Scientific Excellence • Resource Protection & Conservation • Benefits for Canadians
Excellence scientifique • Protection et conservation des ressources • Bénéfices aux Canadiens

Suspended and Bottom Sediment Grain Size Distributions in Letang Inlet, N.B., October 1990

T.G. Milligan

Physical and Chemical Sciences Branch
Scotia-Fundy Region
Department of Fisheries and Oceans

Bedford Institute of Oceanography
P.O. Box 1006
Dartmouth, Nova Scotia
Canada B2Y 4A2

1994

Canadian Technical Report of Hydrography and Ocean Sciences 156

Fisheries and Oceans Pêches et Océans

Canada

Canadian Technical Report of Hydrography and Ocean Sciences

Technical reports contain scientific and technical information that contributes to existing knowledge but which is not normally appropriate for primary literature. The subject matter is related generally to programs and interests of the Ocean Science and Surveys (OSS) sector of the Department of Fisheries and Oceans.

Technical reports may be cited as full publications. The correct citation appears above the abstract of each report. Each report is abstracted in *Aquatic Sciences and Fisheries Abstracts* and indexed in the Department's annual index to scientific and technical publications.

Technical reports are produced regionally but are numbered nationally. Requests for individual reports will be filled by the issuing establishment listed on the front cover and title page. Out of stock reports will be supplied for a fee by commercial agents.

Regional and headquarters establishments of Ocean Science and Surveys ceased publication of their various report series as of December 1981. A complete listing of these publications is published in the *Canadian Journal of Fisheries and Aquatic Sciences*, Volume 39: Index to Publications 1982. The current series, which begins with report number 1, was initiated in January 1982.

Rapport technique canadien sur l'hydrographie et les sciences océaniques

Les rapports techniques contiennent des renseignements scientifiques et techniques qui constituent une contribution aux connaissances actuelles, mais qui ne sont pas normalement appropriés pour la publication dans un journal scientifique. Le sujet est généralement lié aux programmes et intérêts du service des Sciences et levés océaniques (SLO) du ministère des Pêches et des Océans.

Les rapports techniques peuvent être cités comme des publications complètes. Le titre exact paraît au-dessus du résumé de chaque rapport. Les rapports techniques sont résumés dans la revue *Résumés des sciences aquatiques et halieutiques*, et ils sont classés dans l'index annuel des publications scientifiques et techniques du Ministère.

Les rapports techniques sont produits à l'échelon régional, mais numérotés à l'échelon national. Les demandes de rapports seront satisfaites par l'établissement auteur dont le nom figure sur la couverture et la page du titre. Les rapports épuisés seront fournis contre rétribution par des agents commerciaux.

Les établissements des Sciences et levés océaniques dans les régions et à l'administration centrale ont cessé de publier leurs diverses séries de rapports en décembre 1981. Une liste complète de ces publications figure dans le volume 39, Index des publications 1982 du *Journal canadien des sciences halieutiques et aquatiques*. La série actuelle a commencé avec la publication du rapport numéro 1 en janvier 1982.

Canadian Technical Report of
Hydrography and Ocean Sciences 156

1994

SUSPENDED AND BOTTOM SEDIMENT GRAIN SIZE DISTRIBUTIONS IN LETANG INLET, N.B., OCTOBER 1990

by

T.G. Milligan

Physical and Chemical Sciences Branch
Scotia Fundy Region
Department of Fisheries and Oceans

Bedford Institute of Oceanography
P.O. Box 1006
Dartmouth, N.S. B2Y 4A2

Cat. No. Fs 97-18/156E ISSN 0711-6764

Correct citation for this publication:

Milligan, T.G., 1994, Suspended and bottom sediment grain size distributions in Letang Inlet, N.B., October 1990. Can. Tech. Rep. Hydrogr. Ocean Sci. 156: iv + 51 pp.

TABLE OF CONTENTS

ABSTRACT

Milligan, T.G., 1994, Suspended and bottom sediment grain size distributions in Letang Inlet, N.B., October 1990. Can. Tech. Rep. Hydrogr. Ocean Sci. 156: iv + 56 pp.

During October 1990 a field program was carried out to study the sedimentary environment in Letang Inlet, N.B. as part of an investigation into possible impacts of mariculture activities. Surficial bottom sediments were obtained at 96 of 103 stations sampled and were analyzed using a model TAII Coulter Counter to determine their disaggregated inorganic grain size distributions. Total particle size and disaggregated inorganic grain size distributions were also determined by Coulter Counter for suspended sediment samples collected at 17 stations. Conductivity, temperature and depth (CTD) profiles were obtained at 12 of these water column stations. Grain size, total suspended sediment concentration and CTD data are tabled and plotted in this report.

RÉSUMÉ

Milligan, T.G., 1994, Suspended and bottom sediment grain size distributions in Letang Inlet, N.B., October 1990. Can. Tech. Rep. Hydrogr. Ocean Sci. 156: iv + 56 pp.

En octobre 1990, on a procédé sur le terrain à une étude du milieu sédimentaire de l'anse Letang, au Nouveau Brunswick, dans le cadre d'une enquête sue les répercussions possibles de la mariculture. Des sédiments de la couche superficielle du fond prélevés dans 96 des 103 stations d'échantillonnage ont été analysés au moyen d'un compteur Coulter de modèle TAII dans le but de déterminer les distributions granulométriques dissociées de leurs particules minérales. On s'est également servi du compteur Coulter pour déterminer la taille et les distributions granulométriques dissociées des particules minérales des sédiments en suspension recuellis dans 17 stations d'échantillonnage. Des profils de conductivité, température, profondeur (CTP) ont été obtenus dans 12 de ces stations dans la colonne d'eau. Le présent rapport expose et illustre la taille des particlules, les concentrations totales de sédiments en suspension et les donnée CTP.

INTRODUCTION:

The Letang Inlet is located in Southwest New Brunswick and since the lifting of a moratorium on licences in 1989 has become the site of very intensive Salmonid aquaculture. Aquaculture introduces large quantities of particulate wastes from faeces and uneaten food which is then available for transport in the water column either directly or as a result of resuspension from the bottom. The accumulation of waste products beneath cages can lead to anoxic conditions in regions where sedimentation rates are high and resuspension is low (Wildish, 1990). The transport of potential contaminants occurs in the particulate phase hence the ultimate fate of these materials will depend on the depositional conditions within the estuary. The transport of fine particulate material in estuaries is not only of great importance in determining the fate of associated contaminants but is important in determining if the sediment itself can be in sufficient concentrations to become a contaminant. Certain areas within estuaries can become sinks for suspended material which is advected into low energy regimes where the high settling rates resulting from flocculation can increase sedimentation. Increased sediment flux as the result of increased fine particle concentration, especially of organic material and associated microbial enrichment could impact benthic communities (Muschenheim et al, 1989). To better understand the fate of the particulate material introduced by aquaculture operations a study was carried out in 1990 to examine the grain size distribution of the sediments throughout the Letang Inlet.

Three types of particle size analysis were carried out: 1) total raw particle size, 2) disaggregated inorganic grain size for the water column samples, and 3) disaggregated inorganic grain size for the bottom sediments. All three types of size distribution were obtained using a Coulter Counter. The Coulter method described by Kranck and Milligan (1979) and Milligan and Kranck (1992) sizes individual particles suspended in an electrolyte as they are pulled through a small aperture by vacuum. The instrument maintains a constant current through the aperture so when a particle passes it creates a voltage spike proportional to its volume which can be counted and sized. This method of analysis makes it possible to directly compare the calculated spectra from each of the components which produce a sediment. By applying the model of Kranck and Milligan (1985) and Kranck (1993), an environment can be described in terms of its flocculation and resuspension history and regions of net accumulation of fine sediment can be determined. In addition to the particle size analyses, total Suspended Particulate Material (SPM) values were calculated for the water column samples and estimates of water and organic content were obtained for the bottom sediments as part of the preparation of samples for analysis.

METHODS:

STATION LOCATIONS:

Bottom and suspended sediment samples were collected between October 05 and October 10, 1990 within Letang Inlet (figure 1). A total of 103 bottom sediment stations were occupied, the positions of which were fixed using Loran C. Bottom sediment samples were obtained for analysis at 96 stations (figure 2). Hard bottom or sediments too coarse for analysis were found at the other seven stations. Suspended sediment samples were collected at 17 stations (figure 3). Three separate suspended sediment profiles were collected at station 2 in the vicinity of an aquaculture operation and are labelled with a numerical suffix. CTD profiles were obtained at 12 stations. There were two casts at stations 1 and 2 which are also labelled with a numerical suffix. Station positions are tabled in the appendices.

SAMPLE COLLECTION:

Suspended sediment samples were collected with a 1.7 l niskin bottle and transferred to 500 ml plastic bottles for transport to the laboratory for analysis. Surface water samples were collected directly into the sample bottles by holding them at approximately 10 cm below the surface.

Bottom sediments were sampled using a 0.0225 m^2 Eckman grab for soft sediments and a modified 0.005m^2 Dietz sampler for sands. Subsamples of the top 1 cm from the Eckman grab were obtained using a cut off 5 ml plastic syringe as a corer. Sand samples were scraped from the top of the sample collected to a maximum depth of 1 cm. Samples were placed in air tight 25 ml Bitran bags for percent water and grain size analysis.

ANALYTICAL METHODS:

Total Suspended Sediment:

The particle size distributions of the total suspended material for the raw water samples collected by Niskin and dipping were obtained from a model TAII Coulter Counter using the method described in Kranck and Milligan (1979). Samples were counted within 6 hours without any pre-processing using two different apertures. It must be noted, however, that the size distributions obtained from Coulter analysis of raw water samples are not the in situ size distributions of the material in suspension. Suspended sediments normally occur as large fragile aggregates with diameters greater than 100 μm (Milligan and Kranck, 1992).

Inorganic Suspended Sediment:

Suspended sediment samples were filtered onto preweighed 47 mm, 8.0 μm SCWP Millipore cellulose acetate filters for total SPM and disaggregated inorganic grain size analysis. The filters were oven dried at < 60° C and then desiccated prior to reweighing on a Mettler AE163 balance (± 0.01 mg range) in accordance with the method described by Winneberger et al (1963). The weighed filters were ashed in a low temperature asher, wet digested with an excess of 35 percent H_2O_2 and disaggregated using a sapphire tipped ultrasonic probe before analysis on the Coulter Counter (Milligan and Kranck, 1992).

Bottom Sediments:

The disaggregated inorganic grain size distribution for the bottom sediments was determined using a model TAII Coulter Counter using the methods described in Milligan and Kranck (1992). Subsamples of the bottom sediments were weighed wet in tared 30 ml pyrex beakers on a Mettler AE163 balance (± 0.1 mg range), air dried and then reweighed to calculate the water content. The subsamples were then digested in the same beakers with an excess of 35percent H_2O_2 and reweighed dry to calculate an approximate value for the organic content of the sediments. The samples were then resuspended, sonified and counted on the Coulter Counter.

CTD:

Salinity and temperature profiles were obtained using a Seabird 25 CTD probe equipped with a 60m ± 1percent pressure transducer.

DATA PRESENTATION:

The particle size data for the Coulter Counter analyses were plotted as smoothed histograms of log concentration against log diameter of the channel midpoint in μm. Concentration for the suspended sediment analyses is expressed as volume particles/volume sample in ppm and for the bottom sediments as equivalent weight percent using a specific gravity of 2.65×10^3 kg m^{-3} to convert the volume data obtained from the Coulter Counter to weight (Milligan and Kranck, 1992).

Appendix A, table 1 contains the station number, location, depth, sampler type, total SPM in mg l^{-1}, total and inorganic concentration in ppm and the sample identifier for the suspended sediment samples. Tables 2-8 contain the raw particle size distribution and inorganic grain size distribution data for the suspended sediments tabulated as ppm for the diameter of each channel mid point for each sample. Figures 4-7 illustrate the size distributions for the raw water (dotted line) and inorganic (solid line) spectra.

Appendix B contains the station number, location, depth, sample identifier, percent water and percent organics lost on H_2O_2 digestion for the bottom sediment samples. Tables 10-

18 contain the disaggregated inorganic grain size data for the bottom sediment samples expressed as equivalent weight percent for the diameter of each channel mid point for each station. Figures 8-12 show the inorganic grain size distributions.

Appendix C contains the salinity, temperature and density plots for the water column profiles (figures 13-19). Station locations are the same as those for the water column samples shown in table 1.

DISCUSSION:

Suspended sediment concentrations are fairly constant throughout the inlet. Variations in the concentrations could be due to tidal exchange with offshore water with lower suspended load. CTD profiles show the entire inlet to be well mixed. Increases in bottom concentrations are likely due to resuspension and hence will vary with the time of sampling. The anomalous value for the deepest sample at station 17 was due to contamination of the bottle with bottom sediment. The raw water samples, which represent the partially deflocculated particle size for the untreated suspended material, show typical broad spectra without any evidence of increased concentrations of plankton. The raw water samples do have a peak in the 0.5-1 μm range which is due to very high concentrations of bacteria in the samples. This peak has been edited out of some of the spectra since the number of particles exceeded the counting range (9.9×10^4)of the Coulter Counter. Editted spectra plots start at 1 μm or 1.26 μm instead of 0.63 μm. Concentrations of these sub micron particles were highest in the samples collected in Black's Harbour and decreased with distance away from the harbour mouth. The inorganic spectra show that the material in suspension is well flocculated (Kranck and Milligan, 1985). The shape of the distributions are the same as those of the fine portion of the bottom sediment spectra.

The particle size distribution plots for the bottom sediments show two distinct portions of the curve which are made up of flocculated material at the fine end of the spectra which is derived from the water column and single grain settled material in the sand size range. Similar to the inorganic suspended sediment, the shape of the fine end of the bottom sediment curve remains relatively constant for the entire estuary. Flocculation removes material from suspension in proportions in each size class equal to that of the parent suspension (Kranck and Milligan, 1985). The size limit for the fall off in the size distribution for the flocculated portion of the curve is in excess of 50 μm which indicates a high degree of flocculation in this estuary (Kranck and Milligan, 1985, Kranck, 1993). The coarse end of the bottom spectra consists of coarse silt and sand grains which settle individually and are associated with high bottom stresses which are able to either resuspend or carry them as a saltation load. The variation in maximum grain size and the relative proportions of the two settling mechanisms can be used to identify regions of different sedimentation energy. Low energy, fine grain sediment deposition occurs in areas such as Bliss Harbour and Scotch Bay and at the head of Letang Harbour. Regions of high current and/or wave energy are shown by an increase in the single grain portion of

the curve. Bottom sediment stations 15 and 30 show low concentrations of floc settled material in proportion to the coarse sediment which reflect the current speeds greater than 0.5 m s^{-1} in these locations (Trites and Petrie, 1993). Station 28 consists entirely of floc settled material and current speeds in this area are less than 0.2 m s^{-1} . Lime Kiln Bay samples have single grain settled particle sizes greater than 250 μm but bottom current speeds in this area do not exceed 0.15 m s^{-1} which would indicate it is a region of wave induced particle transport. The size distributions of samples from Scotch Bay and the northern half of Bliss harbour show that there is little or no high energy sediment transport occurring in these areas. Loucks (1988) carried out drogue experiments which showed that advection of suspended particulate material from Lime Kiln Bay up Letang Harbour towards Scotch Bay can occur. Samples in Scotch Bay and the Head of Letang Harbour have no coarse fraction associated with them which suggests that these regions could be sinks for material transported from other regions of the Letang Inlet.

From the analysis of the suspended and bottom sediment size distributions it can be seen that the Letang Inlet is highly flocculated and that the sediments in the area are composed mostly of floc settled fine grained material. Since flocculation rate is dependent on the concentration of particulate matter in suspension the introduction of additional particulate material to the estuary could result in a greater flux of fine sediment to the bottom. Further study will be required to determine if the sediment flux in areas remote from mariculture facilities has changed since their introduction to the Letang Inlet.

ACKNOWLEDGEMENTS:

The help and assistance of Gene Henderson and the Salmon Demonstration Farm who let us set up a Coulter Laboratory in their facility is greatly appreciated. Joe Hunt and the Sound Lady provided not only a sound boat but great insight into the area. The program was carried out with the late Kate Kranck, she will be missed.

REFERENCES:

Kranck, K. and T.G. Milligan, 1979, Methods of particle size analysis using a Coulter Counter, Bedford Institute of Oceanography Rep. Ser. BI-R-79-7, 48p.

Kranck, K. and T.G. Milligan, 1985, Origin of grain size spectra of suspension deposited sediment, Geo-Mar. Let., 5, 61-66.

Kranck, K. and T.G. Milligan, 1992, Characteristics of suspended particles at an 11 hour anchor station in San Francisco Bay, California, J. Geophys. Res. 97: 11,373-11,382.

Kranck, K. 1993, Flocculation and sediment particle size, Arch. Hydrobiol./Suppl., 75, 299-309.

Loucks, R.H., 1988, Preliminary oceanographic information for salmonid aquaculture in L'Etang Inlet, New Brunswick, Contractor's Report, N.B. Dept. Fish.

Milligan, T.G. and K. Kranck, 1992, Electroresistance particle size analyzers, in J.P.M. Syvitski (ed), Theory, Methods and Applications of Particle Size Analysis, Cambridge Univ. Press, N.Y.

Muschenheim, D.K., P.E. Kepkay and K. Kranck, 1989, Microbial growth in turbulent suspension and its relation to marine aggregate formation, Neth. J. Sea. Res., 23(3), 283-292.

Trites, R.W., and L. Petrie, 1993, Moored current meter data from L'etang Inlet, New Brunswick, 1988-1990. Can. Data Rep. Hydrogr. Ocean Sci. 121: iii + 121 p.

Wildish, D.J., J.L. Martin, R.W. Trites and A.M. Saunders, 1990, A proposal for environmental research and monitoring of organic pollution caused by salmonid mariculture in the Bay of Fundy, Can. Tech. Rep. Fish. and Aquat. Sci. 1724: iii + 24p.

Winneberger, J.H., J.H. Austin and C.A. Klett, 1963, Membrane filter weight determination, J. Water Pollution Control Fed., 35, 807-813.

FIGURE CAPTIONS:

1: Map of the study area.

2: Bottom sediment station locations.

3: Suspended sediment and CTD station locations.

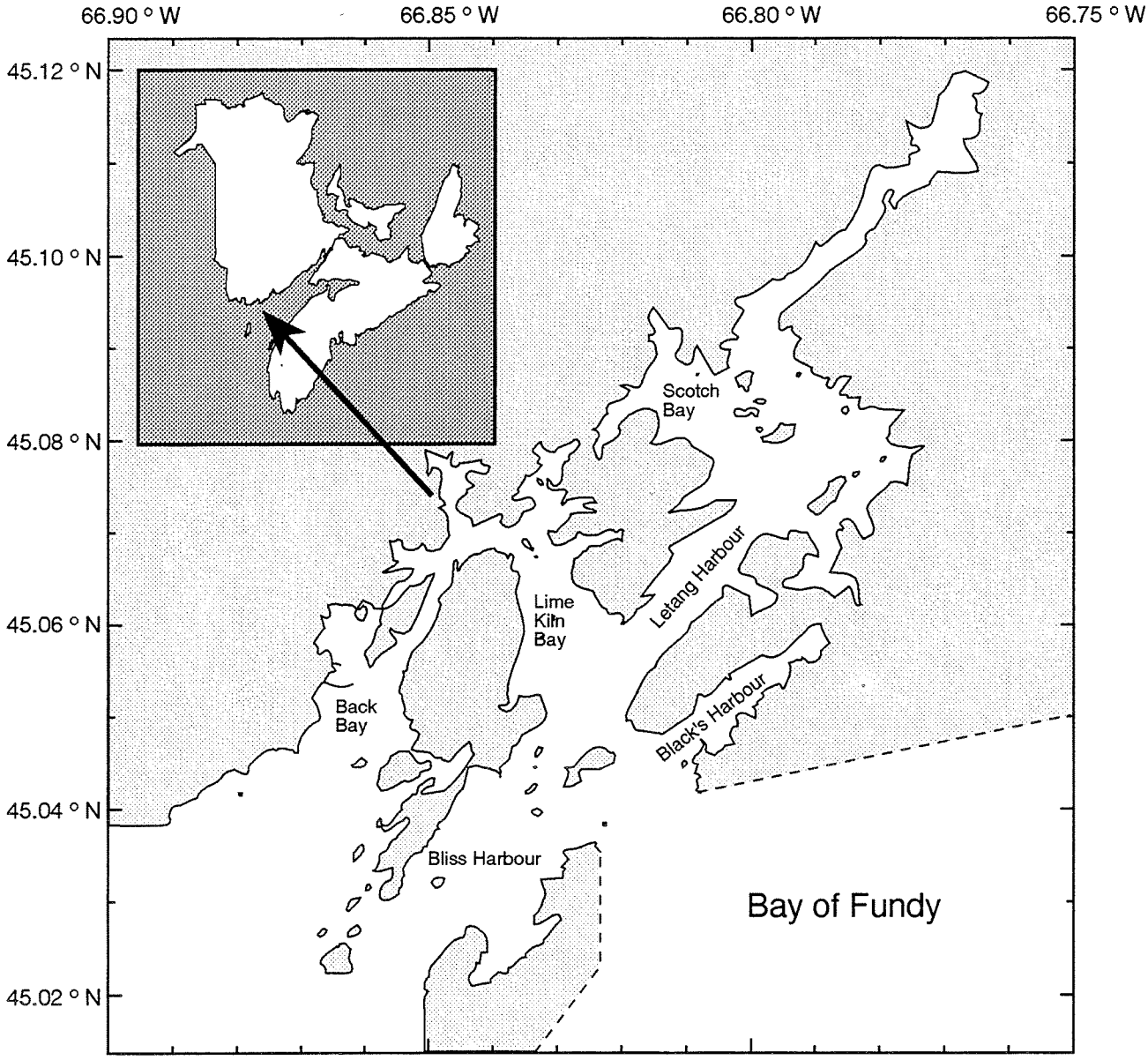

66.90 ° W
66.85 ° W
66.80 ° W
66.75 ° W
45.12 ° N
45.10 ° N
45.08 ° N
45.06 ° N
45.04 ° N
45.02 ° N
Scotch Bay
Letang Harbour
Lime Kiln Bay
Back Bay
Black's Harbour
Bliss Harbour
Bay of Fundy

Figure 1:

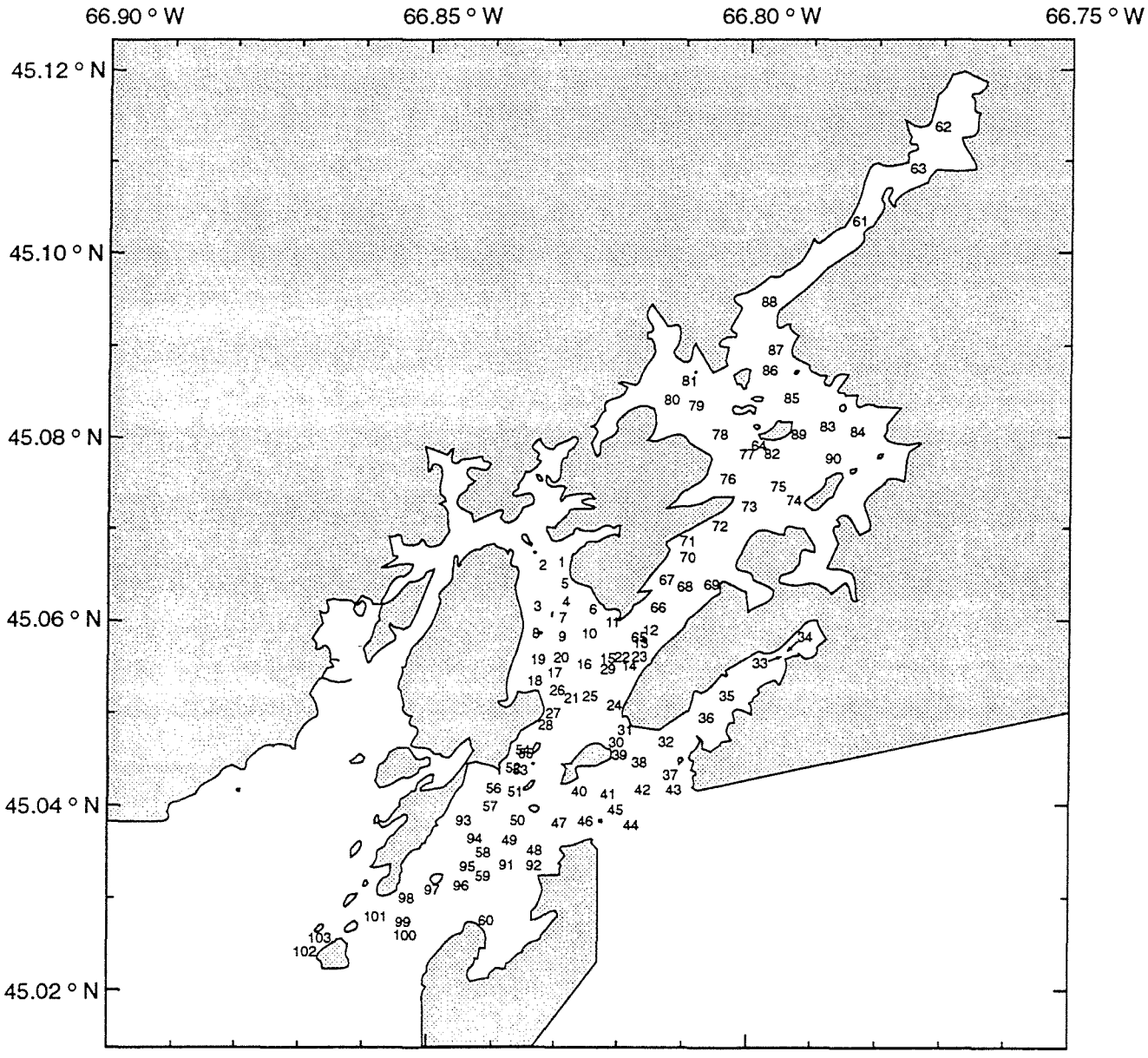

66.90 ° W
66.85 ° W
66.80 ° W
66.75 ° W
45.12 ° N
45.10 ° N
45.08 ° N
45.06 ° N
45.04 ° N
45.02 ° N

Figure 2:

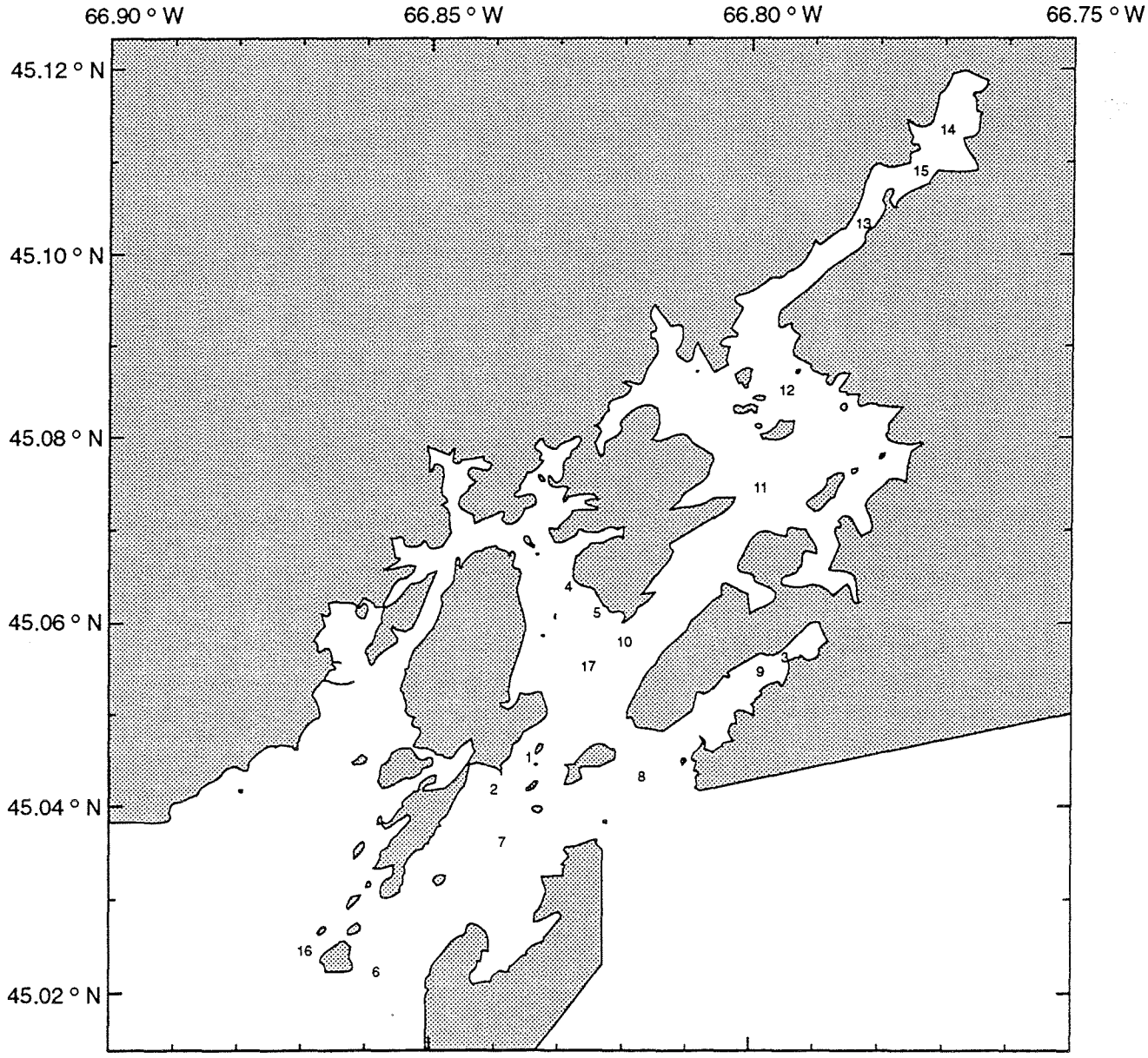

66.90 ° W
66.85 ° W
66.80 ° W
66.75 ° W
45.12 ° N
45.10 ° N
45.08 ° N
45.06 ° N
45.04 ° N
45.02 ° N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17

Figure 3:

APPENDIX A: SUSPENDED SEDIMENT DATA

Stn	Lat	Long	Depth m	Sampler	SPM mg/l	Total Vol. ppm	Inorg Vol. ppm	ID#
1	45 02.72 N	66 50.06 W	0.1	DIP	1.78	1.948	0.541	901006001
			1.5	Niskin	2.20	1.324	0.597	901006002
			5.5	Niskin	2.40	1.817	1.322	901006003
			9.5	Niskin	1.05	1.505	0.426	901006004
2.1	45 02.50 N	66 50.40 W	0.1	Dip	1.16	1.248	0.623	901006008
			5.5	Niskin	1.67	1.441	0.619	901006005
			9.5	Niskin	1.93	1.531	0.728	901006006
			13.5	Niskin	6.15	4.139	1.876	901006007
2.2			0.1	Dip	0.00	1.316	0.989	901006011
			4.0	Niskin	0.65	1.069	0.498	901006009
			6.0	Niskin	0.68	1.100	0.481	901006010
2.3			6.0	Niskin	2.45	1.635	0.479	901006012
			12.0	Niskin	2.03	1.150	0.602	901006013
			18.0	Niskin	5.97	1.630	1.709	901006014
3	45 03.35 N	66 47.65 W	0.1	Dip	1.42	1.330	0.381	901006020
			6.0	Niskin	2.30	1.107	0.933	901006015
			12.0	Niskin	2.32	1.096	0.667	901006016
			18.0	Niskin	2.45	1.336	0.775	901006017
			24.0	Niskin	2.27	1.049	0.774	901006018
			30.0	Niskin	2.81	1.096	1.088	901006019
4	45 03.84 N	66 49.71 W	0.1	Dip	0.46	1.463	0.409	901007007
			5.0	Niskin	0.69	1.373	0.478	901007006
			10.0	Niskin	3.12	1.581	0.666	901007005
			15.0	Niskin	0.37	1.485	0.605	901007004
			17.0	Niskin	1.61	2.093	0.806	901007003
5	45 03.66 N	66 49.45 W	0.1	Dip	2.33		0.677	901007012
			5.0	Niskin	2.96	2.211	0.464	901007011
			10.5	Niskin	3.17	1.366	0.717	901007010
6	45 01.33 N	66 51.50 W	0.1	Dip	1.16	1.366	0.398	901009005
			9.0	Niskin	1.65	1.412	0.491	901009001
			15.0	Niskin	1.60	1.602	0.446	901009002
			21.0	Niskin	1.23	0.672	0.445	901009003
			27.0	Niskin	1.74	1.239	0.539	901009004
7	45 02.16 N	66 50.32 W	0.1	Dip	1.71	1.109	0.426	901009006
			5.0	Niskin	1.72	1.653	0.548	901009007
			10.0	Niskin	1.78	0.849	0.496	901009008
			15.0	Niskin	408.57	336.672	140.158	901009009
8	45 02.59 N	66 49.03 W	0.1	Dip	1.83	0.000	0.601	901009014
			5.0	Niskin	1.54	1.107	0.528	901009010
			12.0	Niskin	2.26	1.522	0.397	901009011
			19.0	Niskin	2.13	1.512	0.622	901009012
			26.0	Niskin	1.52	0.941	0.491	901009013
9	45 03.27 N	66 47.90 W	0.1	Dip	3.26		0.304	901009017
			3.0	Niskin	1.13		0.229	901009016
			6.0	Niskin	1.49		0.237	901009015
10	45 03.47 N	66 49.21 W	0.1	Dip	0.76	1.153	0.402	901009021
			5.0	Niskin	1.61	0.707	0.407	901009020
			10.0	Niskin	1.56	0.917	0.462	901009019
			15.0	Niskin	1.86		0.707	901009018

Table 1: Suspended Sediment Data

Stn	Lat	Long	Depth m	Sampler	SPM mg/l	Total Vol. ppm	Inorg Vol. ppm	ID#
11	45 04.48 N	66 47.92 W	0.1	Dip	0.69	1.165	0.614	901009023
			13.0	Niskin	1.37	0.751	0.379	901009022
12	45 05.10 N	66 47.67 W	0.1	Dip	1.39	1.490	0.327	901009025
			8.0	Niskin	1.69	1.081	0.514	901009024
13	45 06.20 N	66 46.97 W	0.1	Dip	2.34	1.373	0.463	901009027
13	45 06.82 N	66 46.20 W	6.0	Niskin	3.46	1.880	0.718	901009026
14	45 06.82 N	66 46.20 W	1.8	Niskin	3.48	1.212		901009028
15	45 06.54 N	66 46.44 W	0.1	Dip	4.50		0.817	901009031
			5.0	Niskin	3.59	1.398	0.804	901009030
16	45 01.42 N	66 52.23 W	0.1	Dip	1.50	1.118	0.382	901010041
			7.0	Niskin	1.69	1.099	0.406	901010040
			14.0	Niskin	1.85	1.493	0.417	901010039
			21.0	Niskin	1.62	1.476	0.357	901010038
17	45 03.31 N	66 49.54 W	0.1	Dip	4.22	2.738	0.946	901005001
			5.0	Niskin	4.07	3.700	1.069	901005002
			10.0	Niskin	3.80	2.971	0.929	901005003
			15.0	Niskin	3.93	2.182	1.079	901005004
			20.0	Niskin	2.70	3.746	1.320	901005005

Table 1: Suspended Sediment Data

STATION	1	1	1	1	2.1	2.1	2.1	2.1	2.2	2.2
DEPTH (m)	0.1	1.5	5.5	9.5	0.1	5.5	9.5	13.5	0.1	4.0
TOTAL SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.024	0.065	0.008	0.053	0.051	0.060	0.014	0.080	0.015	0.037
0.79	0.112	0.087	0.062	0.082	0.120	0.102	0.058	0.072	0.133	0.134
1.00	0.063	0.055	0.052	0.051	0.080	0.062	0.038	0.062	0.083	0.077
1.26	0.053	0.045	0.049	0.045	0.049	0.044	0.030	0.064	0.054	0.046
1.59	0.065	0.060	0.064	0.056	0.054	0.055	0.039	0.084	0.060	0.055
2.00	0.070	0.066	0.075	0.066	0.056	0.062	0.045	0.103	0.065	0.060
2.52	0.079	0.074	0.101	0.069	0.062	0.070	0.053	0.141	0.073	0.062
3.17	0.099	0.086	0.124	0.078	0.069	0.088	0.061	0.171	0.082	0.068
4.00	0.115	0.099	0.141	0.086	0.074	0.090	0.076	0.216	0.084	0.076
5.04	0.130	0.101	0.155	0.090	0.066	0.100	0.084	0.237	0.074	0.066
6.35	0.114	0.091	0.167	0.088	0.062	0.088	0.104	0.283	0.071	0.060
8.00	0.138	0.075	0.135	0.079	0.060	0.077	0.107	0.283	0.066	0.053
10.08	0.133	0.066	0.121	0.064	0.053	0.067	0.111	0.313	0.056	0.044
12.70	0.118	0.062	0.116	0.056	0.046	0.058	0.115	0.346	0.055	0.035
16.00	0.110	0.060	0.109	0.055	0.045	0.061	0.113	0.348	0.055	0.036
20.16	0.099	0.061	0.103	0.060	0.055	0.069	0.110	0.321	0.054	0.034
25.40	0.102	0.052	0.084	0.083	0.066	0.067	0.103	0.272	0.057	0.036
32.00	0.077	0.038	0.062	0.089	0.051	0.052	0.074	0.215	0.050	0.025
40.32	0.065	0.032	0.042	0.078	0.048	0.054	0.059	0.159	0.036	0.026
50.80	0.055	0.026	0.027	0.084	0.041	0.034	0.050	0.121	0.034	0.025
64.00	0.044	0.014	0.018	0.056	0.030	0.034	0.029	0.086	0.026	0.016
80.63	0.036	0.010	--	0.021	0.010	0.036	0.031	0.052	0.018	--
101.59	0.026	--	--	0.016	--	0.010	0.016	0.057	0.016	--
128.00	0.021	--	--	--	--	--	0.010	0.031	--	--
161.27	--	--	--	--	--	--	--	0.021	--	--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER			CONCENTRATION, (ppm)							
0.63	0.037	0.046	0.108	0.034	0.067	0.042	0.044	0.114	0.072	0.042
0.79	0.037	0.044	0.091	0.033	0.049	0.039	0.041	0.108	0.073	0.041
1.00	0.039	0.047	0.091	0.037	0.048	0.043	0.044	0.112	0.080	0.044
1.26	0.036	0.045	0.081	0.034	0.040	0.039	0.041	0.099	0.072	0.039
1.59	0.036	0.047	0.079	0.036	0.040	0.041	0.042	0.097	0.073	0.041
2.00	0.039	0.048	0.086	0.037	0.043	0.043	0.045	0.105	0.074	0.041
2.52	0.038	0.052	0.091	0.039	0.041	0.045	0.046	0.108	0.073	0.042
3.17	0.036	0.045	0.079	0.035	0.039	0.042	0.044	0.105	0.067	0.038
4.00	0.038	0.043	0.079	0.033	0.034	0.043	0.045	0.115	0.067	0.032
5.04	0.040	0.040	0.083	0.028	0.031	0.040	0.049	0.104	0.062	0.025
6.35	0.042	0.034	0.091	0.021	0.033	0.040	0.057	0.120	0.061	0.026
8.00	0.035	0.029	0.083	0.018	0.030	0.035	0.052	0.121	0.054	0.022
10.08	0.029	0.026	0.077	0.016	0.028	0.031	0.050	0.120	0.052	0.022
12.70	0.022	0.021	0.064	0.010	0.026	0.027	0.044	0.126	0.044	0.017
16.00	0.017	0.016	0.061	0.008	0.025	0.027	0.036	0.111	0.034	0.013
20.16	0.011	0.008	0.046	0.005	0.019	0.019	0.024	0.091	0.021	0.009
25.40	0.006	0.006	0.027	0.001	0.013	0.011	0.018	0.067	0.010	0.003
32.00	--	0.002	0.003	--	0.009	0.008	0.004	0.035	0.001	
40.32	--	--	--	--	0.005	0.004	0.003	0.014	--	--
50.80	--	--	--	--	0.003	--	--	0.003	--	--
64.00	--	--	--	--	0.001	--	--	--	--	--

Table 2: Total and Inorganic Suspended Sediment Grain Size Distribution Data

STATION	2.2	2.3	2.3	2.3	3	3	3	3	3	3
DEPTH (m)	6.0	6.0	12.0	18.0	0.1	6.0	12.0	18.0	24.0	30.0
TOTAL SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.011	0.014	0.009	0.033	0.047	0.029	0.040	0.003	0.008	0.012
0.79	0.154	0.094	0.098	0.037	0.068	0.041	0.031	0.040	0.048	0.050
1.00	0.078	0.063	0.060	0.030	0.047	0.030	0.027	0.032	0.038	0.040
1.26	0.047	0.050	0.048	0.031	0.042	0.029	0.027	0.031	0.038	0.041
1.59	0.054	0.063	0.059	0.041	0.048	0.034	0.031	0.037	0.045	0.051
2.00	0.059	0.064	0.066	0.049	0.050	0.035	0.034	0.038	0.049	0.056
2.52	0.065	0.077	0.076	0.063	0.057	0.045	0.044	0.051	0.063	0.072
3.17	0.066	0.087	0.089	0.080	0.064	0.048	0.052	0.064	0.075	0.091
4.00	0.077	0.097	0.094	0.090	0.075	0.052	0.058	0.066	0.084	0.101
5.04	0.074	0.099	0.099	0.107	0.081	0.059	0.069	0.077	0.088	0.096
6.35	0.070	0.109	0.083	0.121	0.081	0.065	0.082	0.094	0.073	0.079
8.00	0.061	0.103	0.070	0.109	0.081	0.058	0.077	0.096	0.065	0.071
10.08	0.052	0.098	0.052	0.110	0.082	0.048	0.064	0.097	0.058	0.061
12.70	0.037	0.095	0.043	0.120	0.080	0.045	0.059	0.100	0.055	0.056
16.00	0.033	0.096	0.039	0.133	0.078	0.046	0.057	0.104	0.057	0.052
20.16	0.038	0.103	0.042	0.126	0.092	0.048	0.067	0.093	0.058	0.054
25.40	0.037	0.101	0.038	0.109	0.088	0.046	0.062	0.075	0.049	0.040
32.00	0.031	0.074	0.026	0.080	0.060	0.035	0.044	0.054	0.030	0.022
40.32	0.021	0.074	0.021	0.055	0.040	0.051	0.038	0.053	0.022	0.018
50.80	0.021	0.046	0.017	0.040	0.037	0.097	0.031	0.047	0.021	0.017
64.00	0.009	0.027	0.013	0.035	0.021	0.103	0.044	0.042	0.014	0.012
80.63	0.005	--	0.008	0.031	0.010	0.031	0.022	0.042	0.010	0.004
101.59	--	--	--	--	--	0.021	0.018	--	--	--
128.00	--	--	--	--	--	0.010	0.018	--	--	--
161.27	--	--	--	--	--	--	--	--	--	--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.038	0.030	0.041	0.127	0.022	0.070	0.045	0.053	0.050	0.083
0.79	0.036	0.029	0.039	0.103	0.021	0.069	0.043	0.051	0.048	0.077
1.00	0.038	0.030	0.043	0.104	0.023	0.072	0.046	0.055	0.052	0.079
1.26	0.035	0.028	0.040	0.089	0.022	0.064	0.042	0.050	0.049	0.073
1.59	0.038	0.030	0.042	0.086	0.023	0.066	0.044	0.055	0.053	0.076
2.00	0.040	0.033	0.043	0.091	0.026	0.067	0.047	0.061	0.059	0.083
2.52	0.043	0.033	0.044	0.094	0.027	0.074	0.053	0.066	0.061	0.087
3.17	0.036	0.032	0.038	0.088	0.027	0.067	0.043	0.058	0.058	0.080
4.00	0.036	0.032	0.038	0.095	0.030	0.072	0.048	0.066	0.068	0.079
5.04	0.030	0.034	0.036	0.094	0.032	0.063	0.048	0.062	0.067	0.082
6.35	0.026	0.039	0.035	0.108	0.034	0.056	0.050	0.044	0.049	0.058
8.00	0.020	0.034	0.033	0.108	0.029	0.047	0.043	0.040	0.041	0.050
10.08	0.019	0.030	0.033	0.115	0.025	0.043	0.037	0.035	0.036	0.046
12.70	0.015	0.025	0.028	0.111	0.016	0.035	0.029	0.026	0.027	0.040
16.00	0.013	0.018	0.024	0.099	0.010	0.029	0.022	0.020	0.022	0.033
20.16	0.009	0.012	0.018	0.076	0.006	0.022	0.015	0.013	0.017	0.027
25.40	0.006	0.007	0.013	0.060	0.004	0.012	0.009	0.010	0.011	0.018
32.00	0.002	0.003	0.008	0.037	0.002	0.005	0.005	0.007	0.006	0.011
40.32	--	--	0.004	0.018	--	--	--	0.003	--	0.004
50.80	--	--	0.002	0.006	--	--	--	--	--	--
64.00	--	--	--	--	--	--	--	--	--	--

