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A Preliminary Study of Foxe Basin Bottom Sediments

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A PRELIMINARY STUDY OF FOXE BASIN BOTTOM SEDIMENTS

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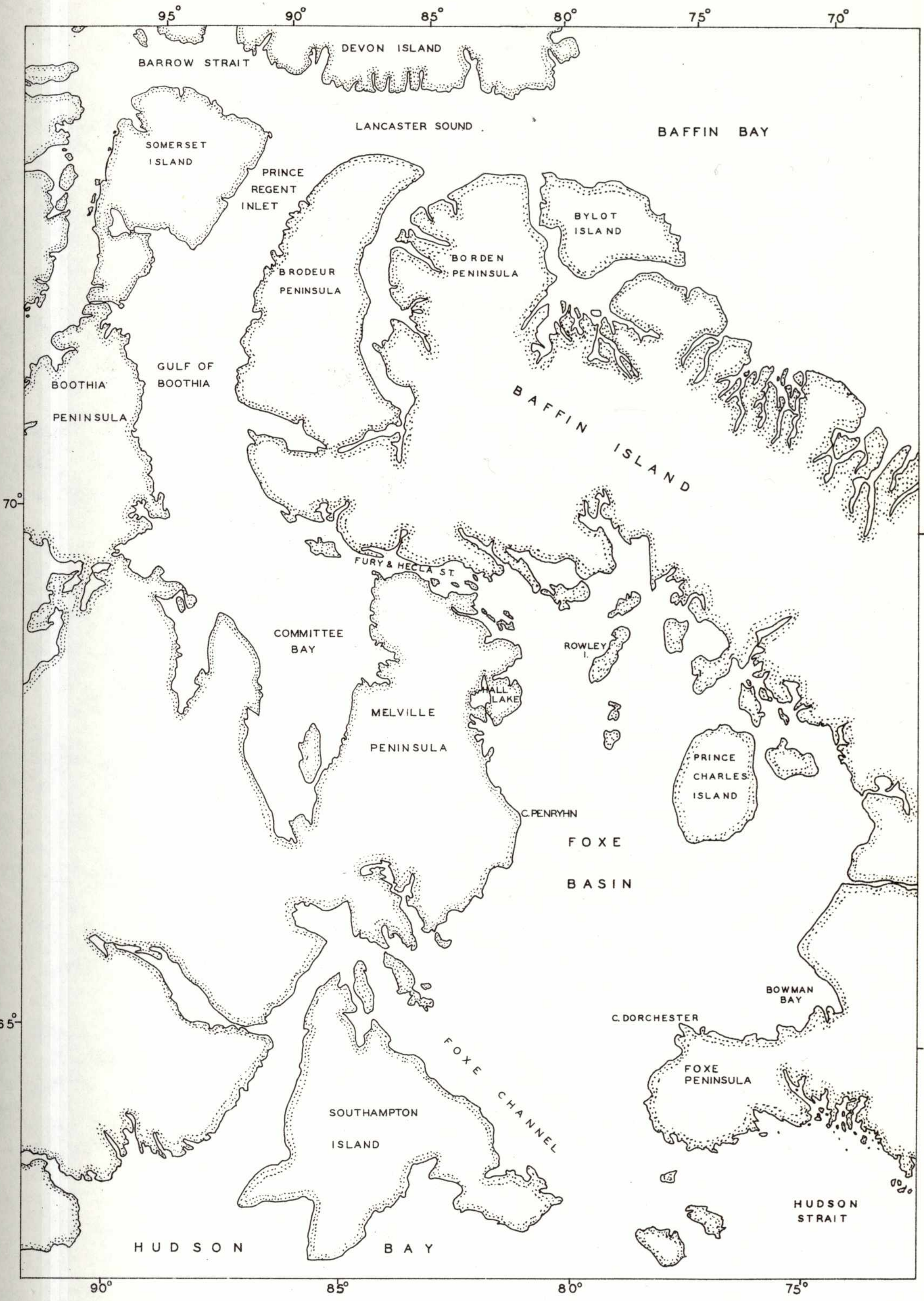

Foxe Basin and adjacent waters

A Preliminary Study of Foxe Basin Bottom Sediments

by

F. D. Forgeron

INTRODUCTION

This report is intended to give a general description of the size distribution and mineralogy of bottom sediments in Foxe Basin and adjacent areas based on 174 bottom samples collected by the Atlantic Oceanographic Group during the 1955 and 1956 summer cruises of H.M.C.S. "Labrador".

In 1955 most of the geological sampling was conducted in Foxe Basin, Foxe Channel and northern Hudson Bay. In the following year supplemental samples were taken from the Gulf of Boothia and Prince Regent Inlet. The Foxe Basin collection represents the best geographical distribution of samples and is accordingly considered in more detail than the other areas.

The land around Foxe Basin is underlain by rocks of the Precambrian and Palaeozoic eras. The older metamorphosed shield rocks of Precambrian age are mainly acidic (granodiorite, granite, quartz diorite, and granite gneiss), but include some granitized sedimentary and volcanic rocks.

One of several Palaeozoic basins of dominantly flat-lying sedimentary rocks exists in the northern sector of Foxe Basin (Fig. 2). These rocks are of Ordovician and Silurian age. The Ordovician rocks are composed mainly of limestone, dolomite, argillite, sandstone, quartzite, and grit. The Silurian rocks are composed mainly of sandstone, shale, limestone, conglomerate, and dolomite (Geological map of Canada, 1954; Dunbar and Greenaway, 1956

The land masses surrounding Foxe Basin are Baffin Island, Southampton Island, and Melville Peninsula. Several islands are found in the central and northern sectors of the basin. Baffin Island is, for the most part, low and featureless on the south-western side which borders on Foxe Basin. Elevations increase gradually from south to north with mountains in excess of 1000 feet in the northern and eastern part of the island. Southampton Island is low and flat in the southernmost regions but attains elevations of 1000 feet or more in the east central sector (Bird, 1953). Melville Peninsula is broken into two distinct topographic regions. The northeast sector, underlain by Palaeozoic rocks, is low and relatively flat. In contrast the Precambrain regions along Fury and Hecla and Frozen Straits are high and rugged.

Two distinct types of bottom topography occur in Foxe Basin. Foxe Channel, seemingly a continuation of Hudson Strait, has steeply sloping sides and depths of 200 fathoms in several areas. The remainder of Foxe Basin, in contrast to Foxe Channel, is shallow and generally flat throughout with maximum depths of 50 fathoms (Fig. 5).

SAMPLING AND GENERAL PROCEDURE OF ANALYSIS

All sampling was carried out with a Dietz-Lafond type of bottom snap. The instrument is capable of taking about 500 cc of sediment. Preliminary examination of the sediments at sea was confined to visual inspection and general classification as to type and colour. The samples were stored in cloth bags and allowed to dry.

In the laboratory the desiccated and semi-consolidated samples were crushed and screened. The samples were then examined and classified as to colour, particle size, carbonate content and macro-and microscopic fauna. The percentage by weight for specific ranges of size distribution was determined. These data were used for the calculation of statistical parameters of sorting and skewness.

The coarse and fine size fractions were examined separately and are described with respect to general composition, particle shape, and surface texture.

The carbonate content was measured from the fraction containing particles less than 0.5 mm in diameter.

The macro-and microscopic fauna were identified in composite samples, representative of Foxe Basin, by the Geological Survey of Canada.

Mechanical Analysis of Sediments

Size fractions were determined from particle size analysis and classified according to the Wentworth Grade Scale (Table I). Particles greater than sand size were separated by screening. Sand, silt and clay proportions were determined by the hydrometer method of Buoyoucos (Buoyoucos, 1926). The results of this procedure are tabulated in weight percent (Table IIa and IIb).

Pebbles and granules are classified as "coarse sediments". Pebbles, less than 50 mm in diameter, are dominant in this fraction of the sediments. Larger rock fragments probably exist on the bottom, but their absence is attributed to the limited capacity of the sampler.

Granules were found in small quantities in nearly all samples but seldom exceeded 10 per cent. It is to be noted that the percentage of granules is recorded as an individual fraction for the samples collected in 1955 (Table IIa), but both pebbles and granules are recorded as one fraction for the samples taken in 1956 (Table IIb).

Sand, silt and clay are grouped into a single "fine sediment" fraction. Within this group, sand or silt generally predominated, but minor amounts of clay were found in all the fine sediment fractions.

Statistical Parameters of Sediments

Statistical parameters were calculated to determine some of the characteristics of size distribution of the samples. Forty samples, selected as representative of the areas under study, were used in the analysis. First quartiles, Q_1, median diameters, M_1, and third quartiles, Q_3, were derived from the size fractions. Coefficients of sorting ($S_o = \sqrt{Q_1/Q_3}$), and skewness ($S_k = Q_1 Q_3/M^2$), were calculated from these data (Table III). The coefficient of skewness gives a measure of the symmetry of the size distribution about the median, the approximate position of the mode, and the approximate position of the maximum sorting. The logarithm of the coefficient of skewness gives additional information of the size distribution. If the value is positive, the mode, and consequently the maximum sorting, occurs on the fine side of the median and vice versa.

