2.505	3.258	8.292	5.804	7.828	6.257
	10-12	0.000	3.240	1.130	3.090	2.140	3.580	12.510	8.050	13.410
	15-17	0.610	3.601	1.261	2.991	2.936	4.602	13.861	2.966	10.726
	20-22	1.310	3.940	1.220	4.090	4.130	3.400	11.100	8.500	10.200
8-7	30-32	0.000	3.607	1.766	2.584	3.747	3.719	9.285	4.690	7.141
	70-72	1.997	8.155	2.771	5.833	16.825	23.677	31.376	5.929	12.798
8-17	109-112	0.842	11.288	5.432	5.926	6.307	13.229	18.678	12.577	11.124
8-21	145-147	0.800	11.919	2.369	5.273	6.403	11.831	16.720	13.016	10.527

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ug/gm nC28	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101
8-1	0-3	3.984	15.446	3.945	12.865	3.427	0.00	1683	0.00	114.0
	10-12	4.200	21.470	4.640	19.160	3.850	736.1	1651	0.00	142.5
	15-17	2.927	11.089	1.708	8.710	1.261	0.00	1109	1697	84.862
	20-22	7.570	17.900	5.930	11.800	3.940	884.4	1532	0.00	136.6
8-7	30-32	4.709	17.419	3.739	15.863	3.436	0.00	1939	0.00	117.2
	70-72	6.958	18.294	4.696	11.706	3.320	1727	1948	1522	127.3
8-17	109-112	8.948	15.289	7.755	12.608	5.748	6926	0.00	0.00	661.5
8-21	145-147	7.368	17.154	6.948	16.525	6.543	10586	8280	0.00	923.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209
8-1	0-3	51.718	114.0	138.9	335.8	41.859	56.169	16.423	25.282	0.000
	10-12	60.026	107.2	137.2	92.250	40.276	51.566	12.276	24.789	22.539
	15-17	58.991	111.2	109.3	139.5	47.138	81.780	16.936	43.211	29.229
	20-22	54.904	95.068	123.4	76.411	35.795	43.699	10.575	20.712	21.370
8-7	30-32	59.273	108.4	140.1	246.2	40.448	58.435	37.338	32.948	0.000
	70-72	90.340	103.4	118.3	119.8	41.149	60.899	11.872	30.005	35.287
8-17	109-112	154.9	398.9	517.9	0.000	151.5	185.7	72.475	91.673	214.5
8-21	145-147	320.7	382.1	672.7	0.000	149.8	204.5	0.000	84.102	248.2

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ng/gm Σ COM	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL
8-1	0-3	894.0	0.000	51.338	0.000	0.000	0.000	0.000	0.0	0.0
	10-12	690.6	30.171	0.000	0.000	0.000	0.000	0.000	0.0	N.C.
	15-17	722.1	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0
	20-22	618.6	31.575	0.000	0.000	0.000	0.000	0.000	0.0	N.C.
8-7	30-32	840.5	0.000	77.266	0.000	0.000	0.000	0.000	0.0	0.0
	70-72	738.4	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0
8-17	109-112	2449.0	266.8	0.000	0.000	0.000	0.000	0.000	0.0	0.5
8-21	145-147	2985.0	9.975	895.7	0.000	0.000	0.000	0.000	1.0	0.1

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ug/gm Ace	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP
8-1	0-3	0.0	0.0	1.7	0.0	8.1	7.4	5.0	5.3	8.3	8.1	1.5
	10-12	N.C.	N.C.	2.6	0.9	9.5	8.3	4.3	5.9	9.1	3.8	2.8
	15-17	0.0	0.0	2.6	N.C.	8.5	7.9	3.5	5.6	8.5	5.8	7.9
	20-22	N.C.	N.C.	4.3	1.9	13.2	10.2	9.7	11.6	12.6	5.9	3.6
8-7	30-32	0.0	0.0	1.1	0.5	7.6	7.5	4.3	4.8	6.5	4.6	1.5
	70-72	0.0	0.0	3.1	1.2	9.6	8.6	3.8	5.6	6.0	3.6	2.1
8-17	109-112	0.0	0.3	1.3	0.4	6.7	6.9	2.3	4.4	5.3	5.8	1.1
8-21	145-147	0.4	0.5	3.7	1.0	12.4	11.8	3.6	5.0	8.5	4.3	1.5

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Fox Point
King core #8

Sta-slice	measured cm depth	ug/gm DbA	ug/gm Bpr	ug/gm ∑16 PAH	ug/gm C1OBZT	ug/gm CLBZT	ug/gm BeP	ug/gm C1BZT	ug/gm DEHP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
8-1	0-3	1.1	2.9	49.4	1.14	0.41	5.4	1.86	49.22	52.11	59.77	19.77	18.8
	10-12	0.6	2.8	50.5	0.23	0.00	3.9	N.A.	N.A.	N.A.	N.A.	N.A.	20.1
	15-17	2.8	4.3	57.4	0.00	0.00	N.C.	0.00	37.85	59.33	24.28	18.58	22.6
	20-22	0.8	3.5	77.3	0.87	0.07	5.2	N.A.	N.A.	N.A.	N.A.	N.A.	20.6
8-7	30-32	0.3	2.2	40.9	1.91	0.48	5.0	1.34	40.60	35.38	33.00	14.07	28.0
	70-72	0.7	N.C.	44.3	2.66	1.06	N.C.	0.00	117.9	50.95	55.35	27.91	30.7
8-17	109-112	N.C.	N.C.	35.0	2.78	1.37	3.8	4.07	206.9	92.15	101.7	25.18	34.2
8-21	145-147	0.5	1.0	55.3	0.00	0.00	4.3	3.23	40.74	20.30	33.96	10.40	33.4

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Ohio Ledge Core

St 5a (0-0.5)		mid-d	cor.-mid		cor.	39.99	10.370	577.080	587.450	0.000	0.000
	cm	cm	cm		cm	mg/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	depth	depth		depth	OC	F1 res	F1-UCM	Σ PHC	nC15	nC16
	0-2.5	1.25	1.25		0-2.5	49.40	27.123	840.5	867.6	0.000	0.000
	2.5-5.0	3.25	4.49		2.5-6.47	28.59	26.759	286.7	313.5	0.000	0.000
	5.0-7.5	6.25	8.46		6.47-10.4	17.34	8.250	304.9	313.2	0.000	0.000
	7.5-10	8.75	12.43		10.4-14.4	34.54	17.540	722.4	739.9	0.000	0.000
	10-12.5	11.25	16.40		14.4-18.4	35.18	14.275	597.7	612.0	0.017	0.000
	12.5-15	13.75	20.66		18.4-22.9	18.03	8.050	329.6	337.7	0.000	0.000
	15-17.5	16.25	25.22		22.9-27.5	12.68	8.775	320.5	329.3	0.000	0.000
	17.5-20	18.75	29.78		27.5-32.1	14.24	6.740	257.6	264.3	0.000	0.000
	20-22.5	21.25	34.34		32.1-36.6	10.91	4.550	166.4	171.0	0.000	0.000
	22.5-25	23.75	39.05		36.6-41.5	6.61	1.830	113.8	115.6	0.000	0.000
	25-27.5	26.25	43.90		41.5-46.3	5.68	2.430	75.530	77.960	0.000	0.000
	30-32.5	31.25	48.75		46.3-51.2	12.75	1.110	3.480	4.590	0.000	0.000
	32.5-35	33.75	58.45		56.0-60.9	11.55	1.230	0.850	2.080	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	0.701	0.000	0.000	0.000	0.000	0.066	0.000	0.170	0.120
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	nC17	pristane	nC18	phytane	nC19	nC20	nC21	nC23	nC24
0-2.5	0.438	0.000	0.000	0.157	0.000	0.087	0.000	0.116	0.086
2.5-5.0	0.334	0.000	0.000	0.000	0.325	i.s.	0.986	0.400	0.000
5.0-7.5	0.180	0.000	0.000	0.057	0.000	0.000	0.000	0.160	0.000
7.5-10	0.494	0.000	0.000	0.000	0.000	0.000	0.000	0.208	0.172
10-12.5	0.349	0.000	0.000	0.122	0.000	0.000	0.000	0.212	0.039
12.5-15	0.195	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15-17.5	0.118	0.000	0.000	0.034	0.000	0.000	0.000	0.073	0.091
17.5-20	0.087	0.000	0.000	0.067	0.000	0.031	0.000	0.098	0.077
20-22.5	0.097	0.000	0.000	0.000	0.000	0.018	0.000	0.000	0.043
22.5-25	0.064	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.000
25-27.5	0.041	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.024
30-32.5	0.008	0.000	0.000	0.000	0.000	0.002	0.000	0.039	0.013
32.5-35	0.005	0.000	0.002	0.000	0.003	0.000	0.000	0.053	0.012

