

Baseline Data on Chemical Oceanography in the Southern Beaufort Sea, 1974-5

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Beaufort Sea Project

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SOUTHERN BEAUFORT SEA, 1974-5

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TABLE OF CONTENTS

	<u>Page</u>
TABLE OF CONTENTS	i
ACKNOWLEDGEMENTS	1
1. SUMMARY	1
2. INTRODUCTION	2
3. SAMPLE COLLECTION AND STORAGE	2
3.1 1974	2
3.2 1975	3
4. ANALYSES	4
5. REFERENCES	5
6. FIGURES	6
7. TABLES	8
Table 1 : Observations or types of samples collected in Southern Beaufort Sea	8
Table 2a: Station Locations, 1974	12
Table 2b: Chemical Data, 1974	13
Table 3a: Station Locations, 1975	29
Table 3b: Chemical Data, 1975	30
Table 4 : Estimated Precision and Accuracies	51

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1. SUMMARY

Two cruises have been made to the Southern Beaufort Sea to collect chemical baseline data. Measurements have been made on hydrocarbon levels (Wong et al., 1976, Macdonald, 1976), suspended particulates (Matsumoto and Wong, 1977), reactive nutrients, dissolved oxygen, temperature and salinity. The primary objective of the survey was to establish the baseline levels of marine hydrocarbons in the Beaufort Sea drilling area by measuring classes of hydrocarbons and identifying some specific hydrocarbons in seawater, marine sediments, marine organisms, marine mammals and fish. That data has been summarized elsewhere (Wong et al., 1976) and this companion data report provides the accompanying information on reactive nutrients (silicate, phosphate and nitrate), dissolved oxygen, salinity and temperature.

The first cruise was carried out on M.V. *Theta* in the summer of 1974 (Aug 11-Sept 1) and the second on M.V. *Pandora II* in the summer of 1975 (Aug 2-25).

2. INTRODUCTION

The observations made or types of samples collected at each station are summarized in Table 1, Table 2 and Table 3 (headed by a listing of station locations) summarize the measurements made on temperature, salinity, dissolved oxygen, and the reactive nutrients; phosphate, silicate and nitrate. The objective of the observations reported here was to provide a description of the chemical oceanography of the drilling area in the Southern Beaufort Sea. Due to heavy ice conditions in 1974 the area of coverage was limited, but much more favourable ice conditions were encountered in 1975 and that is reflected in the station locations (Figure 1 and 2). Station locations were determined by DECCA within an ellipse of error (95%) whose critical dimension was about 2000m (Huggett and Mortimer, 1971).

3. SAMPLE COLLECTION AND STORAGE

Water samples were collected with PVC Niskin bottles (1.7 or 5 litre capacity). Bottles were closely spaced in the top 30 metres or so since sharp gradients in most of the water properties occurred there, due to the estuarine nature of the region.

3.1 1974

A total of 35 stations were occupied with one being a 25 hour time series station (Table 2). At 11 stations, only samples for hydrocarbon determination were drawn. At the remaining stations, regular bottlecasts were made and samples were drawn for dissolved oxygen, salinity, alkalinity, reactive nutrients and particulate silicates (top 7 m only). Data from these stations are listed in Table 2b. Five litre PVC Niskin bottles were used at 1, 3, 5 and 7 metres with 1.7 litre bottles being used at great depths. A plastic bucket was used to collect surface samples. Some nutrient, salinity and all

oxygen samples were analyzed on board ship with the remaining samples being stored for analyses in Victoria.

Where more detail in sampling methods is sought, the reader is referred to the Ocean Chemistry sampling manual (Wong et al., 1976). Oxygen samples were drawn first by sampling into a calibrated 125 mL Erlenmeyer flask. They were "pickled" immediately with manganous chloride and alkaline iodide solutions and analyzed generally within one day. Salinity samples were stored in twice rinsed 300 mL screw cap glass bottles. Nutrient samples were stored in 15 mL screw-cap vials twice rinsed with the sample prior to filling. Silicate and nitrate samples were stored in plastic, phosphate in glass. Samples from the top 7 m which were destined for filtration were initially drawn into polyethylene containers. Filtration was carried out under reduced pressure through 0.45 μm average pore diameter Millipore Type HA membrane filters. This process may have introduced small amounts of nitrate by leaching the mixed esters of cellulose in the filter (cf. Macdonald et al., 1978). Stainless steel filter holder assemblies were used to reduce the possibility of silicate contamination. The first 200 mL were used to rinse the apparatus and an additional 100-1000 mL were filtered depending on the quantity of suspended matter. All stored samples were frozen immediately after collection and analyzed approximately three months later. This process results in a slight increase in variance but generally representative samples (Macdonald & McLaughlin, 1980). Due to problems with polymer formation some silicate data points (low salinity) were lost.

3.2 1975

During this year, 38 stations were occupied (Table 3a) one of which was a time series. Sampling for nutrients, dissolved oxygen, salinity and temperature was carried out at all Stations (Table 3b). Sampling procedures

were the same as those used in 1974 with the following exceptions. Nutrient samples were analyzed unfiltered on-board ship. Samples from stations 1-9 were quick frozen and analyzed one week after collection. The remaining samples were kept in a cool, dark place and analyzed within six hours of collection. The immediate analysis offers some improvement in reliability (variance) of sample determination and avoids problems of silicate polymerization during freezing (Macdonald and McLaughlin, 1980, Burton et al., 1970).

4. ANALYSES

Salinity was determined with an Autolab Model 601 Mark III bench salinometer standardized with Copenhagen water.

Oxygen determinations were made by a Micro Winkler Titration Procedure similar to that described by Carritt and Carpenter (1966). The percent saturation was calculated by using the formula given by Weiss (1970) for oxygen solubility as a function of temperature and salinity.

The nutrients reactive nitrate, phosphate and silicate were determined with a Technicon Autoanalyzer II at a rate of 20 samples per hour using Industrial Methods No's 186-72 W, 158-71 W and 155-71 W (Technicon Corp.). Nitrate values reported here are uncorrected for nitrate and refer to nitrate plus nitrite.

Temperatures were measured by protected reversing thermometers with two to a bottle. Unprotected thermometers were added to bottles for deep water samples. Some difficulty was encountered with the reversing thermometers at low temperature, but the wide range (-2 to 20°C) performed better than the narrow range ones (-2 to 4°C).

The estimated accuracies and precisions of the various measurements are listed in Table 4.

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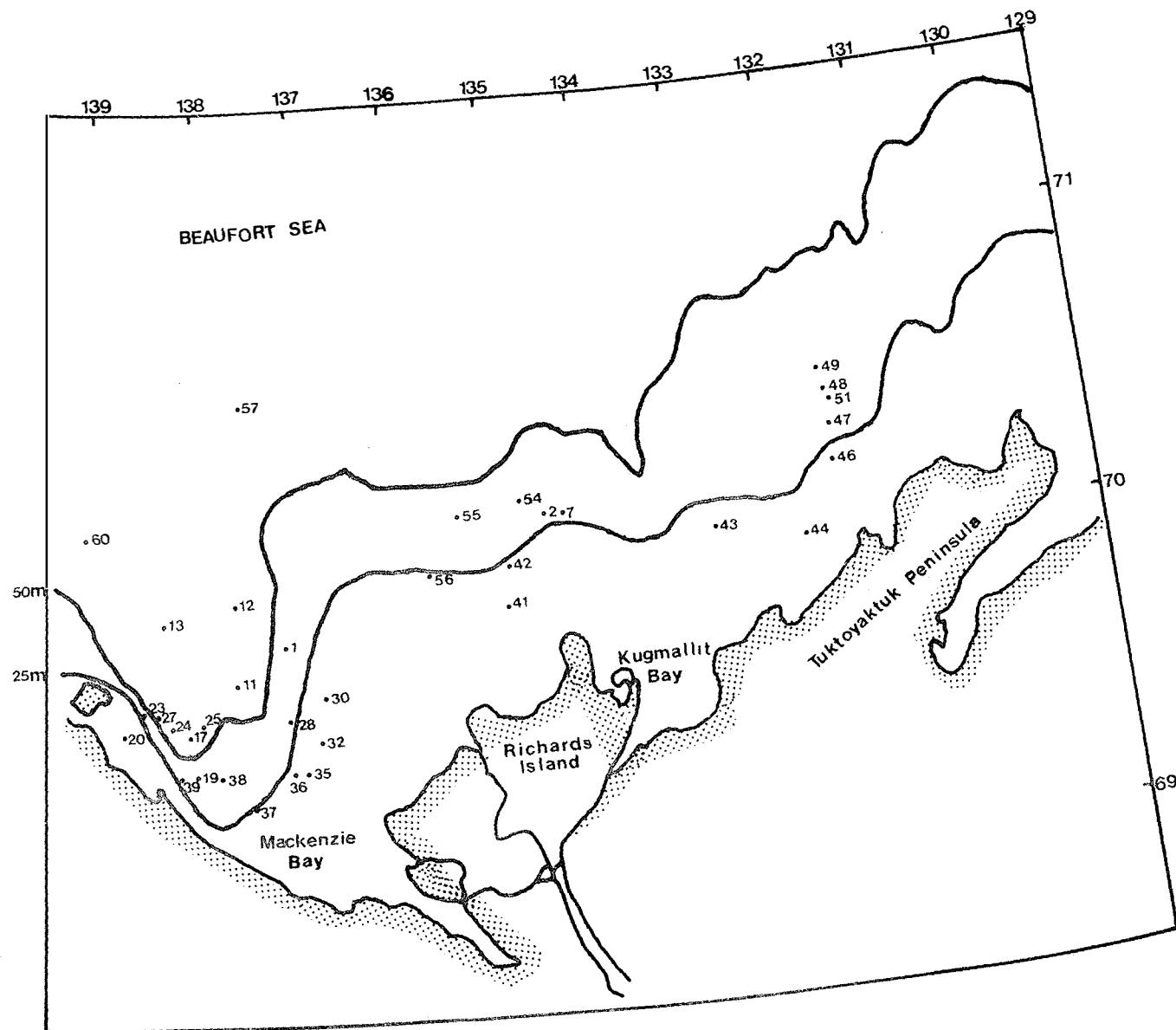