The statistical parameters (Tables III and IV) were found to be extremely variable for northern Hudson Bay and Foxe Basin in contrast to those for the Gulf of Boothia and Prince Regent Inlet. The differences between these regions appear to be closely related to the oceanography of the respective areas. Strong currents have been measured and visible indications of turbulence observed in Foxe Basin (Campbell and Collin, MS, 1956). These conditions, together with the extensive tidal flats and rafting of dirt by ice, could readily account for the variation of sediment sizes in Foxe Basin and northern Hudson Bay. Sediment conditions in Prince Regent Inlet and the Gulf of Boothia are quite different to those of Foxe Basin and Hudson Bay (Table IV). The sediments are comparatively much finer and better sorted in Prince Regent Inlet and the Gulf of Boothia than in Foxe Basin. The sorting in these areas suggests a much lower level of turbulence and weaker currents than in Foxe Basin.

Median diameters, M, of the sediments of Foxe Channel and Foxe Basin are 110.0 μ and 4181.5 μ respectively, and indicate that more than 50% of the Foxe Channel sediments are fine sand while the Foxe Basin sediments contain more than 50% pebbles. The clear distinction of the sediment types indicates that sedimentary conditions in Foxe Channel are significantly different from those in Foxe Basin. Sorting coefficients are variable but indicate better sorting in Foxe Channel than Foxe Basin. Trask (1932) points out that well-sorted sediments have coefficients of sorting of 1.0 to 2.5 and poorly-sorted sediments have coefficients greater than 4.5. Although sorting coefficients vary for the Foxe Basin sediments from 1.8 to 33.1, the mean, 11.2, (Table IV), is well above the minimum criteria for poor sorting. The low sorting coefficients (1.8 to 2.8) and the comparatively high value of the third quartile diameter of a few samples in Foxe Basin suggest the possibility that those samples were washed while being brought to the surface.

The sediments in Foxe Basin have such large and variable proportions of coarse sediments that the "water sorting" is not well expressed by the sorting coefficient. However, the fine sediment sizes appear to be better sorted (Table V). The mean value for the sorting coefficients of 20 samples, selected as representative of the areas under study, is 4.29 which is within the "moderately well-sorted" class given by Trask (1932).

Distribution of Sediments

The distribution of sediments throughout Foxe Basin, based on size fractions of the samples, is shown in Figures 3 and 4. The distribution of sedimentary types is necessarily generalized to cover areas of incomplete sampling. Adequate sampling was accomplished only in areas where safe navigation was assured.

Figure 3 shows the distribution of pebbles or coarse sediments throughout the basin. It is based on the weight percent of pebbles and is summarized in Tables IIa and IIb. Figure 4 represents the distribution of the fine sediments also defined by the weight percent of the two major fine sediment constituents in Tables IIa and IIb. The accompanying legend includes the percentage limits of each sedimentary type. Sedimentary types showing limits of 30 to 50% for both major constituents have the dominant constituent placed above the lesser one.

A notable feature of the coarse sediments (Fig. 3) is the large concentration in the shallow waters between Prince Charles Island and Foxe Peninsula and between Rowley Island and Hall Lake. These large concentrations of coarse sediments grade to small concentrations in the deep water of Foxe Channel. Sand forms the predominant fraction of the fine sediments in the shallow waters but grades to silt and clay in deep waters (Fig. 4).

There is a good correlation between coarseness of sediments and the strength of currents in Foxe Basin. This is well illustrated between Hall Lake and Rowley Island where tidal currents of 3.2 knots have been measured (Campbell and Collin, 1956); and north of Foxe Peninsula where Putnam (1928) reported currents of 6 knots. The finest sediments are mainly located in Foxe Channel where the currents are slight. These sediments would normally be expected to be well sorted but the fact that there is a significant variation in the sorting coefficients suggests that "ice rafting" or "ice dumping" of larger particles takes place. In Foxe Basin, with its coarser sediments, this effect cannot be seen but in Foxe Channel, where water-sorted fine sediments predominate, foreign deposits are readily noticeable.

DESCRIPTION OF SEDIMENTS

The colour of the dry samples was determined by comparison with standard colour cards. The Munsel colour classification has been used throughout Tables IIa and IIb (Rock Colour Chart, 1951). For the most part the dried samples were yellowish-grey. The colour of the wet samples was estimated without comparison cards, and only general statements can be made of original colours. Most wet samples were either brown or black. The sediments were examined in the laboratory to determine the general composition, particle shape, surface texture of the particles, and the faunal content. The coarse sediments were studied macroscopically. A binocular microscope was used to study the fine sediments (0.5 mm to 2.0 mm in diameter) using magnifications of 8 to 90 power.

Composition

Limestone pebbles were dominant in the coarse sediment fractions with minor quantities of granite, syenite, quartzite, schist, gneiss, and sandstone (Table VI). The limestone most often encountered was highly fossiliferous and partially recrystallized. However, other types of limestone were also present.

Several samples from the Cape Dorchester area were unusual in that they were composed solely of shell fragments (mostly Pelecypod).

Quartz and limestone were the major constituents of the fine sediment fractions. Within the particle size limits studied, the amount of limestone generally decreased with decreasing grain size. Most particles greater than 1.0 mm in diameter were composed of limestone, and most of those 0.5 to

1.0 mm in diameter were composed of quartz. The proportions of limestone and quartz were quite constant throughout Foxe Basin. Minor amounts of feldspar, amphibole, pyroxene and mica were also present. Pyriboles were recorded (Table VI) when amphibole, pyroxene or both were observed.

Several of the fine sediment fractions of samples from central Foxe Basin contain a large proportion of shells of micro-fauna (mostly foraminifera) and fragments of Pelecypod shells.

Particle shape and surface texture

Weathered and unweathered particles were found in all samples. However, weathered particles dominated the samples, as indicated by particles that varied from sub-angular to rounded shapes. The coarse sediments of limestone composition were generally rough, pitted, and burrowed with the extent depending on the type of limestone and the length of time deposited. The hard substances such as quartz, feldspar, amphibole, pyroxene and their combinations in rocks resulted in relatively smooth particles.

The fine sediments exhibited nearly all the same characteristics as the coarse sediments, but were not pitted or burrowed. A small but constant proportion of frosted sediments and polished quartz particles was present in all fine sediment fractions. Unweathered particles, mostly quartz and feldspar, constituted a small proportion of all the samples.

Faunal Content

Observations were made on the overall faunal content of the samples, the dominant types being recorded with the composition (Table VI). The Geological Survey of Canada made a more specific identification of composite samples selected from three sectors of Foxe Basin (Table VII). The microfauna consisted mainly of Foraminifera and the macro-fauna of Pelecypods. Barnacles (Balanus) were found to be common. Shelly fauna was more prolific in Foxe Basin than any other area studied.

Carbonate Content

Carbonate content analysis for particles less than 0.5 mm diameter was run on 17 samples, representative of Foxe Basin, northern Hudson Bay, Gulf of Boothia and Prince Regent Inlet.

The samples were not washed in water before treatment with hydrochloric acid and therefore the results (Table VIII) include the proportion of the water soluble salts as well as the carbonate content. The proportion of the water soluble salts, as observed by Sutton, Berchkhemer and Nafe (1957) in deep sea sediments was small, and therefore neglected.

The results of the analysis (Table VIII) show that carbonates occupy a large proportion of the particles less than 0.5 mm in diameter. Trask (1932) believed that the carbonates present in the sediments of Davis Strait and Baffin Bay were ice-borne. A similar explanation appears valid for those observed in these "Inland Seas". Foxe Basin has a higher percentage of carbonates than does northern Hudson Bay, the Gulf of Boothia or Prince Regent Inlet. The higher carbonate percentage in Foxe Basin is accompanied by prolific shelly fauna. This interesting feature, although not within the scope of this report, could warrant further study.

DISCUSSION

The sediments recovered from Foxe Basin correspond in composition with rock types found along the coasts. The high percentage of pebbles, particularly limestone, in Foxe Basin compared with the other regions studied is believed to be related to the abundance of limestone in the Palaeozoic rock formations that make up much of the eastern and northwestern sides of Foxe Basin and the islands therein. The northeast sector of Foxe Basin, as delineated in Figure 2, is believed to be underlain by Palaeozoic rocks of which limestone is a major constituent. The underlying bedrock, therefore, provides a source of limestone which is dominant in the coarse sediments.

The distribution of both the coarse and fine sediments is brought about to a certain extent in Foxe Basin by drifting ice. Foxe Basin ice has always been noted for its soiled or dirty appearance. Campbell and Collin (1957) concluded that the sediment-laden ice forms in the shallows and mud flats off the eastern coast of Foxe Basin. The dirty ice, after formation, is distributed throughout the basin by water circulation and wind (Campbell and Collin, 1956).

SUMMARY AND CONCLUSIONS

One hundred and seventy-four bottom samples were collected in northern Hudson Bay, Foxe Basin, Gulf of Boothia and Prince Regent Inlet.

