

インド洋南極海および大西洋南極海の海況について

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ON THE OCEANOGRAPHIC CONDITIONS IN THE ATLANTIC AND
INDIAN SOUTHERN WATERS

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Abstract

Based on the data obtained by the UMITAKA-MARU (Tokyo Univ. of Fisheries, 1453) during the period from Dec. 1961 to Feb. 1962, the general oceanographic conditions are discussed in this paper. During this expedition the temperature, salinity, dissolved oxygen, PH, Phosphate-P and Silicate-Si are investigated at all stations. As a result the followings are summarized: (1) along the oceanographic sections off Australia and Africa the Antarctic Conver-

gences are clearly distinguished, (2) in the Indian Antarctic waters the south-going warm deep water affects to the higher latitudes zone than in the Atlantic region, (3) in the Weddell cold water region where the northerly and southerly oceanographic sections are investigated the upwelling of Warm Deep Water is critically observed, (4) by the chart of dynamical topography the meandering of west-wind drift current around the Weddell cold water region is estimated.

1961年10月より1962年3月にわたって実施された東京水産大学南極洋調査(熊凝武晴団長, 海鷹丸1,453トンによる)に際して, インド洋および大西洋南極海で行なわれた海洋調査の結果に基づき, この海域の海況(1961~1962年)の概要について報告する。

観測点は, Fig. 1 に示されているように119点に達し, これらの測点のうち, 各層観測54点, 多筒採水器付B・T観測41点, B・T観測24点で, それらの観測結果は Appendices に掲げられている。

観測項目およびその方法は, 次のとおりである。

- i) 採水: 表層水はズック製バケツ, 表層下水は Nansen 型採水器を用いた。
- ii) 水温: 表層水は棒状寒暖計, 表層下水温は転倒寒暖計による。Nansen 型採水器には防圧寒暖計2本, 被圧寒暖計1本を, それぞれ装着した。
- iii) 塩分: サリノメーターによる。

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- iv) 溶在酸素量: WINKLER の法による.
- v) 珪酸塩: 光電比色計を用い, DIENERT-WANDERBULCKE の法による.
- vi) 磷酸塩: 光電比色計を用い, DENIGÈS の法による.
- vii) 亜硝酸塩: 光電比色計を用い, GRIESS-ROMJN の法による.
- viii) PH: PH メーターおよび比色法による.
- ix) 水色, 透明度

これらの測定項目については, 各層観測点の全層について (亜硝酸塩のみ 10 点) 行なった.

B・T の多筒採水器による採水資料は, 塩分測定にのみ用いた.

海況の概要

1. 水温の水平分布

Fig. 2 に 20 m 層における水温の水平分布を示す. インド洋南部海域と, Weddell 海北方海域 (ほぼ $15^{\circ}\text{E}\sim 30^{\circ}\text{W}$) を比較すると, 後者では一般に, 低緯度まで低温域が広がっていることが知られる. South Georgia 島周縁, $51^{\circ}\text{S}\cdot 30^{\circ}\text{W}$, $53^{\circ}\text{S}\cdot 0^{\circ}$ を中心とした水域では, 比較的水温が高く, Weddell 海北方海域の水温の水平分布を規制している. 特に 51°S , 30°W 付近には表層で 5°C 以上の値さえ得られている. また, 60°S , 8°E の水域には暖水域がかなり南方まで見出されるが, これは 0° 経度線付近の高水温域に連なるものであろう.

オーストラリアおよび南アフリカ南方海域の観測線上で, およそ 53.5°S , 50.5°S 付近で南極集束線 (Antarctic Convergence) を横切ったことが, 上層の水温の水平傾度からも推察できる. 100 m 層の水温分布も, 20 m 層におけるそれと, 大きな差異は認められない (Fig. 3).

Fig. 4 は, 200 m 層における水温の分布図である. この層では, 南極集束線付近における南極低冷水 (Intercooler Antarctic Cold Water) の沈降, 大陸・島嶼近縁における温暖深層水 (Mesothermal Warmer Deep Water) の湧昇が現われるため, 複雑な水温分布を示している. さらに深層では, 水温の南北方向への傾度は小さくなり, 単調な水温分布を表わしている (Fig. 5). しかしながら, この層においても Weddell 海北方海域では, 他の海域に比してきわめて低温であり, 温暖深層水の高緯度水域への影響が小さいことを示していて, それは主として, Weddell 海沖合の島嶼海嶺群のもつ地形的影響によるものであろう. 1,000 m 層の水温分布 (Fig. 6) も, 400 m 層におけるものと大差はないが, Weddell 海北方海域では 0°C に近い水温値がみられる.

2. 塩分の水平分布

Fig. 7 に 20 m 層における塩分の水平分布を示してあるが, 上層では一般に低緯度に高鹹, 高緯度に低鹹であるが, 55°S , 10°E 付近に 34.0% 以上の高鹹水域がみられる.

100, 200, 400 m 層では, 上層とは逆に概して高緯度に高鹹低緯度に低鹹で, 深度を増すに

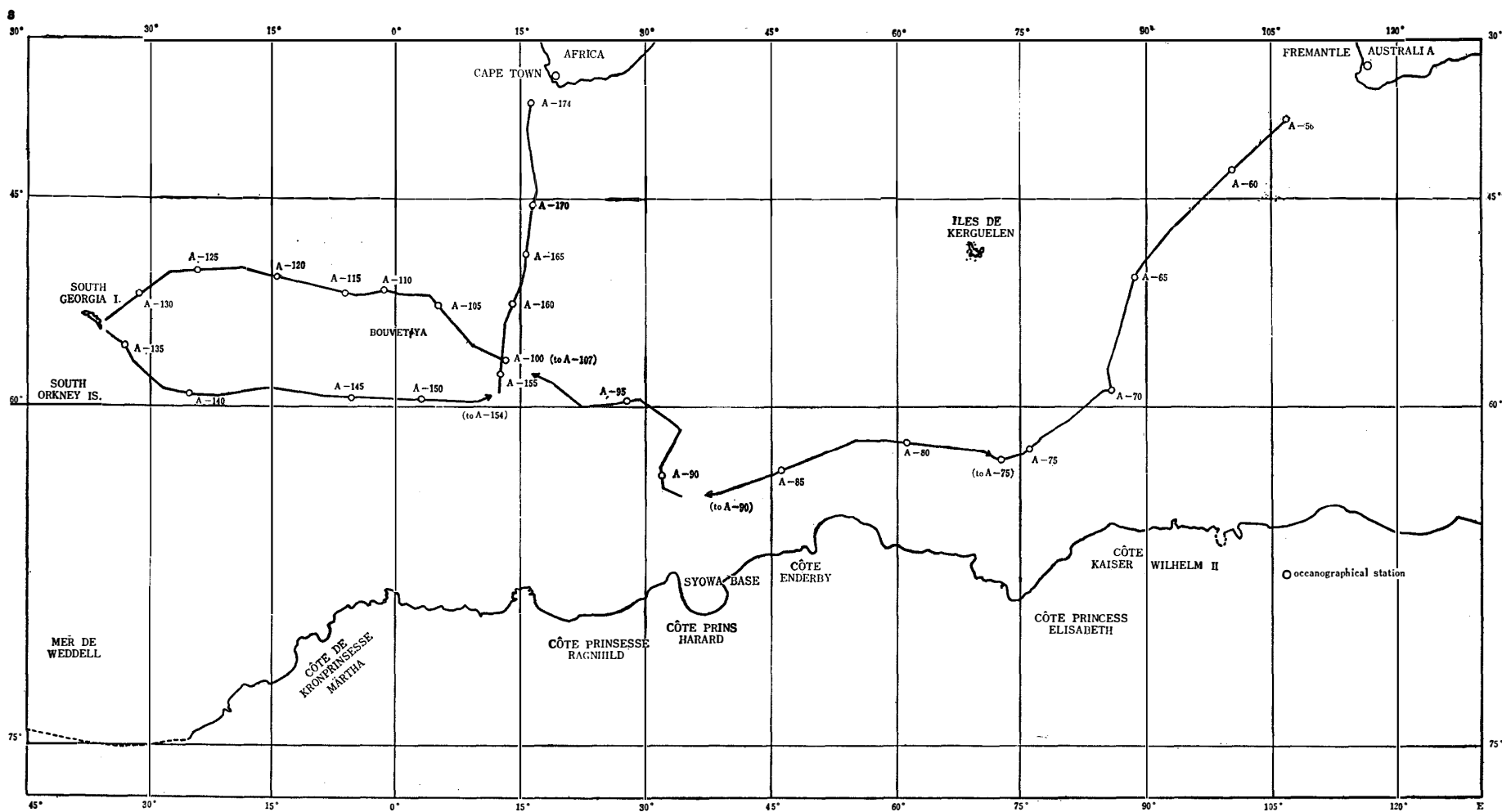


Fig. 1 Map showing the oceanographical stations occupied by the UMITAKA-MARU in the southern ocean during the period from Dec. 1961 to Jan. 1962.

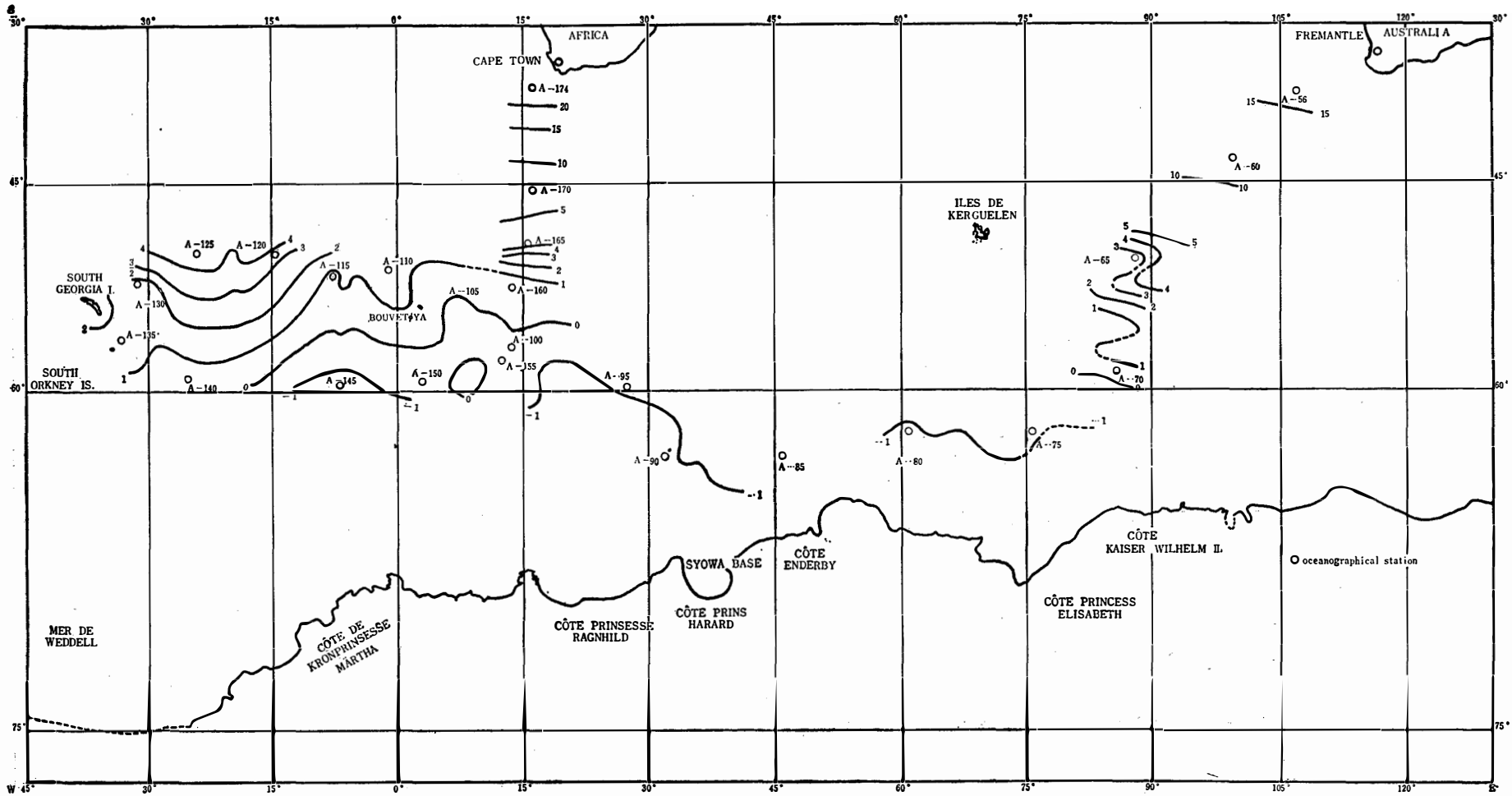


Fig. 2. Distribution of temperature at the layer of 20m(°C).

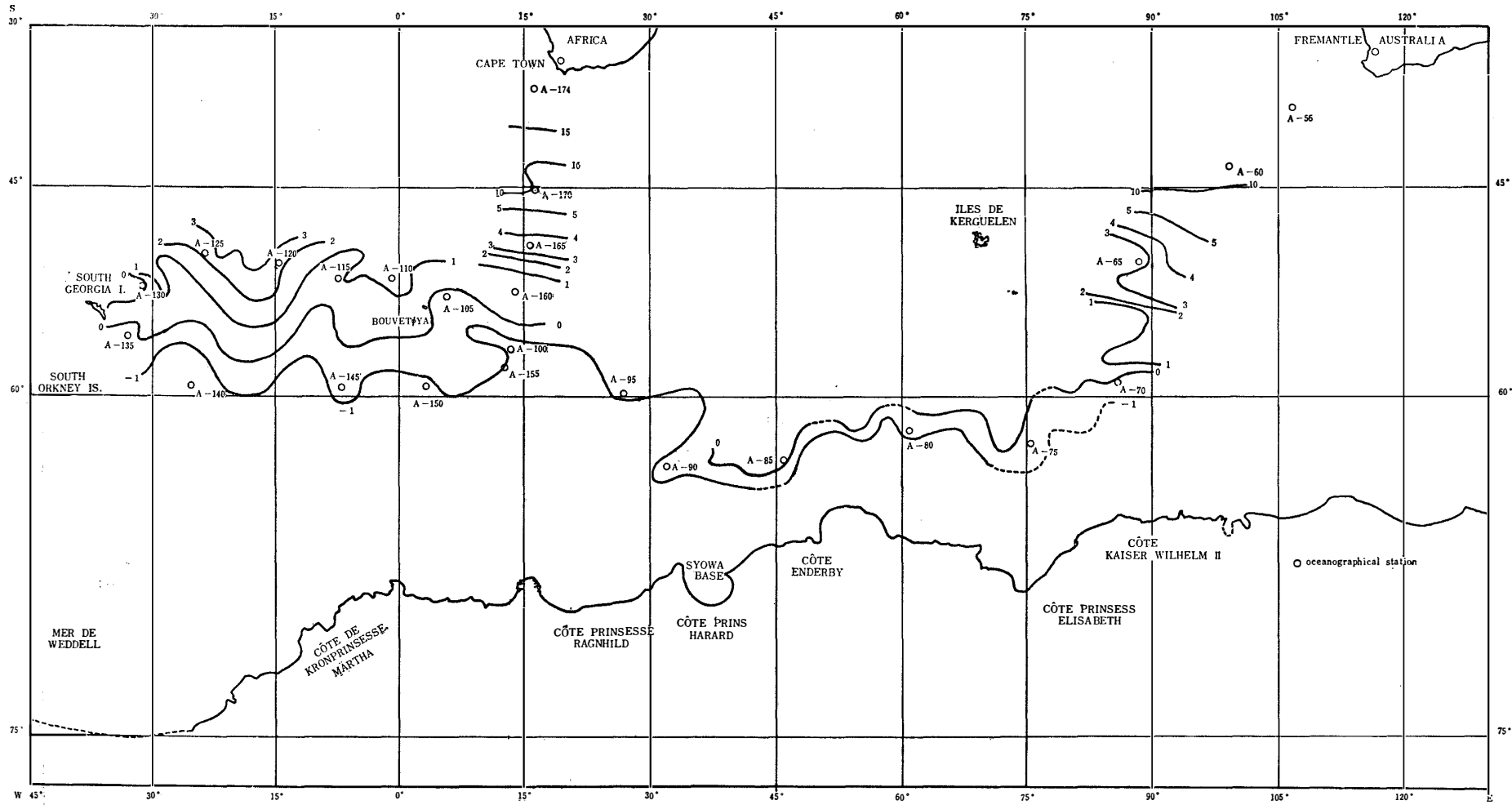


Fig. 3. Distribution of temperature at the layer of 100m(°C).

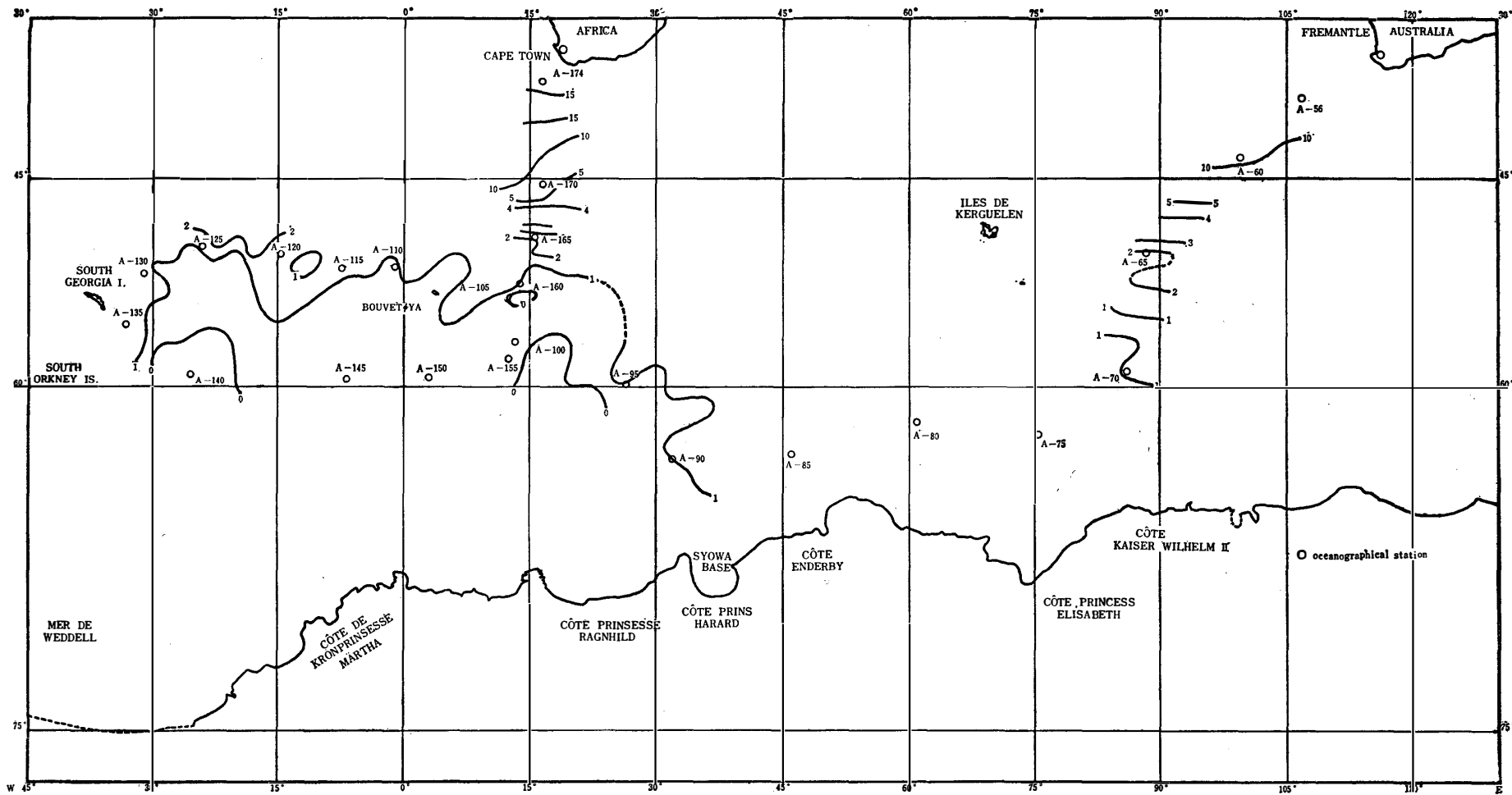


Fig. 4. Distribution of temperature at the layer of 200m(°C).

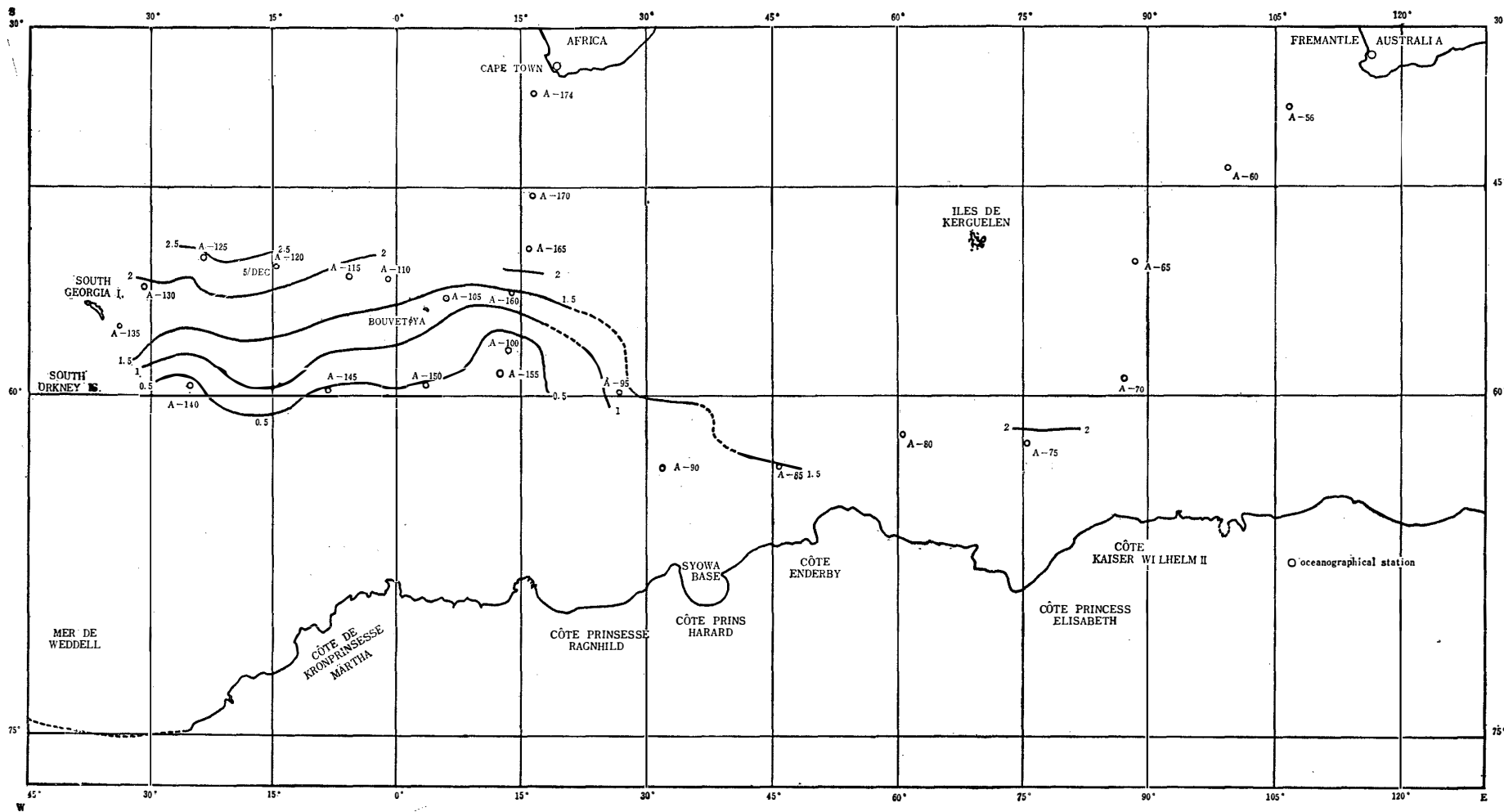


Fig. 5. Distribution of temperature at the layer of 400m(°C).

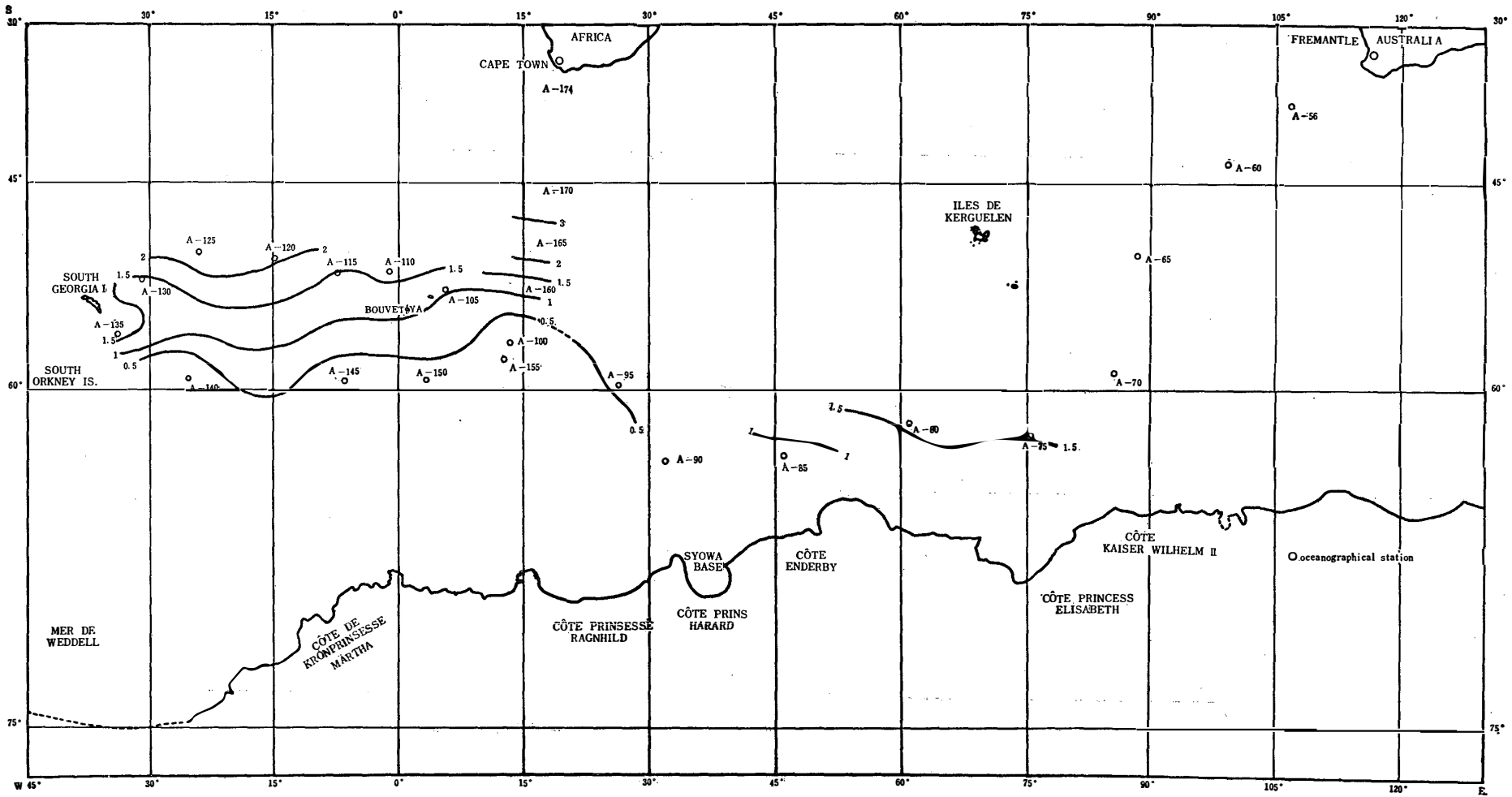


Fig. 6. Distribution of temperature at the layer of 1000m(°C).

