Oceanographic data from Frobisher Bay in the Eastern Canadian Arctic for the year 1980

Joseph E. Lovrity

Arctic Biological Station
Department of Fisheries and Oceans
555 St. Pierre Blvd.
Ste. Anne de Bellevue, Que. H9X 3R4

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April 1982

OCEANOGRAPHIC DATA FROM FROBISHER BAY IN THE EASTERN CANADIAN ARCTIC FOR THE YEAR 1980

by

Joseph E. Lovrity

Arctic Biological Station
Department of Fisheries and Oceans
555 St. Pierre Blvd.
Ste. Anne de Bellevue, Qué. H9X 3R4

CONTENTS

Abstract/Résumé	iv
Acknowledgements	v
Introduction	1
Methods	2
Map of Station Positions	5
Table 1. Station locations	7
Table 2. Explanation of data headings	9
Table 3. Ice data	11
Table 4. Frobisher Bay oceanographic data	19

ABSTRACT

Lovrity, J. E. 1982. Oceanographic data from Frobisher Bay in the Eastern Canadian Arctic for the year 1980. Can. Data Rep. Fish. Aquat. Sci. 332: v + 49 p.

Tables of oceanographic data from 27 station occupations in Frobisher Bay include information on temperature, salinity, nitrate, nitrite, ammonia, phosphate, silicate, particulate and dissolved organic carbon, chlorophyll a, b, and c, and total counts of bateria.

Key words: Arctic waters, Canada coast, sea ice, temperature, salinity, nutrients, carbon, chlorophyll, bacteria counts.

RESUME

Lovrity, J. E. 1982. Oceanographic data from Frobisher Bay in the Eastern Canadian Arctic for the year 1980. Can. Data Rep. Fish. Aquat. Sci. 332: v + 49 p.

Tables des donées physiques et chimique de 27 stations occupées dans la Baie Frobisher en 1980 incluant de renseignements sur les temperature, salinité, nitrates, nitrites, ammoniac, phosphates, silicates, les carbones particulaires et dissouts, les chlorophylles a, b, et c, et les comptes totaux de cellules bactériennes.

ACKNOWLEDGEMENTS

The data used in this report were collected in support of ongoing marine biological research by the Arctic Biological Station, and form part of the phytoplankton and microbiology studies under S. I. C. Hsiao and J. N. Bunch. The microbiology investigation participated in the Eastern Arctic Marine Environmental Studies (EAMES) program which was funded in 1980 by Petro-Canada. Douglas Hope provided major logistical and technical support throughout the program. Collecting and laboratory analyses were done by F. Daoust, E. Deland, F. Dugré, M. DeFeydeau, J. Fife, R. C. Harland, J. Laliberté, B. Marcille and L. Martin. I thank A. Thériault and P. Bannon for their assistance at the Ikaluit Research Laboratory, Frobisher Bay. I express my appreciation to Lois McMullon for her invaluable role in the preparation of the typescript and in the production of the final report.

INTRODUCTION

The collections of data included in the report were made to support ongoing marine research by the Arctic Biological Station and to conclude the Eastern Arctic Marine Environmental Studies (EAMES) program. Samplings were carried out in upper Frobisher Bay from March to September, 1980, by using snowmobiles on the sea ice or a 6.7-metre freighter canoe specially equipped for oceanographic work.

The sea ice was sampled in the spring and early summer and the data obtained are placed at the beginning of the data tables.

To show conditions within the water column during a single tidal cycle, nine sets of data were collected at Station 80-1 on July 30 and 31 and they are included in the tables.

Breaking up of the ice cover over Station 80-1 and the final clearing of the ice are indicated as footnotes in the data tables. Normally after breakup, when the ice clears out of upper Frobisher Bay, an almost totally ice-free period follows and remains until new ice forms at the beginning of the next winter. In 1980, however, after initial clearing, extensive fields of broken ice returned intermittently to upper Frobisher Bay, driven by wind and tide, and remained until almost the end of August.

METHODS

Ice core samples for nutrient and other analyses were collected with a 7.6-cm SIPRE (CRREL) corer. The cores were cut with a teflon coated saw to three equal lengths, the sections placed in polypropylene trays, thawed at room temperature and the resulting liquid subsampled for analytical work. To obtain organic carbon values and bacterial counts from the bottom of the sea ice, 5-cm sections were cut off from the lower surface of several cores and thawed in glass at room temperature. Handling of the sections and subsampling of liquid was consistent with analytical requirements for carbon.

During collecting work from the ice, the undersurface of the ice was considered as the surface depth (0 metre) and subsequent collecting depths were measured from that point. Total station depth was measured from the surface of the water in the ice hole and recorded as such in this report.

Standard oceanographic depths determined and regularly used by the Arctic Biological Station were again sampled in 1980. In support of certain studies on photosynthesis a single set of samples was collected at St. 80-51. On that occasion multiples of the secchi disc reading were used to determine collection depths.

When collecting from boats, standard collecting procedures were followed. Water temperatures were measured by plunging an immersion thermometer into the water collecting bottle immediately after it was returned to the surface.

Salinity values were determined using a Bissett Berman model 6230 laboratory salinometer or a Goldberg T/C model 10419 refractometer.

Phosphate-phosphorus, nitrite-nitrogen, nitrate-nitrogen and silicate-silicon, were analysed following Strickland and Parsons (Bull. Fish. Res. Board Can. 167, 2nd ed. 1972). Chlorophyll a, b, and c, were analysed following Strickland and Parsons and the values were corrected by using the equations of Jeffrey and Humphrey (Biochem. Physiol. Pflanz. 167, 1975). Ammonia-nitrogen was analysed following the descriptions of G. Dal Pont et al. (Rep. Div. Fish Oceanogr. CSIRO, Cronulla, 55, 1974). Particulate and dissolved organic carbon data and total count figures of bacteria were obtained following Bunch (Fish. Mar. Serv. MS Rep. 1515, 1979).