Mechanical analysis revealed a wide range of particle sizes in Foxe Basin. Water movements have sorted some of the sediments into specific sedimentary types but in many areas other factors mask the extent of water sorting. The sediments of Foxe Basin and northern Hudson Bay were found to be similar. A smaller range of particle sizes was found in the Gulf of Boothia and Prince Regent Inlet than in Foxe Basin. Sedimentary conditions in Prince Regent Inlet and the Gulf of Boothia suggest weak currents and limited rafting by ice.

Statistical parameters calculated from representative samples were variable in magnitude. The deviation from normal marine statistical values is principally due to the large concentrations of coarse sediments. The wide range of the values of the statistical parameters is believed to be characteristic of ice-deposited sediments.

Carbonate content analysis of particles less than 0.5 mm in diameter revealed a higher carbonate content in Foxe Basin than in the other areas studied. The sedimentary carbonate content of the basin is approached only by that in northern Hudson Bay. The large proportion of finely divided carbonate in the basin derives its origin from the large proportion of limestone. The high carbonate percentage is believed to be responsible for the prolific shelly fauna.

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TABLE I

Wentworth Grade Scale

Grade Limits Diameter in mm	Name	
>256	Boulder	Coarse Sediments
256 - 64	Cobble	
64 - 4	Pebble	
4 - 2	Granule	
2 - .06	Sand	Fine Sediments
.06 - .004	Silt	
<.004	Clay	

TABLE IIa

Mechanical Analysis

Size Fractions
(Weight percent)

Sample No.	Pebbles	Granules	Sand	Silt	Clay	Colour
38-2	93	0	5	1	1	10Y6/2
47-2	41	2	24	22	11	5Y7/2
48-2	88	0	4	6	2	5Y7/2
50-2	84	3	5	6	2	5Y6.5/2
52-2	65	2	15	15	3	5Y7/2
53-2	57	1	12	26	4	10Y6/2
55-2	84	1	6	6	3	5Y7/2
59-2	100	0	0	0	0	
60-2	71	2	15	8	4	5Y7/2
62-2	15	1	28	55	1	5Y6.5/2
63-2	72	1	14	10	3	5Y6/2
66-2	100	0	0	0	0	
67-2	100	0	0	0	0	
68-2	52	2	15	25	6	5Y6.5/2
70-2	79	1	6	11	3	5Y6.5/2
71-2	79	1	7	10	3	5Y7/2
74-2	62	1	14	16	7	5Y7/2
76-2	46	5	17	25	7	5Y7/2
80-2	58	3	34	4	1	5Y6/2
81-2	60	1	16	18	5	5Y7/2
82-2	76	2	9	10	3	5Y7/2
83-2	35	0	27	25	13	5Y6.5/2
84-2	42	1	24	18	15	5Y7/2
85-2	94	0	3	2	1	5Y7/2
86-2	74	2	14	6	4	5Y6/2
87-2	57	1	20	16	6	5Y6.5/2
89-2	17	1	38	29	15	5Y7/2
90-2	100	0	0	0	0	
91-2	81	10	9	0	0	
92-2	2	3	55	28	12	5Y7/2
95-2	12	1	43	32	12	5Y7/2

Table IIa (Cont'd.)

Sample No.	Pebbles	Granules	Sand	Silt	Clay	Colour
96-2	26	5	12	42	15	5Y7/2
97-2	0	0	16	53	31	5Y7/2
98-2	41	1	12	32	14	5Y7/2
99-2	14	0	29	45	12	5Y7/2
102-2	11	4	48	33	4	5Y7/2
103-2	1	2	54	31	12	5Y7/2
105-2	8	3	42	35	12	5Y6/3
107-2	90	0	7	3	0	5Y7/2
108-2	3	1	43	36	17	5Y6/3
109-2	10	1	22	55	12	5Y7/2
110-2	17	0	29	38	16	5Y7/2
113-2	41	1	26	22	10	5Y7/2
119-2	91	9	0	0	0	
120-2	53	5	14	21	7	5Y7/3
125-2	56	0	24	14	6	5Y7/2
129-2	2	4	30	40	24	5Y6.5/2
131-2	55	5	23	10	7	5Y6/2
135-2	53	3	14	19	11	5Y7/2
136-2	37	0	20	27	16	5Y7/2
144-2	5	0	38	40	17	5Y7/2
145-2	1	0	32	42	25	5Y7/2
146-2	2	2	31	33	32	5Y7/2
147-2	40	5	36	11	8	5Y7/3
148-2	100	0	0	0	0	
156-2	60	7	11	13	9	5Y7/2
158-2	12	0	36	42	10	5Y7/2
165-2	44	10	22	16	8	5Y6/3
166-2	38	0	26	23	13	5Y7/2
177-2	57	2	16	16	9	5Y7/2
183-2	22	0	26	35	17	5Y7/2
184-2	72	0	16	8	4	5Y7/3
186-2	68	1	16	12	3	5Y7/2
188-2	100	0	0	0	0	
190-2	100	0	0	0	0	
1-2	4	0	78	13	5	5Y6/2

Table IIa (Cont'd.)

Sample No.	Pebbles	Granules	Sand	Silt	Clay	Colour
4-2	15	1	36	36	12	5Y7/2
H-1-2	100	0	0	0	0	
H-2-2	100	0	0	0	0	
H-3-2	100	0	0	0	0	
H-4-2	100	0	0	0	0	
H-5-2	100	0	0	0	0	
H-6-2	100	0	0	0	0	
H-7-2	100	0	0	0	0	
H-8-2	100	0	0	0	0	
H-9-2	100	0	0	0	0	

Note: All sample numbers followed by "-2" refer to cruise code Lab-2, 1955.

TABLE IIb

Mechanical Analysis

Size Fractions
(Weight percent)

Sample No.	Pebbles & Granules	Sand	Silt	Clay	Colour
65-4	44	38	12	6	5Y7/2
68-4	100	0	0	0	
73-4	50	35	12	3	
74-4	100	0	0	0	
75-4	100	0	0	0	
77-4	100	0	0	0	
79-4	33	45	15	7	5Y7/2
84-4	70	16	13	1	5Y7/2
86-4	100	0	0	0	
88-4	100	0	0	0	
89-4	100	0	0	0	
96-4	10	27	48	15	4Y7/1
97-4	0	30	52	18	4Y7/1
104-4	22	28	38	12	4Y7/1
105-4	4	35	47	14	4Y7/1
108-4	5	62	22	11	4Y7/1
112-4	5	49	33	13	5Y6/2
116-4	100	0	0	0	
117-4	33	17	36	14	4Y7/1
118-4	12	25	45	18	4Y7/1
119-4	18	25	42	15	4Y7/1
120-4	68	11	15	6	4Y7/1
121-4	27	27	34	12	4Y6/2
122-4	26	26	33	15	4Y7/1
123-4	44	32	16	8	4Y7/1
125-4	55	13	16	16	4Y7/1
128-4	66	24	7	3	4Y7/1
129-4	22	45	25	8	4Y7/1
135-4	100	0	0	0	
136-4	8	48	34	10	4Y7/1

Table IIb (Cont'd.)

Sample No.	Pebbles & Granules	Sand	Silt	Clay	Colour
137-4	24	22	40	14	4Y7/1
138-4	8	34	44	14	4Y7/1
139-4	5	31	50	14	5Y7/2
140-4	75	12	9	4	5Y7/2
141-4	23	32	32	13	5Y7/2
143-4	19	49	24	8	5Y7/2
145-4	41	39	14	6	5Y7/2
157-4	13	31	52	4	5Y7/2
159-4	6	43	38	13	5Y6/1
169-4	0	36	44	20	5Y6/1
171-4	2	38	46	14	5Y6/1
173-4	2	31	50	17	5Y6/1

Note: All sample numbers followed by "-4" refer to cruise code Lab-4, 1956.

TABLE III

STATISTICAL PARAMETERS

Sample No.	Q_1	M	Q_3	S_o	Sk	Log Sk
171-4	200.0	30.0	8.0	5.0	1.80	0.26
173-4	120.0	20.0	7.0	4.2	2.10	0.32
169-4	140.0	25.0	5.0	5.2	1.10	0.04
159-4	330.0	55.0	10.0	5.8	0.11	-0.95
157-4	450.0	40.0	14.0	5.6	3.94	0.60
145-4	1000.0	180.0	35.0	5.3	1.10	0.04
65-4	16000.0	900.0	110.0	11.8	2.12	0.33
143-4	12000.0	500.0	90.0	11.1	4.30	0.63
125-2	15000.0	7000.0	100.0	12.3	0.03	-1.95
136-2	11000.0	150.0	10.0	33.0	4.90	0.69
135-2	12000.0	5000.0	300.0	20.0	0.01	-2.00
122-4	5000.0	60.0	12.0	20.2	16.70 (?)	1.22
120-4	24000.0	12000.0	110.0	14.5	0.02	-1.70
141-4	3000.0	100.0	12.0	15.8	3.60	0.55
137-4	1500.0	50.0	11.0	11.8	6.60	0.82
139-4	150.0	25.0	8.0	4.3	1.92	0.28
184-2	20000.0	12000.0	60.0	18.2	0.01	-2.00
81-2	20000.0	8000.0	70.0	17.0	0.02	-1.70
82-2	23000.0	12000.0	4500.0	2.3	0.71	-0.15
128-4	28000.0	10000.0	500.0	6.4	0.10	-1.00
83-2	10000.0	200.0	15.0	25.8	3.75	0.57
84-2	13000.0	500.0	20.0	25.5	1.04	0.02
85-2	25000.0	15000.0	8000.0	1.8	0.89	-0.05
86-2	20000.0	10000.0	3000.0	2.8	0.60	-0.22
87-2	18000.0	7000.0	80.0	15.0	0.03	-1.52
99-2	300.0	40.0	12.0	15.0	2.30	0.30
71-2	20000.0	12000.0	6000.0	1.8	0.80	-0.10
70-2	25000.0	11000.0	6000.0	2.1	0.77	-0.11
145-2	73.0	9.0	4.0	4.3	3.60	0.55
146-2	140.0	20.0	3.0	6.8	0.10	-1.00
97-2	37.0	10.0	3.0	3.6	1.11	0.03
68-2	16000.0	500.0	25.0	21.0	0.02	-1.70
102-2	660.0	100.0	30.0	4.7	0.30	-0.35

Table III (Cont'd.)