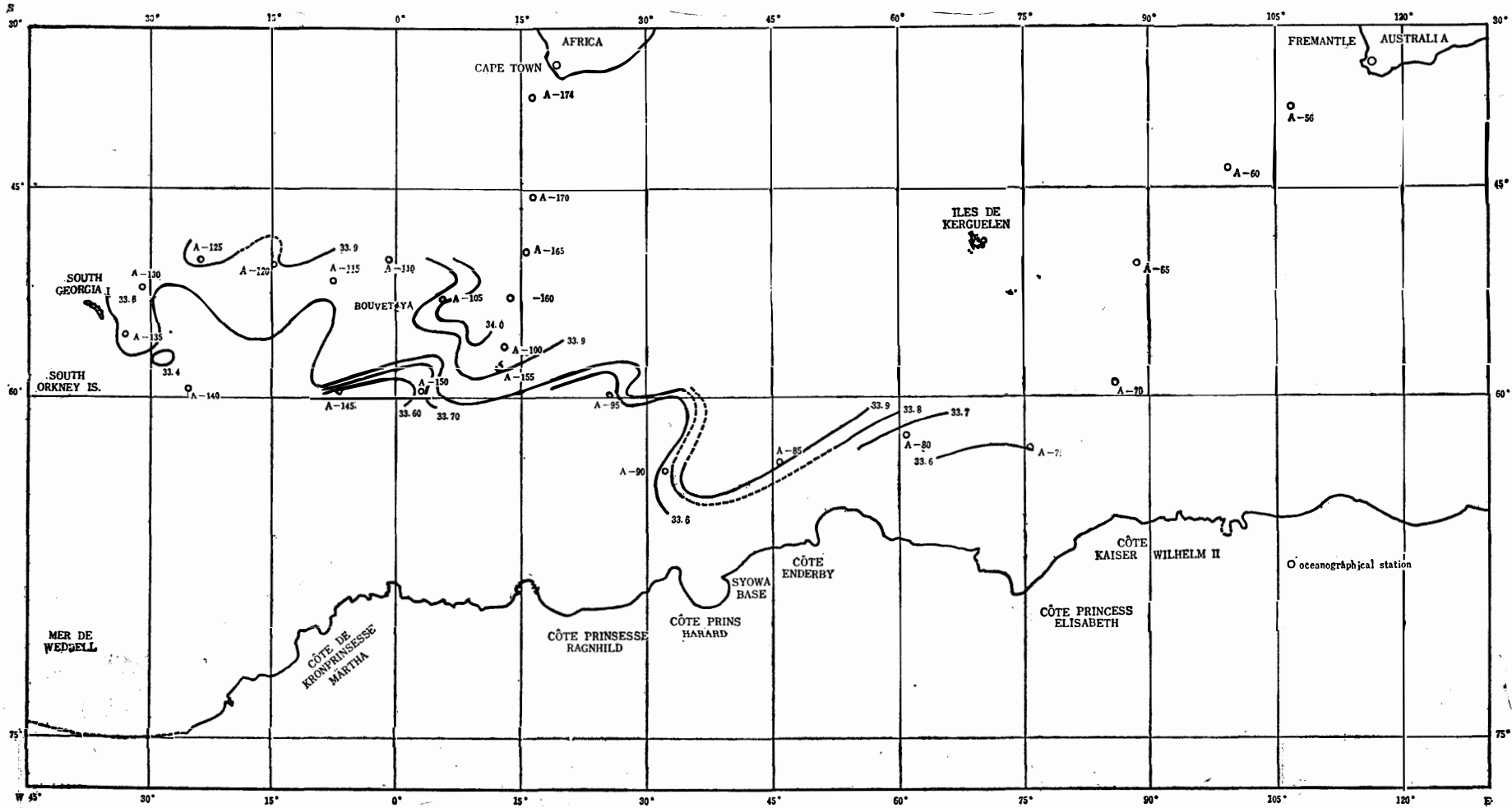


Fig. 7. Distribution of salinity at the layer of 20m(‰).

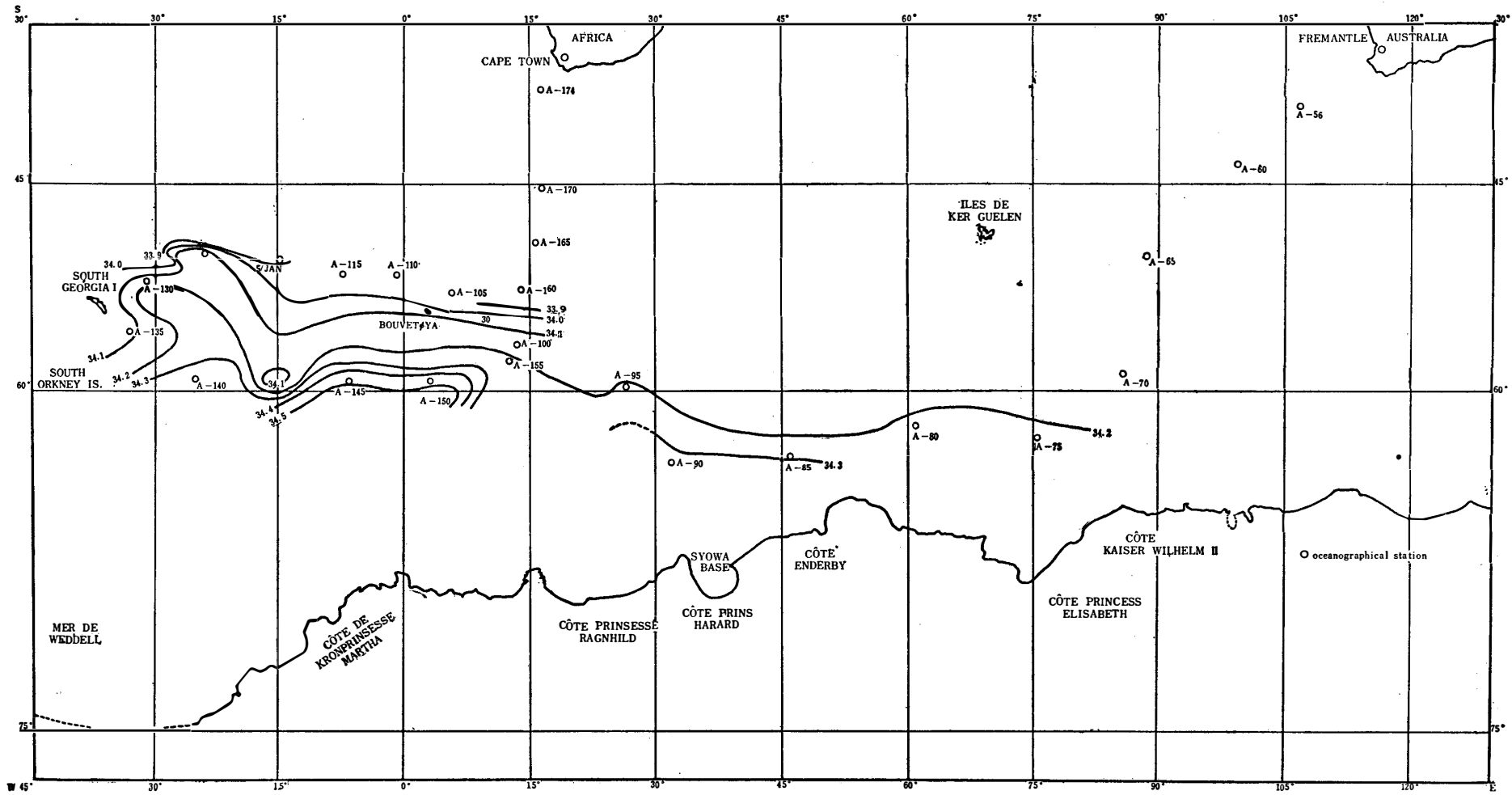


Fig. 8. Distribution of salinity at the layer of 100m(‰).

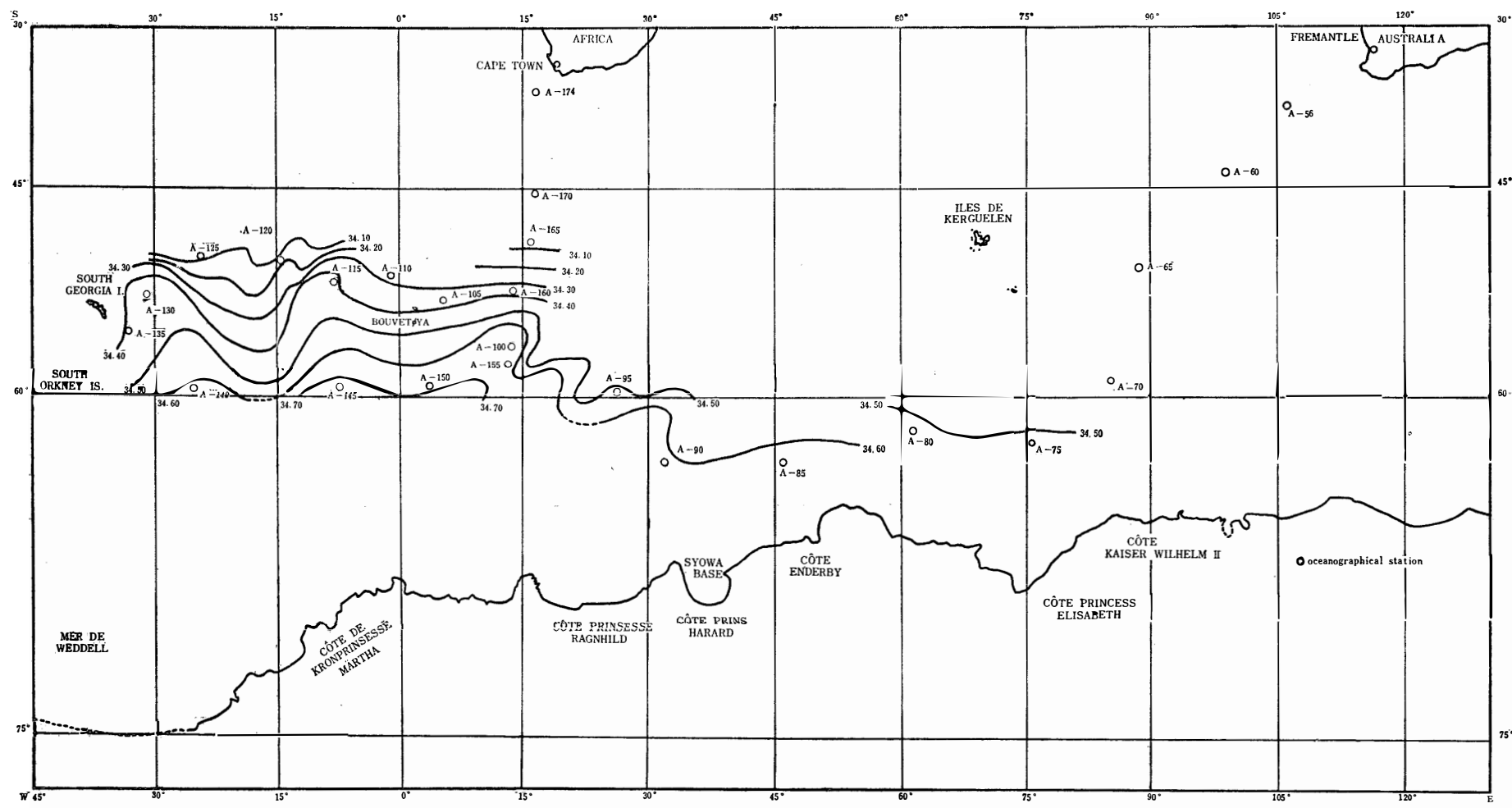


Fig. 9. Distribution of salinity at the layer of 200m(%).

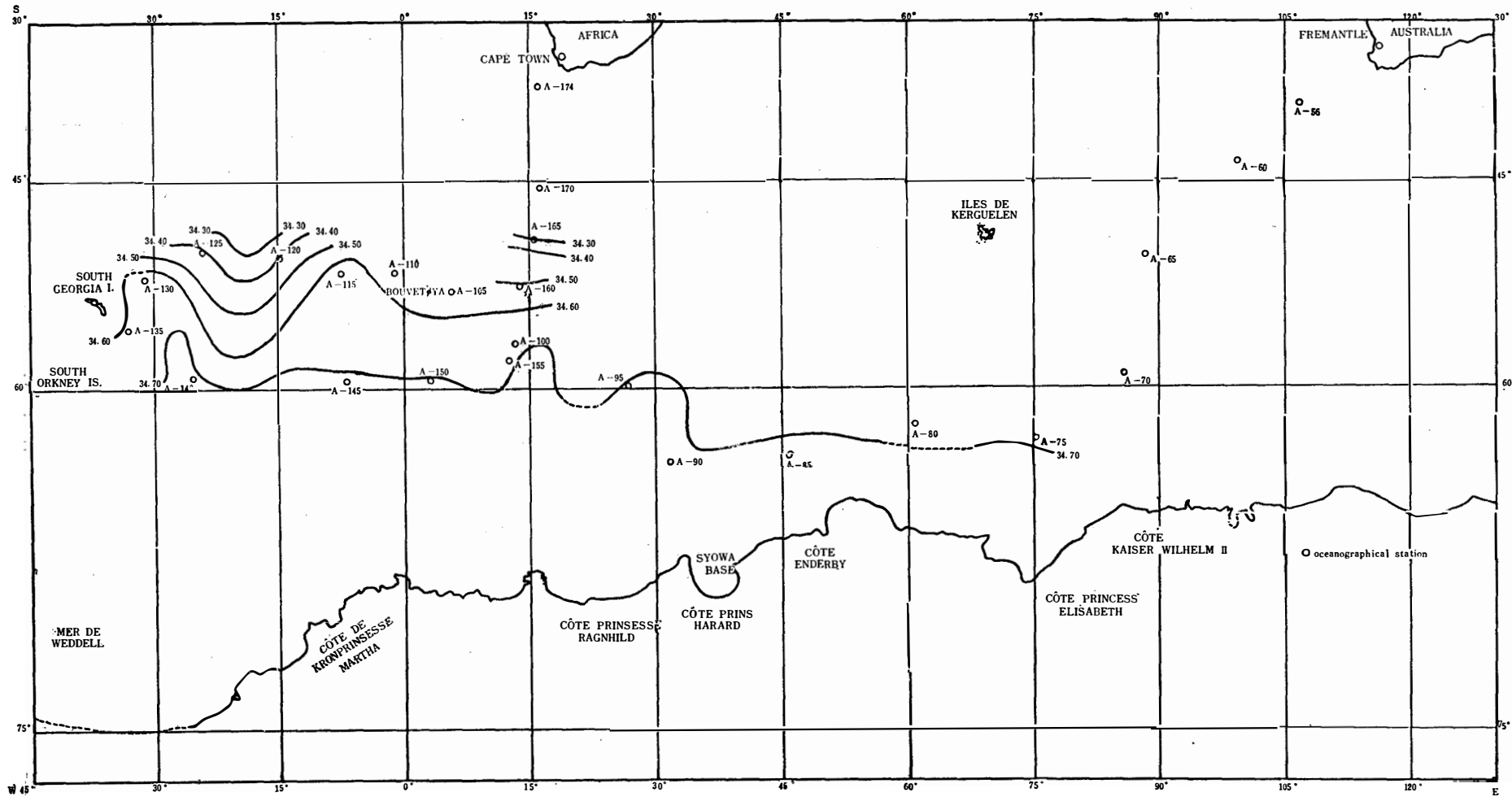


Fig. 10. Distribution of salinity at the layer of 400m(‰)

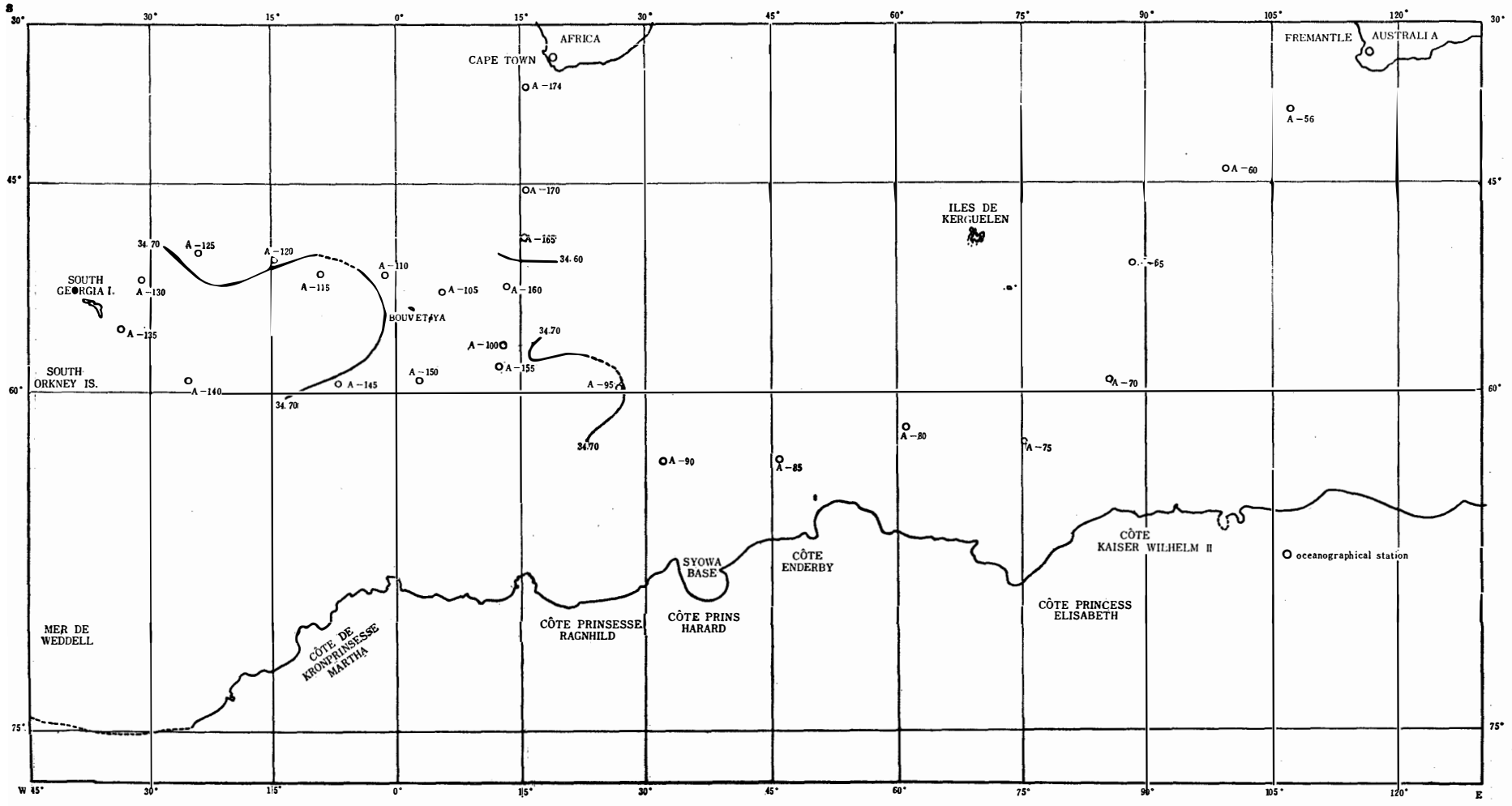


Fig. 11. Distribution of salinity at the layer of 1000m (%).

つれ塩分は増大しているが、水平分布の傾向には大きい差異は認め難い。高緯度の高鹹水は深層水の湧昇によりもたらされたものであり、低緯度側の低鹹状態は、南極系中間層水 (Antarctic Intermediate Water) の出現水域まで追跡されよう (巨視的には、南極大陸をめぐって、環状にこのような低鹹域が見出される) (Fig. 8~10).

1,000 m 以深での塩分差はきわめて少ないことが Fig. 12 から知られる。

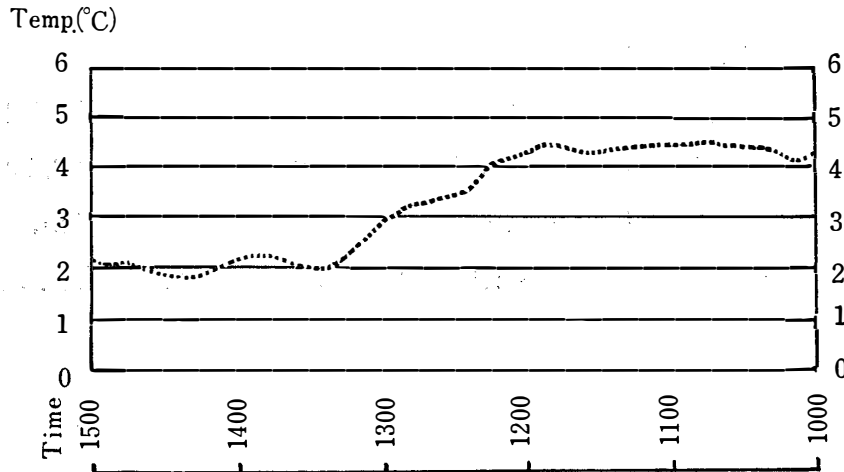


Fig. 12. Thermograph record showing the sudden change in water temperature near the Antarctic Convergence, on Dec. 11, 1961.

3. 水温・塩分・溶在酸素量の鉛直分布

Fig. 1 の測点図に併記した Section に沿う海域の鉛直断面によって海況の検討を行なった。

1) Section I (南西オーストラリヤ-南極洋)

この観測線上では主として B・T 観測がなされた。Fig. 13 および表層水温の連続記録

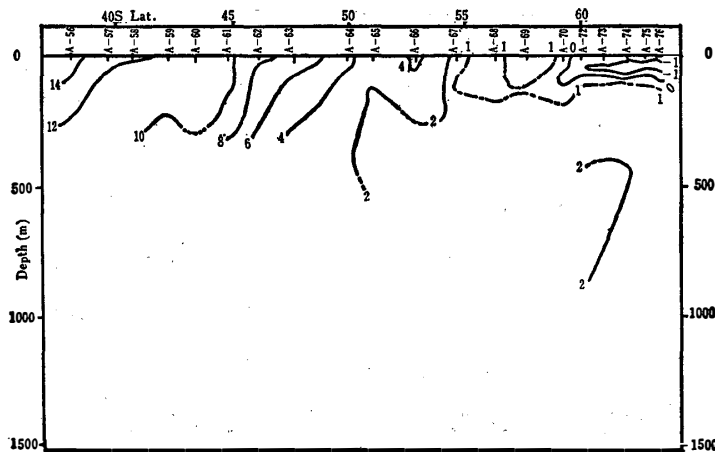


Fig. 13. Vertical distribution of temperature(°C) along the Section I.

(Fig. 12) とから、ほぼ 46°S , 54°S の水温傾度の大きい水帯が、亜熱帯集束線 (Sub-tropical Convergence), 南極集束線にあたるとの判断がなされる。

南極圏内の測点では、上層で 1°C 以下の水温値を示して、きわめて低冷である。ほぼ 60°S で南極低冷水は $80\sim 90\text{ m}$ 深にその核層を有するが、低緯度ほど深度を増していることが知れる。 62°S の 500 m 層に 2°C 以上の温暖深層水がみられるが、その値は高緯度へと低下している。

2) Section II (インド洋南部域)

この水域では、表層水はかなり暖化されていて、この Section 西側の測点を除けば、おおむね -1°C 以上の値を示している。その下層の南極低冷水は 50 m 層を中心として見出され、その層は比較的薄い。水温極大層はほぼ 50°E 以東で、 400 m 深にみられるが、それより西方域では深度を減じて、 $300\sim 350\text{ m}$ 層へと上昇している。深層水中で 2°C 以上の値は見出されていない (Fig. 14)。

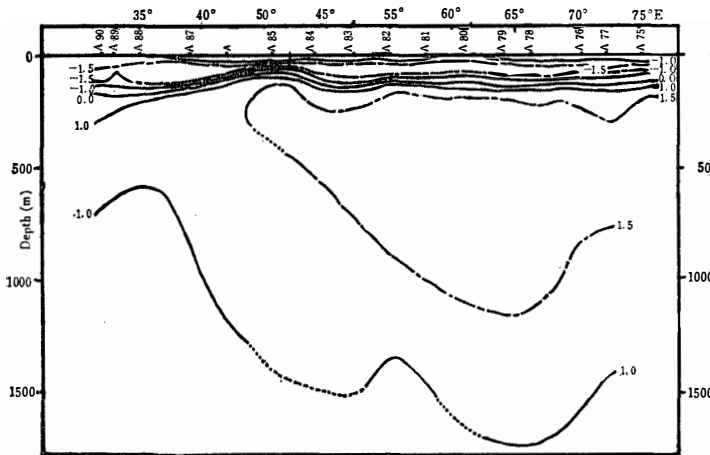


Fig. 14. Vertical distribution of temperature($^{\circ}\text{C}$) along the Section II.