Table 3: Total and Inorganic Suspended Sediment Grain Size Distribution Data

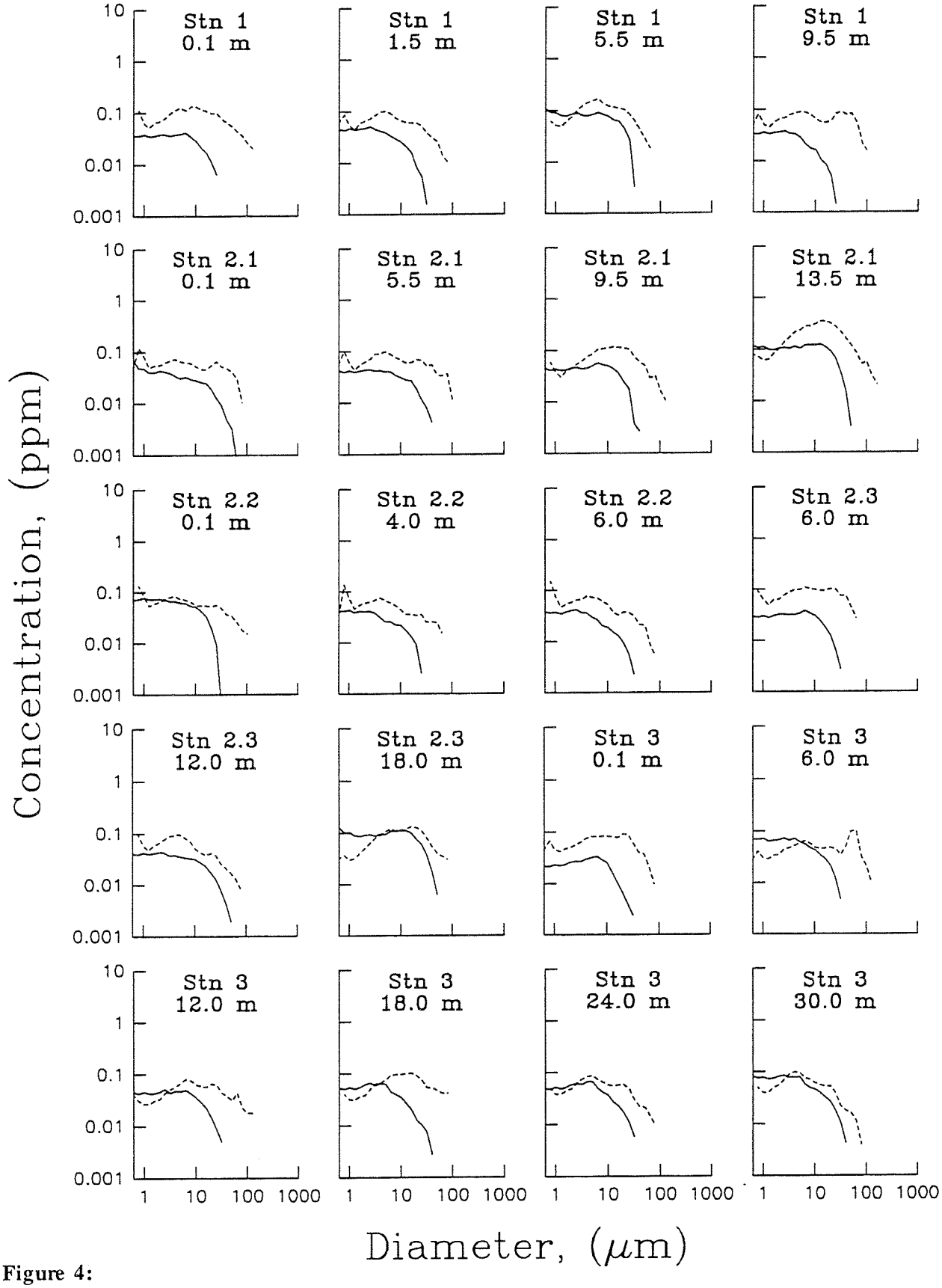

Stn 1
0.1 m
Stn 1
1.5 m
Stn 1
5.5 m
Stn 1
9.5 m
Stn 2.1
0.1 m
Stn 2.1
5.5 m
Stn 2.1
9.5 m
Stn 2.1
13.5 m
Stn 2.2
0.1 m
Stn 2.2
4.0 m
Stn 2.2
6.0 m
Stn 2.3
6.0 m
Stn 2.3
12.0 m
Stn 2.3
18.0 m
Stn 3
0.1 m
Stn 3
6.0 m
Stn 3
12.0 m
Stn 3
18.0 m
Stn 3
24.0 m
Stn 3
30.0 m
10
1
0.1
0.01
0.001
1
10
100
1000
Concentration, (ppm)
Diameter, (μm)

Figure 4:

STATION	4	4	4	4	4	5	5	5	6	6
DEPTH (m)	0.1	5.0	10.0	15.0	17.0	0.1	5.0	10.5	0.1	9.0
TOTAL SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.005	0.006	0.070	0.065	0.051		0.002	0.080	0.075	0.057
0.79	0.128	0.082	0.090	0.077	0.072		0.080	0.075	0.068	0.065
1.00	0.065	0.058	0.068	0.059	0.057		0.059	0.057	0.041	0.049
1.26	0.054	0.051	0.059	0.051	0.051		0.053	0.051	0.038	0.046
1.59	0.061	0.058	0.071	0.060	0.060		0.066	0.063	0.049	0.054
2.00	0.066	0.069	0.081	0.070	0.068		0.079	0.073	0.050	0.053
2.52	0.067	0.079	0.092	0.085	0.083		0.095	0.085	0.061	0.069
3.17	0.083	0.083	0.099	0.095	0.101		0.112	0.100	0.062	0.076
4.00	0.100	0.104	0.131	0.122	0.114		0.150	0.112	0.068	0.083
5.04	0.100	0.123	0.135	0.131	0.141		0.163	0.126	0.073	0.086
6.35	0.091	0.100	0.126	0.116	0.149		0.179	0.130	0.084	0.085
8.00	0.083	0.090	0.110	0.103	0.141		0.175	0.106	0.086	0.075
10.08	0.073	0.076	0.097	0.086	0.135		0.162	0.082	0.082	0.074
12.70	0.064	0.064	0.085	0.070	0.136		0.148	0.065	0.079	0.079
16.00	0.061	0.058	0.086	0.072	0.136		0.143	0.057	0.077	0.080
20.16	0.055	0.059	0.081	0.070	0.142		0.142	0.055	0.073	0.083
25.40	0.056	0.048	0.061	0.056	0.126		0.118	0.037	0.066	0.079
32.00	0.050	0.033	0.046	0.050	0.114		0.083	0.036	0.047	0.056
40.32	0.058	0.041	0.032	0.043	0.098		0.072	0.021	0.058	0.057
50.80	0.057	0.026	0.022	0.036	0.070		0.052	0.018	0.065	0.047
64.00	0.038	0.014	0.009	0.013	0.040		0.031	0.018	0.051	0.047
80.63	0.026	0.026	--	0.016	0.034		0.023	--	0.034	0.039
101.59	0.016	0.021	--	0.005	0.016		0.016	--	0.031	0.021
128.00	0.010	0.010	--	--	0.010		0.010	--	0.025	0.010
161.27	--	--	--	--	--		--	--	--	--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.028	0.029	0.039	0.053	0.050	0.057	0.028	0.042	0.030	0.040
0.79	0.029	0.030	0.040	0.054	0.049	0.053	0.031	0.043	0.030	0.043
1.00	0.030	0.032	0.044	0.055	0.053	0.057	0.035	0.046	0.034	0.054
1.26	0.028	0.031	0.042	0.047	0.048	0.051	0.028	0.042	0.030	0.043
1.59	0.030	0.032	0.045	0.045	0.049	0.054	0.029	0.045	0.033	0.041
2.00	0.033	0.035	0.048	0.047	0.053	0.054	0.030	0.049	0.035	0.043
2.52	0.035	0.038	0.052	0.048	0.055	0.057	0.032	0.050	0.038	0.043
3.17	0.031	0.035	0.048	0.046	0.050	0.053	0.031	0.051	0.035	0.039
4.00	0.034	0.039	0.048	0.046	0.055	0.049	0.031	0.053	0.031	0.032
5.04	0.035	0.038	0.048	0.037	0.052	0.041	0.033	0.055	0.029	0.029
6.35	0.035	0.040	0.052	0.037	0.057	0.042	0.036	0.060	0.029	0.028
8.00	0.028	0.034	0.045	0.031	0.050	0.037	0.031	0.053	0.023	0.024
10.08	0.022	0.028	0.040	0.027	0.048	0.034	0.031	0.049	0.019	0.020
12.70	0.016	0.025	0.035	0.022	0.047	0.030	0.027	0.038	0.014	0.017
16.00	0.011	0.018	0.029	0.021	0.046	0.024	0.023	0.032	0.011	0.014
20.16	0.007	0.013	0.025	0.017	0.038	0.018	0.018	0.020	0.006	0.009
25.40	0.004	0.009	0.015	0.012	0.029	0.015	0.012	0.015	0.003	0.008
32.00	--	0.002	0.009	0.010	0.018	0.006	0.007	0.008	--	0.004
40.32	--	--	--	0.005	0.007	0.003	--	0.007	--	0.001
50.80	--	--	--	--	--	--	--	--	--	--
64.00	--	--	--	--	--	--	--	--	--	--

Table 4: Total and Inorganic Suspended Sediment Grain Size Distribution Data

STATION	6	6	6	7	7	7	7	8	8	8
DEPTH (m)	15.0	21.0	27.0	0.1	5.0	10.0	14.0	0.1	5.0	12.0
TOTAL SUSPENDED SEDIMENT										
DIAMETER				CONCENTRATION, (ppm)						
0.63	0.036	0.007	0.079	0.002	0.062	0.063	10.199		0.075	0.035
0.79	0.060	0.032	0.041	0.093	0.073	0.058	2.688		0.098	0.004
1.00	0.050	0.026	0.036	0.044	0.060	0.046	3.118		0.057	0.062
1.26	0.046	0.026	0.036	0.037	0.057	0.044	3.460		0.049	0.050
1.59	0.054	0.031	0.043	0.045	0.062	0.050	4.561		0.058	0.062
2.00	0.056	0.033	0.044	0.047	0.064	0.051	6.346		0.061	0.065
2.52	0.072	0.044	0.060	0.054	0.078	0.067	9.032		0.072	0.082
3.17	0.084	0.051	0.066	0.061	0.092	0.080	11.217		0.070	0.084
4.00	0.096	0.063	0.084	0.072	0.098	0.085	14.235		0.084	0.114
5.04	0.089	0.059	0.081	0.078	0.119	0.092	17.059		0.080	0.111
6.35	0.096	0.057	0.085	0.083	0.101	0.069	21.266		0.076	0.107
8.00	0.099	0.049	0.074	0.084	0.104	0.046	20.343		0.061	0.111
10.08	0.102	0.040	0.072	0.075	0.106	0.033	22.710		0.046	0.114
12.70	0.120	0.027	0.079	0.075	0.121	0.026	25.275		0.046	0.121
16.00	0.129	0.022	0.082	0.069	0.117	0.020	27.272		0.051	0.114
20.16	0.116	0.030	0.083	0.059	0.112	0.024	26.475		0.055	0.101
25.40	0.099	0.025	0.074	0.047	0.091	0.022	25.175		0.049	0.086
32.00	0.068	0.018	0.060	0.037	0.058	0.010	22.861		0.031	0.046
40.32	0.051	0.015	0.048	0.026	0.058	0.011	20.465		0.024	0.048
50.80	0.033	0.011	0.045	0.022	0.034	0.008	16.405		0.019	0.023
64.00	0.026	0.008	0.022	--	0.022	0.004	13.319		0.010	0.019
80.63	0.018	0.005	0.018	--	0.023	0.003	12.994		0.008	--
101.59	0.026	--	0.005	--	0.005	--	10.395		--	--
128.00	0.010	--	--	--	--	--	--		--	--
161.27	--	--	--	--	--	--	--		--	--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER				CONCENTRATION, (ppm)						
0.63	0.031	0.049	0.039	0.026	0.040	0.035	9.013	0.040	0.034	0.032
0.79	0.030	0.049	0.038	0.029	0.042	0.037	9.802	0.043	0.035	0.035
1.00	0.034	0.052	0.043	0.033	0.047	0.040	12.004	0.047	0.038	0.038
1.26	0.031	0.043	0.039	0.029	0.041	0.038	9.387	0.044	0.034	0.030
1.59	0.032	0.041	0.043	0.029	0.042	0.040	8.735	0.044	0.035	0.029
2.00	0.035	0.042	0.047	0.032	0.046	0.044	8.951	0.047	0.039	0.031
2.52	0.035	0.039	0.045	0.035	0.048	0.045	8.566	0.049	0.041	0.030
3.17	0.030	0.034	0.043	0.032	0.042	0.043	8.324	0.045	0.037	0.025
4.00	0.032	0.025	0.040	0.034	0.049	0.042	9.198	0.041	0.035	0.024
5.04	0.032	0.021	0.034	0.034	0.045	0.031	8.747	0.042	0.034	0.022
6.35	0.033	0.019	0.033	0.034	0.035	0.031	6.813	0.045	0.035	0.022
8.00	0.028	0.017	0.030	0.028	0.029	0.027	7.010	0.037	0.032	0.019
10.08	0.027	0.016	0.027	0.024	0.026	0.024	7.542	0.034	0.030	0.019
12.70	0.021	0.014	0.024	0.018	0.021	0.019	7.799	0.025	0.026	0.016
16.00	0.017	0.012	0.019	0.014	0.016	0.015	7.987	0.020	0.025	0.017
20.16	0.011	0.009	0.013	0.011	0.010	0.011	7.215	0.013	0.018	0.013
25.40	0.009	0.006	0.011	0.007	0.007	0.005	5.872	0.012	0.017	0.010
32.00	0.005	0.005	0.006	0.003	0.003	0.003	3.270	0.007	0.010	0.009
40.32	0.002	--	0.003	--	--	--	2.669	0.005	0.005	0.006
50.80	0.001	--	--	--	--	--	0.267	0.002	0.001	0.002
64.00	--	--	--	--	--	--	--	--	--	--

Table 5: Total and Inorganic Suspended Sediment Grain Size Distribution Data

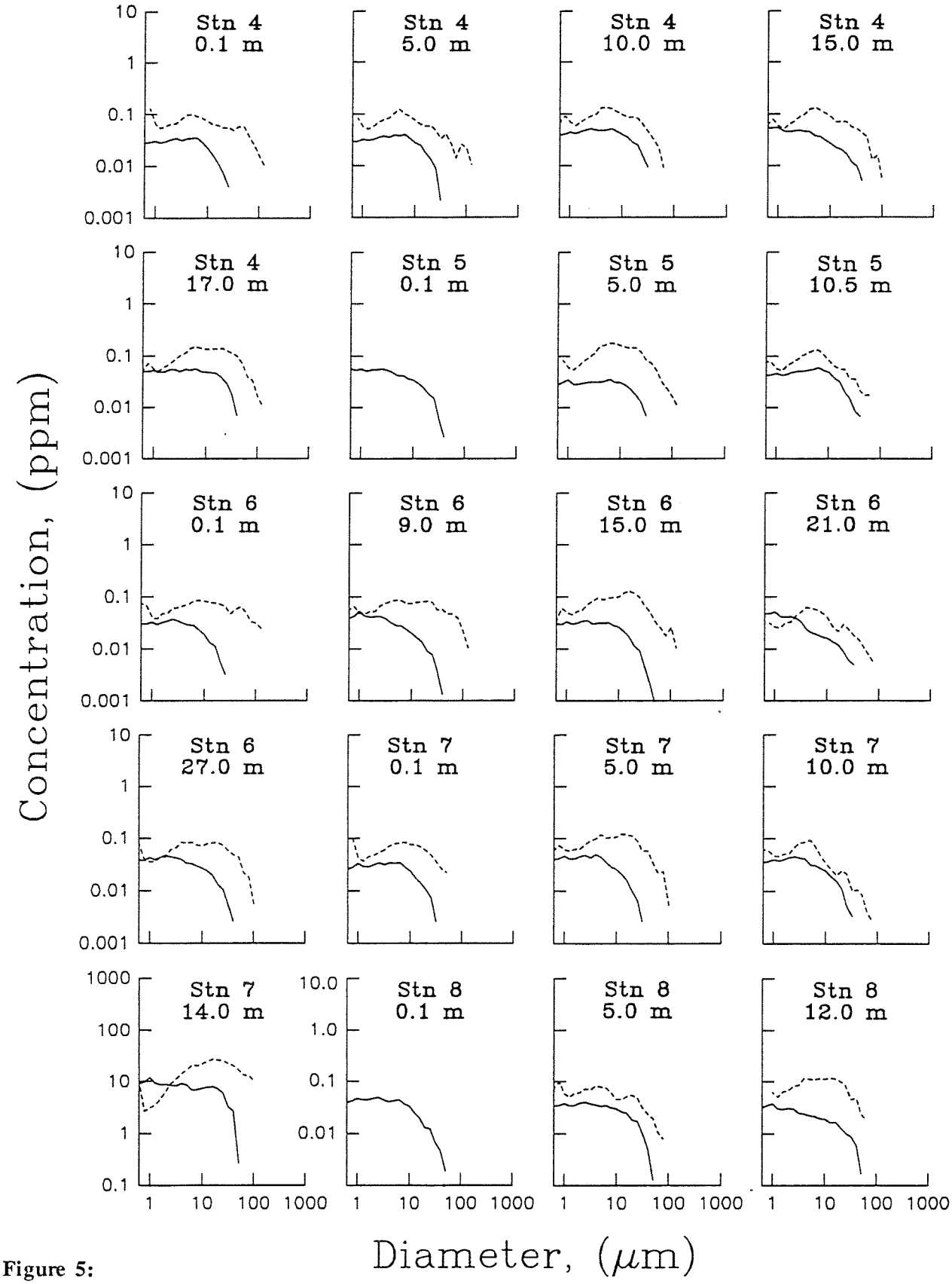

Stn 4
0.1 m
Stn 4
5.0 m
Stn 4
10.0 m
Stn 4
15.0 m
Stn 4
17.0 m
Stn 5
0.1 m
Stn 5
5.0 m
Stn 5
10.5 m
Stn 6
0.1 m
Stn 6
9.0 m
Stn 6
15.0 m
Stn 6
21.0 m
Stn 6
27.0 m
Stn 7
0.1 m
Stn 7
5.0 m
Stn 7
10.0 m
Stn 7
14.0 m
Stn 8
0.1 m
Stn 8
5.0 m
Stn 8
12.0 m
Concentration, (ppm)
Diameter, (μm)

Figure 5:

STATION	8	8	9	9	9	10	10	10	10	11
DEPTH (m)	19.0	26.0	0.1	3.0	6.0	0.1	5.0	10.0	15.0	0.1
TOTAL SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.082	0.071				0.004	0.081	0.067		0.092
0.79	0.210	0.012				0.210	0.032	0.136		0.222
1.00	0.063	0.062				0.070	0.064	0.059		0.074
1.26	0.047	0.049				0.048	0.048	0.048		0.054
1.59	0.060	0.060				0.059	0.057	0.059		0.064
2.00	0.065	0.060				0.059	0.062	0.060		0.072
2.52	0.077	0.069				0.064	0.070	0.068		0.083
3.17	0.081	0.077				0.069	0.064	0.076		0.081
4.00	0.099	0.082				0.066	0.075	0.072		0.096
5.04	0.098	0.087				0.073	0.059	0.070		0.088
6.35	0.094	0.076				0.075	0.056	0.065		0.090
8.00	0.072	0.059				0.065	0.039	0.049		0.066
10.08	0.059	0.043				0.052	0.022	0.028		0.043
12.70	0.068	0.043				0.054	0.016	0.024		0.035
16.00	0.084	0.046				0.051	0.017	0.021		0.030
20.16	0.090	0.043				0.046	0.012	0.025		0.028
25.40	0.077	0.030				0.034	0.010	0.019		0.021
32.00	0.069	0.013				0.022	0.006	0.009		0.013
40.32	0.049	0.014				0.026	--	0.019		0.005
50.80	0.035	0.009				0.009	--	0.007		--
64.00	0.014	0.005				--	--	0.005		--
80.63	--	--				--	--	--		--
101.59	--	--				--	--	--		--
128.00	--	--				--	--	--		--
161.27	--	--				--	--	--		--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER					CONCENTRATION, (ppm)					
0.63	0.041	0.031	0.022	0.021	0.021	0.024	0.025	0.030	0.049	0.041
0.79	0.040	0.035	0.023	0.022	0.025	0.025	0.027	0.031	0.049	0.043
1.00	0.044	0.038	0.025	0.024	0.028	0.028	0.029	0.033	0.056	0.048
1.26	0.041	0.034	0.022	0.020	0.024	0.027	0.027	0.030	0.051	0.044
1.59	0.041	0.036	0.023	0.020	0.022	0.030	0.027	0.032	0.054	0.045
2.00	0.044	0.038	0.023	0.019	0.020	0.033	0.029	0.034	0.057	0.046
2.52	0.043	0.039	0.023	0.019	0.019	0.036	0.032	0.035	0.059	0.050
3.17	0.041	0.038	0.021	0.017	0.015	0.033	0.031	0.036	0.057	0.045
4.00	0.039	0.036	0.021	0.015	0.014	0.032	0.035	0.037	0.060	0.042
5.04	0.037	0.035	0.020	0.013	0.012	0.032	0.035	0.037	0.053	0.043
6.35	0.040	0.037	0.019	0.012	0.011	0.031	0.036	0.038	0.047	0.044
8.00	0.037	0.032	0.016	0.009	0.009	0.026	0.028	0.031	0.041	0.038
10.08	0.035	0.030	0.014	0.008	0.008	0.022	0.024	0.027	0.036	0.034
12.70	0.028	0.023	0.012	0.007	0.007	0.016	0.018	0.021	0.030	0.029
16.00	0.025	0.018	0.011	0.008	0.006	0.011	0.014	0.016	0.024	0.022
20.16	0.019	0.012	0.010	0.005	0.005	0.009	0.007	0.011	0.015	0.017
25.40	0.015	0.007	0.009	0.005	0.005	0.006	0.004	0.006	0.011	0.012
32.00	0.010	0.003	0.007	0.005	0.004	0.004	0.002	0.005	0.005	0.009
40.32	0.002	--	0.005	0.002	0.003	0.002	--	0.002	0.002	0.003
50.80	--	--	0.002	0.001	0.003	--	--	--	--	--
64.00	--	--	--	--	--	--	--	--	--	--

