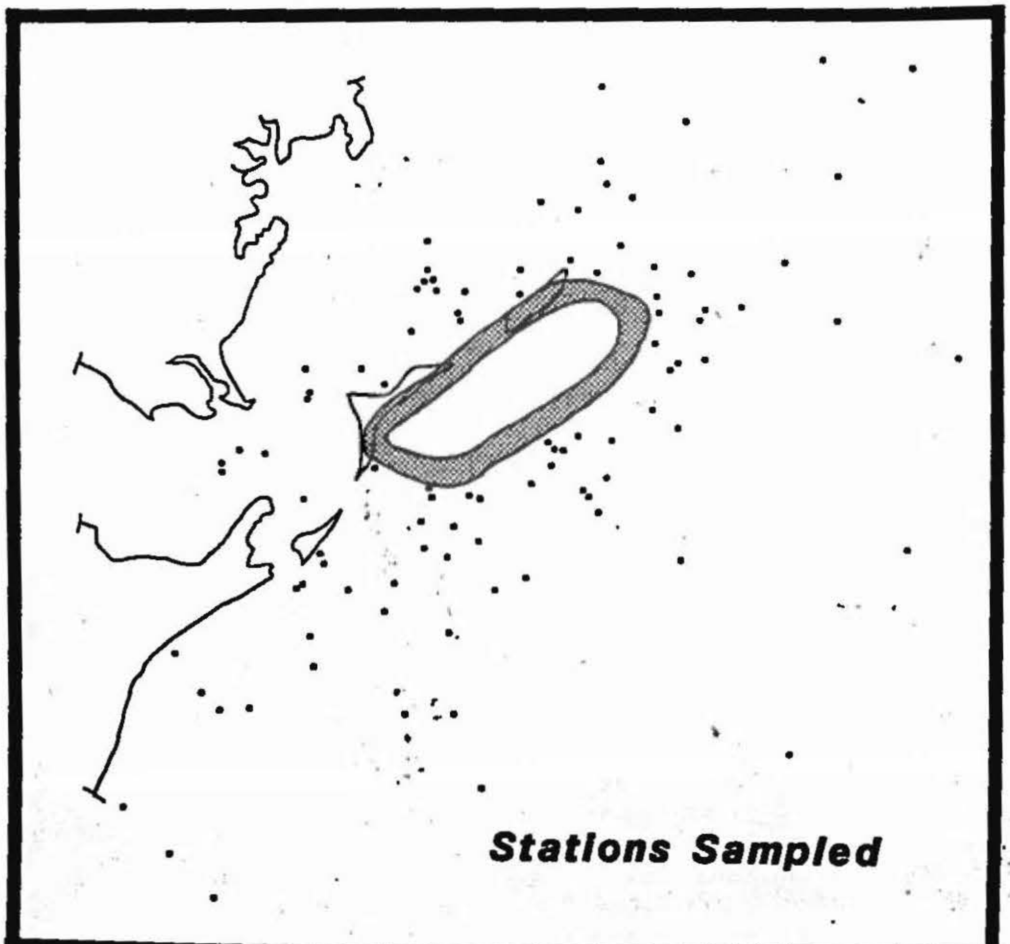
CRC

ASSESSMENT OF THE ENVIRONMENTAL IMPACTS OF CONSTRUCTION AND OPERATION OF THE HART AND MILLER ISLANDS CONTAINMENT FACILITY

Hart and Miller Islands
Data Report 1981-1982



Chesapeake Research Consortium

October 1982

Trace Metal Analysis of Sediment

For August 1981

Trace Cores

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC1 Top	440.4	1025	1.02	203.6	106.8	387.8	11,410	0.401	7.45	1.60	2.013	102,092
BC1 Middle	156.8	283	.188	78.47	16.6	93.98	1709	0.503	12.70	.703	2.144	59,670
BC1 Bottom	131.8	162	.103	75.74	11.2	73.88	1542	0.058	10.97	.236	2.117	53,903
BC2 Top	198.9	412	.298	60.39	63.8	153.2	3541	0.101	7.88	.628	1.486	56,322
BC2 Middle	239.0	60.2	.447	95.98	97.8	189.4	3082	0.290	14.68	1.61	1.791	60,638
BC2 Bottom	160.6	343	.219	62.24	71.0	140.9	2471	0.233	9.80	1.21	.663	47,255
BC3 Top	183.2	430	.556	86.59	21.8	149.3	6416	0.225	7.67	.783	1.155	63,689
BC3 Middle	230.6	597	.522	67.58	58.4	193.8	2282	0.303	13.03	1.82	1.643	54,421
BC3 Bottom	102.2	298	.338	72.56	79.0	162.3	1951	0.096	11.47	1.02	1.650	59,579
BC4 Top	171.1	363	.425	65.20	35.6	170.4	3271	0.087	6.16	.604	8.814	45,428
BC4 Middle	104.7	328	.417	54.97	30.0	128.7	3170	0.034	6.97	.476	.652	53,475
BC5 Top	47.89	128	.174	34.36	8.59	55.35	1193	0.078	6.76	.370	.594	24,877
BC5 Middle	29.44	91.1	.271	33.53	7.43	62.72	937.7	0.101	5.02	.128	.121	41,078
BC5 Bottom	34.12	90.3	.103	36.76	7.04	48.36	1459	0.032	6.66	.211	<1.59	23,934

X1F4785

Trace Metal Analysis of Sediment
For August 1981; Trace Cores
Page 2

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC6 Top	159.9	412	.387	80.75	57.8	171.8	3573	0.078	6.20	.485	2.262	59,120
BC6 Middle	60.66	141	.204	49.54	13.6	73.44	1282	0.068	10.86	.324	.127	39,720
XIF5975 BC6 Bottom	81.84	127	.163	69.24	8.78	70.89	1260	0.056	8.68	.294	<.141	38,152
BC7 Top	173.4	510	.835	148.8	56.5	237.9	1112	0.168	5.78	.602	5.893	50,768
BC7 Middle	204.7	582	.941	180.4	75.6	248.5	1090	0.22	7.85	.810	4.752	49,818
BC7 Bottom	268.2	631	.969	188.9	59.2	274.6	1210	0.157	6.82	.736	2.326	52,986
BC7 Sed. Top	196.1	452	.922	136.6	77.0	234.6	1002	0.168	3.49	.606	8.877	54,696
Mean	155.98	356	0.452	89.63	45.88	158.18	2617.3	0.165	8.424	0.727	2.636	51,982
Standard ± Deviation	96.316	235	0.306	51.20	32.16	86.10	2408.5	0.126	2.898	0.479	2.780	15,785

CHAPTER IV

SEDIMENTS DATA

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Introduction

The data presented in this report are in partial fulfillment of the contract with the State of Maryland to provide an assessment of the environmental impacts of construction of the Hart-Miller Islands Containment Facility. The data were collected under the Sediment Project of that contract with the primary objective to identify the sedimentological, geochemical and biological conditions of the near-surface sedimentary column in the project area. The format of the data report is in four sections: Sampling location and coordinates, sedimentological parameters, trace metals, and X-ray radiography. The sedimentological parameters are both in tabular and map form.

Sampling Locations and Coordinates

The initial sampling quarter, September 1981, consisted of 20 surficial sediment locations and 7 box core locations. Following the first sampling quarter, three additional surficial sediment locations were added.

The surficial sediment and box core stations were pre-plotted in the office and located in the field by the Telehyne-Hastings Raydist navigational system. To ensure accuracy, calibration checks were conducted at least two times during each sampling day. The operational accuracy of the navigational system is ±1.5 meters but due to vessel orientation, wind and tidal currents may be on the order of ±10 meters.

Table 1 through 4 list the red and green Raydist coordinates of the proposed surifical sediment locations with the actual red and green coordinates occupied in the field. In parentheses is the ± deviation from the proposed locations. A deviation of ±.01 in the red or green coordinates represents ±45 centimeters in ground distance from the proposed location.

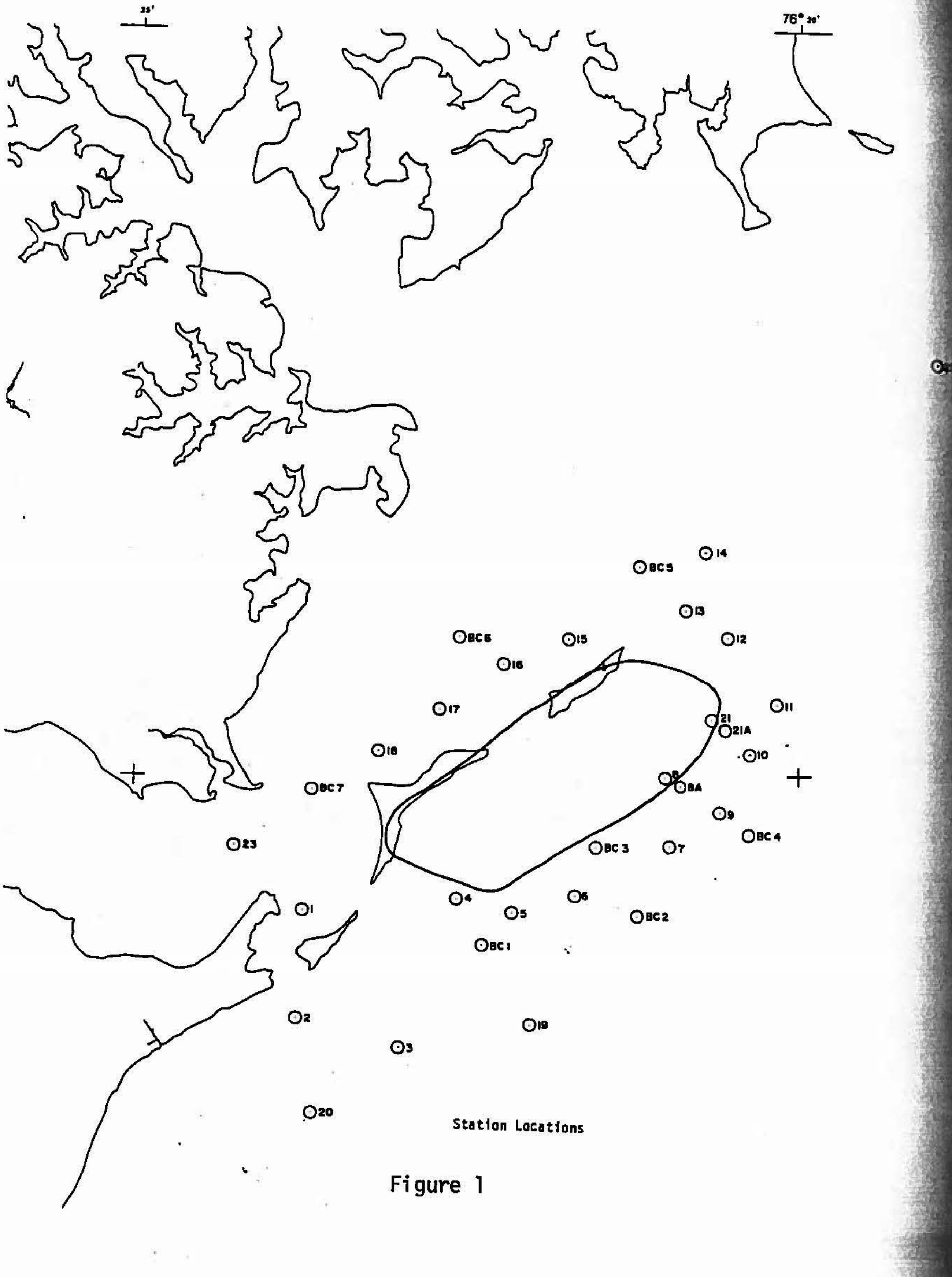

25'
76° 20'
14
BC5
13
12
BC6
15
16
11
17
21
21A
18
10
8
8A
BC7
9
BC4
23
BC3
7
4
6
5
BC2
1
BC1
2
19
3
20
Station Locations

Figure 1

Table 1: Location Coordinates - September 27, 1981

	Proposed Stations		8-27-81			
	Red	Green	Change-	Red	Green	-Change
1	44.75	744.40	(.21)	44.54	741.89	(-2.51)
2	48.00	766.60	(.42)	48.42	766.25	(-.35)
3	65.00	760.00	(.18)	65.18	760.31	(.31)
4	64.00	730.00	(.42)	64.42	730.08	(.08)
5	72.40	720.00	(.03)	72.43	720.10	(.10)
6	80.00	709.00	(.24)	80.24	709.41	(.41)
7	90.00	688.00	(.25)	90.25	687.95	(-.05)
8	85.50	675.00	(.04)	85.54	675.29	(.29)
8A	88.00	675.00				
9	94.50	675.50	(.07)	94.57	675.92	(.42)
10	95.40	660.00	(.16)	95.56	659.95	(-.05)
11	96.00	647.00	(.23)	96.23	647.02	(.02)
12	86.50	640.00	(.25)	86.75	641.22	(1.22)
13	80.00	640.00	(.18)	80.18	639.57	(-.43)
14	80.00	626.50	(-.03)	79.97	626.34	(-.16)
15	67.00	660.00	(-.21)	66.79	659.99	(-.01)
16	60.00	673.00	(-.29)	59.71	672.81	(-.19)
17	54.00	689.50	(-.01)	53.99	689.47	(.03)
18	48.00	705.00	(-.14)	47.86	704.95	(-.05)
19	82.50	740.00	(-.03)	82.47	739.98	(-.02)
20	57.00	783.00	(.33)	57.33	782.81	(-.29)

Raydist Calibration for day

Start	480.01	1241.36
Finish	480.02	1241.13
Net Change in "lanes"	.01	.25

	Proposed Stations		10-14-81			
	Red	Green	Change-Red		Green-Change	
21	88.00	658.00	(.44)	88.44	658.14	(.14)
21A	90.72	658.20				
22	100.00	560.00	(-.02)	99.98	559.87	(-.13)
23	34.00	740.00	(-.07)	33.93	739.95	(-.05)

10-14-81 Raydist off +4 Green and -4 Red

Table 2: Location Coordinates - December 2, 1981

	Proposed Stations		12-2-81			
	Red	Green	Change-Red		Green-Change	
1	44.75	744.40	(-.33)	44.42	742.31	(-2.09)
2	48.00	766.60				
3	65.00	760.00				
4	64.00	730.00	(.45)	64.45	730.11	(.11)
5	72.40	720.00	(.24)	72.64	720.29	(.29)
6	80.00	709.00	(-.06)	79.94	709.75	(.75)
7	90.00	688.00	(-.08)	89.92	687.82	(-.18)
8	85.50	675.00	(-.17)	85.33	675.09	(.09)
8A	88.00	675.00				
9	94.50	675.50	(.37)	94.87	675.68	(.18)
10	95.40	660.00	(.41)	95.81	659.67	(-.33)
11	96.00	647.00	(.62)	96.62	647.14	(.14)
12	86.50	640.00	(.35)	86.85	640.99	(.99)
13	80.00	640.00	(.21)	80.21	639.37	(-.63)
14	80.00	626.50	(.47)	80.47	626.46	(-.04)
15	67.00	660.00	(-.40)	66.60	659.72	(-.28)
16	60.00	673.00	(.12)	60.12	672.73	(-.27)
17	54.00	689.50	(.31)	54.31	689.16	(-.34)
18	48.00	705.00	(-.23)	47.77	704.92	(-.08)
19	82.50	740.00	(-.18)	82.32	740.49	(.49)
20	57.00	783.00	(.33)	57.33	782.91	(-.09)
21	88.00	658.00	(.51)	88.51	658.27	(.27)
21A	90.72	658.20				
22	100.00	560.00	(-.11)	99.89	559.77	(-.23)
23	34.00	740.00	(-.30)	33.70	739.84	(-.16)

Raydist Calibration for day

Start	480.01	1241.36
Finish	480.12	1241.39
Net Change	.11	.03

Table 3: Location Coordinates - February 24, 1982

	Proposed Stations		2-24-82			
	Red	Green	Change-Red		Green-Change	
1	44.75	744.40	(-.05)	44.70	743.52	(1.12)
2	48.00	766.60	(.55)	48.55	766.82	(.22)
3	65.00	760.00	(-.02)	64.98	760.53	(.53)
4	64.00	730.00	(-.04)	63.96	730.24	(.24)
5	72.40	720.00	(.14)	72.54	720.31	(.31)
6	80.00	709.00	(-.24)	79.76	709.01	(.01)
7	90.00	688.00	(-.08)	89.92	688.09	(.09)
8	85.50	675.00	(-.30)	85.20	675.35	(.35)
8A	88.00	675.00				
9	94.50	675.50	(-.49)	94.01	675.47	(-.03)
10	95.40	660.00	(.04)	95.44	659.79	(-.21)
11	96.00	647.00	(.31)	96.31	647.44	(.44)
12	86.50	640.00	(.30)	86.80	640.17	(.17)
13	80.00	640.00	(.25)	80.25	639.69	(-.31)
14	80.00	626.50	(.36)	80.36	626.44	(-.06)
15	67.00	660.00	(.01)	67.01	659.71	(-.29)
16	60.00	673.00	(.47)	60.47	673.29	(.29)
17	54.00	689.50	(.21)	54.21	689.34	(-.16)
18	48.00	705.00	(-.51)	47.49	705.06	(.06)
19	82.50	740.00	(-.08)	82.42	740.20	(.20)
20	57.00	783.00	(.10)	57.10	783.23	(.23)
21	88.00	658.00				
21A	90.72	658.20	(0)	90.72	658.20	(0)
22	100.00	560.00	(.64)	100.64	560.38	(.38)
23	34.00	740.00	(.29)	34.29	739.82	(-.18)

Raydist Calibration for day
Start 480.00 1241.37
Finish ______________

Table 4: Location Coordinates - July 2, 1982

	Proposed Stations		7-2-82			
	Red	Green	Change-Red		Green-Change	
1	44.75	744.40	(-.81)	43.94	742.97	(-1.57)
2	48.00	766.60	(.53)	48.53	767.54	(.94)
3	65.00	760.00	(.12)	65.12	760.09	(.09)
4	64.00	730.00	(.70)	64.70	730.13	(.13)
5	72.40	720.00	(-.06)	72.34	720.26	(.26)
6	80.00	709.00	(.25)	80.25	709.32	(.32)
7	90.00	688.00	(.01)	90.01	688.29	(.29)
8	85.50	675.00				
8A	88.00	675.00	(-.10)	87.90	674.99	(-.01)
9	94.50	675.50	(.12)	94.62	675.30	(-.20)
10	95.40	660.00	(-.01)	95.39	660.37	(.37)
11	96.00	647.00	(.38)	96.38	646.92	(-.08)
12	86.50	640.00	(.21)	86.71	640.71	(.71)
13	80.00	640.00	(-.33)	79.67	639.72	(-.28)
14	80.00	626.50	(.44)	80.44	626.37	(-.13)
15	67.00	660.00	(.49)	67.49	660.39	(.39)
16	60.00	673.00	(.65)	60.65	673.48	(.48)
17	54.00	689.50	(.09)	54.09	689.32	(-.18)
18	48.00	705.00	(.25)	48.25	704.67	(-.33)
19	82.50	740.00	(-.24)	82.26	740.05	(.05)
20	57.00	783.00	(.18)	57.18	782.76	(-.24)
21	88.00	658.00				
21A	90.72	658.20	(.14)	90.86	657.68	(-.52)
22	100.00	560.00	(.40)	100.40	559.55	(-.45)
23	34.00	740.00	(-.32)	33.68	740.23	(.23)

Raydist Calibration for day

Start	480.00	1241.36
Finish	479.97	1241.23
Net Change	-.03	.13

More than .50 lanes from proposed station.

8-27	12-2	2-24	7-2
#1 2.51G	#1 2.09G	#1 1.12G	#1 .81R, 1.57G
#12 1.22G	#6 .75G	#2 .55R	#2 .53R, .94G
	#12 .99G	#3 .53G	#4 .70R
	#13 .63G	#22 .64R	#12 .71G
	Jerry missed punching these 2 (#2, #3)		#16 .65R
			#21A .52G

Sedimentological Data

Twenty surficial sediment samples were collected in the initial quarter and twenty-three for the next three quarters. The surficial sediments were collected by a Van Veen sampler. At each location, the top five centimeters of the sediments were sampled and placed in a Whirl-pak bag for delivery to the laboratory.

In the laboratory, the percent sand, silt, clay and water content were determined for samples. Water content is the percent wet weight and determined by the formula:

$$Wc\% = \frac{\text{weight of water (grams)}}{\text{wet weight of sediment (grams)}} \times 100$$

where the weight of water is the difference between the wet and the dry weights of the sample.

For grain size analysis, the samples were prepared and wet sieved through a 62µm sieve. The wet sieving separates the sand and silt/clay fractions. The silt and clay fraction was pipetted and separated at the 4 and 8 phi fraction. The 8 phi fraction is the separation between silt and clay.

The data are presented in tabular and map form.

Hart-Miller Islands
Surficial Sediments
First Quarter Sampling

Surficial Sample No.	Depth	Description
1	7'	brownish-gray, very fine sand over medium gray muddy sand; live Rangia
2	8'	brownish-gray, fine sand; shell fragments, organic fragments
3	15'	brownish-gray, sandy mud over medium-dark gray, medium sand; live Rangia shell fragments, cohesive
4	14'	brown,. muddy fine sand over medium dark gray, muddy sand; shell fragments, few live Rangia
5	13'	medium brown mud over dark gray mud, shell fragments, Rangia, worms, somewhat cohesive
6	16'	medium brown mud over dark gray mud, shell fragments, Rangia, worms, somewhat cohesive
7	15'	medium brown mud over dark gray mud; shell fragments, live small Rangia, worms, live Macoma balthica, cohesive
8	15'	medium brown mud over dark gray mud; shell fragments, live small Rangia, worms, live Macoma balthica, cohesive
9	16'	medium brown mud over dark gray mud; shell fragments, live small Rangia, worms, live Macoma balthica, cohesive
10	14'	dark brown, slightly muddy fine sand over medium-gray coarse sand; few live small Rangia
11	13'	brown coarse sand; few shell fragments, few live Rangia
12	9'	reddish brown, very fine sand over medium dark gray slightly muddy fine sand; live medium size Rangia
13	8'	reddish, coarse brown sand over light gray coarse sand; shell fragments
14	12'	brown mud over cohesive dark gray mud; live Rangia, shell halves
15	9'	brown mud over cohesive dark gray mud; live Rangia, shell halves

Surficial Sample No.	Depth	Description
16	10'	brown, muddy sand over dark gray muddy sand; Rangia, shell halves, worms, plant matter
17	9'	medium brown mud over dark gray mud; shell fragments
18	8'	brown mud over dark cohesive mud; shell fragments, large live Rangia
19	15'	olive brown mud over dark gray mud; live Rangia
20	15'	brownish gray mud; live Rangia
21	10'	olive gray cohesive mud; oyster shell hash
22	10'	olive brown mud with dead Rangia
23	15'	olive brown mud with some shell halves

Table 5: Sedimentological Parameters, September 27, 1981

Hart-Miller Islands Surficial Samples Collected 8/27/81

Station Location	Sand (%)	Silt (%)	Clay (%)	Water (%)	Depth
1	90.18	4.44	5.38	15.5	7
2	94.85	2.32	2.83	26.8	8
3	68.25	12.27	19.48	57.8	15
4	38.01	25.27	36.71	45.0	14
5	3.05	5.73	91.22	74.6	13
6	0.95	36.21	62.84	67.2	16
7	0.59	6.54	92.87	69.3	15
8	3.75	6.42	89.83	71.7	15
9	1.46	5.60	92.94	69.7	16
10	91.46	2.96	5.58	22.1	14
11	94.32	1.91	3.77	22.5	13
12	90.82	3.56	56.2	25.7	9
13	96.49	1.78	1.79	24.9	8
14	13.24	32.83	53.93	68.4	12
15	2.62	36.35	61.03	71.6	9
16	61.73	15.60	22.68	47.2	10
17	19.13	37.18	43.69	63.8	9
18	15.94	37.65	46.41	66.8	8
19	0.89	22.40	76.71	68.2	15
20	1.38	36.00	62.62	70.4	15

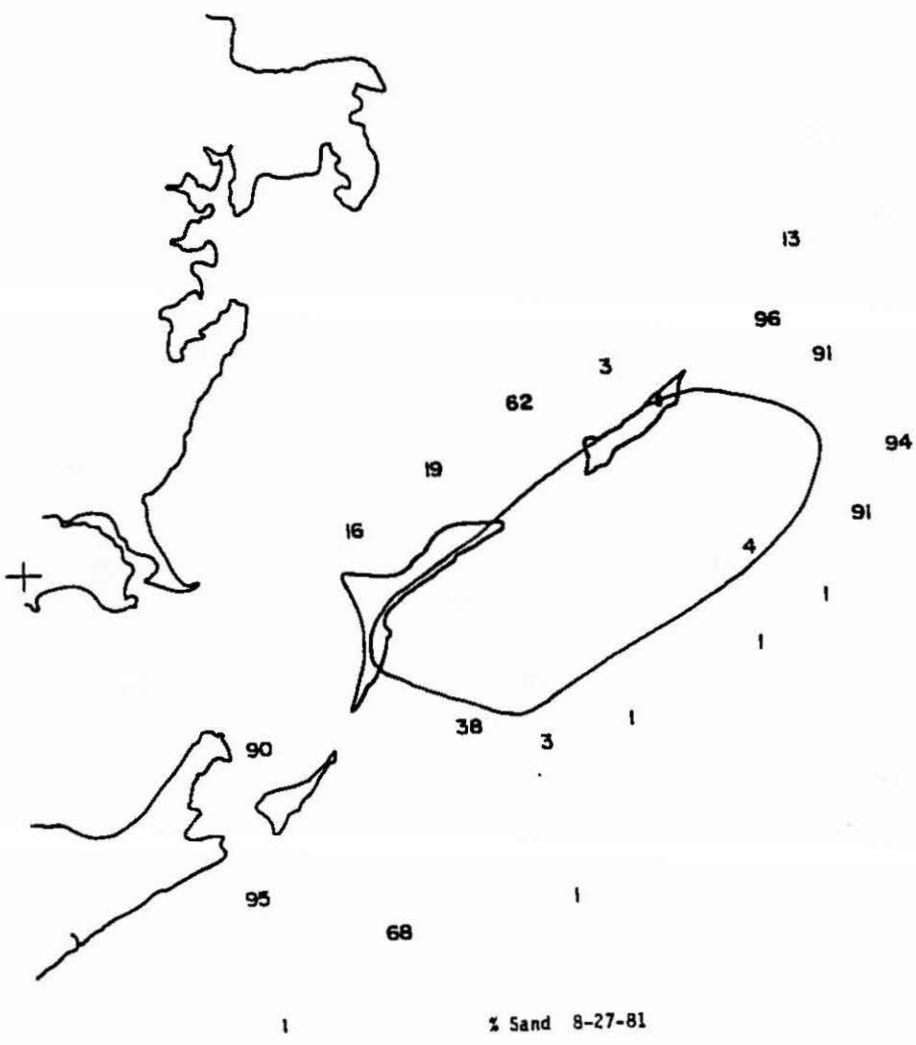


Figure 2

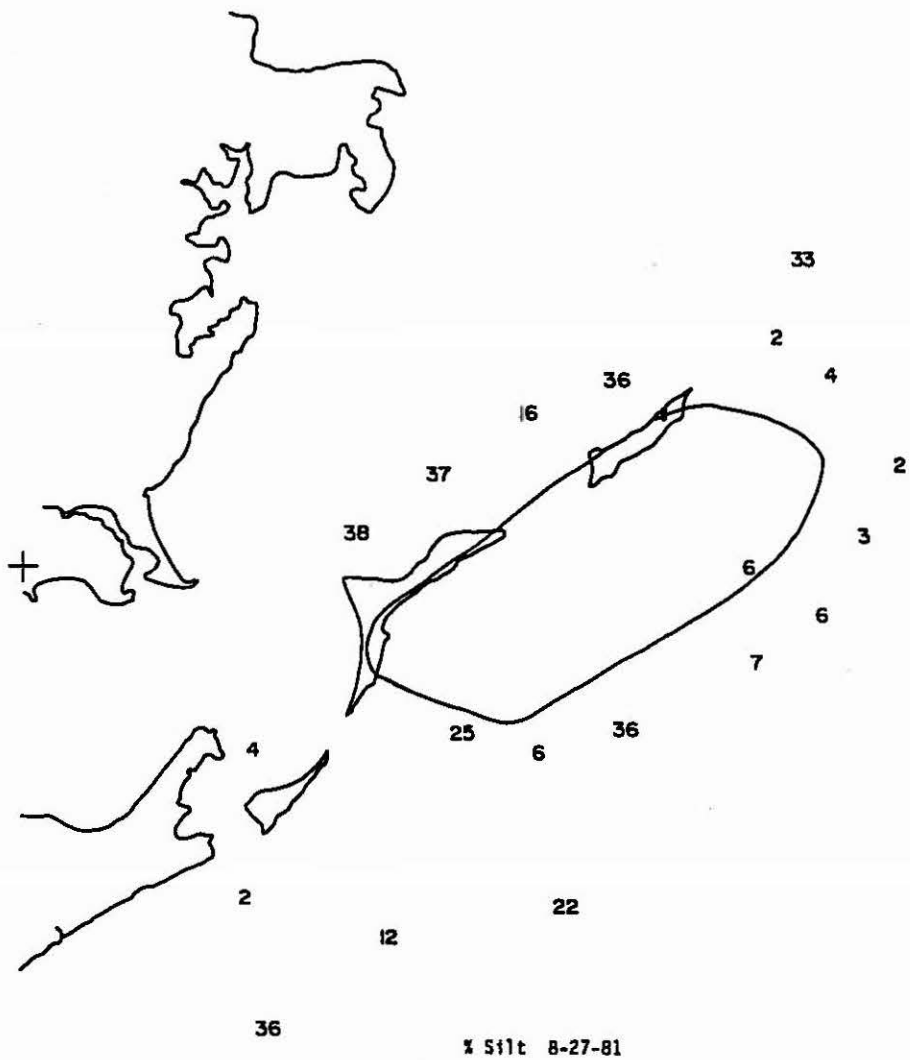


Figure 3

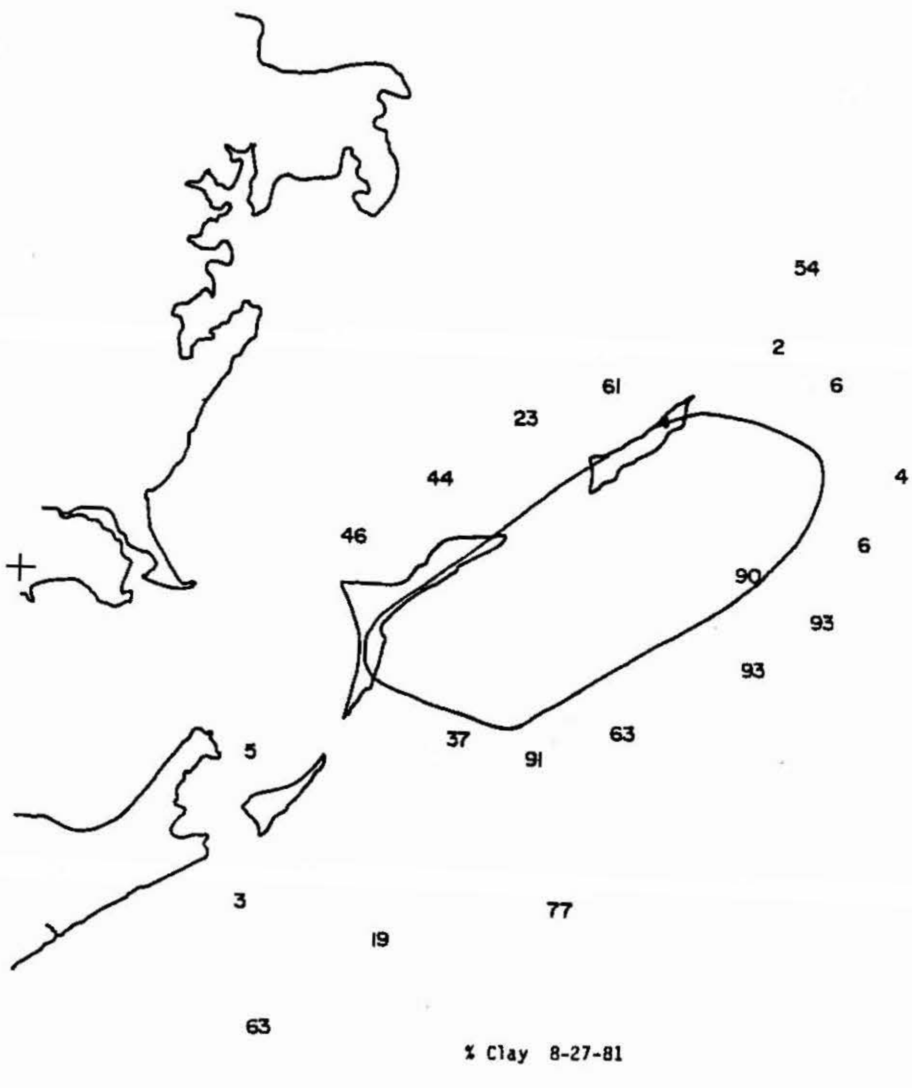


Figure 4

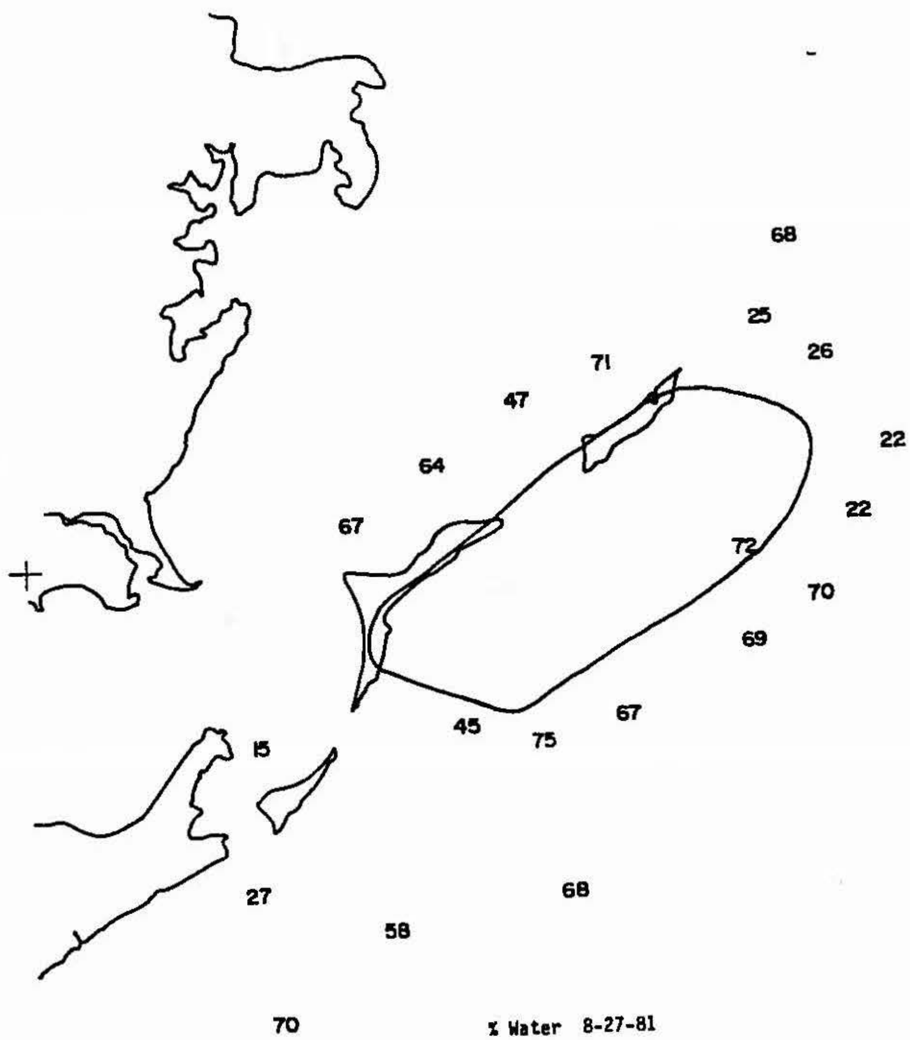

68
25
26
71
47
22
64
22
67
72
70
69
67
45
75
15
68
27
58
70
% Water 8-27-81

Figure 5

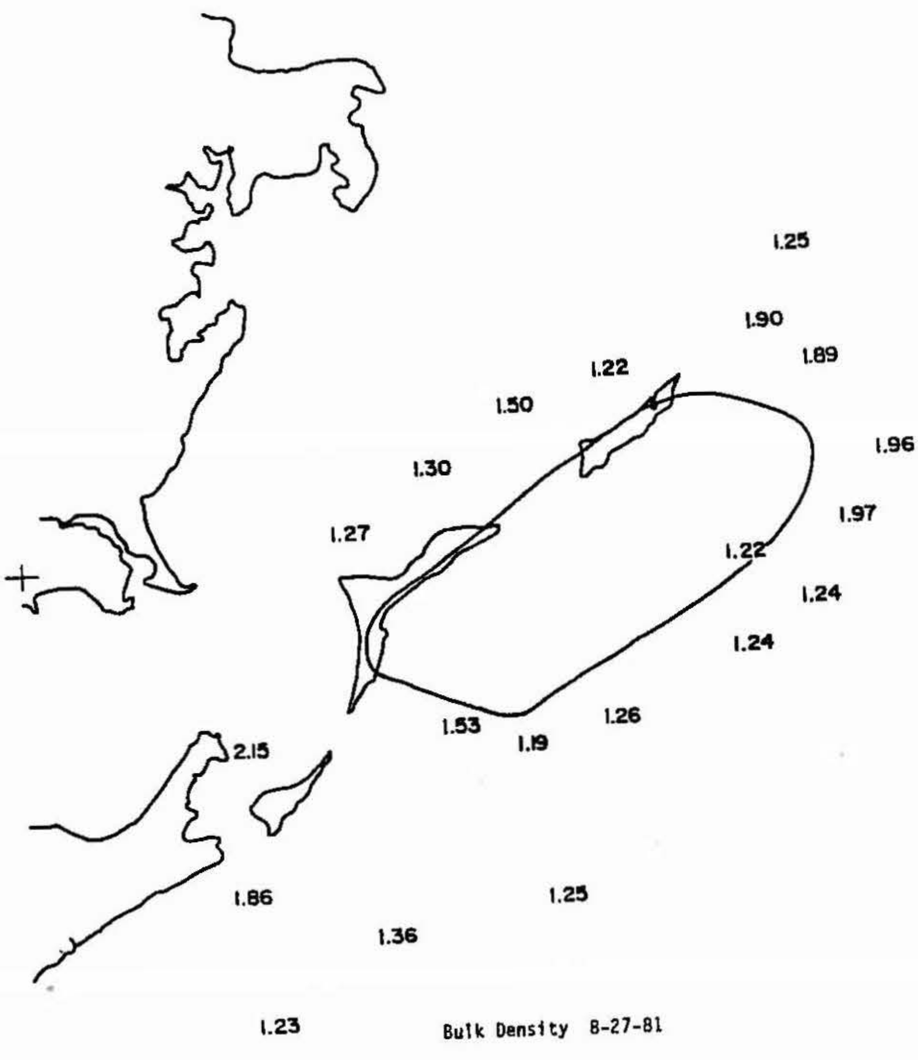
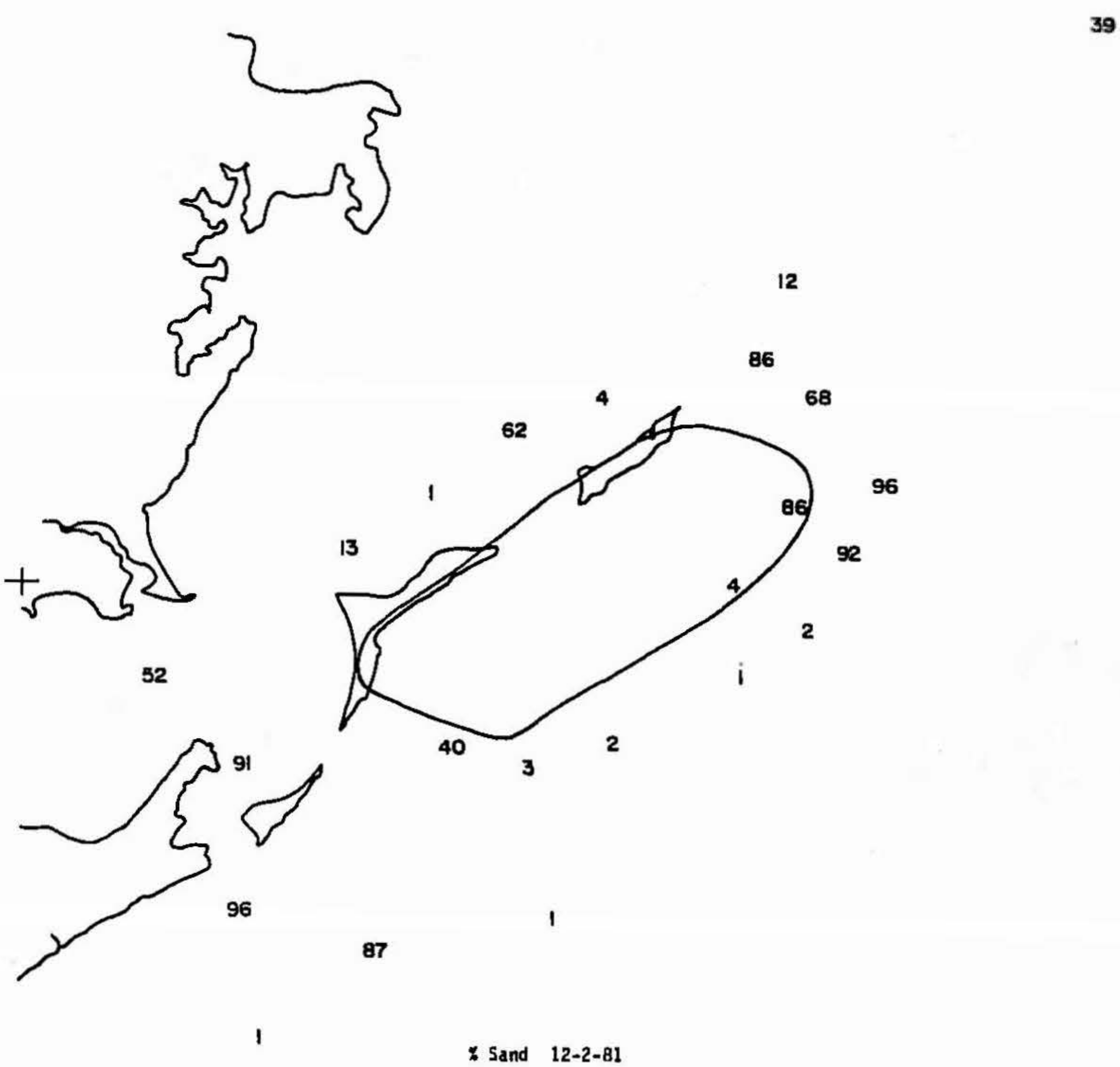

1.25
1.90
1.89
1.22
1.50
1.96
1.30
1.97
1.27
1.22
1.24
1.24
1.26
1.53
1.19
2.15
1.86
1.25
1.36
1.23
Bulk Density 8-27-81

Figure 6

Table 6: Sedimentological Parameters, December 2, 1981

Hart-Miller Islands Surficial Samples Collected 12/2/81

Station Location		Sand (%)	Silt (%)	Clay (%)	Water (%)	Depth
1		90.72	4.73	4.55	27.15	7
2		96.10	0.82	3.08	24.16	8
3		87.02	3.93	9.05	31.62	5
4		40.41	10.65	48.94	47.38	14
5		3.34	5.55	91.11	68.01	13
6		1.65	8.57	89.76	67.24	16
7		0.71	52.44	46.86	64.96	15
8		4.09	41.37	54.54	66.76	15
9		1.77	52.54	45.69	62.21	16
10		91.70	2.69	5.61	23.79	14
11		96.45	1.11	2.43	20.67	13
12		67.70	18.84	13.46	33.69	9
13		85.98	7.85	6.17	22.56	8
14		11.80	35.04	53.16	64.17	12
15		3.61	37.23	59.16	65.67	9
16		62.39	18.16	19.45	40.45	10
17	X1F5427	1.41	51.58	47.01	59.79	9
18	X1F5232	12.98	44.83	42.19	62.27	8
19		0.94	35.25	63.81	49.76	15
20		1.35	39.26	59.39	67.04	15
21		86.49	6.43	7.08	24.15	10
22		39.45	36.02	24.53	49.31	10
23		52.31	21.84	25.85	54.35	15



% Sand 12-2-81

Figure 7

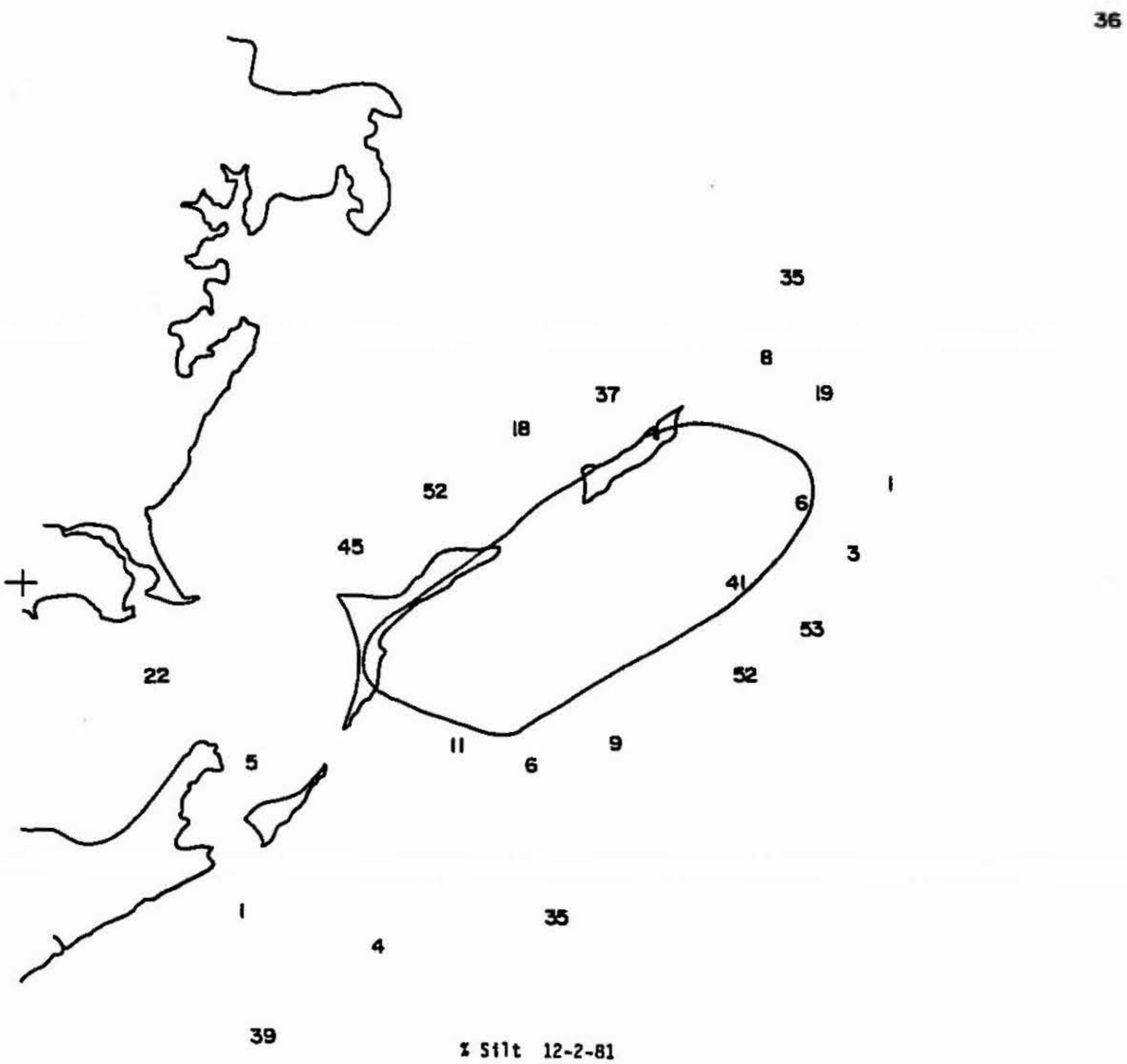


Figure 8

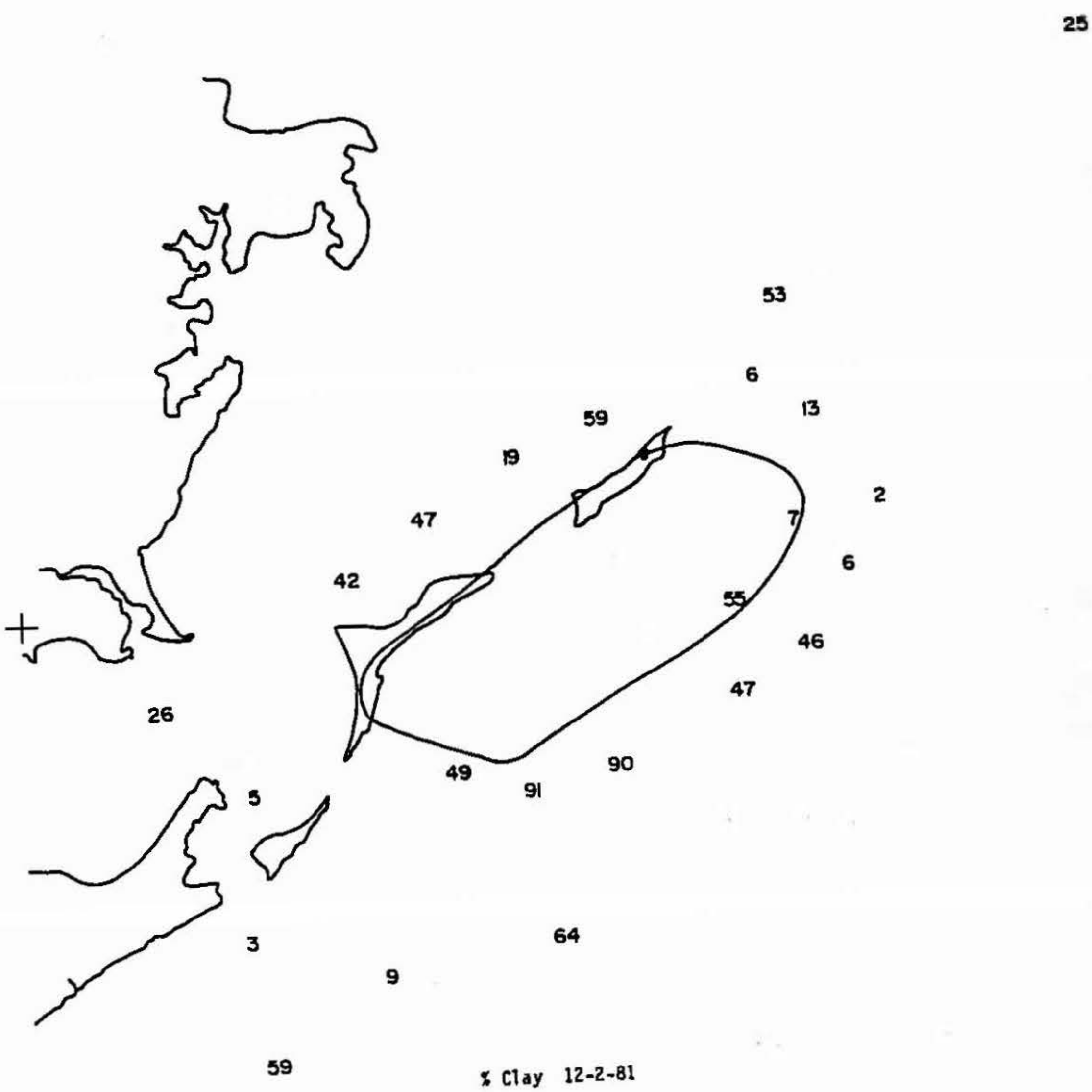
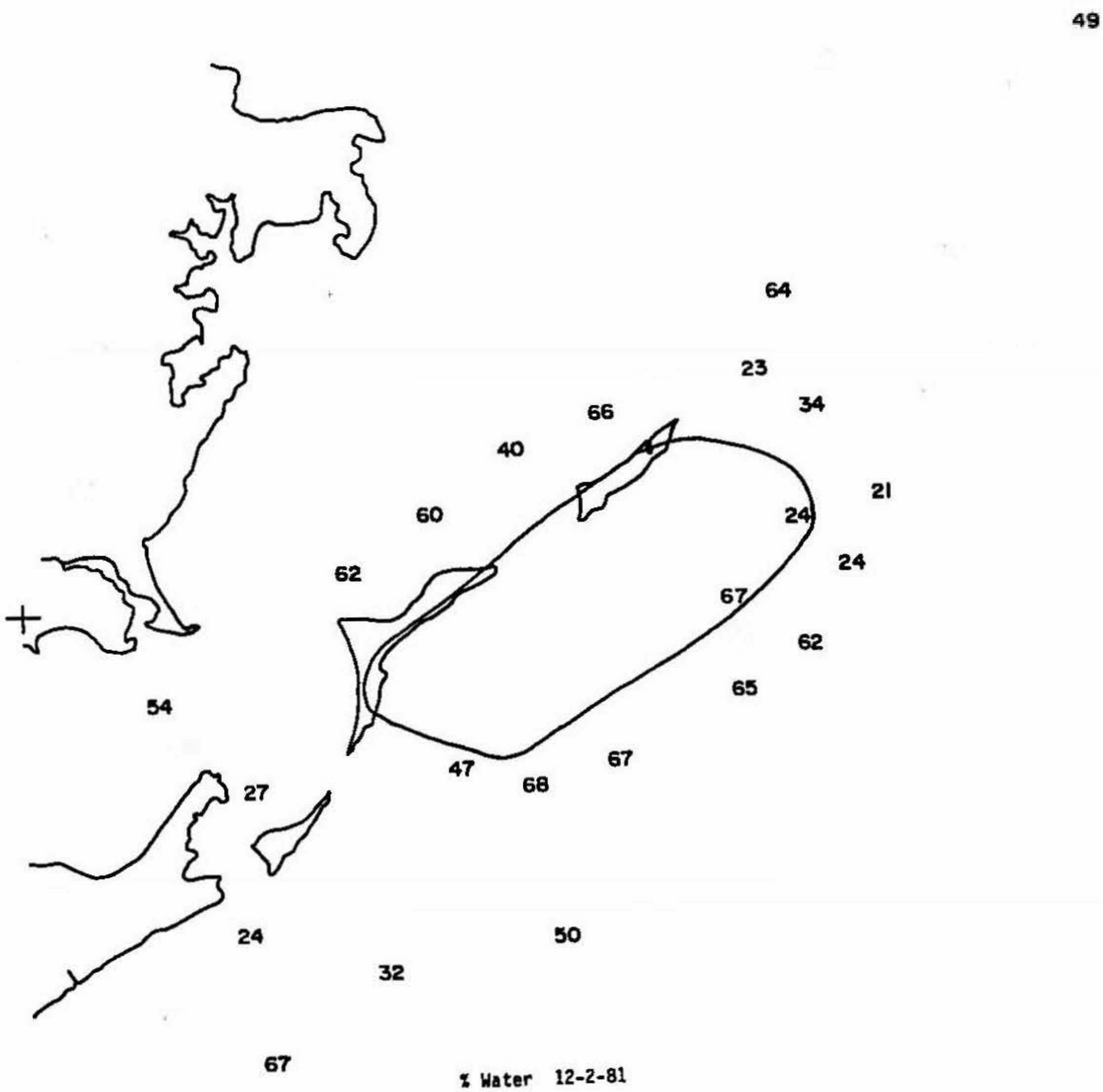