Figure 1. Station Locations 1974

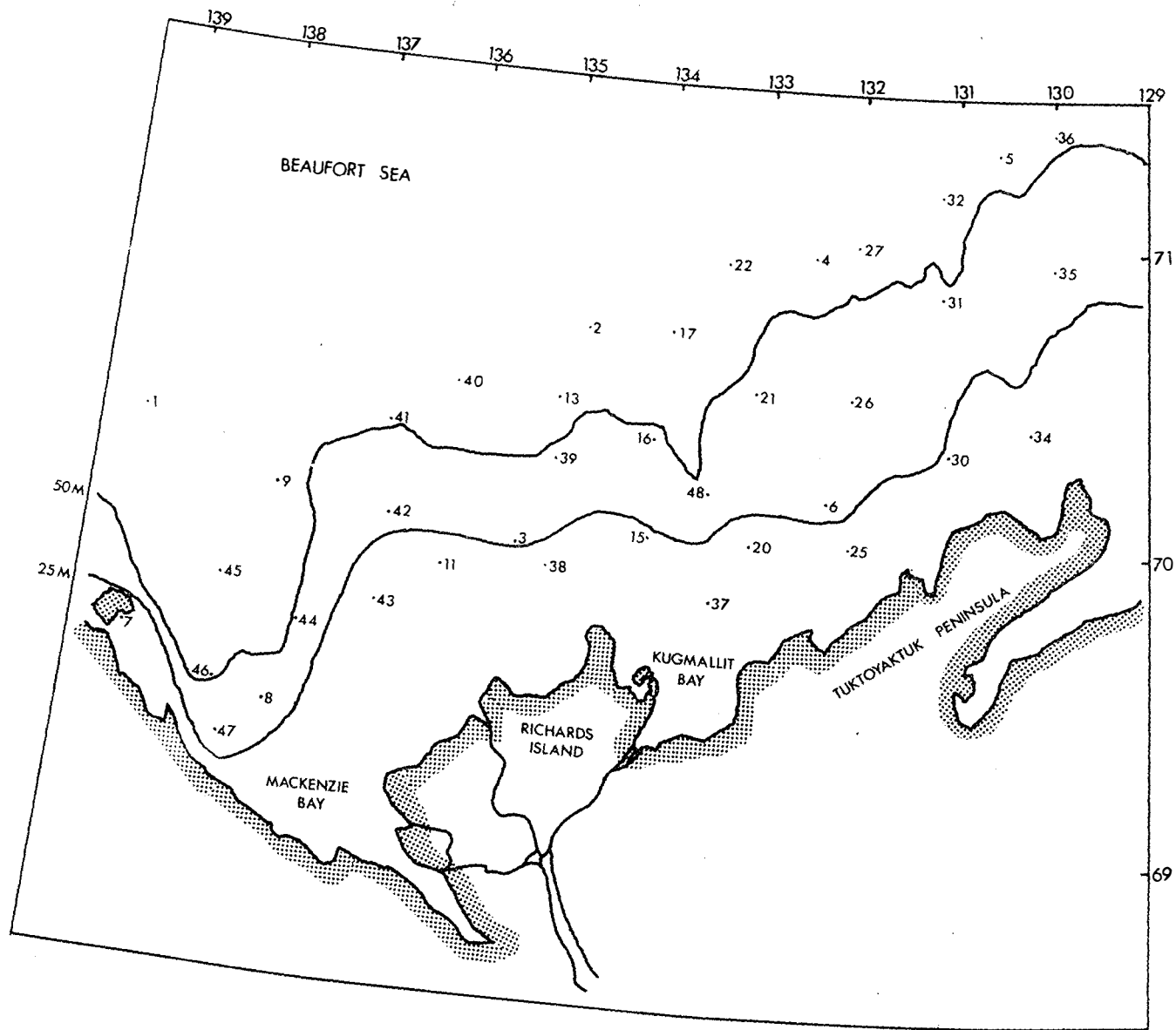


Figure 2. Station Locations 1975

TABLE 1

OBSERVATIONS OR TYPES OF SAMPLES COLLECTED IN SOUTHERN BEAUFORT SEA

Type of Samples or Observations	Year	Station Number	Method of Storage and/or Analysis
1. Temperature T°C	1974	1,2,7,11,13,19,20,23, 25,28,36,38,41,42,43, 44,46,48,51,54,55,56, 57,60.	Seawater collected in 1.7 & Niskin samplers; shipboard readings by reversing thermometers.
	1975	1,2,3,4,5,6,7,8,9,10, 11,12,13,14,15,16,17, 18,19,20,21,22,23,24, 25,26,27,28,29,30,31, 32,33,34,35,36,37,38, 39,40,41,42,43,44,45, 46,47,48.	
2. CTD cast	1974		
	1975	10,12,14,18,19,23,24, 28,29,33.	Shipboard direct read- ings; conductivity, temperature, depth probe.
3. Salinity	1974	1,2,7,11,13,19,20,23, 25,28,36,38,41,42,43, 46,48,51,54,55,56,57, 60.	Collected in 1.7 & Niskin samplers; ship- board analysis with an Autolab Model 601 Mark III Salinometer.
	1975	1,2,3,4,5,6,7,8,9,10, 11,12,13,14,15,16,17, 18,19,20,21,22,23,24, 25,26,27,28,29,30,31, 32,33,34,35,36,37,38, 39,40,41,42,43,44,45, 46,47,48.	

TABLE 1 (continued)

Type of Samples or Observations	Year	Station Number	Method of Storage and/or Analysis
4. Dissolved Oxygen	1974	1,2,7,11,13,20,23,25,28,36,38,41,42,43,46,48,51,54,55,56,57,60.	Collected in 1.7 l Niskin samplers; shipboard analysis by Micro-Winkler technique.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	
5. Hydrocarbons (Low Molecular Wt.)	1974	7,11,19,20,23,24,27,28,30,32,35,37,39,42,44,47,48,49,51.	Collected in 5 l Blumer samplers with glass liners; shipboard analysis by gas chromatograph.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	
6. Hydrocarbons (High Molecular Wt.)	1974	1a,1,2,7,11,19,20,23,24,25,27,30,32,35,37,39,42,44,47,49,51.	Collected in 5 l Blumer samplers with glass liners; stored in same liners. Partial shipboard sample processing; some samples stored in 5 l glass liners.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	
7. Alkalinity	1974	1,2,7,11,13,19,20,23,25,28,36,38,41,42,43,44,46,48,51,54,56,57,60.	Collected in 1.7 l Niskin samplers; stored in portable cold room at 4°C.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	

TABLE 1 (continued)

Type of Samples or Observations	Year	Station Number	Method of Storage and/or Analysis
8. Reactive Nutrients (Phosphate, silicate, & nitrate)	1974	1,2,7,11,13,19,20,23,25,28,36,38,41,42,43,44,46,48,51,54,55,56,57,60.	Collected in 1.7 l Niskin samplers; samples in triplicate; one set for shipboard analysis, and two sets stored frozen.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	
9. Particulate Silicate	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	Collected in 5 l Niskin samplers; filtered on board, filters stored frozen.
10. Trace metals in particulates	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	Collected in 5 l Niskin samplers; filtered on board, filters stored frozen.
11. Total Mercury	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	Collected in acid-washed 5 l Niskin samplers; shipboard analysis.
12. Sediments	1974	1,2,11,12,13,17,19,20,23,25,28,35,41,42,44,48,54.	Surface sediments collected by pipe dredge, cores by gravity corer; stored frozen.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	
13. Plankton	1974	12,39.	Surface plankton collected by net tows, subsurface plankton by Miller net tows; stored frozen in aluminum cans; biological identification samples preserved by formalin.
	1975	1,2,3,4,5,6,7,8,9,11,13,15,16,17,20,21,22,25,26,27,30,31,32,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48.	

TABLE 1 (continued)

Type of Samples or Observations	Year	Station Number	Method of Storage and/or Analysis
14. Particle size distribution	1975	1,2,3,4,5,6,7,8,9,11, 13,15,16,17,20,21,22, 25,26,27,30,31,32,34, 35,36,37,38,39,40,41, 42,43,44,45,46,47,48.	Collected in 1.7 & Niskin samplers; ship- board analysis with a Coulter Counter.
15. Vanadium	1975	1,2,3,4,5,6,7,8,9,11, 13,15,16,17,20,21,22, 25,26,27,30,31,32,34,3 35,36,37,38,39,40,41, 42,43,44,45,46,47,48.	Collected in acid- washed 5 & Niskin samplers; processed on board; ion-exchange columns stored frozen.