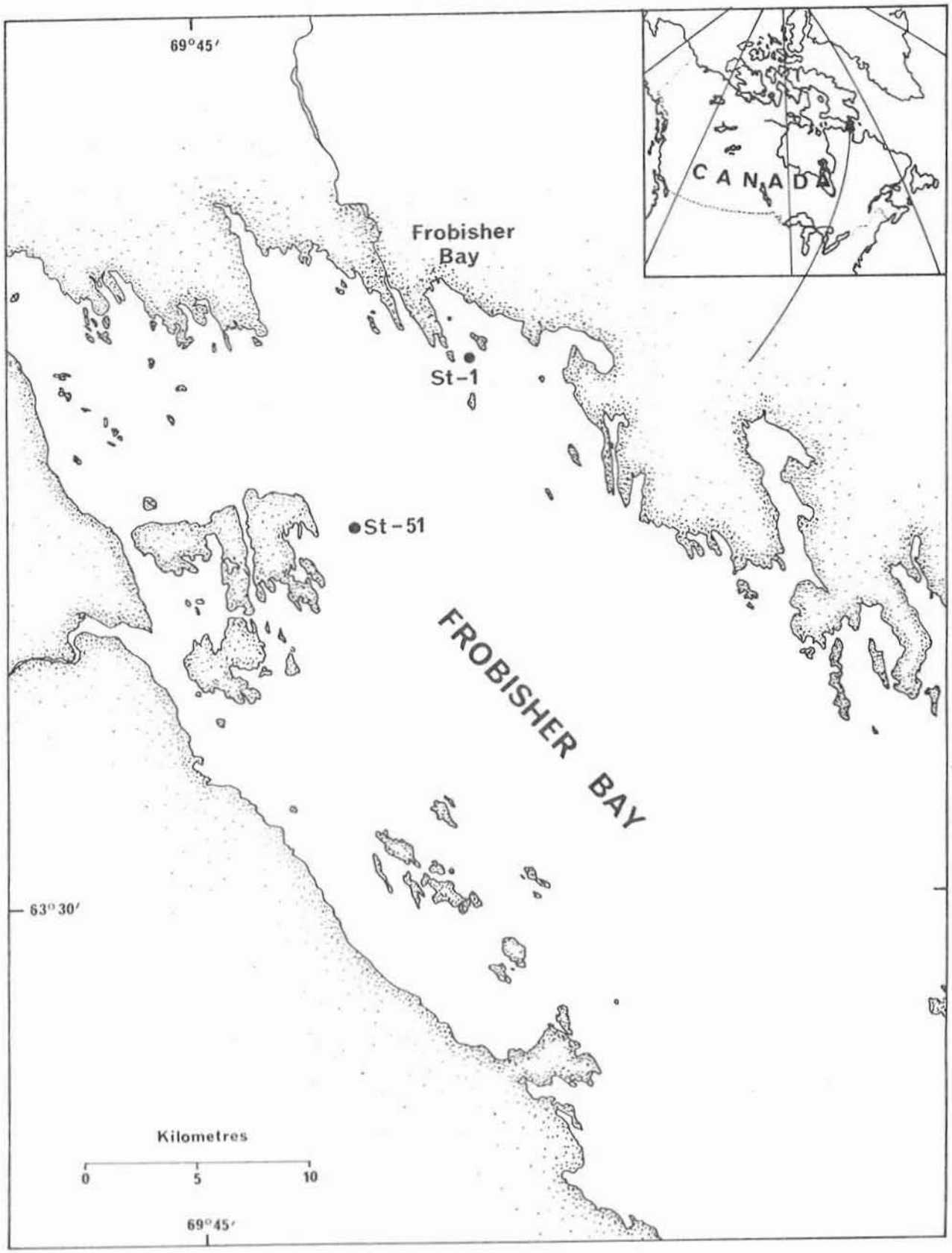
69°45′
Frobisher
Bay
St-1
St-51
FROBISHER BAY
63°30′
Kilometres
0
5
10
69°45′
CANADA

Table 1. Station locations.

Station	N. Latitude	W. Longitude
80-1	63°42.8'	68°30.8'
80-51	63°38.8'	68°35.6'

Table 3. Ice data, 1980.

Station	Date	Time	Sta. depth	Air temp.
80-1	12 Mar 80	1230	43.5	-25.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	W4	137	15	5.5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0- 45	-	4.768	0.08	0.69	0.27	2.50
45- 91	-	3.705	0.00	0.42	0.15	4.94
91-137	-	6.327	0.02	1.13	0.49	1.60
132-137	-	-	-	-	-	-

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0- 45	4.07	-	-	1.06	0.34	2.22	-
45- 91	1.55	-	-	0.21	0.11	0.16	-
91-137	2.84	-	-	7.06	0.00	2.15	-
132-137	-	770	5.7	-	-	-	7.71

Station	Date	Time	Sta. depth	Air temp.
80-1	6 May 80	1430	45.5	4.2
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	NW5	162	28	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0- 54	-	4.886	0.09	0.33	0.08	4.98
54-108	-	5.090	0.07	0.46	0.05	3.18
108-162	-	4.021	0.04	0.95	0.20	6.30
157-162	-	-	-	-	-	-

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0- 54	3.16	-	-	0.38	0.20	0.51	-
54-108	3.29	-	-	1.04	0.23	0.61	-
108-162	2.82	-	-	21.97	0.00	5.16	-
157-162	-	1960	0.4	-	-	-	8.36

Station	Date	Time	Sta. depth	Air temp.
80-1	6 Jun 80	1130	43.5	1.8
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	SE20	152	5	5.5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0- 50	-	<2.8	0.06	0.58	0.07	0.00
50-101	-	<2.8	0.04	0.36	0.05	0.00
101-152	-	<2.8	0.05	0.48	0.24	0.00

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0- 50	1.38	-	-	1.23	1.50	2.32	-
50-101	2.14	-	-	0.84	0.72	1.33	-
101-152	3.37	-	-	1.57	0.83	1.65	-

Station	Date	Time	Sta. depth	Air temp.
80-1	13 Jun 80	1608	42	5

Cloud	Wind	Ice cover	Snow cover	Secchi
7	N25	158	2	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0 - 52.5	-	<2.8	0.03	0.09	0.05	0.00
52.5-105	-	<2.8	0.02	0.10	0.07	0.75
105 -158	-	<2.8	0.03	0.07	0.12	0.00
153 -158	-	-	-	-	-	-

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0 - 52.5	1.25	-	-	0.63	0.54	1.24	-
52.5-105	2.35	-	-	0.83	0.81	1.42	-
105 -158	1.35	-	-	1.73	0.31	1.04	-
153 -158	-	1400	7.3	-	-	-	-

Station	Date	Time	Sta. depth	Air temp.
80-1	20 Jun 80	0750	40.5	7
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
1	NW2	100	5	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0- 33	-	<2.8	0.02	0.21	0.12	0.00
33- 66	-	<2.8	0.01	0.20	0.00	0.00
66-100	-	<2.8	0.00	0.18	0.12	0.84
95-100	-	-	-	-	-	-

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0- 33	1.98	-	-	0.76	0.45	0.64	-
33- 66	1.47	-	-	0.94	0.95	1.45	-
66-100	1.76	-	-	1.63	0.25	0.57	-
95-100	-	1180	7.1	-	-	-	-

Table 4. Frobisher Bay oceanographic data, 1980.