Sample No.	Q1	M	Q3	So	Sk	Log Sk
105-2	500.0	70.0	25.0	4.5	0.25	-0.60
108-2	220.0	50.0	10.0	4.7	0.09	-1.05
110-2	400.0	40.0	8.0	7.1	2.00	0.30
113-2	11000.0	400.0	30.0	19.1	2.01	0.30
47-2	11000.0	500.0	25.0	21.0	1.10	0.04
53-2	20000.0	7000.0	35.0	24.0	0.01	-2.00

TABLE IV

MEAN STATISTICAL PARAMETERS

	M	S_o	Log Sk
Prince Regent Inlet	25.0	4.8	0.21
Gulf of Boothia	47.5	5.7	-0.18
Foxe Basin	4181.5	11.2	-0.32
Foxe Channel	110.0	6.9	-0.42
Northern Hudson Bay	1886.0	17.8	-0.65

TABLE V

STATISTICAL PARAMETERS

Fine Sediment Fraction (<2mm)

Sample No.	Q_1	M	Q_3	S_o	Sk	Log Sk
173-4	90.0	24.0	6.0	3.88	0.93	-0.03
169-4	190.0	40.0	6.0	5.60	0.88	-0.06
157-4	310.0	110.0	35.0	2.98	0.94	-0.03
145-4	160.0	15.0	7.5	3.65	3.60	0.56
65-4	350.0	170.0	40.0	2.96	0.48	-0.32
125-2	250.0	81.0	18.0	3.70	0.69	-0.16
136-2	90.0	20.0	4.0	4.75	0.90	-0.05
122-4	300.0	120.0	15.0	4.46	0.32	-0.49
141-4	290.0	85.0	14.0	4.55	0.57	-0.24
137-4	300.0	120.0	15.0	4.46	0.32	-0.49
81-2	180.0	35.0	9.0	4.46	1.32	0.12
83-2	180.0	35.0	5.0	6.00	0.73	-0.14
87-2	220.0	55.0	10.0	4.70	0.73	-0.14
99-2	100.0	25.0	8.0	3.54	1.27	0.10
146-2	100.0	12.0	2.4	6.51	1.67	0.22
110-2	110.0	25.0	5.0	4.70	0.88	-0.06
53-2	90.0	20.0	8.0	3.16	1.60	0.20
Mean Values				4.29		-0.06

TABLE VI

Sample No.	Size Limit (mm)	Composition
x 38-2	<2	Schist, gneiss - limestone.
	1-.5	Quartz, limestone, feldspar, pyriboles, foraminifera tests.
	2-1	Limestone, quartz - feldspar, pyriboles, foraminifera tests.
47-2	<2	Limestone.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
48-2	<2	Limestone.
	2-1	Limestone, quartz, feldspar - pyriboles, foraminifera tests.
	1-.5	Same as 48-2, 2-1.
50-2	<2	Limestone - quartz, slate.
	2-1	Limestone, quartz - feldspar, pyriboles, foraminifera shells.
	1-.5	Quartz, limestone - feldspar, pyriboles, foraminifera shells.
52-2	<2	Limestone - gneiss, sandstone, shell fragments.
	2-1	Limestone, quartz - feldspar, shell fragments.
	1-.5	Quartz, limestone - feldspar, shell fragments.
53-2	<2	Limestone - schist, quartzite, quartz.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Limestone, quartz - pyriboles.
55-2	<2	Limestone, quartzite.
	2-1	Limestone - feldspar, foraminifera shells.
	1-.5	Quartz, limestone - feldspar, foraminifera shells.
60-2	<2	Limestone.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
62-2	<2	Limestone - schist, granite.
	2-1	Quartz, limestone, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.

x Sample constituents are given in order of decreasing amounts, those following the dash are in very small quantities.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
63-2	< 2	Limestone, quartzite.
	2-1	Quartz, limestone, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
66-2	< 2	Shell fragments (Pelecypod), crustacean.
67-2	< 2	Limestone, shell fragments.
68-2	< 2	Limestone - quartzite, schist, quartz, feldspar.
	2-1	Quartz, limestone, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
70-2	< 2	Limestone - quartz, quartzite.
	2-1	Limestone, quartz, feldspar, pyriboles, shell fragments.
	1-.5	Quartz, limestone, feldspar, pyriboles, shell fragments.
71-2	< 2	Limestone - sandstone, quartzite.
	2-1	Limestone, quartz, feldspar - shell fragments.
	1-.5	Quartz, limestone, feldspar - shell fragments (Foraminifera, Pelecypod).
74-2	< 2	Limestone, quartzite.
	2-1	Limestone, quartz, feldspar, pyriboles, foraminifera shells.
	1-.5	Quartz, limestone, feldspar, pyriboles, foraminifera shells.
76-2	< 2	Limestone - quartzite, schist, shell fragments (Pelecypod).
	2-1	Limestone, quartz, feldspar, shell fragments (Pelecypod).
	1-.5	Quartz, limestone, feldspar, shell fragments.
80-2	< 2	Limestone - gneiss.
	2-1	Quartz, limestone - feldspar, pyriboles, shell fragments (Pelecypod).
	1-.5	Quartz - limestone, feldspar, pyriboles, shell fragments (Pelecypod).
81-2	< 2	Limestone - granite, gneiss, shell fragments (Pelecypod).
	2-1	Quartz, limestone, feldspar, pyriboles, shell fragments (Foraminifera Pelecypod).
	1-.5	Quartz, limestone, shell fragments (Foraminifera, Pelecypod).

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
82-2	<2	Limestone - granite.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
83-2	<2	Limestone - gneiss.
	2-1	Limestone, quartz, feldspar - pyriboles, shell fragments (Foraminifera, Pelecypod).
	1-.5	Limestone, quartz, feldspar - pyriboles, shell fragments (Foraminifera, Pelecypod).
84-2	<2	Limestone.
	2-1	Quartz, limestone, feldspar, pyriboles, shell fragments (Foraminifera, Pelecypod).
	1-.5	Quartz, feldspar, shell fragments (Foraminifera, Pelecypod), pyriboles.
85-2	<2	Limestone - gneiss, shell fragments, (Mollusc).
86-2	<2	Limestone - quartzite, gneiss, shell fragments (Pelecypod, Gastropod).
	2-1	Limestone, quartz, feldspar - pyriboles, shell fragments (Pelecypod).
	1-.5	Quartz, limestone, feldspar - pyriboles, shell fragments (Pelecypod).
87-2	<2	Limestone - granite, gneiss, shell fragments (Mollusc).
	2-1	Limestone, quartz - feldspar, pyriboles, foraminifera shells.
	1-.5	Limestone, quartz - feldspar, pyriboles, foraminifera shells.
89-2	<2	Limestone - quartz, quartzite, sandstone.
	2-1	Limestone, quartz, feldspar - pyriboles, shell fragments, foraminifera Pelecypod.
	1-.5	Quartz, limestone, feldspar - pyriboles, shell fragments and foraminifera pelecypod.
90-2	<2	Shell fragments (Pelecypod).
91-2	<2	Limestone - granite, schist, gneiss, quartz, feldspar.
	2-1	Quartz, limestone - feldspar, pyriboles, shell fragments (Pelecypod).
	1-.5	Quartz, feldspar - limestone, pyriboles, shell fragments (Pelecypod).