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	0.774	0.000	0.332	0.301	0.544	0.262	0.621	0.000	0.000
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ng/gm
depth	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32	Ar 1242
0-2.5	1.799	0.231	1.638	0.412	2.136	1.116	2.103	0.584	0.000
2.5-5.0	0.317	0.329	0.632	0.603	1.557	0.987	1.318	0.412	0.000
5.0-7.5	0.684	0.198	0.592	0.165	0.758	0.391	0.678	0.104	0.000
7.5-10	1.162	0.615	0.402	0.441	2.087	1.101	1.858	0.526	0.000
10-12.5	1.132	0.377	0.969	0.605	1.107	0.562	0.765	0.219	0.000
12.5-15	0.652	0.282	0.610	0.233	0.855	0.545	0.762	0.299	0.000
15-17.5	0.396	0.391	0.535	0.547	0.830	0.524	0.694	0.134	0.000
17.5-20	0.350	0.027	0.373	0.140	0.745	0.314	0.338	0.131	0.000
20-22.5	0.406	0.137	0.374	0.136	0.463	0.165	0.451	0.101	0.000
22.5-25	0.179	0.103	0.180	0.092	0.372	0.090	0.257	0.032	0.000
25-27.5	0.095	0.084	0.144	0.046	0.322	0.118	0.211	0.057	0.000
30-32.5	0.087	0.036	0.131	0.042	0.288	0.034	0.128	0.011	0.000
32.5-35	0.107	0.049	0.139	0.043	0.241	0.031	0.091	0.006	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	197.727	143.311	15.831	4.858	15.462	21.339	11.777	4.692	10.765
cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
depth	Ar 1254	Ar 1260	CB101	CB151	CB153	CB138	CB180	CB170	CB201
0-2.5	**166.7**	0.000	12.767	4.056	12.301	14.578	7.768	3.285	6.869
2.5-5.0	**73.657**	0.000	7.937	2.679	7.203	8.897	5.379	2.095	4.356
5.0-7.5	**78.480**	0.000	7.234	1.977	5.955	8.647	3.902	1.479	4.130
7.5-10	**135.2**	0.000	12.785	3.667	10.997	13.443	6.976	1.878	0.532
10-12.5	**149.9**	**85.072**	12.015	3.498	9.846	13.063	7.593	3.112	6.374
12.5-15	**110.0**	0.000	9.114	3.304	7.595	9.651	4.733	1.940	5.097
15-17.5	**81.620**	**43.320**	7.389	2.185	5.923	7.567	4.055	1.484	4.748
17.5-20	**81.340**	**43.610**	6.915	2.246	5.575	7.336	**16.103**	1.530	5.746
20-22.5	**30.880**	**17.220**	2.737	0.905	1.922	2.745	4.391	0.583	3.031
22.5-25	**25.310**	**12.940**	2.475	0.681	1.679	2.277	1.098	0.364	2.675
25-27.5	**20.830**	**9.190**	1.890	0.474	1.300	1.798	0.865	0.270	1.895
30-32.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32.5-35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Bold data indicates possible interference.

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)		4.360	4.578	10.269	103.928	5.795	5.654	0.000	0.000	0.000
	cm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm	ng/gm
	depth	CB195	CB194	CB209	sum:	pp'-DDE	pp'-DDD	pp'-DDT	a-HCH	b-HCH
	0-2.5	3.253	2.417	7.334	74.629	2.690	3.723	0.000	0.000	0.000
	2.5-5.0	2.110	1.551	4.686	46.893	2.267	2.333	0.000	0.000	0.000
	5.0-7.5	2.309	1.084	4.550	41.268	1.579	0.000	0.000	0.000	0.000
	7.5-10	3.144	1.648	5.587	50.370	3.565	0.000	0.000	0.000	0.000
	10-12.5	3.686	2.066	6.268	67.519	4.611	3.996	0.000	0.000	0.000
	12.5-15	3.045	1.331	6.306	52.116	2.504	0.000	0.000	0.000	0.000
	15-17.5	2.989	1.173	5.821	43.334	1.822	0.000	0.000	0.000	0.000
	17.5-20	3.659	1.203	5.618	55.931	2.301	1.700	0.000	0.000	0.000
	20-22.5	1.977	0.479	3.617	22.387	0.762	0.471	0.000	0.000	0.000
	22.5-25	1.876	0.358	3.697	17.180	0.351	0.000	0.000	0.000	0.000
	25-27.5	1.276	0.263	2.369	12.400	0.282	0.000	0.000	0.000	0.000
	30-32.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	32.5-35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	0.000	0.0	0.0	0.0	0.0	0.2	0.0	0.5	0.4
cm	ng/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	g-BCH	Nap	AcL	Acn	Flu	Phe	Ane	Flr	Pyr
0-2.5	0.000	0.0	0.0	0.0	0.0	0.2	0.1	0.5	0.5
2.5-5.0	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.3
5.0-7.5	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.2
7.5-10	0.000	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.3
10-12.5	0.000	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.4
12.5-15	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2
15-17.5	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.2
17.5-20	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3
20-22.5	0.000	0.0	0.0	0.0	0.1	0.7	0.1	0.7	0.6
22.5-25	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.2
25-27.5	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
30-32.5	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5-35	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	0.1	0.2	0.6	0.2	0.2	0.1	0.4	2.9	0.0
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	BaA	Chr	B(b+k)F	BaP	InP	DbA	Bpr	Σ 16 PAH	Ret
0-2.5	0.2	0.3	0.8	0.3	0.4	0.3	0.5	4.1	0.0
2.5-5.0	0.1	0.2	0.4	0.1	0.1	0.1	0.1	1.8	0.0
5.0-7.5	0.1	0.1	0.4	0.2	0.2	0.1	0.2	1.9	0.0
7.5-10	0.1	0.2	0.7	0.5	0.3	0.2	0.2	3.1	0.0
10-12.5	0.2	0.2	0.7	0.2	0.3	0.1	0.4	3.1	0.0
12.5-15	0.1	0.1	0.5	0.3	0.2	0.1	0.2	2.0	0.0
15-17.5	0.1	0.1	0.4	0.2	0.2	0.0	0.1	1.6	0.0
17.5-20	0.1	0.1	0.3	0.2	0.1	0.0	0.1	1.5	0.0
20-22.5	0.3	0.3	0.6	0.3	0.2	0.1	0.1	4.1	0.0
22.5-25	0.1	0.1	0.2	0.1	0.1	0.0	0.1	1.1	0.0
25-27.5	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.7	0.0
30-32.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5-35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)	0.2	0.3	2.941	0.413	0.889	0.409	1.322	0.355	1.427
cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
depth	Pyl	Squ	C10BZT	CLBZT	C26-AL	C27-AL	C28-AL	C29-AL	C30-AL
0-2.5	0.2	0.6	2.871	0.571	0.791	0.293	1.198	0.375	1.229
2.5-5.0	0.0	0.1	1.275	0.237	0.209	0.171	0.492	0.000	0.553
5.0-7.5	0.1	0.6	0.757	0.127	0.366	0.151	0.515	0.151	0.424
7.5-10	0.1	0.4	2.809	0.500	0.726	0.409	0.964	0.349	1.032
10-12.5	0.2	0.3	2.747	0.439	0.748	0.325	1.056	0.271	1.017
12.5-15	0.1	0.2	0.693	0.187	0.355	0.230	0.510	0.213	0.468
15-17.5	0.0	0.2	0.346	0.082	0.238	0.089	0.329	0.146	0.329
17.5-20	0.1	0.1	0.604	0.143	0.332	0.172	0.416	0.135	0.406
20-22.5	0.1	0.0	0.071	0.020	0.321	0.122	0.387	0.098	0.389
22.5-25	0.0	0.2	0.000	0.000	0.138	0.047	0.184	0.064	0.176
25-27.5	0.0	0.0	0.000	0.000	0.119	0.047	0.139	0.036	0.111
30-32.5	0.0	0.1	0.000	0.000	0.096	0.029	0.122	0.033	0.127
32.5-35	0.0	0.1	0.000	0.000	0.123	0.040	0.175	0.054	0.191