Station: 80-1

Station	Date	Time	Sta. depth	Air temp.
80-1	13 Mar 80	1100	43.5	-23.7
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
4	WNW41	137	15	6

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	-1.8	32.560	0.06	6.74	1.03	8.22
1	-1.8	32.194	0.07	6.06	1.13	5.39
3	-1.8	33.532	0.08	6.92	1.08	6.69
5	-1.8	33.230	0.07	6.65	1.08	7.94
7	-1.8	33.083	0.09	2.76	1.23	6.09
10	-1.8	33.342	0.08	6.66	1.11	9.88
20	-1.8	33.342	0.07	2.47	1.16	12.38
30	-1.8	33.520	0.08	5.72	1.03	9.38
40	-1.8	33.704	0.09	6.83	1.11	12.25

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.43	70	1.4	0.12	0.09	0.12	8.11
1	0.13	80	1.7	0.00	0.00	0.00	8.03
3	0.30	80	1.2	0.09	0.13	0.00	7.99
5	0.36	40	1.5	0.09	0.07	0.01	7.99
7	0.30	90	1.4	0.42	0.29	0.55	8.40
10	0.43	90	1.6	0.09	0.23	0.11	8.34
20	0.30	120	1.8	0.14	0.11	0.00	8.40
30	0.46	70	1.1	0.13	0.01	0.00	7.86
40	0.99	110	1.5	0.28	0.00	0.01	7.95

Station	Date	Time	Sta. depth	Air temp.
80-1	7 May 80	1020	45.5	5.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	0	162	28	5.5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	-1.8	31.751	0.09	10.12	1.02	18.53
1	-1.8	32.683	0.01	7.25	0.88	14.64
3	-1.8	33.205	0.04	7.02	1.03	15.59
5	-1.8	33.381	0.01	8.68	1.06	17.96
7	-1.8	33.467	0.07	9.00	1.01	15.69
10	-1.8	33.474	0.18	8.49	1.09	17.77
20	-1.7	33.568	0.08	7.21	0.90	14.55
30	-1.7	33.494	0.17	5.34	0.81	13.79
40	-1.7	33.497	0.09	7.61	0.44	18.34

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.11	70	1.3	0.13	0.12	0.09	8.04
1	0.05	60	1.5	0.19	0.19	0.24	8.27
3	0.47	40	1.3	0.18	0.17	0.12	8.16
5	0.00	70	1.8	0.10	0.37	0.44	8.02
7	0.41	70	1.4	0.14	0.15	0.13	8.16
10	0.00	50	1.4	0.15	0.19	0.22	8.06
20	0.00	40	1.6	0.13	0.10	0.14	8.03
30	0.00	40	1.7	0.16	0.08	0.13	8.19
40	0.05	80	1.4	0.22	0.23	0.21	8.06

Station	Date	Time	Sta. depth	Air temp.
80-1	6 Jun 80	1130	43.5	1.8
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	SE20	152	5	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	0.0	17.719	0.08	4.74	0.43	12.54
1	0.0	18.878	0.10	5.04	0.45	3.35
3	-1.6	33.196	0.13	7.67	0.79	8.10
5	-1.5	32.634	0.09	6.99	0.67	6.76
7	-1.5	32.480	0.11	7.65	0.81	7.81
10	-1.8	33.351	0.10	6.84	0.64	5.24
20	-1.8	33.384	0.12	7.82	0.76	7.43
30	-1.7	33.374	0.10	8.11	0.67	6.67
40	-1.5	33.426	0.14	5.77	0.64	8.76

Depth	NH_3-H	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.43	240	1.6	0.95	0.17	0.57	8.03
1	1.03	210	2.7	0.84	0.12	0.63	8.02
3	0.64	40	1.4	0.24	0.00	0.00	7.97
5	0.87	40	1.1	1.18	1.34	2.16	7.94
7	0.98	50	1.3	1.85	2.76	4.10	8.02
10	0.38	40	1.8	1.65	2.41	3.71	7.97
20	0.24	40	2.0	1.12	1.46	2.25	8.13
30	-	120	2.2	1.56	2.20	3.35	7.88
40	0.46	60	2.3	-	-	-	8.04

Station	Date	Time	Sta. depth	Air temp.
80-1	13 Jun 80	1608	42	5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
7	N25	158	2	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	-0.5	10.349	0.07	2.64	0.26	10.49
1	-1.0	27.363	0.06	5.74	0.76	15.74
3	-1.5	31.161	0.09	6.73	0.85	13.46
5	-1.5	32.842	0.07	6.25	0.85	8.80
7	-1.5	32.975	0.10	7.11	0.97	8.32
10	-1.5	33.063	0.10	7.19	0.88	9.56
20	-1.5	33.215	0.09	6.42	0.83	22.11
30	-1.5	33.280	0.08	7.26	0.90	8.61
40	-1.5	33.313	0.09	7.40	0.88	8.51

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.11	90	1.4	0.42	0.41	0.65	7.77
1	0.57	90	1.4	1.35	2.06	2.89	8.30
3	0.51	110	1.1	1.20	1.79	2.45	8.11
5	0.60	40	1.4	1.20	1.78	2.57	7.96
7	1.05	40	1.2	1.82	3.02	4.48	8.11
10	1.13	40	1.2	1.63	2.68	3.97	8.18
20	0.38	70	1.4	1.99	2.43	3.83	8.14
30	1.02	30	1.3	2.14	3.29	5.10	7.96
40	1.30	40	1.2	1.25	1.83	2.77	7.91