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
92-2	<2	Limestone - quartz, feldspar, granite.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
95-2	<2	Limestone - quartzite, granite, gneiss.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles.
96-2	<2	Limestone - quartzite, granite, quartz, feldspar.
	2-1	Limestone, quartz - shell fragments (Pelecypod), feldspar.
	1-.5	Quartz, limestone - shell fragments (Pelecypod), feldspar.
97-2	2-.5	Limestone, quartz, feldspar.
98-2	<2	Limestone - quartzite, granite, gneiss.
	2-1	Limestone, quartz, feldspar, pyriboles.
	1-.5	Quartz, limestone, feldspar, pyriboles.
99-2	<2	Limestone.
	2-.5	Quartz, limestone, feldspar, shell fragments (Pelecypod).
102-2	<2	Limestone - feldspar, quartz.
	2-1	Limestone - quartz, feldspar, pyriboles.
	1-.5	Limestone, quartz - feldspar, pyriboles.
103-2	<2	Limestone - quartz, feldspar, granite, quartzite, slate.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
105-2	<2	Limestone - schist, quartzite, granite, feldspar, quartz.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
107-2	<2	Limestone - sandstone, gneiss.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
108-2	<2	Limestone - quartz, feldspar, granite, quartzite.
	2-1	Limestone, quartz - feldspar, pyriboles, foraminifera shells.
	1-.5	Quartz, limestone - feldspar, pyriboles, foraminifera shells.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
109-2	<2	Limestone, shell fragments (Pelecypod), schist.
	2-1	Pelecypod fragments.
	1-.5	Quartz, limestone - feldspar, pyriboles.
110-2	<2	Gneiss, limestone.
	2-1	Quartz, limestone, feldspar, pyriboles.
	1-.5	Quartz, limestone, feldspar, pyriboles.
113-2	<2	Limestone - gneiss.
	2-1	Limestone, quartz, feldspar, pyriboles.
	1-.5	Limestone, quartz, feldspar, pyriboles.
116-2	<2	Limestone.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
119-2	<2	Limestone - quartzite, shell fragments (Pelecypod, Barnacles).
120-2	<2	Limestone - shell fragments (Pelecypod).
	2-1	Shell fragments (Pelecypod) - quartz, limestone, feldspar, pyriboles.
	1-.5	Shell fragments (Pelecypod), quartz, limestone, feldspar, pyriboles.
125-2	<2	Limestone - quartzite, sandstone, shell fragments (Pelecypod, Gastropod).
	2-1	Quartz, limestone - feldspar, shell fragments, (Foraminifera, Pelecypod).
	1-.5	Quartz - limestone, feldspar, shell fragments (Foraminifera, Pelecypod).
129-2	<2	Limestone - schist.
	2-1	Quartz, feldspar, limestone - pyriboles, mica, schist.
	1-.5	Quartz, feldspar - limestone, pyriboles, mica, schist.
131-2	<2	Limestone.
	2-1	Limestone, quartz, feldspar, pyriboles, quartzite, gneiss, schist.
	1-.5	Limestone, quartz, feldspar, pyriboles, foraminifera shells.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
135-2	<2	Limestone - Shell fragments (Pelecypod).
	2-1	Limestone, quartz, feldspar, shell fragments (Pelecypod, Foraminifera), quartzite.
	1-.5	Quartz, limestone, feldspar, shell fragments (Pelecypod, Foraminifera), quartzite.
136-2	<2	Shell fragments (Pelecypod) - limestone.
	2-1	Shell fragments (Pelecypod, Foraminifera), quartz, limestone, feldspar.
	1-.5	Shell fragments (Pelecypod, Foraminifera), quartz, limestone, feldspar.
144-2	<2	Shell fragments (Pelecypod) - limestone.
	2-1	Limestone, quartz - pyriboles, foraminifera shells.
	1-.5	Limestone, quartz, pyriboles, foraminifera shells.
145-2	<2	Limestone.
	2-1	Quartz, limestone, feldspar - shell fragments (Pelecypod, Foraminifera), pyriboles.
	1-.5	Quartz, feldspar, limestone - shell fragments (Pelecypod, Foraminifera), pyriboles.
146-2	<2	Limestone.
	2-1	Quartz, limestone, feldspar - shell fragments (Pelecypod, Foraminifera), pyriboles.
	1-.5	Quartz, feldspar, limestone - shell fragments (Pelecypod, Foraminifera), pyriboles.
147-2	<2	Limestone - shell fragments (Pelecypod), gneiss.
	2-1	Shell fragments (Foraminifera, Pelecypod) - quartz, limestone, feldspar.
	1-.5	Shell fragments (Foraminifera, Pelecypod) - quartz, limestone, feldspar.
148-2	<2	Limestone, shell fragments, barnacles (Pelecypod, Gastrapod) - gneiss, granite, quartzite.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
156-2	<2	Limestone - shell fragments (Pelecypod).
	2-1	Quartz, limestone - feldspar, shell fragments (Pelecypod, Foraminifera).
	1-.5	Quartz, limestone - feldspar, shell fragments (Pelecypod, Foraminifera).
158-2	<2	Shell fragments (Pelecypod), also much kelp and moss.
	2-1	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone.
165-2	<2	Limestone - quartzite, shell fragments (Pelecypod).
	2-1	Quartz, limestone - feldspar, shell fragments (Foraminifera, Pelecypod), pyriboles.
	1-.5	Limestone, quartz - feldspar, pyriboles, shell fragments (Foraminifera, Pelecypod).
166-2	<2	Limestone - granite.
	2-1	Shell fragments (Pelecypod, Foraminifera) - limestone, quartz, feldspar.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - limestone, quartz, feldspar.
177-2	<2	Limestone - quartzite.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
183-2	<2	Limestone - feldspar, shell fragments.
	2-1	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
184-2	<2	Limestone - gneiss, shell fragments (Pelecypod and Gastropod), also much kelp.
	2-1	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar, schist.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar, schist.
186-2	<2	Limestone - granite, syenite, schist.
	2-1	Limestone, quartz, feldspar - pyriboles, shell fragments (Foraminifera, Pelecypod).
	1-.5	Limestone, quartz, feldspar - pyriboles, shell fragments (Foraminifera, Pelecypod).

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
188-2	< 2	Limestone.
190-2	< 2	Limestone.
1-2	< 2	Shell fragments (Pelecypod).
	2-1	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
4-2	< 2	Limestone.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
x-2	< 2	Syenite, limestone.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles.
H-(1-9)-2	< 2	Limestone, gneiss, quartzite, syenite, sandstone shells (Pelecypod, Gastropod).
65-4	< 2	Limestone.
	2-1	Limestone, quartz, feldspar, shell fragments (Pelecypod).
	1-.5	Quartz, limestone - feldspar, shell fragments (Pelecypod).
68-4	< 2	Limestone.
73-4	< 2	Limestone.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles.
74-4	< 2	Limestone.
75-4	< 2	Limestone - shell fragments (Pelecypod) - granite, syenite, sandstone.
	2-1	Shell fragments (Pelecypod) - limestone, quartz feldspar.
	1-.5	Shell fragments (Pelecypod) - quartz, limestone, feldspar.
77-4	< 2	Limestone, shell fragments (Pelecypod).
79-4	< 2	Limestone.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles, shell fragments (Pelecypod, Foraminifera).

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
84-4	< 2	Limestone - gneiss, quartzite.
	2-1	Quartz, limestone, shell fragments (Pelecypod, Foraminifera).
	1-.5	Quartz, limestone, shell fragments (Pelecypod, Foraminifera) - feldspar.
86-4	< 2	Limestone.
88-4	< 2	Limestone.
89-4	< 2	Limestone.
96-4	< 2	Limestone.
	2-1	Limestone, quartz - shell fragments (Pelecypod).
	1-.5	Quartz, limestone - feldspar, pyriboles.
97-4	< 2	Particles all less than .5 mm.
104-4	< 2	Limestone.
	2-1	Quartz, limestone, feldspar - pyriboles.
	1-.5	Quartz, feldspar, limestone - pyriboles.
105-4	< 2	Limestone.
	2-1	Quartz, limestone, feldspar - pyriboles.
	1-.5	Quartz, feldspar, limestone - pyriboles.
108-4	< 2	Limestone.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles.
112-4	< 2	Limestone - schist.
	2-1	Limestone, quartz, feldspar - pyriboles.
	1-.5	Quartz, limestone, feldspar - pyriboles.
116-4	< 2	Limestone, shell fragments - gneiss.
117-4	< 2	Limestone.
	2-1	Limestone, quartz - feldspar, pyriboles, shell fragments (Foraminifera, Pelecypod).
	1-.5	Quartz, limestone - feldspar, pyriboles, shell fragments (Foraminifera, Pelecypod).
118-4	< 2	Limestone - shell fragments (Pelecypod).
	2-1	Limestone, quartz - feldspar, shell fragments (Pelecypod).
	1-.5	Quartz, limestone - feldspar, pyriboles, shell fragments (Pelecypod, Foraminifera).