Table 6: Total and Inorganic Suspended Sediment Grain Size Distribution Data

STATION	11	12	12	13	13	14	15	15	16	16
DEPTH (m)	13.0	0.1	8.0	0.1	6.0	1.8	0.1	2.5	0.1	7.0
TOTAL SUSPENDED SEDIMENT										
DIAMETER				CONCENTRATION, (ppm)						
0.63	0.008	0.114	0.074	0.113	0.075	0.090		0.022	0.037	0.046
0.79	0.000	0.372	0.231	0.148	0.418	0.051		0.078	0.043	0.043
1.00	0.066	0.136	0.082	0.255	0.180	0.240		0.229	0.039	0.041
1.26	0.051	0.075	0.062	0.104	0.099	0.103		0.103	0.037	0.039
1.59	0.061	0.077	0.063	0.102	0.105	0.105		0.107	0.045	0.049
2.00	0.066	0.094	0.066	0.117	0.119	0.122		0.129	0.052	0.053
2.52	0.075	0.102	0.079	0.103	0.132	0.118		0.133	0.068	0.072
3.17	0.066	0.080	0.070	0.101	0.129	0.104		0.126	0.077	0.081
4.00	0.073	0.096	0.079	0.088	0.131	0.105		0.126	0.095	0.102
5.04	0.062	0.088	0.085	0.070	0.110	0.088		0.122	0.091	0.103
6.35	0.069	0.073	0.071	0.040	0.095	0.058		0.091	0.093	0.081
8.00	0.050	0.072	0.053	0.033	0.078	0.039		0.061	0.085	0.078
10.08	0.028	0.052	0.033	0.022	0.051	0.025		0.034	0.072	0.071
12.70	0.021	0.046	0.027	0.013	0.029	0.014		0.017	0.068	0.067
16.00	0.018	0.038	0.024	0.012	0.021	0.011		0.008	0.057	0.058
20.16	0.017	0.028	0.021	0.102	0.018	0.009		0.012	0.061	0.055
25.40	0.019	0.030	0.016	0.059	0.019	0.012		0.010	0.054	0.042
32.00	0.008	0.020	0.012	0.003	0.018	0.004		0.005	0.031	0.025
40.32	--	0.008	0.004	--	0.029	0.004		0.005	0.022	0.018
50.80	--	--	0.002	--	0.042	0.002		0.002	0.015	0.014
64.00	--	--	--	--	0.047	--		--	0.008	0.005
80.63	--	--	--	--	0.009	--		--	0.005	0.003
101.59	--	--	--	--	--	--		--	--	--
128.00	--	--	--	--	--	--		--	--	--
161.27	--	--	--	--	--	--		--	--	--
INORGANIC SUSPENDED SEDIMENT										
DIAMETER				CONCENTRATION, (ppm)						
0.63	0.024	0.024	0.036	0.038	0.046		0.047	0.042	0.022	0.024
0.79	0.025	0.026	0.035	0.040	0.052		0.051	0.045	0.023	0.025
1.00	0.029	0.029	0.037	0.044	0.057		0.058	0.050	0.025	0.028
1.26	0.027	0.026	0.035	0.038	0.051		0.055	0.050	0.024	0.027
1.59	0.029	0.027	0.036	0.039	0.052		0.056	0.053	0.027	0.030
2.00	0.031	0.028	0.037	0.040	0.054		0.059	0.058	0.032	0.033
2.52	0.034	0.029	0.039	0.044	0.052		0.061	0.063	0.033	0.037
3.17	0.032	0.029	0.037	0.038	0.050		0.063	0.061	0.029	0.032
4.00	0.032	0.025	0.037	0.032	0.057		0.060	0.067	0.028	0.031
5.04	0.029	0.024	0.038	0.028	0.053		0.057	0.067	0.028	0.031
6.35	0.029	0.024	0.040	0.026	0.049		0.060	0.068	0.029	0.030
8.00	0.024	0.019	0.033	0.020	0.042		0.051	0.055	0.024	0.025
10.08	0.020	0.014	0.030	0.017	0.040		0.047	0.048	0.022	0.022
12.70	0.015	0.010	0.026	0.014	0.033		0.041	0.037	0.018	0.017
16.00	0.010	0.007	0.019	0.011	0.027		0.035	0.028	0.014	0.014
20.16	0.007	0.005	0.014	0.008	0.020		0.026	0.021	0.010	0.011
25.40	0.004	0.003	0.011	0.006	0.017		0.018	0.018	0.008	0.007
32.00	0.002	0.001	0.008	0.006	0.009		0.011	0.010	0.007	0.004
40.32	0.000	--	0.002	0.004	0.005		0.007	0.004	--	0.003
50.80	--	--	--	0.006	--		--	--	--	--
64.00	--	--	--	0.002	--		--	--	--	--

Table 7: Total and Inorganic Suspended Sediment Grain Size Distribution Data

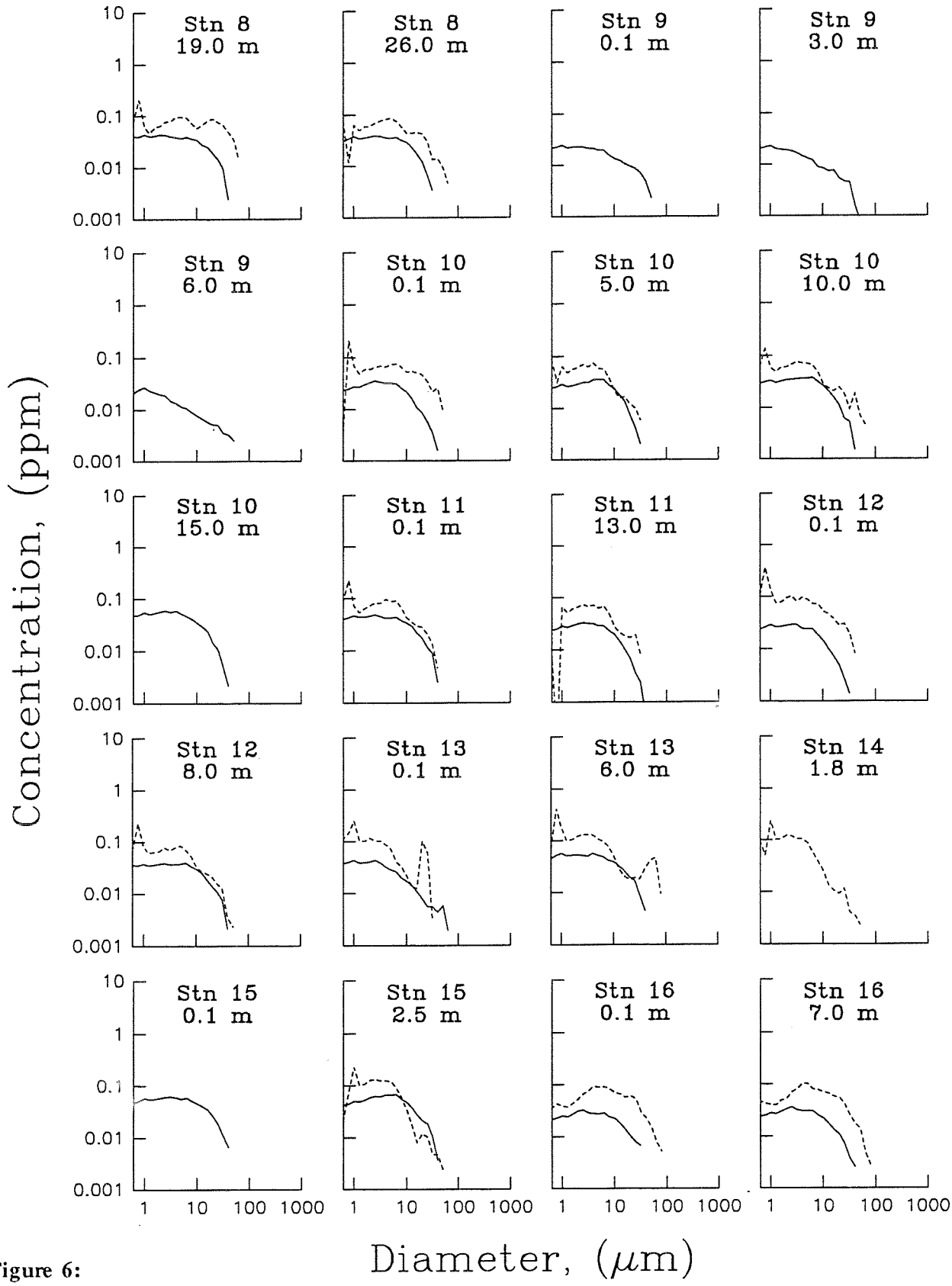

Stn 8
19.0 m
Stn 8
26.0 m
Stn 9
0.1 m
Stn 9
3.0 m
Stn 9
6.0 m
Stn 10
0.1 m
Stn 10
5.0 m
Stn 10
10.0 m
Stn 10
15.0 m
Stn 11
0.1 m
Stn 11
13.0 m
Stn 12
0.1 m
Stn 12
8.0 m
Stn 13
0.1 m
Stn 13
6.0 m
Stn 14
1.8 m
Stn 15
0.1 m
Stn 15
2.5 m
Stn 16
0.1 m
Stn 16
7.0 m
10
1
0.1
0.01
0.001
1
10
100
1000
Concentration, (ppm)
Diameter, (μm)

Figure 6:

STATION	16	16	17	17	17	17	17
DEPTH (m)	14.0	20.0	0.1	5.0	10.0	15.0	20.0
TOTAL SUSPENDED SEDIMENT							
DIAMETER			CONCENTRATION, (ppm)				
0.63	0.121	0.015	0.109	0.205	0.208	0.154	0.240
0.79	0.047	0.063	0.121	0.125	0.121	0.145	0.218
1.00	0.045	0.063	0.078	0.091	0.085	0.100	0.162
1.26	0.045	0.044	0.064	0.077	0.072	0.071	0.115
1.59	0.056	0.051	0.073	0.084	0.078	0.065	0.105
2.00	0.066	0.057	0.081	0.095	0.087	0.069	0.110
2.52	0.086	0.075	0.102	0.119	0.121	0.078	0.127
3.17	0.111	0.090	0.120	0.151	0.136	0.083	0.140
4.00	0.121	0.104	0.151	0.199	0.161	0.114	0.182
5.04	0.139	0.115	0.187	0.234	0.199	0.147	0.204
6.35	0.109	0.096	0.203	0.240	0.261	0.190	0.194
8.00	0.100	0.089	0.192	0.244	0.240	0.179	0.193
10.08	0.086	0.080	0.179	0.245	0.210	0.159	0.192
12.70	0.078	0.073	0.175	0.248	0.175	0.145	0.204
16.00	0.072	0.064	0.169	0.243	0.162	0.104	0.217
20.16	0.062	0.069	0.162	0.248	0.137	0.091	0.241
25.40	0.053	0.071	0.150	0.216	0.136	0.080	0.230
32.00	0.040	0.051	0.125	0.169	0.109	0.056	0.184
40.32	0.025	0.053	0.089	0.136	0.084	0.045	0.164
50.80	0.019	0.044	0.071	0.109	0.073	0.048	0.141
64.00	0.010	0.034	0.062	0.116	0.052	0.038	0.096
80.63	--	0.044	0.049	0.057	0.044	0.019	0.041
101.59	--	0.031	0.026	0.047	0.021	--	0.047
128.00	--	0.031	0.010	0.021	--	--	0.062
161.27	--	--	--	0.021	--	--	0.021
INORGANIC SUSPENDED SEDIMENT							
DIAMETER			CONCENTRATION, (ppm)				
0.63	0.023	0.018	0.058	0.052	0.065	0.066	0.078
0.79	0.024	0.019	0.055	0.054	0.058	0.060	0.076
1.00	0.026	0.021	0.060	0.059	0.064	0.066	0.083
1.26	0.025	0.020	0.056	0.054	0.059	0.062	0.079
1.59	0.028	0.023	0.057	0.059	0.060	0.063	0.082
2.00	0.031	0.025	0.061	0.063	0.063	0.068	0.086
2.52	0.033	0.027	0.065	0.067	0.068	0.069	0.090
3.17	0.030	0.024	0.060	0.065	0.064	0.065	0.088
4.00	0.029	0.026	0.067	0.069	0.064	0.071	0.087
5.04	0.029	0.025	0.067	0.078	0.060	0.074	0.073
6.35	0.029	0.026	0.071	0.086	0.059	0.086	0.087
8.00	0.025	0.022	0.062	0.077	0.047	0.077	0.081
10.08	0.023	0.019	0.058	0.069	0.044	0.070	0.078
12.70	0.018	0.016	0.050	0.061	0.041	0.056	0.074
16.00	0.014	0.013	0.042	0.056	0.039	0.055	0.068
20.16	0.011	0.011	0.033	0.044	0.032	0.037	0.053
25.40	0.008	0.009	0.017	0.031	0.020	0.021	0.037
32.00	0.007	0.007	0.007	0.021	0.012	0.012	0.018
40.32	0.006	0.006	--	0.004	0.011	--	0.004
50.80	--	--	--	0.002	0.002	--	--
64.00	--	--	--	--	--	--	--

Figure 6:
Table 8: Total and Inorganic Suspended Sediment Grain Size Distribution Data

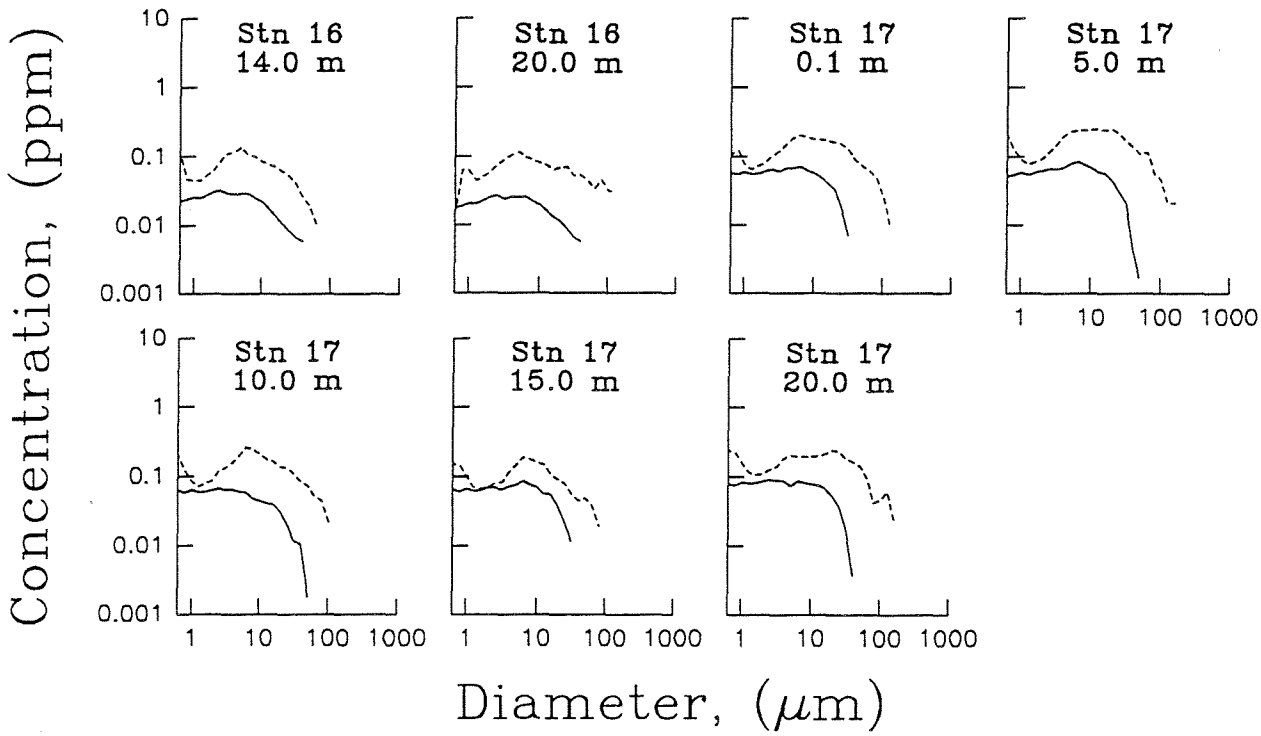

Stn 16
14.0 m
Stn 16
20.0 m
Stn 17
0.1 m
Stn 17
5.0 m
Stn 17
10.0 m
Stn 17
15.0 m
Stn 17
20.0 m
10
1
0.1
0.01
0.001
1
10
100
1000
Concentration, (ppm)
Diameter, (μm)

Figure 7:

APPENDIX B: BOTTOM SEDIMENT DATA

Stn	Lat	Long	% Water	% Ash	ID#
1	45 03.97 N	66 49.74 W	60.44	9.55	901008001
2	45 03.95 N	66 49.93 W	71.37	12.67	901008002
3	45 03.68 N	66 49.98 W	53.42	8.19	901008003
4	45 03.73 N	66 49.68 W	46.24	6.00	901008004
5	45 03.84 N	66 49.71 W	49.61	3.88	901008005
6	45 03.66 N	66 49.45 W	55.94	6.78	901008006
7	45 03.61 N	66 49.73 W	55.25	9.16	901008007
8	45 03.51 N	66 49.98 W	56.01	8.42	901008008
9	45 03.50 N	66 49.72 W	56.55	6.33	901008009
10	45 03.50 N	66 49.50 W	31.38	3.64	901008010
11	45 03.57 N	66 49.23 W	22.03	3.22	901008011
12	45 03.53 N	66 48.91 W	19.55	3.85	901008012
13	45 03.44 N	66 49.00 W	31.21	2.69	901008013
14	45 03.30 N	66 49.10 W	30.86	2.18	901008014
15	45 03.35 N	66 49.32 W	22.83	1.18	901008015
16	45 03.31 N	66 49.54 W	19.61	2.57	901008016
17	45 03.26 N	66 49.81 W	52.69	11.28	901008017
18	45 03.20 N	66 49.99 W	60.47	6.93	901008018
19	45 03.34 N	66 49.97 W	65.25	5.78	901008019
20	45 03.34 N	66 49.75 W	59.90	8.99	901008020
21	45 03.09 N	66 49.64 W			No Sample
22	45 03.35 N	66 49.18 W	26.62	2.55	901008022
23	45 03.36 N	66 49.01 W	31.69	1.80	901008023
24	45 03.04 N	66 49.23 W	23.38	3.67	901008024
25	45 03.10 N	66 49.47 W	16.23	1.23	901008025
26	45 03.14 N	66 49.79 W	58.02	8.10	901008026
27	45 03.00 N	66 49.80 W			No Sample
28	45 02.92 N	66 49.87 W	57.72	7.64	901008028
29	45 03.27 N	66 49.30 W	16.59	1.06	901008029
30	45 02.80 N	66 49.23 W	35.04	4.80	901008030
31	45 02.89 N	66 49.12 W			No Sample
32	45 02.80 N	66 48.76 W	46.62	7.54	901008032
33	45 03.35 N	66 47.65 W	50.79	7.00	901008033
34	45 03.38 N	66 47.67 W	78.48	18.43	901008034
35	45 03.10 N	66 48.20 W	52.68	5.72	901008035
36	45 02.97 N	66 48.40 W	55.50	9.38	901008036
37	45 02.59 N	66 48.73 W	48.66	7.61	901008037
38	45 02.68 N	66 49.01 W	23.77	2.34	901008038
39	45 02.73 N	66 49.20 W			No Sample
40	45 02.49 N	66 49.57 W	37.03	8.63	901008040
41	45 02.47 N	66 49.29 W	42.80	7.28	901008041
42	45 02.49 N	66 48.96 W	22.62	3.99	901008042
43	45 02.50 N	66 48.69 W			No Sample
44	45 02.28 N	66 49.07 W	54.92	14.92	901008044
45	45 02.37 N	66 49.23 W	28.05	0.93	901008045
46	45 02.29 N	66 49.51 W	35.42	3.75	901008046
47	45 02.29 N	66 49.76 W	38.99	3.87	901008047
48	45 02.10 N	66 50.00 W	52.64	10.13	901008048
49	45 02.17 N	66 50.25 W	52.27	1.42	901008049
50	45 02.29 N	66 50.16 W	54.24	4.63	901008050