3) Section III (Cook 半島—Bouvetøya 島北方).

この鉛直断面図は、経度緯度に関係なく、航路に沿って描いたものである。熊凝等によって報告されているように、Cook 半島沖合には流水帯が北方に突き出ている、表層からおよそ 100 m 深まで、 -1°C 以下できわめて低冷であり、Section V に沿う水域とともに、表層冷水の層は厚い。一般に温暖深層水は $1\sim 1.5^{\circ}\text{C}$ の値を示していて、 $250\sim 300\text{ m}$ 深に見出されるが、ほぼ 59°S , 10°W では、水温極大値が 0.5°C 以下で、全層を通じて著しく低冷である。また、この水域では塩分も低い。

溶在酸素の極小層は 300~500 m 層に多くみられ、水温極大層より幾分深層にある (Figs. 15, 16).

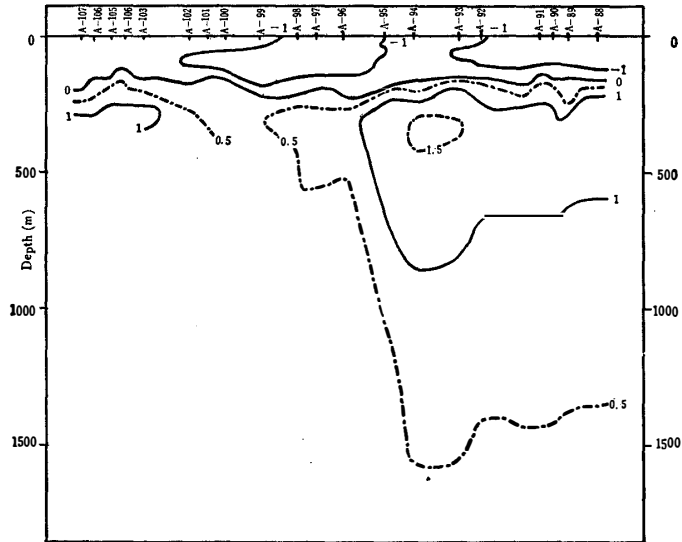


Fig. 15. Vertical distribution of temperature(°C) along the Section III.

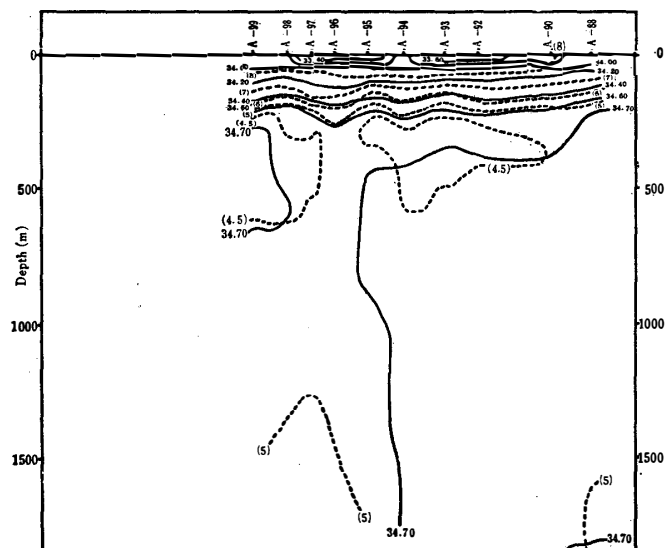


Fig. 16. Vertical distribution of Salinity(‰) and O₂(cc/L) along the Section III.

4) Section IV (Weddell 海北方海域沖合側の測線)

Fig. 17 の水温分布図によると、この測線上、20~25°W を中心とした水域では、その東西

の海域よりも高温であり、表層で $4\sim 5^{\circ}\text{C}$ 、ほぼ $1,500\text{ m}$ 深まで 2°C 以上であることが特徴としてあげられる。 10°W 以東では、温暖深層水中に 2°C 以上の値は得られていない。

一方、南極低冷水は 10°W 以東水域の $100\sim 150\text{ m}$ 層を中心として、 0°C 以下の値をもって上層をおおっていて、比較的高緯度であるにもかかわらず、しばしば -1°C 以下の水温値を示している。また、この水域の深層水中の水温極大層は前述の高水温域のそれよりも深度は浅い。 South Georgia 島に近い測点では、表層水、深層水の水温値は比較的高い。

上層 $100\sim 150\text{ m}$ 層以浅の塩分は 34.0% 以上で、一般に上下層での塩分差は少ない (Fig. 18)。

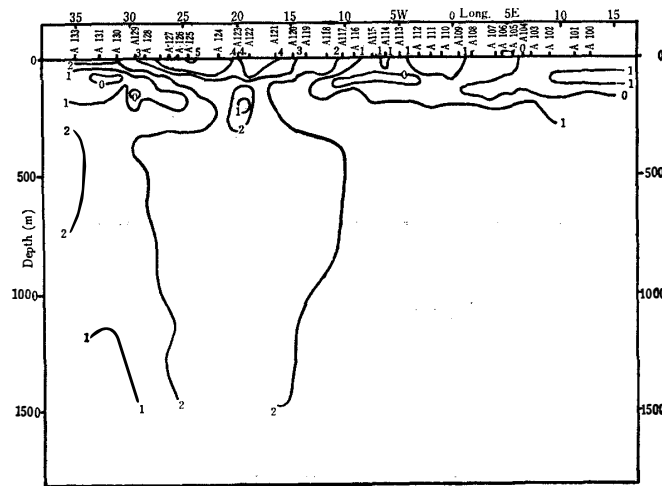


Fig. 17. Vertical distribution of temperature ($^{\circ}\text{C}$) along the Section IV.

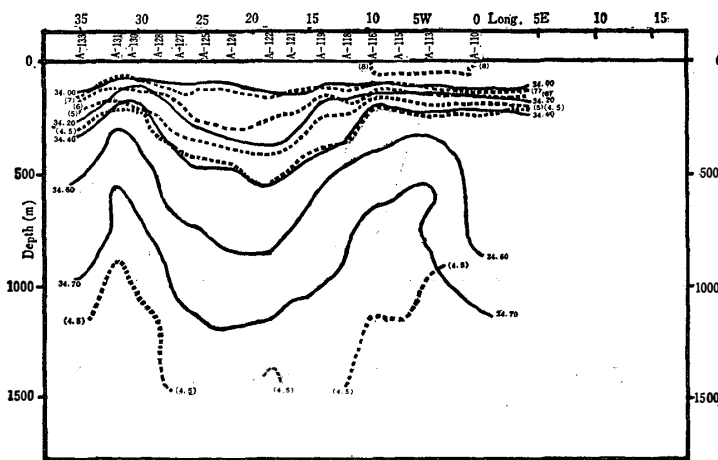


Fig. 18. Vertical distribution of salinity ($\%$) and O_2 (cc/L) along the Section IV.

水温の分布にみられたと同様に、 $20^{\circ}\sim 25^{\circ}\text{W}$ を中心とした水域で、その東西の海域の分布状態とは異なった様相を呈している。塩分極大層の深度も深い。溶在酸素量の分布傾向も、水温、塩分のそれと全く対応している。

水温、塩分の極大層、溶在酸素量の極小層を検討することによって、 $20^{\circ}\sim 25^{\circ}\text{W}$ を中心とした水域で、温暖深層水の高緯度水域への拡張が、この測線上の他の水域よりも強行なわれているものと推察され、 $20^{\circ}\sim 25^{\circ}\text{W}$ 付近で、測点が比較的北よりにとられているにしても、この推察は支持されよう。Fig. 19は、磷酸塩、珪酸塩の鉛直分布を示すものである。

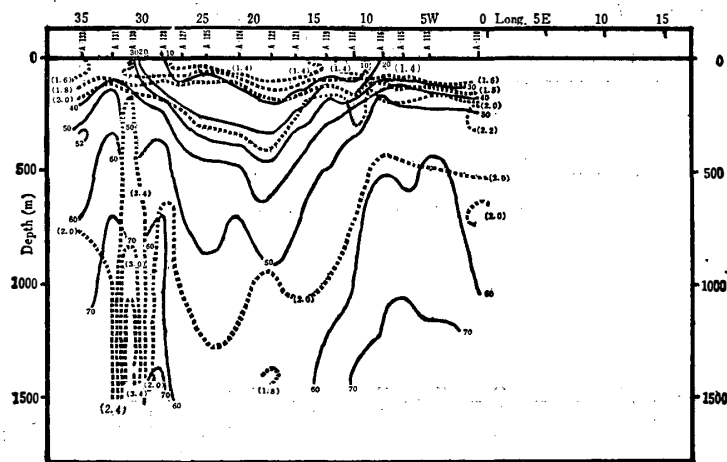


Fig. 19. Vertical distribution of phosphate-P and Si ($\mu\text{gA/L}$) along the Section IV.

5) Section V (Weddell 海北方海域高緯度側の測線)

ほぼ $15^{\circ}\sim 20^{\circ}\text{W}$ にかけては荒天のため観測がなされていないが、この北側の Section IV におけると同じように、 $20^{\circ}\sim 25^{\circ}\text{W}$ を中心とした水域で、表層から中層まで東方に連なる他の水域よりも、一般に高温であることがうかがえる。温暖深層水中の水温極大層は東方に深度を減じ、 5°E 付近では、150 m 層にさえ見出される。South Georgia 島に接した水域では深層水の影響はかなり強いらしい (Fig. 20)。

表層の塩分は、北方の Section におけるよりも幾分低鹹であるが、上層水下端から深層水にかけては逆に高鹹である。したがって、この Section 上の測点における塩分の鉛直傾度は大きいと言える。このことは、南極低冷水、温暖深層水が、低緯度水域におけるよりも、高緯度水域でそれぞれの深度を減じてきていることに起因するものであるろう (Fig. 21)。

このような水塊の流動につれて、溶在酸素の極小層も浅く、多くの測点で 300~500 m に見出されている。1,300~1,500 m 層以深では、酸素量は再び増加し、5 cc/l 以上に達している。

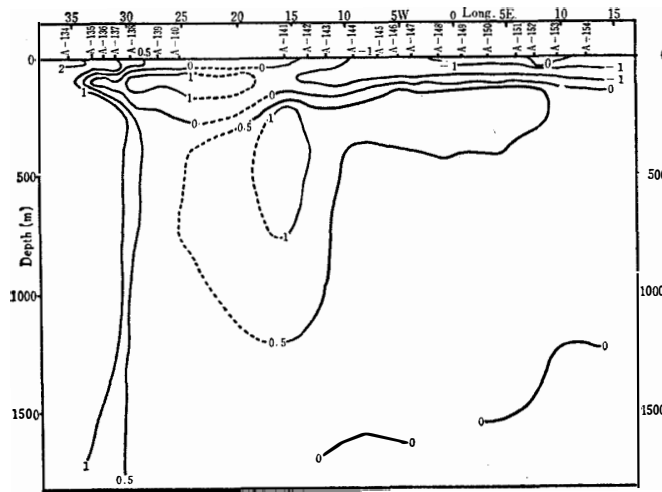


Fig. 20. Vertical distribution of temperature(°C) along the Section V.

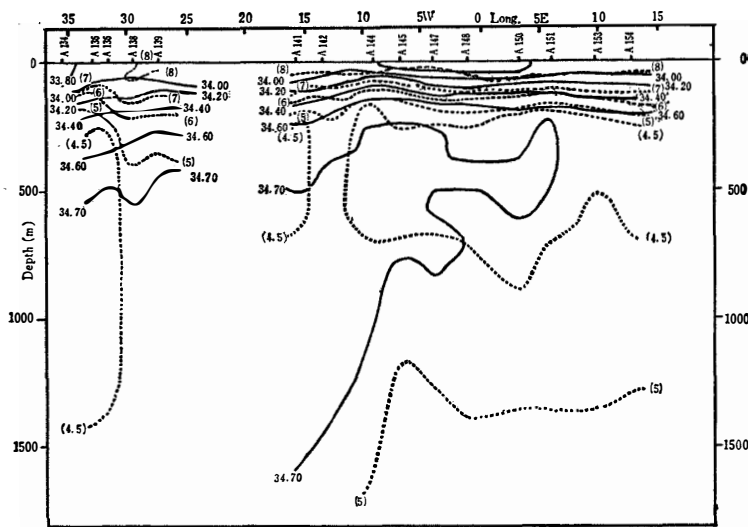


Fig. 21. Vertical distribution of salinity(‰) and O₂(cc/L) along the Section V.

6) Section VI (南極洋—南アフリカ)

この観測線上, 南極低冷水は, 57.5°S まで -1°C 以下の水温をもって 100 m 層前後に見られている. 0°C 以下の冷水は 100~200 m 深に, ほぼ 52°S 付近にまで拡延している. この南極低冷水は 50°S 付近から急激に深度を北方に増している傾向がうかがえるが, 塩分の資料がないため, 南極系中間層水への移行までは追跡できない.

温暖深層水は高緯度まで水温極大層として認められるが、水温値は低い。57°S の 1,100 m 以深に負の水温が測得され、これは Weddell 海盆の低冷な南極底層水 (Antarctic Bottom Water) の上層に連なるものであろう (Fig. 22)。

この測線上で、南極集束線、亜熱帯集束線は Fig. 22 および Fig. 23 から、それぞれ 50.5°S, 41.5°S 付近にあるものと考えられる。

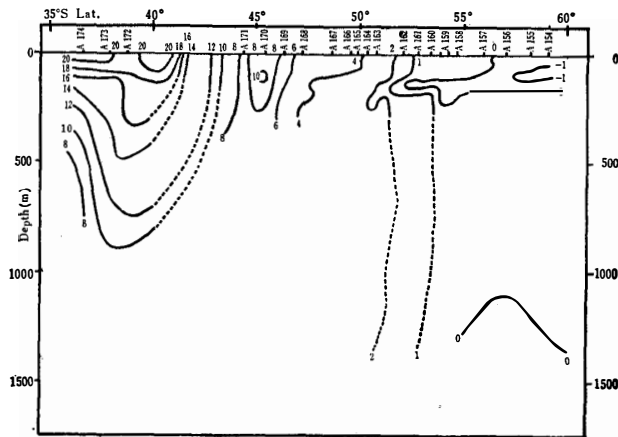


Fig. 22. Vertical distribution of temperature(°C) along the Section VI.

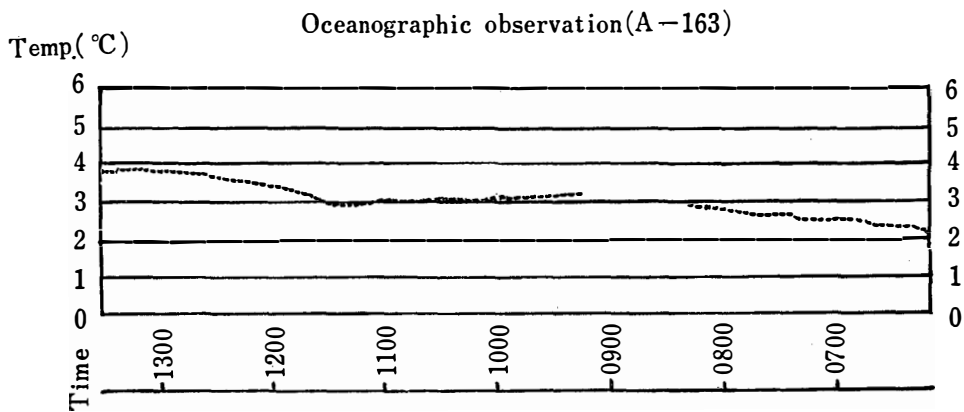


Fig. 23. Thermograph record showing the sudden change in water temperature near the Antarctic Convergence, on Feb. 25, 1962.

4. 地衡流の推算

本調査で得られた資料から、1,000 m 層を基準面とした 20 m 層における地衡流の推算を試

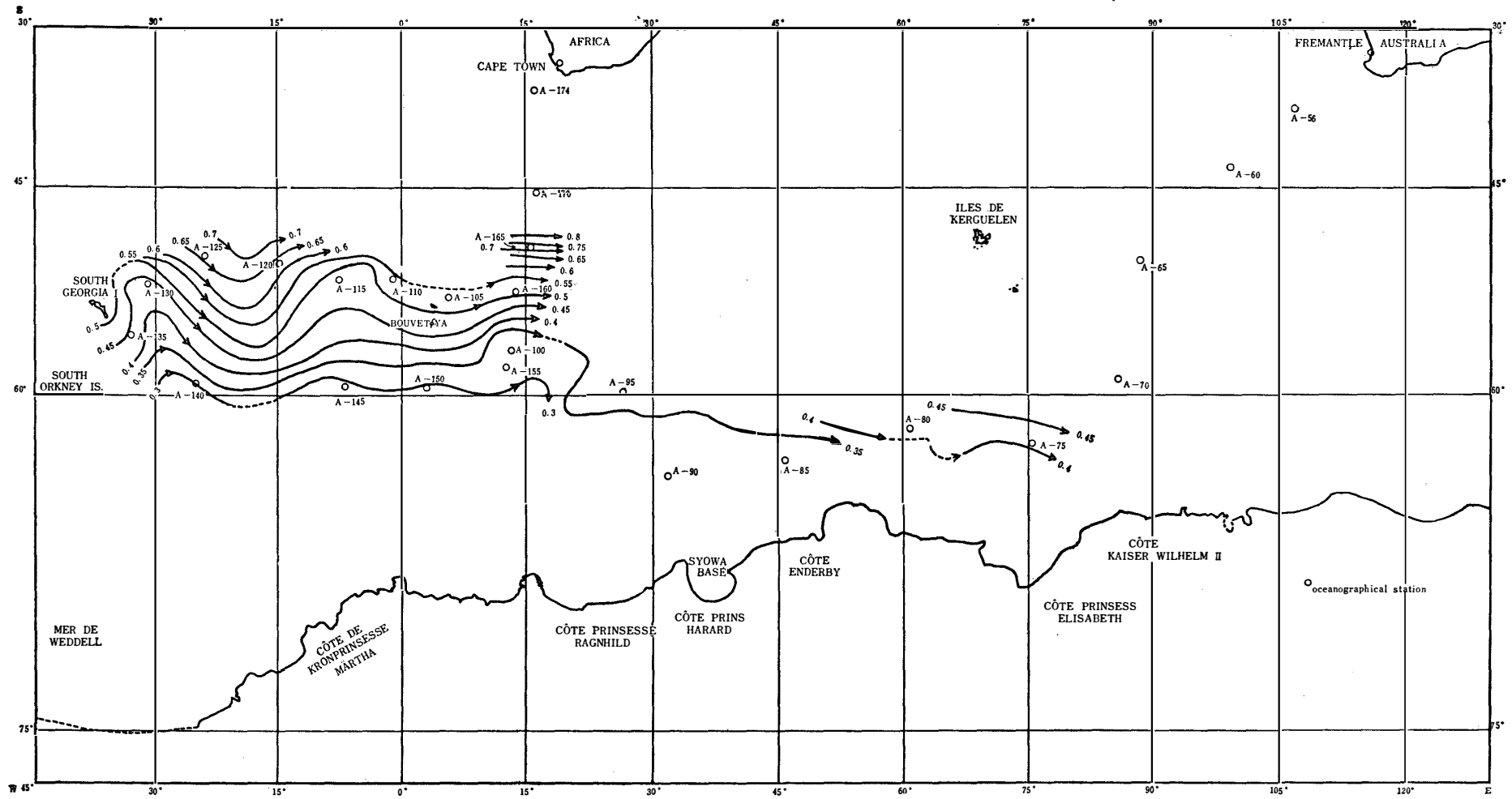


Fig.24. Dynamical topography at 20m surface relative to 1000m depth(in dynamic meter unit).

みた。Fig. 24 にその結果を示してある。これによれば多くの測点で流向は東流成分が強く、South Georgia 島の東方、 $20^{\circ}W$ 線、 $7^{\circ}W$ 線、 $10^{\circ}E$ 線、 $20^{\circ}E$ 線を軸として、蛇行しながら東流していることが知れる。すでによく知られている大陸沿岸の偏西流は、観測がより高緯度でなされていないため、この図からは求められない。

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(1963年3月5日受理)

APPENDICES

1. Station list of the oceanographical and BT observations. Oceanographical and chemical data are given in Appendices 2, 3 and 4.

* mark shows a station carried out a serial oceanographic survey.

Current is measured by the G. E. K.

St.No.	Lat.	Long.	Data	Time(z)	Sonic Depth	A. Temp.	Wr.	Wind	A. Press.	Wave	Swell	Color of Sea	Transp.	Current
	S	E			m	°C		m/s	mb				m	
A-56	37°59.0'	106°44.2'	5, Dec. '61	1140	4,620	14.1	O	SSE 4	1029.7	SSE 3	SSW 4	5	11	—
57	39 35.2	104 32.2	6, "	0200	4,430	12.4	O	SW 6	1027.7	S 3	SSW 3	3	19	335° 0.3'
58	40 34.1	103 09.4	6, "	1145	4,385	12.0	O	SSW 6	1026.8	SSW 3	SW 3	3	18	354 0.5
59	42 09.7	100 49.8	7, "	0210	4,060	12.2	f	NE/N 1	1026.5	WSW 1	W 2	4	17	354 0.3
60	43 16.0	99 20.0	7, "	1200	3,760	12.3	O	WSW 2	1025.8	WNW 2	WSW 2	4	14	32 1.0
61	44 47.2	97 06.3	8, "	0230	3,360	12.2	O	WNW 6	1021.9	N 3	W 2	4	13	50 0.8
62	45 50.7	95 37.7	8, "	1230	3,070	8.2	f	NE 1	1020.3	NE 1	W 2	4	14	70 0.6
* 63	47 30.8	93 11.2	9, "	0240~0610	3,495	9.9	O	N 9	1009.2	N 3	NNW 3	4	16	95 0.7
64	49 55.7	90 00.0	10, "	0255	4,140	4.1	O	WSW 11	999.7	W/S 4	W/S 6	5	12	80 0.4
65	50 51.8	88 34.5	10, "	1300	4,240	3.8	O	NNW 7	998.5	NNW 3	NW 4	5	9	135 0.2
66	52 52.6	87 43.9	11, "	0300	4,450	4.2	s	WNW 9.5	992.0	WNW 5	WSW 6	5	10	350 0.6
67	54 18.1	87 15.8	11, "	1300	4,600	1.6	s	WNW 8.5	989.7	WNW 3	W 4	4~5	15	100 0.6
68	56 17.8	86 25.2	12, "	0310	4,780	2.5	b	WSW 9	993.7	WSW 4	WSW 5	4	15	0 0.4
69	57 37.0	85 31.7	12, "	1310	4,730	0.8	O	W 2	989.7	W 2	W 3	4	12	260 0.25
70	59 08.3	86 07.7	13, "	0310	4,575	0.8	c	W 5.5	995.6	W 2	W 3	4	15	266 0.3
71	59 03.9	84 46.0	13, "	1400	3,350	-0.2	O	NW 4	995.7	NW 2	NW 2	4	12	270 0.1
72	59 59.5	82 43.0	14, "	0330	1,490	2.0	s	NW 8.5	960.7	NW 3	N 3	4	12	90 0.6
73	60 49.5	80 07.2	14, "	1330	2,485	-0.5	s	S/E 11	964.4	S/E 4	S 4	4	11	25 0.5
* 74	61 53.3	77 23.2	15, "	0405	3,470	0.0	O	SW 5	990.7	SW 2	SE 2	5	11	90 0.05
75	62 45.6	75 13.8	15, "	0350	3,880	-1.2	O	W 6.5	992.0	W/S 2	SW 2	3~4	17	30 0.1
* 76	63 09.0	72 09.0	16, "	0410~0613	3,965	-0.6	s	N 8	994.7	N 2	N 1	4~5	12	90 0.3

St. No.	Lat.	Long.	Date	Time (z)	Sonic Depth	A. Temp.	Wr.	Wind	A. Press.	Wave	Swell	Color of Sea	Transp.	Current
					m	°C		m/s	mb				m	
A-77	62°35.8' ^S	70 11.0' ^E	16, Dec. '61	1210	4,055	-0.9	O	NW 7	978.9	NW 2	NW/W 1	3	25	45° 0.3'
* 78	62 28.0	66 07.5	17, "	0440~0810	4,370	-0.3	O	SSW 4	981.8	SSW 1	NW 1	3	26	25 0.05
79	62 13.3	64 24.5	17, "	1440	4,360	-2.1	b	WSW 3	985.7	WSW 1	NW 1	3	25	210 0.4
* 80	62 01.0	60 47.5	18, "	0500~0700	4,675	-0.6	O	E/N 5	987.7	ENE 1	E 1	3	24	100 0.4
81	61 59.0	58 12.5	18, "	1500	4,810	-0.5	O	N 9	989.9	N 2	NW 3	3	20	90 0.25
* 82	62 02.9	54 48.0	19, "	0520~0735	5,030	-0.2	O	WNW 6.5	982.9	WNW 3	W 4	3	20	200 0.1
83	62 30.4	52 23.0	19, "	1520	5,075	-0.9	s·f	SE 3.5	969.0	SE 2	W 4	4	15	295 0.4
* 84	63 15.4	48 34.5	20, "	0550~0745	4,831	-0.4	O	W 8	979.7	NNW 4	W 4	4	16	225 0.2
85	63 42.4	46 06.0	20, "	1550	4,365	-1.5	O	W/N 10	981.6	W/N 4	NW/W 4	3~4	15	215 0.25
86	64 18.5	42 14.0	21, "	0510	4,565	-1.8	O	SSW 10.5	965.4	SSW 3	SW 4	3	24	275 0.2
* 87	64 49.0	38 52.3	21, "	1615~1810	4,845	-0.8	O	W 8	1000.6	W 3	W/S 3	3	23	290 0.05
* 88	65 02.3	34 49.6	22, "	0640~0825	4,760	-1.4	s	NNW 6	1001.5	NW 1	0	3	23	90 0.55
89	64 31.0	32 47.5	22, "	1640	4,225	-0.9	O	N/W 10	996.1	N/W 5	NW 3	4	15	—
* 90	64 05.5	31 54.0	23, "	0655~1050	5,000	-1.0	O	NW 4.5	992.8	NW 2	0	4~5	14	—
91	63 31.7	31 42.0	23, "	1900	5,085	-1.4	O	ENE 2	989.3	ENE 1	0	5	10	—
* 92	61 18.8	33 55.6	25, "	0700~0925	5,200	-1.2	s	S 6	971.9	SSE 2	E 3	3	20	280 0.5
* 93	60 23.0	31 56.0	25, "	1700~1835	5,230	-1.0	O	SSW 7.5	976.2	E 3	E 2	3~4	20	10 0.4
* 94	59 30.0	29 02.5	26, "	0610~0840	5,300	-1.9	O	NNE 5.5	972.5	NNE 3	NW 2	4	14	290 0.5
* 95	59 46.1	26 23.0	26, "	1710~1840	5,335	-1.1	s	ENE 9	969.0	ENE 2	NE 2	3	24	nil
* 96	60 01.8	22 19.0	27, "	0610~0815	5,345	-1.1	O	S 7.5	977.2	S 3	SSW 2	3	22	350 0.3
* 97	59 09.0	20 26.5	27, "	1730~1855	4,972	-1.2	O	WSW 6.5	988.2	WSW 2	W 3	3	20	235 0.4
* 98	58 33.2	18 47.0	28, "	0630~0800	5,245	-0.8	O	WNW 4	990.7	WNW 3	W 3	4	13	5 0.4
* 99	57 49.5	15 58.2	28, "	1750~1915	5,100	-0.8	s	N/E 8	977.8	N/E 2	NW 3	4~5	10	310 0.3
100	57 08.8	13 16.8	29, "	0810	—	-1.0	O	W 12	969.3	W 5	W 3	5	—	350 0.5
101	56 38.0	11 18.9	29, "	1910	—	-0.2	O	WSW 10.5	970.7	WSW 4	W 4	5	10	350 0.3