N.A.= not analyzed
N.C.= not calculated
0= not detected

Ohio Ledge Core

St 5a (0-0.5)		0.233	1.101	0.261	0.430	0.940	2.160	21.850	2.360
	cm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm	ug/gm
	depth	C31-AL	C32-AL	BeP	C1BZT	DEHP	Cop	Cholesterol	Cholestanol
	0-2.5	0.184	1.112	0.366	0.490	1.680	6.360	18.050	2.990
	2.5-5.0	N.C.	0.440	0.152	0.960	0.770	5.430	11.330	2.62
	5.0-7.5	0.076	0.424	0.181	0.240	0.360	1.770	3.130	1.140
	7.5-10	0.120	0.952	0.297	0.000	0.710	3.280	4.580	2.230
	10-12.5	0.145	0.731	0.292	0.410	0.650	3.950	6.300	3.240
	12.5-15	0.067	0.426	0.209	0.200	0.100	1.080	1.210	0.810
	15-17.5	0.039	0.264	0.162	0.050	0.090	0.760	0.840	0.680
	17.5-20	0.045	0.335	0.177	0.120	0.170	0.450	0.410	0.410
	20-22.5	0.045	0.335	0.269	0.080	0.000	0.270	0.480	0.390
	22.5-25	0.026	0.118	0.113	0.000	0.000	0.340	0.250	0.180
	25-27.5	0.012	0.074	0.064	0.000	0.040	0.170	0.630	0.320
	30-32.5	0.012	0.098	0.006	0.060	0.000	0.040	0.030	0.100
	32.5-35	0.034	0.190	0.002	0.000	0.000	0.200	0.150	0.090

N.A.= not analyzed
N.C.= not calculated
0= not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane
11-1	0-3	0-3	1.5	216.4	3906	4123	0.64	0.00	1.85	1.46
11-2	5-7	5-8	6	248.4	3282	3530	0.25	0.30	2.11	1.88
11-3	10-12	11-14	12	276.5	3596	3873	0.81	0.32	1.52	2.82
11-4	15-17	19-24	22	83.85	1414	1498	0.00	0.10	0.41	0.65
11-5	20-22	32-37	34	143.8	1611	1754	0.00	0.00	0.39	0.32
11-6	25-27	45-50	47	34.00	630.1	664.1	0.05	0.04	0.34	0.08
11-7	30-32	58-62	60	80.35	678.3	758.7	0.10	0.08	0.45	0.15
11-8	35-37	70-74	72	33.94	361.5	395.4	0.12	0.07	0.87	0.11
11-9	40-42	81-86	83	19.28	46.95	66.23	0.00	0.00	0.38	0.00
11-10	45-47	92-97	95	7.77	51.23	59.00	0.00	0.00	0.31	0.00
11-12	60-62	128-134	131	16.89	0.00	16.89	0.00	0.00	0.15	0.00

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27
11-1	0-3	0.41	2.02	0.63	3.29	0.77	4.64	5.83	1.90	5.20
11-2	5-7	0.72	3.02	1.64	2.80	1.73	3.94	4.19	1.09	3.90
11-3	10-12	0.63	3.80	1.07	1.38	2.82	7.33	5.84	3.32	4.35
11-4	15-17	0.13	0.81	0.25	0.85	1.12	1.05	2.58	1.35	2.74
11-5	20-22	0.00	0.40	0.22	1.05	3.16	4.60	4.59	1.80	3.92
11-6	25-27	0.06	0.16	0.13	0.29	0.56	0.26	0.64	0.42	1.05
11-7	30-32	0.17	0.42	0.18	0.47	0.92	0.49	0.99	1.00	1.34
11-8	35-37	0.09	0.17	0.29	0.38	0.63	0.51	0.86	0.37	1.30
11-9	40-42	0.00	0.00	0.07	0.24	0.53	0.50	0.94	0.35	1.62
11-10	45-47	0.00	0.03	0.06	0.09	0.15	0.06	0.21	0.07	0.38
11-12	60-62	0.00	0.00	0.03	0.11	0.18	0.13	0.37	0.15	0.64

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ug/gm nC28	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101
11-1	0-3	1.38	5.36	1.97	5.73	2.13	706.8	978.9	351.4	77.05
11-2	5-7	1.21	4.31	1.33	4.35	1.29	945.6	1297	758.9	116.2
11-3	10-12	1.35	3.52	1.68	4.23	1.27	587.4	752.9	0.00	66.99
11-4	15-17	1.27	2.71	1.03	1.66	0.64	0.00	401.2	0.00	39.99
11-5	20-22	1.73	4.20	1.76	3.98	1.58	0.00	330.5	143.1	27.76
11-6	25-27	0.39	1.46	0.39	1.37	0.48	0.00	58.55	0.00	5.42
11-7	30-32	0.50	2.38	0.45	1.48	0.27	0.00	124.7	0.00	9.58
11-8	35-37	0.44	2.40	0.37	1.94	0.25	0.00	86.85	0.00	8.73
11-9	40-42	0.35	2.96	0.30	2.18	0.15	0.00	0.00	0.00	0.00
11-10	45-47	0.09	0.70	0.22	1.16	0.04	0.00	0.00	0.00	0.00
11-12	60-62	0.16	1.44	0.15	1.07	0.07	0.00	0.00	0.00	0.00

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209
11-1	0-3	23.13	38.92	58.64	28.18	15.39	17.73	8.59	7.42	20.04
11-2	5-7	29.73	54.51	72.33	36.60	17.74	20.28	8.76	9.76	21.14
11-3	10-12	19.96	19.73	31.88	11.40	6.14	5.44	1.95	2.06	3.54
11-4	15-17	8.81	25.52	38.14	18.52	9.95	10.00	4.62	4.54	12.04
11-5	20-22	7.36	18.66	26.49	12.47	5.96	20.22	13.64	4.21	26.99
11-6	25-27	1.22	2.66	3.52	1.43	0.56	7.24	5.13	0.81	8.62
11-7	30-32	2.47	5.95	8.80	6.59	0.99	18.81	14.31	2.33	20.53
11-8	35-37	1.16	3.37	4.24	1.69	0.64	3.16	2.27	0.54	5.24
11-9	40-42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11-10	45-47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11-12	60-62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ng/gm Σ CDM	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL
11-1	0-3	295.1	38.58	0.0	0.0	0	0	0	0.0	0.5
11-2	5-7	387.1	35.34	0.0	0.0	0	0	0	0.2	0.3
11-3	10-12	169.1	24.07	0.0	0.0	0	0	0	0.2	0.2
11-4	15-17	172.1	27.05	0.0	0.0	0	0	0	0.2	0.2
11-5	20-22	163.8	23.47	0.0	0.0	0	0	0	0.0	0.2
11-6	25-27	36.60	30.50	0.0	0.0	0	0	0	0.0	0.1
11-7	30-32	90.34	4.87	0.0	0.0	0	0	0	0.0	0.0
11-8	35-37	31.04	4.15	0.0	0.0	0	0	0	0.0	0.0
11-9	40-42	0.00	0.00	0.0	0.0	0	0	0	0.0	0.0
11-10	45-47	0.00	0.00	0.0	0.0	0	0	0	0.0	0.0
11-12	60-62	0.00	0.00	0.0	0.0	0	0	0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA
11-1	0-3	0.0	0.2	1.7	0.1	9.1	6.2	3.9	3.4	7.5	3.3	N.C.	0.0
11-2	5-7	0.0	0.1	1.7	0.5	N.C.	5.5	2.2	1.8	4.3	1.4	0.0	0.7
11-3	10-12	0.2	0.0	1.0	0.1	N.C.	5.3	2.4	2.6	7.1	2.6	2.3	0.8
11-4	15-17	0.1	0.1	1.6	0.4	N.C.	3.6	1.6	1.5	2.4	0.9	0.6	0.2
11-5	20-22	0.0	0.1	1.0	0.3	2.8	3.0	1.2	1.4	2.9	1.1	N.C.	N.C.
11-6	25-27	0.0	0.0	0.4	0.2	0.8	1.3	0.6	0.8	1.6	0.7	N.C.	N.C.
11-7	30-32	0.0	0.1	0.6	0.2	1.3	1.7	0.9	1.1	2.6	1.1	N.C.	N.C.
11-8	35-37	0.0	0.0	0.2	0.1	0.5	0.7	0.4	0.5	0.9	0.4	0.1	N.C.
11-9	40-42	0.0	0.0	0.1	0.0	0.3	0.3	0.1	0.1	0.3	0.1	0.0	0.0
11-10	45-47	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	N.C.	0.0	N.C.
11-12	60-62	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Ptux Cove
King Core #11