TABLE 2a
STATION LOCATIONS, 1974

STATION	DATE (GHT)	LOCATION		SONIC DEPTH (Meters)
		N	W	
1a	11/8/74	69°44'	138°40'	-
1	12/8/74	69°40'38"	137°11'19"	48
2	13/8/74	70°07'15"	134°37'07"	30
7	14/8/7	70°07'12"	134°20'44"	30
11	16/8-17/8/74	69°36'	137°41'00"	64
+time series				
25 hour				
12	18/8/74	69°51'19"	137°41'10"	81
13	18/8/74	69°48'35"	138°23'09"	191
17	19/8/74	69°26'11"	138°09'32"	66
19	19/8/74	69°18'28"	138°05'25"	42
20	21/8/74	69°26'42"	138°48'54"	70
23	22/8/74	69°30'53"	138°37'59"	15
24	22/8/74	69°38'10"	138°18'20"	70
25	23/8/74	69°28'34"	138°00'12"	65
27	23/8/74	69°30'09"	138°28'19"	47
28	23/8/74	69°29'29"	137°10'17"	43
30	23/8/74	69°33'32"	136°50'16"	9
32	23/8/74	69°24'21"	136°53'25"	8
35	23/8/74	69°18'19"	137°01'10"	7
36	23/8/74	69°18'08"	137°10'34"	9
37	23/8/74	69°12'26"	137°32'19"	31
38	24/8/74	69°18'00"	137°53'32"	35
39	24/8/74	69°18'10"	138°14'16"	35
41	25/8/74	69°49'13"	135°00'05"	11
42	25/8/74	69°57'10"	134°59'31"	19
43	26/8/74	70°00'16"	132°55'02"	24
44	26/8/74	69°58'14"	132°01'34"	13
46	26/8/74	70°12'00"	131°41'47"	22
47	26/8/74	70°19'25"	131°41'22"	31
48	27/8/74	70°26'32"	131°41'29"	33
49	27/8/74	70°30'54"	131°43'40"	37
51	27/8/74	70°24'31"	131°40'53"	35
54	29/8/74	70°09'09"	134°51'26"	51
55	30/8/74	70°06'46"	135°29'21"	42
56	30/8/74	69°56'14"	135°47'51"	20
57	30/8/74	70°31'28"	137°35'41"	57
60	1/9/74	70°05'33"	139°08'03"	205

TABLE 2b

Beaufort Sea 1974. Chemical Parameters

Station 1 Local Date and Time: 11/08/74 1903 MDT (0103 GMT)

Depth m	Temp C	Salinity ‰	Oxygen mℓ/ℓ	Percent Sat. O ₂	Phosphate μg.at/ℓ	Silicate μg.at/ℓ	Nitrate μg.at/ℓ
1	5.58	<2.84	8.7	100.8	0.06	-	3.0
3	5.54	<2.84	8.8	101.9	0.05	-	3.0
5	5.39	<2.84	7.7	88.9	0.04	-	3.0
7	-1.15	28.05	8.5	97.7	0.82	17	5.0
10	-1.35	28.95	7.3	83.9	0.94	17	5.0
15	-1.62	29.95	8.7	100.0	0.93	16	4.0
20	-1.65	30.60	8.4	96.9	1.10	14	4.0
25	-1.66	30.89	8.6	99.4	1.07	14	4.0
30	-1.64	31.41	7.3	84.7	1.09	16	6.0
35	-1.61	31.56	7.0	81.4	1.50	15	7.0
40	-1.54	31.78	6.9	80.5	1.44	-	-

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 2 Local Date and Time: 12/08/74 1842 MDT (2442 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate [*] μg.at/l
0	3.70	<2.84	8.0	88.1	-	-	-
1	-	<2.84	8.9	-	0.15	27	2.2
3	3.39	<2.84	8.8	96.1	0.08	26	1.8
5	-	<2.84	9.0	-	0.00	26	1.8
7	0.50	22.16	8.7	100.4	0.45	22	3.0
10	-1.30	28.23	8.6	98.5	0.95	13	3.6
15	-1.51	29.22	7.6	87.2	0.82	12	-
20	-1.58	29.76	8.8	101.1	0.81	11	4.3
25	-1.59	29.96	8.2	94.3	0.87	12	4.5

* Analyzed on Board Ship, August 13, 1974.

Station 2 Cast II

1927 MDT (0127 GMT)

0	-
1	3.30
3	3.27
5	3.27
7	0.72
10	-1.37
15	-1.53
20	-1.57
25	-1.58

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 7 Local Date and Time: 14/08/74 0908 MDT (1508 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	-	<2.84	-	-	0.00	-	2.0
1	-	<2.84	8.9	-	0.00	-	2.0
3	2.05	<2.84	8.9	94.0	0.00	-	2.0
5	-0.13	<2.84	8.9	88.5	0.00	-	2.0
7	-0.18	4.56	8.7	87.4	0.02	20	3.0
10	-1.26	27.70	8.4	96.0	0.92	16	3.0
15	-1.44	28.82	8.5	97.4	0.78	14	3.0
20	-1.56	29.58	8.6	98.7	0.95	13	3.0
25	-1.59	30.18	7.7	88.7	1.11	17	5.0

Station 11 Local Date and Time: 16/08/74 1247 MDT (HOUR 0) *1300 MDT

0	7.10	<2.85	-	-	0.04	39†	2.0
1	6.99	<2.85	8.3	99.6	0.00	39†	2.0
3	6.98	<2.84	8.3	99.6	0.00	36†	2.0
5	4.53	5.77	8.7	100.0	0.03	31†	2.0
7	1.33	18.85	8.6	99.2	0.51	22†	3.0
10	-1.26	28.10	8.9	102.0	0.83	17†	5.0
15	-1.59	30.11	8.5	97.9	1.02	15†	5.0
20	-1.63	30.92	8.6	99.5	1.02	15†	5.0
*25	-	31.27	8.0	-	1.18	16†	6.0
*30	-1.56	31.47	7.1	82.6	1.25	17†	5.0
*40	-1.49	31.94	7.7	90.0	1.47	22†	9.0
*50	-1.43	32.15	7.7	90.3	1.49	23†	10.0
*55	-1.47	32.20	7.2	84.4	1.55	26†	11.0

† Analyzed on board ship August 19.

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 11 Local Date and Time: 16/08/74 1853 MDT (HOUR 6)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	<2.84	-	-	0.04	-	2.0
1	7.45	<2.84	8.2	99.5	0.00	-	2.0
3	7.42	<2.84	8.2	99.5	0.00	-	2.0
5	5.09	5.68	8.3	99.7	0.05	-	2.0
7	1.48	14.59	8.3	93.4	0.24	-	3.0
10	-1.32	28.29	8.3	95.1	0.91	18	5.0
15	-1.56	29.86	8.5	97.8	1.04	15	5.0
20	-1.62	30.80	8.3	95.9	0.93	14	5.0
25	-1.65	31.20	8.1	93.8	1.12	14	5.0
30	-1.64	31.37	7.9	91.6	1.14	15	6.0
40	-1.48	31.93	7.6	88.9	1.40	20	9.0
50	-1.46	32.19	7.3	85.6	1.76	24	10.0
55	-1.45	32.27	6.9	80.9	1.64	25	11.0

Station 11 Local Date and Time: 17/08/74 0039 MDT (HOUR 12)

0	7.90	<2.84	-	-	0.04	-	2.0
1	7.50	<2.84	8.7	105.7	0.00	-	1.0
3	7.45	<2.84	8.5	103.2	0.00	-	2.0
5	5.74	4.93	9.1	107.3	0.00	-	0.0
7	2.80	15.44	8.5	99.7	0.32	-	3.0
10	-1.33	28.35	8.6	98.5	0.93	18	3.0
15	-1.58	29.97	8.5	97.8	1.00	16	5.0
20	-1.63	30.80	8.6	99.4	0.91	14	4.0
25	-	31.21	8.3	-	1.16	14	5.0
30	-1.65	31.40	8.0	92.8	1.10	16	6.0
40	-1.50	31.88	7.8	91.1	1.46	19	9.0
50	-1.45	32.13	7.7	90.2	1.60	23	10.0
55	-1.45	32.25	7.3	85.6	1.66	25	11.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 11 Local Date and Time: 17/08/74 0649 MDT (HOUR 18)

Depth m	Temp C	Salinity ‰	Oxygen mL/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	<2.84	-	-	0.03	-	2.0
1	6.92	<2.84	8.4	100.6	0.00	-	2.0
3	6.76	<2.84	8.6	102.6	0.02	-	2.0
5	5.89	5.29	8.8	104.4	0.75	-	1.0
7	0.09	25.05	8.6	100.1	1.05	20	5.0
10	-1.32	28.45	8.6	98.6	1.01	17	5.0
15	-1.57	29.85	8.6	98.9	1.09	16	5.0
20	-1.62	30.63	8.6	99.3	1.20	14	6.0
25	-1.64	31.15	8.6	99.6	1.18	14	5.0
30	-1.65	31.38	8.5	98.6	0.04	15	6.0
40	-1.52	31.97	7.7	90.0	1.36	21	9.0
50	-1.48	32.16	7.5	87.8	1.70	24	10.0
55	-1.46	32.26	7.5	88.0	1.74	25	11.0

Station 11 Local Date and Time: 17/08/74 1248 MDT (HOUR 24)