Table 9: Bottom Sediment Data

Stn	Lat	Long	% Water	% Ash	ID#
51	45 02.48 N	66 50.18 W	55.40	4.46	901008051
52	45 02.63 N	66 50.21 W	58.33	10.35	901008052
53	45 02.61 N	66 50.14 W	64.39	3.66	901008053
54	45 02.74 N	66 50.10 W			No Sample
55	45 02.72 N	66 50.06 W	64.61	3.54	901008055
56	45 02.50 N	66 50.40 W	34.27	2.05	901008056
57	45 02.39 N	66 50.43 W	63.63	6.26	901008057
58	45 02.08 N	66 50.49 W	62.49	10.23	901008058
59	45 01.93 N	66 50.50 W	53.84	7.60	901008059
60	45 01.63 N	66 50.46 W	60.42	11.04	901008060
61	45 06.20 N	66 46.97 W	63.28	7.49	901009028
62	45 06.82 N	66 46.20 W	50.80	7.10	901009029
63	45 06.54 N	66 46.44 W	42.34	6.44	901009032
64	45 04.75 N	66 47.91 W	52.14	3.29	901009033
65	45 03.48 N	66 49.03 W	24.12	1.91	901010001
66	45 03.68 N	66 48.84 W	27.13	0.55	901010002
67	45 03.86 N	66 48.75 W			No Sample
68	45 03.82 N	66 48.60 W			No Sample
69	45 03.83 N	66 48.33 W	30.23	1.43	901010005
70	45 04.01 N	66 48.57 W	33.62	1.49	901010006
71	45 04.12 N	66 48.57 W	31.71	1.43	901010007
72	45 04.21 N	66 48.28 W	26.04	3.52	901010008
73	45 04.35 N	66 48.01 W	41.73	5.10	901010009
74	45 04.38 N	66 47.58 W	61.39	7.22	901010010
75	45 04.48 N	66 47.72 W	42.02	3.39	901010011
76	45 04.53 N	66 48.21 W	59.93	9.79	901010012
77	45 04.69 N	66 48.02 W	49.51	6.05	901010013
78	45 04.82 N	66 48.29 W	64.91	8.99	901010014
79	45 05.01 N	66 48.50 W	67.94	8.92	901010015
80	45 05.04 N	66 48.73 W	64.88	5.51	901010016
81	45 05.17 N	66 48.56 W	59.11	7.00	901010017
82	45 04.68 N	66 47.80 W	62.78	6.10	901010018
83	45 04.86 N	66 47.28 W	48.96	6.71	901010019
84	45 04.83 N	66 47.00 W	65.01	9.39	901010020
85	45 05.05 N	66 47.61 W	60.47	14.29	901010021
86	45 05.24 N	66 47.81 W	58.25	6.75	901010022
87	45 05.37 N	66 47.76 W	60.01	7.08	901010023
88	45 05.68 N	66 47.82 W	58.48	8.02	901010024
89	45 04.82 N	66 47.53 W	50.35	6.75	901010025
90	45 04.65 N	66 47.22 W	60.92	6.46	901010026
91	45 02.00 N	66 50.25 W	53.72	6.35	901010027
92	45 02.00 N	66 50.00 W	40.64	3.27	901010028
93	45 02.29 N	66 50.66 W	54.44	6.84	901010029
94	45 02.18 N	66 50.58 W	66.38	7.69	901010030
95	45 01.99 N	66 50.64 W	58.15	8.78	901010031
96	45 01.86 N	66 50.69 W	58.62	7.83	901010032
97	45 01.84 N	66 50.96 W	30.95	12.20	901010033
98	45 01.79 N	66 51.20 W	53.50	9.02	901010034
99	45 01.63 N	66 51.23 W	60.44	4.69	901010035
100	45 01.53 N	66 51.21 W	49.35	8.70	901010036

Table 9: Bottom Sediment Data

Stn	Lat	Long	% Water	% Ash	ID#
101	45 01.67 N	66 51.49 W	51.81	6.81	901010037
102	45 01.43 N	66 52.08 W	25.75	2.00	901010042
103	45 01.53 N	66 52.00 W	32.83	3.25	901010043

Table 9: Bottom Sediment Data

INORGANIC BOTTOM SEDIMENT

STATION	1	2	3	4	5	6	7	8	9	10
DIAMETER				EQUIVALENT WEIGHT, (%)						
0.63	3.06	3.07	4.30	1.94	1.84	1.88	2.60	2.62	2.74	1.00
0.79	2.88	2.92	3.97	1.83	1.87	1.79	2.44	2.49	2.42	0.93
1.00	2.91	2.93	3.95	1.84	2.06	1.89	2.57	2.54	2.49	0.94
1.26	2.57	2.61	3.45	1.60	1.91	1.72	2.30	2.35	2.22	0.88
1.59	2.55	2.74	3.35	1.61	2.00	1.74	2.31	2.39	2.30	0.89
2.00	2.66	2.88	3.34	1.70	2.19	1.80	2.37	2.46	2.38	0.97
2.52	3.05	3.04	3.53	1.87	2.46	1.91	2.49	2.73	2.51	1.04
3.17	3.01	3.16	3.82	1.88	2.64	2.13	2.60	2.76	2.55	1.08
4.00	3.37	3.10	3.89	2.32	2.94	2.26	2.66	2.79	2.83	1.15
5.04	3.13	3.54	3.88	2.71	3.39	2.57	2.83	3.06	3.04	1.19
6.35	3.94	4.23	3.90	3.25	4.03	2.99	3.45	3.59	3.69	1.32
8.00	4.07	4.18	3.75	3.00	3.91	2.73	3.34	3.28	3.56	1.25
10.08	4.29	4.35	4.18	2.87	3.87	2.56	3.53	3.12	3.70	1.25
12.70	4.19	4.38	4.21	2.67	3.61	2.40	3.58	3.02	3.58	1.21
16.00	4.28	4.22	4.07	2.39	2.67	2.29	3.57	2.45	3.25	1.10
20.16	3.55	3.60	3.85	1.96	1.92	1.80	3.15	1.82	2.53	0.95
25.40	2.70	2.89	3.47	1.16	1.47	1.36	2.64	1.42	2.04	0.71
32.00	1.79	2.25	3.14	0.91	1.17	0.86	1.98	1.10	1.54	0.59
40.32	1.04	1.20	2.23	0.80	0.69	0.66	1.58	0.92	1.17	0.50
50.80	0.55	0.50	1.52	0.81	0.75	0.63	1.45	0.80	0.85	0.52
64.00	0.27	0.25	1.02	1.17	0.82	0.74	1.27	0.90	0.64	0.66
80.63	0.11	0.11	0.53	2.05	1.29	1.20	1.37	0.77	0.42	1.34
101.59	--	--	0.08	3.63	2.22	2.04	1.60	0.74	0.20	3.33
128.00	--	--	--	4.28	3.03	3.41	0.86	0.57	0.11	7.03
161.27	--	--	--	2.23	2.51	2.47	0.15	0.75	0.03	7.31
203.19	--	--	--	1.91	1.53	1.77	--	0.29	--	3.90
256.00	--	--	--	1.28	1.71	1.18	--	0.37	--	1.88
322.54	--	--	--	0.64	3.18	1.27	--	0.11	--	1.07
406.37	--	--	--	--	1.47	2.18	--	--	--	0.94
512.00	--	--	--	--	--	0.73	--	--	--	0.27

Table 10: Bottom Sediment Grain Size Distribution Data

INORGANIC BOTTOM SEDIMENT

STATION	11	12	13	14	15	16	17	18	19	20
DIAMETER				EQUIVALENT WEIGHT, (%)						
0.63	0.30	0.33	0.46	0.93	0.27	0.25	2.45	2.04	2.31	2.07
0.79	0.32	0.29	0.47	0.90	0.27	0.24	2.31	1.97	2.21	2.06
1.00	0.37	0.32	0.50	0.92	0.29	0.26	2.49	1.98	2.27	2.22
1.26	0.36	0.29	0.47	0.85	0.26	0.22	2.33	1.80	2.04	2.04
1.59	0.37	0.30	0.48	0.89	0.27	0.23	2.33	1.78	2.04	2.11
2.00	0.42	0.33	0.52	0.97	0.29	0.24	2.54	1.87	2.19	2.26
2.52	0.45	0.36	0.59	1.07	0.32	0.26	2.96	2.09	2.13	2.47
3.17	0.52	0.36	0.57	1.09	0.35	0.28	2.92	2.03	2.20	2.35
4.00	0.52	0.40	0.59	1.30	0.39	0.35	3.27	2.52	2.47	2.97
5.04	0.57	0.46	0.71	1.39	0.40	0.41	3.56	2.83	2.90	3.28
6.35	0.67	0.57	0.87	1.64	0.39	0.49	4.29	3.36	3.62	3.97
8.00	0.62	0.57	0.80	1.46	0.37	0.48	4.14	3.33	3.63	3.68
10.08	0.59	0.62	0.78	1.38	0.34	0.47	4.17	3.53	3.80	3.67
12.70	0.56	0.64	0.72	1.28	0.32	0.44	4.03	3.69	3.90	3.38
16.00	0.48	0.65	0.71	1.03	0.26	0.42	3.68	3.54	3.90	3.06
20.16	0.43	0.55	0.61	0.75	0.21	0.35	3.01	3.18	3.76	2.43
25.40	0.36	0.53	0.48	0.43	0.21	0.30	2.16	2.33	3.24	1.41
32.00	0.31	0.47	0.39	0.27	0.12	0.26	1.67	1.91	2.60	0.86
40.32	0.34	0.34	0.32	0.27	0.09	0.24	1.33	1.52	1.37	0.70
50.80	0.42	0.28	0.32	0.27	0.09	0.27	0.96	1.01	0.93	0.58
64.00	0.48	0.10	0.49	0.36	0.11	0.32	0.64	0.69	0.51	0.46
80.63	0.52	0.46	0.86	0.79	0.16	0.48	0.33	0.30	0.16	0.37
101.59	0.63	0.64	2.31	2.16	0.28	0.76	0.14	0.15	--	0.18
128.00	1.15	1.13	7.39	6.06	0.50	1.72	0.03	0.08	--	0.06
161.27	3.18	2.29	17.83	7.10	0.85	4.04	--	--	--	--
203.19	6.52	3.79	15.82	2.79	1.89	4.66	--	--	--	--
256.00	5.14	5.61	3.27	0.66	3.32	2.16	--	--	--	--
322.54	2.68	5.39	0.64	0.77	3.90	2.24	--	--	--	--
406.37	1.46	3.64	--	0.22	2.93	1.06	--	--	--	--
512.00	1.02	2.91	--	0.15	1.99	0.82	--	--	--	--

Table 11: Bottom Sediment Grain Size Distribution Data

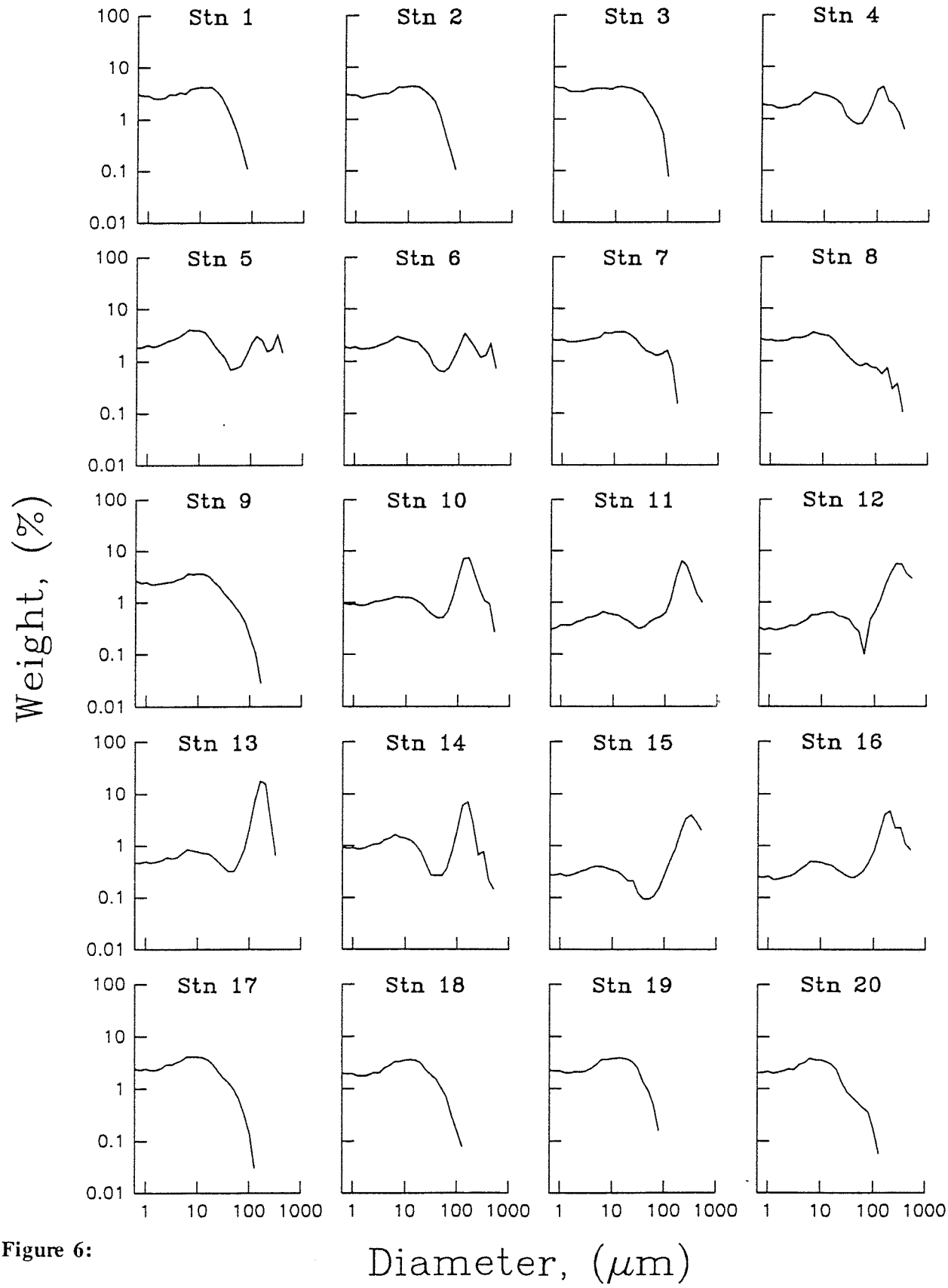

Stn 1
Stn 2
Stn 3
Stn 4
Stn 5
Stn 6
Stn 7
Stn 8
Stn 9
Stn 10
Stn 11
Stn 12
Stn 13
Stn 14
Stn 15
Stn 16
Stn 17
Stn 18
Stn 19
Stn 20
100
10
1
0.1
0.01
1
10
100
1000
Weight, (%)
Diameter, (μm)

Figure 6:

INORGANIC BOTTOM SEDIMENT

STATION	22	23	24	25	26	27	28	29	30	32
DIAMETER					EQUIVALENT WEIGHT, (%)					
0.63	0.72	1.21	0.45	0.23	1.20	2.13	2.20	0.29	0.40	3.55
0.79	0.71	1.02	0.48	0.24	1.13	2.13	2.18	0.26	0.39	3.19
1.00	0.76	1.08	0.53	0.26	1.17	2.28	2.45	0.28	0.47	3.10
1.26	0.72	0.96	0.48	0.24	1.08	2.10	2.33	0.25	0.41	2.62
1.59	0.76	0.97	0.49	0.25	1.08	2.01	2.40	0.28	0.38	2.44
2.00	0.81	1.09	0.51	0.27	1.18	2.06	2.51	0.29	0.39	2.61
2.52	0.92	1.18	0.56	0.28	1.31	2.38	2.76	0.34	0.44	2.91
3.17	0.91	1.00	0.55	0.28	1.23	2.10	2.44	0.31	0.44	2.88
4.00	1.04	1.29	0.58	0.31	1.45	2.68	2.61	0.38	0.49	2.95
5.04	1.14	1.35	0.63	0.32	1.65	3.19	2.99	0.41	0.56	3.49
6.35	1.34	1.34	0.71	0.38	1.90	3.94	3.44	0.44	0.68	4.03
8.00	1.23	1.31	0.66	0.36	1.78	3.91	3.32	0.44	0.67	3.89
10.08	1.15	1.36	0.61	0.34	1.79	4.12	3.54	0.47	0.70	4.01
12.70	1.04	1.42	0.56	0.30	1.79	4.11	3.58	0.49	0.73	4.00
16.00	0.87	1.41	0.49	0.26	1.71	3.98	3.68	0.49	0.72	3.73
20.16	0.68	1.14	0.38	0.22	1.52	3.17	3.43	0.45	0.64	2.92
25.40	0.49	1.07	0.30	0.17	1.11	2.42	2.93	0.40	0.56	2.50
32.00	0.37	1.14	0.26	0.11	0.62	2.10	2.44	0.43	0.48	1.93
40.32	0.30	0.81	0.22	0.09	0.45	1.65	2.05	0.32	0.40	1.47
50.80	0.32	0.51	0.22	0.10	0.45	1.21	1.71	0.22	0.41	1.14
64.00	0.45	0.80	0.31	0.13	0.66	0.78	1.25	0.24	0.45	0.95
80.63	0.90	1.77	0.53	0.21	1.55	0.29	0.72	0.29	0.51	0.64
101.59	2.25	4.64	1.32	0.34	2.66	0.15	0.27	0.40	0.65	0.30
128.00	5.98	10.57	2.96	0.68	2.05	--	0.06	0.85	0.81	0.11
161.27	8.78	10.12	3.12	1.21	0.97	--	--	1.34	1.09	0.03
203.19	7.05	5.10	2.14	2.29	0.70	--	--	2.44	2.03	--
256.00	3.79	2.16	1.32	3.33	0.36	--	--	5.14	2.18	--
322.54	1.25	1.34	1.05	3.12	--	--	--	5.17	3.57	--
406.37	--	--	0.25	2.07	--	--	--	4.11	2.31	--
512.00	--	--	--	1.01	--	--	--	3.08	--	--

Table 12: Bottom Sediment Grain Size Distribution Data

INORGANIC BOTTOM SEDIMENT

STATION	33	34	35	36	37	38	40	41	42	44
DIAMETER					EQUIVALENT WEIGHT, (%)					
0.63	1.85	2.81	3.97	2.90	2.18	0.53	0.85	1.57	0.44	1.98
0.79	1.85	2.82	3.66	2.75	2.07	0.53	0.88	1.73	0.37	1.72
1.00	2.03	2.98	3.64	2.72	2.16	0.56	0.95	1.94	0.40	1.75
1.26	1.99	2.69	3.12	2.43	1.98	0.52	0.90	1.78	0.37	1.53
1.59	2.12	2.81	3.01	2.41	1.95	0.53	0.95	1.86	0.38	1.59
2.00	2.24	3.01	3.21	2.71	2.19	0.56	1.05	1.89	0.42	1.60
2.52	2.44	3.31	3.43	2.77	2.34	0.61	1.16	2.03	0.48	1.66
3.17	2.45	3.28	3.52	2.70	2.24	0.63	1.20	2.11	0.50	1.63
4.00	2.55	3.58	3.98	2.82	2.57	0.65	1.29	2.26	0.53	1.80
5.04	2.77	3.87	4.22	3.13	2.89	0.76	1.53	2.34	0.54	1.87
6.35	3.17	4.29	4.13	3.76	3.41	0.90	1.77	2.76	0.69	2.29
8.00	2.88	3.80	4.15	3.78	3.19	0.82	1.64	2.69	0.72	2.23
10.08	2.83	3.47	4.27	3.80	3.24	0.76	1.56	2.70	0.77	2.21
12.70	2.83	3.29	4.20	4.03	3.05	0.68	1.37	2.71	0.84	2.19
16.00	2.69	3.04	3.89	3.44	2.80	0.54	1.23	2.52	0.86	2.26
20.16	2.39	2.32	3.48	2.63	2.16	0.42	0.93	2.06	0.79	1.86
25.40	2.07	1.83	2.50	1.79	1.65	0.36	0.73	1.56	0.82	2.06
32.00	1.41	1.29	1.67	1.19	1.76	0.34	0.43	1.23	0.75	2.51
40.32	0.98	0.85	1.11	0.77	1.42	0.31	0.35	0.97	0.51	1.63
50.80	0.74	0.51	0.63	0.42	1.26	0.31	0.32	0.91	0.32	0.80
64.00	0.69	0.28	0.29	0.23	1.27	0.39	0.30	1.19	0.42	0.83
80.63	0.77	0.12	0.15	0.10	1.34	0.48	0.35	2.03	0.68	0.96
101.59	0.87	0.03	--	0.04	1.47	0.69	0.34	3.61	1.06	1.02
128.00	1.25	--	--	0.01	0.82	1.18	0.34	3.56	2.11	1.63
161.27	0.99	--	--	--	0.51	1.23	0.40	1.16	3.01	1.76
203.19	1.14	--	--	--	0.18	2.22	0.40	0.28	5.39	2.06
256.00	0.55	--	--	--	--	3.83	0.52	0.06	6.92	0.98
322.54	0.47	--	--	--	--	4.12	0.29	--	5.56	1.08
406.37	--	--	--	--	--	3.93	--	--	2.71	0.43
512.00	--	--	--	--	--	2.49	--	--	1.63	--