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
119-4	< 2	Limestone, shell fragments (Pelecypod).
	2-1	Quartz, limestone - feldspar, pyriboles, shell fragments (Pelecypod, Foraminifera).
	1-.5	Quartz, limestone - feldspar, shell fragments (Pelecypod, Foraminifera), pyriboles.
120-4	< 2	Limestone.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles.
121-4	< 2	Limestone, shell fragments (Pelecypod).
	2-1	Limestone, quartz, shell fragments (Pelecypod, Foraminifera) - feldspar, pyriboles.
	1-.5	Quartz, limestone, shell fragments (Pelecypod, Foraminifera), feldspar, pyriboles.
122-4	< 2	Shell fragments (Pelecypod) - limestone, schist.
	2-1	Shell fragments (Pelecypod) - limestone, quartz, feldspar.
	1-.5	Shell fragments (Pelecypod), limestone, quartz, feldspar.
123-4	< 2	Limestone, shell fragments (Pelecypod).
	2-1	Quartz, limestone, shell fragments (Pelecypod) - feldspar, pyriboles.
	1-.5	Quartz, limestone, shell fragments (Pelecypod) - feldspar, pyriboles.
125-4	< 2	Limestone, shell fragments (Pelecypod) - syenite.
	2-1	Limestone, quartz, shell fragments (Pelecypod) - feldspar, pyriboles.
	1-.5	Quartz, limestone, shell fragments (Pelecypod), feldspar, pyriboles.
128-4	< 2	Limestone, shell fragments (Pelecypod).
	2-1	Shell fragments (Foraminifera, Pelecypod), limestone, quartz, feldspar, pyriboles.
	1-.5	Shell fragments (Foraminifera, Pelecypod), quartz, limestone, feldspar, pyriboles.
129-4	< 2	Limestone, shell fragments (Pelecypod) - schist
	2-1	Limestone, shells (Foraminifera), quartz, feldspar.
	1-.5	Shells (Foraminifera), quartz, limestone.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
135-4	<2	Limestone.
136-4	<2	Limestone - quartzite.
	2-1	Limestone, quartz - feldspar, pyriboles.
	1-.5	Quartz, limestone - feldspar, pyriboles, shell fragments.
137-4	<2	Limestone.
	2-1	Limestone, quartz, feldspar.
	1-.5	Quartz, limestone, shell fragments (Foraminifera).
138-4	<2	Limestone - shell fragments (Pelecypod).
	2-1	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
	1-.5	Shell fragments (Pelecypod, Foraminifera) - quartz, limestone, feldspar.
139-4	<2	Limestone - granite.
	2-1	Limestone, quartz - shells (Foraminifera).
	1-.5	Limestone, quartz, shells (Foraminifera).
140-4	<2	Limestone - shell fragments (Pelecypod).
	2-1	Quartz, limestone - feldspar, pyriboles.
	1-.5	Quartz, limestone, shell fragments (Pelecypod), feldspar.
141-4	<2	Limestone, shell fragments (Pelecypod).
	2-1	Limestone, quartz, feldspar, shell fragments (Pelecypod).
	1-.5	Quartz, limestone, feldspar, shell fragments (Pelecypod).
143-4	<2	Limestone, shell fragments (Pelecypod).
	2-1	Quartz, limestone, shell fragments (Pelecypod) - feldspar, pyriboles.
	1-.5	Quartz, shell fragments (Pelecypod) - feldspar, pyriboles.
145-4	<2	Limestone, shell fragments (Pelecypod) - slate.
	2-1	Shell fragments (Pelecypod) - quartz, limestone, pyriboles.
	1-.5	Quartz, limestone, shell fragments (Pelecypod, Foraminifera), feldspar.

Table VI (Cont'd.)

Sample No.	Size Limit (mm)	Composition
157-4	<2	Limestone, quartz.
	2-1	Limestone, quartzite, quartz, feldspar - schist.
	1-.5	Quartz, feldspar, pyriboles, limestone - schist.
159-4	<2	Limestone, quartz.
	2-1	Quartz, feldspar, pyriboles, limestone - schist.
	1-.5	Quartz, feldspar, pyriboles, limestone, schist.
169-4	2-1	Quartz, feldspar, pyriboles, limestone, schist.
	1-.5	Quartz, feldspar, pyriboles, limestone, schist.
171-4	<2	Limestone, quartz.
	2-1	Limestone, sandstone, quartz, feldspar.
	1-.5	Limestone, quartz, feldspar - pyriboles.
173-4	<2	Limestone, quartz.
	2-1	Quartz, feldspar, limestone.
	1-.5	Quartz, feldspar, limestone - pyriboles.

TABLE VII

Identification of Fauna

No. 1

Composite of three samples - 137-4, 138-4 and 139-4.

Foraminifera
- ? *Protoschista findens* (Parker)
- *Quinqueloculina agglutinata* Cushman
- *Quinqueloculina arctica* Cushman
- *Astacolus hyalocrulus* Loeblich and Tappan
- *Dentalina baggi* Galloway and Wissler
- *Dentalina frobisherensis* Loeblich and Tappan
- ? *Laryngosigma* sp.
- *Elphidium bartletti* Cushman
- *Elphidium clavatum* Cushman
- *Elphidium frigidum* Cushman
- *Elphidium orbiculare* (Brady)
- *Elphidium subarcticum* Cushman
- *Elphidium* sp.
- *Elphidiella arctica* (Parker and Jones)
- *Buccella frigida* (Cushman)
- *Cassidulina islandica* Nørvang
- *Cassidulina norcrossi* Cushman
- *Cibicides lobatulus* (Walker and Jacob)

Porifera
- Possible sponge spicule

Brachiopoda
- ? *Hemithyris psittacea* (Gmelin) - fragments

Pelecypoda
- *Hiatella arctica* (Linne) - fragments

Cirripedia
- *Balanus* sp. - fragments

Ostracoda
- Two unidentified genera

Table VII (Cont'd.)

No. 2

Composite of three samples - 105-4, 108-4 and 112-4.

Foraminifera

? *Adercotryma glomeratum* (Brady)
Dentalina baggi Galloway and Wissler
Dentalina frobisherensis Loeblich and Tappan
Dentalina ittai Loeblich and Tappan
Elphidium clavatum Cushman
Elphidium orbiculare (Brady)
Bulimina exilis Brady
Angulorerina fluens Todd
Buccella frigida (Cushman)
Cassidulina islandica Nørvang
Cassidulina norcrossi Cushman
Cibicides lobatulus (Walker and Jacob)

Diatomacea

? *Coscinodiscus sp.*

Table VII (Cont'd.)

No. 3

Composite of three samples 121-4, 122-4 and 123-4.

Foraminifera
- Quinqueloculina arctica Cushman
- Dentalina frobisherensis Loeblich and Tappan
- Elphidium bartletti Cushman
- Elphidium clavatum Cushman
- Elphidium orbiculare (Brady)
- Elphidiella arctica (Parker and Jones)
- Buccella frigida (Cushman)
- Cassidulina islandica Nørvang
- Cibicides lobatulus (Walker and Jacob)

Brachiopoda
- Fragments - possibly Hemithyris psittacea (Gmelin)

Pelecypoda
- Astarte sp.) fragments
- One unidentified specimen) fragments

Cirripedia
- Balanus sp.

Ostracoda
- Cyprideis sorbyana (Jones)
- Cytheridea punctillata (Brady)
- Cytherura clathrata Sars
- ? Cytheropteron sp.

Xestoleberis aurantia Baird
- one ostracod unidentified

TABLE VIII

Carbonate Content

Sample No.	Area	Carbonates %	Carbonates Average/area
47-2	Northern Hudson Bay	51	
49-4	Northern Hudson Bay	44	50.6%
53-2	Northern Hudson Bay	57	
62-2	Foxe Basin (south)	48	
63-2	Foxe Basin (south)	45	
92-2	Foxe Basin (south)	45	
95-2	Foxe Basin (south)	51	
105-4	Foxe Basin (south)	47	49.2%
146-2	Foxe Basin (south)	29	
129-4	Foxe Basin (central)	60	
119-4	Foxe Basin (north)	62	
131-2	Foxe Basin (north)	59	
166-2	Foxe Basin (north)	46	
157-4	Gulf of Boothia	45	
159-4	Gulf of Boothia	26	35.5%
169-4	Prince Regent Inlet	36	
171-4	Prince Regent Inlet	24	33.3%
173-4	Prince Regent Inlet	40	