0	-	2.91	-	-	0.00	-	0.0
1	7.19	2.96	8.8	106.2	0.00	-	0.0
3	7.17	2.97	-	-	0.00	-	0.0
5	6.86	3.38	8.6	103.2	0.00	-	0.0
7	2.55	15.99	8.7	101.7	0.25	-	3.0
10	-1.35	28.64	8.7	99.8	0.88	17	5.0
15	-1.58	29.85	8.8	101.2	-	-	-
20	-1.63	30.73	8.6	99.3	1.02	14	5.0
25	-1.65	31.09	8.5	98.4	1.15	15	5.0
30	-1.64	31.36	8.2	95.1	1.14	16	6.0
40	-1.50	31.89	7.9	92.3	1.44	20	8.0
50	-1.48	32.14	7.6	89.0	1.48	23	9.0
55	-1.45	32.24	7.4	86.8	1.54	25	11.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 13		Local Date and Time: 18/08/74			1400 MDT	(2000 GMT)	
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	2.10	3.56	-	-	-	-	0.0
1	2.15	3.43	9.1	96.7	0.02	-	0.0
3	2.00	3.50	9.1	96.4	-	-	0.0
5	1.67	3.84	9.1	95.7	-	-	-
7	0.89	4.74	9.1	94.3	-	-	0.0
10	-1.43	28.23	8.6	98.2	0.95	16	4.0
15	-1.53	29.00	8.4	96.1	0.80	15	4.0
20	-	29.59	8.7	-	0.84	15	4.0
30	-1.60	30.98	8.6	99.6	0.95	11	4.0
40	-	31.27	8.4	-	1.13	13	5.0
50	-1.51	31.65	7.9	92.1	1.20	17	7.0
75	-	32.18	7.3	-	1.51	24	10.0
100	-1.52	32.43	7.2	84.4	1.73	30	13.0
125	-1.48	32.69	7.3	85.8	1.85	30	14.0
150	-1.52	32.89	7.0	82.3	1.77	34	14.0
175	-1.44	33.10	6.7	79.1	1.84	34	15.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 19 Local Date and Time: 18/08/74 2103 MDT (0303 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	5.16	-	-	-	-	0.0
1	3.76	6.01	-	-	0.03	-	0.0
3	3.77	5.95	-	-	0.05	-	0.0
5	3.80	6.85	-	-	0.05	-	1.0
7	0.89	8.59	-	-	0.09	-	1.0
10	-1.37	28.14	-	-	0.97	16	4.0
15	-1.58	29.72	-	-	1.03	15	4.0
20	-1.60	30.45	-	-	1.07	14	5.0
25	-	30.91	-	-	1.12	15	5.0
35	-1.62	31.21	-	-	-	16	6.0
Station 20 Local Date and Time: 21/08/74 1408 MDT (2008 GMT) *1415 MDT							
0	-	8.99	-	-	0.15	-	1.0
1	-	9.01	9.3	-	0.09	-	1.0
3	0.78	9.02	9.2	97.84	0.10	-	1.0
5	0.78	9.04	9.2	97.9	0.10	-	1.0
7	0.18	10.95	9.0	95.4	0.18	-	1.0
10	-0.67	25.09	8.2	93.5	0.30	19	1.0
15	-1.51	30.41	8.1	93.7	1.04	17	6.0
20	-1.53	31.19	7.9	91.8	1.17	16	6.0
25	-	32.05	7.3	-	1.30	17	7.0
30	-1.58	32.28	7.0	81.8	1.30	19	9.0
35	-	-	-	-	1.16	19	-
40	-	32.26	6.7	-	1.13	20	10.0
45	-	-	-	-	1.17	21	-
50	-1.55	32.42	-	-	1.17	21	10.0
55	-	-	-	-	1.21	20	-
60	-	32.44	6.5	-	1.19	21	11.0
*65	-1.52	32.44	6.3	73.9	-	-	-

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 23 Local Date and Time: 22/08/74 1247 MDT (1847 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	7.53	-	-	0.10	-	0.0
1	2.09	7.55	9.4	102.6	0.05	-	0.0
3	0.37	7.65	9.3	96.9	0.04	-	0.0
5	0.38	8.06	9.2	96.1	0.03	-	0.0
7	-	9.99	9.1	-	0.12	-	1.0
10	-1.27	17.11	8.6	91.3	0.44	-	2.0
12	-1.21	26.04	8.5	96.2	1.00	17	4.0
Station 25 Local Date and Time: 22/08/74 2010 MDT (0210 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	2.91	-	-	-	-	-
1	-	4.62	9.4	-	0.00	-	1.0
3	1.07	4.76	9.3	96.9	0.00	-	1.0
5	1.02	4.95	9.3	96.9	0.00	-	1.0
7	-	6.22	9.0	-	0.00	-	1.0
10	-0.67	25.57	8.4	96.1	0.85	19	5.0
15	-1.53	29.62	8.6	98.8	0.96	15	4.0
20	-1.59	30.34	8.5	98.0	1.07	14	5.0
25	-1.63	31.11	8.3	96.1	1.19	15	5.0
30	-	31.37	8.2	-	-	-	-
40	-1.56	31.77	7.7	89.8	1.45	19	8.0
50	-1.51	32.01	7.5	87.7	1.45	22	9.0
60	-1.49	32.10	7.4	86.6	1.56	23	10.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 28 Local Date and Time: 23/08/74 0914 MDT (1514 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	-	4.33	-	-	0.04	-	2.0
1	-	4.92	8.9	-	0.00	-	1.0
3	1.24	5.51	9.0	94.7	0.00	-	1.0
5	0.93	5.80	9.0	94.1	0.00	-	1.0
7	-	6.26	9.0	-	0.00	-	1.0
10	0.73	9.17	8.9	94.6	0.19	-	1.0
15	-1.24	26.97	8.7	99.0	0.93	17	4.0
20	-1.44	29.20	8.5	97.7	1.05	16	4.0
25	-1.56	30.35	8.4	97.0	1.01	15	5.0
30	-1.61	30.79	8.3	96.0	1.19	16	5.0
Station 36 Local Date and Time: 23/08/74 1626 MDT (2226 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	6.40	-0.00	-	-	0.03	-	6.0
1	-	0.00	8.4	-	0.02	-	6.0
3	6.29	0.00	8.3	96.1	0.00	-	7.0
5	5.89	2.00	8.3	96.4	0.05	-	5.0
7	5.10	3.66	8.4	96.6	0.02	-	4.0
10	0.83	12.16	8.5	92.5	-	-	2.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 38 Local Date and Time: 23/08/74 2010 MDT (0210 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	4.15	-	-	0.03	-	2.0
1	1.87	4.51	9.1	96.7	0.01	-	1.0
3	-	5.78	9.4	-	0.00	-	0.0
5	0.57	6.05	9.1	94.3	0.03	-	0.0
7	0.63	6.74	9.1	94.9	0.00	-	0.0
10	-1.06	24.00	8.6	96.3	0.81	18	4.0
15	-1.46	28.85	8.5	97.4	1.01	16	4.0
20	-1.60	30.44	8.5	98.1	1.15	14	5.0
25	-1.64	31.20	8.4	97.3	1.18	14	5.0
30	-1.64	31.31	8.2	95.1	1.30	14	5.0
Station 41 Local Date and Time: 25/08/74 0816 MDT (1416 GMT)							
0	5.20	2.00	-	-	0.08	-	5.0
1	-	2.00	8.6	-	0.02	-	4.0
3	5.10	2.00	8.5	96.7	0.02	-	4.0
5	5.14	2.00	8.7	99.1	0.02	-	4.0
7	-	3.06	8.8	-	0.02	-	3.0
9	1.02	7.84	8.6	91.3	0.52	-	3.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 42 Local Date and Time: 25/08/74 1306 MDT (1906 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	4.00	2.80	-	-	0.02	-	4.0
1	-	2.80	8.5	-	0.02	-	4.0
3	5.24	2.80	8.3	95.3	0.00	-	4.0
5	3.51	3.92	8.6	95.1	0.02	-	4.0
7	-	6.38	8.6	-	0.05	-	8.0
10	-0.91	25.22	8.4	95.3	0.97	19	7.0
15	-1.21	27.84	8.0	91.6	1.05	18	6.0
Station 43 Local Date and Time: 26/08/74 0013 MDT (0613 GMT)							
0	4.00	3.40	-	-	0.05	-	8.0
1	-	3.38	8.8	-	0.02	-	9.0
3	3.97	3.38	8.9	99.3	0.03	-	7.0
5	0.37	4.98	8.1	82.9	0.00	-	7.0
7	-	5.27	9.3	-	0.00	-	4.0
10	-	26.40	7.6	-	0.73	19	4.0
15	-1.42	28.15	8.2	93.6	0.80	16	4.0
20	-1.48	29.50	7.7	88.5	0.87	17	4.0
25	-	29.93	7.5	-	-	-	-

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 44 Local Depth and Time: 26/08/74 1115 MDT (1715 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	-	4.31	-	-	0.06	-	1.0
1	-	4.64	9.0	-	0.04	-	1.0
3	0.32	4.82	9.0	91.9	0.05	-	1.0
5	0.14	4.88	8.9	90.4	0.00	-	1.0
7	-	6.25	8.8	-	0.05	-	2.0
10	-1.36	26.90	8.3	94.1	0.83	21	5.0
15	-1.47	28.24	8.0	91.2	0.93	20	5.0
Station 46 Local Depth and Time: 26/08/74 1618 MDT (2218 GMT)							
0	2.00	4.88	-	-	0.06	27	6.0
1	-	4.86	9.1	-	0.06	27	1.0
3	0.58	4.91	9.3	95.7	0.06	27	1.0
5	0.53	5.10	9.3	95.7	0.04	27	1.0
7	-1.16	24.19	8.6	96.2	0.65	18	4.0
10	-1.37	26.84	8.8	99.7	0.81	12	2.0
15	-1.48	28.78	8.9	101.8	0.83	10	2.0
20	-1.51	30.60	6.9	79.9	1.39*	22	7.0

* Possibly on bottom.

