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TECHNICAL REPORT

LONG—TERM TREND MONITORING STRATEGY

DATA REPORT

1993

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
1751 CONG. W. L. DICKINSON DRIVE • MONTGOMERY, AL 36130

LONG-TERM TREND MONITORING STRATEGY DATA REPORT FOR 1993 & 1994

INTRODUCTION:

HISTORY

During Fiscal Year 1992, the Mobile Branch of the ADEM's Field Operations Division conducted a study to evaluate the adequacy of environmental monitoring being conducted in Alabama's coastal counties. The ultimate goal of that effort was to help insure the wise management of Alabama's coastal resources by improving the usefulness of monitoring information. A three part monitoring program emerged from the study comprised of watershed surveys, wetland and submersed aquatic vegetation monitoring, and long-term trend monitoring.

LONG-TERM TREND MONITORING

The goal of the long-term trend monitoring portion of the program is to implement a long-term monitoring program with data acquisition and analysis sufficient in quality and number to identify long-term trends in the environmental quality of the larger bodies of water in coastal Alabama. The objectives of this long-term monitoring program are to:
a) Identify trends in living and non-living resources.
b) Generate data suitable for inclusion in Departmental 305(b) reports to Congress, sufficient to provide summary statistics on designated use support, to identify the cause category for waters not fully supporting uses, and to identify areas affected by elevated levels of toxicants in sediments, water column, and fish tissue.
c) Provide water quality data suitable for water quality planning purposes by its incorporation into Department models.
d) Provide background data from various media (water, sediment, biota, etc.) to help support the development and or revision of standards or regulations.
e) Provide data to help identify and quantify cumulative impacts.
f) Maintain "core" sampling stations to provide a continuous long-term monitoring program at original EPA sites.
g) Provide background concentrations of various pollutants for the use in developing water quality based permit limits.
h) Provide data to which other Gulf Coast environments may be compared.
I) Indicate whether and to what extent additional information is required.
j) Provide data that may be used to indicate whether environmental standards are being met particularly for waters designated as "fishable and swimmable".

This document describes the long-term trend monitoring program that was implemented in summer 1993 and reports water column characterization data & sediment chemistry data gathered in the first two years. The coastal waters monitored under this program are described on page two block 1. Regions I through VI were implemented in 1993. Regions VII, VIII, and IX were added to the program in 1994.

REGIONS

Region I: North-west Mobile Bay - classified as fish and wildlife (F&W).
Region II: North-east Mobile Bay - classified as swimming & other whole body water contact sports and fish & wildlife (S/F&W).
Region III: South-west Mobile Bay - classified as shellfish harvesting and fish & wildlife (SH/F&W).
Region IV: Bon Secour Bay - classified as shellfish harvesting, swimming & other whole body water contact sports, and fish & wildlife (SH/S/F&W).
Region V: Mississippi Sound - classified as shellfish harvesting, swimming & other whole body water contact sports, and fish & wildlife (SH/S/F&W).
Region VI: Perdido Bay, Wolfe Bay, Arnica Bay, Terry Cove, and Cotton Bayou - classified as shellfish harvesting, swimming & other whole body water contact sports, and fish & wildlife (SH/S/F&W).
Region VII: Mobile River - classified as public water supply, swimming & other whole body water contact sports, fish & wildlife, and agriculture & industries (PWS/S/F&W/A&I).
Region VIII:Mobile Bay delta - classified as fish & wildlife (F&W).
Region IX: Tensaw River, Blakeley River, and Apalachee River - classified as swimming & other whole body water contact sports and fish & wildlife (S/F&W).

Block 1

SAMPLING DESIGN:

Alabama's long-term trend monitoring strategy combines the strengths of the USEPA's Environmental Mapping and Assessment Program (EMAP) and ADEM's knowledge of its estuarine system into a comprehensive and statistically defensible monitoring program of randomly chosen stations for each region. The strategy provides a design that allows unbiased estimates of the status of Alabama's coastal water environmental as a whole or within each of its nine regions and will allow long-term statistical trends to be identified. It is planned that the sampling will recur annually during the same summer index period on a long-term basis.

1993 SAMPLING EVENT

Summer 1993 samples were collected from Regions I through VI during the period August 2nd through August 31st . A total of 89 stations were attempted and 84 stations were sampled one time only. Five stations could not be sampled due to physical restrictions, usually water too shallow for the boat draft or station being located on land. The exact location for each sample station was determined by USEPA EMAP personnel based on the grid network currently used by EMAP and described by Overton (1989). Each station was marked on an appropriate nautical chart and a Trimble Navigation Transpak® GPS personal Navigator was used to locate each. All field work was conducted aboard ADEM's RV Perdido.

1994 SAMPLING EVENT

Monitoring in 1994 was repeated in Regions I through VI and also expanded to include Regions VII through IX. All samples were collected during the period July 5th through August 25 th . New

sampling stations were generated randomly by USEPA EMAP personnel using the same process used in 1993. Stations were plotted and located using the same equipment used in 1993. In addition, two stations for each of Regions I through VI that were sampled in 1993 were also sampled in 1994. These stations will be permanent and repeated each year of monitoring. This provides a design that allows unbiased estimates of the status of Alabama's coastal water environment. The permanent stations in Regions I through VI are listed in block 2, below. The "??" in each station designation is replaced with the appropriate sample year.

PERMANENT STATIONS

REGION	SAMPLE 1993	PERMANENT STATION ID	LAT/LONG	
REGION I	AL93MB07	AL??TT05	30° 35.75	88° 00.42
	AL93MB08	AL??TT06	30° 35.96	88° 01.14
REGION II	AL93MB29	AL??TT08	30° 28.73	88° 03.45
	AL93MB28	AL??TT07	30° 28.86	88° 05.92
REGION III	AL93MB37	AL??TT09	30° 26.90	87° 55.47
	AL93MB38	AL??TT10	30° 26.83	88° 05.76
REGION IV	AL93MB55	AL??TT12	30° 16.22	87° 47.64
	AL93MB53	AL??TT11	30° 17.43	87° 52.61
REGION V	AL93MS07	AL??TT04	30° 20.97	88° 13.42
	AL93MS05	AL??TT03	30° 15.67	88° 23.89
REGION VI	AL93PB07	AL??TT01	30° 23.41	87° 26.02
	AL93PB10	AL??TT02	30° 20.07	87° 27.23

BLOCK 2

In 1994 a total of 135 stations were attempted and of those, 128 stations were sampled. Seven stations were not sampled because of shallow water or because the stations were located on land. The 1994 data is not included in this report. The data is forthcoming and will be added to this report as an update.

INDICATORS OF COASTAL ENVIRONMENTAL CONDITION

The long-term monitoring strategy focuses on indicators of coastal environmental condition. These indicators are categorized to measure open water-related, coastal ecosystems of concern. The parameters used to measure the indicator all have valued ecosystem attributes and can be used to differentiate between "polluted" and "unpolluted" sites. Each parameter that has been selected coincides with the EMAP program or is needed to meet program objectives. Generally, these selected parameters are related to environmental conditions that can be quantified and interpreted, are applicable across the range of habitats to be found in Alabama's open coastal

waters, and are quantifiable in a standardized manner with a high degree of repeatability. Water column nutrients were collected consistent with EMAP's 1993 efforts. The indicators and the parameters that were measured within each indicator follow in charts 1 and 2.

Chart 1) WATER COLUMN CHARACTERIZATION

PARAMETER	SAMPLE DEPTH
Air Temperature {°C}	Surface
Wind Speed {mph}	Surface
Wind Direction	Surface
Fecal coliform {#/100mls}	Surface †
Dissolved Oxygen {mg/L}	Surface/Mid-depth/Bottom
Water Temperature {°C}	Surface/Mid-depth/Bottom
pH {s.u.}	Surface/Mid-depth/Bottom
Salinity {ppt}	Surface/Mid-depth/Bottom
Conductivity {microS/cm}	Surface/Mid-depth/Bottom
Secchi {m}	Column
TSS {mg/L}	Mid-depth
TDS {mg/L}	Mid-depth
Turbidity {n.t.u.}	Mid-depth
NH_3 -N {mg/L}	Mid-depth
NO_3 -N {mg/L}	Mid-depth
TKN {mg/L}	Mid-depth
PO_4 -P {mg/L}	Mid-depth
Chlorophyll a {mg/m^3}	Mid-depth

† Fecal coliform was added to the monitoring program in 1994.

Methodology

In-situ measurements were taken as specified above at every station at the specified depths. Air temperature measurements were collected using a Reotemp brand dial thermometer placed in the shade and allowed to equilibrate to surface temperature. Wind speeds were collected using a Dwyer® hand-held wind meter. The directions were determined from the mounted boat navigation compass. Depth, dissolved oxygen, water temperature, pH, salinity, and conductivity were collected using Hydrolab® Scout equipment. Secchi readings were collected using a standard Secchi disk attached to a marked line. Fecal coliform samples were collected directly into sterile plastic containers. The remaining water column characterization parameters were collected using a Kemmerer bottle and plastic sample containers. All samples and in-situ measurements were collected in accordance with ADEM Standard Operating Procedures. All water samples were analyzed at the Mobile Field Office laboratory.