Station	Date	Time	Sta. depth	Air temp.
80-1	20 Jun 80	0750	40.5	7
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
1	NW2	100	5	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	0.5	<2.8	0.00	0.38	0.02	0.84
1	0.0	17.638	0.03	3.55	0.45	10.06
3	-1.0	31.051	0.05	5.99	0.83	12.51
5	-1.0	32.237	0.09	6.34	1.09	14.41
7	-1.0	32.319	0.07	5.88	0.85	10.41
10	-1.2	32.982	0.07	6.12	0.83	14.31
20	-1.5	33.088	0.06	6.39	0.85	14.88
30	-1.5	33.154	0.10	6.37	0.85	11.17
40	-1.5	33.187	0.08	7.13	0.95	12.70

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.49	160	1.6	0.36	0.47	0.41	7.91
1	0.82	140	1.9	0.66	0.83	1.11	8.12
3	0.67	70	1.3	1.01	1.44	2.06	8.08
5	0.31	70	1.4	0.95	1.48	1.95	8.02
7	0.20	70	1.8	1.01	1.33	2.10	8.12
10	0.31	90	2.8	0.58	0.50	0.91	8.14
20	0.02	90	2.6	1.20	1.78	2.57	8.05
30	0.24	90	2.5	0.95	1.45	2.19	7.99
40	0.74	140	2.2	0.75	1.13	1.56	7.89

Station	Date	Time	Sta. depth	Air temp.
80-1	1 Jul 80	0950	43	4.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
3	S5	0	0	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	5.3	<2.8	0.08	0.33	0.02	10.40
1	4.2	5.290	0.06	0.39	0.12	11.39
3	0.5	26.307	0.12	3.34	0.55	13.46
5	-0.3	29.047	0.16	4.25	0.69	12.98
7	-1.0	31.661	0.10	5.39	0.86	12.20
10	-1.1	32.427	0.02	5.88	0.74	12.01
20	-1.3	32.827	0.08	6.77	0.86	14.13
30	-1.3	32.903	0.04	6.79	0.86	10.76
40	-1.3	32.945	0.23	5.93	0.79	13.56

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.24	140	1.2	0.49	0.21	0.35	8.25
1	0.74	140	1.3	0.50	0.12	0.26	8.36
3	0.13	170	1.3	1.96	0.94	1.60	8.48
5	0.00	180	1.3	3.88	4.17	6.44	8.19
7	0.00	150	1.0	3.20	3.59	4.88	8.04
10	0.13	120	1.3	2.90	3.00	4.58	7.91
20	0.20	110	1.3	1.11	0.98	1.39	8.09
30	0.74	60	1.2	1.18	1.36	2.04	7.94
40	0.56	70	1.0	0.81	0.47	1.09	8.01

Station	Date	Time	Sta. depth	Air temp.
80-1	7 Jul 80	1410	43	6.8
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
1	20	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	6.3	7.380	0.00	0.00	0.00	14.11
1	5.2	13.403	0.00	0.07	0.00	11.10
3	0.8	28.472	0.00	0.11	0.22	5.55
5	-0.2	31.638	0.06	0.24	0.55	9.60
7	-0.3	32.030	0.12	1.01	0.69	8.92
10	-1.0	32.475	0.16	3.26	0.84	8.92
20	-1.2	32.655	0.29	5.49	0.88	25.62
30	-1.2	32.695	0.21	5.84	0.88	16.55
40	-1.2	32.740	0.16	6.65	0.91	11.63

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.25	190	1.3	1.15	0.41	1.00	8.62
1	1.33	230	1.2	1.96	0.91	1.84	8.65
3	0.71	-	1.3	5.91	1.28	3.62	8.58
5	0.49	540	1.2	8.73	0.92	3.57	8.50
7	0.78	450	1.3	9.69	2.86	6.63	8.40
10	0.60	310	1.4	4.97	0.38	1.68	8.36
20	1.14	200	0.9	3.10	2.71	4.43	8.38
30	1.54	80	1.3	2.25	2.16	3.38	8.22
40	1.00	100	1.2	1.34	0.87	1.35	8.17

Station	Date	Time	Sta. depth	Air temp.
80-1	13 Jul 80	0925	52	7.2
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
2	SW2	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	5.3	18.046	0.00	0.06	0.14	5.43
1	3.6	24.543	0.00	0.00	0.19	3.90
3	1.2	29.200	0.00	0.00	0.24	1.62
5	-0.2	31.077	0.00	0.00	0.31	3.71
7	-0.4	31.731	0.00	0.00	0.31	3.71
10	-0.9	32.223	0.00	0.17	0.33	0.00
20	-1.1	32.483	0.06	3.18	0.67	15.43
30	-1.3	32.553	0.06	4.76	0.71	12.95
40	-1.3	32.581	0.09	4.73	0.83	10.38

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.90	170	1.1	1.70	1.88	2.96	8.56
1	0.00	220	1.2	1.36	0.67	1.31	8.53
3	0.04	400	1.1	1.98	0.13	0.97	8.57
5	0.78	550	1.1	5.75	3.58	6.42	8.53
7	0.57	550	1.1	6.43	3.63	6.54	8.51
10	0.45	710	1.1	9.23	0.00	2.66	8.49
20	0.70	440	1.0	8.99	2.36	6.22	8.47
30	0.65	220	1.1	4.76	1.38	3.24	8.02
40	0.57	240	1.0	6.42	4.39	7.66	8.24

Station	Date	Time	Sta. depth	Air temp.
80-1	18 Jul 80	1130	44.8	10
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
0	S5	-	-	7.9

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	5.0	29.249	0.00	0.01	0.19	2.67
1	4.0	29.405	0.00	0.00	0.17	1.24
3	3.0	30.008	0.00	0.00	0.19	2.38
5	1.0	31.170	0.00	0.00	0.36	1.24
7	0.0	31.956	0.00	0.00	0.36	0.19
10	-0.7	32.258	0.00	0.00	0.45	1.90
20	-1.0	32.400	0.01	1.45	0.71	5.33
30	-1.1	32.464	0.04	3.29	0.69	2.86
40	-1.1	32.491	0.05	3.98	0.83	5.33