Figure 9


49
64
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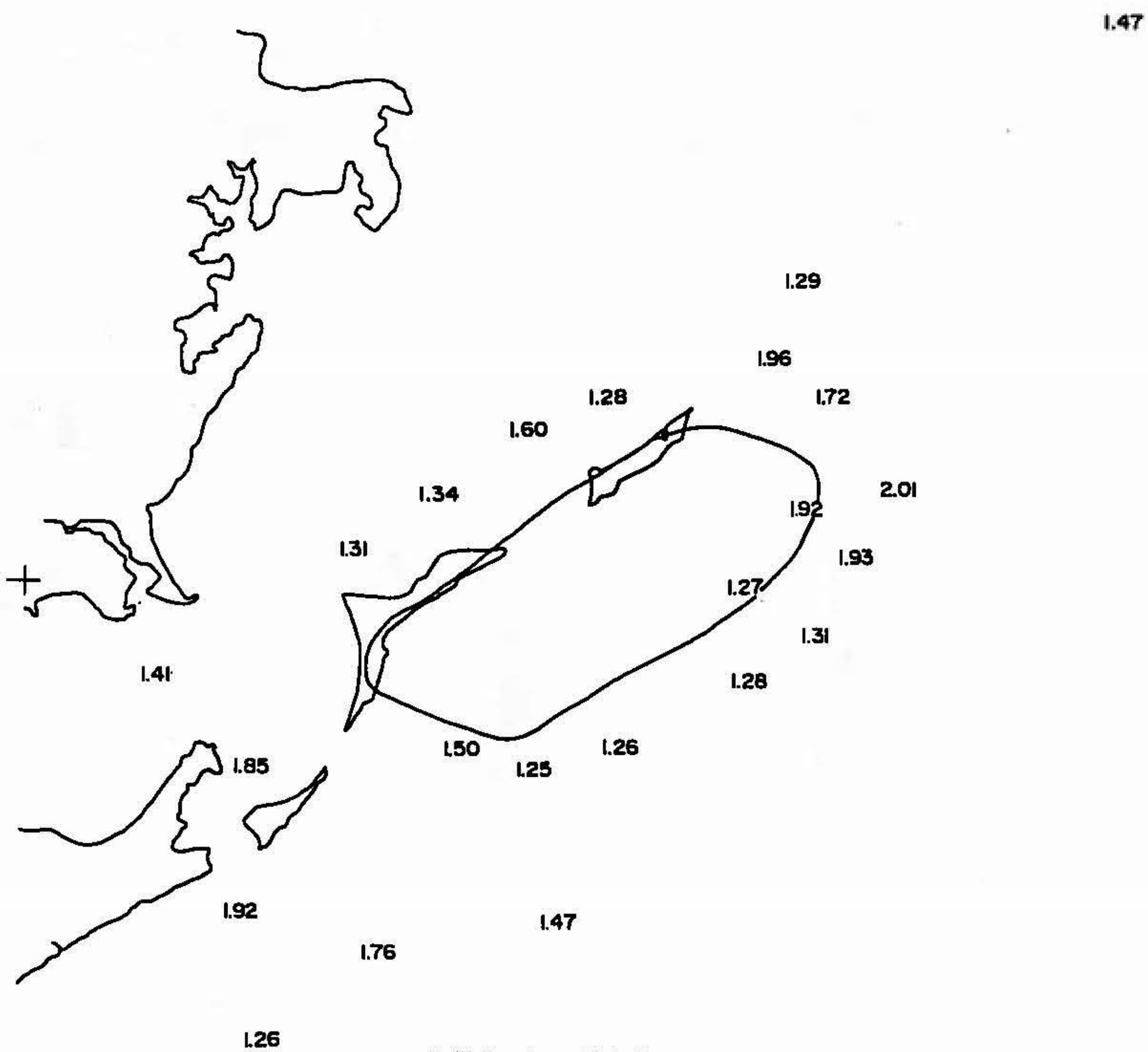
32
67
% Water 12-2-81

Figure 10

Table 7: Sedimentological Parameters, February 24, 1982

Hart Miller Islands Surficial Samples Collected 2/24/82

Station Location	Sand (%)	Silt (%)	Clay (%)	Water (%)	Depth
1	90.77	4.68	4.55	27.61	7
2	93.95	2.82	3.23	25.26	8
3	87.14	5.07	7.79	26.34	15
4	77.73	9.76	12.51	30.71	14
5	4.31	33.54	62.16	41.11	13
6	0.69	39.59	59.72	64.38	16
7	0.66	38.72	60.62	63.55	15
8 XIF5010	3.60	39.26	57.13	65.36	15
9	1.36	39.15	59.49	63.53	16
10	92.36	3.15	4.49	22.76	14
11	93.69	2.99	3.32	20.45	13
12	53.08	31.58	15.34	33.42	9
13	71.49	17.19	11.32	25.54	8
14	7.86	41.62	50.52	63.66	12
15	27.82	28.01	44.17	62.71	9
16	76.49	11.45	12.06	34.32	10
17	18.54	42.71	38.74	58.07	9
18	13.00	44.07	42.92	57.31	8
19	2.25	37.18	60.57	61.69	15
20	2.03	37.75	60.23	60.05	15
21 XIF5793	28.54	33.14	38.33	43.25	10
22	27.24	33.52	37.24	52.50	10
23	48.81	29.82	21.37	46.29	15



Bulk Density 12-2-81

Figure 11

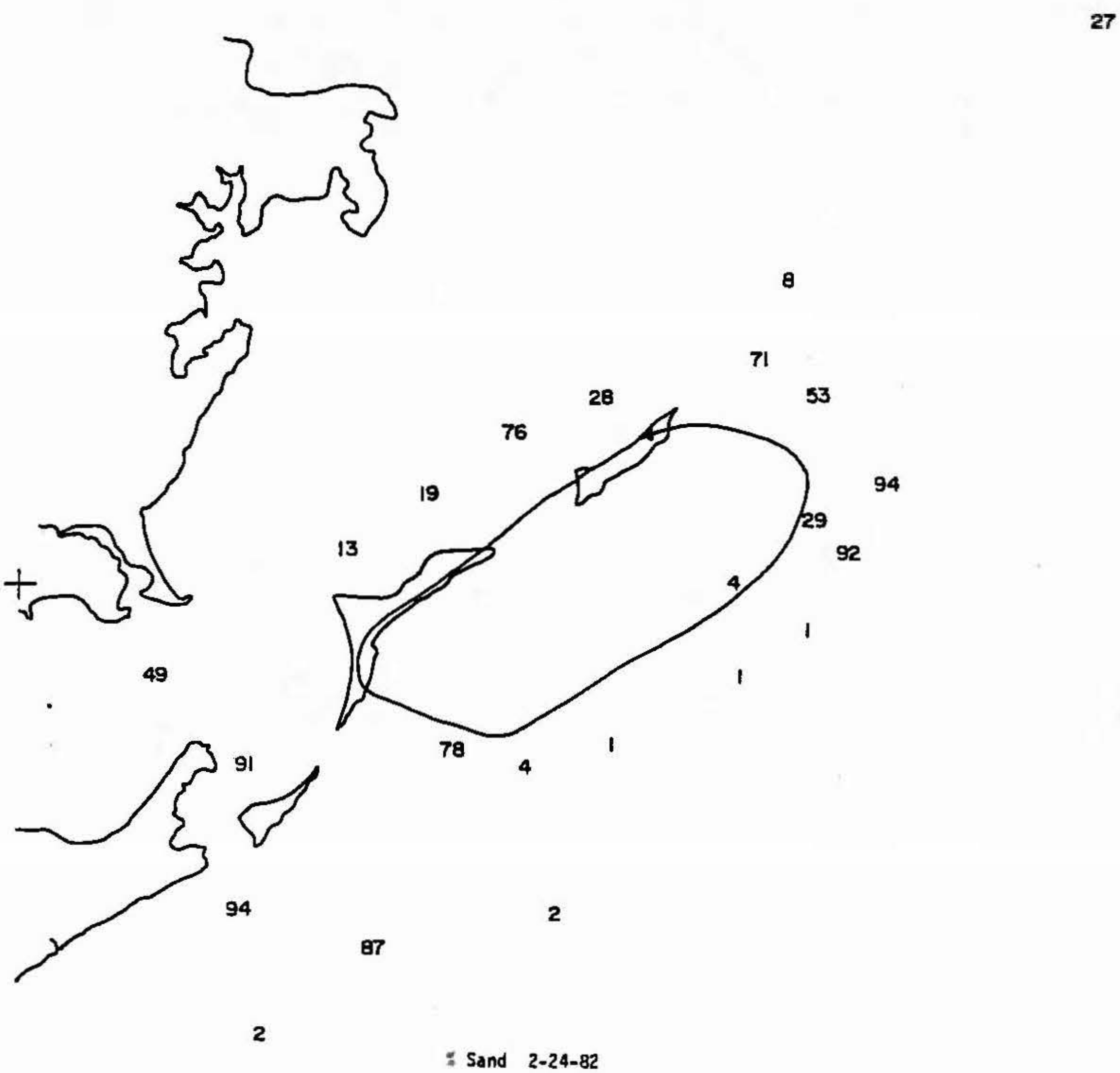
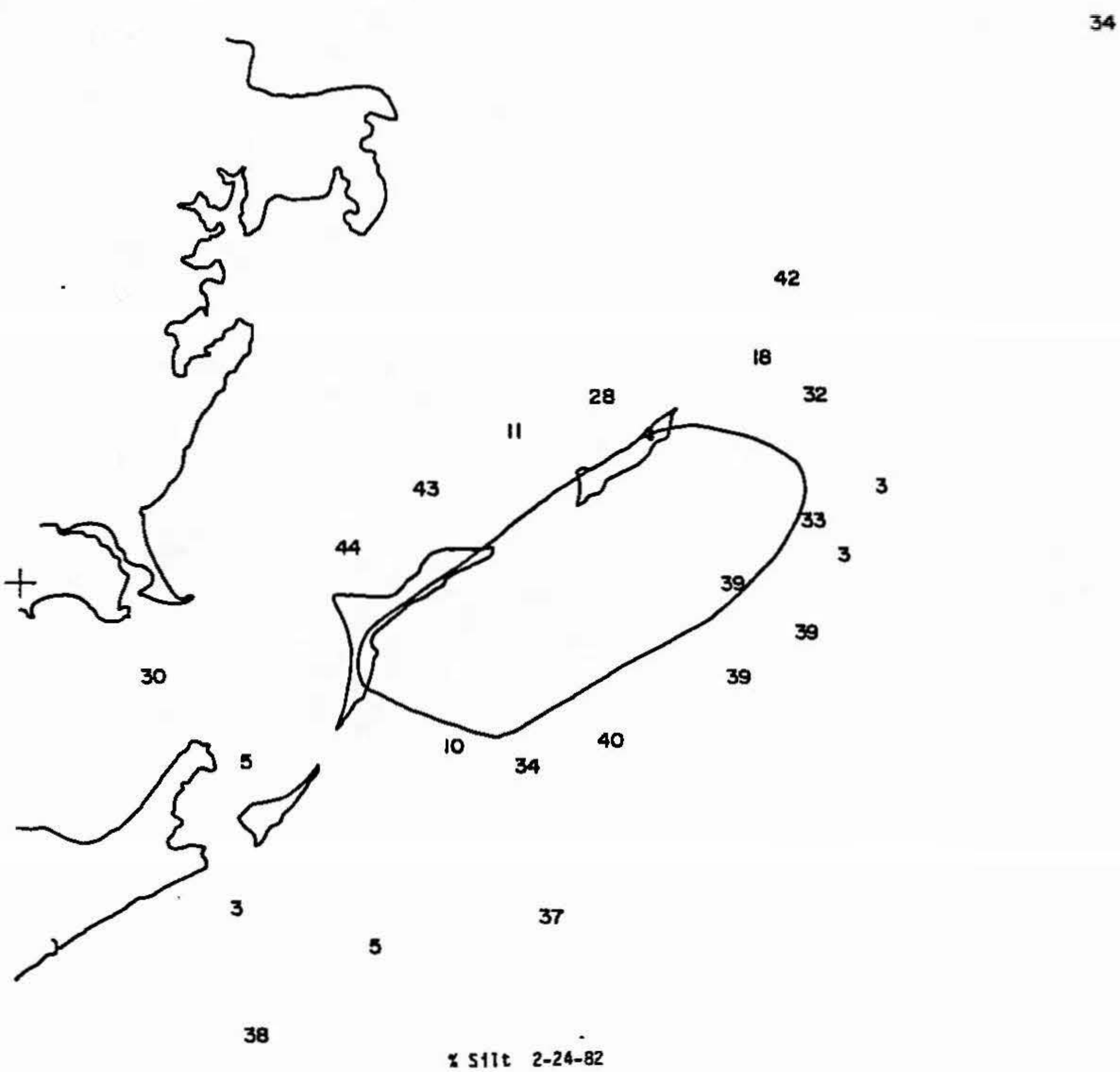


Figure 12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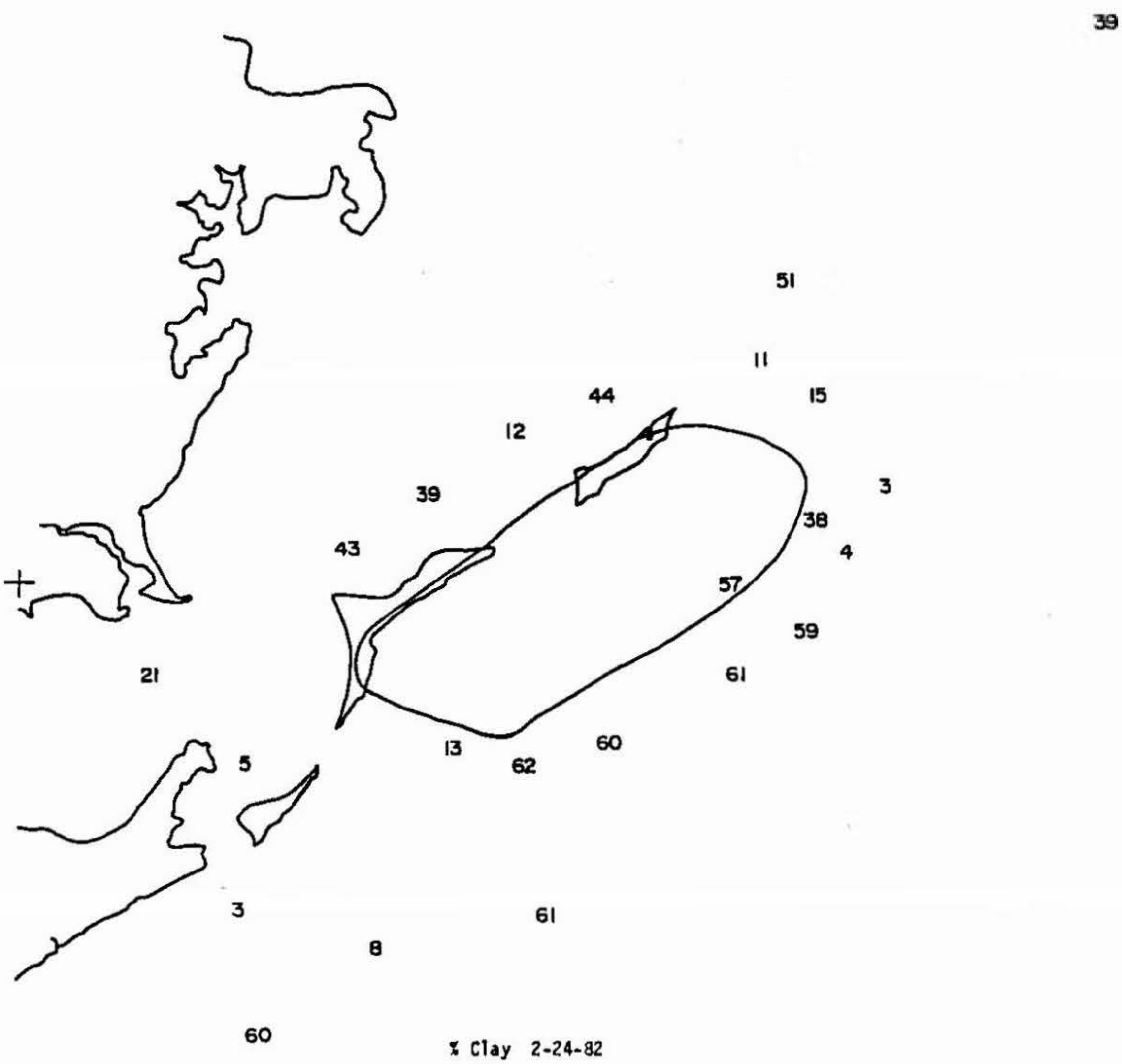
38
% Silt 2-24-82

Figure 13



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11
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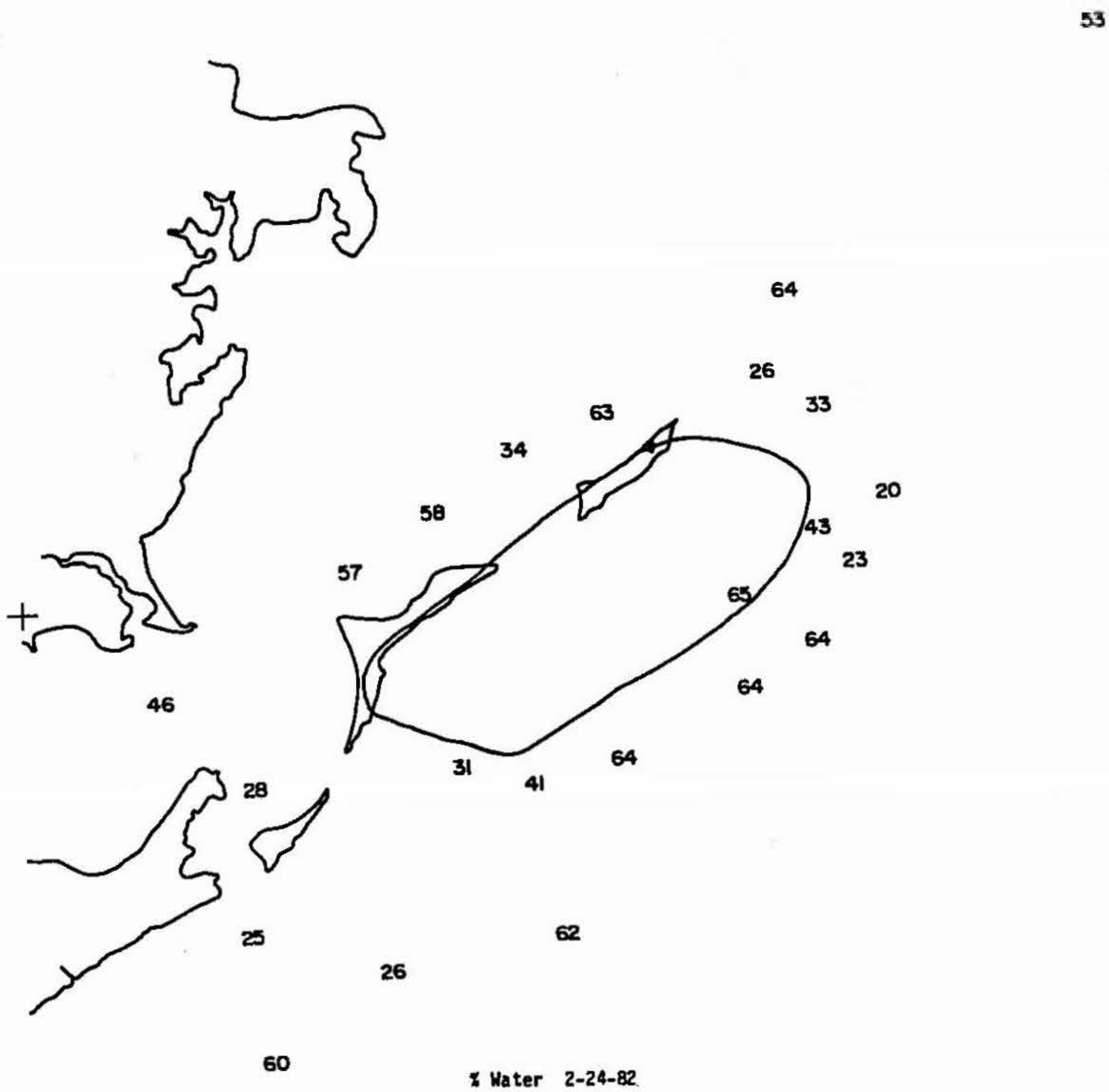
% Clay 2-24-82

Figure 14



53
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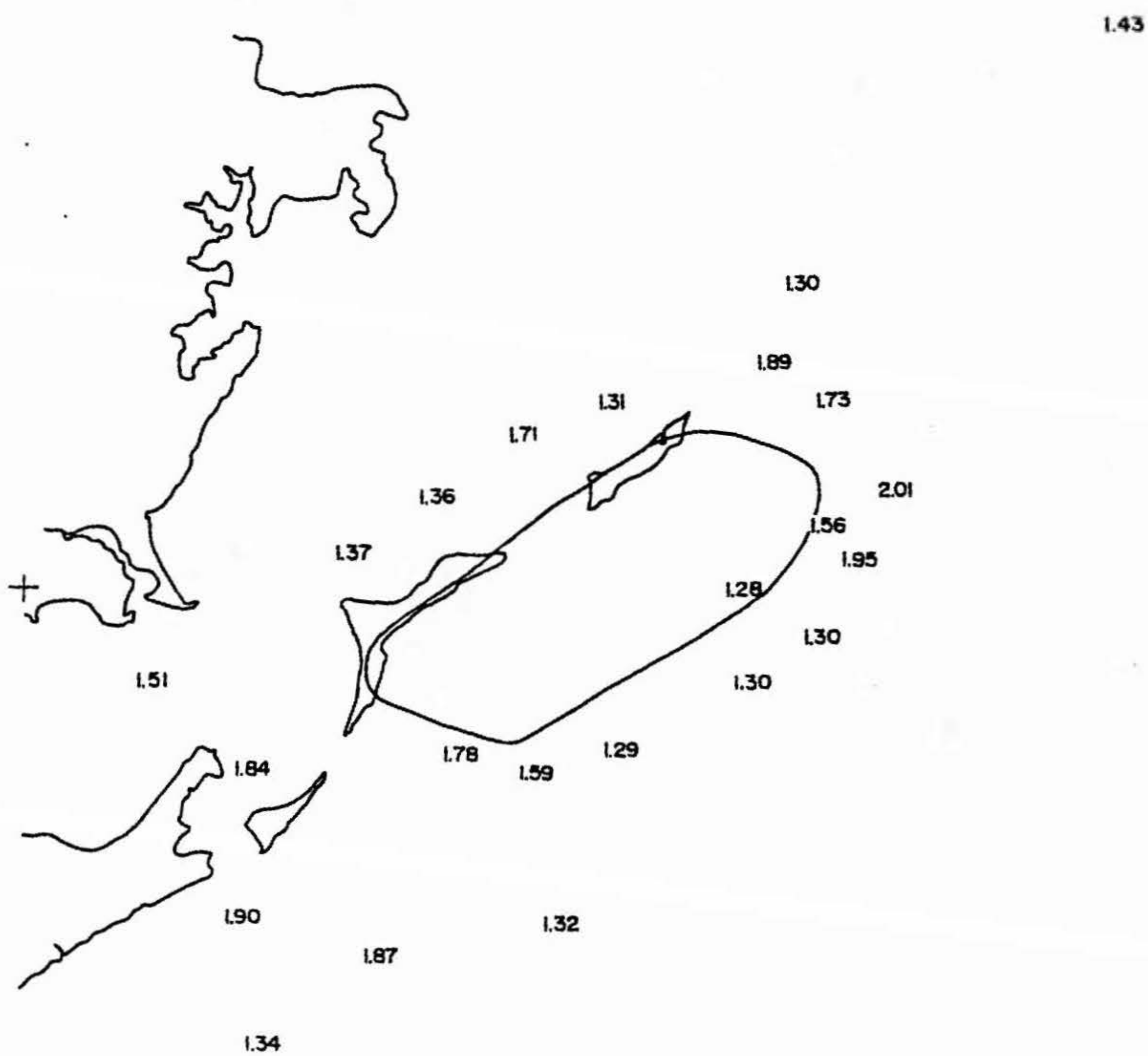
% Water 2-24-82

Figure 15



Bulk Density 2-24-82

Figure 16

Table 8: Sedimentological Parameters, July 2, 1982

Hart-Miller Islands Surficial Samples Collected 7/2/82

Station Location	Sand (%)	Silt (%)	Clay (%)	Water (%)	Depth
1	89.06	6.72	4.21	32.33	
2	88.57	5.89	5.54	23.17	8
3	75.65	9.77	14.58	31.61	15
4	4.69	34.95	60.36	66.75	14
5	0.31	42.33	57.36	62.59	13
6	0.18	44.36	55.46	61.84	16
7	0.80	38.82	60.39	63.01	15
8	1.42	49.30	49.28	51.97	15
9	2.44	38.37	59.19	60.71	16
10	82.58	7.38	10.03	25.26	14
11	94.34	2.70	2.96	19.15	13
12	71.63	18.25	10.11	27.90	9
13	82.48	10.90	6.62	23.86	8
14	0.64	49.49	49.87	59.38	12
15	9.88	41.52	48.60	52.32	9
16	26.21	45.61	28.18	43.54	10
17	1.76	48.32	49.92	57.58	9
18	13.61	48.19	38.20	63.03	8
19	0.44	38.00	61.56	66.58	15
20	1.41	38.42	60.17	66.65	15
21	15.10	60.77	24.13	38.27	10
22	40.30	28.02	31.68	53.66	10
23	37.41	36.23	26.36	55.67	15

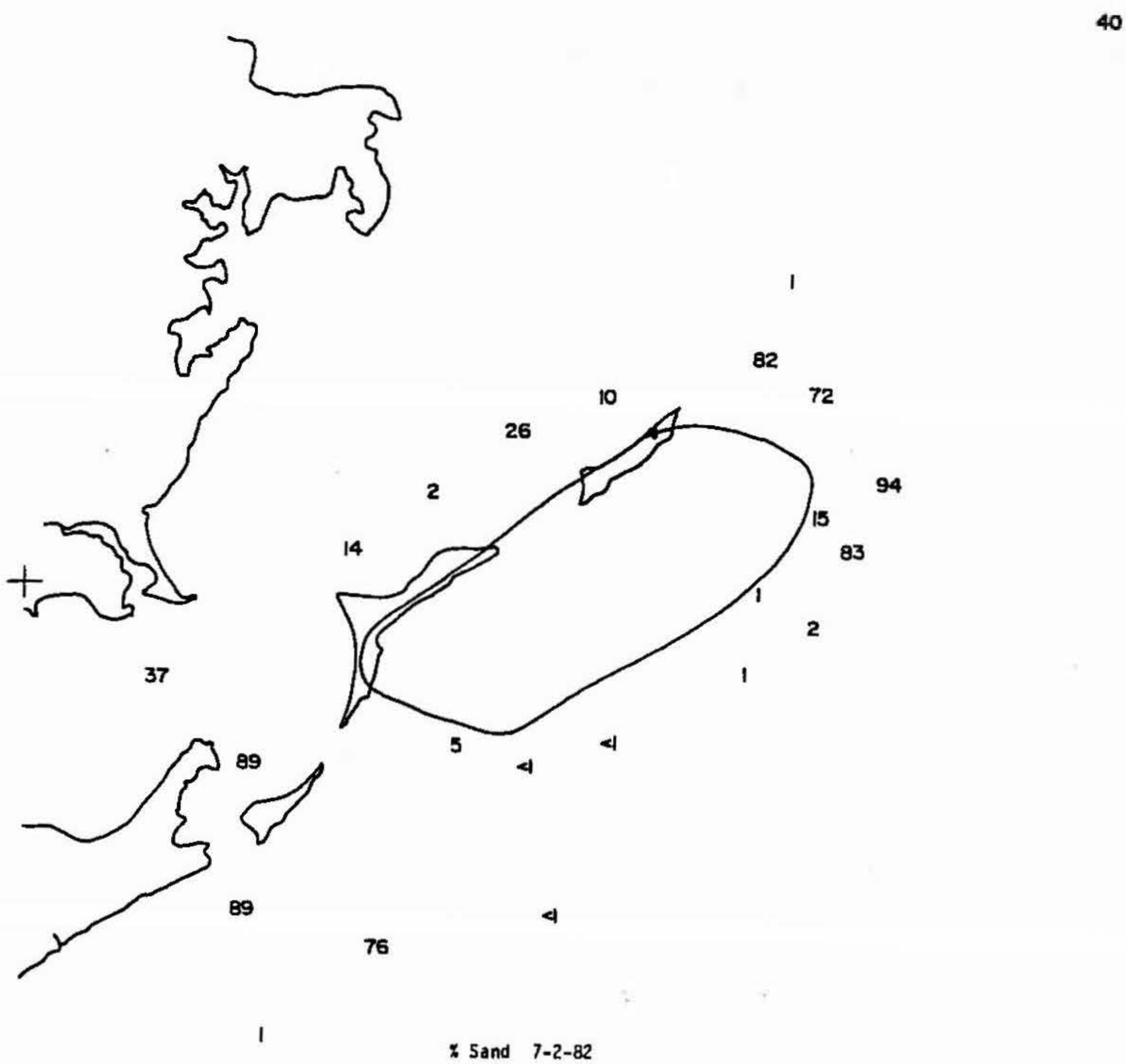
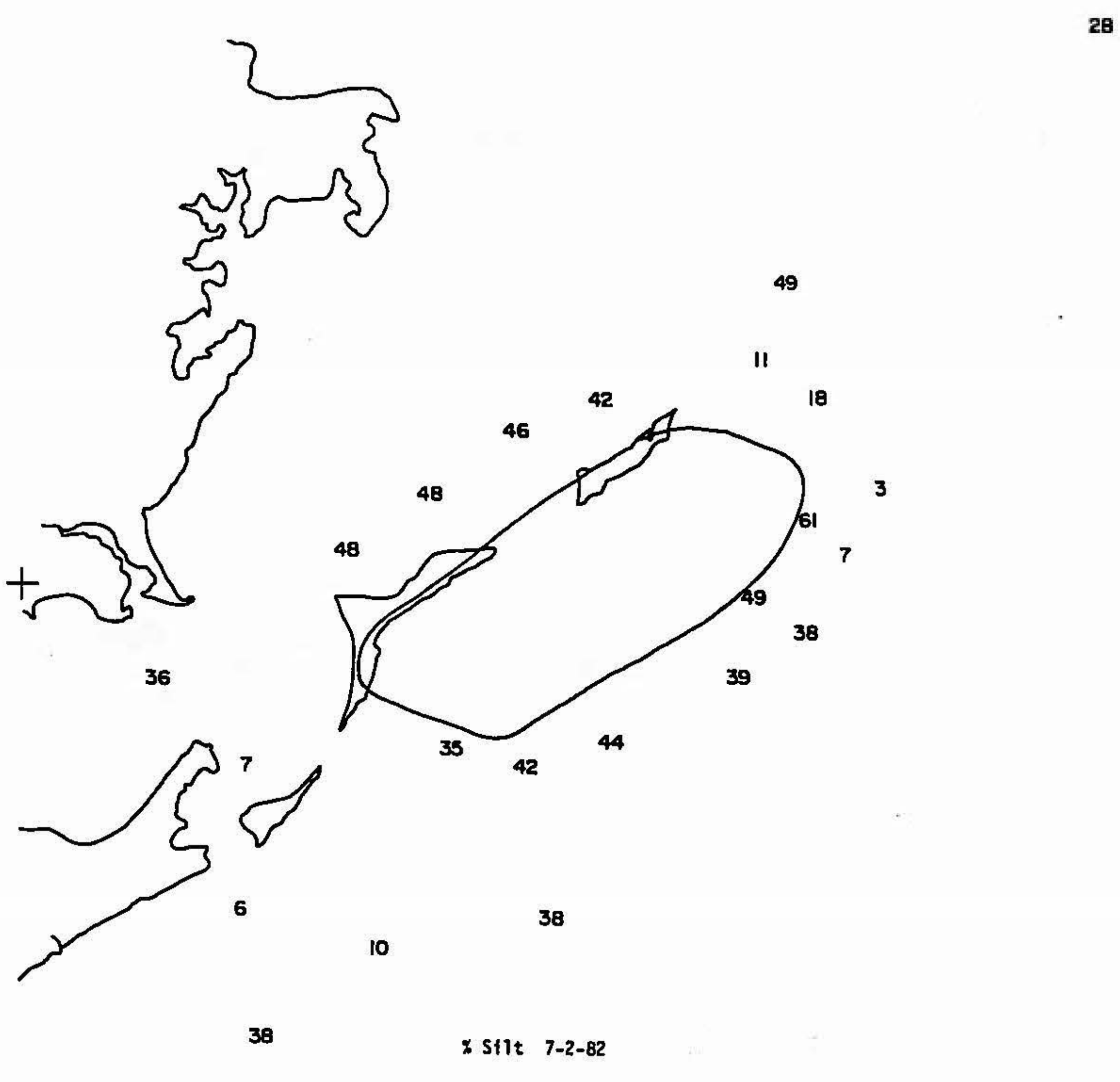


Figure 17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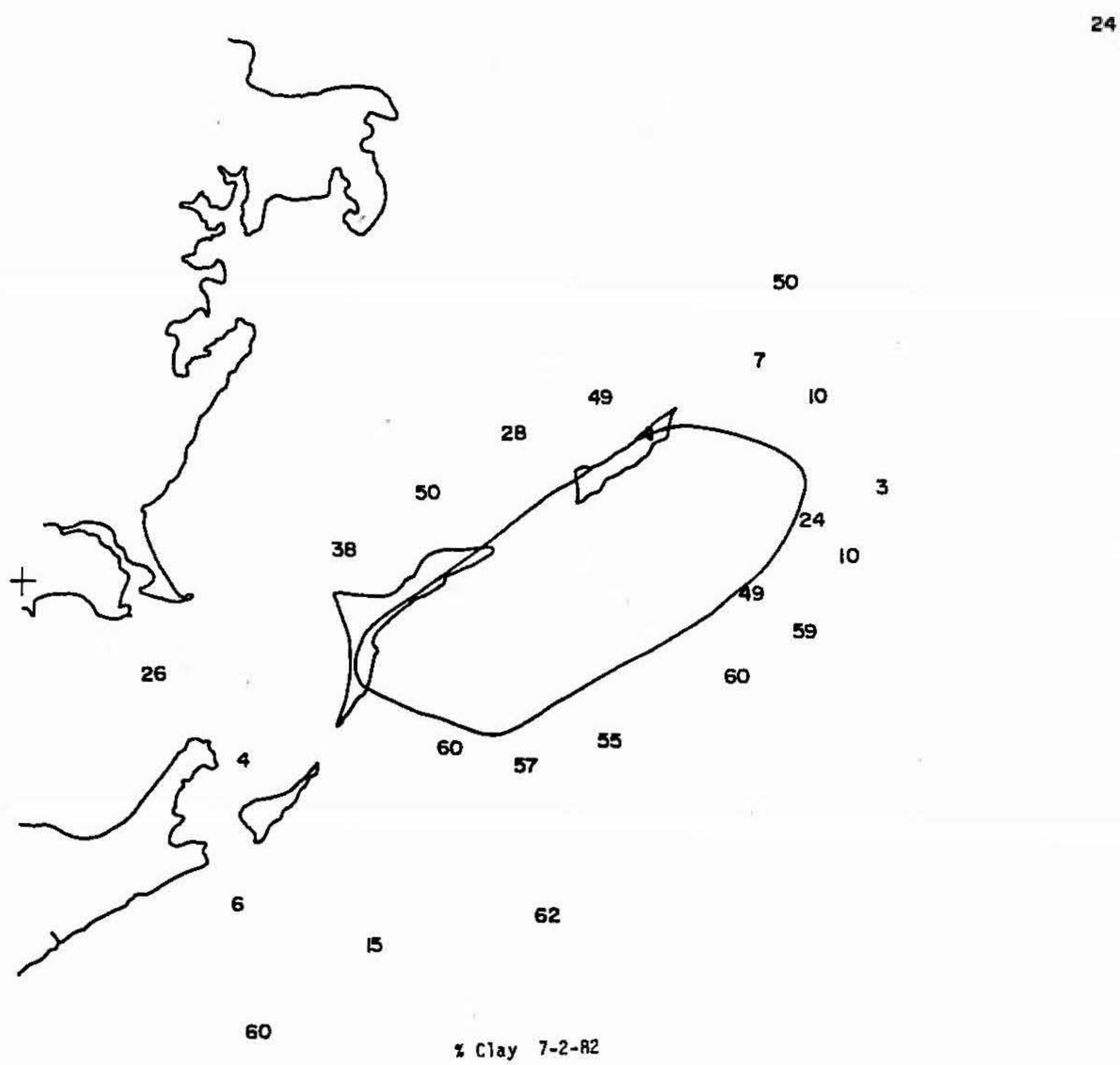
10
38
% Silt 7-2-82

Figure 18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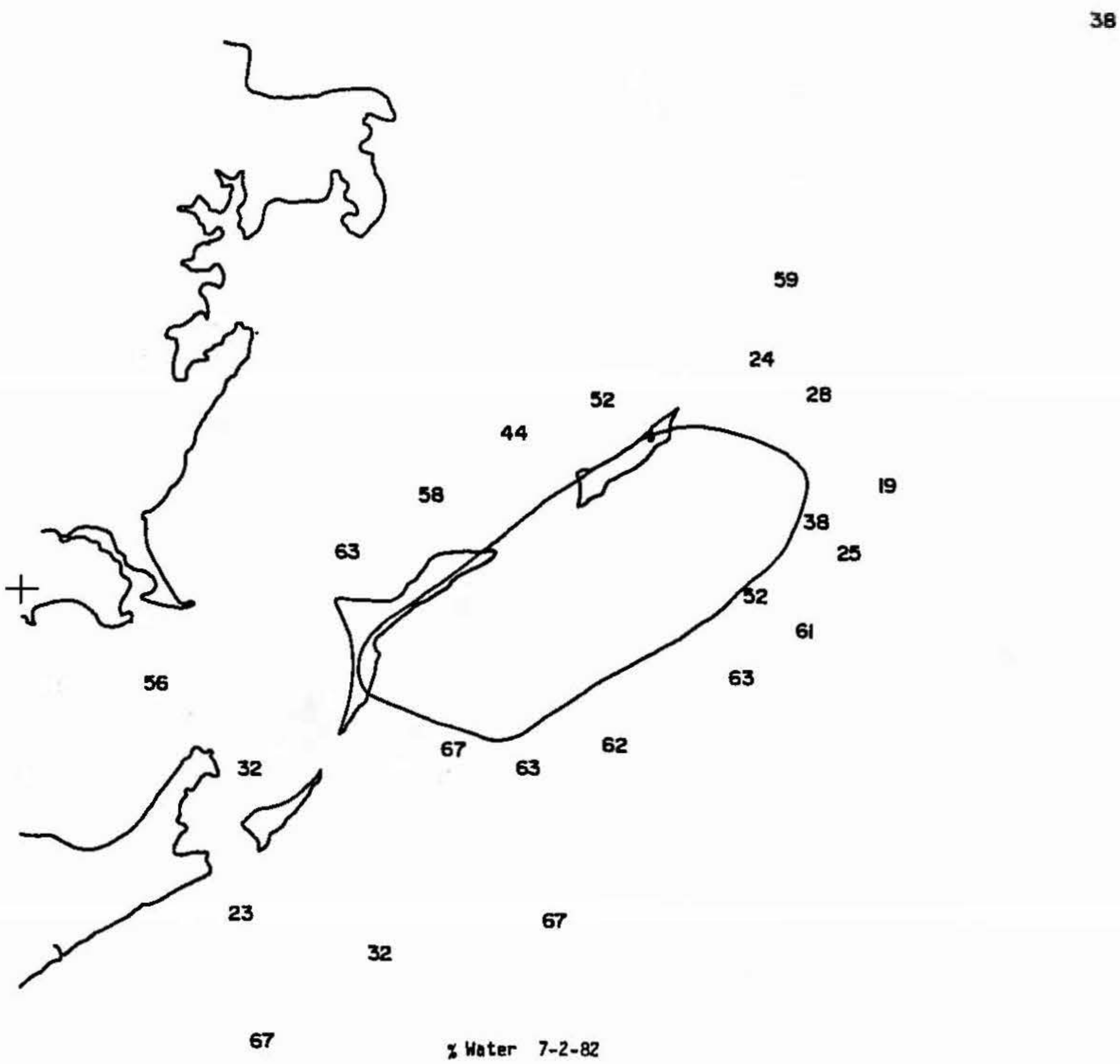
62
15
60
% Clay 7-2-R2

Figure 19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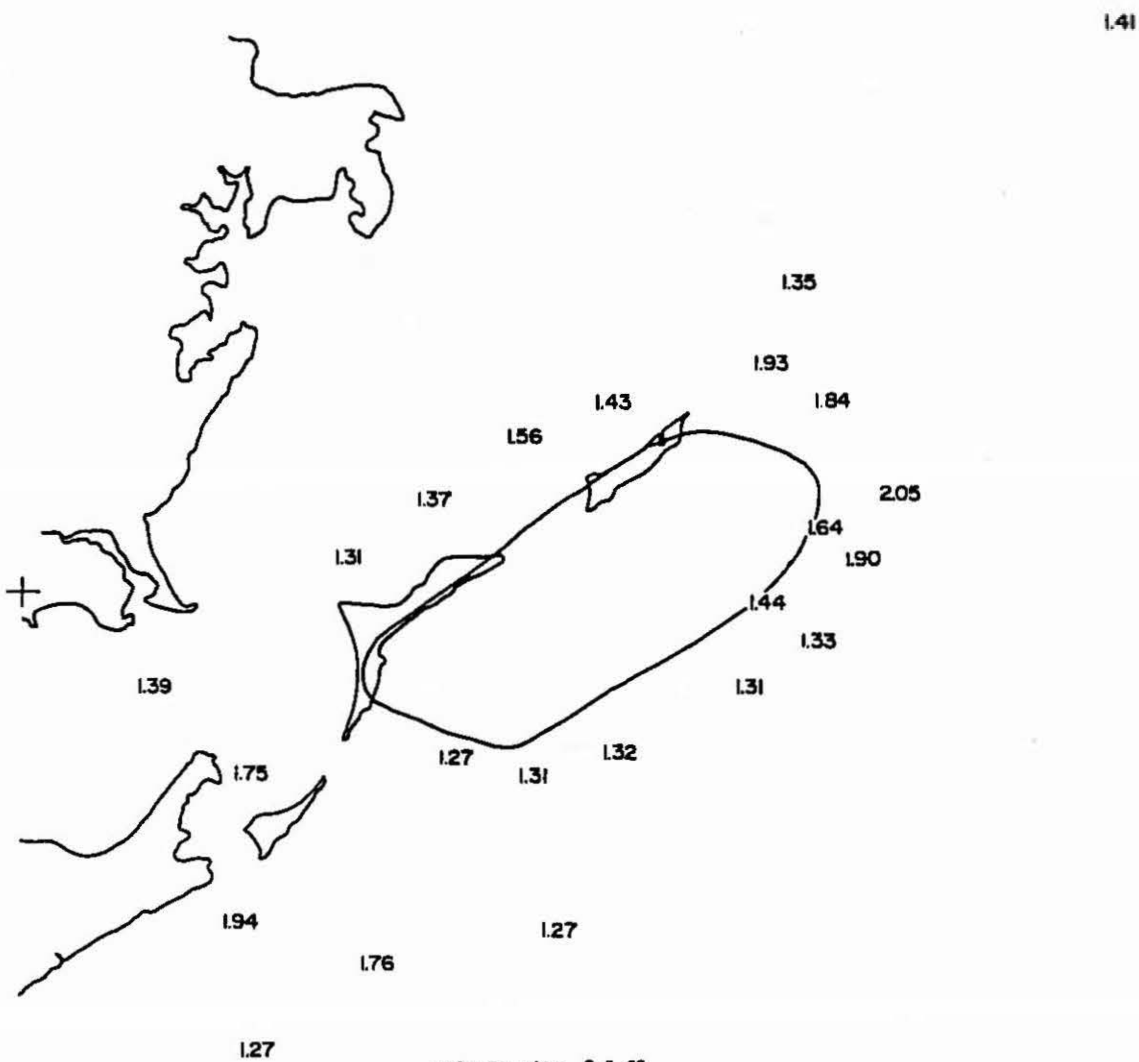
32
67
% Water 7-2-82

Figure 20



Bulk Density 7-2-82

Figure 21

Trace Metal Analysis

Subsets of sediments samples from the twenty surficial sediment locations and from the top, middle and bottom of the seven box cores were collected for trace metal analysis. All subsets were collected during the final quarter sampling cruise and were analyzed for twelve trace metals. Analyses were conducted by Chesapeake Biological Laboratory, University of Maryland.

Table 9

Trace Metal Analysis of Sediment

For August 1981

ug/g dry weight Surfical

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
1	48.72	92.2	.130	16.96	11.1	33.42	740.1	0.083	2.26	.002	3.894	15,582
2	26.21	62.1	.064	10.79	5.48	32.39	1160	0.043	.962	.005	1.165	8804
3	51.87	188	.191	37.80	24.6	52.10	4993	0.117	5.01	.048	1.746	22,235
5	212.0	313	.317	61.82	38.7	162.6	5313	0.121	11.71	.221	.159	52,692
6	335.8	336	.291	65.54	39.9	153.4	7352	0.095	4.90	.271	4.111	50,909
7	146.7	349	.284	53.40	33.7	63.88	7344	0.085	4.36	.333	1.085	43,192
8 λ1F5010	105.8	721	.303	60.53	43.0	31.86	7977	0.087	3.83	.338	2.030	48,961
9	150.2	339	.305	52.62	50.0	30.65	5997	0.073	3.91	.259	2.400	28,571
10	12.46	64.8	.067	11.65	8.25	41.01	3685	0.051	1.24	.002	.894	9989
11	19.56	40.6	.032	8.71	5.88	21.89	1165	0.037	1.26	.001	1.594	12,891
12	50.02	84.9	.068	14.11	9.15	47.50	5243	0.043	1.75	.001	.148	13,116
13	65.04	136	.084	23.41	18.0	51.27	1799	0.081	4.01	.154	1.108	16,866
14	63.57	124	.123	18.95	8.80	41.10	6920	0.046	1.11	.003	<.083	15,446
15	156.6	371	.231	66.78	45.3	161.9	5102	0.125	4.34	.030	1.358	65,039
16	73.93	186	.161	40.80	29.2	78.04	3354	0.072	2.58	.061	5.102	27,665
17	139.7	391	.225	63.42	42.6	157.1	6202	0.087	4.84	.277	2.349	54,064
18	97.31	397	.224	67.38	39.8	39.36	3525	0.082	3.53	.173	1.571	61,125
19	130.5	361	.282	71.21	54.9	207.8	2904	0.101	3.65	.204	2.367	45,294
20	172.6	499	.433	82.94	51.9	196.2	7517	0.082	5.77	.110	3.362	51,518
Mean	108.3	267	0.201	43.65	29.49	84.39	4621	0.078	3.738	0.131	2,025	33,892
Standard Deviation ±	79.16	±179	0.111	24.79	17.34	64.34	2321	0.029	2.441	0.124	1.353	19,376

Table 10
Trace Metal Analysis of Sediment

For August 1981

Trace Cores 9/30/81

X1F4785

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC1 Top	440.4	1025	1.02	203.6	106.8	387.8	11,410	0.401	7.45	1.60	2.013	102.092
BC1 Middle	156.8	283	.188	78.47	16.6	93.98	1709	0.503	12.70	.703	2.144	59,670
BC1 Bottom	131.8	162	.103	75.74	11.2	73.88	1542	0.058	10.97	.236	2.117	53,903
BC2 Top	198.9	412	.298	60.39	63.8	153.2	3541	0.101	7.88	.628	1.486	56,322
BC2 Middle	239.0	60.2	.447	95.98	97.8	189.4	3082	0.290	14.68	1.61	1.791	60,638
BC2 Bottom	160.6	343	.219	62.24	71.0	140.9	2471	0.233	9.80	1.21	.663	47,255
BC3 Top	183.2	430	.556	86.59	21.8	149.3	6416	0.225	7.67	.783	1.155	63,689
BC3 Middle	230.6	597	.522	67.58	58.4	193.8	2282	0.303	13.03	1.82	1.643	54,421
BC3 Bottom	102.2	298	.338	72.56	79.0	162.3	1951	0.096	11.47	1.02	1.650	59,579
BC4 Top	171.1	363	.425	65.20	35.6	170.4	3271	0.087	6.16	.604	8.814	45,428
BC4 Middle	104.7	328	.417	54.97	30.0	128.7	3170	0.034	6.97	.476	.652	53,475
BC5 Top	47.89	128	.174	34.36	8.59	55.35	1193	0.078	6.76	.370	.594	24,877
BC5 Middle	29.44	91.1	.271	33.53	7.43	62.72	937.7	0.101	5.02	.128	.121	41,078
BC5 Bottom	34.12	90.3	.103	36.76	7.04	48.36	1459	0.032	6.66	.211	<1.59	23,934

Trace Metal Analysis of Sediment
For August 1981; Trace Cores
Page 2

9/30/81

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC6 Top	159.9	412	.387	80.75	57.8	171.8	3573	0.078	6.20	.485	2.262	59,120
BC6 Middle	60.66	141	.204	49.54	13.6	73.44	1282	0.068	10.86	.324	.127	39,720
BC6 Bottom	81.84	127	.163	69.24	8.78	70.89	1260	0.056	8.68	.294	<.141	38,152
BC7 Top	173.4	510	.835	148.8	56.5	237.9	1112	0.168	5.78	.602	5.893	50,768
BC7 Middle	204.7	582	.941	180.4	75.6	248.5	1090	0.22	7.85	.810	4.752	49,818
BC7 Bottom	268.2	631	.969	188.9	59.2	274.6	1210	0.157	6.82	.736	2.326	52,986
BC7 Sed. Top	196.1	452	.922	136.6	77.0	234.6	1002	0.168	3.49	.606	8.877	54,696
Mean	155.98	356	0.452	89.63	45.88	158.18	2617.3	0.165	8.424	0.727	2.636	51,982
Standard ± Deviation	96.316	235	0.306	51.20	32.16	86.10	2408.5	0.126	2.898	0.479	2.780	15,785

X-Ray Radiographs

METHOD

Sampling

A modified United States Navy Electronics Laboratory spade box corer was utilized to extract a sediment surface of 0.063 m^2 (21 x 30 cm) with a maximum penetration of 60 cm. One box core was taken at each of the seven stations for radiographic analysis, dissection, visual observations, and sediment size analysis.

Radiographic Procedures

Techniques for radiographic processing are outlined in Howard and Frey, 1975. A 6 cm vertical slab was sectioned and sealed in a plexiglass tray for subsequent laboratory procedures. The samples were refrigerated at 4°C to preserve the quality of the sediment. The 6 cm core was trimmed to 2 cm, the optimum thickness required for a clear and detailed picture of the sediment. The remainder of the core was dissected to determine the placement and penetration of the biota.

Radiographs were provided on Kodak AA-5 industrial film using a Torr 120 kv X-ray unit. The exposure data is as follows: focal distance, 95 cm; amperage, 3 ma; voltage exposure, 50-65 kv; time exposure, 60-180 sec. Positive images were produced on Kodak Rapid Polycontrast print paper.

Table 11: Grain size distribution taken from 5 cm sections at the top, middle and bottom of the box cores.

9/30/81

87

Samples (Depth of Penetration, cm)	Section	Sand (%)	Silt (%)	Clay (%)
BC1 (52 cm)	Top	5.80	36.07	58.13
	Middle	4.63	36.52	58.85
	Bottom	2.87	37.65	59.48
BC2 (50 cm)	Top	0.93	37.30	59.77
	Middle	1.83	42.03	56.14
	Bottom	1.17	42.76	56.07
BC3 (50 cm)	Top	1.06	35.68	63.26
	Middle	4.92	38.07	57.01
	Bottom	3.61	37.03	59.36
BC4 (50 cm)	Top	1.98	37.93	60.09
	Middle	1.59	36.48	61.93
	Bottom	0.98	37.13	61.89
BC5 (20 cm)	Top	68.33 ok	12.65	19.02
	Middle	37.25	23.88	38.87
	Bottom	39.88	24.01	36.11
BC6 (53 cm) X1F 5925 X1F 5975	Top	1.47	35.86	62.67
	Middle	4.68	39.88	55.44
	Bottom	1.76	37.89	60.35
BC7 (54 cm)	Top	*	*	*
	Middle	4.63	44.99	50.38
	Bottom	4.10	46.21	49.69

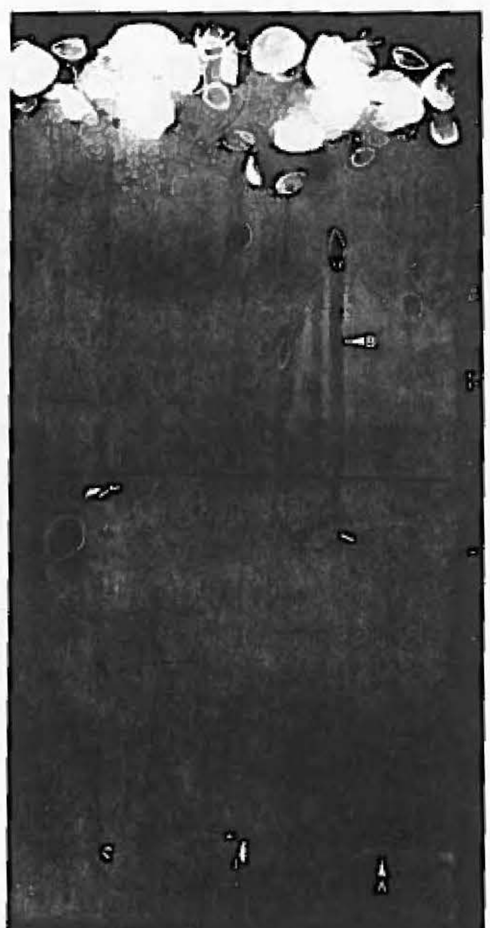
* indicates missing data.

Station BC-1

Latitude: 39°14'2.0"
Longitude: 76°22'21.0"
Sampling Date: 9/30/81
Depth of Penetration: 52 cm

Visual Observations:
- surface - thin brown oxidized mud with Rangia cuneata shells
- to 20 cm - dark olive grey to black mud, very firm, numerous burrows
- 20-35 cm - olive to tan mud with numerous burrows
- 35-52 cm - light grey mud, very firm, numerous burrows

Radiographic Observations:
- Physical Structures - Surface layer of Rangia cuneata shells (0-6 cm), sand lamina at depth, A, (47 cm)
- Biological Structures - Highly reticulated, prominent features include overprinted burrow networks of Nereis succinea and burrow shafts of Macoma balthica, B.

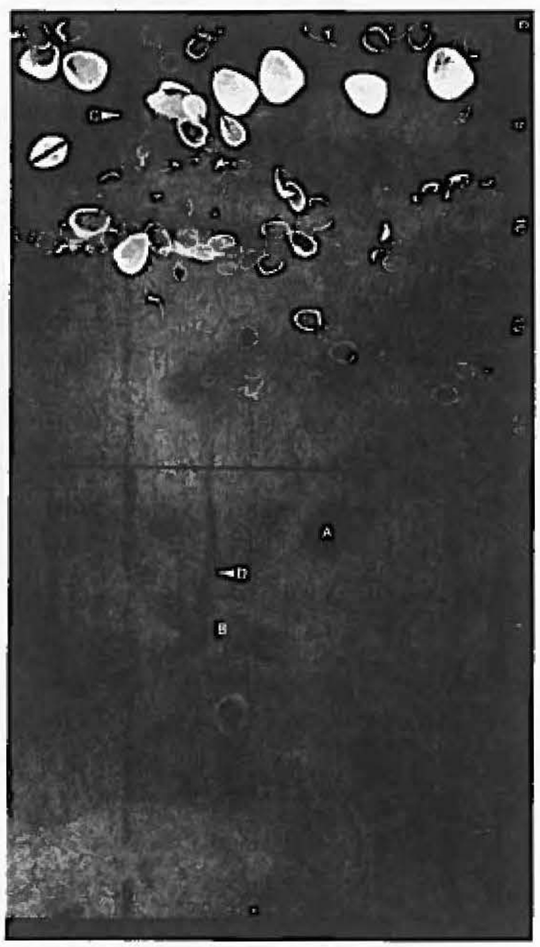


Station BC-2

Latitude: $39^{o}14'72.0''$
Longitude: $76^{o}21'11.0''$
Sampling Date: 9/30/81
Depth of Penetration: 50 cm

Visual Observations:
0-3 cm - brown oxidized mud
3-50 cm - dark olive grey to black mud, very firm, numerous burrows

Radiographic Observations:
Physical Structures - Series of Rangia cuneata shell layers (0-5 cm, 7-12 cm, 15-20 cm), inclusions (mud, A, and clay, B, pockets)
Biological Structures - Highly reticulated, prominent features include burrow networks of Neries succinea, C, and burrow shafts of Macoma balthica, D.