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 48 Local Date and Time: 26/08/74 2027 MDT (0227 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	2.40	4.00	-	-	0.04	-	2.0
1	2.60	3.96	9.2	99.3	0.00	-	2.0
3	2.49	4.00	9.2	99.1	0.00	-	2.0
5	-0.49	13.22	9.5	100.4	0.09	-	1.0
7	-1.22	25.07	9.4	105.6	0.62	9	0.0
10	-1.31	27.31	9.5	108.1	0.67	7	0.0
15	-1.37	29.08	9.4	108.1	0.81	7	1.0
20	-1.42	30.14	9.1	105.3	0.83	5	1.0
25	-1.51	30.55	8.2	94.9	1.10	13	3.0
30	-1.52	30.85	7.3	84.6	1.33	19	5.0
Station 51 Local Date and Time: 27/08/74 1312 MDT (1912 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	2.50	4.39	-	-	0.00	-	1.0
1	1.97	4.31	9.2	97.9	0.00	-	1.0
3	1.69	4.31	9.3	98.2	0.00	-	1.0
5	0.02	15.91	9.2	100.4	0.23	-	1.0
7	-1.21	25.40	9.4	105.9	0.64	9	1.0
10	-1.27	27.46	9.4	107.2	0.69	7	0.0
15	-1.36	29.49	9.5	109.6	0.78	3	0.0
20	-1.45	30.14	8.8	101.7	0.92	7	1.0
25	-1.47	30.48	8.9	103.1	0.78	3	0.0
30	-1.52	30.76	6.8	78.8	1.38	23	6.0
35	-1.51	30.87	6.8	78.9	1.47	23	6.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 54 Local Date and Time: 28/08/74 2342 MDT (0542 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	0.00	4.63	-	-	0.02	-	2.0
1	-	4.63	9.4	-	0.00	-	1.0
3	-0.48	4.65	9.2	91.7	0.00	-	1.0
5	-0.97	21.76	-	-	0.51	13	1.0
7	-1.32	26.36	9.5	107.4	0.73	10	1.0
10	-1.42	27.69	9.3	105.8	0.65	10	1.0
15	-1.52	29.74	9.1	104.7	0.90	9	1.0
20	-1.55	30.34	9.1	105.1	0.76	8	1.0
25	-1.58	30.54	9.0	104.0	0.94	7	2.0
30	-1.59	30.65	9.0	104.0	0.81	7	2.0
35	-	30.76	8.8	-	0.99	8	2.0
40	-1.57	31.14	8.1	94.0	1.04	14	5.0
50	-1.42	31.97	6.5	76.2	1.66	26	9.0
Station 55 Local Date and Time: 30/08/74 0003 MDT (0603 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	2.00	5.52	-	-	0.03	-	1.0
1	-	5.57	8.9	-	0.00	-	1.0
3	1.78	5.74	8.9	95.1	0.02	-	1.0
5	1.75	5.97	9.0	96.3	0.00	-	1.0
7	-1.09	24.18	-	-	0.68	17	4.0
10	-1.35	27.21	8.4	95.4	0.84	15	3.0
15	-1.52	29.05	8.4	96.2	0.93	12	3.0
20	-1.54	29.79	8.8	101.2	0.81	10	2.0
25	-1.57	30.37	8.7	100.4	0.79	7	1.0
30	-1.59	30.78	8.5	98.3	0.97	9	3.0
35	-	31.15	7.5	-	1.29	13	6.0

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 56 Local Date and Time: 30/08/74 0824 MDT (1424 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen mL/L	Percent Sat. O ₂	Phosphate µg.at/L	Silicate µg.at/L	Nitrate µg.at/L
0	3.90	3.47	-	-	0.03	-	3.0
1	-	3.73	7.7	-	0.02	-	3.0
3	2.53	4.09	8.5	91.7	0.03	-	3.0
5	1.69	6.66	8.1	86.9	0.02	-	2.0
7	-1.00	23.82	7.0	78.4	0.64	19	4.0
10	-1.29	27.08	7.4	84.1	0.83	17	4.0
15	-1.54	28.96	7.2	82.4	0.92	15	4.0
20	-1.59	30.43	8.0	92.3	1.05	15	4.0
Station 57 Local Date and Time: 30/08/74 1748 MDT (2348 GMT)							
0	0.50	5.65	-	-	0.00	-	0.0
1	-	6.40	9.2	-	0.00	-	0.0
3	-0.23	6.77	10.8	110.0	0.00	-	0.0
5	-1.01	23.80	9.9	110.9	0.65	14	2.0
7	-1.28	25.88	9.1	102.6	0.67	12	2.0
10	-1.41	27.37	9.2	104.5	0.71	10	1.0
15	-1.52	28.84	8.9	101.8	0.80	10	2.0
20	-1.56	29.98	8.7	100.2	0.98	11	3.0
25	-1.58	30.53	8.6	99.3	0.97	10	3.0
30	-1.60	30.74	8.4	97.1	1.08	11	4.0
40	-	31.28	7.2	-	1.41	21	7.0
50	-1.42	32.05	7.2	84.4	-	-	-
55	-1.59	32.15	6.9	80.6	-	-	-

TABLE 2b (continued)

Beaufort Sea 1974. Chemical Parameters

Station 60 Local Date and Time: 31/08/74 2311 MDT (0511 GMT)							
Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	5.00	3.76	-	-	0.04	-	3.0
1	4.83	3.73	8.6	98.3	0.05	-	3.0
3	4.50	4.15	-	-	0.06	-	3.0
5	-1.14	25.77	8.8	99.6	0.74	17	4.0
10	-1.37	28.13	8.7	99.4	1.01	16	4.0
15	-1.45	29.18	8.6	98.8	0.98	15	4.0
20	-1.42	30.20	8.6	99.5	1.14	13	4.0
30	-1.55	31.09	8.6	99.8	1.53	13	4.0
50	-1.49	31.82	7.7	90.0	1.61	21	8.0
75	-	32.28	8.3	-	1.63	30	12.0
100	-1.55	32.49	7.3	85.5	1.71	33	12.0
125	-	32.70	6.9	-	1.79	30	14.0
150	-1.47	32.91	7.0	82.4	1.76	35	14.0
175	-0.71	33.40	6.5	78.4	1.38	35	16.0
200	-0.11	34.57	6.0	74.7	-	19	15.0

TABLE 3a
STATION LOCATIONS, 1975

<u>STATION</u>	<u>DATE</u> (GHT)	<u>LOCATION</u>		<u>SONIC DEPTH</u> (Meters)
		N	W	
1	5/8/75	70°15.00'	139°04.27'	453
2	5/8/75	70°40.74'	134°42.91'	55
3	5/8/75	70°00.36'	135°28.24'	33
4	7/8/75	70°53.97'	132°28.23'	64
5	8/8/75	71°18.85'	130°36.51'	72
6	8/8/75	70°09.16'	132°14.58'	30
7	9/8/75	69°33.5'	138°55.5'	9
8	12/8/75	69°34.74'	137°29.39'	20
9	13/8/75	70°05.42'	137°36.56'	83
11	13/8/75	69°51.75'	136°00.33'	17
13	13/8/75	70°27.49'	134°53.14'	50
15	14/8/75	70°01.71'	134°03.07'	20
16	14/8/75	70°20.92'	133°56.51'	48
17	14/8/75	70°39.48'	133°60.49'	64
20	15/8/75	70°00.31'	133°01.06'	14
21	15/8/75	70°30.02'	133°00.52'	38
22	15/8/75	70°54.78'	133°22.03'	70
25	16/8/75	70°00.65'	132°00.30'	15
26	16/8/75	70°29.37'	132°02.21'	35
27	16/8/75	70°59.64'	132°03.26'	65
30	17/8/75	70°19.56'	131°02.33'	18
31	17/8/75	70°50.27'	131°09.43'	50
32	17/8/75	71°10.51'	131°15.43'	80
34	18/8/75	70°22.88'	130°19.38'	18
35	18/8/75	70°56.50'	129°59.45'	35
36	18/8/75	71°22.74'	130°12.19'	73
37	19/8/75	69°48.99'	133°20.75'	10
38	19/8/75	69°53.66'	134°57.84'	14
39	20/8/75	70°14.38'	134°58.24'	45
40	20/8/75	70°26.32'	136°08.45'	58
41	20/8/75	70°19.29'	136°40.05'	60
42	20/8/75	70°00.56'	136°33.40'	30
43	20/8/75	69°42.69'	136°33.35'	15
44	21/8/75	69°37.76'	137°19.52'	48
45	21/8/75	69°44.70'	138°07.09'	155
46	21/8/75	69°25'	138°02'	65
47	21/8/75	69°13.5'	137°54'	27
48	23/8/75	70°10'	133°25'	28

TABLE 3b
 Beaufort Sea 1975. Chemical Parameters

Station 1 Local Date and Time: 05/08/75 0121 MDT (0721 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	3.00	13.700	-	-	0.00	15	1.9
3	2.07	14.784	8.70	99.6	0.42	9	0.0
5	0.70	22.243	9.10	105.7	1.30	19	15.0
10	-0.81	28.600	9.83	114.4	0.15	18	0.1
25	-1.64	30.855	8.55	98.8	-	-	1.5
50	-1.49	32.157	7.44	87.1	1.83	23	12.0
75	-1.48	32.577	6.83	80.2	1.87	26	13.0
100	-1.47	32.850	6.66	78.4	2.24	33	16.0
150	-1.37	33.216	6.36	75.3	1.92	31	15.0
200	-1.13	33.718	6.75	80.7	1.90	29	15.0
250	-0.42	34.357	6.06	74.2	1.96	14	14.0
300	0.01	34.637	6.35	78.8	1.38	11	13.0
350	0.28	34.770	-	-	1.23	12	16.0
400	0.33	34.813	-	-	-	-	-
405	0.37	-	-	-	0.58	6	0.3