Chart 2) SEDIMENT CHEMISTRY

METALS ug/g	ORGANICS ug/g
Aluminum	Chlordane
Arsenic	DDT
Cadmium	DDE
Chromium	DDD
Copper	Dieldrin
Lead	Dursban
Mercury	Endrin
Nickel	Heptachlor
Silver	Mirex
Tin	Toxaphene
Zinc	PCB (total)
Barium	

Methodology

Two sediment samples were collected at each location using a K-B type corer equipped with a cellulose-acetate-butyrate liner tube. Each of the two samples were collected separately. After carefully decanting clear water in the sample tube, the upper five centimeters of each core were placed into the appropriate glass container and capped with a Teflon lined lid. In areas where hard packed sand or abundant clams were encountered and the K-B type corer would not pick up the sample, a stainless 0.1 m^2 Peterson grab was used to collect the sediment. All metals samples were analyzed in the Mobile Field Office laboratory. All organics samples were analyzed in the Montgomery Field Office laboratory.

3) BENTHIC COMMUNITY STRUCTURE

Benthic community identification is currently on-going and is not part of this report.

Methodology

One benthic infaunal sample was collected at each station using a 0.05 m^2 Ponar grab. The contents of each sample were washed through a 0.5 mm sieve with all material retained on the sieve preserved in 10% formalin solution stained with rose bengal and returned to the laboratory.

DATA TABLES:

The following data tables are arranged by year and region. The first table is the list of station locations.

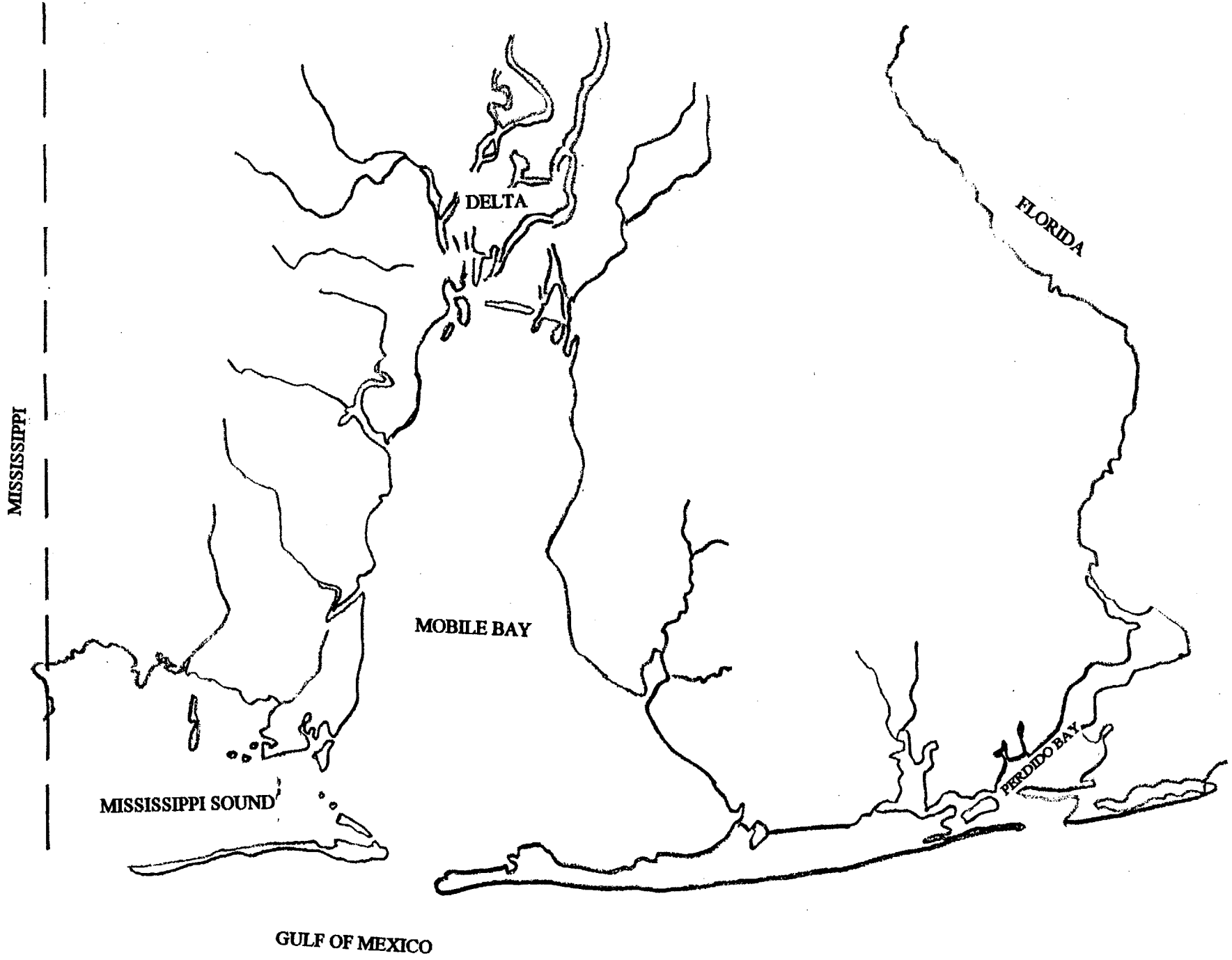
DELTA
FLORIDA
MISSISSIPPI
MOBILE BAY
MISSISSIPPI SOUND
PERDIDO BAY
GULF OF MEXICO