No. 19, 1963] (1609) インド洋南極海および大西洋南極海の海況について

St. No.	Lat.	Long.	Date	Time(z)	Sonic Depth	A. Temp.	Wr.	Wind	A. Press.	Wave	Swell	Color of Sea	Transp.	Current
	S	E			m	°C		m/s	mb				m	
A-102	55°55.2'	9°01.5'	30, Dec. '61	0730	3,900	0.0	O	W 11	978.7	W/N 3	W 4	4	13	85° 0.3'
103	54 43.5	7 11.2	30, "	2000	5,660	0.1	O	W/S 13	992.9	W/S 3	W 4	—	—	320 0.8
104	54 09.0	6 20.3	31, "	0330	—	0.7	O	W/S 13	1001.7	W/S 3	W 5	—	—	—
105	53 34.5	5 33.8	31, "	0940	—	1.0	O	W 11	1006.5	W 4	W/N 4	—	—	90 0.4
106	52 56.3	4 34.0	31, "	1540	3,765	1.1	O	W/N 8	1007.9	W 3	W 4	—	—	—
107	52 35.5	3 57.8	31, "	1940	3,270	1.4	O	WNW 7	1008.6	WNW 3	WNW 3	3	23	10 0.3
108	52 35.8	2 05.3	1, Jan. '62	0340	2,485	1.0	f	NW 7.5	1005.1	NW 3	WNW 3	—	—	—
109	52 35.8	0 34.5	1, "	1000	2,800	2.3	O	WNW 11	1001.1	W 2	WNW 3	3~4	18	340 0.4
* 110	52 11.0	1 04.0	1, "	1800~1947	2,115	2.2	O	W/N 12	1005.8	W/N 2	W 3	4	17	30 0.3
111	52 21.0	1 56.2	2, "	0100	2,910	1.4	O	WNW 12	1000.6	WNW 6	W 3	—	—	—
112	52 29.0	2 58.8	2, "	0800	2,590	1.9	O	W 13	1001.6	W/N 6	W/N 3	4	—	345 0.6
* 113	52 40.8	5 02.0	2, "	1820~2015	2,440	0.6	s·f	W 8	994.1	W 4	W 4	3~4	19	60 0.4
114	52 30.0	6 06.0	3, "	0120	2,620	-0.2	b·c	SW 10	1004.5	SW 4	W 4	—	—	—
* 115	52 16.8	7 25.5	3, "	0820~0950	2,850	0.9	O	SW/W 9.5	1012.5	SW/W 4	W 3	3~4	18	20 0.4
* 116	52 00.5	9 12.0	3, "	1910~2105	2,845	1.5	O	W/N 7	1016.2	W 2	W 3	—	—	275 0.4
117	51 51.7	10 10.0	4, "	0145	3,240	1.0	O	NW 5.5	1009.7	N 2	NW 3	—	—	—
* 118	51 38.0	11 40.2	4, "	0900~1005	3,600	2.4	O	SW 6	1010.1	SW 2	W 2	5	11	335 0.5
* 119	51 19.9	13 44.5	4, "	1910~2040	4,285	2.0	O	SSW 1	1017.0	SW 2	SW 3	4	11	340 0.4
120	51 09.0	14 52.8	5, "	0200	4,100	1.8	O	W/N 4	1016.9	W 2	SW 2	—	—	—
* 121	50 56.1	16 29.9	5, "	0900~1125	4,095	2.8	O	NE 4.5	1012.5	NE 2	SSW 1	4	16	55 0.1
* 122	50 41.2	18 42.7	5, "	1920~2100	4,260	5.0	d	NE 7	1005.1	NE 2	N 1	4~5	16	60 0.3
123	50 41.6	19 59.2	6, "	0220	4,430	4.3	f	NW 3.5	1004.0	NW 3	N 2	—	—	—
* 124	50 42.4	21 45.0	6, "	0920~1050	4,348	5.4	f	N 6	1003.6	N 3	N 3	4	14	45 0.4
* 125	50 45.1	24 12.4	6, "	1940~2100	4,485	6.0	f	N/W 6	1000.5	N/W 3	NNW 1	4~5	11	30 0.3
126	50 48.4	25 23.2	7, "	0240	3,340	(5.5)	f	NNE 4	999.8	NNE 3	NNW 1	—	—	—

St. No.	Lat.	Long.	Date	Time (z)	Sonic Depth	A Temp.	Wr.	Wind	A. Press.	Wave	Swell	Color of Sea	Transp.	Current
	S	W			m	°C		m/s	mb					
* A-127	50° 51.9'	26° 58.7'	7, Jan. '62	0940~1130	3,740	6.1	f	NW 7	1001.1	NW 3	NW 4	4~5	10	30° 0.3'
* 128	51 23.3	28 43.5	7, "	2000~2120	4,612	4.7	r	NNE 7	996.0	NNE 2	WNW 3	4	16	70 0.3
129	51 55.0	29 39.8	8, "	0300	3,340	4.1	b	W/S 8	990.9	W/S 3	WNW 3	—	—	—
* 130	52 41.9	31 02.0	8, "	1140~1310	3,590	4.2	f	S 0.5	996.3	S 1	NW 2	3	26	50 0.3
* 131	53 22.6	32 27.0	8, "	2010~2130	3,415	2.6	f	SE 1	996.4	SE 1	NW 2	3	21	330 0.5
132	53 49.5	33 27.0	9, "	0310	2,610	1.8	O	SSE 6	997.4	SE 2	NW 1	—	—	—
* 133	54 25.2	35 02.7	9, "	1035~1158	1,620	1.1	O	SSE 5	1001.3	SSE 3	S 1	3	20	310 0.4
* 134	55 06.6	35 17.0	10, "	0000~0030	132	1.3	O	SW 4	1005.6	SW 1	WSW 1	6	—	—
* 135	56 20.7	33 06.0	15, "	1010~1310	3,450	2.1	d	NE 6	999.8	NE/E 3	NE 2	3~4	18	20 0.4
* 136	57 18.5	31 50.9	15, "	2010~2150	3,540	2.1	d	ENE 11.5	980.4	ENE 4	E 3	4	16	240 0.5
137	57 56.9	30 49.5	16, "	0310	3,120	1.9	d	NE 10	971.1	NE 3	E 4	—	—	—
* 138	58 47.1	29 26.0	16, "	1010~1205	3,220	1.7	d	NE/N 7	961.9	NE/N 3	NE 4	3	20	0 0.5
* 139	59 13.8	26 57.0	16, "	2010~2200	1,815	0.9	f	WNW 3.5	957.0	WNW 2	NNW 3	5	10	60 0.4
140	59 22.0	25 06.0	17, "	0310	3,305	0.2	s	WSW 11	959.1	WSW 2	NNW 4	—	—	—
* 141	58 51.5	15 33.0	18, "	1030~1220	3,030	-0.2	O	WNW 8	982.4	W/N 4	WNW 4	3~4	16	20 0.7
* 142	59 03.0	13 25.0	18, "	1900~2200	3,800	0.4	O	0	979.5	0	WNW 4	5	10	20 0.5
143	59 12.0	11 31.0	19, "	0200	4,510	-0.8	O	E/S 5	977.1	E/S 3	WNW 4	—	—	—
* 144	59 25.7	9 11.5	19, "	0900~1145	4,860	-0.2	f	NNW 4	975.5	NNW 2	N 2	5	12	45 0.2
* 145	59 37.9	6 38.0	19, "	1840~2000	5,355	-0.1	f	NW 6	976.6	W 2	NW 1	4	13	55 0.2
146	59 35.7	6 05.0	20, "	0140	5,240	-0.5	f	N 5	975.5	N 2	N/W 3	—	—	—
* 147	59 30.0	4 17.0	20, "	0840~1025	5,230	-0.7	O	NW 5	976.5	NW 2	N 1	4	12	0 0.5
* 148	59 30.0	1 06.8	20, "	1820~1950	5,390	-0.9	O	WNW 8	979.2	WNW 3	W 3	5	8	300 0.3
149	59 30.1	0 35.0	21, "	0120	5,110	-0.8	O	W/S 10	982.7	W/S 3	NW 3	—	—	—
* 150	59 30.5	3 05.0	21, "	0750~1045	5,370	-0.5	O	W/S 10	987.0	W/S 4	WNW 3	4	12	0 0.5
* 151	59 34.7	5 45.5	21, "	1750~1910	5,360	0.0	f	NNW 6	988.8	NW/N 3	WNW 4	5	9	350 0.3

St. No.	Lat.	Long.	Date	Time (z)	Sonic Depth	A. Temp.	Wr.	Wind	A. Press.	Wave	Swell	Color of Sea	Transp.	Current
	S	E			m	°C		m/s	mb					
A-152	59°38.1'	7°30.8'	22, Jan. '62	0050	5,180	0.2	s	N 8	985.7	N 3	N 4	—	—	—
* 153	59 41.7	9 46.1	22, "	0750~0925	5,405	1.0	O	NW 9.5	983.7	NW 3	NNW 4	5	10	0° 0.3'
* 154	59 10.2	12 26.1	22, "	1730~1855	5,565	-0.1	s	NNW 5	983.2	NNW 3	NNW 4	5	9	270 0.1
	155 58 18.5	12 27.8	23, "	0030	5,620	-0.2	O	NW/N 5.5	981.3	NW 4	NW 2	—	—	—
* 156	57 13.9	12 30.4	23, "	0720~0945	5,305	0.2	O	W/N 4	976.5	NW 2	NW 4	3	18	30 0.3
* 157	56 04.5	12 43.0	23, "	1720~1840	4,700	0.2	O	NNW 6.5	971.7	NNW 2	NNW 3	3~4	17	—
	158 54 45.3	12 57.0	24, "	0720	—	0.5	O	WSW 11.5	976.6	WSW 3	NNW 3	3~4	20	345 0.4
	159 54 00.3	13 18.9	24, "	1220	4,500	0.8	O	WSW 9	983.0	WSW 4	W 4	3~4	—	—
	160 53 20.8	13 48.0	24, "	1620	4,200	0.7	O	W 9	986.7	W 3	W 3	3~4	—	105 0.6
	161 52 39.1	14 18.1	24, "	2020	3,280	0.7	O	WNW 6.8	988.8	WNW 3	W 4	—	—	—
	162 51 57.6	14 40.3	25, "	0020	2,050	1.0	O	W/N 5	988.3	W/N 2	W 4	—	—	—
* 163	50 39.4	15 08.6	25, "	0720~0810	3,720	0.7	s	SSE 8.5	982.7	SSE 4	W 4	4	15	75 0.5
	164 50 14.5	15 10.5	25, "	1240	3,450	1.4	O	S 12.5	985.0	S 4	WSW 4	3	—	—
	165 49 54.8	15 11.2	25, "	1440	4,550	1.8	s	S 12.5	986.4	S 4	WSW 4	3	—	—
* 166	49 28.3	15 12.3	25, "	1710~1900	4,900	2.7	O	S/W 12.5	988.5	S/W 4	SSW 4	3	17	295 0.5
	167 48 26.8	15 24.0	26, "	0010	3,680	3.1	O	SSW 12	993.8	SSW 4	SSW 4	—	—	—
	168 47 03.4	15 49.5	26, "	0730	4,820	3.5	c	SSW 12	1000.2	SSW 4	SSW 4	3	—	30 0.6
	169 46 12.8	16 08.0	26, "	1210	4,820	4.7	O	SW 9	1004.7	SW 5	SW 4	—	—	—
	170 45 19.7	16 28.2	26, "	1710	4,765	5.7	O	SW/W 13	1007.9	WSW 5	W 4	3	—	345 0.7
	171 44 14.5	16 55.6	27, "	0010	4,640	8.3	O	W/S 9.5	1009.8	W 4	W/N 4	—	—	—
* 172	38 38.8	15 51.4	28, "	1750~2020	4,730	18.7	r	W 10	1015.3	WNW 5	WNW 5	3	18	350 1.0
	173 37 44.0	16 00.3	29, "	0010	4,705	19.1	c	W/S 6	1016.5	W 3	W 3	—	—	—
* 174	36 20.4	16 10.9	29, "	0710~0910	4,545	20.3	c	SW 4	1017.4	SW 2	SW 2	3	24	295 1.0

2. Oceanographical and chemical data.

St. A-63

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	7.55	34.222	6.63	1.20	2	8.21	0	7.55	34.222	26.91	116	0
8	7.07	33.986	6.73	1.23	3	8.23	10	7.07	33.995	26.64	141	129
17	7.06	34.121	6.64	1.20	3	8.27	20	7.08	.120	26.52	153	276
25	7.09	.114	7.23	1.23	4	8.27	30	7.05	34.050	26.67	138	422
34	6.98	.039	7.01	1.10	3	8.23	40	6.64	.060	26.74	132	558
41	6.63	.060	7.04	—	2	8.22	50	6.29	.040	26.76	130	690
49	6.31	.021	7.08	1.13	4	8.21	60	6.08	.020	26.78	128	820
66	6.00	.040	7.03	1.20	2	8.20	80	5.94	33.980	26.78	128	1078
83	5.94	33.974	6.99	1.25	4	8.19	100	5.63	.980	26.82	124	1332
125	4.77	34.005	7.01	1.30	4	8.18	150	4.52	34.030	26.98	109	1922
167	4.49	.041	6.91	1.33	5	8.18	200	4.27	.035	27.01	106	2472
250	4.01	.023	6.89	1.45	4	8.16	300	3.42	33.955	27.03	104	3542
290	3.45	33.956	7.06	1.42	5	8.21	400	3.39	34.060	27.12	96	4562
361	3.40	34.012	6.70	1.43	7	8.15	600	2.98	.220	27.26	82	6402
578	3.04	.201	5.50	1.66	18	8.10	800	2.84	.335	27.39	70	8022
723	2.79	.278	4.96	1.71	25	8.06	1,000	2.76	.440	27.48	62	9462
866	2.88	.379	4.45	1.82	31	8.00	1,500	2.58	.675	27.68	43	12462
1,084	2.63	.477	4.10	1.84	41	8.02	2,000	2.21	.717	27.74	37	14912
1,455	2.61	.664	4.18	1.60	47	8.08						
1,838	2.34	.717	4.25	1.63	50	8.03						
2,240	2.02	.717	4.44	1.57	52	8.07						

St. A-74

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.95	33.803	8.19	1.43	27	8.12	0	-0.95	33.803	27.19	89	0
10	-0.95	.670	7.98	1.33	28	8.18	10	-0.95	.670	27.08	99	94
20	-0.99	.667	8.15	1.26	25	8.16	20	-0.99	.667	27.08	99	183
30	-1.00	.649	8.13	1.42	25	8.13	30	-1.00	.649	27.07	100	283
40	-0.98	.666	8.12	1.84	25	8.13	40	-0.98	.666	27.08	99	383
50	-1.24	.743	8.13	1.49	25	8.10	50	-1.24	.743	27.16	92	489
59	-1.53	.874	7.76	1.63	27	8.09	60	-1.53	.900	27.29	80	575
79	-1.46	34.122	7.33	1.68	33	8.04	80	-1.45	34.120	27.46	63	719
99	-1.02	.120	6.68	1.83	28	8.04	100	-0.99	.120	27.45	64	847
149	1.12	.394	4.78	2.03	46	7.98	150	1.14	.395	27.57	53	1142
198	1.68	.493	4.24	2.04	47	7.95	200	1.69	.495	27.61	49	1402
291	1.90	.567	4.02	1.90	52	7.92	300	1.91	.570	27.65	45	1892
388	2.01	.619	4.00	1.82	55	7.92	400	2.01	.625	27.68	43	2362
485	2.02	.667	4.13	1.71	57	7.93	600	1.95	.690	27.73	38	3242
582	1.95	.691	4.18	1.77	56	7.96	800	1.92	.730	27.77	34	4042
776	1.94	.728	4.34	1.78	60	8.01	1,000	1.76	.735	27.79	32	4782
970	1.79	.735	4.49	1.71	60	8.01	(1,500)	1.34	.730	27.82	29	6532
1,164	1.63	.740	4.62	1.69	63	8.03						
1,455	1.38	.733	4.57	1.84	67	8.02						

St. A-76

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.70	33.600	8.06	1.68	33	8.03	0	-0.70	33.600	27.03	104	0
9	-0.70	.569	8.04	1.66	33	8.06	10	-0.70	.569	27.00	107	106
18	-0.71	.569	8.11	1.63	33	8.06	20	-0.72	.570	27.01	106	213
27	-0.79	.655	8.01	1.65	33	8.01	30	-0.87	.760	27.15	93	313
37	-1.14	.859	7.98	1.63	34	8.04	40	-1.15	.875	27.25	83	401
46	-1.15	.902	7.94	1.69	34	8.03	50	-1.20	.925	27.30	79	482
55	-1.36	.966	7.82	1.71	34	8.03	60	-1.43	34.000	27.37	72	558
73	-1.49	34.091	7.47	1.66	35	8.01	80	-1.38	.145	27.48	62	692
91	-0.88	.227	6.58	1.89	60	7.98	100	0.08	.280	27.53	57	812
137	0.92	.474	4.93	2.04	52	7.90	150	1.13	.510	27.66	45	1072
183	1.36	.574	4.55	2.06	56	7.90	200	1.41	.585	27.69	42	1297
279	1.49	.624	4.50	1.95	59	7.96	300	1.58	.645	27.73	38	1707
346	1.79	.699	4.32	1.95	60	7.90	400	1.80	.715	27.77	34	2087
432	1.80	.717	4.35	1.88	60	7.92	600	1.77	.745	27.80	31	2787
519	1.79	.739	4.43	1.82	60	8.00	800	1.56	.755	27.82	29	3447
686	1.71	.743	4.53	1.80	63	7.92	1,000	1.44	.750	27.83	28	4087
865	1.47	.763	4.66	1.75	66	7.90	1,500	0.93	.715	27.84	27	5637
1,036	1.43	.749	4.66	1.84	70	7.96	2,000	0.63	.700	27.84	27	7137
1,298	1.14	.726	4.70	1.89	74	7.96						
1,793	0.73	.701	4.78	1.89	81	7.96						
2,293	0.49	.695	4.87	1.90	89	7.90						

St. A-78

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.9	33.537	8.10	1.66	23	8.07	0	-0.9	33.537	26.99	108	0
10	-0.73	.456	8.01	1.68	22	8.09	10	-0.73	.456	26.91	116	112
19	-1.14	.620	8.16	1.66	23	8.10	20	-1.16	.630	27.06	101	221
29	-1.28	.667	8.10	1.68	22	8.10	30	-1.30	.675	27.10	98	321
39	-1.50	.753	8.08	1.66	22	8.05	40	-1.52	.775	27.19	89	415
48	-1.69	.861	7.96	1.71	22	8.07	50	-1.71	.865	27.27	81	500
58	-1.75	.885	7.93	1.77	22	8.09	60	-1.75	.885	27.28	80	581
78	-1.74	.919	7.83	1.74	22	8.03	80	-1.74	.920	27.31	78	739
97	-1.71	.936	7.69	1.78	25	8.08	100	-1.69	.940	27.32	77	895
146	0.84	34.341	5.30	2.10	46	7.98	150	0.66	34.355	27.56	54	1225
195	1.47	.463	4.46	2.21	51	7.88	200	1.50	.475	27.61	49	1335
293	1.80	.579	4.15	2.16	57	7.90	300	1.81	.585	27.67	44	1815
391	1.90	.636	4.12	2.12	60	8.00	400	1.91	.635	27.69	42	2265
483	1.97	.645	4.13	2.01	57	8.01	600	1.94	.690	27.74	37	3105
582	1.94	.684	4.41	1.95	60	8.05	800	1.84	.735	27.79	32	3865
776	1.85	.736	4.46	1.98	60	8.09	1,000	1.72	.744	27.80	31	4585
970	1.75	.744	4.46	1.97	63	8.03	1,500	1.29	.725	27.82	29	6285
1,164	1.52	.744	4.71	1.90	66	8.03	2,000	0.84	.710	27.84	27	7885
1,458	1.33	.727	4.82	2.00	72	8.04	2,500	0.53	.690	27.84	27	9385
1,952	0.87	.713	4.99	2.04	77	8.01	(3,000)	(0.32)	(34.680)	27.85	26	10785
2,454	0.55	.693	4.81	2.04	82	7.99						
2,955	0.34	.682	5.26	2.03	93	7.96						

St. A-80

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.2	33.459	8.07	1.69	31	—	0	-1.2	33.459	26.93	114	0
10	-1.28	.464	8.08	1.69	30	8.09	10	-1.28	.464	26.94	113	114
20	-1.17	.617	7.98	1.69	31	8.10	20	-1.17	.617	27.06	101	221
30	-1.29	.695	7.95	1.68	31	8.10	30	-1.29	.695	27.12	96	320
40	-1.64	.950	7.82	1.75	32	8.08	40	-1.64	.950	27.33	76	406
50	-1.73	34.018	7.74	1.78	33	8.03	50	-1.73	34.018	27.38	71	480
60	-1.76	.066	7.60	1.78	33	8.09	60	-1.76	.066	27.43	66	549
80	-1.57	.102	7.36	1.82	35	8.00	80	-1.57	.102	27.46	63	679
99	-0.20	.269	6.07	1.94	47	7.98	100	-0.12	.275	27.54	56	799
149	1.43	.508	4.55	2.13	56	7.98	150	1.44	.510	27.64	46	1059
199	1.65	.564	4.20	2.09	57	7.90	200	1.66	.565	27.67	44	1289
291	1.86	.638	4.13	2.10	60	7.91	300	1.86	.645	27.71	40	1719
389	1.85	.685	4.17	1.98	60	7.92	400	1.86	.685	27.74	37	2119
486	1.92	.687	4.33	1.97	61	7.99	600	1.83	.721	27.77	34	2879
585	1.83	.721	4.41	1.92	62	8.00	800	1.72	.725	27.79	32	3619
783	1.74	.721	4.56	1.92	63	8.00	1,000	1.56	.730	27.80	31	4339
980	1.57	.728	4.63	1.89	67	8.00	(1,500)	1.17	.740	27.84	27	5989
1,178	1.42	.738	4.66	1.89	67	7.92						
1,477	1.18	.741	4.81	1.89	73	7.96						

St. A-82

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.6	33.819	7.92	1.69	32	8.09	0	-0.6	33.819	27.19	89	0
9	-0.72	.816	7.79	1.71	32	8.08	10	-0.73	.815	27.20	88	89
18	-0.75	.813	7.95	1.66	32	8.05	20	-0.75	.815	27.20	88	177
27	-0.75	.812	7.95	1.71	32	8.05	30	-0.74	.815	27.20	88	265
36	-0.73	.826	7.97	1.69	31	8.04	40	-1.20	.845	27.23	85	352
45	-1.69	.902	7.76	1.72	31	8.09	50	-1.70	.965	27.34	75	432
54	-1.71	.998	7.80	1.72	31	8.08	60	-1.73	34.020	27.39	70	505
71	-1.76	34.051	7.71	1.69	31	8.04	80	-1.66	.070	27.43	66	641
89	-1.38	.094	7.35	1.74	35	7.96	100	0.11	.140	27.42	67	775
134	1.09	.433	4.88	2.12	53	7.92	150	1.33	.475	27.62	48	1070
178	1.61	.524	4.33	2.10	55	7.99	200	1.70	.545	27.64	46	1310
234	1.74	.573	4.21	2.10	57	8.06	300	1.78	.620	27.70	41	1760
312	1.78	.625	4.17	2.00	59	8.08	400	1.83	.660	27.72	39	2180
391	1.83	.656	4.24	1.98	57	8.06	600	1.76	.700	27.76	35	2980
475	1.85	.680	4.24	2.01	60	8.10	800	1.64	.710	27.78	33	3720
625	1.75	.702	4.38	1.88	60	8.02	1,000	1.40	.715	27.80	31	4440
780	1.66	.711	4.54	1.84	60	8.00	1,500	0.87	.685	27.81	30	6140
938	1.47	.717	4.61	1.80	66	8.00	2,000	0.56	.665	27.82	29	7740
1,180	1.22	.701	4.73	1.83	68	8.05						
1,597	0.77	.683	4.22	1.82	62	8.09						
2,055	0.55	.665	4.72	1.95	86	7.99						