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 2 Local Date and Time: 05/08/75 1445 MDT (2045 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	5.20	-	-	-	-	-	-
1	4.95	11.602	8.64	104.3	0.00	18	0.0
3	4.80	11.650	8.48	102.1	0.00	18	0.0
5	5.22	20.628	8.03	103.6	0.14	12	0.0
7	5.07	23.156	8.07	105.5	0.35	12	0.0
10	2.01	25.458	8.70	106.9	0.04	8	0.0
15	3.36	29.482	8.14	106.3	0.62	4	0.1
20	0.93	30.521	9.87	122.0	0.55	5	0.4
30	-1.50	31.037	9.14	106.2	0.76	5	0.9
40	-1.52	31.380	8.63	100.4	0.83	8	1.7
50	-1.44	31.546	6.74	78.7	1.43	22	8.0

Station 3 Local Date and Time: 06/08/75 1339 MDT (1939 GMT)

0	7.50	12.471	-	-	0.05	20	0.0
1	7.69	12.403	7.91	102.7	0.04	29	0.3
3	7.67	12.407	7.88	102.3	0.04	24	0.1
5	7.64	12.518	7.88	102.3	0.03	21	0.1
7	7.49	15.475	7.74	102.1	0.02	16	0.0
10	6.47	21.622	7.44	99.6	0.22	8	0.0
15	-0.90	29.012	9.81	114.3	0.88	7	0.8
20	-0.82	30.239	9.87	116.2	0.88	-	0.3
30	-1.54	31.682	6.67	77.7	1.22	-	6.0

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 4 Local Date and Time: 07/08/75 1155 MDT (1755 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	5.00	26.543	-	-	0.54	-	0.0
1	5.07	26.848	7.69	103.0	0.59	-	0.0
3	5.07	26.853	7.69	103.0	0.54	7	0.0
5	5.05	26.859	7.69	102.9	0.48	6	0.0
7	3.92	28.364	8.14	107.0	1.44	7	0.0
10	5.06	30.505	7.51	103.0	0.83	3	0.0
15	5.43	31.157	7.64	106.2	0.66	2	0.0
20	3.36	31.418	8.32	110.1	0.54	1	0.0
30	-0.35	31.668	9.31	112.1	0.93	3	0.0
40	-1.26	31.830	9.30	109.3	1.09	3	0.1
50	-1.50	31.996	8.38	98.0	1.08	4	0.7
60	-1.49	32.269	6.63	77.7	2.21	2	9.0

Station 5 Local Date and Time: 07/08/75 2139 MDT (0339 GMT)

0	5.10	30.381	-	-	0.77	2	0.0
3	5.38	30.342	-	-	0.75	2	0.0
5	5.43	30.364	7.48	103.4	0.63	2	0.0
7	5.84	30.649	7.56	105.8	0.73	2	0.0
10	5.95	30.705	7.43	104.3	0.63	2	0.0
15	5.64	31.011	7.59	105.9	0.73	2	0.0
20	1.11	31.445	9.02	112.7	0.87	2	0.0
30	-1.37	31.672	9.07	106.2	1.47	7	1.9
40	-1.53	31.963	7.77	90.8	1.67	16	7.0
50	-1.50	32.370	6.60	77.4	1.80	14	7.0
60	-1.48	32.377	6.48	76.0	1.87	15	7.0
70	-1.47	32.375	6.64	77.9	2.31	19	8.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 6 Local Date and Time: 08/08/75 1048 MDT (1648 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	7.60	18.710	-	-	0.20	13	0.1
1	7.77	18.715	7.56	102.5	0.24	15	0.0
3	7.73	18.713	7.62	103.2	0.13	14	0.0
5	7.76	18.733	7.63	103.4	0.31	28	0.0
7	8.00	22.643	7.42	103.7	0.29	9	0.0
10	7.19	25.855	6.64	93.0	0.56	8	0.0
15	6.45	26.819	6.95	96.2	0.72	6	0.1
20	5.14	29.152	7.17	97.7	0.53	3	0.0
25	-0.17	-	8.75	-	-	-	-

Station 7 Local Date and Time: 09/08/75 1330 MDT (1930 GMT)

1	4.43	18.014	8.11	100.8	0.36	13	0.1
3	4.06	20.454	8.11	101.5	0.37	14	0.2
5	3.74	21.629	8.13	101.8	0.46	16	0.2
7	3.67	21.824	8.12	101.6	0.58	14	0.2

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 8 Local Date and Time: 12/08/75 1105 MDT (1705 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	3.60	13.858	-	-	0.11	14	0.0
3	3.63	13.822	8.40	99.5	0.05	18	0.0
5	2.62	15.486	8.38	97.8	0.14	15	0.0
7	3.16	15.733	8.34	98.9	0.16	15	0.0
10	3.46	17.110	8.31	100.2	0.23	15	0.0
15	2.73	21.015	8.60	104.5	0.46	14	0.2

Station 9 Local Date and Time: 11/08/75 2018 MDT (0218 GMT)

0	5.60	11.725	-	-	0.01	23	0.0
3	2.04	13.708	7.61	86.4	0.06	15	0.0
5	1.87	14.045	8.55	96.9	0.15	18	0.0
7	-0.49	19.315	8.92	98.3	0.28	9	0.0
10	-0.83	27.249	9.64	111.1	0.46	11	0.6
15	-1.28	29.735	9.98	115.6	0.69	5	0.1
20	-1.46	30.472	9.60	111.2	0.87	7	0.3
30	-1.58	31.397	8.47	98.4	1.14	12	4.7
40	-1.59	32.015	7.50	87.5	2.22	22	11.0
50	-1.50	32.671	7.23	84.9	1.91	25	12.0
60	-1.47	32.423	7.07	83.0	2.11	28	13.0
75	-1.47	32.467	7.11	83.5	2.01	26	13.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 11 Local Date and Time: 13/08/75 0841 MDT (1441 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	7.40	12.852	-	-	0.07	17	0.0
3	6.99	13.991	7.92	102.2	0.00	15	0.0
5	7.00	13.990	7.90	101.9	0.00	19	0.0
7	6.72	14.021	7.86	100.8	0.00	20	0.0
10	4.75	18.721	8.09	101.9	0.20	16	0.1
15	4.50	19.927	8.08	101.9	0.33	17	0.5

Station 13 Local Date and Time: 13/08/75 1945 MDT (0145 GMT)

0	6.86	12.503	8.34	106.2	0.13	16	0.0
3	5.74	13.154	8.46	105.3	0.00	14	0.0
5	5.04	13.568	8.47	103.9	0.00	19	0.0
7	2.66	16.511	-	-	0.09	13	0.0
10	1.88	19.523	8.75	102.9	0.26	8	0.1
15	-0.66	28.549	9.59	112.1	0.69	5	0.9
20	-1.19	29.766	9.57	111.1	0.80	5	1.1
30	-1.52	31.129	8.52	99.0	1.11	8	2.2
40	-1.48	31.863	7.23	84.5	1.52	7	9.0
50	-1.43	32.308	6.25	73.4	1.51	7	9.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 15 Local Date and Time: 14/08/75 0924 MDT (1524 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	6.96	12.927	7.90	101.2	0.00	20	0.0
3	6.95	12.924	8.05	103.1	0.00	20	0.0
5	6.93	12.929	7.89	101.0	0.00	20	0.0
7	6.81	13.056	7.86	100.4	0.00	20	0.0
10	6.56	13.378	7.73	98.3	0.00	20	0.1
15	4.63	22.521	7.38	95.0	0.39	14	0.6
17	2.86	27.108	7.85	99.7	0.73	10	1.1

Station 16 Local Date and Time: 14/08/75 1530 MDT (2130 GMT)

0	6.16	14.290	8.12	102.9	0.00	18	0.0
3	6.40	15.339	8.11	104.1	0.02	26	0.0
5	5.58	15.513	8.13	102.3	0.03	17	0.0
7	3.50	22.245	7.94	99.2	0.28	10	0.0
10	2.50	24.164	8.26	101.9	0.41	9	0.0
15	1.17	29.379	9.48	117.0	0.67	5	0.2
20	-0.92	30.538	9.93	116.8	0.71	4	0.0
30	-1.49	31.463	8.59	100.1	1.13	9	0.1
40	-1.46	31.902	6.33	74.1	1.61	23	1.8

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 17 Local Date and Time: 14/08/75 2000 MDT (0200 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	5.65	14.330	8.25	103.2	0.01	19	0.0
3	5.09	15.282	8.26	102.6	0.08	18	0.0
5	4.34	20.277	8.20	103.3	0.27	12	0.0
7	3.15	25.166	8.45	106.7	0.48	9	0.0
10	1.63	26.536	8.97	109.9	0.58	9	0.3
15	2.07	30.285	8.68	110.3	0.64	2	0.0
20	0.56	31.054	-	-	0.74	3	0.0
30	-1.40	31.585	8.85	103.5	1.00	6	1.1
40	-1.49	31.732	8.70	101.6	1.09	8	2.1
50	-1.48	32.107	6.17	72.2	1.61	25	9.0
55	-1.48	32.106	6.11	71.5	1.64	26	9.0