FIGURE 1

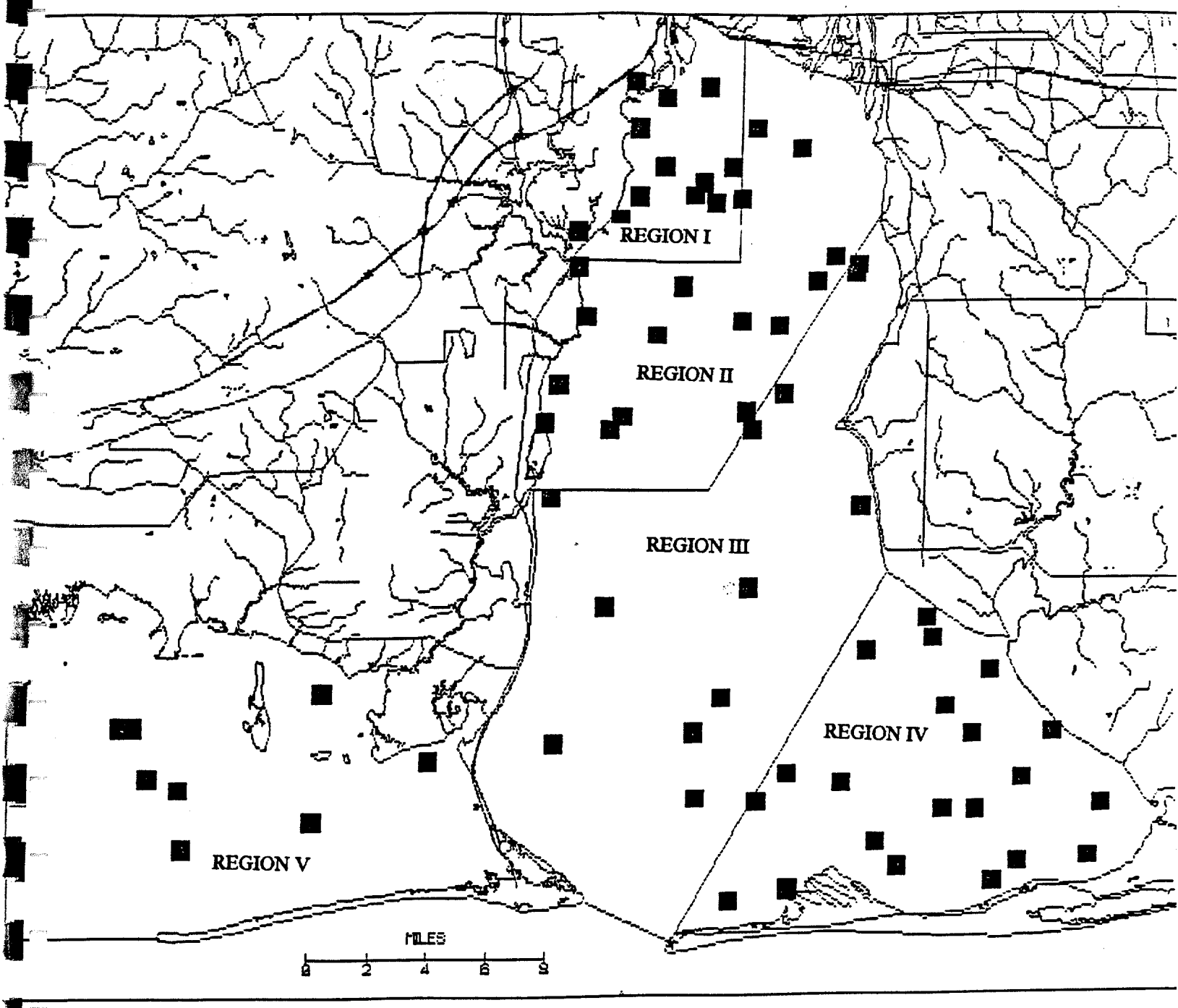

FIGURE 2

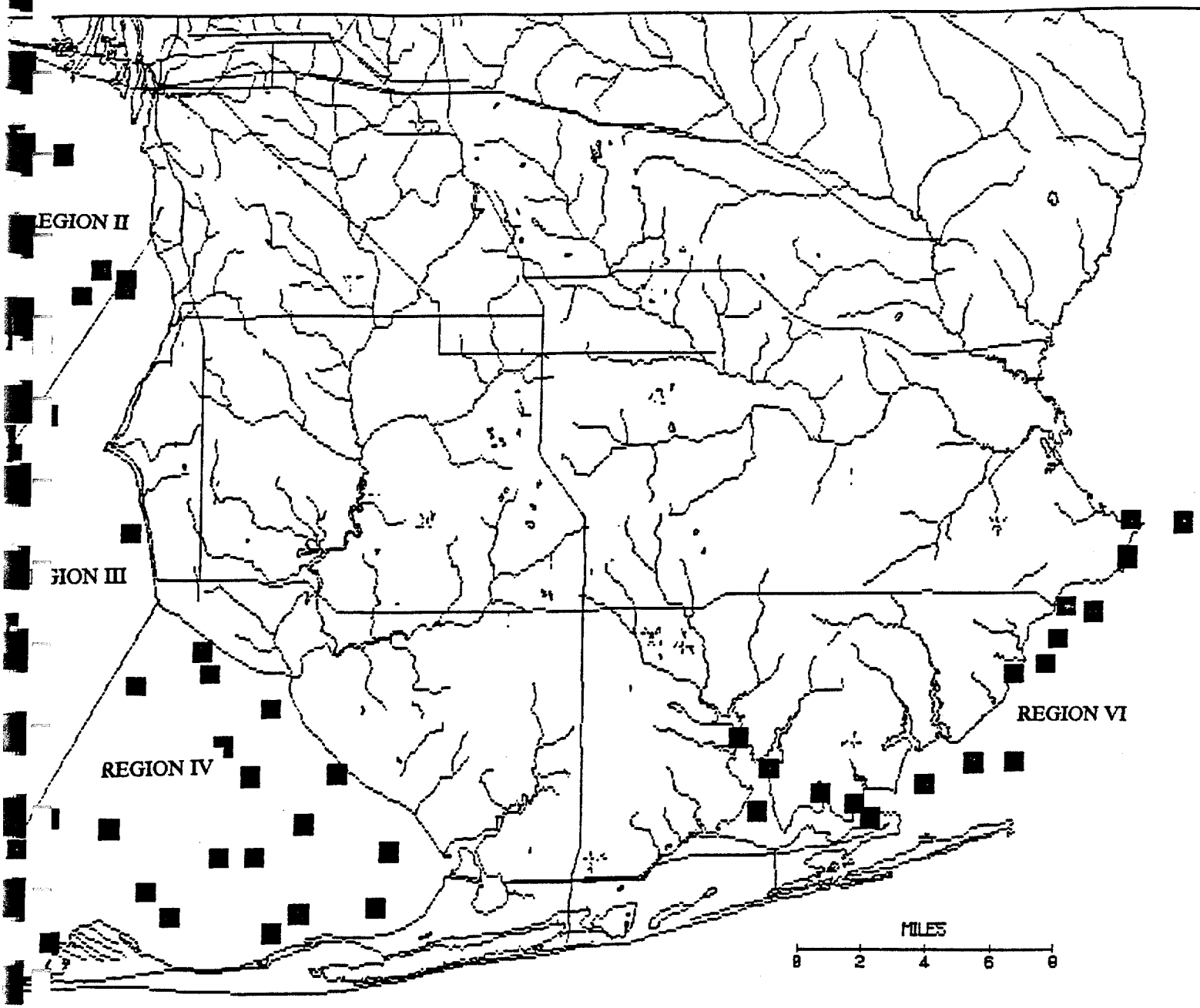

FIGURE 3

STATION LOCATIONS 1993

REGION I - NW MOBILE BAY

	LOCATION	N.LAT	W.LONG
1	AL93MB01	30*39.45'	88*03.26'
2	AL93MB02	30*39.26'	88*00.73'
3	AL93MB03	30*38.91'	88*02.15'
4	AL93MB04	30*37.99'	88*03.05'
5	AL93MB05	30*36.34'	88*00.88'
6	AL93MB06	30*36.82'	88*02.18'
7	AL93MB07	30*35.75'	88*00.42'
8	AL93MB08	30*35.96'	88*01.14'
9	AL93MB09	30*35.94'	88*02.99'
10	AL93MB10	30*35.24'	88*03.64'
11	AL93MB11	30*34.79'	88*07.99'
12	AL93MB12	30*33.76'	88*04.96'
13	AL93MB13	30*33.16'	88*01.50'

REGION II - NE MOBILE BAY

	LOCATION	N.LAT	W.LONG
14	AL93MB14	30*38.10'	87*58.84'
15	AL93MB15	30*37.38'	87*57.72'
16	AL93MB16	30*36.81'	87*59.80'
17	AL93MB17	30*35.78'	87*59.09'
18	AL93MB18	30*34.25'	87*56.25'
19	AL93MB19	30*33.92'	87*55.49'
20	AL93MB20	30*33.21'	87*56.85'
21	AL93MB21	30*32.18'	87*58.33'
22	AL93MB22	30*32.24'	87*59.62'
23	AL93MB23	30*32.34'	88*04.53'
24	AL93MB24	30*31.68'	88*02.42'
25	AL93MB25	30*30.21'	88*05.59'
26	AL93MB26	30*29.63'	88*03.23'
27	AL93MB27	30*29.68'	87*59.41'
28	AL93MB28	30*28.86'	88*05.92'
29	AL93MB29	30*28.73'	88*03.45'
30	AL93MB30	30*28.89'	87*59.26'

REGION III - SW MOBILE BAY

	LOCATION	N.LAT	W.LONG
31	AL93MB31	30*23.49'	88*03.65'
32	AL93MB32	30*20.84'	87*59.96'
33	AL93MB33	30*19.52'	88*05.57'
34	AL93MB34	30*17.78'	88*00.45'
35	AL93MB35	30*33.52'	87*55.52'
36	AL93MB36	30*30.35'	87*58.05'
37	AL93MB37	30*26.90'	87*55.47'
38	AL93MB38	30*26.83'	88*05.76'
39	AL93MB39	30*23.76'	87*59.38'

REGION IV - BON SECOUR BAY

	LOCATION	N.LAT	W.LONG
40	AL93MB40	30*23.36'	87*53.05'
41	AL93MB41	30*22.70'	87*52.94'
42	AL93MB42	30*22.36'	87*55.24'
43	AL93MB43	30*21.08'	87*50.90'
44	AL93MB44	30*20.25'	87*52.52'
45	AL93MB45	30*20.25'	87*54.92'
46	AL93MB46	30*19.66'	87*48.42'
47	AL93MB47	30*19.60'	87*51.58'
48	AL93MB48	30*18.38'	87*49.19'
49	AL93MB49	30*18.28'	87*55.75'
50	AL93MB50	30*18.47'	87*57.85'
51	AL93MB51	30*17.62'	87*47.03'
52	AL93MB52	30*17.49'	87*51.44'
53	AL93MB53	30*17.43'	87*52.61'
54	AL93MB54	30*17.60'	87*58.69'
55	AL93MB55	30*16.22'	87*47.64'
56	AL93MB56	30*16.03'	87*49.75'
57	AL93MB57	30*16.60'	87*54.53'
58	AL93MB58	30*15.30'	87*50.58'
59	AL93MB59	30*15.75'	87*53.80'
60	AL93MB60	30*15.18'	87*57.84'
61	AL93MB61	30*14.80'	87*59.80'
62	AL93MB62	30*19.66'	88*00.59'

REGION V -MISSISSIPPI SOUND

	LOCATION	N.LAT	W.LONG
63	AL93MS01	30*20.43'	88*20.03'
64	AL93MS02	30*20.42'	88*19.65'
65	AL93MS03	30*18.70'	88*18.99'
66	AL93MS04	30*18.50'	88*18.16'
67	AL93MS05	30*15.67'	88*23.89'
68	AL93MS06	30*15.65'	88*18.48'
69	AL93MS07	30*20.97'	88*13.42'
70	AL93MS08	30*17.19'	88*13.76'
71	AL93MS09	30*19.01'	88*09.78'

REGION VI - PERDIDO BAY

	LOCATION	N.LAT	W.LONG
72	AL93PB01	30*26.84'	87*22.91'
73	AL93PB02	30*26.89'	87*23.70'
74	AL93PB03	30*25.79'	87*23.93'
75	AL93PB04	30*25.91'	87*24.11'
76	AL93PB05	30*24.24'	87*24.60'
77	AL93PB06	30*24.29'	87*25.62'
78	AL93PB07	30*23.41'	87*26.02'
79	AL93PB08	30*22.59'	87*26.37'
80	AL93PB09	30*21.96'	87*27.77'
81	AL93PB10	30*20.07'	87*27.23'
82	AL93PB11	30*20.03'	87*28.42
83	AL93PB12	30*19.44'	87*30.16'
84	AL93PB13	30*18.48'	87*31.90'
85	AL93PB14	30*18.94'	87*32.27'
86	AL93PB15	30*19.22'	87*33.39'
87	AL93PB16	30*18.70'	87*35.51'
88	AL93PB17	30*19.94'	87*35.22'
89	AL93PB18	30*20.83'	87*35.72'