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.94	110	1.1	1.87	2.58	3.93	8.35
1	0.61	160	1.1	1.05	0.89	1.55	8.35
3	0.08	250	1.0	1.50	0.96	1.62	8.46
5	0.00	400	1.1	3.10	1.52	2.89	8.43
7	0.00	520	1.1	5.85	3.08	6.11	8.26
10	0.90	780	0.9	9.03	1.32	4.84	8.53
20	1.35	670	1.1	14.03	3.04	9.29	8.44
30	0.41	410	0.9	9.19	1.41	5.11	8.29
40	0.70	320	1.0	6.81	0.07	2.74	8.25

Station	Date	Time	Sta. depth	Air temp.
80-1	25 Jul 80	1020	43	5

Cloud	Wind	Ice cover	Snow cover	Secchi
8	NE25	-	-	5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	4.5	29.143	0.01	0.06	0.35	7.58
1	3.5	30.935	0.00	0.04	0.25	15.50
3	2.5	31.502	0.00	0.00	0.30	2.91
5	2.2	31.840	0.00	0.02	0.25	3.03
7	2.2	31.822	0.01	0.00	0.25	3.61
10	1.7	31.897	0.01	0.06	0.30	0.58
20	-0.2	32.336	0.03	1.24	0.54	3.61
30	-0.5	32.436	0.07	2.62	0.68	5.59
40	-0.7	32.493	0.07	3.04	0.70	8.39

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	190	2.1	0.83	0.22	0.59	8.78
1	0.00	320	1.9	1.07	0.13	0.43	8.55
3	0.00	310	2.7	1.64	0.01	0.76	8.80
5	0.00	370	3.2	1.92	0.17	0.85	8.68
7	0.00	350	2.6	2.00	0.00	1.20	8.59
10	0.00	440	2.0	2.16	0.00	0.74	8.38
20	0.00	590	2.6	5.84	0.69	3.04	8.41
30	0.08	370	2.3	5.13	0.00	1.73	8.38
40	0.16	520	1.9	4.10	0.00	1.42	8.29

Station	Date	Time	Sta. depth	Air temp.
80-1	30 Jul 80	1100	49	7
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
4	SW8	-	-	9

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.2	31.775	0.00	0.00	0.36	2.96
1	2.0	31.783	0.00	0.00	0.24	2.37
3	1.3	31.980	0.00	0.00	0.45	5.03
5	1.9	31.863	0.00	0.00	0.38	6.21
7	0.7	32.173	0.00	0.07	0.45	4.53
10	0.3	32.256	0.00	0.53	0.55	5.32
20	-0.3	32.384	0.02	2.04	0.63	22.18
30	-0.4	32.434	0.02	2.66	0.72	7.20
40	-0.5	32.457	0.02	3.06	0.76	12.22

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	320	2.1	1.23	0.22	0.70	8.86
1	0.00	260	2.0	1.30	0.10	0.61	8.65
3	0.00	550	1.8	1.92	0.07	0.77	8.73
5	0.00	1170	1.5	1.41	0.12	0.80	8.79
7	0.39	400	1.3	3.17	0.13	1.06	8.72
10	0.00	310	1.5	3.42	0.00	0.98	8.66
20	0.00	260	1.9	3.65	0.00	1.11	8.57
30	0.24	280	2.0	3.53	0.00	1.25	8.43
40	-	220	1.4	3.19	0.00	1.13	8.36

Station	Date	Time	Sta. depth	Air temp.
80-1	30 Jul 80	1310	48	-
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	-	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.5	32	0.00	0.00	0.33	9.46
1	3.4	32	0.00	0.00	0.38	3.55
3	2.6	32	0.00	0.00	0.38	3.15
5	1.8	32	0.00	0.00	0.38	5.22
7	1.4	33	0.00	0.00	0.38	4.04
10	0.8	34	0.00	0.00	0.41	2.86
20	-0.2	34	0.00	1.15	0.55	14.69
30	-0.4	34	0.00	2.06	0.69	9.96
40	-0.6	34	0.01	1.98	0.67	6.90

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	-	550	1.3	0.73	0.09	0.44	8.89
1	0.00	510	2.5	0.62	0.06	0.37	8.82
3	0.99	580	1.1	1.13	0.09	0.55	8.88
5	0.39	490	1.3	1.69	0.20	0.68	8.86
7	1.29	320	2.8	1.98	0.14	0.85	8.74
10	0.62	350	1.2	2.71	0.17	0.95	8.84
20	0.06	250	1.6	3.70	0.00	1.23	8.57
30	0.21	250	1.2	3.59	0.00	1.12	8.57
40	0.47	190	1.3	3.30	0.00	0.62	8.49

Station	Date	Time	Sta. depth	Air temp.
80-1	30 Jul 80	1540	40	-
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	0	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.7	19.707	0.00	0.00	0.24	5.52
1	3.0	31.570	0.00	0.00	0.36	0.00
3	2.4	31.630	0.00	0.00	0.38	1.18
5	1.6	31.945	0.00	0.00	0.36	9.27
7	1.1	31.916	0.00	0.00	0.38	13.11
10	-0.1	32.127	0.00	0.00	0.45	0.00
20	-0.1	32.371	0.00	0.86	0.53	1.18
30	-0.4	32.416	0.01	1.83	0.65	3.06
40	-0.3	32.435	0.02	1.95	0.65	2.46

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.90	130	1.9	0.44	0.14	0.39	8.86
1	0.11	230	2.2	0.85	0.05	0.30	8.98
3	0.66	210	1.9	1.35	0.16	0.68	8.81
5	0.19	280	1.3	1.64	0.12	0.73	8.85
7	0.49	270	1.6	1.69	0.18	0.80	8.87
10	0.36	450	1.8	2.43	0.11	0.95	8.79
20	0.92	510	1.8	3.75	0.02	1.39	8.64
30	0.88	330	1.8	3.46	0.06	1.34	8.40
40	1.00	230	2.3	3.34	0.12	1.36	8.51