Table 13: Bottom Sediment Grain Size Distribution Data

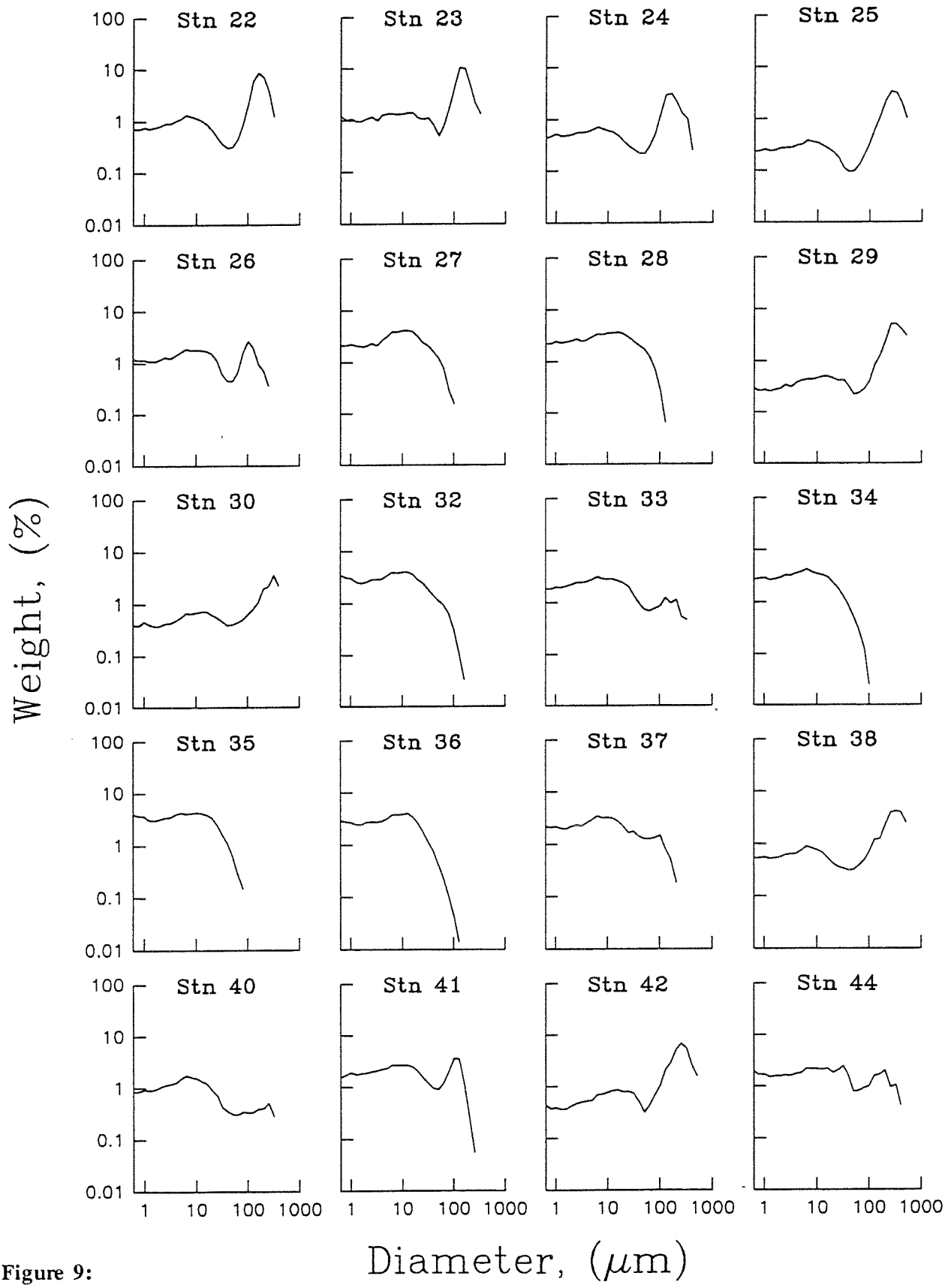

Stn 22
Stn 23
Stn 24
Stn 25
Stn 26
Stn 27
Stn 28
Stn 29
Stn 30
Stn 32
Stn 33
Stn 34
Stn 35
Stn 36
Stn 37
Stn 38
Stn 40
Stn 41
Stn 42
Stn 44
100
10
1
0.1
0.01
1
10
100
1000
Weight, (%)
Diameter, (μm)

Figure 9:

INORGANIC BOTTOM SEDIMENT

STATION	45	46	47	48	49	50	51	52	53	55
DIAMETER				EQUIVALENT WEIGHT, (%)						
0.63	0.78	1.43	1.59	3.08	2.55	2.77	3.20	2.45	3.51	3.55
0.79	0.92	1.21	1.30	2.64	2.19	2.40	2.58	2.09	2.96	3.04
1.00	1.25	1.30	1.36	2.84	2.36	2.59	2.72	2.26	3.14	3.24
1.26	1.37	1.18	1.18	2.64	2.22	2.44	2.48	2.02	2.87	2.91
1.59	1.41	1.22	1.21	2.80	2.37	2.47	2.49	2.06	2.90	2.94
2.00	1.43	1.34	1.21	2.87	2.48	2.61	2.68	2.06	3.03	3.19
2.52	1.40	1.40	1.31	3.06	2.91	2.88	2.96	2.25	3.28	3.55
3.17	1.25	1.41	1.44	2.90	2.96	2.92	3.13	2.12	3.27	3.64
4.00	1.08	1.56	1.60	3.16	3.36	3.15	3.80	2.36	3.76	4.34
5.04	1.04	1.61	1.69	2.80	3.50	3.57	4.20	2.72	3.70	4.71
6.35	1.05	1.71	1.71	2.95	4.30	4.48	4.23	3.44	4.31	4.84
8.00	0.85	1.68	1.73	2.98	4.32	4.65	4.46	3.61	4.32	4.93
10.08	0.78	1.75	1.81	3.36	4.64	5.05	5.12	4.10	4.84	5.35
12.70	0.73	1.79	1.94	3.84	4.81	5.48	5.63	4.33	4.93	5.67
16.00	0.64	1.87	2.04	4.20	5.07	5.86	5.81	4.66	4.94	5.47
20.16	0.55	1.74	1.89	4.62	4.60	5.14	5.32	4.08	4.25	5.30
25.40	0.41	1.49	1.74	4.92	4.18	4.53	4.97	3.60	3.38	4.57
32.00	0.37	1.40	1.36	3.84	3.68	3.66	4.14	3.09	2.32	2.54
40.32	0.38	1.12	0.92	3.72	2.65	2.69	2.44	2.26	0.62	0.76
50.80	0.39	0.58	0.86	1.65	2.26	1.34	1.47	1.44	0.34	0.41
64.00	0.50	0.68	0.85	1.60	1.40	0.41	0.70	0.97	0.24	0.21
80.63	0.81	0.91	1.16	1.17	0.87	0.23	0.38	0.98	0.12	0.07
101.59	1.35	1.20	1.38	0.51	0.46	0.03	--	0.96	0.04	--
128.00	3.02	1.28	1.55	0.18	0.12	--	--	1.00	--	--
161.27	4.03	1.55	2.26	0.09	0.03	--	--	0.88	--	--
203.19	4.54	1.52	2.61	0.03	--	--	--	0.99	--	--
256.00	2.67	2.07	2.58	--	--	--	--	0.57	--	--
322.54	2.98	1.03	1.19	--	--	--	--	0.38	--	--
406.37	2.87	1.03	0.99	--	--	--	--	--	--	--
512.00	2.05	0.34	0.40	--	--	--	--	--	--	--

Table 14: Bottom Sediment Grain Size Distribution Data

INORGANIC BOTTOM SEDIMENT

STATION	56	57	58	59	60	61	62	63	64	65
DIAMETER				EQUIVALENT WEIGHT, (%)						
0.63	1.50	2.55	2.38	2.80	2.98	3.12	1.90	1.27	1.61	0.65
0.79	1.26	2.17	2.02	2.49	2.62	2.86	1.71	1.15	1.34	0.55
1.00	1.36	2.31	2.15	2.69	2.91	3.22	1.91	1.26	1.42	0.62
1.26	1.21	2.06	1.92	2.52	2.74	3.13	1.81	1.19	1.30	0.59
1.59	1.25	2.13	2.01	2.53	2.93	3.28	1.91	1.29	1.37	0.64
2.00	1.36	2.27	2.25	2.88	3.22	3.41	2.09	1.41	1.44	0.70
2.52	1.48	2.55	2.40	3.20	3.60	3.77	2.21	1.55	1.59	0.80
3.17	1.43	2.59	2.57	2.91	3.52	3.56	2.29	1.47	1.47	0.79
4.00	1.80	3.03	2.81	3.85	3.99	3.79	2.32	1.53	1.78	0.83
5.04	1.88	3.28	3.24	3.68	4.23	3.79	2.59	1.66	2.10	0.92
6.35	1.92	4.26	4.20	4.62	4.21	4.15	3.17	1.95	2.57	1.09
8.00	1.95	4.46	4.56	4.70	4.45	3.60	3.16	1.80	2.43	1.07
10.08	2.10	5.19	5.31	5.20	4.71	3.61	3.36	1.81	2.50	1.11
12.70	2.24	5.88	6.06	5.64	5.09	3.45	3.69	1.89	2.44	1.09
16.00	2.15	5.99	6.41	6.00	5.04	3.13	3.82	1.97	2.37	1.10
20.16	1.94	5.90	6.29	5.21	4.80	2.70	3.86	1.76	2.09	1.01
25.40	1.72	5.11	5.57	5.07	4.18	2.77	3.71	1.76	1.88	0.89
32.00	1.07	3.61	4.25	3.60	3.33	2.40	3.74	2.05	1.42	0.87
40.32	0.52	2.00	2.67	2.69	2.54	1.34	3.59	1.36	1.31	0.47
50.80	0.40	0.96	1.28	1.08	1.39	1.04	2.38	1.10	1.00	0.52
64.00	0.31	0.41	0.53	0.70	1.41	0.97	2.16	1.32	1.10	0.67
80.63	0.26	0.14	0.14	0.46	1.48	1.00	1.96	1.71	1.78	1.40
101.59	0.21	--	0.05	0.34	0.87	1.18	1.59	2.32	4.06	3.35
128.00	0.17	--	--	0.11	0.54	1.08	1.34	3.06	6.52	9.62
161.27	0.18	--	--	--	0.22	0.84	0.98	4.18	5.59	18.10
203.19	0.10	--	--	--	0.03	0.39	0.82	4.75	6.07	12.91
256.00	--	--	--	--	--	0.34	0.39	3.03	5.45	2.12
322.54	--	--	--	--	--	0.23	0.29	2.23	2.95	--
406.37	--	--	--	--	--	--	--	1.12	2.72	--
512.00	--	--	--	--	--	--	--	--	0.91	--

Table 15: Bottom Sediment Grain Size Distribution Data

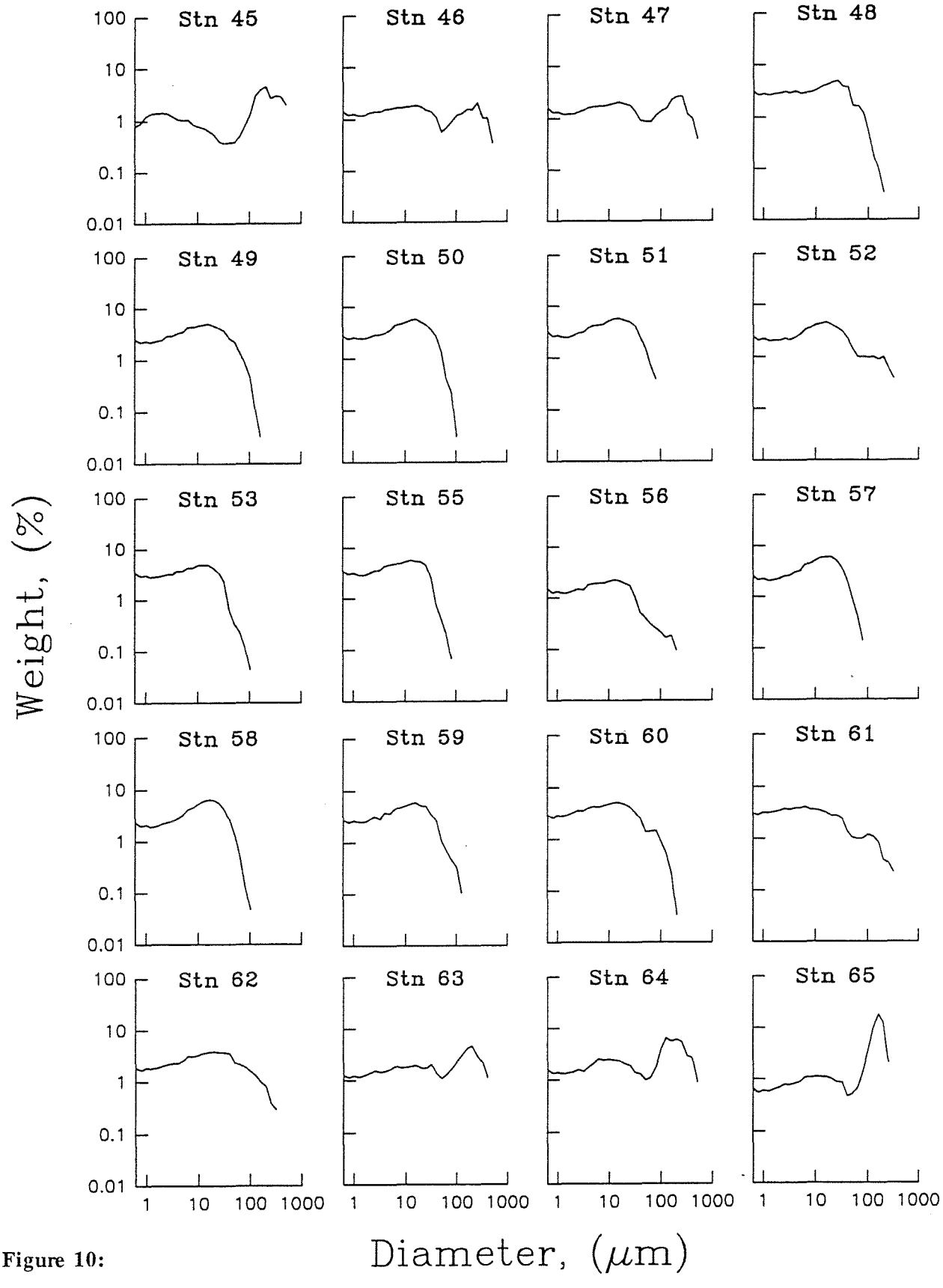

Stn 45
Stn 46
Stn 47
Stn 48
Stn 49
Stn 50
Stn 51
Stn 52
Stn 53
Stn 55
Stn 56
Stn 57
Stn 58
Stn 59
Stn 60
Stn 61
Stn 62
Stn 63
Stn 64
Stn 65
100
10
1
0.1
0.01
1
10
100
1000
Weight, (%)
Diameter, (μm)

Figure 10:

INORGANIC BOTTOM SEDIMENT

STATION	66	69	70	71	72	73	74	75	76	77
DIAMETER					EQUIVALENT WEIGHT, (%)					
0.63	0.66	0.53	0.63	0.97	0.65	1.31	2.56	1.48	2.43	1.81
0.79	0.56	0.51	0.56	0.86	0.58	1.16	2.22	1.35	2.18	1.60
1.00	0.62	0.62	0.61	0.94	0.66	1.31	2.43	1.55	2.46	1.76
1.26	0.58	0.53	0.56	0.81	0.60	1.20	2.27	1.40	2.32	1.63
1.59	0.60	0.48	0.56	0.80	0.61	1.28	2.36	1.50	2.42	1.65
2.00	0.64	0.48	0.61	0.84	0.65	1.43	2.53	1.60	2.52	1.73
2.52	0.70	0.57	0.63	0.85	0.72	1.60	2.86	1.91	2.84	1.91
3.17	0.70	0.52	0.64	0.80	0.73	1.58	2.85	1.77	2.69	1.80
4.00	0.80	0.62	0.73	0.90	0.77	1.85	3.08	1.80	3.16	1.90
5.04	0.95	0.59	0.81	1.04	0.87	1.94	3.36	2.01	3.78	2.16
6.35	1.12	0.73	1.01	1.28	1.06	2.24	3.89	2.36	4.71	2.63
8.00	1.05	0.70	1.00	1.25	1.01	2.08	3.58	2.26	4.67	2.55
10.08	1.09	0.72	1.07	1.33	1.02	2.03	3.58	2.21	5.05	2.60
12.70	1.09	0.74	1.08	1.27	1.07	1.90	3.32	2.12	5.47	2.70
16.00	1.03	0.73	1.06	1.26	1.00	1.75	3.11	1.87	5.33	2.61
20.16	0.95	0.72	1.01	1.13	0.89	1.54	2.67	1.64	5.02	2.39
25.40	0.80	0.65	0.95	1.19	0.74	1.60	2.16	1.13	4.65	2.05
32.00	0.73	0.51	0.84	0.94	0.60	0.99	1.42	0.80	4.12	1.29
40.32	0.52	0.35	0.57	0.59	0.44	0.39	0.59	0.55	3.39	0.93
50.80	0.46	0.38	0.43	0.69	0.31	0.36	0.46	0.47	1.63	0.73
64.00	0.51	0.68	0.57	1.36	0.46	0.43	0.46	0.48	1.10	0.79
80.63	0.99	1.42	1.08	3.41	0.78	0.54	0.56	0.65	0.64	1.04
101.59	2.57	3.20	3.04	9.85	2.03	0.71	0.66	0.96	0.19	2.14
128.00	7.48	9.20	10.72	13.62	6.13	1.45	0.86	1.88	0.04	3.46
161.27	14.01	12.25	18.22	4.97	6.74	2.48	0.61	2.38	--	1.83
203.19	10.61	6.90	7.26	0.68	2.98	3.71	0.41	3.05	--	2.03
256.00	5.45	3.54	1.70	0.34	1.53	3.43	--	2.34	--	2.00
322.54	1.89	2.36	0.38	0.17	0.79	4.05	--	3.01	--	1.90
406.37	0.25	1.60	--	--	0.26	2.74	--	2.54	--	1.20
512.00	--	1.35	--	--	--	1.91	--	0.95	--	1.20

Table 16: Bottom Sediment Grain Size Distribution Data

INORGANIC BOTTOM SEDIMENT

STATION	78	79	80	81	82	83	84	85	86	87
DIAMETER					EQUIVALENT WEIGHT, (%)					
0.63	2.70	2.77	2.79	2.86	2.41	2.01	3.12	2.64	2.42	2.70
0.79	2.37	2.47	2.41	2.41	2.06	1.75	2.49	2.37	2.15	2.38
1.00	2.61	2.60	2.65	2.68	2.26	1.86	2.77	2.65	2.31	2.59
1.26	2.40	2.38	2.35	2.54	2.12	1.70	2.64	2.48	2.09	2.32
1.59	2.50	2.38	2.36	2.61	2.23	1.82	2.72	2.64	2.13	2.40
2.00	2.65	2.53	2.38	2.72	2.35	1.91	2.88	2.83	2.23	2.63
2.52	2.85	2.74	2.64	3.00	2.69	2.10	3.34	3.24	2.57	2.78
3.17	3.12	2.87	2.91	3.30	2.57	2.28	3.06	3.39	2.56	2.89
4.00	3.42	3.06	3.18	3.08	2.80	2.35	3.52	3.68	2.91	3.09
5.04	3.55	3.62	3.79	3.75	2.96	2.83	3.54	4.05	3.07	3.25
6.35	4.57	4.71	4.95	4.88	3.48	3.62	4.43	4.71	3.76	4.05
8.00	4.67	4.92	5.32	5.16	3.34	3.67	4.44	4.33	3.55	4.07
10.08	5.23	5.61	6.09	5.91	3.49	4.04	4.89	4.09	3.69	4.35
12.70	5.51	5.77	6.33	6.45	3.45	4.12	5.25	3.82	3.55	4.57
16.00	5.57	5.60	6.38	6.29	3.21	4.08	5.25	3.34	3.45	4.60
20.16	5.30	5.39	5.76	5.80	2.82	4.00	5.16	2.89	2.99	4.30
25.40	4.67	5.43	4.52	4.63	2.35	4.14	4.99	2.32	2.96	4.22
32.00	3.75	3.87	3.70	4.03	2.07	3.71	4.70	1.54	2.32	4.16
40.32	2.24	2.26	1.53	2.08	1.48	3.14	3.20	1.00	2.34	2.98
50.80	1.52	1.24	0.54	0.88	1.49	3.25	3.17	0.95	1.92	3.03
64.00	0.92	0.50	0.20	0.31	2.17	2.98	2.67	1.08	3.20	2.73
80.63	0.51	0.25	0.06	--	3.87	1.92	1.76	1.81	5.52	2.00
101.59	0.16	0.07	--	--	6.05	0.89	0.54	2.47	5.07	0.65
128.00	--	--	--	--	5.54	0.48	0.08	2.06	2.07	0.29
161.27	--	--	--	--	3.14	--	--	2.72	0.64	0.07
203.19	--	--	--	--	0.61	--	--	2.34	0.27	--
256.00	--	--	--	--	0.35	--	--	2.24	--	--
322.54	--	--	--	--	--	--	--	2.24	--	--
406.37	--	--	--	--	--	--	--	1.22	--	--
512.00	--	--	--	--	--	--	--	0.81	--	--

Table 17: Bottom Sediment Grain Size Distribution Data

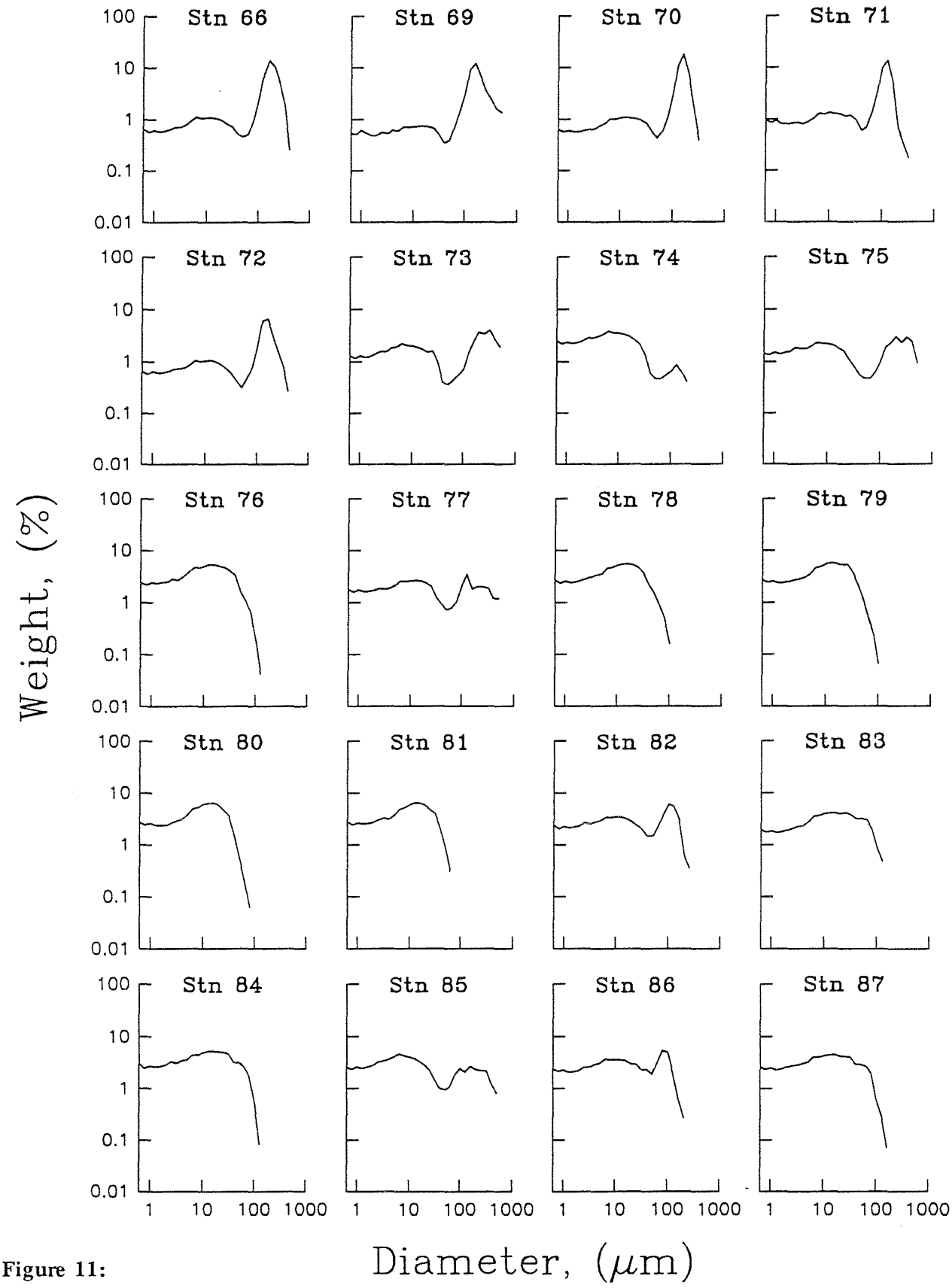

Stn 66
Stn 69
Stn 70
Stn 71
Stn 72
Stn 73
Stn 74
Stn 75
Stn 76
Stn 77
Stn 78
Stn 79
Stn 80
Stn 81
Stn 82
Stn 83
Stn 84
Stn 85
Stn 86
Stn 87
100
10
1
0.1
0.01
1
10
100
1000
Weight, (%)
Diameter, (μm)