TABLE 1

REGION I - NW MOBILE BAY 1993

FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB01	8/5/93	1005	32	4	S	0.7	0.7	29	7.8	6.9	15550	9.2
							0.4	29	7.7	6.7	14830	9.0
							surface	29	7.7	6.6	13880	7.9
AL93MB02	8/5/93	1130	32	10	SSE	0.7	0.7	30	7.5	6.3	11890	7.0
							0.4	30	7.5	6.3	11990	6.9
							surface	30	7.5	6.2	11880	7.0
AL93MB03	8/5/93	1040	28	<2	S	0.8	0.8	29	7.6	6.9	12630	7.4
							0.4	30	7.6	6.6	12180	7.0
							surface	30	7.6	6.6	11890	6.6
AL93MB04	8/4/93	1315	33	<2	NO DATA	0.9	1.8	30	7.5	6.0	15700	9.8
							0.9	30	7.7	7.4	14900	8.6
							surface	30	7.8	7.4	14350	8.8
AL93MB05	8/2/93	1035	33	<2	SSW	1.3	2.4	30	7.0	2.0	31920	19.3
							1.2	31	7.1	4.5	21360	12.2
							surface	31	7.2	6.2	16270	9.4
AL93MB06	8/2/93	1325	30	5	SSE	1.2	1.7	30	7.2	5.0	22230	12.5
							0.9	30	7.4	6.9	16690	10.4
							surface	31	7.4	7.1	16370	9.3
AL93MB07	8/2/93	1250	27	8	SSE	1.0	3.1	30	7.0	0.8	32560	21.5
							1.5	31	7.6	6.5	18700	10.5
							surface	32	7.9	8.0	17300	9.8

TABLE 2A.a

REGION I - NW MOBILE BAY 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB08	8/2/93	1005	33	2	SSE	1.3	2.7	30	7.1	2.0	31070	19.6
							1.3	31	7.4	6.2	17170	10.3
							surface	31	7.4	6.6	15910	9.3
AL93MB09	8/4/93	1235	33	7	SSE	1.0	2.0	30	6.9	2.8	18450	11.2
							1.0	30	7.3	6.2	16210	10.3
							surface	30	7.4	6.4	16150	10.1
AL93MB10	8/4/93	1205	33	8	SSE	1.4	1.2	30	7.1	5.1	16950	10.3
							0.6	30	7.1	5.0	17020	10.3
							surface	30	7.1	5.1	17160	10.2
AL93MB11	8/4/93	1145	NOT SAMPLED									
AL93MB12	8/4/93	1105	30	10	N	0.9	0.8	30	7.1	3.6	18720	10.9
							0.4	30	7.4	5.6	17540	10.5
							surface	30	7.4	5.7	17260	10.4
AL93MB13	8/3/93	1000	29	5	SSE	1.3	12.0	27	7.7	1.2	47900	31.8
							6.0	28	7.8	2.0	44430	28.5
							surface	30	8.0	6.6	18700	11.1
AVERAGE			32	<5		1.0	2.3	30	7.4	5.5	19048	11.5
MAXIMUM			33	10		1.4	12.0	32	8.0	8.0	47900	31.8
MINIMUM			29	<2		0.7		27	6.9	0.8	11880	6.6

TABLE 2A.b

REGION I - NW MOBILE BAY 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MB01	7	8050	8.9	0.039	0.006	1.678	0.024	7.2
AL93MB02	6	6680	6.2	0.096	0.063	0.560	0.023	5.5
AL93MB03	4	7130	4.7	0.143	0.082	0.917	0.019	9.3
AL93MB04	19	9340	6.7	0.019	0.117	0.692	0.026	11.9
AL93MB05	18	13644	7.6	0.024	0.263	0.261	0.038	12.9
AL93MB06	17	11270	7.3	0.067	1.357	0.744	0.043	3.4
AL93MB07	35	17500	7.1	0.179	0.875	0.227	0.047	6.7
AL93MB08	17	10800	5.3	0.018	0.491	0.538	0.024	4.3
AL93MB09	23	10900	8.2	0.060	0.279	0.366	0.036	8.1
AL93MB10	21	10950	5.2	0.121	0.482	0.548	0.051	3.2
AL93MB12	29	11500	8.5	0.053	0.168	0.842	0.029	10.5
AL93MB13	47	26100	9.7	0.113	0.841	0.322	0.025	1.1
AVERAGE	20	11989	7.1	0.078	0.419	0.641	0.034	7.0
MAXIMUM	47	26100	9.7	0.179	1.357	1.678	0.051	12.9
MINIMUM	4	6680	4.7	0.018	0.006	0.227	0.019	1.1

TABLE 2B

REGION I - NW MOBILE BAY 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MB01	27500	7.1	0.38	47	12.9	22.5	0.50	12.2	<0.6	1.4	80	250
AL93MB02	8880	2.1	0.12	8.6	<2	6.2	0.10	2.0	<0.6	<1	14	162
AL93MB03	27500	5.0	0.18	32	8.5	11.5	0.23	10.0	<0.6	<1	46	312
AL93MB04	53800	11.5	0.34	67	22.2	30.4	0.39	18.6	<0.6	3.9	138	338
AL93MB05	53700	9.2	0.22	60	14.6	22.5	0.62	22.8	<0.6	<1	101	350
AL93MB06	22500	6.5	0.20	25	7.1	11.5	0.82	10.8	<0.6	<1	41	162
AL93MB07	73700	12.5	0.29	95	19.0	29.0	2.0	28.5	<0.6	1.4	120	425
AL93MB08	58700	13.5	0.24	74	16.1	25.6	0.54	25.0	<0.6	<1	120	325
AL93MB09	26200	6.8	0.15	32	8.4	13.5	0.19	8.1	<0.6	1.5	62	162
AL93MB10	4880	1.4	<0.12	6.2	<2	4.7	0.23	1.1	<0.6	2.1	16	75
AL93MB12	2880	<1	0.14	42	<2	3.87	0.19	<1	<0.6	<1	8.7	62
AL93MB13	66200	16.9	<0.12	7.4	14.8	23.6	0.20	23.0	<0.6	2.6	112	312

AVERAGE	35537	<7.8	<0.21	41	<10.8	17.1	0.50	<13.6	<0.6	<1.5	72	245
MAXIMUM	73700	16.9	0.38	95	22.2	30.4	2.0	28.5	<0.6	3.9	138	425
MINIMUM	2880	<1	<0.12	6.2	<2	3.9	0.10	<1	<0.6	<1	8.7	62

TABLE 2C.a

REGION I - NW MOBILE BAY 1993

SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MB01	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB02	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB03	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB04	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB05	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB06	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB07	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB08	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB09	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB10	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB12	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB13	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 2C.b

REGION II - NE MOBILE BAY 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB14	8/2/93	1125	30	<2	SSE	1.3	3.0	30	6.8	0.3	27940	17.4
							1.5	31	6.8	0.6	28090	15.7
							surface	31	7.4	6.5	15100	8.2
AL93MB15	8/2/93	1200	29	5	SSE	1.3	2.9	30	6.8	0.2	27500	17.9
							1.5	30	6.9	0.5	28670	14.8
							surface	32	7.7	6.7	19230	11.2
AL93MB16	8/2/93	1100	29	4	SSE	1.3	3.0	30	6.8	0.2	30310	19.5
							1.5	31	7.0	2.9	25520	15.8
							surface	32	7.4	6.6	16870	10.3
AL93MB17	8/2/93	1230	30	5	SSE	1.0	3.4	30	6.9	0.3	31870	19.4
							1.7	31	7.4	5.1	25610	14.0
							surface	32	7.9	7.8	16270	10.1
AL93MB18	8/3/93	1040	29	<2	NO DATA	1.0	3.3	30	7.4	0.2	33810	20.5
							1.6	30	8.0	6.2	24990	15.5
							surface	30	8.1	7.0	24140	14.7
AL93MB19	8/3/93	1105	31	<2	NO DATA	1.2	3.3	30	7.4	0.1	34720	20.0
							1.6	30	7.3	1.4	25530	17.8
							surface	30	7.7	5.6	25150	15.8
AL93MB20	8/3/93	1200	33	<2	NO DATA	1.4	3.7	29	7.4	0.1	34830	22.7
							1.8	30	7.2	0.1	29000	17.6
							surface	30	8.4	9.8	22950	13.4
AL93MB21	8/3/93	1245	31	3	S	1.2	3.9	29	7.4	0.3	37060	23.2
							2.0	29	7.2	0.1	30410	17.5
							surface	30	8.6	10.8	19000	11.9
AL93MB22	8/3/93	1310	30	3	W	1.2	3.9	29	7.4	0.4	35340	21.7
							2.0	30	7.7	3.8	27530	16.0
							surface	31	8.3	8.2	20680	11.1