St. A-84

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.15	34.035	8.01	1.78	32	8.08	0	-0.15	34.035	27.34	75	0
8	-0.19	.032	7.97	1.77	32	8.10	10	-0.19	.035	27.35	74	75
17	-0.18	.038	8.04	1.69	32	8.08	20	-0.19	.038	27.35	74	149
25	-0.20	.038	8.02	1.74	32	8.09	30	-0.19	.035	27.35	74	223
33	-0.18	.036	8.03	1.78	32	8.07	40	-0.53	.065	27.38	71	296
42	-0.79	.086	8.08	1.75	33	8.09	50	-1.55	.105	27.46	63	363
50	-1.55	.103	7.96	1.74	33	8.10	60	-1.66	.170	27.51	59	424
66	-1.69	.190	7.49	1.82	35	8.02	80	-1.74	.205	27.54	56	540
83	-1.74	.207	7.43	1.84	36	8.03	100	-1.61	.240	27.57	53	650
124	-1.25	.287	6.85	1.94	42	8.01	150	0.44	.495	27.68	43	890
166	1.10	.567	4.67	2.12	47	7.98	200	1.44	.640	27.74	37	1095
174	1.27	.603	4.57	2.20	51	7.97	300	1.52	.700	27.78	33	1455
239	1.58	.660	4.39	2.01	56	7.93	400	1.58	.725	27.80	31	1795
297	1.52	.699	4.40	2.06	57	7.93	600	1.40	.750	27.83	28	2435
357	1.59	.713	4.37	2.29	57	7.95	800	1.21	.750	27.85	26	3035
478	1.54	.742	4.45	1.97	61	7.95	(1,000)	(0.99)	.745	27.86	26	3595
598	1.40	.752	4.57	1.98	63	7.92						
739	1.28	.753	4.60	1.95	66	7.98						
966	1.02	.748	4.73	1.97	69	8.00						

St. A-87

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.6	34.008	7.91	1.74	36	7.98	0	-0.6	34.008	27.34	75	0
9	-0.58	33.978	7.85	1.77	36	8.02	10	-0.58	33.980	27.31	78	76
19	-0.60	.983	7.91	1.75	36	7.94	20	-0.64	.985	27.32	77	154
28	-1.54	34.222	7.60	1.75	35	8.00	30	-1.76	34.240	27.57	53	219
37	-1.65	.263	7.54	1.74	31	7.90	40	-1.68	.265	27.58	52	272
46	-1.73	.267	7.48	1.77	35	7.90	50	-1.74	.275	27.60	50	323
56	-1.75	.286	7.43	1.82	30	7.98	60	-1.76	.285	27.61	49	373
74	-1.76	.285	7.36	1.83	36	7.98	80	-1.74	.295	27.61	49	471
93	-1.50	.327	7.14	1.86	39	7.94	100	-0.97	.360	27.64	46	567
139	1.05	.619	4.60	2.13	57	7.88	150	1.15	.625	27.75	36	777
185	1.32	.647	4.46	2.12	60	7.90	200	1.34	.665	27.76	35	962
238	1.35	.711	4.47	2.07	61	7.91	300	1.38	.730	27.82	29	1292
318	1.38	.730	4.51	2.13	63	7.87	400	1.34	.745	27.83	28	1592
396	1.34	.742	4.48	2.21	67	7.88	600	1.13	.740	27.84	27	2172
476	1.24	.750	4.55	2.12	69	7.88	800	1.08	.745	27.85	26	2752
638	1.10	.739	4.55	2.09	72	7.89	1,000	0.70	.735	27.87	25	3312
794	1.09	.744	4.68	2.07	78	7.88						
957	0.72	.734	4.65	2.10	78	7.83						
1,195	0.63	.733	4.83	2.12	84	7.90						

St. A-88

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.35	33.975	7.70	1.80	41	8.00	0	-1.35	33.975	27.34	75	0
10	-1.33	.984	7.70	1.80	41	7.98	10	-1.33	.984	27.34	75	75
19	-1.38	.996	7.74	1.80	40	7.95	20	-1.40	.995	27.36	73	149
29	-1.62	34.246	7.32	1.83	42	7.95	30	-1.63	34.270	27.59	51	211
39	-1.73	.336	7.07	1.86	44	7.95	40	-1.74	.340	27.66	45	259
48	-1.78	.356	7.03	1.89	44	7.95	50	-1.78	.365	27.68	43	303
58	-1.79	.372	7.04	1.89	44	7.95	60	-1.79	.375	27.69	42	346
77	-1.80	.387	6.83	1.89	44	7.90	80	-1.80	.390	27.70	41	430
97	-1.77	.391	6.77	1.92	45	7.91	100	-1.75	.390	27.70	41	512
145	0.55	.629	5.05	2.04	59	7.90	150	0.64	.640	27.79	32	697
193	1.11	.690	4.59	2.06	62	7.88	200	1.15	.695	27.80	31	857
253	1.28	.726	4.52	2.04	62	7.96	300	1.26	.730	27.82	29	1167
336	1.24	.730	4.60	2.04	66	7.93	400	1.21	.735	27.83	28	1467
416	1.21	.740	4.60	2.04	68	7.98	600	1.03	.740	27.86	26	2047
505	1.14	.748	4.59	2.00	71	8.00	800	0.83	.730	27.86	26	2607
677	0.94	.739	4.73	2.06	74	8.00	1,000	0.66	.725	27.87	25	3167
851	0.79	.728	4.62	1.98	78	7.94	1,500	0.37	.710	27.87	25	4467
1,025	0.64	.727	4.72	2.06	79	7.80						
1,302	0.50	.716	4.86	2.06	84	7.83						
1,763	0.18	.702	5.09	2.07	86	7.90						

St. A-90

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.4	33.615	8.11	1.69	36	—	8.03	0	-1.40	33.615	27.06	101	0
10	-1.47	.623	8.01	1.66	36	26	8.00	10	-1.47	.623	27.07	100	101
20	-1.49	.638	8.11	1.69	35	26	8.05	20	-1.49	.638	27.08	99	201
29	-1.35	.862	8.06	1.66	35	25	8.10	30	-1.35	.895	27.27	81	291
39	-1.49	34.096	7.86	1.74	36	23	8.04	40	-1.50	34.135	27.48	62	363
49	-1.63	.259	7.56	1.78	37	23	8.04	50	-1.64	.265	27.58	52	420
59	-1.67	.283	7.57	1.82	37	24	7.96	60	-1.67	.285	27.60	50	471
78	-1.72	.305	7.50	1.83	37	26	8.00	80	-1.71	.310	27.63	47	569
98	-0.96	.375	6.61	1.89	44	—	7.97	100	-0.89	.380	27.66	45	661
147	0.14	.540	5.40	2.04	49	7	7.87	150	0.19	.550	27.74	37	866
196	0.75	.623	4.83	2.07	57	4	7.89	200	0.79	.625	27.78	33	1041
295	1.16	.682	4.57	2.04	61	4	7.90	300	1.17	.685	27.80	31	1371
395	1.28	.706	4.51	1.95	63	4	8.00	400	1.28	.710	27.81	30	1691
494	1.24	.731	4.53	1.97	66	4	8.04	600	1.13	.735	27.84	27	2291
593	1.13	.737	4.61	1.98	68	3	8.00	800	0.92	.730	27.85	26	2871
791	0.93	.729	4.73	1.95	74	3	8.00	1,000	0.71	.720	27.85	26	3431
987	0.72	.720	4.68	1.97	78	0	7.93	1,500	0.45	.705	27.86	26	4831
1,186	0.57	.715	4.64	2.01	78	0	8.00	2,000	0.24	.695	27.86	26	6181
1,482	0.46	.708	4.75	1.97	84	0	8.00	2,500	0.03	.690	27.87	25	7481
1,978	0.25	.697	4.79	2.04	92	0	8.00	(3,000)	(-0.12)	(34.680)	27.87	25	8781
2,472	0.03	.691	5.02	2.04	93	0	8.01						
2,969	-0.11	.684	5.27	1.97	92	0	8.03						

St. A-92

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.9	33.579	8.17	1.62	35	8.18	0	-0.9	33.579	27.02	105	0
10	-0.88	.569	8.16	1.62	35	8.10	10	-0.88	.569	27.01	106	106
19	-0.88	.569	8.22	1.62	35	8.14	20	-0.88	.570	27.01	106	212
29	-0.90	.975	8.33	1.58	34	8.20	30	-0.91	.980	27.33	76	304
38	-1.24	34.000	8.33	1.62	36	8.19	40	-1.27	34.005	27.36	73	379
48	-1.38	.019	8.23	1.66	35	8.18	50	-1.39	.025	27.38	71	451
57	-1.45	.038	8.16	1.68	36	8.14	60	-1.48	.050	27.40	69	521
76	-1.59	.125	7.85	1.74	39	8.13	80	-1.58	.135	27.48	62	653
95	-1.44	.166	7.65	1.82	40	8.17	100	-1.38	.175	27.50	60	775
143	-0.61	.318	6.69	1.83	45	8.08	150	-0.38	.345	27.60	50	1050
190	0.58	.521	5.25	1.86	57	8.02	200	0.71	.555	27.72	39	1275
285	1.32	.669	4.49	1.82	62	8.04	300	1.34	.680	27.78	33	1645
358	1.35	.696	4.43	1.97	65	8.06	400	1.34	.700	27.80	31	1975
448	1.29	.703	4.52	1.98	65	8.05	600	1.09	.745	27.86	26	2575
538	1.14	.741	4.57	1.97	69	8.00	800	0.93	.750	27.86	26	3135
717	0.97	.751	4.65	1.92	75	8.02	1,000	0.72	.745	27.87	25	3695
897	0.85	.755	4.69	1.97	78	8.00	1,500	0.42	.730	27.88	24	4995
1,079	0.60	.741	4.68	1.95	80	8.01	2,000	0.21	.720	27.89	23	6195
1,360	0.49	.737	4.79	1.98	85	8.00	2,500	0.02	.705	27.88	24	7345
1,832	0.27	.722	4.89	2.04	92	7.99						
2,313	0.08	.713	5.03	1.98	92	8.00						
2,791	-0.07	.699	5.40	2.01	92	8.00						

St. A-93

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.9	33.581	8.27	1.65	34	27	8.20	0	-0.9	33.581	27.02	105	0
9	-0.87	.560	8.14	1.58	33	29	8.20	10	-0.87	.560	27.00	107	106
18	-0.87	.569	8.24	1.62	35	29	8.18	20	-0.87	.569	27.01	106	213
26	-0.84	.569	8.22	1.58	33	29	8.20	30	-0.84	.569	27.01	106	319
35	-0.85	.569	8.23	1.58	34	28	8.19	40	-0.84	.585	27.02	105	425
44	-0.84	.800	8.17	1.65	33	28	8.20	50	-0.90	.860	27.23	85	520
53	-0.97	.879	8.32	1.65	35	25	8.28	60	-1.22	.930	27.30	79	602
70	-1.65	34.047	8.16	1.66	33	23	8.23	80	-1.69	34.080	27.43	66	748
88	-1.70	.100	7.98	1.71	34	26	8.20	100	-1.61	.150	27.50	60	874
131	-0.12	.377	6.32	1.94	48	2	8.12	150	0.77	.505	27.68	43	1134
175	1.12	.570	4.81	2.12	55	0	8.08	200	1.17	.600	27.72	39	1344
211	1.20	.610	4.63	2.06	59	0	8.07	300	1.47	.685	27.78	33	1714
281	1.44	.674	4.43	2.03	59	0	8.08	400	1.47	.715	27.80	31	2044
350	1.52	.710	4.37	2.03	61	0	8.02	600	1.25	.735	27.83	28	2664
425	1.42	.716	4.46	1.94	63	0	8.05	800	1.07	.735	27.84	27	3264
577	1.26	.731	4.68	1.74	67	0	8.07	1,000	0.76	.722	27.85	26	3844
738	1.20	.743	4.67	1.80	71	0	8.07						
908	0.82	.722	4.73	1.80	76	0	8.06						
1,166	0.65	.722	4.68	2.01	81	0	8.08						

St. A-94

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.4	33.830	8.17	1.58	34	8.11	0	-0.4	33.830	27.19	89	0
10	-0.38	.816	8.14	1.60	34	8.09	10	-0.38	.816	27.18	90	90
20	-0.43	.817	8.19	1.54	34	8.11	20	-0.43	.817	27.18	90	180
30	-0.43	.816	8.27	1.57	34	8.10	30	-0.43	.816	27.18	90	270
40	-0.42	.815	8.23	1.60	34	8.07	40	-0.42	.815	27.18	90	360
50	-0.43	.846	8.19	1.58	33	8.13	50	-0.43	.846	27.20	88	449
60	-0.33	34.031	8.13	1.68	33	8.13	60	-0.33	34.031	27.35	74	531
80	-0.35	.123	8.02	1.69	36	8.10	80	-0.35	.123	27.43	66	671
100	-0.44	.151	7.80	1.74	38	8.12	100	-0.44	.151	27.45	64	801
149	0.04	.301	6.83	1.83	46	8.10	150	0.05	.305	27.56	54	1096
199	0.71	.453	5.46	1.97	53	8.01	200	0.72	.455	27.63	47	1351
292	1.58	.658	4.36	1.98	59	8.01	300	1.58	.665	27.74	37	1781
390	1.55	.702	4.40	1.89	63	8.04	400	1.54	.705	27.78	33	2151
488	1.38	.711	4.47	1.92	64	8.01	600	1.40	.730	27.81	30	2831
586	1.41	.731	4.50	1.88	66	7.99	800	1.17	.735	27.84	27	3451
781	1.19	.736	4.62	1.83	69	7.99	1,000	0.92	.725	27.85	26	4031
977	0.94	.728	4.77	1.75	72	8.01	(1,500)	(0.55)	(34.705)	(27.85)	26	5431
1,170	0.77	.706	4.75	1.84	77	7.97						
1,466	0.57	.705	4.92	1.89	82	7.97						

St. A-95

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.05	33.471	8.32	1.58	36	8.10	0	-1.05	33.471	26.94	113	0
10	-0.99	.449	8.12	1.54	38	8.10	10	-0.99	.449	26.91	116	115
19	-0.98	.454	8.33	1.54	37	8.10	20	-0.99	.460	26.92	115	231
29	-1.13	.521	8.32	1.52	38	8.12	30	-1.16	.530	27.00	107	342
38	-1.31	.871	8.29	1.57	37	8.10	40	-1.29	.925	27.30	79	435
48	-1.00	34.040	8.19	1.63	38	8.14	50	-0.98	34.060	27.40	69	509
57	-0.96	.099	8.06	1.82	39	8.12	60	-0.96	.135	27.46	63	575
76	-0.98	.147	8.09	1.82	41	8.18	80	-0.98	.155	27.48	62	701
95	-0.96	.189	7.95	1.74	43	8.10	100	-0.93	.200	27.51	59	823
143	-0.45	.314	—	1.83	51	8.11	150	-0.02	.345	27.59	51	1098
190	1.11	.545	4.82	2.01	57	8.02	200	1.24	.575	27.70	41	1333
270	1.43	.681	4.38	1.92	63	7.99	300	1.38	.690	27.78	33	1713
361	1.24	.695	4.52	1.92	67	8.08	400	1.21	.700	27.80	31	2043
449	1.17	.705	4.61	1.94	68	8.03	600	1.04	.705	27.82	29	2683
541	1.08	.701	4.72	1.89	71	8.01	800	0.84	.710	27.84	27	3283
720	0.93	.718	4.63	1.90	76	7.99	1,000	0.62	.690	27.83	28	3883
897	0.72	.698	4.81	1.95	80	7.98						
1,082	0.52	.689	4.46	1.98	84	7.93						
1,366	0.45	.686	4.95	2.00	85	7.94						

St. A-96

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.5	33.546	8.26	1.55	39	29	8.03	0	-1.5	33.546	27.01	106	0
8	-1.41	.547	8.19	1.60	39	32	8.04	10	-1.42	.547	27.01	106	106
16	-1.45	.547	8.06	1.51	39	32	8.05	20	-1.43	.547	27.01	106	212
25	-1.40	.548	8.27	1.51	38	32	8.09	30	-1.49	.675	27.10	98	314
33	-1.57	.783	8.24	1.58	37	31	8.09	40	-1.64	.850	27.25	83	405
41	-1.66	.859	8.20	1.55	37	30	8.09	50	-1.73	.960	27.34	75	484
49	-1.72	.947	8.18	1.60	39	27	8.11	60	-1.77	34.015	27.38	71	557
66	-1.78	34.031	8.08	1.57	39	28	8.13	80	-1.80	.045	27.41	68	697
82	-1.81	.048	8.04	1.51	39	29	8.11	100	-1.80	.060	27.42	67	833
123	-1.78	.090	7.94	1.82	41	32	8.10	150	-1.44	.175	27.50	60	1153
164	-1.05	.247	7.27	1.88	50	0	8.09	200	-0.25	.445	27.68	43	1413
220	0.03	.516	5.41	2.00	65	0	8.01	300	0.64	.640	27.79	32	1793
304	0.65	.643	4.76	2.07	75	0	7.90	400	0.70	.660	27.80	31	2123
368	0.71	.661	4.73	2.07	78	0	7.97	600	0.55	.665	27.82	29	2743
441	0.65	.666	4.64	2.07	78	0	7.95	800	0.48	.660	27.82	29	3343
598	0.55	.664	4.68	2.06	83	0	7.94	1,000	0.39	.655	27.82	29	3943
752	0.50	.662	4.56	2.07	84	0	7.94	1,500	0.17	.645	27.83	28	5393
910	0.43	.656	4.62	2.07	88	0	7.90						
1,158	0.31	.655	4.76	2.03	90	0	7.94						
1,591	0.13	.642	5.07	2.04	91	0	7.99						

St. A-97

Observed							Interpolated and calculated						
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD	
0	-1.3	33.333	8.29	1.60	39	8.13	0	-1.3	33.333	26.83	123	0	
10	-1.24	.327	8.21	1.66	37	8.14	10	-1.24	.327	26.82	124	124	
19	-1.23	.328	8.28	1.58	38	8.13	20	-1.23	.330	26.82	124	248	
29	-1.21	.335	8.26	1.58	38	8.14	30	-1.21	.340	26.83	123	372	
39	-1.42	.425	8.43	1.57	38	8.19	40	-1.45	.450	26.93	114	491	
49	-1.71	.938	8.20	1.58	39	8.22	50	-1.72	.950	27.33	76	586	
58	-1.75	.985	8.19	1.63	38	8.15	60	-1.75	.990	27.37	72	660	
78	-1.75	34.040	7.99	1.62	38	8.19	80	-1.75	34.045	27.41	68	800	
97	-1.80	.084	7.99	1.66	41	8.14	100	-1.77	.095	27.45	64	932	
144	-1.20	.291	6.97	1.82	50	8.13	150	-1.01	.330	27.62	48	1212	
194	0.16	.579	5.09	1.95	65	8.03	200	0.23	.595	27.78	33	1417	
283	0.56	.651	4.50	2.03	79	7.98	300	0.56	.655	27.81	30	1737	
377	0.54	.664	4.50	2.12	83	7.94	400	0.54	.665	27.82	29	2037	
472	0.52	.672	4.43	2.10	83	7.94	600	0.45	.674	27.83	28	2637	
566	0.46	.674	4.56	2.07	86	7.96	800	0.39	.670	27.84	27	3117	
755	0.41	.674	4.57	2.01	91	7.99	1,000	0.30	.660	27.83	28	3597	
944	0.34	.663	4.67	2.04	89	7.96	(1,500)	(0.13)	(34.655)	(27.83)	28	4997	
1,133	0.20	.649	4.84	1.97	89	8.01							
1,414	0.14	.652	5.04	1.86	89	8.00							

St. A-98

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.1	33.848	8.56	1.46	37	8.12	0	-1.1	33.848	27.23	85	0
10	-1.15	.838	8.33	1.48	37	8.11	10	-1.15	.838	27.23	85	85
20	-1.17	.844	8.44	1.52	37	8.12	20	-1.17	.844	27.23	85	170
30	-1.18	.852	8.35	1.46	36	8.18	30	-1.18	.852	27.24	84	255
40	-1.26	.853	8.44	1.49	37	8.18	40	-1.26	.853	27.24	84	339
49	-1.24	.856	8.33	1.48	37	8.18	50	-1.26	.855	27.24	84	423
59	-1.54	.927	8.25	1.54	38	8.18	60	-1.58	.930	27.31	78	504
79	-1.80	34.109	7.98	1.58	38	8.18	80	-1.80	34.025	27.39	70	652
98	-1.76	.158	7.89	1.66	39	8.10	100	-1.75	.165	27.51	59	782
148	-1.02	.354	6.69	1.80	51	8.08	150	-0.98	.365	27.65	45	1042
197	0.16	.600	5.09	1.97	66	8.02	200	0.19	.605	27.79	32	1237
289	0.62	.680	4.59	1.94	74	7.99	300	0.62	.685	27.83	28	1547
386	0.57	.693	4.47	1.86	74	7.92	400	0.56	.695	27.84	27	1837
482	0.50	.698	4.47	2.13	83	7.94	600	0.49	.700	27.85	26	2397
578	0.50	.701	4.50	2.01	85	7.92	800	0.38	.690	27.85	26	2937
773	0.40	.693	4.59	1.95	86	7.97	1,000	0.29	.686	27.86	26	3477
965	0.30	.686	4.72	1.98	86	8.00	(1,500)	(0.09)	(34.680)	27.86	26	4017
1,159	0.24	.686	4.85	1.92	85	7.98						
1,454	0.11	.683	5.06	1.95	86	7.95						

St. A-99

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.9	33.868	8.56	1.48	38	8.18	0	-0.9	33.868	27.24	84	0
9	-0.85	.881	8.25	1.49	38	8.16	10	-0.85	.880	27.25	83	84
18	-0.88	.882	8.56	1.55	39	8.19	20	-0.88	.880	27.25	83	167
27	-0.90	.880	8.49	1.51	38	8.18	30	-0.91	.880	27.25	83	250
36	-0.92	.882	8.46	1.55	39	8.20	40	-0.92	.885	27.26	82	333
46	-0.94	.892	8.48	1.51	38	8.22	50	-0.97	.885	27.26	82	415
55	-1.03	.861	8.35	1.55	38	8.21	60	-1.22	.865	27.25	83	498
72	-1.71	.903	7.96	1.68	42	8.20	80	-1.76	34.095	27.45	64	646
91	-1.79	34.167	8.01	1.72	45	8.16	100	-1.80	.180	27.52	58	768
137	-1.87	.221	7.82	1.71	44	8.16	150	-1.81	.245	27.57	53	1043
193	-1.01	.383	6.64	1.88	55	8.10	200	-0.52	.425	27.68	43	1283
235	0.26	.662	4.51	2.07	83	8.00	300	0.42	.700	27.85	26	1633
314	0.42	.704	4.29	1.92	89	8.00	400	0.36	.705	27.86	26	1893
395	0.36	.704	4.37	2.12	89	7.91	600	0.28	.695	27.86	26	2413
477	0.36	.702	4.39	2.07	89	7.90	800	0.19	.700	27.87	25	2933
651	0.25	.691	4.62	2.04	88	7.97	1,000	0.12	.697	27.87	25	3433
826	0.18	.699	4.68	1.98	90	7.98						
1,002	0.12	.697	4.84	1.95	88	8.00						
1,273	0.03	.694	4.96	1.98	90	7.98						

St. A-110

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	1.55	33.824	7.97	1.54	18	8.15	0	1.55	33.824	27.08	99	0
8	1.56	.809	8.05	1.48	18	8.12	10	1.55	.810	27.06	101	100
17	1.49	.817	7.99	1.52	18	8.16	20	1.50	.815	27.07	100	201
29	1.57	.807	7.96	1.52	19	8.20	30	1.57	.810	27.06	101	302
38	1.56	.808	8.00	1.49	18	8.22	40	1.56	.805	27.06	101	403
46	1.53	.801	7.92	1.49	18	8.20	50	1.52	.805	27.06	101	504
63	1.44	.822	7.95	1.43	20	8.20	60	1.46	.820	27.08	99	604
76	1.33	.802	7.89	1.46	20	8.28	80	1.32	.805	27.07	100	804
92	1.29	.819	7.89	1.46	21	8.22	100	1.24	.830	27.10	98	1002
142	0.24	.898	7.42	1.71	26	8.22	150	0.26	.925	27.23	85	1462
184	0.69	34.131	6.07	1.95	38	8.13	200	1.01	34.255	27.46	63	1837
227	1.46	.389	4.60	2.20	49	8.00	300	1.80	.535	27.63	47	2397
280	1.75	.510	4.15	2.20	53	8.00	400	1.88	.570	27.65	45	2877
350	1.84	.546	4.64	2.15	55	7.99	(600)	1.96	(.575)	(27.65)	45	3837
419	1.90	.585	5.30	2.09	57	7.99	(800)	(1.89)	(.595)	(27.67)	44	4797
595	1.96	—	3.99	1.89	42	8.10	(1,000)	(1.75)	(.675)	(27.73)	38	5697
(732)	(1.91)	(.567)	(4.03)	(2.04)	(55)	(7.99)						
(948)	(1.82)	(.660)	(4.39)	(1.95)	(59)	(8.00)						
(1,156)	(1.51)	(.718)	(4.12)	(1.78)	(63)	(8.02)						

St. A-113

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.7	33.846	8.06	1.55	28	8.18	0	0.7	33.846	27.15	93	0
9	0.71	.821	8.10	1.57	28	8.18	10	0.71	.820	27.12	96	95
17	0.72	.823	8.16	1.55	29	8.15	20	0.71	.825	27.13	95	191
29	0.66	.824	8.11	1.55	29	8.13	30	0.66	.825	27.13	95	286
38	0.72	.822	8.03	1.55	29	8.10	40	0.72	.820	27.12	96	382
46	0.71	.821	8.04	1.58	29	8.12	50	0.71	.820	27.12	96	478
63	0.69	.821	8.06	1.49	28	8.20	60	0.69	.820	27.12	96	574
85	0.67	.817	7.73	1.55	28	8.19	80	0.68	.820	27.13	95	766
96	0.40	.813	8.03	1.55	27	8.19	100	0.26	.815	27.15	93	954
139	-0.62	.936	7.51	1.69	33	8.14	150	-0.44	34.050	27.37	72	1369
178	0.67	34.303	5.41	2.03	46	8.08	200	1.18	.380	27.55	55	1689
263	1.69	.528	4.17	2.07	56	8.01	300	1.74	.575	27.67	43	2189
344	1.74	.610	4.06	2.07	58	8.02	400	1.75	.635	27.71	40	2619
421	1.75	.647	4.08	2.06	59	8.00	600	1.68	.695	27.77	34	3419
507	1.74	.672	4.14	1.97	62	8.00	800	1.62	.675	27.75	36	4179
650	1.64	.711	4.21	1.94	63	8.01	1,000	1.42	.720	27.80	31	4917
803	1.61	.673	4.45	1.86	63	8.02						
962	1.45	.722	4.52	1.89	68	8.00						
1,223	1.21	.714	4.54	1.89	72	8.00						