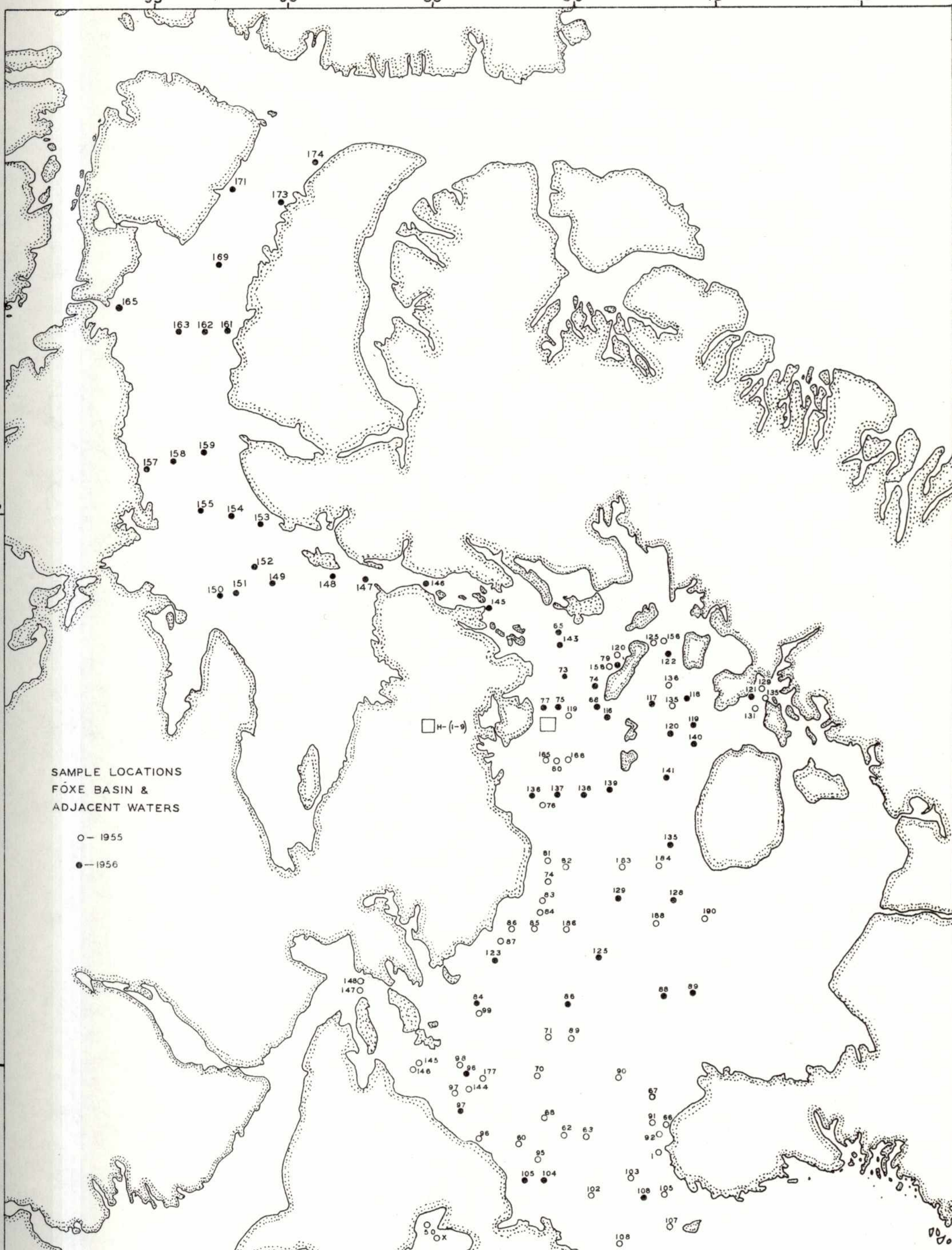

Fig. 1. Sample locations

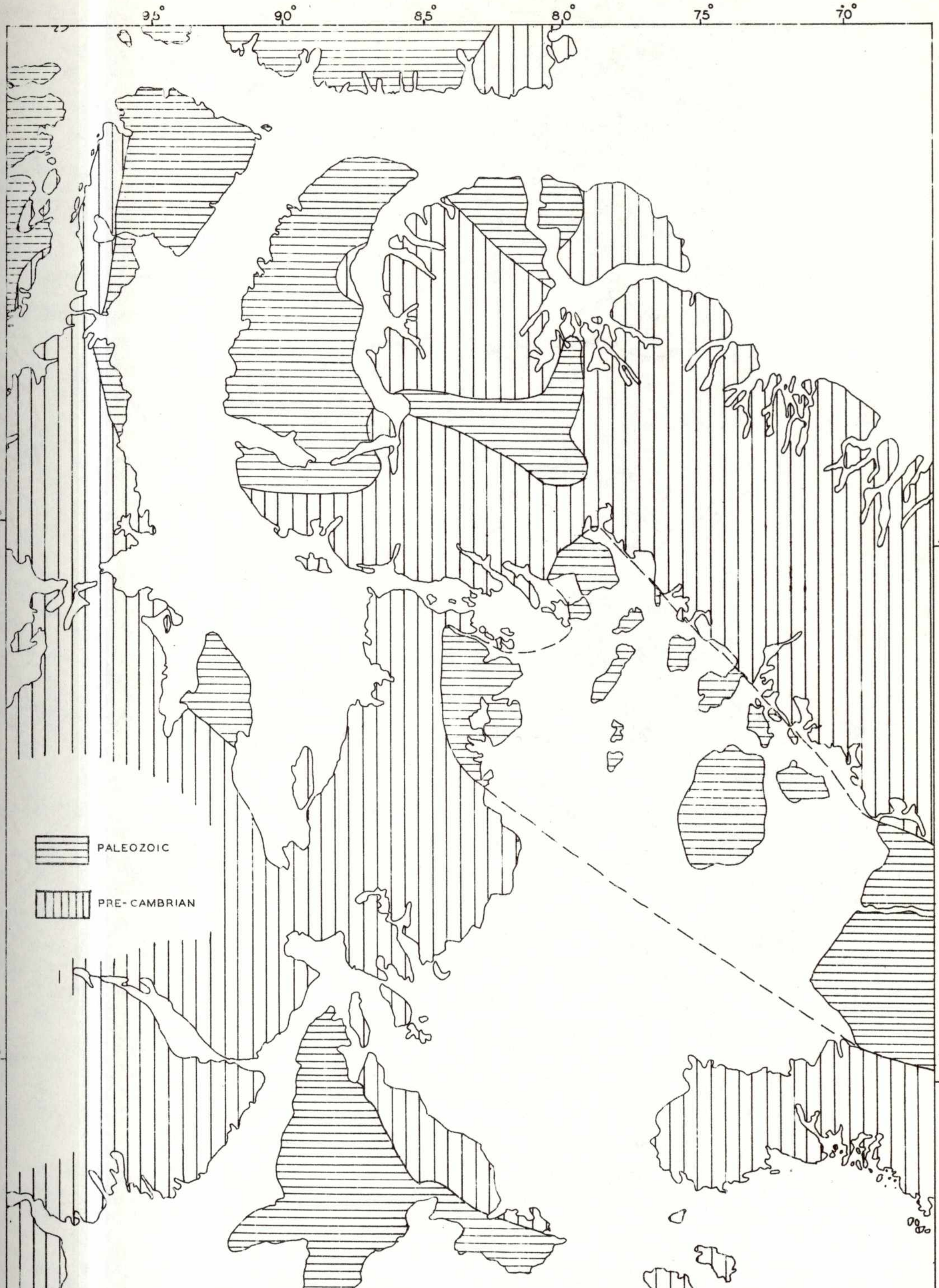

Fig. 2. Geological time-units of the land masses adjacent to Foxe Basin.