TABLE 3A.a

REGION II - NE MOBILE BAY 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB23	8/4/93	1035	31	8	SSW	1.0	1.8	30	7.1	1.2	22250	13.7
							0.9	30	7.5	5.7	18470	11.0
							surface	30	7.5	6.2	272	0.1
AL93MB24	8/4/93	1000	33	3	SSW	1.0	2.7	30	7.3	1.5	28800	17.4
							1.4	29	7.7	5.9	21100	12.2
							surface	30	7.8	6.6	20260	12.1
AL93MB25	8/23/93	1335	31	<2	NNE	0.9	2.2	30	7.7	3.1	27610	16.8
							1.1	30	8.1	8.2	22840	13.7
							surface	31	8.0	8.2	20900	12.8
AL93MB26	8/9/93	1135	30	<2	ENE	NO DATA	2.8	29	7.2	1.2	28140	17.1
							1.4	30	7.9	6.8	22070	15.7
							surface	30	8.0	7.7	21270	12.7
AL93MB27	8/9/93	1245	30	<2	NNE	NO DATA	4.1	29	7.3	0.2	30740	19.2
							2.0	30	8.1	6.8	24020	14.9
							surface	32	8.2	7.9	20270	12.0
AL93MB28	8/9/93	1100	29	5	E	NO DATA	0.6	30	8.1	9.1	12880	7.6
							0.3	30	8.2	8.8	12600	7.3
							surface	30	8.2	8.7	12790	7.3
AL93MB29	8/9/93	1015	30	<2	NNE	NO DATA	3.1	29	7.3	1.0	29510	18.0
							1.6	30	7.4	3.2	24790	14.9
							surface	30	7.9	6.9	18430	12.5
AL93MB30	8/9/93	1210	31	<2	NNE	NO DATA	4.2	29	7.3	0.2	32060	19.7
							2.1	30	7.9	6.2	25440	13.8
							surface	32	8.1	7.3	22680	12.9
AVERAGE			30	<3		1.2	1.7	30	7.6	4.3	24281	14.7
MAXIMUM			33	8		1.4	4.2	32	8.6	10.8	37060	23.2
MINIMUM			29	<2		0.9		29	6.8	0.1	272	0.1

TABLE 3A.b

REGION II - NE MOBILE BAY 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MB14	22	16300	4.7	0.056	0.703	0.488	0.058	7.0
AL93MB15	30	14800	4.3	0.041	0.537	0.293	0.044	3.1
AL93MB16	28	16400	5.0	0.025	0.202	0.573	0.030	12.3
AL93MB17	32	14700	5.6	<0.01	0.570	0.596	0.039	27.2
AL93MB18	33	16900	4.9	0.060	0.482	0.348	0.056	27.2
AL93MB19	45	16400	5.2	0.043	0.854	0.285	0.042	20.4
AL93MB20	46	15600	6.0	0.058	0.599	0.270	0.055	29.9
AL93MB21	41	17300	4.9	0.098	0.271	0.533	0.061	26.3
AL93MB22	29	14100	4.3	0.078	0.719	0.342	0.009	3.2
AL93MB23	23	11300	6.5	0.056	0.250	0.434	0.023	6.3
AL93MB24	32	13300	6.2	0.024	0.051	0.317	0.015	4.6
AL93MB25	23	14000	7.4	0.081	0.044	0.600	0.039	28.6
AL93MB26	6	12900	6.4	0.032	0.031	0.276	0.011	6.5
AL93MB27	5	15000	5.8	0.097	0.060	0.332	0.035	8.0
AL93MB28	9	7830	7.3	0.104	0.015	0.544	0.004	8.8
AL93MB29	12	15000	7.2	0.122	0.040	0.682	0.024	12.4
AL93MB30	10	15660	5.7	0.061	0.015	0.426	0.026	17.7
AVERAGE	25	14558	5.7	<0.062	0.320	0.432	0.034	14.7
MAXIMUM	46	17300	7.4	0.122	0.854	0.682	0.061	29.9
MINIMUM	5	7830	4.3	<0.01	0.015	0.270	0.004	3.1

TABLE 3B

REGION II - NE MOBILE BAY 1993

SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MB14	41200	5.9	0.22	52	10.7	16.9	1.46	17.5	<0.6	<1	75	350
AL93MB15	37500	5.8	0.22	49	8.8	14.8	0.70	15.2	0.7	1.7	62	362
AL93MB16	40000	7.4	0.21	54	11.9	17.6	2.12	16.1	<0.6	<1	78	375
AL93MB17	28700	11.5	0.21	41	9.6	13.8	0.50	14.2	<0.6	<1	59	288
AL93MB18	60000	11.2	0.19	68	14.9	20.9	0.26	11.2	<0.6	2.0	101	388
AL93MB19	57500	10.5	0.24	66	9.8	20.9	0.26	20.7	0.9	2.0	100	362
AL93MB20	57500	14.2	0.16	64	10.8	21.6	0.25	18.7	0.7	1.5	145	350
AL93MB21	60000	16.0	0.19	70	9.8	22.3	0.34	19.5	0.6	2.1	115	338
AL93MB22	50000	16.2	0.16	78	15.0	23.6	0.29	21.4	<0.6	2.5	121	362
AL93MB23	8120	2.2	0.14	11	2.4	5.8	0.22	1.6	<0.6	<1	22	75
AL93MB24	41200	11.8	0.20	56	14.0	20.2	0.30	13.9	<0.6	2.4	94	300
AL93MB25	12600	4	<0.2	24	<6	7	1.38	<6	<0.25	<1	26	111
AL93MB26	30000	11.9	0.19	69	14.9	20.2	0.32	22.1	0.9	2.4	106	312
AL93MB27	62500	13.9	0.24	79	17.5	22.3	0.43	25.8	<0.6	3.1	121	338
AL93MB28	3910	<1.5	<0.2	12	<6	3.8	0.14	<6	0.04	<1	10	54
AL93MB29	22100	13	0.20	101	25	30	0.35	35	0.29	2.2	137	243
AL93MB30	20600	14	<0.2	87	18	20	0.21	32	0.27	1.5	110	302
AVERAGE	37260	<10.1	<0.20	58	<12.1	17.7	0.56	<17.5	<0.6	<1.7	87	289
MAXIMUM	62500	16.2	0.24	101	25	30.0	2.12	35.0	0.9	3.1	145	388
MINIMUM	3910	<1.5	<0.2	11	<6	3.8	0.14	<6	0.04	<1	10	54

TABLE 3C.a

REGION II - NE MOBILE BAY 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MB14	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB15	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB16	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB17	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB18	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB19	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB20	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB21	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB22	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB23	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB24	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB25	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB26	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB27	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB28	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB29	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB30	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 3C.b

REGION III - SW MOBILE BAY 1993

FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB31	8/10/93	1020	27	4	ENE	1.5	3.6	29	7.3	1.3	36100	22.5
							1.8	30	8.1	7.3	24420	14.7
							surface	30	8.1	7.4	23290	15.2
AL93MB32	8/10/93	1220	29	2	ENE	1.4	3.4	29	7.8	3.9	38340	24.4
							1.7	30	8.1	6.9	30250	17.6
							surface	31	8.1	6.9	29260	17.2
AL93MB33	8/10/93	1100	28	3	NE	1.6	3.3	30	7.5	1.4	35565	23.3
							1.6	30	8.1	7.2	25800	14.8
							surface	30	8.1	7.2	25380	13.2
AL93MB34	8/18/93	1015	33	4	NW	1.2	3.6	29	7.9	5.2	45010	28.4
							1.8	30	8.0	6.2	37340	23.9
							surface	31	8.1	6.8	33150	21.2
AL93MB35	8/3/93	1135	31	4	SSE	1.0	3.2	30	7.4	0.2	33760	21.0
							1.6	30	7.3	0.6	28830	19.4
							surface	29	7.8	6.4	21880	14.2
AL93MB36	8/9/93	1315	30	4	NNE	NO DATA	4.1	29	7.2	0.7	30530	18.4
							2.0	30	8.0	6.3	22230	15.4
							surface	32	8.1	7.7	18690	13.3
AL93MB37	8/9/93	1340	28	4	NNW	NO DATA	2.2	29	7.9	5.3	26060	18.3
							1.1	30	8.1	6.9	22310	15.2
							surface	30	8.2	8.0	23010	16.2
AL93MB38	8/10/93	940	28	4	ENE	1.0	1.8	30	7.7	6.3	14440	8.5
							0.9	30	8.1	7.7	12280	7.0
							surface	30	8.1	7.8	11770	7.1
AL93MB39	8/10/93	1300	29	2	ENE	1.9	3.5	30	7.7	3.9	37160	23.9
							1.7	30	8.1	7.0	26930	16.5
							surface	32	8.0	7.0	25540	16.0

AVERAGE			29	3		1.4	3.2	30	7.9	5.5	27382	17.3
MAXIMUM			33	4		1.9	4.1	32	8.2	8.0	45010	28.4
MINIMUM			27	2		1.0		29	7.2	0.2	11770	7.0