St. A-115

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.8	33.818	8.04	1.54	27	24	8.15	0	0.8	33.818	27.12	96	0
8	0.81	.792	8.04	1.36	27	24	8.23	10	0.80	.795	27.10	98	97
15	0.74	.804	8.06	1.51	27	26	8.22	20	0.78	.800	27.10	98	195
23	0.82	.797	8.11	1.54	26	25	8.22	30	0.80	.800	27.10	98	293
31	0.80	.801	8.04	1.49	26	23	8.20	40	0.73	.800	27.11	97	391
38	0.73	.801	8.11	1.55	26	25	8.19	50	0.78	.800	27.10	98	489
46	0.78	.808	8.09	1.55	26	27	8.20	60	0.77	.800	27.10	98	587
62	0.76	.796	8.06	1.49	27	27	8.22	80	0.65	.800	27.11	97	783
77	0.69	.800	8.06	1.36	27	23	8.25	100	0.04	.835	27.17	91	971
115	-0.46	.888	7.88	1.66	29	29	8.22	150	0.49	34.230	27.47	62	1306
153	0.57	34.250	5.57	1.90	44	0	8.10	200	1.22	.400	27.57	53	1596
254	1.63	.508	3.99	2.09	54	0	8.00	300	1.77	.555	27.64	46	2106
320	1.80	.568	4.08	2.00	55	0	8.01	400	1.88	.625	27.70	41	2556
383	1.88	.612	4.09	2.04	57	0	7.98	600	1.88	.685	27.74	37	3396
450	1.88	.651	4.09	1.97	57	0	8.00	800	1.69	.715	27.78	33	4156
576	1.90	.680	4.02	1.89	60	0	8.02	1,000	1.53	.720	27.80	31	4856
711	1.78	.704	4.24	1.89	63	0	8.02						
857	1.64	.720	4.43	1.84	65	0	8.05						
1,089	1.45	.720	4.48	1.66	70	0	8.02						

St. A-116

Observed							Interpolated and calculated						
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD	
0	1.2	33.854	8.03	1.48	26	8.15	0	1.2	33.854	27.13	95	0	
9	1.12	.816	7.98	1.52	25	8.14	10	1.11	.815	27.10	98	97	
18	1.07	.817	8.04	1.51	25	8.14	20	1.08	.815	27.10	98	195	
27	1.13	.818	8.04	1.54	25	8.19	30	1.13	.820	27.10	98	293	
36	1.12	.823	8.05	1.48	26	8.18	40	1.10	.820	27.10	98	391	
45	1.07	.819	8.04	1.51	25	8.14	50	1.05	.819	27.11	97	489	
54	1.03	.819	8.01	1.51	25	8.14	60	1.01	.819	27.11	97	586	
72	0.91	.819	8.03	1.51	25	8.18	80	0.73	.820	27.13	95	778	
85	0.55	.823	8.04	1.51	25	8.14	100	0.13	.840	27.17	91	964	
127	-0.26	34.019	7.10	1.74	34	8.14	150	1.00	34.340	27.53	57	1334	
170	1.57	.402	4.51	2.06	51	7.99	200	1.67	.445	27.57	53	1614	
270	1.84	.525	4.16	2.04	54	7.98	300	1.87	.450	27.57	53	2154	
361	1.92	.584	4.13	2.03	57	7.97	400	1.93	.460	27.57	53	2694	
453	1.95	.622	4.09	1.98	59	7.97	600	1.92	.680	27.73	38	3654	
545	1.92	.671	4.13	1.89	61	7.96	800	1.88	.720	27.77	34	4454	
730	1.92	.702	4.29	1.84	62	8.04	1,000	1.68	.725	27.79	32	5194	
917	1.81	.724	4.49	1.84	64	8.05	(1,500)	(1.14)	(34.710)	(27.82)	29	6894	
1,110	1.49	.720	4.52	1.83	67	8.04							
1,402	1.22	.712	4.66	1.83	76	8.04							

St. A-118

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.5	33.891	7.53	1.28	2	8.16	0	2.5	33.891	27.06	101	0
10	2.41	.888	7.89	1.28	2	8.15	10	2.41	.888	27.06	101	101
18	2.37	.888	7.89	1.23	2	8.22	20	2.36	.888	27.07	100	202
30	2.35	.888	7.87	1.26	2	8.15	30	2.35	.888	27.07	100	302
44	2.33	.881	7.98	1.28	2	8.16	40	2.34	.885	27.07	100	402
57	2.30	.887	7.79	1.25	3	8.16	50	2.32	.885	27.07	100	502
77	2.22	.883	7.78	1.26	3	8.17	60	2.29	.885	27.07	100	602
94	1.99	.887	7.70	1.37	4	8.21	80	2.20	.885	27.08	99	802
124	0.32	.951	7.76	1.63	16	8.05	100	1.79	.895	27.12	96	1000
195	0.72	34.110	6.39	1.83	22	8.07	150	0.39	34.015	27.29	80	1445
268	1.88	.356	4.65	1.98	41	8.05	200	0.79	.120	27.36	73	1830

St. A-119

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.6	33.930	7.60	1.45	7	8.22	0	2.6	33.930	27.08	99	0
9	2.56	.886	7.88	1.43	7	8.20	10	2.53	.885	27.05	102	101
19	2.43	.904	8.00	1.43	7	8.21	20	2.44	.905	27.08	99	202
28	2.49	.895	7.86	1.42	7	8.20	30	2.49	.900	27.07	100	302
37	2.47	.902	8.00	1.40	7	8.24	40	2.45	.900	27.07	100	402
46	2.42	.903	7.85	1.43	7	8.28	50	2.44	.903	27.08	99	502
55	2.44	.903	7.82	1.43	7	8.23	60	2.43	.903	27.08	99	601
74	2.38	.903	7.81	1.43	7	8.23	80	2.31	.910	27.09	98	799
92	1.41	.933	7.65	1.62	12	8.22	100	1.34	.945	27.18	90	989
138	1.19	34.059	6.79	1.97	21	8.18	150	1.26	34.105	27.31	78	1414
184	1.65	.210	5.69	2.03	30	8.10	200	1.71	.230	27.39	70	1789
270	1.83	.309	4.87	2.10	37	8.01	300	1.92	.360	27.49	61	2459
361	2.07	.440	4.41	2.18	45	7.98	400	2.11	.475	27.56	54	3049
451	2.16	.516	4.19	2.12	49	7.98	600	2.16	.595	27.65	45	4089
542	2.15	.573	4.21	2.33	52	7.95	800	2.13	.665	27.70	41	5029
723	2.17	.648	4.06	2.00	56	8.00	1,000	2.01	.700	27.74	37	5909
907	2.11	.687	4.22	2.00	58	8.00						
1,092	1.91	.716	4.25	1.92	59	8.01						
1,381	1.69	.729	4.44	1.94	63	8.02						

St. A-121

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	4.0	33.863	7.58	1.37	0	29	8.24	0	4.0	33.863	26.90	117	0
10	4.05	.846	7.65	1.31	0	27	8.24	10	4.05	.846	26.88	118	118
19	3.81	.847	7.62	1.34	0	27	8.20	20	3.80	.850	26.91	116	235
29	3.70	.855	7.60	1.34	0	28	8.22	30	3.70	.855	26.92	115	351
39	3.74	.856	7.62	1.36	0	28	8.20	40	3.74	.856	26.92	115	466
48	3.68	.856	7.59	1.36	0	26	8.20	50	3.67	.855	26.93	114	581
58	3.60	.849	7.60	1.37	0	28	8.22	60	3.59	.850	26.93	114	696
78	3.51	.862	7.60	1.34	0	25	8.23	80	3.49	.862	26.95	112	924
93	3.27	.862	7.51	1.36	1	24	8.20	100	3.12	.860	26.98	109	1148
145	1.39	.915	7.39	1.74	12	7	8.10	150	1.40	.930	27.17	91	1653
196	1.78	34.047	6.61	1.88	16	4	8.10	200	1.81	34.055	27.23	85	2098
291	2.26	.224	5.50	2.07	27	4	8.00	300	2.28	.240	27.36	73	2908
381	2.41	.339	4.57	2.16	36	0	8.00	400	2.40	.355	27.45	64	3608
479	2.37	.412	4.40	2.22	42	0	8.03	600	2.23	.490	27.57	53	4808
575	2.24	.476	4.19	2.16	47	0	7.96	800	2.28	.595	27.64	46	5868
767	2.28	.579	4.09	2.13	51	0	7.93	1,000	2.26	.680	27.70	41	6848
959	2.27	.670	4.20	2.06	55	0	7.94	1,500	2.05	.750	27.78	33	9048
1,152	2.23	.720	4.30	1.95	54	0	7.96	2,000	1.41	.735	27.82	29	10948
1,441	2.12	.755	4.38	1.86	56	0	8.05	2,500	0.95	.715	27.83	28	12648
1,969	1.44	.735	4.62	1.95	71	0	8.03	(3,000)	(0.76)	.695	27.83	28	14298
2,421	1.01	.716	4.61	2.03	78	0	8.00						
2,910	0.59	.700	4.91	2.06	84	0	7.96						

St. A-122

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	4.5	33.908	7.50	1.31	0	8.20	0	4.5	33.908	26.88	118	0
9	4.55	.889	7.53	1.31	0	8.25	10	4.55	.890	26.86	120	119
19	4.52	.891	7.50	1.25	0	8.29	20	4.53	.890	26.86	120	239
28	4.57	.895	7.49	1.28	0	8.25	30	4.56	.895	26.86	120	359
38	4.45	.891	7.53	1.23	0	8.22	40	4.43	.890	26.87	119	479
47	4.39	.886	7.50	1.28	0	8.22	50	4.39	.890	26.88	118	598
56	4.39	.891	7.52	1.28	0	8.21	60	4.39	.891	26.88	118	717
75	4.31	.891	7.47	1.31	0	8.22	80	4.25	.890	26.90	117	955
94	4.09	.887	7.42	1.30	0	8.12	100	3.93	.890	26.93	114	1189
142	2.82	.966	7.26	1.60	7	8.18	150	2.82	.985	27.11	97	1724
189	2.94	34.098	6.46	1.80	8	8.18	200	2.93	34.115	27.19	89	2199
271	2.75	.164	5.89	1.89	16	8.10	300	2.73	.175	27.26	82	3079
362	2.63	.211	5.44	1.98	22	8.02	400	2.54	.255	27.34	75	3889
446	2.44	.310	4.90	2.07	30	7.90	600	2.47	.435	27.51	59	5289
543	2.47	.397	4.51	2.07	37	7.94	800	2.43	.560	27.60	50	6469
724	2.45	.524	4.17	2.07	46	7.92	1,000	2.33	.645	27.67	44	7529
909	2.39	.614	4.09	2.01	50	7.90						
1,097	2.27	.676	4.10	1.92	52	8.00						
1,381	2.38	.764	4.53	1.80	47	7.95						

St. A-124

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	4.6	33.942	7.44	1.37	1	8.25	0	4.6	33.942	26.90	117	0
9	4.60	.940	7.39	1.33	0	8.25	10	4.59	.940	26.90	117	117
18	4.53	.941	7.39	1.33	0	8.27	20	4.53	.941	26.90	117	234
28	4.61	.941	7.38	1.31	0	8.26	30	4.61	.940	26.90	117	351
37	4.58	.939	7.41	1.33	0	8.25	40	4.56	.940	26.90	117	468
46	4.50	.942	7.40	1.34	0	8.25	50	4.46	.945	26.92	115	585
55	4.41	.946	7.35	1.34	0	8.25	60	4.36	.945	26.93	114	701
74	4.16	.944	7.32	1.34	0	8.25	80	3.98	.945	26.97	110	927
92	3.32	.947	7.32	1.54	4	8.25	100	3.04	.955	27.07	100	1139
139	2.42	34.053	6.98	1.82	11	8.19	150	2.40	34.070	27.20	88	1594
185	2.39	.106	6.53	1.90	14	8.19	200	2.38	.115	27.24	84	2029
274	2.09	.141	6.32	1.90	18	8.05	300	2.15	.175	27.30	79	2859
339	2.35	.238	5.35	2.06	29	8.01	400	2.56	.330	27.41	68	3619
429	2.57	.365	4.66	2.18	38	7.95	600	2.40	.475	27.54	56	4899
527	2.46	.437	4.35	2.22	42	7.95	800	2.30	.575	27.63	47	5999
694	2.32	.521	4.11	2.21	49	7.94	1,000	2.25	.655	27.69	42	6999
875	2.29	.615	4.09	2.13	54	7.94						
1,059	2.24	.675	4.19	2.06	53	7.95						
1,342	2.17	.730	4.38	1.97	55	7.97						

St. A-125

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	5.0	33.960	7.46	1.20	0	8.24	0	5.0	33.960	26.87	119	0
9	5.00	.929	7.47	1.22	0	8.26	10	5.00	.930	26.84	122	121
18	4.85	.950	7.51	1.25	0	8.26	20	4.86	.950	26.88	118	241
27	4.91	.951	7.49	1.25	0	8.31	30	4.92	.950	26.87	119	360
37	4.93	.947	7.41	1.23	0	8.32	40	4.91	.950	26.87	119	479
46	4.81	.957	7.38	1.26	0	8.26	50	4.78	.960	26.89	117	598
55	4.74	.961	7.38	1.31	0	8.26	60	4.60	.965	26.92	115	715
73	3.51	34.073	6.99	1.68	5	8.23	80	3.21	34.095	27.15	93	925
92	2.79	.124	7.10	1.78	10	8.19	100	2.65	.125	27.22	86	1105
137	2.17	.087	6.93	1.83	13	8.16	150	2.05	.075	27.23	85	1540
183	1.78	.031	6.92	1.86	15	8.16	200	1.78	.065	27.24	84	1965
273	1.79	.154	6.16	1.97	21	8.06	300	1.81	.200	27.36	73	2765
362	2.34	.307	4.99	2.10	33	8.06	400	2.40	.345	27.43	66	3475
453	2.42	.387	4.47	2.20	39	7.98	600	2.34	.490	27.56	54	4715
545	2.34	.454	4.31	2.15	44	7.96	800	2.34	.595	27.63	47	5815
726	2.36	.568	4.03	2.13	48	7.97	1,000	2.25	.655	27.69	42	6815
909	2.33	.638	4.11	2.13	51	7.91						
1,100	2.15	.674	4.19	2.06	54	7.94						
1,391	2.18	.742	4.48	1.94	53	7.96						

St. A-127

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	4.2	33.861	7.69	1.33	3	19	8.18	0	4.2	33.861	26.88	118	0
8	4.17	.863	7.66	1.28	4	19	8.25	10	4.17	.865	26.88	118	118
16	4.16	.869	7.67	1.28	4	18	8.23	20	4.13	.865	26.89	117	236
23	4.10	.861	7.68	1.33	4	19	8.23	30	3.90	.865	26.91	116	353
31	3.87	.868	7.65	1.34	4	19	8.23	40	3.43	.865	26.96	111	467
39	3.50	.862	7.74	1.43	4	22	8.23	50	3.20	.865	26.98	109	578
46	3.24	.864	7.72	1.48	5	22	8.23	60	3.12	.865	26.99	108	688
62	3.11	.868	7.65	1.48	6	21	8.23	80	2.44	.940	27.10	98	892
77	2.57	.921	7.54	1.65	7	11	8.18	100	1.80	34.035	27.22	86	1075
115	1.47	34.055	7.24	1.88	13	14	8.15	150	1.18	.055	27.28	80	1495
154	1.05	.054	7.20	1.90	15	7	8.16	200	0.93	.090	27.32	77	1895
185	0.79	.065	6.99	1.95	18	0	8.08	300	2.16	.320	27.43	66	2625
247	1.77	.225	5.55	2.07	29	0	8.05	400	2.18	.425	27.52	58	3265
309	2.16	.332	4.85	2.12	34	0	7.99	600	2.11	.560	27.63	47	4365
439	2.18	.453	4.30	2.16	45	0	8.00	800	2.14	.645	27.69	42	5325
579	2.10	.548	4.13	2.20	49	0	8.00	1,000	2.12	.705	27.73	38	6225
720	2.14	.622	4.00	2.15	50	0	7.93						
934	2.15	.687	4.15	2.01	55	0	7.96						
1,295	2.00	.780	4.17	1.94	57	0	8.00						

St. A-128

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	3.3	33.869	7.63	1.46	13	8.29	0	3.3	33.869	26.97	110	0
10	3.40	.865	7.63	1.43	13	8.27	10	3.40	.865	26.96	111	118
20	3.22	.861	7.65	1.49	13	8.30	20	3.22	.861	26.97	110	222
29	3.17	.857	7.70	1.51	13	8.27	30	3.16	.860	26.98	109	332
39	2.85	.860	7.73	1.51	16	8.23	40	2.82	.860	27.00	107	440
49	2.69	.861	7.75	1.52	17	8.23	50	2.65	.860	27.02	105	547
59	2.48	.859	7.62	1.58	16	8.28	60	2.46	.860	27.04	103	652
78	1.12	.900	7.73	1.66	19	8.22	80	0.98	.905	27.18	90	846
98	0.48	.952	7.48	1.83	20	8.20	100	0.48	.960	27.25	83	1020
147	0.95	34.151	6.10	1.95	29	8.14	150	1.02	34.165	27.38	71	1405
196	1.73	.346	4.91	2.10	40	8.10	200	1.74	.355	27.50	60	1735
282	1.85	.455	4.39	2.10	47	8.03	300	1.91	.480	27.58	52	2315
380	2.21	.569	4.03	2.12	51	8.04	400	2.19	.580	27.63	47	2835
469	2.03	.597	4.02	2.12	55	8.01	600	2.03	.650	27.70	41	3775
567	2.07	.646	4.04	2.03	57	8.01	800	1.82	.695	27.75	36	4615
750	1.84	.683	4.15	1.97	61	8.01	1,000	1.75	.725	27.79	32	5395
938	1.78	.719	4.32	1.94	62	8.02	(1,500)	(1.14)	(34.725)	(27.83)	(29)	7145
1,129	1.68	.746	4.53	1.89	61	8.08						
1,417	1.33	.729	4.55	1.94	70	8.08						

St. A-130

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	3.1	33.820	7.96	1.68	32	8.14	0	3.1	33.820	26.95	112	0
10	1.89	.820	7.90	1.58	31	8.19	10	1.89	.820	27.05	102	107
20	1.80	.820	7.86	1.62	32	8.16	20	1.80	.820	27.06	101	209
30	1.94	.841	7.82	1.46	29	8.16	30	1.94	.841	27.06	101	310
40	1.90	.840	7.82	1.43	30	8.18	40	1.90	.840	27.07	100	411
49	1.77	.841	7.88	1.46	31	8.20	50	1.75	.841	27.08	99	511
59	1.36	.841	7.89	1.49	31	8.22	60	1.28	.840	27.11	97	609
79	-0.28	.952	7.60	1.65	33	8.20	80	-0.28	.965	27.29	80	787
99	-0.19	34.118	6.75	1.77	37	8.18	100	-0.18	34.135	27.43	66	933
145	1.14	.353	5.39	2.10	42	8.07	150	1.23	.365	27.53	57	1063
198	1.72	.486	4.45	2.42	45	8.04	200	1.72	.490	27.60	50	1173
267	1.80	.560	4.25	2.44	41	8.04	300	1.82	.585	27.67	44	1663
357	1.83	.625	4.16	2.64	42	8.04	400	1.84	.645	27.71	40	2103
448	1.84	.664	4.18	2.87	40	8.00	600	1.77	.700	27.76	35	2903
536	1.84	.693	4.17	2.91	42	8.01	800	1.55	.715	27.79	32	3643
720	1.63	.712	4.32	2.64	39	8.01	1,000	1.36	.720	27.81	30	4343
908	1.46	.718	4.44	3.36	40	8.00						
1,098	1.26	.722	4.57	3.42	39	7.97						
1,396	0.87	.981	4.63	3.99	37	7.94						

St. A-131

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.0	33.854	7.79	1.69	38	8.05	0	2.0	33.854	27.07	100	0
10	1.54	.852	7.87	1.69	38	8.13	10	1.54	.852	27.10	98	99
20	1.25	.858	7.85	1.66	38	8.07	20	1.25	.858	27.12	96	196
30	1.23	.860	7.87	1.78	38	8.07	30	1.23	.860	27.13	95	292
40	1.19	.861	7.89	1.65	38	8.05	40	1.19	.861	27.13	95	387
50	0.77	.873	7.90	1.68	38	8.05	50	0.77	.873	27.17	91	480
60	0.39	.893	7.89	1.71	39	8.10	60	0.39	.893	27.20	88	570
80	-0.48	34.115	6.81	1.90	42	8.08	80	-0.48	34.115	27.42	67	726
100	-0.04	.241	6.12	2.04	45	8.04	100	-0.04	.241	27.51	59	852
150	0.60	.372	5.41	2.04	51	8.11	150	0.60	.372	27.58	52	1182
200	1.13	.487	4.20	2.13	55	7.97	200	1.13	.487	27.64	46	1382
293	1.65	.598	4.30	2.06	59	7.95	300	1.65	.605	27.69	42	1842
391	1.71	.664	4.24	2.04	62	7.97	400	1.72	.665	27.73	38	2262
489	1.72	.687	4.24	2.00	65	7.95	600	1.65	.705	27.77	34	3042
586	1.62	.704	4.30	2.07	66	7.96	800	1.46	.710	27.80	31	3762
782	1.49	.708	4.37	2.10	72	7.95	1,000	1.17	.705	27.81	30	4442
978	1.19	.709	4.56	1.98	76	7.95	(1,500)	(0.66)	(34.695)	(27.83)	(28)	6042
1,173	0.95	.707	4.63	1.95	77	7.94						
(1,467)	(0.69)	(34.697)	(4.70)	(2.04)	(83)	(7.96)						

St. A-133

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.15	33.808	7.77	1.60	19	27	8.09	0	2.15	33.808	27.02	105	0
10	1.81	.805	7.82	1.58	16	27	8.06	10	1.81	.805	27.04	103	104
19	1.38	.805	7.90	1.54	16	27	8.01	20	1.38	.805	27.07	100	206
29	1.41	.807	7.90	1.55	16	27	8.00	30	1.41	.810	27.07	100	306
38	1.32	.809	7.91	1.57	17	28	8.10	40	1.30	.810	27.08	99	406
48	1.23	.808	7.90	1.54	16	28	8.10	50	1.23	.810	27.09	98	505
57	1.20	.810	7.87	1.54	16	26	8.04	60	1.18	.810	27.09	98	603
76	0.43	.839	7.94	1.66	17	24	8.05	80	0.30	.845	27.17	91	793
96	0.10	.887	7.56	1.77	21	24	8.00	100	0.10	.895	27.22	86	971
143	0.16	34.026	6.87	1.88	27	15	8.03	150	0.22	34.070	27.35	74	1371
191	1.37	.295	5.24	2.07	39	0	7.99	200	1.45	.315	27.49	61	1711
240	1.77	.385	4.64	2.15	45	0	7.97	300	2.00	.475	27.57	53	2301
321	2.04	.496	4.24	2.18	52	0	7.95	400	2.05	.560	27.63	47	2821
401	2.05	.561	4.07	2.16	50	0	7.93	600	2.04	.625	27.68	43	3781
483	2.08	.588	4.02	2.12	53	0	7.93	800	1.89	.685	27.73	38	4661
651	2.03	.643	4.05	2.07	59	0	7.90	1,000	1.74	.705	27.77	34	5461
832	1.86	.689	4.09	1.97	66	0	7.89						
1,008	1.74	.708	4.24	2.04	68	0	7.90						

St. A-134

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.6	33.663	8.41	1.05	7	8.26	0	2.6	33.663	26.87	119	0
10	2.76	.659	8.30	1.04	7	8.29	10	2.76	.659	26.85	121	120
20	2.09	.670	8.02	1.14	7	8.35	20	2.09	.670	26.92	115	238
30	1.82	.690	7.93	1.22	8	8.32	30	1.82	.690	26.95	112	352
40	1.51	.738	7.84	—	10	8.20	40	1.51	.738	27.00	107	462
50	1.44	.755	7.78	1.34	11	8.30	50	1.44	.755	27.03	104	568
60	1.31	.771	7.72	1.40	12	8.22	60	1.31	.771	27.05	102	671
70	1.28	.782	7.68	1.40	12	8.26	80	1.24	.791	27.07	100	873
80	1.24	.791	7.88	1.43	12	8.16	(100)	(1.15)	(33.795)	(27.08)	(99)	1073
89	1.17	.792	7.69	1.45	12	8.12						
99	1.16	.796	7.70	1.40	12	8.15						

St. A-135

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	1.8	33.954	7.83	1.51	24	8.14	0	1.8	33.954	27.17	91	0
10	1.82	.961	7.85	1.46	23	8.19	10	1.82	.961	27.17	91	91
20	1.78	.961	7.84	1.71	24	8.25	20	1.78	.961	27.17	91	182
30	1.02	.960	7.92	1.45	23	8.30	30	1.02	.960	27.22	86	271
39	0.67	.986	7.91	1.52	25	8.25	40	0.64	.985	27.26	82	355
49	0.50	.985	7.90	1.51	23	8.28	50	0.47	.985	27.27	81	437
59	0.33	.986	7.84	1.48	27	8.10	60	0.31	.985	27.28	80	518
79	-0.11	.986	7.64	1.69	30	8.12	80	-0.13	.985	27.30	79	678
99	-0.19	34.102	7.05	1.80	32	8.15	100	-0.19	34.110	27.41	68	826
148	1.19	.321	5.39	2.01	35	8.08	150	1.23	.325	27.51	59	1146
197	1.76	.429	4.70	1.97	44	8.09	200	1.78	.435	27.56	54	1436
296	2.01	.556	4.20	2.07	50	8.05	300	2.01	.560	27.63	47	1956
389	1.97	.634	4.14	2.04	52	8.08	400	1.96	.640	27.70	41	2416
487	1.96	.681	4.14	2.07	57	8.15	600	1.88	.720	27.77	34	3216
584	1.89	.717	4.18	1.82	60	8.10	800	1.74	.745	27.80	31	3936
779	1.75	.745	4.30	1.89	63	8.04	1,000	1.58	.765	27.83	28	4616
974	1.61	.768	4.33	1.90	67	8.05	1,500	1.07	.760	27.87	25	6166
1,169	1.40	.761	4.43	1.82	71	8.08	2,000	0.67	.745	27.88	24	7566
1,461	1.11	.762	4.52	1.71	78	8.11	2,500	0.44	.740	27.91	21	8816
1,949	0.96	.749	4.75	1.84	86	8.08	(3,000)	(0.22)	(34.730)	(27.89)	(23)	9966
2,437	0.47	.740	4.76	1.82	86	8.08						
(2,929)	(0.25)	(34.730)	(5.02)	(1.83)	(86)	(8.02)						

St. A-136

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	1.35	33.838	7.85	1.62	34	8.27	0	1.35	33.838	27.10	98	0
8	1.37	.872	7.87	1.58	34	8.22	10	1.35	.872	27.13	95	97
16	1.32	.872	7.85	1.58	33	8.22	20	1.39	.875	27.13	95	192
24	1.43	.881	7.84	1.58	34	8.22	30	1.38	.885	27.13	95	287
32	1.34	.887	7.84	1.58	33	8.19	40	1.11	.908	27.17	91	380
40	1.11	.908	7.91	1.63	34	8.22	50	0.39	.930	27.23	85	468
48	0.50	.926	7.95	1.49	34	8.22	60	0.03	.950	27.27	81	551
64	-0.09	.962	7.84	1.66	31	8.23	80	-0.35	34.027	27.34	75	707
80	-0.35	34.027	7.26	1.69	35	8.12	100	-0.35	.100	27.41	68	851
120	-0.34	.171	—	1.89	45	8.19	150	0.49	.335	27.56	54	1156
160	0.77	.379	5.31	1.94	46	8.17	200	1.32	.465	27.61	49	1416
196	1.29	.456	4.72	2.03	46	8.08	300	1.68	.605	27.69	42	1886
263	1.54	.555	4.44	2.03	53	8.10	400	1.92	.680	27.73	38	2306
319	1.75	.626	4.15	2.09	57	8.08	600	1.88	.735	27.79	32	3066
393	1.92	.677	4.04	1.84	61	8.02	800	1.62	.760	27.82	29	3746
526	1.93	.725	4.08	1.88	63	8.04	1,000	1.42	.760	27.83	28	4386
657	1.84	.747	4.16	1.77	67	8.02						
799	1.62	.758	4.24	1.88	69	7.99						
1,026	1.39	.762	4.37	1.90	75	7.99						

St. A-138

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.8	33.333	7.95	1.51	48	20	7.99	0	0.8	33.333	26.73	133	0
9	0.79	.338	8.02	1.51	46	20	7.88	10	0.79	.335	26.73	133	133
18	0.75	.332	7.98	1.43	46	19	8.04	20	0.73	.335	26.73	133	266
27	0.51	.416	8.08	1.45	46	19	7.99	30	0.16	.475	26.88	118	392
36	-0.61	.662	8.25	1.39	47	13	8.01	40	-0.73	.700	27.10	98	500
45	-0.90	.746	8.15	1.51	48	13	8.01	50	-1.19	.850	27.24	84	591
54	-1.32	.896	8.07	1.57	50	11	8.09	60	-1.43	.960	27.33	76	671
73	-1.57	34.060	7.75	1.82	52	13	7.99	80	-1.61	34.095	27.45	64	811
91	-1.65	.156	—	1.75	54	13	7.93	100	-1.63	.185	27.52	58	933
136	-1.40	.278	6.96	1.83	54	9	7.95	150	-1.10	.320	27.61	49	1188
181	-0.51	.446	6.07	1.92	57	4	7.90	200	-0.18	.505	27.73	38	1403
239	0.25	.583	5.34	1.97	61	0	7.98	300	0.54	.655	27.81	30	1753
319	0.58	.664	5.07	1.97	68	0	7.93	400	0.63	.690	27.83	28	2053
399	0.63	.691	4.98	1.97	71	0	7.80	600	0.56	.700	27.85	26	2613
480	0.56	.695	4.87	1.95	74	0	7.87	800	0.50	.715	27.87	25	3153
646	0.57	.703	4.82	1.95	77	0	7.83	1,000	0.42	.735	27.89	23	3653
820	0.49	.719	4.78	1.95	80	0	7.75						
1,001	0.42	.734	4.74	1.95	83	0	7.63						
1,272	0.38	.732	4.96	1.95	85	0	7.80						

St. A-139

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.3	33.717	8.34	1.34	49	7.99	0	0.3	33.717	27.07	100	0
10	0.32	.727	8.36	1.33	49	8.05	10	0.32	.727	27.08	99	100
20	0.35	.743	8.40	1.28	49	8.06	20	0.35	.743	27.09	98	199
29	0.28	.754	8.35	1.26	50	8.04	30	0.24	.755	27.10	98	297
39	-0.82	.971	7.82	1.62	53	8.05	40	-0.83	.975	27.32	77	395
49	-1.01	34.019	—	1.71	55	8.03	50	-1.02	34.020	27.37	72	470
59	-1.06	.069	7.57	1.68	56	7.98	60	-1.07	.075	27.41	68	540
78	-1.16	.164	7.26	1.82	59	7.98	80	-1.17	.175	27.50	60	668
98	-1.19	.324	6.80	1.83	60	7.93	100	-1.18	.330	27.62	48	776
147	-0.59	.491	6.05	1.90	65	7.96	150	-0.76	.475	27.73	38	991
196	-0.17	.585	5.46	2.04	70	7.91	200	-0.15	.595	27.86	26	1151
274	0.21	.670	5.13	2.00	76	7.93	300	0.26	.685	27.85	26	1411
365	0.30	.706	4.92	2.06	79	7.88	400	0.32	.715	27.88	24	1661
456	0.34	.719	4.77	2.04	82	7.91	600	0.35	.730	27.89	23	2141
547	0.34	.728	4.71	2.06	85	7.85	800	0.38	.738	27.89	23	2621
730	0.39	.738	4.73	2.04	88	7.85	1,000	0.29	.735	27.90	22	3101
912	0.36	.738	4.76	2.03	88	7.85						
1,097	0.21	.734	4.79	2.03	90	7.85						
1,380	0.16	.732	4.91	2.04	90	7.85						

St. A-141

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.1	33.731	8.02	1.42	36	8.05	0	0.1	33.731	27.09	98	0
7	0.12	.723	8.02	1.42	36	8.1	10	0.12	.725	27.08	99	99
15	0.11	.723	8.00	1.40	36	8.1	20	0.10	.720	27.08	99	198
22	0.10	.717	8.01	1.40	36	8.1	30	0.10	.717	27.07	100	298
30	0.10	.717	7.99	1.43	36	8.1	40	0.12	.720	27.08	99	398
45	0.12	.718	8.01	1.43	36	8.12	50	0.12	.720	27.08	99	497
60	0.09	.720	8.00	1.43	36	8.12	60	0.09	.720	27.08	99	596
75	-0.67	.853	7.93	1.48	37	8.12	80	-0.75	.895	27.26	82	778
113	-0.94	34.132	7.06	1.77	44	8.09	100	-0.91	34.050	27.39	70	930
150	-0.02	.328	5.89	1.92	52	8.05	150	-0.02	.328	27.57	53	1240
226	1.10	.547	4.71	1.95	60	8.00	200	0.83	.485	27.66	45	1490
272	1.41	.623	4.39	1.97	63	7.99	300	1.39	.640	27.73	38	1920
417	1.35	.683	4.43	2.06	68	8.00	400	1.36	.680	27.78	33	2290
568	1.30	.713	4.41	1.92	70	8.00	600	1.28	.715	27.81	30	2950
719	1.18	.725	4.56	1.89	77	8.01	800	1.09	.725	27.83	28	3570
1,133	0.71	.713	4.66	1.90	84	8.00	1,000	0.86	.720	27.84	27	4170

St. A-142

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.4	33.803	8.15	1.37	47	27	8.14	0	-0.4	33.803	27.17	91	0
10	-0.49	.782	8.25	1.39	47	28	8.12	10	-0.49	.782	27.16	92	92
20	-0.54	.782	8.10	1.43	46	29	8.11	20	-0.54	.782	27.16	92	184
30	-0.48	.784	8.13	1.45	46	28	8.11	30	-0.48	.784	27.16	92	276
39	-0.53	.785	8.07	1.45	47	28	8.10	40	-0.54	.785	27.16	92	368
49	-0.59	.792	8.07	1.45	47	28	8.10	50	-0.60	.855	27.22	86	457
59	-1.32	.982	7.66	1.62	45	20	8.07	60	-1.33	.985	27.35	74	537
79	-1.40	34.054	7.50	1.68	46	19	8.07	80	-1.40	34.065	27.42	67	679
98	-1.23	.192	7.13	1.75	52	13	8.04	100	-1.21	.200	27.52	58	805
148	-0.46	.416	6.10	1.90	59	6	8.00	150	-0.44	.425	27.67	44	1060
197	0.32	.540	5.27	1.86	63	6	8.00	200	0.35	.545	27.73	38	1265
296	0.87	.660	4.71	1.95	70	4	7.98	300	0.88	.660	27.80	31	1615
394	1.02	.703	4.63	1.94	79	4	7.96	400	1.01	.705	27.82	29	1925
492	0.87	.709	4.65	1.90	78	0	7.97	600	0.72	.720	27.85	26	2505
590	0.73	.719	4.67	1.92	81	0	8.00	800	0.62	.705	27.84	27	3065
788	0.63	.705	4.65	1.94	82	0	8.00	1,000	0.54	.705	27.85	26	3625
984	0.56	.704	4.69	1.94	89	0	7.99	(1,500)	(0.32)	(34.700)	(27.87)	25	4975
1,181	0.41	.705	4.66	1.94	89	0	8.00						
1,477	0.32	.700	4.88	1.97	90	0	8.00						

St. A-144

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.0	33.809	8.20	1.40	43	8.13	0	-1.0	33.809	27.20	88	0
10	-1.04	.801	8.15	1.40	43	8.11	10	-1.04	.801	27.20	88	88
20	-1.11	.809	8.23	1.40	43	8.11	20	-1.11	.809	27.20	88	176
29	-1.16	.809	8.14	1.42	42	8.10	30	-1.16	.810	27.21	87	264
39	-1.15	.830	8.13	1.46	42	8.09	40	-1.16	.835	27.22	86	351
49	-1.45	34.012	7.89	1.60	46	8.06	50	-1.53	34.050	27.41	68	428
59	-1.79	.289	7.34	1.65	50	8.01	60	-1.78	.292	27.62	48	486
78	-1.49	.400	6.90	1.78	56	8.00	80	-1.46	.405	27.70	41	576
98	-1.14	.480	6.30	1.78	60	8.00	100	-1.10	.490	27.75	36	652
147	0.24	.669	4.59	1.95	79	7.92	150	0.26	.675	27.85	26	807
196	0.51	.702	4.29	1.97	86	7.88	200	0.51	.705	27.86	26	937
296	0.54	.711	4.24	1.95	88	7.88	300	0.53	.710	27.86	26	1197
391	0.47	.709	4.26	1.95	88	7.88	400	0.46	.709	27.87	25	1457
488	0.42	.709	4.38	1.88	92	7.87	600	0.34	.705	27.87	25	1977
586	0.34	.707	4.39	1.92	92	7.85	800	0.27	.705	27.87	25	2497
782	0.28	.704	4.57	1.94	91	7.84	1,000	0.17	.700	27.87	25	3017
976	0.21	.701	4.69	1.98	94	7.86	1,500	0.01	.690	27.87	25	4267
1,170	0.09	.698	4.81	1.88	88	7.84	2,000	-0.14	.685	27.87	25	5467
1,456	0.03	.689	4.93	1.86	88	7.85	2,500	-0.27	.680	27.88	24	6617
1,928	-0.11	.685	5.12	1.86	88	7.83						
2,395	-0.26	.681	5.33	1.92	84	7.82						
2,861	-0.31	.671	5.46	1.92	89	7.81						

St. A-145

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-1.2	33.523	8.28	1.51	38	8.17	0	-1.2	33.523	26.98	109	0
9	-1.25	.521	8.23	1.43	38	8.17	10	-1.24	.525	26.99	108	109
18	-1.22	.552	8.34	1.48	38	8.18	20	-1.23	.555	27.01	106	216
28	-1.28	.581	8.22	1.48	38	8.15	30	-1.30	.605	27.05	102	320
37	-1.38	.799	7.99	1.51	41	8.17	40	-1.43	.910	27.29	80	411
47	-1.60	34.062	7.75	1.71	45	8.15	50	-1.62	34.120	27.47	62	482
56	-1.66	.190	7.61	1.66	48	8.11	60	-1.65	.230	27.56	54	540
75	-1.43	.358	6.81	1.77	53	8.12	80	-1.32	.390	27.69	42	636
93	-0.96	.457	6.29	1.86	55	8.04	100	-0.68	.485	27.73	38	716
140	0.39	.660	4.67	2.00	76	8.10	150	0.47	.675	27.83	28	881
187	0.64	.700	4.59	1.95	81	8.05	200	0.63	.705	27.84	27	1021
269	0.53	.707	4.31	2.00	86	7.94	300	0.51	.705	27.85	26	1301
359	0.49	.705	4.27	1.95	90	7.93	400	0.48	.705	27.86	26	1571
449	0.48	.704	4.36	2.04	91	7.91	600	0.39	.705	27.86	26	2111
539	0.40	.705	4.39	1.97	91	7.83	800	0.32	.700	27.86	26	2651
719	0.36	.701	4.50	1.98	93	7.86	1,000	0.22	.695	27.87	25	3191
898	0.29	.696	4.72	2.01	97	7.89						
1,083	0.15	.692	4.85	1.94	94	7.96						
1,364	0.06	.686	5.20	2.26	97	7.96						

St. A-147

Observed								Interpolated and calculated					
Depth m	Temp. °C	S %	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S %	σt	10 ⁵ Δst	10 ⁴ ΔD
0	-1.1	33.535	8.25	1.40	35	28	8.1	0	-1.1	33.535	27.00	107	0
10	-1.06	.532	8.22	1.40	35	27	8.1	10	-1.06	.532	26.99	108	108
20	-1.11	.543	8.24	1.37	35	16	8.15	20	-1.11	.543	27.00	107	216
30	-1.15	.572	8.22	1.37	35	18	8.1	30	-1.15	.572	27.02	105	322
39	-1.33	.761	7.98	1.51	40	21	8.1	40	-1.35	.790	27.20	88	419
49	-1.50	.961	7.66	1.58	41	20	8.05	50	-1.51	34.000	27.37	72	499
59	-1.59	34.140	7.38	1.74	46	22	8.0	60	-1.59	.150	27.49	61	566
79	-1.59	.263	7.14	1.68	48	22	8.0	80	-1.58	.270	27.60	50	676
98	-1.36	.388	6.71	1.75	51	12	8.0	100	-1.27	.400	27.69	42	768
148	0.55	.661	4.64	1.88	72	0	8.0	150	0.57	.665	27.82	29	948
197	0.75	.702	4.44	1.95	79	0	8.0	200	0.74	.700	27.83	28	1093
270	0.57	.705	4.38	1.97	82	0	7.9	300	0.54	.705	27.85	26	1373
361	0.50	.705	4.36	1.98	87	0	7.9	400	0.48	.705	27.86	26	1643
446	0.47	.705	4.34	2.00	84	0	7.9	600	0.38	.700	27.86	26	2183
543	0.40	.698	4.45	1.98	87	0	7.9	800	0.32	.700	27.86	26	2723
725	0.35	.705	4.53	1.98	91	0	7.95	1,000	0.22	.695	27.87	25	3263
909	0.28	.698	4.71	1.94	94	0	8.0						
1,100	0.13	.695	4.77	1.98	91	0	8.0						
1,392	0.04	.694	5.05	1.98	92	0	7.9						

St. A-148

Observed							Interpolated and calculated					
Depth m	Temp. °C	S %	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S %	σt	10 ⁵ Δst	10 ⁴ ΔD
0	-0.8	33.550	8.38	1.31	37	8.15	0	-0.8	33.550	27.00	107	0
9	-0.85	.544	8.38	1.31	35	—	10	-0.85	.545	26.99	108	108
17	-0.84	.553	8.38	1.31	36	8.1	20	-0.88	.550	27.00	107	216
26	-0.98	.549	8.38	1.30	36	8.1	30	-0.97	.560	27.01	106	323
35	-0.97	.639	8.29	1.39	38	8.1	40	-1.02	.750	27.15	93	423
44	-1.09	.900	8.09	1.52	41	8.1	50	-1.24	34.000	27.36	73	506
53	-1.33	34.041	7.78	1.58	43	8.05	60	-1.53	.195	27.53	57	571
70	-1.65	.300	7.22	1.78	49	8.0	80	-1.61	.330	27.64	46	675
88	-1.52	.359	7.01	1.82	51	8.0	100	-1.15	.415	27.70	41	763
131	0.04	.600	5.15	1.92	68	7.9	150	0.40	.645	27.81	30	943
185	0.74	.687	4.60	2.00	78	7.9	200	0.77	.690	27.83	28	1093
263	0.78	.698	4.41	1.97	85	7.9	300	0.66	.698	27.83	28	1383
347	0.52	.698	4.36	2.01	88	7.9	400	0.50	.705	27.85	26	1663
435	0.49	.705	4.31	2.04	89	7.9	600	0.38	.700	27.86	26	2203
522	0.39	.698	4.34	1.98	90	7.9	800	0.33	.695	27.86	26	2743
699	0.37	.699	4.50	1.98	92	7.9	1,000	0.20	.695	27.87	25	3283
881	0.30	.694	4.65	1.95	94	7.9						
1,065	0.14	.687	4.75	1.97	92	7.95						
1,341	0.06	.685	4.99	1.97	94	7.95						

St. A-150

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.3	33.688	8.14	1.36	39	8.1	0	-0.3	33.688	27.08	99	0
8	-0.30	.681	8.11	1.36	38	8.1	10	-0.31	.681	27.08	99	99
17	-0.35	.681	8.10	1.33	38	8.1	20	-0.33	.681	27.08	99	198
25	-0.29	.681	8.17	1.36	42	8.1	30	-0.30	.685	27.08	99	297
33	-0.30	.689	8.12	1.33	42	8.1	40	-0.43	.725	27.11	97	395
41	-0.48	.734	8.11	1.34	42	8.1	50	-1.20	.970	27.33	76	482
49	-1.16	.962	8.00	1.58	43	8.1	60	-1.43	34.075	27.42	67	554
66	-1.53	34.147	7.57	1.68	46	8.0	80	-1.62	.295	27.61	49	670
82	-1.62	.313	7.26	1.74	50	8.0	100	-1.25	.415	27.70	41	760
121	-0.57	.520	5.79	1.84	56	8.0	150	0.65	.640	27.79	32	945
164	0.74	.678	4.49	1.95	76	7.95	200	0.73	.695	27.83	28	1100
196	0.74	.695	4.40	1.90	79	7.95	300	0.56	.695	27.84	27	1390
261	0.62	.695	4.39	1.95	82	7.95	400	0.47	.700	27.85	26	1660
326	0.55	.697	4.35	1.98	85	7.95	600	0.38	.700	27.86	26	2200
393	0.48	.700	4.31	2.01	87	7.95	800	0.31	.695	27.86	26	2740
523	0.43	.702	4.37	1.98	87	7.95	1,000	0.26	.694	27.87	25	3280
656	0.36	.699	4.46	1.95	92	7.95	1,500	0.02	.680	27.87	25	3820
773	0.32	.692	4.44	1.90	91	7.95						
1,000	0.26	.694	4.75	1.94	91	7.95						
1,376	0.05	.677	5.01	1.89	92	8.0						
1,779	-0.07	.682	5.16	1.90	92	8.0						

St. A-151

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.1	33.923	8.11	1.33	37	8.1	0	-0.1	33.923	27.25	83	0
10	-0.07	.885	8.10	1.31	37	8.1	10	-0.07	.885	27.22	86	85
19	-0.11	.884	8.10	1.36	37	8.15	20	-0.11	.885	27.22	86	171
28	-0.08	.887	8.11	1.33	36	8.1	30	-0.08	.890	27.22	86	257
38	-0.16	.893	8.15	1.36	36	8.1	40	-0.10	.895	27.23	85	343
47	-0.79	34.015	7.88	1.51	42	8.1	50	-1.19	34.085	27.42	67	419
57	-1.62	.233	7.50	1.77	48	8.0	60	-1.62	.260	27.58	52	479
74	-1.58	.377	7.04	1.80	51	8.0	80	-1.51	.415	27.72	39	571
95	-1.01	.485	6.23	1.84	57	8.0	100	-0.77	.510	27.76	35	645
142	0.72	.692	4.49	2.00	76	8.0	150	0.72	.695	27.83	28	805
189	0.63	.699	4.43	2.18	82	7.95	200	0.61	.700	27.84	27	945
285	0.51	.704	4.28	2.07	88	7.9	300	0.50	.704	27.85	26	1225
379	0.48	.704	4.31	2.10	90	7.9	400	0.47	.705	27.86	26	1495
474	0.45	.701	4.37	2.12	92	7.95	600	0.37	.695	27.86	26	2035
569	0.38	.694	4.46	2.04	92	8.0	800	0.30	.700	27.87	25	2575
758	0.31	.698	4.54	2.07	93	8.0	1,000	0.21	.695	27.87	25	3095
951	0.25	.695	4.71	2.10	93	7.95	(1,500)	(0.01)	(34.690)	(27.87)	25	4345
1,144	0.12	.690	4.81	2.01	93	7.95						
1,433	0.03	.690	5.07	2.03	92	7.95						

St. A-153

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.0	33.860	8.28	1.36	38	8.15	0	0.0	33.860	27.20	88	0
8	-0.05	.866	8.36	1.36	36	8.2	10	-0.05	.865	27.20	88	88
16	-0.04	.861	8.32	1.37	37	8.2	20	-0.05	.860	27.20	88	176
27	-0.08	.862	8.30	1.37	37	8.15	30	-0.07	.860	27.20	88	264
37	-0.02	.864	8.33	1.36	37	8.15	40	-0.04	.870	27.21	87	352
45	-0.36	.909	8.23	1.51	39	8.1	50	-0.95	.975	27.32	77	434
53	-1.24	34.013	7.92	1.69	42	8.1	60	-1.50	34.085	27.43	66	506
74	-1.75	.171	7.60	1.78	44	8.05	80	-1.72	.200	27.53	57	630
94	-1.54	.251	7.14	1.80	51	8.0	100	-1.35	.280	27.59	51	738
144	0.29	.646	4.43	2.20	84	7.9	150	0.34	.655	27.82	29	938
190	0.49	.688	4.25	2.24	86	7.9	200	0.48	.688	27.84	27	1078
237	0.44	.688	4.22	2.27	90	7.9	300	0.41	.690	27.85	26	1348
309	0.41	.691	4.24	2.18	90	7.95	400	0.36	.685	27.85	26	1608
380	0.38	.688	4.34	2.18	91	7.95	600	0.32	.670	27.84	27	2148
455	0.31	.687	4.41	2.12	92	7.9	800	0.20	.680	27.85	26	2688
608	0.29	.666	4.68	2.12	92	7.95	1,000	0.08	.675	27.86	26	3208
768	0.22	.681	4.64	2.12	92	7.95						
941	0.10	.676	4.72	2.09	92	8.0						
1,205	0.01	.671	4.98	2.09	91	8.0						

St. A-154

Observed								Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	Nitrite -N μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.1	33.864	8.26	1.39	40	14	8.2	0	-0.1	33.864	27.20	88	0
10	-0.11	.885	8.27	1.37	40	14	8.2	10	-0.11	.885	27.22	86	87
19	-0.16	.891	8.24	1.37	41	12	8.15	20	-0.13	.890	27.23	85	173
29	-0.01	.891	8.24	1.39	41	12	8.15	30	-0.02	.890	27.22	86	259
39	-0.13	.896	8.25	1.39	41	12	8.15	40	-0.14	.895	27.23	85	345
49	-0.20	.900	8.23	1.39	40	12	8.15	50	-0.27	.900	27.24	84	430
58	-1.33	34.023	7.78	1.72	47	21	8.05	60	-1.44	34.035	27.34	75	510
78	-1.72	.146	7.49	1.75	49	27	8.05	80	-1.72	.155	27.50	60	644
97	-1.67	.200	7.33	1.77	52	27	8.0	100	-1.63	.260	27.58	52	754
146	-0.17	.566	5.04	2.01	76	4	7.9	150	-0.07	.585	27.79	32	964
196	0.43	.674	4.21	2.20	89	0	7.85	200	0.43	.675	27.83	28	1114
275	0.34	.687	4.22	2.20	92	0	7.9	300	0.34	.690	27.85	26	1384
367	0.34	.688	4.31	2.16	94	0	7.9	400	0.33	.690	27.85	26	1644
459	0.32	.691	4.39	2.16	93	0	7.9	600	0.24	.680	27.85	26	2164
550	0.26	.684	4.47	2.06	94	0	7.9	800	0.20	.680	27.85	26	2684
734	0.21	.682	4.52	2.07	94	0	7.9	1,000	0.12	.680	27.86	26	3204
920	0.18	.680	4.82	2.07	94	0	7.95						
1,109	0.04	.680	4.86	2.04	92	0	7.95						
1,393	-0.03	.670	5.08	2.04	92	0	7.95						

St. A-156

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	-0.1	33.974	7.97	1.52	45	8.1	0	-0.1	33.974	27.28	80	0
9	-0.06	.979	8.02	1.52	45	8.1	10	-0.06	.980	27.29	80	80
18	-0.09	.984	8.04	1.51	45	8.1	20	-0.11	.985	27.30	79	160
27	-0.14	.982	7.99	1.52	45	8.1	30	-0.14	.980	27.30	79	239
36	-0.10	.982	7.98	1.52	45	8.1	40	-0.10	.980	27.29	80	319
45	-0.11	.978	7.99	1.52	46	8.1	50	-0.14	.975	27.29	80	399
54	-0.15	.979	8.01	1.52	45	8.1	60	-0.16	.980	27.30	79	479
73	-0.18	.983	7.96	1.54	45	8.1	80	-0.46	.995	27.32	77	635
91	-0.86	34.072	7.76	1.65	48	8.05	100	-0.86	34.160	27.47	62	775
136	-0.73	.434	5.87	1.86	69	8.0	150	-0.50	.540	27.77	34	1015
181	0.43	.672	4.28	1.94	86	7.9	200	0.43	.685	27.84	27	1170
272	0.46	.688	4.22	2.00	92	7.9	300	0.44	.688	27.84	27	1440
364	0.40	.688	4.25	2.07	92	7.95	400	0.38	.688	27.85	26	1710
455	0.34	.688	4.42	2.00	93	7.95	600	0.26	.690	27.86	26	2230
546	0.29	.688	4.50	2.04	94	8.0	800	0.16	.680	27.86	26	2750
729	0.19	.683	4.66	1.97	93	8.0	1,000	0.06	.675	27.86	26	3270
911	0.12	.679	4.81	2.00	94	8.0	1,500	-0.09	.670	27.87	25	4520
1,094	0.00	.675	4.85	1.95	92	8.0	2,000	-0.22	.665	27.87	25	5720
1,372	-0.06	.671	5.05	1.94	92	8.0	2,500	-0.33	.660	27.87	25	6870
1,822	-0.17	.668	5.25	1.94	91	8.0						
2,278	-0.31	.659	5.34	1.88	90	8.0						
2,728	-0.36	.656	5.47	1.90	90	8.0						

St. A-157

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	0.1	33.987	8.04	1.54	43	8.1	0	0.1	33.987	27.29	80	0
9	0.13	.975	8.16	1.51	42	8.1	10	0.13	.975	27.28	80	80
18	0.09	.976	8.07	1.51	34	8.15	20	0.09	.975	27.28	80	160
27	0.10	.974	8.08	1.55	41	8.15	30	0.09	.975	27.28	80	240
37	0.05	.977	8.13	1.51	43	8.1	40	0.03	.977	27.28	80	320
46	0.02	.977	—	1.51	44	8.1	50	0.03	.977	27.28	80	400
55	0.05	.977	8.17	1.51	44	8.1	60	0.05	.980	27.28	80	480
73	0.01	.980	8.13	1.51	44	8.1	80	-0.08	.985	27.30	79	640
91	-0.24	34.020	7.98	1.60	45	8.1	100	-0.24	34.070	27.37	72	792
137	-0.10	.395	6.26	1.89	63	8.0	150	0.00	.510	27.72	39	1067
183	0.26	.642	4.45	2.09	83	7.9	200	0.34	.665	27.83	28	1237
240	0.44	.687	4.20	2.15	86	7.9	300	0.42	.690	27.84	27	1517
320	0.41	.690	4.23	2.07	90	7.9	400	0.39	.690	27.85	26	1787
400	0.39	.690	4.36	2.07	92	7.9	600	0.28	.685	27.85	26	2307
480	0.32	.686	4.43	2.07	90	7.9	800	0.39	.680	27.84	27	2847
644	0.25	.681	4.57	2.03	91	7.95	1,000	0.06	.675	27.86	26	3387
815	0.40	.681	4.73	2.03	91	7.95						
992	0.06	.675	4.82	2.00	91	7.95						
1,268	-0.02	.671	5.05	2.00	92	7.95						

St. A-163

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	2.8	33.792	7.68	1.31	4	8.15	0	2.8	33.792	26.95	112	0
9	2.86	.804	7.73	1.26	4	8.2	10	2.86	.805	26.97	110	111
19	2.86	.812	7.77	1.26	4	8.2	20	2.85	.810	26.97	110	221
27	2.81	.804	7.76	1.30	4	8.2	30	2.84	.805	26.97	110	331
37	2.99	.810	7.68	1.36	4	8.15	40	2.98	.810	26.95	112	442
45	2.90	.810	7.75	1.36	4	8.15	50	2.88	.815	26.97	110	554
56	2.86	.822	7.68	1.31	5	8.15	60	2.86	.820	26.98	109	665
74	2.85	.814	7.73	1.42	5	8.15	80	2.70	.815	26.98	109	885
93	2.11	.816	7.63	1.58	10	8.15	100	2.02	.825	27.00	107	1103
137	1.77	.953	6.91	1.89	16	8.1	150	1.79	34.000	27.19	89	1598
182	2.04	34.124	5.86	2.04	23	8.0	200	2.15	.175	27.30	79	2023
274	2.26	.283	4.93	2.15	33	7.95	300	2.24	.330	27.43	66	2763
317	2.21	.341	4.67	2.22	36	7.95	400	2.23	.410	27.51	59	3403
385	2.24	.401	4.42	2.21	42	7.95	600	2.30	.545	27.60	50	4543
451	2.19	.451	4.31	2.33	45	8.0	800	2.27	.640	27.68	43	5563
589	2.30	.537	4.04	2.21	51	8.0	1,000	2.20	.690	27.72	39	6483
734	2.31	.622	4.01	2.21	54	8.0						
891	2.21	.665	4.08	2.07	56	8.0						
1,141	2.19	.722	4.33	2.07	56	8.0						

St. A-166

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	4.7	33.806	7.28	1.43	0	8.2	0	4.7	33.806	26.77	129	0
7	4.89	.799	7.26	1.43	0	8.2	10	4.88	.799	26.74	132	131
15	4.85	.799	7.30	1.42	0	8.2	20	4.91	.800	26.74	132	263
22	4.93	.800	7.26	1.31	0	8.2	30	4.92	.796	26.73	133	396
30	4.92	.796	7.19	1.28	0	8.2	40	4.88	.795	26.74	132	529
37	4.88	.796	7.24	1.36	0	8.2	50	4.87	.800	26.75	131	661
45	4.89	.797	7.29	1.39	1	8.2	60	4.82	.802	26.76	130	793
60	4.82	.802	7.32	1.37	1	8.2	80	4.60	.805	26.79	127	1053
74	4.70	.802	7.30	1.52	1	8.2	100	3.92	.820	26.87	119	1301
111	3.65	.845	7.20	1.62	3	8.15	150	3.21	.975	27.07	100	1856
149	3.21	.974	6.80	1.66	7	8.15	200	3.11	34.070	27.14	94	2351
246	3.04	34.120	6.18	1.82	12	8.1	300	2.86	.150	27.22	86	3271
328	2.80	.168	5.93	1.88	17	8.0	400	2.75	.210	27.29	80	4121
410	2.74	.215	5.48	2.01	21	8.0	600	2.44	.345	27.43	66	5741
496	2.58	.274	5.07	2.12	28	8.0	800	2.45	.460	27.53	57	7041
665	2.43	.386	4.58	2.10	38	8.0	1,000	2.48	.590	27.62	48	8201
839	2.45	.481	4.19	2.18	46	7.95						
1,014	2.48	.597	4.15	2.06	48	7.95						
1,284	2.49	.698	4.46	1.97	49	8.0						

St. A-172

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phate-P μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	18.55	35.638	5.30	0.34	0	8.3	0	18.55	35.638	25.67	233	0
8	18.62	.627	5.27	0.26	0	8.3	10	18.61	.630	25.61	239	236
16	18.60	.629	5.26	0.28	0	8.3	20	18.63	.629	25.61	239	475
25	18.66	.629	5.30	0.26	0	8.3	30	18.66	.629	25.61	239	715
33	18.66	.629	5.28	0.31	0	8.3	40	18.61	.630	25.61	239	955
41	18.60	.628	5.26	0.28	0	8.3	50	18.54	.628	25.64	236	1194
50	18.54	.628	5.26	0.27	0	8.3	60	18.49	.625	25.65	235	1432
66	18.48	.625	5.23	0.27	0	8.3	80	18.45	.625	25.65	235	1908
83	18.44	.626	5.22	0.27	0	8.3	100	18.20	.610	25.71	230	2380
124	17.56	.553	5.01	0.37	2	8.3	150	17.47	.550	25.85	216	3015
166	17.44	.549	5.03	0.36	1	8.3	200	17.40	.550	25.86	215	4120
214	17.38	.550	5.01	0.42	2	8.3	300	16.91	.525	25.95	207	6300
284	17.26	.538	4.92	0.46	2	8.3	400	14.57	.410	26.41	163	8260
356	15.25	.441	4.44	0.84	3	8.25	600	13.45	.260	26.51	154	11720
432	14.25	.396	4.70	0.77	3	8.25	(800)	(11.12)	(34.985)	(26.77)	129	14900
594	13.48	.267	4.69	0.80	3	8.25						
765	11.51	.032	4.09	1.25	7	8.2						

St. A-174

Observed							Interpolated and calculated					
Depth m	Temp. °C	S ‰	O ₂ cc/L	Phos- phat-eP μgA/L	Silicate -Si μgA/L	pH	Depth m	Temp. °C	S ‰	σ _t	10 ⁵ Δst	10 ⁴ ΔD
0	21.0	35.612	5.13	0.19	3	8.4	0	21.0	35.612	24.97	300	0
9	20.96	.576	5.10	0.15	2	8.4	10	20.95	.575	24.96	301	301
18	20.87	.576	5.14	0.20	2	8.4	20	20.87	.580	24.99	298	601
27	20.89	.585	5.12	0.16	2	8.35	30	20.80	.590	25.00	297	900
35	20.32	.626	5.14	0.19	0	8.35	40	20.00	.645	25.27	271	1186
44	19.81	.653	5.27	0.19	0	8.35	50	19.66	.650	25.35	264	1455
53	19.59	.644	5.33	0.19	1	8.35	60	19.42	.610	25.40	259	1719
71	18.35	.537	5.34	0.26	2	8.3	80	17.44	.460	25.78	223	2207
88	16.56	.407	5.55	0.13	2	8.3	100	15.72	.350	26.09	193	2629
132	14.13	.270	5.37	0.67	2	8.25	150	13.54	.170	26.43	161	3534
177	12.84	.079	5.38	0.55	2	8.2	200	12.34	.030	26.56	149	4334
289	10.85	34.877	5.12	0.17	3	8.2	300	10.71	34.860	26.74	132	5804
385	9.38	.743	4.80	1.26	5	8.1	400	9.13	.720	26.89	117	7124
482	7.73	.593	4.53	1.69	11	8.05	600	5.85	.435	27.14	94	9384
578	6.10	.454	4.68	1.84	14	8.05	800	4.05	.380	27.31	78	11244
771	4.20	.374	4.74	2.04	24	8.0	1,000	3.51	.475	27.44	65	12824
964	3.62	.453	4.24	2.16	36	7.95	1,500	2.77	.695	27.68	43	15974
1,156	3.06	.535	3.99	2.24	43	7.9	(2,000)	(2.71)	(34.830)	(27.79)	32	18374
1,445	2.78	.674	4.12	2.07	47	7.9						
1,927	2.72	.809	4.73	1.78	39	8.0						

3. Data of the BT observations by the Bathythermograph/Sea sampler.

Depth m	St. A-56		St. A-57		St. A-58	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	15.3	35.372	12.8	35.126	12.1	34.897
10	15.3	.417	12.8	34.931	12.1	.833
20	15.2	.425	12.7	.934	11.7	.839
30	15.3	.366	12.6	.938	11.6	.834
40	15.5	.679	12.0	.986	11.3	.864
50	15.2	.649	11.5	.844	11.2	.869
60	14.9	.609	10.6	.861	11.1	.950
80	14.5	.567	10.4	.860	10.8	—
100	13.7	.426	10.2	.855	10.6	.950
125	13.2	.331	10.2	.856	10.5	—
150	12.8	.323	10.2	.881	10.3	.929
200	12.5	.290	10.2	.872	10.3	.925
250	11.6	—	10.2	—	10.2	—
Depth m	St. A-59		St. A-60		St. A-61	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	12.0	34.989	11.9	34.834	10.55	34.702
10	11.5	.923	11.2	.820	10.5	.683
20	11.1	.924	11.2	.809	10.5	.687
30	11.0	.911	11.2	.826	10.6	.696
40	10.7	.904	11.2	.905	10.6	—
50	10.6	.899	10.9	.951	10.6	.855
60	10.5	.928	11.2	.979	10.6	.865
80	10.4	.889	11.2	35.022	10.4	—
100	10.3	.919	11.1	.003	10.5	.922
125	10.2	.919	10.9	34.996	10.3	.877
150	10.2	.926	10.9	35.004	9.8	—
200	10.1	.914	10.8	34.978	9.2	.774
250	9.8	—	10.7	—	8.8	—
Depth m	St. A-62		St. A-64		St. A-65	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	8.3	34.327	4.6	33.938	3.05	33.935
10	8.3	—	4.6	—	2.9	—
20	7.7	.320	4.5	—	2.9	.928
30	7.4	—	4.4	.922	3.0	.929
40	7.3	.335	4.3	.923	2.9	.934
50	7.1	.295	4.2	.916	3.0	.929
60	7.0	.294	4.1	.926	2.8	.930
80	6.9	.307	3.8	—	2.7	.940
100	6.8	.358	3.7	.898	2.6	.945
125	6.6	.346	3.4	.899	2.3	.981
150	6.5	.349	3.5	.901	1.9	.984
200	6.3	—	3.6	.915	1.3	—
250	6.0	—	2.9	—	1.2	—

Depth m	St.A-66		St. A-67		St. A-68	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	4.0	33.926	1.3	33.981	0.4	34.005
10	4.0	—	1.3	.956	0.4	33.999
20	4.0	.913	1.3	.956	0.4	34.000
30	4.0	.913	1.3	.973	0.4	.000
40	4.0	.914	1.3	.946	0.4	33.982
50	4.0	.912	1.3	.908	0.4	34.002
60	4.0	.921	1.3	.968	0.4	.001
80	3.7	.917	0.8	.977	0.4	—
100	3.7	.911	0.7	34.024	0.3	.167
125	3.7	.852	0.8	.074	0.2	.273
150	3.2	.926	0.9	.105	0.8	.312
200	2.7	—	1.5	.111	0.8	.257
250	2.7	—	1.6	—	1.4	.487
Depth m	St. A-69		St. A-70		St. A-71	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	1.9	34.084	0.5	34.018	0.4	34.134
10	1.9	.056	0.5	33.983	0.4	.100
20	1.9	.040	0.4	.963	0.0	—
30	1.9	.053	0.3	.967	-0.3	.096
40	1.9	—	0.2	—	-0.7	—
50	1.9	.007	0.2	34.006	-0.7	.113
60	1.9	.024	0.2	.058	-0.7	.252
80	1.9	—	-0.2	.015	-0.7	.355
100	1.8	.053	-0.3	.165	0.2	.566
125	1.1	.127	-0.4	.247	0.6	.587
150	1.0	.154	-0.2	.248	1.3	.590
200	1.4	.244	0.7	.442	1.3	.590
250	1.2	.289	1.3	—	1.7	—
Depth m	St. A-72		St. A-73		St. A-75	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-0.6	34.070	-0.6	33.922	-0.6	33.787
10	-0.6	.082	-0.6	.895	-0.6	.778
20	-0.6	—	-0.6	.925	-0.7	—
30	-0.6	.070	-0.7	.929	-0.7	.793
40	-0.6	.076	-0.7	.941	-1.0	34.028
50	-0.6	.077	-0.8	.978	-1.6	.094
60	-0.6	—	-0.8	34.159	-1.5	.277
80	-0.9	.143	-1.2	.145	-0.7	.301
100	-0.9	.360	-0.5	.400	0.4	.479
125	0.3	.568	0.6	.472	0.9	.532
150	1.6	.612	1.2	—	1.3	.550
200	1.9	—	1.8	.477	1.7	.539
250	1.4	.704	1.8	.613	1.8	.627

Depth m	St. A-77		St. A-79		St. A-81	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-0.95	33.620	-0.7	33.512	-0.4	33.732
10	-0.95	—	-0.7	.465	-0.5	.683
20	-0.95	—	-0.7	.474	-0.8	.728
30	-1.2	34.338	-1.0	.643	-1.1	.779
40	-1.6	.054	-1.6	.836	-1.1	.879
50	-1.6	—	-1.6	.868	-1.7	.949
60	-1.6	.181	-1.7	.935	-1.7	.996
80	-1.2	—	-1.7	—	-1.7	—
100	-0.6	.370	-1.1	34.179	-1.6	34.258
125	0.2	.473	-0.1	.336	0.0	.434
150	0.9	.481	0.9	.388	1.1	.470
200	1.4	.481	1.6	.447	1.7	.500
250	1.7	.614	1.8	—	1.9	.575
Depth m	St. A-83		St. A-85		St. A-86	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-0.35	33.874	-0.3	34.044	-0.8	34.004
10	-0.35	.908	-0.3	.045	-0.8	.009
20	-0.35	.906	-0.3	.049	-0.8	.011
30	-0.35	.906	-0.3	.050	-0.8	.027
40	-1.1	34.053	-0.7	.149	-0.8	.269
50	-1.7	.065	-1.5	.561	-1.6	.290
60	-1.7	.094	-1.6	.263	-1.7	.330
80	-1.7	—	-1.3	.334	-1.5	.390
100	-1.6	.344	0.7	.585	0.3	.612
125	-0.2	.443	1.3	.596	1.0	.645
150	1.0	.471	1.5	.634	1.2	.657
200	1.3	.471	1.6	—	1.4	.667
250	1.6	.625	1.7	.696	1.4	.702
Depth m	St. A-89		St. A-91		St. A-100	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-1.1	33.812	-1.6	33.558	-0.8	34.018
10	-1.1	.822	-1.6	.537	-0.8	.023
20	-1.1	.846	-1.6	.657	-0.8	.017
30	-1.4	34.224	-1.6	.135	-0.8	.015
40	-1.5	.297	-1.6	.222	-0.8	.035
50	-1.5	.309	-1.6	.289	-0.8	.042
60	-1.4	.412	-1.6	.319	-0.9	.159
80	-1.2	.413	-1.5	.332	-1.2	.071
100	-1.1	.513	-1.0	.553	-1.7	.452
125	-0.4	.539	0.5	.595	-1.4	.419
150	0.0	.545	0.7	.610	-0.5	.604
200	0.8	.632	1.2	.642	0.4	.692
250	1.4	.711	1.3	.678	0.3	.698

Depth m	St. A-101		St. A-102		St. A-103	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-0.6	33.964	-0.5	34.247	-0.1	34.032
10	-0.6	.958	-0.5	.243	-0.1	.012
20	-0.6	.962	-0.5	.165	-0.1	.015
30	-0.6	.968	-0.5	.251	-0.1	.006
40	-0.6	.969	-0.5	.240	-0.1	.007
50	-0.6	.972	-0.5	.238	-0.1	.006
60	-0.6	34.077	-0.5	.239	-0.1	.011
80	-1.1	.220	-0.5	.252	-0.1	.011
100	-1.6	.373	-1.2	.509	-0.2	.112
125	-1.2	.580	-1.0	.523	-0.7	.269
150	0.0	.629	-0.5	.560	-0.2	.316
200	0.4	.700	0.3	.656	1.4	.544
250	0.4	—	0.5	.697	1.6	.607
Depth m	St. A-104		St. A-105		St. A-106	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	-0.05	34.045	0.2	33.934	0.5	33.889
10	-0.05	.022	0.2	.928	0.5	.872
20	-0.05	.030	0.2	.942	0.5	.874
30	-0.05	.031	0.2	.933	0.5	.875
40	-0.05	.033	0.2	.926	0.5	.868
50	-0.05	.029	0.2	.923	0.5	.870
60	0.0	.033	0.2	.934	0.5	.873
80	-0.1	.039	0.0	.940	0.5	.883
100	-0.3	.340	-0.1	34.096	0.2	34.067
125	0.1	.431	-0.8	.256	-0.3	.076
150	0.6	.448	0.0	.315	0.2	.177
200	1.1	.533	1.1	.474	0.2	.297
250	1.3	.606	1.6	.575	1.3	.498
Depth m	St. A-107		St. A-108		St. A-109	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	0.35	33.898	0.5	33.478	1.7	33.845
10	0.35	—	0.5	—	1.7	—
20	0.35	.890	0.5	.867	1.7	.837
30	0.35	.890	0.5	.868	1.7	.835
40	0.35	.886	0.5	.868	1.7	.836
50	0.35	.890	0.5	.870	1.7	.838
60	0.35	.893	0.5	.864	1.7	.819
80	0.35	.889	0.5	.867	1.6	.834
100	0.3	.943	0.5	.959	1.6	.855
125	-0.3	.991	0.2	.970	1.0	.900
150	-0.8	34.058	-0.7	34.052	0.3	.953
200	0.2	.272	0.9	.330	1.1	34.167
250	1.4	.512	1.6	.557	1.9	.413

Depth m	St. A-111		St. A-112		St. A-114	
	Temp. °C	S ‰	Temp. °C	S ‰	Temp. °C	S ‰
0	1.25	33.866	1.4	33.864	1.2	33.831
10	1.25	—	1.4	.854	1.2	.824
20	1.25	.857	1.4	.871	1.2	.831
30	1.3	.862	1.4	.865	1.2	.824
40	1.3	.867	1.4	.866	1.2	.824
50	1.3	.868	1.4	.869	1.2	.823
60	1.2	.870	1.3	.870	1.2	.829
80	1.2	.871	1.2	.872	1.2	.829
100	1.1	.878	1.1	.924	1.0	.904
125	1.1	.891	0.0	34.053	-0.2	34.014
150	0.5	.934	0.0	.127	0.0	.092
200	0.3	34.132	0.9	.320	1.0	.272
250	1.3	.385	1.5	.526	1.6	.475
	St. A-117		St. A-120			
Depth m	Temp. °C	S ‰	Temp. °C	S ‰		
0	1.5	33.886	3.3	33.878		
10	1.5	.869	3.3	.871		
20	1.5	.872	3.3	.870		
30	1.5	.872	3.3	.870		
40	1.5	.875	3.2	.871		
50	1.5	.876	3.2	.871		
60	1.5	—	3.1	.862		
80	1.3	—	3.1	.866		
100	0.8	.899	2.9	.858		
125	-0.2	.980	2.3	.932		
150	0.0	34.088	1.3	.961		
200	1.4	.307	1.1	34.024		
250	1.5	—	1.5	.196		

4. Data of the BT observations.

Depth	A-123	A-126	A-129	A-132	A-137	A-140	A-143	A-146	A-149	A-152	A-155	A-158
0	3.9	4.3	2.9	1.9	1.3	0.3	-0.9	-1.2	-0.7	0.2	-0.1	0.4
10	3.9	4.3	2.9	1.9	1.3	0.3	-0.9	-1.2	-0.7	0.2	-0.1	0.4
20	3.9	4.3	2.9	1.8	1.3	0.3	-0.9	-1.2	-0.7	0.2	-0.1	0.4
30	3.9	4.3	2.8	1.3	1.3	0.0	-0.9	-1.2	-0.7	0.2	-0.1	0.4
40	3.8	4.2	2.7	1.2	1.3	-0.4	-0.9	-1.5	-0.7	0.2	-0.1	0.4
50	3.7	4.0	2.5	1.2	1.1	-0.9	-1.1	-1.7	-0.8	0.2	-0.1	0.4
60		3.9	2.1	1.0	0.4	-1.2	-1.5	-1.6	-1.1	-0.1	-0.1	0.4
70		3.7	2.0	0.8	0.3	-1.3	-1.6	-1.5	-1.4	-1.0	-0.3	0.4
80	3.4	3.2	1.8	0.7	0.1	-1.5	-1.6	-1.5	-1.6	-1.4	-1.3	0.4
90		2.5	1.8	0.1	-0.1	-1.5	-1.6	-1.2	-1.5	-1.2	-1.7	0.4
100	2.9	1.8	1.8	-0.2	-0.5	-1.5	-1.6	-0.8	-1.3	-0.9	-1.6	0.3
120	1.8	1.2	0.7	-0.3	-0.4	-1.5	-1.5	0.0	-0.5	-0.1	-1.3	-0.9
140	1.3	1.0	-0.3	-0.3	-0.1	-1.5	-1.1	0.5	0.3	0.6	-0.7	-0.9
160	1.2	0.9	-0.3	0.6	0.3	-1.3	-0.7	0.6	0.5	0.7	-0.1	-0.7
180	1.0	0.8	-0.1	1.0	0.6	-0.9	0.1	0.6	0.6	0.6	0.4	-0.3
200	1.0	0.7	0.3	1.2	0.8	-0.7	0.4	0.6	0.6	0.6	0.4	0.2
250	1.6	1.5	1.3	1.7	1.4	-0.3	0.6	0.6	0.5	0.6	0.4	0.5
S %	33.855	33.879	33.824	33.826	33.866	33.684	33.809	33.541	33.763	33.944	33.905	34.146

Depth	A-159	A-160	A-161	A-162	A-164	A-165	A-167	A-168	A-169	A-170	A-171	A-173
0	0.50	0.4	0.8	1.35	3.6	4.2	4.7	5.15	6.8	9.5	7.7	20.1
10	0.5	0.4	0.8	1.35	3.6	4.2	4.7	5.15	6.8	9.5	7.7	20.1
20	0.5	0.4	0.8	1.35	3.6	4.2	4.7	5.15	6.8	9.5	7.7	20.1
30	0.5	0.4	0.8	1.35	3.6	4.2	4.7	5.15	6.8	9.5	7.7	20.0
40	0.5	0.4	0.8	1.35	3.6	4.2	4.7	5.15	6.8	9.5	7.7	19.8
50	0.5	0.4	0.8	1.35	3.7	4.3	4.7	5.15	6.8	9.6	7.7	19.6
60	0.5	0.4	0.8	1.35	3.7	4.3	4.7	5.15	6.8	9.6	7.7	19.4
70	0.5	0.4	0.8	1.35	3.7	4.2	4.6	5.15	6.8	9.6	7.7	19.0
80	0.5	0.4	0.8	1.35	3.7	4.1	4.4	5.15	6.5	9.7	7.7	18.0
90	0.5	0.4	0.8	1.2	3.7	3.9	4.2	5.1	6.4	10.0	7.7	17.1
100	0.5	0.4	0.8	1.0	3.5	3.7	4.1	4.8	6.4	10.1	7.5	16.7
120	0.5	0.2	-0.4	0.2	3.1	3.4	3.9	4.6	6.0	10.0	7.3	15.9
140	-0.7	-0.3	-0.1	0.0	2.6	3.2	3.8	4.5	5.6	9.9	6.8	15.4
160	-0.9	0.0	0.2	0.0	2.6	2.9	3.5	4.0	5.5	9.8	6.7	15.3
180	-0.7	0.6	0.5	0.4	2.0	2.6	2.9	4.1	5.2	9.6	6.1	15.3
200	-0.4	1.2	0.8	1.0	2.0	2.4	2.6	4.1	5.2	9.4	6.0	15.1
250	(-0.2) m ():212	1.6	1.4	1.6	2.0	2.4	2.6	3.9	5.0	9.2	6.0	14.6
S %	34.160	34.166	33.969	33.906	33.847	33.824	33.800	33.793	33.901	34.345	33.966	35.595