Station 20 Local Date and Time: 15/08/75 0700 MDT (1300 GMT)

0	6.97	12.440	7.97	101.8	0.09	20	0.1
3	6.92	12.441	7.98	101.8	0.10	20	0.2
5	6.91	12.439	7.97	101.6	0.06	20	0.1
7	6.89	12.450	7.96	101.4	0.21	20	0.0
10	6.42	12.992	7.88	99.6	0.16	20	0.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 21 Local Date and Time: 15/08/75 1608 MDT (2208 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	6.67	15.156	8.02	103.5	0.30	18	0.1
3	5.34	19.657	7.98	102.6	0.43	13	0.0
5	5.75	22.158	7.71	101.8	0.59	11	0.0
7	5.67	25.202	7.64	102.7	0.00	9	0.0
10	4.26	27.949	8.25	109.1	0.69	-	0.0
15	1.34	30.571	9.30	116.2	0.75	-	0.1
20	-0.36	31.247	9.48	113.8	0.89	-	0.0
30	-1.41	31.823	7.68	89.9	1.71	-	3.7
40	-1.42	31.863	7.42	86.9	1.53	-	4.2

Station 22 Local Date and Time: 15/08/75 2106 MDT (0306 GMT)

0	6.11	15.583	8.21	104.8	0.16	17	0.0
3	3.14	-	8.37	-	0.26	14	0.0
5	1.80	26.210	8.43	103.5	0.64	8	0.0
7	1.64	-	8.50	-	0.80	7	0.0
10	0.54	28.023	8.60	103.4	0.85	6	0.0
15	-0.36	30.001	9.67	115.1	0.79	6	0.0
20	-1.25	30.554	-	-	0.87	7	0.1
30	-0.81	31.322	8.97	106.4	1.00	6	0.9
40	-1.55	31.603	8.25	96.1	1.58	12	6.0
50	-1.45	32.239	5.94	69.7	1.92	30	15.0
60	-1.44	32.382	6.04	70.9	1.91	30	17.0
65	-1.44	32.496	6.10	71.7	2.26	32	19.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 25 Local Date and Time: 16/08/75 0858 MDT (1458 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	7.29	12.070	7.05	90.5	0.06	20	0.1
3	7.73	13.899	7.86	103.2	0.18	19	0.0
5	7.83	14.955	8.37	110.9	0.13	17	0.0
7	7.12	15.709	8.14	106.5	0.16	16	0.0
10	6.68	17.371	7.53	98.6	0.21	18	0.2

Station 26 Local Date and Time: 16/08/75 1638 MDT (2238 GMT)

0	7.89	14.230	8.23	108.7	0.10	17	0.0
3	7.03	15.887	8.09	105.8	0.12	16	0.0
5	3.96	20.033	7.93	98.8	0.32	11	0.0
7	3.63	21.303	7.98	99.4	0.34	11	0.0
10	4.53	23.520	7.93	102.5	0.45	9	0.0
12	6.25	27.615	7.50	103.9	0.57	5	0.0
15	4.47	30.124	7.54	101.7	0.65	2	0.0
20	0.18	31.201	8.02	97.6	0.77	2	0.0
30	-1.34	31.759	9.54	111.9	1.28	4	1.3

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 27 Local Date and Time: 16/08/75 2140 MDT (0340 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	5.06	23.047	8.13	106.2	0.43	9	0.0
3	4.24	23.819	8.16	104.9	0.48	10	0.0
5	3.54	24.836	8.80	112.0	0.48	8	0.0
7	2.76	26.902	8.28	104.7	0.73	7	0.0
10	1.82	28.538	8.48	105.8	0.83	5	0.0
15	5.53	30.633	7.64	106.1	0.71	2	0.0
20	3.00	31.348	8.53	111.8	0.77	2	0.0
30	-0.60	31.690	-	-	1.32	2	0.0
40	-1.32	31.833	9.07	106.5	1.14	4	0.4
50	-1.47	32.001	7.65	89.5	1.51	14	3.6
60	-1.47	32.056	7.25	84.9	1.71	16	4.1

Station 30 Local Date and Time: 17/08/75 0855 MDT (1455 GMT)

0	7.15	14.905	7.89	102.8	-	-	-
3	7.07	14.923	7.87	102.4	0.15	19	0.1
5	7.00	15.030	7.80	101.3	0.20	19	0.0
7	6.24	15.949	7.68	98.5	0.22	17	0.0
11	6.10	20.545	7.70	101.5	0.44	13	0.0
15	5.58	23.641	7.60	100.9	0.51	10	0.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 31 Local Date and Time: 17/08/75 1621 MDT (2221 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	2.67	21.641	7.96	97.0	0.37	10	0.0
3	4.38	22.896	8.02	102.9	0.48	10	0.1
5	3.05	25.786	8.16	103.2	0.69	8	0.1
7	4.16	27.906	7.76	102.3	0.69	6	0.0
10	4.99	29.697	7.60	103.5	0.58	4	0.0
15	4.86	31.026	7.84	107.4	0.71	2	0.0
20	2.35	31.435	8.69	112.1	0.72	2	0.0
30	-0.62	31.767	9.28	111.0	1.05	3	0.1
40	-1.25	31.900	8.70	102.4	1.24	7	0.5

Station 32 Local Date and Time: 17/08/75 2003 MDT (0203 GMT)

0	3.78	27.592	7.96	103.8	0.70	6	0.0
3	3.75	27.593	7.96	103.7	0.75	6	0.0
5	3.69	27.512	7.99	103.9	0.61	6	0.0
7	3.36	27.871	8.00	103.4	0.85	6	0.1
10	1.17	28.729	8.24	101.2	0.82	4	0.0
14	4.28	30.825	7.89	106.4	0.73	2	0.0
19	4.08	31.323	7.84	105.5	0.90	2	0.0
29	0.12	31.635	9.30	113.3	0.88	2	0.0
39	-1.21	31.798	9.16	107.8	1.05	4	0.6
48	-1.50	32.130	7.29	85.3	1.63	13	4.3
58	-1.50	32.178	6.98	81.7	1.71	16	6.0
68	-1.47	32.284	6.59	77.3	1.89	21	8.0

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 34 Local Date and Time: 18/08/75 1049 MDT (1649 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	8.31	16.768	7.70	104.4	0.11	16	0.2
3	7.37	18.402	7.46	100.0	0.14	15	0.0
5	7.15	19.239	7.33	98.2	0.21	15	0.0
7	6.11	21.255	7.52	99.6	0.34	12	0.0
10	6.09	22.370	7.47	99.6	0.33	11	0.0
13	5.84	23.972	7.61	101.9	0.44	9	0.0

Station 35 Local Date and Time: 18/08/75 1622 MDT (2222 GMT)

0	6.24	20.935	7.62	101.0	0.33	11	0.0
3	5.46	26.749	7.76	104.8	0.59	6	0.0
5	3.95	27.664	7.62	99.8	0.69	5	0.1
7	2.80	28.177	7.85	100.2	0.56	3	0.0
10	4.25	29.081	8.52	113.5	0.53	3	0.0
14	4.69	31.133	7.61	103.9	0.58	2	0.0
19	0.37	31.706	8.09	99.3	0.97	5	0.3
29	-0.46	31.782	7.93	95.3	1.11	7	0.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 36 Local Date and Time: 18/08/75 2020 MDT (0220 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	3.92	29.187	7.81	103.3	0.67	3	0.0
3	3.90	-	7.69	-	0.67	3	0.0
4	3.91	29.190	7.68	101.5	0.66	3	0.0
5	3.90	29.198	7.67	101.4	0.66	3	0.0
7	3.90	29.200	7.67	101.4	0.68	3	0.0
11	3.90	29.232	7.66	101.2	0.67	3	0.0
14	3.91	29.308	8.66	114.5	0.68	3	0.0
21	2.37	31.306	8.53	110.0	0.75	2	0.0
28	-0.56	31.732	9.20	110.2	0.89	3	0.0
35	-1.26	32.077	7.73	91.0	1.42	10	3.6
42	-1.33	32.090	7.53	88.5	1.45	12	4.1

Station 37 Local Date and Time: 19/08/75 0936 MDT (1536 GMT)

0	9.98	11.807	7.82	106.8	0.00	34	0.2
3	7.75	12.613	7.91	103.0	0.00	18	0.0
5	7.78	12.636	8.02	104.5	0.00	19	0.0
7	4.91	13.099	8.13	99.1	0.03	16	0.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 38 Local Date and Time: 19/08/75 2233 MDT (0433 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	10.68	6.233	8.16	109.3	0.00	31	0.8
2	9.95	7.827	7.94	105.6	0.00	34	0.8
5	6.84	14.126	7.39	95.1	0.08	23	0.5
9	4.12	22.492	7.52	95.6	0.23	16	1.0
11	3.62	23.891	7.32	92.7	0.53	15	2.4

Station 39 Local Date and Time: 20/08/75 0441 MDT (1041 GMT)