TABLE 4A

REGION III - SW MOBILE BAY 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MB31	15	17800	4.0	0.076	0.011	0.265	0.027	1.9
AL93MB32	25	18970	3.8	0.088	0.060	0.532	0.025	2.3
AL93MB33	20	16740	3.4	0.066	0.043	0.769	0.023	2.4
AL93MB34	34	22380	4.0	0.112	<0.001	0.460	0.010	5.7
AL93MB35	42	21200	3.4	0.050	0.191	0.312	0.057	9.4
AL93MB36	7	15090	4.9	0.081	0.010	3.965	0.021	8.0
AL93MB37	27	16760	8.1	0.076	0.058	1.271	0.045	24.1
AL93MB38	11	7880	6.3	0.081	0.010	3.813	0.015	3.5
AL93MB39	28	17550	3.3	0.069	0.041	0.497	0.033	1.9
AVERAGE	23	17152	4.6	0.078	<0.047	1.320	0.028	6.6
MAXIMUM	42	22380	8.1	0.112	0.191	3.965	0.057	24.1
MINIMUM	7	7880	3.3	0.050	<0.001	0.265	0.010	1.9

TABLE 4B

REGION III - SW MOBILE BAY 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MB31	20600	18	<0.2	93	21	25	0.36	33	0.23	2.3	124	205
AL93MB32	29200	17	0.22	93	21	26	0.25	31	0.23	2.5	124	147
AL93MB33	33100	14	<0.2	82	18	24	0.19	31	0.24	2.1	124	200
AL93MB34	72200	20	<0.2	91	20	29	0.19	32	<0.25	<1	126	475
AL93MB35	56200	10	0.20	64	1.4	20	0.24	16.8	<0.6	2.1	105	400
AL93MB36	15700	11	0.22	86	22	25	0.25	33	0.31	1.8	110	282
AL93MB37	9280	2	<0.2	16	6	4.5	0.21	8	<0.01	<1	<6	62
AL93MB38	12400	2.6	<0.2	22	<6	6.8	0.10	<6	0.05	5.0	<6	109
AL93MB39	7150	16	<0.2	96	22	26	0.20	33	0.20	2.2	<6	85
AVERAGE	28425	12	<0.2	71	<15	21	0.22	<25	<0.24	<2.2	<81	218
MAXIMUM	72200	20	0.22	96	22	29	0.36	33	0.31	5.0	126	475
MINIMUM	7150	2	<0.2	16	<6	4.5	0.10	<6	<0.01	<1	<6	62

TABLE 4C.a

REGION III - SW MOBILE BAY 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MB31	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB32	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB33	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB34	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB35	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB36	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB37	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB38	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB39	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 4C.b

REGION IV - BON SECOUR BAY 1993

FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB40	8/17/93	1100	31	7	SE	1.0	1.2	30	7.8	3.8	26180	16.2
							0.6	31	8.0	5.2	27180	16.9
							surface	31	8.0	5.8	25280	16.7
AL93MB41	8/17/93	1135	31	8	SE	1.4	2.8	30	7.7	2.1	27610	17.1
							1.4	31	8.2	6.5	27230	18.0
							surface	31	8.2	7.2	25010	16.4
AL93MB42	8/17/93	1020	30	5	SSE	1.0	3.5	30	7.8	3.2	30420	17.7
							1.7	30	7.9	3.5	29950	18.2
							surface	30	8.2	6.9	21210	14.9
AL93MB43	8/17/93	1210	31	8	SSE	1.0	2.7	30	7.4	1.3	27110	17.4
							1.3	31	8.1	5.6	27080	15.4
							surface	31	8.2	8.0	26250	16.5
AL93MB44	8/19/93	1230	30	8	NNW	1.5	3.0	31	7.6	2.3	28220	17.1
							1.5	31	8.2	6.8	26150	15.2
							surface	31	8.2	7.0	26500	14.8
AL93MB45	8/19/93	1200	30	5	NNW	1.5	3.2	30	7.5	0.8	37330	23.9
							1.6	31	8.1	6.2	27040	15.0
							surface	31	8.1	6.3	25890	16.4
AL93MB46	8/24/93	1240	30	7	ESE	0.5	0.6	31	8.1	6.4	26350	15.2
							0.3	32	8.1	7.4	23740	14.6
							surface	32	8.1	7.4	25880	15.5
AL93MB47	8/17/93	1245	32	7	SSE	1.4	3.1	30	7.6	7.1	30070	19.0
							1.5	31	8.2	7.3	26190	17.4
							surface	31	8.2	7.7	25400	16.4

TABLE 5A.a

REGION IV - BON SECOUR BAY 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB48	8/24/93	1200	30	4	ENE	0.9	2.4	30	7.9	4.4	32210	18.3
							1.2	30	8.1	6.8	28090	15.9
							surface	30	8.2	7.7	25670	15.3
AL93MB49	8/19/93	1120	29	6	NNW	1.5	3.2	30	7.8	3.4	32400	19.7
							1.6	31	8.2	6.9	30650	17.6
							surface	31	8.2	7.0	28250	18.0
AL93MB50	8/19/93	1045	27	5	NNW	1.5	3.4	30	7.7	2.3	38510	25.2
							1.7	30	8.1	6.4	30600	17.5
							surface	31	8.1	6.5	29660	19.6
AL93MB51	8/24/93	1130	28	7	NE	0.8	2.0	30	8.0	5.0	27000	18.4
							1.0	30	8.0	6.4	23500	14.5
							surface	30	8.0	6.5	24410	15.5
AL93MB52	8/23/93	1115	28	12	NNW	0.5	2.4	30	7.8	5.2	31450	17.9
							1.2	30	7.9	5.8	29010	17.5
							surface	30	8.0	5.9	27220	17.3
AL93MB53	8/23/93	1040	28	12	NNW	0.3	2.6	30	7.8	5.2	30200	19.1
							1.3	30	7.9	5.9	30300	19.4
							surface	30	7.9	5.9	30100	19.0
AL93MB54	8/19/93	1020	30	5	NNW	1.5	3.5	30	7.6	1.9	41260	25.7
							1.7	30	8.1	6.5	29550	17.5
							surface	30	8.1	6.7	28820	18.1
AL93MB55	8/24/93	1055	28	9	NE	0.5	2.1	30	7.9	5.3	31790	18.9
							1.0	30	8.0	5.9	30850	18.6
							surface	30	8.0	6.0	30310	18.5

TABLE 5A.b

REGION IV - BON SECOUR BAY 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MB56	8/23/93	1225	29	8	NNW	0.8	2.1	30	8.0	5.8	32170	20.6
							1.0	30	8.1	6.6	32200	21.0
							surface	31	8.1	6.7	31620	19.3
AL93MB57	8/18/93	1200	33	6	NNE	1.5	3.1	30	7.7	1.4	38780	25.9
							1.6	31	8.1	6.9	31028	19.3
							surface	31	8.1	6.8	30470	19.3
AL93MB58	8/23/93	1200	29	8	NNW	0.5	2.3	30	7.8	4.9	31860	20.1
							1.2	30	7.9	5.8	31670	18.8
							surface	30	7.9	5.9	30590	19.5
AL93MB59	8/18/93	1235	33	4	NNW	1.6	2.1	30	7.9	5.0	33280	22.6
							1.0	31	8.1	7.2	34730	19.6
							surface	31	8.1	7.0	30370	19.0
AL93MB60	8/18/93	1120	32	6	N	0.9	0.9	30	8.1	7.7	37340	23.7
							0.5	30	8.1	7.6	36790	23.6
							surface	30	8.1	7.4	36790	23.9
AL93MB61	8/18/93	1045	32	3	NNW	2.0	2.7	30	7.9	4.4	45470	28.0
							1.4	30	8.0	6.1	40850	25.1
							surface	30	8.0	6.4	37790	25.0
AL93MB62	8/10/93	1140	28	2	NE	1.4	3.4	29	7.8	3.6	41310	26.9
							1.7	30	8.1	6.9	32640	19.1
							surface	31	8.1	6.9	31210	19.0
AVERAGE			30	7		1.1	2.5	30	8.0	5.7	30435	18.9
MAXIMUM			33	12		2.0	3.5	32	8.2	8.0	45470	28.0
MINIMUM			27	2		0.3		29	7.4	0.8	21210	14.5

TABLE 5A.c

REGION IV - BON SECOUR BAY 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MB40	47	17300	14.1	0.119	<0.001	0.52	0.036	18.8
AL93MB41	41	18300	8.4	0.081	0.010	0.57	0.053	32.5
AL93MB42	41	17720	10.5	0.044	0.002	0.35	0.047	19.1
AL93MB43	38	17560	9.4	0.074	0.002	0.28	0.037	13.5
AL93MB44	32	16780	5.3	0.054	0.004	0.41	0.025	15.0
AL93MB45	29	17390	4.4	0.079	0.006	0.45	0.047	8.1
AL93MB46	33	16340	13.5	0.094	0.028	0.18	0.046	34.7
AL93MB47	30	17720	6.6	0.067	0.001	0.35	0.032	5.4
AL93MB48	32	16320	10.8	0.091	0.008	0.33	0.041	30.0
AL93MB49	26	18820	3.6	0.077	0.003	0.36	0.018	7.9
AL93MB50	24	19530	3.9	0.181	<0.001	0.47	0.013	8.4
AL93MB51	45	15800	13.1	0.090	0.043	0.37	0.072	20.5
AL93MB52	54	18000	28	0.099	0.048	0.62	0.051	15.8