Station BC-3

Latitude: 39°14'36.0"
Longitude: 76°21'29.0"
Sampling Date: 9/30/81
Depth of Penetration: 50 cm

Visual Observations:
0-3 cm - brown oxidized mud
3-50 cm - dark olive grey to black mud, very firm, numerous burrows

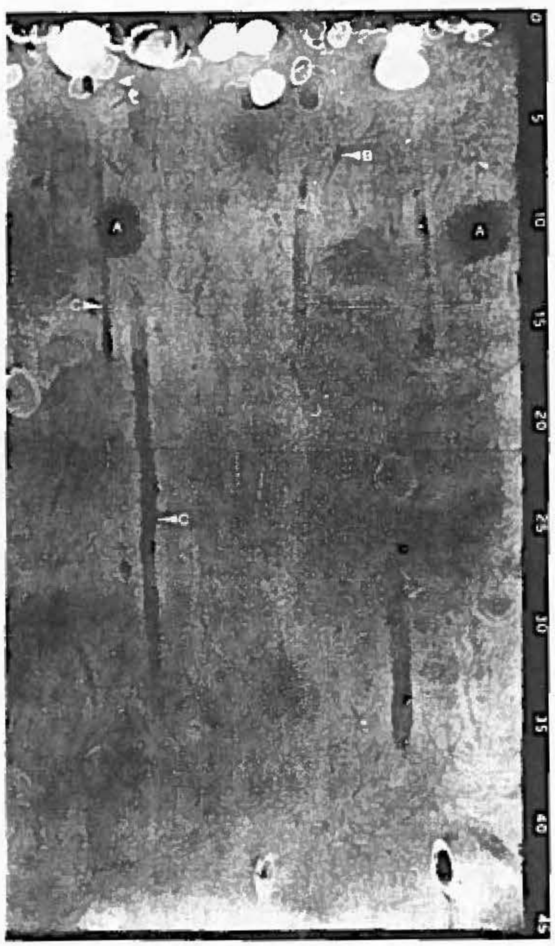
Radiographic Observations:
Physical Structures - Series of *Rangia cuneata* shell layers (0-3 cm, 4-11 cm).
Biological Structures - Highly reticulated, prominent features include overprinted burrow networks of *Nereis succinea*, burrow shafts of *Macoma balthica*, A, as well as tube traces of *Scolecolepides viridis*, B.

Station BC-4

Latitude: 39°14'42.0"
Longitude: 76°20'20.0"
Sampling Date: 9/30/81
Depth of Penetration: 50 cm

Visual Observations:
- 0-3 cm - brown oxidized mud
- 3-50 cm - dark olive grey to black mud, very firm, numerous burrows

Radiographic Observations:
- Physical Structures - Surface layer of Rangia cuneata shells (0-3 cm), inclusions (mud pockets, A).
- Biological Structures - Highly reticulated, prominent features include burrow netowrks of Nereis succinea, B, and burrow shafts of Macoma balthica, C.



Station BC-5

Latitude: $39^{o}16'16.0"$
Longitude: $76^{o}21'11.0"$
Sampling Date: 9/30/81
Depth of Penetration: 20 cm

Visual Observations:
surface - thin, brown oxidized layer
to 20 cm - olive grey mud with silt and shell hash, numerous whole shells of Crassostrea virginica, and some of Rangia cuneata and Macoma balthica

Radiographic Observations:
Physical Structures - oyster reef assemblage of Crassostrea virginica
Biological Structures - none

Station BC-6

Latitude: 39°15'51.0"
Longitude: 76°22'32.0"
Sampling Date: 9/30/81
Depth of Penetration: 53 cm

Visual Observations:

0-2 cm - brown oxidized mud
2-16 cm - dark grey to black mud, some burrows
16-23 cm - tan mud, some burrows
23-53 cm - light grey to olive grey mud, firm with depth, Crassostrea virginica shell fragments, some burrows

Radiographic Observations:

Physical Structures - Wavy mud bedding, A, with scattered Rangia cuneata, shells near surface (0-9 cm), inclusions (wood fragment, C, oyster shell concentration, D, mud pocket, E).

Biological Structures - Moderately reticulated, prominent features include tube traces of Scolecolepides viridis, F, and few burrows of Nereis succinea, G, and Leptocheirus plumulosus, H.

Station BC-7

Latitude: 39°14'56.0"
Longitude: 76°23'38.0"
Sampling Date: 9/30/81
Depth of Penetration: 54 cm

Visual Observations:

- 0-1 cm - brown oxidized mud
- 1-34 cm - dark grey to black mud, few burrows
- 34-35 cm - sand layer
- 35-54 cm - olive grey to dark grey mud, few burrows

Radiographic Observations

Physical Structures - Mud banding, A, sand lamina, B, at depth (34-35 cm), inclusions (mud pocket, C).

Biological Structures - Lightly reticulated, prominent features include tube traces of <u>Scolecolepides viridis</u>, D, and few burrows of <u>Leptocheirus plumulosus</u>, E.

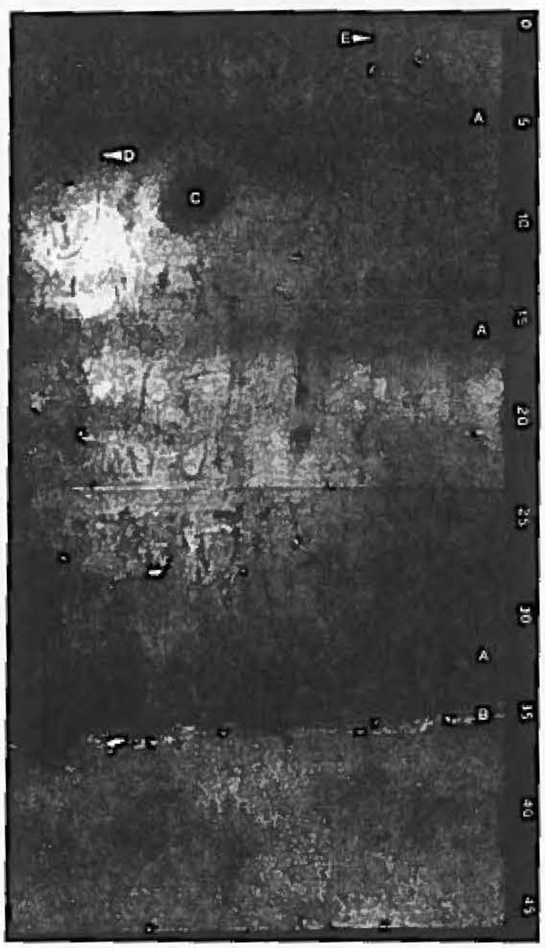


Table 12: Comparison of % Prevalences of Non-infectious and Infectious Conditions seen Microscopically in Macoma balthica, collected from the Hart-Miller Area Oct. 1981: (I=BC5-7 & II=BC1-4).

Infection Intensities:	Light I	Light II	Lt-Mod I	Lt-Mod II	Moderate I	Moderate II	Mod-Hev I	Mod-Hev II	Heavy I	Heavy II	TOTAL I	TOTAL II
Non-Infectious Condition:												
Cirrhoid Infiltration												
- Gill	4	4									4	4
Visceral Mass	2	10		36		8					2	54
Phagocytosis - Gill	12	20	24	26	2						38	46
Visceral Mass	22	22	20	6	6						48	28
Dilated Digestive Diverticula	30	8	24	8	12						66	16
Necrotic Areas - Gills	2		2	2							4	2
Visceral Mass	24	16	30	10	26						80	26
Active Goblet Cells - Gill		2										2
Kidney			2			4	8				10	4
Visceral Mass	18	14	8	10	2						28	24
Highly Basophilic Gill Epithelium									100	100	100	100
Necrotic Gonad GERM Cells										2		2
Edematous Foot Muscle		2										2
Infectious Condition:												
Ciliated Organism/ Gills	2				2						4	
Rickettsial Inclusion		2										2
											50	50

Number Animals Examined:

Gonad Profile:	Female I	Female II	Male I	Male II	Hermaph. I	Hermaph. II	Undeterm. I	Undeterm. II	Total I	Total II
Unspawned	43	17	45	58					88	75
Spawned Out	6	6		8		3			6	17
Resorption	6	6							6	6
Resting		3								3
Gametogenesis									0	0
Approximate Totals	55	30	45	67		3			100	100
Number Gonads Examined:									47	36

Maryland Tidewater Administration
Marine Animal Disease Investigations
State La ratory
Oxford, Maryland 21654

File Code: 92.

Ref. Code: DNR/MGS/BC5-7

PATHOLOGY REPORT

GROSS MACROSCOPIC & THIOGLYCOLLATE CULTURE EXAMINATIONS

Collection Information:

Species Macoma balthica   Area Hart-Miller Is: BC5-7   Code BA-911-00

Date Collected: 10 / 13 / 81   Rec'd. 10 / 15 / 81   Processed 10 / 15 / 81

Fixative Davidson's   #/Sample 50   Salinity ? %o   Temp. ?

Gross Macro. Exam.: Otto and Dixon

Size Range (cm) 2.0-3.0   Average Size (nearest 0.5cm) 2.5

Condition:

	#	%
Fat		.
F-		.
Medium+		.
M	50	100.0
M-		.
Watery+		.
W		.
W-		.
[illegible]ibund		.
Gaper		.

Base 25

THIO. CULTURE EXAM.

By: / /

Degree:

	#	%
Negative-0	25	100.0
Light-1		.
-2		.
Moderate-3		.
-4		.
Heavy-5		.
Tot.Infct.		.
*3+4+5:		.

*(Poss.Lethal Infects.)

SHELL ELEMENTS:

	#/%
Polydora	/
Cliona	/
Drill Cases	/
Drill Holes	/
Mantle Recession	/
Recovery	/
Shell Blister	/
Mud Blister	/
Periostracum Pres.	/
Peri. Absent	/
Maladie du Pied	/
Shell Pustules	/
Muscle Part Detach	/
Pinnotheres	/
Barnacles on Shell	/
Mussels on Shell	/
Stabbed	/
Other Pink Shell	5/10

Dry	/
Pearl	/
Spat on Shell	/

TISSUE ELEMENTS:

Pale Diverticulum	/
Tumor	/
Abnormal Color	/
Diapedesis	/
Muscle Abscess	/
Other Tissue Absc.	/
Swollen Heart, Peric.	/
Edema	/
Gill Lesion	/
Dirty Gill Surface	9 /18
Obvious Gonad	/
Style Present	/
P. marinus	/
Copepod (w/ egg)	/
Other	/

COMMENTS: A "Service Sample" by MADI-DNR in cooperation with Eli Reinha of Maryland Geological Survey (CBESS), Annex Bldg., 2100 Guilford Ave., Baltimore, 21218: 837-8308, 8309 - details/histo. proc. and fix. formul General Note - Both I & II - Animals were so small, an extra 25 each were taken for this culture.
Hart-Miller Is. - off Back River area in Chesapeake Bay

BLOCKS KEPT: None

-ine Animal Disease Investigations
-te Laboratory, Oxford, MD 21654

Ref. Code: DNR/MGS/BC5-7

Micro-Pathology Report

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-fectious:	#/%	Infectious:	#/%
-rhoid Infil.	gill 2/ 4 ;vm 1/ 2	Haplosporidan (spores)	/
	gonad / ;oth /	P. marinus / stages	
-g. Infil.	gill 19/38 ;vm 24 / 48	Nematopsis	/
	gonad / ;oth /	Ancistrocoma	/
-m. Infil.	gill / ;vm /	Cil. Thigs. (Xenoma)*1	2 /4
	gonad / ;oth /	Bucephalus (Hyperpara)	/
-ated Digest. Diverticula(D^3)	33/ 66	Nematode	/
-aplasia gut /	;other /	Hexamita	/
-rosis gill 2/4	;gut 40/ 80	Amoebiasis	/
syst /	;other /	Coccidian	/
-llagen Hyper.@	/	Copepod (w/ eggs)	/
-rivascular Haemocytosis	/	"Sprague's" Gregarine	/
-ysiological Stress Syndrome	/	I-C I:Rickettsia d.d. /	;ggc /
-tive Goblet Cells kidney 5/10	;gt 14/ 28	Other	/
-perplasia/epi. gil*2 50 100	;gt /	I-C I:Chlamydia d.d. /	;oth /
-plasia /	;type	Other	/
-capsulation	/	I-C I:Other	/
-her		Viral Inclu. Papova	/
-her		Other	/
-her		Bacterial	/
		Other	

-nad Profile: Out of 47 seen

	♀	♂	⚥	?	TOTAL
1-Part Spawned:	20 / 42.6%	21 / 44.7%	/ %	/ %	41 / 87.2 %
2-Spawned Out:	3 / 6.4%	/ %	/ %	/ %	3 / 6.4 %
3-Resorption:	3 / 6.4%	/ %	/ %	/ %	3 / 6.4 %
4-Resting:	/ %	/ %	/ %	/ %	/ %
5-Gameotgenesis:	/ %	/ %	/ %	/ %	/ %
TOTAL:	26 / 55.3%	21 / 44.7%	/ %	/ %	47 / 100 %

-MMENTS:

-asses of Intensity:

Sample Based on 50 - but 3 clams had no gonad in sects.

-light

-moderate

-heavy

*1: Species of Ciliated Thigmotrich unknown, no pathol;
*2: Hyperplasia of gill epitheliam = basophilia and appears to be a normal condition.

No signif. pathol. in sample.

Sara V. Otto
Project Leader/MADI

Date: 9 / 8 / 82

Maryland Tidewater Administration
Marine Animal Disease Investigations
State La ratory
Oxford, Maryland 21654

File Code: II

94.

Ref. Code: DNR/MGS/BC1-4

PATHOLOGY REPORT

GROSS MACROSCOPIC & THIOGLYCOLLATE CULTURE EXAMINATIONS

Collection Information:

Species Macoma balthica Area Hart-Miller Is: BC1-4 Code BA-911-00

Date Collected: 10 / 13 / 81 Rec'd. 10 / 15/ 81 Processed 10 / 20 / 81

Fixative Davidson's #/Sample 50 Salinity ? %o Temp. ?

Gross Macro. Exam.: Otto and Dixon

Size Range (cm) 1.5-2.0 Average Size (nearest 0.5cm) 2.0

Condition:	#	%
Fat		.
F-		.
Medium+		.
M	50	100.0
M-		.
Watery+		.
W		.
W-		.
ribund		.
Gaper		.

Base 25

THIO. CULTURE EXAM.

By: / /

Degree:	#	%
Negative-0	25	100.0
Light-1		.
-2		.
Moderate-3		.
-4		.
Heavy-5		.
Tot.Infct.		.
*3+4+5:		.

*(Poss.Lethal Infects.)

SHELL ELEMENTS:	#/%
Polydora	/
Cliona	/
Drill Cases	/
Drill Holes	/
Mantle Recession	/
Recovery	/
Shell Blister	/
Mud Blister	/
Periostracum Pres.	/
Peri. Absent	/
Maladie du Pied	/
Shell Pustules	/
Muscle Part Detach	/
Pinnotheres	/
Barnacles on Shell	/
Mussels on Shell	/
Stabbed	/
Other Pink Shell	4/8

Dry	/
Pearl	/
Spat on Shell	/

TISSUE ELEMENTS:	
Pale Diverticulum	/
Tumor	/
Abnormal Color	/
Diapedesis	/
Muscle Abscess	/
Other Tissue Absc.	/
Swollen Heart, Peric.	/
Edema	/
Gill Lesion	/
Dirty Gill Surface	/
Obvious Gonad	/
Style Present	/
P. marinus	/
Copepod (w/ egg)	/
Other	/

COMMENTS: A "Service Sample" by MADI-DNR in cooperation with Eli Reinha
cf Note: I A few days lapsed between processing and the clams cleane
themselves up - no dirty gills.

BLOCKS KEPT:

ine Animal Disease Investigations
te Laboratory, Oxford, MD 21654

Ref. Code: DNR/MGS/BC1-4

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Micro-Pathology Report

fectious: #/%		Infectious: #/%	
rhoid Infil.	gill 2 / 4 ;vm 27 / 54	Haplosporidan (spores)	/
	gonad / ;oth /	P. marinus /	stages
g. Infil.	gill 23/ 46;vm 14/ 28	Nematopsis	/
	gonad / ;oth /	Ancistrocoma	/
m. Infil.	gill / ;vm /	Cil. Thigs. (Xenoma)	/
	gonad / ;oth /	Bucephalus (Hyperpara)	/
ated Digest. Diverticula(D³)	8 / 16	Nematode	/
aplasia gut / ;other /		Hexamita	/
rosis gill 1 / 2 ;gut 13 / 26		Amoebiasis	/
syst / ;other /		Coccidian	/
llagen Hyper.@	/	Copepod (w/ eggs)	/
rivascular Haemocytosis	/	"Sprague's" Gregarine	/
ysiological Stress Syndrome	/	I-C I:Rickettsia d.d. /	;ggc 1 /2
tive Goblet Cells *1 gil 1/2	;gt 12 /24	Other	/
perplasia/epi.*2 gil 50 /100	;gt /	I-C I:Chlamydia d.d. /	;oth /
oplasia /	;type	Other	/
capsulation	/	I-C I:Other	/
her Necrotic Gonad Germ Cells:	1/2	Viral Inclu. Papova	/
her Edematous Foot	1/2	Other	/
her		Bacterial	/
		Other	

nad Profile:

	♀	♂	⚥	?	TOTAL
1-Part Spawned:	6 / 16.7 %	21 / 58.3 %	/ %	/ %	27 / 75 %
2-Spawned Out:	2 / 5.6 %	3 / 8.3 %	1 / 2.8 %	/ %	6 / 16.7
3-Resorption:	2 / 5.6 %	/ %	/ %	/ %	2 / 5.6 %
4-Resting:	1 / 2.8 %	/ %	/ %	/ %	1 / 2.8 %
5-Gameotgenesis:	/ %	/ %	/ %	/ %	/ %
TOTAL:	11 / 30.6 %	24 / 66.7 %	1 / 2.8 %	/ %	Observed 36 / 100 %

MMENTS:

asses of Intensity:

-light

moderate

heavy

50/sample

14 clams had no gonad tissue in section.

*1: Active Goblet Cells: 2-kidney/4%
*2: Hyperplasia = normally high basophilia

No Signif. Pathol. in Sample

But-generally-the clams in this sample were in slightly better condition - re: histologic appearance

Sara V. Otto
Project Leader/MADI

Date: / /

CHAPTER V

BIOTA DATA

Hayes T. Pfitzenmeyer
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Chesapeake Biological Laboratory
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Biota Methods

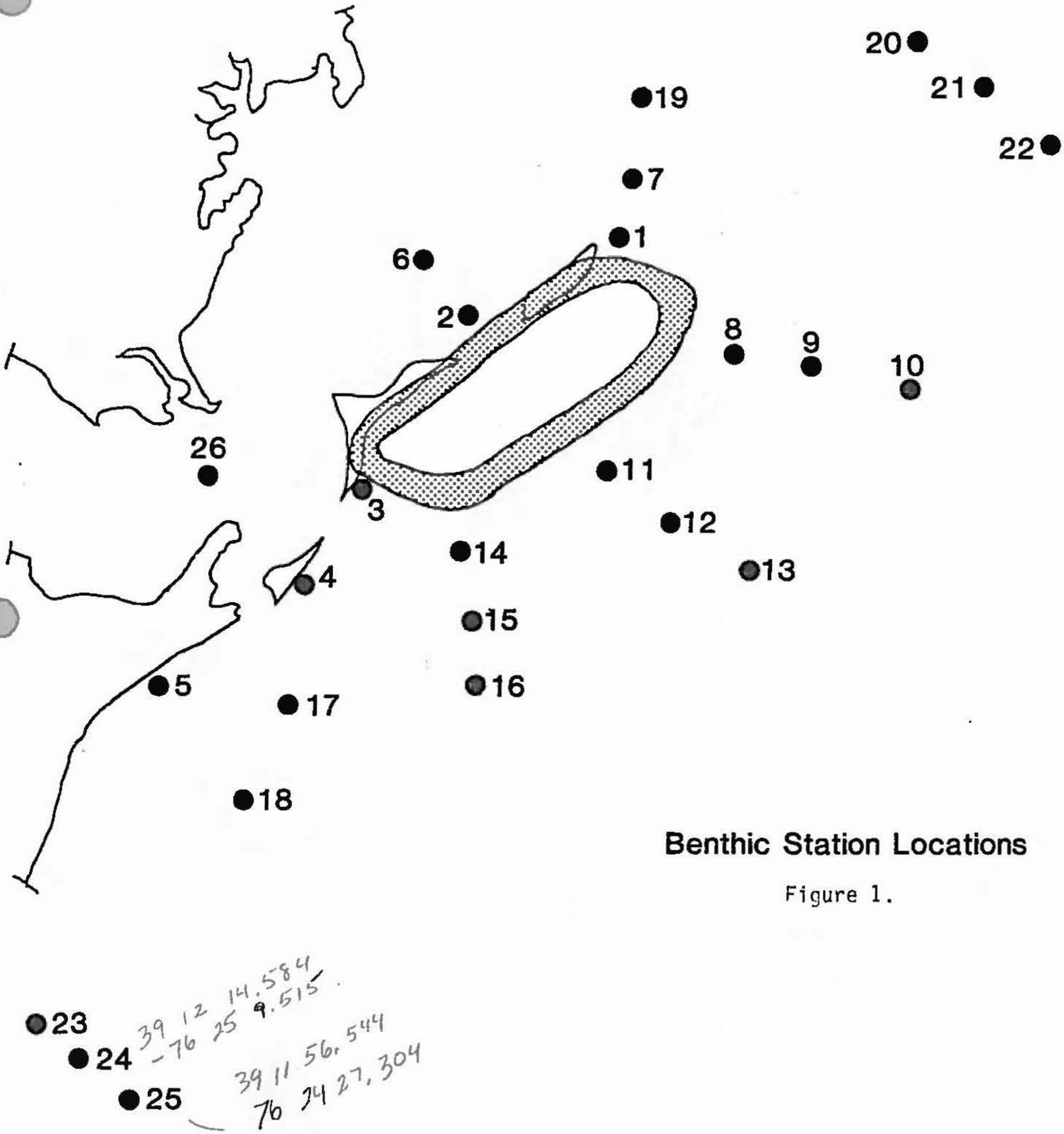
Scientific cruises to Hart and Miller Islands were made aboard the Univ. of MD Center for Environmental and Estuarine Studies Research Vessel Aquarius on 25-27 August 1981, 16-18 November 1981, 22-24 February 1982 and 17-19 May 1982.

Benthos

The pattern of sampling stations surrounding Hart and Miller Islands was arranged as shown in Figure 1. These stations were purposely placed outside the area where the containment facility was to be constructed since they would serve as monitoring stations after construction. Three transects of three stations each were placed near the proposed sluice gates (Stas. HM1, HM7, HM19 and HM8, HM9, HM10 and HM14, HM15, HM16), one station at Pleasure Island (Sta. HM4), one station in the channel between Pleasure Island and Black Marsh (Sta. HM17), one station at the mouth of Back River (Sta. HM26). To serve as reference stations, a transect of three stations was placed near Shallow Cove (Stas. HM23, HM24, HM25), and a second transect north of the islands at Spry Island (Stas. HM20, HM21, HM22). Stations with numbers HM1 through HM19 were sampled in August, November 1981 and February, May 1982. Except Stations HM2, HM4, HM5, HM11, HM12, HM13, and HM18 which were dropped after August 1981. Stations numbers HM20 through HM26 were sampled only in November 1981 and February, May 1982.

At each station three replicate bottom samples were taken with a Van Veen grab which takes a .1m^2 area of the sediments varying from 6 to 15 cm in depth depending on the softness of the bottom. The data print-out identifies these as Grab 1, 2, and 3, and they were washed through a 1.0mm screen. Grab 1, however, was further collected on a .5mm screen to obtain smaller juvenile forms. This is so indicated on the print-out. The samples were preserved in the field with 10% formalin, colored with a small amount of rose Bengal to facilitate sorting of specimens from detritus.

The number of each species was counted and recorded separately for each of the replicate grabs. Specimens which were damaged and in parts were included in the count only if the head portion could be identified.



Benthic Station Locations

Figure 1.

Water temperatures and salinities were taken by means of an induction salinometer near the bottom of the water column at selected stations. Depths were recorded from the ships recording fathometer and stations were located by means of the radar unit and Loran C.

A small volume of sediment from one of the triplicate samples at each station was removed for sediment grain size analysis. The sample was processed in the laboratory by washing through a No.230 (63 microns) U.S. Standard Sieve to collect a sample of the silts and clays in the filtrate. The sand fraction which remained on the screen was dried in an oven at approximately 100C and sieved through a nest of sieves No.35 (500 microns), No.60 (250 microns), No. 120 (125 microns) and No.230 (63 microns) called the pan fraction. The sample of the filtrate which contained the silts and clays was then filtered through a Millipore GF/C filter and dried to a constant weight. A second aliquot of the filtrate was used for clay analysis after it was allowed to sit undisturbed for exactly two hours. This 50ml sample was also filtered through a Millipore filter and then allowed to dry in a dessicator before weighing. The percentage of the weights for the various sands, silts and clay fractions were then determined, based on the weight of the original sample.

BIOTA STATION COORDINATES

BENTHOS

STATION	LATITUDE	LONGITUDE
HM1	39°15'54"	76°21'05"
HM2	39°15'24"	76°22'16"
HM3	39°14'21"	76°23'00"
HM4	39°13'05"	76°23'23"
HM5	39°13'14"	76°24'35"
HM6	39°15'36"	76°22'37"
HM7	39°16'15"	76°20'50"
HM8	39°15'52"	76°20'24"
HM9	39°15'33"	76°19'53"
HM10	39°15'31"	76°19'11"
HM11	39°14'35"	76°21'17"
HM12	39°14'04"	76°20'30"
HM13	39°13'37"	76°20'08"
HM14	39°14'16"	76°22'25"
HM15	39°17'50"	76°22'16"
HM16	39°13'17"	76°22'30"
HM17	39°13'33"	76°23'47"
HM18	39°13'04"	76°24'14"
HM19	39°16'35"	76°20'51"
HM20	30°17'36"	76°19'29"
HM21	39°17'22"	76°19'47"
HM22	39°16'58"	76°18'51"
HM23	39°12'20"	76°15'21"
HM24	39°12'46"	76°25'24"
HM25	39°12'03"	76°25'06"
HM26	39°14'39"	76°23'91"

FISH (Beach Seine)

STATION	LATITUDE	LONGITUDE
HMS1	39°15'44"	76°21'17"
HMS2	39°15'37"	76°21'37"
HMS3	39°15'00"	76°22'59"
HMS4	39°14'34"	76°23'04"
HMS5	39°13'53"	76°24'36"
HMS6	39°13 25"	76°24'36"

FISH AND CRAB (Trawl)

STATION	LATITUDE	LONGITUDE
HMT1	39°17'50"	76°22'16"
HMT2	39°13'17"	76°22'30"
HMT3	39°14'04"	76°22'30"
HMT4	39°13'37"	76°20'08"
HMT5	39°15'52"	76°20'24"
HMT6	39°16'15"	76°20'50"
HMT7	39°15'36"	76°22'37"
HMT8	39°15'24"	76°22'16"
HMT9	30°13'33"	76°23'47"
HMT10	39°13'04"	76°24'14"

BIOTA STATION COORDINATES - Page 2

ZOOPLANKTON

STATION	LATITUDE		LONGITUDE	
HM21	39°17'50"		76°22'16"	
HM22	39°13'17"		76°22'30"	
HM23	39°14'04"		76°20'30"	
HM24	39°13'37"	39.2269	76°20'08"	76.335
HM25	39°15'52"		76°20'24"	
HM26	39°16'15"		76°20'50"	
HM27	39°15'24"		76°22'16"	
HM28	39°15'36"		76°22'37"	
HM29	39°13'04"		76°24'14"	

Table 1. August 1981 sampling period. Benthic invertebrates obtained with 3 Vanveen grabs (.1m²). Grab #1 was collected on a .5mm screen as well as the 1.mm screen. Stations 1, 2, 3, 4, and 5 collected with Ponar grab and represent an area of .05m².

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DATE:AUG81

STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM1	10	SCOLECOLEPIDES VIRIDIS	0	2	1	4
HM1	21	RANGIA CUNEATA	0	1	0	0
HM1	30	CYATHURA POLITA	0	0	0	1
HM1	36	LEPTOCHIERUS PLUMULOSUS	0	1	1	1
HM1	37	COROPHIUM LACUSTRE	0	0	2	0
HM1	42	MONOCULODES EDWARDSI	0	1	1	1
HM2	02	MICRURA LEIDYI	0	0	0	1
HM2	05	NEREIS SUCCINEA	0	1	0	0
HM2	10	SCOLECOLEPIDES VIRIDIS	0	19	17	7
HM2	11	STREBLOSPIO BENEDECTI	0	1	0	0
HM2	20	MACOMA MITCHELLI	0	33	43	20
HM2	21	RANGIA CUNEATA	0	4	3	1
HM2	30	CYATHURA POLITA	0	0	2	1
HM2	33	EDOTEA TRILOBA	0	2	1	0
HM2	34	NEOHAUSTORIUS	0	1	4	0
HM2	36	LEPTOCHIERUS PLUMULOSUS	0	6	19	4
HM2	42	MONOCULODES EDWARDSI	0	1	0	2
HM3	02	MICRURA LEIDYI	0	1	0	1
HM3	05	NEREIS SUCCINEA	0	0	2	0
HM3	10	SCOLECOLEPIDES VIRIDIS	0	5	16	2
HM3	11	STREBLOSPIO BENEDECTI	0	0	1	0
HM3	20	MACOMA MITCHELLI	0	2	8	1
HM3	21	RANGIA CUNEATA	0	1	2	0
HM3	30	CYATHURA POLITA	0	0	0	1
HM3	33	EDOTEA TRILOBA	0	1	0	0
HM3	34	NEOHAUSTORIUS	0	6	5	1
HM3	36	LEPTOCHIERUS PLUMULOSUS	0	1	4	2
HM3	42	MONOCULODES EDWARDSI	0	2	0	0
HM4	03	HETEROMASTUS FILIFORMIS	0	1	0	0
HM4	05	NEREIS SUCCINEA	0	0	1	0
HM4	10	SCOLECOLEPIDES VIRIDIS	0	0	13	5
HM4	20	MACOMA MITCHELLI	0	2	3	5
HM4	21	RANGIA CUNEATA	0	1	0	0
HM4	27	BALANUS SP.	0	0	1	0
HM4	30	CYATHURA POLITA	0	0	1	0
HM4	33	EDOTEA TRILOBA	0	0	1	0
HM4	42	MONOCULODES EDWARDSI	0	2	0	0
HM5	10	SCOLECOLEPIDES VIRIDIS	0	2	2	1
HM5	20	MACOMA MITCHELLI	0	5	2	4
HM5	28	NEOMYSIS AMERICANA	0	0	1	0
HM5	34	NEOHAUSTORIUS	0	1	0	2
HM5	36	LEPTOCHIERUS PLUMULOSUS	0	2	3	5
HM5	42	MONOCULODES EDWARDSI	0	1	0	1
HM6	02	MICRURA LEIDYI	2	1	0	1
HM6	03	HETEROMASTUS FILIFORMIS	1	1	4	6
HM6	05	NEREIS SUCCINEA	0	1	2	1
HM6	10	SCOLECOLEPIDES VIRIDIS	2	0	2	2
HM6	19	MACOMA BALTHICA	0	21	14	21
HM6	20	MACOMA MITCHELLI	0	8	7	6
HM6	21	RANGIA CUNEATA	0	1	2	0
HM6	30	CYATHURA POLITA	0	14	0	12
HM6	36	LEPTOCHIERUS PLUMULOSUS	2	90	121	75
HM6	40	MELITA NITIDA	1	0	0	0

Table 1 cont'd.

DATE:AUG81

STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM7	02 MICRURA LEIDYI	0	4	2	1
HM7	03 HETEROMASTUS FILIFORMIS	0	1	0	1
HM7	10 SCOLECOLEPIDES VIRIDIS	3	37	59	104
HM7	11 STREBLOSPIO BENEDECTI	1	0	0	0
HM7	14 PELOSCOLEX SP.	1	0	0	0
HM7	19 MACOMA BALTHICA	0	16	14	13
HM7	20 MACOMA MITCHELLI	0	4	2	5
HM7	21 RANGIA CUNEATA	0	1	2	0
HM7	30 CYATHURA POLITA	3	19	23	27
HM7	36 LEPTOCHIERUS PLUMULOSUS	0	50	48	45
HM7	40 MELITA NITIDA	0	0	1	2
HM7	41 CHIRODOTEA ALMYRA	0	1	0	0
HM8	02 MICRURA LEIDYI	2	2	2	1
HM8	03 HETEROMASTUS FILIFORMIS	0	9	2	3
HM8	05 NEREIS SUCCINEA	1	4	3	5
HM8	08 ETEONE HETEROPODA	1	0	0	0
HM8	10 SCOLECOLEPIDES VIRIDIS	185	257	232	104
HM8	16 ARCATULA RECURVUS	0	0	1	0
HM8	20 MACOMA MITCHELLI	7	2	0	0
HM8	21 RANGIA CUNEATA	0	3	0	2
HM8	27 BALANUS SP.	0	1	2	0
HM8	28 NEOMYSIS AMERICANA	0	1	0	0
HM8	30 CYATHURA POLITA	20	20	4	9
HM8	33 EDOTEA TRILOBA	1	0	0	0
HM8	36 LEPTOCHIERUS PLUMULOSUS	6	3	0	0
HM8	37 COROPHIUM LACUSTRE	8	10	25	18
HM8	41 CHIRODOTEA ALMYRA	0	0	1	0
HM9	02 MICRURA LEIDYI	2	2	3	0
HM9	03 HETEROMASTUS FILIFORMIS	2	2	1	2
HM9	05 NEREIS SUCCINEA	16	47	58	33
HM9	08 ETEONE HETEROPODA	3	0	0	0
HM9	10 SCOLECOLEPIDES VIRIDIS	6	7	1	42
HM9	11 STREBLOSPIO BENEDECTI	4	0	0	0
HM9	14 PELOSCOLEX SP.	5	0	0	0
HM9	16 ARCATULA RECURVUS	0	2	5	2
HM9	17 CONGERIA LEUCOPHAETA	0	4	1	3
HM9	19 MACOMA BALTHICA	0	9	3	8
HM9	20 MACOMA MITCHELLI	1	1	0	0
HM9	21 RANGIA CUNEATA	0	0	2	0
HM9	27 BALANUS SP.	0	10	17	1
HM9	30 CYATHURA POLITA	5	16	20	22
HM9	37 COROPHIUM LACUSTRE	86	77	94	76
HM9	39 GAMMARUS PALUSTRIS	0	0	0	2
HM9	40 MELITA NITIDA	3	0	0	1
HM9	42 MONOCULODES EDWARDSI	0	0	0	1
HM9	44 RITHROPANOPEUS HARRISII	0	1	2	2
HM10	02 MICRURA LEIDYI	0	7	1	1
HM10	03 HETEROMASTUS FILIFORMIS	4	4	1	3
HM10	05 NEREIS SUCCINEA	2	49	4	7
HM10	10 SCOLECOLEPIDES VIRIDIS	3	1	1	29
HM10	19 MACOMA BALTHICA	0	11	26	26
HM10	20 MACOMA MITCHELLI	0	0	0	2
HM10	27 BALANUS SP.	0	28	0	0
HM10	28 NEOMYSIS AMERICANA	1	0	0	0
HM10	30 CYATHURA POLITA	0	7	25	18
HM10	36 LEPTOCHIERUS PLUMULOSUS	19	7	0	34
HM10	37 COROPHIUM LACUSTRE	0	63	33	0
HM10	40 MELITA NITIDA	1	0	0	0

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM11	02 MICRURA LEIDYI	4	4	3	2
HM11	03 HETEROMASTUS FILIFORMIS	6	4	4	0
HM11	05 NEREIS SUCCINEA	4	1	0	0
HM11	10 SCOLECOLEPIDES VIRIDIS	3	22	3	0
HM11	11 STREBLOSPIO BENEDECTI	2	0	0	0
HM11	14 PELOSCOLEX SP.	7	0	0	0
HM11	19 MACOMA BALTHICA	0	53	52	45
HM11	20 MACOMA MITCHELLI	0	6	11	3
HM11	21 RANGIA CUNEATA	0	1	0	0
HM11	28 NEOMYSIS AMERICANA	1	0	0	0
HM11	30 CYATHURA POLITA	1	9	7	8
HM11	36 LEPTOCHIERUS PLUMULOSUS	75	72	31	34
HM11	37 COROPHIUM LACUSTRE	0	0	1	0
HM11	40 MELITA NITIDA	9	0	0	0
HM12	02 MICRURA LEIDYI	3	1	3	0
HM12	03 HETEROMASTUS FILIFORMIS	15	11	5	0
HM12	05 NEREIS SUCCINEA	3	9	6	4
HM12	08 ETEONE HETEROPODA	1	1	0	0
HM12	10 SCOLECOLEPIDES VIRIDIS	2	2	2	0
HM12	11 STREBLOSPIO BENEDECTI	1	0	0	0
HM12	14 PELOSCOLEX SP.	1	0	0	0
HM12	19 MACOMA BALTHICA	0	64	82	28
HM12	20 MACOMA MITCHELLI	0	3	0	1
HM12	30 CYATHURA POLITA	0	3	4	1
HM12	36 LEPTOCHIERUS PLUMULOSUS	1	2	0	0
HM13	02 MICRURA LEIDYI	1	8	2	0
HM13	03 HETEROMASTUS FILIFORMIS	5	27	3	3
HM13	05 NEREIS SUCCINEA	0	2	4	1
HM13	08 ETEONE HETEROPODA	0	1	0	0
HM13	10 SCOLECOLEPIDES VIRIDIS	1	0	1	0
HM13	14 PELOSCOLEX SP.	5	0	0	0
HM13	19 MACOMA BALTHICA	0	162	121	126
HM13	20 MACOMA MITCHELLI	1	1	4	12
HM13	21 RANGIA CUNEATA	0	2	0	0
HM13	28 NEOMYSIS AMERICANA	0	0	1	0
HM13	30 CYATHURA POLITA	0	1	2	13
HM13	37 COROPHIUM LACUSTRE	0	2	4	3
HM14	02 MICRURA LEIDYI	0	1	2	3
HM14	03 HETEROMASTUS FILIFORMIS	12	3	12	8
HM14	05 NEREIS SUCCINEA	3	2	6	4
HM14	10 SCOLECOLEPIDES VIRIDIS	5	23	26	14
HM14	11 STREBLOSPIO BENEDECTI	5	0	0	0
HM14	14 PELOSCOLEX SP.	2	0	0	0
HM14	19 MACOMA BALTHICA	0	43	57	51
HM14	20 MACOMA MITCHELLI	4	5	8	2
HM14	30 CYATHURA POLITA	2	8	12	9
HM14	36 LEPTOCHIERUS PLUMULOSUS	73	22	56	66
HM14	39 GAMMARUS PALUSTRIS	0	1	0	0
HM14	40 MELITA NITIDA	17	0	0	4

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM15	02 MICRURA LEIDYI	3	1	0	1
HM15	03 HETEROMASTUS FILIFORMIS	17	1	7	9
HM15	05 NEREIS SUCCINEA	3	3	1	4
HM15	10 SCOLECOLEPIDES VIRIDIS	0	2	12	13
HM15	11 STREBLOSPIO BENEDECTI	4	0	0	0
HM15	14 PELOSCOLEX SP.	7	0	0	0
HM15	19 MACOMA BALTHICA	0	33	65	61
HM15	20 MACOMA MITCHELLI	0	1	0	4
HM15	30 CYATHURA POLITA	0	7	6	5
HM15	36 LEPTOCHIERUS PLUMULOSUS	84	44	28	72
HM15	40 MELITA NITIDA	11	0	0	0
HM16	02 MICRURA LEIDYI	3	1	1	1
HM16	03 HETEROMASTUS FILIFORMIS	21	12	10	5
HM16	05 NEREIS SUCCINEA	0	1	1	1
HM16	08 ETEONE HETEROPODA	1	0	0	0
HM16	10 SCOLECOLEPIDES VIRIDIS	2	3	4	2
HM16	11 STREBLOSPIO BENEDECTI	3	0	0	0
HM16	14 PELOSCOLEX SP.	62	0	0	0
HM16	19 MACOMA BALTHICA	0	83	91	93
HM16	20 MACOMA MITCHELLI	0	24	12	15
HM16	36 LEPTOCHIERUS PLUMULOSUS	10	20	9	8
HM17	02 MICRURA LEIDYI	0	3	2	3
HM17	03 HETEROMASTUS FILIFORMIS	15	221	155	98
HM17	05 NEREIS SUCCINEA	6	1	9	5
HM17	08 ETEONE HETEROPODA	1	1	1	0
HM17	10 SCOLECOLEPIDES VIRIDIS	11	133	246	175
HM17	11 STREBLOSPIO BENEDECTI	0	1	0	0
HM17	19 MACOMA BALTHICA	11	1	0	0
HM17	20 MACOMA MITCHELLI	0	22	34	26
HM17	21 RANGIA CUNEATA	0	2	7	5
HM17	23 HYDROBIA SP.	2	0	2	0
HM17	28 NEOMYSIS AMERICANA	0	1	0	0
HM17	30 CYATHURA POLITA	4	1	3	3
HM17	33 EDOTEA TRILOBA	1	0	0	0
HM17	36 LEPTOCHIERUS PLUMULOSUS	31	34	38	9
HM17	39 GAMMARUS PALUSTRIS	0	1	1	0
HM17	41 CHIRODOTEA ALMYRA	0	1	0	0
HM18	02 MICRURA LEIDYI	0	1	0	1
HM18	03 HETEROMASTUS FILIFORMIS	35	20	31	32
HM18	05 NEREIS SUCCINEA	8	2	4	4
HM18	08 ETEONE HETEROPODA	1	0	0	0
HM18	10 SCOLECOLEPIDES VIRIDIS	0	6	11	10
HM18	11 STREBLOSPIO BENEDECTI	1	0	0	0
HM18	14 PELOSCOLEX SP.	3	0	0	0
HM18	19 MACOMA BALTHICA	0	104	89	97
HM18	20 MACOMA MITCHELLI	0	0	3	2
HM18	36 LEPTOCHIERUS PLUMULOSUS	19	27	13	42

Table 2. Results of water quality and physical data obtained at the sampling stations during the August 1981 cruise. Dash represents no data obtained. Sediments samples were sieved through the given sieve mesh sizes.

STATION	DEPTH(FT)	SALINITY °/oo	TEMP-C	500	250	125	63	PAN	SILT	CLAY
HM1	2	-	-	-	-	-	-	-	-	-
HM2	2	-	-	-	-	-	-	-	-	-
HM3	2	-	-	1.91	14.48	44.57	12.85	.30	8.94	16.95
HM4	2	-	-	7.61	35.11	26.83	12.98	.37	12.09	5.02
HM5	2	-	-	4.42	19.09	57.63	11.67	.07	6.61	.51
HM6	10	7.7	23.2	1.19	1.36	2.70	2.35	.42	64.12	27.90
HM7	10	7.1	26.7	13.12	5.96	12.30	24.51	2.32	30.39	11.41
HM8	10	-	-	12.34	18.45	49.88	1.64	.10	8.28	9.30
HM9	15	8.9	23.2	1.95	34.45	32.15	2.23	.04	19.54	9.64
HM10	20	-	-	.60	.48	.45	.32	.09	72.86	24.20
HM11	10	-	-	11.80	1.00	.73	1.34	.25	55.73	29.16
HM12	15	11.2	23.4	13.67	2.82	2.59	1.08	.41	62.65	16.78
HM13	20	-	-	3.59	1.77	1.45	.79	.41	70.42	21.58
HM14	10	-	-	9.31	4.66	4.36	3.67	1.09	58.56	18.35
HM15	15	10.8	23.3	13.81	1.23	1.04	.77	.25	55.70	27.20
HM16	20	-	-	6.75	1.15	.75	.41	.34	66.38	24.22
HM17	10	10.8	23.4	.81	7.75	16.40	64.80	2.28	6.18	1.78
HM18	15	-	-	.81	1.33	3.70	2.54	.25	63.23	28.13

Table 3. November 1981 sampling period. Benthic invertebrates obtained with 3 vanVeen grabs (.1m²). Grab #1 was collected on a .5mm screen as well as the 1.mm screen. Stations 1, 3, 20, and 23 collected with a Ponar grab and represent an area of .05m².

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #[illegible] 1.0MM
HM1	01	DIADUMENE LEUCOLENA	0	0	1	0
HM1	10	SCOLECOLEPIDES VIRIDIS	0	0	1	0
HM1	20	MACOMA MITCHELLI	0	0	0	1
HM1	21	RANGIA CUNEATA	0	0	0	1
HM1	27	BALANUS SP.	0	0	1	0
HM1	30	CYATHURA POLITA	0	5	8	8
HM1	33	EDOTEA TRILOBA	0	1	0	1
HM1	36	LEPTOCHIERUS PLUMULOSUS	0	0	0	1
HM1	37	COROPHIUM LACUSTRE	0	16	33	35
HM1	42	MONOCULODES EDWARDSI	0	1	1	1
HM3	05	NEREIS SUCCINEA	0	0	1	0
HM3	10	SCOLECOLEPIDES VIRIDIS	0	1	10	14
HM3	20	MACOMA MITCHELLI	0	0	2	8
HM3	30	CYATHURA POLITA	0	1	0	0
HM3	34	NEOHAUSTORIUS	0	9	8	6
HM3	36	LEPTOCHIERUS PLUMULOSUS	0	0	3	3
HM3	37	COROPHIUM LACUSTRE	0	1	1	1
HM3	42	MONOCULODES EDWARDSI	0	0	0	1
HM6	02	MICRURA LEIDYI	2	4	7	3
HM6	03	HETEROMASTUS FILIFORMIS	90	38	16	31
HM6	05	NEREIS SUCCINEA	12	4	5	5
HM6	10	SCOLECOLEPIDES VIRIDIS	0	30	19	13
HM6	11	STREBLOSPIO BENEDECTI	2	0	0	1
HM6	13	LIMNODRILUS HOFFMEISTERI	0	0	0	1
HM6	14	PELOSCOLEX SP.	140	1	0	1
HM6	19	MACOMA BALTHICA	4	2	6	8
HM6	20	MACOMA MITCHELLI	0	8	13	13
HM6	21	RANGIA CUNEATA	0	0	1	0
HM6	30	CYATHURA POLITA	0	9	13	10
HM6	33	EDOTEA TRILOBA	0	2	1	0
HM6	36	LEPTOCHIERUS PLUMULOSUS	256	351	298	343
HM6	37	COROPHIUM LACUSTRE	0	0	1	0
HM6	39	GAMMARUS PALUSTRIS	0	0	0	1
HM6	40	MELITA NITIDA	20	0	0	0
HM6	42	MONOCULODES EDWARDSI	2	0	0	0
HM7	02	MICRURA LEIDYI	0	3	0	5
HM7	03	HETEROMASTUS FILIFORMIS	8	0	2	2
HM7	05	NEREIS SUCCINEA	0	2	6	4
HM7	10	SCOLECOLEPIDES VIRIDIS	0	15	23	32
HM7	14	PELOSCOLEX SP.	48	0	0	0
HM7	19	MACOMA BALTHICA	0	12	14	16
HM7	20	MACOMA MITCHELLI	0	9	7	2
HM7	21	RANGIA CUNEATA	0	0	1	0
HM7	30	CYATHURA POLITA	16	15	16	17
HM7	36	LEPTOCHIERUS PLUMULOSUS	40	97	77	104
HM8	01	DIADUMENE LEUCOLENA	0	4	4	9
HM8	02	MICRURA LEIDYI	0	3	1	1
HM8	03	HETEROMASTUS FILIFORMIS	45	22	11	10
HM8	05	NEREIS SUCCINEA	21	186	190	157
HM8	08	ETEONE HETEROPODA	1	0	0	0
HM8	10	SCOLECOLEPIDES VIRIDIS	2	5	6	4
HM8	11	STREBLOSPIO BENEDECTI	45	2	9	5
HM8	14	PELOSCOLEX SP.	44	3	0	1
HM8	16	ARCATULA RECURVUS	0	3	1	1
HM8	17	CONGERIA LEUCOPHAETA	0	5	4	6
HM8	19	MACOMA BALTHICA	2	0	0	0
HM8	27	BALANUS SP.	0	25	58	76
HM8	30	CYATHURA POLITA	1	11	3	3
HM8	31	SPHAEROMA QUADRIDENTATUM	0	2	1	0
HM8	33	EDOTEA TRILOBA	2	0	0	0
HM8	36	LEPTOCHIERUS PLUMULOSUS	0	0	0	1
HM8	37	COROPHIUM LACUSTRE	0	7	3	3
HM8	40	MELITA NITIDA	45	43	43	36
HM8	44	RITHROPANOPEUS HARRISII	0	2	12	4

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
49	02	MICRURA LEIDYI	2	2	1	2
49	03	HETEROMASTUS FILIFORMIS	19	3	4	3
49	05	NEREIS SUCCINEA	4	3	7	10
49	10	SCOLECOLEPIDES VIRIDIS	0	5	25	19
M9	11	STREBLOSPIO BENEDECTI	4	0	0	1
M9	14	PELOSCOLEX SP.	5	0	0	0
M9	19	MACOMA BALTHICA	5	2	2	2
M9	20	MACOMA MITCHELLI	10	5	4	1
M9	30	CYATHURA POLITA	5	14	4	8
M9	36	LEPTOCHIERUS PLUMULOSUS	55	27	51	78
M9	37	COROPHIUM LACUSTRE	2	0	0	0
M9	40	MELITA NITIDA	1	0	0	0
M10	01	DIADUMENE LEUCOLENA	1	0	0	0
M10	02	MICRURA LEIDYI	1	1	6	0
M10	03	HETEROMASTUS FILIFORMIS	18	3	9	8
M10	05	NEREIS SUCCINEA	4	24	8	5
M10	10	SCOLECOLEPIDES VIRIDIS	0	13	5	4
M10	11	STREBLOSPIO BENEDECTI	7	2	0	0
M10	14	PELOSCOLEX SP.	2	0	0	0
M10	19	MACOMA BALTHICA	3	9	14	16
M10	20	MACOMA MITCHELLI	0	1	2	2
M10	21	RANGIA CUNEATA	1	0	0	0
M10	27	BALANUS SP.	0	1	0	0
HM10	28	NEOMYSIS AMERICANA	0	0	2	0
HM10	30	CYATHURA POLITA	2	6	7	15
HM10	33	EDOTEA TRILOBA	0	0	1	0
HM10	36	LEPTOCHIERUS PLUMULOSUS	163	158	104	94
HM10	37	COROPHIUM LACUSTRE	1	0	0	0
[illegible]	40	MELITA NITIDA	9	0	0	0
[illegible]	44	RITHROPANOPEUS HARRISII	0	3	0	0
HM14	02	MICRURA LEIDYI	2	4	3	3
HM14	03	HETEROMASTUS FILIFORMIS	120	25	24	42
HM14	05	NEREIS SUCCINEA	0	8	11	6
HM14	08	ETEONE HETEROPODA	0	1	0	0
HM14	10	SCOLECOLEPIDES VIRIDIS	0	8	25	7
HM14	11	STREBLOSPIO BENEDECTI	42	2	0	0
HM14	13	LIMNODRILUS HOFFMEISTERI	0	0	1	0
HM14	14	PELOSCOLEX SP.	218	0	0	1
HM14	19	MACOMA BALTHICA	8	39	28	39
HM14	20	MACOMA MITCHELLI	0	1	4	9
HM14	30	CYATHURA POLITA	6	15	6	9
HM14	36	LEPTOCHIERUS PLUMULOSUS	350	217	257	331
HM14	37	COROPHIUM LACUSTRE	4	0	0	0
HM14	40	MELITA NITIDA	20	0	0	0
HM15	02	MICRURA LEIDYI	0	1	1	2
HM15	03	HETEROMASTUS FILIFORMIS	62	22	21	0
HM15	05	NEREIS SUCCINEA	0	9	8	0
HM15	10	SCOLECOLEPIDES VIRIDIS	0	1	1	0
HM15	11	STREBLOSPIO BENEDECTI	14	1	0	0
HM15	14	PELOSCOLEX SP.	50	0	0	0
HM15	16	ARCATULA RECURVUS	2	0	0	0
HM15	19	MACOMA BALTHICA	4	30	24	28
HM15	20	MACOMA MITCHELLI	0	2	2	3
HM15	21	RANGIA CUNEATA	0	0	2	0
HM15	30	CYATHURA POLITA	6	5	3	6
HM15	33	EDOTEA TRILOBA	0	1	0	0
HM15	36	LEPTOCHIERUS PLUMULOSUS	242	191	328	345

Table 3 cont'd.

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB # 1.0MM
HM16	02	MICRURA LEIDYI	0	3	2	1
HM16	03	HETEROMASTUS FILIFORMIS	8	93	44	50
HM16	05	NEREIS SUCCINEA	0	6	1	9
HM16	08	ETEONE HETEROPODA	0	2	2	1
HM16	10	SCOLECOLEPIDES VIRIDIS	1	2	2	11
HM16	11	STREBLOSPIO BENEDECTI	20	18	1	0
HM16	14	PELOSCOLEX SP.	264	24	0	0
HM16	19	MACOMA BALTHICA	3	58	52	58
HM16	20	MACOMA MITCHELLI	3	10	23	7
HM16	30	CYATHURA POLITA	0	0	2	3
HM16	36	LEPTOCHIERUS PLUMULOSUS	134	481	246	170
HM17	02	MICRURA LEIDYI	1	2	0	0
HM17	03	HETEROMASTUS FILIFORMIS	104	48	6	6
HM17	05	NEREIS SUCCINEA	3	8	2	8
HM17	08	ETEONE HETEROPODA	0	1	1	3
HM17	10	SCOLECOLEPIDES VIRIDIS	2	11	1	10
HM17	11	STREBLOSPIO BENEDECTI	10	6	0	0
HM17	14	PELOSCOLEX SP.	20	0	0	0
HM17	19	MACOMA BALTHICA	12	3	4	5
HM17	20	MACOMA MITCHELLI	23	34	31	43
HM17	21	RANGIA CUNEATA	0	3	1	0
HM17	22	MYA ARENARIA	0	0	1	0
HM17	30	CYATHURA POLITA	0	3	0	3
HM17	33	EDOTEA TRILOBA	3	10	7	5
HM17	36	LEPTOCHIERUS PLUMULOSUS	88	118	38	53
HM17	37	COROPHIUM LACUSTRE	5	0	1	4
HM19	02	MICRURA LEIDYI	0	1	1	1
HM19	03	HETEROMASTUS FILIFORMIS	20	1	4	0
HM19	05	NEREIS SUCCINEA	0	0	2	1
HM19	10	SCOLECOLEPIDES VIRIDIS	0	14	17	9
HM19	19	MACOMA BALTHICA	0	6	9	8
HM19	20	MACOMA MITCHELLI	0	5	14	11
HM19	30	CYATHURA POLITA	8	10	16	15
HM19	33	EDOTEA TRILOBA	0	0	0	2
HM19	36	LEPTOCHIERUS PLUMULOSUS	152	164	279	198
HM19	40	MELITA NITIDA	12	0	0	0
HM20	10	SCOLECOLEPIDES VIRIDIS	0	10	22	26
HM20	20	MACOMA MITCHELLI	0	0	0	3
HM20	21	RANGIA CUNEATA	0	0	3	0
HM20	30	CYATHURA POLITA	0	1	0	2
HM20	36	LEPTOCHIERUS PLUMULOSUS	0	1	20	41
HM20	37	COROPHIUM LACUSTRE	0	16	0	6
HM21	03	HETEROMASTUS FILIFORMIS	13	0	1	2
HM21	05	NEREIS SUCCINEA	0	1	0	1
HM21	10	SCOLECOLEPIDES VIRIDIS	0	10	21	1
HM21	11	STREBLOSPIO BENEDECTI	2	0	0	0
HM21	14	PELOSCOLEX SP.	132	0	0	0
HM21	19	MACOMA BALTHICA	2	14	28	2
HM21	20	MACOMA MITCHELLI	0	12	7	5
HM21	21	RANGIA CUNEATA	0	0	2	0
HM21	28	NEOMYSIS AMERICANA	0	1	0	0
HM21	30	CYATHURA POLITA	1	8	0	3
HM21	33	EDOTEA TRILOBA	1	2	0	0
HM21	36	LEPTOCHIERUS PLUMULOSUS	170	290	297	217
HM21	37	COROPHIUM LACUSTRE	1	0	0	0
HM21	40	MELITA NITIDA	12	0	0	0

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM22	02	MICRURA LEIDYI	0	1	0	1
HM22	03	HETEROMASTUS FILIFORMIS	14	5	5	5
HM22	05	NEREIS SUCCINEA	0	1	0	1
HM22	08	ETEONE HETEROPODA	1	0	0	0
HM22	10	SCOLECOLEPIDES VIRIDIS	0	37	9	2
HM22	11	STREBLOSPIO BENEDECTI	4	0	1	0
HM22	14	PELOSCOLEX SP.	75	0	0	0
HM22	19	MACOMA BALTHICA	0	42	49	23
HM22	20	MACOMA MITCHELLI	6	13	6	6
HM22	30	CYATHURA POLITA	2	19	14	18
HM22	33	EDOTEA TRILOBA	1	3	2	0
HM22	36	LEPTOCHIERUS PLUMULOSUS	203	250	339	304
HM22	40	MELITA NITIDA	11	0	0	0
HM22	43	CHIRONOMID SP.	0	0	1	0
HM23	03	HETEROMASTUS FILIFORMIS	0	0	1	0
HM23	10	SCOLECOLEPIDES VIRIDIS	0	4	9	2
HM23	20	MACOMA MITCHELLI	0	4	7	6
HM23	21	RANGIA CUNEATA	0	0	1	0
HM23	22	MYA ARENARIA	0	0	1	1
HM23	30	CYATHURA POLITA	0	1	2	0
HM23	34	NEOHAUSTORIUS	0	3	2	1
HM23	36	LEPTOCHIERUS PLUMULOSUS	0	0	3	2
HM24	03	HETEROMASTUS FILIFORMIS	8	2	4	7
HM24	10	SCOLECOLEPIDES VIRIDIS	9	24	13	13
HM24	11	STREBLOSPIO BENEDECTI	0	0	0	1
HM24	14	PELOSCOLEX SP.	3	0	0	0
HM24	20	MACOMA MITCHELLI	2	9	6	22
HM24	21	RANGIA CUNEATA	0	2	0	2
HM24	22	MYA ARENARIA	0	4	2	2
HM24	30	CYATHURA POLITA	1	2	1	2
HM24	33	EDOTEA TRILOBA	0	0	0	2
HM24	34	NEOHAUSTORIUS	1	12	1	0
HM24	36	LEPTOCHIERUS PLUMULOSUS	13	11	8	3
HM24	37	COROPHIUM LACUSTRE	0	0	0	1
HM24	42	MONOCULODES EDWARDSI	1	0	0	0
HM25	01	DIADUMENE LEUCOLENA	0	2	0	0
HM25	02	MICRURA LEIDYI	6	7	5	9
HM25	03	HETEROMASTUS FILIFORMIS	79	116	81	101
HM25	05	NEREIS SUCCINEA	4	52	30	28
HM25	08	ETEONE HETEROPODA	2	0	0	5
HM25	10	SCOLECOLEPIDES VIRIDIS	4	0	0	0
HM25	11	STREBLOSPIO BENEDECTI	43	4	4	11
HM25	14	PELOSCOLEX SP.	16	0	0	0
HM25	19	MACOMA BALTHICA	2	8	11	0
HM25	20	MACOMA MITCHELLI	0	12	1	3
HM25	21	RANGIA CUNEATA	0	0	1	2
HM25	30	CYATHURA POLITA	3	2	4	3
HM25	33	EDOTEA TRILOBA	1	0	0	0
HM25	36	LEPTOCHIERUS PLUMULOSUS	3	1	0	1
HM25	37	COROPHIUM LACUSTRE	2	1	0	0

Table 3 cont'd.

DATE:NOV81

STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM26	02	MICRURA LEIDYI	0	4	4	5
HM26	03	HETEROMASTUS FILIFORMIS	69	52	93	50
HM26	05	NEREIS SUCCINEA	1	26	17	19
HM26	08	ETEONE HETEROPODA	0	0	0	1
HM26	10	SCOLECOLEPIDES VIRIDIS	0	14	52	26
HM26	11	STREBLOSPIO BENEDECTI	18	6	7	2
HM26	13	LIMNODRILUS HOFFMEISTERI	4	2	5	1
HM26	14	PELOSCOLEX SP.	475	10	136	9
HM26	19	MACOMA BALTHICA	0	4	6	10
HM26	20	MACOMA MITCHELLI	2	10	13	17
HM26	21	RANGIA CUNEATA	0	1	0	0
HM26	30	CYATHURA POLITA	0	1	0	0
HM26	33	EDOTEA TRILOBA	1	6	3	8
HM26	36	LEPTOCHIERUS PLUMULOSUS	99	485	423	360
HM26	37	COROPHIUM LACUSTRE	1	1	0	0
HM26	39	GAMMARUS PALUSTRIS	0	1	0	0
HM26	40	MELITA NITIDA	4	0	0	0
HM26	41	CHIRODOTEA ALMYRA	0	0	1	0
HM26	43	CHIRONOMID SP.	0	1	0	0

Table 4. Results of water quality and physical data obtained at the sampling stations during the November 1981 cruise. Dash represents no data obtained. Sediments samples were sieved through the given sieve mesh sizes.

STATION	DEPTH(FT)	SALINITY $^{o}/oo$	TEMP-C	500	250	125	63	PAN	SILT	CLAY
HM1	2	–	–	6.88	32.01	35.70	9.89	.25	10.33	4.99
HM3	2	–	–	1.20	32.44	55.49	10.03	.06	.57	.20
HM6	10	–	–	4.67	7.44	7.16	5.87	.86	60.64	13.37
HM7	10	11.2	10.3	7.71	7.83	8.19	21.22	1.72	51.69	1.63
HM8	10	–	–	64.45	4.69	14.46	4.31	.39	10.20	1.49
HM9	15	–	–	8.96	12.54	36.48	5.40	.14	26.59	9.89
HM10	20	10.3	9.9	28.82	.81	.76	.52	.18	52.27	16.65
HM14	10	–	–	7.26	4.97	4.01	3.60	.75	59.45	19.96
HM15	15	–	–	4.54	8.79	5.69	2.15	.54	70.24	8.06
HM16	20	13.4	10.6	22.13	3.85	2.33	.81	.41	57.66	12.81
HM17	10	9.9	10.0	12.78	9.47	19.57	47.45	1.14	8.80	.78
HM19	15	–	–	10.04	9.10	6.44	12.22	.96	41.11	20.13
HM20	2	–	–	23.40	20.76	5.82	2.13	1.47	44.58	1.84
HM21	10	9.2	9.7	12.50	6.61	3.25	2.42	.48	66.94	7.80
HM22	15	–	–	2.15	5.55	5.90	3.05	.48	70.64	12.24
HM23	2	–	–	.17	16.23	67.46	14.60	.06	1.14	.33
HM24	10	–	–	.35	2.90	59.83	32.05	.26	4.04	.57
HM25	15	9.6	9.8	.88	21.99	62.23	3.20	.29	8.68	2.73
HM26	15	8.6	9.3	4.79	6.85	12.22	28.03	3.96	42.56	1.59

Table 5. February 1982 sampling period. Benthic invertebrates obtained with 3 vanVeen grabs (.1m²). Grab #1 was collected on a .5mm screen as well as the 1.mm screen. Stations 1, 3, 20, and 23 collected with a Ponar grab and represents an area of .05m².

DATE:FEB82

STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB # 1.0MM
HM1	03	HETEROMASTUS FILIFORMIS	0	1	1	0
HM1	05	NEREIS SUCCINEA	0	11	21	26
HM1	10	SCOLECOLEPIDES VIRIDIS	0	1	1	1
HM1	16	ARCATULA RECURVUS	0	0	1	2
HM1	17	CONGERIA LEUCOPHAETA	0	1	9	8
HM1	27	BALANUS SP.	0	3	46	0
HM1	30	CYATHURA POLITA	0	1	3	9
HM1	37	COROPHIUM LACUSTRE	0	47	895	1636
HM1	39	GAMMARUS PALUSTRIS	0	2	5	1
HM1	43	CHIRONOMID SP.	0	0	2	2
HM1	44	RITHROPANOPEUS HARRISII	0	0	0	1
HM3	10	SCOLECOLEPIDES VIRIDIS	0	1	7	6
HM3	22	MYA ARENARIA	0	0	0	1
HM3	34	NEOHAUSTORIUS	0	8	3	0
HM3	36	LEPTOCHIERUS PLUMULOSUS	0	2	1	2
HM3	37	COROPHIUM LACUSTRE	0	0	0	7
HM3	42	MONOCULODES EDWARDSI	0	0	1	0
HM6	02	MICRURA LEIDYI	0	2	3	1
HM6	03	HETEROMASTUS FILIFORMIS	116	0	2	4
HM6	05	NEREIS SUCCINEA	0	2	7	4
HM6	10	SCOLECOLEPIDES VIRIDIS	8	50	29	16
HM6	11	STREBLOSPIO BENEDECTI	4	0	0	0
HM6	14	PELOSCOLEX SP.	188	0	0	0
HM6	19	MACOMA BALTHICA	4	2	1	1
HM6	20	MACOMA MITCHELLI	8	5	5	6
HM6	21	RANGIA CUNEATA	0	8	0	0
HM6	30	CYATHURA POLITA	0	15	5	9
HM6	33	EDOTEA TRILOBA	0	0	2	4
HM6	36	LEPTOCHIERUS PLUMULOSUS	372	326	571	465
HM6	40	MELITA NITIDA	32	1	2	2
HM6	42	MONOCULODES EDWARDSI	4	0	0	0
HM6	45	AMPHIPOD SP.	4	0	0	2
HM7	02	MICRURA LEIDYI	0	1	1	0
HM7	03	HETEROMASTUS FILIFORMIS	12	1	1	1
HM7	05	NEREIS SUCCINEA	0	1	0	1
HM7	10	SCOLECOLEPIDES VIRIDIS	8	24	19	17
HM7	14	PELOSCOLEX SP.	104	0	0	0
HM7	19	MACOMA BALTHICA	8	7	11	4
HM7	20	MACOMA MITCHELLI	4	5	6	6
HM7	30	CYATHURA POLITA	0	13	13	13
HM7	33	EDOTEA TRILOBA	1	0	1	0
HM7	36	LEPTOCHIERUS PLUMULOSUS	112	139	188	133
HM7	37	COROPHIUM LACUSTRE	0	2	1	1
HM7	39	GAMMARUS PALUSTRIS	4	0	0	0
HM7	40	MELITA NITIDA	4	0	0	0
HM8	01	DIADUMENE LEUCOLENA	1	1	5	0
HM8	02	MICRURA LEIDYI	0	0	1	0
HM8	03	HETEROMASTUS FILIFORMIS	49	7	3	7
HM8	05	NEREIS SUCCINEA	27	97	78	122
HM8	10	SCOLECOLEPIDES VIRIDIS	5	6	0	1
HM8	14	PELOSCOLEX SP.	23	0	0	0
HM8	16	ARCATULA RECURVUS	2	11	9	5
HM8	17	CONGERIA LEUCOPHAETA	0	12	3	9
HM8	19	MACOMA BALTHICA	0	6	0	0
HM8	20	MACOMA MITCHELLI	5	1	0	1
HM8	22	MYA ARENARIA	0	3	4	2
HM8	27	BALANUS SP.	0	3	64	85
HM8	30	CYATHURA POLITA	4	22	3	4
HM8	33	EDOTEA TRILOBA	0	6	1	1
HM8	36	LEPTOCHIERUS PLUMULOSUS	3	56	21	22
HM8	37	COROPHIUM LACUSTRE	70	57	36	19
HM8	38	GAMMARUS DAIBERI	0	1	0	0
HM8	39	GAMMARUS PALUSTRIS	0	1	0	0
HM8	40	MELITA NITIDA	43	71	33	24
HM8	41	CHIRODOTEA ALMYRA	0	1	0	0

Table 5 cont'd.

HM8	44 RITHROPANOPEUS HARRISII	0	13	4	3

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM9	02 MICRURA LEIDYI	0	0	1	0
HM9	03 HETEROMASTUS FILIFORMIS	34	4	5	2
HM9	05 NEREIS SUCCINEA	0	14	0	5
HM9	10 SCOLECOLEPIDES VIRIDIS	6	38	13	16
HM9	19 MACOMA BALTHICA	0	3	3	9
HM9	20 MACOMA MITCHELLI	0	5	5	4
HM9	30 CYATHURA POLITA	4	15	13	18
HM9	33 EDOTEA TRILOBA	0	1	1	2
HM9	36 LEPTOCHIERUS PLUMULOSUS	74	141	154	136
HM9	37 COROPHIUM LACUSTRE	2	2	3	1
HM9	42 MONOCULODES EDWARDSI	2	0	0	0
HM9	43 CHIRONOMID SP.	4	0	0	0

HM10	02 MICRURA LEIDYI	5	2	0	2
HM10	03 HETEROMASTUS FILIFORMIS	2	0	1	2
HM10	05 NEREIS SUCCINEA	2	7	8	6
HM10	10 SCOLECOLEPIDES VIRIDIS	6	3	6	6
HM10	11 STREBLOSPIO BENEDECTI	1	1	0	0
HM10	14 PELOSCOLEX SP.	2	0	0	0
HM10	17 CONGERIA LEUCOPHAETA	0	1	0	1
HM10	19 MACOMA BALTHICA	3	1	11	11
HM10	20 MACOMA MITCHELLI	1	1	0	6
HM10	27 BALANUS SP.	0	1	1	1
HM10	28 NEOMYSIS AMERICANA	2	0	0	0
HM10	30 CYATHURA POLITA	2	12	16	10
HM10	33 EDOTEA TRILOBA	0	0	1	1
HM10	36 LEPTOCHIERUS PLUMULOSUS	105	127	105	193
HM10	37 COROPHIUM LACUSTRE	0	1	1	1
HM10	40 MELITA NITIDA	6	0	0	1
HM10	42 MONOCULODES EDWARDSI	0	1	0	0
HM10	43 CHIRONOMID SP.	1	0	0	0

HM14	01 DIADUMENE LEUCOLENA	0	1	0	0
HM14	03 HETEROMASTUS FILIFORMIS	62	20	25	11
HM14	05 NEREIS SUCCINEA	3	8	4	5
HM14	08 ETEONE HETEROPODA	0	1	0	0
HM14	10 SCOLECOLEPIDES VIRIDIS	1	12	9	16
HM14	11 STREBLOSPIO BENEDECTI	27	3	1	0
HM14	14 PELOSCOLEX SP.	168	2	0	0
HM14	16 ARCATULA RECURVUS	1	0	0	0
HM14	19 MACOMA BALTHICA	7	12	6	7
HM14	20 MACOMA MITCHELLI	7	0	1	3
HM14	21 RANGIA CUNEATA	5	0	0	0
HM14	30 CYATHURA POLITA	1	9	2	3
HM14	33 EDOTEA TRILOBA	0	1	2	1
HM14	36 LEPTOCHIERUS PLUMULOSUS	312	436	392	388
HM14	40 MELITA NITIDA	15	0	0	0

HM15	02 MICRURA LEIDYI	2	4	14	4
HM15	03 HETEROMASTUS FILIFORMIS	80	34	34	15
HM15	05 NEREIS SUCCINEA	0	5	5	11
HM15	08 ETEONE HETEROPODA	2	0	0	0
HM15	10 SCOLECOLEPIDES VIRIDIS	4	2	17	7
HM15	11 STREBLOSPIO BENEDECTI	42	1	0	0
HM15	13 LIMNODRILUS HOFFMEISTERI	0	1	0	0
HM15	14 PELOSCOLEX SP.	48	0	0	0
HM15	19 MACOMA BALTHICA	22	18	18	38
HM15	20 MACOMA MITCHELLI	4	2	3	1
HM15	30 CYATHURA POLITA	4	7	10	3
HM15	33 EDOTEA TRILOBA	0	1	0	0
HM15	36 LEPTOCHIERUS PLUMULOSUS	296	346	431	382
HM15	37 COROPHIUM LACUSTRE	8	0	2	2
HM15	39 GAMMARUS PALUSTRIS	0	2	0	0
HM15	40 MELITA NITIDA	2	0	0	2
HM15	44 RITHROPANOPEUS HARRISII	0	0	0	1

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB # 1.0MM
HM16	02	MICRURA LEIDYI	8	1	0	2
HM16	03	HETEROMASTUS FILIFORMIS	50	32	53	29
HM16	05	NEREIS SUCCINEA	0	9	7	8
HM16	08	ETEONE HETEROPODA	1	0	0	0
HM16	10	SCOLECOLEPIDES VIRIDIS	5	10	13	5
HM16	11	STREBLOSPIO BENEDECTI	8	0	0	0
HM16	14	PELOSCOLEX SP.	35	0	0	0
HM16	16	ARCATULA RECURVUS	0	0	1	0
HM16	19	MACOMA BALTHICA	14	32	24	39
HM16	20	MACOMA MITCHELLI	4	4	9	5
HM16	21	RANGIA CUNEATA	0	1	1	0
HM16	30	CYATHURA POLITA	3	1	5	3
HM16	36	LEPTOCHIERUS PLUMULOSUS	187	187	314	238
HM16	37	COROPHIUM LACUSTRE	1	0	0	1
HM17	02	MICRURA LEIDYI	1	0	0	0
HM17	03	HETEROMASTUS FILIFORMIS	77	13	39	25
HM17	05	NEREIS SUCCINEA	5	16	32	12
HM17	10	SCOLECOLEPIDES VIRIDIS	2	2	9	6
HM17	11	STREBLOSPIO BENEDECTI	1	0	2	1
HM17	19	MACOMA BALTHICA	9	18	13	7
HM17	20	MACOMA MITCHELLI	11	7	3	14
HM17	22	MYA ARENARIA	0	0	0	1
HM17	23	HYDROBIA SP.	0	0	1	0
HM17	30	CYATHURA POLITA	0	1	0	6
HM17	33	EDOTEA TRILOBA	1	1	6	6
HM17	36	LEPTOCHIERUS PLUMULOSUS	111	127	213	180
HM17	37	COROPHIUM LACUSTRE	23	10	13	11
HM17	39	GAMMARUS PALUSTRIS	0	0	1	0
HM17	40	MELITA NITIDA	0	0	1	1
HM19	02	MICRURA LEIDYI	7	3	4	1
HM19	03	HETEROMASTUS FILIFORMIS	25	1	1	3
HM19	05	NEREIS SUCCINEA	1	2	1	0
HM19	10	SCOLECOLEPIDES VIRIDIS	50	22	47	21
HM19	11	STREBLOSPIO BENEDECTI	4	0	0	0
HM19	14	PELOSCOLEX SP.	103	0	0	0
HM19	19	MACOMA BALTHICA	4	2	6	3
HM19	20	MACOMA MITCHELLI	25	2	1	8
HM19	21	RANGIA CUNEATA	0	0	2	0
HM19	22	MYA ARENARIA	0	0	0	1
HM19	28	NEOMYSIS AMERICANA	0	0	1	0
HM19	30	CYATHURA POLITA	4	12	20	17
HM19	33	EDOTEA TRILOBA	5	1	2	5
HM19	36	LEPTOCHIERUS PLUMULOSUS	217	122	88	163
HM19	37	COROPHIUM LACUSTRE	0	1	0	0
HM19	40	MELITA NITIDA	8	0	0	0
HM19	42	MONOCULODES EDWARDSI	1	0	0	1
HM19	43	CHIRONOMID SP.	2	0	0	0
HM19	44	RITHROPANOPEUS HARRISII	0	0	1	0

Table 5 cont'd.

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM20	05 NEREIS SUCCINEA	0	1	0	0
HM20	10 SCOLECOLEPIDES VIRIDIS	0	15	38	53
HM20	20 MACOMA MITCHELLI	0	0	2	0
HM20	30 CYATHURA POLITA	0	0	2	0
HM20	34 NEOHAUSTORIUS	0	0	1	1
HM20	36 LEPTOCHIERUS PLUMULOSUS	0	9	18	18
HM20	37 COROPHIUM LACUSTRE	0	3	0	1
HM21	02 MICRURA LEIDYI	2	0	0	0
HM21	03 HETEROMASTUS FILIFORMIS	20	0	0	1
HM21	05 NEREIS SUCCINEA	0	1	2	1
HM21	10 SCOLECOLEPIDES VIRIDIS	6	27	26	35
HM21	19 MACOMA BALTHICA	0	2	3	3
HM21	20 MACOMA MITCHELLI	0	6	6	6
HM21	21 RANGIA CUNEATA	0	0	1	0
HM21	22 MYA ARENARIA	0	0	0	1
HM21	27 BALANUS SP.	0	4	0	0
HM21	30 CYATHURA POLITA	10	2	3	3
HM21	33 EDOTEA TRILOBA	0	1	0	0
HM21	36 LEPTOCHIERUS PLUMULOSUS	280	306	331	313
HM21	37 COROPHIUM LACUSTRE	30	3	10	4
HM21	43 CHIRONOMID SP.	2	0	0	0
HM22	03 HETEROMASTUS FILIFORMIS	21	0	0	5
HM22	05 NEREIS SUCCINEA	1	0	3	1
HM22	08 ETEONE HETEROPODA	1	0	0	0
HM22	10 SCOLECOLEPIDES VIRIDIS	10	19	12	3
HM22	14 PELOSCOLEX SP.	24	0	0	0
HM22	19 MACOMA BALTHICA	3	29	25	33
HM22	20 MACOMA MITCHELLI	3	3	1	1
HM22	30 CYATHURA POLITA	10	25	20	22
HM22	33 EDOTEA TRILOBA	0	0	1	2
HM22	36 LEPTOCHIERUS PLUMULOSUS	229	276	308	351
HM22	37 COROPHIUM LACUSTRE	1	0	0	0
HM22	40 MELITA NITIDA	14	0	0	0
HM22	41 CHIRODOTEA ALMYRA	0	0	0	1
HM23	05 NEREIS SUCCINEA	0	2	0	0
HM23	10 SCOLECOLEPIDES VIRIDIS	0	5	14	13
HM23	19 MACOMA BALTHICA	0	1	1	0
HM23	20 MACOMA MITCHELLI	0	3	3	8
HM23	30 CYATHURA POLITA	0	0	2	1
HM23	36 LEPTOCHIERUS PLUMULOSUS	0	4	2	3
HM23	37 COROPHIUM LACUSTRE	0	1	6	1
HM23	41 CHIRODOTEA ALMYRA	0	11	7	28
HM23	42 MONOCULODES EDWARDSI	0	4	6	2
HM24	03 HETEROMASTUS FILIFORMIS	0	1	0	0
HM24	05 NEREIS SUCCINEA	0	0	1	1
HM24	08 ETEONE HETEROPODA	0	0	0	3
HM24	10 SCOLECOLEPIDES VIRIDIS	1	8	81	55
HM24	13 LIMNODRILUS HOFFMEISTERI	0	1	0	0
HM24	19 MACOMA BALTHICA	0	0	5	1
HM24	20 MACOMA MITCHELLI	0	1	10	10
HM24	22 MYA ARENARIA	0	6	17	9
HM24	34 NEOHAUSTORIUS	0	18	19	11
HM24	36 LEPTOCHIERUS PLUMULOSUS	3	4	23	19
HM24	37 COROPHIUM LACUSTRE	1	4	5	5
HM24	39 GAMMARUS PALUSTRIS	0	0	1	2
HM24	41 CHIRODOTEA ALMYRA	0	0	0	1
HM24	42 MONOCULODES EDWARDSI	0	0	2	3

Table 5 cont'd.

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM25	01 DIADUMENE LEUCOLENA	0	7	20	4
HM25	02 MICRURA LEIDYI	0	1	1	1
HM25	03 HETEROMASTUS FILIFORMIS	27	70	77	62
HM25	05 NEREIS SUCCINEA	13	59	113	135
HM25	08 ETEONE HETEROPODA	2	0	2	1
HM25	10 SCOLECOLEPIDES VIRIDIS	22	10	11	12
HM25	11 STREBLOSPIO BENEDECTI	16	2	3	2
HM25	14 PELOSCOLEX SP.	41	1	0	0
HM25	16 ARCATULA RECURVUS	0	2	0	3
HM25	19 MACOMA BALTHICA	11	4	2	1
HM25	20 MACOMA MITCHELLI	11	4	4	3
HM25	27 BALANUS SP.	0	0	1	1
HM25	30 CYATHURA POLITA	0	4	0	0
HM25	34 NEOHAUSTORIUS	0	0	1	0
HM25	36 LEPTOCHIERUS PLUMULOSUS	1	60	38	32
HM25	37 COROPHIUM LACUSTRE	2	0	2	1
HM25	42 MONOCULODES EDWARDSI	2	2	0	0
HM26	02 MICRURA LEIDYI	4	2	9	4
HM26	03 HETEROMASTUS FILIFORMIS	76	19	24	27
HM26	05 NEREIS SUCCINEA	0	9	14	15
HM26	08 ETEONE HETEROPODA	8	0	1	0
HM26	10 SCOLECOLEPIDES VIRIDIS	36	16	12	8
HM26	11 STREBLOSPIO BENEDECTI	4	1	1	0
HM26	13 LIMNODRILUS HOFFMEISTERI	52	0	0	0
HM26	14 PELOSCOLEX SP.	1436	4	3	0
HM26	19 MACOMA BALTHICA	8	26	21	23
HM26	20 MACOMA MITCHELLI	20	23	20	16
HM26	30 CYATHURA POLITA	0	1	4	0
HM26	33 EDOTEA TRILOBA	4	8	10	7
HM26	36 LEPTOCHIERUS PLUMULOSUS	384	699	459	584
HM26	37 COROPHIUM LACUSTRE	0	2	0	1
HM26	40 MELITA NITIDA	24	5	2	4
HM26	41 CHIRODOTEA ALMYRA	0	1	0	1
HM26	43 CHIRONOMID SP.	4	0	1	2

Table 6. Results of water quality and physical data obtained at the sampling stations during the February 1982 cruise. Dash represents no data obtained. Sediments samples were sieved through the given sieve mesh sizes.

STATION	DEPTH(FT)	SALINITY $^{o}/oo$	TEMP-C	500	250	125	63	PAN	SILT	CLAY
HM1	2	-	-	4.94	46.89	34.86	7.55	.23	5.23	.03
HM3	2	-	-	14.60	52.51	23.99	7.96	.09	.01	.00
HM6	10	5.3	2.0	6.85	5.20	4.98	5.49	1.30	49.31	26.87
HM7	10	-	-	1.19	.80	1.00	4.02	.20	62.04	30.75
HM8	10	8.4	1.7	42.11	6.31	33.39	5.91	.40	7.21	4.66
HM9	15	-	-	8.40	18.30	30.88	4.17	.22	22.78	15.25
HM10	20	9.1	1.3	16.77	5.75	25.63	1.23	.16	32.64	17.82
HM14	10	10.8	1.7	15.71	4.16	2.96	2.56	.96	51.68	21.93
HM15	15	-	-	12.76	2.36	1.35	.72	.38	45.06	37.37
HM16	20	11.9	1.1	12.18	5.46	3.67	1.56	.75	33.64	42.74
HM17	10	-	-	5.02	18.51	19.83	33.68	1.63	15.69	5.66
HM19	15	9.9	1.9	2.47	1.49	6.30	11.85	.30	47.41	30.18
HM20	2	-	-	9.81	65.36	21.84	.78	.03	1.53	.07
HM21	10	-	-	12.31	34.53	15.09	2.21	.11	21.52	14.24
HM22	15	6.7	2.2	.58	.94	1.54	2.28	.14	66.28	28.22
HM23	2	-	-	.26	23.18	61.60	12.30	.09	2.08	.05
HM24	10	8.6	2.8	.03	.76	72.95	24.20	.16	1.38	.05
HM25	15	-	-	19.57	13.68	30.60	2.71	.36	21.31	11.78
HM26	15	-	-	6.86	.02	4.76	8.79	1.61	56.19	21.78

Table 7. May 1982 sampling period. Benthic invertebrates obtained with 3 vanVeen grabs (.1m²). Grab #1 was collected on a .5mm screen as well as the 1.mm screen. Stations 1, 3, 20, and 23 collected with a Ponar grab and represents an area of .05m².

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM1	03	HETEROMASTUS FILIFORMIS	0	0	1	0
HM1	05	NEREIS SUCCINEA	0	3	3	0
HM1	10	SCOLECOLEPIDES VIRIDIS	0	0	6	0
HM1	21	RANGIA CUNEATA	0	0	0	1
HM1	29	LEUCON AMERICANUS	0	0	0	1
HM1	30	CYATHURA POLITA	0	3	10	8
HM1	36	LEPTOCHIERUS PLUMULOSUS	0	2	2	0
HM1	37	COROPHIUM LACUSTRE	0	1	40	31
HM1	39	GAMMARUS PALUSTRIS	0	4	18	8
HM1	42	MONOCULODES EDWARDSI	0	2	3	0
HM3	02	MICRURA LEIDYI	0	1	0	0
HM3	03	HETEROMASTUS FILIFORMIS	0	0	1	1
HM3	05	NEREIS SUCCINEA	0	4	2	0
HM3	10	SCOLECOLEPIDES VIRIDIS	0	4	0	6
HM3	19	MACOMA BALTHICA	0	1	0	0
HM3	28	NEOMYSIS AMERICANA	0	0	0	1
HM3	30	CYATHURA POLITA	0	14	3	0
HM3	33	EDOTEA TRILOBA	0	1	0	0
HM3	36	LEPTOCHIERUS PLUMULOSUS	0	12	2	20
HM3	37	COROPHIUM LACUSTRE	0	15	1	0
HM3	39	GAMMARUS PALUSTRIS	0	6	4	0
HM3	42	MONOCULODES EDWARDSI	0	3	6	5
HM6	01	DIADUMENE LEUCOLENA	4	0	0	0
HM6	02	MICRURA LEIDYI	0	2	0	4
HM6	03	HETEROMASTUS FILIFORMIS	62	12	13	9
HM6	05	NEREIS SUCCINEA	0	2	6	1
HM6	10	SCOLECOLEPIDES VIRIDIS	2	23	16	13
HM6	11	STREBLOSPIO BENEDECTI	2	0	0	0
HM6	13	LIMNODRILUS HOFFMEISTERI	4	0	0	0
HM6	14	PELOSCOLEX SP.	12	0	0	0
HM6	18	LITTORIDINOPS SP.	2	0	0	0
HM6	19	MACOMA BALTHICA	2	1	12	6
HM6	20	MACOMA MITCHELLI	6	4	2	1
HM6	30	CYATHURA POLITA	0	6	11	6
HM6	33	EDOTEA TRILOBA	0	0	1	1
HM6	36	LEPTOCHIERUS PLUMULOSUS	504	310	383	357
HM6	40	MELITA NITIDA	14	0	0	2
HM7	01	DIADUMENE LEUCOLENA	0	1	0	0
HM7	02	MICRURA LEIDYI	0	0	1	1
HM7	03	HETEROMASTUS FILIFORMIS	32	1	0	1
HM7	05	NEREIS SUCCINEA	4	1	1	1
HM7	10	SCOLECOLEPIDES VIRIDIS	0	7	2	14
HM7	14	PELOSCOLEX SP.	112	0	0	0
HM7	19	MACOMA BALTHICA	4	9	3	7
HM7	20	MACOMA MITCHELLI	8	6	1	2
HM7	21	RANGIA CUNEATA	0	1	0	0
HM7	30	CYATHURA POLITA	12	10	10	6
HM7	33	EDOTEA TRILOBA	0	1	0	0
HM7	36	LEPTOCHIERUS PLUMULOSUS	152	223	205	213
HM7	37	COROPHIUM LACUSTRE	0	0	1	0
HM7	40	MELITA NITIDA	4	0	0	1
HM7	42	MONOCULODES EDWARDSI	0	0	1	0
HM7	43	CHIRONOMID SP.	4	0	0	0

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM8	02 MICRURA LEIDYI	0	0	1	1
HM8	03 HETEROMASTUS FILIFORMIS	41	4	17	9
HM8	05 NEREIS SUCCINEA	7	62	24	44
HM8	10 SCOLECOLEPIDES VIRIDIS	15	31	102	65
HM8	14 PELOSCOLEX SP.	138	0	0	0
HM8	16 ARCATULA RECURVUS	0	8	12	19
HM8	17 CONGERIA LEUCOPHAETA	0	4	7	10
HM8	18 LITTORIDINOPS SP.	7	0	0	0
HM8	19 MACOMA BALTHICA	0	0	2	0
HM8	20 MACOMA MITCHELLI	2	0	0	0
HM8	27 BALANUS SP.	0	76	22	26
HM8	30 CYATHURA POLITA	0	5	12	11
HM8	33 EDOTEA TRILOBA	0	0	1	0
HM8	36 LEPTOCHIERUS PLUMULOSUS	10	1	2	5
HM8	37 COROPHIUM LACUSTRE	7	20	41	9
HM8	39 GAMMARUS PALUSTRIS	0	3	0	12
HM8	40 MELITA NITIDA	23	13	8	0
HM8	43 CHIRONOMID SP.	1	0	0	0
HM8	44 RITHROPANOPEUS HARRISII	0	9	3	6
HM9	02 MICRURA LEIDYI	0	2	4	5
HM9	03 HETEROMASTUS FILIFORMIS	21	9	9	14
HM9	05 NEREIS SUCCINEA	0	6	2	10
HM9	10 SCOLECOLEPIDES VIRIDIS	4	23	11	10
HM9	14 PELOSCOLEX SP.	4	0	0	0
HM9	19 MACOMA BALTHICA	7	5	7	3
HM9	20 MACOMA MITCHELLI	0	0	0	1
HM9	30 CYATHURA POLITA	17	12	13	13
HM9	33 EDOTEA TRILOBA	0	0	3	2
HM9	36 LEPTOCHIERUS PLUMULOSUS	131	132	144	140
HM9	37 COROPHIUM LACUSTRE	0	1	1	1
HM9	39 GAMMARUS PALUSTRIS	1	0	0	0
HM9	40 MELITA NITIDA	2	0	0	0
HM9	42 MONOCULODES EDWARDSI	6	2	2	0
HM10	01 DIADUMENE LEUCOLENA	2	0	0	0
HM10	02 MICRURA LEIDYI	0	5	0	4
HM10	03 HETEROMASTUS FILIFORMIS	14	4	5	6
HM10	05 NEREIS SUCCINEA	0	6	2	7
HM10	10 SCOLECOLEPIDES VIRIDIS	0	7	1	13
HM10	14 PELOSCOLEX SP.	6	0	0	0
HM10	19 MACOMA BALTHICA	14	14	13	32
HM10	20 MACOMA MITCHELLI	0	0	0	2
HM10	27 BALANUS SP.	0	0	4	0
HM10	30 CYATHURA POLITA	10	9	11	13
HM10	33 EDOTEA TRILOBA	0	2	0	1
HM10	36 LEPTOCHIERUS PLUMULOSUS	294	206	157	207
HM10	39 GAMMARUS PALUSTRIS	2	0	0	0
HM10	40 MELITA NITIDA	8	3	0	5
HM10	42 MONOCULODES EDWARDSI	2	0	0	0

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM14	02	MICRURA LEIDYI	0	9	1	6
HM14	03	HETEROMASTUS FILIFORMIS	40	11	13	22
HM14	05	NEREIS SUCCINEA	0	10	6	5
HM14	10	SCOLECOLEPIDES VIRIDIS	0	14	16	10
HM14	14	PELOSCOLEX SP.	90	0	0	0
HM14	18	LITTORIDINOPS SP.	2	0	0	0
HM14	19	MACOMA BALTHICA	6	39	54	55
HM14	20	MACOMA MITCHELLI	0	0	0	3
HM14	30	CYATHURA POLITA	4	7	10	8
HM14	33	EDOTEA TRILOBA	2	1	0	0
HM14	35	****35	410	0	0	0
HM14	36	LEPTOCHIERUS PLUMULOSUS	0	164	297	226
HM14	40	MELITA NITIDA	14	2	1	2
HM15	02	MICRURA LEIDYI	0	2	3	2
HM15	03	HETEROMASTUS FILIFORMIS	60	20	25	15
HM15	05	NEREIS SUCCINEA	0	14	10	10
HM15	10	SCOLECOLEPIDES VIRIDIS	0	15	3	18
HM15	14	PELOSCOLEX SP.	44	0	0	0
HM15	19	MACOMA BALTHICA	4	45	35	39
HM15	20	MACOMA MITCHELLI	4	1	2	0
HM15	30	CYATHURA POLITA	0	6	8	6
HM15	36	LEPTOCHIERUS PLUMULOSUS	1956	425	318	297
HM15	40	MELITA NITIDA	12	5	0	5
HM15	42	MONOCULODES EDWARDSI	4	0	0	0
HM16	02	MICRURA LEIDYI	8	5	4	6
HM16	03	HETEROMASTUS FILIFORMIS	119	148	88	70
HM16	05	NEREIS SUCCINEA	1	4	3	7
HM16	06	SCOLOPLOS FRAGILIS	1	0	0	0
HM16	10	SCOLECOLEPIDES VIRIDIS	0	5	2	3
HM16	11	STREBLOSPIO BENEDECTI	2	0	0	0
HM16	14	PELOSCOLEX SP.	138	0	0	0
HM16	19	MACOMA BALTHICA	19	125	83	128
HM16	20	MACOMA MITCHELLI	9	12	3	5
HM16	30	CYATHURA POLITA	1	0	0	0
HM16	33	EDOTEA TRILOBA	0	0	1	0
HM16	36	LEPTOCHIERUS PLUMULOSUS	1041	370	388	333
HM16	40	MELITA NITIDA	28	3	7	5
HM16	42	MONOCULODES EDWARDSI	2	0	0	0
HM17	03	HETEROMASTUS FILIFORMIS	93	31	15	36
HM17	05	NEREIS SUCCINEA	4	13	34	10
HM17	10	SCOLECOLEPIDES VIRIDIS	17	9	41	23
HM17	11	STREBLOSPIO BENEDECTI	0	1	0	0
HM17	14	PELOSCOLEX SP.	16	0	0	0
HM17	18	LITTORIDINOPS SP.	12	0	0	0
HM17	19	MACOMA BALTHICA	19	23	18	39
HM17	20	MACOMA MITCHELLI	16	11	1	14
HM17	22	MYA ARENARIA	0	0	0	2
HM17	28	NEOMYSIS AMERICANA	0	0	1	0
HM17	30	CYATHURA POLITA	4	2	1	0
HM17	33	EDOTEA TRILOBA	0	4	4	2
HM17	36	LEPTOCHIERUS PLUMULOSUS	457	135	316	333
HM17	37	COROPHIUM LACUSTRE	3	20	79	17
HM17	40	MELITA NITIDA	1	0	2	0
HM17	42	MONOCULODES EDWARDSI	0	1	1	0

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STATION	SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM19	02 MICRURA LEIDYI	4	8	6	3
HM19	03 HETEROMASTUS FILIFORMIS	8	0	1	0
HM19	05 NEREIS SUCCINEA	0	1	0	0
HM19	10 SCOLECOLEPIDES VIRIDIS	0	14	4	10
HM19	11 STREBLOSPIO BENEDECTI	4	0	0	0
HM19	14 PELOSCOLEX SP.	72	0	0	0
HM19	18 LITTORIDINOPS SP.	28	0	0	0
HM19	19 MACOMA BALTHICA	0	9	10	6
HM19	20 MACOMA MITCHELLI	0	3	4	2
HM19	30 CYATHURA POLITA	16	8	10	7
HM19	33 EDOTEA TRILOBA	8	3	2	1
HM19	36 LEPTOCHIERUS PLUMULOSUS	248	219	318	242
HM19	40 MELITA NITIDA	4	2	1	1
HM19	41 CHIRODOTEA ALMYRA	0	0	1	0
HM19	42 MONOCULODES EDWARDSI	0	0	0	1
HM20	10 SCOLECOLEPIDES VIRIDIS	0	3	1	0
HM20	21 RANGIA CUNEATA	0	1	1	3
HM20	30 CYATHURA POLITA	0	0	1	1
HM20	33 EDOTEA TRILOBA	0	0	0	2
HM20	36 LEPTOCHIERUS PLUMULOSUS	0	27	30	75
HM20	39 GAMMARUS PALUSTRIS	0	0	0	1
HM20	42 MONOCULODES EDWARDSI	0	1	0	1
HM21	02 MICRURA LEIDYI	4	0	0	0
HM21	03 HETEROMASTUS FILIFORMIS	32	4	4	3
HM21	05 NEREIS SUCCINEA	0	1	2	1
HM21	10 SCOLECOLEPIDES VIRIDIS	16	40	31	23
HM21	14 PELOSCOLEX SP.	8	0	0	0
HM21	18 LITTORIDINOPS SP.	24	0	0	0
HM21	19 MACOMA BALTHICA	4	1	1	2
HM21	20 MACOMA MITCHELLI	0	3	0	3
HM21	30 CYATHURA POLITA	4	5	4	7
HM21	33 EDOTEA TRILOBA	0	1	2	4
HM21	36 LEPTOCHIERUS PLUMULOSUS	220	262	351	310
HM21	37 COROPHIUM LACUSTRE	20	63	2	4
HM21	40 MELITA NITIDA	24	2	2	5
HM22	02 MICRURA LEIDYI	0	1	2	2
HM22	03 HETEROMASTUS FILIFORMIS	8	2	4	1
HM22	05 NEREIS SUCCINEA	0	0	0	1
HM22	10 SCOLECOLEPIDES VIRIDIS	2	13	21	19
HM22	14 PELOSCOLEX SP.	20	0	0	0
HM22	19 MACOMA BALTHICA	0	43	44	36
HM22	21 RANGIA CUNEATA	0	1	0	1
HM22	30 CYATHURA POLITA	14	15	16	16
HM22	33 EDOTEA TRILOBA	0	4	1	0
HM22	36 LEPTOCHIERUS PLUMULOSUS	108	209	227	171
HM22	37 COROPHIUM LACUSTRE	2	0	0	0
HM22	39 GAMMARUS PALUSTRIS	2	0	0	0
HM22	40 MELITA NITIDA	10	2	1	0
HM22	43 CHIRONOMID SP.	4	0	0	0

Table 7 cont'd.

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB # 1.0MM
HM23	02	MICRURA LEIDYI	0	0	0	1
HM23	03	HETEROMASTUS FILIFORMIS	0	0	0	2
HM23	10	SCOLECOLEPIDES VIRIDIS	0	0	1	17
HM23	16	ARCATULA RECURVUS	0	1	0	0
HM23	19	MACOMA BALTHICA	0	0	1	1
HM23	20	MACOMA MITCHELLI	0	1	0	3
HM23	22	MYA ARENARIA	0	1	0	2
HM23	30	CYATHURA POLITA	0	1	3	1
HM23	34	NEOHAUSTORIUS	0	0	1	4
HM23	36	LEPTOCHIERUS PLUMULOSUS	0	11	16	46
HM23	37	COROPHIUM LACUSTRE	0	0	1	2
HM23	39	GAMMARUS PALUSTRIS	0	1	1	1
HM23	42	MONOCULODES EDWARDSI	0	7	2	1
HM24	03	HETEROMASTUS FILIFORMIS	46	52	14	32
HM24	05	NEREIS SUCCINEA	1	7	5	8
HM24	10	SCOLECOLEPIDES VIRIDIS	205	125	61	100
HM24	11	STREBLOSPIO BENEDECTI	2	0	0	0
HM24	18	LITTORIDINOPS SP.	2	0	0	0
HM24	19	MACOMA BALTHICA	26	108	79	74
HM24	20	MACOMA MITCHELLI	3	30	19	13
HM24	22	MYA ARENARIA	2	2	1	3
HM24	28	NEOMYSIS AMERICANA	1	2	1	1
HM24	30	CYATHURA POLITA	4	3	2	1
HM24	33	EDOTEA TRILOBA	2	15	7	5
HM24	36	LEPTOCHIERUS PLUMULOSUS	283	151	97	141
HM24	37	COROPHIUM LACUSTRE	1	8	11	4
HM24	39	GAMMARUS PALUSTRIS	1	2	1	2
HM24	40	MELITA NITIDA	2	0	0	0
HM24	41	CHIRODOTEA ALMYRA	5	2	0	0
HM24	42	MONOCULODES EDWARDSI	2	6	1	5
HM25	02	MICRURA LEIDYI	1	1	4	2
HM25	03	HETEROMASTUS FILIFORMIS	31	41	52	128
HM25	05	NEREIS SUCCINEA	7	51	27	65
HM25	10	SCOLECOLEPIDES VIRIDIS	0	0	2	3
HM25	11	STREBLOSPIO BENEDECTI	1	0	1	1
HM25	13	LIMNODRILUS HOFFMEISTERI	1	0	0	0
HM25	14	PELOSCOLEX SP.	9	2	0	0
HM25	16	ARCATULA RECURVUS	1	1	2	4
HM25	17	CONGERIA LEUCOPHAETA	0	0	0	1
HM25	18	LITTORIDINOPS SP.	7	0	0	0
HM25	19	MACOMA BALTHICA	5	12	15	7
HM25	20	MACOMA MITCHELLI	3	0	3	1
HM25	27	BALANUS SP.	0	0	0	3
HM25	30	CYATHURA POLITA	2	0	3	1
HM25	33	EDOTEA TRILOBA	0	0	1	0
HM25	36	LEPTOCHIERUS PLUMULOSUS	197	63	102	26
HM25	37	COROPHIUM LACUSTRE	1	1	1	0
HM25	40	MELITA NITIDA	1	0	0	0
HM25	42	MONOCULODES EDWARDSI	0	0	0	1

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STATION		SPECIES	GRAB #1 .5-1.0MM	GRAB #1 1.0MM	GRAB #2 1.0MM	GRAB #3 1.0MM
HM26	02	MICRURA LEIDYI	0	5	3	1
HM26	03	HETEROMASTUS FILIFORMIS	56	21	7	26
HM26	05	NEREIS SUCCINEA	8	17	20	19
HM26	10	SCOLECOLEPIDES VIRIDIS	0	10	1	6
HM26	13	LIMNODRILUS HOFFMEISTERI	20	1	0	0
HM26	14	PELOSCOLEX SP.	1044	0	0	0
HM26	18	LITTORIDINOPS SP.	0	1	0	0
HM26	19	MACOMA BALTHICA	0	22	10	17
HM26	20	MACOMA MITCHELLI	0	6	14	7
HM26	21	RANGIA CUNEATA	0	0	0	1
HM26	30	CYATHURA POLITA	0	5	1	1
HM26	33	EDOTEA TRILOBA	0	3	4	1
HM26	36	LEPTOCHIERUS PLUMULOSUS	1036	366	333	449
HM26	37	COROPHIUM LACUSTRE	0	1	0	0
HM26	38	GAMMARUS DAIBERI	0	0	0	1
HM26	39	GAMMARUS PALUSTRIS	0	0	1	0
HM26	40	MELITA NITIDA	20	7	12	8
HM26	42	MONOCULODES EDWARDSI	4	0	2	1
HM26	43	CHIRONOMID SP.	0	0	1	0

Table 8. Results of water quality and physical data obtained at the sampling stations during the May 1982 cruise. Dash represents no data obtained. Sediments samples were sieved through the given sieve mesh sizes.

STATION	DEPTH(FT)	SALINITY $^{o}/oo$	TEMP-C	500	250	125	63	PAN	SILT	CLAY
HM1	2	-	-	5.05	14.58	30.58	14.48	.52	28.39	6.36
HM3	2	-	-	5.28	47.30	41.78	4.52	.01	.36	.72
HM6	10	3.3	20.4	9.40	1.95	4.39	6.42	1.43	56.09	20.28
HM7	10	-	-	3.00	1.56	1.75	5.90	.40	54.49	32.88
HM8	10	-	-	80.57	1.85	8.00	1.56	.27	6.47	1.24
HM9	15	4.5	19.5	4.22	15.95	34.36	2.58	.13	13.01	11.72
HM10	20	4.7	18.6	2.54	1.64	5.56	1.03	.29	67.37	21.54
HM14	10	4.7	19.4	5.82	2.12	4.64	3.17	.87	59.47	23.88
HM15	15	-	-	2.67	1.75	1.87	1.10	.29	68.91	23.38
HM16	20	5.1	19.1	3.14	2.39	1.58	.70	.30	68.46	23.39
HM17	10	5.3	19.2	5.97	14.05	21.30	38.16	1.06	12.68	6.75
HM19	15	3.7	20.4	2.41	2.31	3.21	9.33	.65	50.98	31.07
HM20	2	-	-	18.67	58.44	20.17	.52	.01	1.90	.25
HM21	10	-	-	8.05	25.08	12.69	3.62	.23	34.41	15.89
HM22	15	4.0	19.5	1.27	2.84	4.77	3.73	.61	65.68	21.06
HM23	2	-	-	.10	21.21	73.14	4.36	.01	1.10	.05
HM24	10	4.6	19.6	.25	1.14	58.51	31.73	.36	6.37	1.60
HM25	15	6.0	18.6	29.79	10.43	32.92	2.18	.18	18.24	5.85
HM26	15	-	-	2.60	1.55	7.65	34.85	2.94	42.97	7.41

July and disappear by early August (Kemp et al., 1981). If this occurred in 1981, we might not have been able to detect any traces of SAV by August 19, when our first survey was conducted. This was the earliest flight date after contract awarding.

Literature Cited

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CHAPTER VI

DATA ON METALS IN WATER, SEDIMENTS AND THE BIOTA

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Water Samples

1981-1982 Collection

Surface and bottom water samples were collected for metal analysis during the August 1981 cruise from the 8 water quality stations used for nutrient sampling. With the change of design in the nutrient sampling program, the water quality stations were altered in the November cruise and water collections for metal analysis corresponded to stations F1-F4 and N1-N4 described in Chapter III. Water samples for metal analysis from the November 1981 cruise were composited from throughout the water column.

Water column from the August and November cruises comprised all the samples taken for metal analysis in the 1981-1982 survey. The data from metal analysis of water samples are shown in tables 1 and 2.

Sediments

Tables 3 and 4 show results of both surficial and box core sediment analyses from the Hart/Miller Island area. Seven box core samples were analyzed at 3 x 4 cm depths. Nineteen surficial samples (top 2 cm.) were also analyzed (20 were planned, although one was lost). Together these samples formed a comprehensive array around the islands and were designed to give information on both historical (from different depths) and spatial distribution of metals. This information will be given in the interpretive report. See Chapter IV for stations.

Biota

The oyster, *Crassostrea virginica* and the mussel, *Brachiodontes recurvus* were obtained from the Swan Point oyster bar (the nearest source of live oysters) in August and were initially set in oyster trays at benthic sampling stations HM6, HM7, HM8 and HM14. When trays were lost they were replenished with animals from this site which were also monitored for trace metals in order to provide a reference for comparison of "Tray animals". HM7 and HM8 proved highly vulnerable, presumably as a result of heavy traffic in the area and only a single (November) sample was obtained from HM7. HM8 was lost every time. Trays at HM6 and HM14 were found every time although HM6 was accidentally lost in February when the buoy line was severed by the research vessel wheel after taking the sample. In November, another oyster station was added at the southernmost benthic station (HM23), and this was successfully sampled in February and May. Each sample of oysters and mussels consisted of about 20 individuals (the mussels, however, were only found on oysters in the August, November and February sampling but not in the May sampling).

As with other species used in this investigation, an important aspect of this years study was the determination of a reasonable sample size, a cumulative mean from samples of up to 30 individuals showed that as many as 20 individuals should be analyzed in order for the mean metal concentration to stabilize close to the "population mean" (from all 30 specimens). The data from metal analysis of oysters and mussels are shown in tables 5 through 23.

The clams (Macoma), shrimps (Leptocheirus), and worms (Scolecolipedes viridis) were found on all four cruises (August and November 1981, and February and May 1982). A set of individual animals for each of these species was analyzed in August, along with the pooled samples so as to detect variability between the individual animals. From the data in tables 24, 28 and 31, it can be shown that a large amount of variability does exist between the individual animals. Only pooled samples of each of these species were analyzed in November, February, and May.

The complete data are shown in tables 24 through 33.

Sampling of fish, white perch (Morone americana) and Spot (Leiostomus xanthurus), and the crabs (Callinectes sapidus) were done only in August 1981 and the data is on tables 34, 35 and 36. Sampling of fish and crabs will continue on a once yearly basis, although the number of crabs per collection will be reduced from 10 to 8 and the number of Spot and white perch collections will be reduced from 4 to 3.

Another species of fish, the silverside (Menidia menidia), was sampled in pooled collections (of 8 specimens) on the May cruise. We hope to be able to add this species to the ones we are collecting on future cruises. The May data from Menidia collected from 5 different shoreline stations is shown on table 37.

All sites referred to in this report correspond to the benthic collection stations used in Project V and the water quality stations used in Project III.

Trace Metal Analyses

Water Samples

After collection in acid-washed polyethylene bottles, samples were frozen for the duration of the cruise. On return to the laboratory, thawed samples were filtered through 0.45 µm Millepore filters. The filtrates were acidified with 1N nitric acid and stored in a refrigerator pending analyses. The filters were dried and stored for particulate metal analysis. Particulate metal analysis was done after digestion of the filter with concentrated nitric acid. Cadmium, chromium, copper, lead, manganese, nickel, tin and zinc were analysed in filter digests using a graphite furnace AAS method. Mercury was analysed in a mercury analyser following reduction with stannous chloride. Selenium and arsenic were analysed by flameless AAS following hydride generation.

In the filtrates (referred to as the soluable metal fraction), tin, mercury, selenium and arsenic were all analysed using flameless techniques. For the August 1981 samples, arsenic was analysed by plasma emission spectroscopy following oxalic acid addition, although flameless AAS following hydride generation was employed for the November 1981 samples. The latter technique was also used for tin and selenium. In all cases 25 water samples were used. Soluble mercury was analysed in a 100 ml sample following reduction by stannous chloride.

For other metals the soluble fraction was first chelated with 1% DDDC + 1% APDC and extracted into MIBK at a ratio of 5 mls MIBK/ℓ water. The pH for extraction varied according to the metal. Details are given in the individual EPA methodologies summarized in appendix 1.

Tissue and Sediment Samples

All tissue and sediment samples were analysed on a dry weight basis with the exception of sediment tin and arsenic analyses which were performed on a wet weight basis. All animals were analysed on a whole (dry) weight basis (soft parts only for clams, mussels and oysters.) However, for white perch and spot, guts were removed prior to analysis. In all cases, digestion in concentrated nitric acid was performed according to the prescribed EPA method. Details of these methodologies are given under the EPA reference numbers summarized in appendix 1.

Metals in Tissue were analysed on a whole dry weight basis is
Organic chemicals in Tissue were analysed on a whole wet weight basis,
see page 214

Appendix I

DESCRIPTION OF CHEMICAL ANALYTICAL METHODOLOGY

Arsenic (As) in sediments/tissue: Follows digestion procedure in EPA Methods for Chemical Analysis of Water and Wastes (1979) (206.5) followed by Atomic Absorption Spectrophotometry (AAS) using hydride generation (EPA 206.3)

Arsenic (As) in water (a) Filteration of water through 0.45 μm filter. Addition of 5ml concentrated nitric acid to 1L water and 10ml concentrated sulphuric acid to 1L water. Evaporate to <½ volume before AAS (EPA 206.3)

Arsenic (As) in water (b) Plasma emission spectroscopy of filtered acidified water following oxalic acid addition

Cadmium (Cd) in sediments/tissue (a) Nitric acid digestion at 80°C followed by graphite furnace AAS (EPA 213.2)

Cadmium (Cd) in sediments/tissue (b) Nitric acid digestion at 90°C followed by direct aspiration AAS (EPA 213.1)

Cadmium (Cd) in water: EPA special extraction procedure (EPA Note METALS 9.2) followed by graphite furnace AAS (EPA 213.2)

Chromium (Cr) in sediments/tissue (a) Nitric acid digestion at 90°C followed by graphite furnace AAS (EPA 218.2)

Chromium (Cr) in sediments/tissue (b) Nitric acid digestion at 90°C followed by direct aspiration AAS (EPA 218.1)

Chromium (Cr) in water. EPA extraction technique 218.3 followed by graphite furnace AAS (EPA 218.2)

Mercury (Hg) in tissue/sediment: EPA cold vapor technique 245.5

Mercury (Hg) in water: EPA Stannous Chloride technique 245.1

Nickel (Ni) in tissue/sediment (a) Nitric acid digestion followed by graphite furnace AAS (EPA 249.2)

Nickel (Ni) in tissue/sediment (b) Nitric acid digestion followed by direct aspiration AAS (EPA 249.1)

Nickel (Ni) in water - EPA special extraction procedure (EPA Note METALS 9.2) followed by graphite furnace AAS (EPA 249.2)

Selenium (Se) in tissue/sediment. EPA digestion method 206.5 followed by AAS using hydride generation

Lead (Pb) in tissue/sediment (a) Digestion with nitric acid followed by graphite furnace AAS (EPA 239.2)

Lead (Pb) in tissue/sediment (b) Digestion with nitric acid followed by direct aspiration AAS (EPA 239.1)

BRIEF DESCRIPTION OF CHEMICAL METHODOLOGY (Continued)

Lead (Pb) in water: EPA special extraction procedure (EPA note METALS 9.2) followed by graphite furnace AAS (EPA 239.2)

Iron (Fe) in tissue/sediment - nitric acid digestion followed by direct aspiration AAS (EPA 236.1)

Tin (Sn) in tissue/sediment (a) nitric acid digestion followed by graphite furnace AAS (EPA 282.2)

Tin (Sn) in tissue/sediment (b) nitric acid digestion followed by direct aspiration AAS (EPA 282.1)

Tin (Sn) in water: Perkin Elmer AAS method using hydride generation

Manganese (Mn) in tissue/sediment (a) nitric acid digestion followed by graphite furnace AAS (EPA 243.2)

Manganese (Mn) in tissue/sediment (b) nitric acid digestion followed by direct aspiration AAS (EPA 243.1)

Manganese (Mn) in water - EPA special extraction procedure (EPA note METALS 9.2) followed by graphite furnace AAS (EPA 243.2)

Zinc (Zn) in tissue/sediment (a) nitric acid digestion followed by graphite furnace AAS (EPA 289.2)

Zinc (Zn) in tissue/sediment (b) nitric acid digestion followed by direct aspiration AAS (EPA 289.1)

Zinc (Zn) in water - EPA special extraction method (EPA note METALS 9.2) followed by graphite furnace AAS (EPA 289.2)

Copper (Cu) in tissue/sediment (a) nitric acid digestion followed by graphite furnace AAS (EPA 220.2)

Copper (Cu) in tissue/sediment (b) nitric acid digestion followed by direct aspiration AAS (EPA 220.1)

Copper (Cu) in water - EPA special extraction method (EPA note METALS 9.2) followed by graphite furnace AAS (EPA 220.2)

Trace Metal Analyses of Water From Water Quality Stations

For August 1981

Metal Concentration ($\mu g l^{-1}$)

Sample Ref. No.	Ni	Cu	Zn	Cd	As	Pb	Cr	Mn	Hg	Se	S=Soluble P=Particul
WQ 1 Surface	1.0	1.8	4.8	0.1	1.2	1.0	<5.0	8.4	<1.0	<1.0	S
	7.9	9.8	20.4	0.1	4.9	3.2	10.0	9.2	0.5	0.5	P
WQ 1 Bottom	0.8	2.0	5.2	0.5	1.3	1.8	<5.0	6.8	<1.0	<1.0	S
	8.5	9.8	21.6	0.1	5.0	1.2	4.1	23.4	1.1	0.5	P
WQ 2 Surface	0.5	1.9	4.8	0.4	0.8	1.1	<5.0	4.0	<1.0	<1.0	S
	4.6	10.3	27.3	0.1	1.2	5.7	4.1	5.4	0.0	0.5	P
WQ 2 Bottom	0.5	3.2	7.4	0.4	0.9	0.9	<5.0	4.8	<2.0	<1.0	S
	5.6	10.8	26.4	0.2	1.2	9.2	6.8	10.6	0.2	0.0	P
WQ 3 Surface	0.3	0.9	1.5	0.5	0.75	1.0	<5.0	2.1	<1.0	<1.0	S
	1.9	8.7	15.9	0.2	0.45	1.0	2.5	4.7	0.5	0.0	P
WQ 3 Bottom	0.2	1.3	1.9	1.0	1.0	1.8	<5.0	2.8	<1.0	<1.0	S
	2.6	9.5	16.3	0.1	0.1	3.0	12.6	2.6	0.5	0.5	P
WQ 4 Surface	0.4	0.8	1.2	0.3	1.0	1.9	<5.0	2.7	<1.0	<1.0	S
	3.8	7.4	14.2	0.1	0.1	2.3	5.1	3.4	0.6	1.0	P
WQ 4 Bottom	0.5	1.4	0.9	0.3	1.0	1.0	<5.0	1.5	<1.0	<1.0	S
	4.3	6.6	15.9	1.9	0.5	3.9	6.6	5.3	0.8	1.3	P
WQ 5 Surface	0.4	0.4	3.0	0.16	1.0	0.26	<5.0	1.5	<1.0	<1.0	S
	2.6	8.7	52.1	0.0	0.5	2.14	7.8	4.3	0.0	0.2	P
WQ 5 Bottom	1.1	3.8	6.2	0.15	0.9	0.29	<5.0	4.5	<1.0	<1.0	S
	4.3	6.6	51.8	0.25	1.0	2.31	9.0	11.1	1.0	2.0	P
WQ 6 Surface	1.1	2.1	4.2	0.4	1.0	1.0	<5.0	5.8	<1.0	<1.0	S
	2.6	7.5	21.8	0.1	0.1	1.9	2.8	20.4	0.5	0.2	P
WQ 6 Bottom	0.2	3.2	4.1	0.4	1.0	0.45	<5.0	6.4	<1.0	<1.0	S
	1.8	8.0	26.3	0.2	0.1	9.15	7.1	26.4	0.3	0.2	P
WQ 7 Surface	1.2	0.8	4.8	0.1	1.1	0.64	<5.0	2.4	<1.0	<1.0	S
	3.2	5.4	28.8	0.2	0.0	7.46	3.1	12.8	0.2	0.2	P
WQ 7 Bottom	1.3	0.8	7.4	0.4	0.7	0.3	<5.0	2.5	<1.0	<1.0	S
	3.3	8.1	32.8	0.2	0.8	2.9	8.1	14.3	1.0	0.2	P
WQ 8 Surface	2.2	2.8	2.0	0.35	0.9	0.4	<5.0	2.1	<1.0	<1.0	S
	3.8	7.1	24.8	0.85	0.0	3.4	5.2	7.1	0.2	0.5	P
WQ 8 Bottom	1.8	0.9	1.5	0.35	0.9	0.3	<5.0	4.0	<1.0	<1.0	S
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Trace Metal Analyses of Water from Water Quality Stations

For November 1981

Metal Concentration ($\mu g l^{-1}$)

Sample Ref. No.	Ni	Cu	Zn	Cd	Hg	Pb	Cr	Mn	As	Se	S=Soluble P=Particulate
F1	0.25	1.4	0.76	0.21	<2.0	0.48	<5.0	3.7	<1.0	<1.0	S
	1.5	4.1	22.64	0.21	3.0	1.2	4.7	1.8	1.0	1.0	P
F2	0.28	1.5	1.4	0.3	<2.0	0.5	<5.0	3.1	<1.0	<1.0	S
	0.63	4.1	35.4	0.3	1.0	2.6	6.2	2.4	2.0	2.1	P
F3	0.27	1.0	3.1	0.2	2.0	0.8	<5.0	5.0	<1.0	<1.0	S
	0.38	6.6	25.3	0.3	2.0	2.3	6.0	0.9	2.0	2.1	P
F4	0.18	1.2	1.5	0.16	1.6	0.7	<5.0	4.6	<1.0	<1.0	S
	0.75	4.05	23.8	2.78	1.4	3.7	8.1	1.4	2.0	2.2	P
N1	0.5	0.4	1.4	<0.1	1.5	0.36	<5.0	4.1	<1.0	<1.0	S
	2.75	6.84	31.1	0.62	1.6	2.4	6.2	1.53	1.0	1.5	P
N2	0.2	1.7	1.2	<0.06	<1.0	0.34	<5.0	2.5	<1.0	<1.0	S
	1.5	8.3	33.0	1.24	2.5	2.5	4.1	1.4	2.5	2.0	P
N3	0.5	1.8	0.9	0.2	<1.0	0.26	<5.0	3.1	<1.0	<1.0	S
	1.4	8.1	20.8	0.91	1.5	2.6	5.7	1.5	0.5	0.8	P
N4	0.4	2.1	1.8	0.2	1.5	<0.1	<5.0	2.8	1.0	<1.0	S
	2.0	8.5	32.7	0.4	1.5	3.8	12.6	6.3	2.6	1.0	P

Table 3

Trace Metal Analysis of Sediment

For August 1981

Surfical

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
1	48.72	92.2	.130	16.96	11.1	33.42	740.1	0.083	3.42	.002	5.89	15,582
2	26.21	62.1	.064	10.79	5.48	32.39	1160	0.043	1.35	.005	1.63	8804
3	51.87	188	.191	37.80	24.6	52.10	4993	0.117	10.43	.048	3.64	22,235
5	212.0	313	.317	61.82	38.7	162.6	5313	0.121	32.52	.221	0.44	52,692
6	335.8	336	.291	65.54	39.9	153.4	7352	0.095	14.41	.271	12.08	50,909
7	146.7	349	.284	53.40	33.7	63.88	7344	0.085	14.06	.333	3.5	43,192
8	105.8	721	.303	60.53	43.0	31.86	7977	0.087	13.67	.338	7.25	48,961
9	150.2	339	.305	52.62	50.0	30.65	5997	0.073	13.48	.259	8.27	28,57[illegible]
10	12.46	64.8	.067	11.65	8.25	41.01	3685	0.051	1.85	.002	1.33	9989
11	19.56	40.6	.032	8.71	5.88	21.89	1165	0.037	1.72	.001	2.18	12,89[illegible]
12	50.02	84.9	.068	14.11	9.15	47.50	5243	0.043	2.73	.001	0.23	13,11[illegible]
13	65.04	136	.084	23.41	18.0	51.27	1799	0.081	5.1	.154	1.46	16,86[illegible]
14	63.57	134	.123	18.95	8.80	41.10	6920	0.016	3.7	.003	<0.25	15,44[illegible]
15	156.6	371	.231	66.78	45.3	161.9	5102	0.125	16.69	.030	5.22	65,039
16	73.93	186	.161	40.80	29.2	78.04	3354	0.072	5.88	.061	11.85	27,665
17	139.7	391	.225	63.42	42.6	157.1	6202	0.087	14.66	.277	7.12	54,06[illegible]
18	97.31	397	.224	67.38	39.8	39.36	3525	0.082	12.17	.173	5.41	61,12[illegible]
19	130.5	361	.282	71.31	54.9	207.8	2904	0.101	12.58	.204	8.16	45,29[illegible]
20	172.6	499	.433	82.94	51.9	196.2	7517	0.082	20.61	.110	12.07	51,51[illegible]
Mean	108.3	267	0.201	43.65	29.49	84.39	4621	0.078	3.738	0.131	2,025	33,89[illegible]
Standard ± Deviation	79.16	±179	0.111	24.79	17.34	64.34	2321	0.029	2.441	0.124	1.353	19,37[illegible]

Trace Metal Analysis of Sediment

For August 1981

Trace Cores

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC1 Top	440.4	1025	1.02	203.6	106.8	387.8	11,410	0.401	43.8	1.60	11.82	102.092
BC1 Middle	156.8	283	.188	78.47	16.6	93.98	1709	0.503	29.53	.703	4.98	59,670
BC1 Bottom	131.8	162	.103	75.74	11.2	73.88	1542	0.058	28.12	.236	5.43	53,903
BC2 Top	198.9	412	.298	60.39	63.8	153.2	3541	0.101	24.62	.628	14.01	56,322
BC2 Middle	239.0	60.2	.447	95.98	97.8	189.4	3082	0.290	32.6	1.61	3.98	60,638
BC2 Bottom	160.6	343	.219	62.24	71.0	140.9	2471	0.233	21.77	1.21	1.47	47,255
BC3 Top	183.2	430	.556	86.59	21.8	149.3	6416	0.225	23.97	.783	3.59	63,689
BC3 Middle	230.6	597	.522	67.58	58.4	193.8	2282	0.303	28.95	1.82	3.64	54,421
BC3 Bottom	102.2	298	.338	72.56	79.0	162.3	1951	0.096	26.67	1.02	3.84	59,579
BC4 Top	171.1	363	.425	65.20	35.6	170.4	3271	0.087	15.79	.604	22.59	45,428
BC4 Middle	104.7	328	.417	54.97	30.0	128.7	3170	0.034	15.84	.476	1.48	53,475
BC5 Top	47.89	128	.174	34.36	8.59	55.35	1193	0.078	10.08	.370	0.89	24,877
BC5 Middle	29.44	91.1	.271	33.53	7.43	62.72	937.7	0.101	7.96	.128	0.192	41,078
BC5 Bottom	34.12	90.3	.103	36.76	7.04	48.36	1459	0.032	18.89	.211	<2.0	23,934

Trace Metal Analysis of Sediment
For August 1981; Trace Cores
Page 2 ; Table 4

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC6 Top	159.9	412	.387	80.75	57.8	171.8	3573	0.078	20.66	.485	7.53	59,120
BC6 Middle	60.66	141	.204	49.54	13.6	73.44	1282	0.068	19.05	.324	2.22	39,720
BC6 Bottom	81.84	127	.163	69.24	8.78	70.89	1260	0.056	22.25	.294	0.361	38,152
BC7 Top	173.4	510	.835	148.8	56.5	237.9	1112	0.168	19.93	.602	20.3	50,768
BC7 Middle	204.7	582	.941	180.4	75.6	248.5	1090	0.22	22.42	.810	13.57	49,818
BC7 Bottom	268.2	631	.969	188.9	59.2	274.6	1210	0.157	19.48	.736	6.63	52,986
BC7 Sed. Top	196.1	452	.922	136.6	77.0	234.6	1002	0.168	16.92	.606	26.9	54,696
Mean	155.98	356	0.452	89.63	45.88	158.18	2617.3	0.165	8.424	0.727	2.636	51,982
Standard ± Deviation	96.316	235	0.306	51.20	32.16	86.10	2408.5	0.126	2.898	0.479	2.780	15,785

Trace Metal Analysis of Sediment
For August 1981; Trace Cores
Page 2 ; Table 4

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn	Fe
BC6 Top	159.9	412	.387	80.75	57.8	171.8	3573	0.078	20.66	.485	7.53	59,120
BC6 Middle	60.66	141	.204	49.54	13.6	73.44	1282	0.068	19.05	.324	2.22	39,720
BC6 Bottom	81.84	127	.163	69.24	8.78	70.89	1260	0.056	22.25	.294	0.361	38,152
BC7 Top	173.4	510	.835	148.8	56.5	237.9	1112	0.168	19.93	.602	20.3	50,768
BC7 Middle	204.7	582	.941	180.4	75.6	248.5	1090	0.22	22.42	.810	13.57	49,818
BC7 Bottom	268.2	631	.969	188.9	59.2	274.6	1210	0.157	19.48	.736	6.63	52,986
BC7 Sed. Top	196.1	452	.922	136.6	77.0	234.6	1002	0.168	16.92	.606	26.9	54,696
Mean	155.98	356	0.452	89.63	45.88	158.18	2617.3	0.165	8.424	0.727	2.636	51,982
Standard ± Deviation	96.316	235	0.306	51.20	32.16	86.10	2408.5	0.126	2.898	0.479	2.780	15,785

Eastern Oyster

Trace Metal Analysis of Oysters (<u>Crassostrea</u> <u>virginica</u>)

For August 1981

X168827

Sample Station Swan Point

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	7.7	4248	7.55	2.44	320	7.1	46.06	.368	.033	.540	.322
2	11.98	7006	10.4	3.99	499	5.0	101.8	.514	.560	2.08	<.205
3	5.46	2254	13.6	4.11	131	0.45	82.50	.121	.406	.791	.140
4	26.0	3128	13.5	5.15	66.4	2.2	117.6	.417	.956	2.46	.928
5	7.4	3489	34.2	1.81	448	1.87	109.0	.268	.744	.496	.105
6	8.24	5718	28.9	1.93	512	2.06	101.4	.23	.569	2.01	.135
7	6.00	17,470	23.7	1.70	388	3.10	110.9	.084	1.48	1.70	<.126
8	4.08	1739	10.8	1.18	210	2.27	54.64	.105	.394	.429	.182
9	7.14	3127	11.9	8.26	512	6.21	175.4	.286	.766	.933	<.214
10	19.2	42,880	--	18.32	825	45.0	1038	.769	2.55	2.89	1.500
11	5.53	18,123	8.87	1.98	491	2.94	107.5	.127	.366	.311	<.949
12	8.22	16,293	13.2	1.24	549	2.2	63.39	.222	.931	.448	<.111
13	7.38	23,945	14.3	1.58	653	4.0	131.4	.128	.819	.627	<.077
14	8.03	67,283	14.6	2.36	1019	5.78	155.8	.223	1.05	.873	<.134
15	8.9	10,174	9.99	1.88	595	2.41	111.4	.156	1.29	.530	.358
16	5.5	12,724	8.68	1.84	434	2.06	77.62	.246	.752	.536	<.123
17	8.62	14,896	11.9	1.37	508	1.91	68.83	.287	.771	.609	<.086
18	8.67	17,075	28.6	1.45	491	1.32	75.82	.145	.972	.688	<.867
19	8.11	27,606	26.6	1.59	729	2.46	95.18	.262	.858	.657	<.785
20	8.13	6714	15.6	1.84	151	1.87	151.5	.208	.871	2.02	<.125
21	12.5	13,139	33.1	3.77	278	3.68	190.5	.465	1.66	1.57	<.174
22	7.88	18,205	20.6	1.15	398	4.10	71.20	.268	.986	.428	<.101
23	10.75	24,101	22.1	1.24	336	2.46	64.44	.125	1.01	.432	<.075

Trace Metal Analysis of Oysters (Crassostrea virginica)
For August 1981; Sample Station Swan Point (Cont'd)
Table 5

Sample I.D.	Ni	Done Zn	Done Cd	Cr	Cu	Pb	Mn	Hg	OK As	Se	Sn
24	8.6	10.700	16.3	2.07	257	2.48	172.2	.247	1.98	1.55	<.269
25	12.6	12,230	16.7 missing	4.20	182	3.10	105.0	.328	1.38	1.69	<.123
26	11.7	22,093	12.4	1.39	505	0.99	96.33	.178	.672	.912	<.113
27	7.6	12,878	9.21	.926	570	5.01	31.33	.221	.414	.172	<.083
28	5.8	9450	21.9	2.08	109	2.22	108.2	.227	1.26	1.72	<.136
29	6.1	68.112	16.8	1.86	486	1.51	123.6	.185	.931	.881	<.111
30	11.9	7685	20.9	17.97	296	2.39	275.3	.463	2.09	2.50	<.278
Mean	9.19	16,816	17.13	3.39	431.61	4.34	137.11	.262	.984	1.12	
Standard ± Deviation	4.36	16,474	7.73	4.28	215.83	7.84	178.08	.146	.548	.762	

40809

Table 6

Trace Metal Analysis of Oysters (Crassostrea virginica)

for November 1981

X1F5975

Sample Station HM6

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	.098	340	3.68	.461	23.0	086	12.87	.065	1.02	.387	<.049
2	6.90	6166	15.7	1.41	45.9	0.96	39.82	.072	1.56	.453	<.109
3	4.04	2183	8.27	.854	22.3	0.51	22.18	.054	1.44	.566	<.068
4	2.93	13,499	12.0	.850	85.1	0.55	26.05	.26	1.78	.076	<.078
5	.836	7893	11.7	.709	52.1	0.38	22.98	.119	1.48	.190	<.089
6	.959	945	6.60	.517	21.3	0.20	17.91	.090	1.29	.517	<.068
7	.073	1836	4.57	.490	19.8	0.05	21.45	.045	1.08	.083	<.083
8	4.80	30,145	22.6	1.06	233	1.46	36.81	.139	2.85	.340	<.140
9	.097	6805	12.4	.854	105	0.35	25.68	.108	2.98	2.62	<.081
10	4.24	16,772	17.6	.748	177	2.57	37.86	.491	1.65	.158	<.147
11	.229	6570	16.8	.317	37.4	0.50	10.01	.107	1.50	.315	<.064
12	.092	16,117	26.1	.675	41.6	0.26	43.37	.144	2.16	.374	<.086
13	1.67	5982	10.9	.413	117	0.98	17.17	.039	1.23	.311	<.058
14	.765	6290	9.16	.475	55.1	0.6	16.54	.067	1.65	.471	<.050
15	.050	1202	2.55	.459	14.0	0.03	11.18	.063	1.67	.562	<.063
16	.580	18,240	4.60	.456	52.5	0.07	19.47	.072	1.77	.190	<.071
17	.377	8885	5.88	.610	39.6	0.93	17.66	.070	1.62	.346	<.069
18	2.92	12,811	5.63	.845	256	0.69	25.48	.064	1.43	.228	<.096
19	3.68	27,528	17.4	1.39	302	1.08	18.71	.209	1.74	.076	<.313
20	.021	9043	14.5	.742	95.2	0.55	36.78	.060	1.91	.102	<.089
21	1.61	8878	8.91	.831	107	0.98	25.24	.08	1.83	.179	<.100
22	2.20	28,665	13.3	.523	14.9	0.81	14.88	.105	1.48	.026	<.132
23	1.22	6756	12.3	.509	123	0.80	23.94	.069	1.55	.148	<.086

Trace Metal Analysis of Oysters (Crassostrea virginica)
For November 1981; Sample Station HM6
Page 2; Table 6

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
24	1.24	5251	9.04	.540	140	0.86	26.00	.059	1.55	.094	<.074
25	2.30	9580	18.1	1.92	112	1.02	33.87	.105	2.03	.322	<.132
26	4.10	11,007	19.5	.675	61.5	0.75	24.81	.069	1.45	.411	<.086
27	2.42	9482	18.9	.973	67.3	0.99	23.98	.067	1.45	.282	<.083
28	4.48	11,430	15.6	1.72	286	0.68	44.09	.05	1.60	.269	<.250
29	.775	2595	8.57	.649	29.9	0.26	27.63	.039	1.25	.549	<.078
30	.122	4890	9.75	.440	44.4	0.39	18.12	.038	1.70	.292	<.064
Mean	1.86	9926	1202	.770	93.88	.204	24.75	.101	1.66	0.286	
Standard ± Deviation	1.82	7889	5.88	.389	8219	.495	9.28	.088	0.088	0.158	

XIF 391425 76 2225

Table 7

Trace Metal Analysis of Oysters (Crassostrea virginica)

For November 1981

XIF 4424
XIF 4324

Sample Station HM14

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	2.41	462	26.2	1.62	110	0.64	35.54	.063	2.47	1.86	<.115
2	4.74	11,520	37.0	.667	248	1.25	17.50	.058	1.26	.757	<.035
3	.306	1576	18.2	1.71	51.9	0.19	62.74	.12	1.47	1.02	<.060
4	12.6	3789	22.6	2.43	90.3	0.63	103.5	.15	2.06	1.26	<.088
5	.489	187.5	6.28	.961	32.1	0.05	41.56	.06	1.72	1.17	<.043
6	1.72	6974	7.84	1.05	164	1.40	36.18	.16	1.90	1.24	<.063
7	2.53	1538	11.2	.894	31.2	0.16	22.99	.037	1.43	1.15	<.058
8	39.6	5900	12.0	1.12	173	13.5	33.08	.136	1.04	1.14	<.075
9	33.5	3229	105	4.22	149	1.87	77.85	.072	.370	3.58	<.375
10	6.84	13,066	16.6	1.46	49.2	1.46	50.58	.055	1.11	1.41	<.075
11	14.5	6700	12.9	1.20	227	1.68	48.87	.138	1.09	2.20	<.100
12	1.06	379	4.79	.550	31.0	0.02	21.53	.063	1.43	.924	<.041
13	15.7	11,597	39.7	4.60	536	9.27	192.2	.067	1.32	1.10	<.136
14	9.93	35,739	21.7	1.30	524	2.02	39.83	.115	.127	1.34	<.060
15	7.00	9,200	24.7	1.61	280	2.24	73.47	.104	.804	1.40	<.068
16	15.5	21,204	34.5	2.10	677	1.98	106.6	.106	.703	1.18	<.115
17	4.55	7571	18.8	.728	233	1.92	24.91	.078	1.62	1.52	<.063
18	2.09	3132	11.1	1.40	85.1	0.93	59.27	.075	1.39	1.29	<.056
19	13.3	6015	21.0	1.43	169	0.68	37.42	.052	1.08	1.37	<.115
20	7.77	29,846	24.3	1.23	432	1.21	25.30	.057	1.92	.519	<.065
21	14.9	7972	13.4	1.06	304	2.12	45.00	.060	2.65	.960	<.088
22	.376	5314	16.6	.615	74.4	0.98	24.50	.082	2.61	1.16	<.056

Trace Metal Analysis of Oysters (Crassostrea virginica)
For November 1981; Sample Station HM14
Page 2 ; Table 7

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
23	6.43	6219	34.0	1.02	155	1.11	29.10	.056	3.22	1.64	<.075
24	.130	1808	8.68	1.01	28.7	1.50	59.20	.054	3.14	1.58	<.088
25	3.48	3269	17.0	1.36	147	0.95	40.59	.015	3.18	1.15	<.071
26	0.90	4228	21.7	1.45	90.1	0.85	52.57	.039	2.02	.761	<.075
27	0.86	6377	27.3	1.29	77.2	0.71	48.15	.071	2.05	1.05	<.068
Mean	8.27	7956	20.9	1.485	187.75	1.90	52.2	0.079	1.72	1.33	
Standard ± Deviation	9.75	8539	19.9	0.945	174.36	2.86	36.01	0.037	0.766	0.572	

Table 8

Trace Metal Analysis of Oysters (<u>Crassostrea</u> <u>virginica</u>)

For November 1981

Sample Station Swan Point

(values as μg/g dry wt.)

XH688 72

Sample I.D.	9# Ni	9# Zn	9# Cd	9# Cr	9# Cu	9# Pb	9# Mn	9# Hg	9# As	9# Se	9# Sn
1	0.58	505	8.86	.810	17.1	0.13	26.33	.056	2.03	.521	<.083
2	5.00	615	4.22	1.43	30.6	0.13	44.08	.054	1.39	1.16	<.054
3	1.61	226	1.78	.567	47.7	0.05	9.72	.015	1.70	.416	<.037
4	0.43	7.09	5.21	.611	21.6	0.06	15.29	.039	1.45	.432	<.048
5	2.39	5112	13.5	1.39	88.1	0.28	50.44	.071	1.48	.707	<.071
6	14.46	2903	14.8	.594	92.2	0.12	17.37	.086	1.30	.426	<.054
7	5.81	10,976	17.5	1.27	74.4	0.19	45.79	.086	2.16	.719	<.054
8	1.28	1548	17.0	.725	24.4	0.14	19.26	.033	1.94	.876	<.083
9	3.90	6346	9.12	.762	196	0.19	20.12	.075	1.98	.998	<.075
11	0.45	1389	17.5	.636	43.4	0.35	17.35	.058	3.10	.902	<.054
12	2.14	1116	7.55	.745	39.0	0.11	30.34	.064	2.19	.682	<.052
13	9.77	3157	2.64	2.13	125.0	0.17	91.56	.052	1.43	.147	<.083
14	10.92	8208	36.8	1.15	199	0.34	32.82	.033	2.36	.966	<.060
15	11.25	5770	20.9	.873	223	0.24	32.03	.024	2.72	.105	<.068
16	14.16	7233	14.8	1.46	244	0.74	36.94	.027	3.23	.602	<.083
17	1.58	994	21.0	.880	34.7	0.11	36.28	.050	2.12	1.21	<.083
18	0.77	1475	4.52	.835	26.3	0.09	29.21	.045	1.81	.715	<.046
19	17.81	6710	12.0	1.41	343	0.47	47.53	.094	3.25	.837	<.096
20	13.10	6509	23.2	1.27	198	0.33	44.21	.156	4.45	.830	<.079
21	0.83	1228	8.55	.552	51.5	0.07	15.81	.054	3.45	.947	<.046

Skipped #10

Trace Metal Analysis of Oysters (*Crassostrea virginica*)
For November 1981; Sample Station Swan Point
Page 2; Table 8

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
22	9.79	6419	16.1	.694	167	0.33	25.17	.044	3.46	.780	<.044
23	1.30	1580	.815	.481	28.4	0.06	14.74	.024	2.62	.048	<.041
24	17.25	9898	30.0	2.21	284	1.47	115.5	.075	4.66	.596	<.125
25	11.63	7029	12.7	1.20	260	1.39	40.56	.054	3.56	.234	<.117
Mean	6.59	4069	13.38	1.03	138.41	0.315	35.77	0.057	2.493	0.755	
±Standard Deviation	5.97	3302	8.92	0.473	127.49	0.378	24.24	0.030	0.960	0.321	

Table 9

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

Sample Station Swan Point

XHG 8872
2/22/82

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
1 7321	4.19	3877	4.37	1.60	144.0	.445	21.06	<0.014	2.01	2.61
2	-	-	-	-	-	-	-	<0.014	-	-
3	3.64	9623	11.55	.990	543.2	.663	13.39	<0.014	2.34	1.28
4	1.79	2624	15.94	1.15	122.1	.309	17.78	<0.014	1.86	2.26
5	4.62	-	21.98	-	-	-	-	<0.014	-	-
6	1.58	9278	7.89	.894	407.9	.391	24.47	<0.014	2.59	1.57
7	-	-	-	.605	-	-	-	<0.014	-	-
8	2.35	13,286	11.92	1.07	540.2	.437	6.31	<0.014	2.25	1.79
9	2.94	12,122	14.58	.888	463.7	.313	9.00	0.056	1.98	1.11
10	2.07	13,709	28.23	1.19	769.2	.729	18.87	<0.014	3.20	1.79
11	4.05	11,181	25.68	1.21	419.6	.522	10.12	0.085	2.91	1.96
12	2.49	13,973	13.39	.647	676.3	.665	18.72	<0.014	2.11	1.40
13	-	-	9.85	-	-	-	-	<0.014	-	-
14	-	-	34.30	-	-	-	-	<01014	-	-
15	1.62	7684	10.97	-	285.5	.259	9.71	0.022	1.74	.966
16	4.58	10,442	9.28	.764	589.1	.281	7.66	<0.014	2.31	1.64
17	4.58	11,718	11,79	.817	432.1	.431	11.83	<0.014	2.07	1.31
18	4.21	7642	6.40	.893	437.5	.485	16.35	0.016	2.84	1.64
19	2.70	-	5.87	-	-	-	-	<0.014	-	-
20	4.72	11,778	8.21	1.05	538.4	.886	17.51	<0.014	2.43	1.91

Trace metal analysis of Oysters (<u>Crassostrea</u> <u>virginica</u>)
For February 1982; Sample Station Swan Point
Page 2 ; Table 9

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
21	1.80	8512	8.21	.604	455.0	.537	16.16	0.047	2.16	1.03
22	1.66	-	9.79	-	-	-	-	<0.014	-	-
23	-	-	25.08	-	-	-	-	<0.014	-	-
24	1.89	10,046	11.31	1.22	377.2	.767	19.88	<0.014	1.96	1.86
25	1.70	6862	8.53	.896	164.4	.097	9.29	<0.014	1.86	1.32
26	.636	8978	5.83	.716	382.4	.595	10.65	0.023	1.83	1.50
27	4.06	12,635	6.65	1.05	304.9	.480	10.06	0.174	2.68	2.04
28	2.20	7235	9.28	.615	361.1	.381	10.48	<0.014	1.51	1.54
29	3.06	22,467	11.95	1.49	1064	.828	25.05	0.074	2.85	2.14
30	1.50	3227	8.17	.586	103.4	.132	8.08	<0.014	1.40	1.41
31	2.14	9803	12.87	1.06	320.8	.530	18.52	0.279	2.13	1.60
32	2.58	16,456	.637	1.06	406.9	.724	13.68	0.153	2.09	1.46
Mean	2.79	10,215	12.28	0.961	429.5	0.495	14.36	-	2.21	1.63
Standard ± Deviation	1.20	4,302	1.39	0.272	214.1	0.209	5.42	-	0.451	0.397

Table 10

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

2/22/82 HM 6 X1F6308 X1F5975

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1 8784	1.51	16,338	225.6	13.62	702.9	.301	7.04	<0.045	2.64	<2	.390
2	2.17	14,211	38.43	15.82	641.8	.314	14.00	<0.045	4.24	<2	.124
3	3.04	16,894	31.82	25.87	457.3	.591	11.33	<0.045	4.50	<2	<.227
4	5.27	7811	42.39	37.12	770.9	.435	13.16	<0.065	2.13	<2	<.326
5	1.18	16,014	150.0	179.2	2322	9.31	250.6	<0.045	<2	<2	<1.153
6	2.55	25,533	36.49	21.92	794.7	.667	24.65	<0.045	1.62	<2	.300
7	1.51	14,083	33.16	20.02	483.8	.330	12.41	<0.045	3.03	<2	<.142
8	3.83	8238	26.16	17.25	348.2	.761	20.56	<0.045	1.82	<2	.128
9	1.72	8790	42.75	19.67	534.7	.333	17.54	<0.045	2.45	<2	<.116
10	3.14	17,179	52.74	31.60	1136	1.34	47.84	<0.045	2.67	<2	<.194
11	2.87	19,898	32.72	2.29	337.5	.248	9.97	<0.045	2.98	<2	<.133
12	2.82	17,551	196.2	5.62	761.3	.714	33.58	<0.045	2.81	<2	<.357
13	3.01	9769	24.40	2.10	271.0	.237	7.14	<0.045	1.87	<2	.127
14	.308	6470	15.64	1.53	441.9	.179	4.06	<0.045	1.86	.780	<.082
15	2.75	16,469	15.15	1.83	674.4	.236	13.37	<0.045	2.08	.970	.225
16	2.18	7972	13.49	1.17	270.1	.169	13.50	0.040	1.60	1.03	.416
17	2.94	11,947	28.81	1.47	281.6	.538	11.63	0.161	2.70	1.63	.726
18	2.05	6712	17.08	1.49	456.8	.606	25.19	0.035	2.02	1.13	.555
19	3.09	13,681	15.29	1.06	138.9	.163	9.76	<0.045	1.72	1.14	.450
20	3.00	6538	11.06	1.61	210.0	.355	17.01	<0.045	2.42	1.52	.593
Mean	2.547	13,105	52.47	20.11	601.79	0.891	28.22	-	2.48	-	-
Standard ± Deviation	1.051	5238	11.28	39.15	473.6	2.001	53.32	-	0.807	-	-

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

2/22/82 HM 7 X1F6388

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	3.41	2737	12.93	1.45	322.9	.152	20.21	0.052	2.10	1.59	.622
2	3.86	8876	9.56	.986	334.9	.278	17.45	0.161	1.48	.740	.451
3	2.97	11,160	.933	1.20	443.6	.324	18.06	0.133	2.20	1.06	.393
4	2.65	12,366	2.02	1.16	542.9	.313	10.11	0.036	2.14	1.03	.206
5	3.06	9613	9.51	1.08	138.2	.274	9.91	0.059	.997	.708	.395
6	2.28	5606	18.53	.966	547.5	.203	10.28	0.124	1.50	1.11	.476
7	1.55	11,192	9.12	.812	514.2	.200	10.88	0.099	1.74	.850	.397
8	2.44	3302	11.42	.804	128.1	.135	9.66	0.015	1.38	.976	.411
9	3.87	20,343	17.10	1.29	1141	.459	15.75	0.066	1.86	.645	.630
10	4.39	4480	24.09	1.11	116.7	.176	17.06	<0.014	1.68	.958	.524
11	2.70	10,320	5.18	.896	200.8	.134	9.40	0.033	2.01	1.21	.400
12	4.08	8715	32.93	2.42	195.0	.405	26.92	0.055	2.62	1.54	.671
13	3.50	6064	6.54	1.11	206.0	.295	24.89	0.022	1.74	1.16	.352
14	3.01	10,422	36.56	2.27	585.3	.442	23.53	0.019	2.84	1.25	.771
15	3.05	8488	14.09	1.10	562.6	.453	15.69	0.020	1.68	.798	.463
16	1.41	9504	13.03	.924	311.4	.168	13.90	<0.014	1.96	.976	.324
17	2.15	6760	13.64	.648	275.3	.193	11.13	<0.014	.894	.600	.473
18	1.97	8930	11.06	.764	339.7	.154	9.84	<0.014	.753	.706	.395
19	3.10	2489	6.00	.771	29.23	.234	16.10	<0.014	.829	1.54	.493
20	4.21	3752	10.00	1.03	59.52	.394	34.68	<0.014	.835	1.13	.453

Trace Metal Analysis of Oysters (Crassostrea virginica)
For February 1982 Page 2 HM 7
Table 11

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
21	3.11	6711	16.90	.959	221.2	.261	21.35	<0.014	1.29	1.26	.482
22	1.95	8131	13.09	.825	161.1	.235	8.96	<0.014	.841	1.09	.592
23	3.46	6576	5.74	.667	184.7	.188	7.88	<0.014	.860	1.44	.440
24	3.69	7766	15.71	1.19	269.7	.540	11.94	<0.014	.987	1.25	.713
25	3.04	3496	15.68	.928	229.4	.211	12.97	<0.014	1.02	1.70	.688
Mean	2.996	7,912	13.59	1.094	321.0	0.273	15.54	-	1.529	1.09	0.487
Standard Deviation ±	0.8102	3,849	1.46	0.424	234.0	0.116	6.69	-	0.596	0.309	0.135

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

HM 14 XIF4324

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
2 7887	3.51	11,278	20.41	1.95	627.1	.696	22.79	<0.018	1.36	1.08	.886
3	2.08	10,392	24.36	1.08	435.7	.352	9.92	<0.018	1.01	.646	.477
4	3.67	17,334	20.43	1.32	292.4	.343	14.48	<0.018	1.12	<2	.582
5	4.20	9914	19.77	1.50	453.7	.296	14.15	<0.018	1.15	1.19	-
6	3.54	16,487	21.79	2.35	660.1	1.67	39.21	<0.018	1.33	1.64	.862
7	4.29	13,093	17.28	1.26	715.7	.314	10.35	<0.018	.733	<2	.751
8	5.22	12,696	22.33	1.69	642.3	.403	24.96	<0.018	1.03	.521	.527
9 7961	5.38	9559	83.70	1.97	97.64	.300	16.90	<0.018	1.53	.289	1.180
10	5.06	6173	1158.	1.91	274.3	.340	16.92	<0.018	1.18	1.46	.885
11	3.47	6440	279.7	1.14	186.4	.189	11.11	<0.018	1.18	<2	.405
12	6.43	7145	40.60	1.98	203.2	.215	14.08	<0.018	1.38	<2	.748
13	6.71	12,546	104.5	2.28	661.8	1.23	28.76	<0.018	1.38	<2	.669
14	4.14	16,086	251.6	1.28	580.6	1.04	18.86	0.019	1.41	<2	.526
15	3.57	11,079	244.2	2.20	247.9	.452	22.12	0.047	1.26	<2	1.160
16	4.26	11,047	38.17	1.88	583.2	.385	30.17	<0.018	2.16	<2	1.720
17	3.26	29.483	21.74	3.29	910.3	.776	41.35	<0.018	3.57	<2	.830
18	4.16	15,022	23.36	2.05	767.6	.305	10.23	<0.018	2.34	<2	1.119
19	3.58	6665	23.51	1.35	564.2	.145	42.24	0.038	1.60	<2	.387
20	2.95	4092	35.50	1.59	271.0	.152	9.51	<0.018	1.62	<2	.544
Mean	4.18	11,923	128.99	1.79	482.9	0.505	20.95	-	1.49	-	0.792
Standard Deviation ±	1.15	5,660	59.02	0.536	229.9	0.407	10.85	-	0.629	-	0.339

Table 13

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

HM 23 XIF2354

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
				7554							
1	4.35	19,207	17.80	.937	219.0	.382	16.36	0.038	2.06	1.16	.475
2	5.75	10,888	17.26	2.20	470.6	.307	10.75	-	1.19	.990	.453
3	4.57	6729	6.89	1.56	155.2	.263	12.93	0.041	1.32	.980	.447
4	5.10	3385	15.48	1.30	70.13	.178	7.75	0.016	1.10	1.18	.443
5	7.66	12,570	12.49	2.78	457.7	3.08	31.13	0.09	1.53	1.17	.666
6	5.64	22,918	16.43	1.48	464.2	.830	16.31	<0.016	1.95	1.28	.486
7	3.98	16,133	16.09	1.78	654.5	.717	7.22	<0.016	2.21	1.24	.288
8	7.08	12,397	11.34	1.72	447.8	.889	14.95	<0.016	2.21	.810	.411
9	6.61	7136	14.67	1.97	233.2	1.10	19.58	<0.016	2.43	2.00	.602
10	5.60	15,672	7.03	3.21	812.6	1.08	20.68	<0.016	2.74	1.79	.752
11	3.80	13,383	9.29	1.93	723.3	.907	19.64	<0.016	1.98	.854	.376
12	6.45	10,363	8.41	1.96	490.3	.945	19.48	<0.016	2.27	1.60	.609
13	8.17	20,562	10.93	2.18	367.2	.956	15.10	<0.016	2.38	1.72	.456
14	5.73	19,663	17.10	2.73	592.1	.925	18.36	<0.016	2.83	1.36	.551
15	4.64	15,494	10.46	2.24	600.5	.958	9.76	<0.016	2.39	1.21	.405
16	4.80	3484	5.31	1.43	139.8	.565	15.08	<0.016	1.32	1.24	.549
17	4.49	8722	10.55	1.49	450.5	.600	7.15	<0.016	1.52	1.37	.419
18	9.14	8191	12.66	3.34	151.8	.709	13.21	<0.016	1.66	1.95	.685
19	4.44	9088	12.97	1.12	385.4	1.94	7.55	<0.016	2.31	1.13	.358
20	5.97	17,510	12.49	1.81	482.9	.968	17.67	<0.016	2.40	1.17	.519

Trace Metal Analysis of Oysters (Crassostrea virginica)
For February 1982 Page 2 HM 23
Table 13

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Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
21	2.58	13,138	15.66	1.25	456.0	.885	8.93	<0.016	1.89	1.31	0.388
22	5.26	12,649	14.14	1.82	620.5	.980	13,27	<0.016	1.82	1.10	0.353
23	6.44	24,000	12.26	2.58	902.2	1.32	19.08	<0.016	3.03	1.79	0.543
24	7.58	7908	12.28	2.87	168.3	.257	7.48	<0.016	2.45	2.30	0.613
25	5.92	15,556	11.63	1.60	972.9	.508	6.75	<0.016	2.64	1.10	0.381
Mean	5.698	13,068	12.28	1.97	459.8	0.890	14.25	-	2.06	1.35	0.489
Standard ± Deviation	1.454	5,630	0.83	0.645	242.0	0.595	5.87	-	0.529	0.378	0.117

Trace Metal Analysis of Oysters (Crassostrea virginica)

For February 1982

EPA Procedure 33

HM 16 x IF 3325

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
EPA Procedure	33	48	26	28	51	37	45	31	23	36	41
1	2.06	7724	13.40	.372	269.6	6.71	28.04	<0.020	.619	1.58	.388
2	2.97	9164	6.28	.408	233.4	4.11	10.06	<0.020	.917	2.55	.353
3	3.62	10,659	6.90	.414	375.0	17.87	70.97	<0.020	.607	1.57	.543
4	2.03	10,283	21.31	.431	181.8	3.77	19.88	<0.020	.667	2.14	.613
5	2.76	14,349	12.52	.422	565.2	12.19	14.84	<0.020	1.46	<2	.381
Mean	2.68	10,436	12.08	0.409	325.0	8.93	28.76	-	0.854	1.96	
Standard Deviation ±	0.667	2,468	6.07	0.023	151.8	6.03	24.52	-	0.361	0.475	

was not found in the electronic file

Trace Metal Analysis of Oysters (<u>Crassostrea</u> <u>virginica</u>)

For May 1982

HM 6

missing from electronic file

(values as μg/g dry wt.)

Recently Dead

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	7.23	6845	5.44	1.23	265.5	3.64	24.53	<0.018	2.19	<2	2.02
2	8.90	11,856	14.36	1.54	330.8	7.84	32.10	<0.018	1.70	<2	4.06
3	27.25	19,265	10.81	8.41	649.3	17.68	182.9	<0.018	2.43	<2	.711
4	10.76	18,819	6.30	1.39	414.1	5.36	20.43	<0.018	1.87	<2	.348
5	12.68	12,910	20.10	1.37	257.2	5.87	29.48	<0.018	2.14	<2	.053
6	6.38	15,230	6.18	1.33	501.8	4.92	27.24	<0.018	1.29	<2	0.12
7	8.46	6715	8.56	1.98	161.7	4.27	37.19	0.018	1.62	<2	<0.02
8	36.91	5364	51.45	4.89	430.4	18.74	113.2	<0.018	3.24	<2	1.24
9	26.61	27.47	438.8	1.50	581.8	14.55	70.21	<0.018	2.82	<2	<0.02
10	9.12	11,276	8.04	1.29	313.9	4.74	28.20	<0.018	1.74	<2	<0.02
Mean	15.43	13,570	57.61	2.49	390.6	8.76	56.55	-	2.10	-	
Standard ± Deviation	10.73	6,853	1345	2.35	153.9	2.96	52.77	-	0.593	-	

XIF5917 sort 10185

sort 10430 XIF6308

missing

Alive

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
	QH	QH	QH	QH	QH	QH	QH	QH	QH	QH	QH
1	12.35	13,454	5.86	1.22	408.6	3.84	23.04	<0.030	2.07	<2	<0.02
2	11.19	15,243	16.09	.591	176.9	2.50	9.87	0.047	1.81	<2	<0.02
3	9.30	13,129	11.82	.891	271.4	8.39	16.77	<0.030	2.13	<2	0.348
4	25.95	15,880	10.33	.911	257.6	19.84	18.39	<0.030	3.45	<2	1.38
5	13.68	25,396	9.3	2.26	382.2	14.38	29.62	<0.030	2.62	<2	0.77
6	10.03	15,853	4.42	.537	342.5	3.00	8.06	<0.030	2.32	<2	<0.02
7	10.63	21,473	8.05	.565	349.7	3.27	10.55	<0.030	4.02	<2	<0.02
8	15.98	17,084	11.93	.710	298.1	5.18	11.53	<0.030	3.10	<2	1.40
9	13.62	12,481	8.90	1.06	161.2	5.74	34.41	<0.030	2.36	<2	<0.02

Trace Metal Analysis for Oysters (Crassostrea virginica)
For May 1982 HM 6 Alive
Table 15

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
10	11.95	10,028	5.8	.652	375.5	7.06	11.09	<0.030	1.87	<2	<0.02
11	18.04	10,738	6.43	.767	236.8	3.21	7.81	<0.030	2.15	<2	0.04
12	8.58	14,947	131.1	.732	217.2	2.18	15.69	<0.030	1.96	<2	<0.02
13	11.46	13,050	74.9	1.29	97.78	8.63	61.65	<0.030	1.90	<2	<0.02
14	8.78	3516	5.03	.549	41.30	2.26	6.97	<0.030	1.43	<2	<0.02
15	19.33	7509	17.24	1.42	255.2	4.89	12.63	<0.030	2.17	<2	<0.02
16	8.46	21,209	83.37	.688	468.0	4.53	6.49	<0.030	2.44	<2	<0.02
17	11.59	14,815	7.78	1.05	348.4	5.27	10.50	<0.030	1.76	<2	<0.02
18	8.56	12,529	7.16	.614	359.1	3.78	8.59	<0.030	1.63	<2	0.272
19	11.52	24,737	9.46	.910	630.0	3.81	13.13	<0.030	2.08	<2	<0.02
20	14.51	29,023	16.80	.792	309.9	3.30	11.42	<0.030	2.06	<2	<0.02
21	8.95	14,702	2.44	.545	242.1	4.64	6.96	<0.030	1.76	<2	0.157
22	11.72	13,690	6.53	.844	230.9	4.90	13.19	<0.030	2.41	<2	<0.02
23	9.31	23,425	10.22	.571	450.3	2.98	11.91	<0.030	1.87	<2	<0.02
24	12.69	15,987	4.94	.659	324.6	3.18	8.80	<0.030	1.85	<2	<0.02
25	15.08	23,269	8.43	.739	168.0	2.66	9.99	<0.030	2.02	<2	<0.02
Mean	12.747	16,127	19.37	0.863	296.1	5.34	15.16	-	2.21	-	
Standard ± Deviation	4.1287	5,949	30.57	0.379	125.4	4.02	11.87	-	0.579	-	

Trace Metal Analysis of Oysters (Crassostrea virginica)

For May 1982

XIF4324

HM 14

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	13.58	42,881	11.38	1.61	66.11	7.62	37.49	<0.040	1.67	<2	0.028
2	12.34	19,904	10.33	1.44	31.45	4.95	38.70	<0.040	2.30	<2	<0.02
3	20.00	28.504	18.18	1.19	68.38	5.15	18.46	<0.040	1.63	<2	1.86
4	27.72	30.183	11.99	1.31	60.78	7.57	17.53	<0.040	1.98	<2	0.165
5	23.19	31,628	20.70	1.71	52.44	3.93	19.12	<0.040	3.37	<2	0.137
6	9.47	28.582	10.84	.684	62.76	3.19	9.11	<0.040	1.28	<2	0.474
7	17.48	23,688	15.02	1.18	42.78	4.43	14.26	<0.040	.685	<2	0.315
8	8.26	7206	12.28	1.04	14.82	6.80	7.87	<0.040	1.41	<2	0.042
9	9.32	9272	14.22	1.21	9.07	2.96	27.07	<0.040	2.38	<2	0.232
10	10.38	10,376	15.06	.991	409.6	2.52	16.70	<0.040	2.41	<2	<0.02
11	9.65	13.104	12.19	1.55	722.4	2.92	26.25	<0.040	1.48	<2	0.176
12	11.28	16,580	10.66	1.06	679.8	3.49	27.17	<0.040	1.48	<2	0.213
13	10.69	24,996	11.66	.962	366.2	3.48	5.93	0.401	1.48	<2	0.178
14	13.97	20,292	12.10	.980	792.4	3.64	13.28	<0.040	1.86	<2	0.147
15	8.74	22,600	10.44	.843	875.5	11.02	14.32	0.234	1.64	<2	0.136
16	15.12	15,110	210.5	1.29	441.2	3.67	24.33	<0.040	2.45	<2	<0.02
17	14.24	12,276	13.51	1.05	325.6	2.59	23.96	0.233	2.08	<2	0.157
18	8.31	9612	73.08	.820	315.5	2.34	18.50	0.098	1.68	<2	0.147
19	14.82	13,579	15.80	1.34	339.0	3.30	18.81	<0.040	1.97	<2	0.017
20	9.07	10.767	7.6	.742	299.4	4.35	6.46	<0.040	2.29	<2	0.178

Trace Metal Analysis of Oysters (Crassostrea virginica)
For May 1982 HM 14 Page 2
Table 16

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
21	13.42	23.052	14.08	1.05	613.8	2.98	9.99	<0.040	2.39	<2	0.018
22	10.18	15,288	11.03	1.28	335.3	4.14	30.78	<0.040	1.43	<2	0.237
23	9.74	14,458	10.95	.964	426.1	2.35	14.56	<0.040	1.35	<2	0.081
24	25.43	52,054	25.76	1.87	995.9	4.11	17.68	<0.040	1.84	<2	0.102
25	14.19	12,897	68.28	.893	324.2	3.22	7.61	<0.040	1.69	<2	0.095
Mean	13,624	20,353	25.90	1.16	346.8	4.27	18.64	-	1.87	-	
Standard Deviation ±	5.385	10,875	41.8	0.303	293.6	2.03	9.06	-	0.532	-	

Table 17

Trace Metal Analysis of Oysters (Crassostrea virginica)

For May 1982

HM 23 XIF 2354

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd (Incorrect in Exfile)	Cr	Cu	Pb	Mn	Hg	As	Se	Sn (Missing)
1	8.94	8461	11.54	.911	256.9	2.61	8.61	<0.025	1.30	<2	<0.002
2	8.16	16,040	9.72	1.05	291.9	2.74	21.19	<0.025	1.14	<2	0.062
3	10.65	6328	13.10	1.50	50.64	2.74	29.05	<0.025	1.11	<2	<0.002
4	7.45	18,383	21.61	1.12	316.4	2.79	5.99	<0.025	1.61	<2	<0.002
5	7.26	15,479	7.74	1.69	335.9	2.90	33.02	<0.025	1.41	<2	0.226
6	7.91	26,691	14.99	.971	409.6	2.07	11.76	<0.025	2.14	<2	0.146
7	7.69	7,165	11.70	1.41	390.8	2.31	23.92	<0.025	1.58	<2	<0.002
8	9.70	4,859	9.8	1.47	530.2	3.27	18.77	<0.025	1.36	<2	0.025
9	9.00	9,662	14.5	2.24	348.5	3.02	28.36	<0.025	1.53	<2	<0.002
10	20.00	12,405	16.55	2.44	341.8	3.30	35.76	<0.025	2.29	<2	<0.002
11	6.43	10,241	9.98	1.15	294.8	2.66	8.74	<0.025	1.36	<2	<0.002
12	12.73	11,728	9.49	1.81	589.6	7.97	26.62	<0.025	1.47	<2	0.299
13	7.32	4702	12.66	1.36	180.3	3.06	20.24	<0.025	1.46	<2	<0.002
14	6.63	7295	7.89	1.33	286.0	3.75	37.09	<0.025	1.18	<2	0.156
15	7.68	8482	9.10	1.10	230.2	2.31	22.48	<0.025	1.32	<2	<0.002
16	22.08	17,195	15.74	1.49	534.1	6.46	27.80	0.026	1.51	<2	<0.002
17	12.17	11,030	15.73	1.52	317.4	3.51	17.44	<0.025	1.51	<2	<0.002
18	24.46	10,361	13.68	2.86	340.6	3.93	41.12	<0.025	1.27	<2	0.048
19	11.17	8,662	13.89	1.47	433.3	2.84	9.37	<0.025	1.81	<2	<0.002
20	19.80	7,142	12.34	2.29	88.58	2.33	205.2	0.105	1.77	<2	0.088
21	8.02	9,569	12.68	1.42	468.6	2.75	37.70	0.058	1.94	<2	0.247
22	8.42	11,966	10.99	1.47	471.5	2.68	39.00	<0.025	1.94	<2	0.447
Mean	11.076	11,084	12.52	1.55	341.2	3.27	32.24	-	1.54	-	-
Standard ± Deviation	5.398	5,134	3.27	0.503	135.6	1.38	40.09	-	0.313	-	-

Table 18

Trace Metal Analysis of Oysters (Crassostrea virginica)

For May 1982 XH68872

Sample Station Swan Point
(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	5.62	3859	6.81	2.10	135.6	3.03	9.41	<0.030	1.74	<2	0.299
2	6.57	4308	11.15	.994	301.4	2.35	12.13	<0.030	2.18	<2	0.521
3	8.42	7299	8.44	.887	193.2	3.12	15.20	<0.030	1.82	1.91	0.598
4	6.49	8134	11.52	.885	377.9	3.04	13.47	<0.030	1.88	2.38	0.418
5	7.92	9893	9.47	.801	338.0	2.22	27.31	<0.030	1.89	1.86	0.697
6	6.84	14,593	6.86	.906	420.0	5.37	21.62	<0.030	1.79	1.70	0.697
7	9.89	7101	7.36	.791	1903	1.78	19.48	<0.030	1.33	2.42	<0.05
8	8.02	13,323	16.85	1.21	303.8	2.47	34.55	<0.030	2.21	3.65	<0.05
9	8.35	5205	15.96	.704	136.5	2.29	15.05	<0.030	2.77	3.59	<0.05
10	6.95	7959	153.31	.644	243.6	3.75	10.83	<0.030	2.49	2.36	0.278
11	13.19	7380	27.72	1.28	322.3	2.14	39.91	<0.030	1.99	2.90	<0.0
12	7.80	17,624	11.19	.639	497.5	5.40	11.02	<0.030	1.88	2.00	0.133
13	11.87	8,494	30.91	.785	303.0	2.76	23.22	<0.030	2.55	3.16	0.382
14	11.57	4,039	7.79	.510	1032	2.60	19.94	<0.030	1.64	2.16	<0.05
15	7.62	10,651	8.96	.456	278.9	2.91	11.44	<0.030	1.78	1.67	0.334
16	12.32	10,111	10.13	1.06	162.0	2.13	20.00	<0.030	2.60	2.66	0.349
17	5.76	11,159	11.32	.593	415.9	3.67	10.72	<0.030	1.89	1.99	0.708
18	16.99	2,580	14.12	.815	66.13	1.74	18.52	<0.030	1.98	3.34	0.235
19	10.55	3,157	8.19	.589	58.39	1.76	13.32	<0.030	1.63	2.87	0.019
20	8.38	6386	10.92	.799	174.0	3.28	10.72	<0.030	1.85	2.92	0.565

9642

Trace Metal Analysis of Oysters (Crassostrea virginica)
For May 1982; Sample Station Swan Point
Page 2 ; Table 18

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
21	13.11	16,188	25.71	1.23	483.3	4.07	25.24	<0.030	2.42	<2	0.410
22	5.18	7396	19.48	.708	194.3	1.86	11.80	<0.030	1.88	3.43	<0.05
23	5.10	17,010	14.77	.637	389.5	3.79	19.95	<0.030	2.20	2.06	0.360
24	8.30	14.036	15.15	.819	410.9	6.50	18.65	<0.030	2.56	2.32	0.350
25	6.88	16,130	16.77	.592	510.8	2.21	11.52	<0.030	2.48	5.82	<0.05
						SorT 9665					
Mean	8.788	9,361	19.23	0.857	280.4	3.05	17.80	-	2.06	2.69	0.294
Standard ± Deviation	2.962	4,592	28.67	0.338	135.8	1.23	7.76	-	0.36	0.932	0.247
						SorT					

Table 19

Sort 371-670

Done

Trace Metal Analysis of Mussels (Brachiodontes recurvus)

Ischadium recurvus

For August 1981

X1F8872

Sample Station Swan Point

(values as µg/g dry wt.)

OK · ok ✓ · ✓ · ✓ · ✓ · OK · ✓ · 98 · OK · Missing vals inserted

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	3.1	37.05	1.11	1.97	6.91	1.42	96.90	0.12	53.65	10.98	0.133
2	4.7	68.21	.628	1.59	12.8	.545	92.44	0.084	10.58	8.14	0.057
3	21.6	67.24	.340	2.46	17.7	1.30	210.5	0.101	6.76	4.58	0.125
4	3.6	41.79	.766	1.64	7.25	.536	60.61	0.366	2.72	6.40	0.178
5	3.3	74.78	.420	3.95	8.19	-	78.86	0.248	20.97	9.33	0.633
6	1.7	49.35	.406	1.31	10.2	-	45.86	0.050	13.01	9.05	--
7	6.8	79.48	.622	3.72	27.7	1.83	140.0	0.112	5.25	10.31	0.194
8	2.6	97.46	.611	2.37	9.41	.736	159.9	0.110	5.30	10.42	0.003
9	3.2	68.16	.705	2.05	27.9	.955	98.21	0.110	2.07	11.12	0.033
10	16.3	92.54	.452	4.72	15.6	1.23	292.4	0.248	5.56	6.49	0.342
11	2.6	54.72	.494	1.46	12.6	.706	45.64	0.041	3.88	9.27	0.263
12	3.7	146.4	.921	-	21.1	-	74.19	0.038	3.55	8.80	--
13	2.7	48.44	.500	1.61	12.6	.597	83.07	0.071	2.46	7.02	0.400
14	4.11	55.10	.738	2.95	17.4	1.27	76.87	0.106	3.30	12.70	--
15	4.4	44.99	.926	2.31	16.3	1.18	29.42	0.05	2.48	9.01	0.011
16	2.3	47.84	.775	2.15	8.15	.824	99.02	0.102	1.70	6.05	0.273
17	6.9	48.73	.544	1.89	11.4	.612	36.01	>.01	1.78	8.28	0.150
18	5.3	103.8	1.32	2.34	13.6	.713	73.96	0.101	1.06	7.43	0.243
19	3.3	56.90	.899	2.24	16.7	.758	130.9	0.20	3.97	7.98	0.197
20	56.9	35.46	1.51	139.1	222.3	6.26	80.68	0.078	3.20	9.40	0.003
21	12.2	497.7	.805	29.9	42.7	1.23	90.71	0.082	3.90	7.67	0.038
22	5.07	109.8	.774	-	16.1	.893	103.0	0.051	3.76	9.55	0.912

Trace Metal Analysis of Mussels (Brachiodontes recurvus)
For August 1981; Sample Station Swan Point
Page 2 ; Table 19

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
23	4.7	109.2	.759	-	13.1	.999	116.2	0.061	2.16	15.92	<0.001
24	19.1	78.93	.404	-	19.6	1.45	624.2	0.301	2.75	6.44	0.368
25	3.6	95.44	.642	3.62	17.1	.998	135.4	0.03	4.15	3.90	<0.001
26	7.1	514.9	.832	33.3	30.7	2.03	262.2	0.126	3.05	4.46	<0.001
27	4.4	186.2	.980	9.49	23.6	.947	60.84	0.14	3.09	4.73	<0.001
28	3.4	78.98	.735	2.76	13.8	.287	53.16	0.03	6.27	4.68	<0.001
29	3.0	81.61	1.23	2.84	11.4	1.32	124.9	0.06	3.76	6.92	<0.001
30	1.3	69.63	1.23	3.32	7.28	.614	50.33	0.061	3.22	2.81	0.238
Mean	7.43	211.71	0.762	10.27	23.0	1.19	120.88	0.111	6.31	7.99	0.228
±Standard Deviation	10.60	638.0	0.303	27.46	38.47	1.09	115.16	0.084	9.78	2.81	0.221

Table 20

Trace Metal Analysis of Mussels (Brachiodontes recurvus)

For November 1981

11/6/81

Sample Station Swan Point

Tschudin
XH68872

(values as μg/g dry wt.)

Ebrt
6225

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	45.31	570.1	1.92	39.3	89.5	41.76	6390	0.15	22.24	4.31	18.3
2	19.89	583.3	3.50	21.3	52.1	17.30	890.0	0.21	41.67	44.23	<3.5
3	32.48	192.8	3.23	9.54	17.3	2.81	175.5	0.32	15.33	4.68	2.16
4	11.61	79.66	.770	4.20	14.0	1.44	304.2	0.12	3.63	1.09	<.19
5	8.23	182.4	1.88	6.96	23.0	3.25	344.0	0.4	7.16	5.35	<.45
6	14.84	62.85	.474	9.23	8.25	3.76	239.7	0.041	--	.522	--
7	10.75	65.30	.488	13.10	8.67	8.44	550.9	0.110	4.86	.848	<.22
8	11.06	95.25	1.23	7.62	11.9	2.99	310.0	0.021	4.95	.111	<.36
9	66.74	133.0	3.06	16.64	16.7	4.46	266.2	0.022	10.81	.311	<1.6
10	26.83	247.6	5.75	18.03	28.6	3.37	113.0	<0.01	32.61	4.27	<2.3
11	100.22	214.2	1.35	48.45	35.5	29.44	1074	0.07	15.85	7.70	<1.6
12	43.94	347.0	6.87	13.26	48.9	4.02	132.4	0.050	29.97	4.46	<2.1
Mean	32.66	231.1	2.55	17.30	29.54	10.25	332.52	0.138	17.19	6.49	
Standard ± Deviation	27.82	181.8	2.05	13.49	23.96	12.83	232.37	0.125	12.88	12.13	

6269

Sort 7090-

Trace Metal Analysis of Mussels (<u>Brachiodontes</u> <u>recurvus</u>)

For November 1981

Sample Station HM6 XIF5975 or XIF6308

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	4.16	110.7	.840	.954	28.3	2.51	87.22	0.110	10.40	5.35	<.276
2	7.79	194.2	2.15	.577	49.6	2.40	169.0	0.102	13.0	10.30	<.678
3	50.44	221.4	1.99	26.44	58.8	38.9	2179	0.138	19.63	13.78	1.209
4	176.2	895.7	5.27	62.40	402.8	33.4	3986	0.051	54.93	24.33	<1.42
5	1.73	69.55	1.88	.953	7.40	.706	24.37	0.021	5.88	2.97	<.275
6	11.81	137.8	1.26	.487	30.9	1.65	56.43	0.022	5.81	5.25	<.573
7	5.64	56.74	.670	.247	18.4	1.50	53.20	0.031	3.54	1.36	<.295
8	4.21	114.3	1.24	.498	32.9	.734	62.24	0.015	4.16	5.57	<.586
9	2.86	91.30	.714	1.02	29.8	.659	73.59	0.013	3.89	2.24	<.295
10	7.74	125.2	.993	.990	43.1	3.36	332.1	0.201	8.27	4.34	<1.165
11	5.81	91.44	1.29	.540	12.5	2.04	103.2	0.111	1.93	9.50	<.635
12	10.24	179.4	1.34	1.68	29.3	3.02	238.9	0.098	5.95	8.68	<.782
13	4.03	159.5	1.99	3.67	19.6	1.98	285.3	0.050	6.66	10.81	<.773
14	17.03	168.4	.896	1.30	51.1	6.44	237.2	0.04	9.20	3.49	<.864
15	7.50	200.2	1.13	.646	45.4	1.20	61.28	0.032	10.41	12.09	<.760
16	54.41	735.5	1.55	69.30	132.8	86.5	1440	0.20	20.83	8.93	<1.786
17	2.62	74.42	.844	1.67	14.1	1.52	64.29	0.09	5.74	3.06	<.241
18	2.98	112.7	.960	3.92	16.4	5.04	97.26	0.084	10.24	6.08	<.518
19	7.48	176.8	.997	1.03	45.4	16.69	141.4	0.070	10.24	10.98	<.962
Mean	20.25	206.1	1.47	9.38	56.24	11.06	510.1	0.078	11.09	7.85	
Standard ± Deviation	40.60	221.5	1.02	20.77	83.28	21.22	1004	0.057	11.73	5.41	

Sort 7166

6206

Trace Metal Analysis of Mussels (Brachiodontes recurvus)

For November 1981

Sample Station HM14

x1F4324

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	13.31	373.8	2.98	4.88	38.1	1.78	525.0	0.116	28.00	12.14	.923
2	4.75	114.2	.917	1.74	14.0	.672	76.88	0.108	4.80	3.76	--
3	9.88	222.9	1.90	4.37	26.1	.984	208.8	0.015	15.17	12.40	<.263
4	6.88	213.4	1.44	5.05	37.8	9.26	182.9	0.020	11.60	18.35	<.466
5	5.86	217.5	2.59	3.94	28.0	1.51	148.6	0.046	10.03	24.70	<.791
6	69.28	814.5	4.88	69.70	139.5	46.26	3498	0.021	51.38	24.70	<1.250
7	5.82	93.94	1.66	1.24	10.2	1.18	44.56	0.031	5.20	6.65	<.410
8	19.08	126.0	.849	7.65	21.0	8.80	474.9	0.159	7.21	9.35	<.458
9	1.82	84.43	1.01	.834	10.6	2.16	22.03	0.160	5.16	3.33	<.351
10	8.64	64.39	.831	2.05	10.4	3.53	120.3	0.070	4.56	6.31	<.473
11	9.69	134.5	.848	3.75	18.2	2.33	205.0	0.080	4.97	2.68	<.327
12	5.63	72.70	1.12	1.31	20.8	2.35	80.68	0.052	5.21	4.03	<.302
13	6.32	108.0	1.52	2.63	18.4	2.55	171.2	0.040	3.04	2.26	<.286
14	4.95	74.16	.742	1.54	8.66	2.20	77.92	0.22	3.75	3.21	<.569
Mean	12.28	193.9	1.66	7.91	28.70	6.11	512.4	0.081	11.43	8.425	
Standard ± Deviation	16.95	197.9	1.15	17.89	33.30	11.86	938.6	0.063	13.25	6.603	

Table 23

Sort 8484-8705

Trace Metal Analysis of Mussels (Brachiodontes recurvus)

For February 1982

HM 6

(values as µg/g dry wt.)

missing was inserted

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
M21	9.20	222.0	9.86	8.17	109.6	5.06	153.9	1.667	9.97	<2	2.52
22	3.42	331.7	7.08	26.4	89.59	13.96	659.6	1.071	16.43	<2	<2
23	4.84	142.4	5.46	9.39	63.42	10.90	149.7	<0.400	14.67	<2	<2
24	.920	143.4	1.42	8.64	27.79	9.26	86.61	4.000	4.15	<2	<2
25	1.59	107.7	2.55	10.8	21.21	9.59	90.57	<0.400	11.88	<2	<2
26	.049	78.09	1.73	9.65	22.23	3.85	261.7	<0.400	2.76	<2	4.6
27	2.10	165.7	2.66	11.3	35.76	10.40	238.2	<0.400	14.28	<2	4.8
28	2.64	143.4	4.79	8.26	27.79	5.65	125.1	<0.400	13.95	<2	4.4
29	4.34	167.9	3.16	6.56	23.16	3.78	72.17	<0.400	4.62	<2	1.5
30	.058	139.5	.992	8.23	26.47	8.29	146.6	<0.400	4.95	<2	1.6
31	1.42	109.9	2.43	6.30	30.04	4.52	84.68	<0.400	6.96	<2	<2
32	.736	195.4	8.43	7.67	37.86	4.52	100.1	<0.400	12.00	<2	<2
33	.061	189.3	6.92	9.02	27.79	23.33	86.61	<0.400	5.55	<2	<2
34	1.62	272.1	10.15	10.4	25.26	16.77	139.9	<0.400	2.70	<2	<2
35	4.62	154.1	6.11	8.23	17.17	7.60	100.8	<0.400	4.57	<2	1.95
36	1.78	91.50	2.54	14.3	18.03	11.47	327.1	<0.400	2.32	<2	6.86
37	2.06	110.4	2.30	8.23	26.47	9.82	91.64	<0.400	1.84	<2	8.14
38	3.71	205.4	3.79	7.85	25.26	9.37	139.9	<0.400	1.87	<2	<2
39	3.71	124.9	2.99	6.47	16.39	18.04	105.0	<0.400	1.76	<2	<2
40	3.08	81.35	.347	14.5	15.02	22.74	176.4	0.417	1.50	<2	1.94
41	163.3	818.9	12.17	116.8	145.0	121.7	4,011	<0.400	11.57	<2	1.86
42	2.22	90.20	2.75	8.01	24.17	12.40	92.04	0.435	1.34	<2	<2
Mean	9.88	185.7	4.57	14.78	38.88	15.59	338.15	-	6.89	-	
Standard Deviation ±	34.33	154.7	3.28	23.18	33.53	24.35	830.28	-	5.14	-	

Table 24

Trace Metal Analysis of Macoma

For August 1981

XIF 3142

HM 18

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
1	5.3	507	1.12	24.85	148	12.90	1130	1.1	3.4	1.64
2	11.4	117	0.89	12.10	121	9.80	3283	0.9	2.93	.602
3	10.6	124	1.21	-	118	-	2199	1.4	6.80	-
4	10.4	254	1.02	22.06	113	19.22	4197	0.7	5.9	<2
5	21.1	269	1.53	15.69	244	8.35	13531	1.3	6.9	<2
6	20.0	194	0.86	24.87	152	11.39	3604	1.0	4.83	2.28
7	15.1	412	3.03	22.16	114	15.84	4346	1.4	5.26	2.42
8	9.0	159	0.64	18.11	121	13.67	4895	0.7	3.95	2.29
9	10.5	857	0.64	20.32	143	12.69	44.73	0.9	4.68	2.48
10	16.1	590	1.24	20.17	18,1	14.19	8174	0.6	5.72	.904
11	12.9	89	1.24	20.18	193	13.99	3788	1.2	8.26	1.26
12	14.9	639	-	18.68	137	11.40	-	1.6	1.94	2.56
13	12.9	635	0.86	27.49	131	17.96	5673	0.4	0.86	1.45
14	21.1	1180	1.51	35.12	156	19.62	13967	0.1	0.75	1.68
15	7.6	935	1.94	38.98	296	-	15971	0.2	1.99	.850
16	15.1	588	1.15	17.51	202	9.61	6937	0.1	3.6	1.55
17	8.5	1625	1.53	16.77	169	18.13	4344	0.6	2.5	1.12
18	23.1	1450	1.62	18.45	273	10.53	6318	0.1	2.6	.696
19	5.5	331	2.02	15.77	89	8.78	1125	-	3.1	1.51
20	6.3	791	0.80	26.50	07	14.45	10640	0.1	2.82	<2
Mean	12.87	587.3	1.308	21.88	160.4	13.47	6242	0.758	3.94	1.58
Standard ± Deviation	5.38	444.3	0.577	6.66	56.46	3.56	4334	0.498	2.06	0.661

Table 25

Trace Metal Analysis of pooled Macoma

For August 1981
(values as µg/g dry wt.) X1F 4105

	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
Trawl #2										
Sort 2146	17.27	423.2	.813	16.13	50.42	12.24	1,402	0.013	8.76	1.23
Trawl #3										
3109	15.98	613.9	1.37	23.40	53.11	13.38	2034	0.013	10.32	1.52
Trawl #6										
7458	7.33	604.8	1.48	23.83	62.82	7.56	1,887	0.013	20.40	1.00
HM 15 - X1F 3675										
2720	23.22	510.1	1.20	23.72	72.98	14.44	1,775	0.153	11.26	1.86

Table 26

Trace Metal Analysis of pooled Macoma

For November 1981
(values as µg/g dry wt.)

Trawl #10

Sample	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
X1F3142 HMT-10	9.02	712.9	2.07	13.15	55.64	2.35	263.5	<0.025	1.61	2.09	<.123
HM 14 — X1F4324 or X1F4527	1.76	448.8	.228	4.57	23.59	1.87	165.6	0.024	2.26	.932	.149
HM 15 — X1F3675	7.11	904.0	2.30	11.04	40.45	2.38	422.0	0.191	2.98	2.51	.097
HM 16 — X1F3324	4.48	393.1	.241	8.65	55.39	2.68	749.0	0.090	5.34	.431	.175
HM 19 X1F6609	4.12	413.0	1.08	7.34	41.19	1.89	214.0	0.219	1.86	1.34	.077
HM 21 X1G7498	2.03	348.2	2.02	10.29	31.18	2.60	304.2	0.249	2.75	1.52	<.054
HM 22 X1G7689	19.00	578.4	1.79	13.77	44.63	4.96	589.0	0.346	4.00	1.03	<.075
HM 26 X1F5145	.118	579.0	1.45	9.37	31.50	3.39	215.1	0.111	2.53	1.10	.093

Table 27

Trace Metal Analysis of pooled Macoma

For February 1982

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
Trawl 3 x1F4105	12.96	483.1	.432	14.7	79.66	8.67	813.2	<0.040	2.73	6.42
Trawl 4 x1F3601	1.66	88.46	.249	3.46	21.32	.579	27.05	0.044	1.12	<2
Trawl 7 x1F5626	6.39	576.6	.745	23.2	48.89	9.99	820.8	<0.040	6.22	<2
HM 10 & Trawl 6 x1G5597	8.74	462.2	.960	10.4	42.54	5.64	730.6	0.475	1.85	3.44
HM 14 x1F4324	11.54	570.2	.655	11.6	42.27	5.98	891.1	<0.040	2.67	5.78
HM 15 & Trawl 1 x1F7823	14.24	385.0	.561	7.23	34.09	10.52	1,880	<0.040	1.42	2.02
HM 22 x1G7689	21.64	467.6	1.11	7.18	41.53	13.18	1,131	<0.040	1.98	3.12
HM 26 x1F5145	17.10	560.9	1.04	23.3	72.08	10.24	546.5	0.066	3.23	<2

Trace Metal Analysis of pooled Macoma

For May 1982

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
HM 26-6 x1F5145	22.07	786.0	8.97	30.7	109.9	36.74	209.0	<0.020	5.71	3.50	0.590
HM 16-20 x1F3325	32.52	586.0	6.71	18.7	55.62	44.10	861.7	<0.020	6.18	2.86	0.744
HM22-24 x1G7689	43.72	674.2	10.62	25.4	103.1	36.18	1163	0.025	7.60	2.82	<0.00
HM 14-17 x1F4324	26.33	816.7	6.40	24.3	67.54	45.48	622.5	<0.020	5.04	2.75	0.458
HM 15-5 x1F3675	66.07	1,277	14.13	41.2	80.02	87.83	901.6	0.020	13.67	<2	0.339
HM 19-5 x1F6609	46.95	735.2	14.40	23.7	73.90	32.47	410.6	<0.020	9.11	4.75	0.283

Table 28

Trace Metal Analysis of Leptocheirus

For August 1981

3/26/81 HM8 X1F5904

Trawl 5

(values as µg/g dry wt.)

1-15 out of order

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	As	Sn
							OK		
1	23.8	738	1.2	106.6	338	47.6	593.3	<2	31 -Result 7805
2	21.5	185	0.79	69.94	164.1	58.3	440.9	<2	26
3	25.5	232	7.03	41.82	102.0	12.2	173.7	<2	<20
4	4.2	153	0.72	43.29	116	21.1	313.2	<2	<20
5	10.5	54.2	0.18	37.94	67.5	8.8	357.0	<2	<20
6	8.3	106.9	1.46	46.30	56.9	16.6	323.1	<2	<20
7	14.3	104.6	0.49	47.00	67.9	15.5	371.8	<2	<20
8	9.8	97.6	0.26	51.74	93.0	12.4	348.0	<2	<20
9	14.2	97.6	31.5	52.41	80.3	10.6	387.5	<2	<20
10	11.3	175.1	18.7	62.26	84.9	11.3	263.3	<2	<20
11	17.4	202.3	18.4	53.56	138.0	11.9	391.0	<2	<20
12	14.8	75.9	13.4	30.28	132.3	11.8	324.1	<2	<20
13	16.2	160.4	67.6	-	87.9	10.3	322.2	<2	<20
14	5.9	143.4	28.3	43.45	68.9	17.8	452.2	<2	<20
15	11.3	274.3	54.8	-	84.1	15.8	288.9	<2	<20
16	16.9	137.2	32.0	87.31	174.2	9.6	450.1	<2	<20
17	6.0	367.3	21.2	94.62	106.8	30.5	432.8	<2	<20
18	4.0	367.3	24.3	93.23	138.1	30.5	309.0	<2	-
19	12.9	372.8	-	94.30	130.9	31.7	562.8	<2	-
20	14.0	227.0	33.8	78.96	125.2	18.1	435.2	<2	-
Mean	13.14	213.6	299.1	63.06	117.8	20.12	377.0	sort 4197	
Standard ± Deviation	6.07	156.6	534.6	23.60	61.43	13.35	98.38		

Table 29

Trace Metal Analysis of pooled Leptocheirus

For August 1981

(values as μg/g dry wt.)

8/26/1981

Station	Ni	Zn	Cd	Cr	Cu	Pb	Mn	As	Sn
Trawl #2	6.9	45.9	2.16	7.49	56.7	1.8	381.0	<2	33.6
Trawl #3 x1F4105	8.51	136.1	4.18	14.33	50.8	7.0	516.5	<2	<20
Trawl #5	9.3	46.3	5.32	8.14	50.0	6.7	320.7	<2	28.0
Trawl #6 x1F6388	7.58	77.2	4.11	7.03	71.1	4.9	463.7	<2	20.2
Trawl #7 x1F5423	6.8	209.9	2.60	11.49	57.3	3.2	499.4	1.49	26.6
HM15 – x1F3675	7.32	43.1	1.48	6.29	74.5	7.8	631.2	3.33	-

Table 30

Trace Metal Analysis of pooled Leptocheirus

For November 1981

(values as µg/g dry wt.)

	Ni	Zn	Cd	Cr	Cu	Pb	Mn	As
Trawl 1 X1F7823	13.05	136.3	1.83	34.99	94.23	10.26	1,110	15.83
HM 9 X1F5297	10.78	240.6	5.23	29.73	85.74	7.51	646.2	15.20
HM 26	4.70	722.1	1.24	- inserted	99.63	10.24	361.7	1.44

Trace Metal Analysis of pooled Leptocheirus

For February 1982

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	S
HM 8 & Trawl 5	2.96	237.1	.192	19.9	87.60	4.80	119.7	1.244	1.74	<2	6.[illegible]
HM 14 & Trawl 1	5.98	131.3	.022	12.8	80.12	5.06	267.5	0.422	1.38	<2	2.[illegible]

Trace Metal Analysis of Leptocheirus

For May 1982 5/17/82

Sort X1F7151	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
9666-9671 HM 25-26	209.74	1183	18.93	59.6	87.73	120.30	577.1	<0.020	24.16	<2	-
X1F3325 HM 16-12	15.18	66.07	2.32	4.12	3.86	24.76	145.3	<0.020	1.34	<2	5.[illegible]
X1F7689 HM 22-24	214.90	716.6	16.10	47.8	85.80	936.8	1882	5.495	17.40	<2	5.[illegible]

Trace Metal Analysis of Scolecolipedes

For August 1981 Marenzelleria

Trawl #7 – X1F5904

(values as μg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	As
1	25.1	-	9.03	29.03	74.18	1293 27.06	-	-
2	8.9	131.8	2.90	19.12	18.86	5.61	-	-
3	21.1	-	23.3	46.88	87.71	39.61	763.4	15.52
4	18.4	787.6	4.44	60.46	49.92	33.32	1,235	-
5	20.6	755.2	16.22	45.66	58.55	22.90	1,442	19.45
6	10.2	480.9	1.42	17.72	17.49	22.80	4,966	4.65
7	22.2	954.4	5.32	67.32	37.17	108.5	2,262	6.17
8	7.6	511.0	0.68	17.01	42.32	7.37	719.6	-
9	1.0	389.1	1.19	24.39	14.96	5.72	894.6	2.44
10	3.8	550.2	6.96	20.25	15.76	4.63	653.0	<2
11	20.4	777.8	1.37	42.19	47.76	39.46	1,557	-
12	69.3	1902	7.89	94.61	49.81	36.82	2,640	<2
13	25.6	6932	17.4	319.4	187.8	29.59	1,511	15.24
14	20.4	1982	16.7	123.6	99.36	30.64	1,823	16.38
15	20.8	-	11.6	95.68	106.5	42.97	-	-
16	32.8	1523	26.0	121.2	95.06	29.83	1,642	<2
17	53.6	2550	30.83	185.2	140.7	40.18	1,839	1.58
18	25.0	-	19.03	166.7	171.8	27.60	-	-
19	14.8	1182	36.16	83.33	99.29	14.80	292.6	<2
20	14.4	864.7	14.31	76.19	116.4	16.07	240.6	<2
Mean	21.80	1392.1	12.64	82.80	76.57	29.27	1530.0	
Standard ±	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

sort order 4243.5

Table 32

3251-

Trace Metal Analysis of pooled Worms (<u>Scolecolipedes</u>)

For August 1981

(values as μg/g dry wt.)

3257.5

	Ni	Zn	Cd	Cr 3251	Cu	Pb	Mn	As	
Trawl #1 - X1F4124	9.8	452.4	9.22	22.32	39.84	11.43	594.3	1.18	
Trawl #3 - X1F4613 (Surf 3366)	22.2	1521	5.84	88.74	44.91	5.93	151.5	<2	
Trawl #6 - X1G5592 (5340)	14.8	393.6	3.12	23.84	18.80	9.62	472.2	2.50	X1F6588
Trawl #7	205	1683	32.92	95.96	60.84	23.83	356.9	<2	- X1F5626
Trawl #8 - X1F5904 (4258)	205	1627	4.50	134.6	80.47	21.52	403.4	<2	HM8
Trawl #10	11.7	155.6	2.95	22.85	44.00	9.08	586.9	3.04	
HM 15 - X1P3675	22.14	689.1	3.31	50.83	38.76	13.03	432.5	<2	

11916-11922

671-677 JH

Decimal missing

Trace Metal Analysis of pooled Worms (Scolecolipedes)

For November 1981

(values as µg/g dry wt.)

Marenzelleria

	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se
HM 8 - XIF5104	14.20	712.1	5.34	47.42	36.32	16.74	750.4	0.035	10.59	<2
HM 25 XIF2151	14.85	810.6	3.09	6237 49.69	48.93	20.10	1143	0.035	9.32	2.08
HM 26 XIF5145	9.41	654.8	7.04	6732 44.49	56.97	12.86	309.2	0.035	14.56	<2

6732-6741
Sort #.
result 9057
XIF 5145

Trace Metal Analysis of pooled Scolecolipedes

For February 1982

Marenzelleria

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
HM 8 & HM 10	2.87	990.1	.400	Sort 9032 16.8	87.06	8.57	190.7	<0.400	3.51	<2	23.21
HM 15 & HM 24	6.12	606.8	1.14	9011 19.4	66.73	11.07	413.7	1.01	4.06	<2	4.46

Trace Metal Analysis of Worms (Scolecolipedes)

For May 1982

XIF2151 HM 25-26	30.59	960.7	6.97	10.95	58.84	79.34	192.2	<0.020	5.04	<2	5.45
X1S7689 HM 16-3	31.29	453.2	2.81	12.42	30.84	29.70	577.7	<0.020	7.03	<2	8.12
XIF5297 HM 9&5-4	184.25	1071	9.95	29.66	68.19	223.52	998.9	<0.020	10.31	<2	9.23

Trace Metal Analysis of White Perch (Morone americana)
For August 1981
Page 2; Table 34

White Perch

Shore Station 5 - X1F 3935

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
			4303	Sort 5347							
1	1.58	46.4	.144	12.94	63.94	0.385	55.92	0.72	.596	1.04	.138
2	0.94	74.8	.083	9.54	46.9	0.176	35.1	0.68	.460	.818	.038
3	0.50	50.0	.120	4.07	50.60	0.263	55.43	0.90	.323	.399	.161
4	3.00	50.1	-	-	-	0.222	-	-	-	-	-
5	0.62	33.5	.096	5.42	33.86	0.084	37.27	0.81	.405	.553	.100
6	1.33	49.9	.150	4.54	156.9	0.012	38.06	0.80	.361	.286	.188
7	1.44	70.9	.070	5.12	35.14	0.19	60.15	0.75	.485	.317	.118
8	2.50	44.7	.111	1.86	90.98	0.23	65.52	0.25	.370	.230	<.030
Mean	1.49	52.54	0.110	6.21	68.55	0.195	49.64	0.701	0.429	0.520	0.124
Standard ± Deviation	0.876	13.70	0.030	3.75	42.64	0.113	12.46	0.211	0.093	0.304	0.052

Trawl #7 - X1F 5975

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	0.94	59.4	.008	2.75	1.39	0.71	13.53	0.59	.169	.877	.181
2	0.77	52.9	.036	2.23	1.30	0.96	18.75	0.51	.191	.542	.106
3	1.0	63.8	.051	4.68	7.6	0.82	62.31	0.53	.303	1.39	.527
4	1.2	55.2	.034	14.56	1.12	0.014	43.00	0.88	.262	.874	.284
5	1.3	101.3	.058	4.25	8.66	.282	137.2	0.43	.300	1.51	.499
6	0.9	61.8	.015	3.26	1.42	.005	14.21	0.32	.101	.466	.293
7	0.94	62.0	.042	3.55	1.37	0.014	21.30	0.24	.271	.348	.536
8	1.38	69.7	.042	4.22	7.51	0.354	20.40	0.42	.171	.414	.402
Mean	1.05	65.76	0.036	4.94	3.80	0.450	41.34	0.490	2.221	0.803	0.354
Standard ± Deviation	0.214	15.26	0.017	3.97	3.44	0.383	42.24	0.194	0.073	0.446	0.163

Ni Zn Cr 8/26/81

Trace Metal Analysis of Spot (<u>Leiostomus</u> <u>xanthurus</u>)

For August 1981 8/26/81, 8/28/81

(values as μg/g dry wt.)

<u>Trawl #2</u> XIF 3826

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
	Sort 2776										
1	1.03	39.2	.100	7.14	.865	1.42	96.88	0.114	.624	.611	1.286
2	1.13	27.3	.116	8.33	3.94	0.97	113.0	0.500	.326	3.30	.167
3	1.16	46.1	.104	9.62	2.55	1.90	116.5	0.185	.511	.605	.154
4	0.88	19.5	.065	6.48	15.96	0.61	134.0	0.805	.277	.732	.121
5	2.78	46.4	.140	12.38	4.46	2.9	73.72	0.566	.230	3.28	.189
6	2.17	58.1	.116	5.97	2.26	2.0	81.17	0.337	.570	.752	2.236
7	1.45	54.2	.179	7.59	4.38	3.38	116.0	0.229	.313	.907	.143
8	1.13	15.2	.083	5.42	1.40	1.10	108.0	0.139	.479	.633	.069
					2791 sort						
Mean	1.47	38.25	0.113	7.87	4.48	1.785	104.9	0.359	0.410	1.35	0.545
Standard ± Deviation	0.663	15.95	0.035	2.26	4.83	0.963	19.93	0.244	0.148	1.20	0.79

Sort 3336   Sort 3330   <u>Trawl #3</u> XIF 4613   Sort 2742   XIF 5015   8/26/81

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
								XIF 4105			
1	0.43	49.6	.071	.916	2.10	.212	161.9	0.312	.953	1.14	.183
2	2.98	58.9	.077	-	4.91	.241	136.0	0.268	.786	1.06	.064
3	5.01	58.7	.074	.895	6.34	.740	152.9	0.317	.676	1.76	.106
4	0.96	36.8									
5	3.5	29.0	.055	.850	4.68	.177	150.2	0.166	.874	.794	.066
6	1.13	24.0	.058	.818	3.94	1.14	122.7	0.202	.818	.751	.147
7	2.18	24.7	.070	1.01	4.90	.258	103.5	0.212	.564	.718	.136
8	2.00	40.65	.043	1.01	4.50	.325	127.6	0.293	.835	.910	.015
Mean	2.27	40.29	0.064	0.916	4.48	0.442	136.4	0.253	0.786	1.019	0.102
Standard ± Deviation	1.51	14.24	0.012	0.080	1.28	0.362	20.25	0.060	0.129	0.363	0.058

Trace Metal Analysis of Spot (Leiostomus xanthurus)
For August 1981
Page 2 ; Table 35

Sort 5268 - 5339 X1F6308 X1G5592 HMB

Trawl #6

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
	Sort 5270			5268				Sort 4449			
1	3.05	69.0	.154	7.44	1.98	0.40	112.0	0.262	.329	1.00	.119
2	4.10	54.0	.132	15.62	2.40	0.061	139.4	0.190	.352	.838	.119
3	1.32	36.1	.123	9.98	35.38	0.084	111.4	0.218	.305	.679	.084
4	2.80	60.8	.225	15.33	2.47	0.38	97.59	0.302	.232	.676	.189
5	9.88	67.3	.092	17.22	2.67	0.24	173.6	0.286	.858	1.01	.204
6	2.24	62.5	.141	13.18	2.04	0.28	118.9	0.281	.372	.776	.156
7	1.51	97.0	.154	36.25	4.12	0.28	103.0	0.200	.613	1.22	.100
8	1.14	57.8	.106	12.80	2.42	0.096	87.04	0.169	.530	1.76	.120
Mean	3.26	63.06	0.141	15.98	6.68	0.228	117.9	0.238	0.449	0.995	0.136
Standard ± Deviation	2.86	17.10	0.040	8.78	11.61	0.133	27.33	0.050	0.206	0.361	0.042

Trawl #10

Sort 1776 X1F3142 1720

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	9.49	35.4	.083	69.44	3.08	.635	110.0	0.407	.530	1.05	.185
2	0.57	48.2	.020	28.38	1.92	.141	93.12	0.204	.484	1.06	.051
3	1.09	62.5	.114	.654	3.83	.654	183.3	0.225	.538	1.61	.125
4	1.12	66.3	.209	.871	1.95	.881	218.8	0.478	.470	.844	.149
5	8.38	83.85	.093	.531	1.81	1.06	100.0	0.491	.413	.481	.189
6	7.90	64.1	.089	.730	1.84	1.67	124.1	0.462	.532	1.75	.192
7	0.82	61.3	.087	.703	1.92	.588	117.6	0.441	.350	.984	.147
8	5.9	96.4	.167	1.27	3.39	.524	147.4	0.653	.604	1.79	.204
Mean	4.41	64.76	0.108	12.82	2.47	0.769	136.79	0.420	0.490	1.20	0.155
Standard ± Deviation	3.88	18.98	0.057	24.83	0.826	0.452	43.93	0.146	0.080	0.471	0.050

Table 36

Trace Metal Analysis of Crabs (Callinectes sapidus)

HM15

For August 1981
(values as μg/g dry wt.) HM15

Trawl #2 X IF 3826, X IF 3675

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	0.3	26.1	.057	1.68	9.53	0.09	813.7	0.219	.530	.688	.314
2	1.2	36.8	.026	.667	17.1	0.06	286.0	0.186	.152	.986	.020
3	0.68	28.2	.101	2.84	10.1	0.07	193.6	0.319	.924	1.24	.449
4	1.30	50.2	.055	6.04	28.0	0.14	2297	0.530	1.40	2.26	.862
5	0.45	33.8	.379	1.95	25.2	0.33	898.0	0.294	.366	.688	.342
6	1.52	44.9	.230	.673	11.85	0.39	1435	0.312	.240	.805	.359
7	0.82	47.7	.307	1.21	18.05	0.52	692.2	0.187	.143	.585	.267
8	1.23	25.7	.417	2.55	10.9	0.11	638.6	0.222	.829	.946	1.460
9	0.68	36.7	.321	1.16	14.7	0.015	954.2	0.179	.822	1.05	.363
10	1.15	51.3	.210	2.11	13.9	0.24	865.7	<0.008	.665	.789	.301
Mean	0.933	38.14	0.210	2.08	15.93	0.196	907.4	0.272	0.607	1.004	0.474
Standard ± Deviation	0.403	9.87	0.144	1.57	6.32	0.167	600.0	0.111	0.401	0.483	0.404

Shore Station #2 X IF 5615

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	7.5	90.3	.642	2.14	46.1	1.39	955.8	0.163	.191	.382	1.256
2	6.8	155.1	.717	1.41	60.1	0.30	1577	0.271	.322	.574	.393
3	6.4	44.0	.288	.782	42	0.396	931.2	0.396	.281	.019	1.224
4	3.46	34.9	.264	.758	70.9	0.23	628.0	0.167	.600	.390	1.165
5	2.23	27.6	.303	1.12	44.6	0.39	932.3	0.273	.390	.397	.406
6	5.86	65.7	.352	1.29	14.3	1.34	1098	0.676	.662	.091	1.372
7	7.76	49.8	.827	.566	27.3	1.05	783.5	<0.042	.378	.215	1.040

Trace Metal Analysis of Crabs (<u>Callinectes sapidus</u>)
For August 1981 Page 2
Table 36

Shore Station #2 (cont'd)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
8	3.34	55.9	.433	.962	37.4	0.25	891.4	0.166	.772	.128	1.998
9	5.75	132.3	.754	1.22	20.2	0.40	727.1	0.612	.679	1.14	3.095
10	7.99	164.8	1.26	.442	46.1	0.43	1214	<0.042	.301	1.02	0.081
Mean	5.71	82.04	0.584	1.069	40.90	0.618	973.83	0.340	0.458	0.436	1.203
Standard ± Deviation	2.03	50.99	0.318	0.492	17.23	0.456	271.68	0.204	0.202	0.380	0.871
Trawl #6											
1	1.59	68.9	.090	.704	55.3	0.51	379.8	0.095	.621	.182	.476
2	1.87	18.9	.277	.749	45.3	0.38	1289	0.068	.444	.586	.921
3	2.08	64.4	.911	.399	75.0	0.44	1021	0.12	.496	1.21	.393
4	0.47	43.2	.070	.337	17.6	0.43	334.3	<0.008	.378	.091	.271
5	0.61	4.4	.032	.263	5.18	0.55	203.1	0.008	.115	.044	.273
6	1.92	52.6	.021	.783	27.6	0.39	1097	0.158	.661	.160	.451
7	3.33	66.0	.123	.659	27.97	0.49	769.2	0.121	.389	.096	.441
8	2.7	49.5	.187	.933	11.9	0.51	938.6	0.148	.868	.052	.682
9	1.02	67.6	.072	.365	5.9	0.05	489.7	0.099	.338	.060	.335
10	1.26	22.3	.027	.351	12.5	0.27	405.6	0.109	.385	.141	.580
Mean	1.68	45.78	0.181	0.554	28.42	0.402	692.7	0.102	0.496	0.262	0.482
Standard ± Deviation	0.897	23.14	0.269	0.236	23.26	0.148	377.5	0.044	0.207	0.369	0.201

Trace Metal Analysis of Crabs (<u>Callinectes sapidus</u>)
For August 1981 Page 3
Table 36

Trawl #9 XIF 3638

2482

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
1	0.7	35.0	.034	2.05	18.1	0.19	915.1	0.015	.262	1.05	.301
2	1.5	122.6	.176	.840	16.9	0.04	315.3	<0.013	.417	1.26	.529
3	1.57	89.7	.101	.953	21.5	0.28	1203	0.015	.290	1.26	.530
4	1.02	113.4	.288	1.92	4.4	0.41	982.9	0.014	.600	1.04	.619
5	0.98	19.2	.036	2.21	9.21	0.50	1044	0.07	.659	.332	.375
6	1.67	70.8	.145	1.14	14.4	0.26	978.2	0.048	.295	.267	.438
7	0.88	38.7	.174	1.37	8.48	0.29	537.6	0.038	.247	.164	.308
8	0.61	37.9	.078	2.16	16.7	0.07	800.9	0.092	.435	.320	.412
9	1.57	73.3	.276	2.36	24.2	0.13	665.0	0.069	.659	.727	.700
10	1.47	101.6	.308	1.85	21.3	0.48	1037	0.183	.303	.264	.496
Mean	1.20	70.22	0.162	1.685	15.52	0.265	847.9	0.060	0.417	0.668	0.471
Standard ± Deviation	0.400	36.31	0.102	0.560	6.40	0.162	269.9	0.054	0.166	0.447	0.130

Copper

Table 37

Trace Metal Analysis of pooled Menidia

For May 1982

(values as µg/g dry wt.)

Sample I.D.	Ni	Zn	Cd	Cr	Cu	Pb	Mn	Hg	As	Se	Sn
SS #1	2.79	1085	0.15	.474	3.25	2.05	22.95	<0.018	.340	1.07	0.052
SS #2	2.45	1241	0.111	.542	8.39	3.54	23.37	<0.018	.361	1.08	0.992
SS #3	1.96	842.7	0.21	.252	2.18	2.29	16.93	<0.018	.319	1.46	0.073
SS #4	3.49	764.8	0.098	.698	3.39	2.34	30.22	0.702	.384	.980	0.152
SS #5	3.48	696.5	0.017	.653	3.81	2.76	26.80	<0.018	.483	1.48	0.037

Sample I.D	STATION
SS # 1	XIF5713
SS # 2	XIF5616
SS #3	XIF4631
SS #4	XIF3935
SS #5	XIF3446

CHAPTER VII

DATA ON TRACE ORGANIC CONTAMINANTS IN WATER, SEDIMENTS AND THE BIOTA

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Introduction

In order to determine the baseline levels of organic contaminants in the water, sediments and biota in the region of Hart-Miller Island prior to and during the initial stages of the construction of the containment, a total of over 110 samples were collected and analyzed for 44 organic contaminants (Table 1). Figure 1 shows the locations of the stations where water and sediment samples were collected. Figure 2 shows the locations of the various stations where the biota samples were collected. All of the samples analyzed were collected on two cruises: August 24-28, 1981 and May 3-7, 1982.

Methods of Analysis

Water - Two liter samples of water were collected at each station at a depth of 0.5 m in pre-cleaned glass bottles. Pre-cleaning was achieved using successive solvent washes of pesticide grade acetone, methylene chloride, methanol and followed by a wash with glass distilled water and finally a wash with sample water. These samples were stored for not longer then 7 days prior to extraction in the dark at 4°C.

One liter of water was filtered through pre-combusted Whatman GF/C glass fiber filters (1.2 µm) and successively extracted with 100 ml, 50 ml, and 50 ml of methylene chloride. The extract was dried over anhydrous sodium sulfate and evaporated in two stages in a rotary vacuum evaporator to a volume of $\sim$ 10 ml and under stream of nitrogen to dryness. The resultant residue was dissolved in 1.0 ml of hexane containing 10 µg/ml of d_{10}- anthracene internal standard. Samples were frozen at -40°C until analyzed in 2 ml glass ampules sealed with teflon-lined septa.

Sediments - Five to seven kilograms of surficial sediment (top 3 cm) were collected at each station using a Van Veen grab. These samples were placed in pre-cleaned glass jars and frozen at -40°C until analyzed.

The sediment was thawed and a known weight of sample was extracted for 48 hours in a Soxhlet apparatus with 250 ml of (2:1) methylene chloride : methanol (pesticide grade). A subsample of the sediment was weighed and dried to a constant weight in a 105°C oven. The extract was dried over anhydrous sodium sulfate and evaported in two stages in a rotary vacuum evaporator to a volume of $\sim$ 10 ml and under a stream of nitrogen to dryness. The residue was dissolved in 1.0ml of hexane containing d_{10}- anthracene as an internal standard. These samples

SEQ	PARAMETER	Parameter Name	EPA Substance Registry System
249	ACTV-A	Active Chlorophyll-a	
186	ALDRIN	Aldrin	
386	CHLDANA	Alpha(d) Chlordane	
352	APARPROD	Apparent productivity	
457	AQ_PLANT_COVERAGE	Aquatic Plant Coverage	
382	ARCL1242	Arochlor 1242	
383	ARCL1248	Arochlor 1248	
384	ARCL1254	Arochlor 1254	
385	ARCL1262	Arochlor 1262	
152	BICARB_ALKALINITY	Bicarbonate Alkalinity	
443	BIS2ETHHEX_PHTAL	bis(2-ethylhexyl) Phthalate	
425	BHDIR	Boat Heading Direction	
68	BOD	BOD	
156	CARONATE_ALKALIN	Carbonate Alkalinity	
452	CLADS_AS_FOOD	Clodocerans as Food	
122	COD	COD	
453	COPES_AS_FOOD	Copopods as Food	
445	DACTHAL	Dacthal	
174	DDD	DDD	
176	DDE	DDE	
388	DDT	DDT	
189	DIS_DIELDREN	Disolved Dieldren	
318	DDIETPTH	Dissloved diethyl Phthalate	
328	D34BZOFL	Dissolved 3,4 Benzofluoranthene	
348	DACENAPH	Dissolved Acenapthylene	
332	DACENPTH	Dissolved Acenapthylene	
334	DANTHRAC	Dissolved Anthracene	
229	DISS_ANTIMONY	Dissolved Antimony	
294	DISS_ATRAZIN	Dissolved Atrazine	
336	DBZGHIP	Dissolved Benzo (ghi) Perlyne	
322	DBENZANT	Dissolved Benzo(a) anthracene	
324	DBENZPYR	Dissolved Benzo(a) pyrene	
326	DBENZFLR	Dissolved Benzo(k) Fluoranthene	
418	DBERYLLM	Dissolved Beryllium(BE)	
103	DCHROMIUM	Dissolved Chromium	
330	DCHRYSEN	Dissolved Chrysene	
173	DISSOLVED_DDT	Dissolved DDT	
316	DDI2ETHP	Dissolved di-2-ethyl-hexyl Phthalate	
342	DDIBZAHA	Dissolved Dibenzo(a,h) anthracene	
320	DDIMEPTH	Dissolved dimethyl Phthalate	
312	DDIBUPTH	Dissolved di-n-butyl Phthalate	
314	DDIOCTYL	Dissolved di-n-octyl Phthalate	
181	DIS_ENDRIN	Dissolved Endrin	
304	DISS_ETHYPAR	Dissolved Ethyl Parathion	
338	DFLUORNE	Dissolved Fluorene	
185	DHPTCLEP	Dissolved Heptachlor Epoxide	
344	DINDN123	Dissolved Indeno(1,2,3-cd) pyrene	
300	DISS_KEPONE	Dissolved Kepone	
302	DIS_METHPAR	Dissolved Methyl Parathion	
432	DOC	Dissolved Organic Carbon	
340	DPHENNTH	Dissolved phenanthrene	

434	DISSPHOS	Dissolved Phosphorous	
346	DPYRENE	Dissolved Pyrene	
296	D-DDT-RES	Dissolved Residual DDT	
310	DISS SIMAZIN	Dissolved Simazin	
421	DTHALLM	Dissolved Thallium(TL)	
351	TDISNITR	Dissolved Total Nitrogen	
308	DISS TRIFLUR	Dissolved Trifluralin	
42	DO	DO Saturation	
270	DO_SATURATION	DO Saturation	
395	D.A.	Drainage Area	
426	EAEGGDEV	Egg Development Stage-Earliest	
427	ADEGGDEV	Egg Development Stage-Most Advanced	
428	PREGGDEV	Egg Development Stage-Prevalent	
447	ENDOSULPHAN	Endosulphan	
350	EUPHOTZD	Euphotic Zone Depth	
349	EXTCOEFF	Extintion Coefficient	
48	F_COLIFORM	Fecal Coliform	
273	F_STREPTOCOCCUS	Fecal Streptococci	
82	FERRIRON	Ferrous Iron	
285	F-ORGNC-N	Filterable Organic N as N	
277	TFILPHOS	Filterable Phosphorus as Total P	
286	F-TKN-N	Filterable TKN as N	
409	FLUORANT	Fluoranthene	
140	FLOURIDE	Fluoride	
239	FCYANIDE	Free Cyanide	
276	FRESCHLR	Free Residual Chlorine	
387	CHLDANG	gamma(y) Chlordane	
100	HEX_CHROMIUM	Hexavalent Chromium	
448	HEXCHLORBENZENE	Hexochlorobenzene	
377	HPHOSATE	Hydrolyzable Phosphate	
40	LAB PH	Lab PH	
160	LAS	LAS	
364	LINURON	Linuron	
389	HYDDEPTH	Mean Hydraulic Depth	
446	METHOXCHLOR	Methoxychlor	
381	MIREX	Mirex	
408	NAPHTHAL	Naphthalene	
353	RESPIRAT	Nightime Respiration Calculated	
200	TOTNN	Nitrite & Nitrate as N Total	
290	NO-OF-IND	Number of Individuals	
474	NO IND W/ANOMALIES	Number of Individuals with Anomalies	
70	ORG_NITROGEN	Organic Nitrogen	
190	PARATHION	Parathion	
207	P_IRON	Particualte Iron	
230	P_ANTIMONY	Particulate Antimony	
370	PARSENIC	Particulate Arsenic	
419	PBERYLLM	Particulate Beryllium(BE)	
369	PCADMIUM	Particulate Cadmium	
355	PARTCARB	Particulate Carbon	
372	PCHROMUM	Particulate Chromium	
367	PCOPPER	Particulate Copper	
444	H2_PARTICULATE	Particulate Hydrogen	

371	PLEAD	Particulate Lead	
373	PMANGAN	Particulate Manganese	
374	PMERCURY	Particulate Mercury	
366	PNICKEL	Particulate Nickel	
356	PARTNITR	Particulate Nitrogen	
357	PARTPHOS	Particulate Phosphorous	
375	PSELENUM	Particulate Selenium	
236	P_SILVER	Particulate Silver	
422	PTHALLM	Particulate Thallium(TL)	
368	PZINC	Particulate Zinc	
218	P_ALUMINUM	Particutate Aluminum	
247	%-TRAN	Percent Transmission	
251	PHAE-A	Pheophytin-a	
458	PRIM_BOTTOM_TYPE	Primary Bottom Type	
289	RSILICA	Reactive Silica	
116	RESIDUAL CHLOR	Residual Chlorine	
430	SAMPNUMB	Sample Number	
459	SEC_BOTTOM_TYPE	Secondary Bottom Type	
126	SETLABLE SOLIDS	Settlable Solids	
378	SPHOS	Soluble Phosphate	
464	ST GAUGE HEIGHT	Standard Gauge Height	
429	STATNUMB	Station Number	
392	SURFAREA	Surface Area	
144	TN/LGN	Tannin/Lignin	
233	TOD	TOD	
327	T34BZOFL	Total 3,4 Benzofluoranthene	
347	TACENAPH	Total Acenaphthene	
331	TACENPTH	Total Acenaphthylene	
406	TALP-BHC	Total alpha-BHC	
333	TANTHRAC	Total Anthracene	
335	TBZGHIP	Total Benzo (ghi) Perlyne	
321	TBENZANT	Total Benzo(a) anthrazene	
323	TBENZPYR	Total Benzo(a) pyrene	
325	TBENZFLR	Total Benzo(k) Fluoranthene	
407	TBET-BHC	Total beta-BHC	
410	TBUTBEP	Total butyl benzyl phthalate	
354	TCHLORA	Total Chlorophyl	
329	TCHRYSEN	Total Chrysene	
202	TC(MF)	Total Coliforms (MF)	
403	TCOLUMBM	Total Columbium	
172	TOTAL_DDT	Total DDT	
431	TOTDEPTH	Total Depth	
315	TDI2ETHP	Total di-2-ethyl-hexyl Phthalate	
341	TDIBZAHA	Total Dibenzo(a,h) anthracene	
188	TOT DIELDREN	Total Dieldren	
317	TDIETPTH	Total diethyl Phthalate	
319	TDIMEPTH	Total dimethyl Phthalate	
311	TOTAL DIBUPTH	Total di-n-butyl Phthalate	
313	TDIOCTYL	Total di-n-octyl Phthalate	
306	DPCBS	Total Dissolved PCB's	
180	TOT_ENDRIN	Total Endrin	
303	TOT ETHYLPAR	Total Ethyl Parathion	Parathion (CAS 56-38-2)

275	TOT FECAL STREP	Total Fecal Streptococci	
416	TDCARBON	Total Filtered Dissolved Carbon	
436	TFLUORANTHENE	Total Fluoranthene	
440	TOT G BHC	Total gamma BHC	
182	TOT HEPTOCHLOR	Total Heptachlor	
184	THPTCLEP	Total Heptachlor Epoxide	
343	INDEN123	Total Indeno(1,2,3-cd) pyrene	
120	TKN	Total Keldahl Nitrogen	
365	TLIPIDS	Total Lipids	
301	TOT METHPAR	Total Methyl Parathion	
437	TNAPTHALENE	Total Napthalene	
433	TOC	Total Organic Carbon	
72	TOT_ORG_CARBON	Total Organic Carbon	
379	TOPHOS	Total Organic Phosphate	
305	TPCBS	Total PCB's	
472	TOT PETRO HYDROCARBS	Total Petroleum Hydrocarbons	
339	PHENANTH	Total phenanthrene	
358	TPHOS	Total Phosphorus	
345	TPYRENE	Total Pyrene	
295	T-DDT-RES	Total Residual DDT	
398	TRUBIDIM	Total Rubidium	
309	TOTAL SIMAZIN	Total Simazine	
400	TSTROTIM	Total Strontium	
380	TTELLURM	Total Tellurium	
420	TTHALLM	Total Thallium(TL)	
401	TTITANIM	Total Titanium	
441	TTOXAPHENE	Total Toxaphene	
307	TOTAL TRIFLUR	Total Trifluralin	
404	TURANIUM	Total Uranium	
124	TOT_VOL_SOLIDS	Total Volatile Solids	
405	TYTTRIUM	Total Yttrium	
402	TZIRCONM	Total Zirconium	
449	TRIFLURALINE	Trifluraline	
271	UBOD	UBOD	
241	VANADIUM	Vanadium	
136	VSS	Volatile Suspended Solids	
376	SPWEIGHT	Weight of Individual Species	

Table 1. List of 44 compounds analyzed.

Compound

alpha-BHC – BHC-alpha
lindane – BHC-gamma (Lindane)
beta-BHC – BHC-beta
aldrin
heptachlor
heptachlor epoxide
dieldrin Also spelled dieldren CAS# 60-57-1
naphthalene
fluorene
10 phenanthrene
anthracene
fluoranthene
pyrene
benzo(a)pyrene Benzo[a] Pyrene
benzo(a)anthracene Benzo[a] anthracene
benzo(k)fluoranthrene Benzo[K] fluoranthene
3,4 benzofluoranthene Benzo[b] fluoranthene
chrysene
acenaphthylene
20 benzo(ghi)perylene CAS# 191-24-2 ~~electronic data listed~~ benzo[GHI] Perlyne
dibenz(a,h)anthracene Dibenzo[a,h] anthracene
indeno(1,2,3-cd)pyrene indeno[1,2,3-cd] pyrene
acenaphthene
PCBs, total – PCBS, Polychlorinated Biphenyls, (Unspecified Mix)
dimethyl phthalate
diethyl phthalate
dibutyl phthalate
di-2-ethyl hexyl phthalate 117-81-7 bis(2-ethylhexyl) ~~Phthalate~~ Phthalate (DEHP)
di n octyl phthalate 117-84-0 bis(n-octyl) Phthalate
30 atrazine
simazine
trifluralin
chlordane
diazinon
DDE 72-55-9 – DDE, p,p'-
DDD 72-54-8 – DDD, p,p'-
DDT 50-29-3 – DDT, p,p'-
linuron
butyl benzyl phthalate
40 endrin
malathion
methyl parathion
ethyl parathion 56-38-2 - parathion

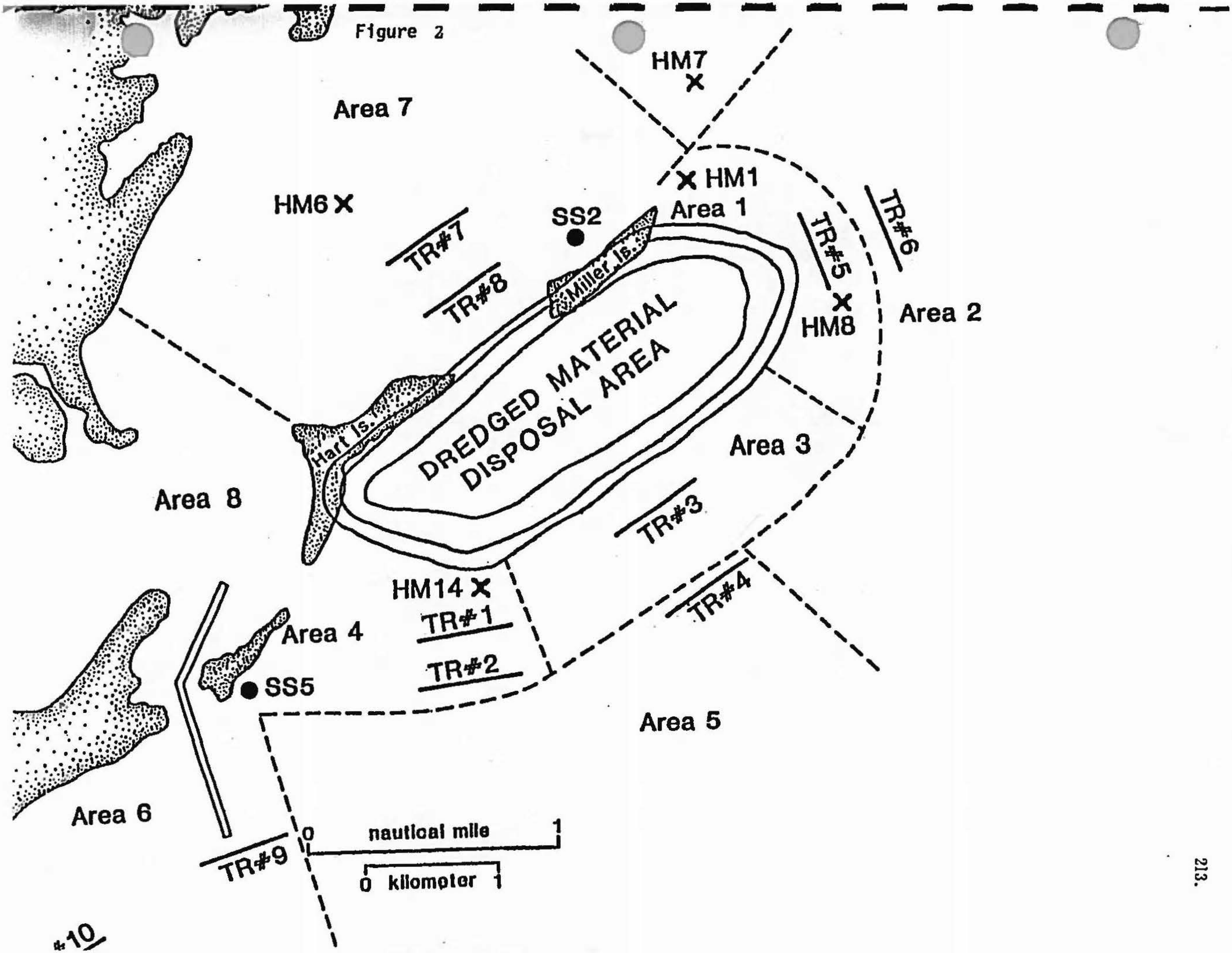
Table 1. List of 44 compounds analyzed.

Compound

alpha-BHC
lindane
beta-BHC
aldrin
heptachlor
heptachlor epoxide
dieldrin Also spelled dieldren CAS# 60-57-1
naphthalene
fluorene
phenanthrene
anthracene
fluoranthene
pyrene
benzo(a)pyrene
benzo(a)anthracene
benzo(k)fluoranthrene
3,4 benzofluoranthene
chrysene
acenaphthylene
benzo(ghi)perylene
dibenz(a,h)anthracene
indeno(1,2,3-cd)pyrene
acenaphthene
PCBs, total
dimethyl phthalate
diethyl phthalate
dibutyl phthalate
di-2-ethyl hexyl phthalate
di octyl phthalate
atrazine
simazine
trifluraline
chlordane
diazinon
DDE
DDD
DDT
linuron
butyl benzyl phthalate
endrin
malathion
methyl parathion
ethyl parathion

Figure 1. Surficial sediment and water collection stations(•) and box-core sediment collection stations(✱);August, 1981

Figure 2


HM7
Area 7
HM1
HM6
Area 1
SS2
TR#7
TR#6
TR#5
TR#8
Miller Is.
HM8
Area 2
DREDGED MATERIAL
DISPOSAL AREA
Hart Is.
Area 3
Area 8
TR#3
HM14
TR#4
TR#1
Area 4
TR#2
SS5
Area 5
Area 6
0 nautical mile 1
TR#9
0 kilometer 1

#10

BDTW

were stored in 2 ml glass ampules sealed with teflon-lined septa at - 40°C until analyzed.

Biota - Samples of various species were collected using appropriate techniques and were frozen at -40°C in pre-cleaned glass containers until extracted. Whole organisms or pooled organisms were weighed frozen, mixed with a known quantity of anyhydrous sodium sulfate and homogenized with dry ice in a stainless steel Oster homogenizer. The dry ice was allowed to evaporate and a known weight of the homogenate was extracted for 48 hours in a Soxhlet apparatus with 250 ml of (2:1) methylene chloride : methanol (pesticide grade). A subsample of the tissue homogenate was weighed and dried to a constant weight in a 130°C oven.

The extract was evaporated in two stages in a rotary vacuum evaporator to 10 ml and then under a stream of nitrogen to dryness. The residue was then saponified in 2% KOH in methanol for 24 hours, and extracted with three volumes of hexane to remove lipids. The hexane extracts were evaporated under nitrogen and the final residue was dissolved in 1.0 ml of hexane containing the internal standard d_{10}- anthracene. These samples were stored at -40°C in 2 ml glass ampules sealed with teflon-lined septa until analyzed.

Quantitative Analysis

The amount of each organic compound in the samples of water, sediments and biota was determined using the internal standard method. Standards of the 44 compounds or samples containing the internal standard d_{10}- anthracene were chromatographed on a 50 m wall-coated SP 2100 fused silica capillary column in a Hewlett Packard 5985B gas chromatograph/mass spectrometer. Four microliters were injected in the splitless mode at 40°C. The column was then temperature programmed to 100°C in 3 minutes and then to 300°C at 5°C/min. The carrier gas flow was 1 ml/min of H_e through the capillary column. The mass spectrometer was operated in the electron impact mode with an ionizing voltage of 70 eV, a source temperature of 200°C and a source pressure of 4-6 x 10^{-6} torr. Each compound was detected using three diagnostic selected ions characteristic of the compound. Calibration curves of the response per µg of each compound relative to the response observed for the internal standard were prepared and used to convert the responses observed for samples to concentrations in the extracts.

The identity of each compound was confirmed by: 1) its retention time relative to the internal standard; 2) the presence of all three characteristic ions; and 3) the correct intensity ratios of the three characteristic ions.

Quality Assurance

Calibrations were prepared on each day when samples were analyzed. The mass spectrometer was also tuned and optimized on each analysis day. Solvent and reagent blanks were analyzed along with each batch of samples analyzed. Known samples were analyzed to assure that the sample evaporation and saponification steps did not result in sample losses. Standard methods of extraction and analysis were used and check samples from EPA were analyzed periodically.

Data and Results

The data obtained on each sample is contained in the following Appendix tables. Water analyses are reported on a µg/L (ppb) basis; sediment analyses on a µg/g (ppm) dry weight basis; and biota analyses on a µg/kg (ppb) wet weight basis.

Concentrations of Selected Organic Contaminants

Compound	Table 1. in Water at Station WQ-7, (08/27/81) Concentration, ug/L	Table 2. in Sediment at Station WQ-1, (08/27/81) Concentration, ug/g
alpha-BHC	<0.04	0.197
lindane	<0.04	0.395
beta-BHC	0.06	0.395
aldrin	0.04	0.0296
heptachlor	0.08	0.0395
heptachlor epoxide	<0.04	1.13
dieldrin	0.12	0.0494
naphthalene	<0.04	0.00987
fluorene	<0.04	0.207
phenanthrene	<0.04	<0.00987
anthracene	<0.04	0.0395
fluoranthene	<0.04	<0.00987
pyrene	<0.04	<0.00987
benzo(a)pyrene	<0.04	1.61
benzo(a)anthracene	<0.04	1.69
benzo(k)fluoranthrene	<0.04	<0.00987
3,4 benzofluoranthene	<0.04	<0.00987
chrysene	<0.04	<0.00987
acenaphthylene	<0.04	<0.00987
benzo(ghi)perylene	<0.04	<0.00987
dibenz(a,h)anthracene	<0.04	<0.00987
indeno(1,2,3-cd)pyrene	<0.04	<0.00987
acenaphthene	<0.04	<0.00987
PCBs, total	<0.04	<0.00987
kepone	<0.04	<0.00987
dimethyl phthalate	<0.04	0.0395
diethyl phthalate	2.10	1.46
dibutyl phthalate	0.82	10.8
di-2-ethyl hexyl phthalate	0.62	0.0296
di octyl phthalate	0.66	0.0395
atrazine	<0.05	<0.1
simazine	<0.05	<0.1
trifluraline	<0.05	<0.1
chlordane	<0.04	<0.00987
diazinon	<0.04	<0.00987
DDE	<0.04	<0.00987
DDD	<0.04	<0.00987
DDT	<0.04	<0.00987
linuron	<0.05	<0.1
butyl benzyl phthalate	0.38	0.00987
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 3. in Sediment at Station WQ-2, (08/27/81) Concentration, ug/g	Table 4. in Sediment at Station WQ-4, (08/27/81) Concentration, ug/g
alpha-BHC	<0.00987	<0.00678
lindane	0.0296	0.0136
beta-BHC	0.0296	0.0203
aldrin	0.819	0.108
heptachlor	0.00987	0.0136
heptachlor epoxide	0.0197	0.0136
dieldrin	0.138	0.0746
naphthalene	<0.00987	<0.00678
fluorene	<0.00987	<0.00678
phenanthrene	<0.00987	<0.00678
anthracene	<0.00987	<0.00678
fluoranthene	0.513	0.196
pyrene	0.316	0.216
benzo(a)pyrene	<0.00987	<0.00678
benzo(a)anthracene	<0.00987	<0.00678
benzo(k)fluoranthrene	<0.00987	<0.00678
3,4 benzofluoranthene	<0.00987	<0.00678
chrysene	<0.00987	<0.00678
acenaphthylene	<0.00987	<0.00678
benzo(ghi)perylene	<0.00987	<0.00678
dibenz(a,h)anthracene	<0.00987	<0.00678
indeno(1,2,3-cd)pyrene	<0.00987	<0.00678
acenaphthene	<0.00987	<0.00678
PCBs, total	0.987	0.203
kepone	<0.00987	<0.00678
dimethyl phthalate	<0.00987	<0.00678
diethyl phthalate	0.345	0.427
dibutyl phthalate	5.12	1.68
di-2-ethyl hexyl phthalate	1.23	0.0475
di octyl phthalate	0.207	0.128
atrazine	<0.1	<0.1
simazine	<0.1	<0.1
trifluraline	<0.1	<0.1
chlordane	<0.00987	<0.00678
diazinon	<0.00987	<0.00678
DDE	<0.00987	<0.00678
DDD	<0.00987	<0.00678
DDT	<0.00987	<0.00678
linuron	<0.1	<0.1
butyl benzyl phthalate	<0.0494	0.0136
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Marenzelleria

HM 13
X1F3601

Table 5.
in Scolicolipedes at Sta. HM 13, (08/26/81)

Table 6.
in Scolicolipedes at Sta. T 2, (08/26/81)

Compound	Table 5. Concentration, ug/kg	Table 6. Concentration, ug/kg
alpha-BHC	60300	<525
lindane	146000	<525
beta-BHC	<4530	1570
aldrin	167000	2100
heptachlor	19800	2620
heptachlor epoxide	63600	1050
dieldrin	OK 13600	8923
naphthalene	<4530	<525
fluorene	<4530	<525
phenanthrene	<4530	<525
anthracene	<4530	<525
fluoranthene	<4530	<525
pyrene	<4530	<525
benzo(a)pyrene	<4530	<525
benzo(a)anthracene	<4530	<525
benzo(k)fluoranthrene	<4530	<525
3,4 benzofluoranthene	<4530	<525
chrysene	<4530	<525
acenaphthylene	<4530	<525
benzo(ghi)perylene	<4530	<525
dibenz(a,h)anthracene	<4530	<525
indeno(1,2,3-cd)pyrene	<4530	<525
acenaphthene	<4530	<525
PCBs, total	247000	11300
kepone	<4530	<525
dimethyl phthalate	43300	<525
diethyl phthalate	51700	32000
dibutyl phthalate	64100	25200
di-2-ethyl hexyl phthalate	254000	2100
di octyl phthalate	196000	1570
atrazine	<1000	<1000
simazine	<1000	<1000
trifluraline	<1000	<1000
chlordane	<4530	<525
diazinon	<4530	<525
DDE	<4530	<525
DDD	<4530	<525
DDT	<4530	<525
linuron	<1000	<1000
butyl benzyl phthalate	<4530	5250
endrin		
malathion		
methyl parathion		
ethyl parathion		

10^{-6}

Concentrations of Selected Organic Contaminants

Compound	Marenzelleria Table 7. in Scolicolipedes at Sta. HM 10, (08/24/81) X165592 Concentration, ug/kg	Table 8. in Scolicolipedes at Sta. HM 17, (08/25/81) Concentration, ug/kg
alpha-BHC	<777	<470
lindane	<777	<470
beta-BHC	1940	1880
aldrin	1940	1410
heptachlor	6601	13600
heptachlor epoxide	777	939
dieldrin	43500	13100
naphthalene	<777	<470
fluorene	<777	<470
phenanthrene	<777	<470
anthracene	<777	<470
fluoranthene	<777	<470
pyrene	<777	<470
benzo(a)pyrene	<777	<470
benzo(a)anthracene	<777	<470
benzo(k)fluoranthrene	<777	<470
3,4 benzofluoranthene	<777	<470
chrysene	<777	<470
acenaphthylene	<777	<470
benzo(ghi)perylene	<777	<470
dibenz(a,h)anthracene	<777	<470
indeno(1,2,3-cd)pyrene	<777	<470
acenaphthene	<777	<470
PCBs, total	69100	17700
kepone	<777	<470
dimethyl phthalate	<777	<470
diethyl phthalate	22100	33800
dibutyl phthalate	19400	24900
di-2-ethyl hexyl phthalate	12400	7980
di octyl phthalate	28000	4700
atrazine	<1000	<500
simazine	<1000	<500
trifluraline	<1000	<500
chlordane	<777	<470
diazinon	<777	<470
DDE	<777	<470
DDD	<777	<470
DDT	<777	<470
linuron	22900	<500
butyl benzyl phthalate	<1000	21100
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 9. in Callinectes sapidus at Station SS-1 #1, (08/26/81) Concentration, ug/kg	Table 10. in Callinectes sapidus at Station SS-1 #2, (08/26/81) Concentration, ug/kg
alpha-BHC	<24.00	9.09
lindane	<24.00	15.20
beta-BHC	15.00	27.30
aldrin	63.00	25.70
heptachlor	30.00	74.20
heptachlor epoxide	<24.00	<9.00
dieldrin	170.00	215.00
naphthalene	<24.00	<9.00
fluorene	44.00	13.60
phenanthrene	<24.00	<9.00
anthracene	<24.00	<9.00
fluoranthene	38.00	18.20
pyrene	36.00	24.20
benzo(a)pyrene	<24.00	<9.00
benzo(a)anthracene	<24.00	<9.00
benzo(k)fluoranthrene	<24.00	<9.00
3,4 benzofluoranthene	<24.00	<9.00
chrysene	<24.00	<9.00
acenaphthylene	<24.00	<9.00
benzo(ghi)perylene	<24.00	<9.00
dibenz(a,h)anthracene	<24.00	<9.00
indeno(1,2,3-cd)pyrene	<24.00	<9.00
acenaphthene	<24.00	<9.00
PCBs, total	477.00	512.00
kepone	<24.00	<9.00
dimethyl phthalate	26.00	<9.00
diethyl phthalate	51.00	130.00
dibutyl phthalate	45.00	115.00
di-2-ethyl hexyl phthalate	952.00	390.00
di octyl phthalate	144.00	120.00
atrazine	<1.00	<1.00
simazine	<1.00	<1.00
trifluraline	<1.00	<1.00
chlordane	95.00	71.00
diazinon	<24.00	<9.00
DDE	<24.00	<9.00
DDD	<24.00	<9.00
DDT	<24.00	<9.00
linuron	<1.00	<1.00
butyl benzyl phthalate	172.00	68.20
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 11. in Leiostomus at Sta. T-1, #1, (08/26/81) X1F7823 Concentration, ug/kg	Table 12. in Leiostomus at Sta. T-1, #3, (08/26/81) Concentration, ug/kg
alpha-BHC	<168.00	40.9
lindane	<168.00	<40.9
beta-BHC	277.00	54.5
aldrin	<168.00	112.0
heptachlor	<168.00	81.8
heptachlor epoxide	<168.00	<40.9
dieldrin	997.00	543.0
naphthalene	<168.00	<40.9
fluorene	<168.00	40.9
phenanthrene	<168.00	<40.9
anthracene	<168.00	<40.9
fluoranthene	<168.00	<40.9
pyrene	<168.00	<40.9
benzo(a)pyrene	<168.00	<40.9
benzo(a)anthracene	<168.00	<40.9
benzo(k)fluoranthrene	<168.00	<40.9
3,4 benzofluoranthene	<168.00	<40.9
chrysene	<168.00	<40.9
acenaphthylene	<168.00	<40.9
benzo(ghi)perylene	<168.00 _20	<40.9
dibenz(a,h)anthracene	<168.00	<40.9
indeno(1,2,3-cd)pyrene	<168.00	<40.9
acenaphthene	<168.00	<40.9
PCBs, total	2010.00	1060.0
kepone	4168.00	<40.9
dimethyl phthalate	<168.00	112.0
diethyl phthalate	284.00	133.0
dibutyl phthalate	472.00	95.4
di-2-ethyl hexyl phthalate	401.00	95.4
di octyl phthalate	290.00	275.0
atrazine	<10.00	<10.0
simazine	<10.00	<10.0
trifluraline	<10.00	<10.0
chlordane	290.00	95.4
diazinon	<168.00	<40.9
DDE	<168.00	<40.9
DDD	<168.00	<40.9
DDT	<168.00	<40.9
linuron	<10.00	<10.0
butyl benzyl phthalate	477.00 _90	77.2
endrin		
malathion		
methyl parathion		
ethyl parathion	48	48

Concentrations of Selected Organic Contaminants

Compound	Table 13. in Leiostomus at Sta. T-1 #5, (08/26/81) Concentration, ug/kg	Table 14. in Leiostomus at Sta. T-1 #6, (08/26/81) Concentration, ug/kg
alpha-BHC	13.6	<26.0
lindane	<13.6	<26.0
beta-BHC	16.7	<26.0
aldrin	24.2	<26.0
heptachlor	46.9	<26.0
heptachlor epoxide	<13.6	<26.0
dieldrin	265.0	65.1
naphthalene	<13.6	<26.0
fluorene	<13.6	<26.0
phenanthrene	<13.6	<26.0
anthracene	<13.6	<26.0
fluoranthene	<13.6	<26.0
pyrene	<13.6	<26.0
benzo(a)pyrene	<13.6	<26.0
benzo(a)anthracene	<13.6	<26.0
benzo(k)fluoranthrene	<13.6	<26.0
3,4 benzofluoranthene	<13.6	<26.0
chrysene	<13.6	<26.0
acenaphthylene	<13.6	<26.0
benzo(ghi)perylene	<13.6	<26.0
dibenz(a,h)anthracene	<13.6	<26.0
indeno(1,2,3-cd)pyrene	<13.6	<26.0
acenaphthene	<13.6	<26.0
PCBs, total	307.0	93.9
kepone	<13.6	<26.0
dimethyl phthalate	15.1	<26.0
diethyl phthalate	201.0	83.3
dibutyl phthalate	209.0	157.0
di-2-ethyl hexyl phthalate	622.0	92.4
di octyl phthalate	119.0	56.0
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	136.0	92.4
diazinon	<13.6	<26.0
DDE	<13.6	<26.0
DDD	<13.6	<26.0
DDT	<13.6	<26.0
linuron	<10.0	<10.0
butyl benzyl phthalate	246.0	227.0
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 15. in Leiostomus at Sta. T-1 #7, (08/26/81) Concentration, ug/kg	Table 16. in Leiostomus at Sta. T-1 #8, (08/26/81) Concentration, ug/kg
alpha-BHC	<1.50	66.6
lindane	1.50	71.2
beta-BHC	7.58	<40.9
aldrin	7.58	40.9
heptachlor	9.09	81.8
heptachlor epoxide	7.58	<40.9
dieldrin	72.70	192.0
naphthalene	<1.50	<40.9
fluorene	<1.50	42.4
phenanthrene	<1.50	<40.9
anthracene	<1.50	<40.9
fluoranthene	12.10	<40.9
pyrene	12.10	<40.9
benzo(a)pyrene	<1.50	<40.9
benzo(a)anthracene	<1.50	<40.9
benzo(k)fluoranthrene	<1.50	<40.0
3,4 benzofluoranthene	<1.50	<40.9
chrysene	<1.50	<40.9
acenaphthylene	<1.50	<40.9
benzo(ghi)perylene	<1.50	<40.9
dibenz(a,h)anthracene	<1.50	<40.9
indeno(1,2,3-cd)pyrene	<1.50	<40.9
acenaphthene	<1.50	<40.9
PCBs, total	66.10	459.0
kepone	<1.50	<40.9
dimethyl phthalate	1.50	62.1
diethyl phthalate	43.90	542.0
dibutyl phthalate	83.30	419.0
di-2-ethyl hexyl phthalate	53.00	40.9
di octyl phthalate	37.90	59.1
atrazine	<1.00	<10.0
simazine	<1.00	<10.0
trifluraline	<1.00	<10.0
chlordane	83.30	71.2
diazinon	<1.50	<40.9
DDE	<1.50	<40.9
DDD	<1.50	<40.9
DDT	<1.50	<40.9
linuron	<1.00	<10.0
butyl benzyl phthalate	68.20	78.8
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 17. in Leiostomus at Sta. T-2 #7, (08/26/81) Concentration, ug/kg	Table 18. in Leiostomus at Sta. T-3 #1, (08/26/81) Concentration, ug/kg
alpha-BHC	<21.2	19.6
lindane	<21.2	<10.6
beta-BHC	24.2	103.0
aldrin	27.3	53.0
heptachlor	25.7	80.3
heptachlor epoxide	<21.2	<10.6
dieldrin	183.0	353.0
naphthalene	<21.2	<10.6
fluorene	21.2	12.1
phenanthrene	<21.2	<10.6
anthracene	<21.2	<10.6
fluoranthene	<21.2	18.2
pyrene	<21.2	31.8
benzo(a)pyrene	<21.2	<10.6
benzo(a)anthracene	<21.2	<10.6
benzo(k)fluoranthrene	<21.2	<10.6
3,4 benzofluoranthene	<21.2	<10.6
chrysene	<21.2	<10.6
acenaphthylene	<21.2	<10.6
benzo(ghi)perylene	<21.2	<10.6
dibenz(a,h)anthracene	<21.2	<10.6
indeno(1,2,3-cd)pyrene	<21.2	<10.6
acenaphthene	<21.2	<10.6
PCBs, total	257.0	109.8
kepone	<21.2	<10.6
dimethyl phthalate	<21.2	46.9
diethyl phthalate	33.3	150.0
dibutyl phthalate	46.9	165.0
di-2-ethyl hexyl phthalate	172.0	183.0
di octyl phthalate	141.0	272.0
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	91.5	75.0
diazinon	<21.2	10.6
DDE	<21.2	10.6
DDD	<21.2	10.6
DDT	<21.2	10.6
linuron	<10.0	<10.0
butyl benzyl phthalate	277.0	84.8
endrin		
malathion		
methyl parathion		
ethyl parathion		

240

Concentrations of Selected Organic Contaminants

X1F4105

Compound	Table 19. in Leiostomus at Sta. T-3 #3, (08/10/82) Concentration, ug/kg	Table 20. in Leiostomus at Sta. T-3 #5, (08/26/81) Concentration, ug/kg
alpha-BHC	<31.8	<15.0
lindane	62.1	<15.0
beta-BHC	68.2	24.2
aldrin	<31.8	18.2
heptachlor	<31.8	16.7
heptachlor epoxide	<31.8	<15.0
dieldrin	142.0	106.0
naphthalene	<31.8	<15.0
fluorene	81.8	<15.0
phenanthrene	<31.8	<15.0
anthracene	<31.8	<15.0
fluoranthene	<31.8	19.7
pyrene	<31.8	21.2
benzo(a)pyrene	<31.8	<15.0
benzo(a)anthracene	<31.8	<15.0
benzo(k)fluoranthrene	<31.8	<15.0
3,4 benzofluoranthene	<31.8	<15.0
chrysene	<31.8	<15.0
acenaphthylene	<31.8	<15.0
benzo(ghi)perylene	<31.8	<15.0
dibenz(a,h)anthracene	<31.8	<15.0
indeno(1,2,3-cd)pyrene	<31.8	<15.0
acenaphthene	<31.8	<15.0
PCBs, total	297.0	242.0
kepone	<31.8	<15.0
dimethyl phthalate	<31.8	19.6
diethyl phthalate	281.0	71.2
dibutyl phthalate	92.4	96.9
di-2-ethyl hexyl phthalate	100.0	1025.0
di octyl phthalate	135.0	20.7
atrazine	<10.0	<1.0
simazine	<10.0	<1.0
trifluraline	<10.0	<1.0
chlordane	90.0	77.0
diazinon	<31.8	<15.0
DDE	<31.8	<15.0
DDD	<31.8	<15.0
DDT	<31.8	<15.0
linuron	<10.0	<1.0
butyl benzyl phthalate	210.0	86.4
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 21. in Leiostomus at Sta. T-10 #7, (08/26/81) Concentration, ug/kg	Table 22. in Morone americana at Sta T-1 #1, (08/26/81) Concentration, ug/kg
alpha-BHC	25.7	33.3
lindane	13.6	<27.0
beta-BHC	<13.6	30.3
aldrin	<13.6	72.7
heptachlor	<13.6	119.0
heptachlor epoxide	<13.6	<27.0
dieldrin	18.2	502.0
naphthalene	<13.6	<27.0
fluorene	<13.6	42.4
phenanthrene	<13.6	<27.0
anthracene	<13.6	<27.0
fluoranthene	<13.6	<27.0
pyrene	<13.6	43.9
benzo(a)pyrene	<13.6	<27.0
benzo(a)anthracene	<13.6	<27.0
benzo(k)fluoranthrene	<13.6	<27.0
3,4 benzofluoranthene	<13.6	<27.0
chrysene	<13.6	<27.0
acenaphthylene	<13.6	<27.0
benzo(ghi)perylene	<13.6	<27.0
dibenz(a,h)anthracene	<13.6	<27.0
indeno(1,2,3-cd)pyrene	<13.6	<27.0
acenaphthene	<13.6	<27.0
PCBs, total	266.0	722.0
kepone	<13.6	<27.0
dimethyl phthalate	<13.6	33.3
diethyl phthalate	112.0	215.0
dibutyl phthalate	18.2	363.0
di-2-ethyl hexyl phthalate	1340.0	139.0
di octyl phthalate	21.2	495.0
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	21.3	111.0
diazinon	<13.6	<27.0
DDE	<13.6	<27.0
DDD	<13.6	<27.0
DDT	<13.6	<27.0
linuron	<10.0	<10.0
butyl benzyl phthalate	122.0	113.0
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 23. in Morone americana at Sta. T-1 #2, (08/26/81) Concentration, ug/kg	Table 24. in Morone americana at Sta. T-1 #4, (08/26/81) Concentration, ug/kg
alpha-BHC	19.7	<33.3
lindane	21.2	<33.3
beta-BHC	<15.1	<33.3
aldrin	33.3	<33.3
heptachlor	21.2	<33.3
heptachlor epoxide	<15.1	<33.3
dieldrin	188.0	<33.3
naphthalene	<15.1	<33.3
fluorene	<15.1	68.2
phenanthrene	<15.1	68.2
anthracene	<15.1	68.2
fluoranthene	16.7	68.2
pyrene	24.2	68.2
benzo(a)pyrene	<16.1	68.2
benzo(a)anthracene	<16.1	68.2
benzo(k)fluoranthrene	<16.1	68.2
3,4 benzofluoranthene	<16.1	68.2
chrysene	<16.1	68.2
acenaphthylene	<16.1	68.2
benzo(ghi)perylene	<16.1	68.2
dibenz(a,h)anthracene	<16.1	68.2
indeno(1,2,3-cd)pyrene	<16.1	68.2
acenaphthene	<16.1	68.2
PCBs, total	351.0	146.0
kepone	<15.1	<33.3
dimethyl phthalate	15.1	204.0
diethyl phthalate	198.0	306.0
dibutyl phthalate	142.0	<33.3
di-2-ethyl hexyl phthalate	633.0	<33.3
di octyl phthalate	150.0	<33.3
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	93.0	41.1
diazinon	<15.1	<33.3
DDE	<15.1	<33.3
DDD	<15.1	<33.3
DDT	<15.1	<33.3
linuron	<10.0	<10.0
butyl benzyl phthalate	163.0	<10.0
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 25. in Morone americana at Sta. T-1 #6, (08/26/81) Concentration, ug/kg	Table 26. in Morone americana at Sta. T-7 #1, (08/26/81) Concentration, ug/kg
alpha-BHC	<7.6	<13.6
lindane	<7.6	<13.6
beta-BHC	<7.6	<13.6
aldrin	74.2	96.9
heptachlor	40.9	48.5
heptachlor epoxide	<7.6	<13.6
dieldrin	234.0	569.0
naphthalene	<7.6	<13.6
fluorene	27.3	46.9
phenanthrene	<7.6	<13.6
anthracene	<7.6	<13.6
fluoranthene	12.1	31.8
pyrene	25.7	62.1
benzo(a)pyrene	<7.6	<13.6
benzo(a)anthracene	<7.6	<13.6
benzo(k)fluoranthrene	<7.6	<13.6
3,4 benzofluoranthene	<7.6	<13.6
chrysene	<7.6	<13.6
acenaphthylene	<7.6	<13.6
benzo(ghi)perylene	<7.6	<13.6
dibenz(a,h)anthracene	<7.6	<13.6
indeno(1,2,3-cd)pyrene	<7.6	<13.6
acenaphthene	<7.6	<13.6
PCBs, total	257.0	621.0
kepone	<7.6	<13.6
dimethyl phthalate	22.7	13.6
diethyl phthalate	33.3	203.0
dibutyl phthalate	150.0	56.0
di-2-ethyl hexyl phthalate	19.7	75.7
di octyl phthalate	71.2	77.3
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	77.7	203.0
diazinon	<7.6	<13.6
DDE	<7.6	<13.6
DDD	<7.6	<13.6
DDT	<7.6	<13.6
linuron	<10.0	<10.0
butyl benzyl phthalate	126.0	201.0
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

	Table 27. in Morone americana at Sta. T-7 #2, (08/26/81)	Table 28. in Morone americana at Sta. T-7 #3, (08/26/81)
Compound	Concentration, ug/kg	Concentration, ug/kg
alpha-BHC	4.54	34.8
lindane	10.60	40.9
beta-BHC	19.70	33.3
aldrin	<1.50	36.3
heptachlor	4.54	51.5
heptachlor epoxide	1.50	<16.6
dieldrin	92.40	250.0
naphthalene	<1.50	<16.6
fluorene	<1.50	19.7
phenanthrene	<1.50	<16.6
anthracene	<1.50	<16.6
fluoranthene	19.70	<16.6
pyrene	19.70	36.4
benzo(a)pyrene	<1.50	<16.6
benzo(a)anthracene	<1.50	<16.6
benzo(k)fluoranthrene	<1.50	<16.6
3,4 benzofluoranthene	<1.50	<16.6
chrysene	<1.50	<16.6
acenaphthylene	<1.50	<16.6
benzo(ghi)perylene	<1.50	<16.6
dibenz(a,h)anthracene	<1.50	<16.6
indeno(1,2,3-cd)pyrene	<1.50	<16.6
acenaphthene	<1.50	<16.6
PCBs, total	179.00	356.0
kepone	<1.50	<16.6
dimethyl phthalate	3.03	18.2
diethyl phthalate	50.00	118.0
dibutyl phthalate	37.90	331.0
di-2-ethyl hexyl phthalate	7.60	36.4
di octyl phthalate	15.20	78.9
atrazine	<1.00	<10.0
simazine	<1.00	<10.0
trifluraline	<1.00	<10.0
chlordane	41.10	125.0
diazinon	<1.50	<16.6
DDE	<1.50	<16.6
DDD	<1.50	<16.6
DDT	<1.50	<16.6
linuron	<1.00	<10.0
butyl benzyl phthalate	68.20	307.0
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 29. in Morone americana at Sta. ST-7 #5, (08/26/81) Concentration, ug/kg	Table 30. in Morone americana at Sta. T-7 #6, (08/26/81) Concentration, ug/kg
alpha-BHC	<10.6	12.1
lindane	<10.6	<10.6
beta-BHC	12.1	<10.6
aldrin	12.1	28.8
heptachlor	10.6	28.8
heptachlor epoxide	<10.6	<10.6
dieldrin	136.0	90.9
naphthalene	<10.6	<10.6
fluorene	<10.6	<10.6
phenanthrene	<10.6	<10.6
anthracene	<10.6	<10.6
fluoranthene	18.2	<10.6
pyrene	<10.6	15.2
benzo(a)pyrene	<10.6	<10.6
benzo(a)anthracene	<10.6	<10.6
benzo(k)fluoranthrene	<10.6	<10.6
3,4 benzofluoranthene	<10.6	<10.6
chrysene	<10.6	<10.6
acenaphthylene	<10.6	<10.6
benzo(ghi)perylene	<10.6	<10.6
dibenz(a,h)anthracene	<10.6	<10.6
indeno(1,2,3-cd)pyrene	<10.6	<10.6
acenaphthene	<10.6	110.6
PCBs, total	234.0	152.0
kepone	<10.6	<10.6
dimethyl phthalate	<10.6	<10.6
diethyl phthalate	75.7	27.3
dibutyl phthalate	203.0	25.7
di-2-ethyl hexyl phthalate	36.4	13.6
di octyl phthalate	213.0	57.6
atrazine	<10.0	<10.0
simazine	<10.0	<10.0
trifluraline	<10.0	<10.0
chlordane	71.0	90.6
diazinon	<10.6	<10.6
DDE	<10.6	<10.6
DDD	<10.6	<10.6
DDT	<10.6	<10.6
linuron	<10.0	<10.0
butyl benzyl phthalate	347.0	84.8
endrin		
malathion		
methyl parathion		
ethyl parathion		

Concentrations of Selected Organic Contaminants

Compound	Table 31. in Morone americana at Sta. T-7 #7, (08/26/81) Concentration, ug/kg	Table 32. in Water at Station WQ-1, (08/25/81) Concentration, ug/L
alpha-BHC	1.50	0.04
lindane	13.60	<0.04
beta-BHC	<1.50	<0.04
aldrin	<1.50	0.08
heptachlor	3.03	0.06
heptachlor epoxide	<1.50	<0.04
dieldrin	104.00	0.26
naphthalene	<1.50	<0.04
fluorene	6.06	<0.04
phenanthrene	<1.50	0.06
anthracene	<1.50	0.06
fluoranthene	1.50	0.05
pyrene	1.50	0.05
benzo(a)pyrene	<1.50	0.04
benzo(a)anthracene	<1.50	<0.04
benzo(k)fluoranthrene	<1.50	<0.04
3,4 benzofluoranthene	<1.50	<0.04
chrysene	<1.50	<0.04
acenaphthylene	<1.50	<0.04
benzo(ghi)perylene	<1.50	<0.04
dibenz(a,h)anthracene	<1.50	<0.04
indeno(1,2,3-cd)pyrene	<1.50	<0.04
acenaphthene	<1.50	<0.04
PCBs, total	219.00	<0.04
kepone	<1.50	<0.04
dimethyl phthalate	<9.00	0.06
diethyl phthalate	6.06	3.16
dibutyl phthalate	42.40	1.40
di-2-ethyl hexyl phthalate	130.00	0.46
di octyl phthalate	48.50	0.88
atrazine	31.80	<0.04
simazine	<1.00	<0.04
trifluraline	<1.00	<0.04
chlordane	<1.00	0.18
diazinon	84.80	<0.04
DDE	<1.50	<0.04
DDD	<1.50	<0.04
DDT	<1.50	<0.04
linuron	<1.50	0.37
butyl benzyl phthalate	<1.50	0.06
endrin		<0.04
malathion		<0.04
methyl parathion		<0.04
ethyl parathion		<0.04

Concentrations of Selected Organic Contaminants

Compound	Table 33. in Water at Station WQ-2, (08/25/81) Concentration, ug/L	Table 34. in Water at Station WQ-3, (08/25/81) Concentration, ug/L
alpha-BHC	<0.04	<0.04
lindane	<0.04	<0.04
beta-BHC	<0.04	<0.04
aldrin	<0.04	<0.04
heptachlor	0.04	<0.04
heptachlor epoxide	<0.04	<0.04
dieldrin	0.21	0.12
naphthalene	<0.04	<0.04
fluorene	<0.04	<0.04
phenanthrene	<0.04	<0.04
anthracene	0.05	<0.04
fluoranthene	0.04	<0.04
pyrene	0.04	<0.04
benzo(a)pyrene	<0.04	<0.04
benzo(a)anthracene	<0.04	<0.04
benzo(k)fluoranthrene	<0.04	<0.04
3,4 benzofluoranthene	<0.04	<0.04
chrysene	<0.04	<0.04
acenaphthylene	<0.04	<0.04
benzo(ghi)perylene	<0.04	<0.04
dibenz(a,h)anthracene	<0.04	<0.04
indeno(1,2,3-cd)pyrene	<0.04	<0.04
acenaphthene	<0.04	<0.04
PCBs, total	<0.04	<0.04
kepone	<0.04	<0.04
dimethyl phthalate	<0.04	0.04
diethyl phthalate	0.94	1.12
dibutyl phthalate	0.54	0.60
di-2-ethyl hexyl phthalate	0.26	0.30
di octyl phthalate	0.30	0.52
atrazine	<0.04	<0.04
simazine	<0.04	<0.04
trifluraline	<0.04	<0.04
chlordane	0.17	0.13
diazinon	<0.04	<0.04
DDE	<0.04	<0.04
DDD	<0.04	<0.04
DDT	<0.04	<0.04
linuron	<0.04	0.81
butyl benzyl phthalate	0.80	0.12
endrin	<0.04	<0.04
malathion	<0.04	<0.04
methyl parathion	<0.04	<0.04
ethyl parathion	<0.04	<0.04

Concentrations of Selected Organic Contaminants

Table 35. in Water at Station WQ-4, (08/25/81)

Table 36. in Water at Station WQ-5, (08/25/81)

Compound	Table 35. WQ-4 Concentration, ug/L	Table 36. WQ-5 Concentration, ug/L
alpha-BHC	<0.04	<0.04
lindane	<0.04	<0.04
beta-BHC	<0.04	<0.04
aldrin	<0.04	0.04
heptachlor	0.08	0.04
heptachlor epoxide	<0.04	<0.04
dieldrin	0.26	0.36
naphthalene	<0.04	<0.04
fluorene	<0.04	0.04
phenanthrene	0.05	0.05
anthracene	0.05	0.06
fluoranthene	0.04	0.06
pyrene	<0.04	0.06
benzo(a)pyrene	<0.04	<0.04
benzo(a)anthracene	<0.04	<0.04
benzo(k)fluoranthrene	<0.04	<0.04
3,4 benzofluoranthene	<0.04	<0.04
chrysene	<0.04	<0.04
acenaphthylene	<0.04	<0.04
benzo(ghi)perylene	<0.04	<0.04
dibenz(a,h)anthracene	<0.04	<0.04
indeno(1,2,3-cd)pyrene	<0.04	<0.04
acenaphthene	<0.04	<0.04
PCBs, total	<0.04	<0.04
kepone	<0.04	<0.04
dimethyl phthalate	0.05	0.08
diethyl phthalate	0.38	1.48
dibutyl phthalate	0.80	1.90
di-2-ethyl hexyl phthalate	0.34	36.8
di octyl phthalate	0.60	0.60
atrazine	<0.04	<0.04
simazine	<0.04	<0.04
trifluraline	<0.04	<0.04
chlordane	0.21	0.29
diazinon	<0.04	<0.04
DDE	<0.04	<0.04
DDD	<0.04	<0.04
DDT	<0.04	<0.04
linuron	0.67	2.60
butyl benzyl phthalate	0.12	0.78
endrin	<0.04	<0.04
malathion	<0.04	<0.04
methyl parathion	<0.04	<0.04
ethyl parathion	<0.04	<0.04

Concentrations of Selected Organic Contaminants

Compound	Table 37. in Water at Station WQ-6, (08/25/81) Concentration, ug/L	Table 38. in Water at Station WQ-8, (08/25/81) Concentration, ug/L
alpha-BHC	<0.04	0.14
lindane	<0.04	0.14
beta-BHC	<0.04	0.12
aldrin	<0.04	0.20
heptachlor	0.04	0.50
heptachlor epoxide	<0.04	0.06
dieldrin	0.16	1.16
naphthalene	<0.04	0.05
fluorene	<0.04	0.12
phenanthrene	<0.04	0.07
anthracene	<0.04	0.09
fluoranthene	<0.04	0.07
pyrene	<0.04	0.07
benzo(a)pyrene	<0.04	0.07
benzo(a)anthracene	<0.04	<0.04
benzo(k)fluoranthrene	<0.04	<0.04
3,4 benzofluoranthene	<0.04	<0.04
chrysene	<0.04	<0.04
acenaphthylene	<0.04	<0.04
benzo(ghi)perylene	<0.04	<0.04
dibenz(a,h)anthracene	<0.04	<0.04
indeno(1,2,3-cd)pyrene	<0.04	<0.04
acenaphthene	<0.04	<0.04
PCBs, total	<0.04	<0.04
kepone	<0.04	<0.04
dimethyl phthalate	0.84	0.38
diethyl phthalate	0.74	2.76
dibutyl phthalate	0.10	2.58
di-2-ethyl hexyl phthalate	0.50	10.40
di octyl phthalate	<0.04	0.68
atrazine	<0.04	<0.04
simazine	<0.04	<0.04
trifluraline	<0.04	<0.04
chlordane	0.16	0.23
diazinon	<0.04	<0.04
DDE	<0.04	<0.04
DDD	<0.04	<0.04
DDT	<0.04	<0.04
linuron	<0.04	0.55
butyl benzyl phthalate	0.10	0.80
endrin	<0.04	<0.04
malathion	<0.04	<0.04
methyl parathion	<0.04	<0.04
ethyl parathion	<0.04	<0.04

Concentrations of Selected Organic Contaminants

	Table 39. in Sediment at Station BC-1, (10/14/81)	Table 40. in Sediment at Station BC-3, (10/14/81)
Compound	Concentration, ug/g	Concentration, ug/kg
alpha-BHC	.00412	0.0331
lindane	.00743	0.0497
beta-BHC	.00495	0.00828
aldrin	.0743	0.463
heptachlor	.00660	0.0331
heptachlor epoxide	<0.00412	0.00828
dieldrin	.0413	0.223
naphthalene	<0.00412	<0.00828
fluorene	.00660	0.0579
phenanthrene	.0066	<0.00828
anthracene	<0.00412	<0.00828
fluoranthene	.00660	0.0497
pyrene	.140	0.0497
benzo(a)pyrene	.0412	0.0165
benzo(a)anthracene	.0495	0.0165
benzo(k)fluoranthrene	<0.00412	<0.00828
3,4 benzofluoranthene	<0.00412	<0.00828
chrysene	.0577	0.0579
acenaphthylene	<0.00412	<0.00828
benzo(ghi)perylene	.00825	0.0165
dibenz(a,h)anthracene	<0.00412	<0.00828
indeno(1,2,3-cd)pyrene	.0495	0.0165
acenaphthene	<0.00412	<0.00828
PCBs, total	1.179	1.002
kepone	<0.00412	<0.00828
dimethyl phthalate	<0.00412	0.182
diethyl phthalate	.313	0.115
dibutyl phthalate	1.180	0.033
di-2-ethyl hexyl phthalate	.00495	1.043
di octyl phthalate	.0.328	0.149
atrazine	<0.00412	<0.00828
simazine	<0.00412	<0.00828
trifluraline	<0.00412	<0.00828
chlordane	.0495	0.273
diazinon	<0.00412	<0.00828
DDE	.0495	0.0273
DDD	.0412	0.0331
DDT	<0.00412	<0.00828
linuron	<0.00412	<0.00828
butyl benzyl phthalate	.00743	4.371
endrin	<0.00412	<0.00828
malathion	<0.00412	<0.00828
methyl parathion	<0.00412	<0.00828
ethyl parathion	<0.00412	<0.00828

Concentrations of Selected Organic Contaminants

Compound	Table 41. in Sediments at Station BC-6, (10/14/81) Concentration, ug/g	Table 42. in Sediments at Station BH-1, (05/07/82) Concentration, ug/kg
alpha-BHC	<0.00834	<0.00677
lindane	0.00834	0.00677
beta-BHC	0.00834	<0.00677
aldrin	0.4929	0.00752
heptachlor	0.00834	0.00677
heptachlor epoxide	<0.00834	<0.00677
dieldrin	0.00669	0.0226
naphthalene	<0.00834	<0.00677
fluorene	0.0167	0.00752
phenanthrene	0.0125	0.00752
anthracene	<0.00834	<0.00677
fluoranthene	0.133	0.346
pyrene	0.141	0.233
benzo(a)pyrene	0.0125	0.00752
benzo(a)anthracene	0.0167	0.00752
benzo(k)fluoranthrene	<0.00834	<0.00677
3,4 benzofluoranthene	<0.00834	<0.00677
chrysene	0.0667	0.0677
acenaphthylene	<0.00834	<0.00677
benzo(ghi)perylene	<0.00834	0.00677
dibenz(a,h)anthracene	<0.00834	<0.00677
indeno(1,2,3-cd)pyrene	<0.00834	0.0150
acenaphthene	<0.00834	<0.0677
PCBs, total	0.884	1.045
kepone	<0.00834	<0.00677
dimethyl phthalate	0.0167	0.00752
diethyl phthalate	0.484	0.157
dibutyl phthalate	4.195	1.037
di-2-ethyl hexyl phthalate	9.216	0.301
di octyl phthalate	0.141	0.0301
atrazine	<0.00834	<0.00677
simazine	<0.00834	<0.00677
trifluraline	<0.00834	<0.00677
chlordane	0.275	0.0301
diazinon	<0.00834	<0.00677
DDE	0.0167	0.0300
DDD	0.0334	0.0601
DDT	<0.00834	<0.00677
linuron	<0.00834	<0.00677
butyl benzyl phthalate	0.0250	3.578
endrin	<0.00834	<0.00677
malathion	<0.00834	<0.00677
methyl parathion	<0.00834	<0.00677
ethyl parathion	<0.00834	<0.00677

Concentrations of Selected Organic Contaminants

Compound	Table 43. in Sediments at Station BH-2, (05/07/82) Concentration, ug/g	Table 44. in Sediments at Station WQ-3, (08/27/81) Concentration, ug/g
alpha-BHC	<0.00844	0.0123
lindane	0.00844	0.0246
beta-BHC	<0.00844	0.0185
aldrin	0.0844	0.252
heptachlor	0.0422	0.0123
heptachlor epoxide	<0.00844	0.0185
dieldrin	0.101	0.0985
naphthalene	<0.00844	<0.00615
fluorene	0.0337	0.00615
phenanthrene	0.0253	0.00615
anthracene	<0.00844	<0.00615
fluoranthene	0.8337	0.597
pyrene	0.953	0.597
benzo(a)pyrene	0.0253	0.0185
benzo(a)anthracene	0.0337	0.0246
benzo(k)fluoranthrene	<0.00844	<0.00615
3,4 benzofluoranthene	<0.00844	<0.00615
chrysene	0.0675	0.0923
acenaphthylene	<0.00844	<0.00615
benzo(ghi)perylene	0.00844	0.0246
dibenz(a,h)anthracene	<0.00844	<0.00615
indeno(1,2,3-cd)pyrene	0.00844	0.0492
acenaphthene	<0.00844	<0.00615
PCBs, total	1.156	0.535
kepone	<0.00844	<0.00615
dimethyl phthalate	<0.00844	0.0246
diethyl phthalate	0.253	0.996
dibutyl phthalate	0.978	0.0246
di-2-ethyl hexyl phthalate	0.253	0.0800
di octyl phthalate	0.0422	0.0369
atrazine	<0.00844	<0.00615
simazine	<0.00844	<0.00615
trifluraline	<0.00844	<0.00615
chlordane	0.0337	0.227
diazinon	<0.00844	<0.00615
DDE	0.0422	0.0246
DDD	0.0337	0.0369
DDT	<0.00844	<0.00615
linuron	<0.00844	<0.00615
butyl benzyl phthalate	0.0591	0.0492
endrin	<0.00844	<0.00615
malathion	<0.00844	<0.00615
methyl parathion	<0.00844	<0.00615
ethyl parathion	<0.00844	<0.00615

Concentrations of Selected Organic Contaminants

Compound	Table 45. in Sediments at Station WQ-5, (08/26/81) Concentration, ug/g	Table 46. in Sediments at Station WQ-6, (08/27/81) Concentration, ug/g
alpha-BHC	0.0331	0.0278
lindane	0.0331	0.0742
beta-BHC	<0.00828	0.0649
aldrin	0.153	0.321
heptachlor	0.0331	0.0325
heptachlor epoxide	0.0463	0.0464
dieldrin	0.273	0.251
naphthalene	<0.00828	0.00649
fluorene	0.0463	0.102
phenanthrene	0.0497	0.0139
anthracene	<0.00828	0.0139
fluoranthene	0.0828	0.139
pyrene	0.0828	1.429
benzo(a)pyrene	0.0153	0.0278
benzo(a)anthracene	0.0497	0.0742
benzo(k)fluoranthrene	<0.00828	<0.00464
3,4 benzofluoranthene	<0.00828	<0.00464
chrysene	0.0828	0.0742
acenaphthylene	<0.00828	<0.00464
benzo(ghi)perylene	0.0331	0.0325
dibenz(a,h)anthracene	<0.00828	<0.00464
indeno(1,2,3-cd)pyrene	<0.0662	0.0278
acenaphthene	<0.00828	<0.00464
PCBs, total	1.171	0.654
kepone	<0.00828	<0.00464
dimethyl phthalate	0.115	0.310
diethyl phthalate	0.182	0.0464
dibutyl phthalate	0.331	13.8
di-2-ethyl hexyl phthalate	1.002	0.0186
di octyl phthalate	0.0828	0.0882
atrazine	<0.00828	<0.00464
simazine	<0.00828	<0.00464
trifluraline	<0.00828	<0.00464
chlordane	0.183	0.357
diazinon	<0.00828	<0.00464
DDE	0.0182	0.0325
DDD	0.0331	0.0742
DDT	<0.00828	<0.00464
linuron	<0.00828	<0.00464
butyl benzyl phthalate	2.73	0.0418
endrin	<0.00828	<0.00464
malathion	<0.00828	<0.00464
methyl parathion	<0.00828	<0.00464
ethyl parathion	<0.00828	<0.00464

Concentrations of Selected Organic Contaminants

Compound	Table 47. in Sediment at Station WQ-7, (08/27/81) Concentration, ug/g	Table 48. in Sediment at Station WQ-8, (08/27/81) Concentration, ug/g
alpha-BHC	0.0121	0.00961
lindane	0.0182	0.0240
beta-BHC	0.00606	0.0144
aldrin	0.0666	0.163
heptachlor	0.0121	0.00481
heptachlor epoxide	0.0182	0.00961
dieldrin	0.139	0.0673
naphthalene	<0.00606	<0.00481
fluorene	0.0424	0.0385
phenanthrene	0.0424	0.0144
anthracene	<0.00606	<0.00481
fluoranthene	0.0606	0.201
pyrene	0.0606	0.230
benzo(a)pyrene	0.0121	0.0144
benzo(a)anthracene	0.0485	0.0673
benzo(k)fluoranthrene	<0.00606	<0.00481
3,4 benzofluoranthene	<0.00606	<0.00481
chrysene	0.0666	0.0961
acenaphthylene	<0.00606	<0.00481
benzo(ghi)perylene	0.0182	0.0240
dibenz(a,h)anthracene	<0.00606	<0.00812
indeno(1,2,3-cd)pyrene	0.0242	0.0385
acenaphthene	<0.00606	<0.00481
PCBs, total	0.272	0.562
kepone	<0.00606	<0.00481
dimethyl phthalate	0.0121	0.00481
diethyl phthalate	0.181	0.0144
dibutyl phthalate	1.250	0.0481
di-2-ethyl hexyl phthalate	0.0364	0.00481
di octyl phthalate	0.0182	0.0240
atrazine	<0.00606	<0.00481
simazine	<0.00606	<0.00481
trifluraline	<0.00606	<0.00481
chlordane	0.0139	0.139
diazinon	<0.00606	<0.00481
DDE	0.0182	0.0144
DDD	0.0364	0.0385
DDT	<0.00606	<0.00481
linuron	<0.00606	<0.00481
butyl benzyl phthalate	0.0121	0.0288
endrin	<0.00606	<0.00481
malathion	<0.00606	<0.00481
methyl parathion	<0.00606	<0.00481
ethyl parathion	<0.00606	<0.00481

Concentrations of Selected Organic Contaminants

Compound	Table 49. in Sediment at Station BH-3, (05/07/82) Concentration, ug/kg	Table 50. in Sediment at Station BH-4, (05/07/82) Concentration, ug/kg
alpha-BHC	0.0192	0.0449
lindane	0.0319	0.119
beta-BHC	0.0383	0.104
aldrin	0.792	0.948
heptachlor	0.0255	0.0749
heptachlor epoxide	0.0447	0.0449
dieldrin	0.345	0.641
naphthalene	<0.00639	<0.00749
fluorene	0.0127	0.314
phenanthrene	0.0192	0.0749
anthracene	<0.00639	<0.00749
fluoranthene	1.124	0.0449
pyrene	1.253	0.0674
benzo(a)pyrene	0.0319	0.0187
benzo(a)anthracene	0.0792	0.0449
benzo(k)fluoranthrene	<0.00639	<0.00749
3,4 benzofluoranthene	<0.00639	<0.00749
chrysene	0.127	0.0674
acenaphthylene	<0.00639	<0.00749
benzo(ghi)perylene	0.0319	0.0149
dibenz(a,h)anthracene	<0.00639	<0.00749
indeno(1,2,3-cd)pyrene	0.0447	0.0119
acenaphthene	<0.00639	<0.00749
PCBs, total	1.271	1.033
kepone	<0.00639	<0.00749
dimethyl phthalate	0.0383	0.0299
diethyl phthalate	0.0575	1.453
dibutyl phthalate	14.9	0.531
di-2-ethyl hexyl phthalate	0.159	0.172
di octyl phthalate	0.102	0.0299
atrazine	<0.00639	<0.00749
simazine	<0.00639	<0.00749
trifluraline	<0.00639	<0.00749
chlordane	0.217	0.134
diazinon	<0.00639	<0.00749
DDE	0.0319	0.0149
DDD	0.0447	0.0337
DDT	<0.00639	<0.00749
linuron	<0.00639	<0.00749
butyl benzyl phthalate	0.159	0.0898
endrin	<0.00639	<0.00749
malathion	<0.00639	<0.00749
methyl parathion	<0.00639	<0.00749
ethyl parathion	<0.00639	<0.00749

Concentrations of Selected Organic Contaminants

Compound	Table 51. in Leiostomus at Sta. 10 2, (08/26/81) Concentration, ug/kg	Table 52. in Macoma balthica at Sta. HM12, (08/25/81) Concentration, ug/kg
alpha-BHC	<3.03	<251
lindane	6.06	251
beta-BHC	<3.03	<251
aldrin	25.7	1006
heptachlor	16.6	2012
heptachlor epoxide	6.06	<251
dieldrin	40.9	755
naphthalene	4.54	<251
fluorene	9.09	251
phenanthrene	16.6	377
anthracene	18.8	377
fluoranthene	15.5	<251
pyrene	15.5	<251
benzo(a)pyrene	13.6	<251
benzo(a)anthracene	15.5	<251
benzo(k)fluoranthrene	<3.03	<251
3,4 benzofluoranthene	<3.03	<251
chrysene	18.8	<251
cenaphthylene	<3.03	<251
enzo(ghi)perylene	<3.03	<251
dibenz(a,h)anthracene	<3.03	<251
indeno(1,2,3-cd)pyrene	<3.03	<251
acenaphthene	<3.03	<251
PCBs, total	16.6	1509
kepone	<3.03	<251
dimethyl phthalate	18.8	1257
diethyl phthalate	27.2	16300
dibutyl phthalate	154.0	8802
di-2-ethyl hexyl phthalate	436.0	1760
di octyl phthalate	57.6	251
atrazine	<3.03	<251
simazine	<3.03	<251
trifluraline	<3.03	<251
chlordane	24.2	2263
diazinon	<3.03	<251
DDE	8.33	251
DDD	6.81	377
DDT	<3.03	<251
linuron	<3.03	<251
butyl benzyl phthalate	90.0	2515
endrin	<3.03	<251
malathion	<3.03	<251
methyl parathion	<3.03	<251
thyl parathion	<3.03	<251

Concentrations of Selected Organic Contaminants

Compound	Table 53. in Leptocheirus at Sta. WQ-5, (08/27/81) Concentration, ug/kg	Table 54. in Leptocheirus at Sta. WQ-6, (08/27/81) Concentration, ug/kg
alpha-BHC	1980	714
lindane	1980	714
beta-BHC	<995	714
aldrin	4980	3810
heptachlor	2980	3340
heptachlor epoxide	1490	714
dieldrin	34800	47200
naphthalene	<995	714
fluorene	1990	1190
phenanthrene	3480	2140
anthracene	3480	2620
fluoranthene	3480	2140
pyrene	3480	2140
benzo(a)pyrene	2480	2140
benzo(a)anthracene	<995	<476
benzo(k)fluoranthrene	<995	<476
3,4 benzofluoranthene	<995	<476
chrysene	<995	<476
acenaphthylene	<995	<476
benzo(ghi)perylene	<995	<476
dibenz(a,h)anthracene	<995	<476
indeno(1,2,3-cd)pyrene	<995	<476
acenaphthene	<995	<476
PCBs, total	26800	3340
kepone	<995	<476
dimethyl phthalate	3480	2140
diethyl phthalate	80600	61000
dibutyl phthalate	51700	73400
di-2-ethyl hexyl phthalate	30900	70100
di octyl phthalate	51700	10500
atrazine	<995	<476
simazine	<995	<476
trifluraline	<995	<476
chlordane	16900	3810
diazinon	<995	<476
DDE	4980	714
DDD	4980	1190
DDT	<995	<476
linuron	<995	<476
butyl benzyl phthalate	10900	20500
endrin	<995	<476
malathion	<995	<476
methyl parathion	<995	<476
ethyl parathion	<995	<476

Concentrations of Selected Organic Contaminants

Compound	Table 55. in Leptocheirus at Sta. T-2, (08/26/81) Concentration, ug/kg	Table 56. in Leptocheirus at Sta. T-6, (08/26/81) Concentration, ug/kg
alpha-BHC	<645	477
lindane	645	1190
beta-BHC	<645	1190
aldrin	645	2380
heptachlor	1290	7159
heptachlor epoxide	<645	1312
dieldrin	1930	8353
naphthalene	<645	835
fluorene	<645	3580
phenanthrene	<645	2620
anthracene	<645	3100
fluoranthene	<645	2380
pyrene	<645	2380
benzo(a)pyrene	<645	2150
benzo(a)anthracene	<645	2380
benzo(k)fluoranthrene	<645	<238
3,4 benzofluoranthene	<645	<238
chrysene	<645	3580
acenaphthylene	<645	<238
benzo(ghi)perylene	<645	<238
dibenz(a,h)anthracene	<645	<238
indeno(1,2,3-cd)pyrene	<645	<238
acenaphthene	<645	<238
PCBs, total	1930	8350
kepone	<645	<238
dimethyl phthalate	1290	2380
diethyl phthalate	34200	64900
dibutyl phthalate	14800	136000
di-2-ethyl hexyl phthalate	10300	34800
di octyl phthalate	3230	9550
atrazine	<645	<238
simazine	<645	<238
trifluraline	<645	<238
chlordane	1290	7159
diazinon	<645	<238
DDE	645	1312
DDD	1290	1070
DDT	<645	1070
linuron	<645	<238
butyl benzyl phthalate	4516	8830
endrin	<645	<238
malathion	<645	<238
methyl parathion	<645	<238
ethyl parathion	<645	<238

Concentrations of Selected Organic Contaminants

Compound	Table 57. in Scolicolipedes at Sta. HM16, (08/26/81) Concentration, ug/kg	Table 58. in Leptocheirus at Sta. HM13, (08/26/81) Concentration, ug/kg
alpha-BHC	<806	9810
lindane	806	26200
beta-BHC	<806	2264
aldrin	806	47800
heptachlor	806	4780
heptachlor epoxide	<806	13100
dieldrin	19300	6040
naphthalene	<806	628
fluorene	<806	3520
phenanthrene	<806	1890
anthracene	<806	2140
fluoranthene	<806	3020
pyrene	<806	4030
benzo(a)pyrene	<806	27200
benzo(a)anthracene	<806	30200
benzo(k)fluoranthrene	<806	<251
3,4 benzofluoranthene	<806	<251
chrysene	<806	37700
acenaphthylene	<806	<251
benzo(ghi)perylene	<806	<251
dibenz(a,h)anthracene	<806	<251
indeno(1,2,3-cd)pyrene	<806	<251
acenaphthene	<806	<251
PCBs, total	16100	45300
kepone	<806	<251
dimethyl phthalate	<806	14800
diethyl phthalate	17700	2010
dibutyl phthalate	17700	26600
di-2-ethyl hexyl phthalate	1610	85000
di octyl phthalate	2420	65200
atrazine	<806	<251
simazine	<806	<251
trifluraline	<806	<251
chlordane	13220	12600
diazinon	<806	<251
DDE	<806	880
DDD	<806	628
DDT	<806	628
linuron	<806	<251
butyl benzyl phthalate	3220	13700
endrin	<806	<251
malathion	<806	<251
methyl parathion	<806	<251
ethyl parathion	<806	<251

Concentrations of Selected Organic Contaminants

	Table 59. in Morone americana at Sta. T-7, #5, (08/26/81)	Table 60. in Morone americana at Sta. T-7, #6, (08/25/81)
Compound	Concentration, ug/kg	Concentration, ug/kg
alpha-BHC	3.78	21.9
lindane	3.78	21.9
beta-BHC	3.78	21.9
aldrin	12.10	50.0
heptachlor	7.57	43.9
heptachlor epoxide	3.78	26.5
dieldrin	72.70	246.0
naphthalene	<3.03	18.9
fluorene	5.30	34.8
phenanthrene	9.84	57.6
anthracene	11.40	63.6
fluoranthene	9.84	75.7
pyrene	9.84	71.2
benzo(a)pyrene	8.33	48.5
benzo(a)anthracene	9.84	75.7
benzo(k)fluoranthrene	<3.03	<18.9
3,4 benzofluoranthene	<3.03	<18.9
chrysene	11.40	50.0
acenaphthylene	<3.03	<18.9
benzo(ghi)perylene	8.33	34.8
dibenz(a,h)anthracene	<3.03	<18.9
indeno(1,2,3-cd)pyrene	11.40	26.5
acenaphthene	<3.03	<18.9
PCBs, total	65.20	210.0
kepone	<3.03	<18.9
dimethyl phthalate	9.84	103.0
diethyl phthalate	24.20	224.0
dibutyl phthalate	103.00	228.0
di-2-ethyl hexyl phthalate	422.00	581.0
di octyl phthalate	19.70	51.5
atrazine	<3.03	<18.9
simazine	<3.03	<18.9
trifluraline	<3.03	<18.9
chlordane	59.10	186.0
diazinon	<3.03	<18.9
DDE	5.30	28.8
DDD	3.78	22.7
DDT	3.78	22.7
linuron	<3.03	<18.9
butyl benzyl phthalate	40.90	348.0
endrin	<3.03	<18.9
malathion	<3.03	<18.9
methyl parathion	<3.03	<18.9
ethyl parathion	<3.03	<18.9

Concentrations of Selected Organic Contaminants

Compound	Table 61. in Morone americana at Sta. T-7, #7, (08/15/81) Concentration, ug/kg	Table 62. in Morone americana at Sta. T-7, #2, (08/25/81) Concentration, ug/kg
alpha-BHC	6.06	<3.03
lindane	3.78	3.03
beta-BHC	3.78	6.06
aldrin	9.09	3.03
heptachlor	6.06	<3.03
heptachlor epoxide	3.78	<3.03
dieldrin	118.	42.4
naphthalene	<3.03	<3.03
fluorene	6.06	<3.03
phenanthrene	9.84	<3.03
anthracene	9.84	<3.03
fluoranthene	9.09	7.57
pyrene	12.1	7.57
benzo(a)pyrene	8.33	<3.03
benzo(a)anthracene	12.1	<3.03
benzo(k)fluoranthrene	<3.03	<3.03
3,4 benzofluoranthene	<3.03	<3.03
chrysene	15.2	<3.03
acenaphthylene	<3.03	<3.03
benzo(ghi)perylene	9.09	<3.03
dibenz(a,h)anthracene	<3.03	<3.03
indeno(1,2,3-cd)pyrene	12.1	<3.03
acenaphthene	<3.03	<3.03
PCBs, total	87.9	34.8
kepone	<3.03	<3.03
dimethyl phthalate	9.84	<3.03
diethyl phthalate	68.20	19.7
dibutyl phthalate	74.20	15.2
di-2-ethyl hexyl phthalate	137.	4.54
di octyl phthalate	37.8	<3.03
atrazine	<3.03	<3.03
simazine	<3.03	<3.03
trifluraline	<3.03	<3.03
chlordane	62.1	28.8
diazinon	<3.03	<3.03
DDE	3.78	<3.03
DDD	3.78	<3.03
DDT	<3.03	<3.03
linuron	107.	<3.03
butyl benzyl phthalate	<3.03	22.7
endrin	<3.03	<3.03
malathion	<3.03	<3.03
methyl parathion	<3.03	<3.03
ethyl parathion	<3.03	<3.03

Concentrations of Selected Organic Contaminants

Compound	Table 63. in Leiostomus at Station T-10, #8, (08/26/81) Concentration, ug/kg	Table 64. in Scolecolipedes at Sta. HM-16 (05/06/82) Concentration, ug/kg
alpha-BHC	12.1	<403
lindane	12.1	<403
beta-BHC	6.82	<403
aldrin	12.1	806
heptachlor	19.7	806
heptachlor epoxide	8.33	<403
dieldrin	89.4	19300
naphthalene	4.54	<403
fluorene	12.2	<403
phenanthrene	16.6	<403
anthracene	19.7	<403
fluoranthene	15.2	<403
pyrene	15.2	<403
benzo(a)pyrene	14.4	<403
benzo(a)anthracene	19.7	<403
benzo(k)fluoranthrene	<3.03	<403
3,4 benzofluoranthene	<3.03	<403
chrysene	12.2	<403
acenaphthylene	<3.03	<403
benzo(ghi)perylene	8.33	<403
dibenz(a,h)anthracene	<3.03	<403
indeno(1,2,3-cd)pyrene	12.2	<403
acenaphthene	<3.03	<403
PCBs, total	95.5	17700
kepone	<3.03	<403
dimethyl phthalate	28.8	<403
diethyl phthalate	201.	17700
dibutyl phthalate	156.	17700
di-2-ethyl hexyl phthalate	545.	1610
di octyl phthalate	19.6	2420
atrazine	<3.03	<403
simazine	<3.03	<403
trifluraline	<3.03	<403
chlordane	80.3	<403
diazinon	<3.03	<403
DDE	8.33	<403
DDD	6.81	<403
DDT	6.81	<403
linuron	<3.03	<403
butyl benzyl phthalate	25.7	3220
endrin	<3.03	<403
malathion	<3.03	<403
methyl parathion	<3.03	<403
ethyl parathion	<3.03	<403

Concentrations of Selected Organic Contaminants

Compound	Table 65. in Scolecolipedes at Sta. T-6 (05/06/82) Concentration, ug/kg	Table 66. in Scolecolipedes at Sta. T-7 (05/06/82) Concentration, ug/kg
alpha-BHC	<1000	<1240
lindane	<1000	<1240
beta-BHC	<1000	<1240
aldrin	<1000	<1240
heptachlor	<1000	1240
heptachlor epoxide	<1000	<1240
dieldrin	4000	19800
naphthalene	<1000	<1240
fluorene	<1000	<1240
phenanthrene	<1000	<1240
anthracene	<1000	<1240
fluoranthene	<1000	<1240
pyrene	<1000	<1240
benzo(a)pyrene	<1000	<1240
benzo(a)anthracene	<1000	<1240
benzo(k)fluoranthrene	<1000	<1240
3,4 benzofluoranthene	<1000	<1240
chrysene	<1000	<1240
acenaphthylene	<1000	<1240
benzo(ghi)perylene	<1000	<1240
dibenz(a,h)anthracene	<1000	<1240
indeno(1,2,3-cd)pyrene	<1000	<1240
acenaphthene	<1000	<1240
PCBs, total	6000	19800
kepone	<1000	<1240
dimethyl phthalate	<1000	<1240
diethyl phthalate	44000	27300
dibutyl phthalate	12000	19800
di-2-ethyl hexyl phthalate	2000	8700
di octyl phthalate	1000	7450
atrazine	<1000	<1240
simazine	<1000	<1240
trifluraline	<1000	<1240
chlordane	<1000	12400
diazinon	<1000	<1240
DDE	<1000	<1240
DDD	<1000	<1240
DDT	<1000	<1240
linuron	<1000	<1240
butyl benzyl phthalate	6000	9940
endrin	<1000	<1240
malathion	<1000	<1240
methyl parathion	<1000	<1240
ethyl parathion	<1000	<1240

Concentrations of Selected Organic Contaminants

Compound	Table 67. in Scolecolipedes at Sta. HM-11 (05/07/82) Concentration, ug/kg	Table 68. in Scolecolipedes at Sta. HM-17 (05/06/82) Concentration, ug/kg
alpha-BHC	<2200	<465
lindane	<2200	<465
beta-BHC	<2200	<465
aldrin	<2200	465
heptachlor	<2200	3260
heptachlor epoxide	2200	<465
dieldrin	8800	5580
naphthalene	<2200	<465
fluorene	<2200	<465
phenanthrene	<2200	<465
anthracene	<2200	<465
fluoranthene	<2200	<465
pyrene	<2200	<465
benzo(a)pyrene	<2200	<465
benzo(a)anthracene	<2200	<465
benzo(k)fluoranthrene	<2200	<465
3,4 benzofluoranthene	<2200	<465
chrysene	<2200	<465
acenaphthylene	<2200	<465
benzo(ghi)perylene	<2200	<465
dibenz(a,h)anthracene	<2200	<465
indeno(1,2,3-cd)pyrene	<2200	<465
acenaphthene	<2200	<465
PCBs, total	6600	3250
kepone	<2200	<465
dimethyl phthalate	<2200	465
diethyl phthalate	76900	14400
dibutyl phthalate	37400	<465
di-2-ethyl hexyl phthalate	24200	2220
di octyl phthalate	4400	1395
atrazine	<2200	<465
simazine	<2200	<465
trifluraline	<2200	<465
chlordane	4400	4180
diazinon	<2200	<465
DDE	<2200	<465
DDD	<2200	<465
DDT	<2200	<465
linuron	<2200	<465
butyl benzyl phthalate	4400	1860
endrin	<2200	<465
malathion	<2200	<465
methyl parathion	<2200	<465
ethyl parathion	<2200	<465

Concentrations of Selected Organic Contaminants

Compound	Table 69. in Leiostomus at Station T-3 (05/06/82) Concentration, ug/kg	Table 70. in Leiostomus at Station T-3, #7, (08/26/81) Concentration, ug/kg
alpha-BHC	<385	9.8
lindane	<385	10.6
beta-BHC	<385	12.1
aldrin	<385	16.6
heptachlor	<385	13.6
heptachlor epoxide	<385	12.8
dieldrin	<385	65.2
naphthalene	<385	8.3
fluorene	<385	22.7
phenanthrene	<385	28.7
anthracene	<385	29.5
fluoranthene	<385	25.0
pyrene	<385	25.0
benzo(a)pyrene	<385	22.7
benzo(a)anthracene	<385	12.8
benzo(k)fluoranthrene	<385	<7.6
3,4 benzofluoranthene	<385	<7.6
chrysene	<385	28.7
acenaphthylene	<385	<7.6
benzo(ghi)perylene	<385	<7.6
dibenz(a,h)anthracene	<385	<7.6
indeno(1,2,3-cd)pyrene	<385	<7.6
acenaphthene	<385	<7.6
PCBs, total	770	55.0
kepone	<385	<7.6
dimethyl phthalate	<385	28.0
diethyl phthalate	385	56.1
dibutyl phthalate	385	37.9
di-2-ethyl hexyl phthalate	385	128
di octyl phthalate	<385	43.9
atrazine	<385	<7.6
simazine	<385	<7.6
trifluraline	<385	<7.6
chlordane	<385	50.0
diazinon	<385	<7.6
DDE	<385	14.4
DDD	<385	11.3
DDT	<385	11.3
linuron	<385	<7.6
butyl benzyl phthalate	385	69.7
endrin	<385	<7.6
malathion	<385	<7.6
methyl parathion	<385	<7.6
ethyl parathion	<385	<7.6

Concentrations of Selected Organic Contaminants

Compound	Table 71. in Morone americana at Sta. T-7, #4, (08/26/81) Concentration, ug/kg	Table 72. in Morone americana at Sta. T-1, #3, (08/26/81) Concentration, ug/kg
alpha-BHC	11.4	9.1
lindane	11.4	9.8
beta-BHC	11.4	9.1
aldrin	18.9	33.3
heptachlor	15.2	21.2
heptachlor epoxide	12.9	11.3
dieldrin	28.0	766
naphthalene	9.8	8.3
fluorene	18.2	27.3
phenanthrene	27.3	24.2
anthracene	30.3	28.0
fluoranthene	25.7	23.5
pyrene	25.7	23.5
benzo(a)pyrene	22.7	21.1
benzo(a)anthracene	18.2	9.1
benzo(k)fluoranthrene	<7.6	<7.6
3,4 benzofluoranthene	<7.6	<7.6
chrysene	30.3	23.5
acenaphthylene	<7.6	<7.6
benzo(ghi)perylene	<7.6	<7.6
dibenz(a,h)anthracene	<7.6	<7.6
indeno(1,2,3-cd)pyrene	<7.6	<7.6
acenaphthene	<7.6	<7.6
PCBs, total	27.3	33.3
kepone	<7.6	<7.6
dimethyl phthalate	93.9	51.5
diethyl phthalate	328.0	242
dibutyl phthalate	18.2	477
di-2-ethyl hexyl phthalate	19.7	31.8
di octyl phthalate	19.7	93.9
atrazine	<7.6	<7.6
simazine	<7.6	<7.6
trifluraline	<7.6	<7.6
chlordane	30.3	51.5
diazinon	<7.6	<7.6
DDE	13.6	12.8
DDD	10.6	9.8
DDT	10.6	9.8
linuron	<7.6	<7.6
butyl benzyl phthalate	19.7	101
endrin	<7.6	<7.6
malathion	<7.6	<7.6
methyl parathion	<7.6	<7.6
ethyl parathion	<7.6	<7.6

Concentrations of Selected Organic Contaminants

Compound	Table 73. in Leiostomus at Station T-1, #2, (08/26/81) Concentration, ug/kg	Table 74. in Leiostomus at Station T-1, #4, (08/26/81) Concentration, ug/kg
alpha-BHC	<24.4	<7.6
lindane	37.8	<7.6
beta-BHC	<24.4	<7.6
aldrin	37.8	<7.6
heptachlor	31.8	<7.6
heptachlor epoxide	25.6	9.1
dieldrin	291	31.8
naphthalene	<24.4	<7.6
fluorene	34.8	<7.6
phenanthrene	59.1	<7.6
anthracene	63.6	<7.6
fluoranthene	53.0	7.7
pyrene	53.0	7.7
benzo(a)pyrene	48.4	<7.6
benzo(a)anthracene	<24.4	<7.6
benzo(k)fluoranthrene	<24.4	<7.6
3,4 benzofluoranthene	<24.4	<7.6
chrysene	59.1	<7.6
acenaphthylene	<24.4	<7.6
benzo(ghi)perylene	<24.4	<7.6
dibenz(a,h)anthracene	<24.4	<7.6
indeno(1,2,3-cd)pyrene	<24.4	<7.6
acenaphthene	<24.4	<7.6
PCBs, total	260	22.7
kepone	<24.4	<7.6
dimethyl phthalate	59.1	<7.6
diethyl phthalate	92.4	<7.6
dibutyl phthalate	153	9.1
di-2-ethyl hexyl phthalate	104	16.7
di octyl phthalate	75.7	12.1
atrazine	<24.4	<7.6
simazine	<24.4	<7.6
trifluraline	<24.4	<7.6
chlordane	212	19.7
diazinon	<24.4	<7.6
DDE	30.3	<7.6
DDD	24.4	<7.6
DDT	24.4	<7.6
linuron	<24.4	<7.6
butyl benzyl phthalate	681	12.1
endrin	<24.4	<7.6
malathion	<24.4	<7.6
methyl parathion	<24.4	<7.6
ethyl parathion	<24.4	<7.6

Concentrations of Selected Organic Contaminants

	Table 75. in Morone americana at Sta. T-7, #8, (08/26/81)	Space Composite Table 76. in Callinectes at Sta. SS-10, #1, (08/26/81) XIF344b
Compound	Concentration, ug/kg	Concentration, ug/kg
alpha-BHC	<7.6	4.6
lindane	<7.6	4.6
beta-BHC	<7.6	4.6
aldrin	<7.6	19.7
heptachlor	<7.6	27.3
heptachlor epoxide	<7.6	5.3
dieldrin	47.1	207
naphthalene	<7.6	<4.6
fluorene	<7.6	10.6
phenanthrene	<7.6	11.4
anthracene	<7.6	11.4
fluoranthene	10.6	9.8
pyrene	10.6	16.7
benzo(a)pyrene	<7.6	8.3
benzo(a)anthracene	<7.6	<4.6
benzo(k)fluoranthrene	<7.6	<4.6
3,4 benzofluoranthene	<7.6	<4.6
chrysene	12.1	15.2
acenaphthylene	<7.6	<4.6
benzo(ghi)perylene	<7.6	<4.6
dibenz(a,h)anthracene	<7.6	<4.6
indeno(1,2,3-cd)pyrene	<7.6	<4.6
acenaphthene	<7.6	<4.6
PCBs, total	37.8	151
kepone	<7.6	<4.6
dimethyl phthalate	<7.6	19.7
diethyl phthalate	21.2	81.8
dibutyl phthalate	7.6	137
di-2-ethyl hexyl phthalate	15.1	149
di octyl phthalate	10.6	42
atrazine	<7.6	<4.6
simazine	<7.6	<4.6
trifluraline	<7.6	<4.6
chlordane	28.8	10.6
diazinon	<7.6	<4.6
DDE	<7.6	5.3
DDD	<7.6	<4.6
DDT	<7.6	<4.6
linuron	<7.6	<4.6
butyl benzyl phthalate	33.3	33.3
endrin	<7.6	<4.6
malathion	<7.6	<4.6
methyl parathion	<7.6	<4.6
ethyl parathion	<7.6	<4.6

Concentrations of Selected Organic Contaminants

NOTE: #5 was originally recorded as #1 in the electronic file

NOTE: #6 was originally recorded as #1 in the electronic file.

Compound	Table 77. in Callinectes at Station S-1, #5, (08/26/81) XIF5713 Concentration, ug/kg	Table 78. in Callinectes at Station T-10, #6, (08/26/81) XIF 3142 Concentration, ug/kg
alpha-BHC	1.5	3.8
lindane	1.5	3.8
beta-BHC	4.6	3.0
aldrin	6.1	16.7
heptachlor	16.7	6.1
heptachlor epoxide	<1.5	3.8
dieldrin	92.4	71.2
naphthalene	<1.5	<3.0
fluorene	3.0	10.6
phenanthrene	3.8	9.1
anthracene	3.8	9.1
fluoranthene	6.1	13.6
pyrene	9.1	15.2
benzo(a)pyrene	2.3	8.3
benzo(a)anthracene	<1.5	<3.0
benzo(k)fluoranthrene	<1.5	<3.0
3,4 benzofluoranthene	<1.5	<3.0
chrysene	6.1	15.2
acenaphthylene	<1.5	<3.0
benzo(ghi)perylene	<1.5	<3.0
dibenz(a,h)anthracene	<1.5	<3.0
indeno(1,2,3-cd)pyrene	<1.5	<3.0
acenaphthene	<1.5	<3.0
PCBs, total	45.5	60.6
kepone	<1.5	<3.0
dimethyl phthalate	2.3	10.6
diethyl phthalate	51.5	19.7
dibutyl phthalate	45.5	16.7
di-2-ethyl hexyl phthalate	122	292
di octyl phthalate	37.9	43.9
atrazine	<1.5	<3.0
simazine	<1.5	<3.0
trifluraline	<1.5	<3.0
chlordane	54.5	35.7
diazinon	<1.5	<3.0
DDE	<1.5	3.8
DDD	<1.5	3.8
DDT	<1.5	3.8
linuron	<1.5	<3.0
butyl benzyl phthalate	21.2	53.0
endrin	<1.5	<3.0
malathion	<1.5	<3.0
methyl parathion	<1.5	<3.0
ethyl parathion	<1.5	<3.0

Concentrations of Selected Organic Contaminants

NOTE: #6 was originally ~~#2~~ recorded as #2 in the electronic file

Note: T-10, #8 was originally recorded as Rep # 2 in the electronic file

Compound	Table 79. in Callinectes at Station S-1, #6, (08/26/81) XIF5713 Concentration, ug/kg	Table 80. in Leiostomus at Station T-10, #8, (08/26/81) space composite Concentration, ug/kg
alpha-BHC	3.8	<3.0
lindane	3.8	<3.0
beta-BHC	3.8	<3.0
aldrin	6.8	6.1
heptachlor	5.3	10.6
heptachlor epoxide	5.3	<3.0
dieldrin	30.1	113.0
naphthalene	3.8	<3.0
fluorene	6.8	<3.0
phenanthrene	11.3	5.3
anthracene	12.1	5.3
fluoranthene	9.8	5.3
pyrene	9.8	5.3
benzo(a)pyrene	9.8	3.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	9.8	5.3
acenaphthylene	3.0	<3.0
benzo(ghi)perylene	3.0	<3.0
dibenz(a,h)anthracene	3.0	<3.0
indeno(1,2,3-cd)pyrene	3.0	<3.0
acenaphthene	3.0	<3.0
PCBs, total	54.5	90.9
kepone	<3.0	<3.0
dimethyl phthalate	10.6	6.1
diethyl phthalate	34.8	78.8
dibutyl phthalate	66.7	81.8
di-2-ethyl hexyl phthalate	31.8	196.0
di octyl phthalate	18.2	37.9
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	39.4	43.9
diazinon	<3.0	<3.0
DDE	5.3	<3.0
DDD	3.8	<3.0
DDT	3.8	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	77.3	77.3
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

Compound	Table 81. in Leiostomus at Station T-3, #6, (08/26/81) Concentration, ug/kg	Table 82. in Morone americana at Stat T-7, #8, (08/25/81) Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	<3.0	<3.0
beta-BHC	3.0	<3.0
aldrin	4.6	7.6
heptachlor	3.0	6.1
heptachlor epoxide	<3.0	<3.0
dieldrin	46.9	39.4
naphthalene	<3.0	<3.0
fluorene	3.8	<3.0
phenanthrene	6.8	3.8
anthracene	6.8	3.8
fluoranthene	6.8	3.8
pyrene	7.6	6.1
benzo(a)pyrene	5.3	3.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	5.3	3.0
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	65.2	30.3
kepone	<3.0	<3.0
dimethyl phthalate	7.6	3.8
diethyl phthalate	28.8	10.6
dibutyl phthalate	37.9	10.6
di-2-ethyl hexyl phthalate	330	18.2
di octyl phthalate	27.3	4.6
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	34.8	28.8
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	27.3	27.3
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

	Table 83. in Morone americana at Sta. T-1, #5, (08/26/81)	Table 84. in Morone americana at Sta. T-7, #3, (08/25/81)
Compound	**Concentration, ug/kg**	**Concentration, ug/kg**
alpha-BHC	<3.0	<3.0
lindane	<3.0	3.0
beta-BHC	<3.0	<3.0
aldrin	21.2	4.5
heptachlor	9.1	7.6
heptachlor epoxide	<3.0	<3.0
dieldrin	106.0	62.1
naphthalene	<3.0	<3.0
fluorene	7.6	<3.0
phenanthrene	<3.0	3.8
anthracene	<3.0	5.3
fluoranthene	4.6	7.6
pyrene	10.6	3.8
benzo(a)pyrene	<3.0	3.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	3.0	3.8
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	89.4	53.0
kepone	<3.0	<3.0
dimethyl phthalate	9.1	3.8
diethyl phthalate	13.6	31.8
dibutyl phthalate	62.2	86.4
di-2-ethyl hexyl phthalate	22.7	72.7
di octyl phthalate	6.1	12.1
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	43.9	68.2
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	40.9	118
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

NOTE: #3 was originally recorded as # 3 in the electronic file

XIF5713

Compound	Table 85. in Morone americana at Sta. T-7, #1, (08/25/81) Concentration, ug/kg	Table 86. in Callinectes at Station S-1, #3, (08/26/81) Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	<3.0	3.0
beta-BHC	<3.0	<3.0
aldrin	28.8	7.6
heptachlor	12.1	6.1
heptachlor epoxide	<3.0	3.8
dieldrin	259	80.3
naphthalene	<3.0	<3.0
fluorene	12.1	7.6
phenanthrene	5.3	9.1
anthracene	5.3	9.8
fluoranthene	13.6	8.3
pyrene	25.7	8.3
benzo(a)pyrene	3.8	6.1
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	3.0	3.8
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	95.5	62.1
kepone	<3.0	<3.0
dimethyl phthalate	6.1	8.3
diethyl phthalate	83.3	13.6
dibutyl phthalate	22.7	18.8
di-2-ethyl hexyl phthalate	24.2	56.1
di octyl phthalate	25.7	45.5
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	28.8	80.3
diazinon	<3.0	<3.0
DDE	<3.0	3.8
DDD	<3.0	3.8
DDT	<3.0	3.8
linuron	<3.0	<3.0
butyl benzyl phthalate	66.6	89.4
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

NOTE: T-10, #3 was originally recorded as #5 in the electronic file

Compound	Table 87. in Morone americana at Sta. T-7, #4, (08/25/81) Concentration, ug/kg	Table 88. in Leiostomus at Station T-10, #3, (08/26/81) XIF 3142 Concentration, ug/kg
alpha-BHC	6.1	7.6
lindane	6.1	8.3
beta-BHC	4.6	4.6
aldrin	10.6	12.1
heptachlor	12.1	12.1
heptachlor epoxide	<3.0	3.8
dieldrin	113	130
naphthalene	<3.0	<3.0
fluorene	4.6	5.3
phenanthrene	6.1	8.3
anthracene	7.6	8.3
fluoranthene	6.1	9.1
pyrene	15.1	6.8
benzo(a)pyrene	5.3	6.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	3.8	5.3
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	103	110
kepone	<3.0	<3.0
dimethyl phthalate	9.1	15.2
diethyl phthalate	48.5	15.2
dibutyl phthalate	137	25.7
di-2-ethyl hexyl phthalate	25.7	468
di octyl phthalate	12.1	62.1
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	80.3	71.2
diazinon	<3.0	<3.0
DDE	3.8	3.8
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	101	116
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

Compound	Table 89. in Leiostomus at Station T-3, #4, (08/26/81) Concentration, ug/kg	Table 90. in Morone americana at Sta. T-1, #7, (08/26/81) Concentration, ug/kg
alpha-BHC	3.0	3.0
lindane	18.2	6.1
beta-BHC	<3.0	<3.0
aldrin	15.2	9.1
heptachlor	19.7	4.6
heptachlor epoxide	<3.0	<3.0
dieldrin	160	81.8
naphthalene	<3.0	<3.0
fluorene	3.0	3.8
phenanthrene	3.8	5.3
anthracene	5.3	6.1
fluoranthene	7.6	6.1
pyrene	13.6	9.1
benzo(a)pyrene	3.8	5.3
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	5.6	6.1
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	146	101
kepone	<3.0	<3.0
dimethyl phthalate	21.2	6.1
diethyl phthalate	62.1	78.8
dibutyl phthalate	68.2	56.1
di-2-ethyl hexyl phthalate	60.6	201
di octyl phthalate	90.9	46.9
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	80.3	66.6
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	27.3	51.5
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

NOTE: T-10, # 6 was originally recorded as Rep #4 in the electronic file

NOTE: # 5 was originally recorded in the electronic file as # 2

Compound	Table 91. in Leiostomus at Station T-10, #6 (08/26/81) XIF3142 Concentration, ug/kg	Table 92. in Callinectes at Station T-10, #5, (08/26/81) XIF3142 Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	3.0	<3.0
beta-BHC	<3.0	<3.0
aldrin	<3.0	6.1
heptachlor	<3.0	7.6
heptachlor epoxide	<3.0	<3.0
dieldrin 1956	7.6	119
naphthalene	<3.0	<3.0
fluorene	<3.0	3.8
phenanthrene	5.3	6.1
anthracene	5.3	6.1
fluoranthene	3.8	5.3
pyrene	3.8	5.3
benzo(a)pyrene	3.8	5.3
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	3.0	6.1
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	31.8	118
kepone	<3.0	<3.0
dimethyl phthalate	5.3	7.6
diethyl phthalate	42.3	263
dibutyl phthalate	6.1	137
di-2-ethyl hexyl phthalate	409	83.3
di octyl phthalate	6.1	34.8
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	25.7	36.4
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	36.4	63.6
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Sort

Concentrations of Selected Organic Contaminants

Compound	Table 93. in Leiostomus at Station T-10, #4, (08/26/81) Concentration, ug/kg	Table 94. in Morone americana at Sta. T-1, #8, (08/26/81) Concentration, ug/kg
alpha-BHC	4.6	9.1
lindane	5.1	24.4
beta-BHC	<3.0	21.2
aldrin	6.1	193
heptachlor	27.3	18.2
heptachlor epoxide	<3.0	9.1
dieldrin	56.1	131
naphthalene	<3.0	<4.6
fluorene	3.0	63.6
phenanthrene	<3.0	<4.6
anthracene	<3.0	<4.6
fluoranthene	<3.0	9.1
pyrene	<3.0	13.6
benzo(a)pyrene	<3.0	<4.6
benzo(a)anthracene	<3.0	<4.6
benzo(k)fluoranthrene	<3.0	<4.6
3,4 benzofluoranthene	<3.0	<4.6
chrysene	<3.0	<4.6
acenaphthylene	<3.0	<4.6
benzo(ghi)perylene	<3.0	<4.6
dibenz(a,h)anthracene	<3.0	<4.6
indeno(1,2,3-cd)pyrene	<3.0	<4.6
acenaphthene	<3.0	<4.6
PCBs, total	40.9	218
kepone	<3.0	<4.6
dimethyl phthalate	3.0	6.1
diethyl phthalate	233	293
dibutyl phthalate	15.2	107
di-2-ethyl hexyl phthalate	21.2	34.8
di octyl phthalate	9.1	6.1
atrazine	<3.0	<4.6
simazine	<3.0	<4.6
trifluraline	<3.0	<4.6
chlordane	28.8	75.7
diazinon	<3.0	<4.6
DDE	<3.0	<4.6
DDD	<3.0	<4.6
DDT	<3.0	<4.6
linuron	<3.0	<4.6
butyl benzyl phthalate	42.4	18.2
endrin	<3.0	<4.6
malathion	<3.0	<4.6
methyl parathion	<3.0	<4.6
ethyl parathion	<3.0	<4.6

Concentrations of Selected Organic Contaminants

NOTE: #2 was originally recorded in the electronic file as #3

NOTE: #3 was originally recorded in the electronic file as 4

Compound	Table 95. in Callinectes at Station T-10, #2, (08/26/81) Concentration, ug/kg	Table 96. in Callinectes at Station T-10, #3, (08/26/81) Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	<3.0	<3.0
beta-BHC	<3.0	<3.0
aldrin	<3.0	<3.0
heptachlor	<3.0	<3.0
heptachlor epoxide	<3.0	<3.0
dieldrin	12.1	36.3
naphthalene	<3.0	<3.0
fluorene	<3.0	<3.0
phenanthrene	<3.0	<3.0
anthracene	<3.0	<3.0
fluoranthene	<3.0	<3.0
pyrene	<3.0	<3.0
benzo(a)pyrene	<3.0	<3.0
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	<3.0	<3.0
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	22.7	46.9
kepone	<3.0	<3.0
dimethyl phthalate	<3.0	<3.0
diethyl phthalate	42.4	28.8
dibutyl phthalate	13.6	15.2
di-2-ethyl hexyl phthalate	25.7	6.1
di octyl phthalate	4.6	<3.0
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	19.7	18.2
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	37.8	6.1
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

NOTE: #4 was originally recorded as #4 in the electronic file

Compound	Table 97. in Callinectes at Station T-10, #4, (08/26/81) XIF3142 Concentration, ug/kg	Table 98. in Callinectes at Station S-1, #4, (08/26/81) XIF5713 Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	<3.0 E-file = 5	3.0
beta-BHC	<3.0	<3.0
aldrin	6.1	6.1
heptachlor	<3.0	<3.0
heptachlor epoxide	<3.0	<3.0
dieldrin	9.1	7.6
naphthalene	<3.0	<3.0
fluorene	<3.0	<3.0
phenanthrene	<3.0	<3.0
anthracene	<3.0	<3.0
fluoranthene	<3.0	<3.0
pyrene	<3.0	<3.0
benzo(a)pyrene	<3.0	<3.0
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	<3.0	<3.0
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	22.7	24.2
kepone	<3.0	<3.0
dimethyl phthalate	<3.0	<3.0
diethyl phthalate	43.9	24.2
dibutyl phthalate	<3.0	27.3
di-2-ethyl hexyl phthalate	19.7	9.1
di octyl phthalate	<3.0	<3.0
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	15.2	10.6
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	4.6	4.6
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Organic Contaminants

	Table 99. in Leiostomus at Station T-3, #2, (08/26/81)	Table 100. in Leiostomus at Station T-3, #8, (08/26/81)
Compound	Concentration, ug/kg	Concentration, ug/kg
alpha-BHC	<4.6	<4.6
lindane	<4.6	<4.6
beta-BHC	<4.6	<4.6
aldrin	6.1	6.1
heptachlor	<4.6	<4.6
heptachlor epoxide	<4.6	<4.6
dieldrin	34.8	7.6
naphthalene	<4.6	<4.6
fluorene	<4.6	<4.6
phenanthrene	<4.6	<4.6
anthracene	<4.6	<4.6
fluoranthene	<4.6	18.2
pyrene	<4.6	19.7
benzo(a)pyrene	<4.6	<4.6
benzo(a)anthracene	<4.6	<4.6
benzo(k)fluoranthrene	<4.6	<4.6
3,4 benzofluoranthene	<4.6	<4.6
chrysene	<4.6	<4.6
acenaphthylene	<4.6	<4.6
benzo(ghi)perylene	<4.6	<4.6
dibenz(a,h)anthracene	<4.6	<4.6
indeno(1,2,3-cd)pyrene	<4.6	<4.6
acenaphthene	<4.6	<4.6
PCBs, total	33.3	33.3
kepone	<4.6	<4.6
dimethyl phthalate	<4.6	<4.6
diethyl phthalate	34.8	40.9
dibutyl phthalate	<4.6	157
di-2-ethyl hexyl phthalate	18.2	9.1
di octyl phthalate	6.1	<4.6
atrazine	<4.6	<4.6
simazine	<4.6	<4.6
trifluraline	<4.6	<4.6
chlordane	24.2	19.7
diazinon	<4.6	<4.6
DDE	<4.6	<4.6
DDD	<4.6	<4.6
DDT	<4.6	<4.6
linuron	<4.6	<4.6
butyl benzyl phthalate	7.6	<4.6
endrin	<4.6	<4.6
malathion	<4.6	<4.6
methyl parathion	<4.6	<4.6
ethyl parathion	<4.6	<4.6

Concentrations of Selected Organic Contaminants

Compound	Table 101. in Macoma at Station HM-14, (08/26/81) Concentration, ug/kg	Table 102. in Macoma at Station HM-22, (05/06/82) Concentration, ug/kg
alpha-BHC	<141	<79.5
lindane	<141	<79.5
beta-BHC	<141	<79.5
aldrin	4780	318
heptachlor	141	<79.5
heptachlor epoxide	<141	<79.5
dieldrin	1260	<79.5
naphthalene	<141	397
fluorene	<141	<79.5
phenanthrene	<141	<79.5
anthracene	<141	<79.5
fluoranthene	9560	954
pyrene	9980	1030
benzo(a)pyrene	<141	<79.5
benzo(a)anthracene	<141	<79.5
benzo(k)fluoranthrene	<141	<79.5
3,4 benzofluoranthene	<141	<79.5
chrysene	<141	<79.5
acenaphthylene	<141	<79.5
benzo(ghi)perylene	<141	<79.5
dibenz(a,h)anthracene	<141	<79.5
indeno(1,2,3-cd)pyrene	<141	<79.5
acenaphthene	<141	<79.5
PCBs, total	8580	3260
kepone	<141	<79.5
dimethyl phthalate	141	<79.5
diethyl phthalate	<141	2150
dibutyl phthalate	64200	8268
di-2-ethyl hexyl phthalate	141	477
di octyl phthalate	141	159
atrazine	<141	<79.5
simazine	<141	<79.5
trifluraline	<141	<79.5
chlordane	6050	318
diazinon	<141	<79.5
DDE	<141	<79.5
DDD	<141	<79.5
DDT	<141	<79.5
linuron	<141	<79.5
butyl benzyl phthalate	421	<79.5
endrin	<141	<79.5
malathion	<141	<79.5
methyl parathion	<141	<79.5
ethyl parathion	<141	<79.5

Concentrations of Selected Organic Contaminants

Compound	Table 103. in Macoma at Station HM-12, (05/06/82) Concentration, ug/kg	Table 104. in Leptocheirus at Station HM-17, (05/06/82) Concentration, ug/kg
alpha-BHC	<135	<347
lindane	<135	<347
beta-BHC	<135	<347
aldrin	1216	347
heptachlor	<135	<347
heptachlor epoxide	<135	<347
dieldrin	676	1380
naphthalene	<135	<347
fluorene	<135	<347
phenanthrene	<135	<347
anthracene	<135	<347
fluoranthene	1890	<347
pyrene	2290	<347
benzo(a)pyrene	<135	<347
benzo(a)anthracene	<135	<347
benzo(k)fluoranthrene	<135	<347
3,4 benzofluoranthene	<135	<347
chrysene	<135	<347
acenaphthylene	<135	<347
benzo(ghi)perylene	<135	<347
dibenz(a,h)anthracene	<135	<347
indeno(1,2,3-cd)pyrene	<135	<347
acenaphthene	<135	<347
PCBs, total	6620	1621
kepone	<135	<347
dimethyl phthalate	<135	<347
diethyl phthalate	5135	778
dibutyl phthalate	29300	778
di-2-ethyl hexyl phthalate	540	778
di octyl phthalate	<135	<347
atrazine	<135	<347
simazine	<135	<347
trifluraline	<135	<347
chlordane	2570	1040
diazinon	<135	<347
DDE	<135	<347
DDD	<135	<347
DDT	<135	<347
linuron	<135	<347
butyl benzyl phthalate	<135	778
endrin	<135	<347
malathion	<135	<347
methyl parathion	<135	<347
ethyl parathion	<135	<347

Concentrations of Selected Organic Contaminants

	Table 105. in Leptocheirus at Station T-2, (08/26/81)	Table 106. in Leptocheirus at Station HM-8 (05/06/82)
Compound	**Concentration, ug/kg**	**Concentration, ug/kg**
alpha-BHC	<136	<321
lindane	<136	<321
beta-BHC	<136	<321
aldrin	136	321
heptachlor	136	<321
heptachlor epoxide	<136	321
dieldrin	2170	1250
naphthalene	<136	<321
fluorene	<136	<321
phenanthrene	<136	<321
anthracene	<136	<321
fluoranthene	<136	<321
pyrene	<136	<321
benzo(a)pyrene	<136	<321
benzo(a)anthracene	<136	<321
benzo(k)fluoranthrene	<136	<321
3,4 benzofluoranthene	<136	<321
chrysene	<136	<321
acenaphthylene	<136	<321
benzo(ghi)perylene	<136	<321
dibenz(a,h)anthracene	<136	<321
indeno(1,2,3-cd)pyrene	<136	<321
acenaphthene	<136	<321
PCBs, total	3400	6420
kepone	<136	<321
dimethyl phthalate	<136	<321
diethyl phthalate	2990	11200
dibutyl phthalate	2170	5460
di-2-ethyl hexyl phthalate	952	3531
di octyl phthalate	816	642
atrazine	<136	<321
simazine	<136	<321
trifluraline	<136	<321
chlordane	1220	1250
diazinon	<136	<321
DDE	<136	<321
DDD	<136	<321
DDT	<136	<321
linuron	<136	<321
butyl benzyl phthalate	1080	642
endrin	<136	<321
malathion	<136	<321
methyl parathion	<136	<321
ethyl parathion	<136	<321

Concentrations of Selected Organic Contaminants

Compound	Table 107. in Leptocheirus at Sta. HM-6, (05/06/82) Concentration, ug/kg	Table 108. in Rangia at Station HM-14, (Feb/82) Concentration, ug/kg
alpha-BHC	<535	<3.4
lindane	<535	<3.4
beta-BHC	<535	<3.4
aldrin	<535	4.3
heptachlor	<535	12.5
heptachlor epoxide	<535	<3.4
dieldrin	1070	176
naphthalene	<535	<3.4
fluorene	<535	3.4
phenanthrene	<535	8.0
anthracene	<535	9.8
fluoranthene	<535	8.0
pyrene	<535	8.0
benzo(a)pyrene	<535	5.4
benzo(a)anthracene	<535	<3.4
benzo(k)fluoranthrene	<535	<3.4
3,4 benzofluoranthene	<535	<3.4
chrysene	<535	3.4
acenaphthylene	<535	<3.4
benzo(ghi)perylene	<535	<3.4
dibenz(a,h)anthracene	<535	<3.4
indeno(1,2,3-cd)pyrene	<535	<3.4
acenaphthene	<535	<3.4
PCBs, total	6950	195
kepone	<535	<3.4
dimethyl phthalate	<535	5.4
diethyl phthalate	11700	228
dibutyl phthalate	3200	275
di-2-ethyl hexyl phthalate	535	262
di octyl phthalate	<535	39.3
atrazine	<535	<3.4
simazine	<535	<3.4
trifluraline	<535	<3.4
chlordane	1070	155
diazinon	<535	<3.4
DDE	<535	5.4
DDD	<535	3.4
DDT	<535	3.4
linuron	<535	<3.4
butyl benzyl phthalate	1600	76.8
endrin	<535	<3.4
malathion	<535	<3.4
methyl parathion	<535	<3.4
ethyl parathion	<535	<3.4

Concentrations of Selected Organic Contaminants

Compound	Table 109. in Brachiodontes at Sta. HM-14, (08/26/81) Concentration, ug/kg	Table 110. in Brachiodontes at Sta. HM-14 (11/81) Concentration, ug/kg
alpha-BHC	<4.0	10
lindane	12.2	30.0
beta-BHC	<4.0	10.0
aldrin	20.2	40.2
heptachlor	12.2	110
heptachlor epoxide	<4.0	<10.0
dieldrin	141	613
naphthalene	<4.0	<10.0
fluorene	12.2	20.0
phenanthrene	12.2	30.0
anthracene	12.2	30.0
fluoranthene	12.2	40.2
pyrene	12.2	60.3
benzo(a)pyrene	<4.0	<10.0
benzo(a)anthracene	<4.0	<10.0
benzo(k)fluoranthrene	<4.0	<10.0
3,4 benzofluoranthene	<4.0	<10.0
chrysene	<4.0	<10.0
acenaphthylene	<4.0	<10.0
benzo(ghi)perylene	<4.0	<10.0
dibenz(a,h)anthracene	<4.0	<10.0
indeno(1,2,3-cd)pyrene	<4.0	<10.0
acenaphthene	<4.0	<10.0
PCBs, total	279	834
kepone	<4.0	<10.0
dimethyl phthalate	<4.0	<10.0
diethyl phthalate	329	341
dibutyl phthalate	210	301
di-2-ethyl hexyl phthalate	125	814
di octyl phthalate	44.5	251
atrazine	<4.0	<10.0
simazine	<4.0	<10.0
trifluraline	<4.0	<10.0
chlordane	157	391
diazinon	<4.0	<10.0
DDE	4.0	<10.0
DDD	<4.0	<10.0
DDT	<4.0	<10.0
linuron	<4.0	<10.0
butyl benzyl phthalate	44.9	140
endrin	<4.0	<10.0
malathion	<4.0	<10.0
methyl parathion	<4.0	<10.0
ethyl parathion	<4.0	<10.0

Concentrations of Selected Contaminants

Compound	Table 111. in Brachiodontes at Sta. HM-14, (2/82) Concentration, ug/kg	Table 112. in Brachiodontes at Sta. HM-6, (2/82) Concentration, ug/kg
alpha-BHC	25.1	<9.4
lindane	25.1	9.4
beta-BHC	20.2	9.4
aldrin	110	18.7
heptachlor	40.2	9.4
heptachlor epoxide	25.1	<9.4
dieldrin	472	145
naphthalene	<10.1	<9.4
fluorene	70.3	11.7
phenanthrene	65.3	21.1
anthracene	65.3	21.1
fluoranthene	90.4	23.3
pyrene	110	23.2
benzo(a)pyrene	10.1	16.4
benzo(a)anthracene	<10.1	<9.4
benzo(k)fluoranthrene	<10.1	<9.4
3,4 benzofluoranthene	<10.1	<9.4
chrysene	10.1	11.7
acenaphthylene	<10.1	<9.4
benzo(ghi)perylene	<10.1	<9.4
dibenz(a,h)anthracene	<10.1	<9.4
indeno(1,2,3-cd)pyrene	<10.1	<9.4
acenaphthene	<10.1	<9.4
PCBs, total	361	220
kepone	<10.1	<9.4
dimethyl phthalate	70.3	23.4
diethyl phthalate	130	88.9
dibutyl phthalate	110	117
di-2-ethyl hexyl phthalate	1940	1020
di octyl phthalate	291	84.3
atrazine	<10.1	<9.4
simazine	<10.1	<9.4
trifluraline	<10.1	<9.4
chlordane	291	126
diazinon	<10.1	<9.4
DDE	25.1	<9.4
DDD	25.1	<9.4
DDT	<10.1	<9.4
linuron	<10.1	<9.4
butyl benzyl phthalate	351	84.3
endrin	<10.1	<9.4
malathion	<10.1	<9.4
methyl parathion	<10.1	<9.4
ethyl parathion	<10.1	<9.4

Concentrations of Selected Contaminants

Compound	Table 113. in Crassostrea at Station HM-14, (08/26/81) Concentration, ug/kg	Table 114. in Crassostrea at Station HM-14 (11/81) Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	3.0	<3.0
beta-BHC	<3.0	<3.0
aldrin	6.0	6.0
heptachlor	7.6	10.6
heptachlor epoxide	<3.0	<3.0
dieldrin	62.3	114
naphthalene	<3.0	<3.0
fluorene	4.5	3.0
phenanthrene	<3.0	4.6
anthracene	<3.0	4.6
fluoranthene	7.6	4.6
pyrene	7.6	4.6
benzo(a)pyrene	<3.0	3.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	<3.0	3.8
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	89.6	138
kepone	<3.0	<3.0
dimethyl phthalate	<3.0	6.0
diethyl phthalate	31.9	79.0
dibutyl phthalate	86.6	82.1
di-2-ethyl hexyl phthalate	72.9	197
di octyl phthalate	12.2	38.8
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	50.1	88.2
diazinon	<3.0	<3.0
DDE	<3.0	<3.0
DDD	<3.0	<3.0
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	118	77.5
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0

Concentrations of Selected Contaminants

	Table 115. in Crassostrea at Station HM-14, (02/82)	Table 116. in Crassostrea at Station HM-6 (02/82)
Compound	Concentration, ug/kg	Concentration, ug/kg
alpha-BHC	<3.0	<3.0
lindane	<3.0	3.0
beta-BHC	<3.0	<3.0
aldrin	28.8	7.6
heptachlor	12.2	6.0
heptachlor epoxide	<3.0	<3.0
dieldrin	259	80.6
naphthalene	<3.0	<3.0
fluorene	12.2	7.6
phenanthrene	5.3	7.6
anthracene	5.3	9.8
fluoranthene	13.7	7.6
pyrene	25.8	7.6
benzo(a)pyrene	3.8	3.8
benzo(a)anthracene	<3.0	<3.0
benzo(k)fluoranthrene	<3.0	<3.0
3,4 benzofluoranthene	<3.0	<3.0
chrysene	3.8	4.6
acenaphthylene	<3.0	<3.0
benzo(ghi)perylene	<3.0	<3.0
dibenz(a,h)anthracene	<3.0	<3.0
indeno(1,2,3-cd)pyrene	<3.0	<3.0
acenaphthene	<3.0	<3.0
PCBs, total	305	141
kepone	<3.0	<3.0
dimethyl phthalate	6.0	17.8
diethyl phthalate	83.6	13.7
dibutyl phthalate	22.8	18.2
di-2-ethyl hexyl phthalate	24.3	56.2
di octyl phthalate	25.8	45.6
atrazine	<3.0	<3.0
simazine	<3.0	<3.0
trifluraline	<3.0	<3.0
chlordane	109	48.6
diazinon	<3.0	<3.0
DDE	<3.0	3.8
DDD	<3.0	3.8
DDT	<3.0	<3.0
linuron	<3.0	<3.0
butyl benzyl phthalate	66.8	89.7
endrin	<3.0	<3.0
malathion	<3.0	<3.0
methyl parathion	<3.0	<3.0
ethyl parathion	<3.0	<3.0