Station	Date	Time	Sta. depth	Air temp.
80-1	30 Jul 80	1855	41	-
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	-	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.8	32	0.01	0.12	0.33	1.96
1	2.7	34	0.00	0.00	0.33	1.31
3	1.9	34	0.01	0.03	0.31	3.18
5	1.5	34	0.02	0.02	0.33	3.93
7	1.1	34	0.00	0.07	0.35	4.02
10	0.7	34	0.00	0.11	0.38	2.99
20	0.0	34	0.03	0.63	0.40	4.40
30	-0.5	34	0.02	1.64	0.61	4.58
40	-0.4	34	0.04	1.80	0.59	6.64

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	270	1.9	1.14	0.62	0.92	8.91
1	0.33	250	1.5	1.04	0.39	0.81	8.80
3	0.29	250	2.0	1.38	0.41	0.93	8.69
5	0.00	250	2.4	1.82	0.55	1.32	8.80
7	0.14	290	2.3	1.95	0.41	1.10	8.78
10	0.22	350	2.0	2.65	0.27	1.17	8.77
20	0.22	430	2.4	3.50	0.22	1.50	8.53
30	0.40	230	2.5	3.84	0.23	1.75	8.41
40	1.09	430	1.7	3.56	0.19	1.50	8.34

Station	Date	Time	Sta. depth	Air temp.
80-1	30 Jul 80	2135	49	-
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
0	0	-	-	-

Depth	Temp.	Salinity	NO_2-4	NO_3-N	PO_4-P	SiO_3-Si
0	2.6	30.580	0.00	0.09	0.38	5.52
1	2.5	30.678	0.00	0.04	0.38	4.30
3	1.7	31.490	0.00	0.07	0.42	4.21
5	0.9	31.986	0.00	0.07	0.42	5.24
7	0.7	32.083	0.00	0.07	0.42	4.96
10	0.3	32.228	0.00	0.47	0.49	3.84
20	-0.3	32.371	0.02	1.58	0.66	10.57
30	-0.5	32.419	0.03	2.67	0.68	10.57
40	-0.6	32.452	0.04	2.91	0.71	8.33

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.36	250	2.2	1.05	0.27	0.97	8.67
1	0.15	270	0.3	1.17	0.23	0.83	8.82
3	0.19	280	1.4	1.52	0.16	0.87	8.67
5	0.75	270	1.8	2.48	0.16	1.15	8.70
7	0.62	360	2.2	2.71	0.13	1.32	8.59
10	0.11	380	1.9	3.29	0.05	1.28	8.66
20	0.49	290	1.9	3.98	0.00	1.48	8.51
30	0.79	210	1.4	3.47	0.00	1.38	8.44
40	0.53	200	1.4	3.25	0.00	1.25	8.43

Station	Date	Time	Sta. depth	Air temp.
80-1	31 Jul 80	0115	45	3.8
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	-	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.9	22	0.01	0.15	0.19	7.86
1	2.5	32	0.01	0.06	0.28	0.37
3	1.4	32	0.01	0.01	0.32	1.87
5	1.1	32	0.00	0.09	0.40	9.82
7	0.5	33	0.02	0.22	0.42	2.06
10	0.3	33	0.01	0.26	0.45	0.19
20	-0.3	34	0.01	1.32	0.56	1.50
30	-0.4	34	0.05	1.88	0.61	2.53
40	-0.4	34	0.05	2.43	0.68	2.99

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.36	120	1.9	0.32	0.18	0.53	8.79
1	0.32	220	1.4	1.01	0.13	0.69	8.75
3	0.76	290	1.5	1.80	0.21	0.99	8.78
5	0.00	320	2.2	2.26	0.08	1.01	8.73
7	0.58	360	2.4	3.06	0.06	1.36	8.81
10	0.00	420	1.5	3.34	0.10	1.48	8.69
20	0.54	300	1.4	3.87	0.00	1.49	8.70
30	0.13	380	2.4	3.48	0.00	1.38	8.51
40	0.43	280	1.4	3.42	0.00	1.30	8.51

Station	Date	Time	Sta. depth	Air temp.
80-1	31 Jul 80	0425	41	-
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	0	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	5.1	30.101	0.00	0.23	0.33	2.97
1	2.8	30.456	0.00	0.01	0.26	1.93
3	2.4	31.495	0.00	0.00	0.26	3.82
5	2.1	31.667	0.01	0.02	0.38	4.58
7	1.1	32.017	0.01	0.05	0.43	3.35
10	0.7	32.210	0.00	0.19	0.52	4.01
20	0.2	32.341	0.01	0.56	0.54	6.75
30	-0.3	-	0.02	1.32	0.64	4.39
40	-0.3	32.429	0.04	1.70	0.64	7.60

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	200	2.1	0.85	0.03	0.54	8.92
1	0.07	290	1.3	1.06	0.19	0.76	8.88
3	0.07	300	2.1	1.23	0.20	0.82	8.77
5	0.00	350	1.4	1.57	0.21	1.06	8.84
7	0.00	400	1.5	2.27	0.00	0.93	8.88
10	0.11	330	1.5	3.07	0.00	1.27	8.82
20	0.07	340	1.6	3.94	0.00	1.44	8.67
30	0.11	400	1.4	3.81	0.00	1.54	8.58
40	0.25	270	1.8	3.59	0.00	1.36	8.57

Station	Date	Time	Sta. depth	Air temp.
80-1	31 Jul 80	0705	41.5	8.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
-	S4	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	4.3	-	0.01	0.05	0.33	7.98
1	3.0	-	0.02	0.01	0.33	2.88
3	2.0	-	0.00	0.00	0.40	3.16
5	1.3	-	0.00	0.03	0.47	5.90
7	1.1	-	0.02	0.04	0.54	4.86
10	0.6	-	0.02	0.24	0.50	2.97
20	0.0	-	0.05	1.05	0.50	8.92
30	-0.3	-	0.05	1.98	0.54	10.24
40	-0.4	-	0.05	2.49	0.59	9.01

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.06	160	1.6	0.45	0.65	1.02	8.82
1	0.39	230	2.4	0.76	0.35	0.56	8.84
3	0.13	260	2.8	1.55	0.46	0.62	8.83
5	0.21	330	1.9	2.29	0.45	1.10	8.86
7	0.17	330	2.0	2.36	0.33	1.00	8.80
10	0.99	330	1.5	2.97	0.49	1.33	8.76
20	0.54	310	1.9	3.67	0.24	1.44	8.62
30	0.39	290	1.4	3.68	0.14	1.48	8.54
40	0.76	230	3.3	3.38	0.30	1.28	8.57