Sta-slice	measured cm depth	ug/gm Bpr Σ16	ug/gm PAH	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP	ug/gm C1BZT	ug/gm DEHP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
11-1	0-3	N.C.	35.9	163.1	52.18	3.2	14.71	16.25	10.85	17.75	6.33	25.0
11-2	5-7	0.3	19.0	109.3	42.81	2.0	21.79	21.96	9.54	10.45	2.78	30.1
11-3	10-12	3.4	28.2	50.83	43.01	3.1	42.03	21	7.24	10.7	5.35	31.6
11-4	15-17	0.2	13.6	8.24	7.93	1.1	19.21	3.38	1	2.26	1.44	60.0
11-5	20-22	N.C.	14.0	1.46	0.79	1.3	5.96	2.34	0.89	1.9	2.42	65.2
11-6	25-27	N.C.	6.5	0.00	0.00	0.7	0.24	0.19	0.13	2.02	1.26	65.1
11-7	30-32	N.C.	9.6	0.00	0.00	1.2	0.3	0.01	N.C.	0.92	0.68	61.9
11-8	35-37	N.C.	3.8	0.00	0.00	0.4	0.17	0.26	N.C.	0.6	0.56	55.5
11-9	40-42	0.0	1.3	0.00	0.00	0.1	0.32	0.16	N.C.	1.01	1.16	58.8
11-10	45-47	0.0	0.2	0.00	0.00	N.C.	0.37	0.35	N.C.	1.32	1.39	57.8
11-12	60-62	0.0	0.0	0.00	0.00	0.0	0	0.05	N.C.	0.14	0.11	62.9

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane
	0-2	0-2	1	46.31	280.4	326.7	0.212	0.043	1.720	0.041
	10-12	12-15	13	55.19	237.9	293.1	0.000	0.000	1.436	0.000
	20-22	28-32	30	72.74	435.1	507.8	0.000	0.000	0.000	1.066
	30-32	49-53	51	34.84	165.8	200.6	0.000	0.000	0.974	0.000
	40-42	72-78	75	25.29	172.4	197.7	0.000	0.000	0.954	0.033
	50-52	97-101	99	38.78	163.7	202.5	0.000	0.000	1.189	0.045
	60-62	120-124	122	56.89	161.1	218.0	0.000	0.000	1.280	0.028
	82-84	178-184	181	05.75	15.26	21.01	0.006	0.000	0.011	0.035
	102-104	234-239	236	28.06	20.47	48.53	0.000	0.000	1.866	0.087
	118-120	276-282	279	26.61	26.88	53.49	0.000	0.000	1.347	0.093

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27
	0-2	0.071	0.188	0.199	0.482	0.908	0.521	1.686	0.731	2.805
	10-12	0.000	0.357	0.223	0.496	1.267	0.892	3.532	0.953	3.703
	20-22	0.000	0.307	0.138	0.531	1.069	0.952	6.693	1.516	5.906
	30-32	0.000	0.125	0.180	0.424	0.844	0.544	2.331	0.703	2.591
	40-42	0.057	0.074	0.399	0.460	0.714	0.401	2.050	0.638	1.859
	50-52	0.037	0.084	0.562	0.658	0.990	0.475	2.659	0.672	2.322
	60-62	0.056	0.094	0.427	0.501	1.083	0.661	5.169	1.090	3.287
	82-84	0.009	0.007	0.013	0.075	0.181	0.110	0.379	0.110	0.493
	102-104	0.000	0.047	0.430	0.583	0.963	0.482	2.185	0.586	2.161
	118-120	0.000	0.024	0.269	0.385	0.791	0.426	2.483	0.408	1.924

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ug/gm nC28	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101
	0-2	0.953	6.529	0.803	4.464	0.444	0.000	59.770	0.000	4.880
	10-12	1.350	8.105	0.938	6.061	0.597	0.000	72.590	0.000	6.197
	20-22	1.984	10.323	1.227	6.703	0.644	0.000	102.700	0.000	8.179
	30-32	0.774	4.855	0.663	3.915	0.522	0.000	74.530	0.000	6.209
	40-42	0.582	4.160	0.582	3.042	0.317	0.000	19.960	0.000	1.818
	50-52	0.661	5.627	0.676	3.754	0.369	0.000	0.000	0.000	0.000
	60-62	1.041	7.957	0.976	6.869	0.592	0.000	0.000	0.000	0.000
	82-84	0.134	0.992	0.135	0.718	0.065	0.000	0.000	0.000	0.000
	102-104	0.695	3.913	0.438	2.770	0.213	0.000	0.000	0.000	0.000
	118-120	0.505	4.166	0.467	3.390	0.269	N.A.	N.A.	N.A.	N.A.

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209
	0-2	1.067	4.158	0.833	1.801	0.611	1.804	0.883	0.591	1.719
	10-12	1.622	5.031	6.050	2.050	0.985	2.154	0.988	0.440	1.625
	20-22	1.991	6.518	9.362	2.659	1.174	2.471	1.097	0.750	1.765
	30-32	1.490	4.294	5.186	1.776	0.738	1.618	0.710	0.478	0.998
	40-42	0.386	0.962	1.171	0.406	0.061	0.400	0.196	0.087	0.194
	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	60-62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	82-84	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	102-104	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	118-120	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ng/gm Σ CBW	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn
	0-2	18.35	2.722	0.000	0.000	0	0	0	0.0	0.0	0.1
	10-12	27.14	4.127	0.000	0.000	0	0	0	0.0	0.0	0.0
	20-22	35.97	4.656	0.000	0.000	0	0	0	0.0	0.0	0.0
	30-32	23.50	3.166	0.000	0.000	0	0	0	0.0	0.0	0.0
	40-42	5.681	0.680	0.000	0.000	0	0	0	0.0	0.0	0.0
	50-52	0.000	0.000	0.000	0.000	0	0	0	0.0	0.0	0.0
	60-62	0.000	0.000	0.000	0.000	0	0	0	0.0	0.0	0.0
	82-84	0.000	0.000	0.000	0.000	0	0	0	0.0	0.0	0.0
	102-104	0.000	0.000	0.000	0.000	0	0	0	0.0	0.0	0.0
	118-120	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.0	0.0	0.0

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr
	0-2	0.0	0.3	0.2	0.3	0.4	0.2	0.2	0.3	0.1	0.2	N.C.	0.3
	10-12	0.0	0.3	0.2	0.6	0.8	0.7	0.5	0.5	N.C.	0.2	N.C.	0.1
	20-22	0.0	0.2	0.1	0.8	1.0	1.1	0.9	1.2	0.6	0.3	N.C.	0.5
	30-32	0.0	0.1	0.1	0.5	0.5	0.2	0.3	0.5	0.2	0.1	N.C.	0.1
	40-42	0.0	0.1	0.1	0.5	0.5	0.2	0.3	0.7	0.4	0.4	N.C.	0.4
	50-52	0.0	0.1	0.1	0.5	0.5	0.3	0.3	0.7	0.3	0.3	N.C.	0.3
	60-62	0.0	0.1	0.1	0.4	0.4	0.2	0.2	0.3	0.1	0.1	N.C.	0.1
	82-84	0.0	0.0	N.C.	0.0	N.C.	0.0	0.0	0.0	N.C.	N.C.	N.C.	N.C.
	102-104	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	118-120	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	N.C	0.0