0	8.72	11.760	7.91	104.8	0.00	25	0.2
3	8.69	11.728	4.15	55.0	0.00	25	0.1
5	7.59	-	7.88	-	0.00	22	0.3
7	5.83	-	8.10	-	0.00	22	0.3
10	2.48	-	8.59	-	0.37	10	0.4
15	-1.21	30.433	9.16	106.8	0.84	9	2.1
20	-1.40	31.364	7.53	87.8	1.18	17	6.0
30	-1.50	31.680	6.84	79.8	1.35	21	8.0
40	-1.47	32.103	6.45	75.5	1.56	26	11.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 40 Local Date and Time: 20/08/75 0929 MDT (1529 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	8.20	11.761	7.72	101.1	1.24	25	0.2
3	7.99	11.919	7.74	100.9	1.23	25	0.4
5	0.51	21.231	8.73	100.2	0.32	10	0.4
7	-0.11	25.730	8.83	102.7	0.56	7	0.2
10	-0.84	29.434	9.45	110.5	0.77	18	1.2
15	-1.22	30.592	9.21	107.5	0.87	18	1.5
20	-1.45	30.995	8.64	100.5	1.03	11	3.2
30	-1.51	31.801	7.63	89.1	1.43	20	9.0
40	-1.47	32.398	7.11	83.4	1.64	24	12.0
50	-1.47	32.620	8.81	103.5	1.81	28	14.0

Station 41 Local Date and Time: 20/08/75 1301 MDT (1901 GMT)

0	5.40	12.884	8.14	100.3	0.00	21	0.3
3	3.08	16.976	8.46	100.9	0.08	15	0.3
5	-0.32	25.850	9.11	105.5	0.58	7	0.4
7	-0.62	27.578	9.47	110.0	0.67	7	0.4
10	-0.75	28.682	9.47	110.5	0.72	7	0.5
15	-1.26	30.614	9.37	109.2	0.92	8	1.3
20	-1.19	30.903	9.35	109.4	0.91	7	1.2
30	-1.52	31.528	8.32	96.9	1.25	13	5.0
40	-1.49	32.041	7.37	86.2	1.56	16	10.0
50	-1.48	32.474	6.86	80.5	1.78	27	13.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 42 Local Date and Time: 20/08/75 1810 MDT (0010 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate µg.at/l	Silicate µg.at/l	Nitrate µg.at/l
0	7.64	13.699	7.86	102.8	-	23	0.0
3	7.30	13.742	7.87	102.1	-	23	0.0
5	6.97	13.857	7.87	101.4	-	23	0.2
7	1.21	17.222	8.57	97.5	-	11	0.0
10	0.24	28.647	8.65	103.6	-	14	2.5
15	-1.35	30.803	8.29	96.5	-	15	4.9
20	-1.34	31.228	-	-	-	17	7.0
25	-1.49	31.467	7.74	90.2	-	19	8.0

Station 43 Local Date and Time: 20/08/75 2300 MDT (0500 GMT)

0	8.75	12.681	7.72	103.0	0.10	24	0.1
3	8.55	12.801	7.73	102.7	0.00	20	0.1
5	6.17	14.470	8.00	101.5	0.04	19	0.0
7	4.03	16.171	8.00	97.3	0.11	14	0.0
10	1.91	25.525	8.36	102.5	0.57	15	1.3
12	0.46	26.682	8.13	96.7	-	-	-

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 44 Local Date and Time: 21/08/75 0244 MDT (0844 GMT)

Depth m	Temp C	Salinity ‰	Oxygen mL/L	Percent Sat. O ₂	Phosphate µg.at/L	Silicate µg.at/L	Nitrate µg.at/L
0	4.85	13.278	8.27	100.7	0.87	19	3.8
3	2.52	13.420	8.33	95.6	0.00	19	0.0
5	1.48	16.639	8.52	97.2	0.19	13	0.0
7	1.02	19.454	8.70	100.0	0.30	11	0.1
10	0.25	26.685	9.06	107.1	0.62	11	0.5
15	-1.45	30.658	8.81	102.2	0.67	12	3.1
20	-1.50	31.425	8.06	93.9	1.23	16	6.0
30	-1.50	31.889	7.65	89.4	1.41	19	8.0
39	-1.49	32.127	7.28	85.2	1.53	23	10.0

Station 45 Local Date and Time: 21/08/75 1035 MDT (1635 GMT)

0	0.13	14.612	8.67	94.1	0.12	13	0.1
3	-0.24	16.875	8.75	95.5	0.21	12	0.1
5	-0.86	24.102	9.26	104.4	0.52	8	0.1
7	-0.97	25.176	9.30	105.3	0.58	7	0.1
10	-0.99	26.125	9.36	106.6	0.63	7	0.1
15	-1.09	29.681	9.58	111.5	0.79	7	0.3
20	-1.26	30.542	9.54	111.2	0.87	8	0.6
30	-1.52	31.187	8.92	103.7	1.04	16	1.1
50	-1.57	32.244	7.15	83.6	1.65	25	11.0
75	-1.42	32.527	7.02	82.6	1.74	27	13.0
100	-1.38	32.719	7.22	85.1	1.79	28	12.0
125	-1.33	33.108	6.97	82.5	1.81	31	13.0
140	-1.27	33.334	7.07	84.0	1.75	29	12.0

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 46 Local Date and Time: 21/08/75 1504 MDT (2104 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	2.88	14.762	8.44	98.7	0.11	16	0.1
3	2.65	14.885	8.49	98.8	0.11	15	0.1
5	2.80	15.202	8.34	97.6	0.12	15	0.0
7	1.85	17.217	8.46	97.9	0.22	13	0.0
10	0.14	25.167	9.17	107.0	0.57	10	0.0
15	-1.17	30.152	9.37	109.2	0.87	8	0.8
20	-1.38	30.847	9.23	107.4	0.96	9	1.7
30	-1.50	31.401	8.42	98.1	1.23	13	4.8
40	-1.54	31.760	7.84	91.4	1.40	17	7.0
50	-1.50	32.288	7.11	83.3	1.70	25	15.0
60	-1.40	32.905	6.85	80.8	1.86	30	13.0

Station 47 Local Date and Time: 21/08/75 1844 MDT (0044 GMT)

0	3.90	14.640	8.41	100.9	0.14	16	0.0
3	3.27	14.839	8.44	99.8	0.14	15	0.0
5	2.83	15.034	8.36	97.8	0.18	15	0.0
7	2.83	16.640	8.36	98.9	0.22	14	0.0
10	0.02	21.089	8.82	99.8	0.43	8	0.0
15	-0.36	29.437	8.87	105.1	0.99	10	1.7
20	-1.27	31.287	7.74	90.6	1.33	18	7.0
25	-1.39	31.510	7.67	89.7	1.39	18	7.0

TABLE 3b (continued)

Beaufort Sea 1975. Chemical Parameters

Station 48 Local Date and Time: 23/08/75 0415 MDT (1015 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	-	-	-	-	0.16	20	0.0
3	-	-	-	-	0.42	13	0.0
5	-	-	-	-	0.41	10	0.0
10	-	-	-	-	0.92	2	0.0
15	-	-	-	-	0.88	3	0.0
23	-	-	-	-	0.92	16	4.2

Station 48 Local Date and Time: 23/08/75 0518 MDT (1118 GMT)

0	7.04	13.561	7.79	100.3	0.17	25	0.0
3	6.83	19.218	7.93	105.4	0.36	14	0.0
5	5.97	23.063	7.54	100.7	0.59	10	0.0
10	2.37	28.695	8.82	111.8	0.98	5	0.0
15	0.36	30.676	-	-	0.86	2	0.0
23	-1.21	31.649	7.07	83.1	1.27	16	4.4

Station 48 Local Date and Time: 23/08/75 0610 MDT (1210 GMT)

0	-	-	-	-	0.19	9	0.1
3	-	-	-	-	0.22	15	0.0
5	-	-	-	-	0.51	10	0.0
10	-	-	-	-	0.87	4	0.0
15	-	-	-	-	1.02	3	0.3
25	-	-	-	-	1.47	15	4.3

TABLE 3b (continued)
 Beaufort Sea 1975. Chemical Parameters

Station 48 Local Date and Time: 23/08/75 0727 MDT (1327 GMT)

Depth m	Temp C	Salinity ‰	Oxygen ml/l	Percent Sat. O ₂	Phosphate μg.at/l	Silicate μg.at/l	Nitrate μg.at/l
0	-	-	-	-	0.22	18	0.0
3	-	-	-	-	0.46	12	0.0
5	-	-	-	-	0.50	8	0.0
10	-	-	-	-	0.82	8	0.0
15	-	-	-	-	1.03	8	0.5
25	-	-	-	-	1.41	14	4.0

Station 48 Local Date and Time: 23/08/75 0820 MDT (1420 GMT)

0	-	-	-	-	0.20	18	0.0
3	-	-	-	-	0.29	15	0.0
5	-	-	-	-	0.54	9	0.0
10	-	-	-	-	0.73	5	0.0
15	-	-	-	-	0.88	1	0.0
25	-	-	-	-	1.68	15	4.1

TABLE 4

MEASUREMENT	PRECISION	ACCURACY (2σ)
TEMPERATURE	$\pm 0.01 \text{ C}^{\circ}$	$\pm 0.02 \text{ C}^{\circ}$
OXYGEN	$\pm 0.005 \text{ mL L}^{-1}$	$\pm 0.02 \text{ mL L}^{-1}$
NITRATE (unfrozen)	0.4%	$\pm 4\%$ (30 ug at L^{-1})
SILICATE (unfrozen)	0.3%	$\pm 5\%$ (50 ug at L^{-1})
ORTHOPHOSPHATE (unfrozen)	0.3%	$\pm 5\%$ (2 ug at L^{-1})
SALINITY	$\pm 0.003 \text{ ppt}$	$\pm 0.02 \text{ ppt}$
STATION POSITION (DECCA)		$\pm \sim 1000 \text{ m}$