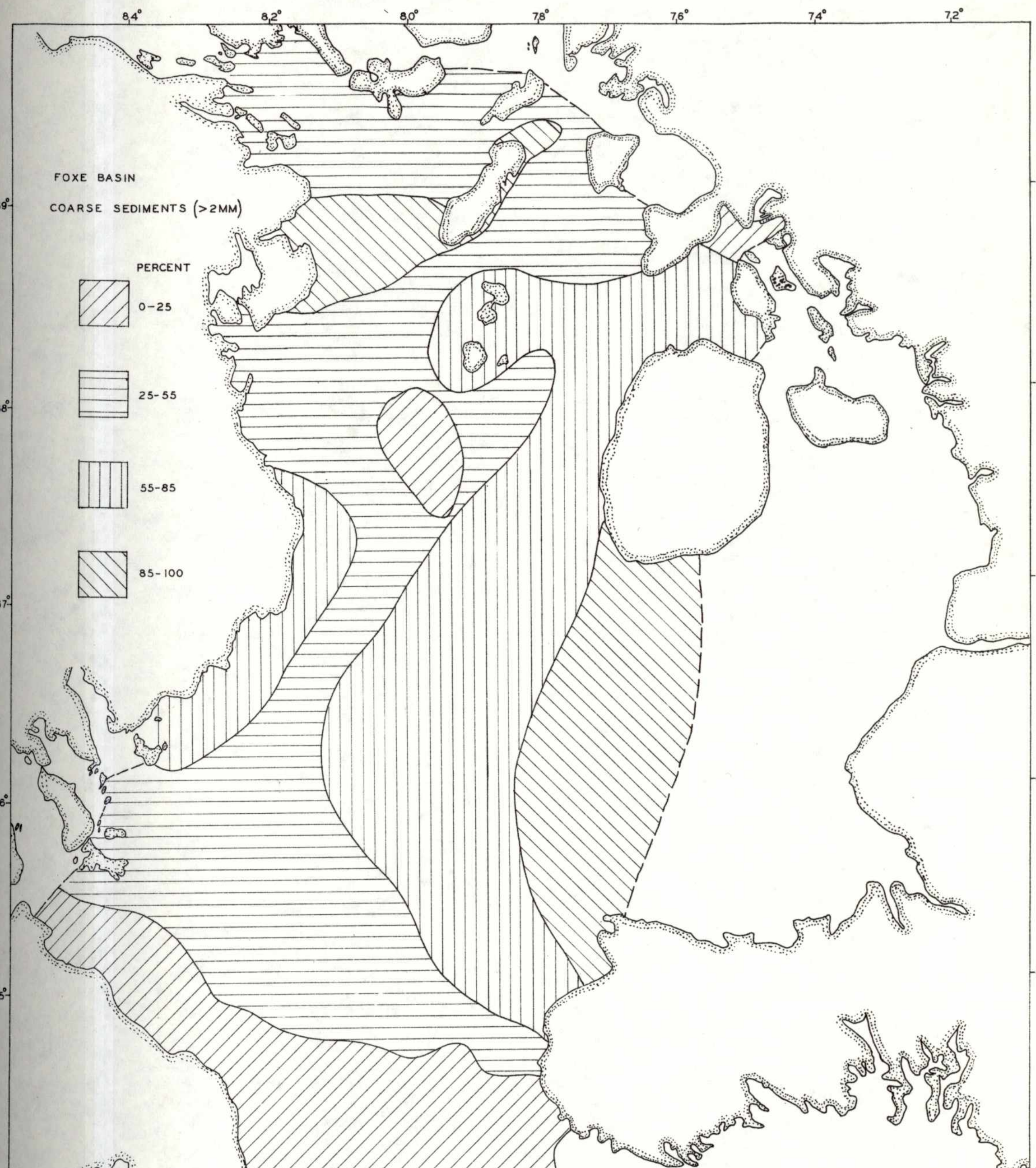

Fig. 3. Coarse sediments

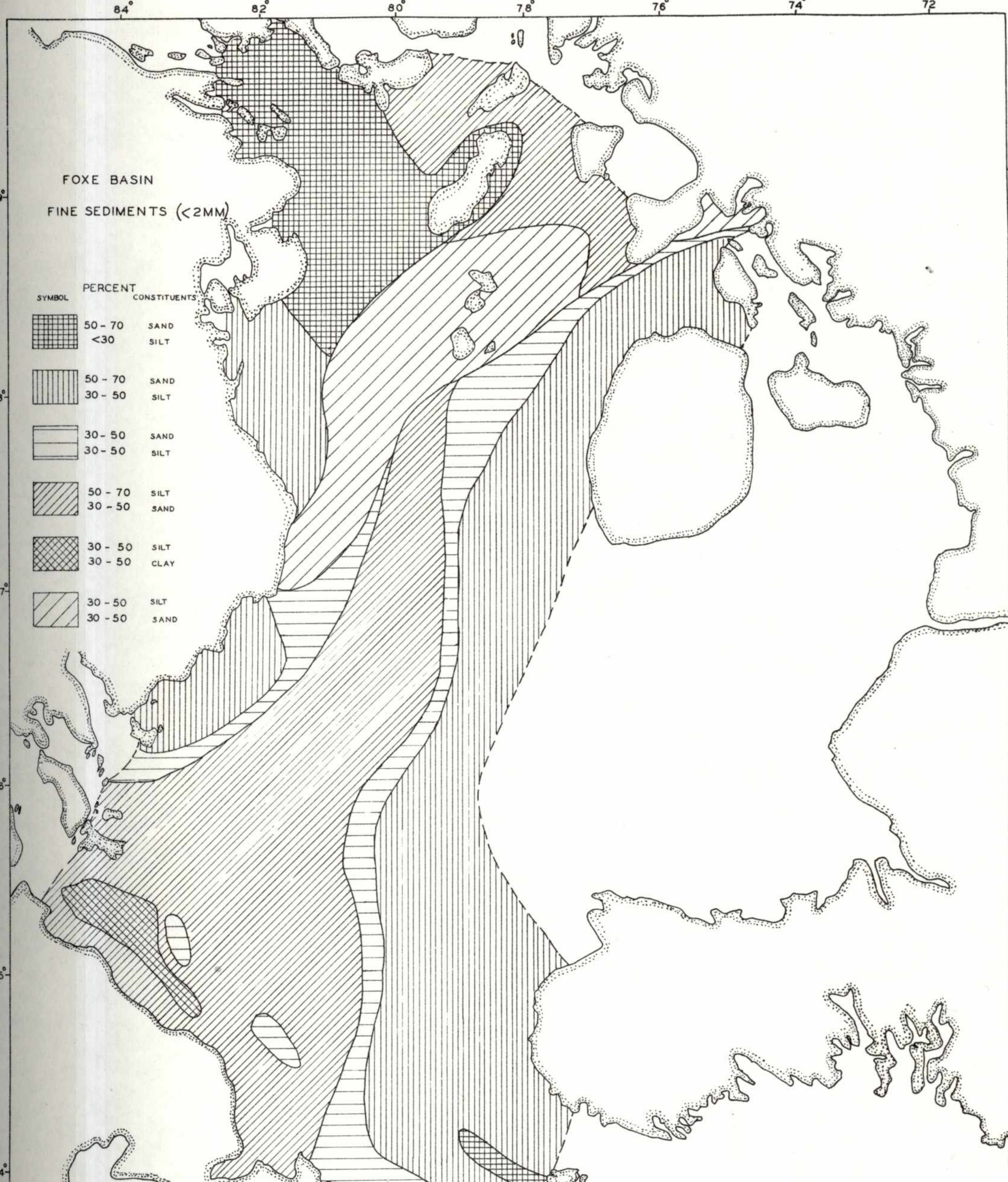

Fig. 4. Fine sediments.

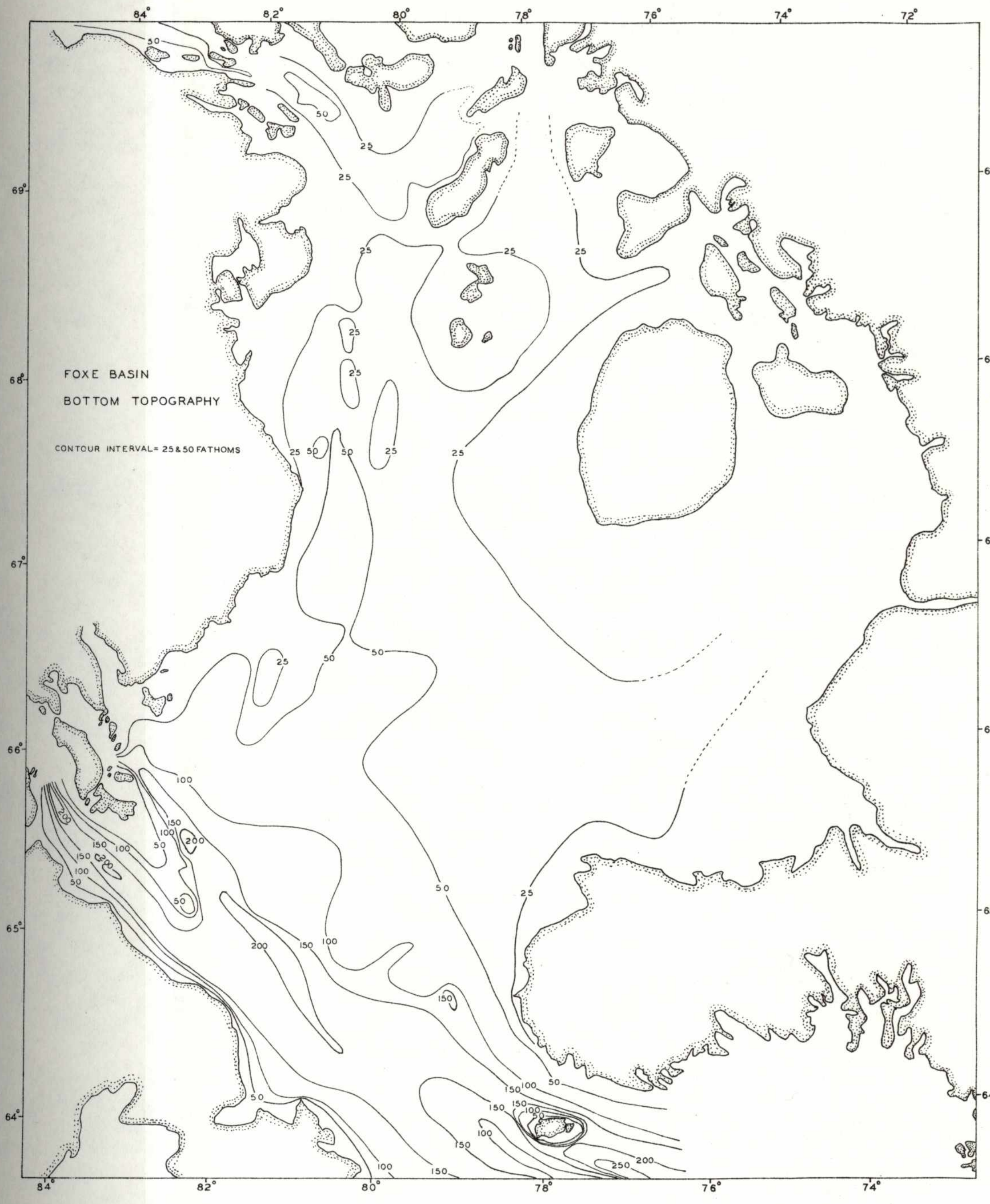

Fig. 5. Bottom topography