Site: Potowomut Cv
King Core

Sta-slice	measured cm depth	ug/gm Σ16 PAH	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP	ug/gm ClBZT	ug/gm DEHP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
	0-2	2.6	0.00	0.00	N.C.	N.A.	N.A.	N.A.	N.A.	N.A.	15.8
	10-12	3.9	0.00	0.00	0.1	N.A.	N.A.	N.A.	N.A.	N.A.	23.4
	20-22	6.7	0.00	0.00	0.9	N.A.	N.A.	N.A.	N.A.	N.A.	29.3
	30-32	2.6	0.00	0.00	0.3	N.A.	N.A.	N.A.	N.A.	N.A.	36.6
	40-42	3.6	0.00	0.00	0.4	N.A.	N.A.	N.A.	N.A.	N.A.	39.3
	50-52	3.4	0.00	0.00	0.3	N.A.	N.A.	N.A.	N.A.	N.A.	36.9
	60-62	2.0	0.00	0.00	0.2	N.A.	N.A.	N.A.	N.A.	N.A.	35.1
	82-84	0.0	0.00	0.00	N.C.	N.A.	N.A.	N.A.	N.A.	N.A.	49.7
	102-104	0.2	0.00	0.00	0.0	N.A.	N.A.	N.A.	N.A.	N.A.	38.0
	118-120	0.2	0.00	0.00	0.1	N.A.	N.A.	N.A.	N.A.	N.A.	46.5

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18
	0-2	0-2	1	940.6	5052	5993	5.538	4.776	8.440	8.237	5.916
	10-12	9-10	9	1039	4397	5436	8.990	7.155	15.888	8.201	12.505
	20-22	16-18	17	769.9	6290	7059	1.581	1.145	5.281	8.028	1.906
	30-32	26-28	27	273.5	2696	2969	0.311	0.325	1.496	2.361	0.435
	40-42	35-36	35	979.1	6931	7910	1.264	2.725	2.073	14.029	0.921
	50-52	41-43	42	1506	12572	14078	0.000	0.000	0.000	5.182	93.083
	60-62	50-53	52	79.62	786.2	865.8	0.000	0.114	0.296	0.740	0.102
	70-72	62-64	63	17.21	0.00	17.21	0.000	0.000	0.000	0.000	0.000
	80-82	72-74	73	47.95	34.26	82.20	0.000	0.000	0.106	0.000	0.000
	100-102	90-92	91	38.62	128.6	167.2	0.033	0.035	0.373	0.099	0.035
	120-122	108-111	110	17.04	8.57	25.61	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28	ug/gm nC29	ug/gm nC30
	0-2	7.587	6.993	10.489	7.615	13.985	24.474	17.482	23.775	14.803	29.278	12.384
	10-12	7.377	12.663	15.102	19.044	22.653	28.317	22.653	52.858	22.468	34.792	23.790
	20-22	6.619	7.572	5.626	8.859	14.444	25.290	15.204	20.039	14.353	24.895	23.273
	30-32	6.956	0.914	1.958	3.309	3.916	6.326	6.461	7.326	5.856	9.155	4.344
	40-42	10.410	5.191	9.228	4.230	5.538	16.988	7.801	14.658	11.804	25.550	16.193
	50-52	23.812	3.360	3.918	4.898	5.162	17.631	16.652	34.381	35.292	60.632	30.776
	60-62	2.198	0.279	0.370	0.555	1.636	2.590	0.687	3.700	0.730	4.440	0.407
	70-72	0.000	0.000	0.215	0.357	0.580	1.272	0.323	2.655	0.476	3.303	0.397
	80-82	0.000	0.137	0.402	2.138	3.636	3.649	0.947	6.095	1.278	10.760	0.851
	100-102	0.088	0.319	0.345	0.748	1.709	1.992	0.620	3.767	0.822	6.043	0.584
	120-122	0.000	0.068	0.223	0.491	0.897	0.950	0.288	1.839	0.423	3.449	0.294

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180
	0-2	25.985	13.419	15625	0.000	0.000	814.8	255.2	134.4	221.8	63.038
	10-12	35.675	21.792	87506	0.000	0.000	3940	1312	757.8	1225	364.9
	20-22	32.710	19.948	2077	3293	0.000	295.5	99.452	142.4	212.7	101.6
	30-32	7.949	3.125	1914	1371	0.000	118.0	40.229	50.714	74.413	39.881
	40-42	36.487	14.709	0.000	1905	0.000	172.8	45.938	69.846	108.0	36.585
	50-52	83.640	22.186	0.000	836.1	0.000	75.336	19.328	26.125	46.076	4.554
	60-62	1.982	0.149	0.000	39.670	0.000	2.816	0.000	0.990	1.406	0.726
	70-72	2.723	0.000	63.270	0.000	0.000	4.018	1.150	0.726	0.874	0.404
	80-82	5.659	0.344	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	100-102	3.582	0.235	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	120-122	1.925	0.137	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm Σ CON	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH
	0-2	32.142	25.685	7.077	12.258	9.923	1576	0.000	0.000	0.000	0.000
	10-12	184.5	124.1	30.027	63.611	5.614	8007	0.000	0.000	0.000	0.000
	20-22	53.510	40.212	10.274	19.668	11.404	986.7	302.8	0.000	0.000	0.000
	30-32	83.803	18.488	5.699	9.122	17.748	118.0	202.0	0.000	0.000	0.000
	40-42	18.793	34.473	19.444	8.469	74.299	588.7	652.6	0.000	0.000	0.000
	50-52	6.309	103.8	112.3	11.877	396.9	802.7	25.426	0.000	0.000	0.000
	60-62	0.000	2.112	1.456	0.000	3.588	13.094	0.000	0.000	0.000	0.000
	70-72	0.146	0.364	0.120	0.104	0.388	8.294	0.000	0.000	0.000	0.000
	80-82	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	100-102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	120-122	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr
	0-2	0.000	0.000	0.0	0.0	0.0	0.2	3.5	0.8	0.4	0.4	N.C.	4.2
	10-12	0.000	0.000	0.0	0.0	0.0	0.0	2.7	0.6	N.C.	2.3	1.5	8.0
	20-22	0.000	0.000	0.0	0.0	0.0	0.0	4.2	0.5	N.C.	1.1	3.2	5.5
	30-32	0.000	0.000	0.0	0.0	0.0	0.0	0.8	0.2	N.C.	2.8	2.2	4.4
	40-42	0.000	0.000	0.3	0.6	0.5	1.5	12.7	1.8	28.8	25.1	9.3	16.5
	50-52	0.000	0.000	0.0	0.0	0.0	0.9	6.0	0.7	N.C.	11.2	11.3	16.7
	60-62	0.000	0.000	0.0	0.2	1.1	1.6	15.5	4.5	26.3	25.5	10.5	11.3
	70-72	0.000	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.1	0.0	0.1
	80-82	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	100-102	0.000	0.000	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.1	0.2
	120-122	N.A.	N.A.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm ∑16 PAH	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP	ug/gm C1BZT
	0-2	8.2	2.4	1.8	0.7	1.6	24.2	1.13	12.97	2.4	45.14
	10-12	4.4	1.1	0.0	N.C.	0.0	20.6	7.11	602.6	1.4	22.02
	20-22	6.3	3.8	2.6	0.9	2.7	30.8	0.00	30.63	4.0	40.16
	30-32	5.5	2.3	1.8	0.6	1.9	22.5	0.00	0.33	2.4	34.15
	40-42	23.3	10.1	6.4	1.8	5.8	145	0.00	0.00	9.9	9.38
	50-52	15.5	7.0	3.8	1.3	3.0	77.4	0.00	0.00	6.2	0
	60-62	8.0	5.5	2.2	0.7	1.9	115	0.00	0.00	4.0	0
	70-72	0.1	0.1	0.1	0.1	0.0	0.9	0.00	0.00	0.1	0
	80-82	0.1	0.1	N.C.	N.C.	N.C.	0.2	0.00	0.00	0.0	0
	100-102	0.2	0.1	0.2	N.C.	N.C.	1.6	0.00	0.00	0.2	0
	120-122	0.0	0.0	0.1	N.C.	N.C.	0.1	0.00	0.00	0.0	0

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Rhodes Core
King Core

Sta-slice	measured cm depth	ug/gm DARP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
	0-2	2.96	18.0	11.7	1.93	58.6
	10-12	8.19	24.5	22.6	3.65	38.8
	20-22	2.63	31.1	17.7	2.56	53.5
	30-32	9.10	32.6	27.0	7.72	59.8
	40-42	24.5	126	93.9	92.9	38.2
	50-52	7.20	6.23	4.75	3.73	43.1
	60-62	0.78	0.25	1.43	0.57	66.5
	70-72	0.00	0.27	0.10	0.02	63.6
	80-82	0.10	0.63	0.93	0.66	60.0
	100-102	0.00	0.21	0.12	0.18	45.0
	120-122	0.00	0.27	0.20	0.25	63.0

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = interference

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	calculated cm depth	calculated cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ∑ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane	ug/gm nC18
9-1	0-5	0-5	2.5	84.25	1730	1814	0.160	0.000	0.574	0.000	0.000
9-2	5-7	5-6.93	5.97	104.7	2010	2115	0.321	0.097	0.575	0.279	0.148
9-3	10-13	10.2-14.0	12.1	92.89	1214	1307	0.165	0.063	0.297	0.000	0.101
9-4	15-17	16.6-19.4	18	26.85	495.1	522.0	0.000	0.000	0.139	0.000	0.000
9-5	20-22	23.4-26.0	24.7	14.41	77.65	92.06	0.014	0.008	0.064	0.000	0.012
9-7	30-32	36.0-38.4	37.2	15.10	142.3	157.4	0.026	0.021	0.110	0.015	0.032
9-11	50-52	60.4-62.8	61.6	9.10	8.91	18.01	0.000	0.000	0.045	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28	ug/gm nC29	ug/gm nC30
9-1	0-5	0.000	0.576	1.103	1.077	1.394	2.283	1.147	1.769	1.232	3.785	1.259
9-2	5-7	0.292	0.244	0.673	1.027	1.316	2.303	1.520	3.333	1.526	2.580	1.363
9-3	10-13	0.212	0.107	0.284	1.582	2.612	1.567	0.739	1.567	0.841	1.917	0.753
9-4	15-17	0.000	0.053	0.178	0.394	0.693	0.968	0.631	1.045	0.369	1.817	0.345
9-5	20-22	0.023	0.022	0.086	0.417	0.347	0.583	0.208	0.778	0.231	1.267	0.179
9-7	30-32	0.055	0.035	0.091	0.231	0.210	0.445	0.249	0.829	0.307	1.547	0.338
9-11	50-52	0.000	0.026	0.079	0.218	0.238	0.439	0.203	0.898	0.262	1.933	0.227

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ug/gm nC31	ug/gm nC32	ng/gm Ar 1254	ng/gm CB101	ng/gm CB151	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170
9-1	0-5	3.534	1.020	996.3	98.090	29.109	46.442	71.187	0.000	12.431
9-2	5-7	3.132	1.168	472.9	40.070	12.180	28.940	37.429	32.271	8.703
9-3	10-13	2.561	0.527	85.070	8.913	2.102	5.194	6.798	0.000	1.238
9-4	15-17	1.302	0.187	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9-5	20-22	0.884	0.116	12.160	0.842	0.467	0.315	0.443	0.000	0.000
9-7	30-32	1.315	0.232	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9-11	50-52	1.436	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm Σ CON	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH
9-1	0-5	18.742	10.446	5.330	21.483	313.3	11.135	30.783	0.000	0.000
9-2	5-7	19.654	11.256	5.346	19.628	215.5	18.665	0.000	0.000	0.000
9-3	10-13	19.570	11.997	2.212	18.808	76.830	1.115	0.000	0.000	0.000
9-4	15-17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9-5	20-22	0.000	0.467	0.141	1.063	3.738	0.344	0.000	0.000	0.000
9-7	30-32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9-11	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr
9-1	0-5	0.000	0.000	0.0	0.0	0.0	0.0	0.3	0.1	1.5
9-2	5-7	0.000	0.000	0.0	0.2	0.0	0.0	0.4	0.2	1.1
9-3	10-13	0.000	0.000	0.1	0.1	0.0	0.0	0.3	0.1	0.6
9-4	15-17	0.000	0.000	0.0	0.0	0.0	0.0	0.1	0.0	0.6
9-5	20-22	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9-7	30-32	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.1
9-11	50-52	0.000	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm ∑16 PAH
9-1	0-5	2.0	0.7	1.5	2.5	1.6	1.1	0.4	0.6	12.3
9-2	5-7	1.6	1.0	1.0	3.3	1.5	1.5	0.4	1.9	14.1
9-3	10-13	1.0	0.4	0.5	2.0	0.9	0.7	N.C.	0.9	7.6
9-4	15-17	1.1	0.5	0.9	1.5	0.6	N.C.	N.C.	N.C.	5.3
9-5	20-22	N.C.	0.1	0.1	0.2	0.1	0.1	N.C.	0.1	0.8
9-7	30-32	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	0.9
9-11	50-52	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sabin Pt
King Core #9

a-slice	measured cm depth	ug/gm C10BzT	ug/gm CLBzT	ug/gm BeP	ug/gm C1BzT	ug/gm DEHP	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
9-1	0-5	3.036	1.252	1.5	0.97	2.35	1.92	3.09	1.62	42.3
9-2	5-7	2.156	0.810	1.3	0.80	3.71	2.88	4.44	2.02	40.9
9-3	10-13	0.046	0.017	0.9	0.00	0.53	1.14	1.43	0.68	52.4
9-4	15-17	0.000	0.000	0.7	0.16	0.10	0.13	0.41	0.19	58.7
9-5	20-22	0.000	0.000	0.1	0.05	0.07	0.34	0.18	0.10	55.0
9-7	30-32	0.000	0.000	0.1	0.00	0.08	0.41	0.41	0.24	50.6
9-11	50-52	0.000	0.000	0.0	0.05	0.02	0.15	0.14	0.10	52.7

N.A.= not analyzed
N.C.= not calculate
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	calc. cm depth	calc. cm mid d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm ΣPHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane
13-1	0-5	0-5	2.50	35.666	309.0	344.6	0.000	0.000	0.448	0.000
13-3	10-12	11.2-14.1	12.70	33.795	429.6	463.4	0.000	0.068	0.534	0.000
13-4	15-17	18.8-22.0	20.40	41.507	527.2	568.8	0.000	0.000	0.567	0.000
13-5	20-22	27.0-30.6	28.80	26.807	327.5	354.3	0.000	0.000	0.308	0.000
13-7	30-32	44.6-48.0	46.30	12.400	46.456	58.856	0.027	0.000	0.159	0.000
13-9	40-42	62.9-66.9	64.90	5.459	12.709	18.168	0.007	0.006	0.070	0.000
13-11	50-52	82.6-86.7	84.60	6.309	4.947	11.256	0.004	0.000	0.043	0.000
13-13	60-62	103-107	105.0	5.076	3.933	9.008	0.000	0.000	0.072	0.000
13-19	100-102	182-186	184.0	7.305	3.828	11.133	0.000	0.000	0.053	0.000
13-24	150-153	282-289	286.0	7.524	5.652	13.177	0.005	0.003	0.026	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27
13-1	0-5	0.000	0.022	0.126	0.621	0.452	0.605	0.733	0.618	0.692
13-3	10-12	0.000	0.077	0.190	0.546	0.401	0.348	0.582	0.505	0.891
13-4	15-17	0.000	0.114	0.280	1.343	0.598	0.842	1.818	0.868	1.336
13-5	20-22	0.000	0.050	0.121	0.297	0.427	0.466	0.766	0.707	1.041
13-7	30-32	0.000	0.000	0.034	0.668	0.448	0.691	0.771	0.270	0.511
13-9	40-42	0.005	0.000	0.022	0.126	0.168	0.154	0.340	0.183	0.439
13-11	50-52	0.003	0.000	0.015	0.101	0.160	0.102	0.346	0.185	0.473
13-13	60-62	0.000	0.000	0.015	0.065	0.122	0.115	0.225	0.149	0.392
13-19	100-102	0.000	0.000	0.010	0.067	0.175	0.122	0.294	0.174	0.571
13-24	150-153	0.004	0.000	0.015	0.061	0.127	0.143	0.261	0.207	0.442