Station	Date	Time	Sta. depth	Air temp.
80-1	31 Jul 80	1015	48	8.9
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
1	SE5	-	-	9

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	3.9	18.190	0.00	0.10	0.17	8.06
1	3.2	29.975	0.01	0.00	0.26	0.52
3	2.0	31.625	0.01	0.00	0.35	1.27
5	1.5	31.873	0.00	0.00	0.38	10.43
7	1.1	31.999	0.01	0.00	0.31	1.18
10	0.5	32.216	0.00	0.06	0.52	0.00
20	-0.2	32.376	0.01	1.09	0.59	0.61
30	-0.3	32.398	0.01	1.40	0.61	1.18
40	-0.3	32.427	0.04	1.81	0.59	1.46

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.30	90	1.5	0.47	0.48	0.72	8.78
1	0.07	200	2.8	0.89	0.21	0.46	8.89
3	0.00	270	1.8	1.57	0.24	0.82	8.83
5	0.27	360	2.3	2.13	0.33	1.07	8.85
7	0.00	340	2.3	2.59	0.31	1.05	8.81
10	0.29	380	2.7	3.38	0.29	1.40	8.70
20	0.29	250	1.9	3.84	0.25	1.50	8.65
30	0.33	240	2.5	3.86	0.07	1.33	8.58
40	0.54	220	3.1	3.15	0.45	0.94	8.45

Station	Date	Time	Sta. depth	Air temp.
80-1	7 Aug 80	1255	42	5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
5	SE45	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2	31.997	0.01	0.37	0.18	2.62
1	1	31.944	0.01	0.32	0.25	1.60
3	1	31.892	0.02	0.31	0.18	1.34
5	1	32.052	0.04	0.29	0.27	2.24
7	1	32.101	0.04	0.41	0.37	3.26
10	1	32.151	0.01	0.32	0.32	2.75
20	0	32.303	0.03	0.69	0.32	3.78
30	-1	32.471	0.03	1.72	0.49	4.67
40	-1	32.532	0.07	3.82	0.80	10.17

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.10	360	1.8	2.65	0.17	1.21	8.83
1	0.00	390	1.5	2.99	0.87	2.24	8.86
3	0.00	310	1.9	2.82	0.26	1.47	8.95
5	0.02	420	2.1	2.82	0.28	1.23	8.87
7	0.25	390	2.1	3.21	0.37	1.42	8.80
10	0.00	350	2.1	3.76	0.56	1.76	8.85
20	0.27	250	1.7	3.68	0.15	1.36	8.69
30	1.33	240	1.4	2.88	1.45	2.76	8.72
40	1.52	250	1.8	1.40	0.23	0.76	8.58

Station	Date	Time	Sta. depth	Air temp.
80-1	14 Aug 80	1140	50	6.9
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
7	W7	-	-	7.5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	3.0	31.044	0.00	0.16	0.24	1.99
1	2.8	31.452	0.02	0.12	0.29	0.58
3	1.3	32.180	0.02	0.17	0.41	0.93
5	0.9	32.361	0.01	0.11	0.41	2.70
7	0.6	32.393	0.00	0.16	0.41	1.73
10	0.2	32.496	0.01	0.43	0.48	2.26
20	0.0	32.550	0.02	0.61	0.41	3.32
30	-	32.562	0.01	0.48	0.48	1.46
40	0.0	32.577	0.03	0.55	0.48	3.50

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.18	200	2.0	1.48	0.00	0.62	8.79
1	0.00	260	1.3	2.04	0.01	0.88	8.77
3	0.00	450	1.2	3.53	0.00	1.29	8.75
5	0.04	420	1.6	4.32	0.02	1.56	8.79
7	0.04	450	1.8	5.29	0.00	1.75	8.72
10	0.12	360	2.5	5.26	0.00	1.51	8.64
20	0.60	250	1.5	3.99	0.00	1.15	8.68
30	0.73	240	1.5	3.88	0.00	1.08	8.58
40	0.89	160	1.8	2.80	0.00	0.81	8.53

Station	Date	Time	Sta. depth	Air temp
80-1	21 Aug 80	1125	42	11
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	0	-	-	7

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	6.5	8.493	0.02	1.00	0.17	16.60
1	4.5	29.843	0.02	0.09	0.39	5.78
3	2.0	31.883	0.01	0.05	0.41	0.75
5	1.0	32.329	0.01	0.07	0.48	0.93
7	0.0	32.508	0.00	0.13	0.48	0.58
10	0.0	32.553	0.02	0.79	0.51	1.55
20	0.0	32.621	0.02	1.90	0.80	4.38
30	0.0	32.622	0.04	1.47	0.80	2.26
40	0.0	32.723	0.02	1.96	0.82	2.88

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.71	80	1.1	0.00	0.00	0.00	8.59
1	0.00	170	1.4	2.06	2.94	4.20	8.77
3	0.00	250	1.2	1.55	0.51	1.07	8.86
5	0.00	430	2.3	3.40	0.12	1.11	8.85
7	0.00	570	2.8	6.12	0.27	2.18	8.85
10	0.00	470	1.5	6.49	0.00	2.09	8.80
20	1.37	150	4.7	1.98	0.13	0.97	8.73
30	1.37	170	1.4	2.07	0.33	1.33	8.60
40	1.54	180	2.2	1.23	1.50	2.32	8.62

Station	Date	Time	Sta. depth	Air temp
80-1	28 Aug 80	1110	46	6
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
4	SE8	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.5	30.962	0.00	0.24	0.48	3.30
1	2.5	31.085	0.00	0.26	0.51	2.68
3	1.5	32.187	0.02	0.26	0.50	2.05
5	1.0	32.445	0.00	0.26	0.54	2.68
7	1.0	32.439	0.02	0.31	0.56	2.43
10	0.5	32.563	0.01	0.84	0.59	3.05
20	0.5	32.626	0.03	0.99	0.66	3.30
30	0.0	32.644	0.04	1.26	0.67	3.17
40	0.5	32.658	0.17	1.21	0.68	4.67