TABLE 5B.a

REGION IV - BON SECOUR BAY 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MB53	64	17340	25	0.095	<0.001	0.34	0.043	26.0
AL93MB54	26	19370	3.5	0.599	<0.001	0.55	0.007	6.8
AL93MB55	50	16870	16.2	0.071	0.020	0.52	0.060	16.2
AL93MB56	65	17780	16.9	0.010	<0.001	0.63	0.080	19.5
AL93MB57	30	20570	4.5	0.082	<0.001	0.23	0.025	10.0
AL93MB58	55	18620	26	<0.010	<0.001	0.35	0.088	13.6
AL93MB59	32	22070	4.4	0.080	<0.001	0.29	0.021	8.1
AL93MB60	32	24780	3.7	0.055	0.004	0.20	0.014	3.8
AL93MB61	40	27080	3.3	0.059	0.001	0.35	0.007	10.3
AL93MB62	10	21050	3.0	0.069	0.019	0.67	0.020	1.9
AVERAGE	38	18830	10	<0.099	<0.009	0.41	0.038	15.0
MAXIMUM	65	27080	28	0.599	0.048	0.67	0.088	34.7
MINIMUM	10	15800	3.0	<0.010	<0.001	0.18	0.007	1.9

TABLE 5B.b

REGION IV - BON SECOUR BAY 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MB40	2480	<2	<0.2	6	<6	1.9	<0.1	<6	0.55	<1	<6	12
AL93MB41	4000	7	<0.2	45	11	13	0.57	15	0.04	1.6	52	148
AL93MB42	14000	15	<0.2	100	25	16	1.02	32	0.24	2.9	110	202
AL93MB43	8390	16	<0.2	85	21	22	0.44	28	0.22	2.2	110	217
AL93MB44	90200	21	0.28	105	24	30	0.26	32	0.25	<1	165	402
AL93MB45	86400	20	<0.2	101	24	31	0.51	35	0.29	<1	128	424
AL93MB46	3200	<1	<0.2	11	<6	2	<0.1	<6	<0.25	<1	<6	19
AL93MB47	15500	17	<0.2	105	26	19	1.21	36	0.12	2.7	138	NO DATA
AL93MB48	55600	22	0.26	91	21	26	0.26	32	<0.25	<1	105	287
AL93MB49	61800	20	<0.2	91	20	28	0.29	30	0.38	<1.1	112	375
AL93MB50	68300	23	<0.2	88	18	26	0.24	26	0.25	<1	101	418
AL93MB51	58700	22	0.22	94	21	30	0.23	31	0.25	<1	128	302
AL93MB52	94900	27	0.26	108	25	34	0.41	34	<0.25	<1	142	431

TABLE 5C.a

REGION IV - BON SECOUR BAY 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MB53	90200	28	0.22	102	24	32	0.67	34	0.28	<1	139	387
AL93MB54	71800	22	<0.2	92	19	27	0.27	29	0.26	<1	120	380
AL93MB55	57800	22	0.24	96	22	28	0.18	35	<0.25	<1	105	303
AL93MB56	62200	22	0.21	70	19	26	1.04	25	0.50	<1	105	314
AL93MB57	82000	22	0.26	92	24	30	0.20	31	0.3	<1	128	466
AL93MB58	48200	21	0.25	85	21	4	0.46	26	0.46	<1	105	242
AL93MB59	1170	<1	<0.2	6	<5	<1	0.48	<5	<0.2	<1	<5	11
AL93MB60	960	<1	<0.2	8	<5	1	<0.1	<5	<0.2	<1	<5	15
AL93MB61	4990	<1	<0.2	14	<5	2	<0.1	<5	<0.25	<1	11	39
AL93MB62	8530	18	<0.2	90	20	26	0.40	30	0.23	2.3	96	106
AVERAGE	43100	<16	<0.22	73	<18	<20	<0.4	<25	<0.27	<1.3	<92	250
MAXIMUM	94900	28	0.28	108	26	34	1.21	36	0.55	2.9	165	466
MINIMUM	960	<1	<0.2	6	<5	<1	<0.1	<5	<0.2	<1	<5	11

TABLE 5C.b

REGION IV - BON SECOUR BAY 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MB40	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB41	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB42	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB43	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB44	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB45	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB46	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB47	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB48	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB49	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB50	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB51	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB52	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 5C.c

REGION IV - BON SECOUR BAY 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MB53	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB54	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB55	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB56	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB57	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB58	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB59	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB60	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB61	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MB62	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 5C.d

REGION V - MISSISSIPPI SOUND 1993

FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93MS01	8/12/93	1045	32	4	SSE	1.4	3.7	30	7.9	4.0	40110	25.4
							1.8	31	8.1	6.4	38010	24.1
							surface	31	8.1	6.5	36800	24.0
AL93MS02	8/12/93	1015	31	3	ESE	1.2	3.8	30	7.9	4.6	40590	25.9
							1.9	30	8.0	5.8	39600	25.3
							surface	31	8.0	6.2	36930	23.4
AL93MS03	8/12/93	1120	32	6	ESE	1.5	4.2	30	7.8	1.8	43800	28.0
							2.1	30	8.1	6.9	39070	25.9
							surface	31	8.1	6.8	33860	21.5
AL93MS04	8/12/93	1200	33	6	ESE	1.2	4.0	30	8.0	4.0	42410	27.2
							2.0	30	8.2	6.5	41060	26.9
							surface	31	8.1	6.8	31160	19.5
AL93MS05	8/13/93	1025	31	4	N	1.5	5.5	27	7.5	0.9	49930	32.1
							2.7	30	8.0	6.2	44090	28.7
							surface	31	8.0	6.3	39610	25.5
AL93MS06	8/13/93	1100	30	4	N	2	4.3	30	8.0	5.8	42050	27.8
							2.1	30	8.0	6.0	43470	27.7
							surface	31	8.0	6.5	36070	23.0
AL93MS07	8/13/93	1300	33	5	S	1.5	1.5	31	8.0	5.6	29250	18.4
							0.7	31	8.1	6.9	28930	17.8
							surface	32	8.1	6.9	28800	17.3
AL93MS08	8/13/93	1135	31	2	S	1.4	2.7	30	7.9	4.3	40690	26.6
							1.4	30	8.0	6.3	38770	25.8
							surface	32	8.0	6.3	31680	17.9
AL93MS09	8/13/93	1210	32	5	S	0.8	1.6	31	7.7	4.5	34450	20.5
							0.8	31	7.9	6.0	26970	17.2
							surface	32	7.9	6.5	22610	12.6
AVERAGE			32	4		1.4	3.5	31	8.0	5.6	37066	23.6
MAXIMUM			33	6		2	5.5	32	8.2	6.9	49930	32.1
MINIMUM			30	2		0.8		27	7.5	0.9	22610	12.6

TABLE 6A

REGION V - MISSISSIPPI SOUND 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93MS01	29	25470	6.3	0.093	<0.001	0.34	0.024	3.5
AL93MS02	28	21160	5.6	0.223	0.024	0.70	0.024	4.2
AL93MS03	7	24810	1.9	0.063	<0.001	0.57	0.082	1.3
AL93MS04	34	24240	3.1	0.010	<0.001	0.34	0.004	2.6
AL93MS05	2	27640	1.1	0.069	0.009	0.56	0.019	0.8
AL93MS06	4	28720	2.2	0.071	0.012	0.67	0.008	4.3
AL93MS07	6	18700	7.1	0.095	0.003	0.50	0.002	3.6
AL93MS08	17	28010	6.3	0.068	0.007	0.53	0.033	33.5
AL93MS09	33	21140	2.4	0.090	0.020	0.64	0.013	9.1
AVERAGE	17	24432	4.0	0.087	<0.009	0.54	0.023	6.7
MAXIMUM	34	28720	7.1	0.223	0.024	0.70	0.082	33.5
MINIMUM	2	18700	1.1	0.010	<0.001	0.34	0.002	0.8

TABLE 6B

REGION V - MISSISSIPPI SOUND 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93MS01	5360	8.1	<0.2	43	8	28	0.26	12	0.10	1.6	57	158
AL93MS02	8250	9.3	<0.2	48	10	17	0.29	NO DATA	0.15	1.6	66	194
AL93MS03	21400	13	<0.2	77	15	24	0.47	23	0.22	1.8	110	162
AL93MS04	19800	16	<0.2	83	17	26	0.56	28	0.25	2.1	110	219
AL93MS05	10900	7.5	<0.2	33	7	12	0.09	9	0.12	1.3	48	224
AL93MS06	20100	15	<0.2	95	20	26	0.83	31	0.16	2.7	110	216
AL93MS07	8940	9.7	<0.2	47	11	15	0.48	13	0.22	1.5	69	217
AL93MS08	17200	16	<0.2	86	18	24	0.81	27	0.24	2.3	110	133
AL93MS09	6940	12	<0.2	65	15	19	0.51	20	0.07	1.9	94	150
AVERAGE	13210	11.8	<0.2	64	13	21	0.48	20	0.17	1.9	86	186
MAXIMUM	21400	16	<0.2	95	20	28	0.83	31	0.25	2.7	110	224
MINIMUM	5360	7.5	<0.2	33	7	12	0.09	9	0.07	1.3	48	133

TABLE 6C.a

REGION V - MISSISSIPPI SOUND 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93MS01	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS02	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS03	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS04	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS05	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS06	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS07	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS08	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93MS09	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 6C.b

REGION VI - PERDIDO BAY AREA 1993

FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L)	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93PB01	8/30/93	1205	29	7	NE	1.5	1.6	30	7.2	1.3	28850	17.7
							0.8	28	7.9	7.2	14020	8.1
							surface	28	7.8	7.1	13250	7.6
AL93PB02	8/30/93	1250	29	10	ENE	1.4	2.4	31	7.0	0.3	28900	17.6
							1.2	29	7.6	5.2	15790	9.2
							surface	28	7.3	7.4	8370	4.7
AL93PB03	8/31/93	1050	28	8	ENE	0.7	0.7	29	8.0	7.8	17756	10.4
							0.4	29	8.0	7.5	17680	10.4
							surface	29	8.0	7.5	17680	10.4
AL93PB04	8/31/93	1115	NOT SAMPLED									
AL93PB05	8/30/93	1140	27	7	NE	1.1	2.1	30	7.4	0.9	36410	23.0
							1.0	28	7.9	6.9	16100	9.4
							surface	28	7.9	7.0	15550	9.2
AL93PB06	8/30/93	1050	27	5	NE	1.4	2.1	30	7.5	1.5	36960	23.4
							1.0	29	7.9	6.1	18930	11.7
							surface	28	8.0	7.0	16090	9.3
AL93PB07	8/30/93	1025	26	7	NE	1.1	2.5	30	7.5	0.8	39390	25.2
							1.2	30	7.7	3.3	32970	20.5
							surface	28	7.9	6.2	23000	13.9
AL93PB08	8/27/93	0950	30	4	NE	1.3	2.7	29	7.4	0.8	43600	28.0
							1.3	31	7.9	5.6	31060	19.3
							surface	30	8.1	7.2	20910	12.4
AL93PB09	8/27/93	1020	NOT SAMPLED									

TABLE 7A.a

REGION VI - PERDIDO BAY AREA 1993
FIELD DATA

LOCATION	DATE(mm/dd/yy)	TIME(hhmm)	AIR TEMP (C)	WIND SPEED (mph)	WIND DIRECTION	SECCHI (meters)	DEPTH (meters)	WATER TEMP (C)	pH (s.u.)	DISSOLVED OXYGEN (mg/L	CONDUCTIVITY (microS/cm)	SALINITY(ppt)
AL93PB10	8/27/93	1030	30	LIGHT	VARIABLE	1.4	3.4	29	7.6	1.1	45490	29.7
							1.7	31	7.9	5.0	33630	21.6
							surface	30	8.2	7.3	22900	14.1
AL93PB11	8/26/93	1200	31	15	ESE	1.4	3.5	28	7.8	3.2	47630	31.1
							1.7	30	8.2	7.0	27640	16.9
							surface	30	8.2	7.0	27450	16.7
AL93PB12	8/26/93	1125	30	15	ENE	1.5	3.7	28	7.9	4.9	48620	31.8
							1.8	30	8.1	6.8	27720	17.1
							surface	30	8.1	6.9	26760	16.3
AL93PB13	8/26/93	1055	31	8	NE	1.5	3.4	28	7.8	2.7	47000	30.6
							1.7	30	8.1	6.1	30330	18.1
							surface	30	8.2	7.0	28220	17.3
AL93PB14	8/26/93	1115	NOT SAMPLED									
AL93PB15	8/26/93	1020	31	7	E	0.7	2.1	32	7.4	0.8	32130	19.7
							1.0	32	7.9	6.1	31560	19.7
							surface	32	7.8	5.4	31590	19.4
AL93PB16	8/25/93	1120	32	6	SE	0.9	2.2	30	8.0	5.7	31140	19.4
							1.1	30	8.1	6.6	31180	19.4
							surface	31	8.1	6.7	31180	19.4
AL93PB17	8/25/93	1145	32	5	SE	0.9	2.0	31	7.5	0.7	32020	20.2
							1.0	31	8.2	6.4	29500	18.4
							surface	31	8.2	6.5	29810	18.4
AL93PB18	8/25/93	1215	NOT SAMPLED									
AVERAGE			30	8		1.2	2.5	30	7.8	5.1	28256	17.5
MAXIMUM			32	15		1.5	3.7	32	8.2	7.8	48620	31.8
MINIMUM			26	4		0.7		28	7.0	0.3	8370	4.7

TABLE 7A.b

REGION VI - PERDIDO BAY AREA 1993
WATER COLUMN CHEMISTRY

LOCATION	TSS (mg/L)	TDS (mg/L)	TURBIDITY (NTU)	NH3-N (mg/L)	NO3-N (mg/L)	TKN (mg/L)	PO4-P (mg/L)	CHLOROPHYLL a (mg/m^3)
AL93PB01	12	7800	3.9	0.097	0.079	0.899	0.006	15.1
AL93PB02	12	7360	4.2	0.103	0.084	0.753	0.006	18.6
AL93PB03	25	9736	3.8	0.106	0.033	0.679	0.015	12.8
AL93PB05	17	9170	5.2	0.100	0.035	0.903	0.009	17.0
AL93PB06	20	10140	4.7	0.098	<0.001	0.625	0.005	12.8
AL93PB07	25	13990	5.0	0.122	<0.001	0.477	0.004	9.6
AL93PB08	34	18950	4.9	0.215	0.075	0.733	0.010	11.0
AL93PB10	28	16320	3.5	0.059	0.024	0.564	0.014	12.0
AL93PB11	57	28800	7.6	0.122	0.021	0.430	0.012	6.2
AL93PB12	32	21910	3.0	0.102	<0.001	0.611	<0.001	6.8
AL93PB13	26	17200	3.5	0.085	0.034	0.699	0.009	8.3
AL93PB15	33	18290	6.4	0.090	0.036	0.632	0.020	24.0
AL93PB16	36	19370	5.1	0.150	0.010	0.692	0.021	12.9
AL93PB17	29	18490	6.5	0.122	0.032	0.781	0.019	15.4

AVERAGE	27	15538	4.8	0.112	<0.033	0.677	<0.011	13.0
MAXIMUM	57	28800	7.6	0.215	0.084	0.903	0.021	24.0
MINIMUM	12	7360	3.0	0.059	<0.001	0.430	<0.001	6.2

TABLE 7B

REGION VI - PERDIDO BAY AREA 1993
SEDIMENT CHEMISTRY - METALS

LOCATION	ALUMINUM(ug/g)	ARSENIC(ug/g)	CADMIUM(ug/g)	CHROMIUM(ug/g)	COPPER(ug/g)	LEAD(ug/g)	MERCURY(ug/g)	NICKEL(ug/g)	SILVER(ug/g)	TIN(ug/g)	ZINC(ug/g)	BARIUM(ug/g)
AL93PB01	2520	1	<0.2	8	<5	3	<0.1	<5	<0.2	<1	24	19
AL93PB02	41100	13	0.35	52	14	27	0.22	14	0.29	<1	82	147
AL93PB03	3210	1	0.29	12	<6	4	<0.1	<6	0.26	<1	12	18
AL93PB05	44200	21	<0.2	89	21	32	0.64	21	0.31	<1	127	152
AL93PB06	10000	5	0.32	24	<6	7	<0.1	10	<0.25	<1	21	34
AL93PB07	10500	20	0.42	70	19	22	0.27	22	0.49	<1	111	67
AL93PB08	59000	26	0.30	81	21	32	0.38	21	0.26	<1	105	151
AL93PB10	57000	33	0.26	79	21	33	0.32	24	0.46	<1	98	181
AL93PB11	57600	28	0.31	79	21	30	0.43	24	0.51	1.4	98	151
AL93PB12	57700	34	<0.2	80	22	32	0.35	22	<0.25	<1	120	197
AL93PB13	45300	23	0.29	76	19	21	0.21	21	0.29	<1	82	142
AL93PB15	22300	5	0.21	36	6	9	0.16	6	<0.25	1.1	42	122
AL93PB16	5900	2	<0.2	12	<6	4	<0.1	<6	<0.25	<1	9	25
AL93PB17	12300	6	0.20	30	<6	8	0.29	6	<0.25	1.1	19	97
AVERAGE	32025	16	<0.27	52	<14	19	<0.3	15	<0.3	<1	68	107
MAXIMUM	59000	34	0.42	89	22	33	0.64	24	0.51	1.4	127	197
MINIMUM	2520	1	<0.20	8	<5	3	<0.1	<5	<0.2	<1	9	18

TABLE 7C.a

REGION VI - PERDIDO BAY AREA 1993
SEDIMENT CHEMISTRY - ORGANICS

LOCATION	CHLORDANE(ug/g)	DDT(ug/g)	DDE(ug/g)	DDD(ug/g)	DIELDRIN(ug/g)	DURSBAN(ug/g)	ENDRIN(ug/g)	HEPTACHLOR(ug/g)	MIREX(ug/g)	TOXAPHENE(ug/g)	PCB[TOTAL](ug/g)
AL93PB01	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB02	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB03	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB05	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB06	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB07	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB08	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB10	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB11	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB12	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB13	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB15	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB16	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
AL93PB17	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

AVERAGE	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MAXIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050
MINIMUM	<0.0050	<0.0100	<0.0100	<0.0100	<0.0050	<0.01	<0.0100	<0.0050	<0.0300	<0.0500	<0.050

TABLE 7C.b