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm nC28	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1254	ng/gm CB101	ng/gm CB151
13-1	0-5	0.694	2.422	1.277	1.995	0.388	51.020	4.425	1.173
13-3	10-12	0.503	1.747	0.904	1.998	0.454	116.1	9.522	2.623
13-4	15-17	0.946	2.751	1.270	2.611	0.776	133.3	9.892	2.896
13-5	20-22	0.596	2.038	0.864	2.108	0.537	73.150	5.962	1.760
13-7	30-32	0.172	1.034	0.204	0.986	0.082	0.000	0.000	0.000
13-9	40-42	0.129	0.766	0.111	0.575	0.044	0.000	0.000	0.000
13-11	50-52	0.150	1.035	0.172	0.881	0.084	N.A.	N.A.	N.A.
13-13	60-62	0.133	0.865	0.162	0.743	0.088	N.A.	N.A.	N.A.
13-19	100-102	0.183	1.400	0.225	1.261	0.123	N.A.	N.A.	N.A.
13-24	150-153	0.179	0.995	0.210	0.864	0.123	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209
13-1	0-5	4.663	5.775	3.688	1.745	5.852	2.852	1.366	4.475
13-3	10-12	8.707	10.636	5.606	2.468	9.354	4.183	2.059	6.588
13-4	15-17	9.517	12.556	7.429	3.413	12.801	6.238	2.706	8.991
13-5	20-22	5.007	6.388	3.576	1.314	16.571	8.683	1.781	11.264
13-7	30-32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-9	40-42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-11	50-52	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13-13	60-62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13-19	100-102	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
13-24	150-153	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ng/gm Σ CON	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap
13-1	0-5	36.014	3.293	3.802	0.000	0.000	0.000	0.000	0.023
13-3	10-12	61.746	6.728	9.181	0.000	0.000	0.000	0.000	0.021
13-4	15-17	76.439	11.665	10.758	0.000	0.000	0.000	0.000	0.021
13-5	20-22	62.306	7.507	6.643	0.000	0.000	0.000	0.000	0.028
13-7	30-32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010
13-9	40-42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-11	50-52	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.000
13-13	60-62	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.000
13-19	100-102	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.000
13-24	150-153	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm AcL	ug/gm Acn	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA
13-1	0-5	0.019	0.000	0.000	0.084	0.022	0.221	0.361	0.104
13-3	10-12	0.000	0.000	0.000	0.163	0.000	0.440	0.519	0.156
13-4	15-17	0.000	0.000	0.000	0.099	0.024	0.259	0.361	0.059
13-5	20-22	0.000	0.000	0.000	0.155	0.074	0.445	0.640	0.189
13-7	30-32	0.000	0.003	0.003	0.056	0.007	0.171	0.224	0.099
13-9	40-42	0.000	0.000	0.000	0.000	0.000	0.050	0.054	0.000
13-11	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-13	60-62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-19	100-102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13-24	150-153	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm Σ16 PAH	ug/gm Ret
13-1	0-5	0.254	1.138	0.359	0.259	0.065	0.272	3.181	0.000
13-3	10-12	0.286	0.802	0.285	0.229	0.000	0.343	3.244	0.000
13-4	15-17	0.118	0.324	0.085	0.101	0.063	0.169	1.683	0.039
13-5	20-22	0.332	1.148	0.380	0.333	0.000	0.475	4.199	0.000
13-7	30-32	0.181	0.347	0.121	0.139	N.C.	0.188	1.549	0.037
13-9	40-42	0.000	0.000	0.000	0.019	0.000	0.000	0.123	0.072
13-11	50-52	0.000	0.000	0.000	0.009	0.000	0.000	0.009	0.053
13-13	60-62	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.015
13-19	100-102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055
13-24	150-153	0.000	0.000	0.004	0.000	0.000	0.000	0.004	0.082

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm Pyl	ug/gm Squ	ug/gm C10BZT	ug/gm CLBZT	ug/gm C26-AL	ug/gm C27-AL	ug/gm C28-AL	ug/gm C29-AL
13-1	0-5	0.219	0.619	0.396	0.165	0.601	N.C.	0.692	0.194
13-3	10-12	0.189	0.184	0.044	0.021	0.251	0.120	0.302	0.172
13-4	15-17	0.105	0.188	0.137	0.356	0.241	N.C.	0.350	0.155
13-5	20-22	0.352	0.159	0.000	0.000	0.284	0.203	0.420	0.238
13-7	30-32	0.112	0.386	0.000	0.000	0.212	0.068	0.332	0.110
13-9	40-42	0.033	0.014	0.000	0.000	0.150	0.046	0.172	0.046
13-11	50-52	0.036	0.162	0.000	0.000	0.140	N.C.	0.162	0.030
13-13	60-62	0.034	0.028	0.000	0.000	0.064	0.013	0.078	0.015
13-19	100-102	0.078	0.027	0.000	0.000	0.111	0.030	0.182	0.034
13-24	150-153	0.055	0.057	0.000	0.000	0.106	N.C.	0.183	0.037

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-alice	measured cm depth	ug/gm C30-AL	ug/gm C31-AL	ug/gm C32-AL	ug/gm BeP	ug/gm C1BZT	ug/gm DMP	ug/gm DEP	ug/gm DBP
13-1	0-5	0.820	0.126	0.651	0.446	0.000	0.100	0.000	0.600
13-3	10-12	0.456	0.115	0.365	0.450	0.000	0.110	0.130	0.170
13-4	15-17	0.461	0.084	0.374	0.171	0.000	0.000	0.000	0.000
13-5	20-22	0.646	0.170	0.509	0.604	0.000	0.070	0.120	0.410
13-7	30-32	0.455	0.065	0.175	0.166	0.000	0.150	0.040	0.110
13-9	40-42	0.195	0.028	0.184	0.000	0.000	0.000	0.000	0.040
13-11	50-52	0.210	0.026	0.252	0.000	0.000	0.000	0.000	0.000
13-13	60-62	0.096	0.012	0.094	0.000	0.000	0.000	0.020	0.030
13-19	100-102	0.246	0.033	0.354	0.000	0.000	0.020	0.030	0.000
13-24	150-153	0.229	0.033	0.328	0.000	0.000	0.000	0.000	0.000

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Sally Rock
King Core #13

Sta-slice	measured cm depth	ug/gm BBP	ug/gm DEHP	ug/gm DOP	ug/gm COP	ug/gm CHLB	g/gm CHLA	% DRY
13-1	0-5	0.270	0.840	0.160	2.380	7.4[illegible]	3.120	27.210
13-3	10-12	0.470	0.630	0.200	0.260	0.640	1.110	40.080
13-4	15-17	0.320	0.710	0.000	1.690	1.560	1.760	43.560
13-5	20-22	0.140	0.530	0.000	0.230	0.640	1.060	48.090
13-7	30-32	0.220	0.330	0.210	0.690	1.150	1.190	47.430
13-9	40-42	0.090	0.080	0.020	0.240	0.010	0.010	53.850
13-11	50-52	0.100	0.600	0.110	0.000	0.250	0.180	53.500
13-13	60-62	0.060	0.110	0.020	0.000	0.050	0.060	56.120
13-19	100-102	0.110	0.110	0.010	0.000	0.260	0.130	51.390
13-24	150-153	0.190	0.160	0.070	0.000	0.130	0.140	58.270

N.A.= not analyzed
N.C.= not calculated
0 = not detected

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	calc. cm depth	calc. cm mid-d	ug/gm F1-RES	ug/gm F1-UCM	ug/gm Σ PHC	ug/gm nC15	ug/gm nC16	ug/gm nC17	ug/gm pristane
7-1	0-2	0-2	1.00	227.7	3602	3830	0.671	0.288	1.551	2.215
7-6	25-27	25.2-27.2	26.2	1032	16366	17398	3.842	1.184	1.815	21.299
	35-37	36.1-38.5	37.3	782.4	10314	11097	0.648	1.093	1.079	7.606
7-11	50-52	53.7-55.9	54.8	1438	17809	19248	8.482	2.134	4.617	24.825
	70-72	77.8-80.4	79.1	1490	11960	13450	1.132	1.367	1.629	15.421
7-21	100-102	117-120	118	785.1	11757	12543	2.460	0.000	1.500	4.228
7-35	167-170	220-225	222	185.1	2416	2601	0.726	0.256	1.133	2.278
7-200	*200-203	285-292	288	55.10	557.1	612.2	0.136	0.079	0.580	0.344
7-240	*240-243	369-374	371	102.4	711.6	814.0	0.288	0.160	1.264	0.413
7-280	*280-283	458-465	462	19.20	105.6	124.8	0.030	0.023	0.328	0.059
7-317	*317-320	551-558	555	43.62	604.7	648.4	0.122	0.096	0.402	0.241

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ug/gm nC18	ug/gm phytane	ug/gm nC19	ug/gm nC21	ug/gm nC23	ug/gm nC24	ug/gm nC25	ug/gm nC26	ug/gm nC27	ug/gm nC28
7-1	0-2	0.540	3.053	0.921	1.106	2.075	2.650	4.203	2.058	3.341	1.614
7-6	25-27	0.000	16.648	3.774	3.408	6.509	16.801	21.223	17.039	14.236	9.866
	35-37	0.599	7.301	1.819	5.704	6.594	24.325	37.105	7.074	12.836	6.310
7-11	50-52	0.895	19.944	3.431	7.760	5.432	21.030	29.830	14.333	14.682	10.787
	70-72	0.890	13.027	2.115	5.954	25.448	44.633	58.343	6.574	15.057	8.677
7-21	100-102	0.000	4.623	1.795	3.589	6.511	18.515	27.959	16.883	11.306	9.217
7-35	167-170	0.158	2.655	1.475	1.814	2.091	2.880	3.622	2.549	3.676	2.295
7-200	*200-203	0.167	0.395	0.595	1.079	1.307	0.937	1.118	0.810	1.700	0.871
7-240	*240-243	0.385	0.491	1.091	1.373	1.826	2.531	2.078	1.300	3.713	1.841
7-280	*280-283	0.041	0.050	0.151	0.229	0.372	0.752	0.740	0.342	1.309	0.394
7-317	*317-320	0.036	0.234	0.358	0.385	0.530	1.088	0.916	0.666	1.521	0.402

N.A.= not analyzed
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Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ug/gm nC29	ug/gm nC30	ug/gm nC31	ug/gm nC32	ng/gm Ar 1242	ng/gm Ar 1254	ng/gm Ar 1260	ng/gm CB101	ng/gm CB151
7-1	0-2	8.284	1.155	7.437	1.197	0.00	1572	3333	148.3	74.506
7-6	25-27	30.714	10.743	24.392	10.275	3393	0.00	0.00	137.4	32.573
	35-37	14.386	6.630	8.053	2.835	3577	5360	5119	402.0	148.8
7-11	50-52	41.912	10.841	31.040	12.439	0.00	607.6	0.00	43.649	38.979
	70-72	17.273	4.111	11.272	12.914	0.00	0.00	4193	147.9	182.1
7-21	100-102	29.940	8.970	25.913	5.857	0.00	0.00	0.00	0.000	0.000
7-35	167-170	7.298	1.726	6.056	1.236	0.00	0.00	0.00	0.000	0.000
7-200	*200-203	3.608	0.932	4.602	0.745	0.00	0.00	0.00	0.000	0.000
7-240	*240-243	10.328	2.016	13.488	1.655	N.A.	N.A.	N.A.	N.A.	N.A.
7-280	*280-283	2.809	0.337	2.688	0.180	0.00	0.00	0.00	0.000	0.000
7-317	*317-320	3.015	0.690	2.697	0.413	N.A.	N.A.	N.A.	N.A.	N.A.

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N.C.= not calculated
0 = not detected
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Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ng/gm CB153	ng/gm CB138	ng/gm CB180	ng/gm CB170	ng/gm CB201	ng/gm CB195	ng/gm CB194	ng/gm CB209	ng/gm Σ CON
7-1	0-2	191.7	157.8	222.8	69.400	145.3	30.519	77.852	33.676	1152
7-6	25-27	34.161	52.573	0.000	9.443	12.281	0.000	0.000	28.021	306.4
	35-37	450.2	422.7	325.6	175.8	378.7	76.454	131.5	91.120	2603
7-11	50-52	65.340	52.547	66.589	18.347	46.937	9.579	21.109	17.730	380.8
	70-72	221.4	190.2	328.3	97.036	316.7	108.6	119.8	398.4	2110
7-21	100-102	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-35	167-170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-200	*200-203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-240	*240-243	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
7-280	*280-283	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7-317	*317-320	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ng/gm pp'-DDE	ng/gm pp'-DDD	ng/gm pp'-DDT	ng/gm a-HCH	ng/gm b-HCH	ng/gm g-HCH	ug/gm Nap	ug/gm AcL	ug/gm Acn
7-1	0-2	5,962	26.934	396.0	0.000	0.000	0.000	0.0	0.0	0.0
7-6	25-27	48.938	103.4	0.000	123.4	0.000	0.000	0.0	0.0	0.0
	35-37	0.000	0.000	0.000	0.000	0.000	0.000	0.0	0.0	0.0
7-11	50-52	0.000	0.000	0.000	0.000	0.000	0.000	0.2	1.7	11.0
	70-72	0.000	0.000	0.000	0.000	0.000	0.000	0.0	1.0	0.0
7-21	100-102	0.000	0.000	0.000	0.000	0.000	0.000	1.3	0.4	1.9
7-35	167-170	0.000	0.000	0.000	0.000	0.000	0.000	2.7	0.3	5.1
7-200	*200-203	0.000	0.000	0.000	0.000	0.000	0.000	0.5	0.1	0.5
7-240	*240-243	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.6	0.1	0.7
7-280	*280-283	0.000	0.000	0.000	0.000	0.000	0.000	0.3	0.0	0.7
7-317	*317-320	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	0.2	0.2	0.4

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ug/gm Flu	ug/gm Phe	ug/gm Ane	ug/gm Flr	ug/gm Pyr	ug/gm BaA	ug/gm Chr	ug/gm B(b+k)F	ug/gm BaP
7-1	0-2	0.0	2.5	0.6	5.5	5.9	3.0	3.3	7.2	4.6
7-6	25-27	0.0	2.1	1.2	11.1	10.4	2.7	4.3	6.9	4.7
	35-37	0.0	2.4	1.6	12.7	13.4	7.0	8.0	2.5	5.0
7-11	50-52	6.2	45.1	15.9	46.7	52.2	17.0	20.8	24.6	13.4
	70-72	1.6	5.5	3.6	24.0	21.7	11.7	11.3	18.8	9.2
7-21	100-102	0.0	8.2	4.6	26.2	21.8	7.7	11.9	14.7	5.3
7-35	167-170	1.7	10.6	6.1	17.4	18.9	4.3	4.5	4.7	2.5
7-200	*200-203	0.3	6.1	2.6	16.3	15.6	4.3	4.9	4.5	2.0
7-240	*240-243	1.0	11.8	4.6	25.0	24.9	12.2	14.6	13.0	6.2
7-280	*280-283	0.8	3.9	1.9	6.8	5.5	4.0	4.1	6.6	2.5
7-317	*317-320	0.6	5.1	3.4	12.9	12.7	5.8	4.7	6.3	3.6

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ug/gm InP	ug/gm DbA	ug/gm Bpr	ug/gm Σ16 PAH	ug/gm C10BZT	ug/gm CLBZT	ug/gm BeP	ug/gm C1BZT	ug/gm DEHP
7-1	0-2	2.6	0.6	2.8	38.6	0.500	0.134	2.960	1.21	22.37
7-6	25-27	0.3	0.0	0.0	43.7	0.000	0.000	4.091	2.92	184.7
	35-37	3.4	1.8	N.C.	57.8	0.000	0.000	N.C.	0	101.7
7-11	50-52	10.2	NC	13.9	278.9	0.000	0.000	11.480	0	5.30
	70-72	N.C.	N.C.	N.C.	108.4	0.000	0.000	N.C.	0	7.16
7-21	100-102	3.3	1.0	2.6	110.9	0.000	0.000	7.045	0	0.82
7-35	167-170	1.2	0.8	1.4	82.2	0.000	0.000	2.026	0	0.33
7-200	*200-203	0.9	0.2	0.6	59.4	0.000	0.000	1.943	0	0.00
7-240	*240-243	2.7	1.4	1.7	120.5	0.000	0.000	4.521	0	0.04
7-280	*280-283	1.7	0.6	1.2	40.6	0.000	0.000	2.317	0	0.23
7-317	*317-320	1.5	0.7	1.4	59.5	0.000	0.000	2.220	0	5.34

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used

Site: Seekonk River
King Core #7

Sta-slice	measured cm depth	ug/gm Cop	ug/gm Chle	ug/gm Chla	% DRY
7-1	0-2	34.76	34.27	5.45	25.6
7-6	25-27	7.54	44.79	1.81	26.0
	35-37	32.59	72.01	12.17	30.9
7-11	50-52	35.58	71.49	21.91	28.9
	70-72	46.53	72.65	16.83	33.3
7-21	100-102	3.53	8.06	3.37	33.9
7-35	167-170	0.41	1.14	1.03	44.7
7-200	*200-203	0.44	0.97	0.71	58.1
7-240	*240-243	0.30	0.82	0.38	48.2
7-280	*280-283	0.74	2.03	0.80	67.2
7-317	*317-320	1.99	3.02	1.01	61.9

N.A.= not analyzed
N.C.= not calculated
0 = not detected
* = piston core used