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.18	250	1.7	1.71	0.61	1.22	9.06
1	0.38	310	1.4	1.79	0.29	1.20	8.93
3	0.61	370	1.6	3.01	0.00	1.16	8.91
5	0.61	520	1.4	3.86	0.06	1.45	8.96
7	0.55	400	1.6	4.88	1.32	3.22	8.92
10	0.71	300	1.4	4.02	0.17	1.48	8.84
20	0.98	300	2.2	3.70	0.00	1.31	8.75
30	0.78	360	1.5	3.57	0.11	1.29	8.77
40	1.18	900	2.0	8.15	0.39	2.90	8.76

Station	Date	Time	Sta. depth	Air temp.
80-1	4 Sep 80	1050	38	8
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
0	NE8	-	-	10.5

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	3.5	27.347	0.00	0.33	0.51	8.55
1	3.0	29.307	0.00	0.17	0.51	5.78
3	2.0	31.733	0.01	0.00	0.51	2.91
5	1.0	32.234	0.00	0.00	0.58	3.47
7	1.0	32.518	0.00	0.00	0.58	3.10
10	0.0	32.632	0.00	0.38	0.60	3.47
20	-0.5	-	0.01	1.47	0.68	5.22
30	-0.5	32.716	0.02	1.71	0.75	5.04
37	-0.5	32.753	0.03	1.94	0.85	6.15

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	120	1.2	0.32	0.20	0.29	8.90
1	0.00	120	1.4	0.55	0.20	0.22	8.92
3	0.00	200	1.3	2.04	0.14	0.59	8.82
5	0.00	250	1.6	1.29	0.24	0.20	8.89
7	0.00	300	1.3	3.07	0.02	0.78	8.88
10	0.00	370	1.3	3.59	0.00	1.00	8.86
20	0.68	180	1.2	1.47	0.13	0.42	8.68
30	0.82	200	1.6	1.25	0.05	0.41	8.64
37	0.95	110	1.3	0.78	0.17	0.39	8.59

Station	Date	Time	Sta. depth	Air temp.
80-1	11 Sep 80	1020	44.5	2.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	E6	-	-	-

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.0	27.044	0.00	0.50	0.44	8.97
1	1.5	31.226	0.00	0.05	0.46	2.93
3	1.0	32.087	0.00	0.16	0.53	2.93
5	0.0	32.512	0.00	0.41	0.56	4.17
7	0.0	32.603	0.00	0.50	0.60	3.88
10	0.0	32.614	0.00	0.68	0.63	4.46
20	0.0	32.716	0.04	1.73	0.77	7.15
30	0.0	32.742	0.05	1.91	0.77	5.61
40	-0.5	32.729	0.05	2.18	0.80	7.05

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.00	110	1.6	0.64	0.00	0.20	8.90
1	0.00	300	1.6	1.95	0.41	1.10	8.99
3	0.00	230	1.1	4.22	0.00	1.20	8.97
5	0.00	320	1.0	2.28	0.00	0.72	8.88
7	0.00	280	1.5	4.50	0.00	1.32	8.88
10	0.00	260	1.3	4.50	0.00	1.32	8.93
20	0.00	190	1.4	2.32	0.09	0.63	8.74
30	0.40	130	-	1.86	0.19	0.86	8.73
40	0.57	190	1.6	1.59	0.00	0.44	8.70

Station	Date	Time	Sta. depth	Air temp.
80-1	18 Sep 80	1235	46	4
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
8	SE7	-	-	8

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	2.0	32.100	0.00	0.12	0.48	2.77
1	2.0	32.214	0.01	0.02	0.51	2.20
3	1.5	32.441	0.00	0.00	0.53	2.11
5	1.0	32.395	0.00	0.09	0.51	2.96
7	1.0	32.593	0.00	0.44	0.56	3.14
10	1.0	32.576	0.00	0.65	0.58	3.61
20	1.0	32.678	0.00	1.31	0.60	4.55
30	1.0	32.686	0.00	1.71	0.75	5.40
40	-0.5	32.771	0.00	1.58	0.73	4.93

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	0.68	230	1.3	1.93	0.00	0.81	9.01
1	1.34	230	1.2	2.21	0.02	0.93	8.95
3	1.13	300	1.1	3.71	0.00	1.26	8.87
5	1.16	360	1.3	4.91	0.00	1.60	8.85
7	0.92	220	1.6	5.25	0.00	1.47	8.79
10	0.16	210	1.2	4.95	0.00	1.76	8.90
20	0.47	140	1.1	3.14	0.00	1.05	8.93
30	1.20	100	1.3	2.02	0.27	1.25	8.81
40	1.82	80	1.2	1.07	0.10	0.68	8.82

Table 4 (continued). Frobisher Bay oceanographic data, 1980.

Station: 80-51

Station	Date	Time	Sta. depth	Air temp.
80-51	31 Aug 80	1255	225	4.5
Cloud	**Wind**	**Ice cover**	**Snow cover**	**Secchi**
0	0	-	-	13

Depth	Temp.	Salinity	NO_2-N	NO_3-N	PO_4-P	SiO_3-Si
0	1.5	32.491	0.00	1.12	0.61	4.47
13	0.0	32.528	0.00	1.07	0.61	3.41
26	0.0	32.611	0.02	1.00	0.64	3.60
32.5	0.0	32.565	0.02	0.91	0.61	4.66
39	0.0	32.656	0.02	0.91	0.66	4.66
52	0.0	32.714	0.02	0.97	0.54	3.60
65	0.0	32.741	0.04	1.48	-	-
78	0.0	32.742	0.00	1.17	0.74	4.76
104	-0.5	32.753	0.04	1.91	0.76	6.39
130	-0.5	32.753	0.02	2.17	0.81	4.47

Depth	NH_3-N	POC	DOC	Ch.a	Ch.b	Ch.c	Bacteria
0	1.61	-	-	1.35	0.78	1.27	-
13	1.44	-	-	1.13	0.09	0.55	-
26	1.28	-	-	1.33	0.39	0.49	-
32.5	1.51	-	-	1.12	0.23	0.14	-
39	1.64	-	-	1.39	0.36	0.48	-
52	1.81	-	-	1.09	0.00	0.02	-
65	-	-	-	0.88	0.34	0.18	-
78	1.74	-	-	1.00	0.26	0.40	-
104	2.24	-	-	0.60	0.28	0.17	-
130	2.34	-	-	0.34	0.03	0.00	-