Figure 11:

INORGANIC BOTTOM SEDIMENT

STATION	88	89	90	91	92	93	94	95	96	97
DIAMETER					EQUIVALENT WEIGHT, (%)					
0.63	2.51	3.07	2.75	2.83	0.97	3.05	3.12	3.29	3.02	0.48
0.79	2.20	2.75	2.24	2.47	0.82	2.61	2.52	2.96	2.51	0.41
1.00	2.43	3.03	2.46	2.65	0.94	2.72	2.84	3.18	2.59	0.43
1.26	2.23	2.73	2.41	2.45	0.88	2.38	2.65	2.67	2.38	0.40
1.59	2.29	2.84	2.48	2.59	0.92	2.43	2.72	2.84	2.40	0.44
2.00	2.31	2.91	2.63	2.79	0.99	2.49	2.90	3.02	2.54	0.50
2.52	2.56	3.29	2.90	3.14	1.08	2.79	3.04	3.33	2.70	0.58
3.17	2.57	3.39	2.85	3.05	1.06	2.80	3.16	3.42	2.64	0.65
4.00	2.67	3.62	2.90	3.38	1.20	3.18	3.16	3.19	2.93	0.77
5.04	3.04	4.10	3.34	3.56	1.20	3.26	3.73	3.66	3.23	0.93
6.35	3.75	4.82	4.11	4.33	1.43	4.10	4.75	4.61	3.88	1.19
8.00	3.71	4.47	4.20	4.17	1.38	4.28	4.92	4.77	3.62	1.21
10.08	3.88	4.35	4.49	4.58	1.43	4.81	5.41	5.24	3.68	1.31
12.70	4.02	4.20	4.71	4.63	1.42	5.48	5.81	5.74	3.68	1.41
16.00	4.08	3.67	4.95	4.59	1.39	5.91	6.15	5.73	3.59	1.48
20.16	3.94	3.16	4.61	4.13	1.34	5.65	5.53	5.57	3.04	1.35
25.40	3.86	2.59	5.24	4.06	1.16	5.24	5.73	4.56	2.41	1.33
32.00	3.55	1.62	4.31	2.62	0.89	4.04	3.99	3.78	1.77	1.15
40.32	3.18	1.06	3.58	1.96	0.68	2.75	1.04	2.23	1.14	0.79
50.80	3.03	0.88	3.33	1.80	0.68	1.77	0.55	1.23	0.78	0.67
64.00	2.53	0.84	2.92	1.70	1.05	0.99	0.22	0.75	0.80	0.73
80.63	1.84	1.15	2.07	2.11	1.67	0.29	0.11	0.25	0.83	0.81
101.59	2.40	1.62	0.95	1.37	1.68	0.13	--	0.06	0.66	0.70
128.00	2.38	1.90	0.25	0.44	1.34	0.03	--	--	0.31	0.57
161.27	0.86	1.27	--	0.15	0.74	--	--	--	--	0.69
203.19	0.21	1.22	--	--	--	--	--	--	--	1.13
256.00	--	0.70	--	--	--	--	--	--	--	0.99
322.54	--	--	--	--	--	--	--	--	--	1.27
406.37	--	--	--	--	--	--	--	--	--	2.17
512.00	--	--	--	--	--	--	--	--	--	--

Table 18: Bottom Sediment Grain Size Distribution Data

INORGANIC BOTTOM SEDIMENT

STATION	98	99	100	101	102	103
DIAMETER		EQUIVALENT WEIGHT, (%)				
0.63	3.08	2.77	3.15	2.93	0.45	0.71
0.79	2.58	2.40	2.93	2.62	0.40	0.63
1.00	2.87	2.57	3.27	2.86	0.43	0.67
1.26	2.70	2.33	2.92	2.65	0.40	0.61
1.59	2.80	2.45	2.91	2.77	0.43	0.63
2.00	2.97	2.61	3.17	2.97	0.45	0.63
2.52	3.35	2.90	3.36	3.16	0.50	0.74
3.17	2.99	2.74	3.43	3.13	0.48	0.75
4.00	3.00	3.09	3.86	3.48	0.51	0.74
5.04	3.37	3.52	3.79	3.34	0.57	0.89
6.35	4.08	4.23	4.60	4.03	0.68	1.07
8.00	3.98	4.24	4.52	3.89	0.65	1.02
10.08	4.37	4.45	4.74	4.19	0.69	1.06
12.70	4.46	4.76	4.80	4.46	0.69	1.07
16.00	4.95	4.77	5.06	4.57	0.69	1.01
20.16	4.46	4.45	4.52	4.35	0.61	0.99
25.40	4.38	4.03	4.30	3.81	0.60	0.90
32.00	3.35	3.46	3.86	3.32	0.47	0.82
40.32	2.36	2.49	2.66	2.61	0.42	0.68
50.80	1.98	1.89	2.34	2.37	0.39	0.55
64.00	1.78	1.47	2.17	2.63	0.41	0.62
80.63	1.32	1.12	1.54	2.78	0.62	1.07
101.59	0.64	0.39	0.81	2.08	0.85	1.67
128.00	0.30	--	0.14	0.83	0.85	3.00
161.27	--	--	--	0.51	0.82	5.44
203.19	--	--	--	0.15	0.86	9.40
256.00	--	--	--	--	1.03	9.17
322.54	--	--	--	--	1.14	5.47
406.37	--	--	--	--	1.54	2.13
512.00	--	--	--	--	1.36	1.06

Table 19: Bottom Sediment Grain Size Distribution Data

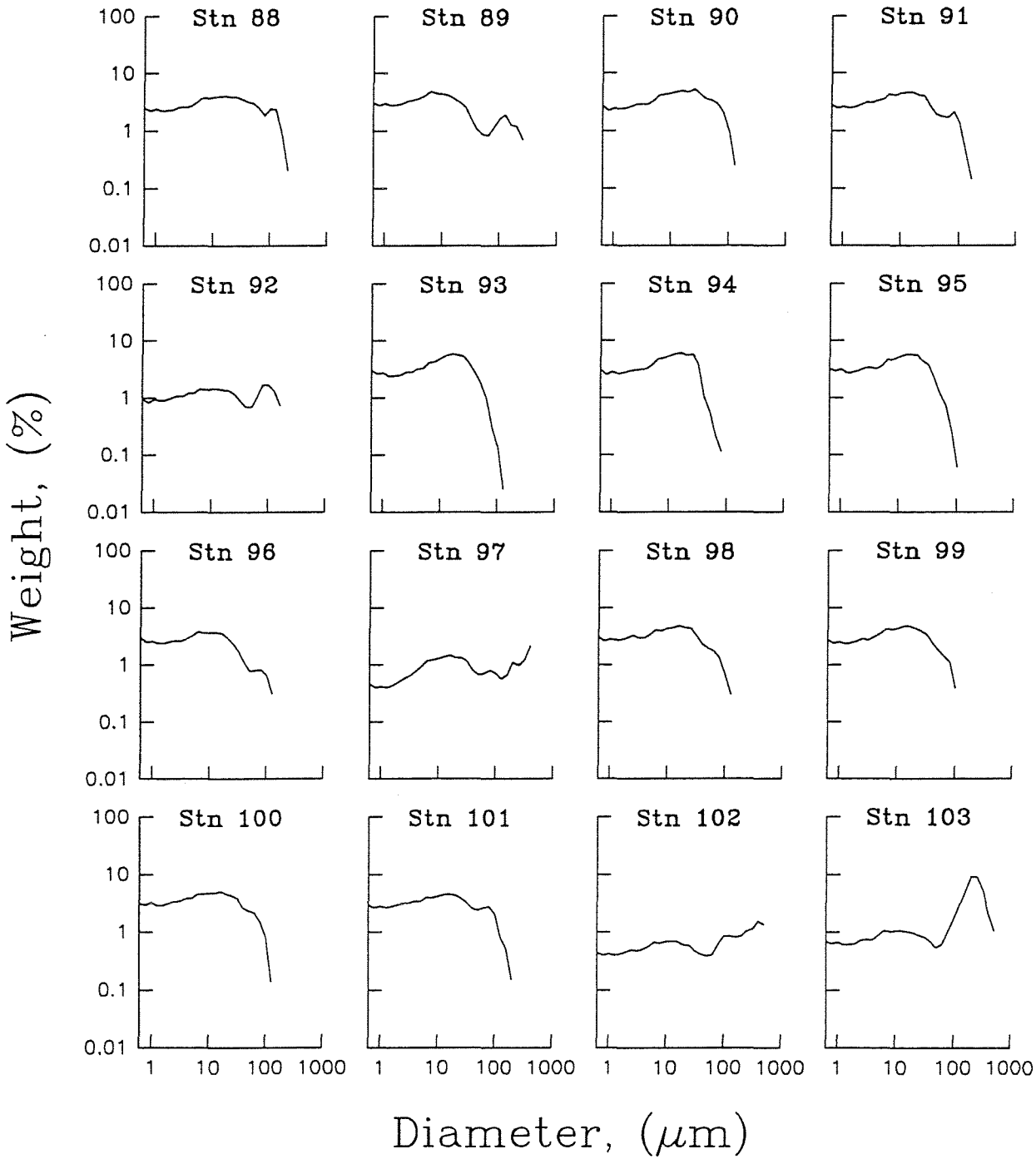
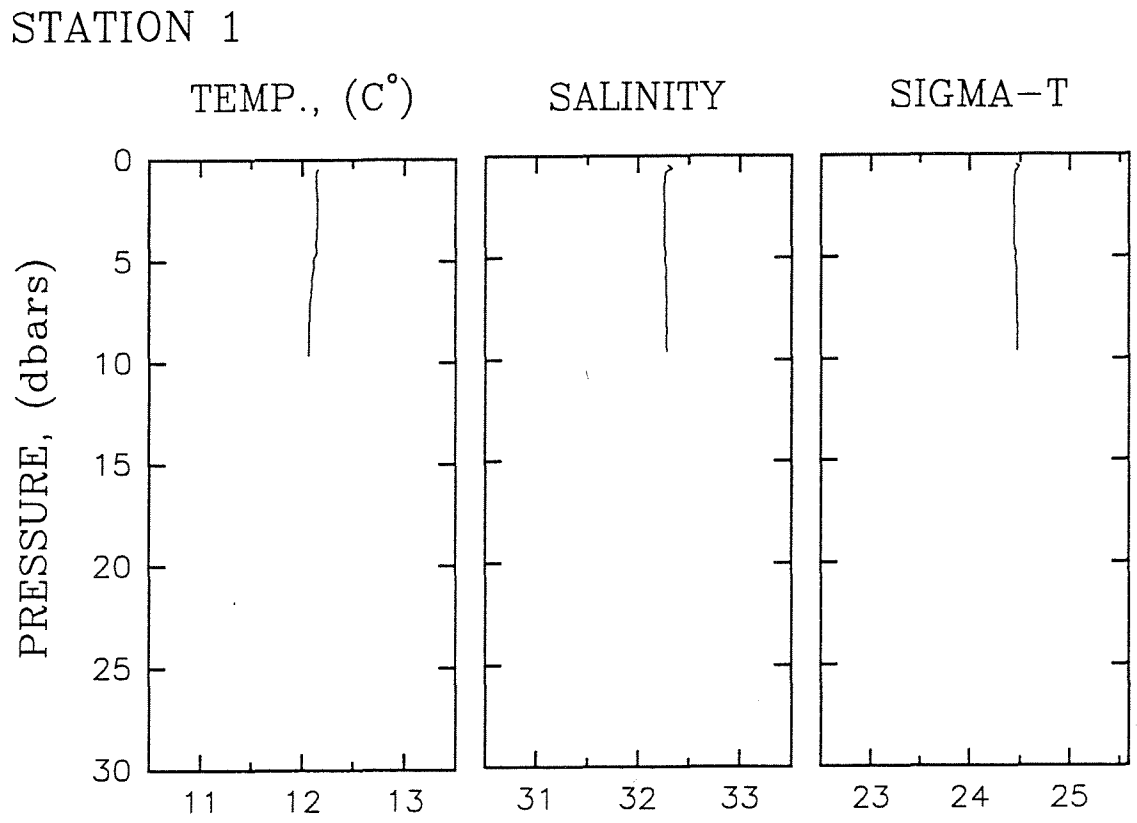

Stn 88
Stn 89
Stn 90
Stn 91
Stn 92
Stn 93
Stn 94
Stn 95
Stn 96
Stn 97
Stn 98
Stn 99
Stn 100
Stn 101
Stn 102
Stn 103
100
10
1
0.1
0.01
1
10
100
1000
Weight, (%)
Diameter, (μm)

Figure 12:

APPENDIX C: CTD PROFILES


STATION 1
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

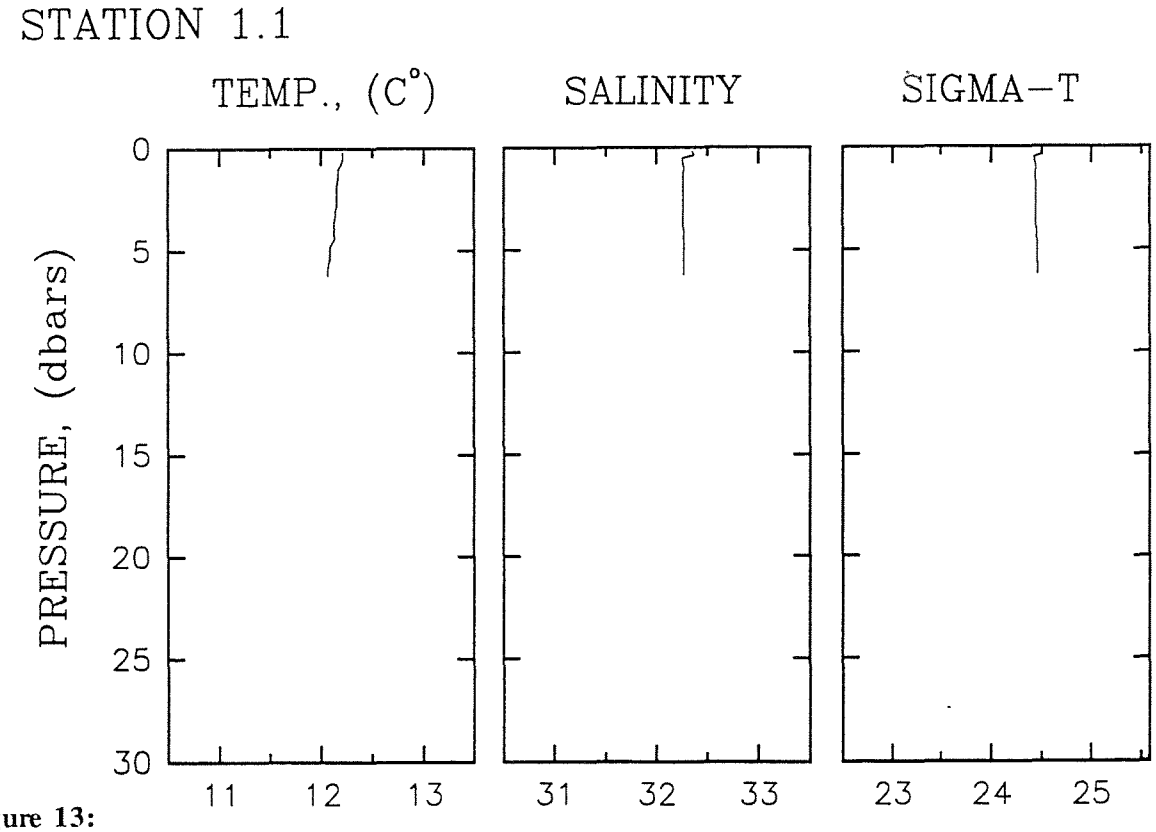
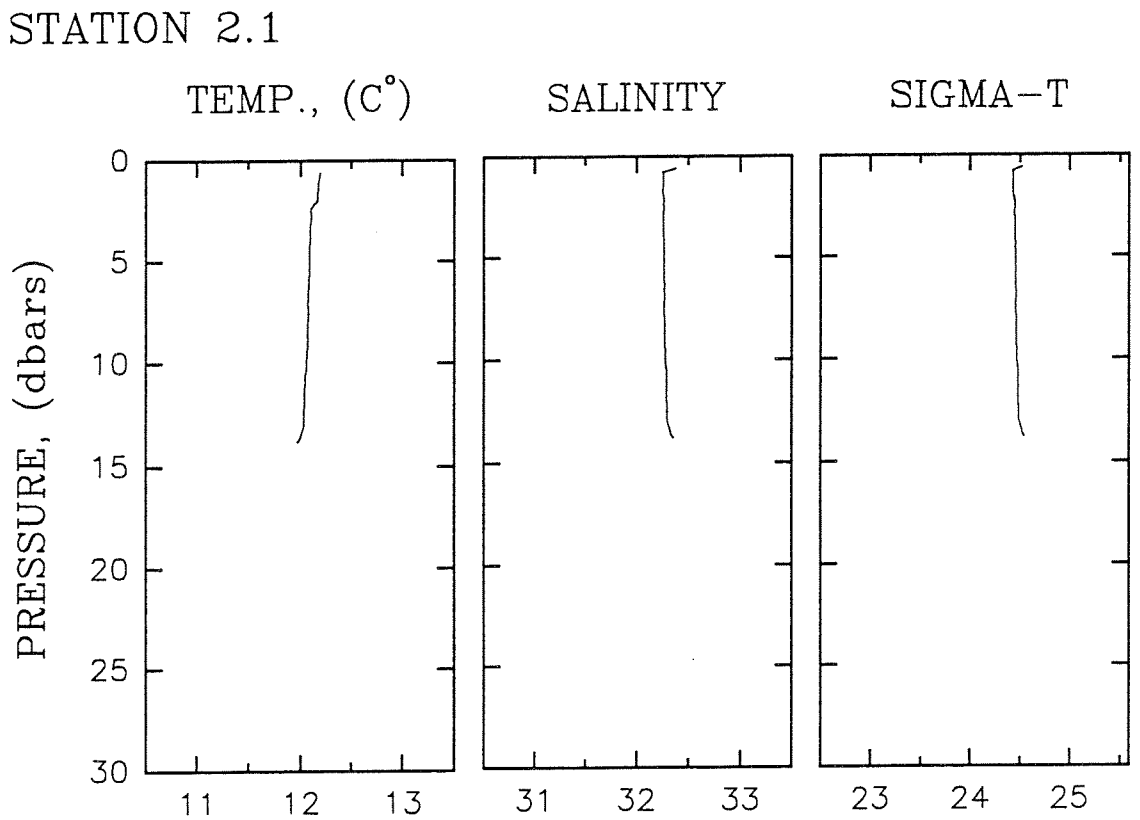

STATION 1.1
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 13:


STATION 2.1
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

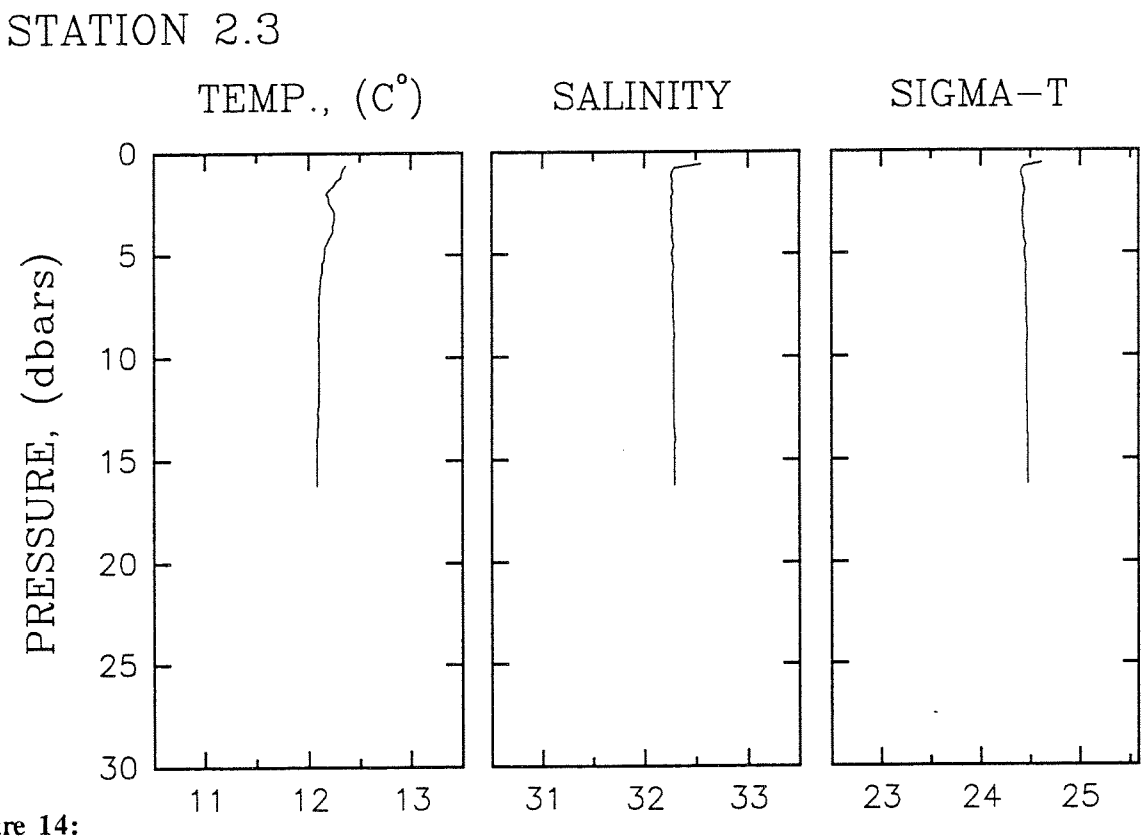

STATION 2.3
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 14:

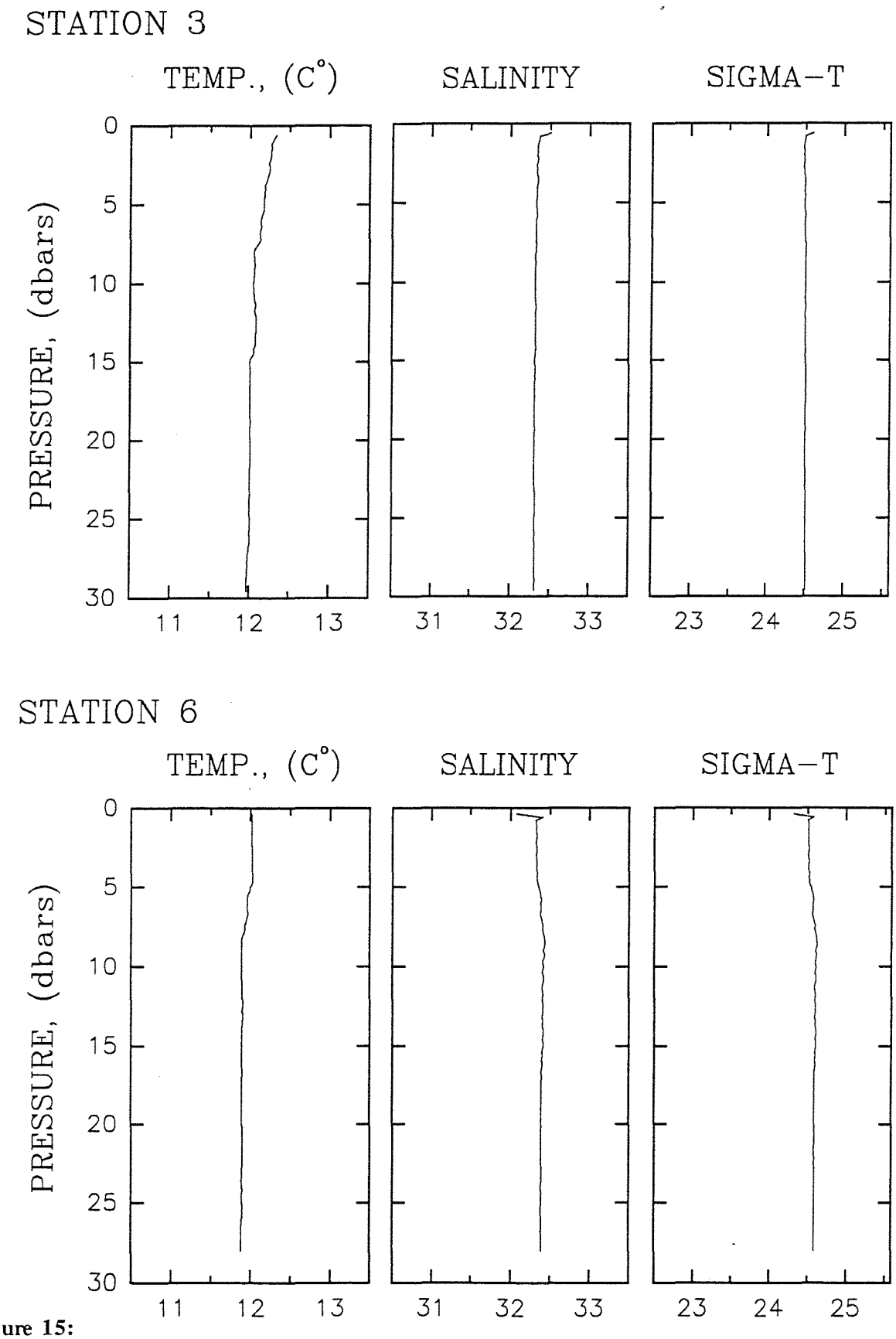

STATION 3
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25
STATION 6
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 15:

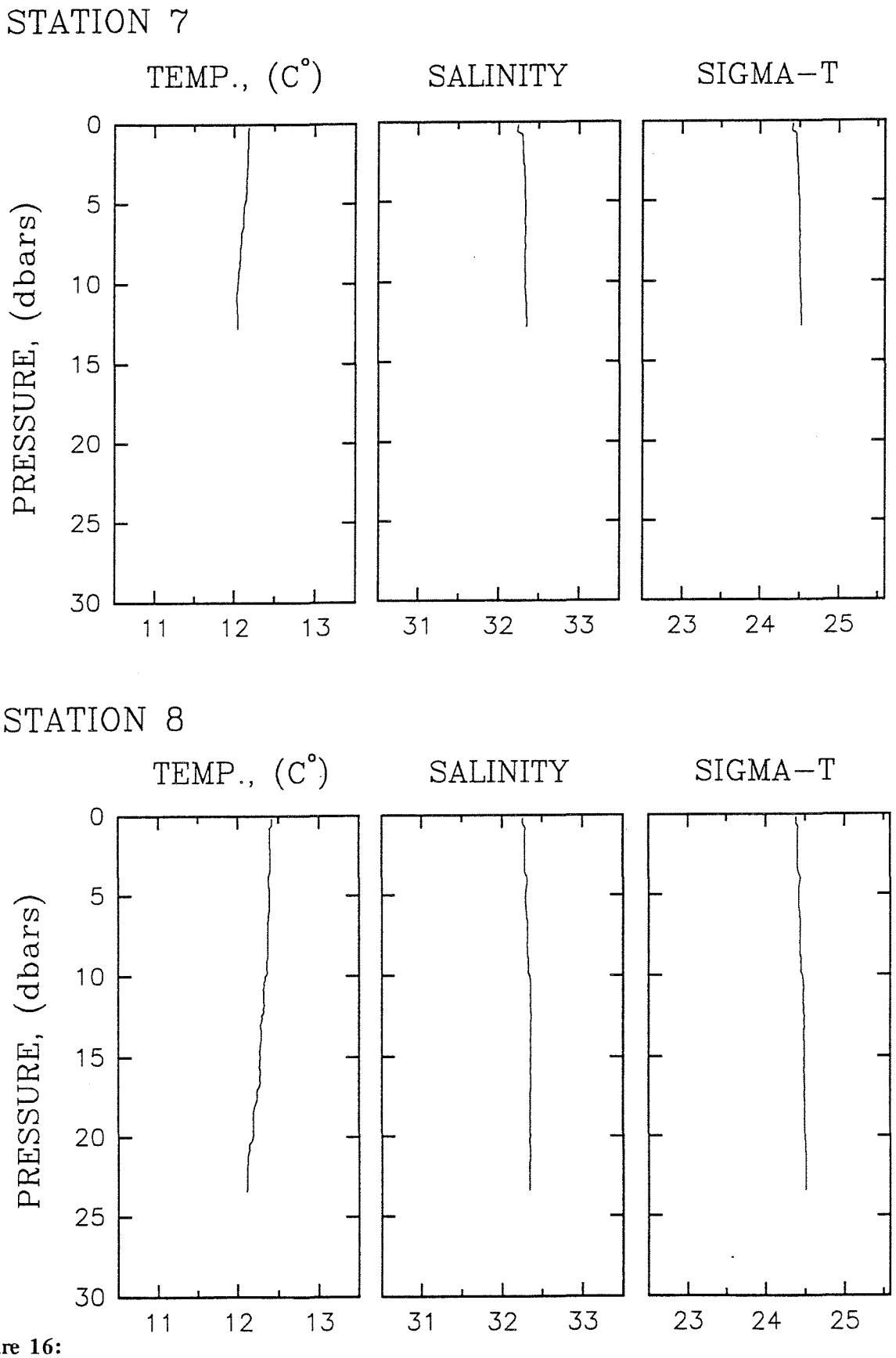
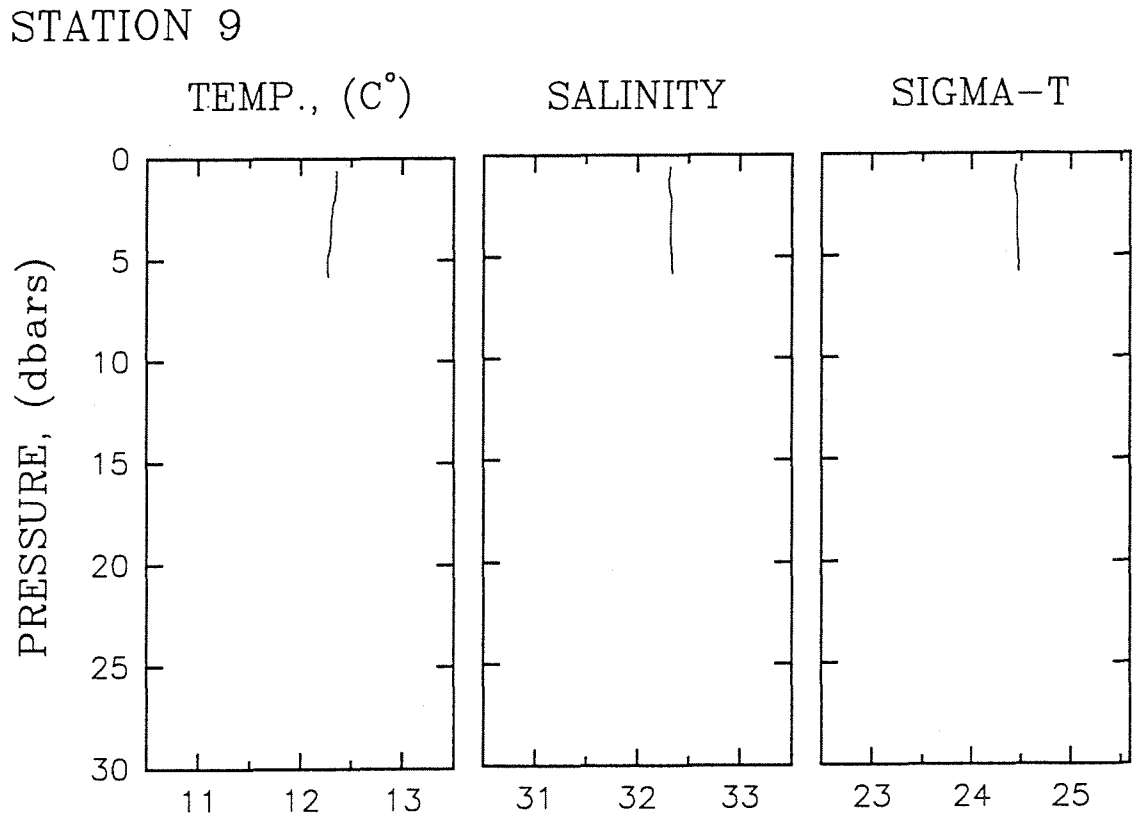

STATION 7
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25
STATION 8
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 16:


STATION 9
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

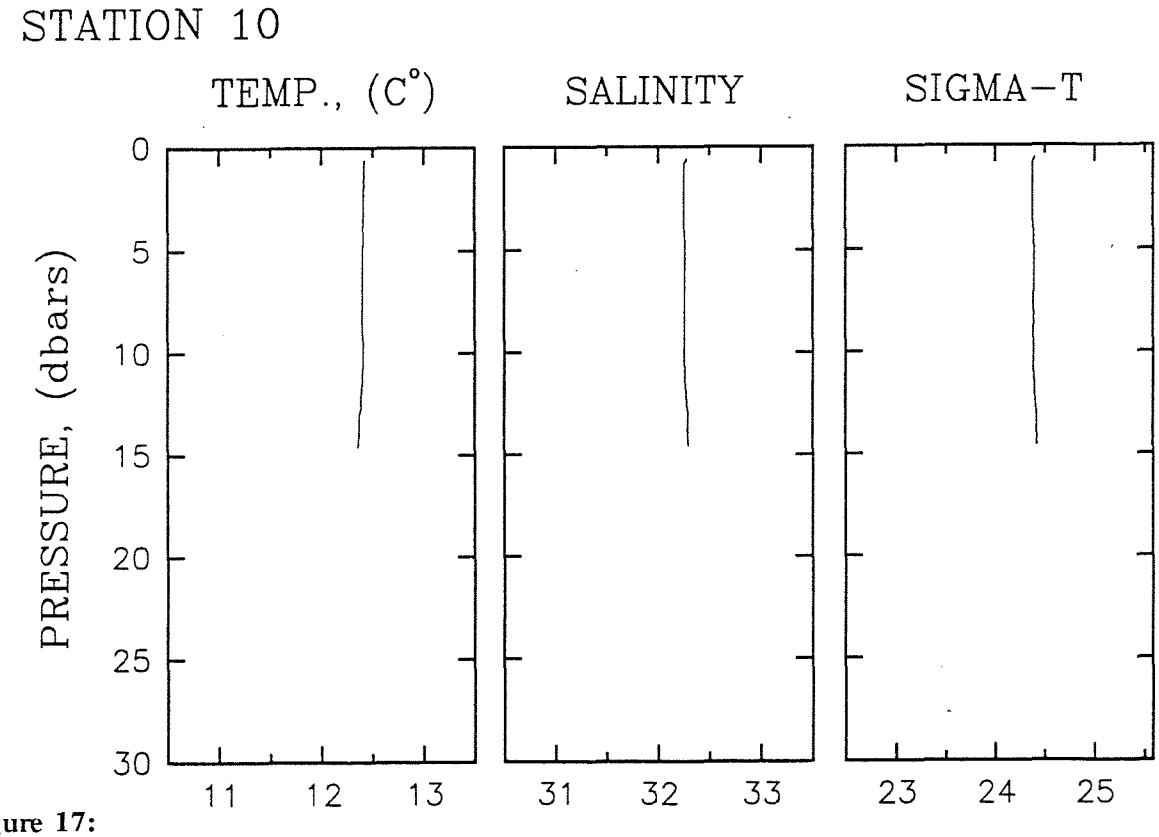

STATION 10
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 17:

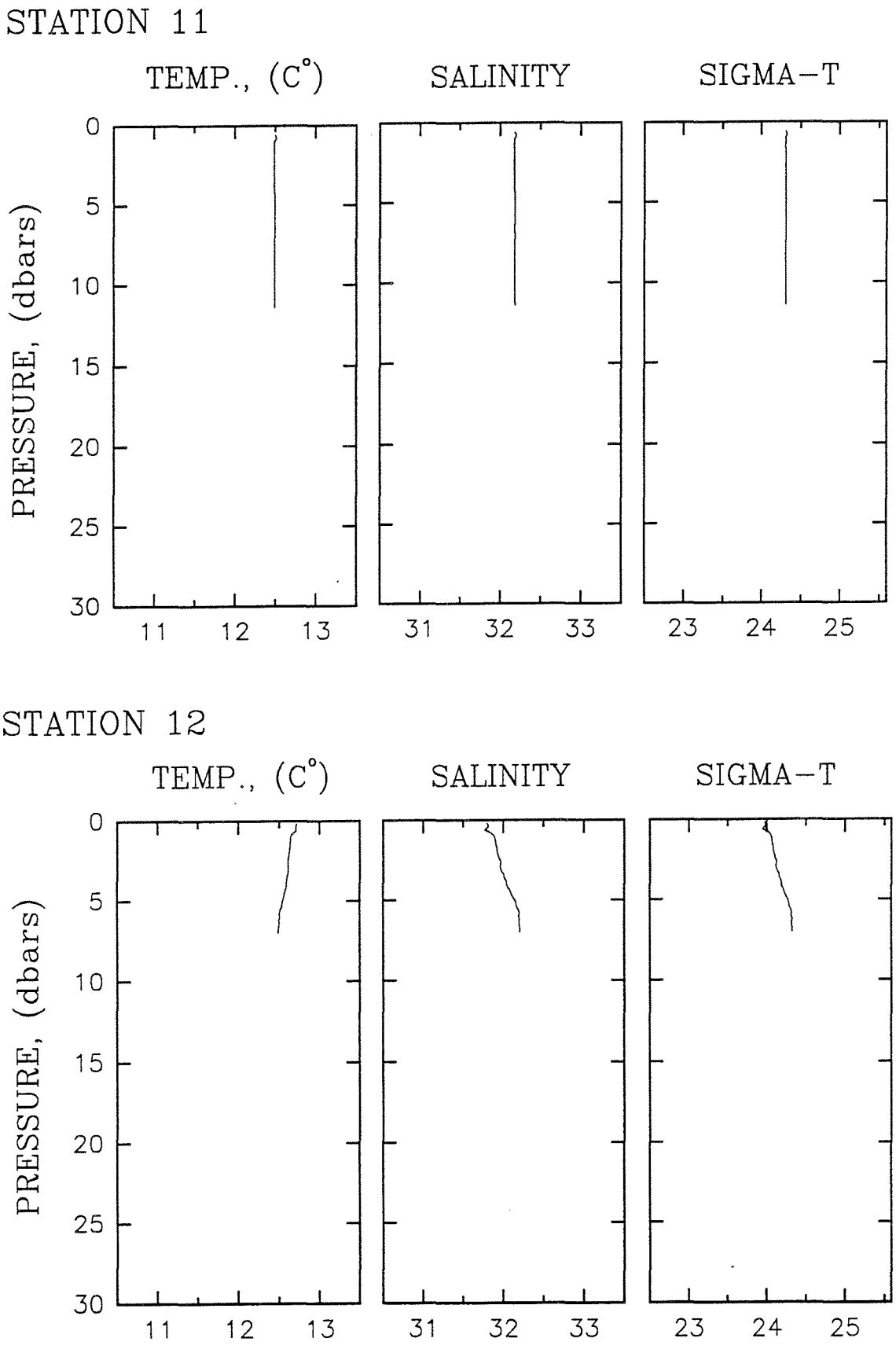

STATION 11
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25
STATION 12
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 18:

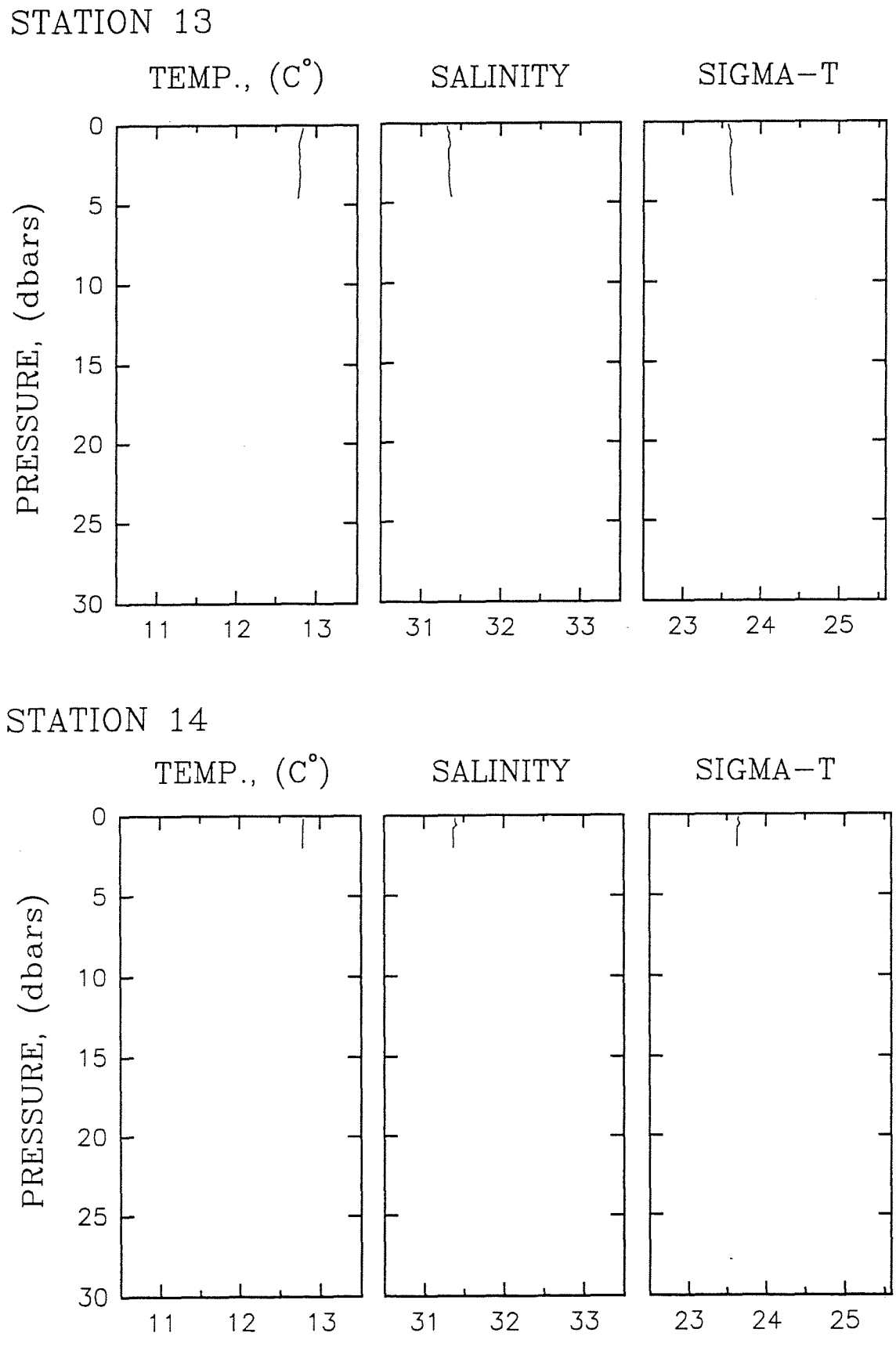

STATION 13
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25
STATION 14
TEMP., (C°)
SALINITY
SIGMA−T
PRESSURE, (dbars)
0
5
10
15
20
25
30
11
12
13
31
32
33
23
24
25

Figure 19: