

**CTD OBSERVATIONS IN SOUTHERN HECATE STRAIT
FOR THE JULY/AUGUST 1990 DRIFTER BUOY PROGRAM**

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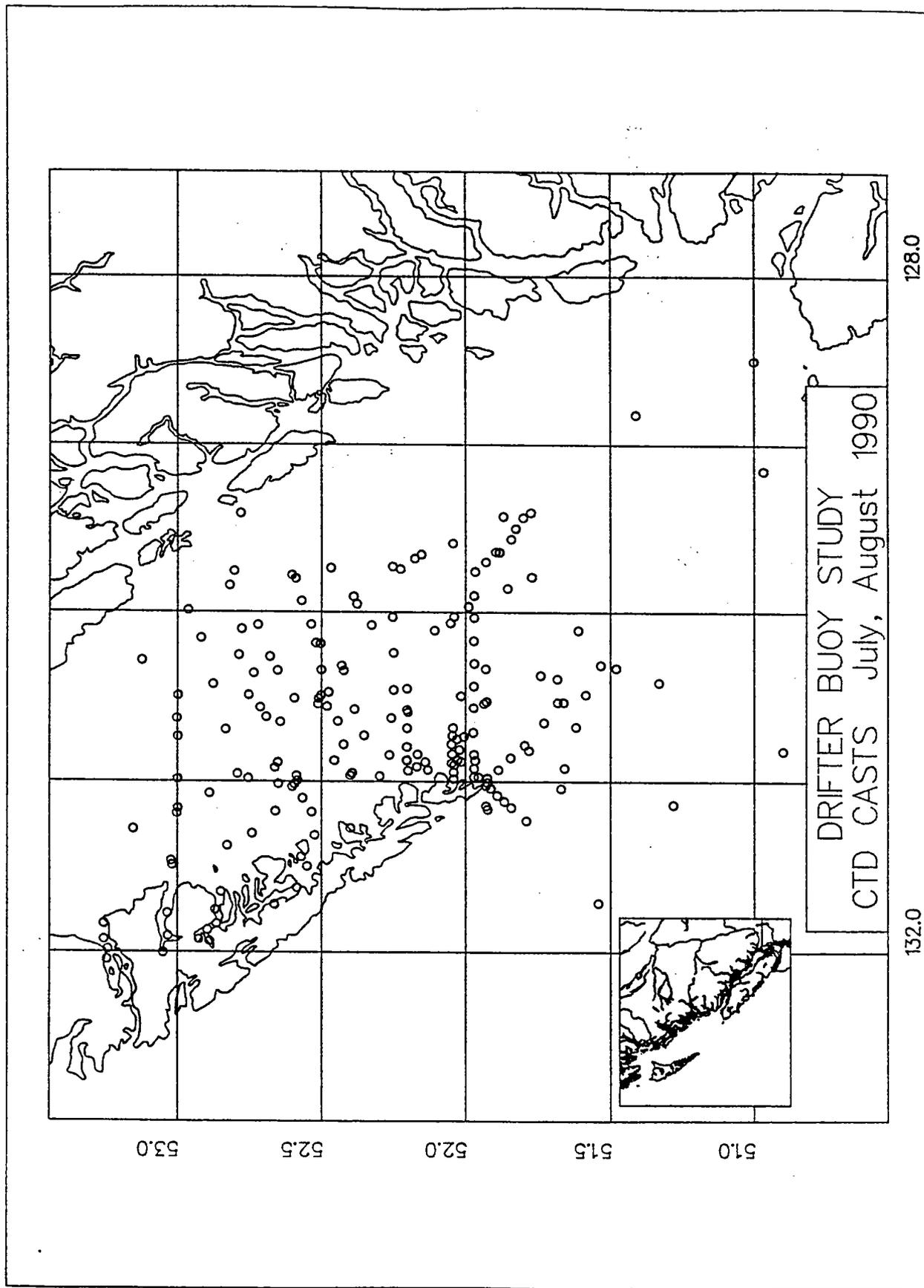
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INTRODUCTION

In July and August 1990 a drifting buoy project was undertaken by Seakem Oceanography Ltd. for the Canadian Hydrographic Service, Tides and Currents Section, in southern Hecate Straits, British Columbia, Canada for the purpose of determining oceanographic circulation patterns. During this study Loran-C drifting buoys were deployed, tracked and recovered in southern Hecate Strait using the F.V. Westerly Wind. At each deployment and recovery of a drifter buoy, CTD casts were done to determine the water structure in which the drifter buoys were located. Also during tracking periods CTD casts were done along station lines to determine an overall water structure. This report includes 197 CTD casts data that were collected during this study.

Figure 1. Dispersion of all CTD Casts for Hecate Strait Drifter Buoy Study, July/August, 1990



CTD DATA COLLECTION AND PROCESSING

For logistical reasons, this study was separated into four cruise "Legs" with July and August consisting of the whole Cruise.

LEG	DATE	SCIENTISTS
Leg 1	July 3 - 16, 1990	R. Kashino, W. Crawford, P. Greisman.
Leg 2	July 18 - 30, 1990	P. Greisman, S. Gormican.
Leg 3	August 8 - 22, 1990	R. Kashino, M. Woodward.
Leg 4	August 23 - 31, 1990	R. Kashino, S. Gormican.

A list of CTD stations, reference number, coordinates, time, date, water depth, secchi, SST and surface salinity is shown in Table 1. Water depths are from ships sounder observations. Secchi depths are from observations on the CTD which was white in color and 10 cm in diameter by 60 cm long. SST are from bucket water sample thermometer readings and surface salinities are from collected water samples. Some SST and surface salinity were also recorded from immediate readings from the CTD. Coordinates are calculated from observed Loran-C time differences at the time of cast.

There was no one method for the naming of CTD cast stations which depended on the type of cast. There were two types of CTD casts which were done. The first type of cast were those which were executed at the launch and recovery of drifter buoys. The nomenclature for these casts includes the buoy number and whether it was launched (deployed)(i.e., L,D) or recovered (i.e., R) and sometimes the drifter buoy track. Drifter buoy track names for this study were alphabetically assigned from A to K. The second type of cast were those which were done along a designated line of stations. The nomenclature of these cast includes the line name and station number and also usually the date of cast. JL was used for July and AU was used for August. Appendix I lists all the CTD casts and a complete explanation for nomenclature.

Each CTD cast, in addition, has been given a reference number which is shown in Table 1. Figure 1 shows the dispersion of all CTD casts and Figures 2, 3, 4, and 5 show

the location of CTD casts indicated by reference number for Legs 1, 2, 3, and 4 respectively. Some meteorological and visual wave observations were also done during the study and these are shown in Table 2. Wind data from Legs 1 and 2 are visual estimates based on the Beaufort scale of wind force whereas the wind data from Legs 3 and 4 are from a hand-held Deuta wind gauge.

CTD data were collected using a Seabird model SBE 19 CTD with a submersible pump for flushing the conductivity cell. The specifications and calibrations for the CTD are in Appendix II. With the SBE 19 CTD, data are recorded internally on computer random access memory during the cast and then later recovered by RS-232 serial communication with an IBM compatible personal computer. All downcasts were done at a lowering rate of 0.5 to 1 meter per second.

CTD data was subsequently processed into STD data using Sea-Bird Electronics, Inc. CTD data acquisition software, SEASOFT VERSION 3.3 and Seakem Oceanography Ltd. STD processing software. Processed data are from downcasts only. STD data are calculated from CTD data using "Practical Salinity Scale Equations, 1978". A detailed description of the Sea-Bird bin averaging algorithm can be found in Appendix III. Other processing was done according to Fofonoff and Millard, 1983. At a few stations irregular salinity data was observed due to CTD pump failure. The data from these irregular data can be found in Appendix IV.

At some stations surface water samples were collected for salinity analysis. These samples were later analyzed using an Guildline Autosol Model 8400 salinometer at the University of British Columbia. The Guildline Autosol salinometer has a reported accuracy of +/- 0.003 ppt. Sea surface temperatures for Leg 1 were obtained from a Yoshino Keiki Company protected reversing thermometer which has a reported accuracy of +/- 0.01 degrees C. Sea surface temperatures for Legs 2,3 and for were obtained using a Kahl Scientific Corporation bucket thermometer which has a range of -2 to +40 degrees C with 0.2 degree C divisions. The Kahl bucket thermometer temperatures were read and recorded to 0.1 degrees C precision.

The data headings and units for the report are as follows:

METERS:	depth in meters (m)
TEMP:	temperature in degrees Celsius (deg C)
SALINITY:	salinity in parts per thousand (o/oo)
SIGMA-T:	specific gravity anomaly = $(P_{T,S,0}-1)10^3$, where $P_{T,S,0}$ = <u>in-situ</u> specific gravity of seawater at pressure 0 (i.e., at the sea surface)
SVA:	specific volume anomaly ($10^{-8}m^3/kg$)
DELTA D:	geopotential anomaly or dynamic height anomaly in $J\ kg^{-1}$
SST:	sea surface temperature (deg C)
SECCHI DEPTH:	maximum distance of visual siting of CTD from sea surface (m).

OBSERVED DATA

Figure 6 shows salinity difference of "Sample minus CTD" salinity for 23 samples from 1 meter bin averaged data. CTD salinities are those measured at 5 meters depth, because the 1 meter salinities seem to be too variable; probably because of data biasing caused by the lag time for the CTD pump to turn on at the start of the cast and/or by biasing caused by the data processing bin averaging procedure of the highly variable surface data. A detailed description of the Sea-Bird bin averaging algorithm can be found in Appendix III. The mean difference between water sample and CTD salinity was found to be +0.025 o/oo with a standard deviation of +/- 0.11 o/oo. As can be seen there is a wide deviation of the sample-CTD salinity differences. This can be attributed to the extremeness of the halocline from the surface to 50-80 meters observed during this study which would cause a randomness in the deviations of measurements. However, a centering of this data around zero indicates that there is little biasing of the CTD salinity measurements.

Figure 7 shows temperature difference of "Sample minus CTD" temperature for 22 samples. The sample data is bucket thermometer data and CTD temperature is from 0.2 meter bin averaged data. The most closely matching CTD temperatures from the upper 2 metre data have been matched to the bucket thermometer temperatures because of the high variation in surface data. The mean temperature difference between bucket thermometer and CTD temperature measurements was found to be + 0.128 degrees C with a standard deviation of +/- 0.749 degrees C. Again, similar to the salinity differences, there is a wide deviation in the temperature differences which can be attributed to the extremeness of the thermocline from the surface to 50-80 meters observed during this study which would cause a randomness in the deviations of measurements. There is a slight centering of the temperature difference to the positive side of zero which may be due to the water sample bucket on the deck of the ship warming during the time the thermometer was allowed to stabilize before reading. This was usually ten minutes after a 20 litre bucket water sample was taken.

In future studies in order to reduce deviations in these comparisons it is recommended that water samples for CTD comparison be collected from a deeper depth using a niskin bottle with reversing thermometers simultaneous with CTD measurements.

During this study winds were persistently from the North West with an average speed of 10-15 knots and thus enabled a consistent scenario for a study of circulation patterns in Hecate Strait under these conditions. Sea surface temperatures were considered to be very warm, usually over 15 degrees C and sometimes over 16 degrees C. Sea surface salinities were usually between 31 and 32 parts per thousand. Sharp halo- and thermoclines were usually observed within the top 50 to 100 meters of water with a surfaced mixed layer sometimes but not always present above 20 meters depth.

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TABLE 1. LIST OF CTD STATIONS, COORDINATES, TIME/DATE OF CAST,
SECCHI DEPTH, SEA SURFACE TEMPERATURE/SALINITY AND BOTTOM DEPTH

REFERENCE NUMBER	STATION	LATITUDE	LONGITUDE	TIME UTC	DATE	SECCHI (m)	SST (C)	SAL (o/oo)	DEPTH (m)
<u>LEG1:</u>									
1	SJ1	50-58.11	129-09.13	1418	05/07/90	5	15.09	31.88	135
2	SJ2	51-17.00	131-08.00	1839	05/07/90	3.5	-----	---	256
3	J1B35	51-36.68	130-06.20	2324	05/07/90	--	-----	---	510
4	J2B34	51-41.12	130-23.45	1628	06/07/90	--	15.04	31.73	160
5	J3B32	51-55.86	130-19.73	1925	06/07/90	5	-----	---	439
6	J4B40	52-01.68	130-52.14	2218	06/07/90	4	-----	---	243
7	J5B33	51-55.77	131-08.58	0839	07/07/90	10	14.02	32.28	274
8	R1B40	51-55.47	131-09.77	1145	07/07/90	--	-----	---	336
9	J6B31	51-46.91	130-48.75	1429	07/07/90	--	-----	---	245
10	J3B37	51-55.67	130-31.45	1755	07/07/90	7	-----	---	439
11	J8B36	52-01.30	130-48.50	2038	07/07/90	7	-----	---	246
12	J9B40	52-01.68	130-52.13	2136	07/07/90	--	-----	---	77
13	J9B40L2	52-02.35	130-53.90	1038	08/07/90	11	13.55	32.01	128
14	GR1JL10	52-12.00	130-56.00	1455	10/07/90	9	-----	---	183
15	GR2JL10	52-12.25	130-52.42	1525	10/07/90	7	-----	---	165
16	GR3JL10	52-12.27	130-47.47	1604	10/07/90	--	-----	---	196
17	GR4JL10	52-12.23	130-40.97	1649	10/07/90	9	-----	---	181
18	GR5JL10	52-12.24	130-34.46	1735	10/07/90	--	-----	---	187
19	GR6JL10	52-12.20	130-26.85	1822	10/07/90	--	-----	---	238
20	B33R1	52-25.85	130-18.72	2045	10/07/90	--	-----	---	303
21	J4B33L2	52-08.39	130-52.87	0102	11/07/90	--	-----	---	212
22	GR1JL11	52-12.00	130-56.00	1302	11/07/90	8	10.95	32.09	181
23	GR2JL11	52-12.27	130-52.25	1337	11/07/90	7	14.20	---	207
24	GR3JL11	52-12.22	130-47.64	1412	11/07/90	7	14.28	---	194
25	B21GR5	52-12.02	130-35.35	2055	11/07/90	--	-----	---	186
26	B32R2	52-07.84	130-55.72	0950	12/07/90	--	13.08	32.11	144
27	B32LC	52-00.99	130-29.45	1249	12/07/90	7	-----	-----	360
28	B36RA	51-41.05	130-31.73	1652	12/07/90	--	-----	-----	1015
29	B40RB	51-19.96	130-24.56	2015	12/07/90	5	-----	-----	1357
30	B40LC	51-56.18	130-32.16	1013	13/07/90	5	-----	-----	427
31	B36LB	52-21.22	130-43.53	1432	13/07/90	5	-----	-----	120
32	LB1JL14	52-02.50	130-59.00	0855	14/07/90	5	-----	-----	71
33	LB2JL14	52-02.50	130-56.50	0918	14/07/90	5	-----	-----	73
34	LB3JL14	52-02.91	130-53.28	0948	14/07/90	--	-----	-----	208
35	LB4JL14	52-02.83	130-49.98	1020	14/07/90	--	-----	-----	232
36	LB5JL14	52-02.92	130-46.59	1050	14/07/90	--	-----	-----	250
37	LB6JL14	52-02.74	130-43.51	1117	14/07/90	--	15.5	31.84	307
38	LB7JL14	52-02.62	130-40.89	1200	14/07/90	5	-----	-----	260
39	LB8JL14	51-57.34	130-58.29	1437	14/07/90	--	13.1	32.32	150
40	CJWSST	51-55.43	131-00.33	1508	14/07/90	--	14.63	32.20	---
41	CJ1JL14	51-55.81	131-01.39	1520	14/07/90	--	-----	-----	76
42	CJ2JL14	51-54.82	131-02.37	1545	14/07/90	--	-----	-----	164
43	CJ3JL14	51-53.44	131-04.88	1611	14/07/90	--	-----	-----	773
44	CJ4JL14	51-51.99	131-06.97	1638	14/07/90	10	-----	-----	1737
45	CJ5JL14	51-50.56	131-09.05	1708	14/07/90	5	-----	-----	1966
46	CJ6JL14	51-47.41	131-13.64	1756	14/07/90	--	-----	-----	1895
47	B22RB	51-40.34	131-02.31	1937	14/07/90	--	-----	-----	2103
48	B33RB	51-37.25	130-40.49	2153	14/07/90	5	-----	-----	823

TABLE 1, LEG 1, cont'd

REFERENCE NUMBER	STATION	LATITUDE	LONGITUDE	TIME UTC	DATE	SECCHI (m)	SST (C)	SAL (o/oo)	DEPTH (m)
49	B31RA	51-35.19	130-28.84	2335	14/07/90	--	-----	----	558
50	B40RC	52-01.81	130-44.79	0426	15/07/90	--	-----	----	256
51	B21RB	52-23.38	129-54.31	0955	15/07/90	--	-----	----	208
52	B32RC40L	52-22.71	129-56.94	1115	15/07/90	--	-----	----	213
53	B31LB	52-02.67	129-35.31	1623	15/07/90	--	-----	31.90	206

LEG 2:

54	32D18JL	52-30.60	130-30.55	1900	18/07/90	--	16.2	31.78	152
55	TST18JL	52-19.65	130-04.44	2215	18/07/90	--	-----	-----	250
56	TST19JL	51-53.74	129-38.41	0930	19/07/90	--	-----	-----	229
57	40R19JL	51-46.51	129-24.04	1115	19/07/90	--	-----	-----	106
58	MC06JL19	51-48.06	129-25.85	1145	19/07/90	--	-----	-----	175
59	MC07JL19	51-49.62	129-29.84	1222	19/07/90	--	15.6	31.48	242
60	MC08JL19	51-50.57	129-33.82	1255	19/07/90	--	-----	-----	144
61	MC09JL19	51-52.95	129-38.62	1335	19/07/90	--	-----	-----	240
62	MC10JL19	51-55.74	129-42.16	1415	19/07/90	--	-----	-----	181
63	MC11JL19	51-57.98	129-45.55	1635	19/07/90	--	-----	-----	121
64	MC12JL19	51-58.23	129-54.07	1730	19/07/90	--	-----	-----	119
65	MC13JL19	51-58.21	130-01.82	1820	19/07/90	--	-----	-----	137
66	MC14JL19	51-58.25	130-10.06	1906	19/07/90	--	-----	-----	170
67	MC15JL19	51-58.24	130-18.00	1952	19/07/90	--	-----	-----	305
68	MC16JL19	51-58.28	130-26.14	2042	19/07/90	--	-----	-----	415
69	MC17JL19	51-58.33	130-33.78	2130	19/07/90	--	-----	-----	362
70	MC18JL19	51-58.39	130-42.54	2225	19/07/90	--	-----	-----	300
71	MC19JL19	51-58.23	130-50.28	2311	19/07/90	--	-----	-----	188
72	MC20JL19	51-58.24	130-55.24	2343	19/07/90	--	-----	-----	106
73	MC21JL20	51-58.26	130-58.31	0004	20/07/90	--	-----	-----	90
74	40R21JL	52-00.34	130-43.91	0901	21/07/90	--	15.6	31.87	253
75	JS07JL21	51-32.09	130-18.37	1407	21/07/90	--	-----	-----	945
76	JS06JL21	51-39.82	130-31.75	1615	21/07/90	--	-----	-----	1084
77	JS05JL21	51-43.82	130-39.10	1745	21/07/90	--	-----	-----	812
78	JS04JL21	51-47.78	130-46.96	1907	21/07/90	--	-----	-----	240
79	JS03JL21	51-50.63	130-51.45	1955	21/07/90	--	-----	-----	180
80	JS02JL21	51-53.21	130-55.67	2040	21/07/90	--	-----	-----	98
81	JS01JL21	51-55.48	130-58.73	2115	21/07/90	--	-----	-----	71
82	36R22JL	52-23.19	130-34.26	1245	22/07/90	--	-----	-----	150
83	M03JL22	52-35.38	129-47.99	1715	22/07/90	--	14.0	30.36	179
84	M04JL22	52-34.18	129-55.93	1830	22/07/90	--	-----	-----	252
85	M05JL22	52-32.19	130-04.39	1920	22/07/90	--	-----	-----	282
86	M06JL22	52-31.22	130-10.93	2001	22/07/90	--	-----	-----	291
87	M07JL22	52-30.07	130-20.35	2107	22/07/90	--	-----	-----	241
88	M08JL22	52-28.55	130-28.29	2159	22/07/90	--	-----	-----	172
89	M09JL22	52-26.70	130-38.68	2305	22/07/90	--	-----	-----	126
90	M10JL23	52-25.42	130-46.82	0915	23/07/90	--	-----	-----	101
91	M11JL23	52-23.73	130-56.90	1010	23/07/90	--	15.3	31.59	119
92	M12JL23	52-24.04	131-16.39	1106	23/07/90	--	-----	-----	102
93	36D23JL	52-10.13	130-54.51	1330	23/07/90	--	-----	-----	198
94	35R23JL	51-51.32	129-51.41	2002	23/07/90	--	-----	-----	144
95	35D23JL	52-03.14	130-03.74	2215	23/07/90	--	-----	-----	133

TABLE 1, LEG 2, cont'd

REFERENCE NUMBER	STATION	LATITUDE	LONGITUDE	TIME UTC	DATE	SECCHI (m)	SST (C)	SAL (o/oo)	DEPTH (m)
96	31R24JL	52-02.41	130-01.39	0901	24/07/90	--	-----	-----	130
97	36D24JL	52-10.03	130-50.20	1740	24/07/90	--	16.8	31.56	221
98	31D24JL	52-33.90	131-05.87	2150	24/07/90	--	-----	-----	128
99	31R26JL	52-32.11	131-10.68	1710	26/07/90	--	16.4	31.70	168
100	HP1JL26	52-39.84	131-43.13	2130	26/07/90	--	-----	-----	58
101	JPS1JL26	52-35.13	131-37.21	2217	26/07/90	--	-----	-----	236
102	JPS2JL26	52-33.04	131-29.75	2300	26/07/90	--	-----	-----	289
103	JPS3JL27	52-31.48	131-18.72	0007	27/07/90	--	-----	-----	234
104	40R27JL	52-25.42	130-20.45	0542	27/07/90	--	16.2	31.87	267
105	35R27JL	52-06.44	130-06.27	0856	27/07/90	--	-----	-----	210
106	34R27JL	51-59.39	129-57.79	1025	27/07/90	--	-----	-----	123
107	32R27JL	51-46.35	129-47.36	1259	27/07/90	--	-----	-----	320
108	36R27JL	51-32.55	131-42.70	2339	27/07/90	--	-----	-----	3109
109	21R28JL	51-39.59	130-54.89	0425	28/07/90	--	-----	-----	1542
110	33R29JL	51-28.84	130-19.41	1210	29/07/90	--	15.6	31.71	1077

LEG 3:

111	A8096	51-00.02	128-29.72	1926	08/08/90	5	16.12	31.73	88
112	A8094	51-24.81	128-49.10	0016	09/08/90	--	-----	-----	203
113	RA8090	52-46.80	129-24.70	1430	09/08/90	4	14.42	31.72	---
114	LH21	52-15.21	129-43.89	1949	09/08/90	6	15.60	31.47	201
115	LH34	52-15.22	130-01.73	2206	09/08/90	--	14.52	31.41	143
116	LH33	52-15.03	130-14.35	2340	09/08/90	--	15.57	32.22	397
117	LH37	52-14.94	130-27.50	0850	09/08/90	5	15.50	32.27	163
118	LH35	52-15.43	130-37.51	1009	10/08/90	--	14.59	32.18	173
119	LH22	52-15.91	130-50.47	1141	10/08/90	7	15.45	31.73	175
120	LH36	52-27.40	130-52.43	1405	10/08/90	5	15.74	31.74	108
121	LH32	52-28.89	130-33.31	1552	10/08/90	3	15.69	32.16	135
122	LH31	52-30.21	130-11.08	1810	10/08/90	--	14.95	31.92	296
123	RH22	52-00.87	130-52.84	1103	11/08/90	13	-----	-----	137
124	RH21	51-52.11	129-25.51	1848	11/08/90	6	-----	-----	230
125	RH35	51-58.00	130-52.42	0211	12/08/90	--	-----	-----	183
126	RH36	52-17.93	130-58.04	0521	12/08/90	--	-----	-----	154
127	RH34	52-13.59	129-44.64	1119	12/08/90	--	-----	-----	201
128	LI34	52-40.73	130-15.76	1618	12/08/90	5	16.7	31.15	240
129	LI36	52-35.67	130-30.53	1755	12/08/90	--	-----	-----	155
130	LI35	52-45.14	130-29.33	1935	12/08/90	5	-----	-----	146
131	LI22	52-35.61	131-00.81	2250	12/08/90	--	-----	-----	106
132	LI21	52-45.21	130-58.85	0037	13/08/90	--	-----	-----	40
133	SK1	53-15.25	131-50.00	1730	13/08/90	5	-----	-----	40
134	SK2	53-15.20	131-55.50	1807	13/08/90	3	-----	-----	---
135	SK3	53-14.40	131-59.00	1819	13/08/90	--	-----	-----	---
136	SK4	53-14.58	132-02.60	1844	13/08/90	--	-----	-----	---
137	RI21	53-01.32	131-27.73	2005	14/08/90	--	-----	-----	30
138	RI22	52-53.37	131-04.03	2110	14/08/90	4	-----	-----	38
139	LJ22	52-34.99	130-59.43	1411	14/08/90	--	15.75	31.52	109
140	RH32	52-42.69	130-33.58	1858	15/08/90	5	-----	-----	139
141	LI32	52-30.16	130-29.25	2125	15/08/90	--	-----	-----	170
142	HS1	52-34.20	131-26.40	0850	17/08/90	--	-----	-----	10.9

TABLE 1, LEG 3, cont'd

REFERENCE NUMBER	STATION	LATITUDE	LONGITUDE	TIME UTC	DATE	SECCHI (m)	SST (C)	SAL (o/oo)	DEPTH (m)
143	HP1AU17	52-39.84	131-43.13	1213	17/08/90	--	-----	-----	60
144	JPS1AU17	52-35.13	131-37.21	1308	17/08/90	--	-----	-----	204
145	JPS2AU17	52-33.04	131-29.75	1414	17/08/90	--	-----	-----	199
146	JPS3AU17	52-31.48	131-18.72	1521	17/08/90	--	-----	-----	131
147	RH31	52-10.60	129-40.78	0015	18/08/90	--	-----	-----	214
148	RH30	52-09.20	129-39.38	0055	18/08/90	--	-----	-----	214
149	LI31CB2	52-55.16	130-09.27	0921	18/08/90	7	16.18	31.20	229
150	CB1AU18	52-57.80	129-59.30	1130	18/08/90	6	-----	-----	180
151	NR1AU18	52-49.20	129-50.50	1556	18/08/90	7	-----	-----	117
152	NR2AU18	52-46.60	130-06.00	1731	18/08/90	7	-----	-----	243
153	CB3AU18	52-52.60	130-25.50	1955	18/08/90	8	-----	-----	132
154	NR3AU18	52-44.10	130-21.50	2130	18/08/90	--	-----	-----	203
155	CB4AU18	52-50.00	130-41.60	2341	18/08/90	--	-----	-----	88
156	NR4AU18	52-41.50	130-37.20	0115	18/08/90	--	-----	-----	146
157	NR5AU18	52-39.10	130-53.20	0249	19/08/90	--	-----	-----	298
158	CB5AU18	52-47.50	130-57.30	1037	19/08/90	--	-----	-----	44
159	RJ22	52-38.99	131-00.80	1240	19/08/90	5	-----	-----	71
160	RH33	52-36.11	131-01.80	1334	19/08/90	7	-----	-----	117
161	RJ21	52-24.04	130-57.74	1535	19/08/90	8	-----	-----	117
162	LI33RH37	52-30.76	130-32.37	1830	19/08/90	6	-----	-----	144
163	M4AU19	52-34.18	129-55.93	2140	19/08/90	--	-----	-----	246
164	RI31	53-07.33	130-17.00	1251	20/08/90	7	-----	-----	210
165	LJ31	53-00.14	130-37.72	1530	20/08/90	--	-----	30.83	124

LEG 4:

166	SK1AU23	53-15.25	131-50.00	1250	23/08/90	--	-----	-----	---
167	LJ30	52-59.90	130-29.37	2123	23/08/90	--	-----	-----	118
168	RI34	52-28.09	129-44.22	0900	24/08/90	--	-----	-----	204
169	LL21RJ31	52-43.22	130-04.47	1252	24/08/90	--	-----	-----	254
170	LJ34RI32	52-39.12	130-20.64	1500	24/08/90	5	16.6	31.33	176
171	LJ32RI35	52-35.18	130-57.87	1910	24/08/90	6	-----	-----	96.9
172	RI33	52-39.73	130-55.02	2000	24/08/90	--	-----	-----	88
173	LJ35RI36	52-44.42	131-18.23	1425	25/08/90	--	-----	-----	137
174	LJ36	52-60.00	130-59.03	1720	25/08/90	--	-----	-----	33
175	LJ33	52-59.94	130-43.96	1905	25/08/90	--	-----	-----	102
176	LK31	53-00.12	131-11.21	2143	25/08/90	--	-----	-----	29.2
177	CI4AU26	53-01.14	131-29.36	1215	26/08/90	6	-----	-----	23
178	CI3AU26	53-02.10	131-46.30	1355	26/08/90	7	-----	-----	111
179	CI2AU26	53-02.00	131-54.30	1442	26/08/90	--	-----	-----	115
180	CI1AU26	53-03.00	132-00.20	1505	26/08/90	5	-----	-----	30
181	LU1AU26	52-55.60	131-55.40	1638	26/08/90	7	-----	-----	42
182	SI1AU26	52-53.40	131-56.10	1720	26/08/90	--	-----	-----	55
183	SI2AU26	52-53.80	131-52.10	1750	26/08/90	7	-----	-----	117
184	SI3AU26	52-51.90	131-49.90	1815	26/08/90	9	-----	-----	150
185	SI4AU26	52-52.20	131-45.00	1900	26/08/90	7	-----	-----	188
186	SI5AU26	52-51.00	131-38.70	1943	26/08/90	8	-----	-----	97
187	RJ35	52-49.69	131-22.33	1000	27/08/90	6	-----	-----	159
189	RJ31	53-09.24	131-16.57	1415	27/08/90	7	-----	-----	35
190	RJ36	52-59.97	131-09.24	1605	27/08/90	6	-----	-----	31

TABLE 1, LEG 4, cont'd

REFERENCE NUMBER	STATION	LATITUDE	LONGITUDE	TIME UTC	DATE	SECCHI (m)	SST (C)	SAL (o/oo)	DEPTH (m)
191	RJ32	52-39.53	131-10.28	1915	27/08/90	6	-----	-----	87
192	RJ34	52-38.58	130-38.75	2155	27/08/90	--	-----	-----	137
193	RJ33	52-47.25	130-15.02	0025	28/08/90	--	-----	-----	230
194	RJ30	52-48.25	129-45.46	0300	28/08/90	--	-----	-----	206
195	RL21	52-36.14	129-46.82	0450	28/08/90	--	-----	-----	188
196	RB8090	51-44.58	130-22.23	1255	28/08/90	3	-----	-----	314
197	R8094	50-54.06	130-49.06	2000	28/08/90	6	17.3	31.77	520

Figure 2. Leg 1: CTD Cast Positions as indicated by Reference Number

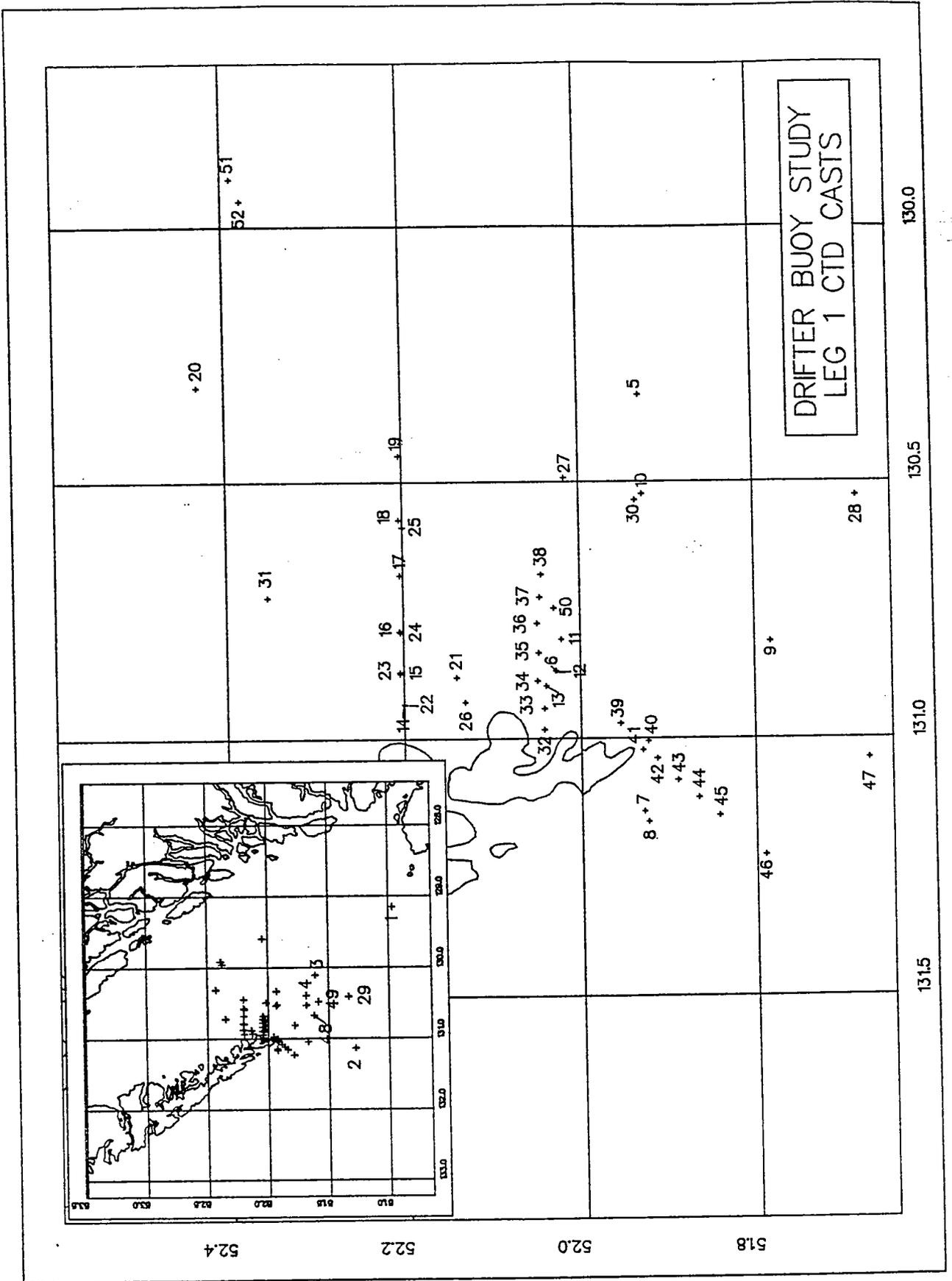


Figure 3. Leg 2: CTD Cast Positions as Indicated by Reference Number

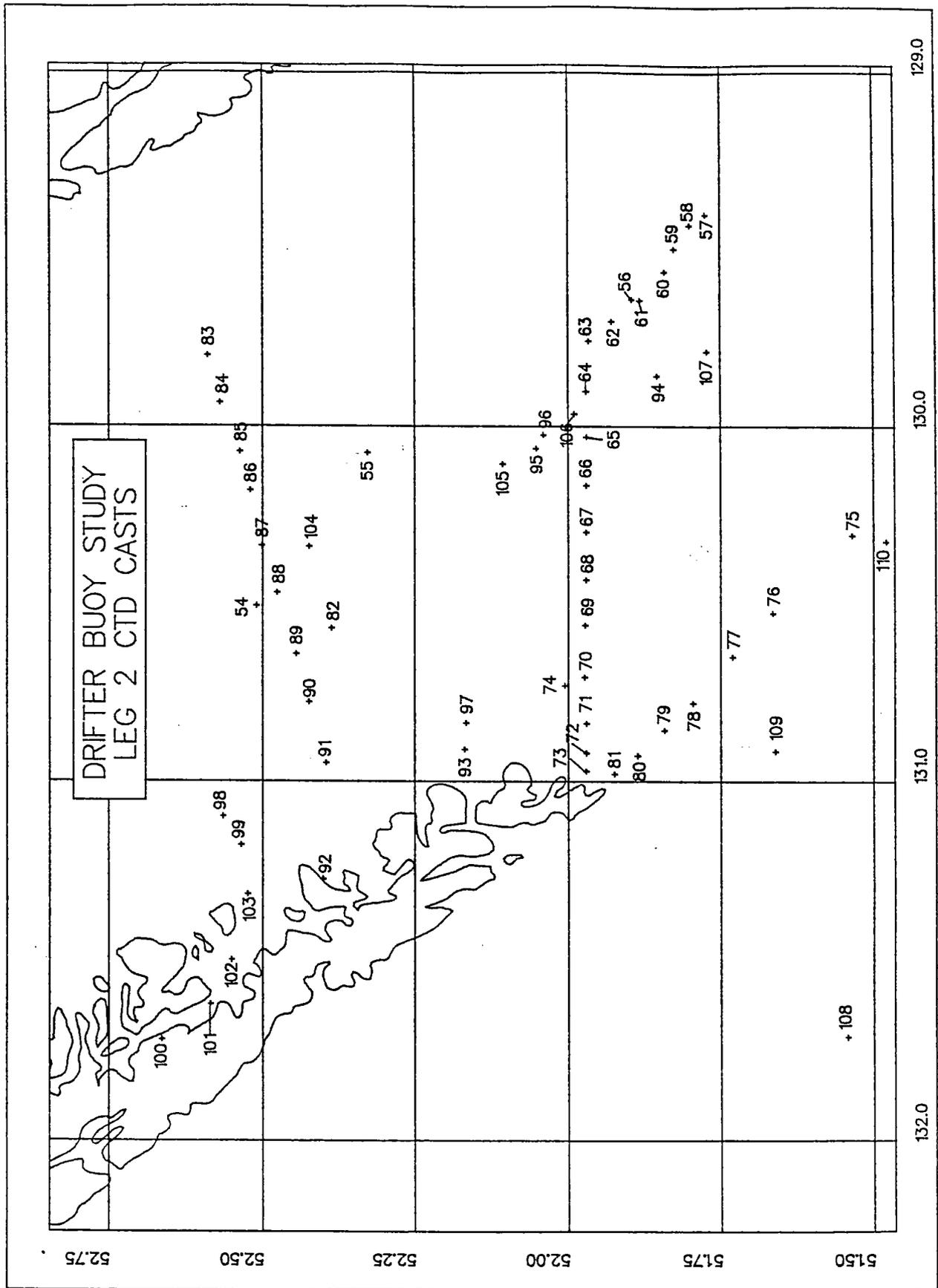


Figure 4. Leg 3: CTD Positions as indicated by Reference Number

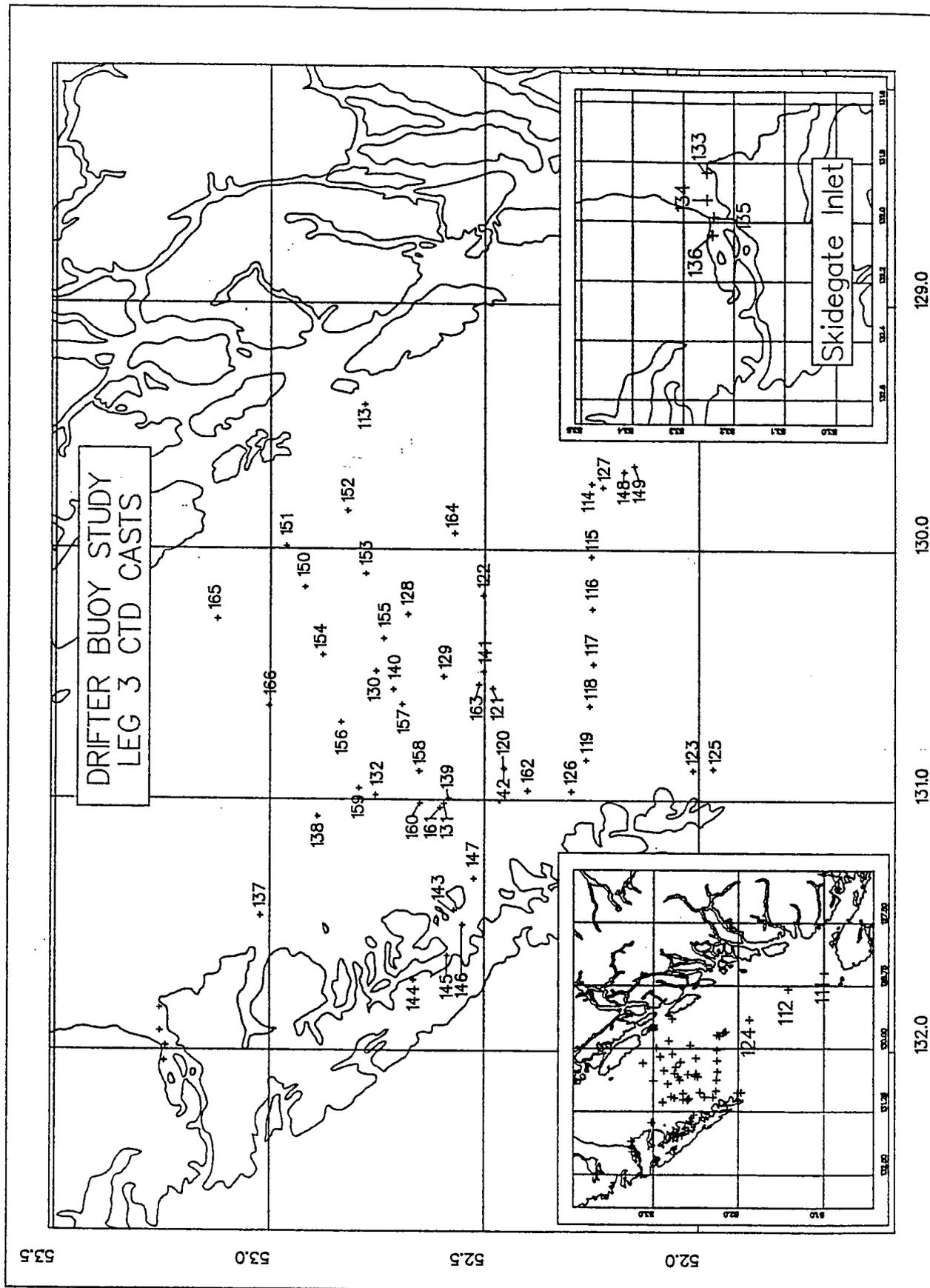


Figure 5. Leg 4: CTD Cast Positions as indicated by Reference Number

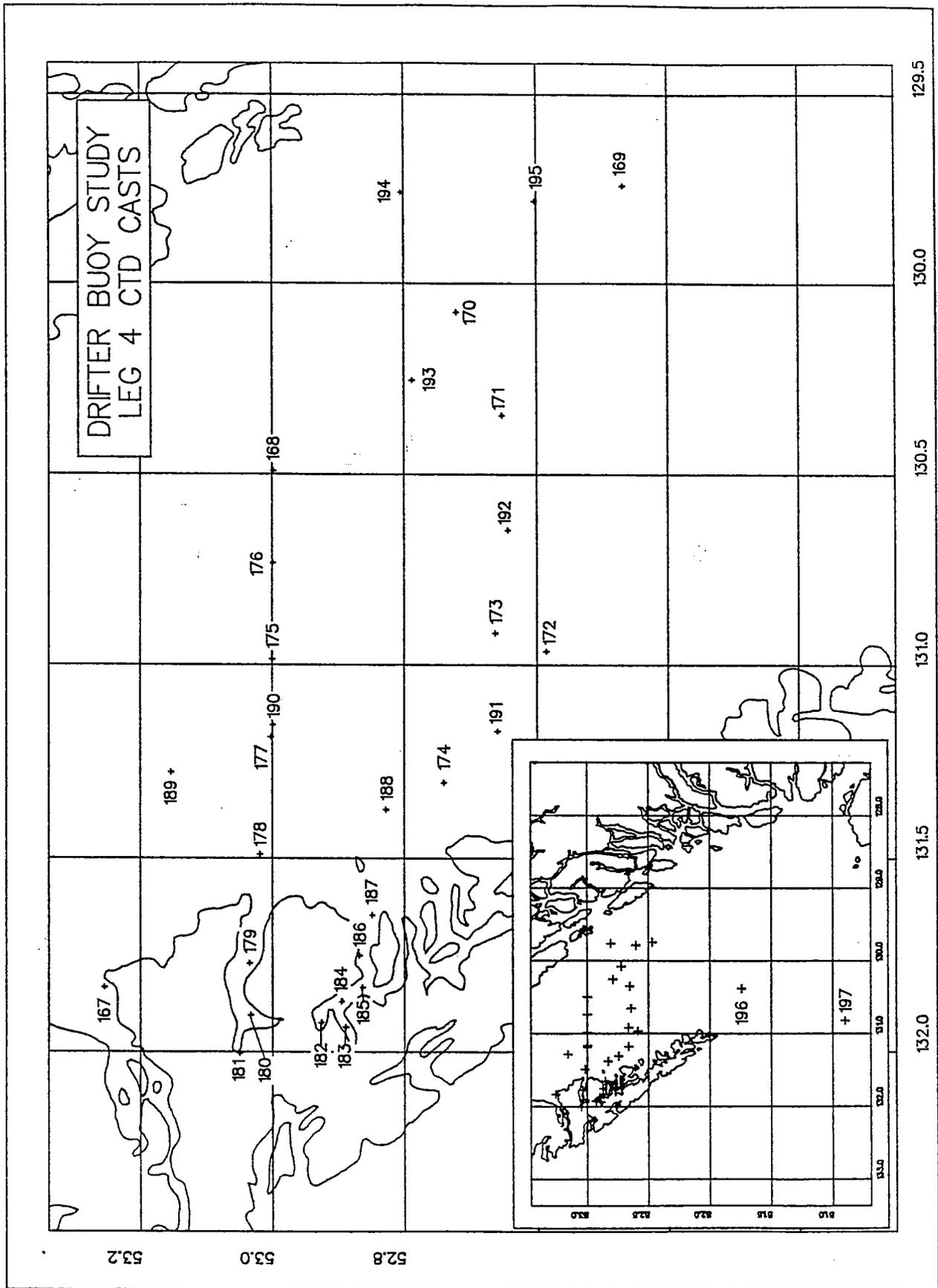


TABLE 2.

SUMMER 1990 DRIFTER BUOY PROJECT
 VISUAL WIND OBSERVATIONS FROM F.V. WESTERLY WIND
 SEAKEN OCEANOGRAPHY LTD.

DATE	TIME UTC	LOCATION	WIND DIRECTION FROM	SPEED KNOTS	WAVE DATA (ESTIMATED)
09/07/90	1629	CAPE ST. JAMES	CALM	----	CALM
09/07/90	2000	CAPE ST. JAMES	SOUTH	10	---
11/07/90	0408	RB 33	CALM	----	CALM
11/07/90	2144	52-12.22 130-47.64	NORTH	15	---
12/07/90	1400	-52-12 130-35	NW	20 - 25	---
12/07/90	1644	52-07.84 130-55.72	NORTH	5	---
13/07/90	0018	51-41.05 130-31.73	NW	25	2M 8SEC
15/07/90	0449	51-37.25 130-40.49	WEST	10	1M 10SEC
16/07/90	0419	52-15.17 130-00.39	WNW	15 - 18	1M
19/07/90	1845	51-48.06 129-25.85	NW	5	---
19/07/90	2335	51-57.98 129-45.55	NW	10	---
20/07/90	0252	51-58.25 130-18.00	NW	7	---
20/07/90	1740	52.00N 130.45W	NORTH	20	---
21/07/90	1601	52-00.34 130-43.91	NW	8	---
21/07/90	2107	51-32.09 130-18.37	NW	22	---
21/07/90	2315	51-39.82 130-31.75	NW	20	---
22/07/90	0045	51-43.82 130-39.10	NW	20	---
22/07/90	0215	51-47.78 130-46.96	NW	26	2M
22/07/90	0255	51-50.63 130-51.45	NW	25	1.5M
22/07/90	0340	51-53.21 130-55.67	NW	24	1.2M
22/07/90	1945	52-23.19 130-34.26	NW	4	1M
23/07/90	0015	52-35.76 129-49.15	NW	15	0.7M
23/07/90	0220	52-32.19 130-04.39	NW	15	0.7M
23/07/90	0405	52-31.22 130-10.93	NW	10	0.7M
23/07/90	1710	52-25.42 130-46.82	NW	7	RIPPLED LOW NW SMELL

WIND OBSERVATIONS FROM F.V. WESTERLY WIND, cont'd

DATE	TIME UTC	LOCATION	WIND DIRECTION FROM	SPEED KNOTS	WAVE DATA (ESTIMATED)
23/07/90	2030	52-09.96 130-53.53	NW	5	RIPPLED
24/07/90	0302	51-51.32 129-51.41	NW	5	RIPPLED LOW NW SWELL
24/07/90	1500	52-02.41 130-01.39	NW	10	0.7M
25/07/90	2135	52.00N 130.45W	NW	12	RIPPLED
27/07/90	0010	52-32.11 131-10.69	SSE	5	RIPPLED
27/07/90	0707	52-31.48 131-18.72	SOUTH	5	---
27/07/90	1230	52-25.42 130-20.45	NORTH	9	RIPPLED
27/07/90	1720	51-59.39 129-57.79	NW	7	RIPPLED
28/07/90	0030	51.42N 131.42W	NW	7	RIPPLED LOW NW SWELL
28/07/90	0640	51-32.56 131-42.6	WEST	6	RIPPLED LOW SW SWELL
28/07/90	1125	51-39.59 130-54.8	NW	14	0.3M LOW SWELL
28/07/90	1500	51M SE CAPE ST. JAMES	NW	25	2.3M
28/07/90	1910	51-28.84 130-19.41	NW	20	2.6M
09/08/90	0212	51-00.02 128-29.72	SW	4 - 5	---
09/08/90	1652	52.47.2N 129.24.1W	SOUTH	20	---
10/08/90	1547	52-14.94 130-27.49	NW	15	---
10/08/90	1841	52-15.91 130-50.47	NW	12	---
10/08/90	2058	52-27.40 130-52.43	NW	15	---
11/08/90	2315	52-40.73 130-15.76	SE	10	0.7M
12/08/90	0055	52-35.67 130-30.53	SE	15	---
12/08/90	0550	52-35.60 131-00.82	SE	15	0.7M
15/08/90	0305	53-01.33 131-27.75	SE	20	2 - 3M
15/08/90	1608	52-51.98 131-09.84	EAST	12 - 14	0.5-2M 4-7SEC
15/08/90	2109	52-34.99 130-59.43	EAST	10	0.5 - 1M
16/08/90	0155	52-42.69 130-33.58	EAST	8 - 10	---
16/08/90	1427	52-35.83 130-38.57	ENE	10	---
18/08/90	0752	52-09.19 129-39.39	WEST	8	---
18/08/90	1621	52-55.16 130-09.27	NW	10	0.2 - 0.5M NW
18/08/90	2256	52.49.2N 129.50.5W	NW	5	0.3M NW
19/08/90	1757	52-40.57 130-59.32	SE	10	---
19/08/90	1940	52-39.00 131-00.79	SE	10 - 12	0.5 - 1M

WIND OBSERVATIONS FROM F.V. WESTERLY WIND, cont'd

DATE	TIME UTC	LOCATION	WIND DIRECTION FROM	SPEED KNOTS	WAVE DATA (ESTIMATED)	
20/08/90	0130	52-30.76	130-32.38	SE	10	0.5M CHOP
22/08/90	1823	53-15.32	131-49.58	NW	15 - 20	---
22/08/90	2300	SANDSPIT		NW	15 - 20	1 - 1.5M CHOP
23/08/90	0530	SANDSPIT		WEST	12	---
23/08/90	1435	SANDSPIT		WEST	10	---
24/08/90	1531	52-28.09	129-44.23	NW	15	1M
24/08/90	1940	52-43.18	130-04.44	NW	0.5	1 - 1.5M
25/08/90	1954	OFF AGGLOMERATE ISL.		NE	15 - 20	1M
26/08/90	2125	52-44.42	131-18.23	NE	15	---

Figure 6. Salinity Difference of Surface Water Sample Salinity Minus CTD Salinity at 5 Metre Depth From 1 Metre Bin Averaged Data

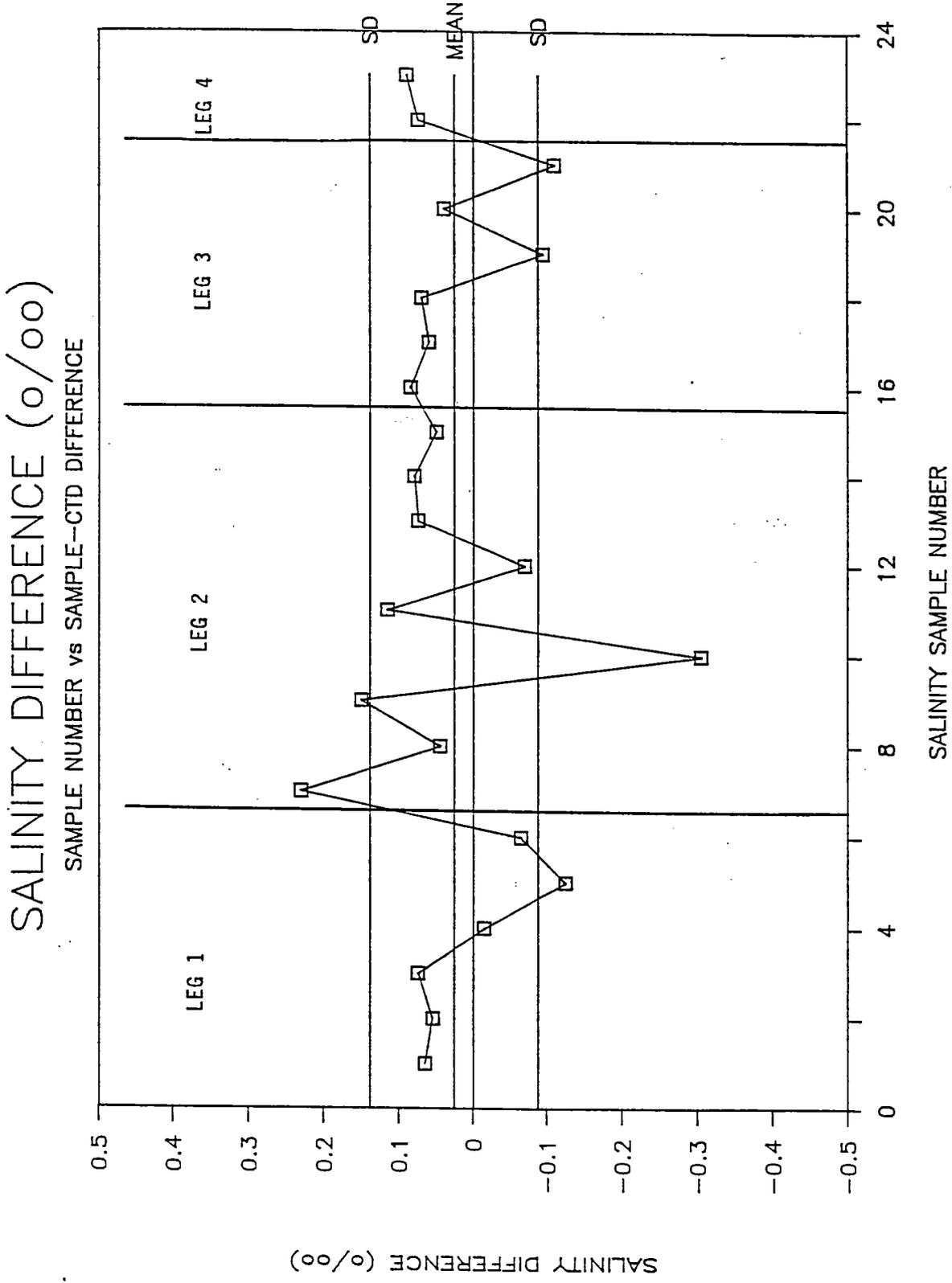
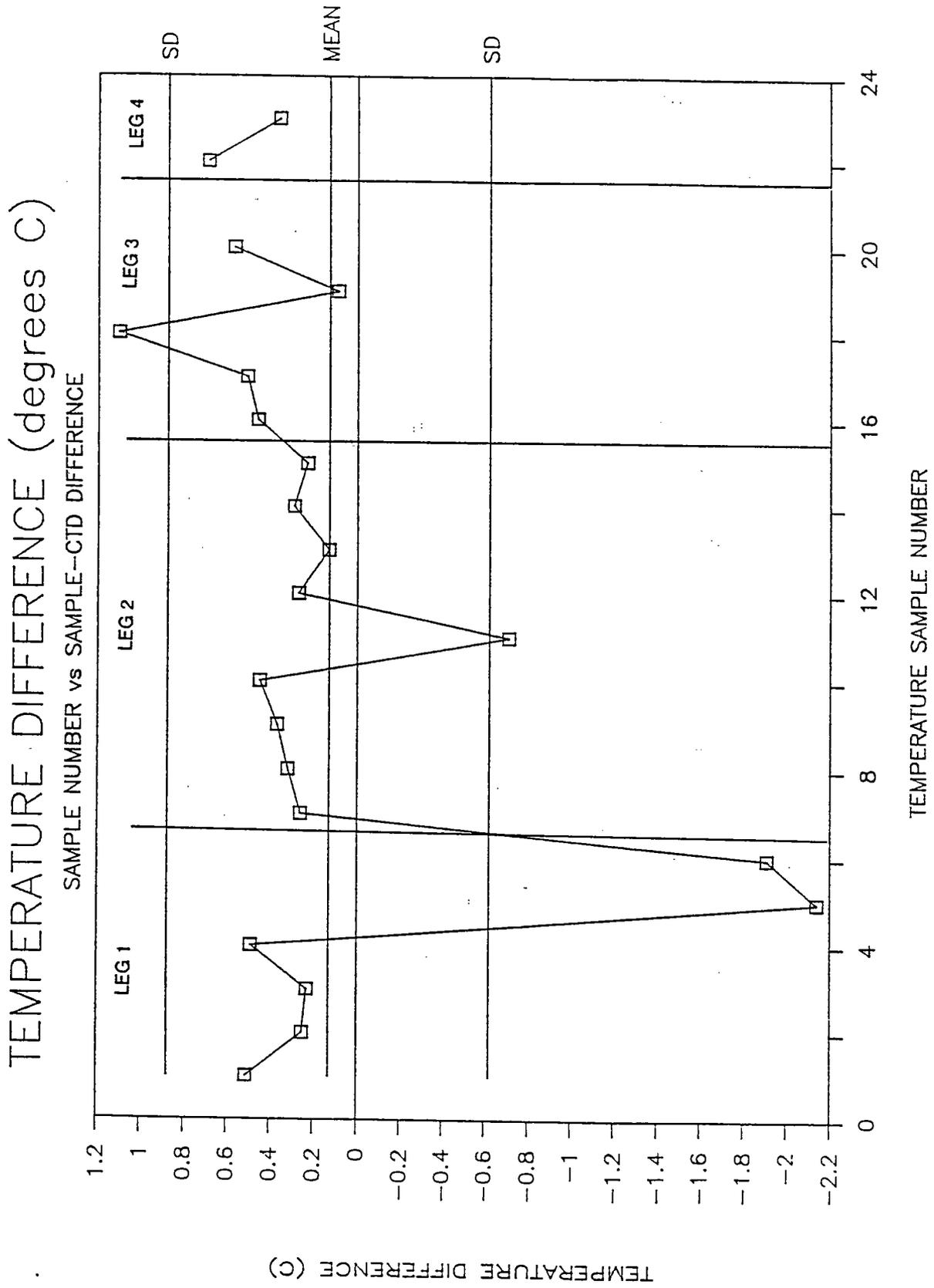
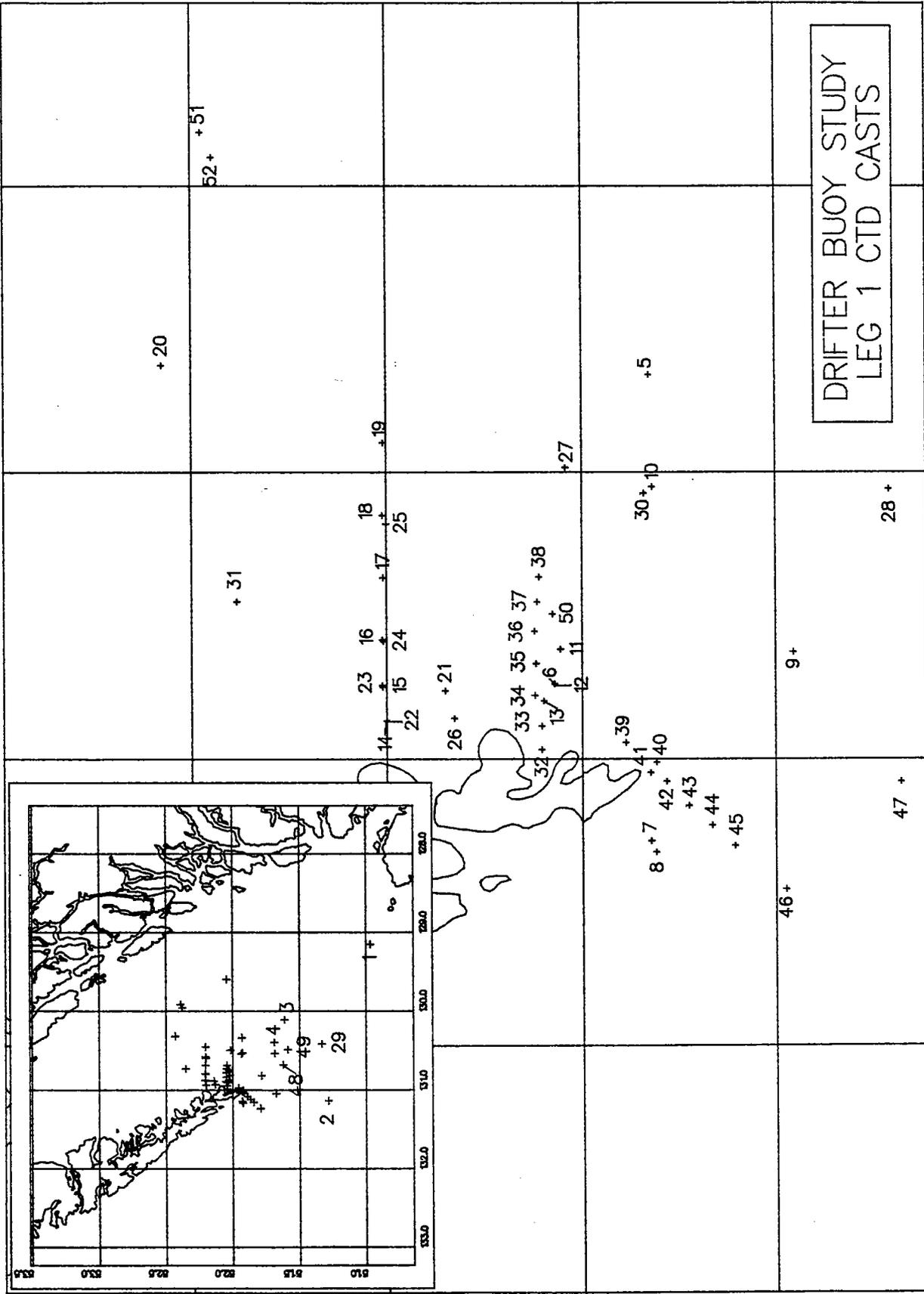


Figure 7. Temperature difference of bucket water sample temperature minus CTD temperature. Bucket temperatures are for surface water samples. CTD temperatures are closest matched temperatures from surface to 2 metres depth for 0.2 metre bin averaged data.





52.4

52.2

52.0

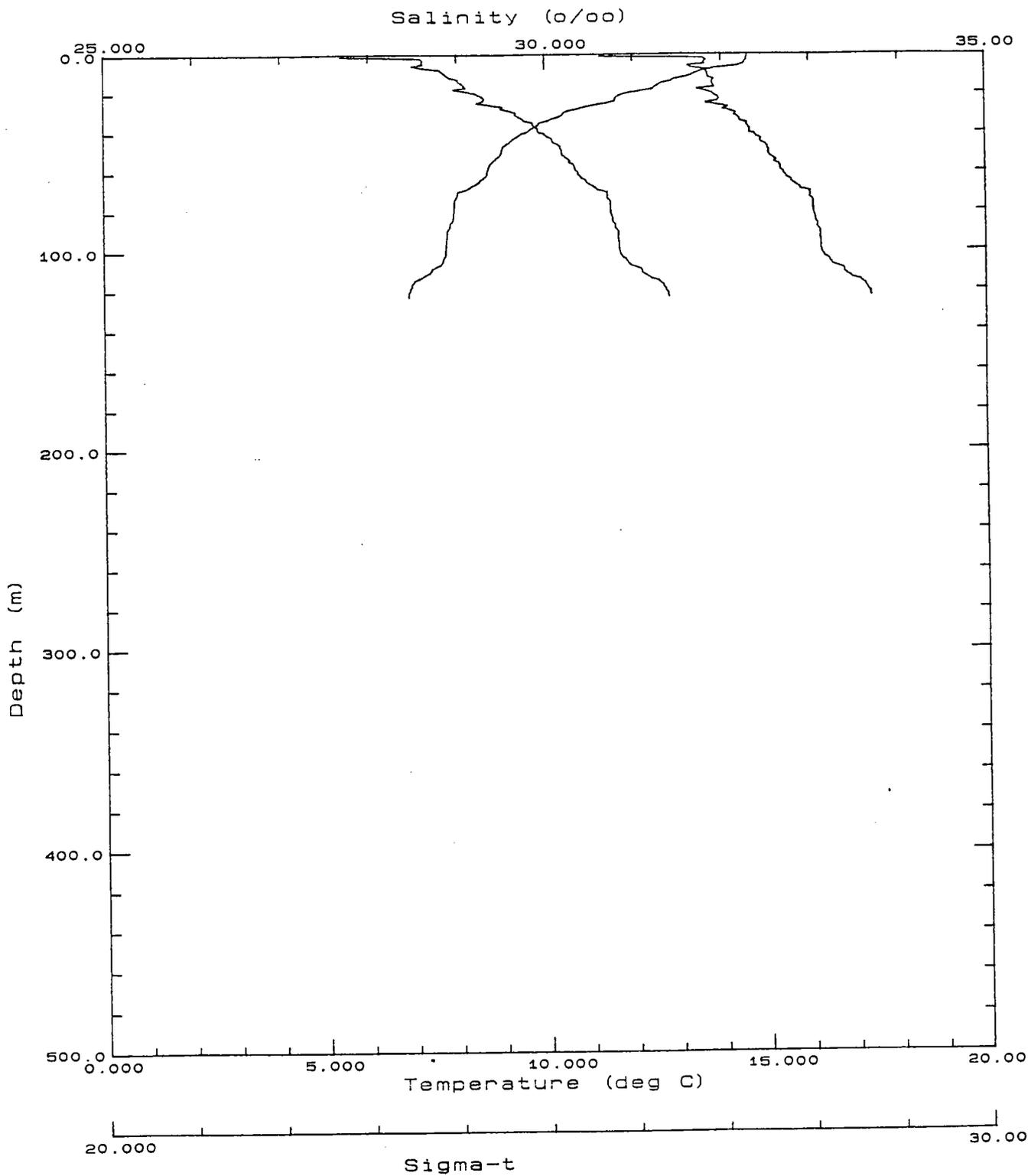
51.8

131.5

131.0

130.5

130.0



DSJ1.avg: SJ1

SEAKEM OCEANOGRAPHY LTD.

STATION: SJ1

DATE: 05/07/90 TIME: 1418 UTC

POSITION: 50-58.11N 129-09.13W

BOTTOM DEPTH: 135 M

SECCHI DEPTH: 5 M SST: 15.09 C SURFACE SALINITY: 31.88 o/oo

RESULTS OF CTD CAST

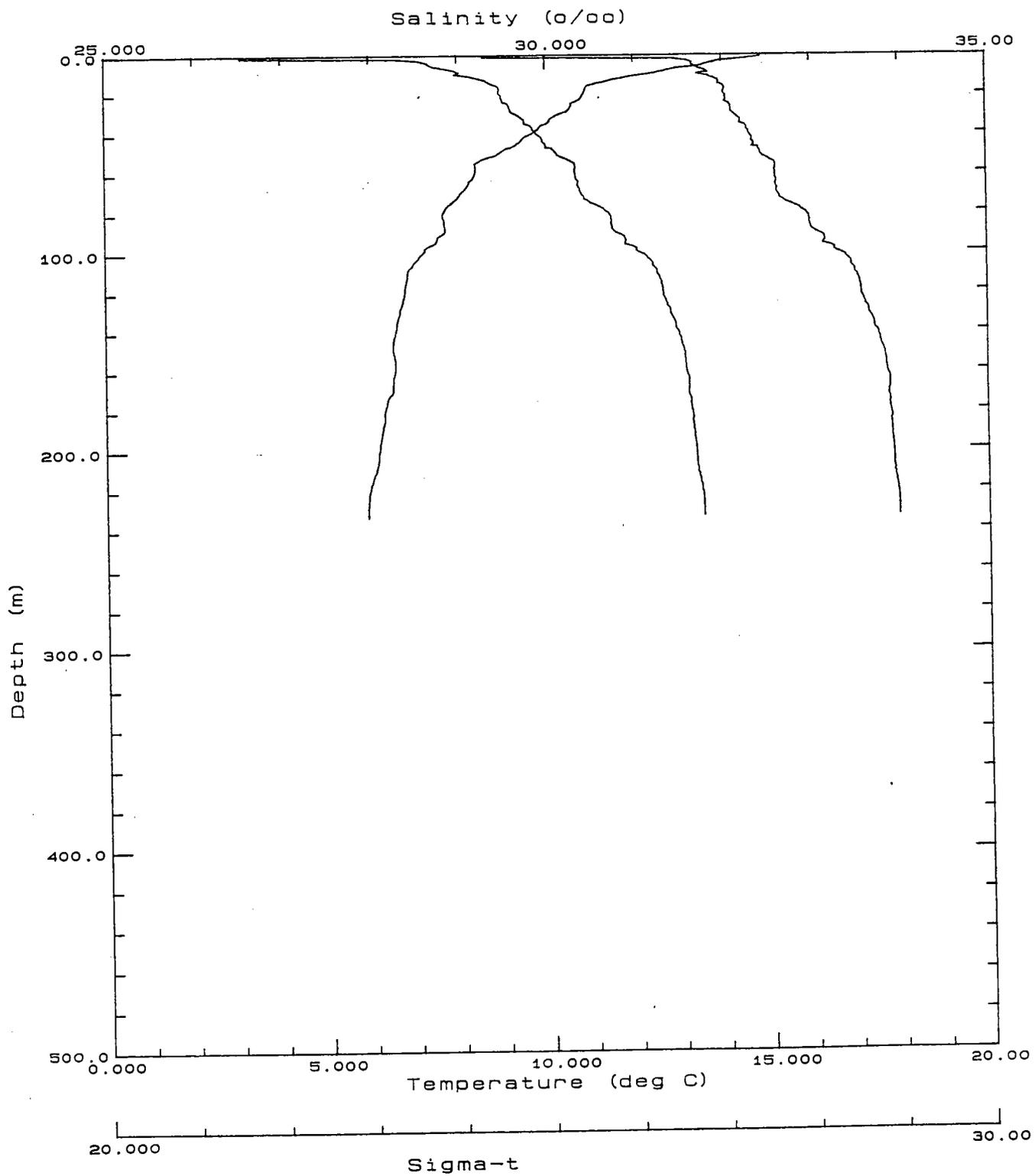
SEABIRD SBE-19 WAS USED

raw data file = DSJ1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.61	30.63	22.69	515.08	0.00
10.00	13.43	31.85	23.87	402.80	0.38
20.00	11.87	31.90	24.20	370.94	0.77
30.00	10.42	32.17	24.67	326.66	1.13
50.00	9.01	32.53	25.19	277.77	1.73
75.00	7.93	33.04	25.74	225.11	2.36
100.00	7.74	33.13	25.85	215.72	2.91

DEEPEST MEASUREMENT:

123.00	6.89	33.69	26.40	163.55	3.34
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dsj2.avg: SJ2

SEAKEM OCEANOGRAPHY LTD.

STATION: SJ2

DATE: 6/07/90 TIME: 139 UTC

POSITION: 51-17.00N 131-08.00W

BOTTOM DEPTH: 256 M

SECCHI DEPTH: 3.5 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

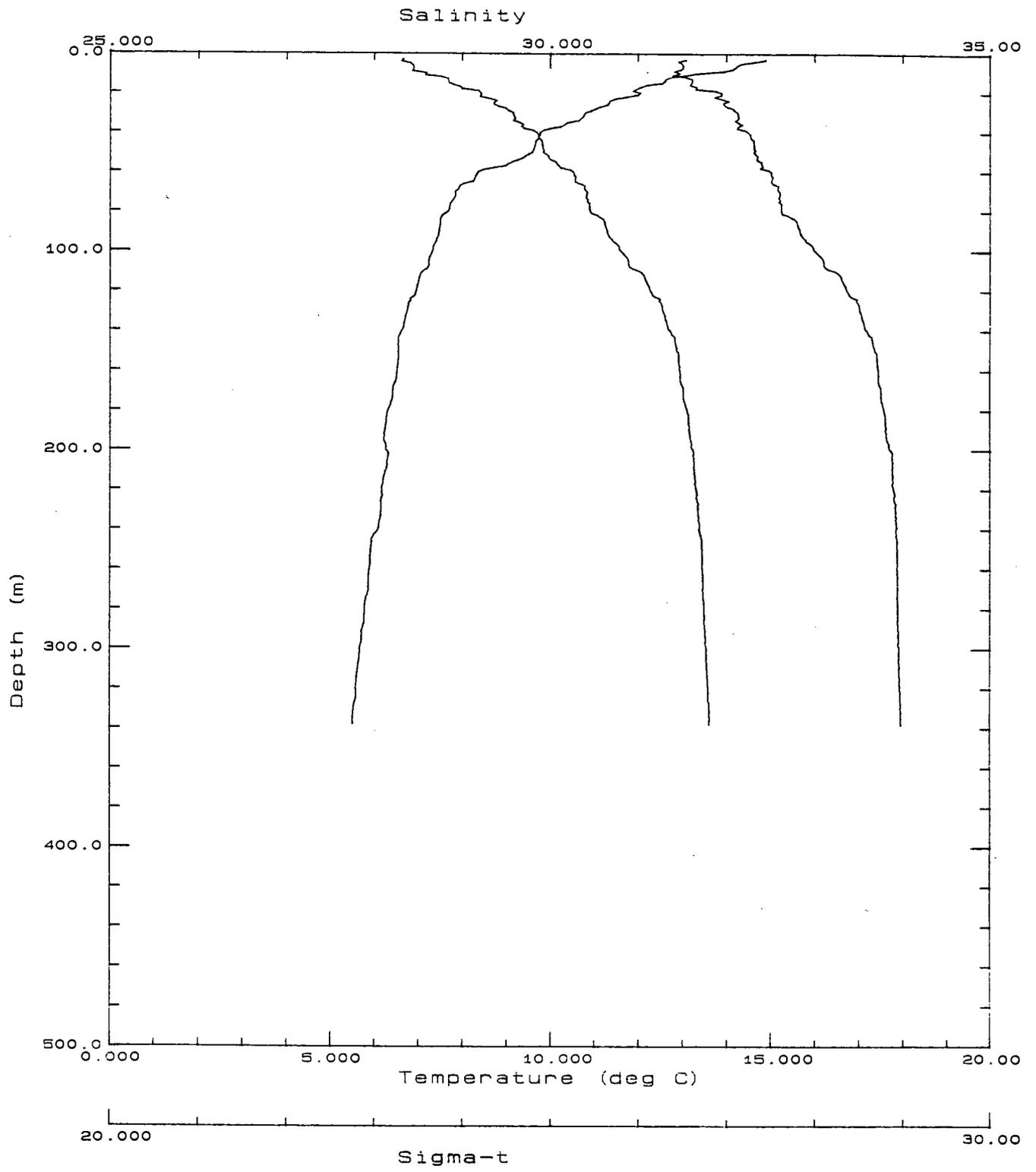
SEABIRD SBE-19 WAS USED

raw data file = DSJ2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.89	29.29	21.55	624.44	0.00
10.00	12.36	31.72	23.98	392.37	0.38
20.00	10.87	32.02	24.48	344.83	0.74
30.00	10.33	32.13	24.65	328.23	1.08
50.00	8.93	32.43	25.12	284.26	1.69
75.00	7.85	32.72	25.50	247.93	2.35
100.00	7.21	33.29	26.05	196.61	2.90
125.00	6.74	33.60	26.35	168.10	3.34
150.00	6.51	33.81	26.55	149.54	3.74
175.00	6.37	33.88	26.62	142.81	4.10
200.00	6.17	33.92	26.68	138.02	4.45
225.00	5.92	33.97	26.75	131.16	4.79

DEEPEST MEASUREMENT:

233.00	5.90	33.98	26.76	130.90	4.90
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DJ1B35.avg: J1B35

SEAKEM OCEANOGRAPHY LTD.

STATION: J1B35

DATE: 6/07/90 TIME: 624 UTC

POSITION: 51-36.68N 130-06.20W

BOTTOM DEPTH: 510 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- 0/00

RESULTS OF CTD CAST

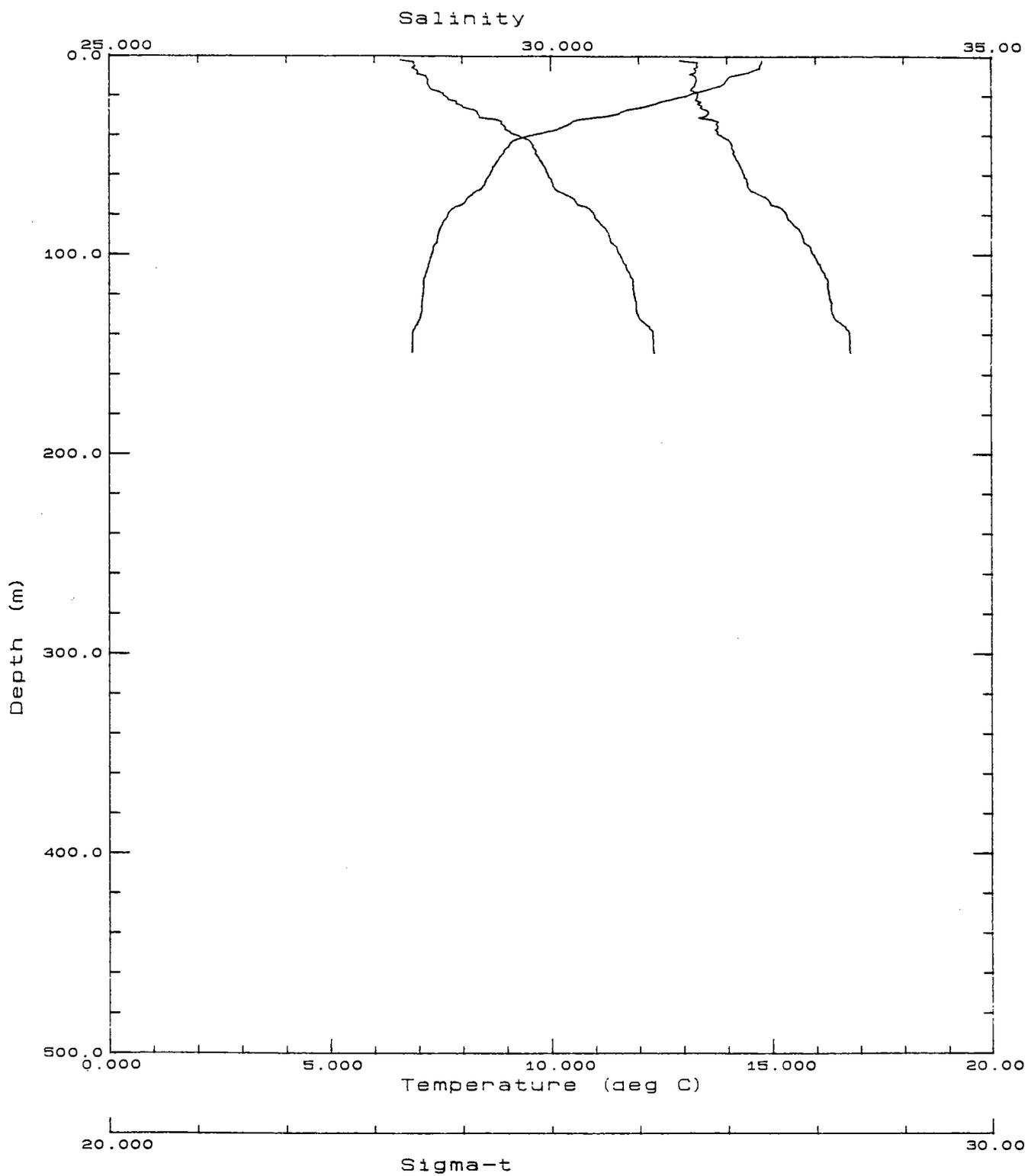
SEABIRD SBE-19 WAS USED

raw data file = DJ1B35.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.89	31.54	23.33	453.94	0.00
10.00	13.34	31.47	23.59	428.97	0.31
20.00	12.05	31.95	24.21	370.57	0.71
30.00	10.80	32.13	24.58	335.77	1.07
50.00	9.59	32.31	24.92	303.21	1.70
75.00	7.77	32.60	25.42	255.72	2.38
100.00	7.32	33.01	25.80	219.65	2.98
125.00	6.83	33.47	26.24	178.77	3.47
150.00	6.56	33.68	26.44	160.22	3.90
175.00	6.40	33.75	26.51	153.16	4.29
200.00	6.26	33.86	26.62	143.43	4.66
225.00	6.15	33.90	26.67	139.46	5.01
250.00	5.92	33.94	26.72	134.33	5.35
300.00	5.67	33.96	26.77	130.35	6.02

DEEPEST MEASUREMENT:

338.00	5.50	33.97	26.80	127.36	6.51
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DJ2B34.avg: J2B34

SEAKEM OCEANOGRAPHY LTD.

STATION: J2B34

DATE: 06/07/90 TIME: 1628 UTC

POSITION: 51-41.12N 130-23.45W

BOTTOM DEPTH: 160 M

SECCHI DEPTH: -- M SST: 15.04 C SURFACE SALINITY: 31.73 o/oo

RESULTS OF CTD CAST

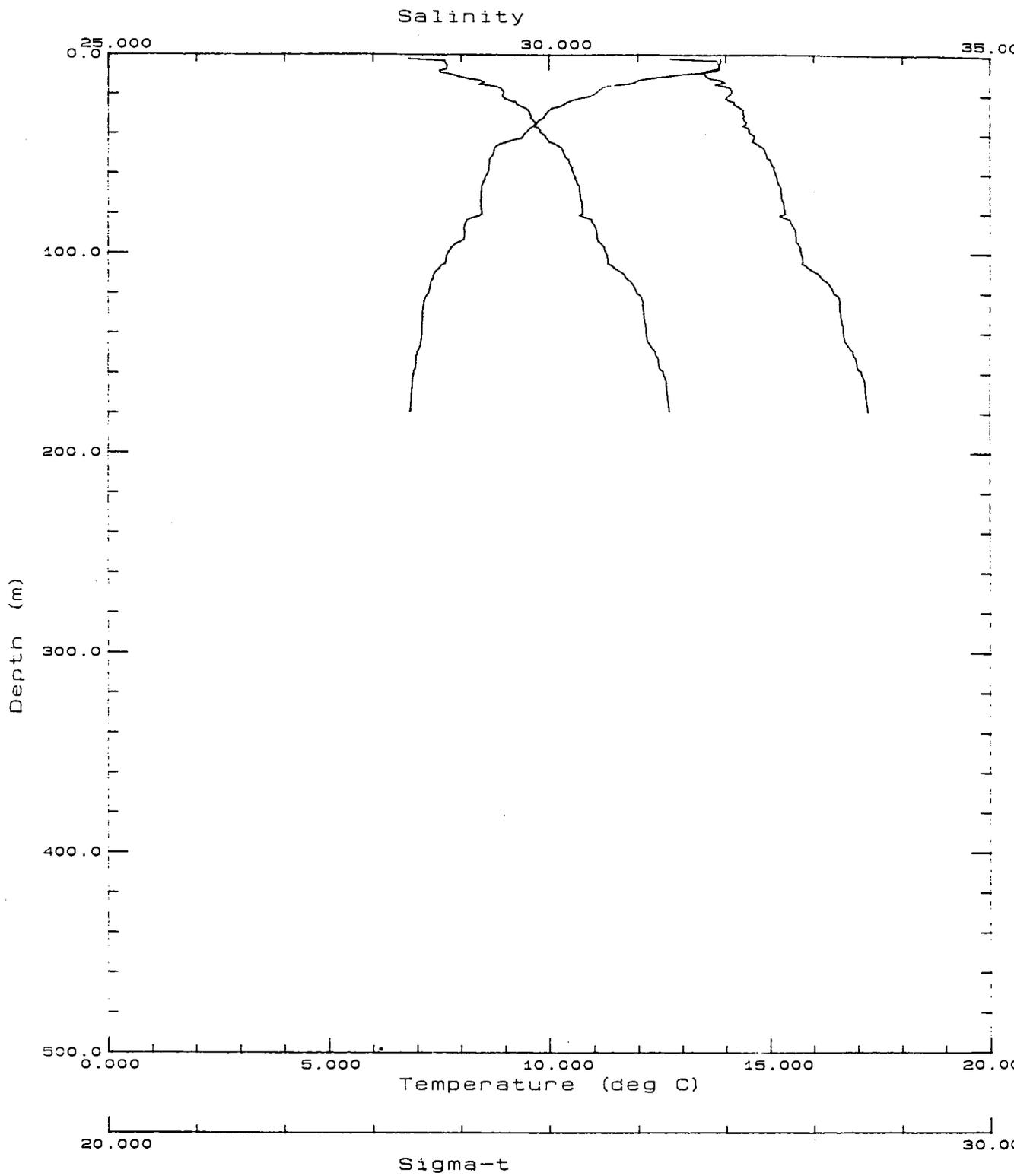
SEABIRD SBE-19 WAS USED

raw data file = DJ2B34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	14.79	31.47	23.30	457.39	0.00
10.00	14.07	31.65	23.58	430.03	0.35
20.00	13.09	31.67	23.79	410.12	0.78
30.00	11.33	31.76	24.20	371.86	1.17
50.00	8.89	32.08	24.85	309.85	1.83
75.00	7.99	32.50	25.31	266.21	2.56
100.00	7.30	32.98	25.79	221.13	3.16
125.00	7.08	33.18	25.97	204.10	3.68

DEEPEST MEASUREMENT:

149.00	6.86	33.39	26.17	185.32	4.15
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DJ4B40.avg: J4B40'

SEAKEM OCEANOGRAPHY LTD.

STATION: J4B40

DATE: 7/07/90 TIME: 518 UTC

POSITION: 52-01.68N 130-52.14W

BOTTOM DEPTH: 243 M

SECCHI DEPTH: 4 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

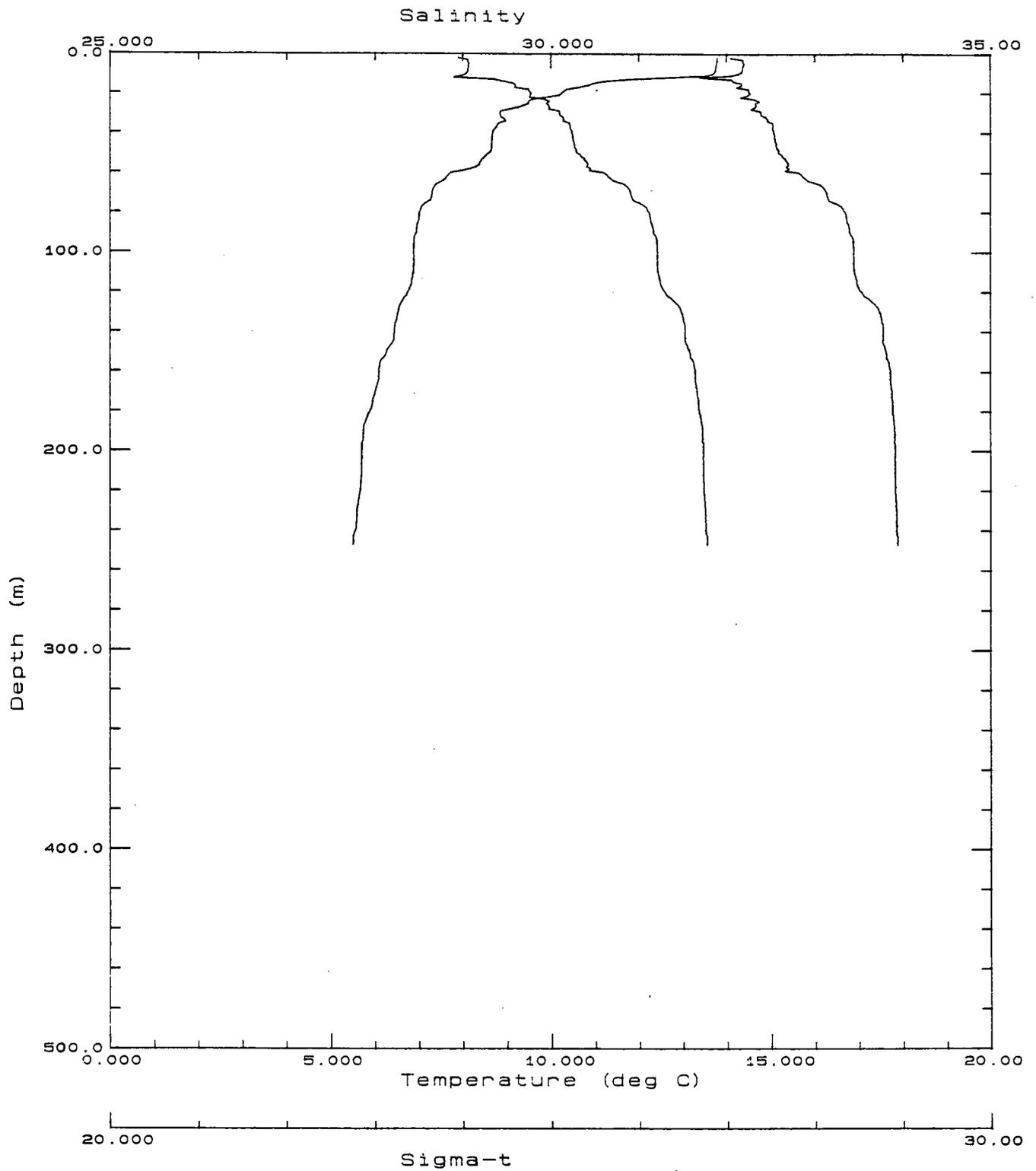
SEABIRD SBE-19 WAS USED

raw data file = DJ4B40.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	13.88	31.37	23.41	446.85	0.00
10.00	12.94	31.77	23.90	399.51	0.33
20.00	11.02	32.05	24.48	345.06	0.69
30.00	9.93	32.20	24.78	316.12	1.02
50.00	8.73	32.46	25.17	279.42	1.62
75.00	8.45	32.66	25.37	260.62	2.29
100.00	7.69	32.86	25.64	235.55	2.92
125.00	7.14	33.29	26.05	196.33	3.45
150.00	7.00	33.44	26.19	183.57	3.93
175.00	6.85	33.61	26.34	169.70	4.37

DEEPEST MEASUREMENT:

179.00	6.84	33.62	26.35	168.63	4.44
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DJ5B33.avg: J5B33

SEAKEM OCEANOGRAPHY LTD.

STATION: J5B33

DATE: 07/07/90 TIME: 0839 UTC

POSITION: 51-55.77N 131-08.58W

BOTTOM DEPTH: 274 M

SECCHI DEPTH: 10 M SST: 14.02 C SURFACE SALINITY: 32.28 ‰

RESULTS OF CTD CAST

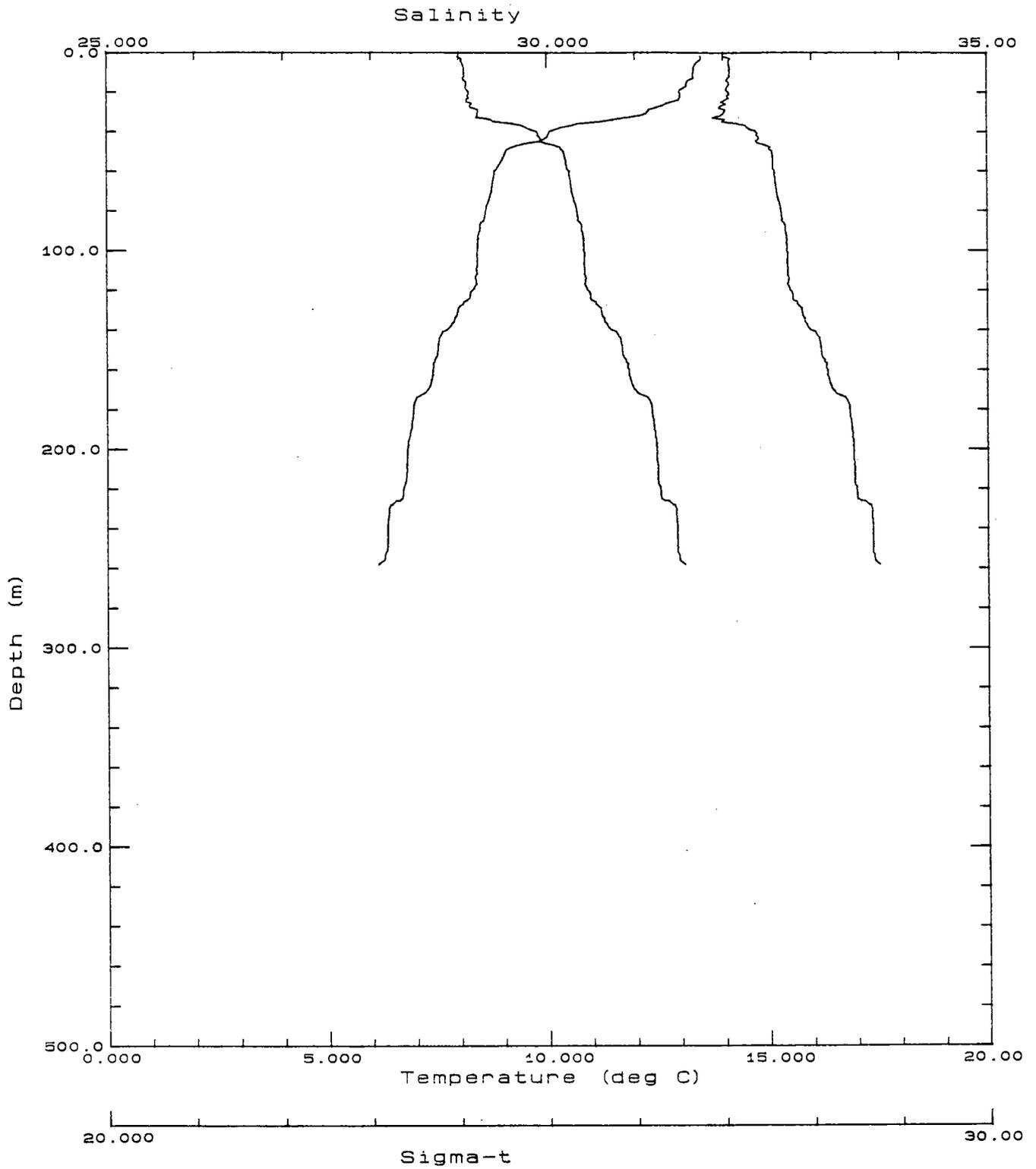
SEABIRD SBE-19 WAS USED

raw data file = DJ5B33.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	13.79	32.05	23.95	394.90	0.00
10.00	13.68	32.14	24.04	386.48	0.31
20.00	10.24	32.27	24.78	316.14	0.66
30.00	8.85	32.39	25.10	285.91	0.96
50.00	8.60	32.59	25.29	267.60	1.51
75.00	7.19	33.22	25.99	201.82	2.09
100.00	6.87	33.45	26.21	180.95	2.56
125.00	6.61	33.65	26.41	162.39	3.00
150.00	6.27	33.81	26.58	146.92	3.38
175.00	5.94	33.88	26.68	137.44	3.73
200.00	5.69	33.91	26.73	132.63	4.07
225.00	5.62	33.92	26.75	131.58	4.40

DEEPEST MEASUREMENT:

247.00	5.50	33.94	26.78	128.97	4.69
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DR1B40.avg: R1B40

SEAKEM OCEANOGRAPHY LTD.

STATION: R1B40

DATE: 07/07/90 TIME: 1145 UTC

POSITION: 51-55.47N 131-09.77W

BOTTOM DEPTH: 336 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

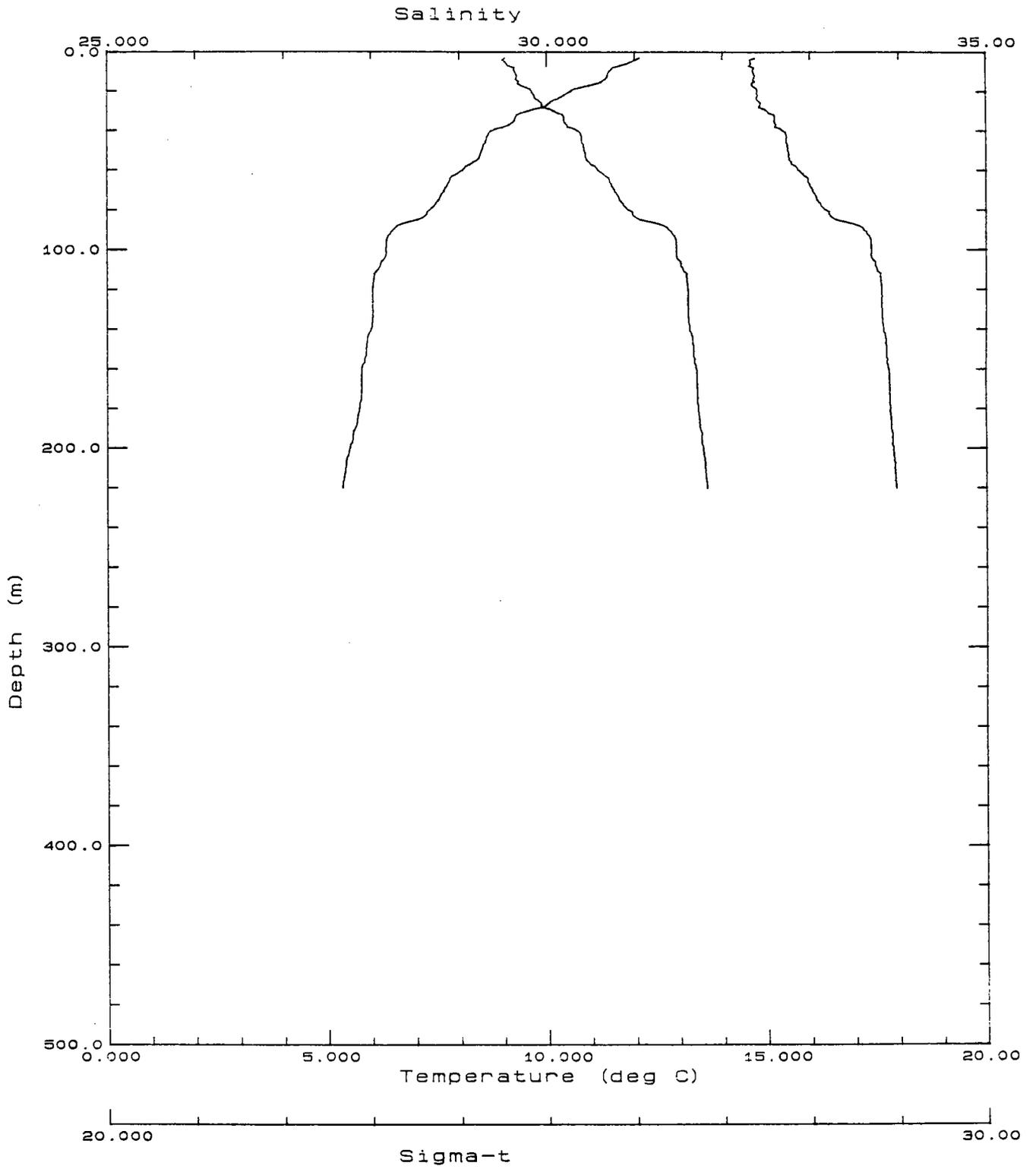
SEABIRD SBE-19 WAS USED

raw data file = DR1B40.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	13.50	32.02	23.99	391.27	0.00
10.00	13.33	32.08	24.07	384.01	0.31
20.00	13.01	32.06	24.11	379.56	0.69
30.00	12.29	32.02	24.22	369.87	1.07
50.00	9.07	32.55	25.19	277.43	1.71
75.00	8.68	32.63	25.31	266.54	2.39
100.00	8.42	32.71	25.42	256.74	3.04
125.00	8.19	32.79	25.51	248.13	3.68
150.00	7.52	33.10	25.85	215.99	4.25
175.00	7.01	33.39	26.15	187.61	4.77
200.00	6.82	33.47	26.24	179.82	5.22
225.00	6.69	33.52	26.29	175.12	5.67
250.00	6.35	33.69	26.47	158.09	6.07

DEEPEST MEASUREMENT:

258.00	6.15	33.76	26.55	150.46	6.19
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DJ6B31.avg: J6B31

SEAKEM OCEANOGRAPHY LTD.

STATION: J6B31

DATE: 07/07/90 TIME: 1429 UTC

POSITION: 51-46.91N 130-48.75W

BOTTOM DEPTH: 245 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

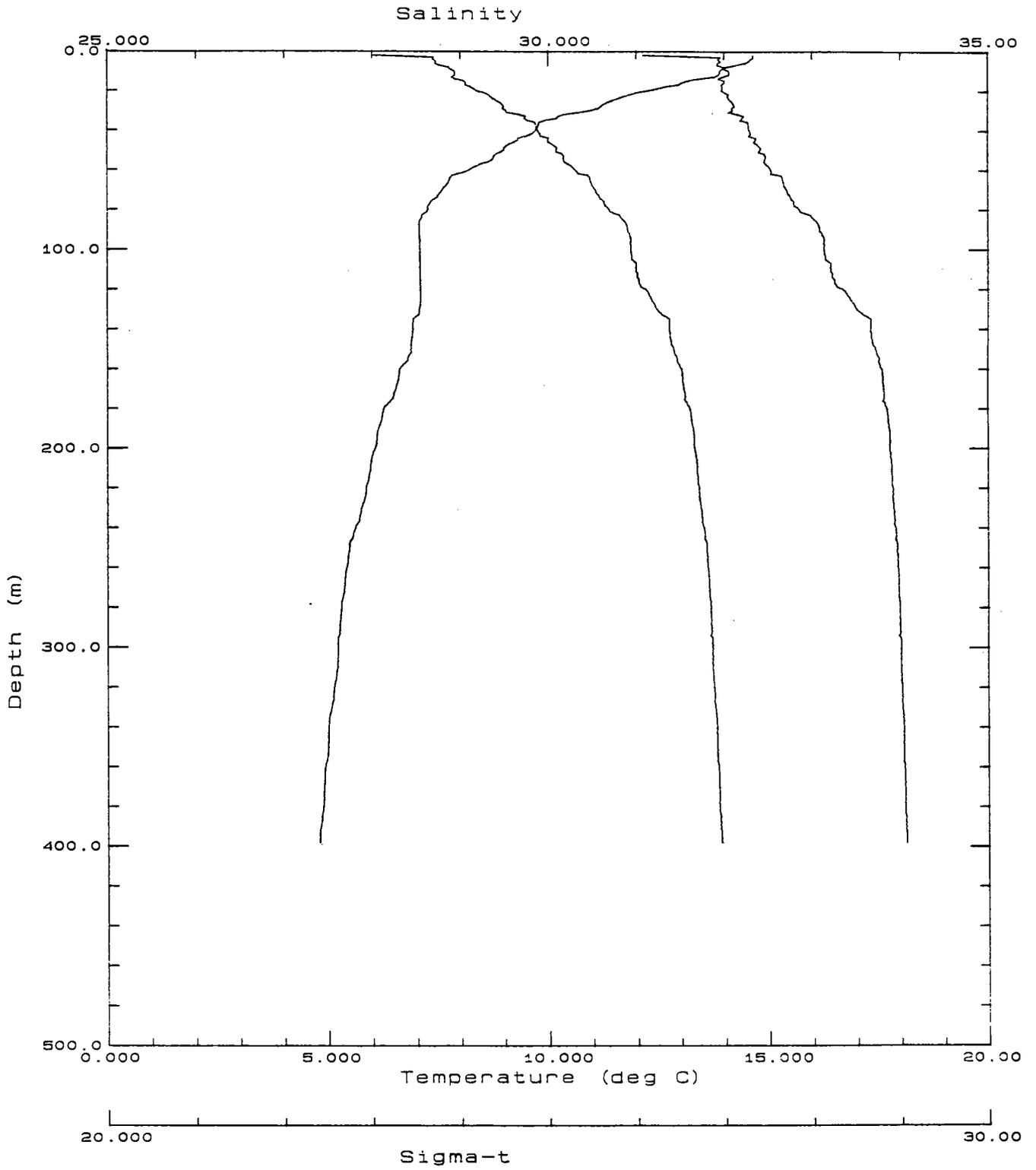
SEABIRD SBE-19 WAS USED

raw data file = DJ6B31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	12.11	32.37	24.53	340.01	0.00
10.00	11.42	32.35	24.64	329.36	0.24
20.00	10.55	32.40	24.83	311.51	0.56
30.00	9.58	32.51	25.08	287.79	0.86
50.00	8.52	32.75	25.43	254.81	1.39
75.00	7.54	33.08	25.83	216.94	1.98
100.00	6.34	33.70	26.48	155.57	2.44
125.00	6.04	33.81	26.60	143.83	2.81
150.00	5.89	33.86	26.67	138.21	3.16
175.00	5.77	33.90	26.71	134.36	3.50
200.00	5.52	33.94	26.77	128.46	3.83

DEEPEST MEASUREMENT:

220.00	5.35	33.97	26.82	124.62	4.08
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DJ3B37.avg: J3B37

SEAKEM OCEANOGRAPHY LTD.

STATION: J3B37

DATE: 8/07/90 TIME: 55 UTC

POSITION: 51-55.67N 130-31.45W

BOTTOM DEPTH: 439 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

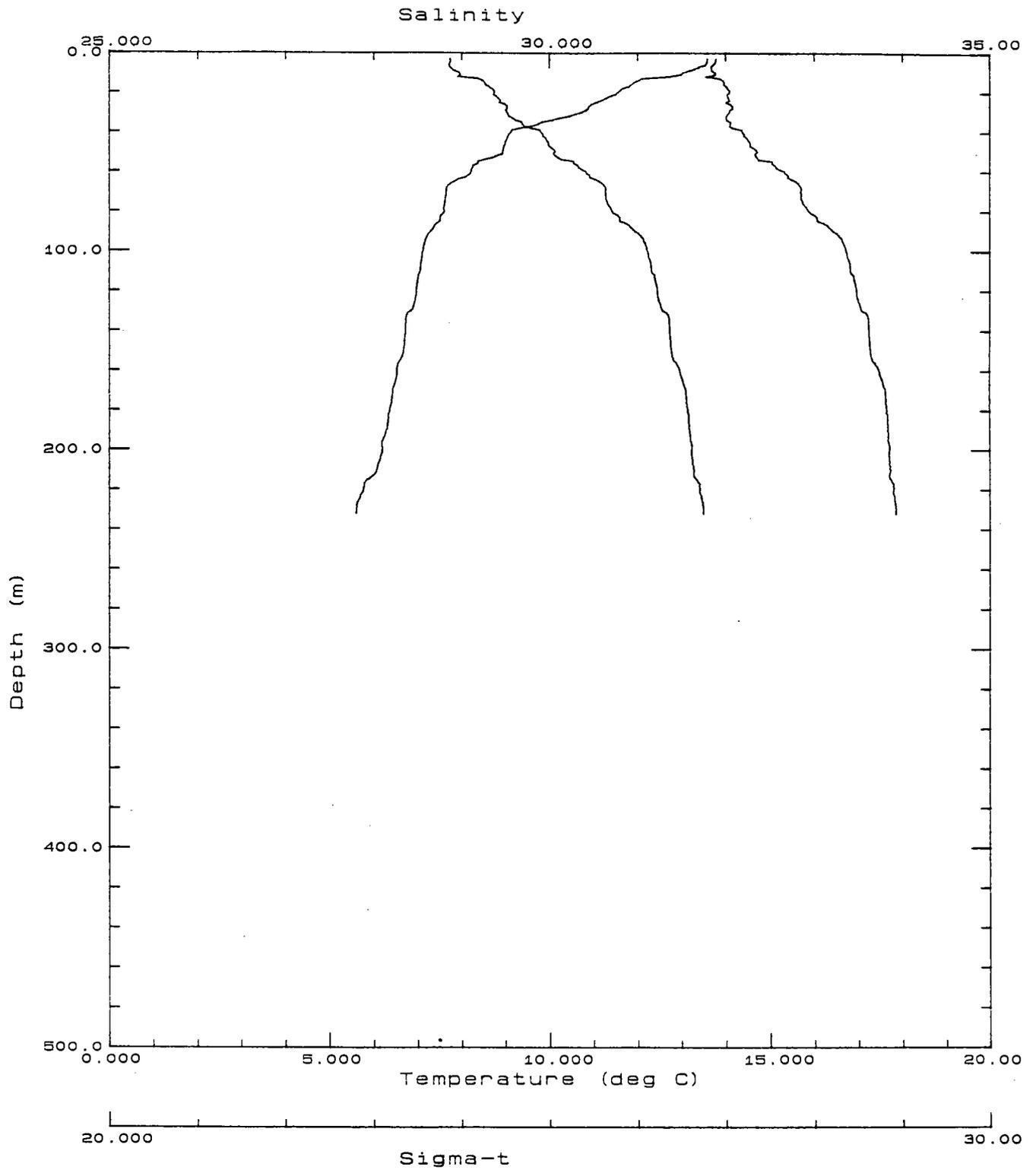
SEABIRD SBE-19 WAS USED

raw data file = DJ3B37.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	14.67	31.08	23.02	483.92	0.00
10.00	13.90	32.05	23.93	396.81	0.33
20.00	12.27	31.97	24.19	372.66	0.72
30.00	10.96	32.10	24.52	340.89	1.07
50.00	8.99	32.41	25.09	286.77	1.69
75.00	7.39	32.76	25.60	238.39	2.34
100.00	7.07	33.13	25.94	206.93	2.88
125.00	7.09	33.43	26.17	185.71	3.38
150.00	6.88	33.71	26.42	161.69	3.81
175.00	6.46	33.81	26.55	149.71	4.19
200.00	6.06	33.87	26.66	140.04	4.55
225.00	5.83	33.91	26.71	134.81	4.89
250.00	5.48	33.96	26.79	127.28	5.22
300.00	5.21	34.00	26.86	121.61	5.84

DEEPEST MEASUREMENT:

398.00	4.79	34.06	26.96	113.04	6.99
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DJ8B36.avg: J8B36

SEAKEM OCEANOGRAPHY LTD.

STATION: J8B36

DATE: 8/07/90 TIME: 338 UTC

POSITION: 52-01.30N 130-48.50W

BOTTOM DEPTH: 246 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

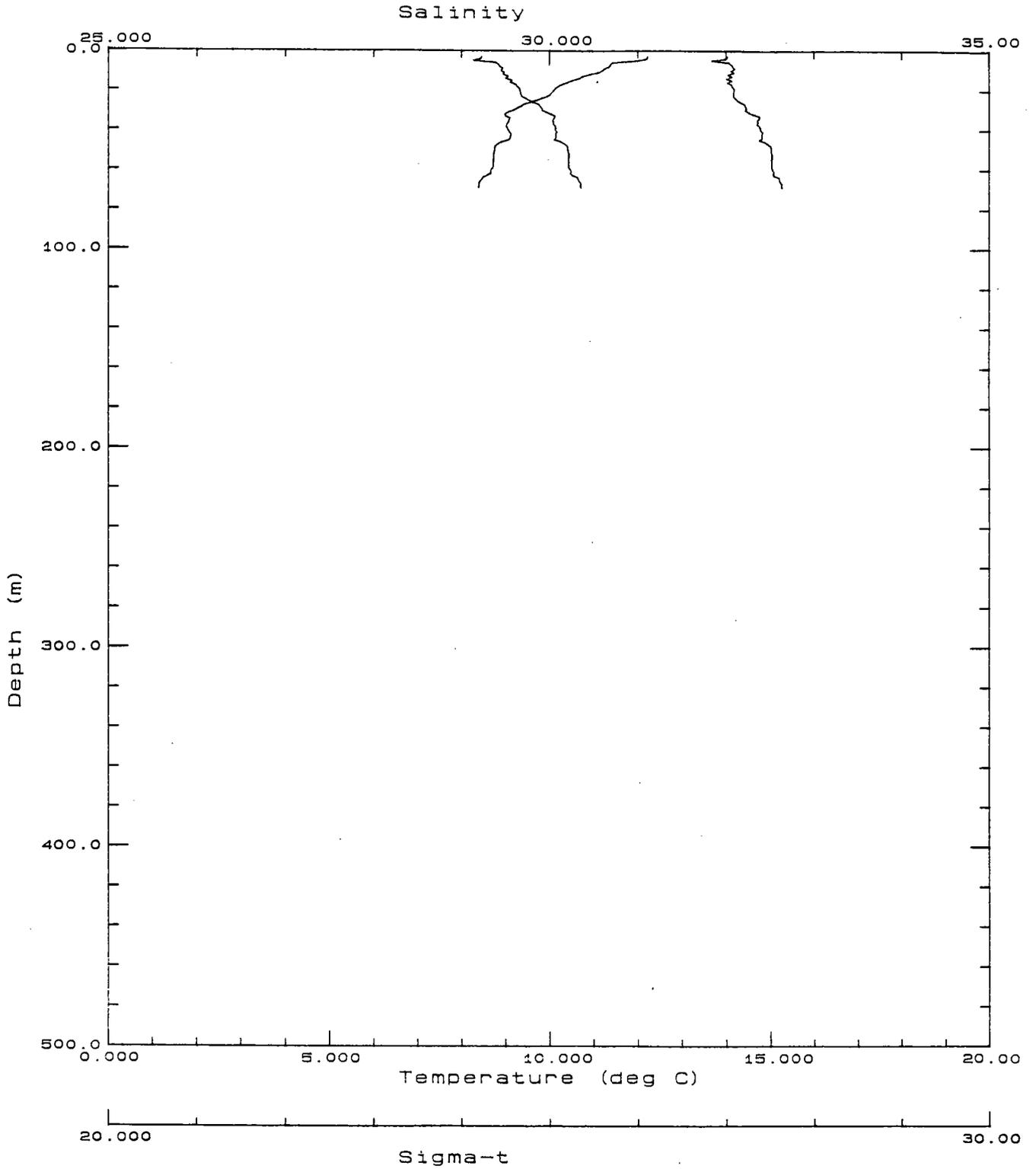
SEABIRD SBE-19 WAS USED

raw data file = DJ8B36.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	13.59	31.89	23.87	402.57	0.00
10.00	13.04	31.89	23.97	392.70	0.28
20.00	11.55	32.04	24.38	354.59	0.65
30.00	10.74	32.04	24.52	341.11	1.00
50.00	8.94	32.36	25.06	289.72	1.62
75.00	7.61	32.87	25.66	233.43	2.26
100.00	7.11	33.36	26.11	190.40	2.79
125.00	6.94	33.50	26.24	178.24	3.24
150.00	6.68	33.63	26.39	164.97	3.67
175.00	6.40	33.81	26.56	148.82	4.06
200.00	6.19	33.85	26.62	143.50	4.42
225.00	5.67	33.91	26.73	132.93	4.77

DEEPEST MEASUREMENT:

232.00	5.60	33.92	26.75	131.31	4.86
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DJ9B40.avg: J9B40

SEAKEM OCEANOGRAPHY LTD.

STATION: J9B40

DATE: 8/07/90 TIME: 436 UTC

POSITION: 52-01.68N 130-52.13W

BOTTOM DEPTH: 77 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

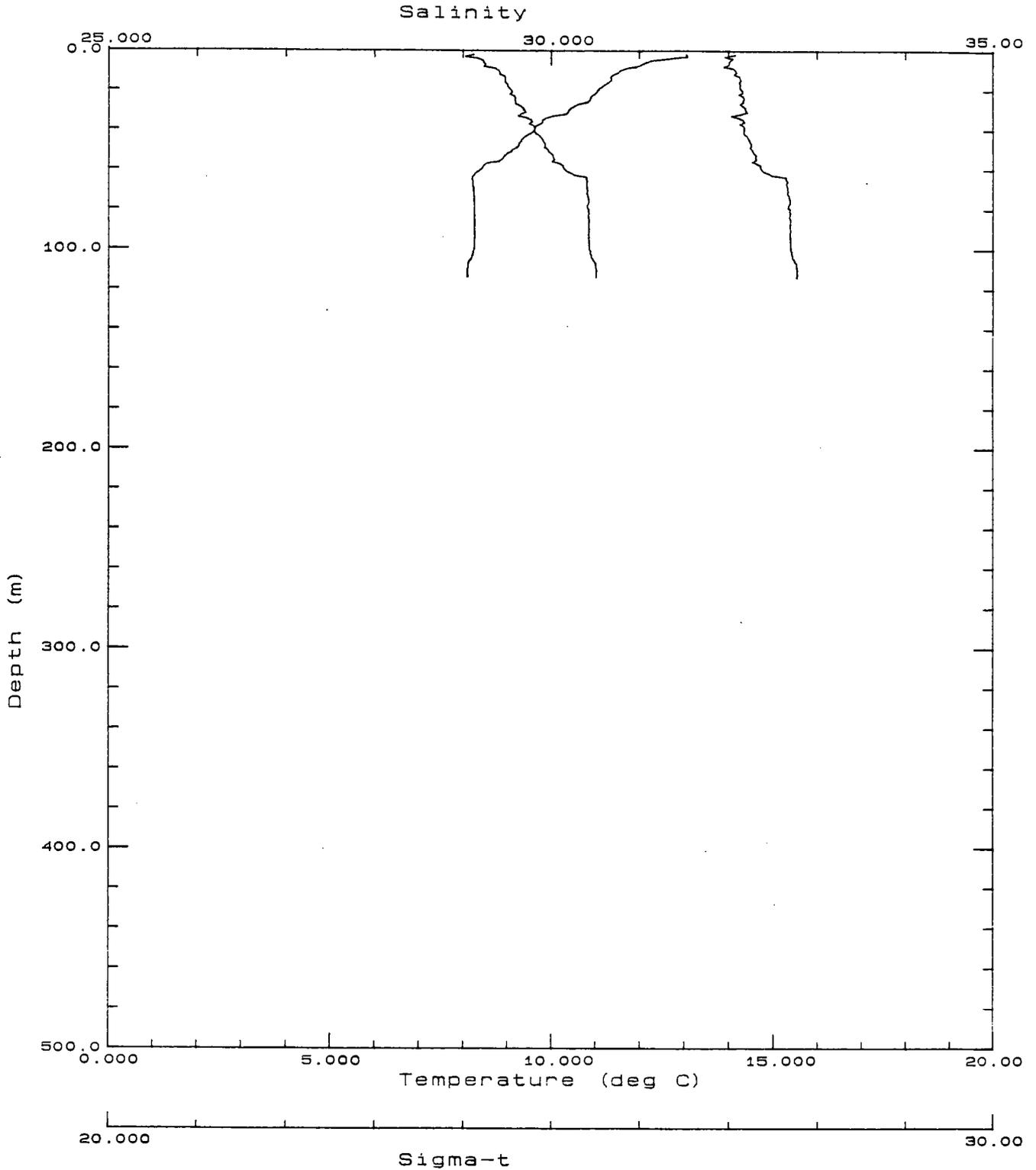
SEABIRD SBE-19 WAS USED

raw data file = DJ9B40.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	12.23	32.02	24.23	368.19	0.00
10.00	11.20	32.06	24.45	347.25	0.25
20.00	10.10	32.09	24.67	326.75	0.59
30.00	9.19	32.22	24.92	303.22	0.90
50.00	8.76	32.52	25.21	275.49	1.48

DEEPEST MEASUREMENT:

69.00	8.39	32.63	25.36	261.82	1.99
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DJ9B40L2.avg: J9B40L2'

SEAKEM OCEANOGRAPHY LTD.

STATION: J9B40L2

DATE: 08/07/90 TIME: 1038 UTC

POSITION: 52-02.35N 130-53.90W

BOTTOM DEPTH: 128 M

SECCHI DEPTH: 11 M SST: 13.55 C SURFACE SALINITY: 32.01 ‰

RESULTS OF CTD CAST

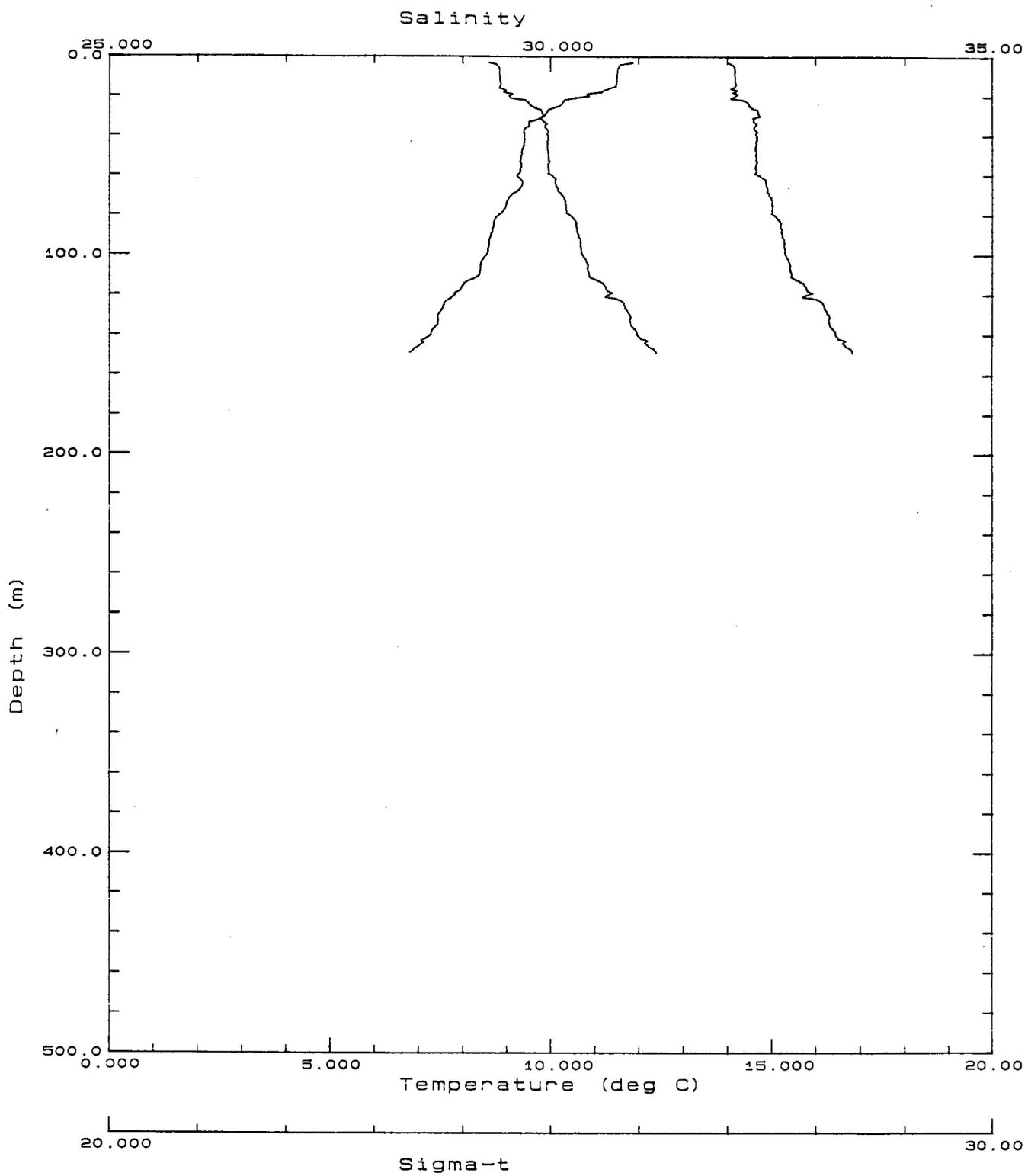
SEABIRD SBE-19 WAS USED

raw data file = DJ9B40L2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	13.06	32.08	24.12	378.74	0.00
10.00	11.58	32.08	24.40	351.97	0.30
20.00	11.07	32.15	24.55	338.06	0.64
30.00	10.41	32.20	24.70	324.34	0.97
50.00	9.13	32.27	24.96	299.29	1.60
75.00	8.25	32.69	25.43	255.22	2.28
100.00	8.25	32.70	25.43	255.00	2.92

DEEPEST MEASUREMENT:

114.00	8.10	32.77	25.51	247.81	3.27
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DGR1JL10.avg: GR1JL10

SEAKEM OCEANOGRAPHY LTD.

STATION: GR1JL10

DATE: 10/07/90 TIME: 1455 UTC

POSITION: 52-12.00N 130-56.00W

BOTTOM DEPTH: 183 M

SECCHI DEPTH: 9 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

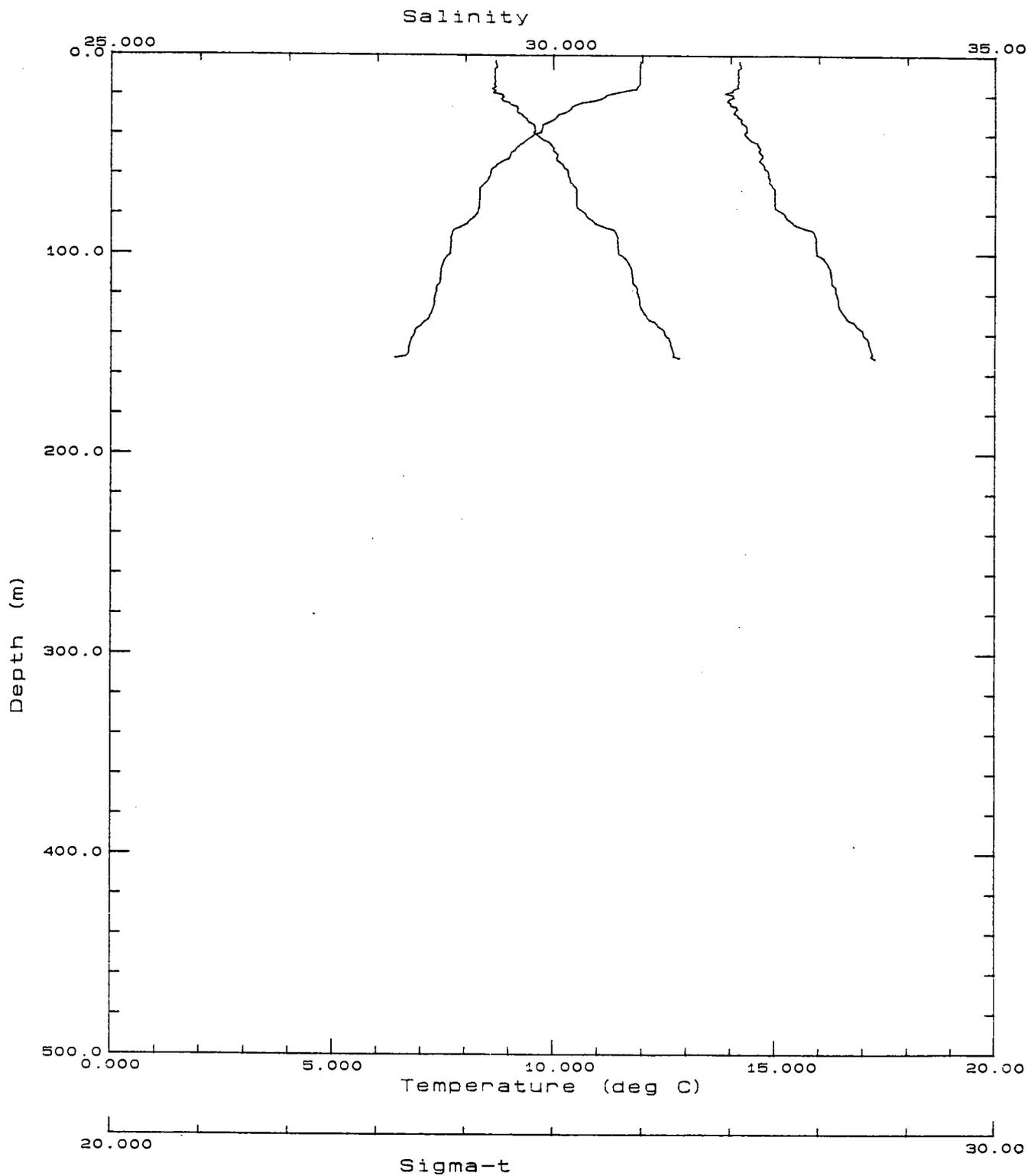
SEABIRD SBE-19 WAS USED

raw data file = DGR1JL10.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	11.87	32.02	24.30	361.48	0.00
10.00	11.51	32.09	24.42	350.11	0.25
20.00	10.88	32.09	24.53	339.88	0.59
30.00	9.86	32.37	24.92	302.78	0.91
50.00	9.33	32.33	24.97	298.13	1.51
75.00	8.98	32.52	25.18	279.24	2.24
100.00	8.53	32.67	25.36	261.68	2.91
125.00	7.57	33.09	25.84	217.13	3.52

DEEPEST MEASUREMENT:

149.00	6.80	33.41	26.20	183.14	4.01
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DGR2JL10.avg: GR2JL10

SEAKEM OCEANOGRAPHY LTD.

STATION: GR2JL10

DATE: 10/07/90 TIME: 1525 UTC

POSITION: 52-12.25N 130-52.42W

BOTTOM DEPTH: 165 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

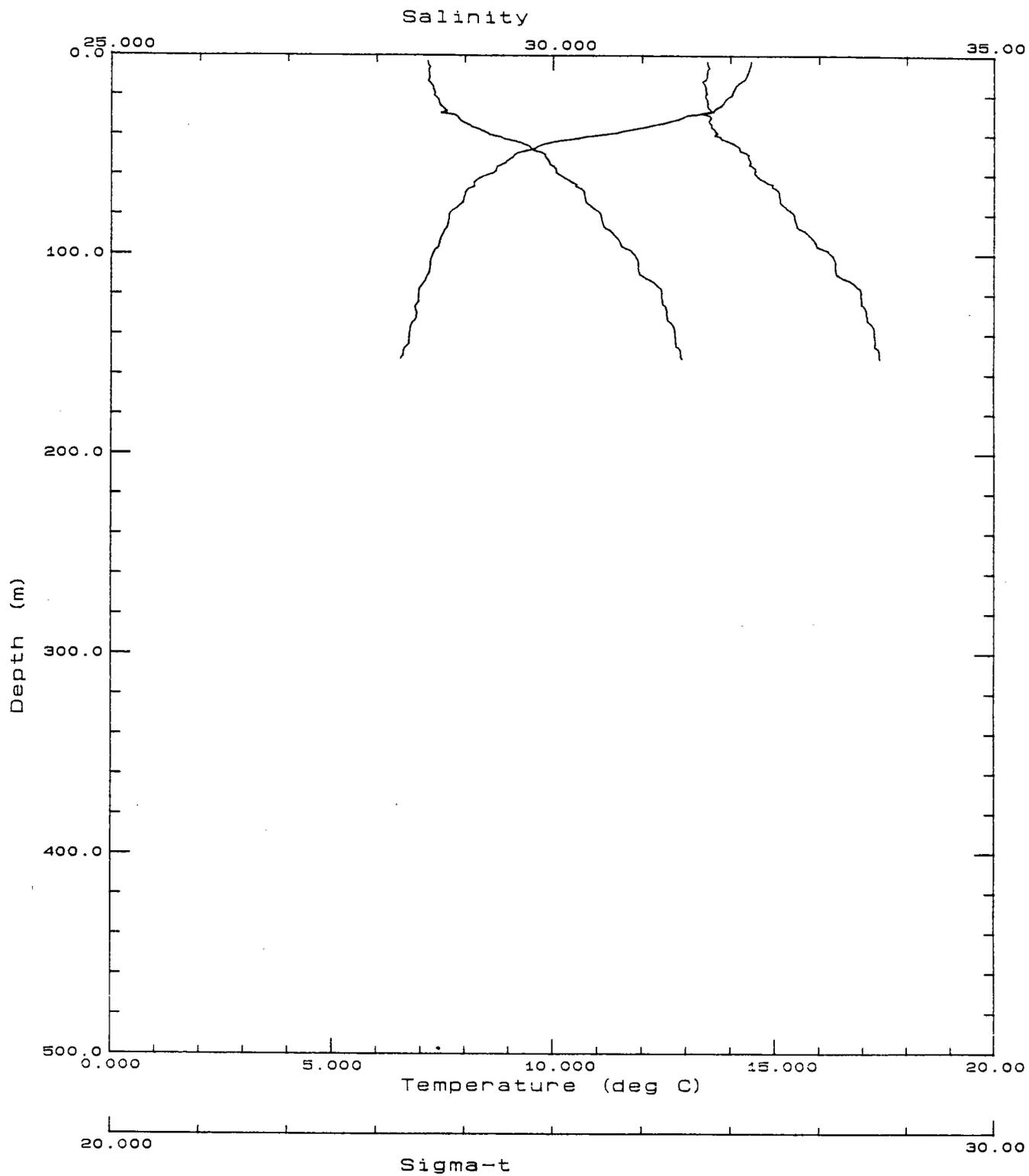
SEABIRD SBE-19 WAS USED

raw data file = DGR2JL10.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	11.96	32.10	24.35	357.00	0.00
10.00	11.95	32.09	24.34	358.14	0.25
20.00	11.22	32.02	24.42	350.43	0.61
30.00	10.11	32.07	24.65	328.89	0.95
50.00	9.03	32.36	25.05	291.22	1.57
75.00	8.32	32.50	25.26	270.87	2.27
100.00	7.65	32.98	25.73	226.41	2.87
125.00	7.29	33.21	25.97	204.05	3.40
150.00	6.70	33.60	26.36	167.72	3.86

DEEPEST MEASUREMENT:

152.00	6.41	33.63	26.42	161.97	3.90
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DGR3JL10.avg: GR3JL10

SEAKEM OCEANOGRAPHY LTD.

STATION: GR3JL10

DATE: 10/07/90 TIME: 1604 UTC

POSITION: 52-12.27N 130-47.47W

BOTTOM DEPTH: 196 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DGR3JL10.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.47	31.74	23.57	430.76	0.00
10.00	14.37	31.74	23.59	429.31	0.30
20.00	14.03	31.72	23.65	424.08	0.73
30.00	13.02	31.76	23.88	402.23	1.14
50.00	9.13	32.20	24.91	304.19	1.86
75.00	7.89	32.59	25.40	258.01	2.56
100.00	7.26	33.14	25.92	208.97	3.15
125.00	6.91	33.48	26.24	179.08	3.63
150.00	6.59	33.69	26.44	160.18	4.05

DEEPEST MEASUREMENT:

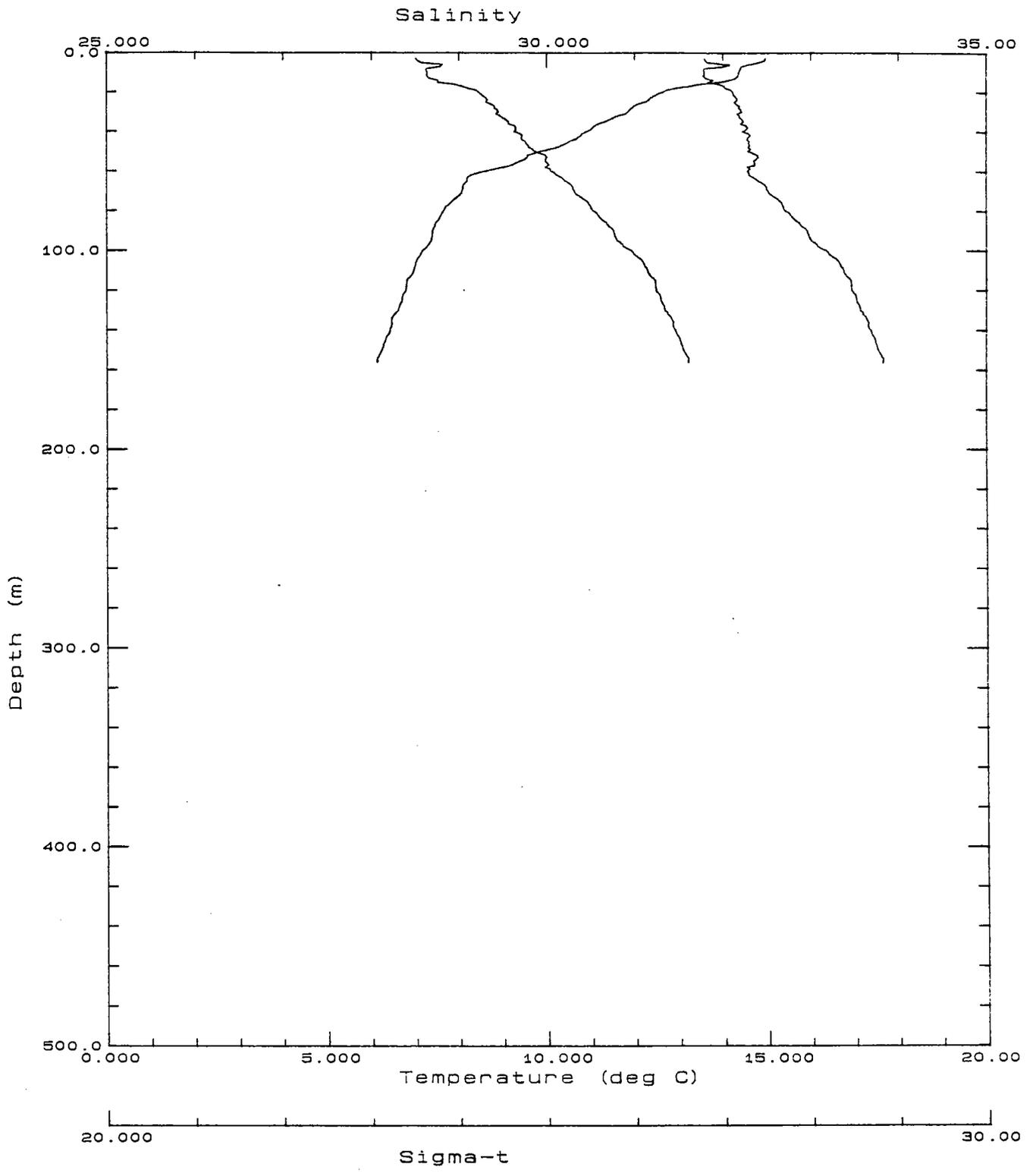
152.00	6.54	33.69	26.45	159.20	4.08
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SEAKEM OCEANOGRAPHY LTD.
 STATION: GR4JL10
 DATE: 10/07/90 TIME: 1649 UTC
 POSITION: 52-12.23N 130-40.97W
 BOTTOM DEPTH: 181 M
 SECCHI DEPTH: 9 M SST: ----- C SURFACE SALINITY: --- o/oo
 RESULTS OF CTD CAST
 SEABIRD SBE-19 WAS USED
 raw data file = DGR4JL10.dat

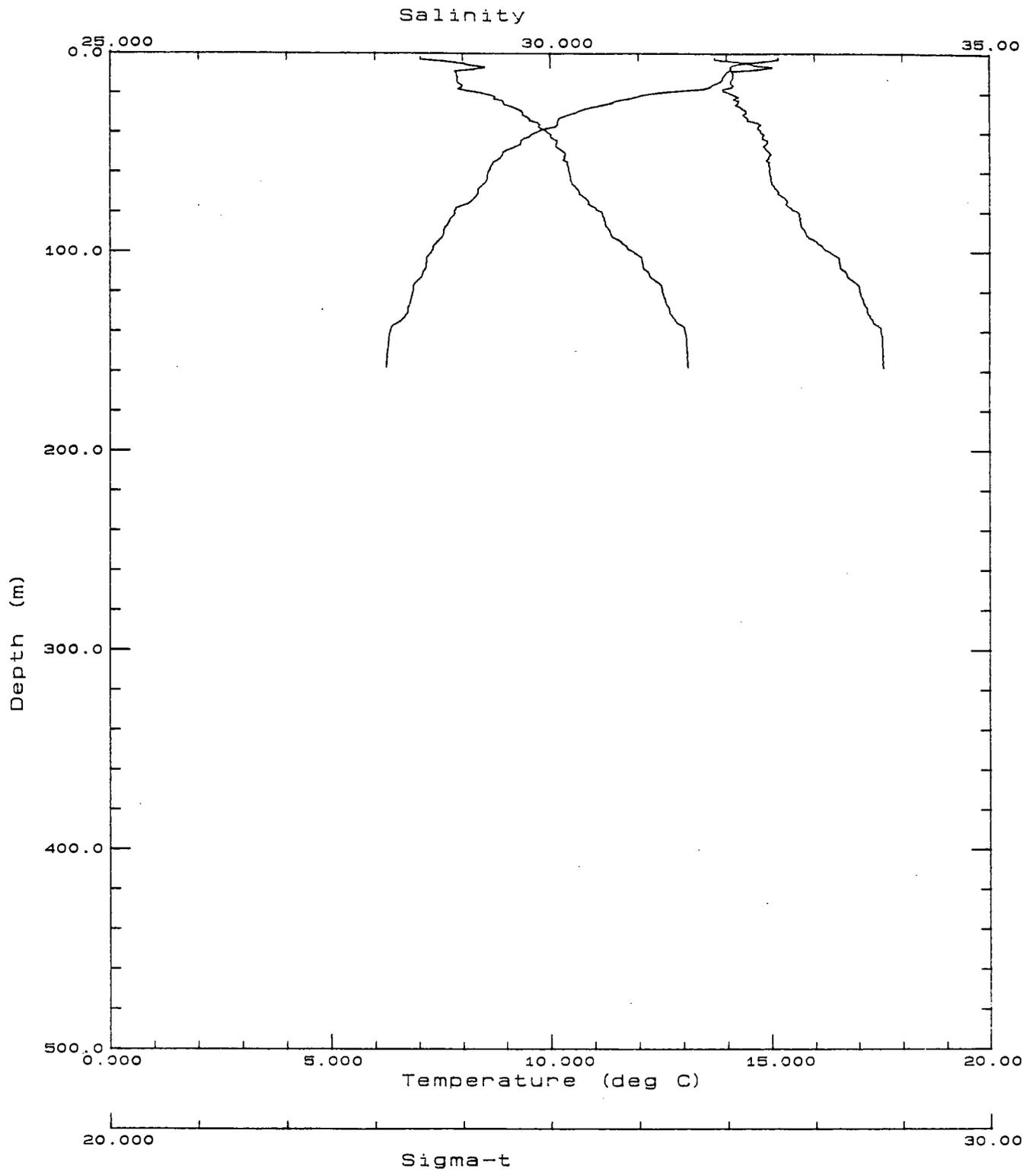
METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.97	31.79	23.51	437.00	0.00
10.00	14.35	31.79	23.64	424.93	0.30
20.00	12.64	32.11	24.23	368.97	0.70
30.00	11.84	32.21	24.45	347.56	1.06
50.00	9.86	32.28	24.86	309.45	1.72
75.00	7.85	32.64	25.44	254.08	2.42
100.00	7.16	33.17	25.96	205.31	3.00
125.00	6.69	33.51	26.29	173.79	3.46
150.00	6.23	33.77	26.55	149.30	3.87

DEEPEST MEASUREMENT:

156.00	6.12	33.82	26.61	144.18	3.95
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DGR4JL10.avg: GR4JL10



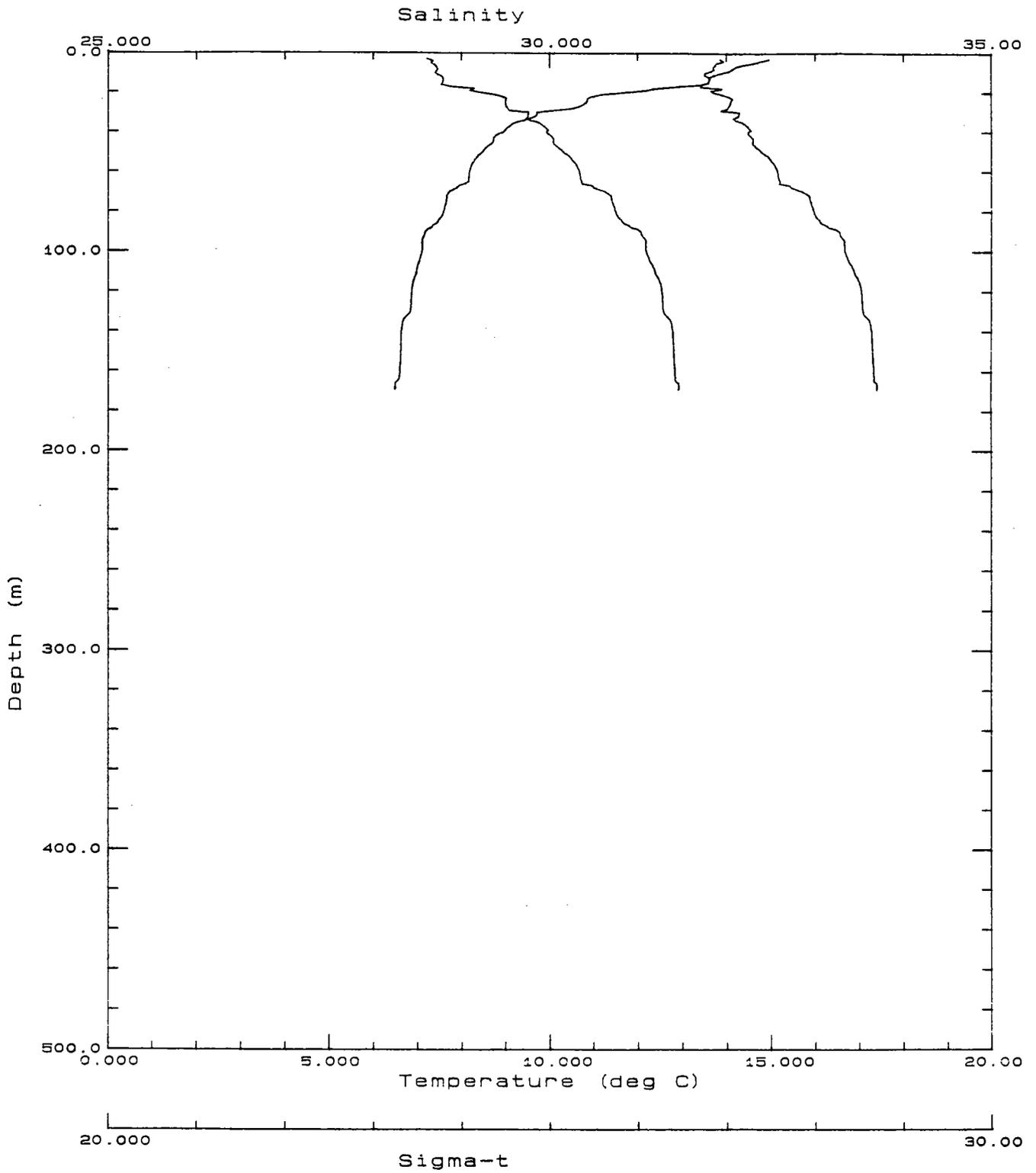
DGR5JL10.avg: GR5JL10

SEAKEM OCEANOGRAPHY LTD.
 STATION: GR5JL10
 DATE: 11/07/90 TIME: 35 UTC
 POSITION: 52-12.24N 130-34.46W
 BOTTOM DEPTH: 187 M
 SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo
 RESULTS OF CTD CAST
 SEABIRD SBE-19 WAS USED
 raw data file = DGR5JL10.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	15.17	31.87	23.52	435.49	0.00
10.00	13.99	32.08	23.93	396.68	0.32
20.00	12.45	32.04	24.21	370.90	0.71
30.00	10.56	32.22	24.69	324.85	1.06
50.00	8.94	32.49	25.16	280.39	1.66
75.00	8.18	32.70	25.44	254.23	2.34
100.00	7.29	33.17	25.94	206.73	2.92
125.00	6.82	33.56	26.31	172.06	3.39
150.00	6.29	33.78	26.55	149.22	3.78

DEEPEST MEASUREMENT:

158.00	6.26	33.79	26.56	148.32	3.90
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DGR6JL10.avg: GR6JL10

SEAKEM OCEANOGRAPHY LTD.

STATION: GR6JL10

DATE: 11/07/90 TIME: 122 UTC

POSITION: 52-12.20N 130-26.85W

BOTTOM DEPTH: 238 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

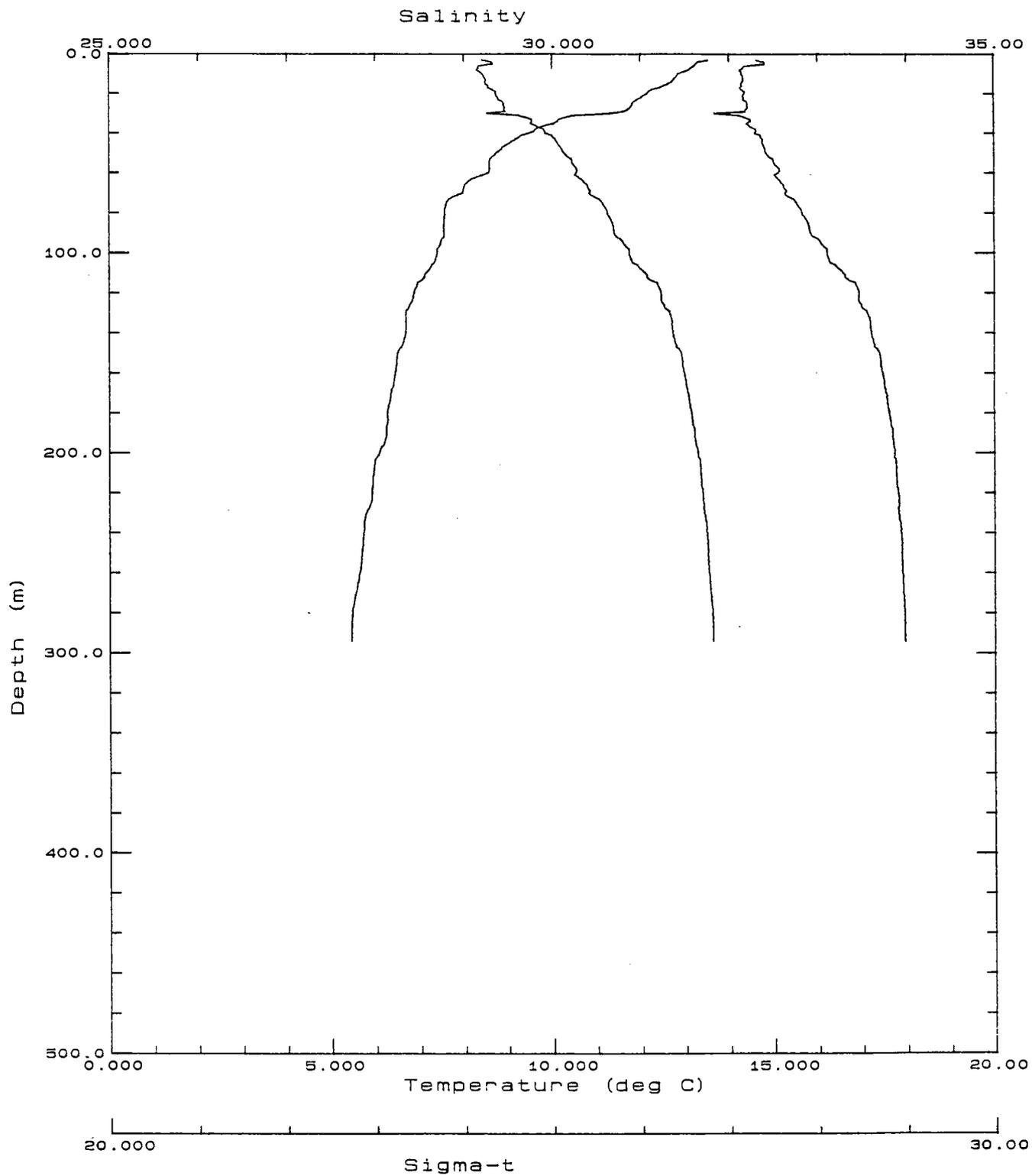
RESULTS OF CTD CAST
SEABIRD SBE-19 WAS USED

raw data file = DGR6JL10.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.96	31.93	23.62	426.62	0.00
10.00	13.90	31.76	23.71	418.39	0.29
20.00	11.65	31.86	24.22	369.60	0.70
30.00	9.72	32.14	24.77	317.55	1.04
50.00	8.48	32.39	25.16	280.54	1.64
75.00	7.66	32.95	25.71	228.06	2.28
100.00	7.11	33.34	26.10	191.85	2.80
125.00	6.86	33.53	26.28	174.55	3.25
150.00	6.63	33.65	26.41	163.14	3.67

DEEPEST MEASUREMENT:

169.00	6.49	33.70	26.46	158.14	3.98
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DB33R1.avg: B33R1

SEAKEM OCEANOGRAPHY LTD.

STATION: B33R1

DATE: 11/07/90 TIME: 345 UTC

POSITION: 52-25.85N 130-18.72W

BOTTOM DEPTH: 303 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

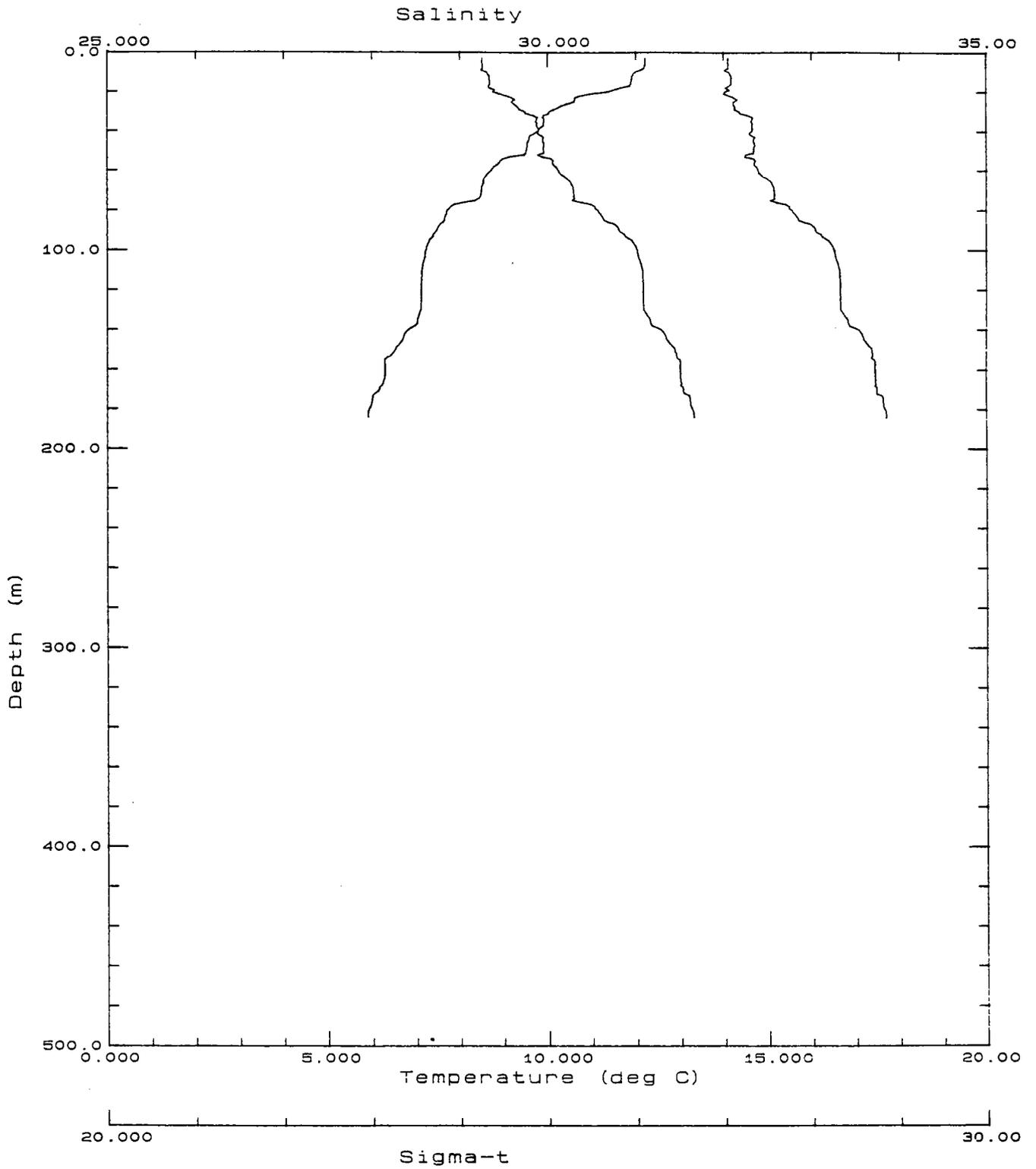
SEABIRD SBE-19 WAS USED

raw data file = DB33R1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	13.53	32.31	24.21	370.31	0.00
10.00	12.85	32.14	24.21	370.16	0.26
20.00	12.15	32.17	24.37	355.46	0.62
30.00	11.28	31.84	24.26	365.45	0.97
50.00	8.73	32.42	25.14	282.29	1.58
75.00	7.60	32.76	25.58	241.10	2.24
100.00	7.39	33.11	25.87	213.17	2.81
125.00	6.81	33.47	26.24	178.33	3.29
150.00	6.51	33.70	26.46	158.28	3.71
175.00	6.32	33.78	26.55	149.63	4.10
200.00	6.09	33.86	26.64	141.04	4.46
225.00	5.89	33.91	26.71	135.36	4.81
250.00	5.69	33.94	26.76	130.98	5.14

DEEPEST MEASUREMENT:

294.00	5.45	33.97	26.81	126.29	5.70
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DJ4B33L2.avg: J4B33L2

SEAKEM OCEANOGRAPHY LTD.

STATION: J4B33L2

DATE: 11/07/90 TIME: 0102 UTC

POSITION: 52-08.39N 130-52.87W

BOTTOM DEPTH: 212 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

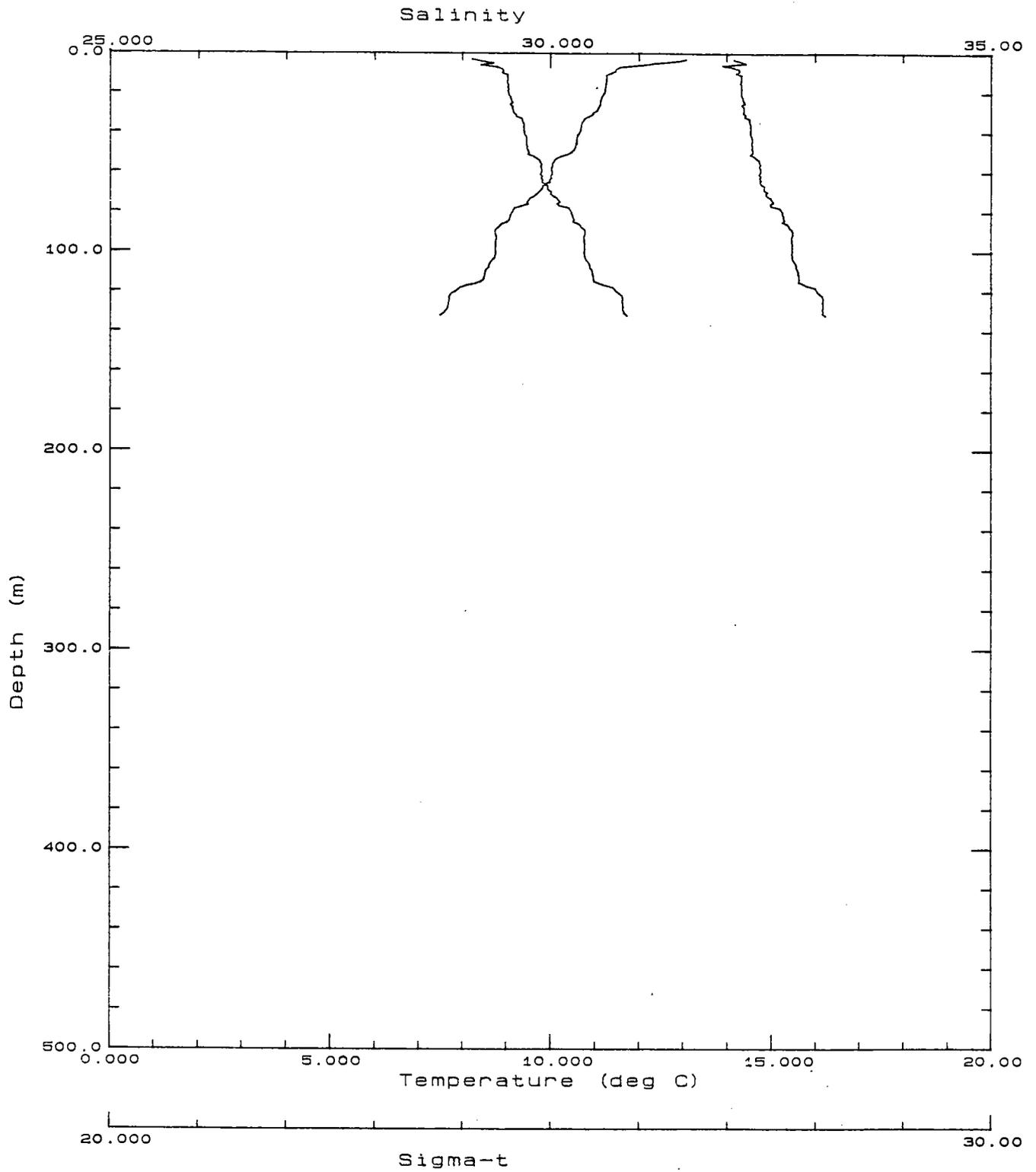
SEABIRD SBE-19 WAS USED

raw data file = DJ4B33L2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	12.22	32.05	24.26	365.24	0.00
10.00	12.00	32.06	24.31	360.69	0.26
20.00	11.37	32.02	24.39	353.54	0.61
30.00	10.04	32.17	24.74	320.10	0.95
50.00	9.52	32.34	24.96	299.68	1.56
75.00	8.36	32.53	25.29	268.69	2.26
100.00	7.23	33.26	26.02	199.63	2.82
125.00	7.12	33.32	26.08	193.59	3.31
150.00	6.53	33.68	26.44	159.61	3.76
175.00	6.00	33.81	26.61	143.83	4.14

DEEPEST MEASUREMENT:

184.00	5.91	33.85	26.65	139.99	4.27
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DGR1JL11.avg: GR1JL11

SEAKEM OCEANOGRAPHY LTD.

STATION: GR1JL11

DATE: 11/07/90 TIME: 1302 UTC

POSITION: 52-12.00N 130-56.00W

BOTTOM DEPTH: 181 M

SECCHI DEPTH: 8 M SST: 10.95 C SURFACE SALINITY: 32.09 o/oo

RESULTS OF CTD CAST

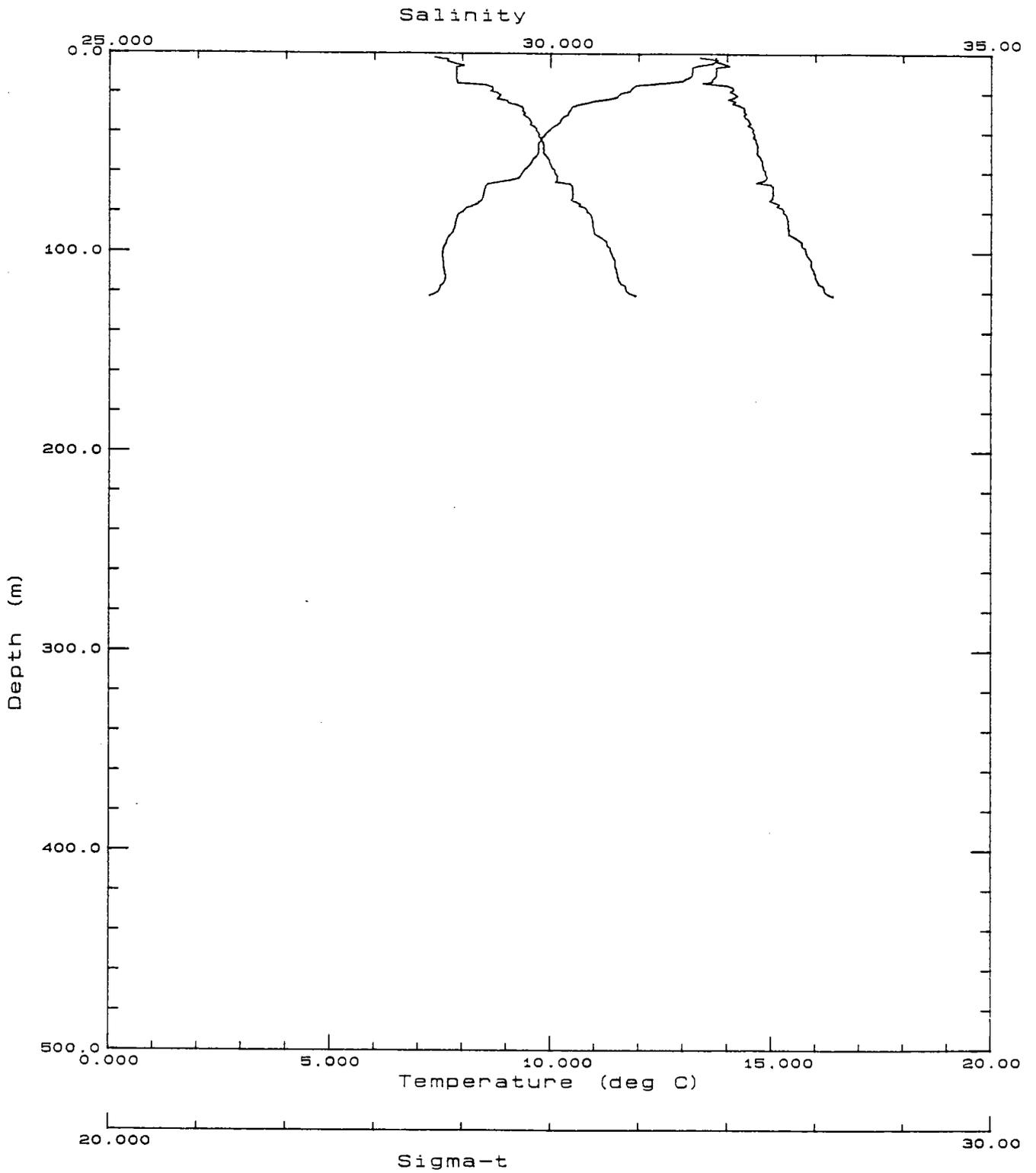
SEABIRD SBE-19 WAS USED

raw data file = DGR1JL11.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	13.08	32.08	24.11	379.23	0.00
10.00	11.39	32.11	24.45	346.94	0.25
20.00	11.22	32.16	24.53	340.04	0.59
30.00	10.98	32.18	24.59	334.53	0.93
50.00	10.48	32.29	24.76	318.58	1.58
75.00	9.48	32.53	25.11	285.83	2.33
100.00	8.76	32.74	25.38	259.80	3.00
125.00	7.69	33.08	25.81	219.52	3.61

DEEPEST MEASUREMENT:

132.00	7.49	33.11	25.86	214.64	3.76
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DGR2JL11.avg: GR2JL11

SEAKEM OCEANOGRAPHY LTD.

STATION: GR2JL11

DATE: 11/07/90 TIME: 1337 UTC

POSITION: 52-12.27N 130-52.25W

BOTTOM DEPTH: 207 M

SECCHI DEPTH: 7 M SST: 14.20 C SURFACE SALINITY: --- 0/00

RESULTS OF CTD CAST

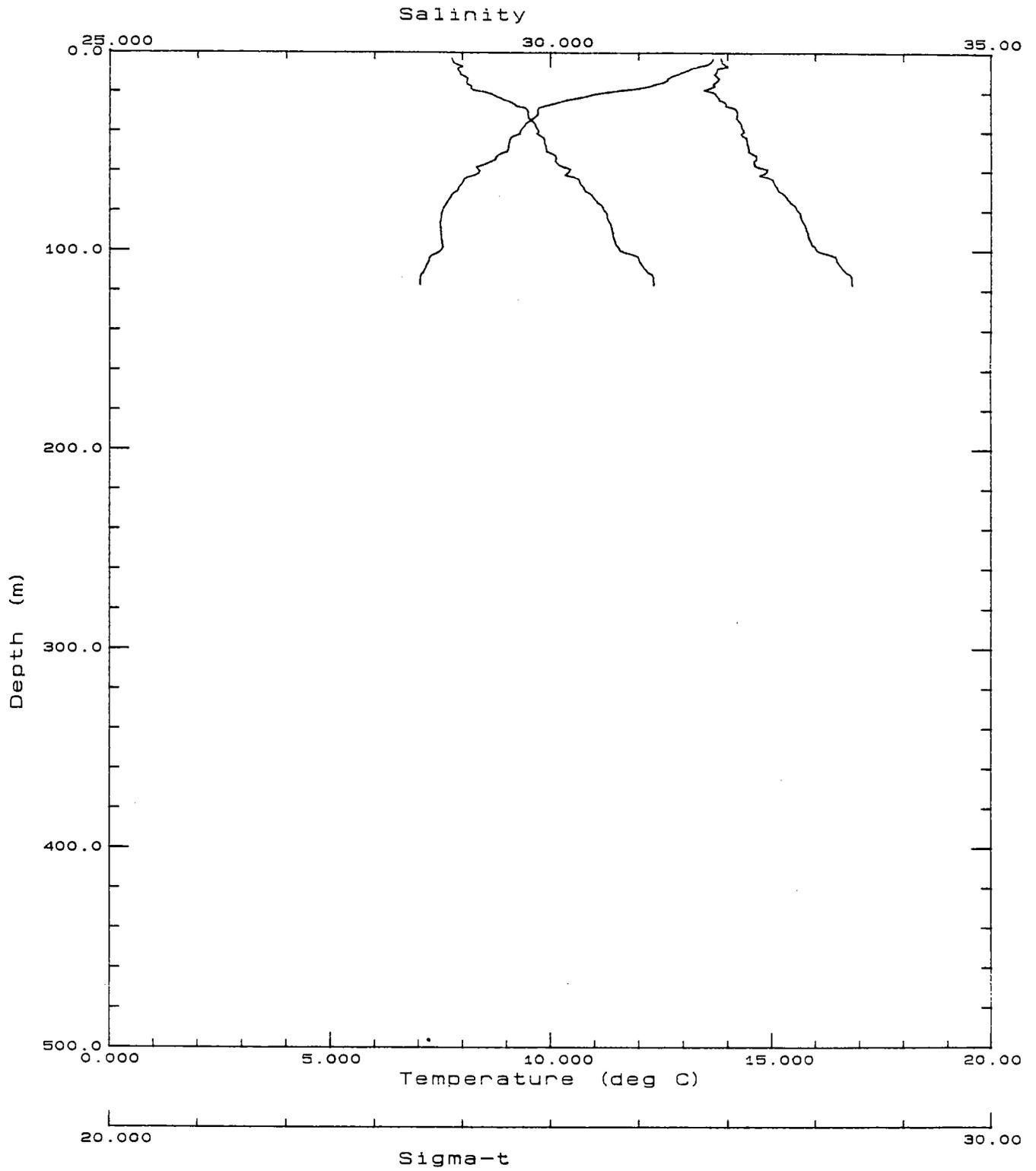
SEABIRD SBE-19 WAS USED

raw data file = DGR2JL11.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	13.74	31.69	23.68	420.48	0.00
10.00	13.20	31.88	23.94	396.42	0.32
20.00	11.61	32.08	24.39	352.82	0.70
30.00	10.40	32.21	24.71	323.09	1.04
50.00	9.73	32.34	24.92	303.47	1.66
75.00	8.38	32.53	25.28	269.14	2.37
100.00	7.56	32.89	25.68	231.20	2.99

DEEPEST MEASUREMENT:

122.00	7.26	33.19	25.96	205.12	3.48
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DGR3JL11.avg: GR3JL11

SEAKEM OCEANOGRAPHY LTD.

STATION: GR3JL11

DATE: 11/07/90 TIME: 1412 UTC

POSITION: 52-12.22N 130-47.64W

BOTTOM DEPTH: 194 M

SECCHI DEPTH: 7 M SST: 14.28 C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

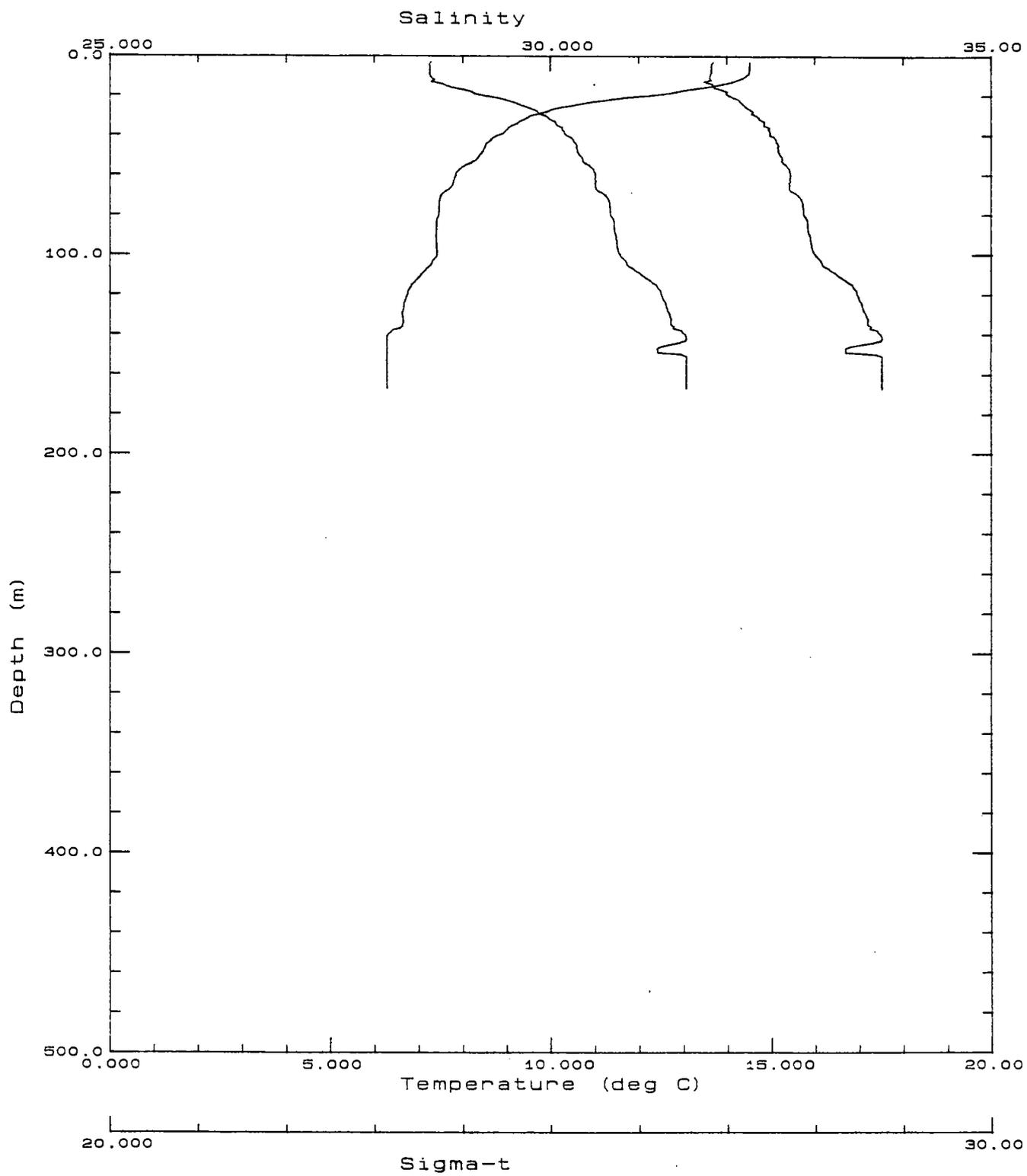
SEABIRD SBE-19 WAS USED

raw data file = DGR3JL11.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	13.67	31.92	23.88	401.65	0.00
10.00	12.98	31.87	23.98	392.59	0.28
20.00	11.30	31.83	24.26	365.95	0.66
30.00	9.71	32.11	24.75	319.39	1.00
50.00	9.01	32.24	24.96	299.59	1.62
75.00	7.67	32.71	25.52	246.06	2.30
100.00	7.51	33.02	25.79	220.94	2.88

DEEPEST MEASUREMENT:

117.00	7.04	33.42	26.17	185.20	3.21
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DB21GR5.avg: B21GR5

SEAKEM OCEANOGRAPHY LTD.

STATION: B21GR5

DATE: 12/07/90 TIME: 355 UTC

POSITION: 52-12.02N 130-35.35W

BOTTOM DEPTH: 186 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: --- o/oo

RESULTS OF CTD CAST

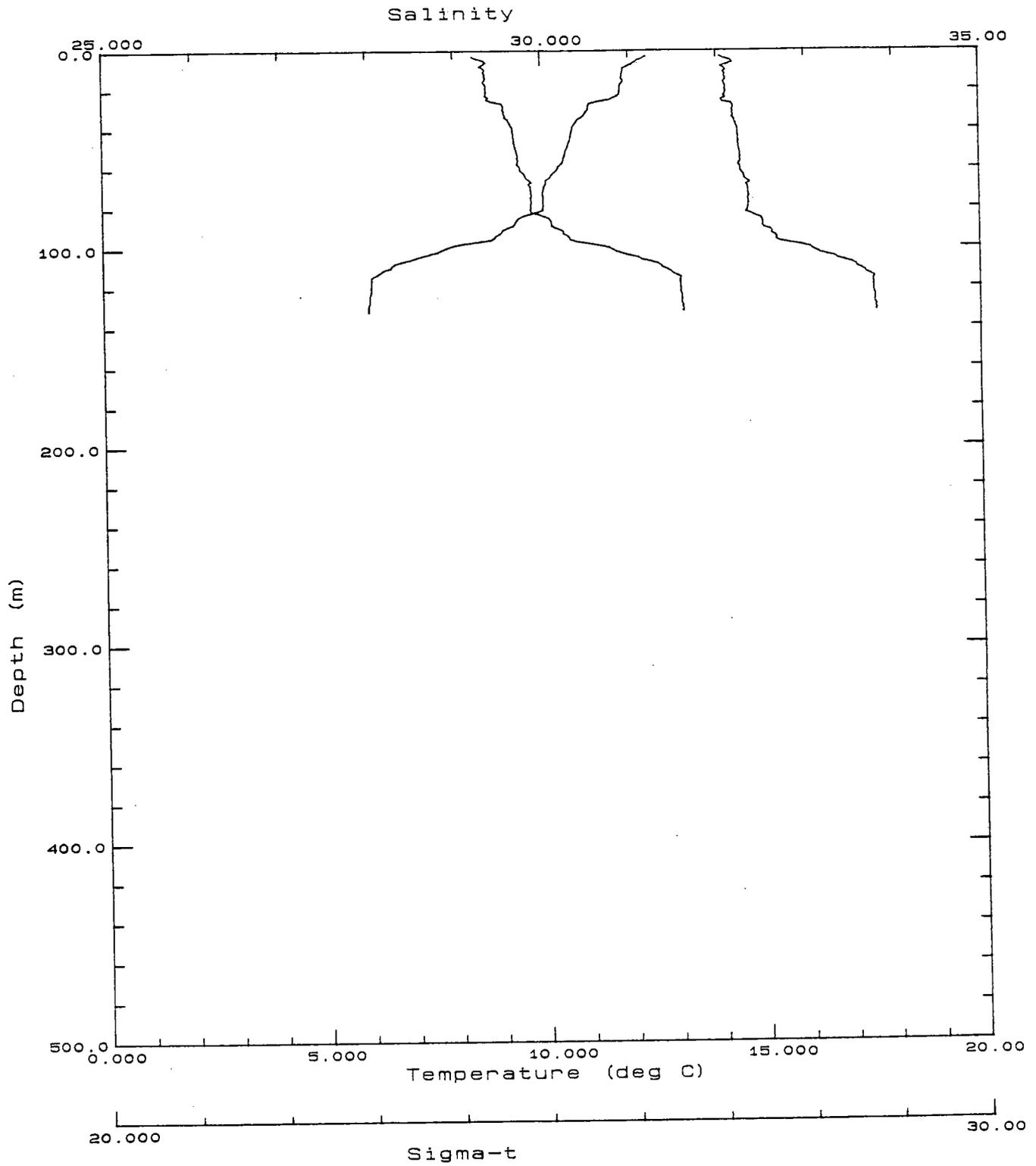
SEABIRD SBE-19 WAS USED

raw data file = DB21GR5.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.52	31.85	23.64	424.17	0.00
10.00	14.43	31.81	23.64	425.09	0.30
20.00	12.20	32.03	24.25	366.97	0.70
30.00	9.56	32.33	24.94	300.87	1.03
50.00	8.39	32.61	25.34	263.51	1.58
75.00	7.47	32.87	25.68	231.57	2.20
100.00	7.42	33.01	25.79	220.76	2.77
125.00	6.68	33.53	26.31	172.13	3.25
150.00	6.29	33.68	26.48	156.36	3.67

DEEPEST MEASUREMENT:

167.00	6.29	33.76	26.54	150.95	3.92
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DB32R2.avg: B32R2

SEAKEM OCEANOGRAPHY LTD.

STATION: B32R2

DATE: 12/07/90 TIME: 0950 UTC

POSITION: 52-07.84N 130-55.72W

BOTTOM DEPTH: 144 M

SECCHI DEPTH: -- M SST: 13.08 C SURFACE SALINITY: 32.11 o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DB32R2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	12.41	32.05	24.22	369.09	0.00
10.00	11.88	32.11	24.37	355.29	0.25
20.00	11.80	32.10	24.38	354.49	0.61
30.00	11.08	32.18	24.57	336.45	0.95
50.00	10.58	32.25	24.71	323.28	1.61
75.00	10.04	32.35	24.88	307.93	2.40
100.00	7.82	33.05	25.77	223.29	3.11
125.00	6.06	33.78	26.58	145.74	3.53

DEEPEST MEASUREMENT:

132.00	6.02	33.80	26.60	144.40	3.63
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SEAKEM OCEANOGRAPHY LTD.

STATION: B32LC

DATE: 12/07/90 TIME: 1249 UTC

POSITION: 52-00.99N 130-29.45W

BOTTOM DEPTH: 360 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

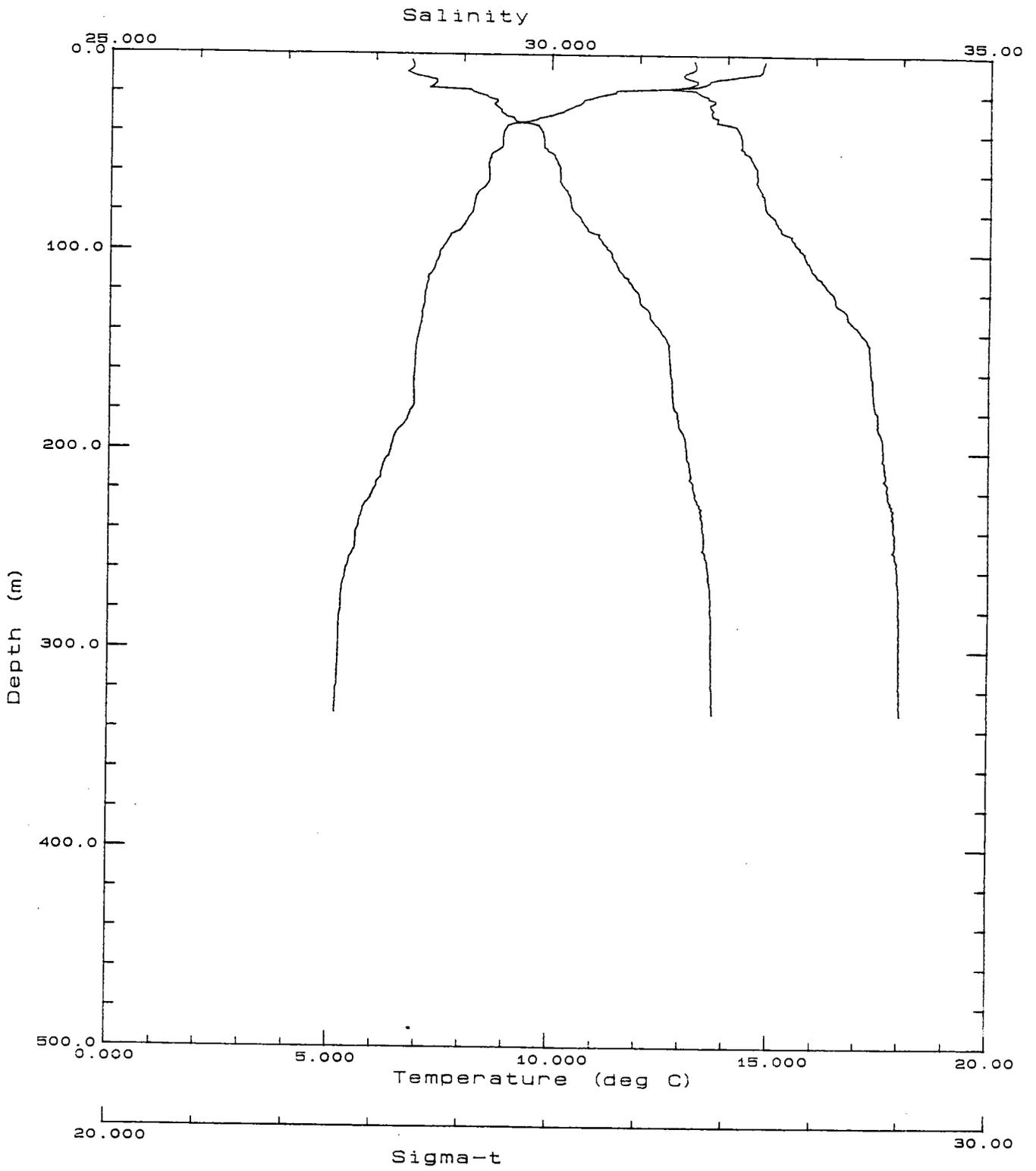
SEABIRD SBE-19 WAS USED

raw data file = DB32LC.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.85	31.62	23.40	447.18	0.00
10.00	14.42	31.50	23.40	447.59	0.31
20.00	11.23	31.71	24.17	373.96	0.73
30.00	10.10	31.83	24.46	346.88	1.09
50.00	8.66	32.24	25.01	294.55	1.71
75.00	8.26	32.44	25.22	274.56	2.42
100.00	7.48	32.88	25.69	230.78	3.06
125.00	7.13	33.24	26.02	199.80	3.60
150.00	6.93	33.64	26.36	167.98	4.05
175.00	6.91	33.69	26.40	163.88	4.46
200.00	6.38	33.80	26.56	149.40	4.85
225.00	5.89	33.88	26.68	137.55	5.21
250.00	5.56	33.91	26.75	131.65	5.54
300.00	5.22	33.99	26.85	122.08	6.16

DEEPEST MEASUREMENT:

332.00	5.15	34.01	26.87	120.71	6.55
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DB32LC.avg: B32LC

SEAKEM OCEANOGRAPHY LTD.

STATION: B36RA

DATE: 12/07/90 TIME: 1652 UTC

POSITION: 51-41.05N 130-31.73W

BOTTOM DEPTH: 1015 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ---- o/oo

RESULTS OF CTD CAST

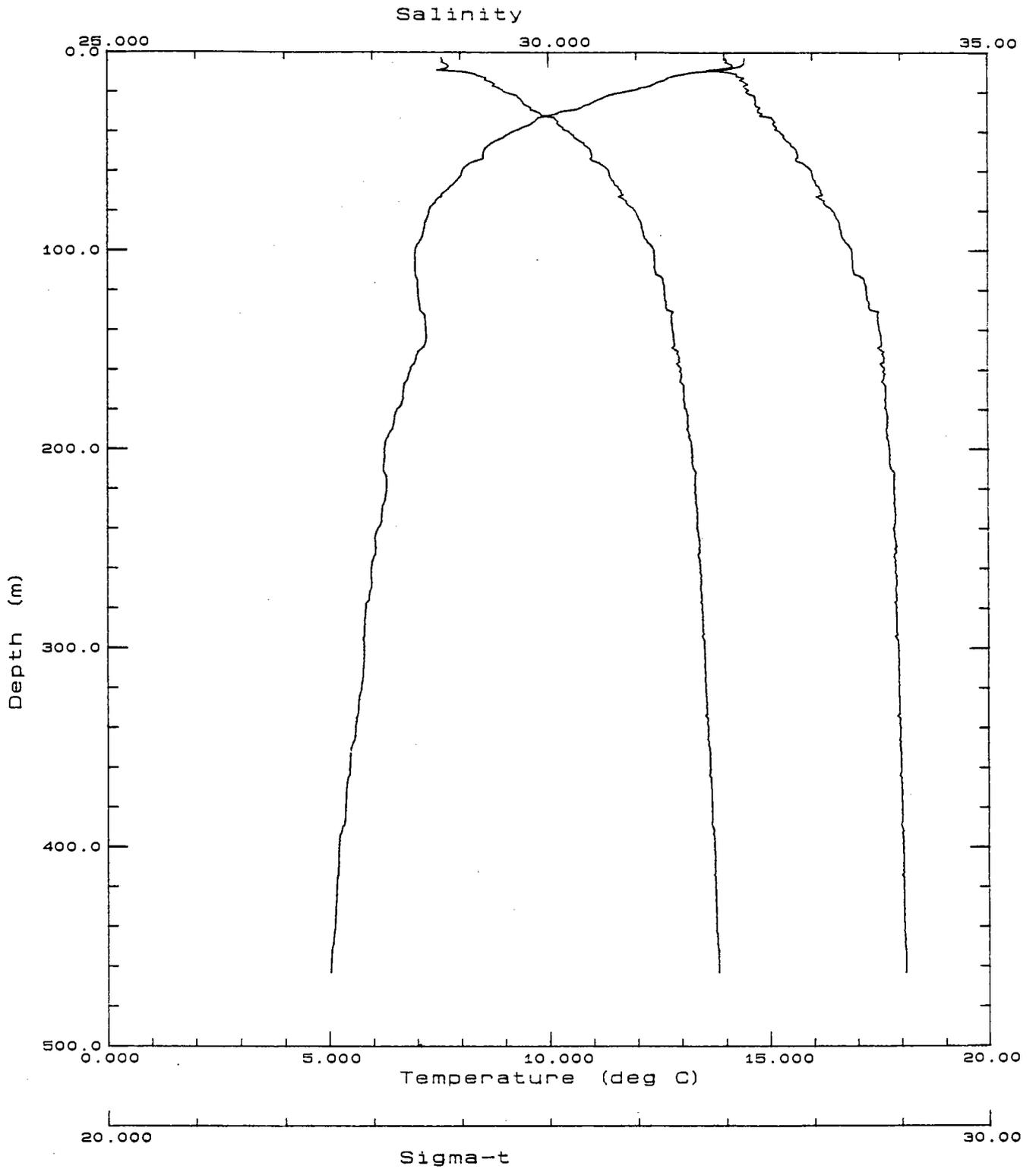
SEABIRD SBE-19 WAS USED

raw data file = DB36RA.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	13.68	32.28	24.16	375.29	0.00
10.00	12.76	32.11	24.20	371.29	0.27
20.00	10.91	32.28	24.67	326.22	0.62
30.00	9.48	32.54	25.11	284.47	0.92
50.00	8.14	32.68	25.43	254.38	1.47
75.00	7.10	33.35	26.11	190.63	2.00
100.00	7.11	33.66	26.34	168.47	2.45
125.00	6.54	33.73	26.48	155.85	2.85
150.00	6.41	33.77	26.53	151.61	3.23
175.00	6.09	33.87	26.65	140.47	3.60
200.00	5.93	33.91	26.70	135.95	3.94
225.00	5.77	33.92	26.73	133.36	4.28
250.00	5.65	33.94	26.76	131.00	4.61
300.00	5.39	33.97	26.82	125.55	5.25
400.00	4.89	34.05	26.93	115.47	6.46

DEEPEST MEASUREMENT:

466.00	4.66	34.08	26.99	110.86	7.20
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DB40RB.avg: B40RB

SEAKEM OCEANOGRAPHY LTD.

STATION: B40RB

DATE: 13/07/90 TIME: 315 UTC

POSITION: 51-19.96N 130-24.56W

BOTTOM DEPTH: 1357 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ---- o/oo

RESULTS OF CTD CAST

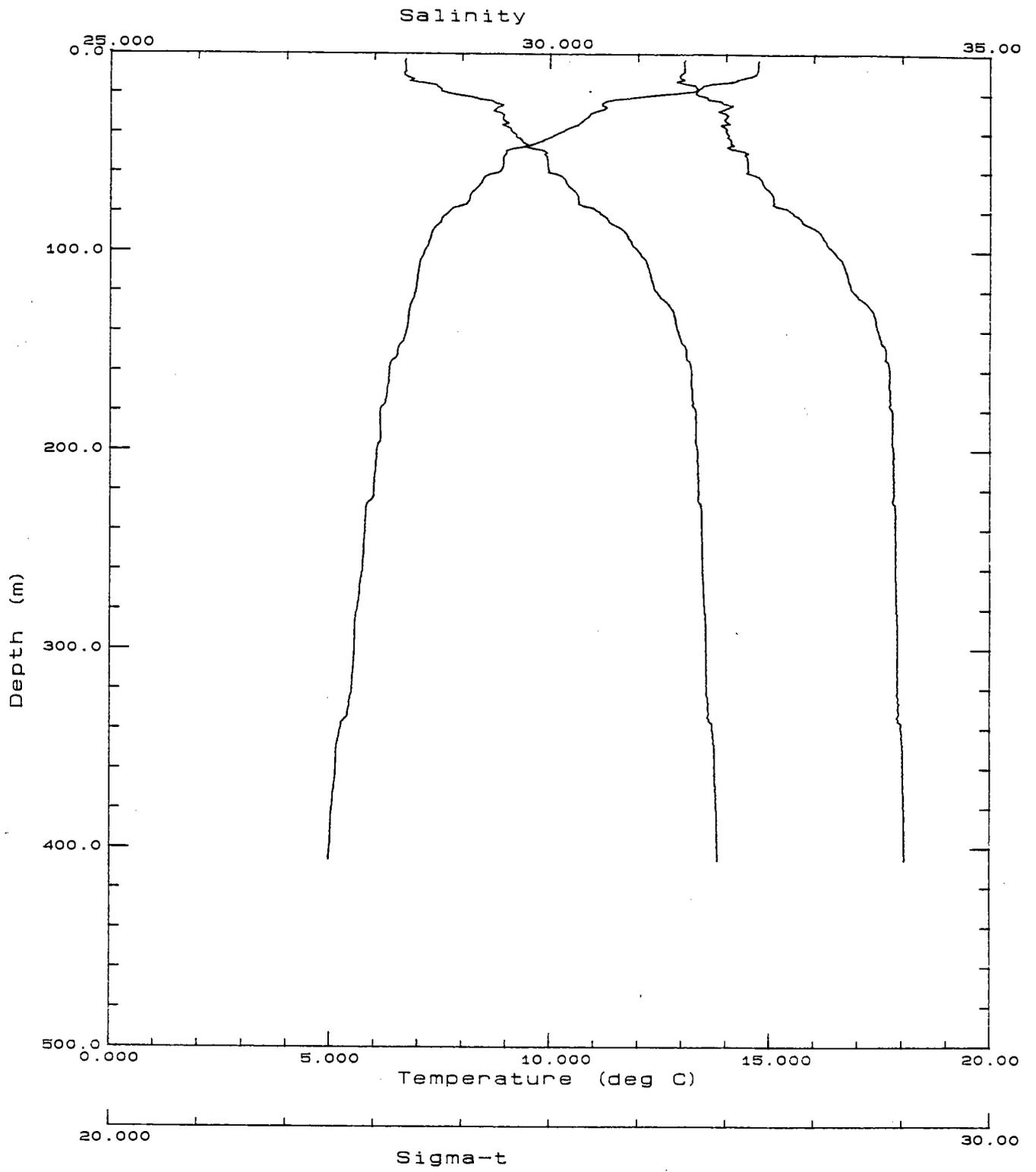
SEABIRD SBE-19 WAS USED

raw data file = DB40RB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.47	32.02	23.79	410.23	0.00
10.00	13.31	32.05	24.05	385.54	0.28
20.00	11.75	32.25	24.50	342.94	0.64
30.00	10.28	32.38	24.86	308.45	0.97
50.00	8.54	32.82	25.48	249.47	1.52
75.00	7.45	33.13	25.89	211.57	2.09
100.00	6.98	33.45	26.20	182.07	2.58
125.00	7.05	33.62	26.33	170.30	3.02
150.00	7.09	33.77	26.44	159.99	3.43
175.00	6.69	33.82	26.53	151.43	3.82
200.00	6.27	33.87	26.63	142.62	4.19
225.00	6.28	33.93	26.67	138.95	4.54
250.00	6.07	33.93	26.70	136.35	4.88
300.00	5.80	33.97	26.76	130.88	5.55
400.00	5.23	34.02	26.87	121.36	6.81

DEEPEST MEASUREMENT:

463.00	5.03	34.05	26.92	117.79	7.57
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DB40LC.avg: B40LC

SEAKEM OCEANOGRAPHY LTD.

STATION: B40LC

DATE: 13/07/90 TIME: 1013 UTC

POSITION: 51-56.18N 130-32.16W

BOTTOM DEPTH: 427 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

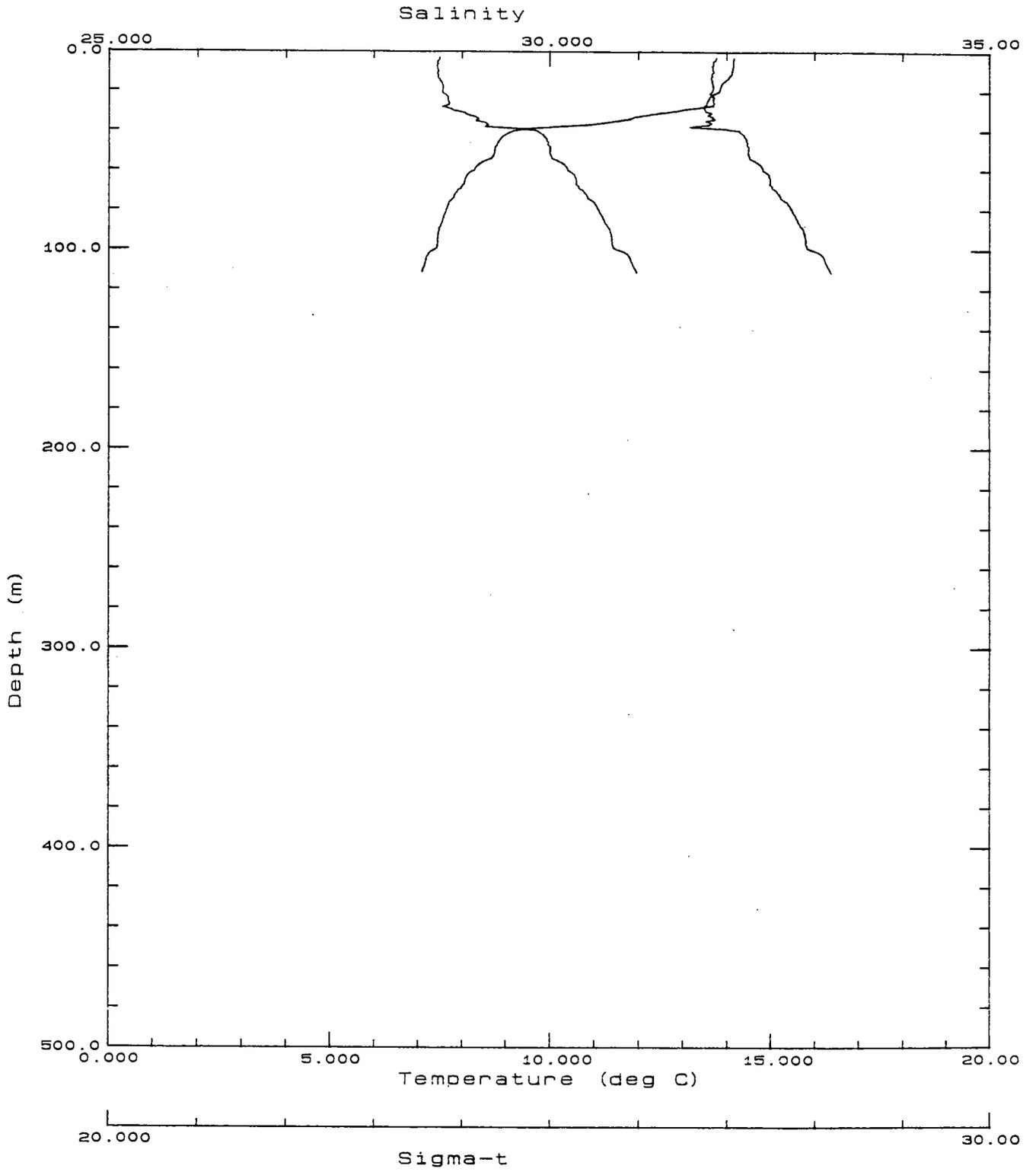
SEABIRD SBE-19 WAS USED

raw data file = DB40LC.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.74	31.54	23.36	451.35	0.00
10.00	14.68	31.49	23.34	453.31	0.32
20.00	12.83	31.65	23.84	406.04	0.75
30.00	10.94	31.99	24.44	348.26	1.11
50.00	9.01	32.25	24.96	299.28	1.78
75.00	8.13	32.55	25.33	264.48	2.49
100.00	7.14	33.24	26.01	199.81	3.05
125.00	6.86	33.58	26.32	171.18	3.52
150.00	6.54	33.82	26.55	149.12	3.92
175.00	6.26	33.87	26.63	142.40	4.28
200.00	6.06	33.91	26.68	137.63	4.63
225.00	5.95	33.90	26.69	137.33	4.97
250.00	5.77	33.93	26.74	132.75	5.30
300.00	5.56	33.95	26.78	129.31	5.96
400.00	5.00	34.03	26.91	117.95	7.19

DEEPEST MEASUREMENT:

406.00	4.98	34.03	26.91	117.74	7.26
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DB36LB.avg: B36LB

SEAKEM OCEANOGRAPHY LTD.

STATION: B36LB

DATE: 13/07/90 TIME: 1432 UTC

POSITION: 52-21.22N 130-43.53W

BOTTOM DEPTH: 120 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

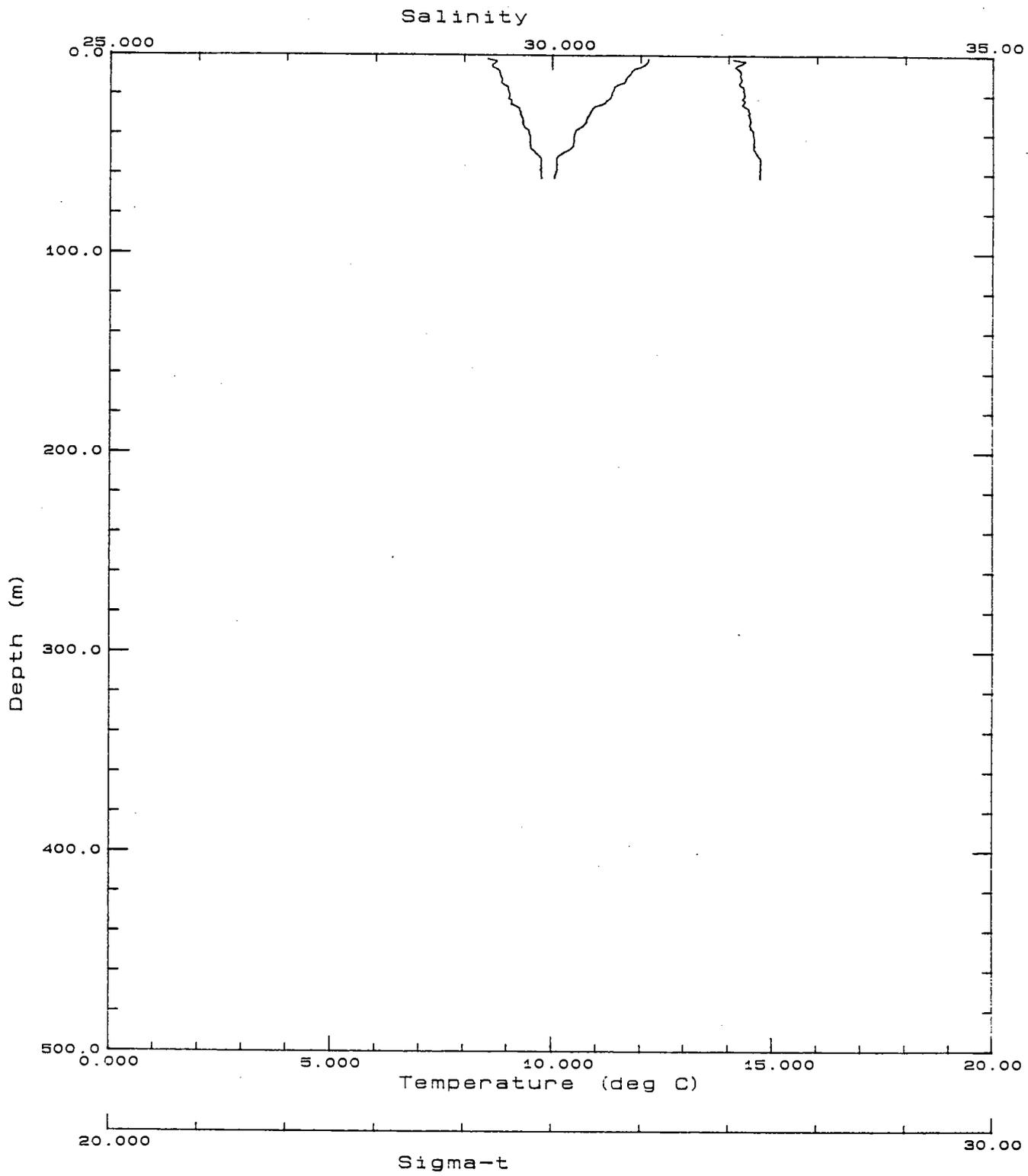
SEABIRD SBE-19 WAS USED

raw data file = DB36LB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.17	31.88	23.74	414.51	0.00
10.00	14.13	31.85	23.73	416.26	0.29
20.00	13.83	31.83	23.78	411.93	0.71
30.00	12.86	31.76	23.91	399.00	1.11
50.00	8.75	32.25	25.00	295.11	1.78
75.00	7.75	32.65	25.47	251.60	2.46
100.00	7.36	32.96	25.76	223.62	3.05

DEEPEST MEASUREMENT:

111.00	7.09	33.18	25.97	203.70	3.28
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DLB1JL14.avg: LB1JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB1JL14

DATE: 14/07/90 TIME: 0855 UTC

POSITION: 52-02.50N 130-59.00W

BOTTOM DEPTH: 71 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

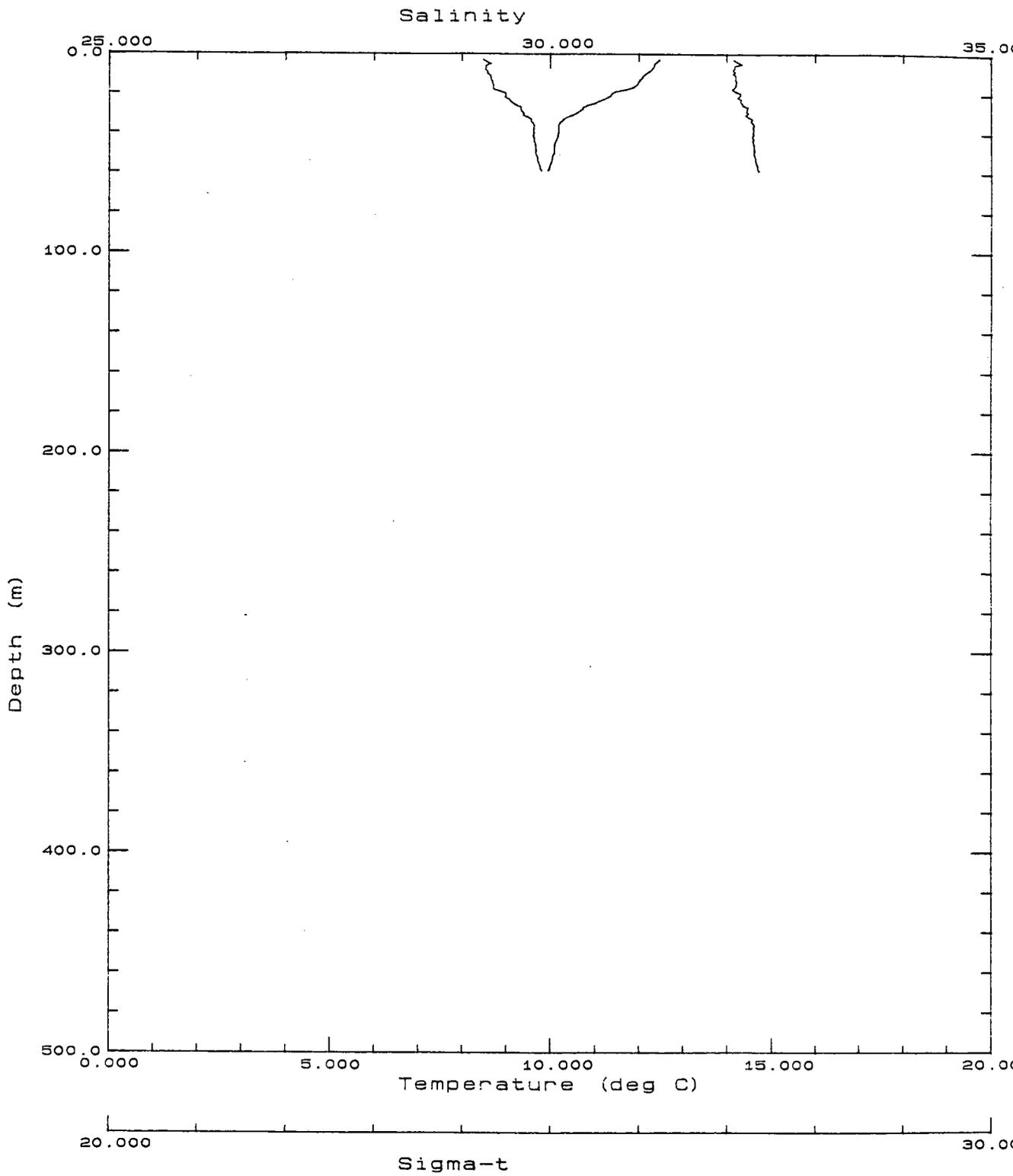
SEABIRD SBE-19 WAS USED

raw data file = DLB1JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	12.17	32.06	24.27	364.17	0.00
10.00	11.74	32.13	24.41	351.06	0.28
20.00	11.35	32.18	24.52	340.95	0.63
30.00	10.85	32.22	24.64	329.43	0.97
50.00	10.21	32.32	24.83	312.12	1.61

DEEPEST MEASUREMENT:

62.00	10.04	32.36	24.88	307.30	1.98
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DLB2JL14.avg: LB2JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB2JL14

DATE: 14/07/90 TIME: 0918 UTC

POSITION: 52-02.50N 130-56.50W

BOTTOM DEPTH: 73 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

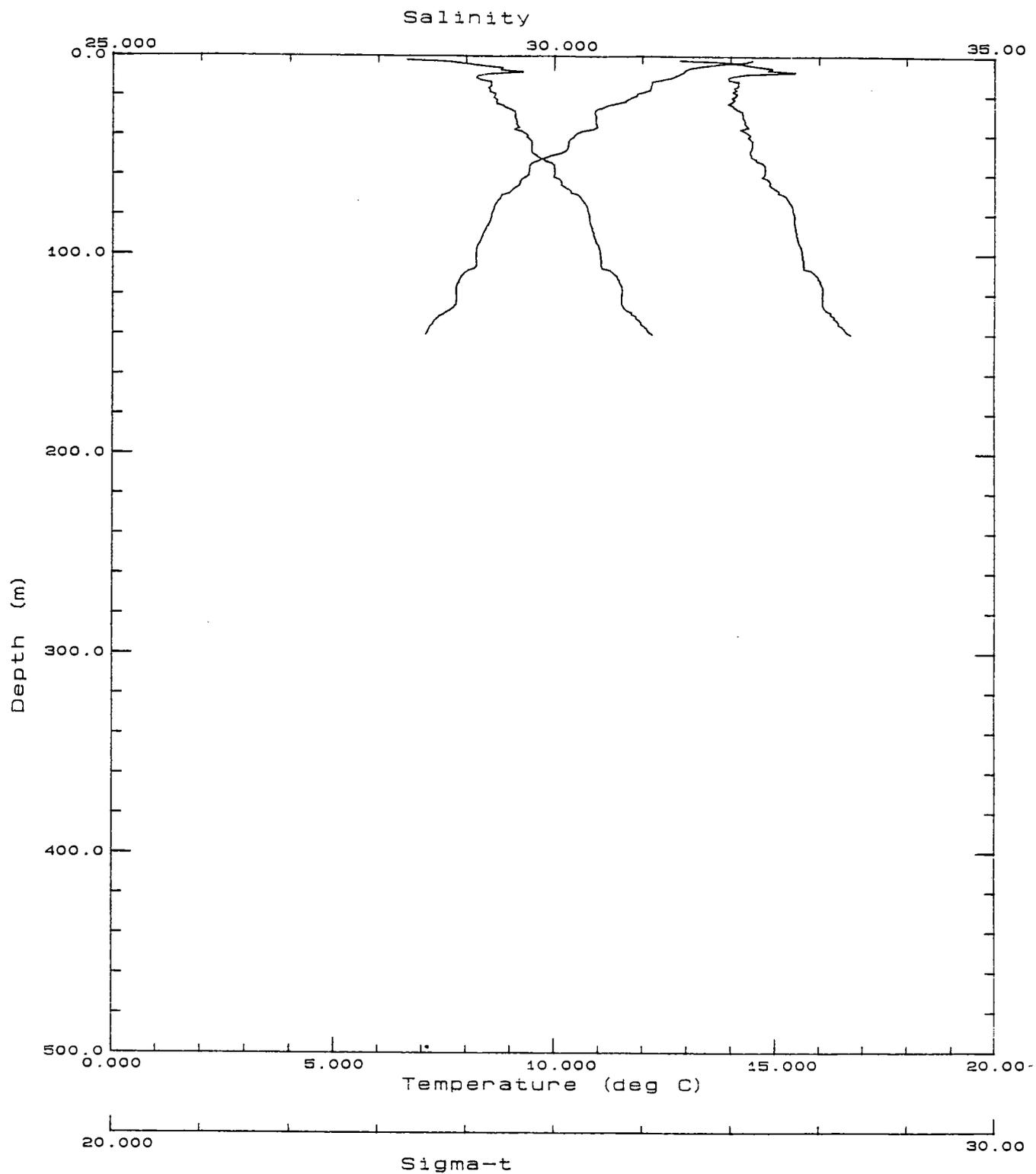
SEABIRD SBE-19 WAS USED

raw data file = DLB2JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	12.46	32.09	24.24	367.14	0.00
10.00	12.16	32.08	24.29	362.48	0.25
20.00	11.39	32.16	24.49	343.47	0.61
30.00	10.58	32.24	24.70	324.13	0.95
50.00	10.09	32.30	24.83	311.58	1.57

DEEPEST MEASUREMENT:

59.00	9.95	32.36	24.90	305.55	1.85
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DLB3JL14.avg: LB3JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB3JL14

DATE: 14/07/90 TIME: 0948 UTC

POSITION: 52-02.91N 130-53.28W

BOTTOM DEPTH: 208 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ---- 0/00

RESULTS OF CTD CAST

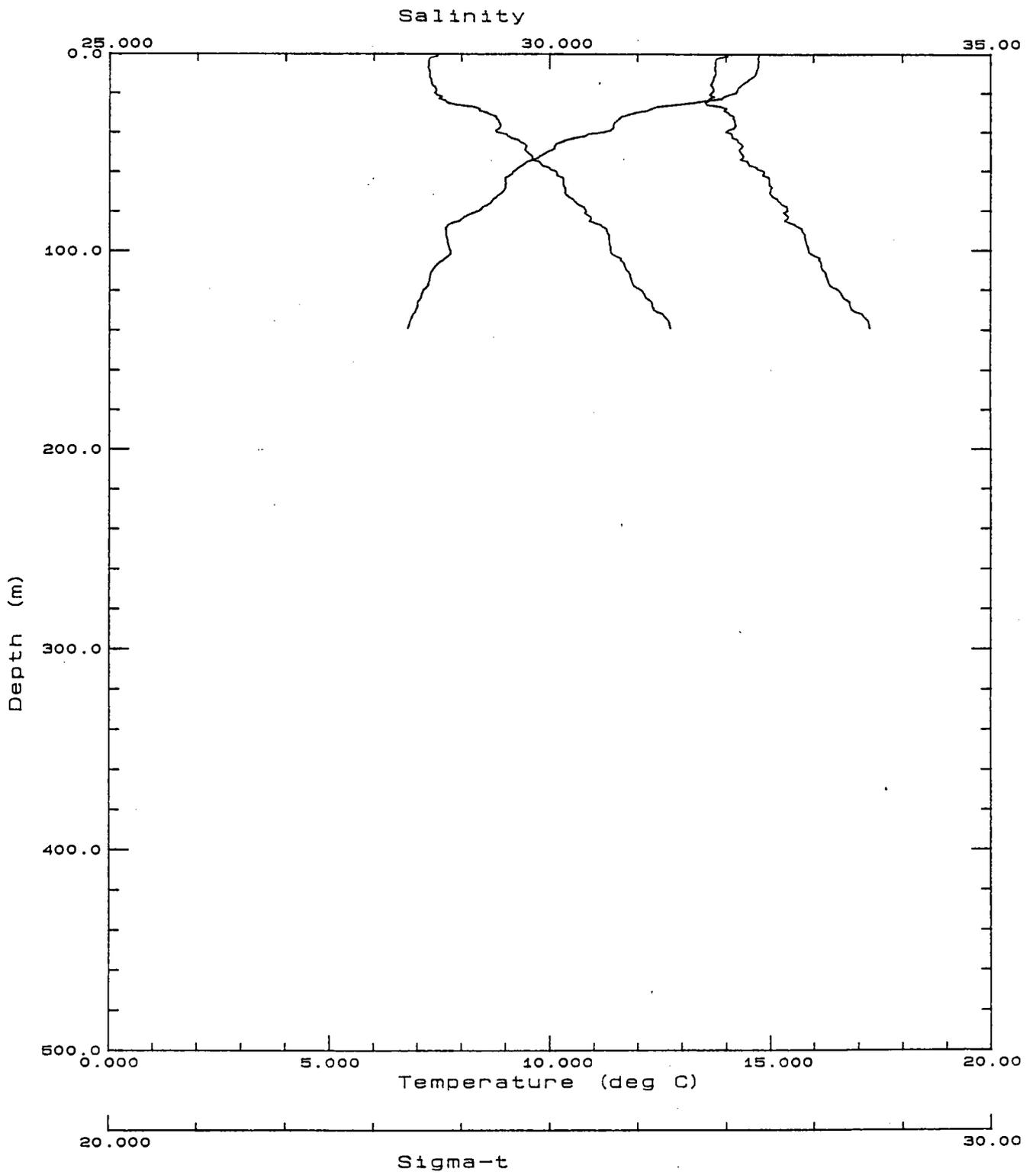
SEABIRD SBE-19 WAS USED

raw data file = DLB3JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	14.49	31.43	23.33	454.64	0.00
10.00	12.76	32.02	24.13	377.50	0.30
20.00	11.87	32.06	24.33	359.10	0.66
30.00	10.94	32.14	24.56	337.29	1.01
50.00	9.96	32.23	24.80	315.13	1.67
75.00	8.66	32.69	25.36	261.62	2.39
100.00	8.23	32.81	25.52	246.64	3.02
125.00	7.77	33.04	25.77	223.82	3.60

DEEPEST MEASUREMENT:

140.00	7.09	33.36	26.11	190.90	3.92
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DLB4JL14.avg: LB4JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB4JL14

DATE: 14/07/90 TIME: 1020 UTC

POSITION: 52-02.83N 130-49.98W

BOTTOM DEPTH: 232 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

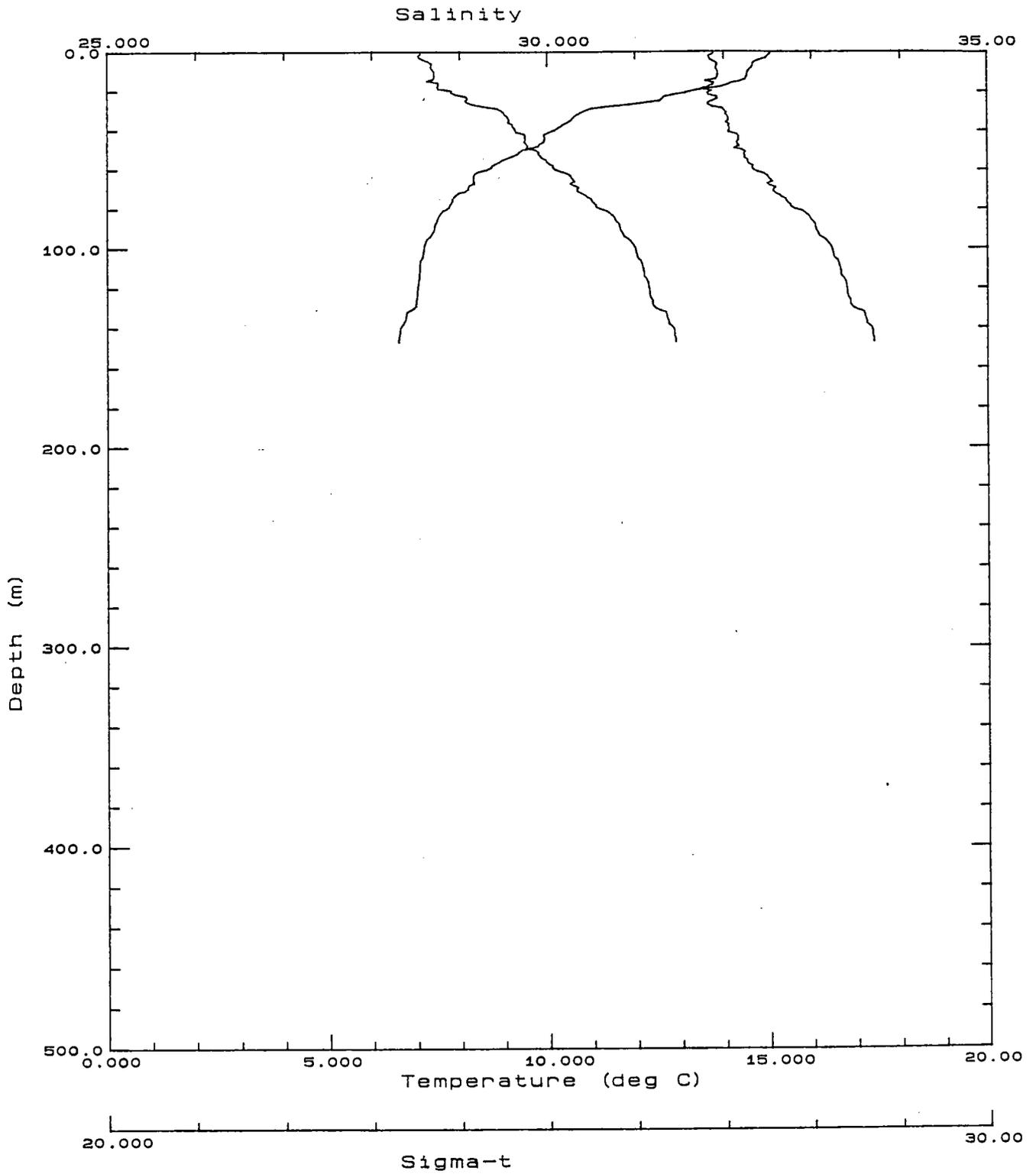
SEABIRD SBE-19 WAS USED

raw data file = DLB4JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.75	32.02	23.73	416.14	0.00
10.00	14.68	31.88	23.64	424.55	0.38
20.00	14.23	31.84	23.70	419.37	0.80
30.00	11.96	32.02	24.28	363.55	1.20
50.00	9.94	32.16	24.74	320.13	1.88
75.00	8.69	32.59	25.28	269.20	2.61
100.00	7.74	32.94	25.69	230.28	3.22
125.00	7.04	33.37	26.13	189.47	3.75

DEEPEST MEASUREMENT:

139.00	6.78	33.63	26.37	166.64	3.99
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DLB5JL14.avg: LB5JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB5JL14

DATE: 14/07/90 TIME: 1050 UTC

POSITION: 52-02.92N 130-46.59W

BOTTOM DEPTH: 250 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ---- o/oo

RESULTS OF CTD CAST

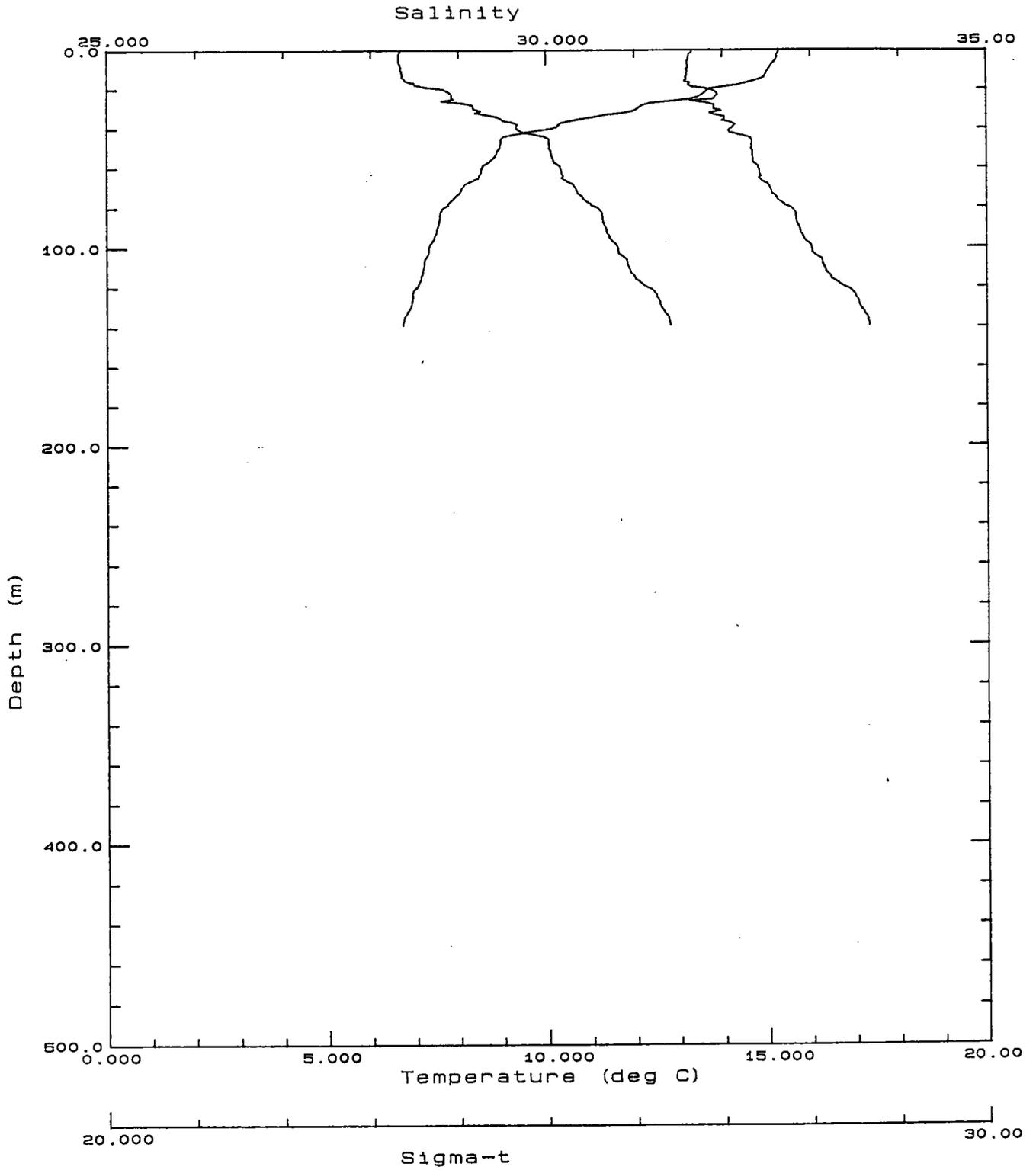
SEABIRD SBE-19 WAS USED

raw data file = DLB5JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.06	31.88	23.55	432.58	0.00
10.00	14.55	31.93	23.70	418.57	0.38
20.00	13.30	31.86	23.90	399.58	0.80
30.00	10.86	32.01	24.47	345.92	1.18
50.00	9.44	32.20	24.86	308.82	1.84
75.00	7.83	32.70	25.50	248.67	2.53
100.00	7.17	33.23	26.00	201.15	3.09
125.00	7.02	33.42	26.17	185.18	3.57

DEEPEST MEASUREMENT:

147.00	6.61	33.71	26.45	158.74	3.94
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DLB7JL14.avg: LB7JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB7JL14

DATE: 14/07/90 TIME: 1200 UTC

POSITION: 52-02.62N 130-40.89W

BOTTOM DEPTH: 260 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

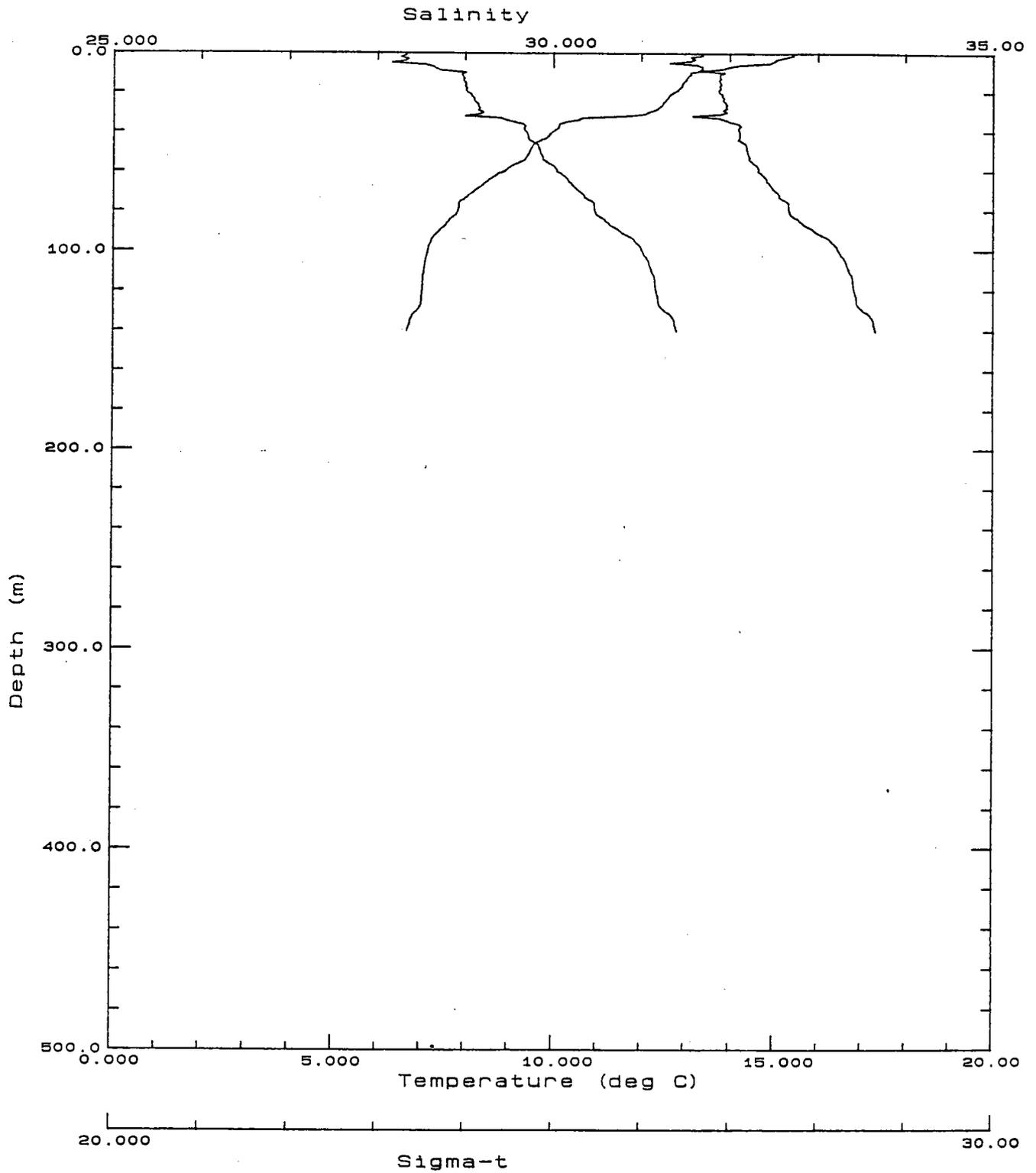
SEABIRD SBE-19 WAS USED

raw data file = DLB7JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.30	31.66	23.33	453.70	0.00
10.00	15.05	31.59	23.33	454.00	0.41
20.00	13.70	31.84	23.81	408.64	0.85
30.00	12.05	31.90	24.17	374.25	1.25
50.00	8.93	32.32	25.03	292.52	1.90
75.00	7.90	32.61	25.41	256.69	2.59
100.00	7.32	33.01	25.81	219.36	3.18
125.00	6.95	33.51	26.25	177.58	3.68

DEEPEST MEASUREMENT:

139.00	6.71	33.66	26.40	163.26	3.92
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DLB8JL14.avg: LB8JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: LB8JL14

DATE: 14/07/90 TIME: 1437 UTC

POSITION: 51-57.34N 130-58.29W

BOTTOM DEPTH: 150 M

SECCHI DEPTH: -- M SST: 13.1 C SURFACE SALINITY: 32.32 o/oo

RESULTS OF CTD CAST

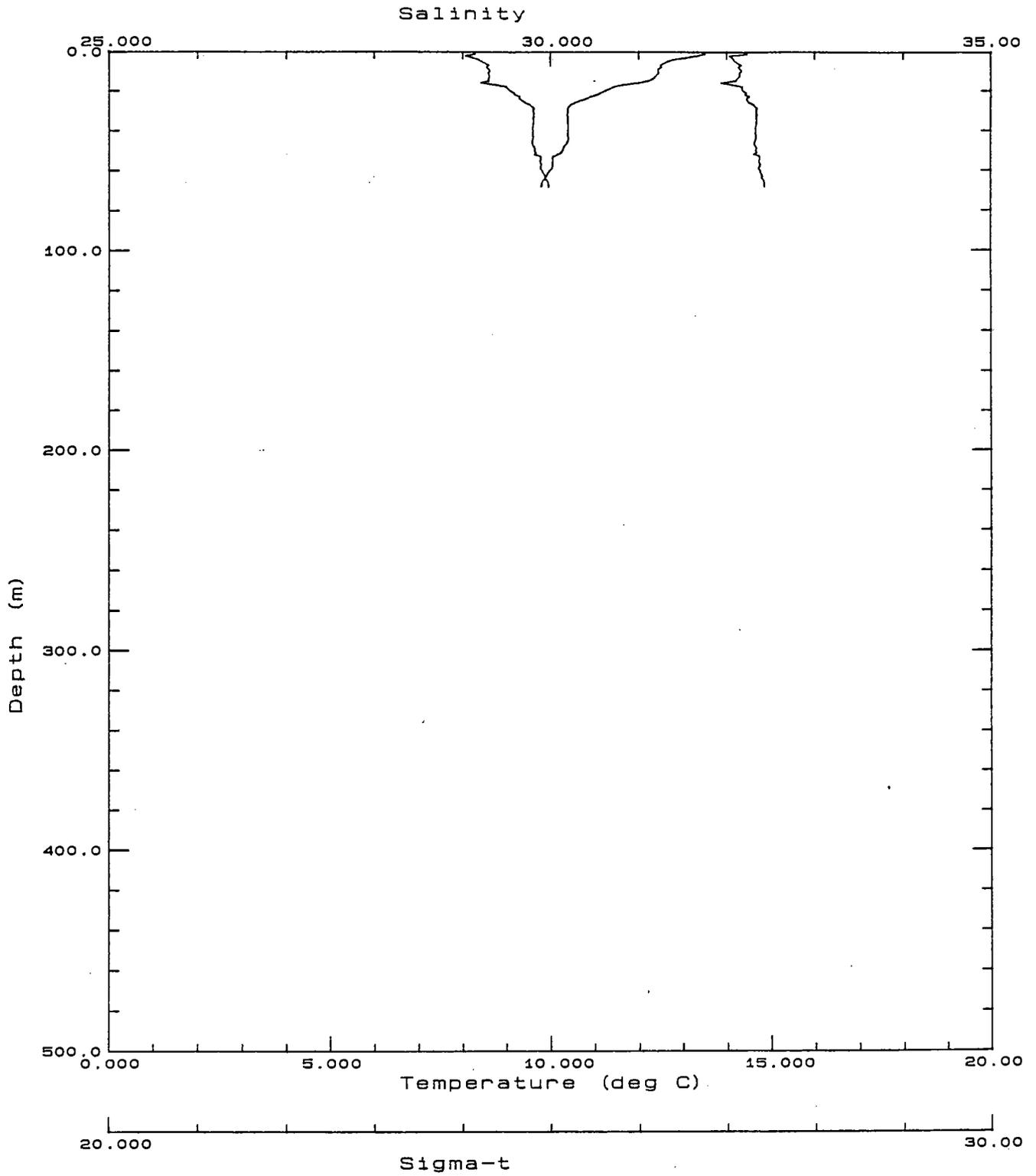
SEABIRD SBE-19 WAS USED

raw data file = DLB8JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.44	31.70	23.32	454.55	0.00
10.00	13.11	31.94	24.00	389.88	0.40
20.00	12.74	31.88	24.03	387.86	0.79
30.00	12.16	31.96	24.20	371.33	1.17
50.00	9.46	32.20	24.85	309.70	1.83
75.00	7.89	32.64	25.44	254.23	2.54
100.00	7.14	33.24	26.01	200.10	3.11
125.00	7.00	33.44	26.19	183.36	3.59

DEEPEST MEASUREMENT:

140.00	6.67	33.66	26.40	163.17	3.85
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DCJ1JL14.avg: CJ1JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ1JL14

DATE: 14/07/90 TIME: 1520 UTC

POSITION: 51-55.81N 131-01.39W

BOTTOM DEPTH: 76 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

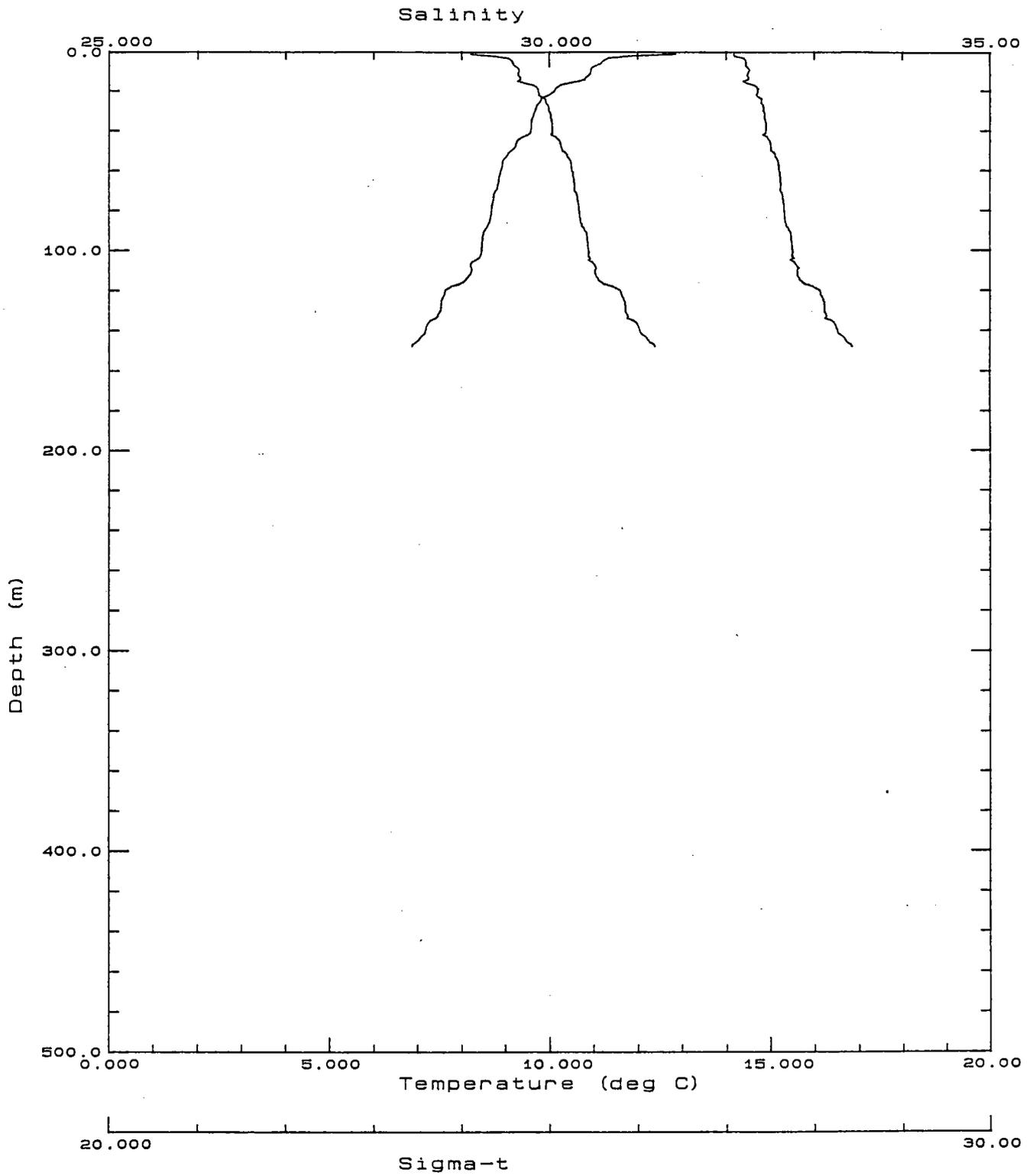
SEABIRD SBE-19 WAS USED

raw data file = DCJ1JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.51	32.23	24.14	376.48	0.00
10.00	12.44	32.17	24.31	360.28	0.33
20.00	11.26	32.19	24.54	338.82	0.69
30.00	10.40	32.33	24.80	313.92	1.01
50.00	10.28	32.33	24.82	312.58	1.64

DEEPEST MEASUREMENT:

68.00	9.80	32.43	24.98	297.94	2.19
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DCJ2JL14.avg: CJ2JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ2JL14

DATE: 14/07/90 TIME: 1545 UTC

POSITION: 51-54.82N 131-02.37W

BOTTOM DEPTH: 164 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

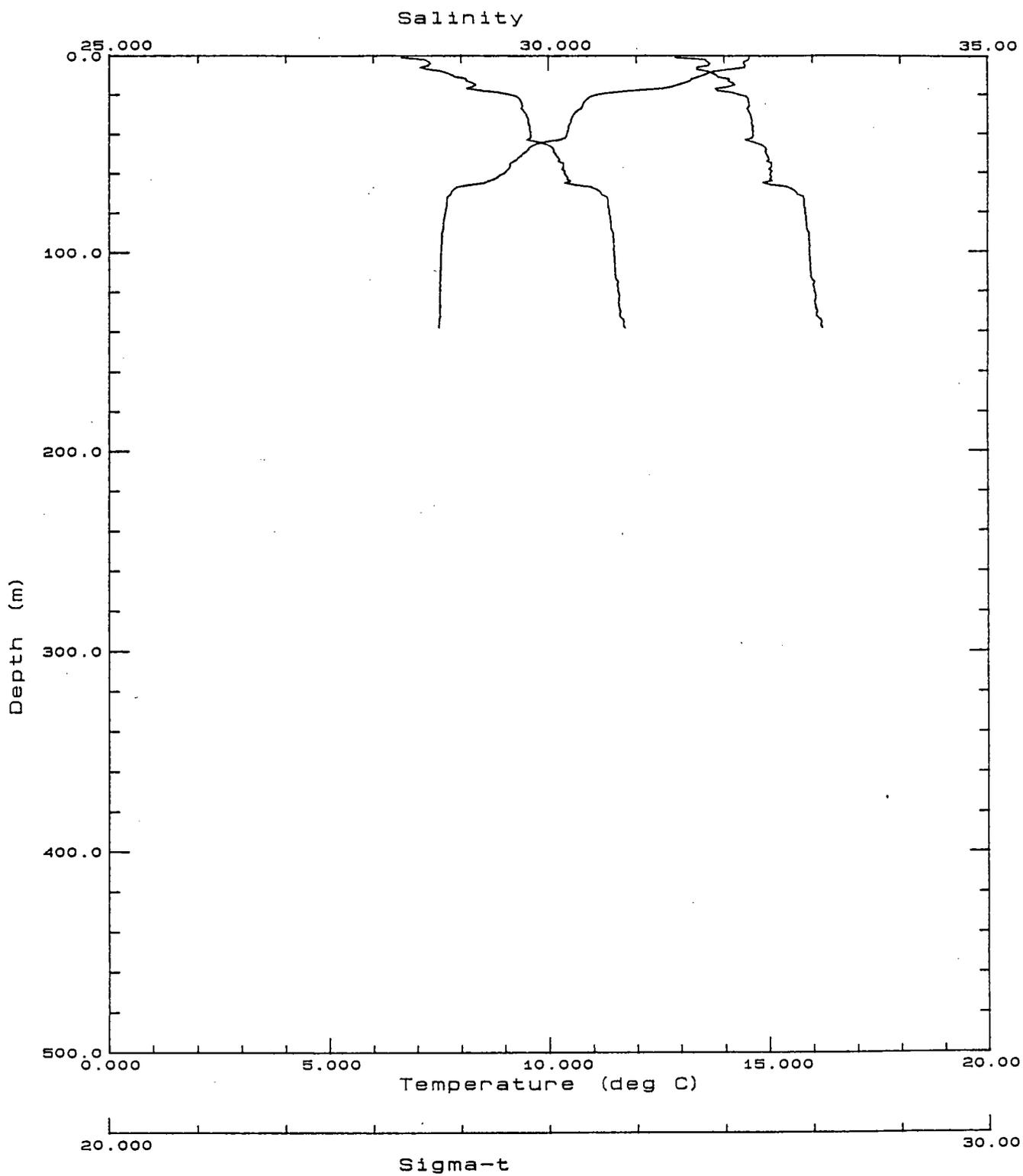
SEABIRD SBE-19 WAS USED

raw data file = DCJ2JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	12.85	32.09	24.11	379.89	0.00
10.00	10.94	32.26	24.66	327.77	0.30
20.00	10.12	32.36	24.88	306.98	0.62
30.00	9.68	32.43	25.00	295.68	0.92
50.00	9.13	32.51	25.15	281.48	1.50
75.00	8.72	32.65	25.32	265.42	2.18
100.00	8.45	32.75	25.44	254.21	2.83
125.00	7.55	33.10	25.84	216.25	3.43

DEEPEST MEASUREMENT:

148.00	6.87	33.42	26.19	183.67	3.90
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DCJ3JL14.avg: CJ3JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ3JL14

DATE: 14/07/90 TIME: 1611 UTC

POSITION: 51-53.44N 131-04.88W

BOTTOM DEPTH: 773 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

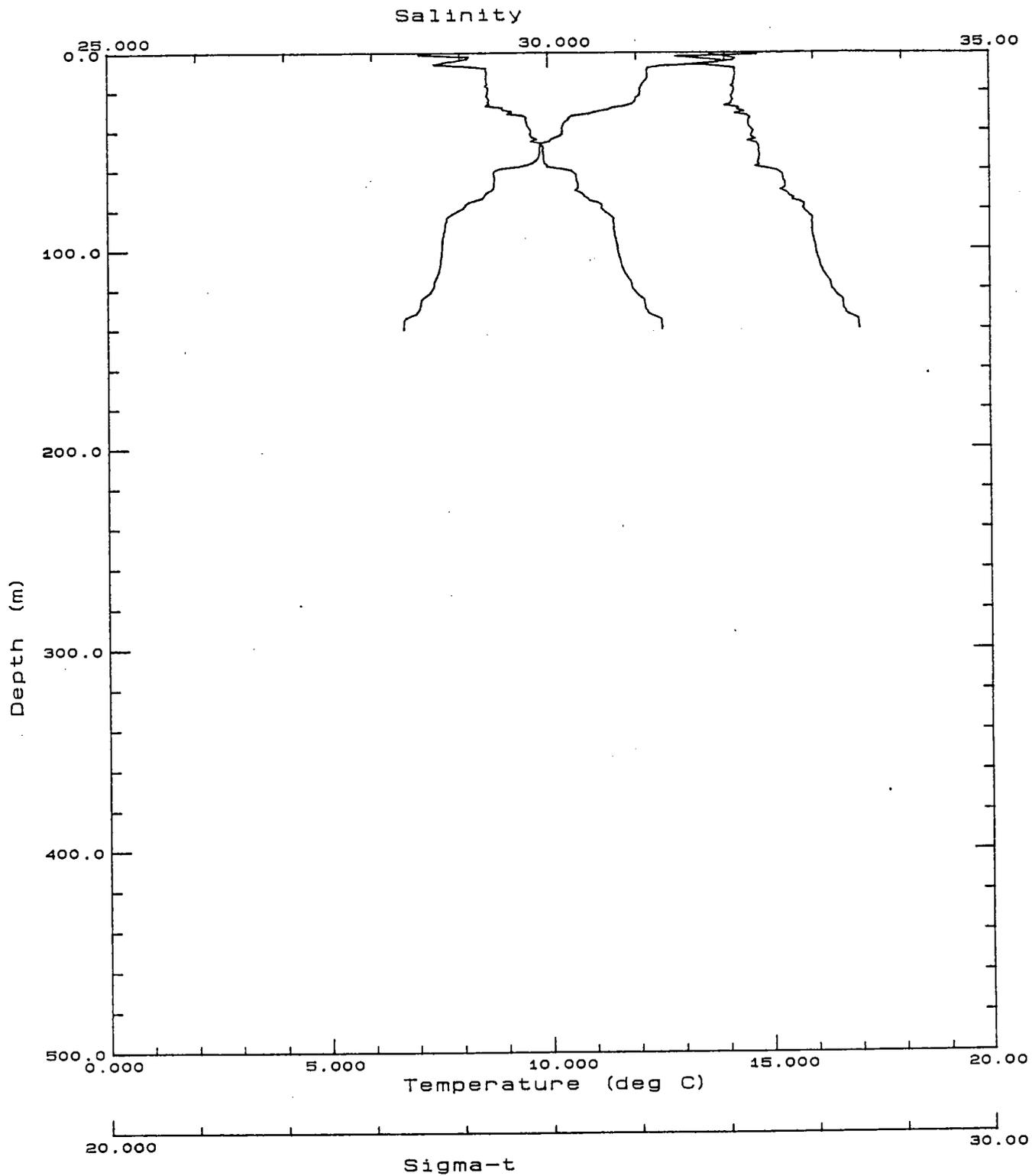
SEABIRD SBE-19 WAS USED

raw data file = DCJ3JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.58	31.45	23.32	454.67	0.00
10.00	13.54	31.91	23.90	400.09	0.38
20.00	11.13	32.17	24.55	338.18	0.76
30.00	10.57	32.30	24.75	319.12	1.08
50.00	9.43	32.48	25.08	288.28	1.70
75.00	7.68	32.90	25.67	231.69	2.36
100.00	7.55	32.97	25.74	225.44	2.93
125.00	7.53	33.03	25.80	220.83	3.49

DEEPEST MEASUREMENT:

138.00	7.50	33.11	25.86	214.76	3.78
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DCJ4JL14.avg: CJ4JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ4JL14

DATE: 14/07/90 TIME: 1638 UTC

POSITION: 51-51.99N 131-06.97W

BOTTOM DEPTH: 1737 M

SECCHI DEPTH: 10 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

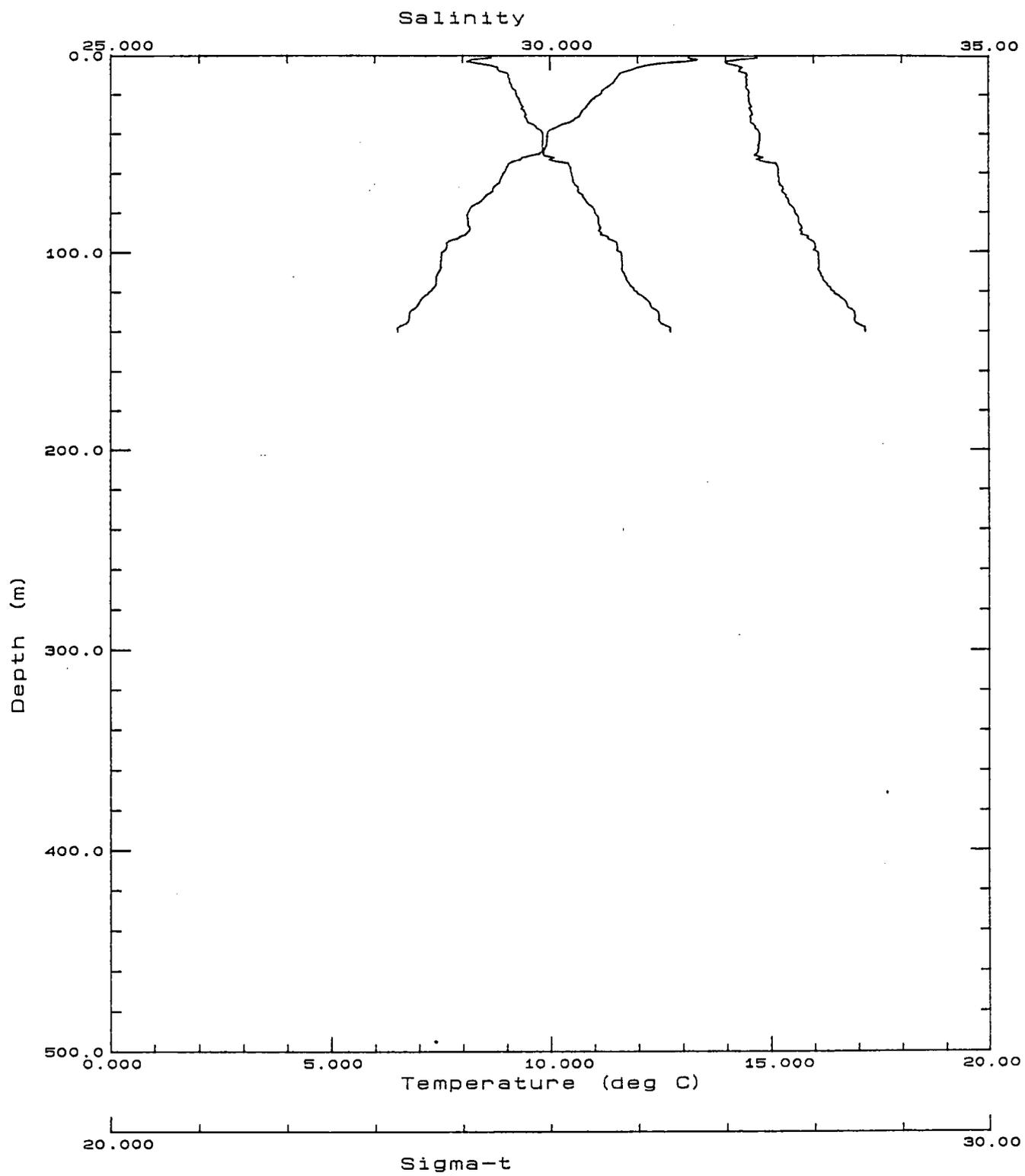
SEABIRD SBE-19 WAS USED

raw data file = DCJ4JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.74	31.84	23.54	434.24	0.00
10.00	12.24	32.12	24.31	360.82	0.35
20.00	12.09	32.10	24.32	359.84	0.71
30.00	11.09	32.22	24.59	334.06	1.06
50.00	9.81	32.38	24.94	301.43	1.69
75.00	8.35	32.76	25.47	251.68	2.38
100.00	7.58	33.03	25.78	221.73	2.96
125.00	7.12	33.32	26.08	194.07	3.49

DEEPEST MEASUREMENT:

140.00	6.71	33.51	26.28	174.67	3.76
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DCJ5JL14.avg: CJ5JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ5JL14

DATE: 15/07/90 TIME: 8 UTC

POSITION: 51-50.56N 131-09.05W

BOTTOM DEPTH: 1966 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

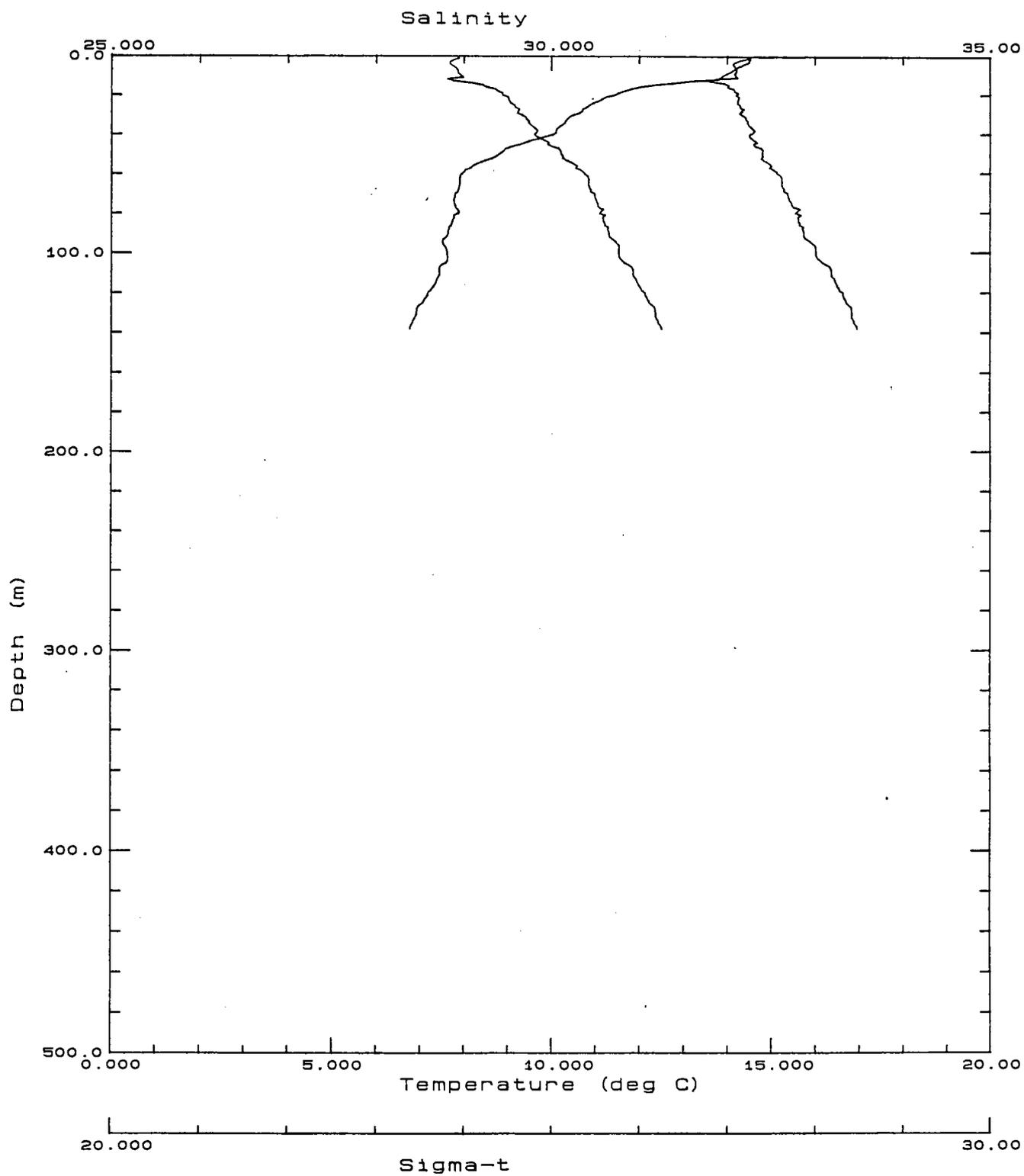
SEABIRD SBE-19 WAS USED

raw data file = DCJ5JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.14	32.36	24.33	358.66	0.00
10.00	11.57	32.24	24.53	339.99	0.32
20.00	11.14	32.26	24.62	331.64	0.66
30.00	10.70	32.30	24.73	321.42	0.99
50.00	9.76	32.35	24.92	303.01	1.60
75.00	8.35	32.71	25.43	255.35	2.29
100.00	7.53	33.04	25.81	219.52	2.88
125.00	7.03	33.36	26.12	189.76	3.41

DEEPEST MEASUREMENT:

140.00	6.53	33.58	26.37	166.73	3.68
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DCJ6JL14.avg: CJ6JL14

SEAKEM OCEANOGRAPHY LTD.

STATION: CJ6JL14

DATE: 15/07/90 TIME: 56 UTC

POSITION: 51-47.41N 131-13.64W

BOTTOM DEPTH: 1895 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ---- o/oo

RESULTS OF CTD CAST

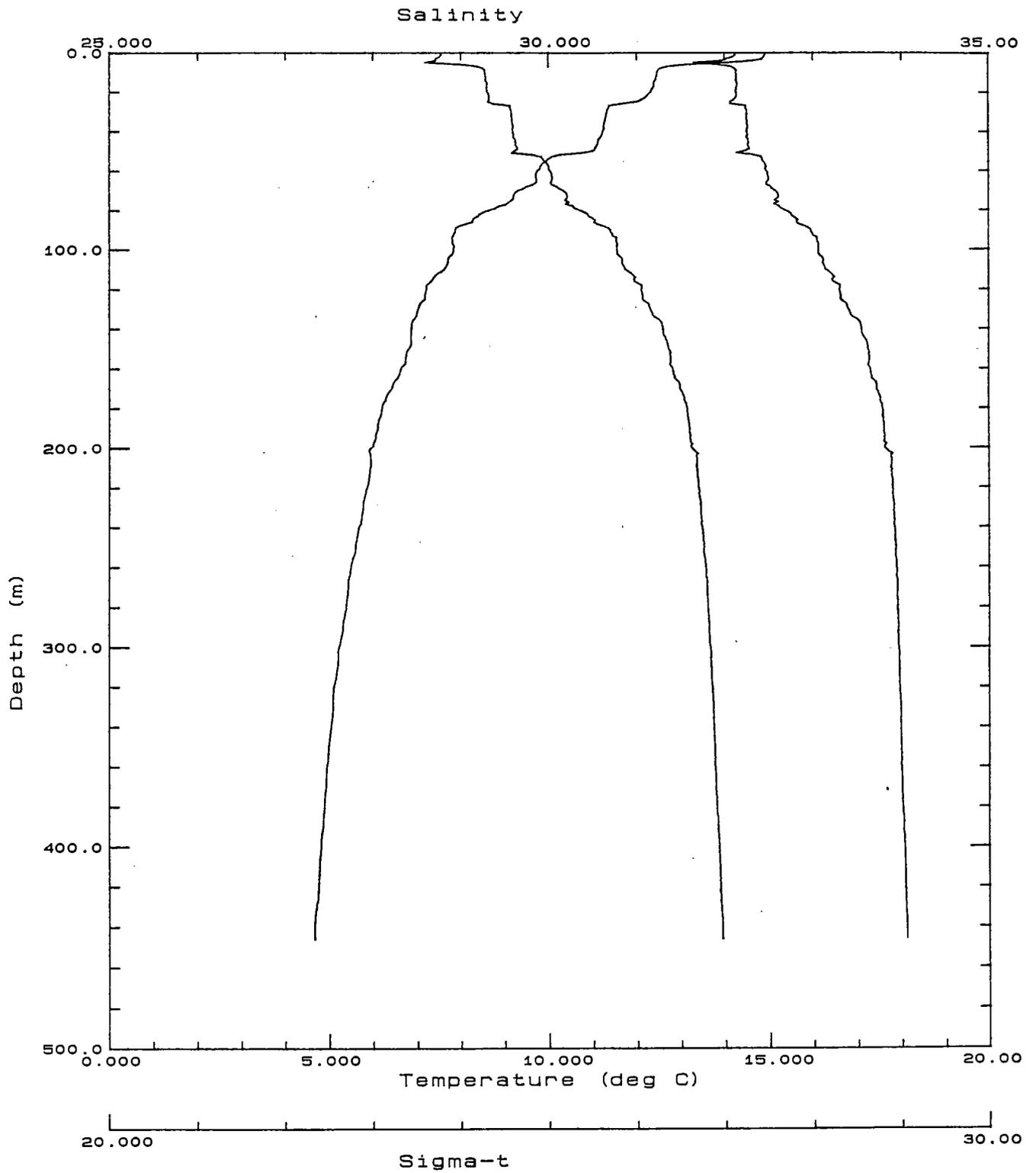
SEABIRD SBE-19 WAS USED

raw data file = DCJ6JL14.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.54	32.24	23.94	395.51	0.00
10.00	13.90	32.09	23.96	393.78	0.36
20.00	11.44	32.10	24.44	348.14	0.73
30.00	10.48	32.17	24.66	327.31	1.07
50.00	8.80	32.40	25.11	284.85	1.69
75.00	7.78	32.74	25.53	245.64	2.34
100.00	7.62	33.01	25.77	223.31	2.92
125.00	7.06	33.35	26.11	190.86	3.44

DEEPEST MEASUREMENT:

138.00	6.77	33.48	26.25	177.83	3.68
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DB22RB.avg: B22RB

SEAKEM OCEANOGRAPHY LTD.

STATION: B22RB

DATE: 15/07/90 TIME: 237 UTC

POSITION: 51-40.34N 131-02.31W

BOTTOM DEPTH: 2103 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

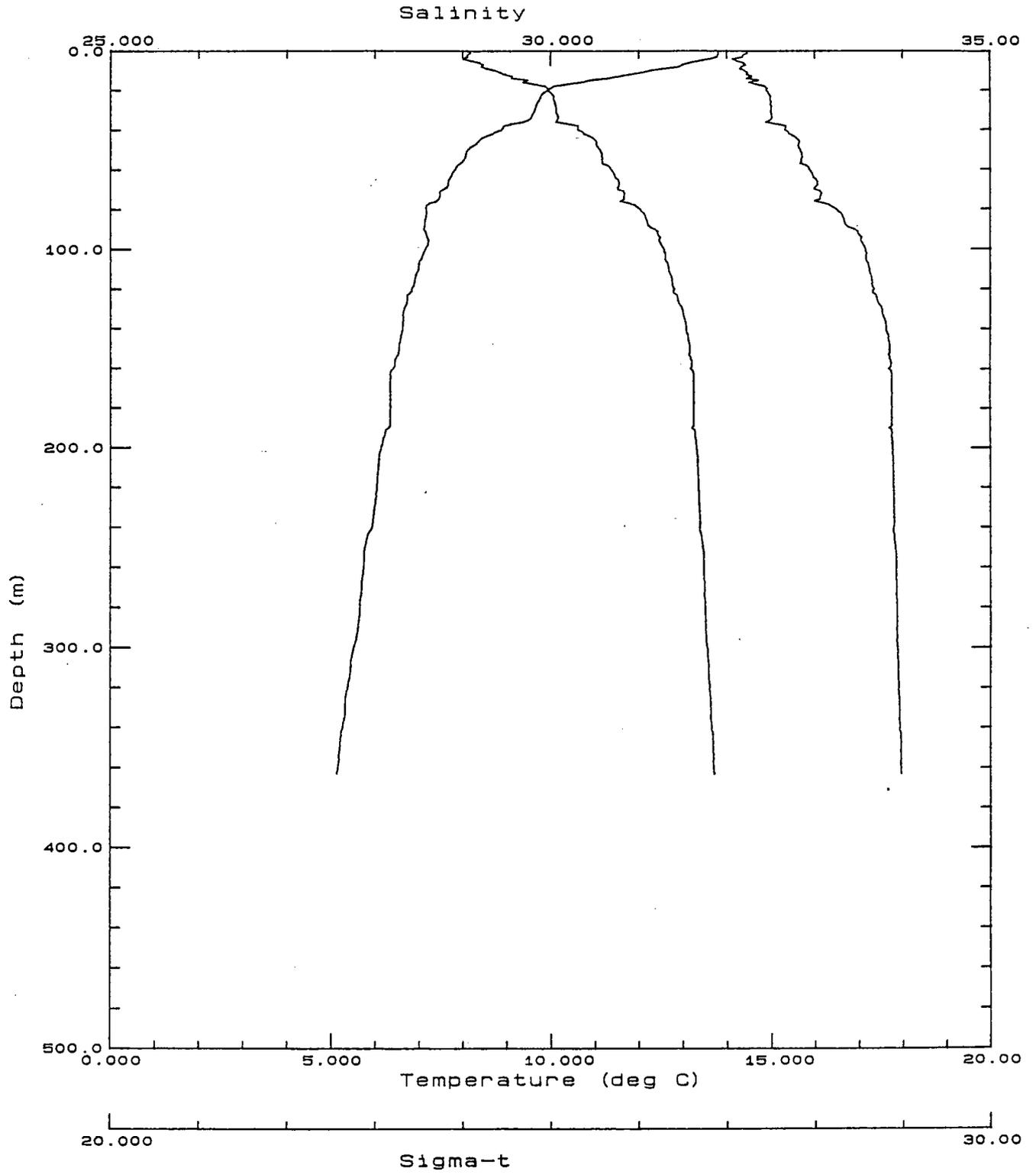
SEABIRD SBE-19 WAS USED

raw data file = DB22RB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.93	32.13	23.77	411.55	0.00
10.00	12.47	32.13	24.28	363.88	0.36
20.00	12.32	32.13	24.30	361.69	0.72
30.00	11.32	32.26	24.58	335.15	1.07
50.00	11.02	32.23	24.62	332.10	1.74
75.00	9.16	32.56	25.19	278.36	2.47
100.00	7.83	33.06	25.77	222.91	3.08
125.00	7.17	33.31	26.06	195.56	3.60
150.00	6.81	33.61	26.35	168.18	4.04
175.00	6.29	33.76	26.54	150.89	4.45
200.00	5.95	33.81	26.62	143.58	4.81
225.00	5.81	33.90	26.71	134.88	5.16
250.00	5.60	33.93	26.76	130.54	5.49
300.00	5.22	33.96	26.83	124.29	6.12
400.00	4.81	34.03	26.93	115.70	7.33

DEEPEST MEASUREMENT:

446.00	4.66	34.05	26.96	112.70	7.85
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DB33RB.avg: B33RB

SEAKEM OCEANOGRAPHY LTD.

STATION: B33RB

DATE: 15/07/90 TIME: 453 UTC

POSITION: 51-37.25N 130-40.49W

BOTTOM DEPTH: 823 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

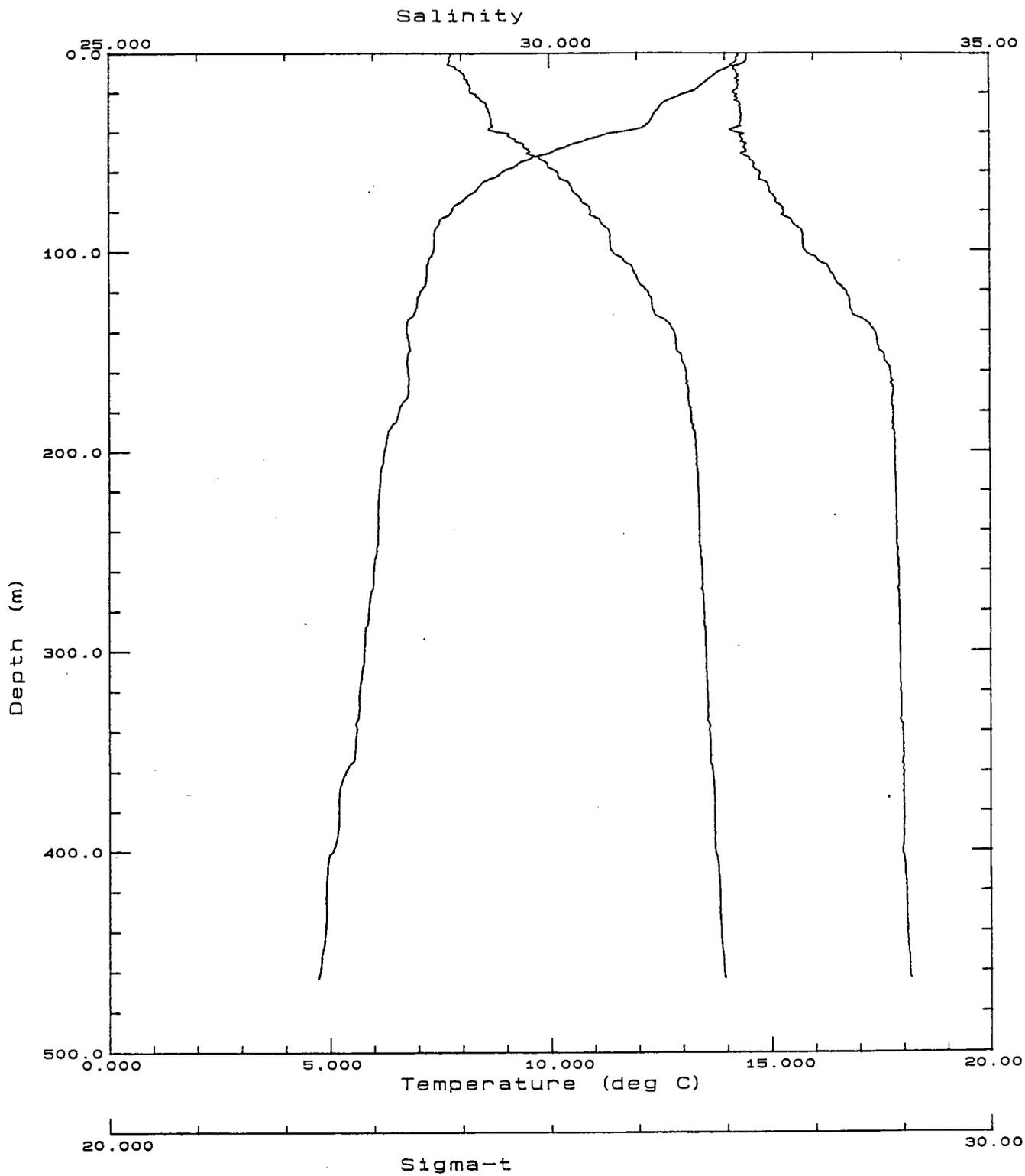
SEABIRD SBE-19 WAS USED

raw data file = DB33RB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.80	32.23	24.09	381.51	0.00
10.00	12.26	32.20	24.37	355.13	0.34
20.00	9.95	32.45	24.97	298.22	0.66
30.00	9.65	32.50	25.06	289.41	0.96
50.00	8.12	32.83	25.56	242.74	1.49
75.00	7.44	33.06	25.83	217.21	2.06
100.00	7.14	33.58	26.28	174.43	2.54
125.00	6.73	33.71	26.44	159.71	2.96
150.00	6.55	33.86	26.58	146.92	3.34
175.00	6.35	33.88	26.62	142.84	3.70
200.00	6.14	33.89	26.65	140.16	4.05
225.00	6.02	33.90	26.68	137.80	4.40
250.00	5.77	33.91	26.72	134.16	4.74
300.00	5.52	33.94	26.77	129.65	5.40

DEEPEST MEASUREMENT:

363.00	5.13	33.98	26.86	122.47	6.19
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DB31RA.avg: B31RA

SEAKEM OCEANOGRAPHY LTD.

STATION: B31RA

DATE: 15/07/90 TIME: 635 UTC

POSITION: 51-35.19N 130-28.84W

BOTTOM DEPTH: 558 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

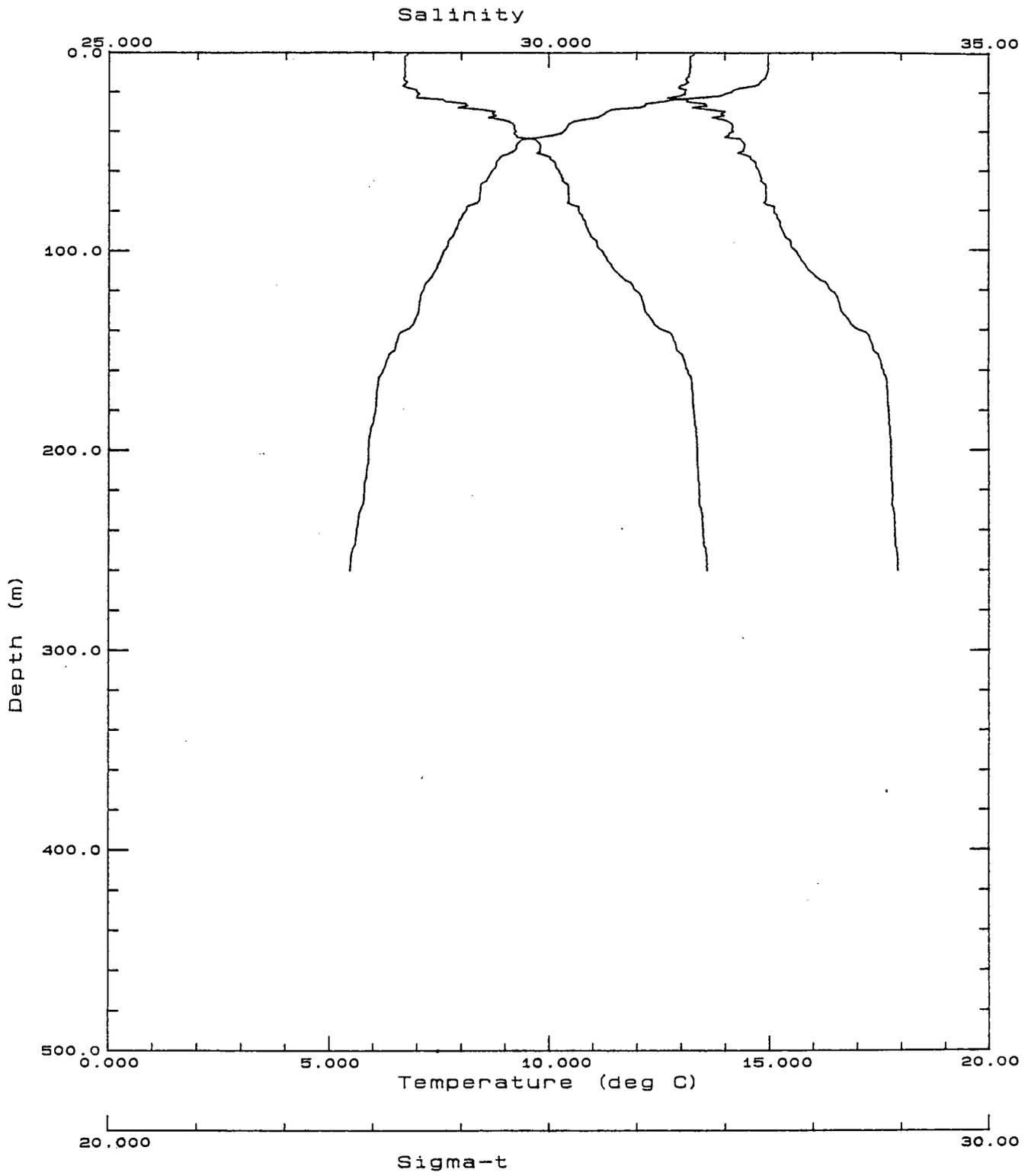
SEABIRD SBE-19 WAS USED

raw data file = DB31RA.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.50	32.15	23.89	400.92	0.00
10.00	13.81	32.13	24.01	389.39	0.36
20.00	13.16	32.08	24.10	380.59	0.74
30.00	12.40	32.17	24.32	360.44	1.11
50.00	10.09	32.24	24.78	316.48	1.80
75.00	8.03	32.57	25.36	261.60	2.51
100.00	7.37	32.90	25.72	228.04	3.11
125.00	7.00	33.41	26.16	186.04	3.62
150.00	6.82	33.75	26.46	158.51	4.05
175.00	6.68	33.88	26.58	146.83	4.42
200.00	6.25	33.91	26.66	139.51	4.78
225.00	6.12	33.93	26.69	137.08	5.12
250.00	6.07	33.94	26.71	135.49	5.47
300.00	5.78	33.97	26.77	130.73	6.13
400.00	5.06	33.99	26.87	121.42	7.39

DEEPEST MEASUREMENT:

463.00	4.73	34.08	26.98	111.78	8.12
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DB40RC.avg: B40RC

SEAKEM OCEANOGRAPHY LTD.

STATION: B40RC

DATE: 15/07/90 TIME: 0426 UTC

POSITION: 52-01.81N 130-44.79W

BOTTOM DEPTH: 256 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

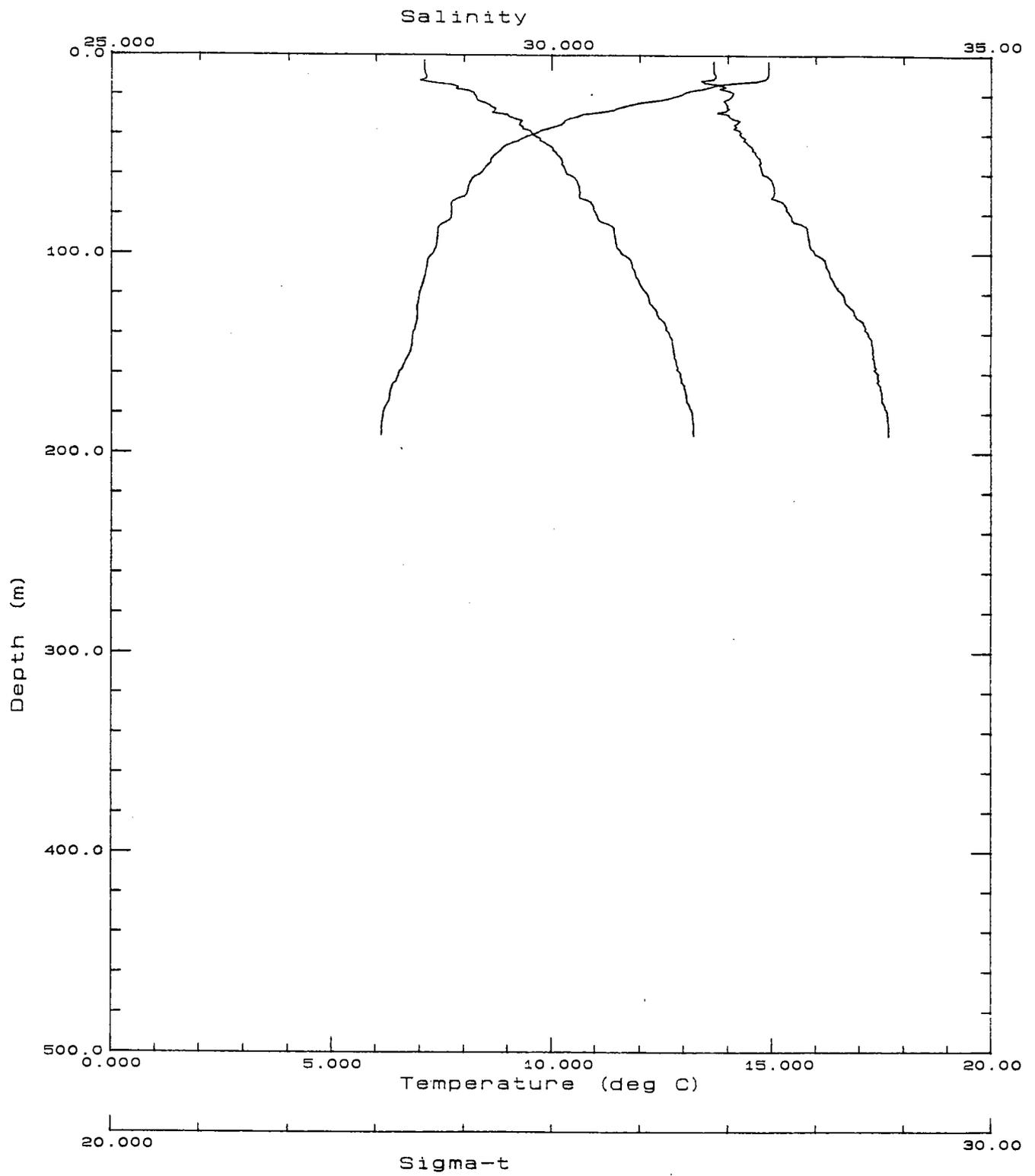
SEABIRD SBE-19 WAS USED

raw data file = DB40RC.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.00	31.65	23.39	447.94	0.00
10.00	14.97	31.61	23.36	450.92	0.41
20.00	14.15	31.55	23.49	439.06	0.86
30.00	11.33	32.00	24.38	354.28	1.26
50.00	9.19	32.21	24.90	304.88	1.92
75.00	8.40	32.46	25.22	274.77	2.63
100.00	7.61	32.80	25.60	238.77	3.27
125.00	7.06	33.29	26.06	195.51	3.81
150.00	6.47	33.69	26.46	158.40	4.26
175.00	6.08	33.85	26.64	141.61	4.62
200.00	5.89	33.89	26.69	137.11	4.97
225.00	5.79	33.90	26.71	135.33	5.31
250.00	5.52	33.95	26.78	128.73	5.64

DEEPEST MEASUREMENT:

260.00	5.47	33.96	26.80	127.04	5.77
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DB21RB.avg: B21RB

SEAKEM OCEANOGRAPHY LTD.

STATION: B21RB

DATE: 15/07/90 TIME: 0955 UTC

POSITION: 52-23.38N 129-54.31W

BOTTOM DEPTH: 208 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ---- o/oo

RESULTS OF CTD CAST

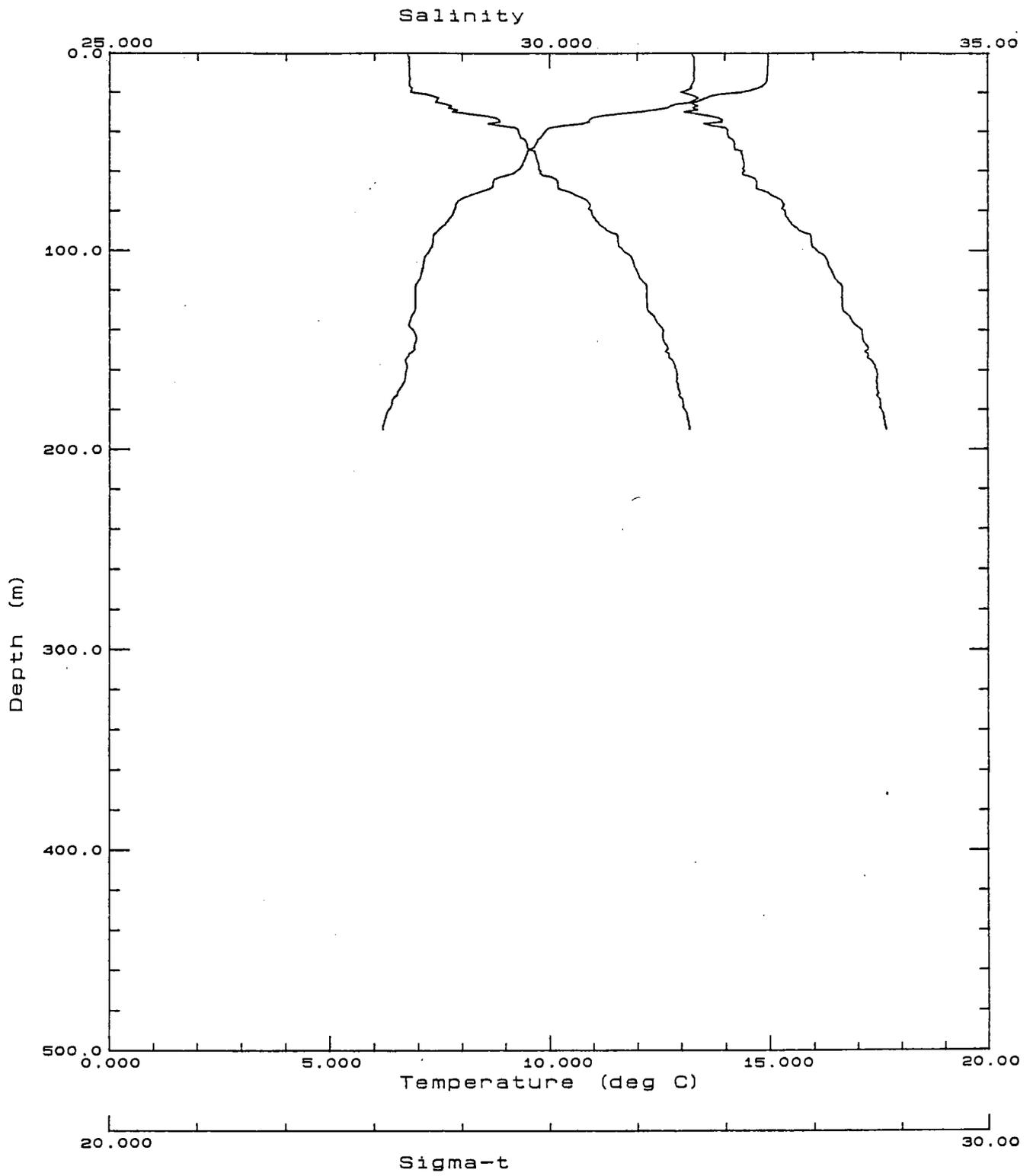
SEABIRD SBE-19 WAS USED

raw data file = DB21RB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.93	31.84	23.55	433.13	0.00
10.00	14.92	31.86	23.57	431.51	0.30
20.00	12.94	32.05	24.12	378.92	0.71
30.00	10.72	32.00	24.49	343.73	1.08
50.00	8.72	32.31	25.06	290.04	1.71
75.00	7.71	32.64	25.46	251.70	2.39
100.00	7.29	33.00	25.80	219.83	2.98
125.00	6.95	33.35	26.13	189.48	3.48
150.00	6.76	33.65	26.39	164.72	3.92
175.00	6.26	33.77	26.55	149.65	4.31

DEEPEST MEASUREMENT:

191.00	6.13	33.83	26.61	144.08	4.54
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DB32RC40.avg: B32RC40L

SEAKEM OCEANOGRAPHY LTD.

STATION: B32RC40L

DATE: 15/07/90 TIME: 1115 UTC

POSITION: 52-22.71N 129-56.94W

BOTTOM DEPTH: 213 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

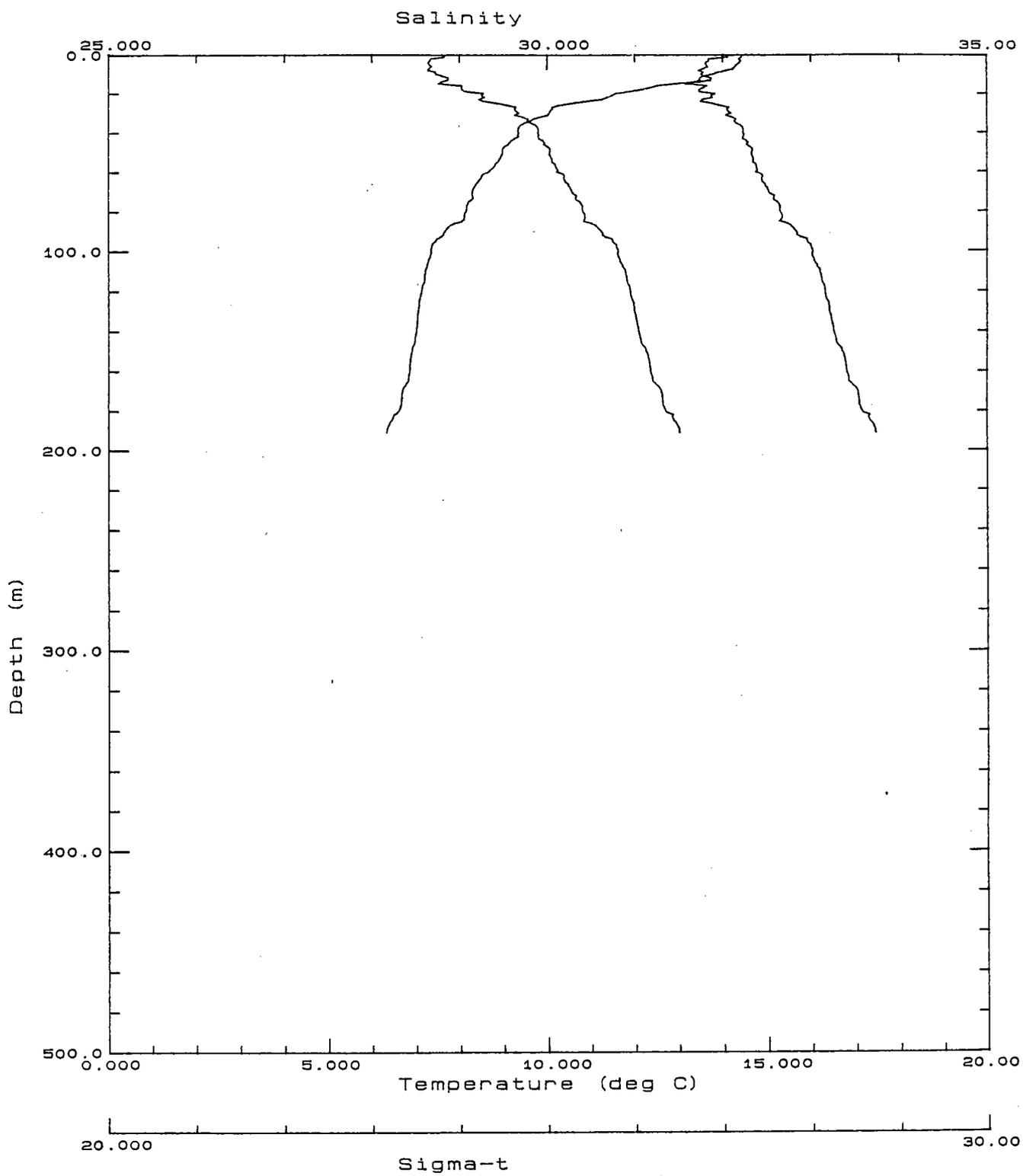
SEABIRD SBE-19 WAS USED

raw data file = DB32RC40.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.99	31.63	23.38	449.26	0.00
10.00	14.98	31.65	23.40	447.89	0.40
20.00	14.36	31.50	23.41	446.42	0.85
30.00	12.05	31.54	23.89	400.98	1.26
50.00	9.50	32.19	24.84	311.06	1.94
75.00	7.91	32.64	25.44	254.46	2.67
100.00	7.25	33.04	25.84	216.54	3.27
125.00	6.93	33.33	26.11	190.99	3.77
150.00	6.91	33.62	26.35	169.01	4.22
175.00	6.42	33.76	26.52	152.66	4.62

DEEPEST MEASUREMENT:

190.00	6.19	33.83	26.60	145.03	4.84
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DB31LB.avg: B31LB

SEAKEM OCEANOGRAPHY LTD.

STATION: B31LB

DATE: 15/07/90 TIME: 1623 UTC

POSITION: 52-02.67N 129-35.31W

BOTTOM DEPTH: 206 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: 31.90 ‰

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

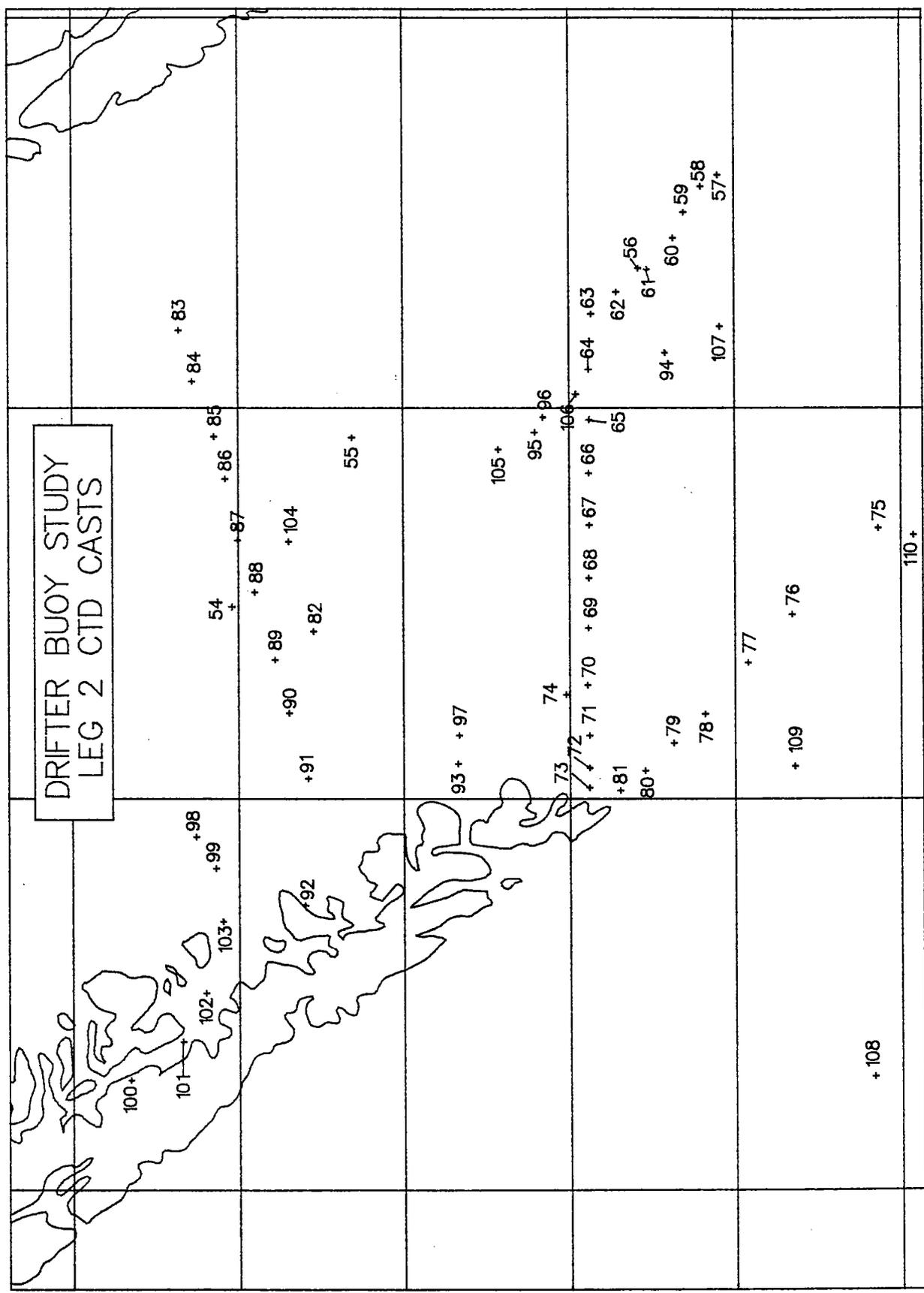
raw data file = DB31LB.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.43	32.06	23.82	406.79	0.00
10.00	13.76	31.76	23.73	416.02	0.38
20.00	11.56	31.91	24.27	364.55	0.78
30.00	10.04	32.09	24.68	326.04	1.12
50.00	8.99	32.33	25.03	292.93	1.74
75.00	8.21	32.61	25.37	260.62	2.43
100.00	7.35	33.02	25.81	219.23	3.04
125.00	7.08	33.18	25.98	203.78	3.57
150.00	6.92	33.34	26.12	189.90	4.06
175.00	6.67	33.54	26.31	172.18	4.52

DEEPEST MEASUREMENT:

191.00	6.33	33.73	26.51	153.90	4.78
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DRIFTER BUOY STUDY
LEG 2 CTD CASTS



52.75

52.50

52.25

52.00

51.75

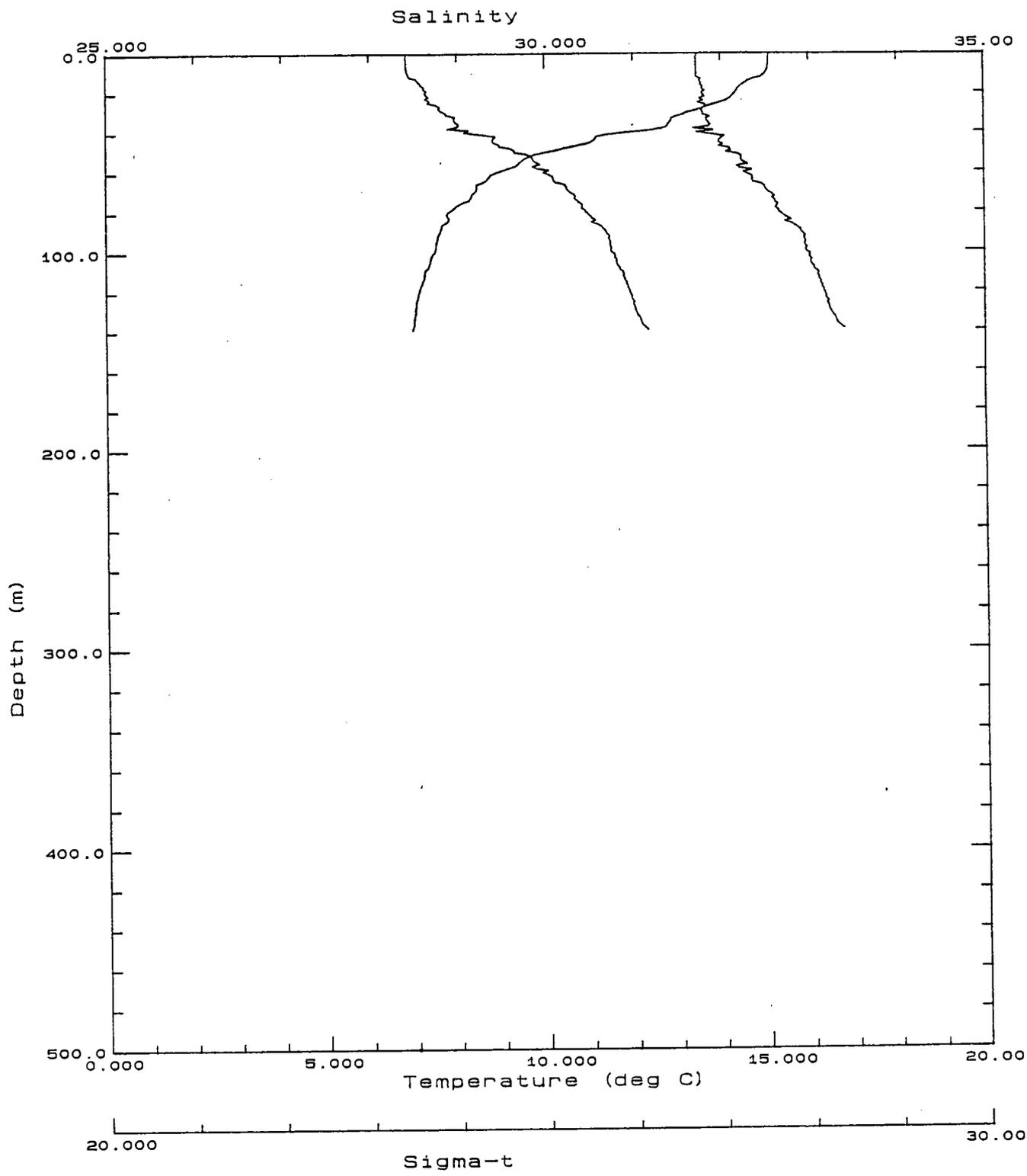
51.50

132.0

131.0

130.0

129.0



DTST19JL.avg: TST19JL

SEAKEM OCEANOGRAPHY LTD.

STATION: TST19JL

DATE: 19/07/90 TIME: 0930 UTC

POSITION: 51-53.74N 129-38.41W

BOTTOM DEPTH: 229 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

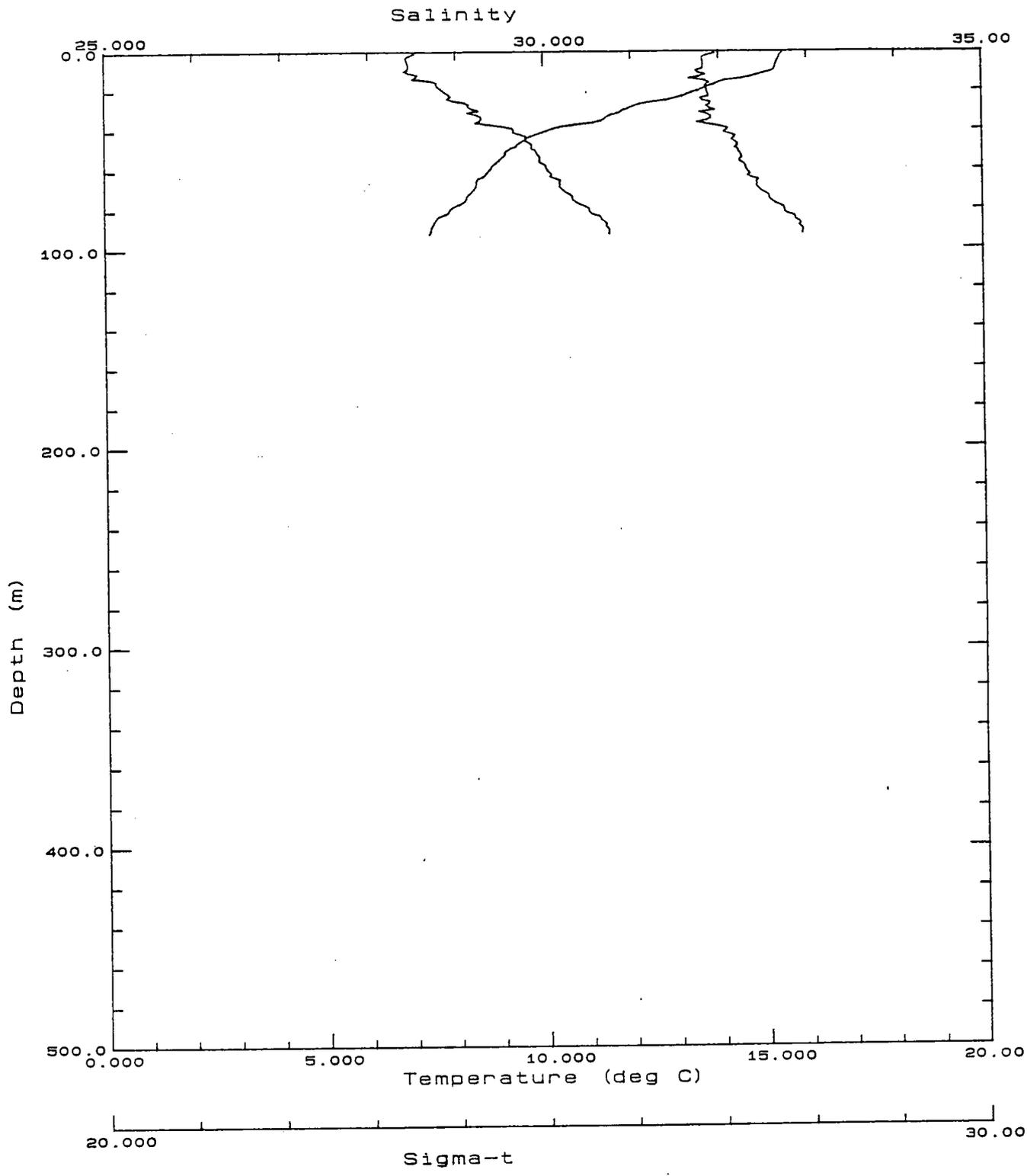
SEABIRD SBE-19 WAS USED

raw data file = DTST19JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.11	31.73	23.43	444.66	0.00
10.00	15.02	31.73	23.45	443.25	0.40
20.00	14.33	31.78	23.64	425.28	0.83
30.00	13.22	31.80	23.87	403.21	1.25
50.00	10.01	32.06	24.66	328.15	1.99
75.00	8.12	32.61	25.38	259.70	2.71
100.00	7.48	32.96	25.75	225.23	3.31
125.00	7.06	33.21	26.00	201.20	3.84

DEEPEST MEASUREMENT:

139.00	6.96	33.38	26.15	187.45	4.11
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D40R19JL.avg: 40R19JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 40R19JL

DATE: 19/07/90 TIME: 1115 UTC

POSITION: 51-46.51N 129-24.04W

BOTTOM DEPTH: 106 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

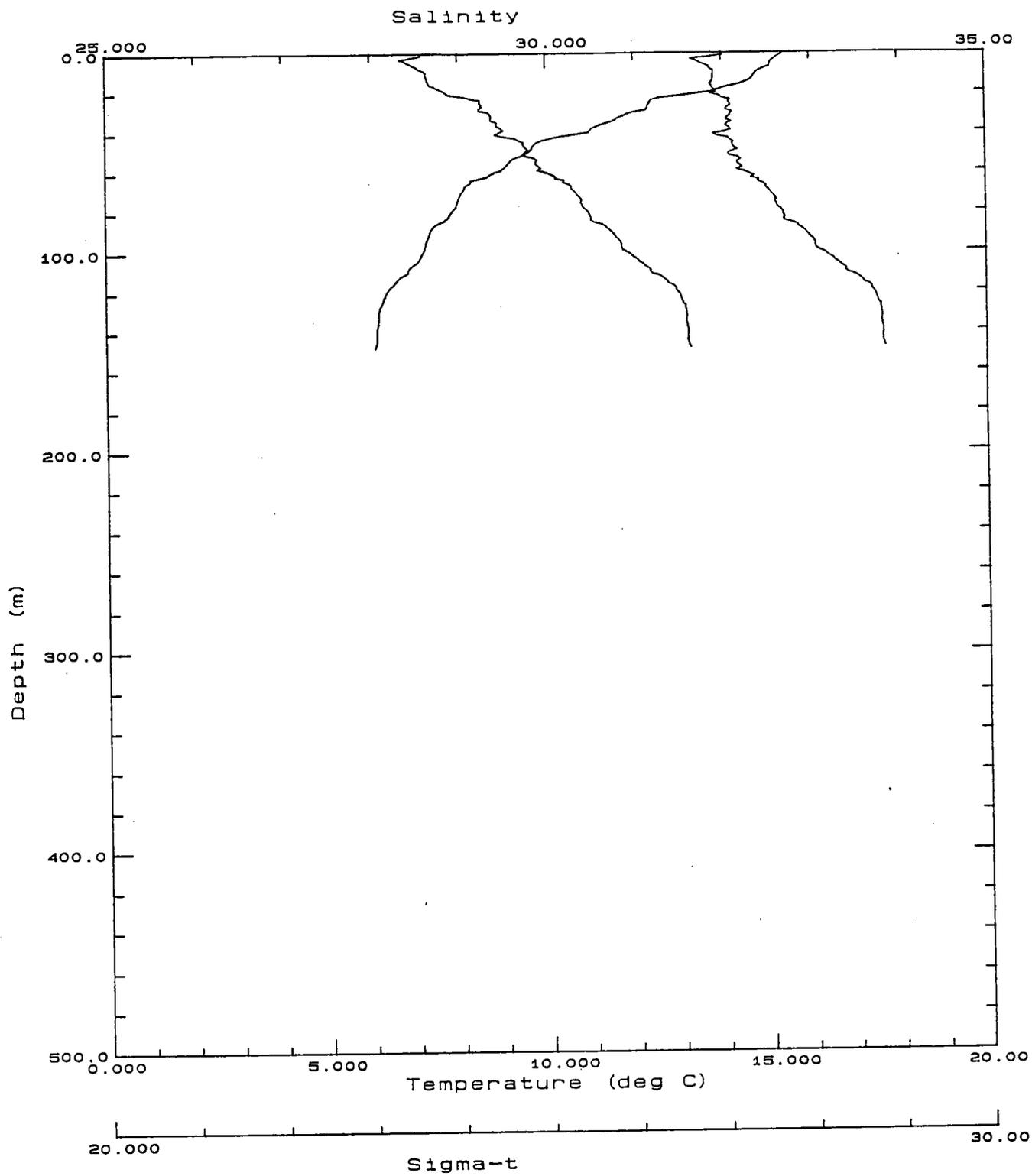
SEABIRD SBE-19 WAS USED

raw data file = D40R19JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.45	31.96	23.53	435.00	0.00
10.00	15.23	31.74	23.41	446.48	0.40
20.00	13.56	31.87	23.86	404.06	0.82
30.00	11.80	31.95	24.26	365.83	1.21
50.00	9.18	32.22	24.91	304.15	1.88
75.00	8.22	32.58	25.34	263.68	2.59

DEEPEST MEASUREMENT:

92.00	7.39	32.94	25.75	225.22	3.00
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DMC06JL1.avg: MC06JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC06JL19

DATE: 19/07/90 TIME: 1145 UTC

POSITION: 51-48.06N 129-25.85W

BOTTOM DEPTH: 175 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

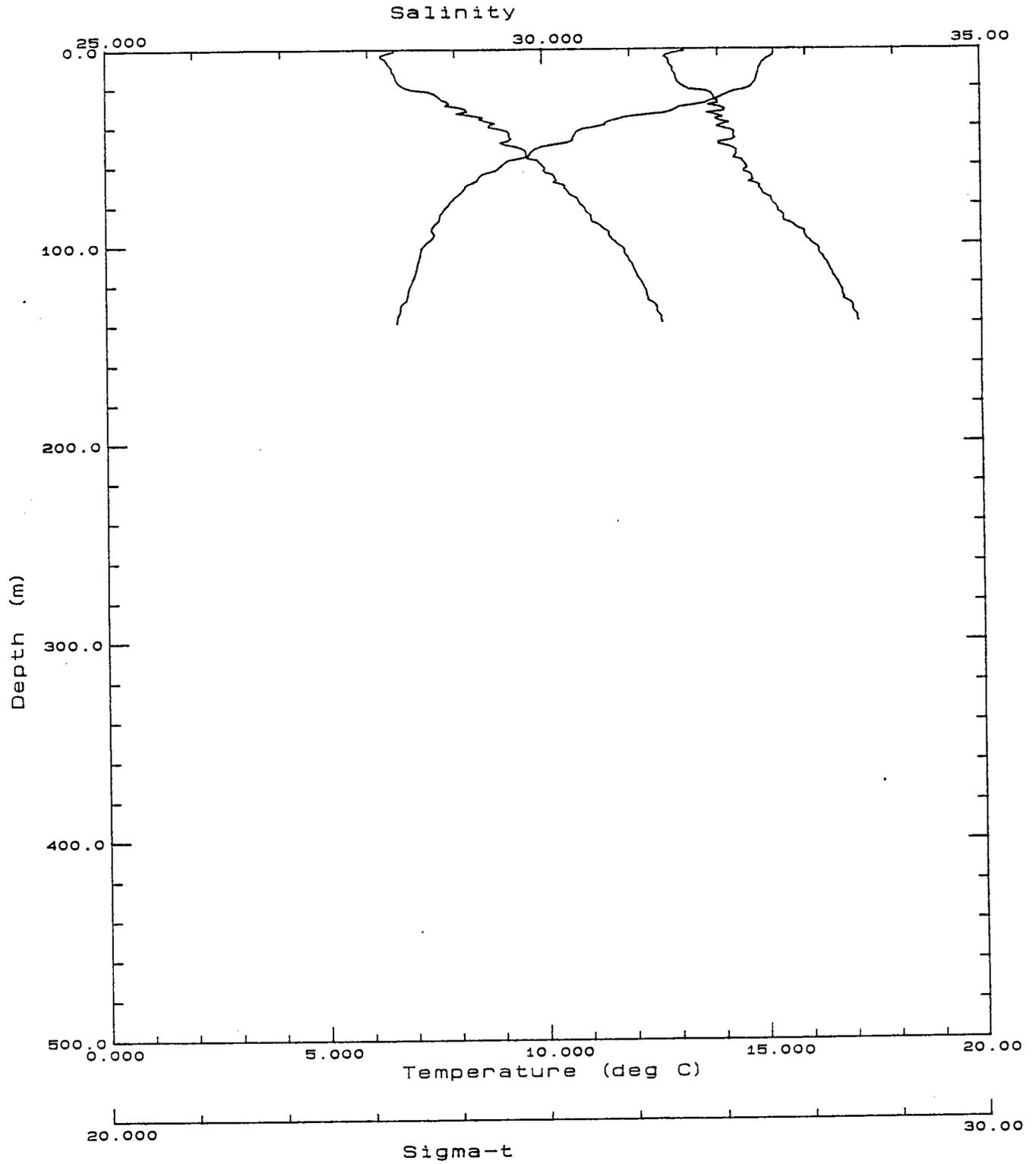
SEABIRD SBE-19 WAS USED

raw data file = DMC06JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.38	32.02	23.59	429.40	0.00
10.00	14.79	31.91	23.64	424.79	0.39
20.00	13.77	31.94	23.87	403.17	0.81
30.00	11.99	32.12	24.35	357.22	1.19
50.00	9.59	32.10	24.76	318.71	1.86
75.00	7.98	32.60	25.39	258.74	2.58
100.00	7.19	33.11	25.91	209.91	3.16
125.00	6.27	33.76	26.54	150.02	3.60

DEEPEST MEASUREMENT:

148.00	6.08	33.84	26.62	142.39	3.94
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DMC07JL1.avg: MC07JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC07JL19

DATE: 19/07/90 TIME: 1222 UTC

POSITION: 51-49.62N 129-29.84W

BOTTOM DEPTH: 242 M

SECCHI DEPTH: -- M SST: 15.6 C SURFACE SALINITY: 31.48 o/oo

RESULTS OF CTD CAST

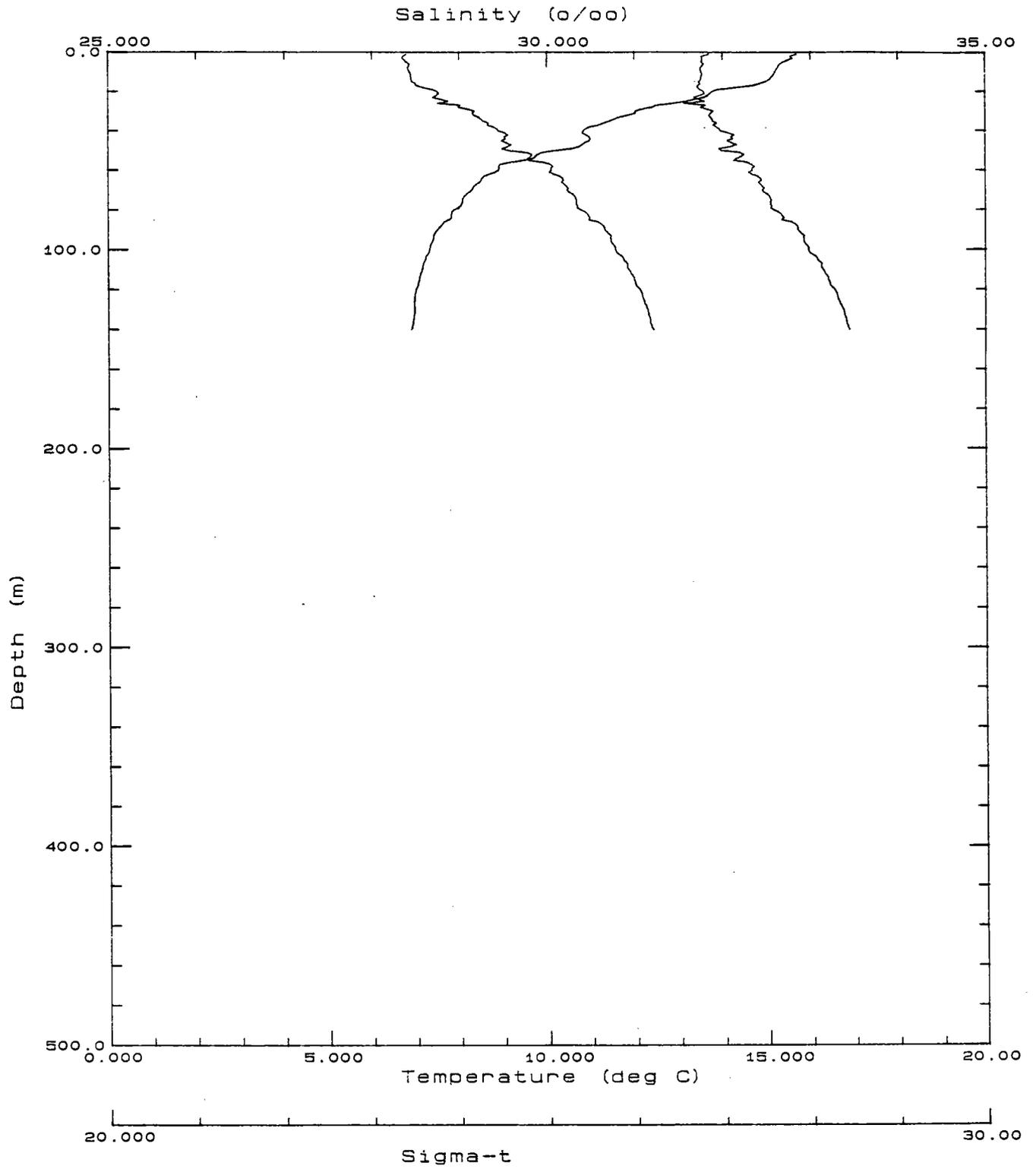
SEABIRD SBE-19 WAS USED

raw data file = DMC07JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.29	31.62	23.31	456.35	0.00
10.00	14.95	31.49	23.28	458.97	0.42
20.00	14.73	31.62	23.43	444.95	0.87
30.00	13.11	32.02	24.06	384.80	1.28
50.00	9.98	32.10	24.69	324.71	1.99
75.00	8.01	32.55	25.35	262.88	2.72
100.00	7.26	33.08	25.87	213.45	3.31
125.00	6.90	33.40	26.17	184.86	3.81

DEEPEST MEASUREMENT:

139.00	6.64	33.58	26.35	168.49	4.05
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DMC08JL1.avg: M08JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC08JL19

DATE: 19/07/90 TIME: 1255 UTC

POSITION: 51-50.57N 129-33.82W

BOTTOM DEPTH: 144 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

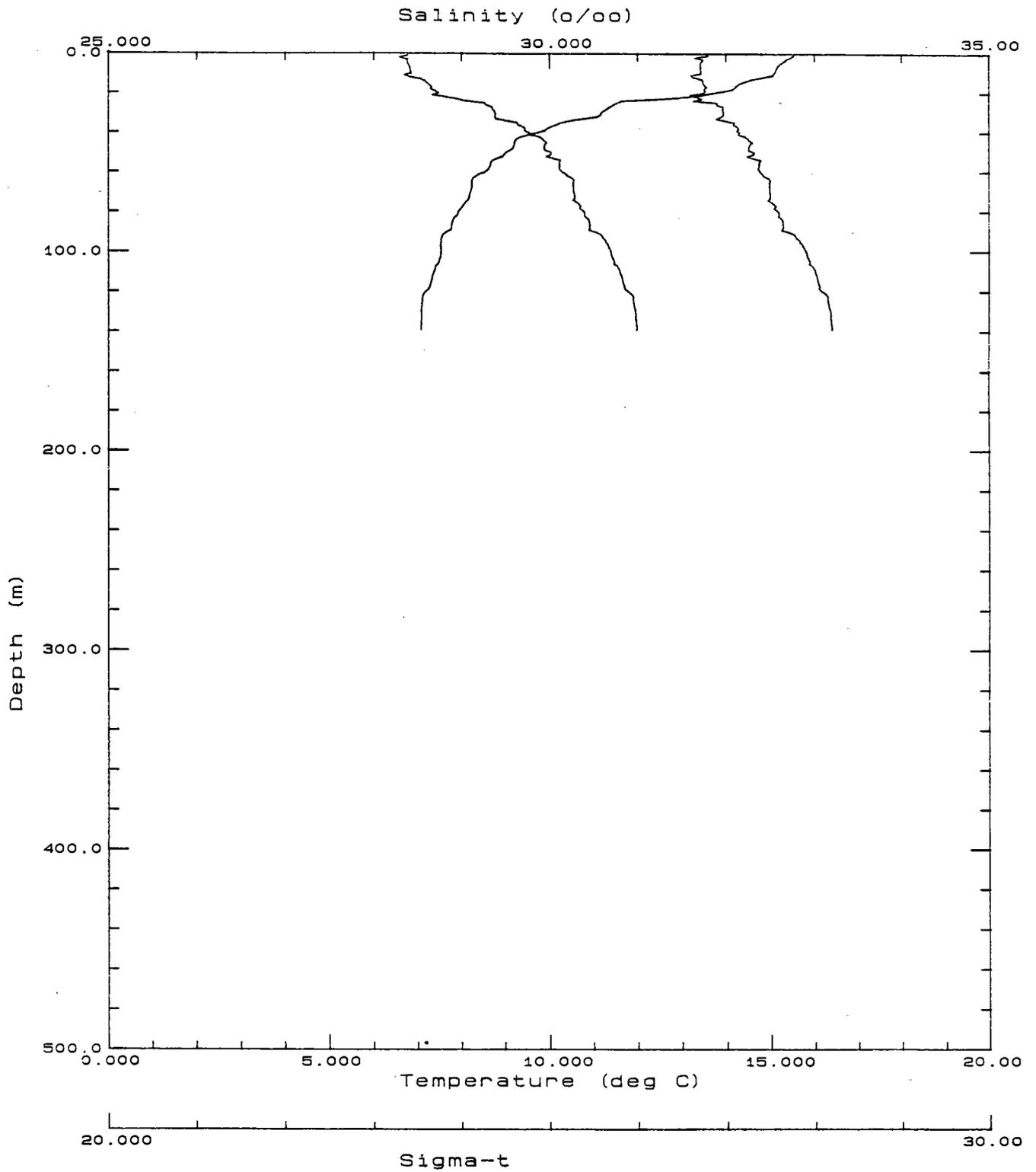
SEABIRD SBE-19 WAS USED

raw data file = DMC08JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.68	31.84	23.40	447.71	0.00
10.00	15.20	31.76	23.43	444.42	0.40
20.00	13.76	31.78	23.75	414.17	0.84
30.00	12.02	31.89	24.17	374.23	1.24
50.00	10.17	31.98	24.57	336.54	1.95
75.00	8.08	32.55	25.34	263.65	2.67
100.00	7.32	32.98	25.78	221.90	3.27
125.00	6.97	33.31	26.09	192.47	3.78

DEEPEST MEASUREMENT:

140.00	6.90	33.44	26.20	182.24	4.06
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dmc09j11.avg: MC09JUL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC09JL19

DATE: 19/07/90 TIME: 1335 UTC

POSITION: 51-52.95N 129-38.62W

BOTTOM DEPTH: 240 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

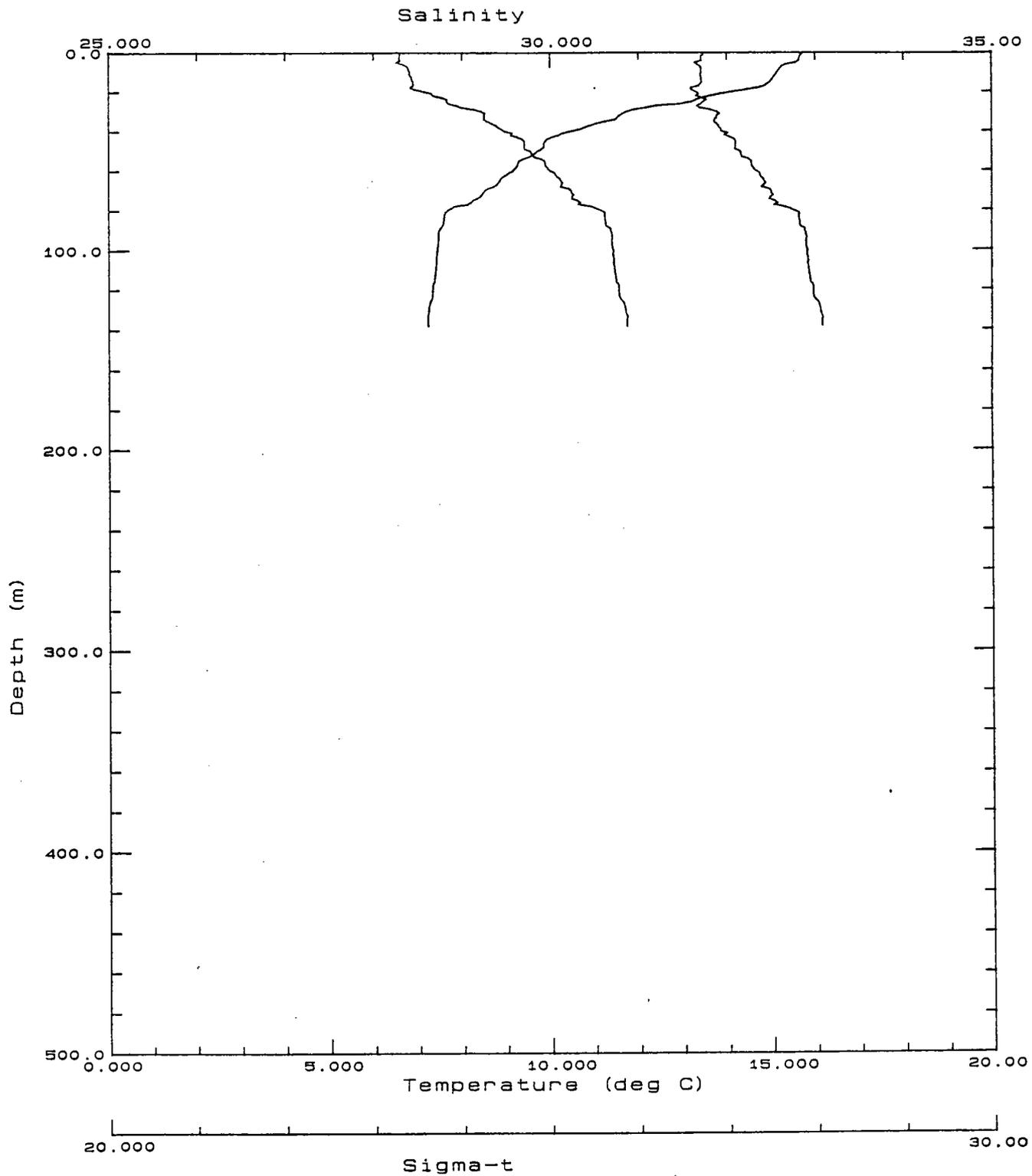
SEABIRD SBE-19 WAS USED

raw data file = DMC09JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.53	31.80	23.38	448.83	0.00
10.00	15.09	31.72	23.42	445.36	0.40
20.00	13.70	31.75	23.74	415.77	0.84
30.00	11.17	31.97	24.39	353.61	1.21
50.00	9.02	32.32	25.02	293.98	1.85
75.00	8.09	32.52	25.31	266.14	2.55
100.00	7.54	32.91	25.70	229.65	3.17
125.00	7.10	33.16	25.95	205.78	3.71

DEEPEST MEASUREMENT:

139.00	7.08	33.20	25.99	202.49	4.00
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DMC10JL1.avg: MC10JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC10JL19

DATE: 19/07/90 TIME: 1415 UTC

POSITION: 51-55.74N 129-42.16W

BOTTOM DEPTH: 181 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

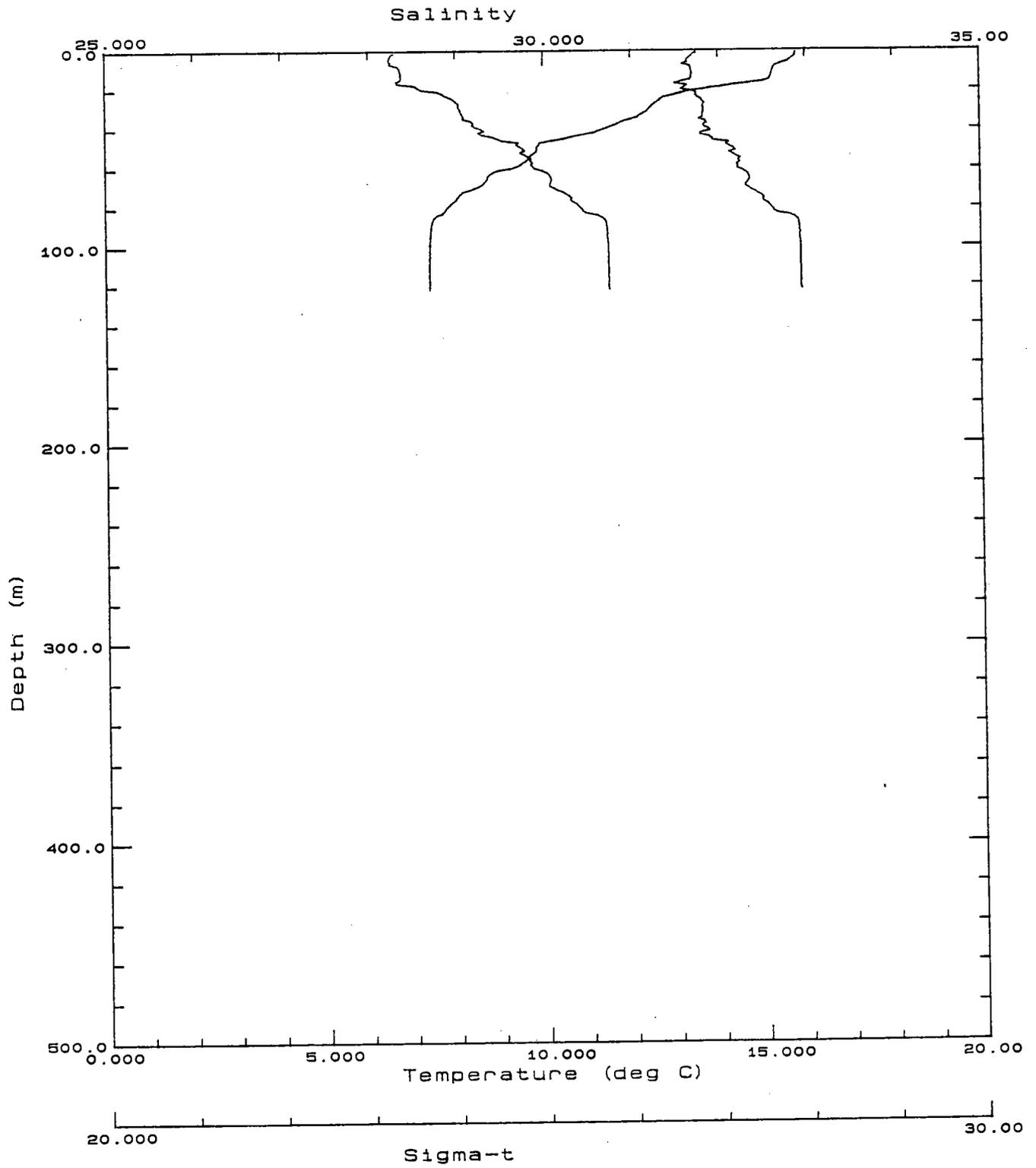
SEABIRD SBE-19 WAS USED

raw data file = DMC10JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.71	31.74	23.30	456.69	0.00
10.00	15.14	31.71	23.41	446.62	0.41
20.00	14.13	31.65	23.57	431.24	0.85
30.00	11.73	31.89	24.22	369.51	1.26
50.00	9.71	32.15	24.77	317.35	1.94
75.00	8.25	32.54	25.31	266.47	2.67
100.00	7.43	32.91	25.72	228.16	3.26
125.00	7.30	33.00	25.80	220.16	3.83

DEEPEST MEASUREMENT:

138.00	7.22	33.07	25.87	214.11	4.11
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DMC11JL1.avg: MC11JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC11JL19

DATE: 19/07/90 TIME: 1635 UTC

POSITION: 51-57.98N 129-45.55W

BOTTOM DEPTH: 121 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

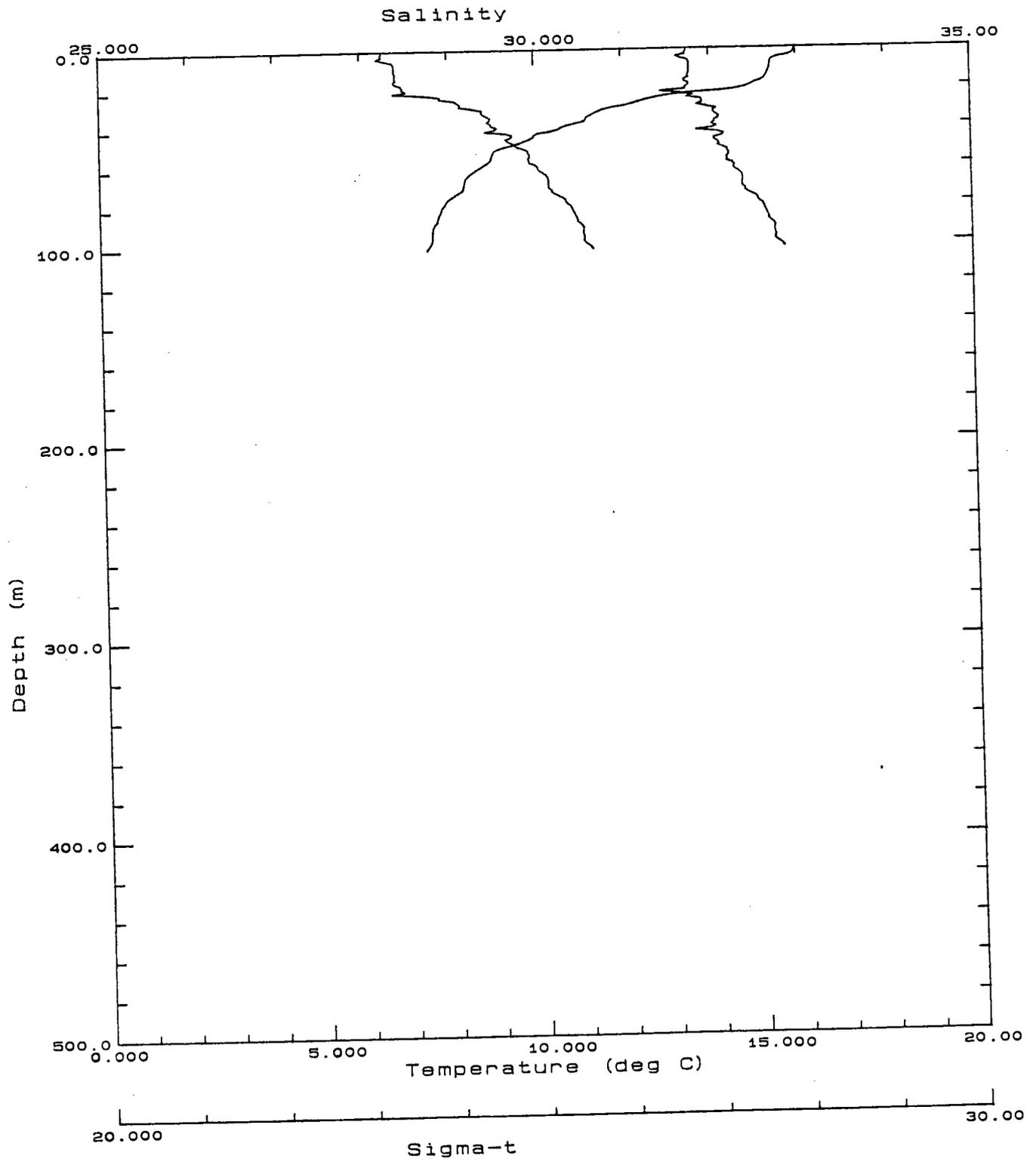
SEABIRD SBE-19 WAS USED

raw data file = DMC11JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
10.00	15.26	31.69	23.37	450.54	0.40
20.00	13.67	31.58	23.61	427.59	0.85
30.00	12.41	31.83	24.06	385.38	1.24
50.00	9.84	32.17	24.77	317.68	1.96
75.00	8.04	32.52	25.32	265.36	2.70
100.00	7.40	32.93	25.74	226.13	3.30

DEEPEST MEASUREMENT:

122.00	7.39	32.94	25.74	225.66	3.80
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DMC12JL1.avg: MC12JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC12JL19

DATE: 20/07/90 TIME: 30 UTC

POSITION: 51-58.23N 129-54.07W

BOTTOM DEPTH: 119 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

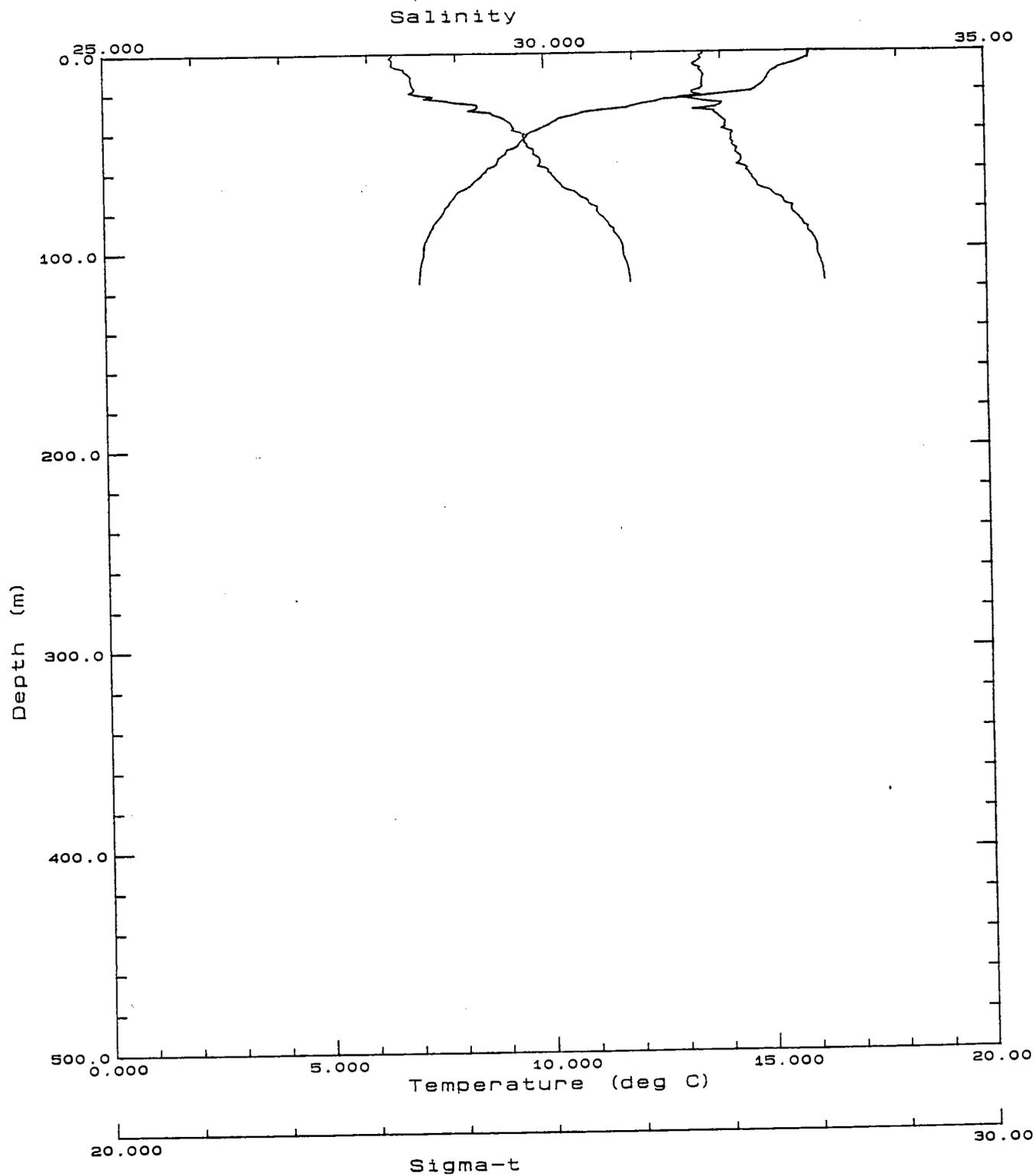
SEABIRD SBE-19 WAS USED

raw data file = DMC12JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.98	31.75	23.25	461.32	0.00
10.00	15.40	31.78	23.40	447.39	0.41
20.00	14.84	31.74	23.49	439.03	0.85
30.00	11.77	31.96	24.27	364.48	1.26
50.00	9.29	32.09	24.80	314.95	1.93
75.00	8.10	32.47	25.27	270.11	2.66
100.00	7.55	32.80	25.61	238.38	3.28

DEEPEST MEASUREMENT:

102.00	7.49	32.84	25.65	234.37	3.33
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DMC13JL1.avg: MC13JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC13JL19

DATE: 20/07/90 TIME: 120 UTC

POSITION: 51-58.21N 130-01.82W

BOTTOM DEPTH: 137 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

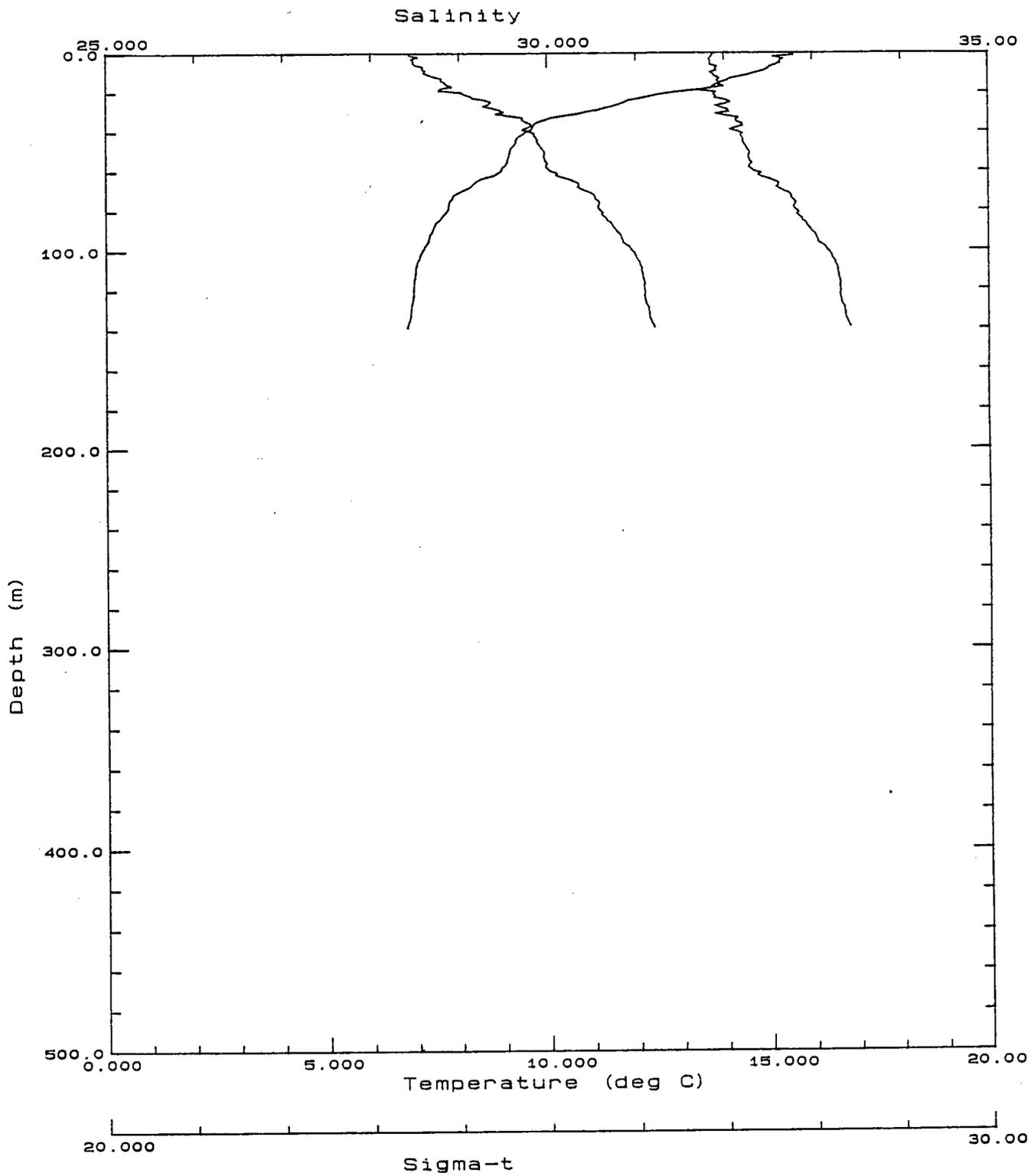
SEABIRD SBE-19 WAS USED

raw data file = DMC13JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.03	31.81	23.29	458.25	0.00
10.00	15.18	31.78	23.46	442.30	0.41
20.00	14.70	31.67	23.47	440.96	0.85
30.00	10.91	31.92	24.39	353.06	1.24
50.00	9.14	32.17	24.88	307.11	1.89
75.00	7.85	32.70	25.49	248.98	2.60
100.00	7.23	33.08	25.87	213.25	3.17

DEEPEST MEASUREMENT:

116.00	7.12	33.15	25.95	206.18	3.51
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DMC14JL1.avg: MC14JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC14JL19

DATE: 20/07/90 TIME: 206 UTC

POSITION: 51-58.25N 130-10.06W

BOTTOM DEPTH: 170 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

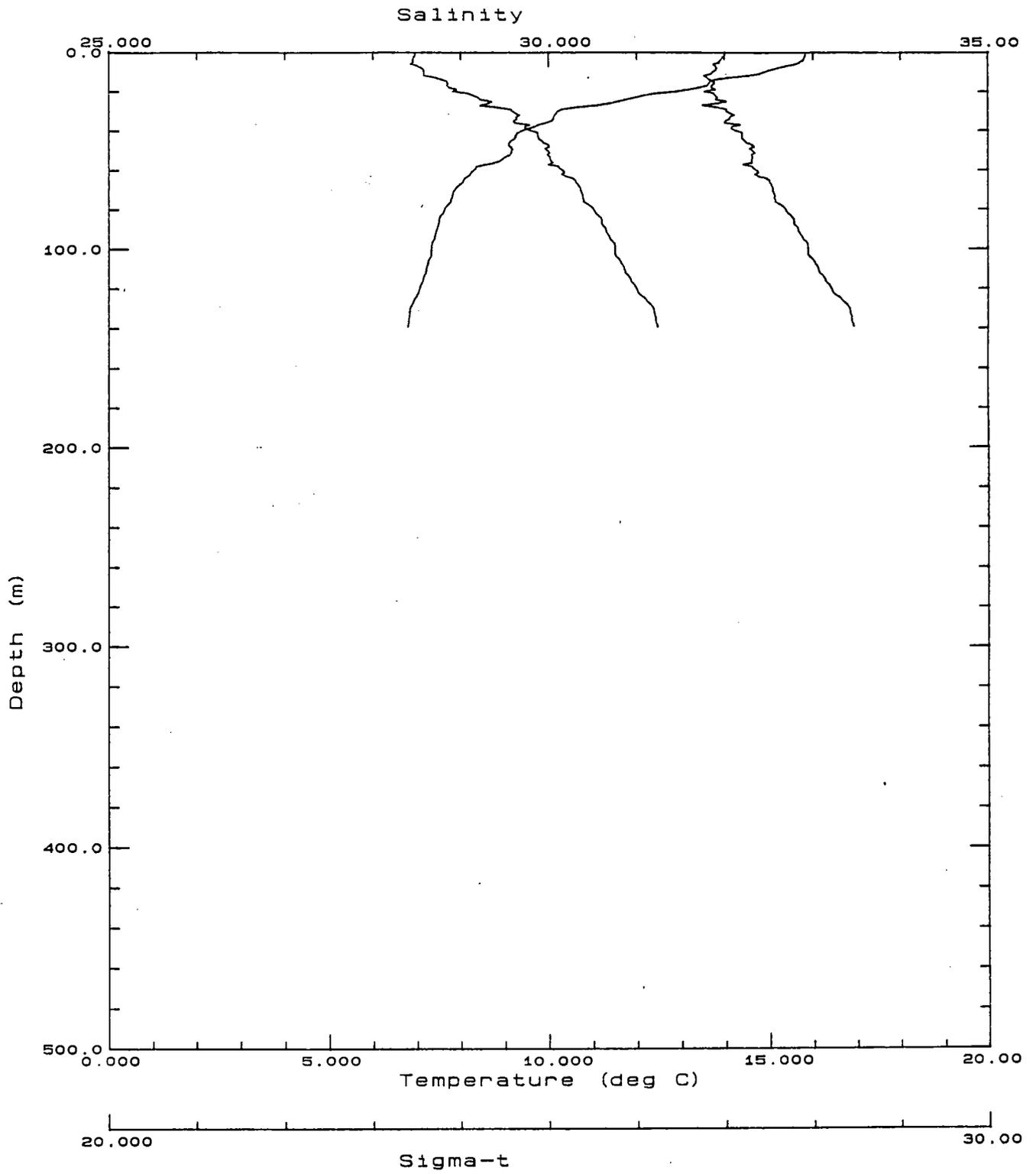
SEABIRD SBE-19 WAS USED

raw data file = DMC14JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.59	31.88	23.44	443.92	0.00
10.00	14.72	31.84	23.60	428.60	0.39
20.00	12.88	31.91	24.02	388.38	0.80
30.00	10.86	32.05	24.50	342.54	1.17
50.00	9.16	32.28	24.97	298.93	1.80
75.00	7.79	32.79	25.57	241.53	2.49
100.00	7.16	33.16	25.95	206.15	3.05
125.00	6.94	33.31	26.10	192.12	3.54

DEEPEST MEASUREMENT:

139.00	6.80	33.42	26.20	182.63	3.81
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DMC15JL1.avg: MC15JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC15JL19

DATE: 20/07/90 TIME: 252 UTC

POSITION: 51-58.24N 130-18.00W

BOTTOM DEPTH: 305 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

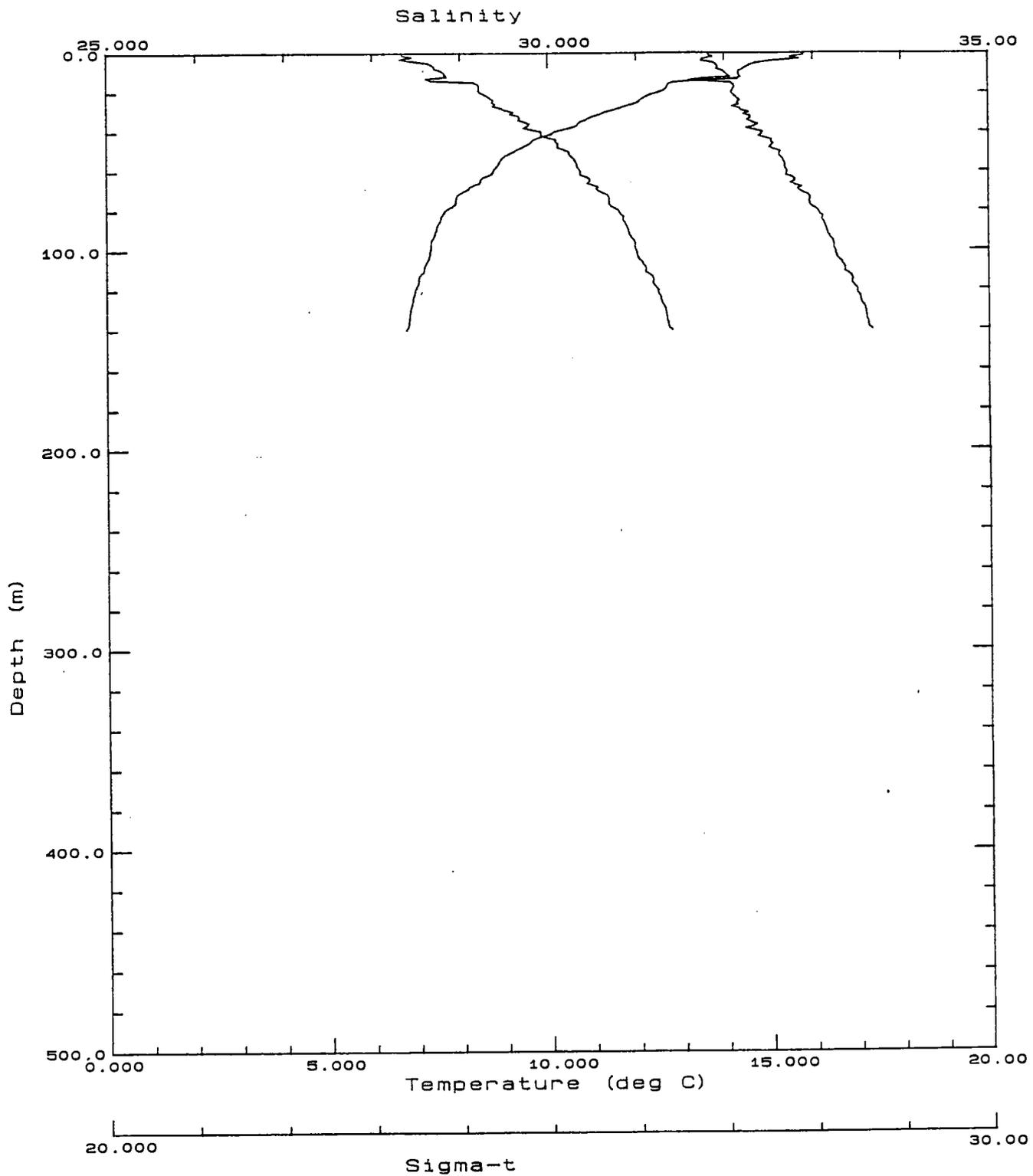
SEABIRD SBE-19 WAS USED

raw data file = DMC15JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.83	32.01	23.49	439.15	0.00
10.00	14.90	31.87	23.58	430.37	0.39
20.00	12.92	31.77	23.91	399.10	0.81
30.00	10.22	32.02	24.59	333.99	1.17
50.00	9.17	32.32	24.99	296.16	1.80
75.00	7.78	32.58	25.40	257.56	2.49
100.00	7.33	32.95	25.76	224.18	3.08
125.00	6.95	33.31	26.10	192.14	3.61

DEEPEST MEASUREMENT:

139.00	6.79	33.46	26.24	179.03	3.87
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DMC16JL1.avg: MC16JL19

SEAKEM OCEANOGRAPHY LTD.

STATION: MC16JL19

DATE: 20/07/90 TIME: 342 UTC

POSITION: 51-58.28N 130-26.14W

BOTTOM DEPTH: 415 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

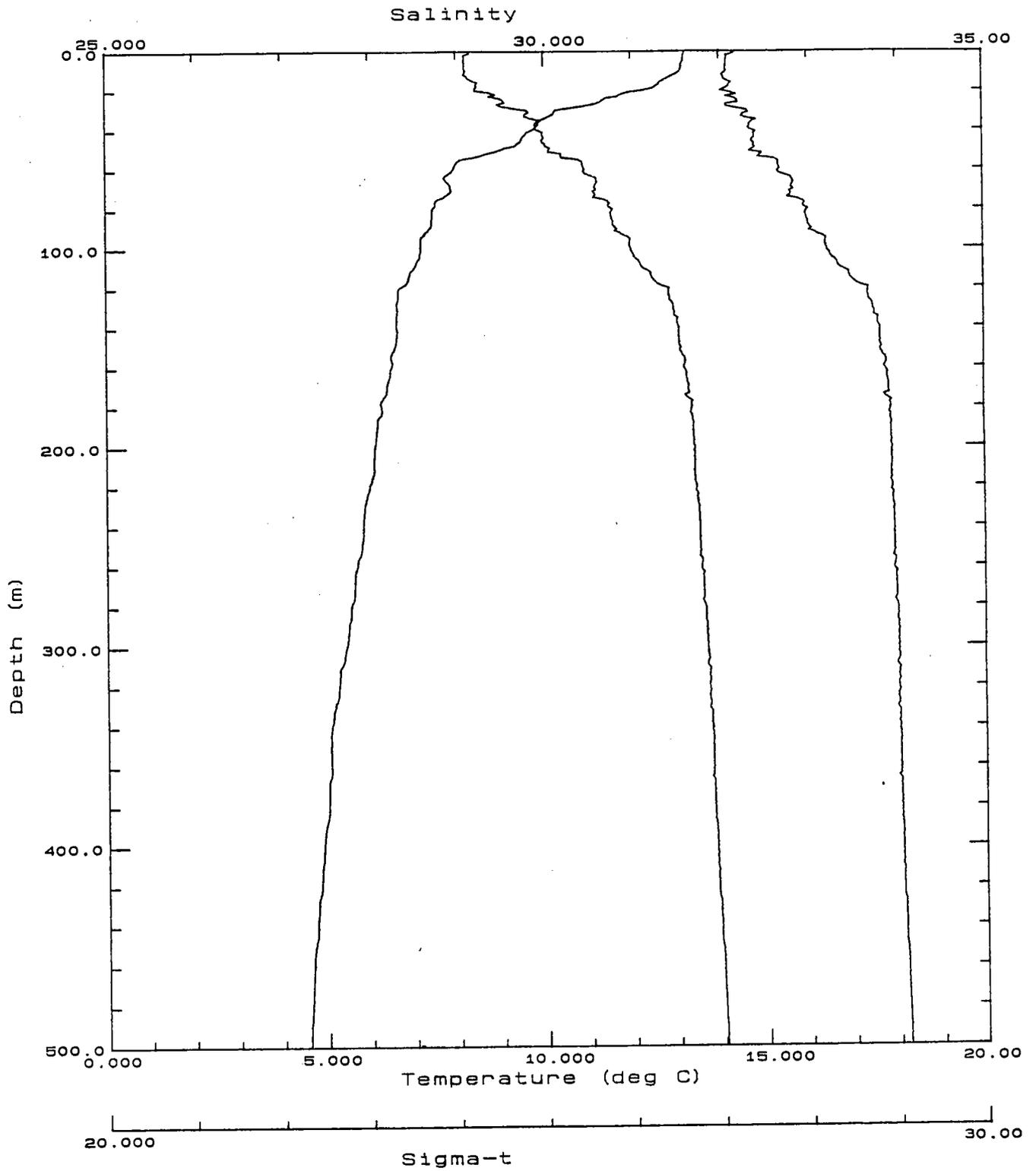
SEABIRD SBE-19 WAS USED

raw data file = DMC16JL1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.80	31.82	23.34	452.84	0.00
10.00	14.32	32.01	23.82	407.82	0.39
20.00	12.51	32.08	24.23	368.88	0.78
30.00	11.29	32.27	24.60	333.30	1.13
50.00	9.22	32.63	25.23	273.56	1.74
75.00	7.90	32.96	25.69	230.61	2.38
100.00	7.31	33.24	25.99	201.83	2.91
125.00	6.91	33.53	26.28	175.29	3.38

DEEPEST MEASUREMENT:

140.00	6.76	33.66	26.39	164.16	3.64
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DJS06JL2.avg: JS06JL21

SEAKEM OCEANOGRAPHY LTD.

STATION: JS06JL21

DATE: 21/07/90 TIME: 1615 UTC

POSITION: 51-39.82N 130-31.75W

BOTTOM DEPTH: 1084 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

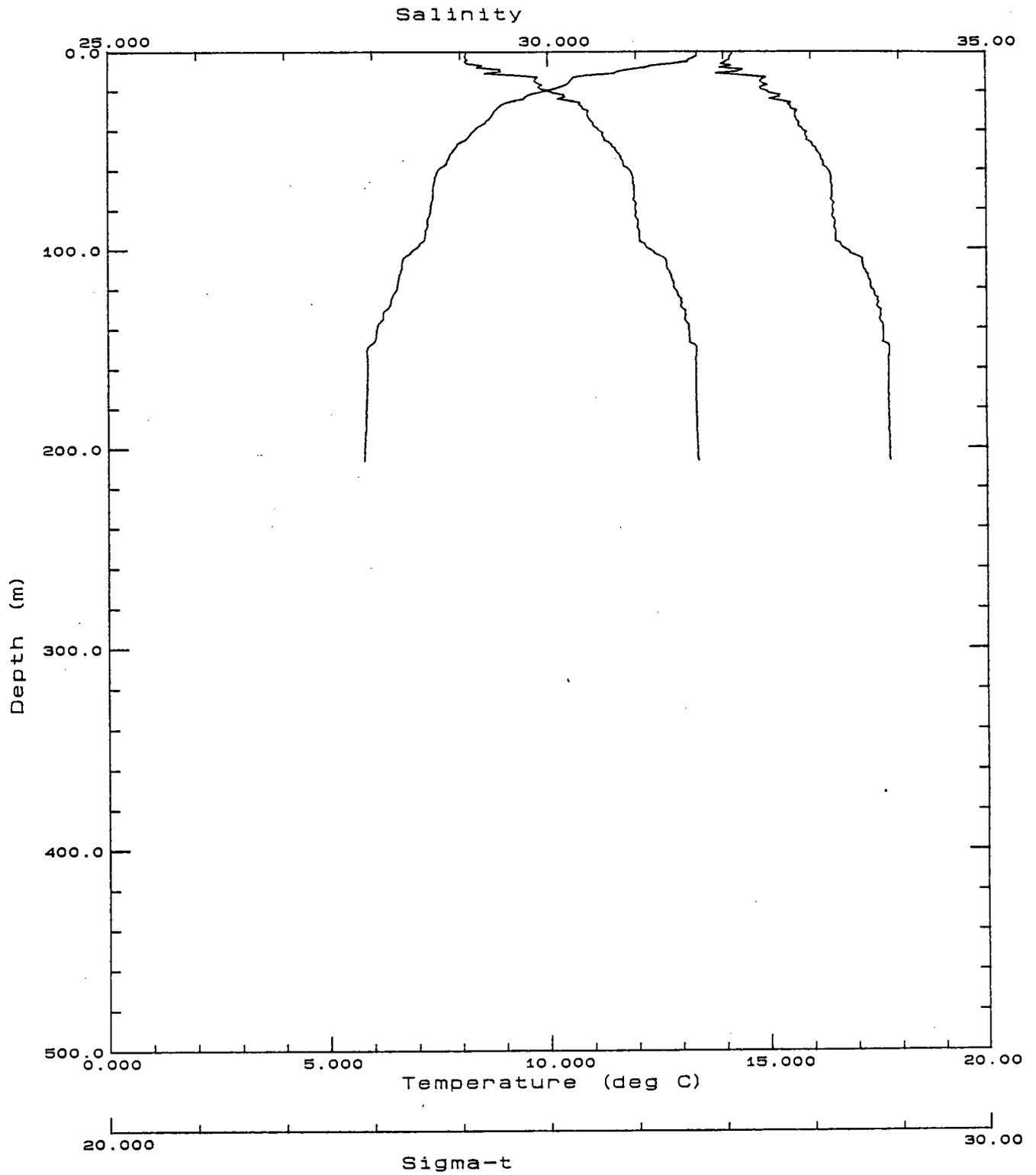
SEABIRD SBE-19 WAS USED

raw data file = DJS06JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.23	32.17	24.16	374.95	0.00
10.00	13.13	32.09	24.11	379.52	0.34
20.00	12.29	32.02	24.22	369.43	0.72
30.00	10.28	32.31	24.81	313.75	1.06
50.00	9.01	32.37	25.06	289.79	1.66
75.00	7.57	32.89	25.68	231.27	2.29
100.00	7.19	33.22	25.99	202.11	2.83
125.00	6.66	33.68	26.43	160.88	3.29
150.00	6.58	33.83	26.55	149.25	3.67
175.00	6.32	33.87	26.62	143.49	4.03
200.00	6.11	33.94	26.70	135.83	4.38
225.00	5.93	33.94	26.72	133.88	4.72
250.00	5.81	33.96	26.75	131.34	5.05
300.00	5.45	34.00	26.83	124.40	5.69
400.00	4.90	34.03	26.92	116.42	6.89
500.00	4.56	34.11	27.01	108.28	8.01

DEEPEST MEASUREMENT:

548.00	4.50	34.12	27.03	106.80	8.52
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DJS04JL2.avg: JS04JL21

SEAKEM OCEANOGRAPHY LTD.

STATION: JS04JL21

DATE: 22/07/90 TIME: 207 UTC

POSITION: 51-47.78N 130-46.96W

BOTTOM DEPTH: 240 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

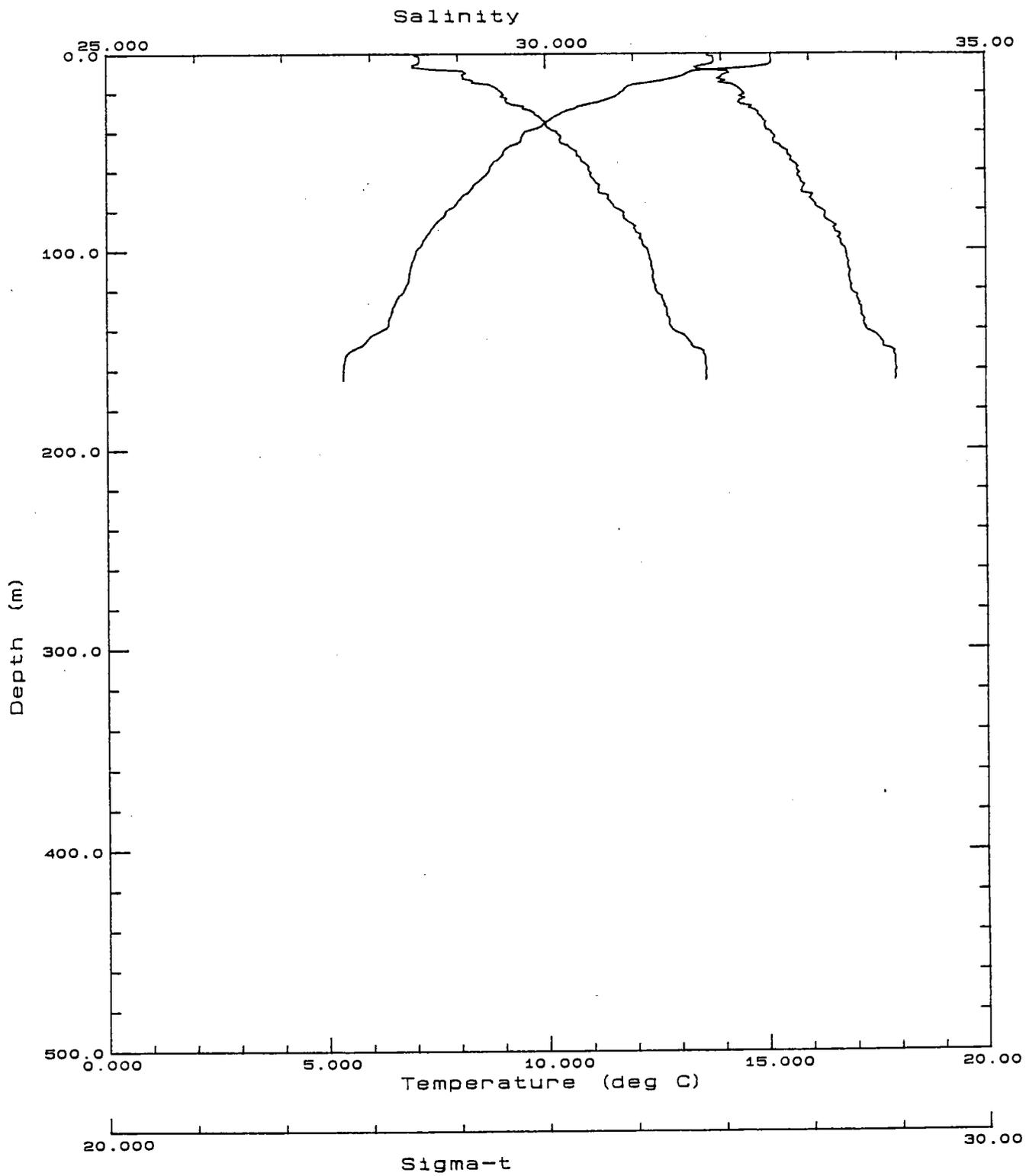
SEABIRD SBE-19 WAS USED

raw data file = DJS04JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.40	32.10	24.07	383.19	0.00
10.00	11.60	32.16	24.46	346.50	0.34
20.00	9.96	32.50	25.01	294.43	0.65
30.00	8.78	32.84	25.46	251.17	0.92
50.00	7.85	33.06	25.77	221.93	1.40
75.00	7.36	33.22	25.96	204.15	1.92
100.00	6.94	33.39	26.16	186.25	2.42
125.00	6.43	33.75	26.51	152.67	2.83
150.00	5.88	33.88	26.68	136.82	3.20
175.00	5.86	33.87	26.68	137.36	3.54
200.00	5.81	33.89	26.70	136.10	3.89

DEEPEST MEASUREMENT:

206.00	5.80	33.89	26.70	135.50	3.97
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DJS03JL2.avg: JS03JL21

SEAKEM OCEANOGRAPHY LTD.

STATION: JS03JL21

DATE: 22/07/90 TIME: 255 UTC

POSITION: 51-50.63N 130-51.45W

BOTTOM DEPTH: 180 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

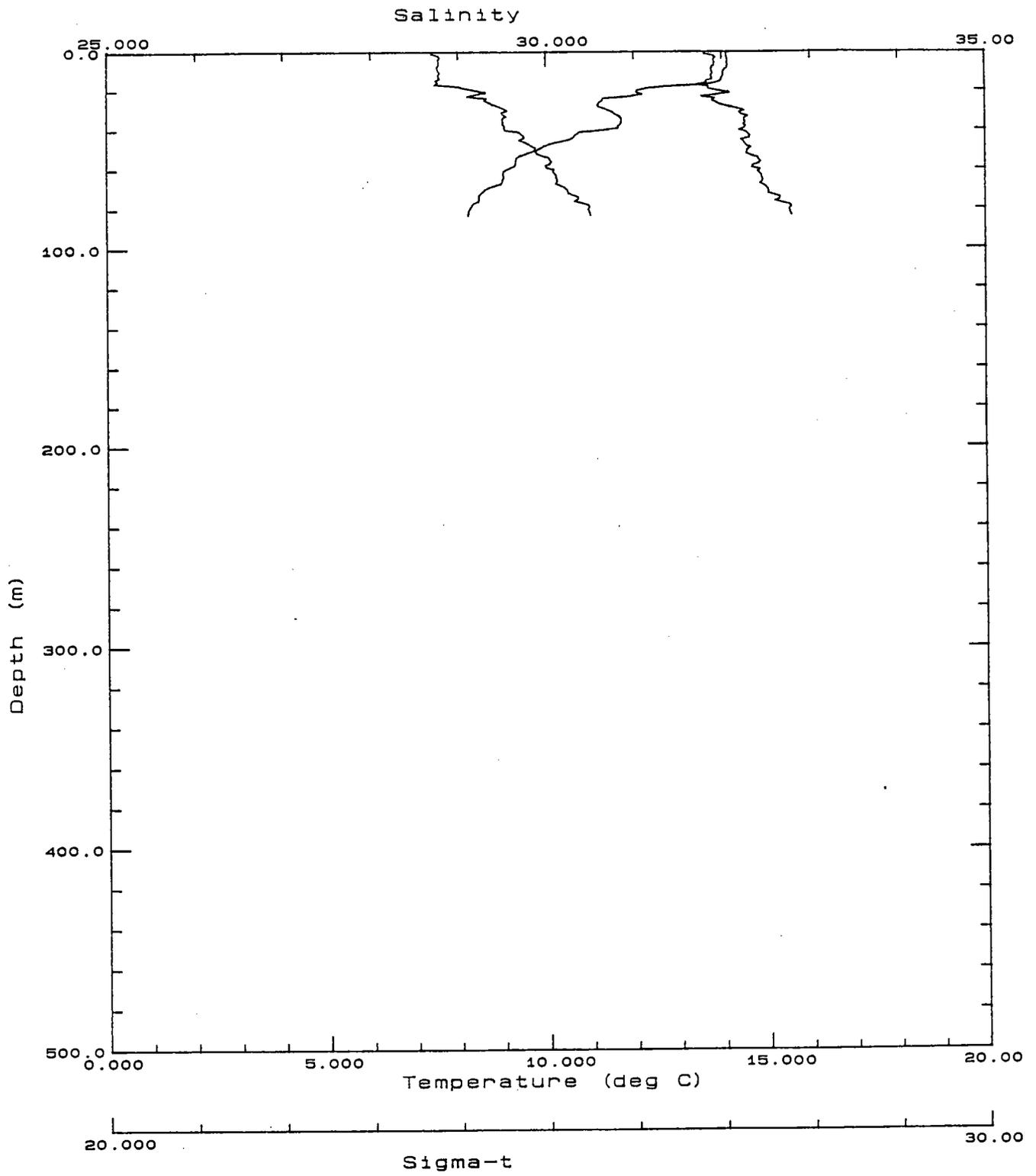
SEABIRD SBE-19 WAS USED

raw data file = DJS03JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.14	31.84	23.51	436.66	0.00
10.00	13.25	32.09	24.09	381.55	0.38
20.00	11.72	32.25	24.51	342.24	0.75
30.00	10.40	32.42	24.87	307.34	1.08
50.00	9.04	32.75	25.35	261.98	1.65
75.00	8.00	33.03	25.73	226.64	2.27
100.00	7.04	33.40	26.15	186.44	2.78
125.00	6.59	33.54	26.32	170.75	3.23
150.00	5.59	33.92	26.75	130.45	3.62

DEEPEST MEASUREMENT:

165.00	5.38	33.96	26.81	124.73	3.81
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DJS02JL2.avg: JS02JL21

SEAKEM OCEANOGRAPHY LTD.

STATION: JS02JL21

DATE: 22/07/90 TIME: 340 UTC

POSITION: 51-53.21N 130-55.67W

BOTTOM DEPTH: 98 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

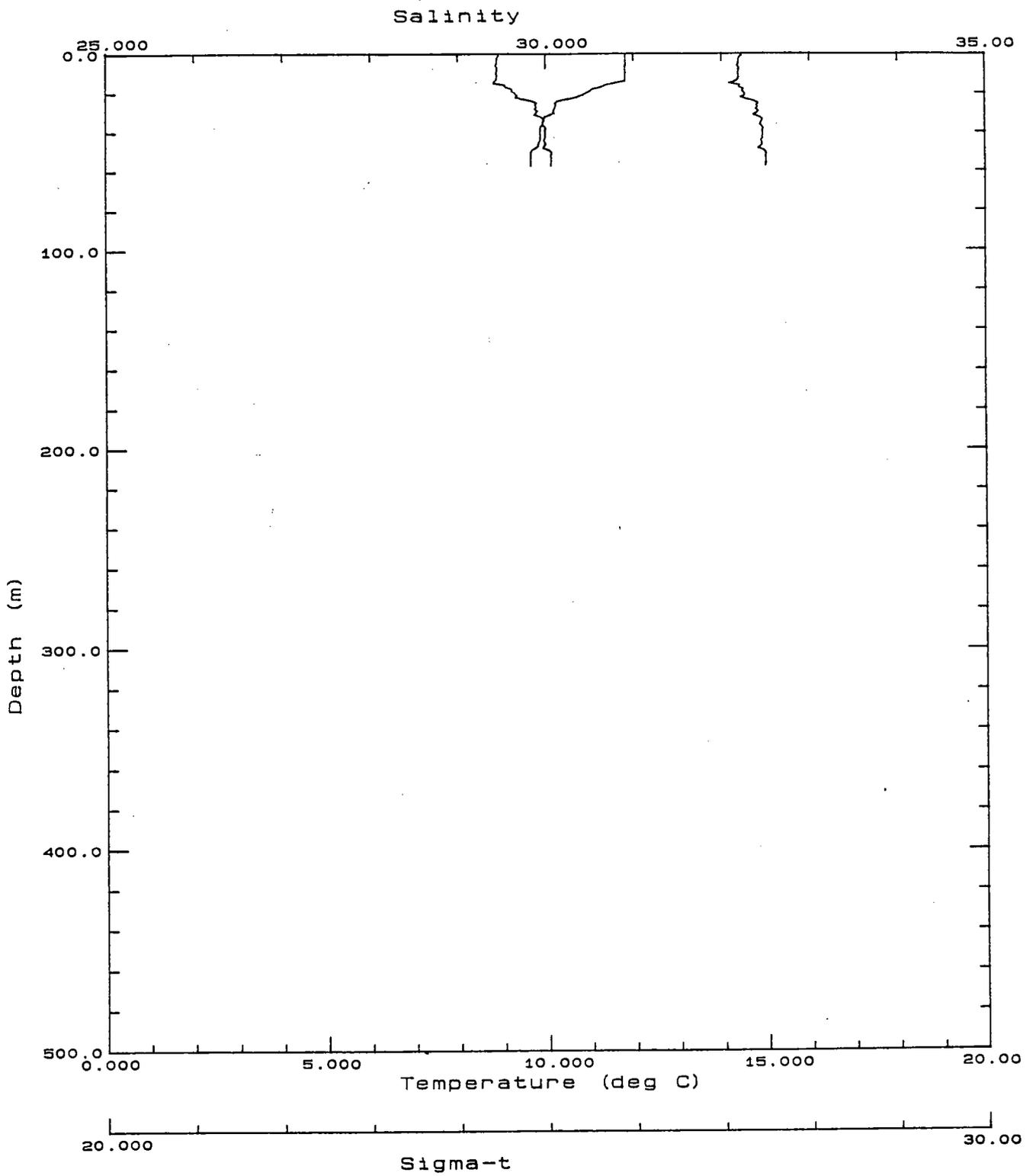
SEABIRD SBE-19 WAS USED

raw data file = DJS02JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.11	31.80	23.70	418.87	0.00
10.00	14.04	31.89	23.77	411.87	0.37
20.00	12.08	31.95	24.21	370.49	0.78
30.00	11.43	32.25	24.56	337.42	1.13
50.00	9.81	32.29	24.87	307.88	1.79
75.00	8.48	32.65	25.36	261.73	2.51

DEEPEST MEASUREMENT:

83.00	8.22	32.79	25.50	248.28	2.71
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DJSO1JL2.avg: JSO1JL21

SEAKEM OCEANOGRAPHY LTD.

STATION: JS01JL21

DATE: 22/07/90 TIME: 415 UTC

POSITION: 51-55.48N 130-58.73W

BOTTOM DEPTH: 71 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

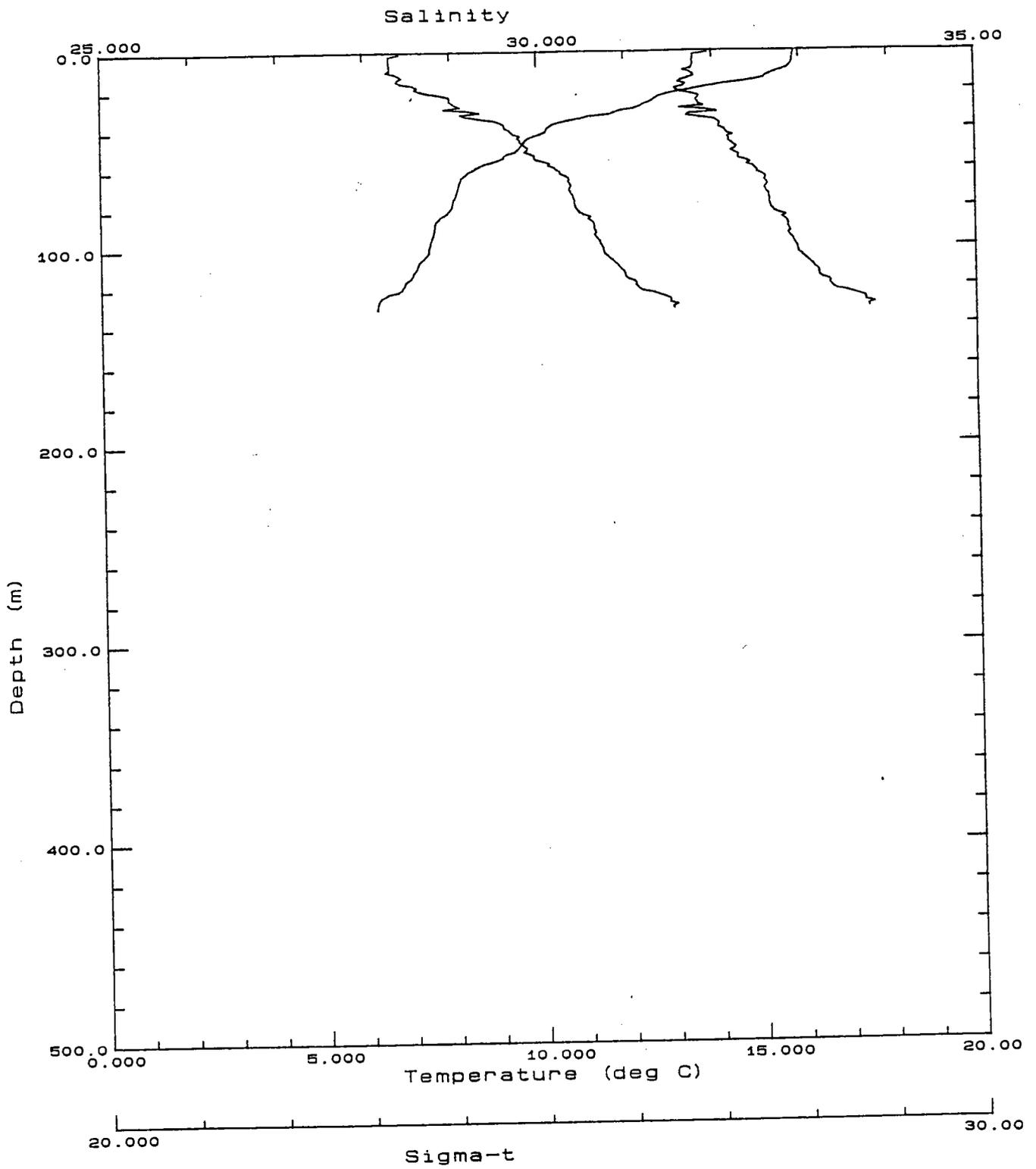
SEABIRD SBE-19 WAS USED

raw data file = DJS01JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	11.82	32.23	24.47	345.40	0.00
10.00	11.81	32.19	24.44	348.25	0.31
20.00	10.93	32.26	24.65	328.08	0.66
30.00	10.18	32.40	24.89	305.55	0.97
50.00	9.66	32.51	25.06	289.92	1.56

DEEPEST MEASUREMENT:

57.00	9.66	32.50	25.06	290.34	1.77
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D36R22JL.avg: 36R22JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 36R22JL

DATE: 22/07/90 TIME: 1245 UTC

POSITION: 52-23.19N 130-34.26W

BOTTOM DEPTH: 150 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

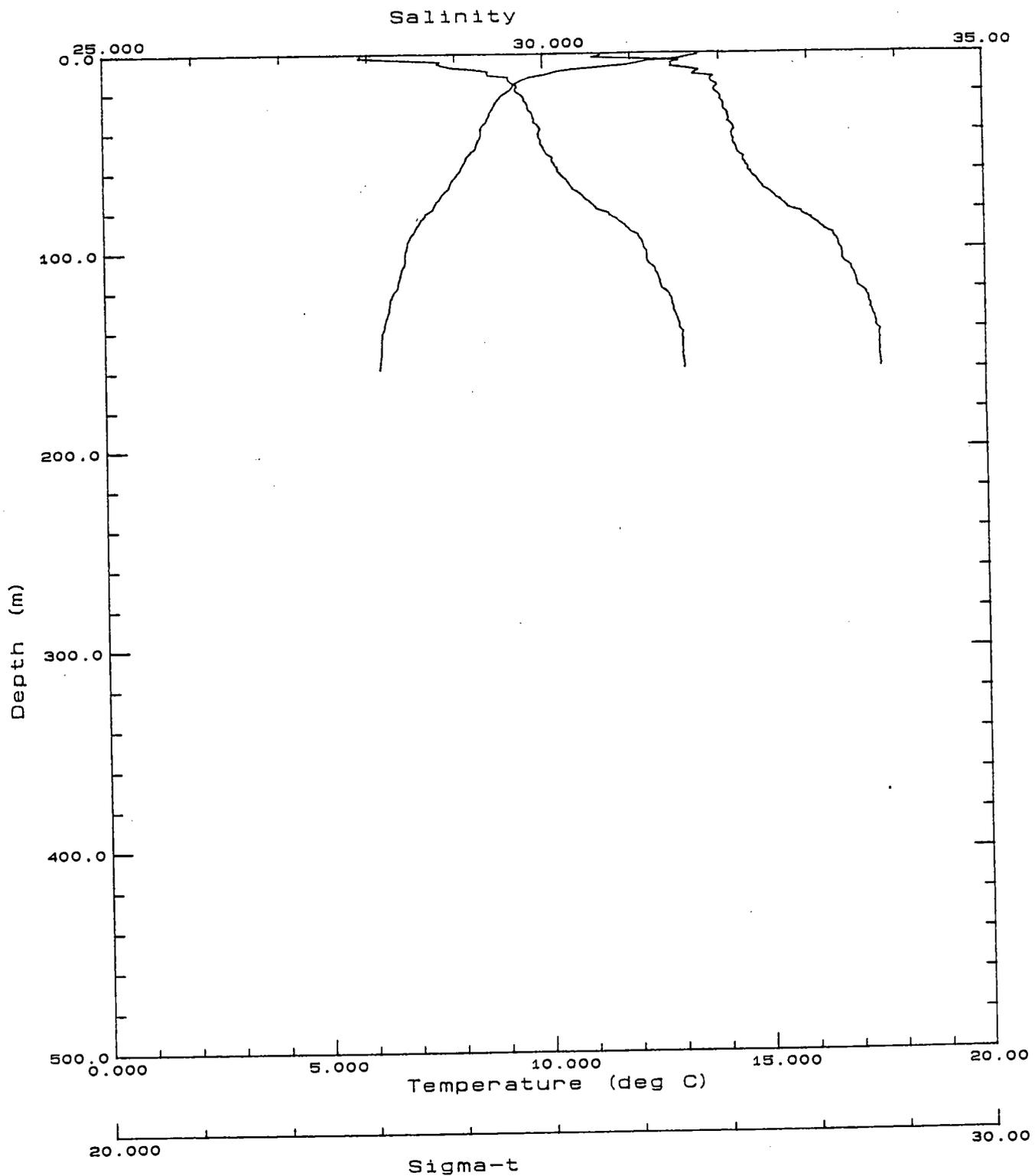
SEABIRD SBE-19 WAS USED

raw data file = D36R22JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.90	31.95	23.42	445.11	0.00
10.00	15.60	31.67	23.28	458.97	0.41
20.00	13.48	31.60	23.66	422.57	0.85
30.00	11.92	31.92	24.21	370.27	1.24
50.00	9.55	32.26	24.89	306.58	1.91
75.00	8.07	32.65	25.42	256.15	2.59
100.00	7.49	32.96	25.75	225.21	3.19
125.00	6.40	33.65	26.44	159.73	3.70

DEEPEST MEASUREMENT:

131.00	6.29	33.77	26.54	149.92	3.79
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dm03j122.avg: M03JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M03JL22

DATE: 23/07/90 TIME: 15 UTC

POSITION: 52-35.38N 129-47.99W

BOTTOM DEPTH: 179 M

SECCHI DEPTH: -- M SST: 14.0 C SURFACE SALINITY: 30.36 o/oo

RESULTS OF CTD CAST

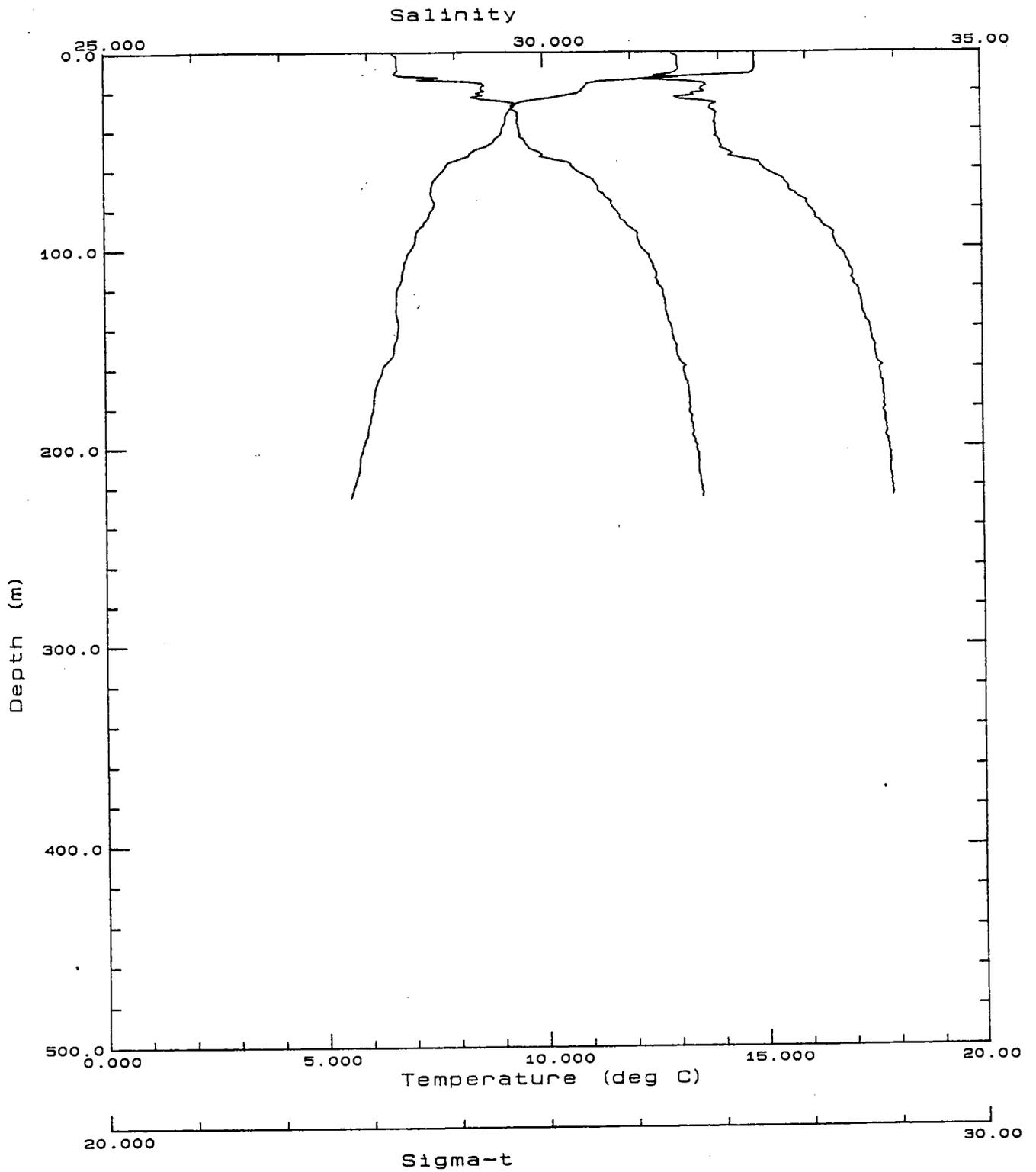
SEABIRD SBE-19 WAS USED

raw data file = DM03JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.52	30.66	22.93	492.58	0.00
10.00	10.18	31.73	24.37	355.11	0.37
20.00	9.16	31.96	24.71	322.57	0.70
30.00	8.78	32.08	24.87	307.75	1.02
50.00	8.36	32.19	25.02	293.65	1.62
75.00	7.55	32.68	25.51	246.85	2.30
100.00	6.83	33.36	26.15	186.59	2.83
125.00	6.47	33.66	26.44	159.81	3.27
150.00	6.26	33.78	26.56	148.78	3.65

DEEPEST MEASUREMENT:

159.00	6.21	33.79	26.57	147.91	3.78
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dm04j122.avg: M04JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M04JL22

DATE: 23/07/90 TIME: 130 UTC

POSITION: 52-34.18N 129-55.93W

BOTTOM DEPTH: 252 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

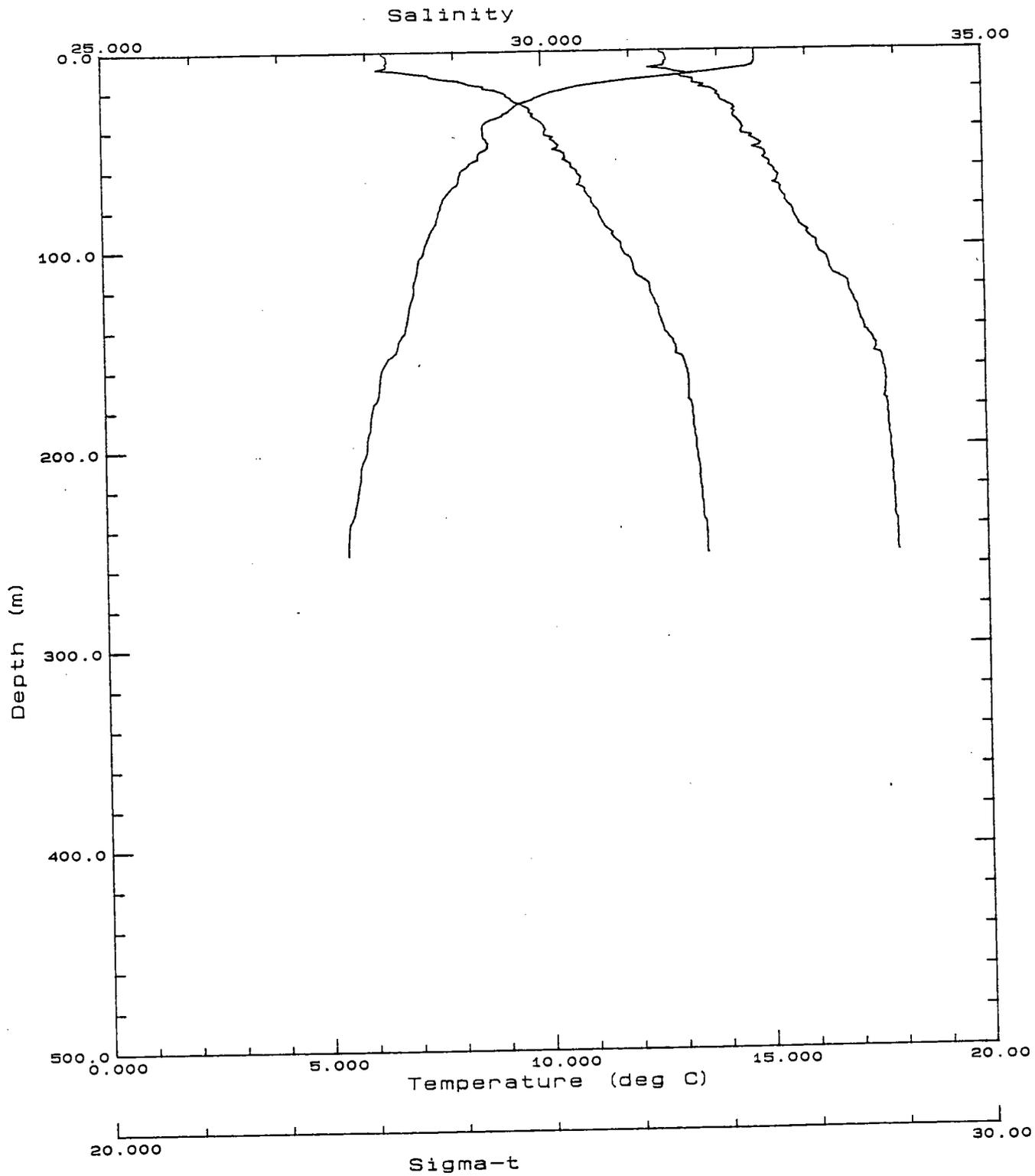
SEABIRD SBE-19 WAS USED

raw data file = DM04JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.82	31.47	23.29	457.61	0.00
10.00	14.79	31.52	23.33	453.91	0.41
20.00	10.87	31.83	24.33	359.06	0.81
30.00	9.23	31.94	24.69	325.03	1.15
50.00	8.43	32.07	24.91	303.78	1.79
75.00	7.48	32.96	25.74	225.09	2.43
100.00	6.98	33.35	26.12	189.64	2.95
125.00	6.64	33.60	26.37	166.60	3.39
150.00	6.58	33.76	26.50	154.19	3.79
175.00	6.11	33.87	26.64	140.80	4.16
200.00	5.86	33.92	26.72	134.00	4.50
225.00	5.57	33.95	26.78	128.59	4.83

DEEPEST MEASUREMENT:

225.00	5.57	33.95	26.78	128.59	4.83
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DM05JL22.avg: M05JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M05JL22

DATE: 23/07/90 TIME: 220 UTC

POSITION: 52-32.19N 130-04.39W

BOTTOM DEPTH: 282 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

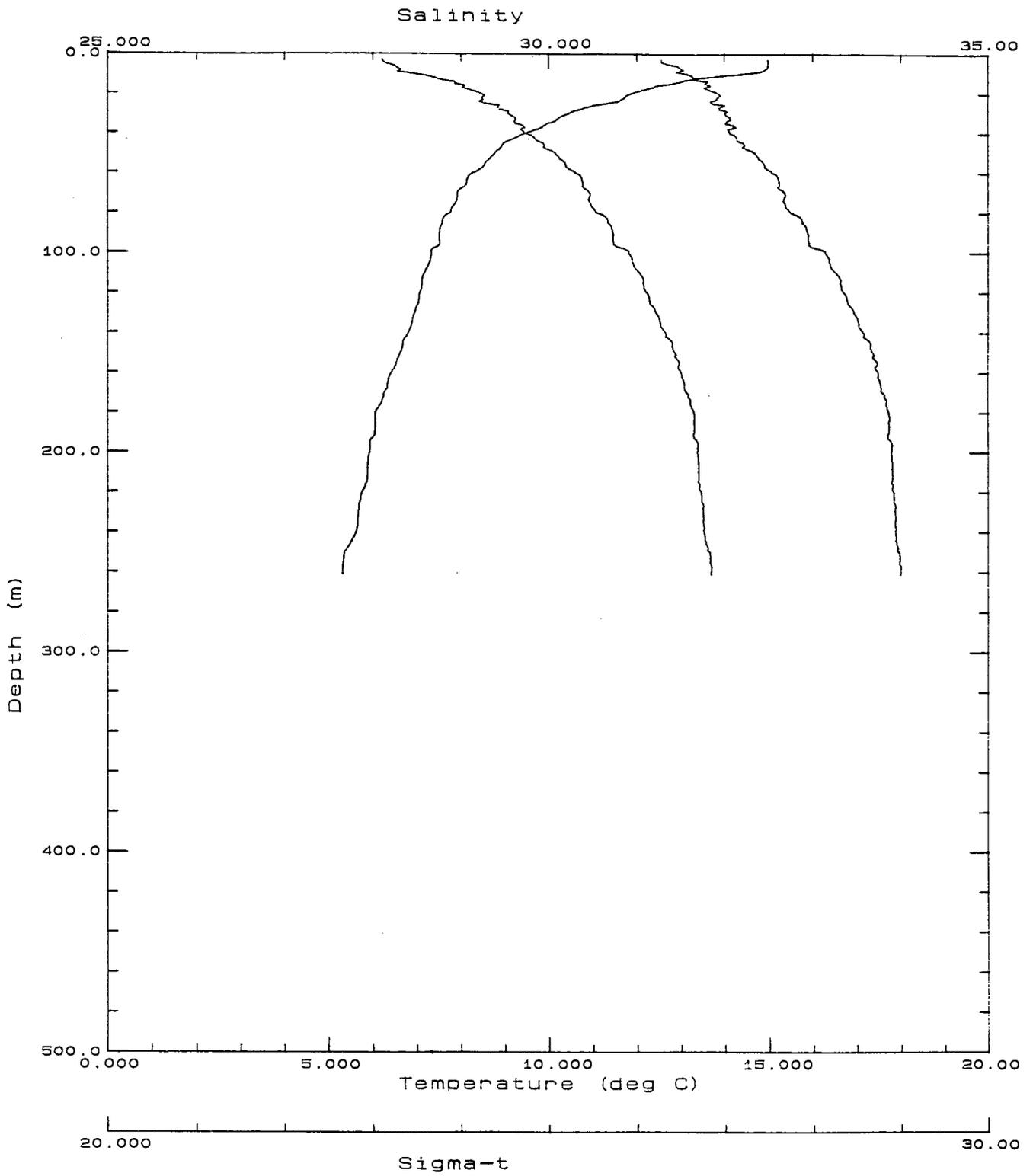
SEABIRD SBE-19 WAS USED

raw data file = DM05JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.84	31.34	23.19	467.46	0.00
10.00	14.27	31.43	23.37	449.93	0.42
20.00	10.46	31.92	24.47	345.40	0.81
30.00	9.29	32.19	24.87	307.30	1.14
50.00	8.71	32.39	25.12	284.51	1.72
75.00	7.72	32.75	25.55	243.66	2.37
100.00	7.27	33.10	25.88	212.34	2.94
125.00	6.98	33.49	26.23	179.61	3.43
150.00	6.63	33.74	26.48	156.18	3.85
175.00	6.16	33.84	26.61	143.61	4.22
200.00	5.91	33.90	26.69	136.35	4.57
225.00	5.68	33.93	26.75	131.31	4.90
250.00	5.46	33.96	26.80	126.62	5.22

DEEPEST MEASUREMENT:

253.00	5.46	33.98	26.81	125.78	5.26
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DM06JL22.avg: M06JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M06JL22

DATE: 23/07/90 TIME: 301 UTC

POSITION: 52-31.22N 130-10.93W

BOTTOM DEPTH: 291 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

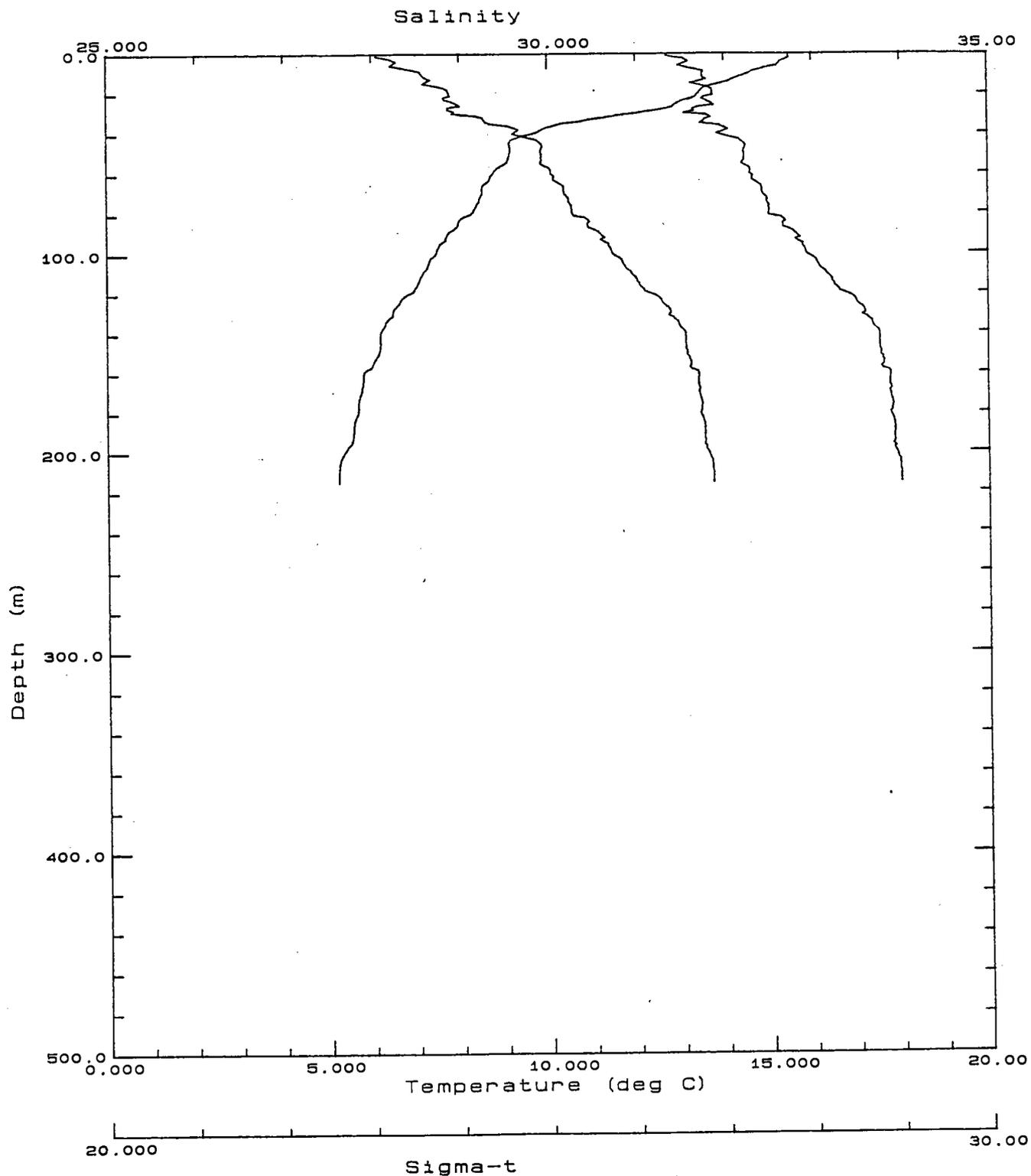
SEABIRD SBE-19 WAS USED

raw data file = DM06JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.99	31.28	23.11	475.06	0.00
10.00	14.41	31.57	23.45	442.47	0.32
20.00	11.87	31.94	24.23	368.12	0.72
30.00	10.45	32.01	24.54	339.19	1.08
50.00	8.78	32.35	25.08	288.40	1.71
75.00	7.88	32.68	25.47	251.14	2.38
100.00	7.33	33.14	25.91	209.61	2.95
125.00	7.03	33.39	26.15	187.45	3.45
150.00	6.63	33.68	26.43	160.93	3.88
175.00	6.20	33.83	26.60	144.69	4.26
200.00	5.93	33.89	26.68	137.41	4.61
225.00	5.70	33.92	26.74	132.53	4.95
250.00	5.36	33.98	26.82	124.31	5.28

DEEPEST MEASUREMENT:

261.00	5.32	33.99	26.84	123.01	5.41
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DM07JL22.avg: M07JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M07JL22

DATE: 23/07/90 TIME: 407 UTC

POSITION: 52-30.07N 130-20.35W

BOTTOM DEPTH: 241 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

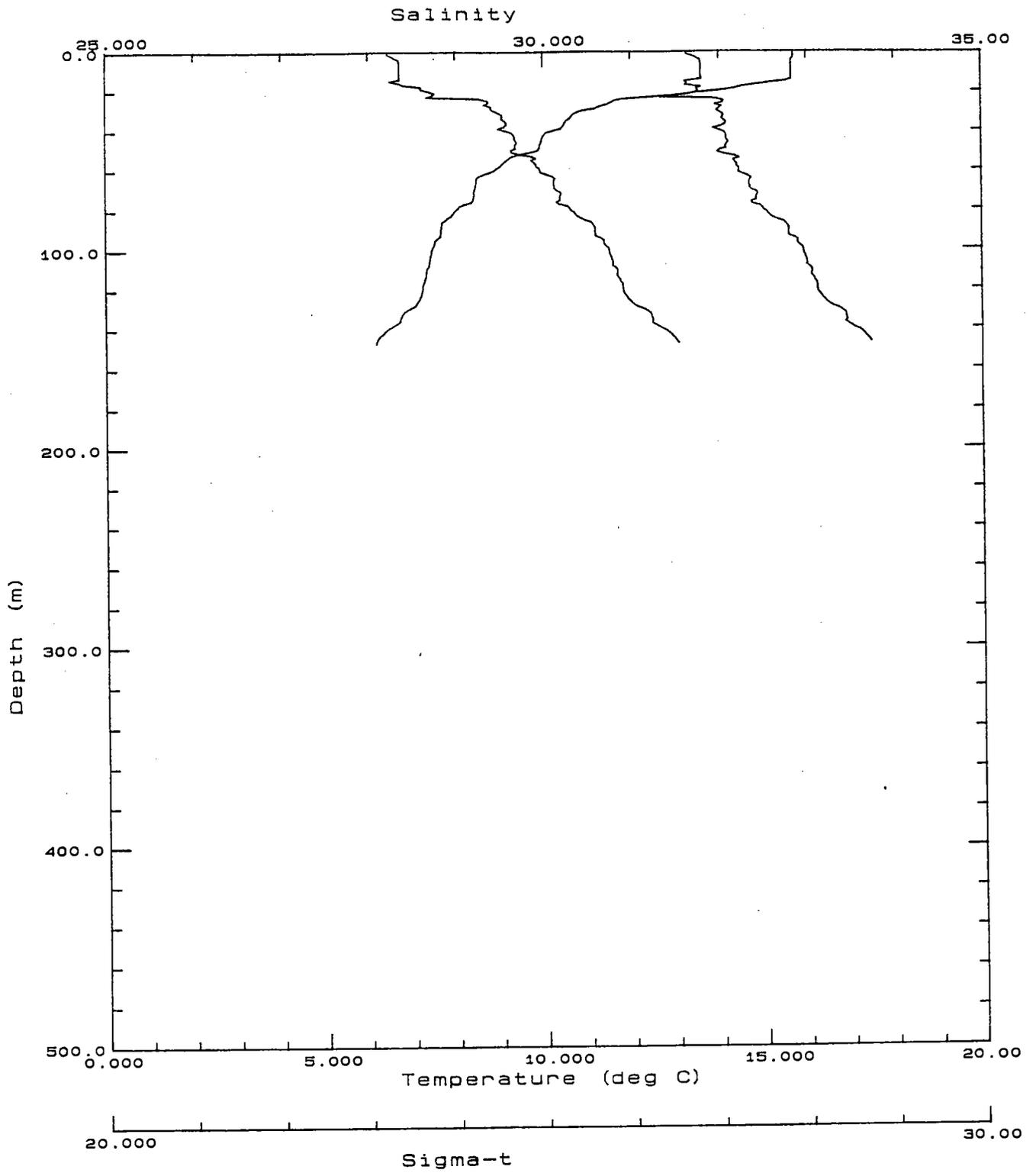
SEABIRD SBE-19 WAS USED

raw data file = DM07JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.48	31.35	23.05	480.38	0.00
10.00	14.56	31.76	23.57	431.44	0.41
20.00	13.43	31.87	23.88	401.71	0.83
30.00	11.95	31.54	23.92	398.58	1.23
50.00	9.13	32.22	24.93	302.67	1.89
75.00	8.39	32.49	25.25	272.45	2.61
100.00	7.45	32.93	25.73	226.90	3.23
125.00	6.61	33.51	26.30	173.19	3.73
150.00	6.14	33.78	26.57	147.65	4.12
175.00	5.67	33.91	26.73	132.51	4.47
200.00	5.35	33.95	26.80	125.66	4.80

DEEPEST MEASUREMENT:

215.00	5.22	34.00	26.86	120.88	4.98
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DM08JL22.avg: M08JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M08JL22

DATE: 23/07/90 TIME: 459 UTC

POSITION: 52-28.55N 130-28.29W

BOTTOM DEPTH: 172 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

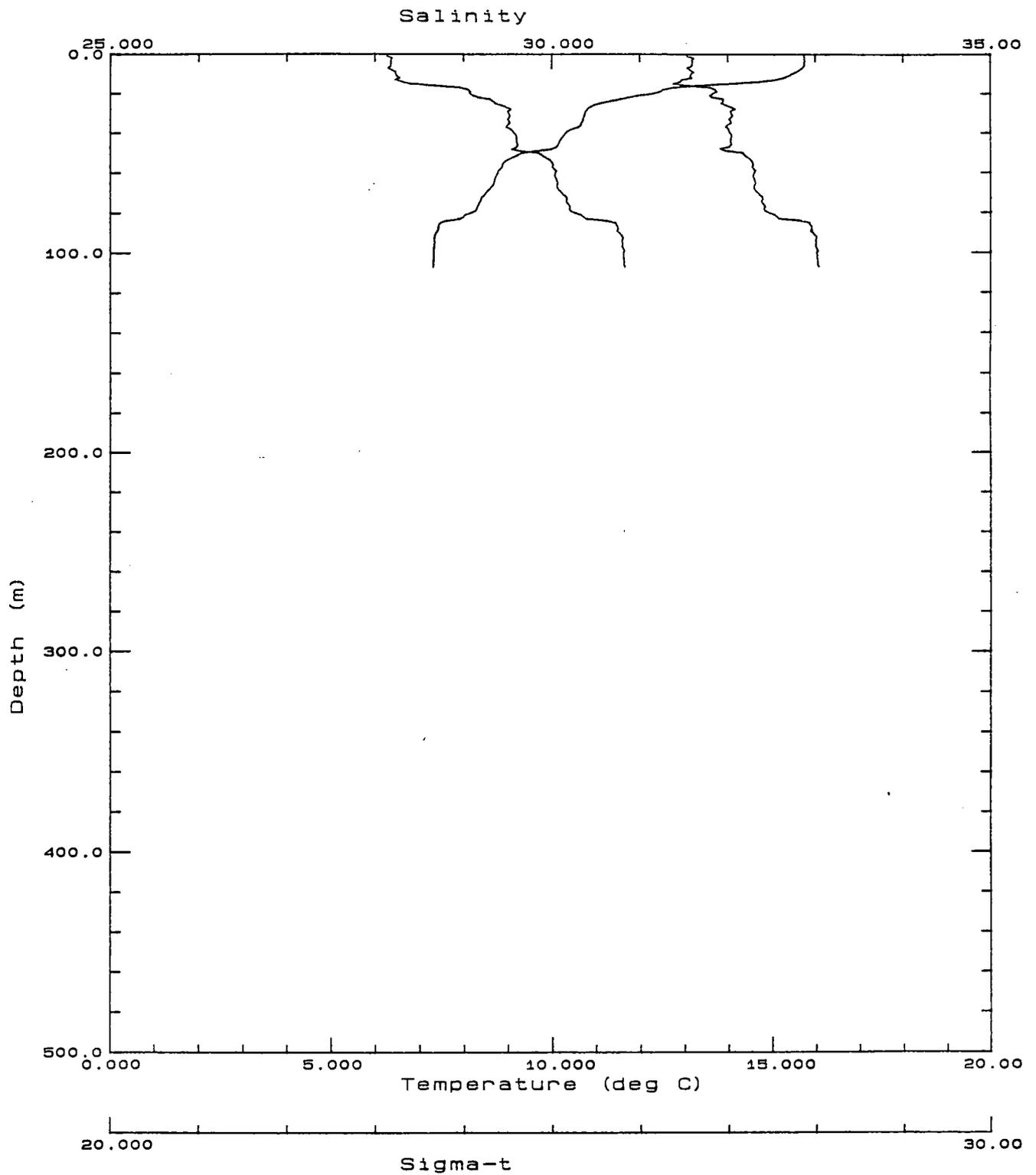
SEABIRD SBE-19 WAS USED

raw data file = DM08JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.71	31.64	23.23	463.99	0.00
10.00	15.66	31.80	23.36	451.24	0.41
20.00	13.99	31.77	23.69	419.72	0.85
30.00	10.89	31.98	24.44	348.57	1.23
50.00	9.88	32.00	24.63	330.53	1.90
75.00	8.40	32.42	25.19	277.57	2.63
100.00	7.45	32.96	25.75	224.93	3.25
125.00	7.16	33.18	25.97	204.56	3.79

DEEPEST MEASUREMENT:

147.00	6.17	33.73	26.53	151.53	4.18
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DM09JL22.avg: M09JL22

SEAKEM OCEANOGRAPHY LTD.

STATION: M09JL22

DATE: 23/07/90 TIME: 605 UTC

POSITION: 52-26.70N 130-38.68W

BOTTOM DEPTH: 126 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

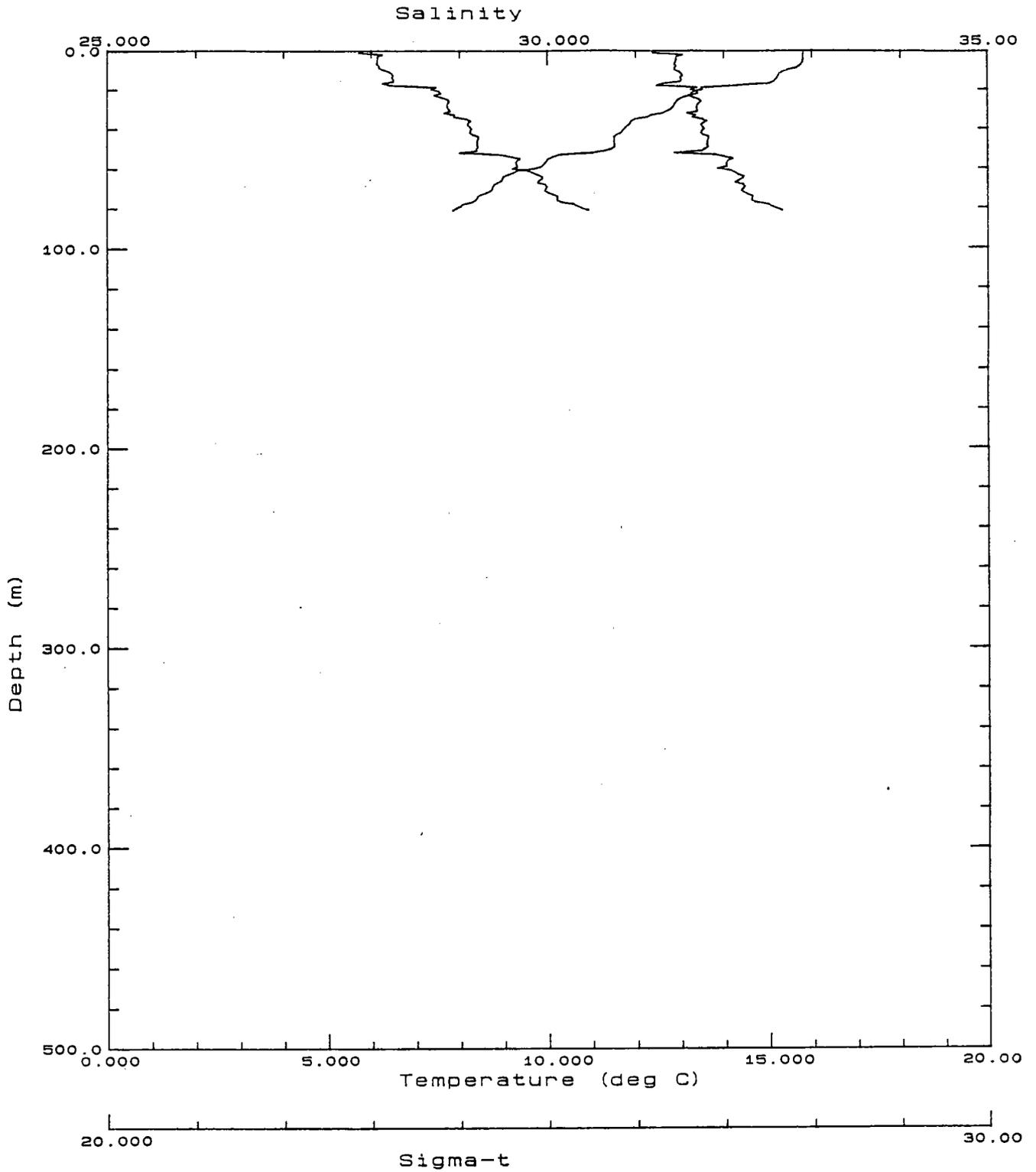
SEABIRD SBE-19 WAS USED

raw data file = DM09JL22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.75	31.53	23.14	472.07	0.00
10.00	15.46	31.58	23.24	462.87	0.42
20.00	12.31	31.83	24.07	383.84	0.85
30.00	10.76	32.04	24.51	342.08	1.21
50.00	9.32	32.17	24.85	309.61	1.88
75.00	8.35	32.39	25.18	279.06	2.61
100.00	7.32	33.01	25.81	218.99	3.21

DEEPEST MEASUREMENT:

107.00	7.31	33.04	25.83	217.32	3.36
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DM10JL23.avg: M10JL23

SEAKEM OCEANOGRAPHY LTD.

STATION: M10JL23

DATE: 23/07/90 TIME: 0915 UTC

POSITION: 52-25.42N 130-46.82W

BOTTOM DEPTH: 101 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

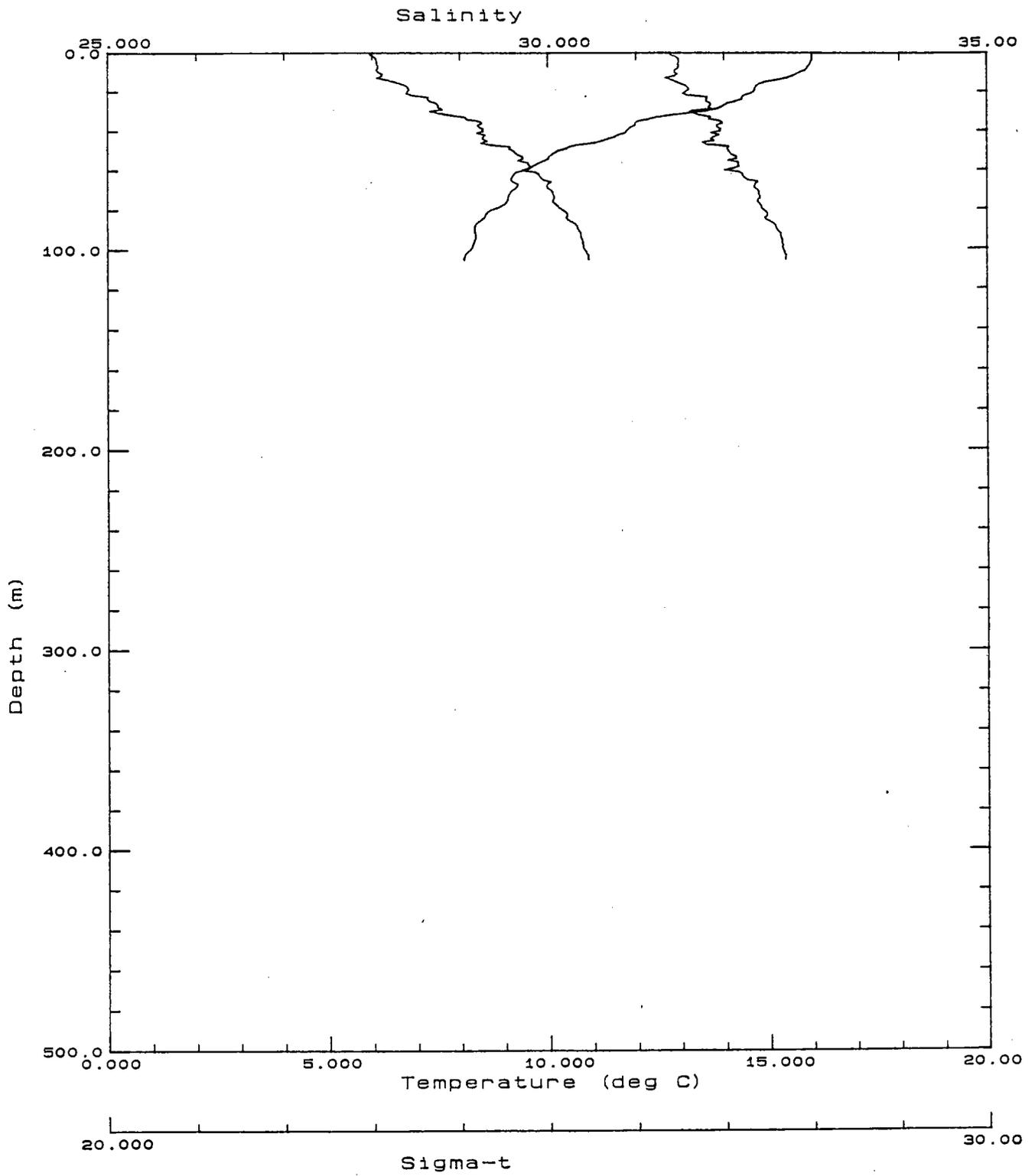
SEABIRD SBE-19 WAS USED

raw data file = DM10JL23.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.81	31.19	22.86	498.70	0.00
10.00	15.45	31.44	23.13	473.16	0.43
20.00	13.50	31.62	23.68	421.27	0.89
30.00	12.79	31.69	23.87	402.81	1.30
50.00	11.45	31.78	24.19	372.74	2.06
75.00	8.39	32.31	25.11	285.54	2.86

DEEPEST MEASUREMENT:

81.00	7.84	32.66	25.46	252.16	3.02
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DM11JL23.avg: M11JL23

SEAKEM OCEANOGRAPHY LTD.

STATION: M11JL23

DATE: 23/07/90 TIME: 1010 UTC

POSITION: 52-23.73N 130-56.90W

BOTTOM DEPTH: 119 M

SECCHI DEPTH: -- M SST: 15.3 C SURFACE SALINITY: 31.59 o/oo

RESULTS OF CTD CAST

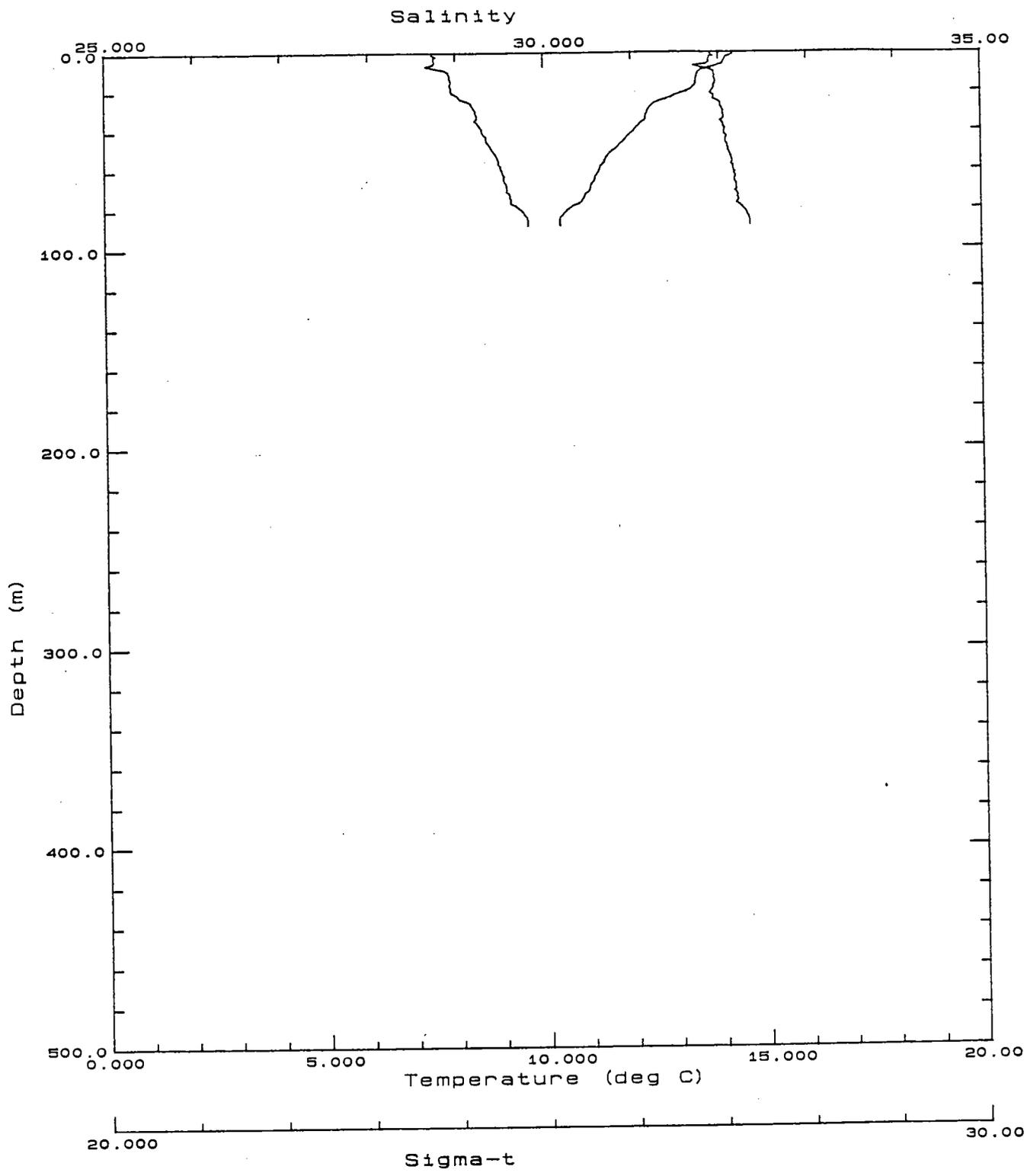
SEABIRD SBE-19 WAS USED

raw data file = DM11JL23.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.01	31.39	22.97	488.24	0.00
10.00	15.73	31.44	23.07	479.24	0.43
20.00	14.68	31.57	23.40	447.86	0.90
30.00	13.58	31.61	23.66	423.57	1.32
50.00	10.22	32.05	24.61	332.66	2.06
75.00	9.09	32.38	25.06	290.72	2.83
100.00	8.24	32.67	25.41	257.19	3.51

DEEPEST MEASUREMENT:

105.00	8.09	32.70	25.46	252.83	3.63
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DM12JL23.avg: M12JL23

SEAKEM OCEANOGRAPHY LTD.

STATION: M12JL23

DATE: 23/07/90 TIME: 1106 UTC

POSITION: 52-24.04N 131-16.39W

BOTTOM DEPTH: 102 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

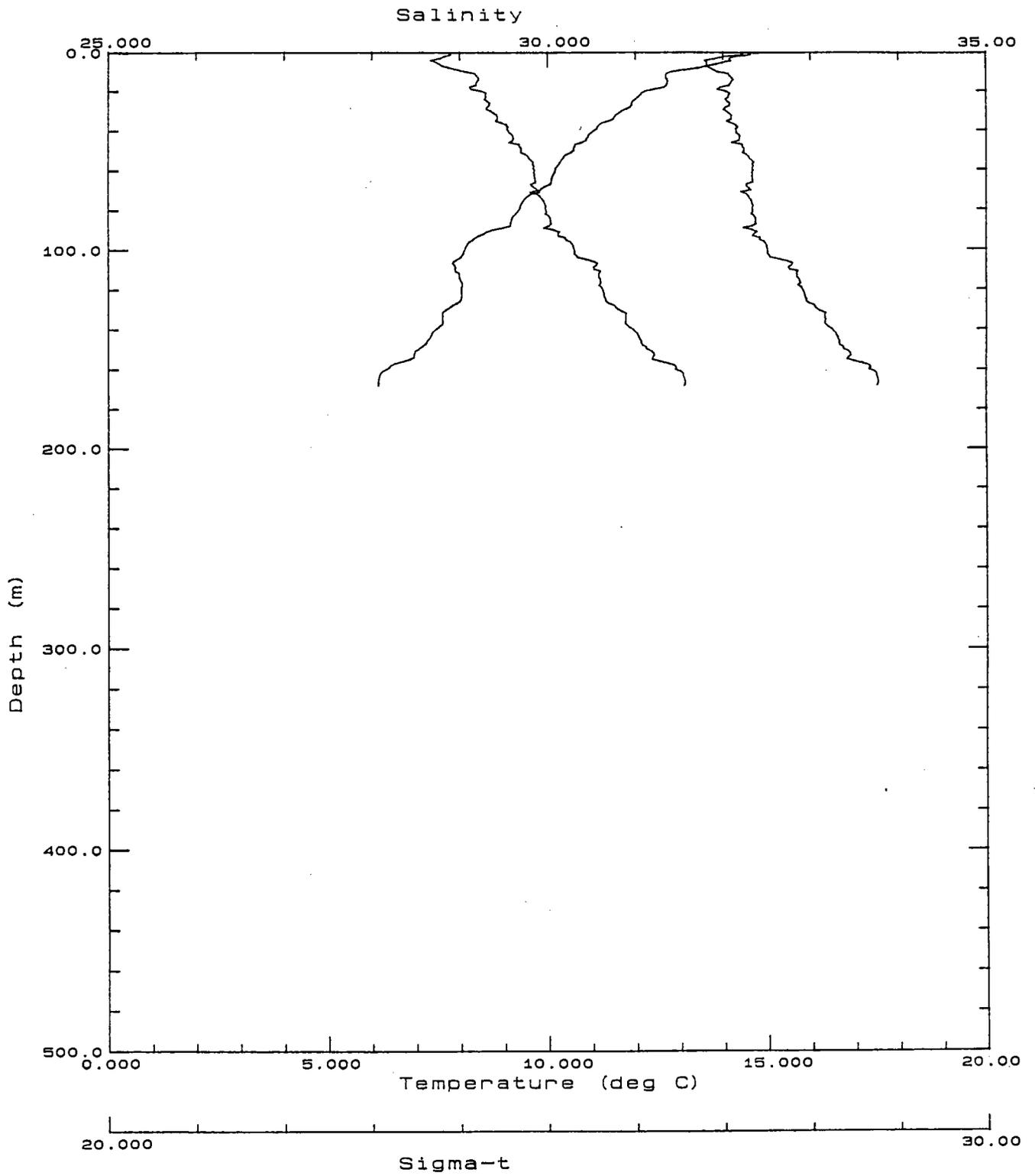
SEABIRD SBE-19 WAS USED

raw data file = DM12JL23.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.33	31.91	23.74	415.35	0.00
10.00	13.55	31.95	23.92	397.85	0.37
20.00	13.29	31.92	23.95	395.01	0.77
30.00	12.38	32.05	24.23	369.03	1.15
50.00	11.58	32.10	24.42	351.17	1.87
75.00	10.88	32.22	24.63	331.41	2.72

DEEPEST MEASUREMENT:

88.00	10.36	32.34	24.82	313.75	3.14
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D36D23JL.avg: 36D23JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 36D23JL

DATE: 23/07/90 TIME: 1330 UTC

POSITION: 52-10.13N 130-54.51W

BOTTOM DEPTH: 198 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

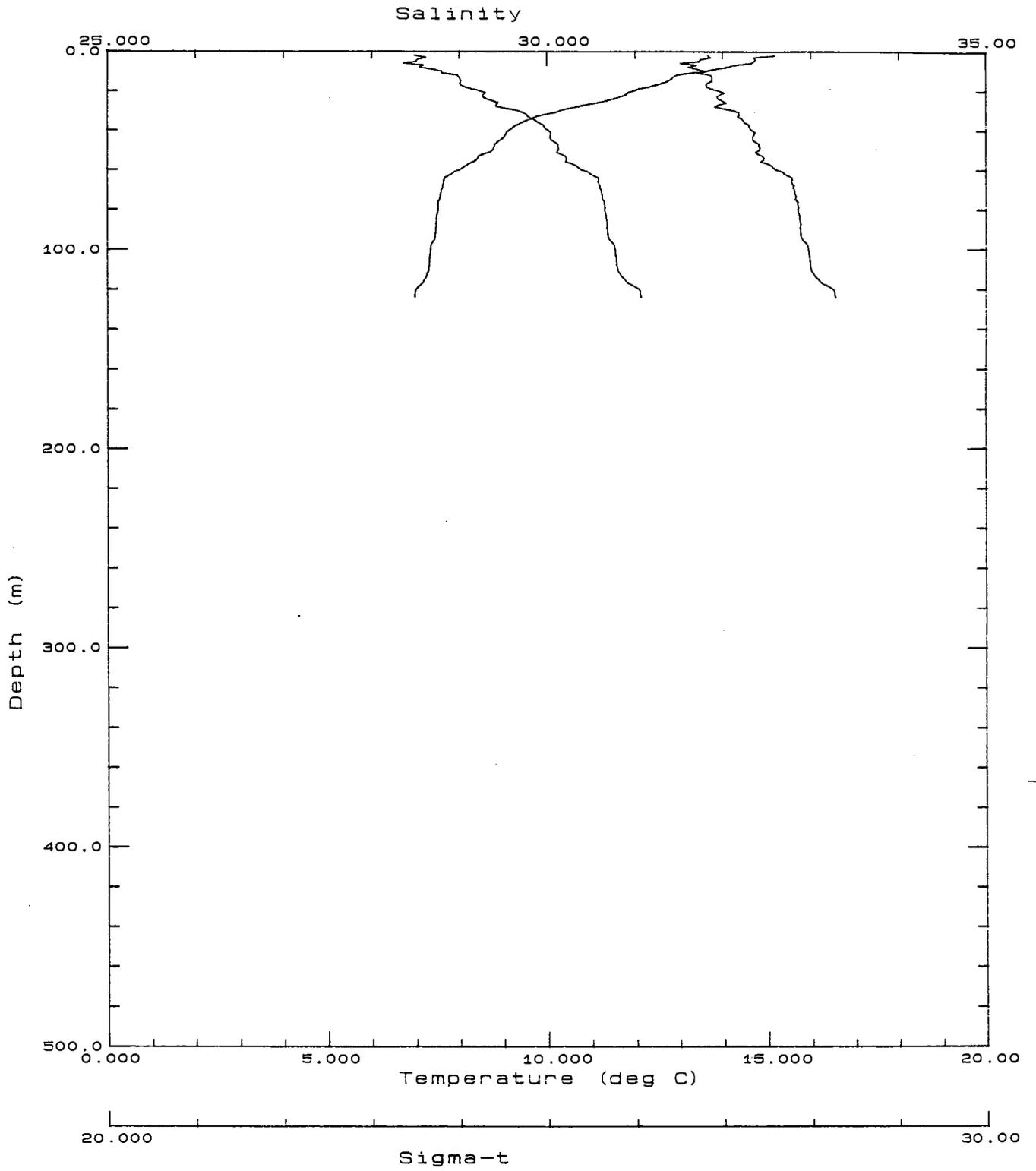
SEABIRD SBE-19 WAS USED

raw data file = D36D23JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.63	32.23	23.89	400.27	0.00
10.00	12.83	31.94	24.05	385.05	0.37
20.00	12.24	32.03	24.24	367.76	0.74
30.00	11.69	32.04	24.35	357.57	1.10
50.00	10.59	32.24	24.70	324.49	1.78
75.00	9.45	32.31	24.95	301.26	2.56
100.00	8.10	32.50	25.30	267.80	3.28
125.00	8.02	32.95	25.66	234.11	3.90
150.00	7.06	33.37	26.13	189.82	4.42

DEEPEST MEASUREMENT:

168.00	6.13	33.75	26.55	149.88	4.72
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D35R23JL.avg: 35R23JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 35R23JL

DATE: 24/07/90 TIME: 302 UTC

POSITION: 51-51.32N 129-51.41W

BOTTOM DEPTH: 144 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

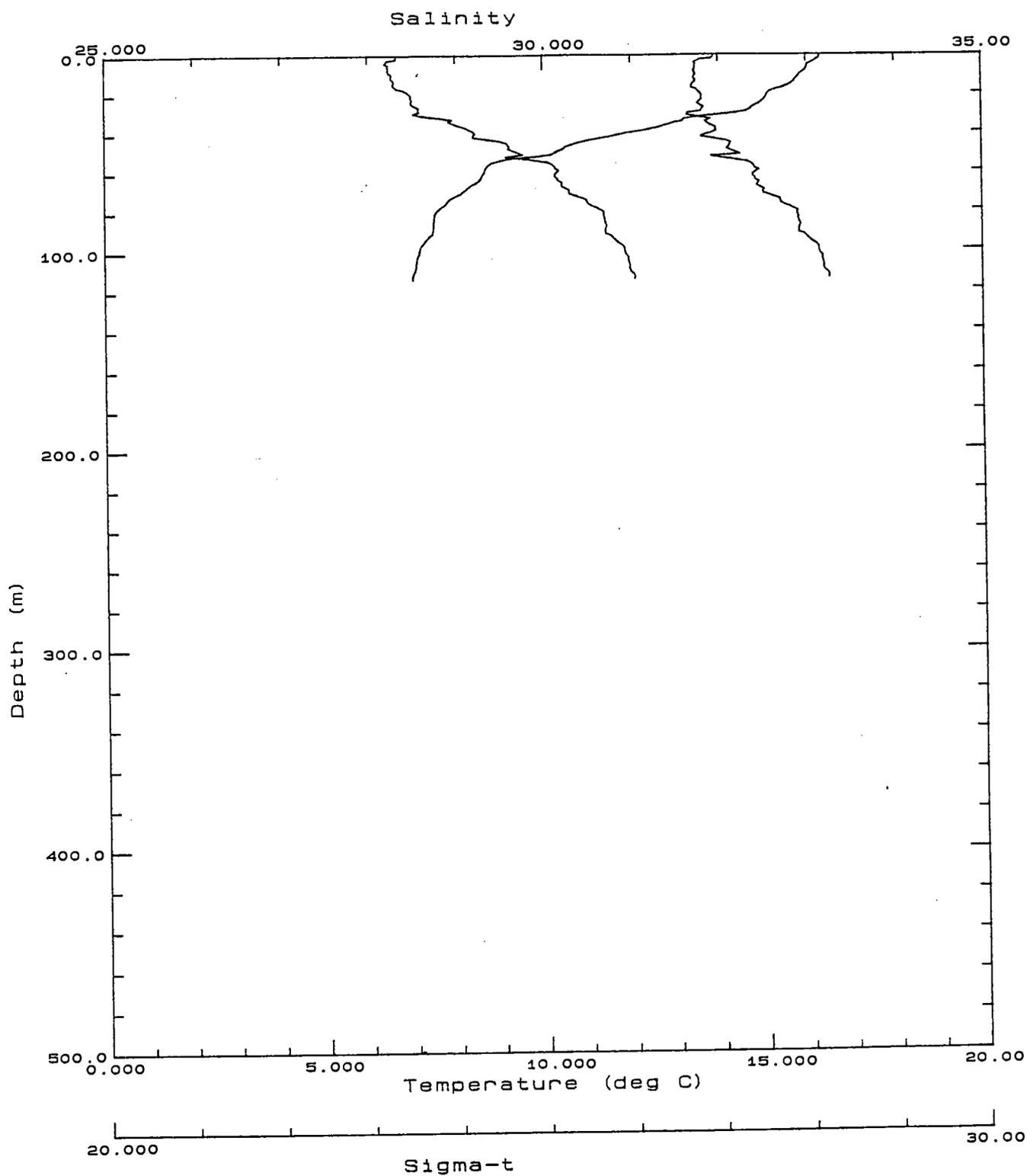
SEABIRD SBE-19 WAS USED

raw data file = D35R23JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	15.18	31.83	23.49	438.69	0.00
10.00	13.60	31.80	23.80	409.53	0.35
20.00	11.96	31.96	24.23	368.10	0.74
30.00	10.30	32.13	24.66	327.27	1.09
50.00	8.76	32.41	25.13	283.07	1.69
75.00	7.55	32.82	25.63	236.06	2.32
100.00	7.34	32.97	25.77	222.57	2.90

DEEPEST MEASUREMENT:

124.00	6.98	33.27	26.06	195.55	3.41
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D35D23JUL.avg: 35D23JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 35D23JL

DATE: 24/07/90 TIME: 515 UTC

POSITION: 52-03.14N 130-03.74W

BOTTOM DEPTH: 133 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

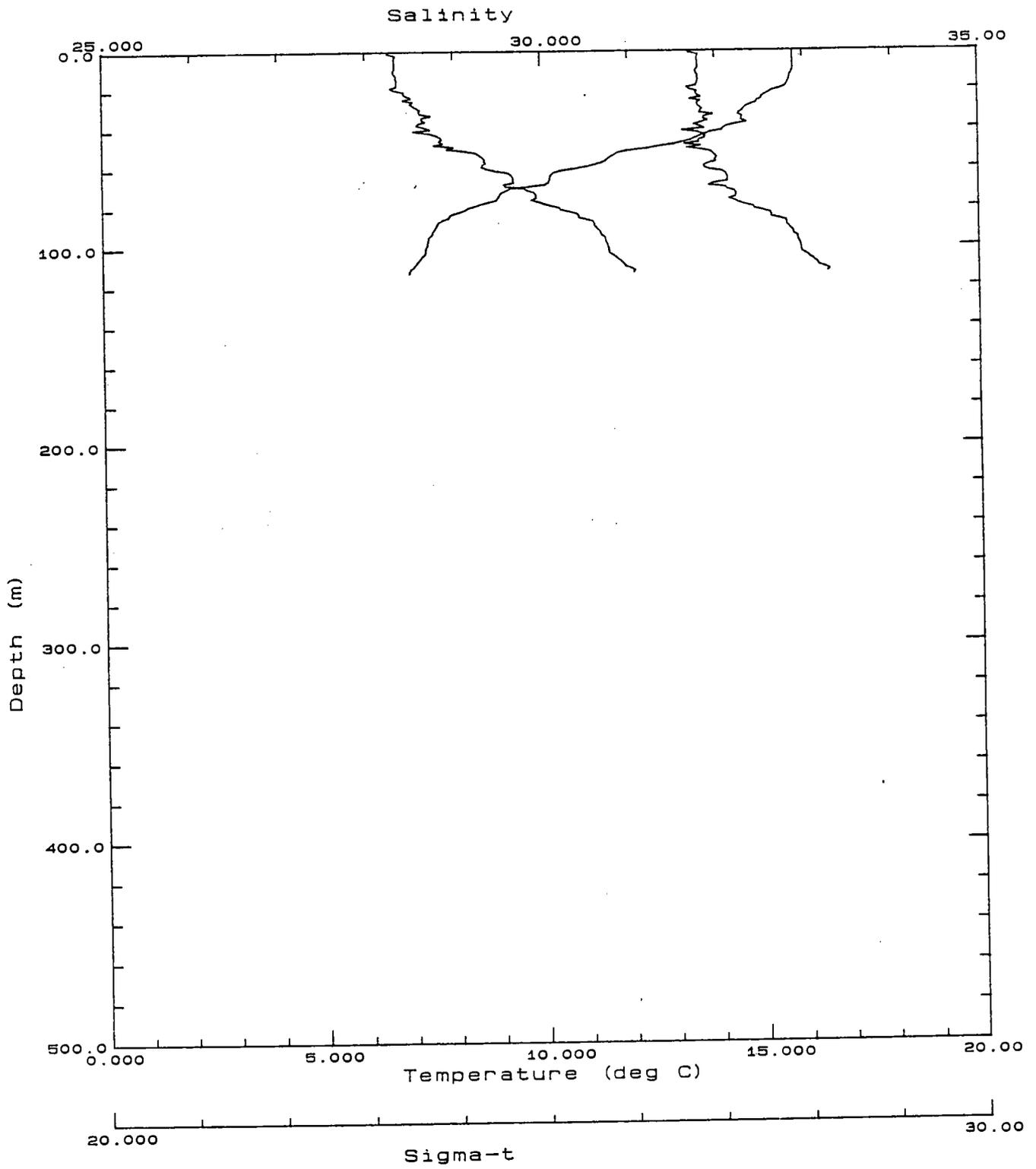
SEABIRD SBE-19 WAS USED

raw data file = D35D23JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.32	31.95	23.33	453.96	0.00
10.00	15.87	31.75	23.28	459.32	0.42
20.00	15.13	31.80	23.48	440.21	0.87
30.00	14.39	31.65	23.52	436.51	1.31
50.00	10.27	32.20	24.72	322.24	2.05
75.00	7.80	32.71	25.50	247.91	2.75
100.00	7.16	33.13	25.93	208.15	3.32

DEEPEST MEASUREMENT:

114.00	7.00	33.24	26.04	197.89	3.60
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D31R24JL.avg: 31R24JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 31R24JL

DATE: 24/07/90 TIME: 0901 UTC

POSITION: 52-02.41N 130-01.39W

BOTTOM DEPTH: 130 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

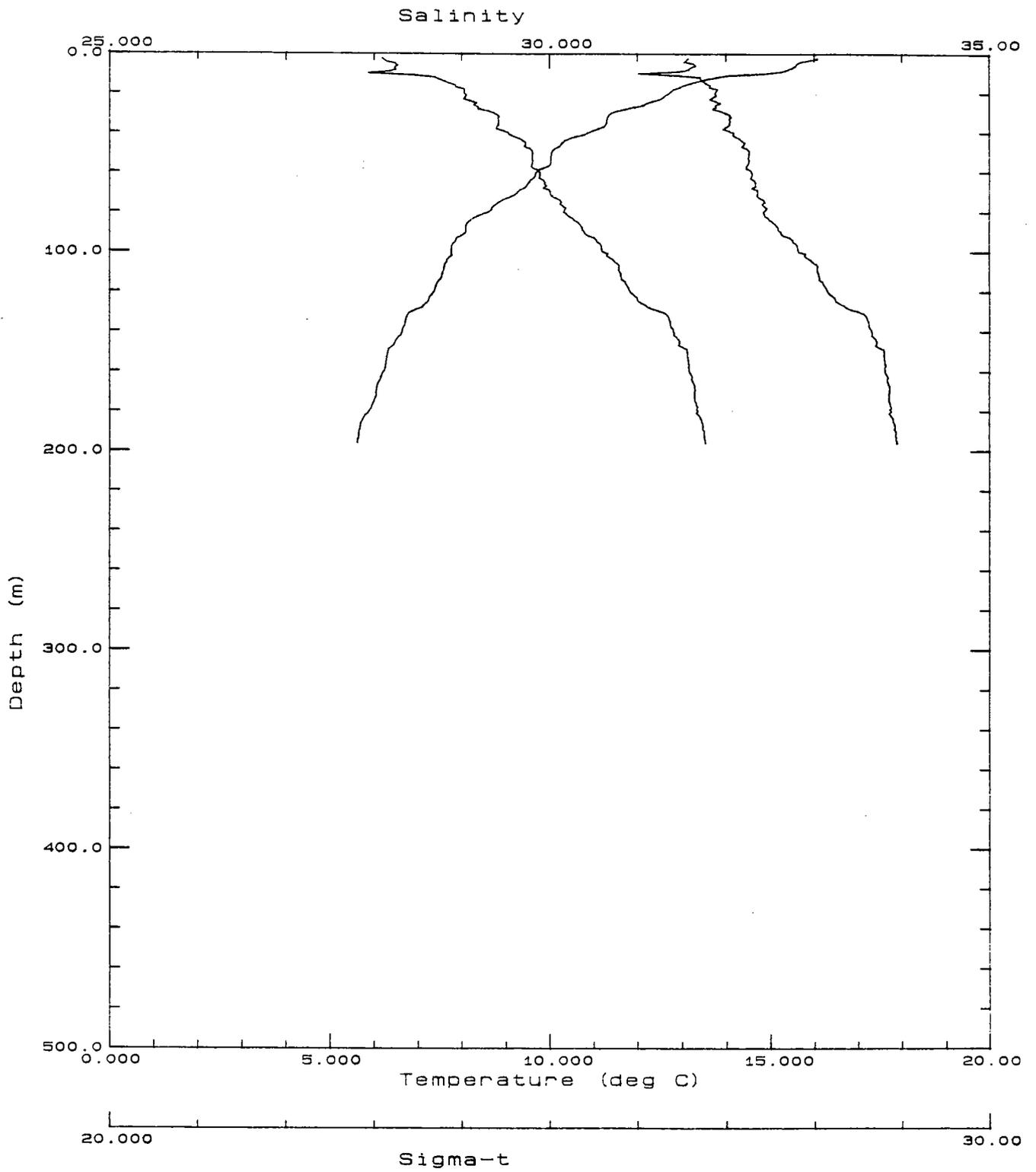
SEABIRD SBE-19 WAS USED

raw data file = D31R24JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.78	31.70	23.26	460.45	0.00
10.00	15.79	31.79	23.33	454.60	0.41
20.00	15.46	31.71	23.34	453.50	0.86
30.00	14.65	31.85	23.62	427.07	1.30
50.00	12.44	31.67	23.92	398.48	2.13
75.00	9.01	32.22	24.94	301.68	2.98
100.00	7.36	32.96	25.76	223.49	3.61

DEEPEST MEASUREMENT:

113.00	6.97	33.26	26.05	196.07	3.88
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D36D24JL.avg: 36D24JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 36D24JL

DATE: 25/07/90 TIME: 40 UTC

POSITION: 52-10.03N 130-50.20W

BOTTOM DEPTH: 221 M

SECCHI DEPTH: -- M SST: 16.8 C SURFACE SALINITY: 31.56 o/oo

RESULTS OF CTD CAST

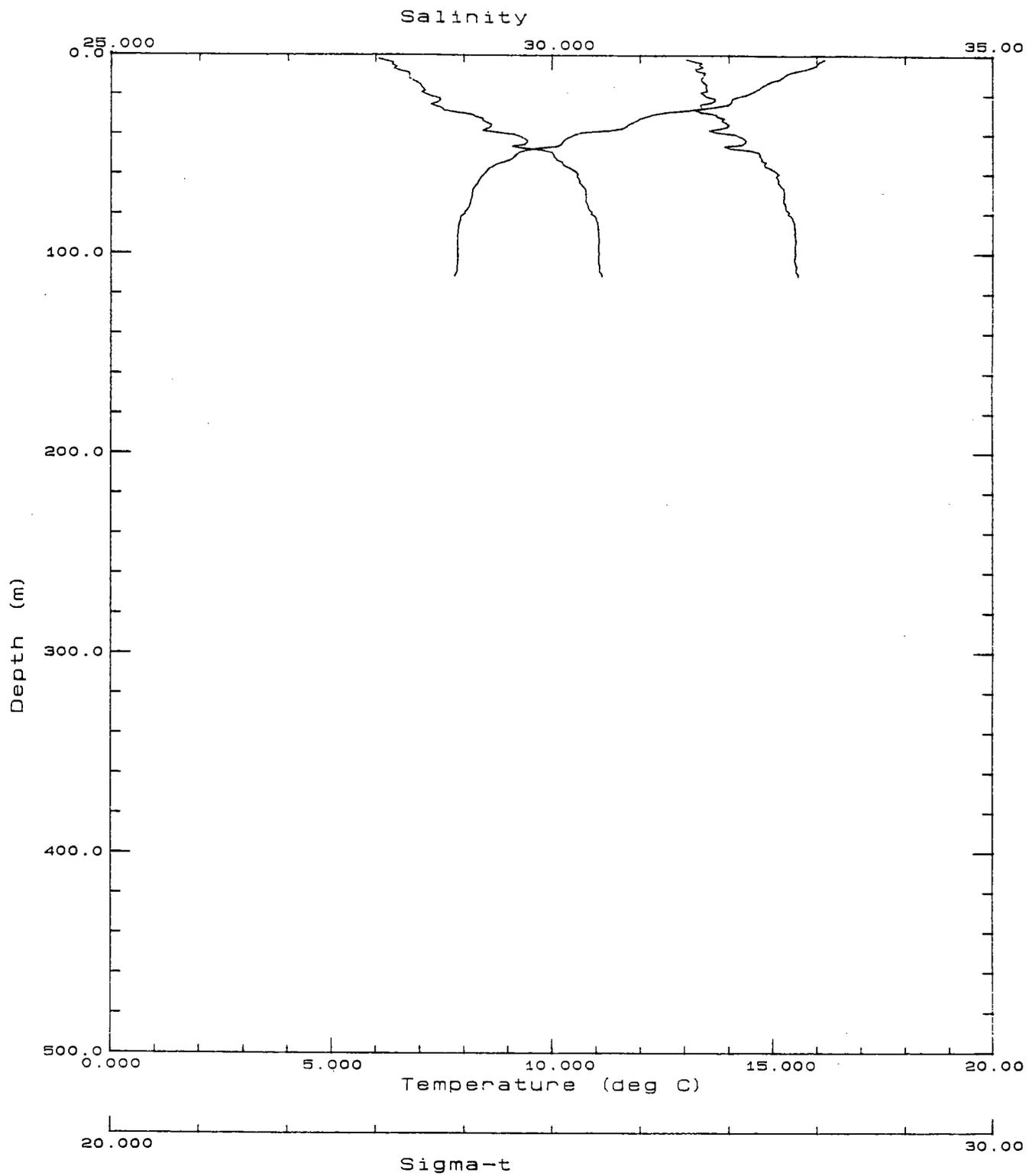
SEABIRD SBE-19 WAS USED

raw data file = D36D24JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.42	16.08	31.57	23.10	476.43	0.00
10.00	14.84	31.01	22.93	492.17	0.35
20.00	12.71	31.88	24.03	387.64	0.76
30.00	11.41	32.00	24.37	355.73	1.14
50.00	10.04	32.26	24.81	314.00	1.82
75.00	8.86	32.44	25.14	283.06	2.58
100.00	7.76	32.83	25.60	239.01	3.23
125.00	7.23	33.25	26.01	200.60	3.78
150.00	6.32	33.80	26.56	148.45	4.20
175.00	6.00	33.85	26.65	140.54	4.56

DEEPEST MEASUREMENT: -

196.00	5.62	33.94	26.76	129.65	4.84
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D31D24JL.avg: 31D24JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 31D24JL

DATE: 25/07/90 TIME: 450 UTC

POSITION: 52-33.90N 131-05.87W

BOTTOM DEPTH: 128 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

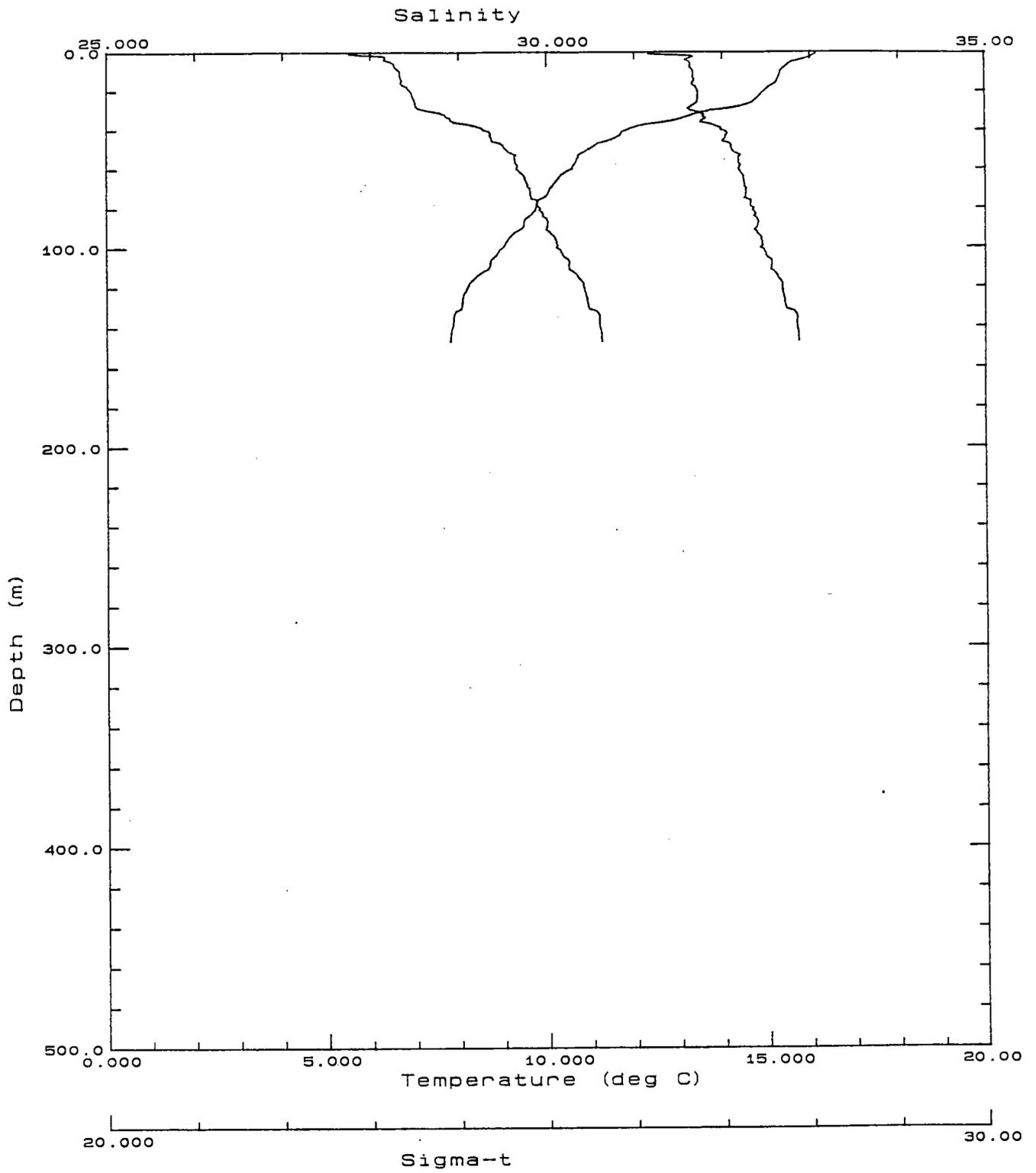
SEABIRD SBE-19 WAS USED

raw data file = D31D24JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	16.18	31.52	23.04	482.17	0.00
10.00	15.29	31.72	23.39	448.92	0.37
20.00	14.39	31.72	23.58	430.98	0.81
30.00	12.28	31.85	24.09	381.63	1.23
50.00	9.20	32.36	25.02	293.84	1.91
75.00	8.14	32.64	25.40	257.40	2.59
100.00	7.86	32.76	25.54	245.34	3.21

DEEPEST MEASUREMENT:

111.00	7.79	32.79	25.57	242.39	3.48
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D31R26JL.avg: 31R26JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 31R26JL

DATE: 27/07/90 TIME: 10 UTC

POSITION: 52-32.11N 131-10.68W

BOTTOM DEPTH: 168 M

SECCHI DEPTH: -- M SST: 16.4 C SURFACE SALINITY: 31.70 ‰

RESULTS OF CTD CAST

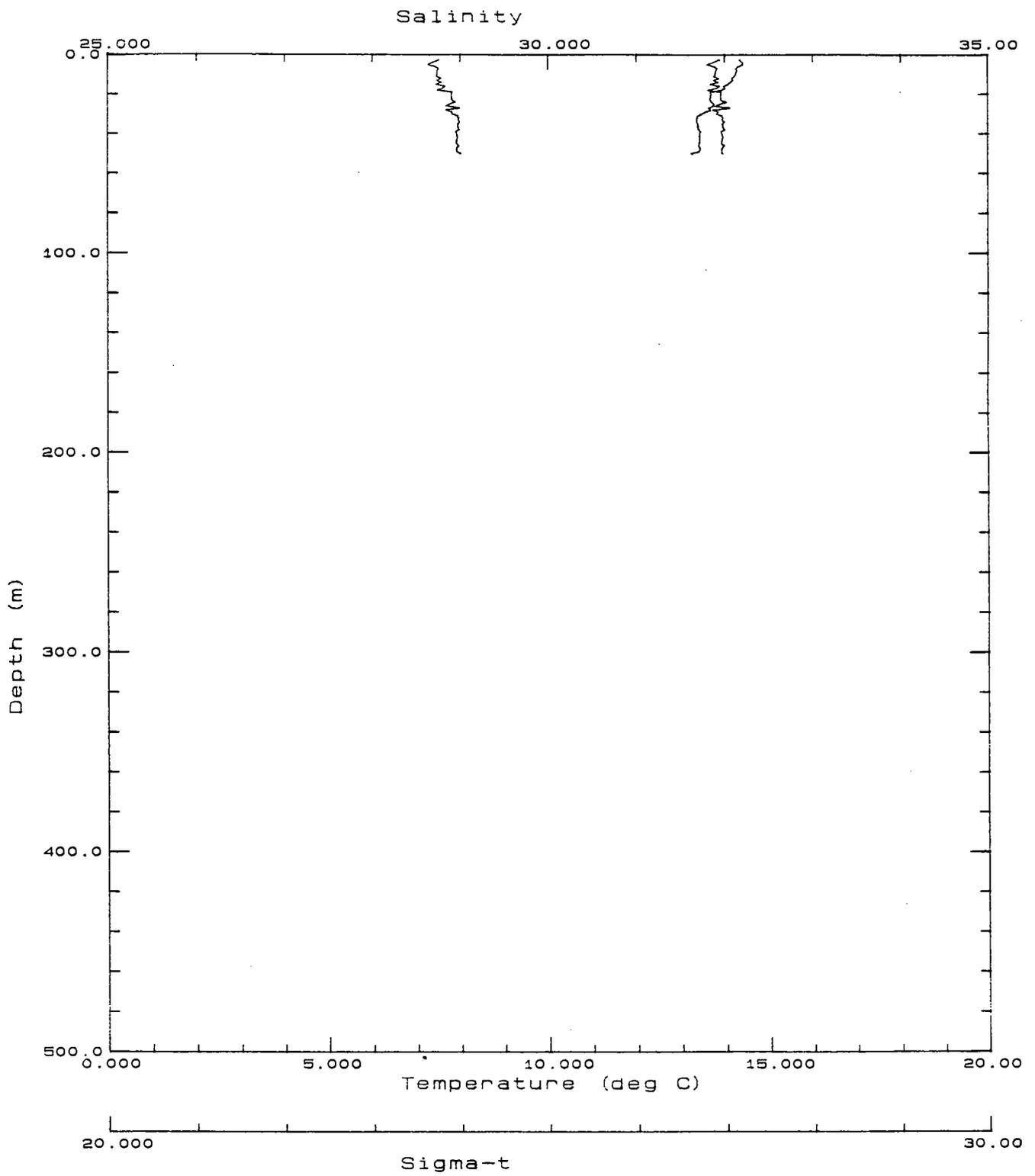
SEABIRD SBE-19 WAS USED

raw data file = D31R26JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.13	31.16	22.76	508.08	0.00
10.00	15.32	31.67	23.33	453.76	0.42
20.00	14.97	31.72	23.45	442.87	0.87
30.00	13.74	31.63	23.64	425.01	1.31
50.00	10.96	32.11	24.53	340.43	2.05
75.00	9.88	32.25	24.83	312.68	2.86
100.00	8.99	32.43	25.11	286.06	3.60
125.00	8.09	32.70	25.46	253.37	4.27

DEEPEST MEASUREMENT:

147.00	7.80	32.86	25.63	237.50	4.81
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DHP1JL26.avg: HP1JL26

SEAKEM OCEANOGRAPHY LTD.

STATION: HP1JL26

DATE: 27/07/90 TIME: 430 UTC

POSITION: 52-39.84N 131-43.13W

BOTTOM DEPTH: 58 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

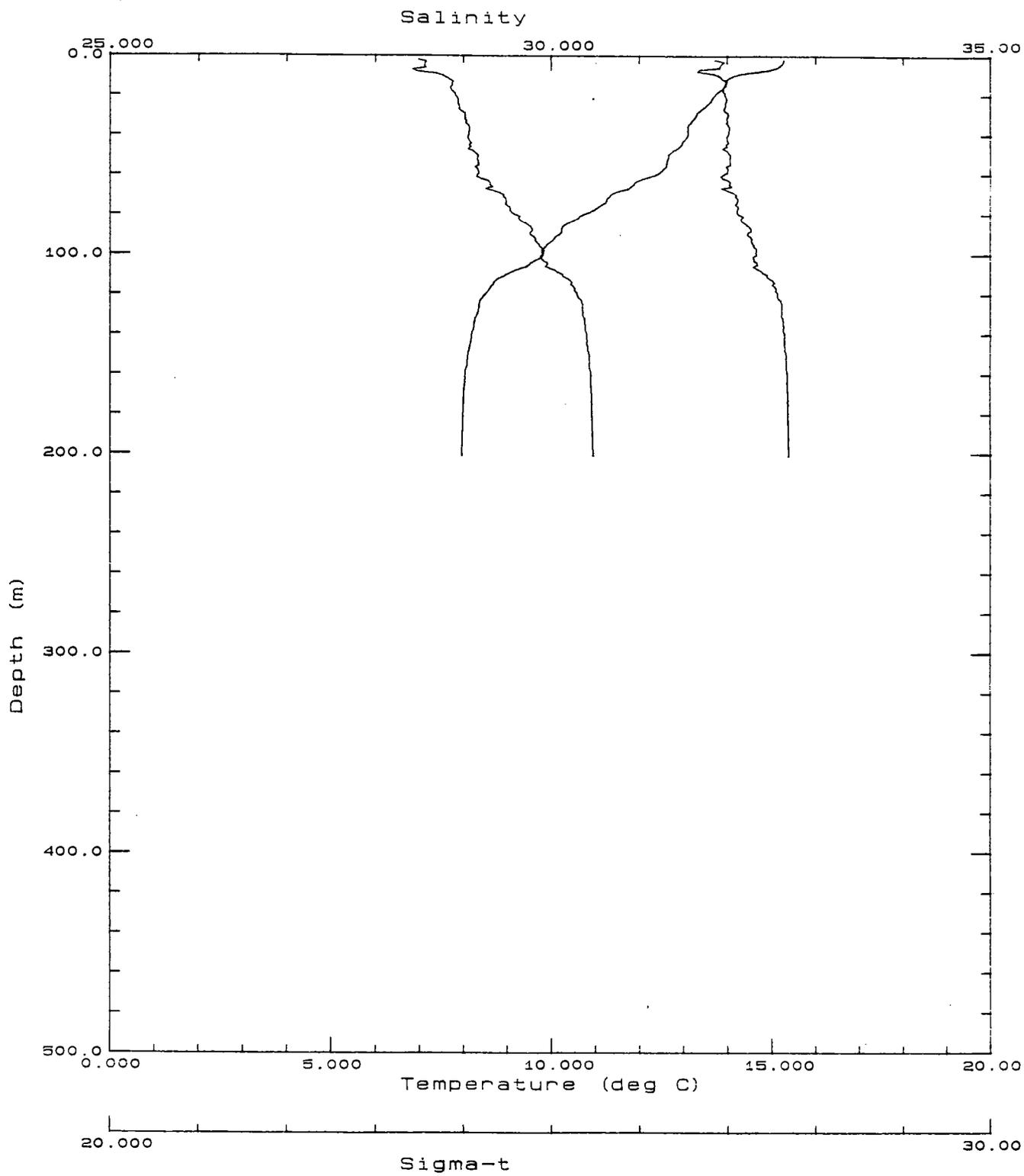
SEABIRD SBE-19 WAS USED

raw data file = DHP1JL26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.55	14.34	31.94	23.76	413.46	0.00
10.00	14.25	31.89	23.74	415.57	0.31
20.00	13.69	31.96	23.90	399.97	0.72
30.00	13.47	31.91	23.91	399.65	1.12
50.00	13.25	31.97	24.00	391.28	1.91

DEEPEST MEASUREMENT:

50.00	13.25	31.97	24.00	391.28	1.91
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DJPS1JL26.avg: JPS1JL26

SEAKEM OCEANOGRAPHY LTD.

STATION: JPS1JL26

DATE: 27/07/90 TIME: 517 UTC

POSITION: 52-35.13N 131-37.21W

BOTTOM DEPTH: 236 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

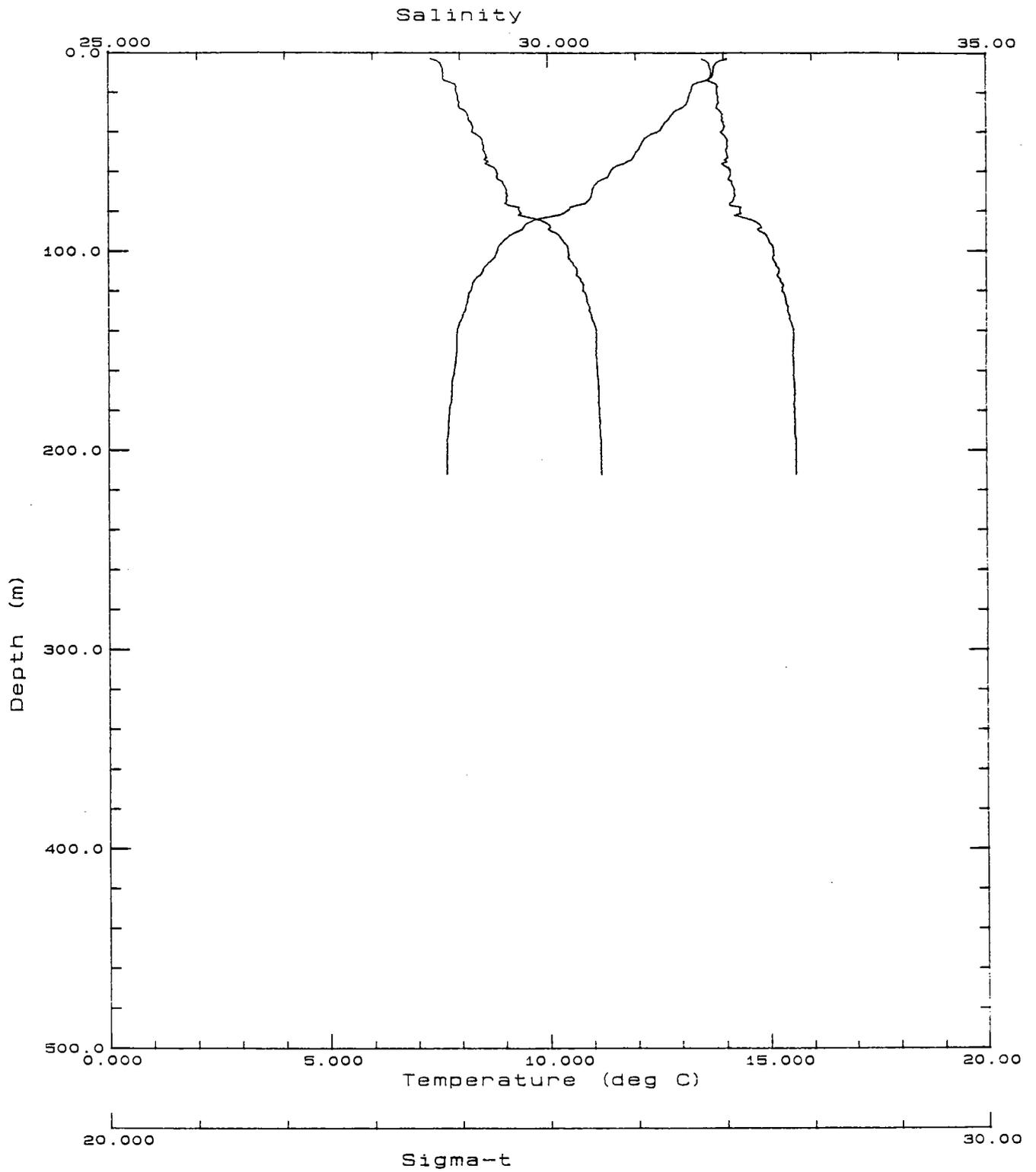
SEABIRD SBE-19 WAS USED

raw data file = DJPS1JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
2.00	15.29	31.86	23.49	438.59	0.00
10.00	14.16	31.90	23.76	412.86	0.35
20.00	13.72	31.98	23.91	399.20	0.75
30.00	13.30	32.01	24.02	388.86	1.14
50.00	12.67	32.04	24.16	375.76	1.91
75.00	11.16	32.09	24.49	345.29	2.83
100.00	9.81	32.34	24.90	305.69	3.63
125.00	8.36	32.63	25.36	262.71	4.34
150.00	8.10	32.67	25.43	256.18	4.99
175.00	8.00	32.69	25.46	253.47	5.63
200.00	7.96	32.70	25.48	252.47	6.26

DEEPEST MEASUREMENT:

201.00	7.96	32.70	25.47	252.69	6.28
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DJPS3JL27.avg: JPS3JL27

SEAKEM OCEANOGRAPHY LTD.

STATION: JPS3JL27

DATE: 27/07/90 TIME: 0007 UTC

POSITION: 52-31.48N 131-18.72W

BOTTOM DEPTH: 234 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

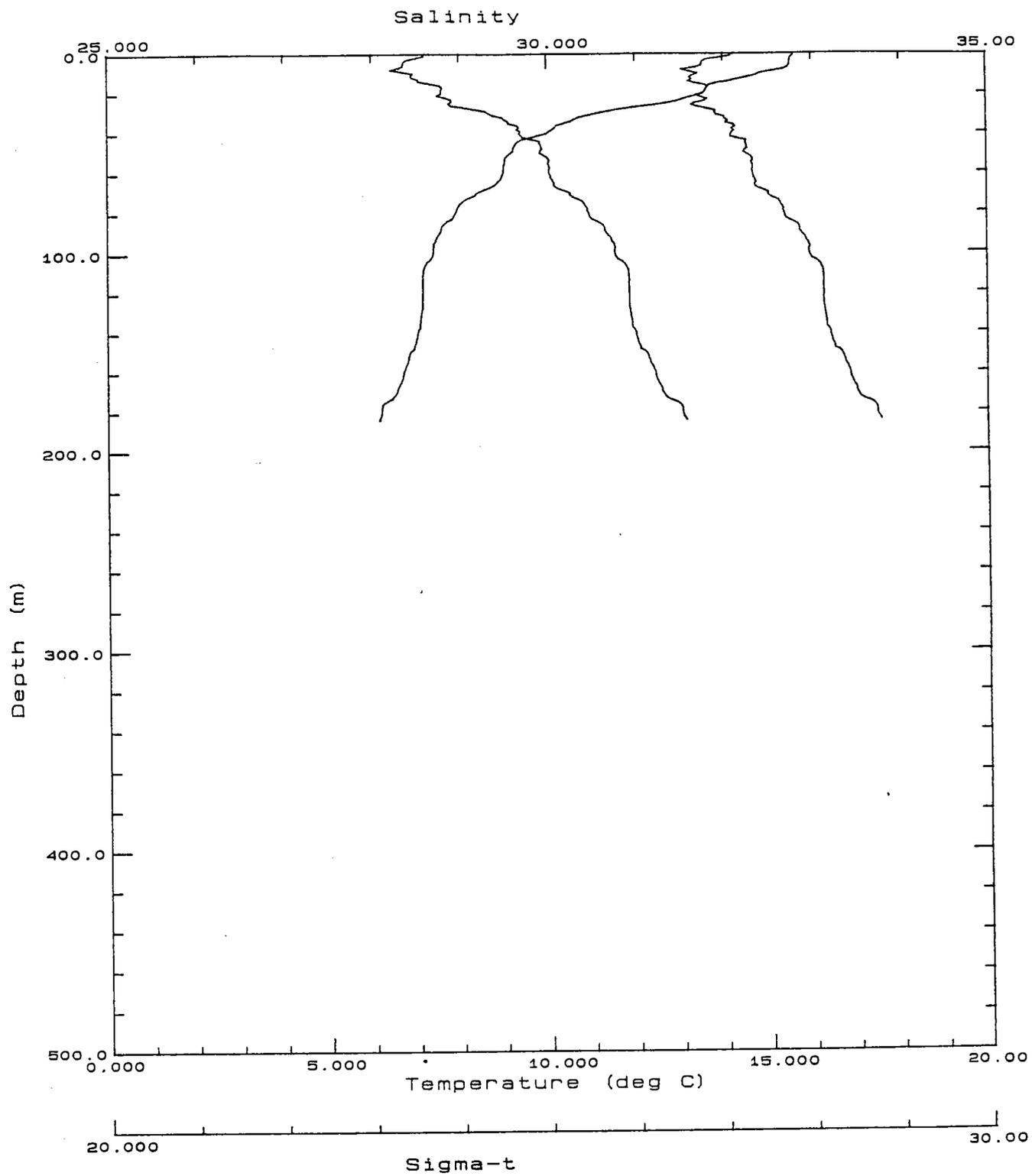
SEABIRD SBE-19 WAS USED

raw data file = DJPS3JL2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	14.08	31.76	23.67	421.95	0.00
10.00	13.76	31.86	23.81	408.47	0.29
20.00	13.25	31.93	23.96	393.97	0.69
30.00	12.88	31.97	24.07	383.82	1.08
50.00	12.01	32.03	24.28	364.04	1.83
75.00	10.91	32.10	24.53	340.58	2.70
100.00	8.85	32.56	25.23	274.39	3.46
125.00	8.17	32.70	25.44	254.39	4.12
150.00	7.92	32.78	25.54	245.39	4.74
175.00	7.79	32.80	25.58	242.60	5.35
200.00	7.69	32.81	25.60	240.79	5.95

DEEPEST MEASUREMENT:

212.00	7.68	32.81	25.60	240.60	6.24
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D35R27JL.avg: 35R27JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 35R27JL

DATE: 27/07/90 TIME: 0856 UTC

POSITION: 52-06.44N 130-06.27W

BOTTOM DEPTH: 210 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

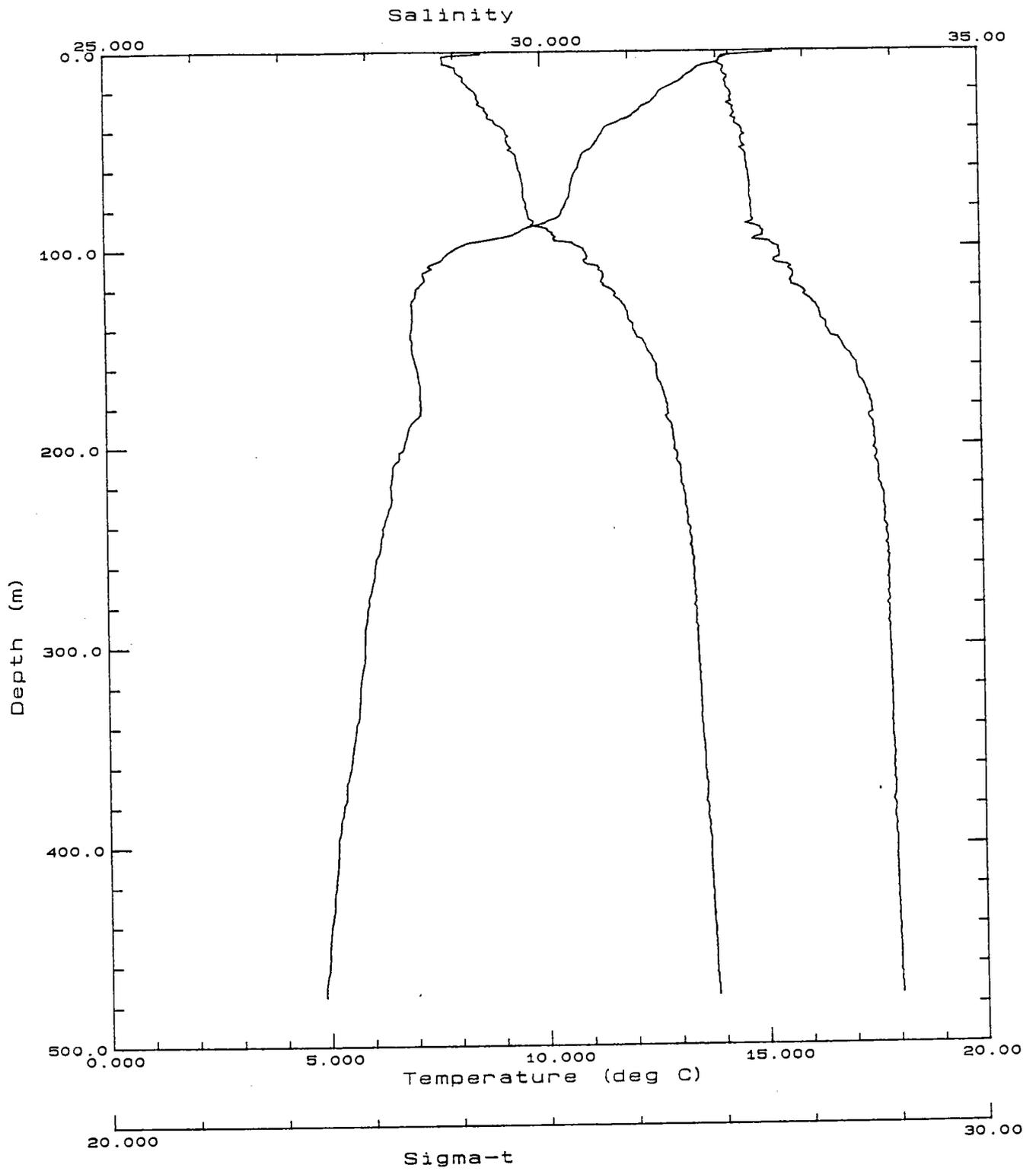
SEABIRD SBE-19 WAS USED

raw data file = D35R27JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.61	32.09	23.60	428.29	0.00
10.00	14.84	31.72	23.48	440.34	0.40
20.00	13.55	31.79	23.80	410.00	0.83
30.00	11.15	31.91	24.35	357.70	1.22
50.00	9.17	32.23	24.92	302.97	1.87
75.00	8.03	32.64	25.42	256.00	2.58
100.00	7.39	32.97	25.77	223.32	3.17
125.00	7.14	33.13	25.93	208.32	3.70
150.00	6.85	33.33	26.12	189.91	4.21
175.00	6.27	33.65	26.45	158.97	4.65

DEEPEST MEASUREMENT:

184.00	6.14	33.77	26.56	148.53	4.79
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d36r27j1.avg: 36R27JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 36R27JL

DATE: 28/07/90 TIME: 639 UTC

POSITION: 51-32.55N 131-42.70W

BOTTOM DEPTH: 3109 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

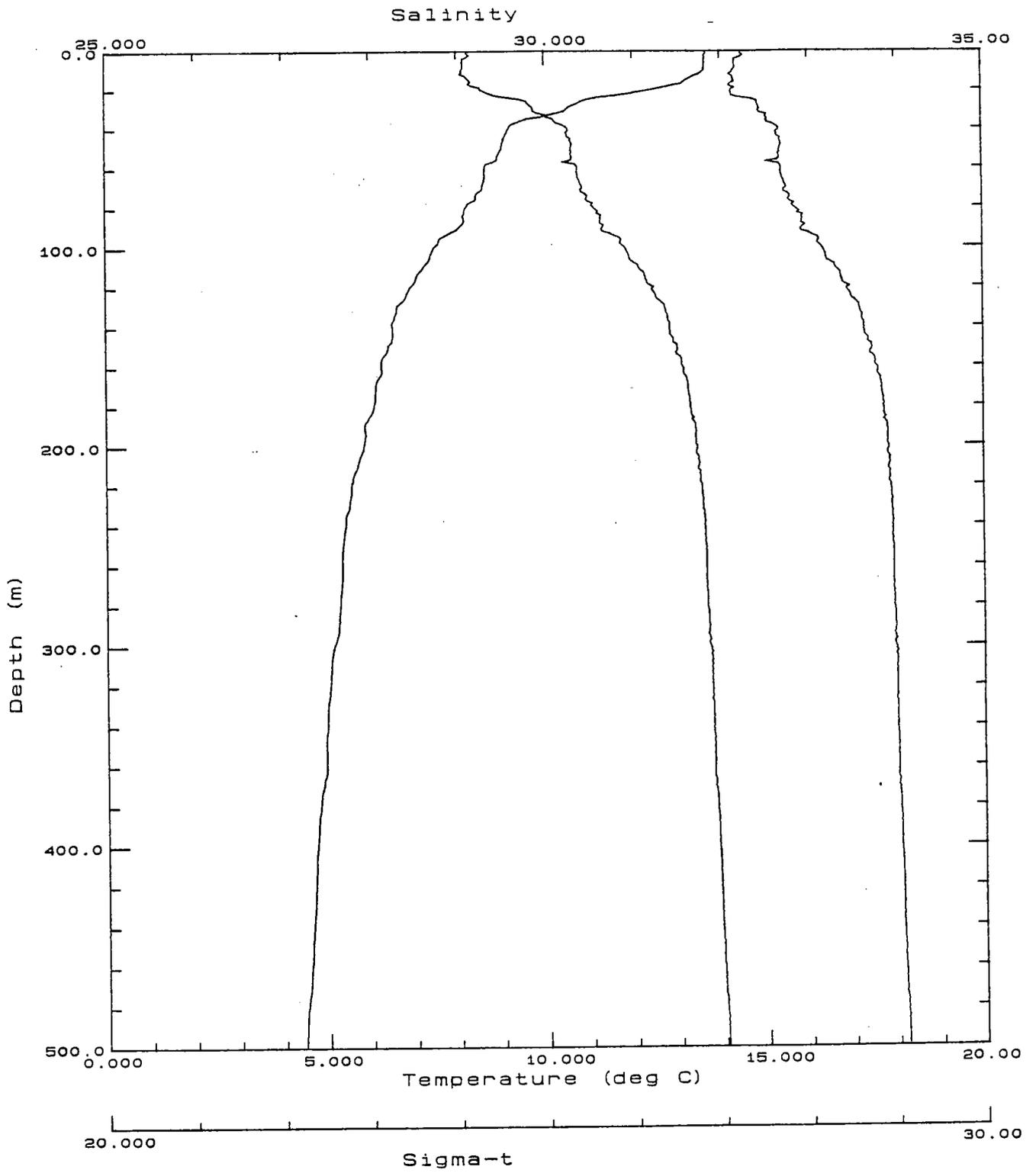
SEABIRD SBE-19 WAS USED

raw data file = D36R27JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.29	32.66	24.32	359.64	0.00
10.00	13.50	32.07	24.03	387.64	0.35
20.00	12.75	32.14	24.23	368.66	0.73
30.00	12.25	32.18	24.35	356.99	1.10
50.00	11.12	32.26	24.63	331.48	1.78
75.00	10.60	32.37	24.80	315.18	2.57
100.00	7.99	32.70	25.47	251.40	3.31
125.00	7.05	33.01	25.84	216.35	3.90
150.00	6.99	33.42	26.17	185.37	4.40
175.00	7.17	33.70	26.37	166.97	4.84
200.00	6.80	33.78	26.48	156.74	5.25
225.00	6.49	33.87	26.60	146.04	5.62
250.00	6.23	33.89	26.65	141.69	5.98
300.00	5.84	33.92	26.72	134.97	6.67
400.00	5.19	33.98	26.84	123.97	7.97

DEEPEST MEASUREMENT:

475.00	4.87	34.02	26.91	117.88	8.88
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d21r28j1.avg: 21R28JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 21R28JL

DATE: 28/07/90 TIME: 0425 UTC

POSITION: 51-39.59N 130-54.89W

BOTTOM DEPTH: 1542 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = D21R28JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	13.69	32.24	24.12	378.58	0.00
10.00	13.64	32.15	24.06	384.68	0.34
20.00	12.46	32.13	24.27	364.27	0.72
30.00	10.51	32.45	24.88	307.07	1.05
50.00	9.02	32.68	25.30	267.05	1.61
75.00	8.43	32.79	25.48	250.58	2.26
100.00	7.46	33.15	25.90	210.49	2.84
125.00	6.81	33.49	26.25	177.54	3.33
150.00	6.42	33.72	26.49	155.35	3.74
175.00	6.12	33.85	26.63	142.43	4.11
200.00	5.84	33.91	26.71	134.71	4.46
225.00	5.54	33.94	26.77	129.13	4.79
250.00	5.35	33.96	26.81	125.82	5.10
300.00	5.14	33.98	26.85	122.57	5.73
400.00	4.73	34.03	26.94	114.77	6.91
500.00	4.44	34.10	27.02	107.53	8.02

DEEPEST MEASUREMENT:

531.00	4.35	34.12	27.05	104.93	8.35
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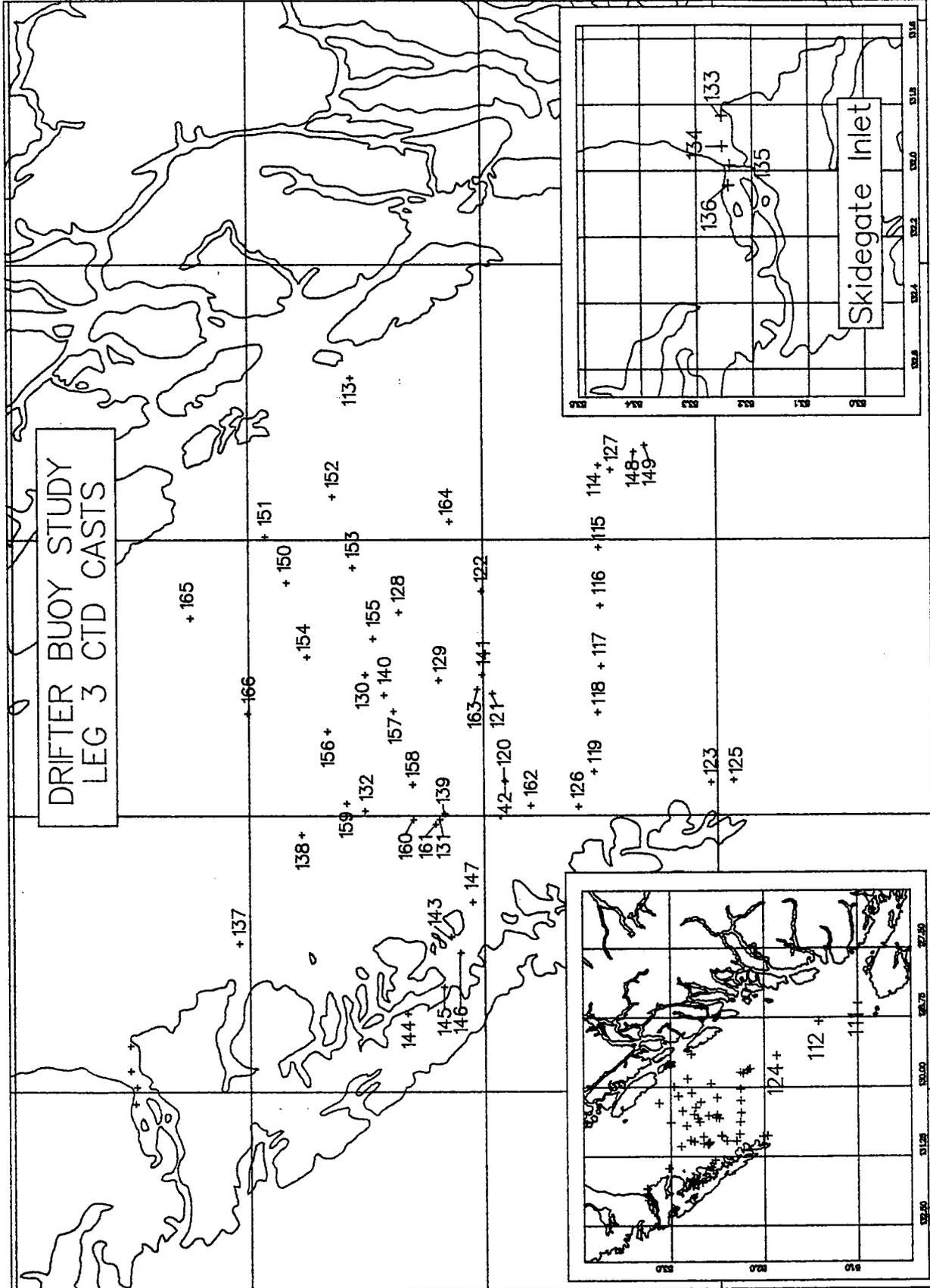
53.5

53.0

52.5

52.0

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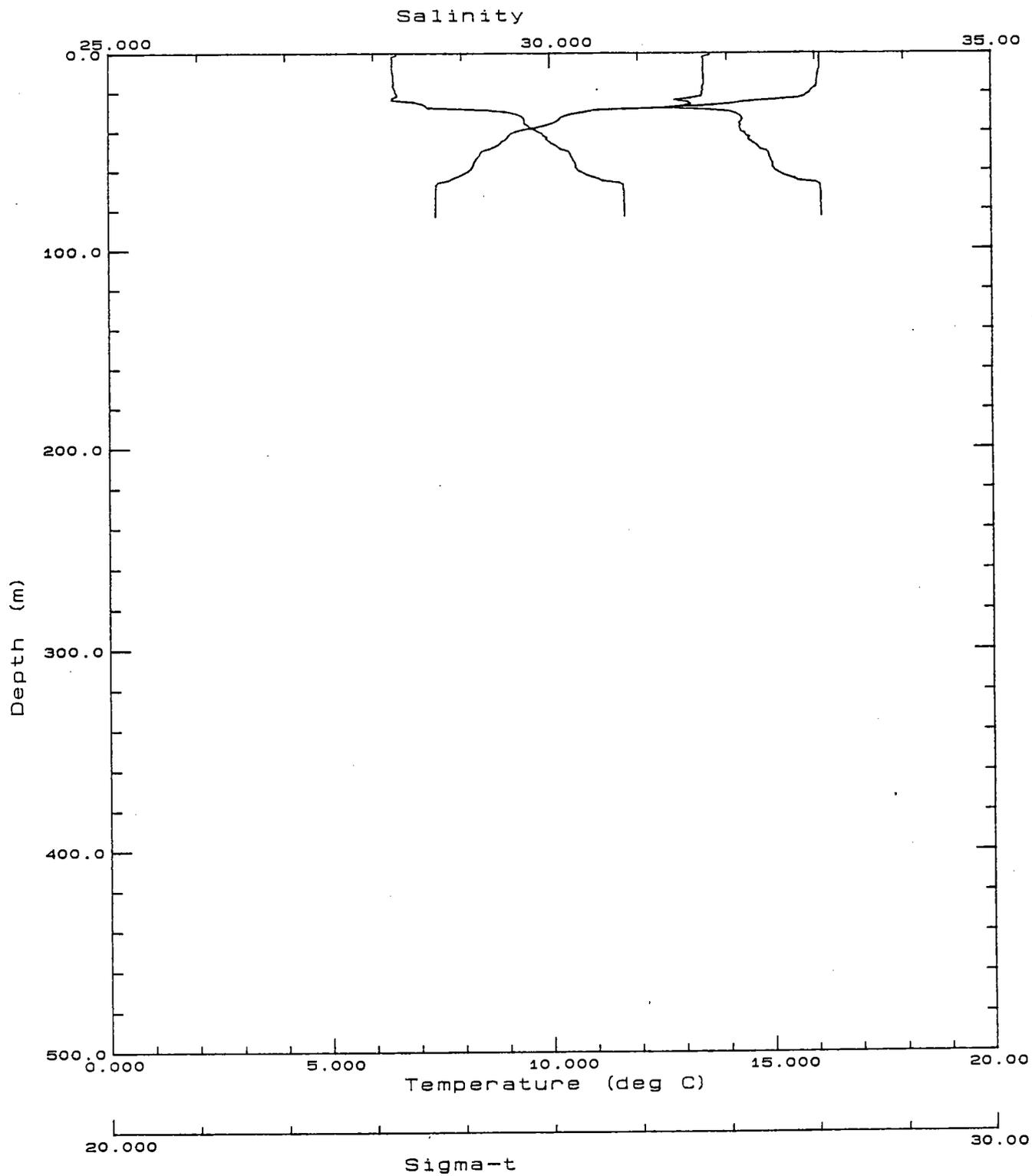
132.0

131.0

130.0

129.0

Skidegate Inlet



DA8096.avg: A8096

SEAKEM OCEANOGRAPHY LTD.

STATION: A8096

DATE: 9/08/90 TIME: 226 UTC

POSITION: 51-00.02N 128-29.72W

BOTTOM DEPTH: 88 M

SECCHI DEPTH: 5 M SST: 16.12 C SURFACE SALINITY: 31.73 o/oo

RESULTS OF CTD CAST

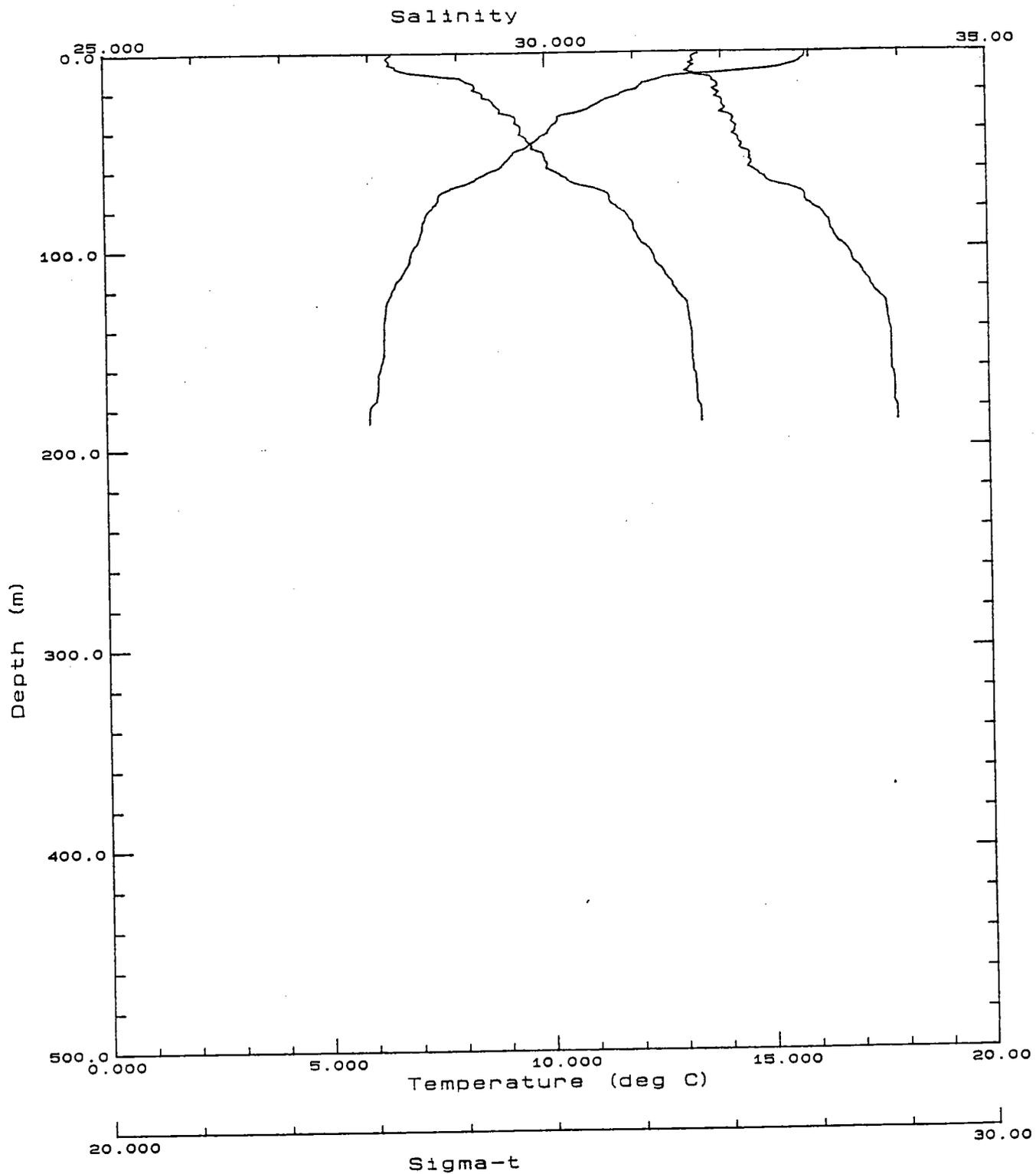
SEABIRD SBE-19 WAS USED

raw data file = DA8096.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.12	31.81	23.27	459.89	0.00
10.00	16.09	31.74	23.22	464.81	0.42
20.00	15.90	31.72	23.25	461.87	0.88
30.00	10.79	32.03	24.50	342.65	1.32
50.00	8.46	32.45	25.20	276.24	1.93
75.00	7.40	33.07	25.84	215.51	2.55

DEEPEST MEASUREMENT:

83.00	7.40	33.07	25.85	215.52	2.72
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da8094.avg: A8094 ,

SEAKEM OCEANOGRAPHY LTD.

STATION: A8094

DATE: 09/08/90 TIME: 0016 UTC

POSITION: 51-24.81N 128-49.10W

BOTTOM DEPTH: 203 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

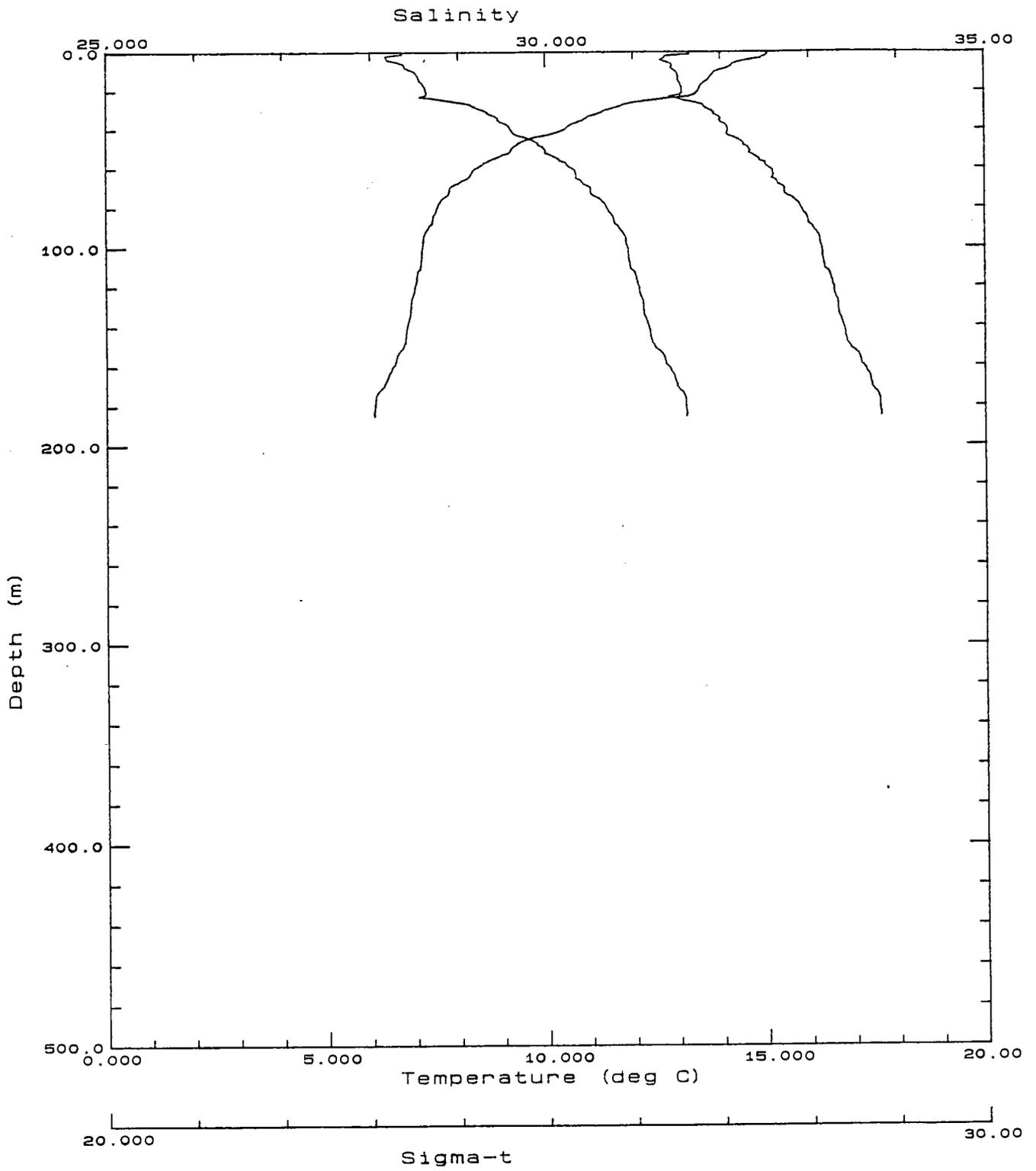
SEABIRD SBE-19 WAS USED

raw data file = DA8094.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.92	31.74	23.26	460.51	0.00
10.00	14.45	31.59	23.46	441.84	0.41
20.00	11.85	31.93	24.23	368.08	0.80
30.00	10.84	32.02	24.49	344.34	1.16
50.00	9.38	32.23	24.89	306.16	1.80
75.00	7.54	32.94	25.72	227.32	2.48
100.00	6.96	33.40	26.16	185.51	2.99
125.00	6.41	33.78	26.54	150.45	3.42
150.00	6.30	33.89	26.64	141.13	3.77
175.00	6.12	33.93	26.69	136.39	4.12

DEEPEST MEASUREMENT:

187.00	5.95	33.96	26.73	132.42	4.28
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DLH21.avg: LH21

SEAKEM OCEANOGRAPHY LTD.

STATION: LH21

DATE: 10/08/90 TIME: 249 UTC

POSITION: 52-15.21N 129-43.89W

BOTTOM DEPTH: 201 M

SECCHI DEPTH: 6 M SST: 15.60 C SURFACE SALINITY: 31.47 o/oo

RESULTS OF CTD CAST

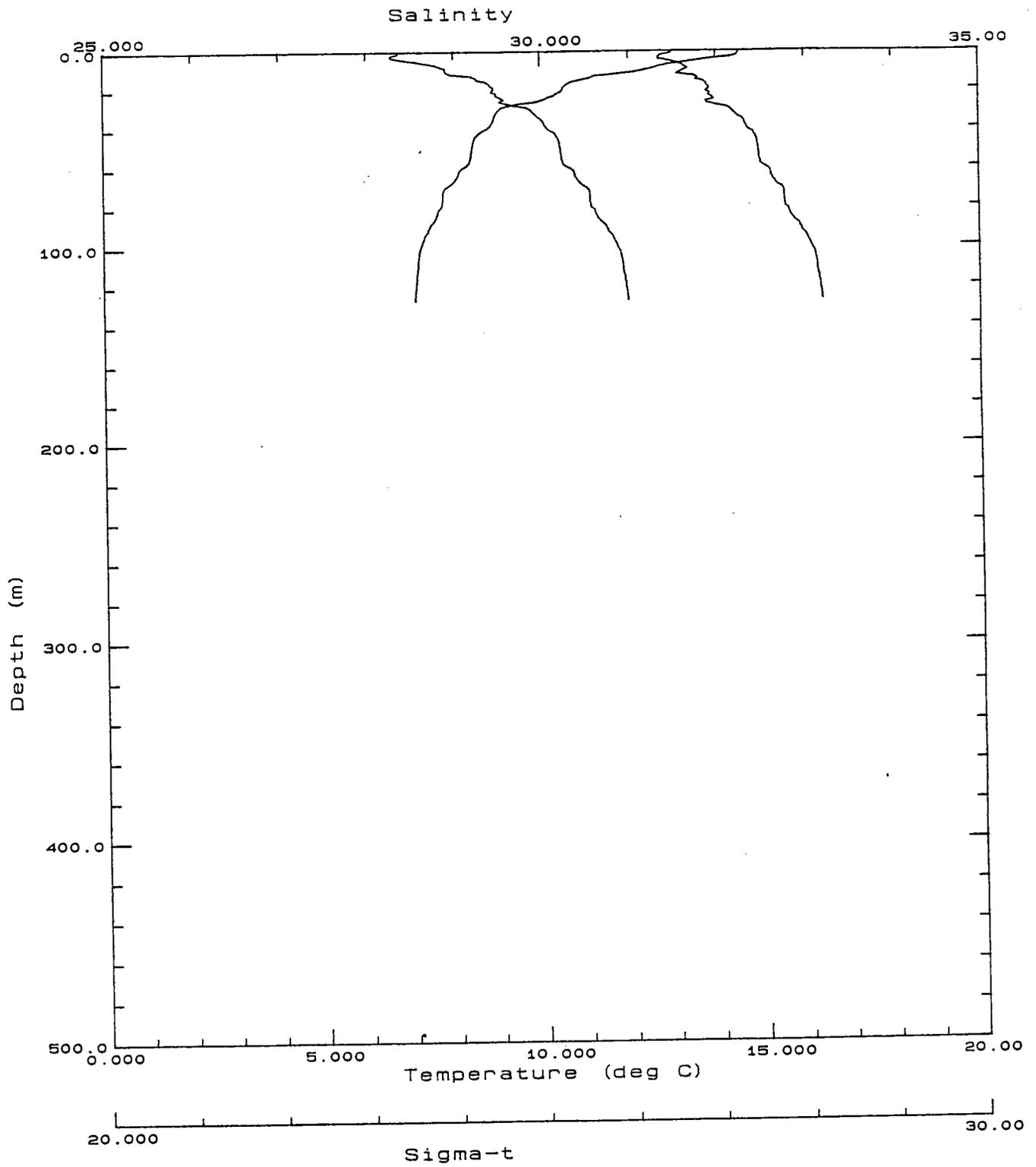
SEABIRD SBE-19 WAS USED

raw data file = DLH21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.09	31.65	23.37	450.22	0.00
10.00	13.87	31.49	23.51	437.49	0.41
20.00	13.50	31.56	23.63	425.59	0.84
30.00	11.35	31.89	24.29	362.55	1.24
50.00	9.22	32.32	24.99	296.86	1.90
75.00	7.65	32.81	25.61	238.15	2.57
100.00	7.18	33.14	25.93	207.71	3.12
125.00	6.95	33.29	26.08	193.65	3.62
150.00	6.75	33.46	26.24	179.27	4.09
175.00	6.12	33.79	26.58	146.80	4.49

DEEPEST MEASUREMENT:

185.00	6.07	33.81	26.60	144.83	4.64
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DLH34.avg: LH34

SEAKEM OCEANOGRAPHY LTD.

STATION: LH34

DATE: 10/08/90 TIME: 506 UTC

POSITION: 52-15.22N 130-01.73W

BOTTOM DEPTH: 143 M

SECCHI DEPTH: -- M SST: 14.52 C SURFACE SALINITY: 31.41 o/oo

RESULTS OF CTD CAST

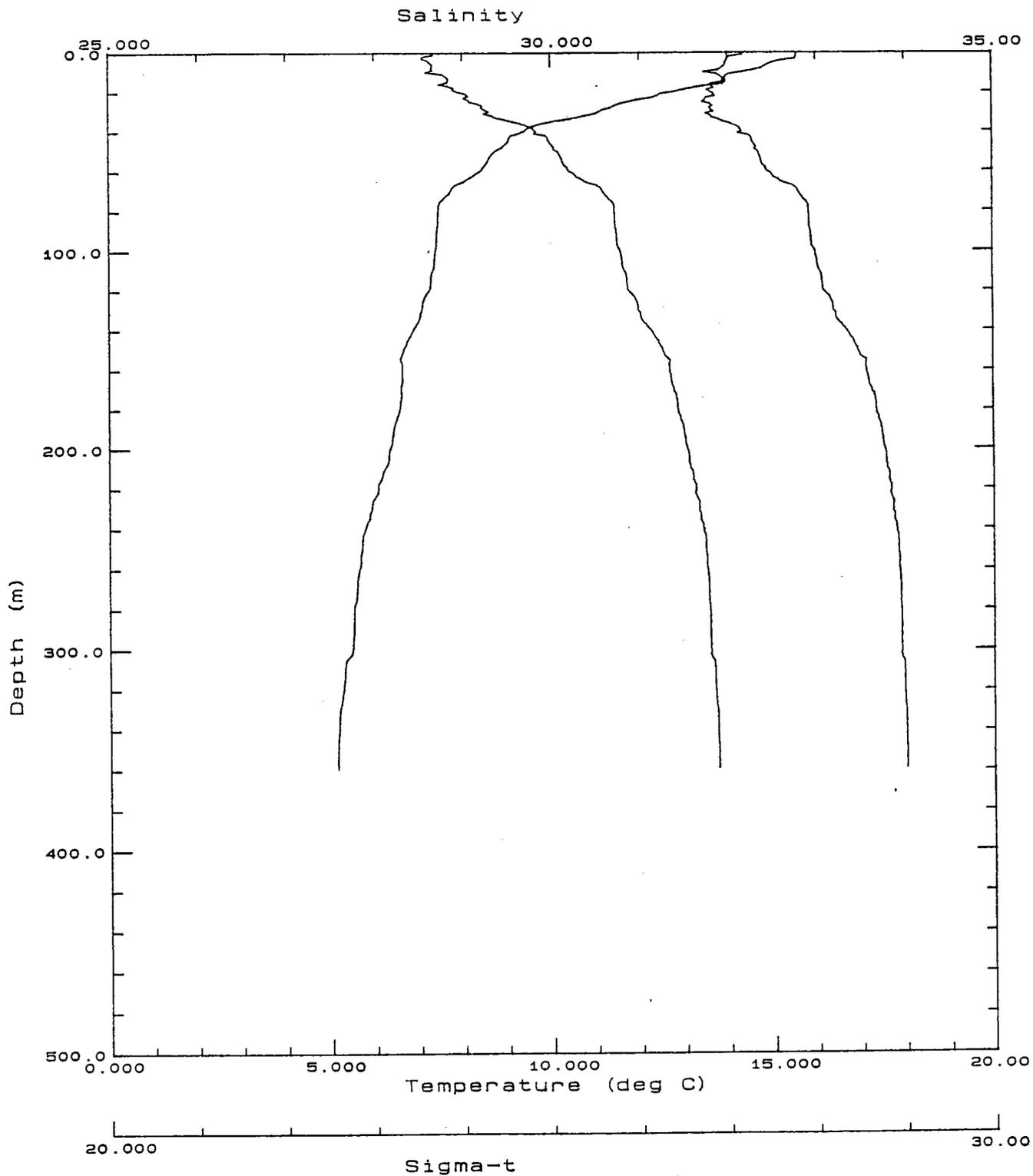
SEABIRD SBE-19 WAS USED

raw data file = DLH34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.52	31.49	23.37	450.10	0.00
10.00	12.38	31.64	23.91	399.00	0.39
20.00	10.52	31.92	24.46	346.39	0.75
30.00	9.06	32.16	24.89	305.87	1.09
50.00	8.42	32.47	25.23	273.76	1.66
75.00	7.74	32.77	25.56	242.35	2.31
100.00	7.23	33.07	25.87	213.45	2.88
125.00	7.10	33.18	25.97	203.86	3.40

DEEPEST MEASUREMENT:

127.00	7.09	33.19	25.98	203.39	3.44
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DLH33.avg: LH33

SEAKEM OCEANOGRAPHY LTD.

STATION: LH33

DATE: 10/08/90 TIME: 640 UTC

POSITION: 52-15.03N 130-14.35W

BOTTOM DEPTH: 397 M

SECCHI DEPTH: -- M SST: 15.57 C SURFACE SALINITY: 32.22 o/oo

RESULTS OF CTD CAST

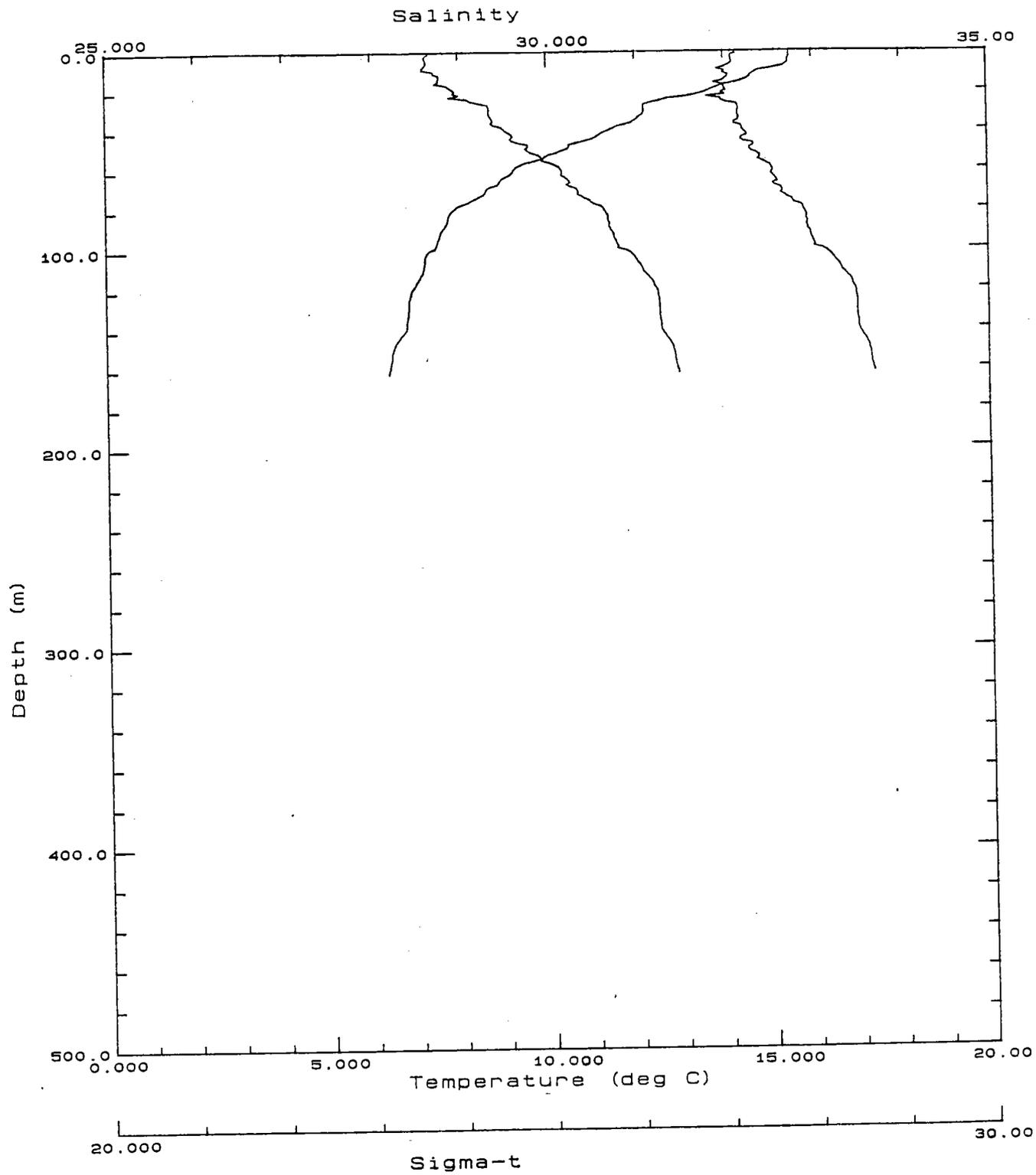
SEABIRD SBE-19 WAS USED

raw data file = DLH33.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.57	32.17	23.67	421.44	0.00
10.00	14.35	31.73	23.59	429.34	0.38
20.00	12.79	31.81	23.96	394.20	0.79
30.00	11.09	31.84	24.30	361.86	1.17
50.00	8.74	32.34	25.08	288.41	1.80
75.00	7.50	32.89	25.69	230.51	2.46
100.00	7.38	32.99	25.78	222.03	3.03
125.00	7.11	33.16	25.96	205.49	3.57
150.00	6.66	33.46	26.26	177.44	4.05
175.00	6.59	33.66	26.42	162.42	4.47
200.00	6.34	33.77	26.53	151.56	4.87
225.00	5.96	33.85	26.65	140.95	5.23
250.00	5.69	33.92	26.74	132.73	5.57
300.00	5.47	33.95	26.79	128.18	6.22

DEEPEST MEASUREMENT:

359.00	5.14	34.01	26.87	120.79	6.95
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DLH37.avg: LH37

SEAKEM OCEANOGRAPHY LTD.

STATION: LH37

DATE: 09/08/90 TIME: 0850 UTC

POSITION: 52-14.94N 130-27.50W

BOTTOM DEPTH: 163 M

SECCHI DEPTH: 5 M SST: 15.50 C SURFACE SALINITY: 32.27 o/oo

RESULTS OF CTD CAST

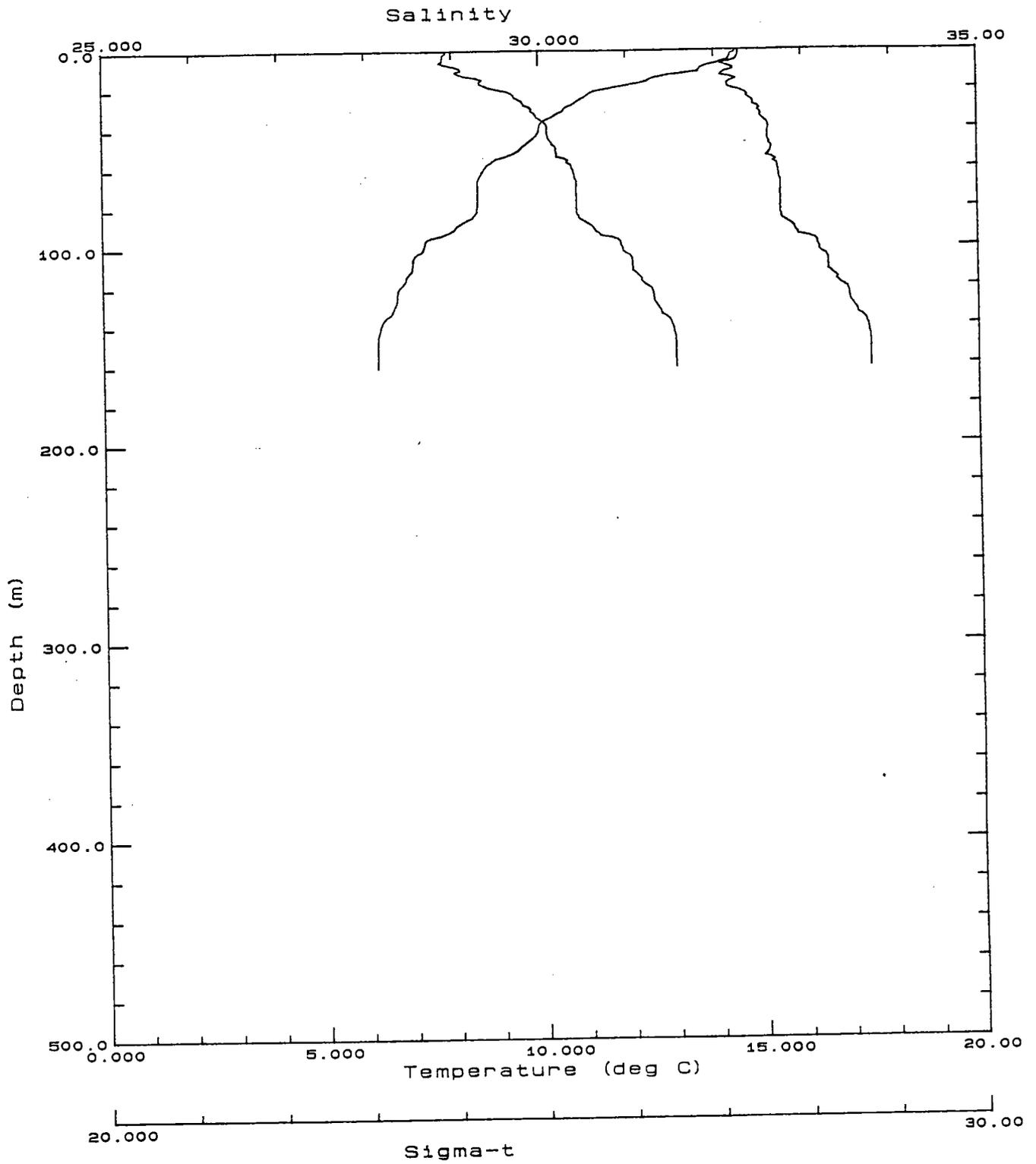
SEABIRD SBE-19 WAS USED

raw data file = DLH37.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.50	32.14	23.66	422.62	0.00
10.00	14.79	32.01	23.72	417.41	0.38
20.00	13.67	32.03	23.96	394.52	0.79
30.00	12.21	32.16	24.35	357.45	1.17
50.00	10.32	32.29	24.78	316.54	1.85
75.00	8.27	32.76	25.48	250.46	2.55
100.00	7.32	33.10	25.88	212.32	3.12
125.00	6.85	33.50	26.26	177.00	3.60
150.00	6.48	33.63	26.41	162.61	4.03

DEEPEST MEASUREMENT:

162.00	6.37	33.69	26.47	157.15	4.22
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DLH35.avg: LH35

SEAKEM OCEANOGRAPHY LTD.

STATION: LH35

DATE: 10/08/90 TIME: 1009 UTC

POSITION: 52-15.43N 130-37.51W

BOTTOM DEPTH: 173 M

SECCHI DEPTH: -- M SST: 14.59 C SURFACE SALINITY: 32.18 o/oo

RESULTS OF CTD CAST

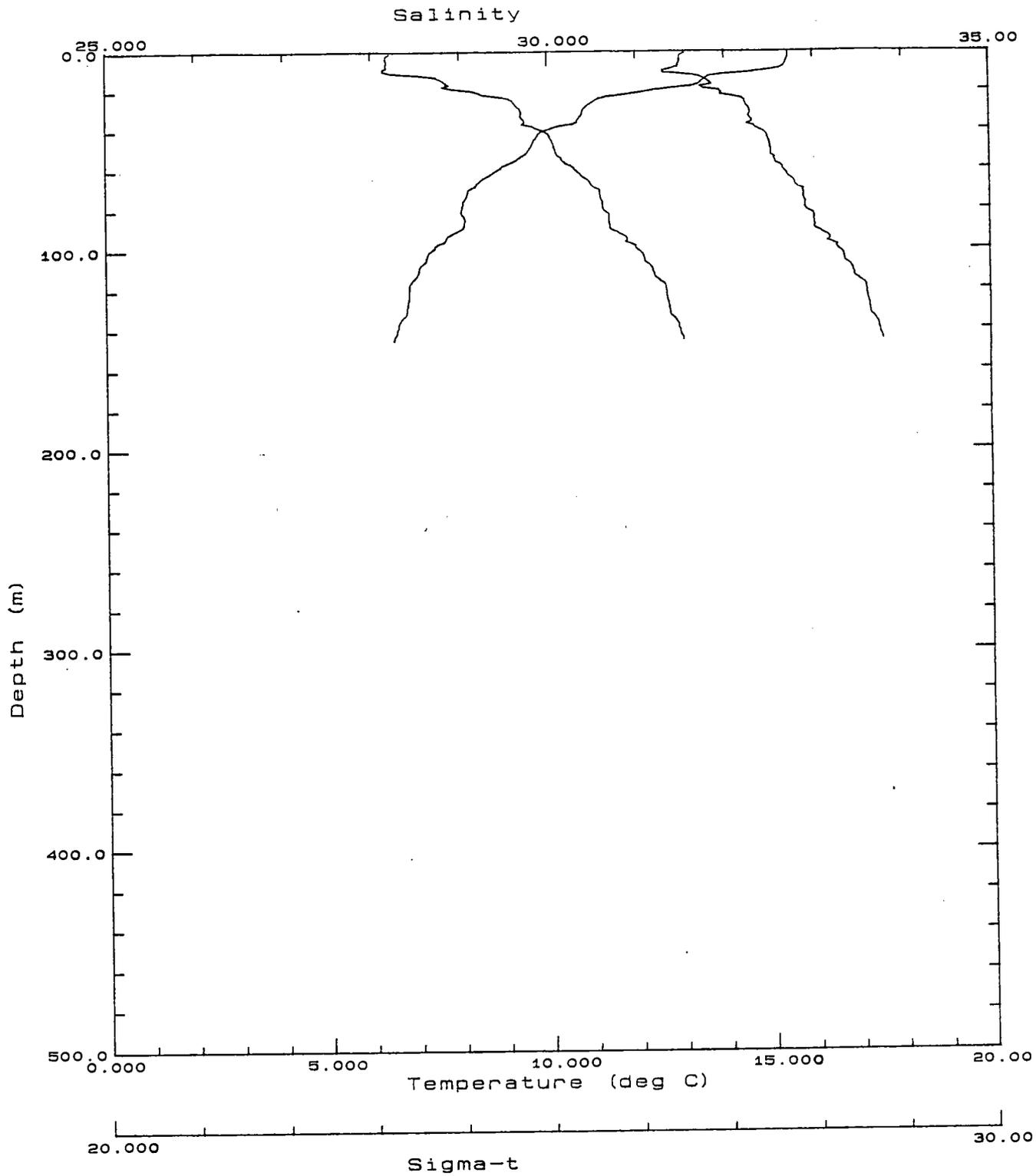
SEABIRD SBE-19 WAS USED

raw data file = DLH35.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.57	32.24	23.94	395.82	0.00
10.00	13.68	32.22	24.11	380.11	0.36
20.00	11.52	32.22	24.52	340.86	0.72
30.00	10.58	32.52	24.92	303.26	1.04
50.00	9.57	32.65	25.19	277.41	1.62
75.00	8.57	32.75	25.43	255.52	2.27
100.00	7.32	33.18	25.94	206.71	2.87
125.00	6.72	33.52	26.29	173.51	3.35
150.00	6.26	33.76	26.54	150.24	3.74

DEEPEST MEASUREMENT:

161.00	6.25	33.76	26.54	150.16	3.91
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DLH22.avg: LH22

SEAKEM OCEANOGRAPHY LTD.

STATION: LH22

DATE: 10/08/90 TIME: 1141 UTC

POSITION: 52-15.91N 130-50.47W

BOTTOM DEPTH: 175 M

SECCHI DEPTH: 7 M SST: 15.45 C SURFACE SALINITY: 31.73 o/oo

RESULTS OF CTD CAST

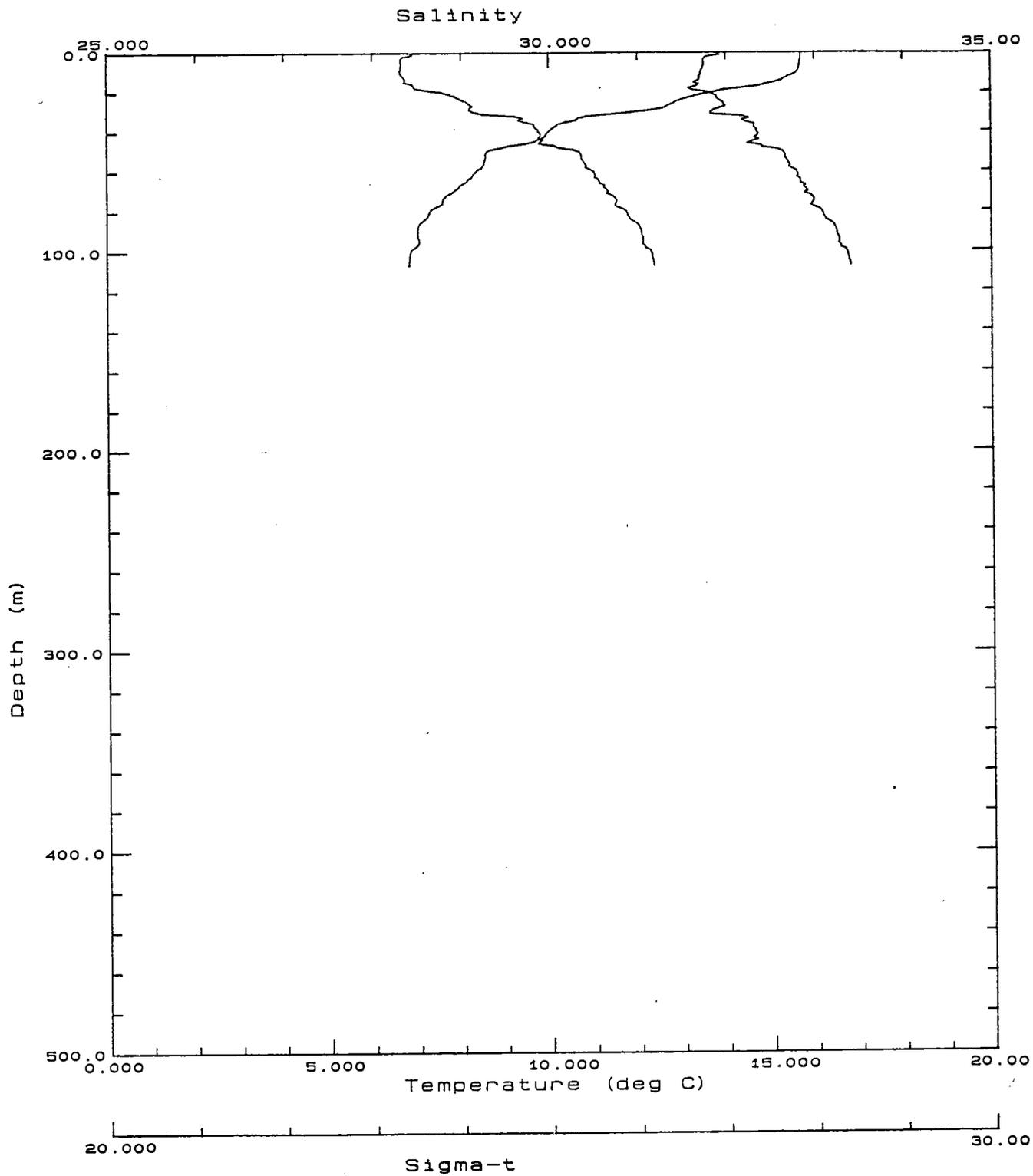
SEABIRD SBE-19 WAS USED

raw data file = DLH22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.46	31.55	23.22	464.74	0.00
10.00	14.93	31.31	23.14	472.21	0.42
20.00	12.38	31.94	24.14	376.99	0.84
30.00	10.80	32.28	24.70	324.34	1.18
50.00	9.57	32.52	25.09	287.37	1.79
75.00	8.10	32.89	25.60	238.51	2.45
100.00	7.37	33.28	26.01	200.26	3.01
125.00	6.84	33.60	26.34	168.96	3.46

DEEPEST MEASUREMENT:

145.00	6.49	33.77	26.52	152.61	3.78
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DLH32.avg: LH32

SEAKEM OCEANOGRAPHY LTD.

STATION: LH32

DATE: 10/08/90 TIME: 1552 UTC

POSITION: 52-28.89N 130-33.31W

BOTTOM DEPTH: 135 M

SECCHI DEPTH: 3 M SST: 15.69 C SURFACE SALINITY: 32.16 o/oo

RESULTS OF CTD CAST

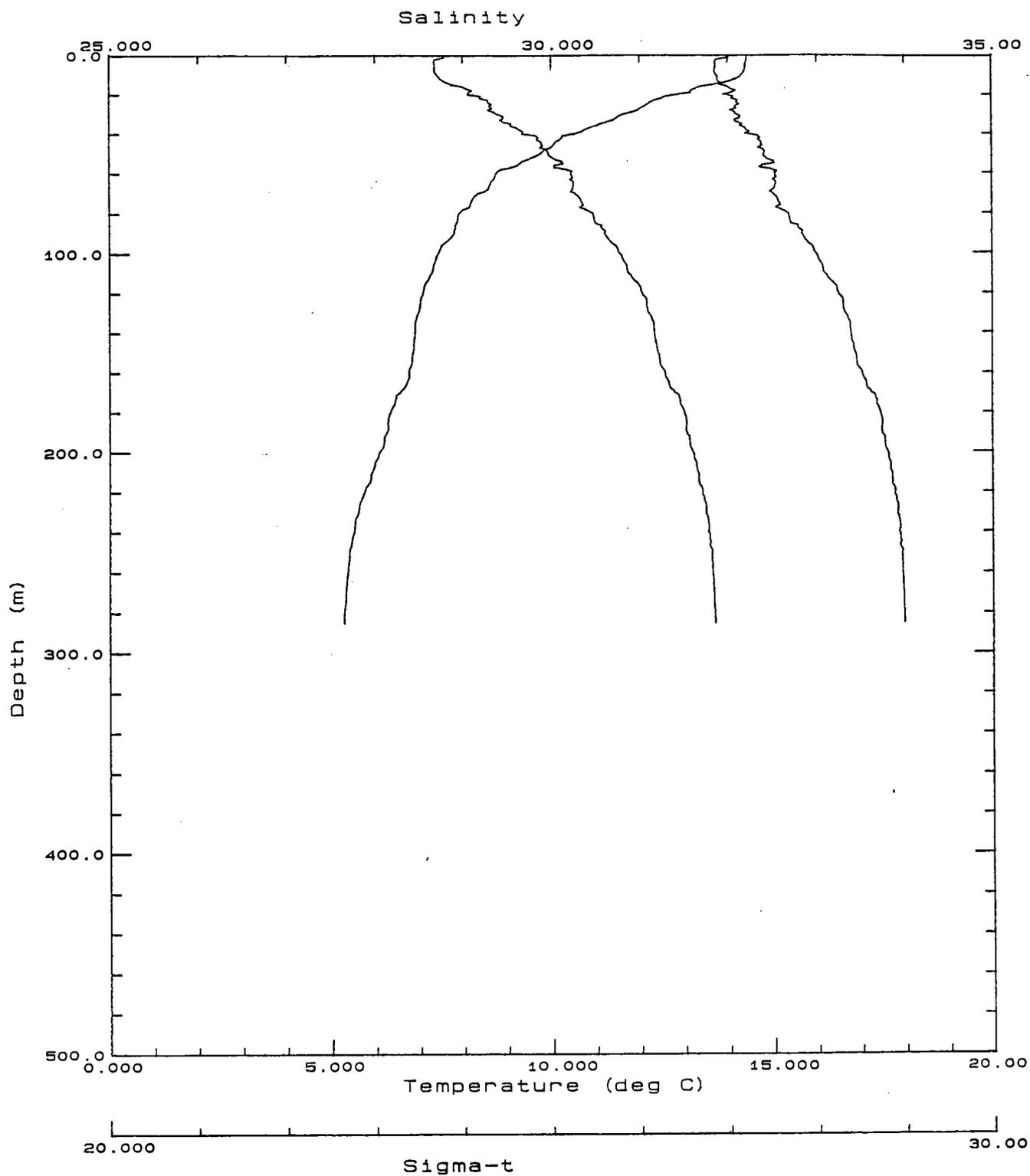
SEABIRD SBE-19 WAS USED

raw data file = DLH32.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.70	31.93	23.45	442.23	0.00
10.00	15.61	31.72	23.31	455.93	0.41
20.00	13.72	31.80	23.77	412.19	0.85
30.00	11.88	31.83	24.15	376.43	1.24
50.00	8.58	32.64	25.34	263.65	1.86
75.00	7.57	32.99	25.76	223.76	2.48
100.00	6.85	33.36	26.15	187.18	2.99

DEEPEST MEASUREMENT:

107.00	6.81	33.40	26.18	183.64	3.12
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DLH31.avg: LH31

SEAKEM OCEANOGRAPHY LTD.

STATION: LH31

DATE: 11/08/90 TIME: 110 UTC

POSITION: 52-30.21N 130-11.08W

BOTTOM DEPTH: 296 M

SECCHI DEPTH: -- M SST: 14.95 C SURFACE SALINITY: 31.92 o/oo

RESULTS OF CTD CAST

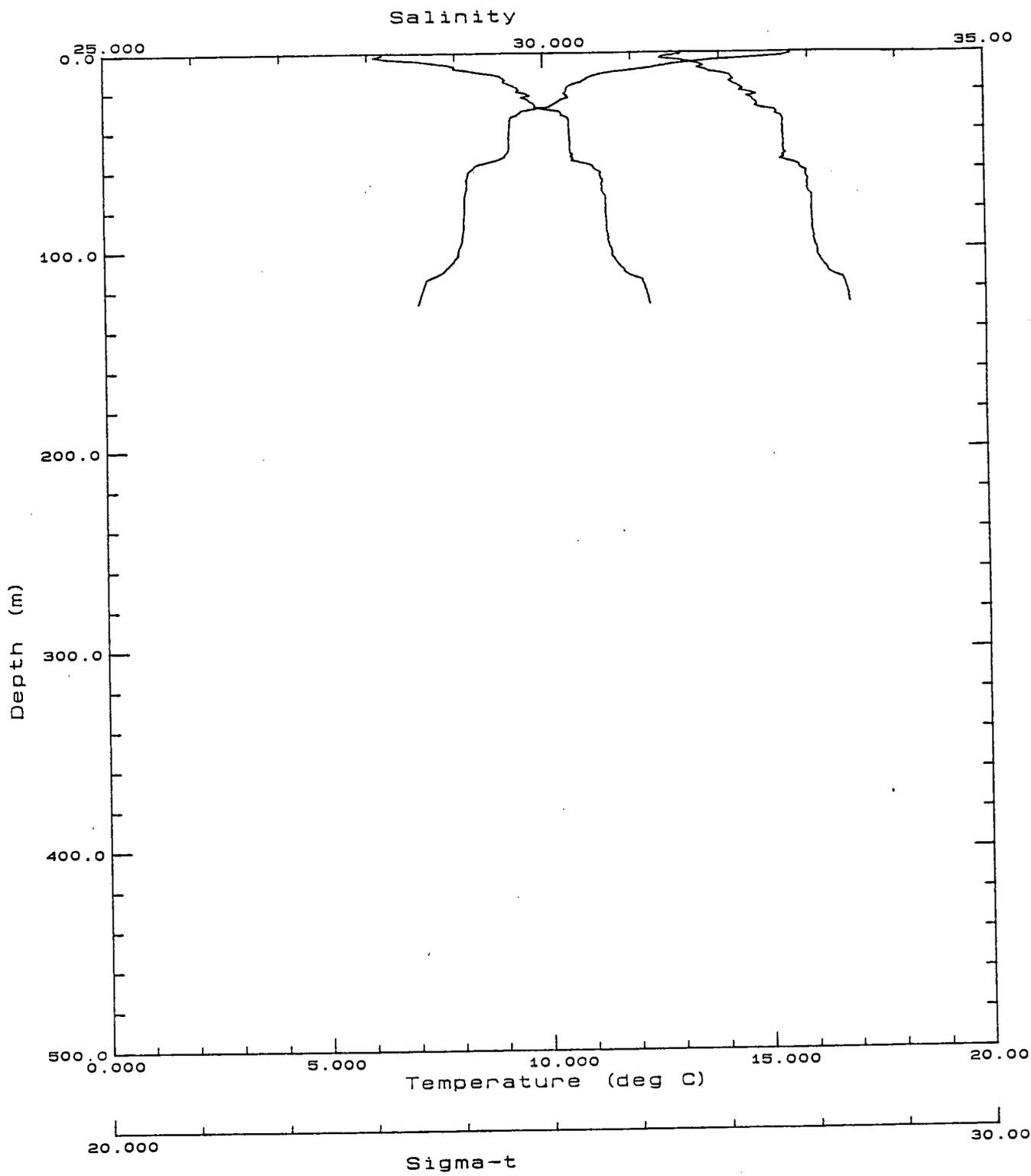
SEABIRD SBE-19 WAS USED

raw data file = DLH31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.44	32.01	23.79	410.45	0.00
10.00	14.31	31.87	23.71	418.27	0.38
20.00	12.87	31.95	24.06	384.96	0.78
30.00	11.64	32.09	24.39	353.14	1.14
50.00	9.76	32.41	24.97	298.49	1.79
75.00	8.18	32.59	25.35	262.41	2.48
100.00	7.43	32.99	25.78	222.35	3.09
125.00	7.03	33.30	26.08	194.05	3.61
150.00	6.86	33.44	26.21	182.13	4.08
175.00	6.44	33.68	26.46	158.80	4.51
200.00	6.09	33.80	26.60	145.60	4.89
225.00	5.65	33.90	26.73	133.01	5.24
250.00	5.40	33.96	26.81	126.12	5.56

DEEPEST MEASUREMENT:

285.00	5.28	33.98	26.84	123.36	5.99
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DRH22.avg: RH22

SEAKEM OCEANOGRAPHY LTD.

STATION: RH22

DATE: 11/08/90 TIME: 1103 UTC

POSITION: 52-00.87N 130-52.84W

BOTTOM DEPTH: 137 M

SECCHI DEPTH: 13 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

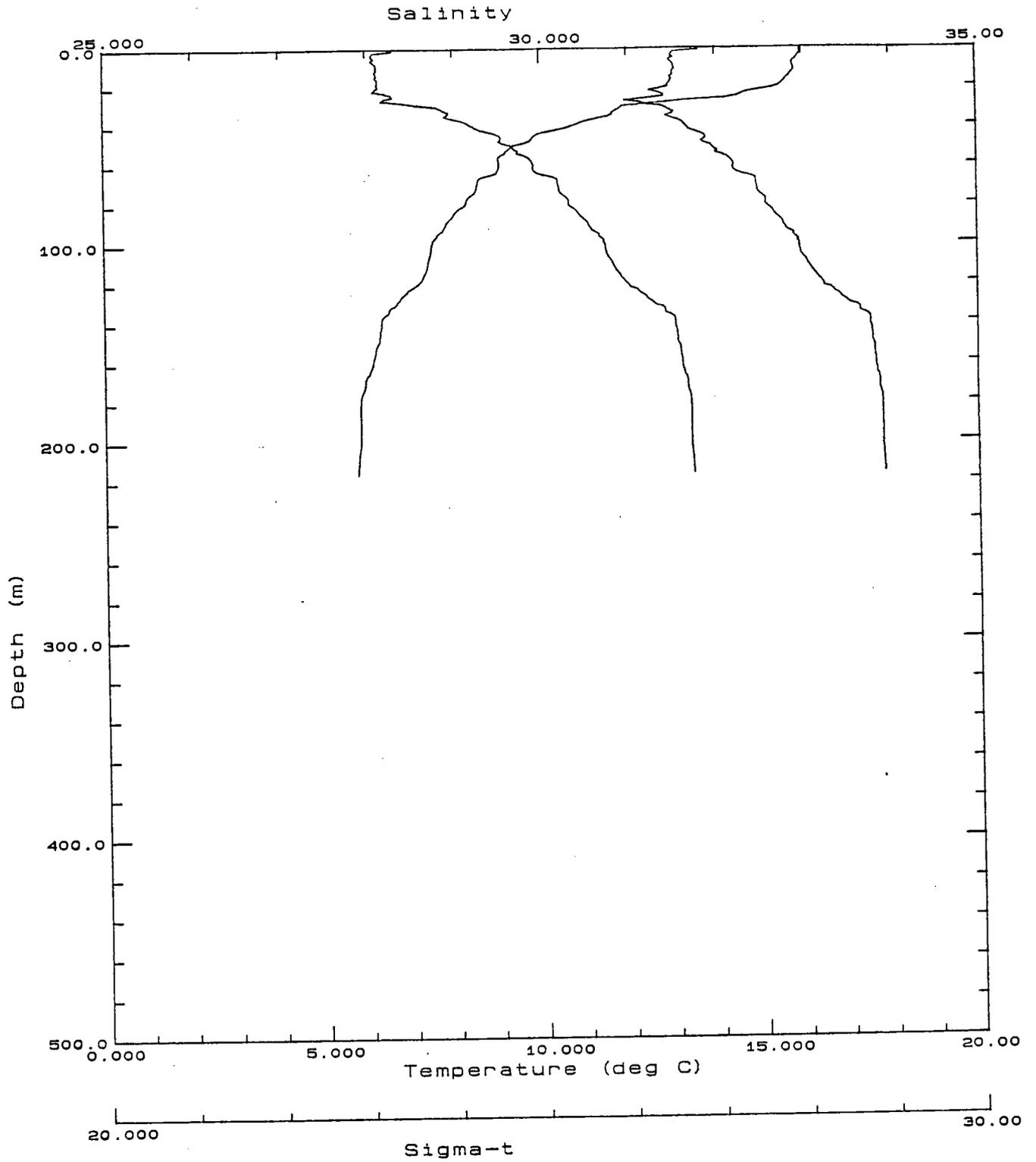
SEABIRD SBE-19 WAS USED

raw data file = DRH22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.61	31.56	23.17	469.20	0.00
10.00	11.55	31.89	24.26	365.44	0.38
20.00	10.52	32.22	24.70	323.87	0.71
30.00	9.51	32.62	25.18	278.37	1.02
50.00	9.21	32.72	25.30	266.91	1.56
75.00	8.19	33.03	25.70	229.33	2.16
100.00	8.05	33.09	25.76	223.58	2.73
125.00	7.15	33.45	26.18	184.57	3.24

DEEPEST MEASUREMENT:

127.00	7.11	33.46	26.19	183.71	3.28
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DRH21.avg: RH21

SEAKEM OCEANOGRAPHY LTD.

STATION: RH21

DATE: 12/08/90 TIME: 148 UTC

POSITION: 51-52.11N 129-25.51W

BOTTOM DEPTH: 230 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

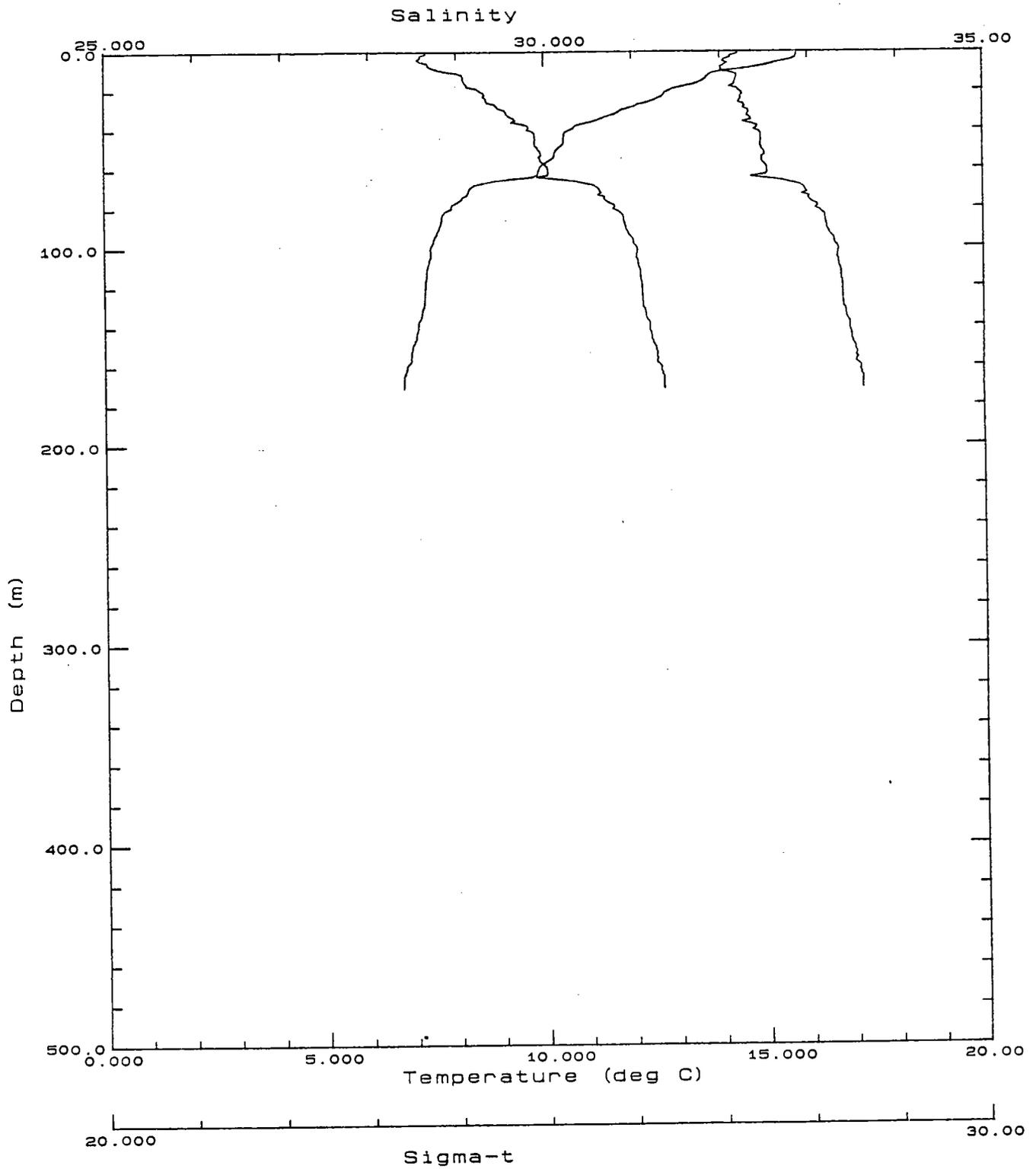
SEABIRD SBE-19 WAS USED

raw data file = DRH21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.97	31.82	23.31	456.10	0.00
10.00	15.81	31.54	23.13	473.35	0.43
20.00	15.46	31.46	23.15	472.05	0.90
30.00	11.88	31.39	23.81	408.57	1.36
50.00	9.39	31.95	24.67	327.37	2.10
75.00	8.41	32.51	25.26	271.62	2.84
100.00	7.49	32.95	25.74	225.90	3.46
125.00	6.88	33.36	26.14	188.02	3.99
150.00	6.25	33.79	26.56	148.37	4.39
175.00	5.88	33.88	26.68	137.23	4.75
200.00	5.83	33.89	26.70	135.76	5.09

DEEPEST MEASUREMENT:

216.00	5.75	33.91	26.72	133.67	5.30
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DRH35.avg: RH35

SEAKEM OCEANOGRAPHY LTD.

STATION: RH35

DATE: 12/08/90 TIME: 0211 UTC

POSITION: 51-58.00N 130-52.42W

BOTTOM DEPTH: 183 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

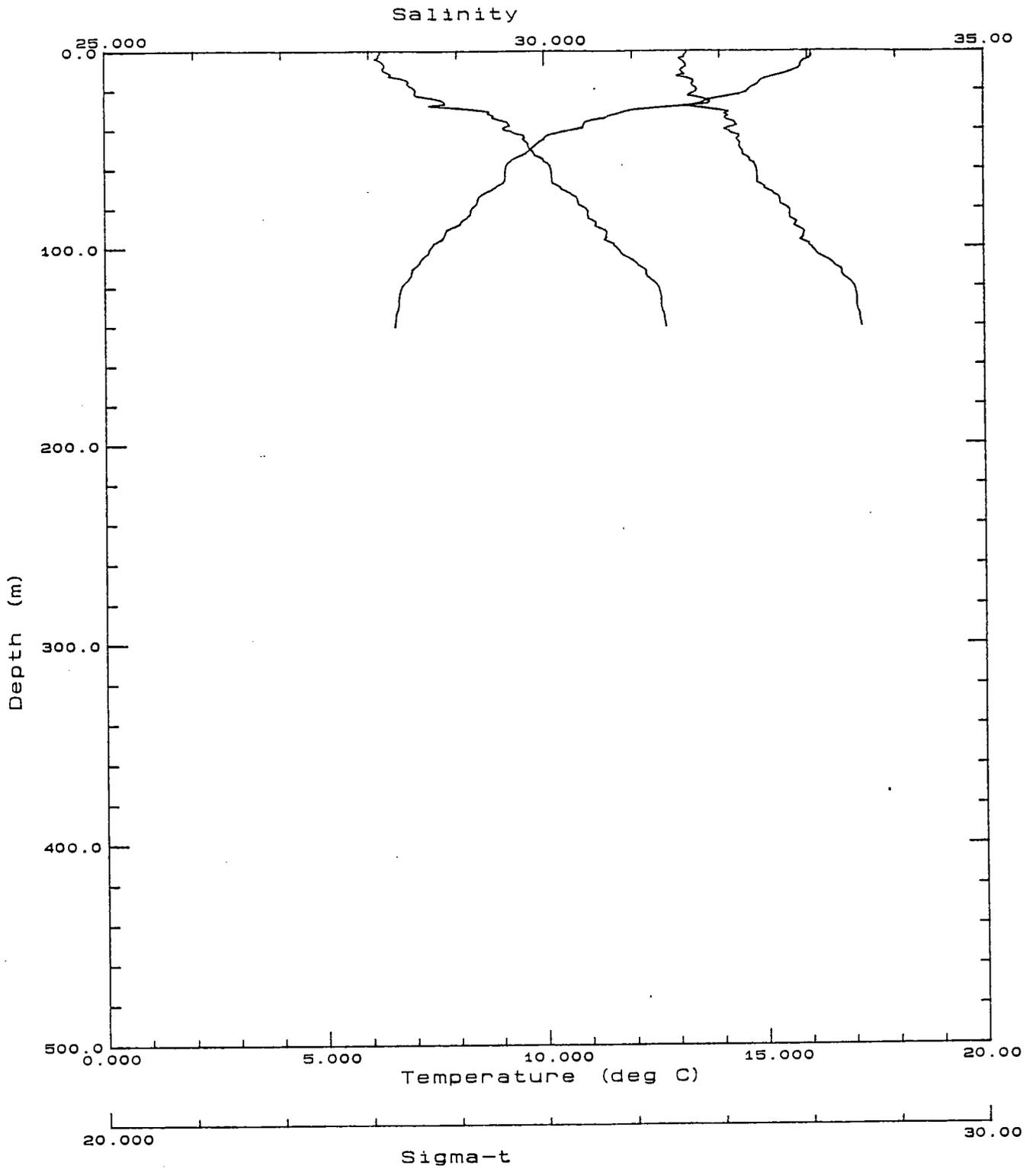
SEABIRD SBE-19 WAS USED

raw data file = DRH35.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.76	32.21	23.65	423.00	0.00
10.00	14.14	32.01	23.85	404.40	0.38
20.00	12.86	32.21	24.26	365.42	0.76
30.00	11.75	32.32	24.55	338.02	1.12
50.00	10.29	32.47	24.93	302.42	1.75
75.00	8.11	33.00	25.69	230.56	2.44
100.00	7.39	33.33	26.05	196.15	2.96
125.00	7.26	33.39	26.11	190.78	3.44
150.00	6.98	33.53	26.26	176.96	3.91

DEEPEST MEASUREMENT:

171.00	6.78	33.61	26.35	168.61	4.27
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DRH36.avg: RH36

SEAKEM OCEANOGRAPHY LTD.

STATION: RH36

DATE: 12/08/90 TIME: 0521 UTC

POSITION: 52-17.93N 130-58.04W

BOTTOM DEPTH: 154 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

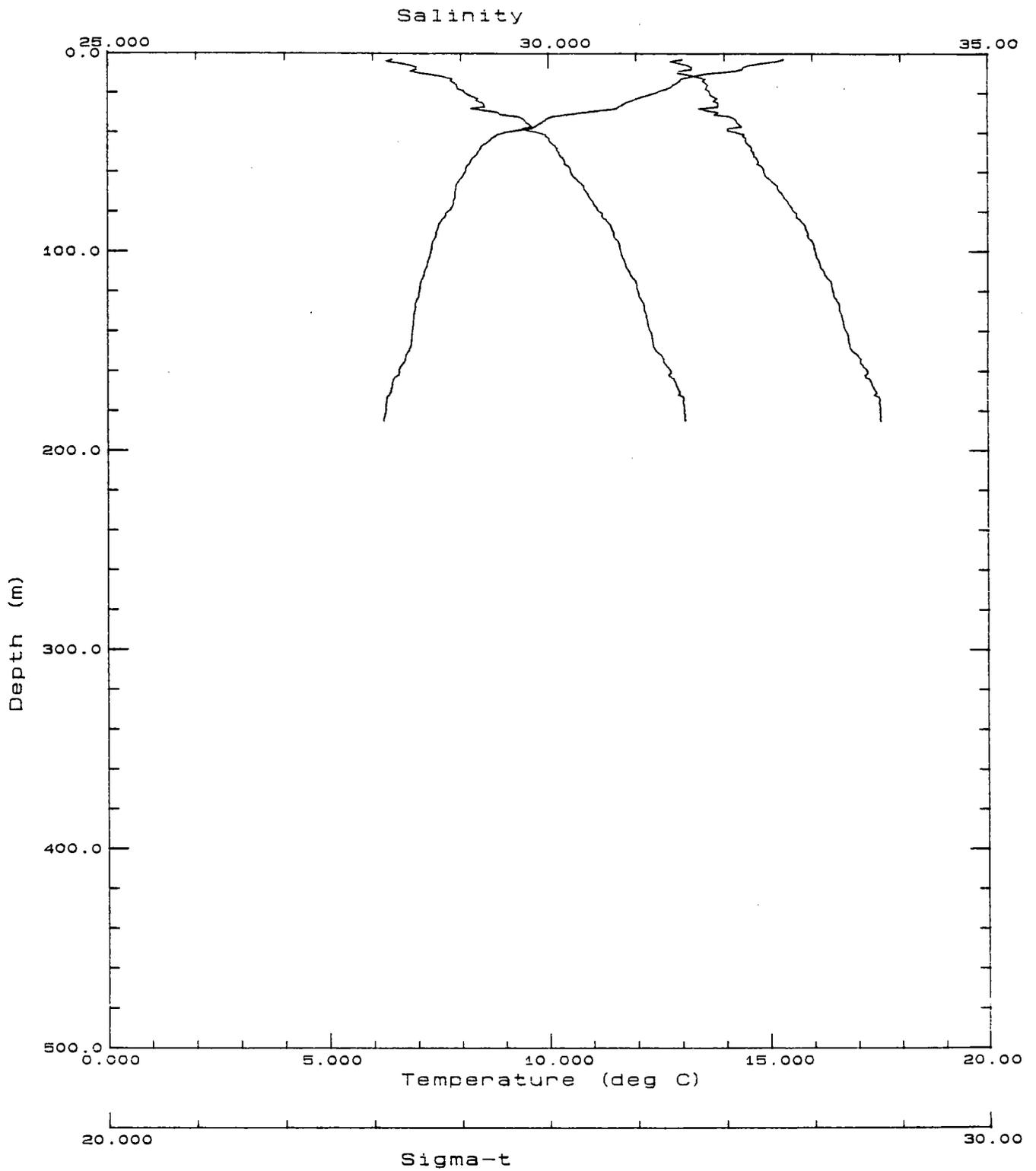
SEABIRD SBE-19 WAS USED

raw data file = DRH36.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.09	31.63	23.13	472.63	0.00
10.00	15.70	31.55	23.16	470.01	0.43
20.00	14.66	31.74	23.53	435.27	0.88
30.00	12.02	31.96	24.23	369.06	1.29
50.00	9.70	32.24	24.85	310.33	1.96
75.00	8.49	32.68	25.38	259.96	2.67
100.00	7.40	33.04	25.82	217.79	3.27
125.00	6.67	33.56	26.32	170.58	3.75

DEEPEST MEASUREMENT:

140.00	6.57	33.61	26.38	165.65	4.00
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DRH34.avg: RH34

SEAKEM OCEANOGRAPHY LTD.

STATION: RH34

DATE: 12/08/90 TIME: 1119 UTC

POSITION: 52-13.59N 129-44.64W

BOTTOM DEPTH: 201 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

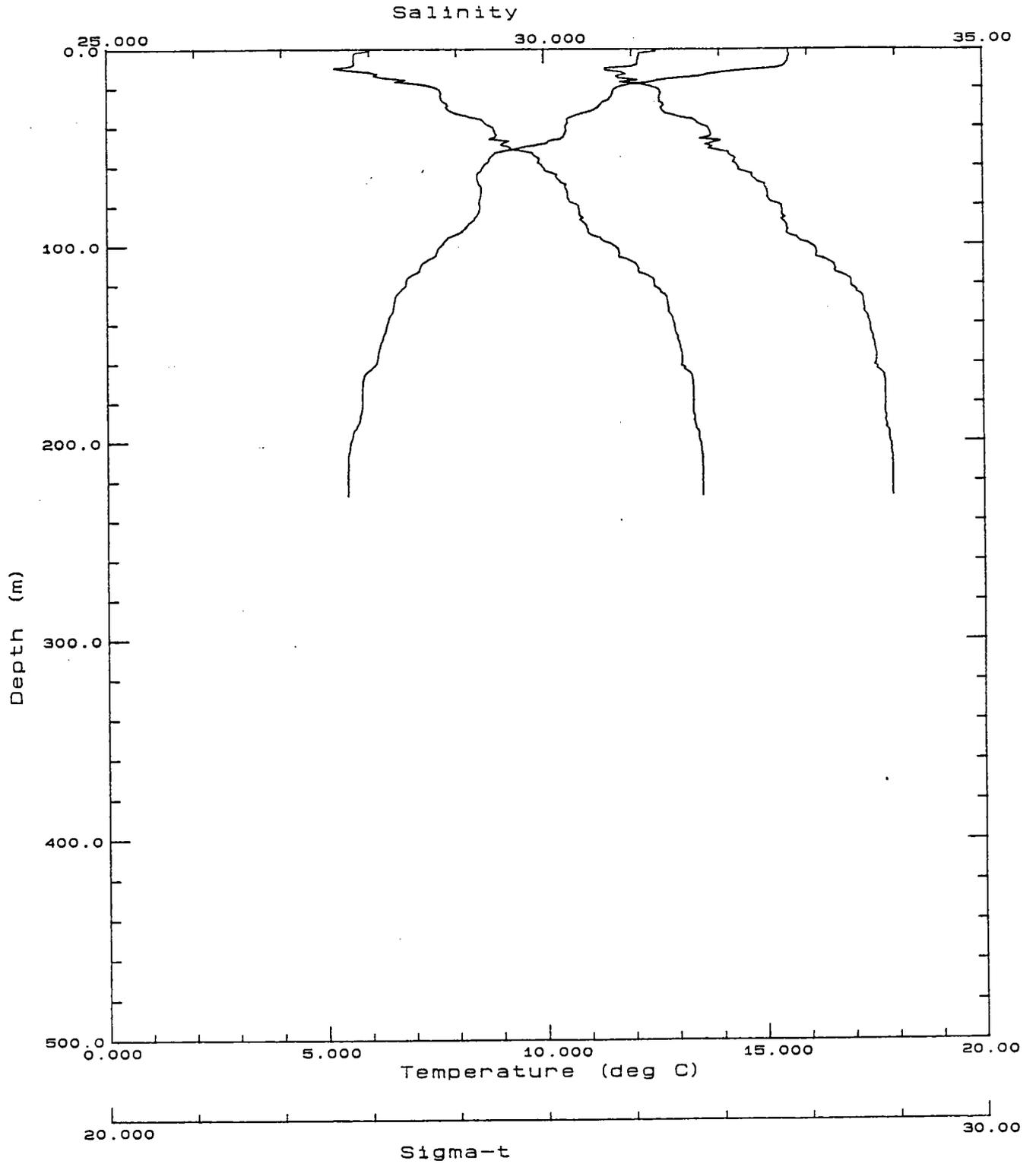
SEABIRD SBE-19 WAS USED

raw data file = DRH34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	15.34	31.52	23.22	464.61	0.00
10.00	13.66	31.48	23.53	434.73	0.31
20.00	12.44	31.83	24.05	385.69	0.72
30.00	10.77	31.93	24.42	350.13	1.09
50.00	8.39	32.33	25.12	284.26	1.70
75.00	7.82	32.72	25.51	247.71	2.37
100.00	7.31	33.03	25.82	217.75	2.95
125.00	6.98	33.27	26.06	195.60	3.46
150.00	6.80	33.44	26.22	180.89	3.93
175.00	6.31	33.75	26.53	151.85	4.35

DEEPEST MEASUREMENT:

185.00	6.24	33.77	26.55	150.02	4.50
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DLI34.avg: LI34

SEAKEM OCEANOGRAPHY LTD.

STATION: LI34

DATE: 12/08/90 TIME: 1618 UTC

POSITION: 52-40.73N 130-15.76W

BOTTOM DEPTH: 240 M

SECCHI DEPTH: 5 M SST: 16.7 C SURFACE SALINITY: 31.15 o/oo

RESULTS OF CTD CAST

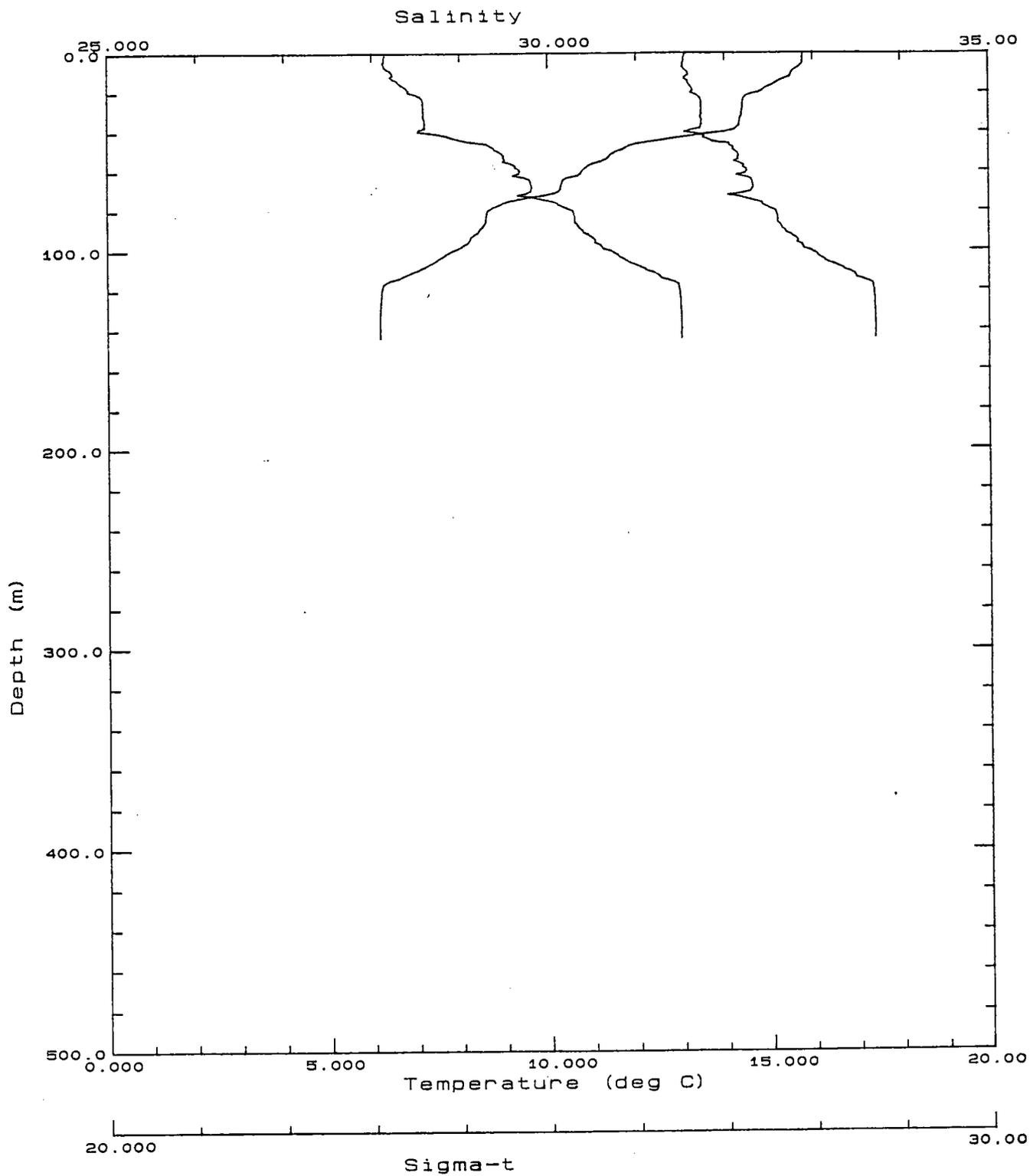
SEABIRD SBE-19 WAS USED

raw data file = DLI34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.58	31.28	22.98	487.27	0.00
10.00	15.26	30.70	22.60	523.67	0.45
20.00	11.66	31.28	23.77	412.73	0.92
30.00	11.24	31.34	23.88	401.82	1.32
50.00	9.55	31.91	24.61	332.30	2.05
75.00	8.55	32.54	25.26	270.86	2.77
100.00	7.65	33.04	25.78	221.71	3.40
125.00	6.62	33.59	26.36	167.03	3.89
150.00	6.25	33.76	26.54	150.48	4.29
175.00	5.82	33.88	26.69	136.49	4.64
200.00	5.56	33.93	26.76	129.78	4.98
225.00	5.49	33.95	26.79	127.45	5.30

DEEPEST MEASUREMENT:

227.00	5.49	33.96	26.79	127.39	5.32
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DLI36.avg: LI36

SEAKEM OCEANOGRAPHY LTD.

STATION: LI36

DATE: 13/08/90 TIME: 55 UTC

POSITION: 52-35.67N 130-30.53W

BOTTOM DEPTH: 155 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

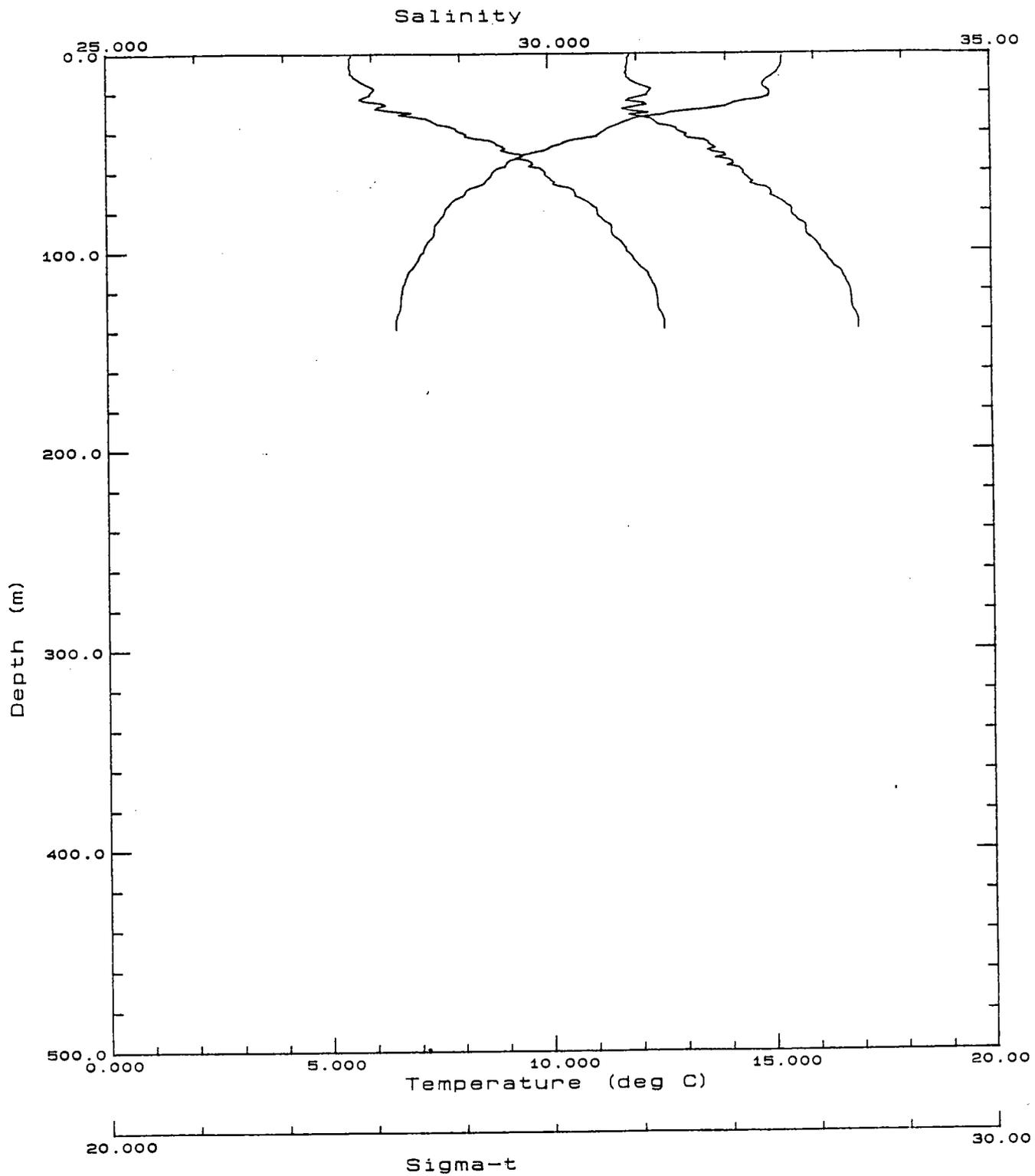
SEABIRD SBE-19 WAS USED

raw data file = DLI36.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.78	31.56	23.15	471.13	0.00
10.00	15.52	31.59	23.23	463.46	0.42
20.00	14.77	31.62	23.42	446.30	0.88
30.00	14.39	31.74	23.59	430.26	1.31
50.00	11.54	32.12	24.44	349.31	2.12
75.00	9.11	32.33	25.02	294.56	2.94
100.00	7.83	32.97	25.70	229.29	3.59
125.00	6.20	33.70	26.50	154.00	4.05

DEEPEST MEASUREMENT:

144.00	6.17	33.70	26.50	153.90	4.34
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DLI35.avg: LI35

SEAKEM OCEANOGRAPHY LTD.

STATION: LI35

DATE: 13/08/90 TIME: 235 UTC

POSITION: 52-45.14N 130-29.33W

BOTTOM DEPTH: 146 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

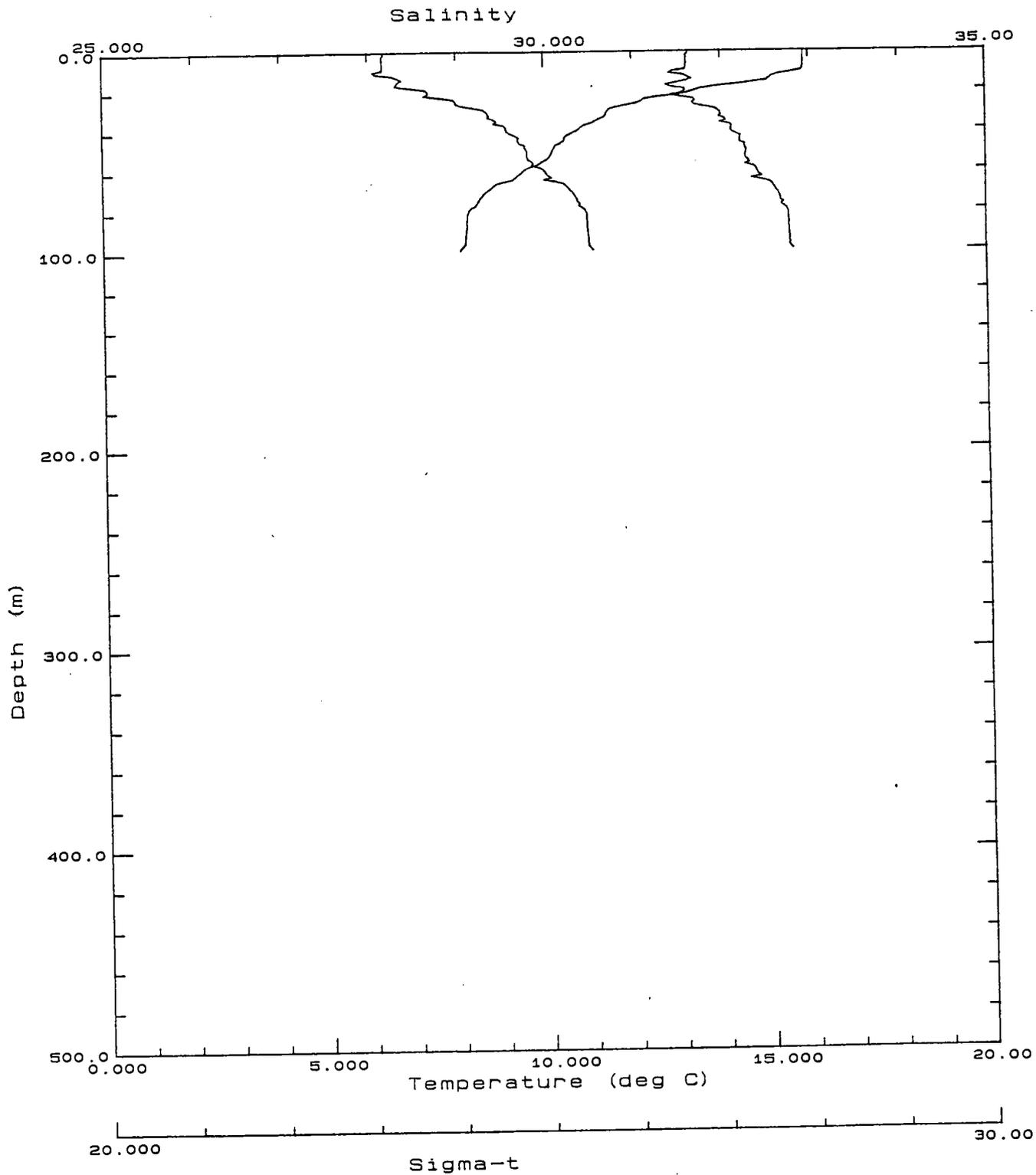
SEABIRD SBE-19 WAS USED

raw data file = DLI35.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.28	30.92	22.77	507.29	0.00
10.00	15.16	30.87	22.76	508.76	0.46
20.00	15.00	31.12	22.99	487.28	0.95
30.00	12.74	31.13	23.45	443.32	1.43
50.00	9.67	31.85	24.55	338.77	2.21
75.00	7.81	32.64	25.45	253.50	2.95
100.00	7.15	33.07	25.88	212.62	3.53
125.00	6.64	33.42	26.22	180.64	4.01

DEEPEST MEASUREMENT:

139.00	6.53	33.49	26.29	173.84	4.25
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DLI22.avg: LI22

SEAKEM OCEANOGRAPHY LTD.

STATION: LI22

DATE: 13/08/90 TIME: 550 UTC

POSITION: 52-35.61N 131-00.81W

BOTTOM DEPTH: 106 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

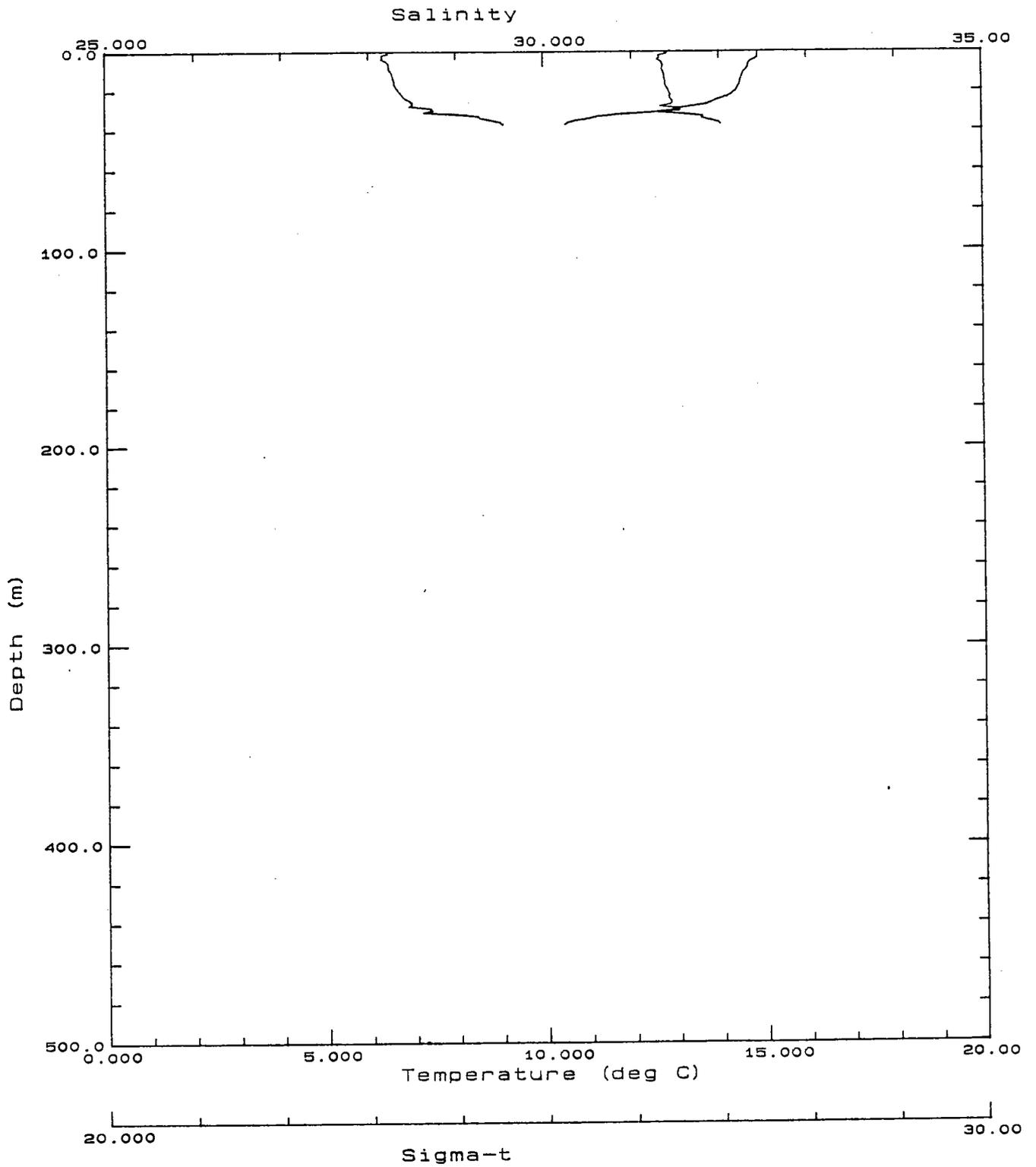
SEABIRD SBE-19 WAS USED

raw data file = DLI22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.90	31.64	23.19	467.76	0.00
10.00	15.85	31.46	23.06	479.60	0.42
20.00	13.41	31.60	23.68	420.99	0.87
30.00	11.45	31.97	24.34	358.25	1.27
50.00	10.19	32.29	24.81	314.01	1.94
75.00	8.49	32.67	25.37	260.48	2.66

DEEPEST MEASUREMENT:

99.00	8.07	32.81	25.54	244.69	3.26
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DLI21.avg: LI21

SEAKEM OCEANOGRAPHY LTD.

STATION: LI21

DATE: 13/08/90 TIME: 0037 UTC

POSITION: 52-45.21N 130-58.85W

BOTTOM DEPTH: 40 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

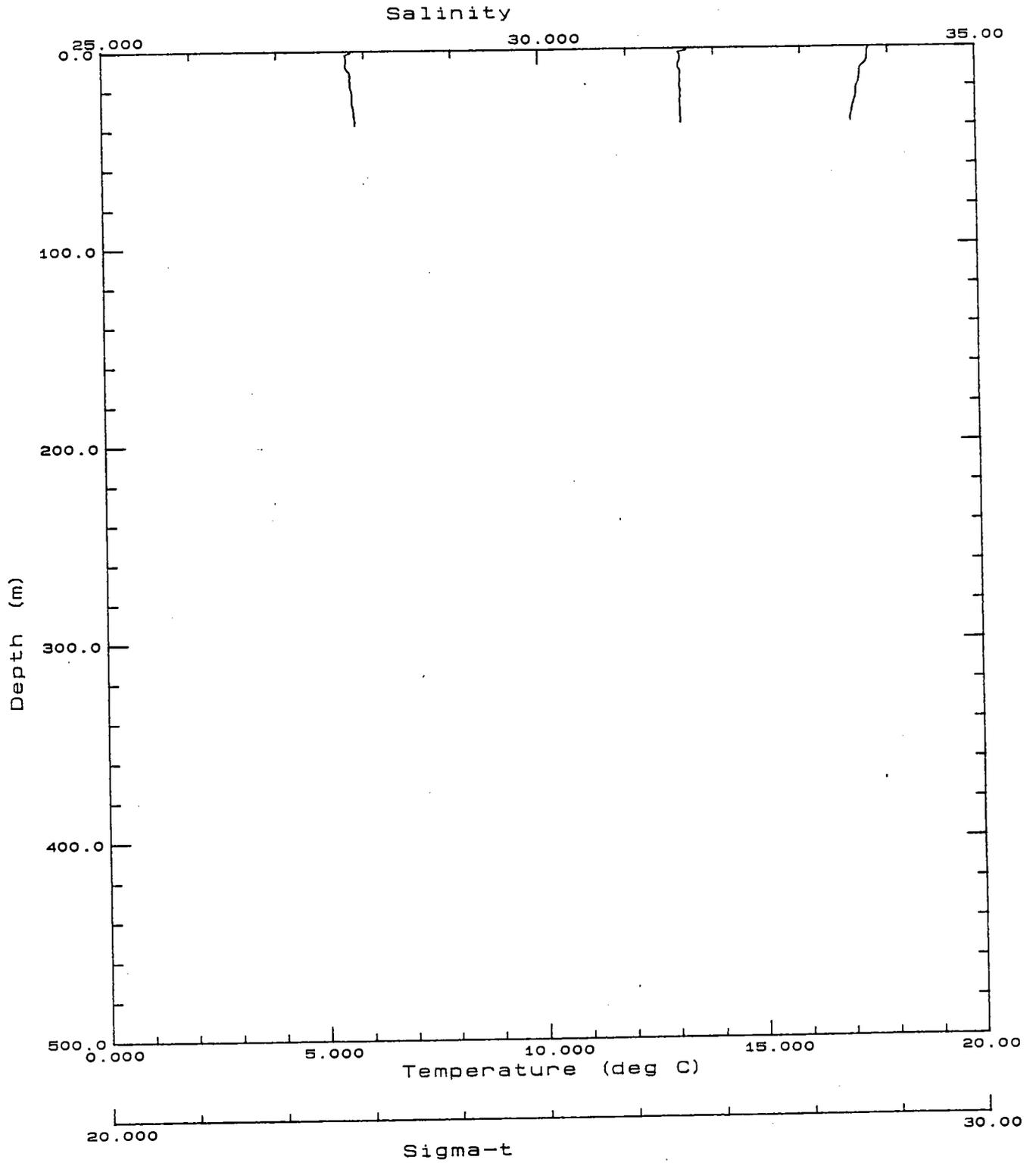
SEABIRD SBE-19 WAS USED

raw data file = DLI21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.89	31.40	23.23	464.02	0.00
10.00	14.60	31.36	23.26	461.32	0.42
20.00	14.40	31.42	23.34	453.11	0.88
30.00	12.93	31.56	23.74	415.32	1.32

DEEPEST MEASUREMENT:

37.00	10.49	32.02	24.54	339.26	1.58
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DSK1.avg: SK1

SEAKEM OCEANOGRAPHY LTD.

STATION: SK1

DATE: 14/08/90 TIME: 30 UTC

POSITION: 53-15.25N 131-50.00W

BOTTOM DEPTH: 40 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

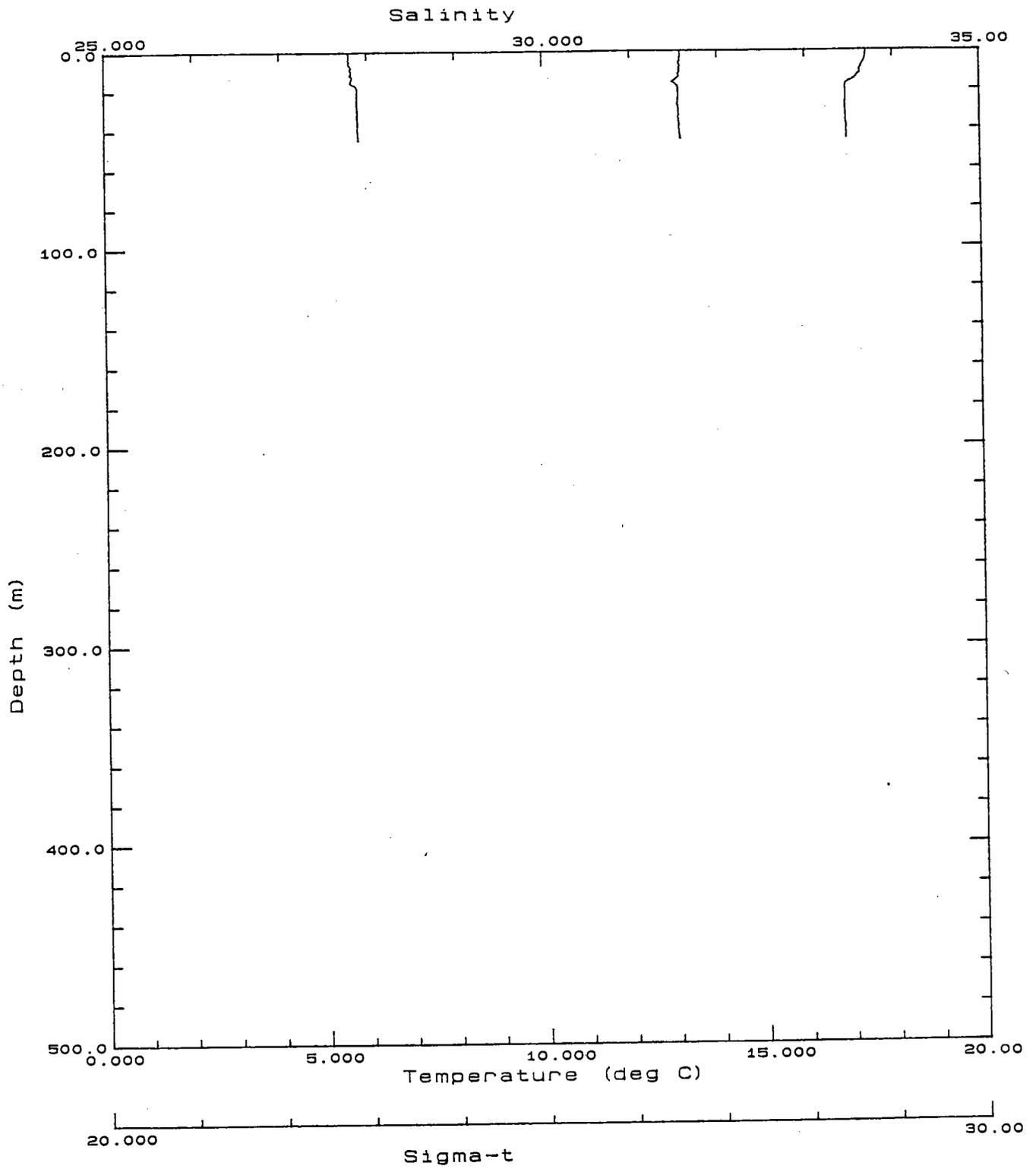
SEABIRD SBE-19 WAS USED

raw data file = DSK1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.56	31.70	22.85	499.69	0.00
10.00	17.41	31.60	22.81	503.48	0.45
20.00	17.29	31.62	22.85	499.98	0.96
30.00	17.20	31.63	22.88	497.69	1.45

DEEPEST MEASUREMENT:

38.00	17.13	31.63	22.90	496.45	1.85
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DSK2.avg: SK2

SEAKEM OCEANOGRAPHY LTD.

STATION: SK2

DATE: 14/08/90 TIME: 107 UTC

POSITION: 53-15.20N 131-55.50W

BOTTOM DEPTH: --- M

SECCHI DEPTH: 3 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

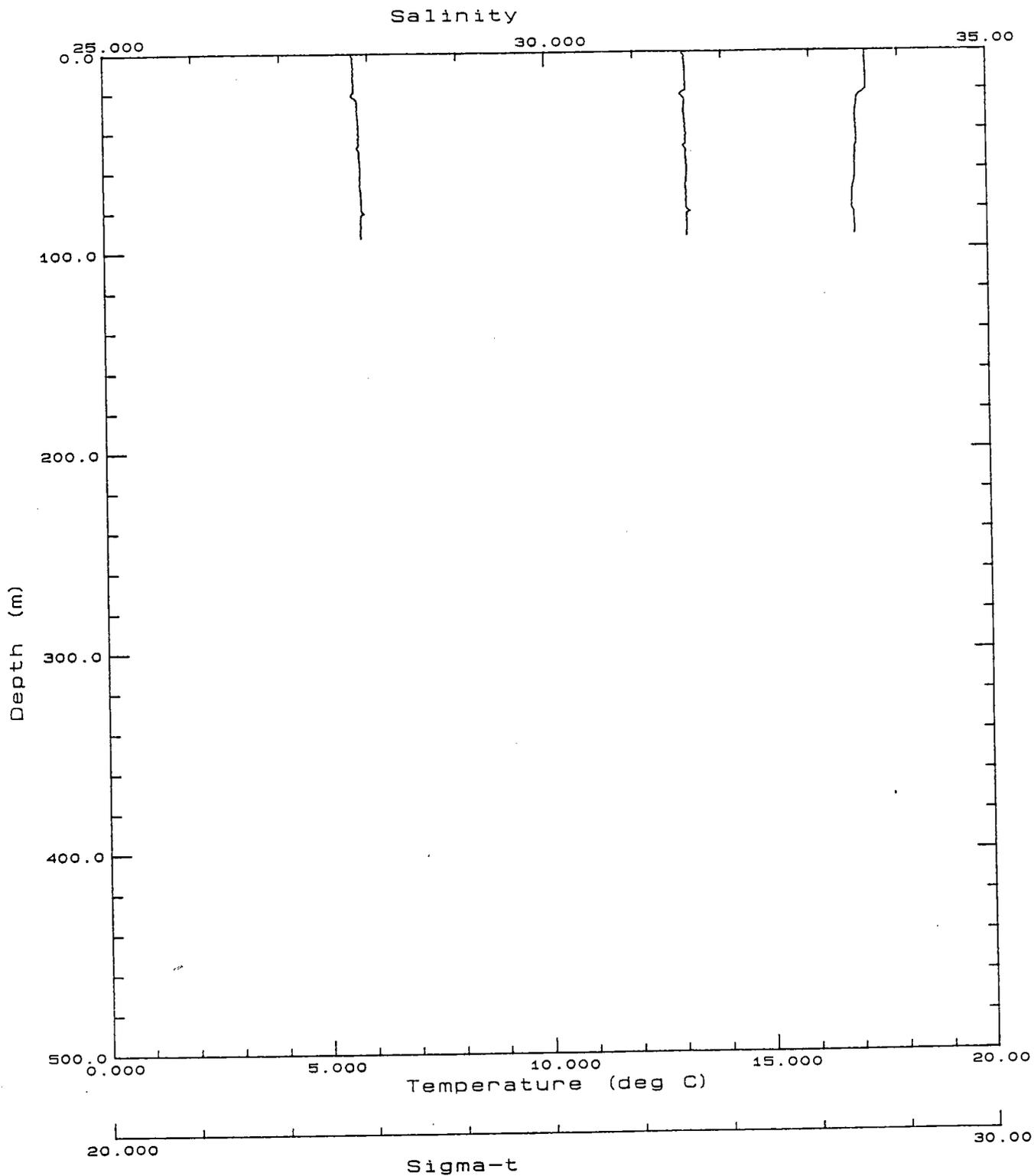
SEABIRD SBE-19 WAS USED

raw data file = DSK2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.40	31.58	22.80	504.85	0.00
10.00	17.26	31.57	22.83	502.47	0.45
20.00	16.93	31.56	22.89	496.20	0.95
30.00	16.92	31.56	22.90	496.20	1.45

DEEPEST MEASUREMENT:

45.00	16.95	31.58	22.90	496.02	2.20
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DSK3.avg: SK3

SEAKEM OCEANOGRAPHY LTD.

STATION: SK3

DATE: 14/08/90 TIME: 119 UTC

POSITION: 53-14.40N 131-59.00W

BOTTOM DEPTH: --- M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

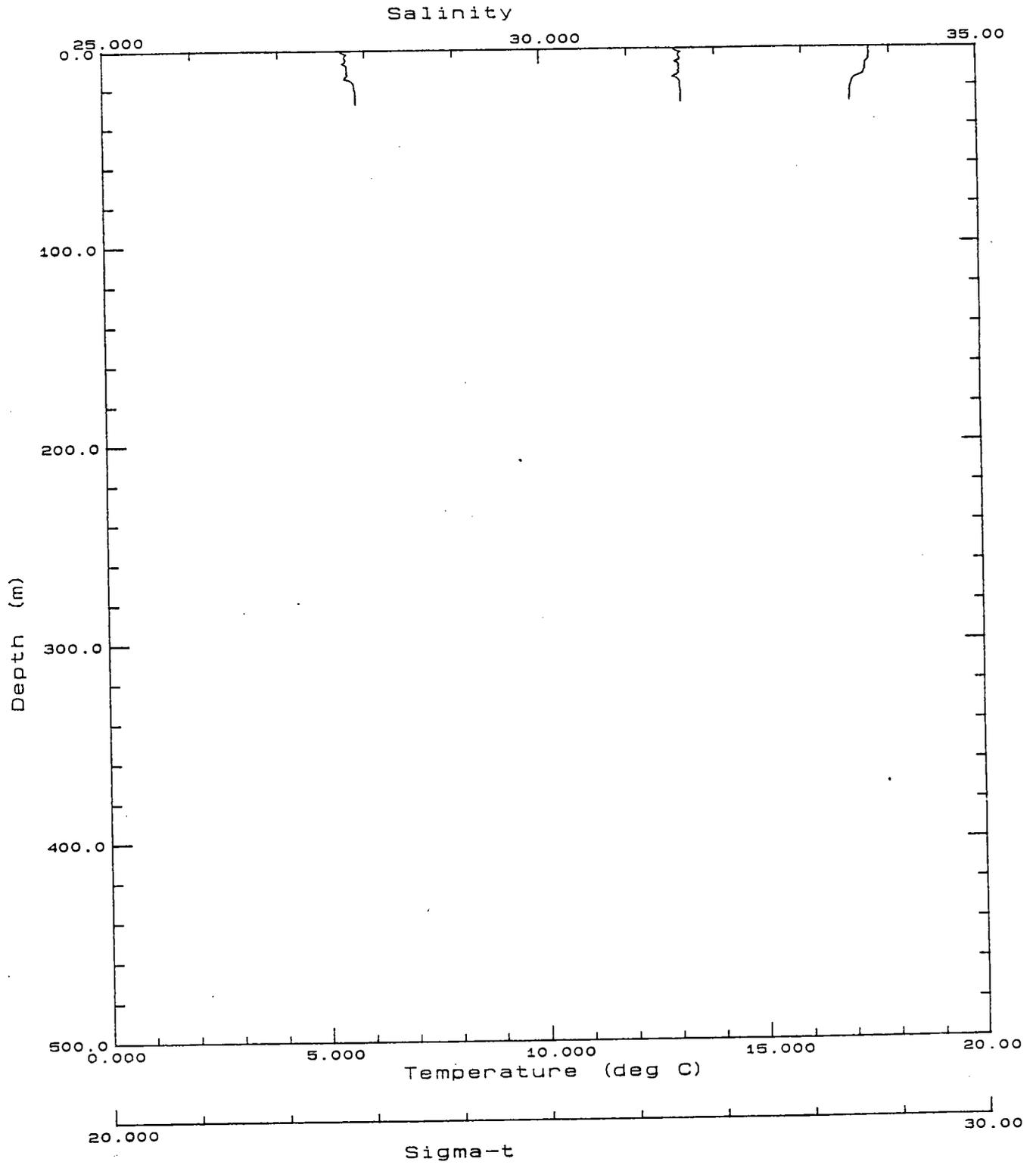
SEABIRD SBE-19 WAS USED

raw data file = DSK3.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.27	31.57	22.82	502.61	0.00
10.00	17.28	31.60	22.84	501.09	0.45
20.00	17.28	31.60	22.84	501.05	0.95
30.00	17.05	31.58	22.88	497.78	1.45
50.00	17.02	31.60	22.90	496.30	2.45
75.00	16.95	31.60	22.92	495.26	3.69

DEEPEST MEASUREMENT:

93.00	16.99	31.60	22.91	496.79	4.58
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DSK4.avg: SK4

SEAKEM OCEANOGRAPHY LTD.

STATION: SK4

DATE: 14/08/90 TIME: 144 UTC

POSITION: 53-14.58N 132-02.60W

BOTTOM DEPTH: --- M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

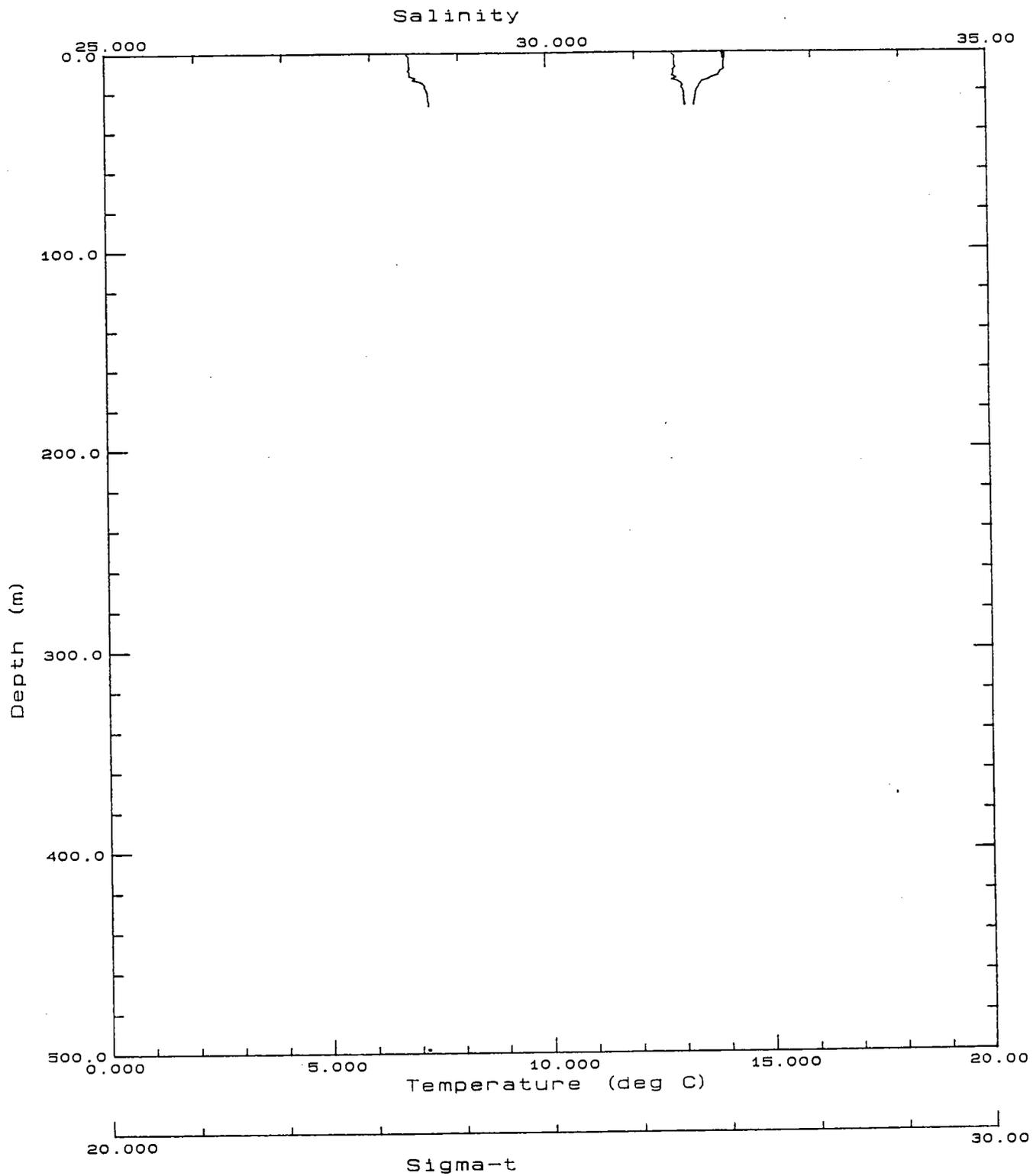
SEABIRD SBE-19 WAS USED

raw data file = DSK4.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.55	31.54	22.73	510.89	0.00
10.00	17.46	31.60	22.80	504.92	0.46
20.00	17.14	31.61	22.88	497.49	0.96

DEEPEST MEASUREMENT:

28.00	17.10	31.62	22.90	496.16	1.36
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DRI21.avg: RI21

SEAKEM OCEANOGRAPHY LTD.

STATION: RI21

DATE: 15/08/90 TIME: 305 UTC

POSITION: 53-01.32N 131-27.73W

BOTTOM DEPTH: 30 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

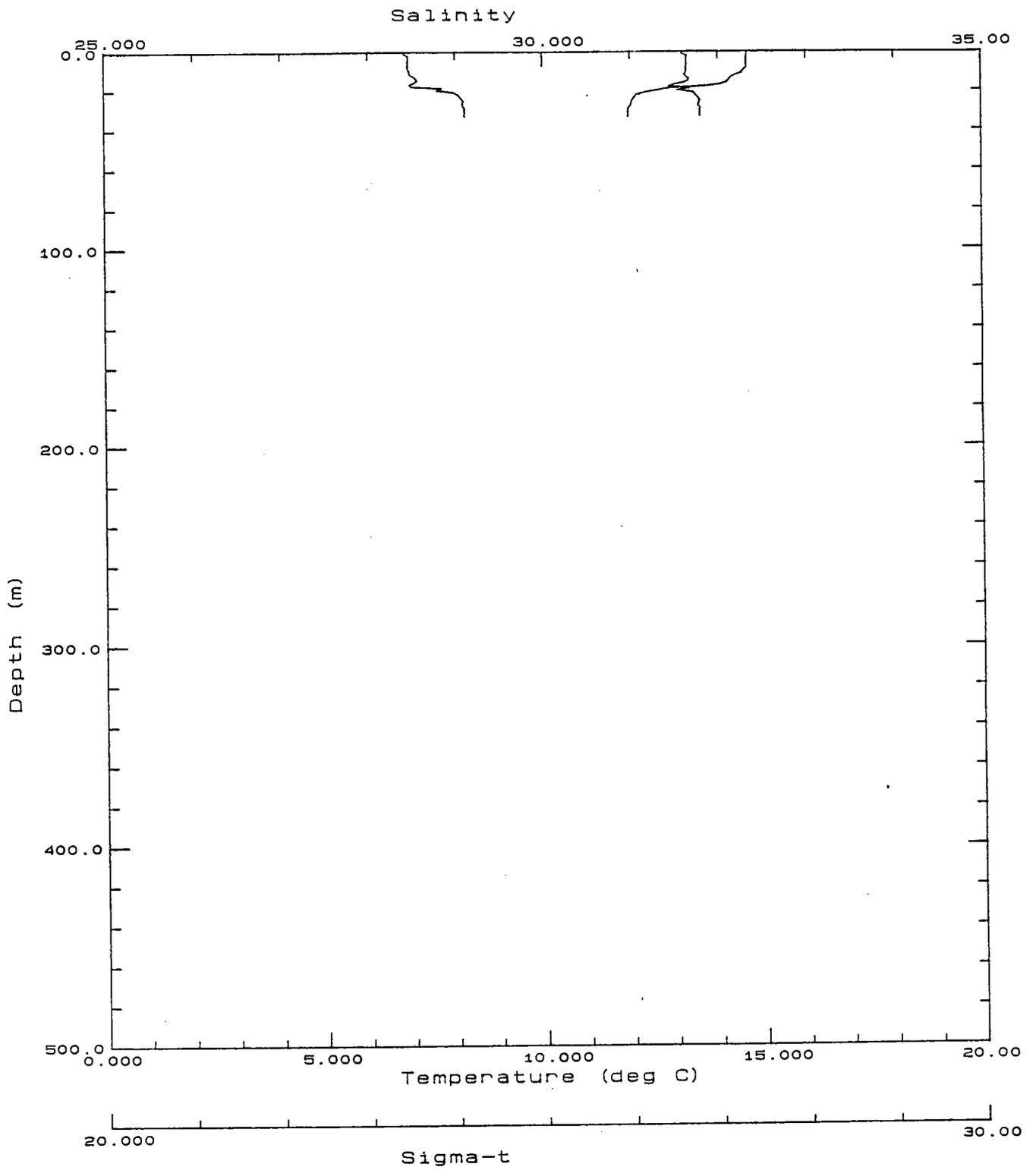
SEABIRD SBE-19 WAS USED

raw data file = DRI21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.06	31.43	23.42	445.32	0.00
10.00	13.96	31.45	23.45	442.43	0.40
20.00	13.41	31.56	23.65	423.78	0.83

DEEPEST MEASUREMENT:

27.00	13.36	31.57	23.67	422.06	1.13
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DRI22.avg: RI22

SEAKEM OCEANOGRAPHY LTD.

STATION: RI22

DATE: 15/08/90 TIME: 410 UTC

POSITION: 52-53.37N 131-04.03W

BOTTOM DEPTH: 38 M

SECCHI DEPTH: 4 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

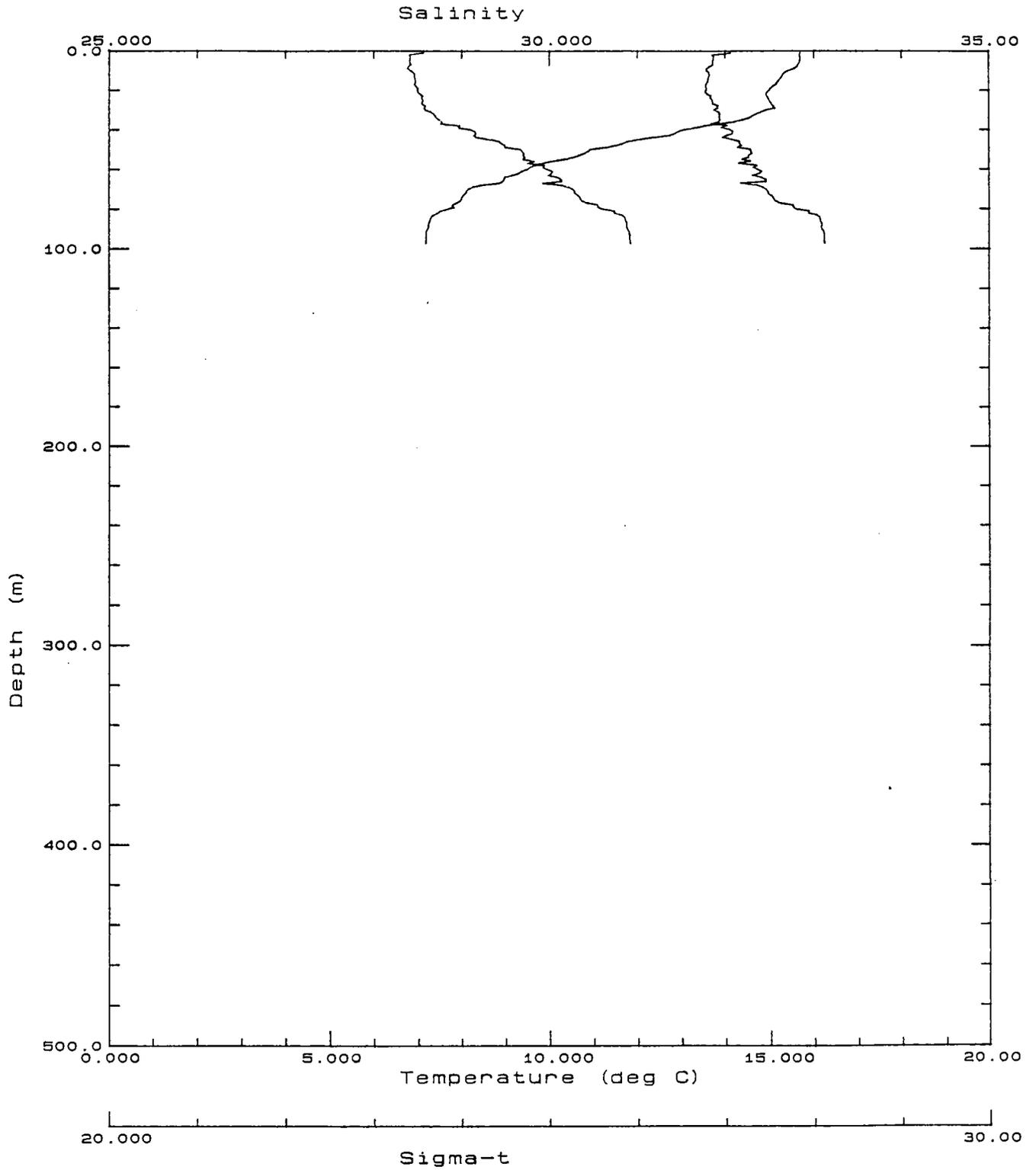
SEABIRD SBE-19 WAS USED

raw data file = DRI22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.66	31.59	23.42	445.65	0.00
10.00	14.57	31.65	23.48	439.91	0.40
20.00	12.62	31.54	23.79	410.71	0.83
30.00	11.96	31.80	24.11	380.07	1.21

DEEPEST MEASUREMENT:

33.00	11.96	31.80	24.11	380.08	1.33
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DLJ22.avg: LJ22

SEAKEM OCEANOGRAPHY LTD.

STATION: LJ22

DATE: 15/08/90 TIME: 1411 UTC

POSITION: 52-34.99N 130-59.43W

BOTTOM DEPTH: 109 M

SECCHI DEPTH: -- M SST: 15.75 C SURFACE SALINITY: 31.52 o/oo

RESULTS OF CTD CAST

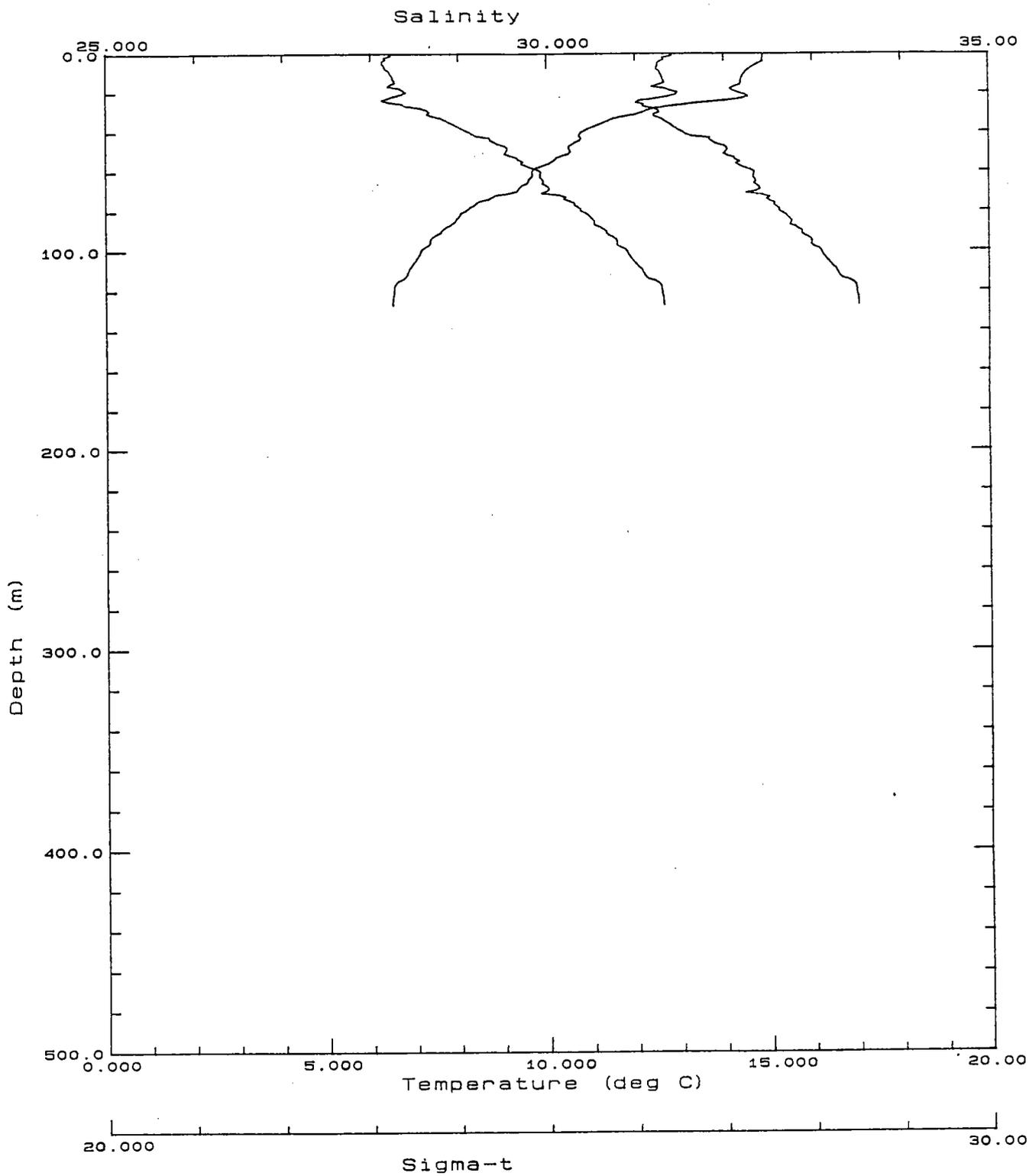
SEABIRD SBE-19 WAS USED

raw data file = DLJ22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.69	32.06	23.56	432.32	0.00
10.00	15.42	31.79	23.41	446.72	0.40
20.00	15.00	31.78	23.50	438.73	0.84
30.00	14.92	31.87	23.58	430.87	1.28
50.00	10.93	32.28	24.67	327.02	2.05
75.00	7.99	32.55	25.35	262.26	2.79

DEEPEST MEASUREMENT:

97.00	7.17	33.12	25.92	209.06	3.28
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DRH32.avg: RH32

SEAKEM OCEANOGRAPHY LTD.

STATION: RH32

DATE: 16/08/90 TIME: 158 UTC

POSITION: 52-42.69N 130-33.58W

BOTTOM DEPTH: 139 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

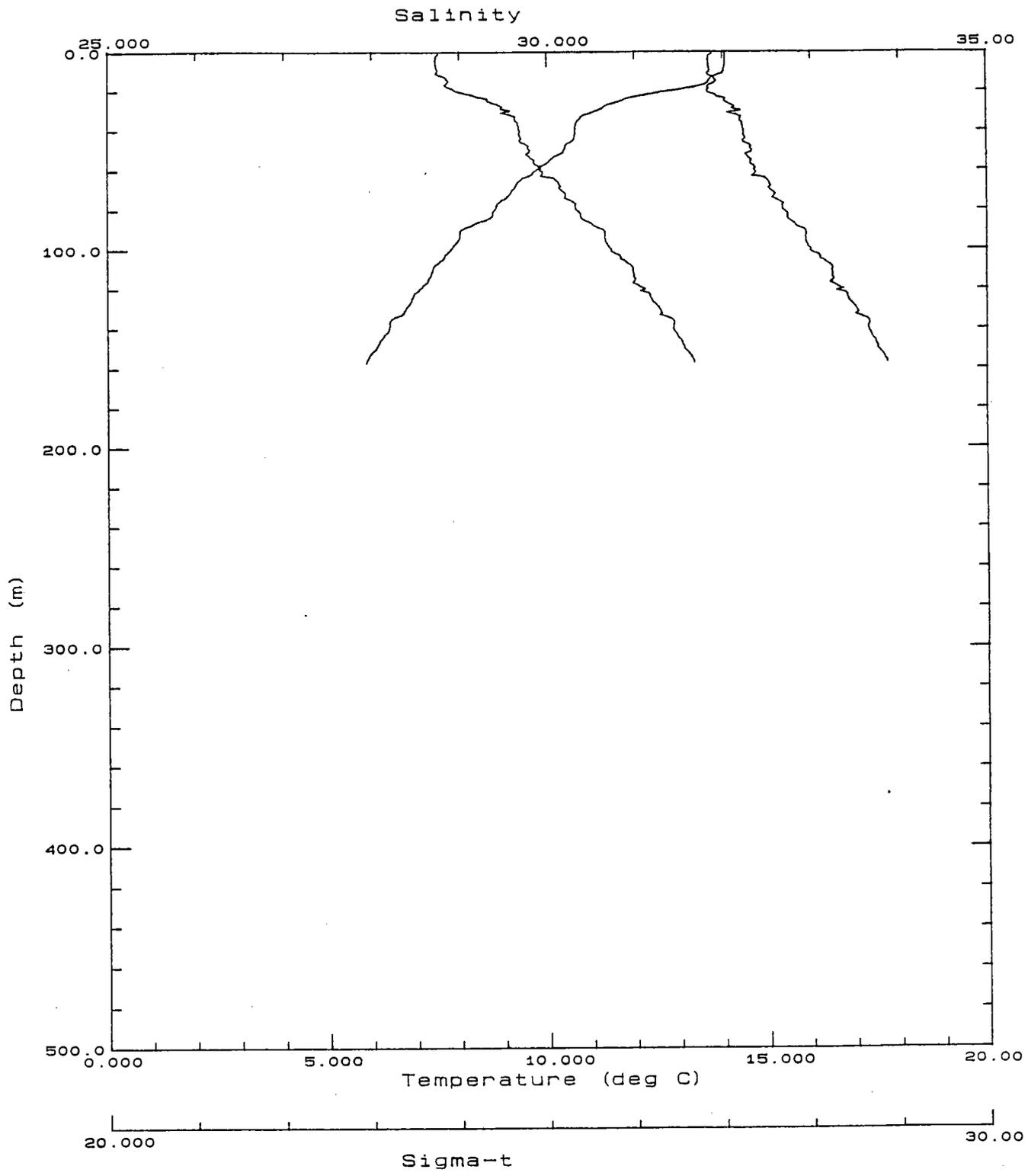
SEABIRD SBE-19 WAS USED

raw data file = DRH32.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.89	31.41	23.23	463.38	0.00
10.00	14.48	31.28	23.22	464.98	0.42
20.00	14.32	31.48	23.40	447.62	0.88
30.00	12.16	31.27	23.66	422.65	1.33
50.00	10.53	32.02	24.54	339.65	2.09
75.00	8.48	32.51	25.25	271.90	2.86
100.00	7.14	33.10	25.90	210.50	3.46
125.00	6.50	33.52	26.32	171.09	3.93

DEEPEST MEASUREMENT:

127.00	6.50	33.52	26.32	171.13	3.96
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DLI32.avg: LI32

SEAKEM OCEANOGRAPHY LTD.

STATION: LI32

DATE: 16/08/90 TIME: 425 UTC

POSITION: 52-30.16N 130-29.25W

BOTTOM DEPTH: 170 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

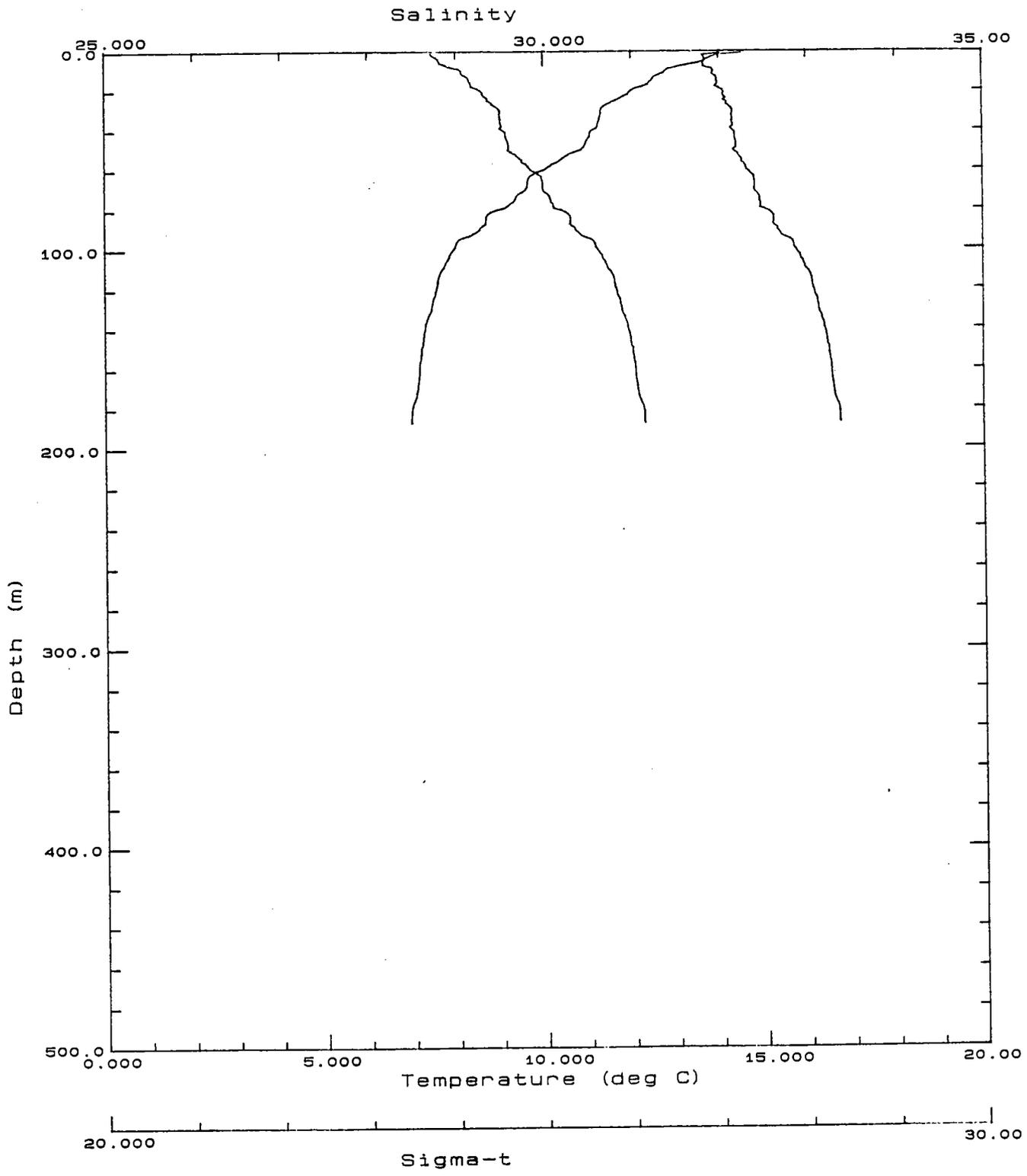
SEABIRD SBE-19 WAS USED

raw data file = DLI32.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.06	31.88	23.76	412.59	0.00
10.00	14.02	31.85	23.75	414.00	0.37
20.00	12.86	31.82	23.96	394.36	0.78
30.00	11.12	32.20	24.58	335.59	1.14
50.00	10.38	32.33	24.80	314.36	1.79
75.00	8.98	32.61	25.25	272.18	2.53
100.00	7.81	33.00	25.73	226.93	3.15
125.00	6.91	33.42	26.19	183.44	3.66
150.00	6.09	33.76	26.56	148.58	4.07

DEEPEST MEASUREMENT:

157.00	5.87	33.87	26.67	137.78	4.17
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DJPS2AU1.avg: JPS2AU17

SEAKEM OCEANOGRAPHY LTD.

STATION: JPS2AU17

DATE: 17/08/90 TIME: 1414 UTC

POSITION: 52-33.04N 131-29.75W

BOTTOM DEPTH: 199 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

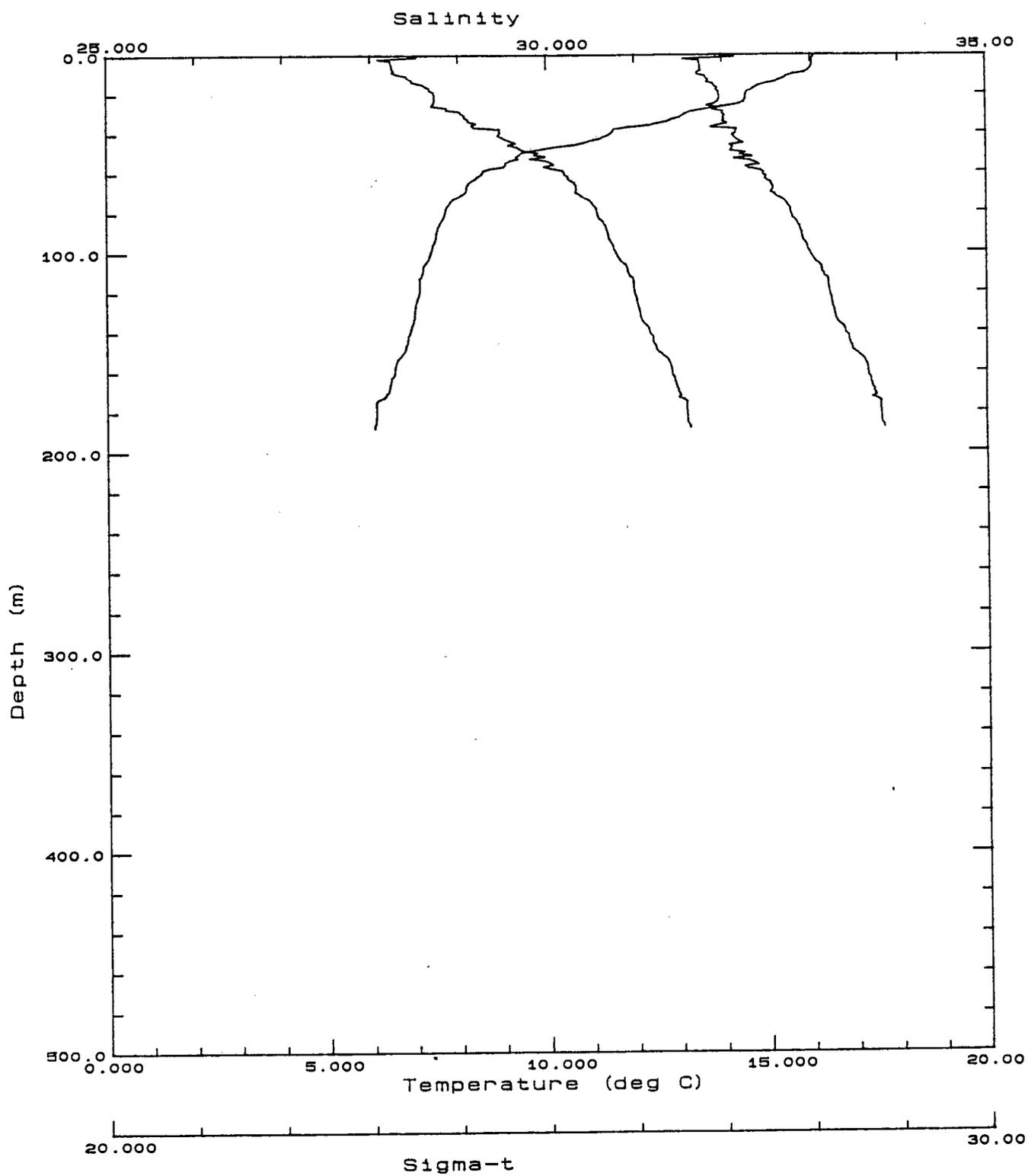
SEABIRD SBE-19 WAS USED

raw data file = DJPS2AU1.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.52	32.01	23.72	416.50	0.00
10.00	12.79	31.94	24.07	384.06	0.36
20.00	12.01	32.04	24.29	362.89	0.74
30.00	11.31	32.15	24.50	342.52	1.09
50.00	10.85	32.16	24.59	334.44	1.77
75.00	9.35	32.47	25.08	288.33	2.54
100.00	7.93	32.87	25.61	237.96	3.19
125.00	7.47	33.11	25.87	214.04	3.75
150.00	7.20	33.24	26.01	201.13	4.27
175.00	7.05	33.32	26.09	193.99	4.77

DEEPEST MEASUREMENT:

187.00	6.96	33.37	26.14	189.18	5.00
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DRH31.avg: RH31

SEAKEM OCEANOGRAPHY LTD.

STATION: RH31

DATE: 18/08/90 TIME: 0015 UTC

POSITION: 52-10.60N 129-40.78W

BOTTOM DEPTH: 214 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

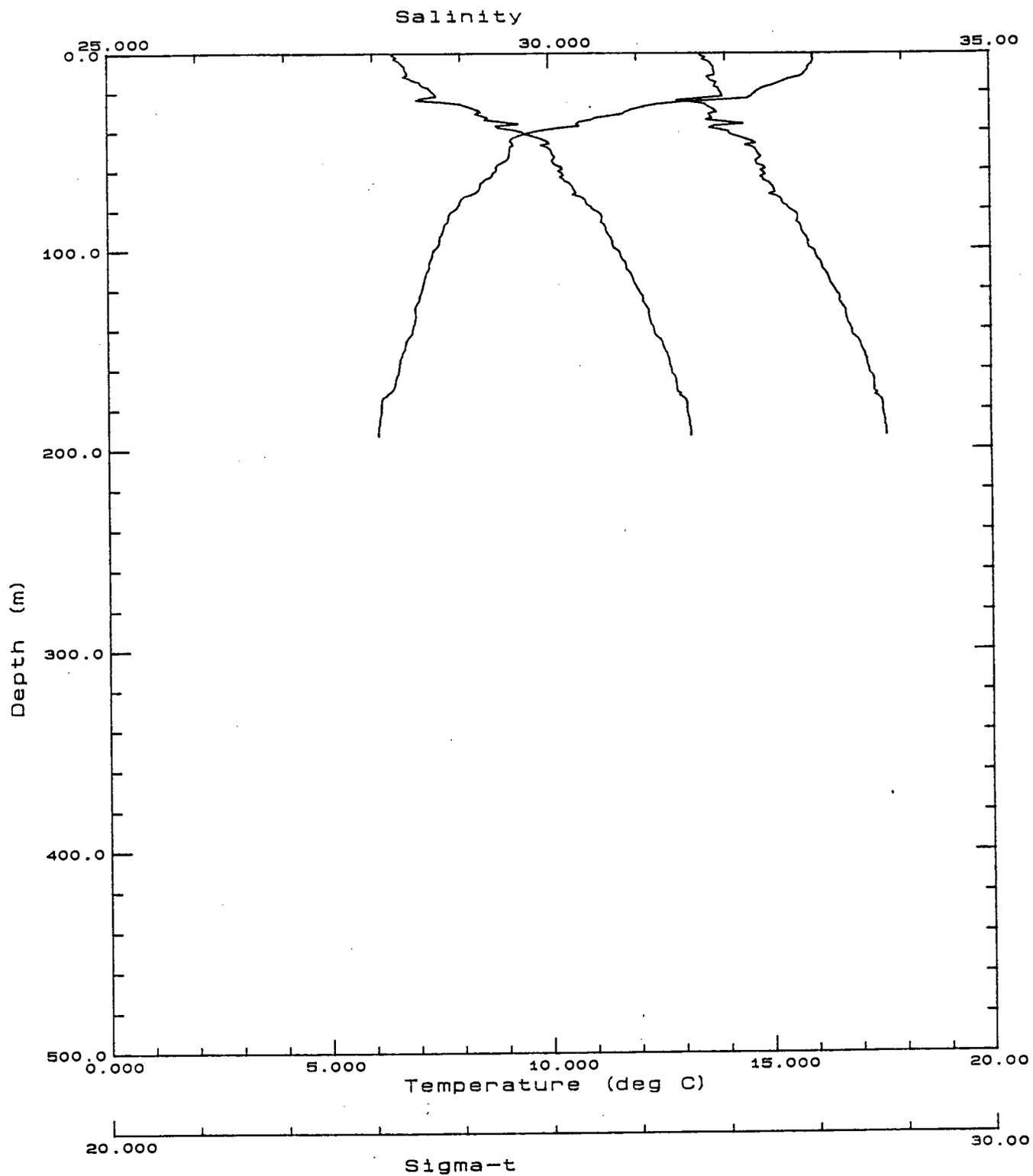
SEABIRD SBE-19 WAS USED

raw data file = DRH31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.08	32.14	23.53	434.90	0.00
10.00	15.62	31.72	23.31	456.17	0.42
20.00	14.55	31.97	23.73	416.27	0.85
30.00	13.17	32.00	24.04	387.16	1.26
50.00	9.44	32.26	24.91	304.63	1.96
75.00	7.81	32.72	25.51	247.46	2.65
100.00	7.37	32.99	25.78	221.65	3.24
125.00	7.04	33.24	26.03	199.04	3.76
150.00	6.75	33.49	26.27	176.36	4.23
175.00	6.11	33.79	26.58	146.43	4.63

DEEPEST MEASUREMENT:

188.00	6.07	33.83	26.62	143.21	4.82
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DRH30.avg: RH30

SEAKEM OCEANOGRAPHY LTD.

STATION: RH30

DATE: 18/08/90 TIME: 0055 UTC

POSITION: 52-09.20N 129-39.38W

BOTTOM DEPTH: 214 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

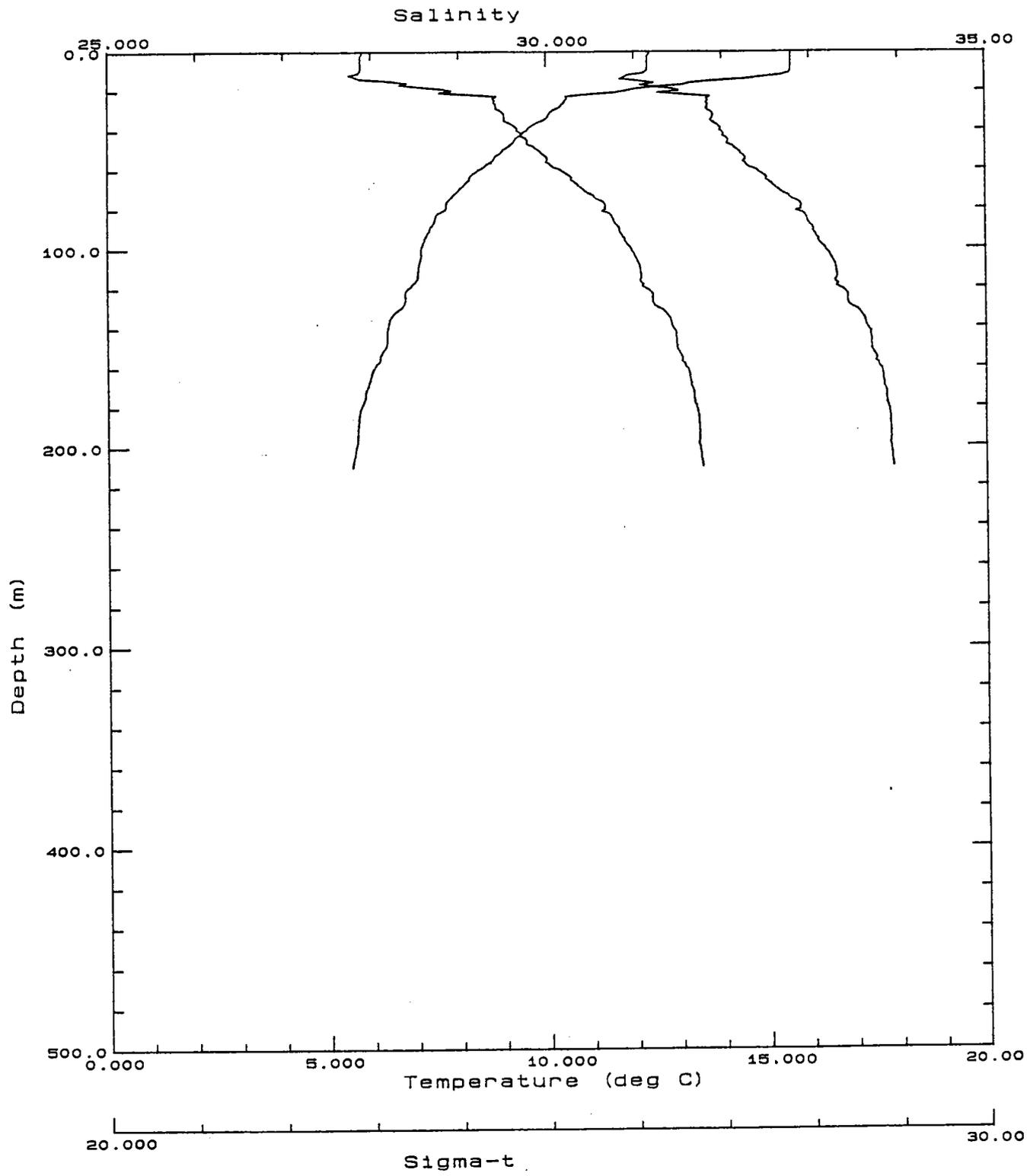
SEABIRD SBE-19 WAS USED

raw data file = DRH30.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.98	31.72	23.23	463.53	0.00
10.00	15.81	31.88	23.40	447.90	0.41
20.00	14.69	31.95	23.69	420.20	0.85
30.00	11.75	31.90	24.23	368.47	1.25
50.00	9.12	32.36	25.03	292.66	1.91
75.00	8.00	32.63	25.42	256.41	2.60
100.00	7.39	32.98	25.78	222.14	3.20
125.00	7.05	33.29	26.06	195.45	3.72
150.00	6.71	33.54	26.31	172.30	4.18
175.00	6.19	33.75	26.54	150.91	4.59

DEEPEST MEASUREMENT:

193.00	6.10	33.80	26.59	145.71	4.85
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DLI31CB2.avg: LI31CB2

SEAKEM OCEANOGRAPHY LTD.

STATION: LI31CB2

DATE: 18/08/90 TIME: 0921 UTC

POSITION: 52-55.16N 130-09.27W

BOTTOM DEPTH: 229 M

SECCHI DEPTH: 7 M SST: 16.18 C SURFACE SALINITY: 31.20 o/oo

RESULTS OF CTD CAST

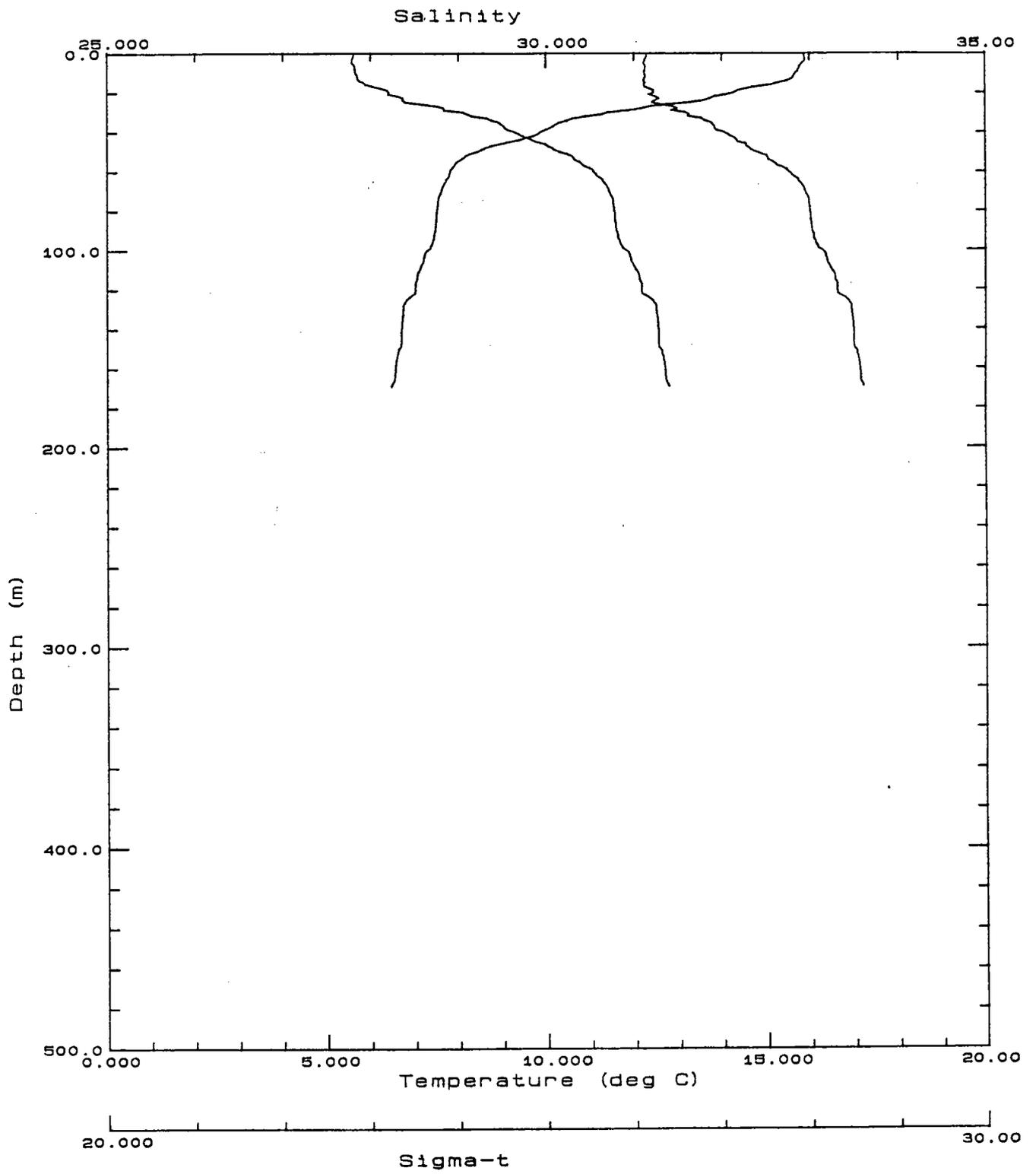
SEABIRD SBE-19 WAS USED

raw data file = DLI31CB2.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.59	31.18	22.90	494.76	0.00
10.00	15.57	31.14	22.88	497.34	0.45
20.00	11.82	31.51	23.91	398.62	0.91
30.00	10.14	31.85	24.47	345.87	1.27
50.00	9.01	32.17	24.91	304.62	1.93
75.00	7.78	32.80	25.58	240.78	2.62
100.00	7.13	33.17	25.96	204.91	3.17
125.00	6.78	33.42	26.20	181.93	3.65
150.00	6.32	33.70	26.48	155.72	4.07
175.00	5.85	33.86	26.67	138.18	4.43
200.00	5.64	33.91	26.74	132.16	4.76

DEEPEST MEASUREMENT:

210.00	5.56	33.93	26.76	129.77	4.89
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DCB1AU18.avg: CB1AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: CB1AU18

DATE: 18/08/90 TIME: 1130 UTC

POSITION: 52-57.80N 129-59.30W

BOTTOM DEPTH: 180 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

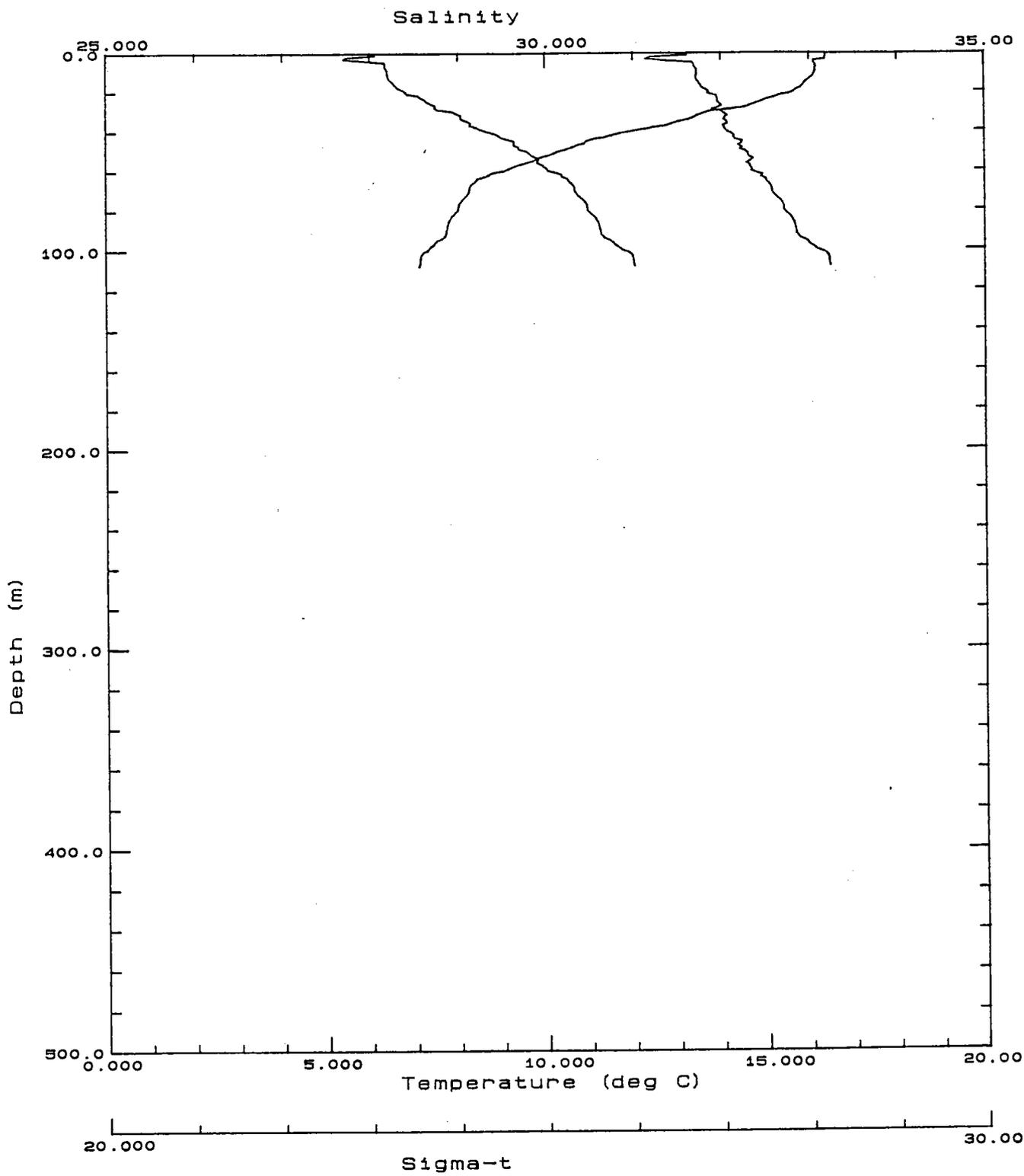
SEABIRD SBE-19 WAS USED

raw data file = DCB1AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.88	31.14	22.81	503.53	0.00
10.00	15.69	31.12	22.83	501.76	0.45
20.00	14.28	31.22	23.21	465.65	0.94
30.00	11.40	31.58	24.04	386.37	1.38
50.00	8.42	32.38	25.16	280.39	2.04
75.00	7.53	32.99	25.76	223.33	2.64
100.00	7.29	33.14	25.91	209.59	3.19
125.00	6.83	33.41	26.19	183.14	3.69
150.00	6.65	33.51	26.29	173.84	4.13

DEEPEST MEASUREMENT:

169.00	6.47	33.60	26.39	165.04	4.45
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DNR1AU18.avg: NR1AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: NR1AU18

DATE: 18/08/90 TIME: 1556 UTC

POSITION: 52.49.20N 129-50.50W

BOTTOM DEPTH: 117 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

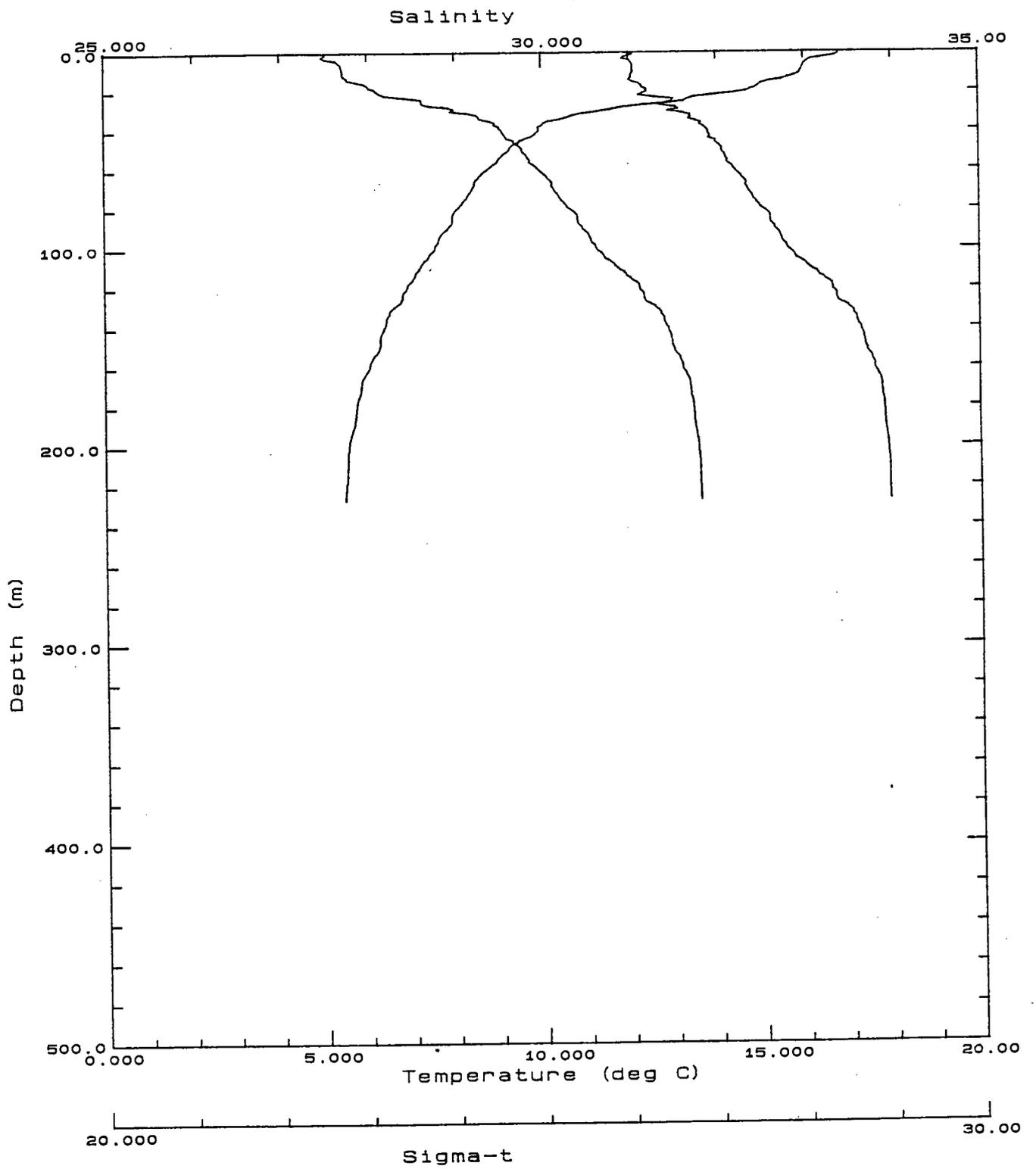
SEABIRD SBE-19 WAS USED

raw data file = DNRIAU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.39	31.61	23.06	479.90	0.00
10.00	16.14	31.73	23.20	466.57	0.43
20.00	15.67	31.86	23.41	447.23	0.89
30.00	13.72	32.00	23.93	397.45	1.32
50.00	10.30	32.28	24.78	316.96	2.03
75.00	8.08	32.68	25.44	254.36	2.74
100.00	7.30	33.09	25.87	213.12	3.34

DEEPEST MEASUREMENT:

108.00	7.11	33.24	26.01	199.79	3.50
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DNR2AU18.avg: NR2AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: NR2AU18

DATE: 19/08/90 TIME: 31 UTC

POSITION: 52-46.60N 130-06.00W

BOTTOM DEPTH: 243 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

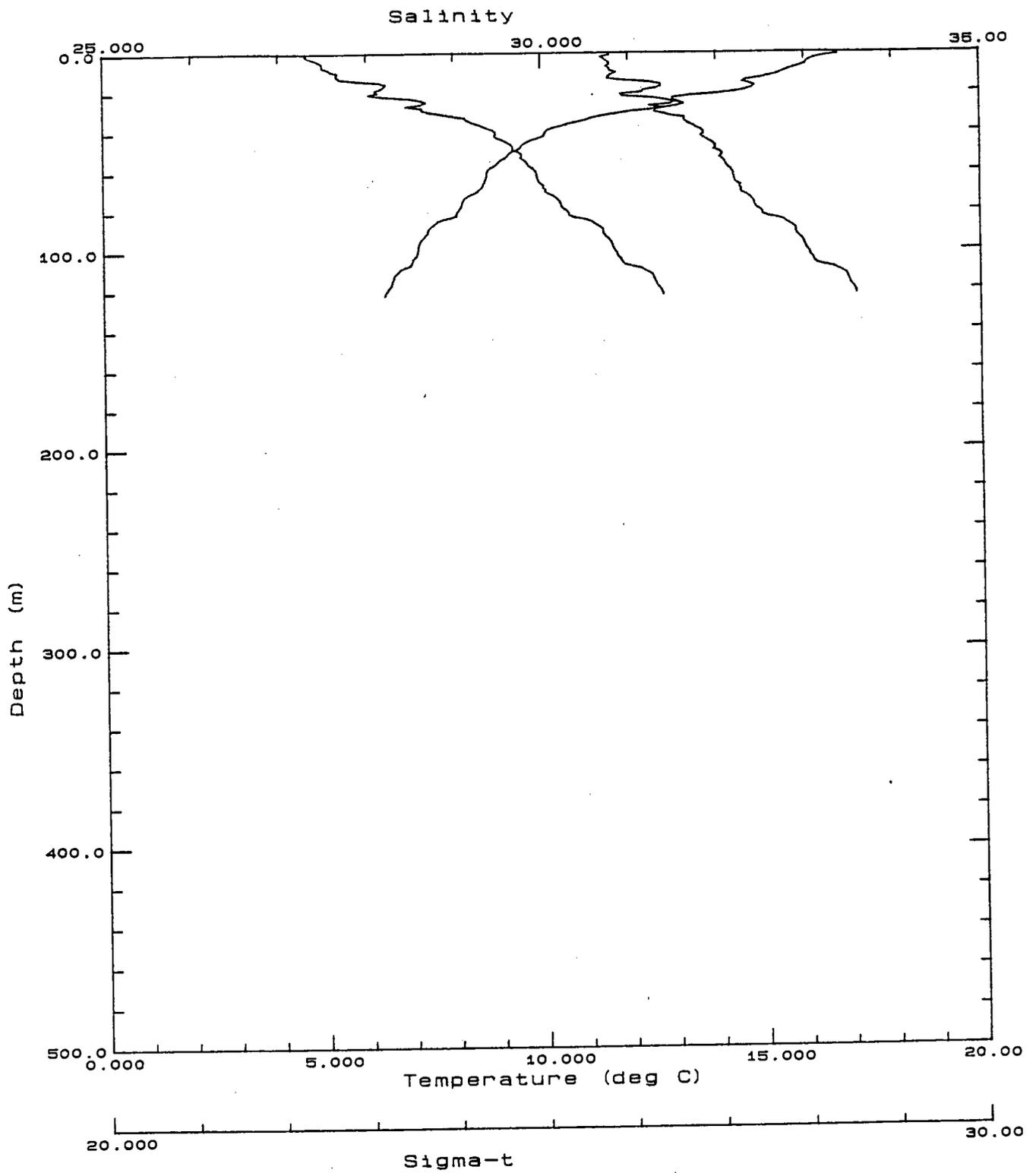
SEABIRD SBE-19 WAS USED

raw data file = DNR2AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.81	31.04	22.52	531.40	0.00
10.00	15.93	31.05	22.73	511.76	0.47
20.00	14.69	31.20	23.11	475.12	0.96
30.00	11.31	31.44	23.95	395.18	1.39
50.00	9.25	32.06	24.78	316.82	2.08
75.00	8.23	32.42	25.22	275.15	2.82
100.00	7.53	32.80	25.62	237.62	3.45
125.00	6.79	33.36	26.16	186.40	3.97
150.00	6.26	33.70	26.49	154.87	4.39
175.00	5.78	33.88	26.70	135.68	4.74
200.00	5.54	33.94	26.77	128.53	5.07
225.00	5.45	33.96	26.80	126.60	5.39

DEEPEST MEASUREMENT:

227.00	5.45	33.96	26.80	126.55	5.42
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DCB3AU18.avg: CB3AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: CB3AU18

DATE: 19/08/90 TIME: 255 UTC

POSITION: 52-52.60N 130-25.50W

BOTTOM DEPTH: 132 M

SECCHI DEPTH: 8 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

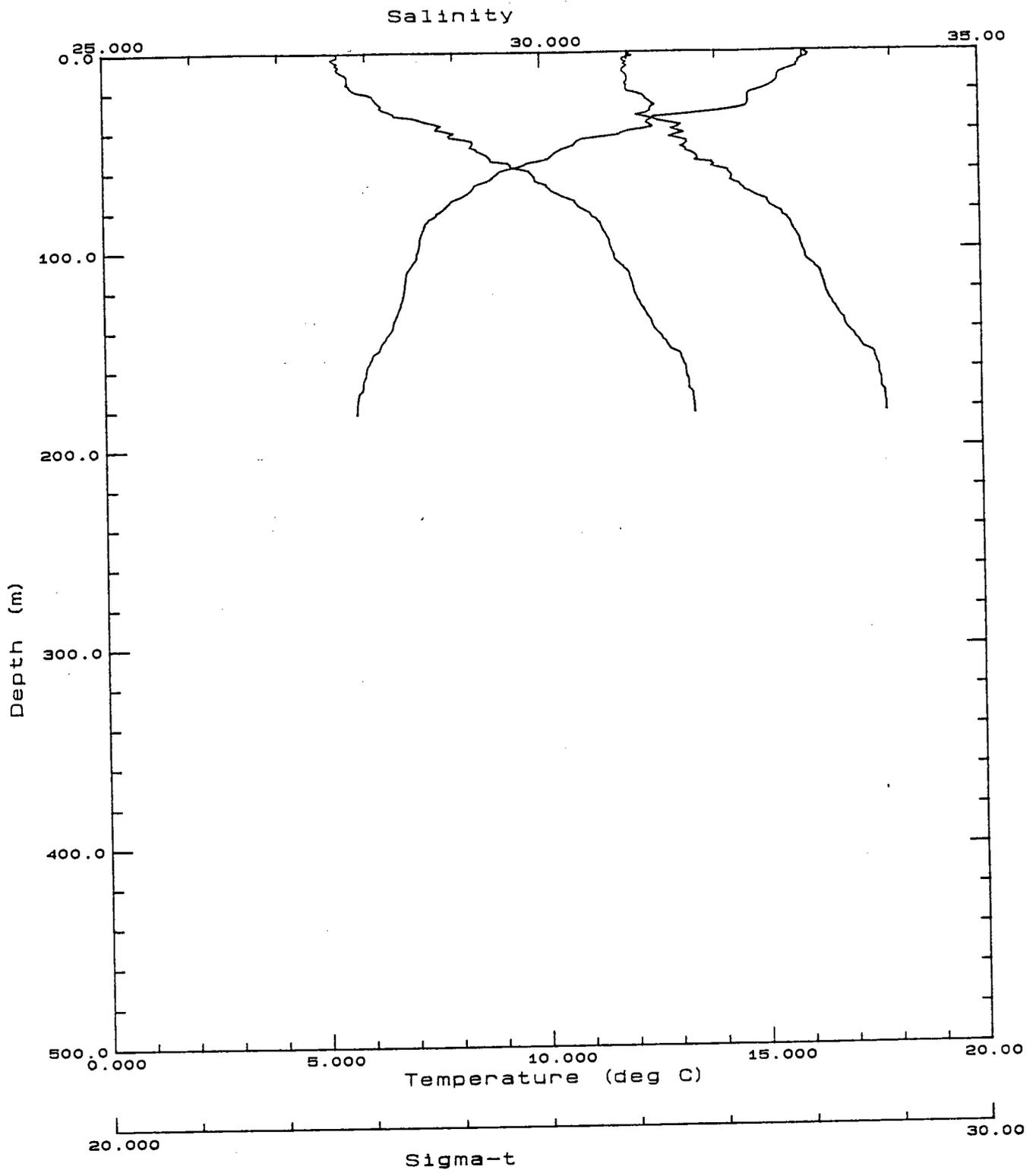
SEABIRD SBE-19 WAS USED

raw data file = DCB3AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.77	30.79	22.31	551.48	0.00
10.00	15.51	30.87	22.68	516.30	0.48
20.00	14.42	31.15	23.13	473.48	0.97
30.00	11.98	31.29	23.72	417.57	1.41
50.00	9.32	32.03	24.74	319.93	2.12
75.00	8.20	32.41	25.21	276.05	2.87
100.00	7.16	33.03	25.84	215.88	3.47

DEEPEST MEASUREMENT:

122.00	6.41	33.58	26.38	165.10	3.89
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DNR3AU18.avg: NR3AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: NR3AU18

DATE: 19/08/90 TIME: 430 UTC

POSITION: 52-44.10N 130-21.50W

BOTTOM DEPTH: 203 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

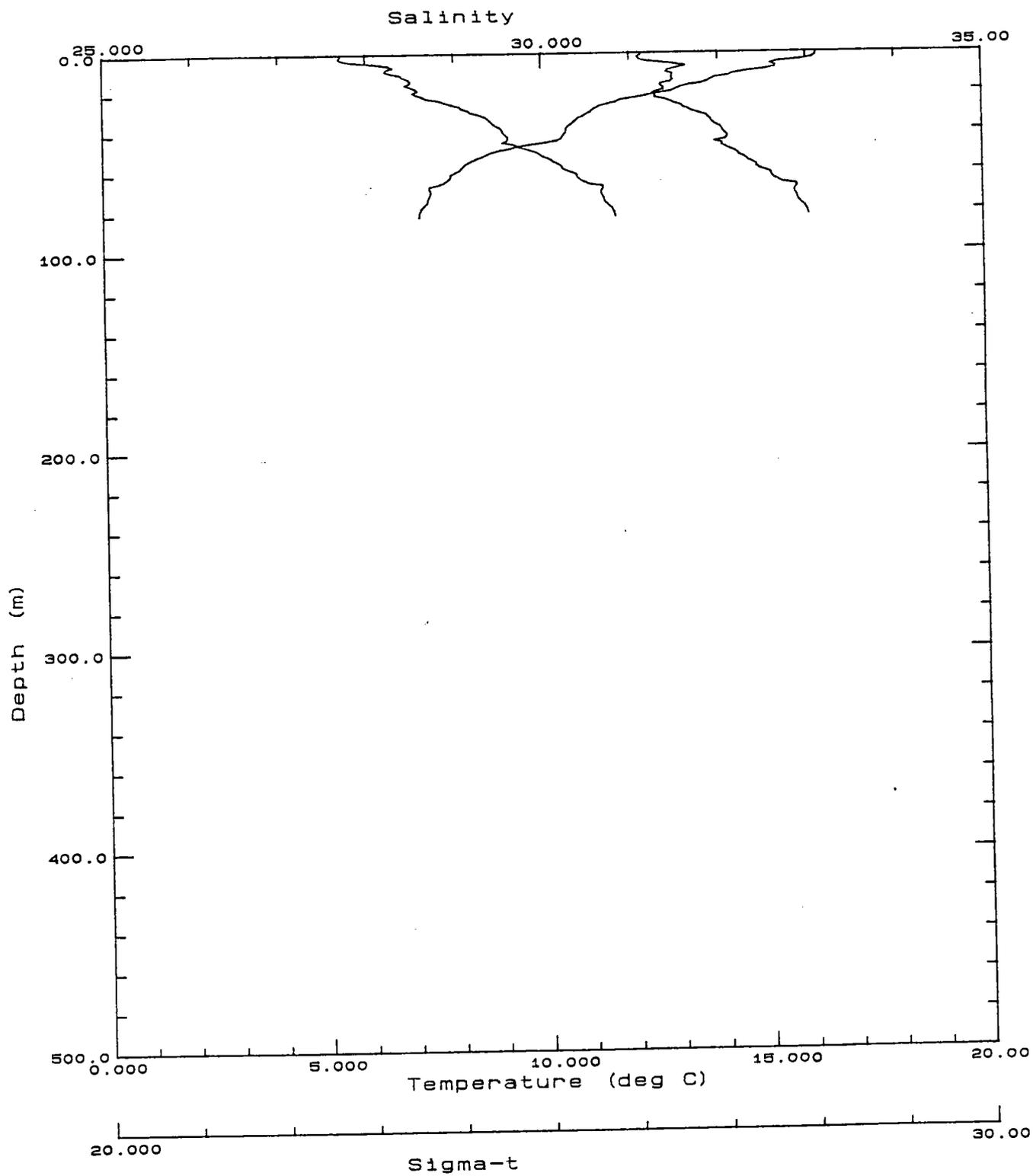
SEABIRD SBE-19 WAS USED

raw data file = DNR3AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.06	31.02	22.68	515.86	0.00
10.00	15.59	30.95	22.72	512.20	0.47
20.00	14.96	31.00	22.90	495.82	0.97
30.00	14.14	31.25	23.27	460.81	1.44
50.00	10.39	31.66	24.28	364.48	2.25
75.00	7.94	32.57	25.38	259.88	3.03
100.00	7.17	32.98	25.80	219.84	3.61
125.00	6.79	33.28	26.09	192.91	4.12
150.00	6.26	33.66	26.46	157.81	4.57
175.00	5.76	33.90	26.71	134.40	4.92

DEEPEST MEASUREMENT:

182.00	5.74	33.91	26.72	133.37	5.01
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DCB4AU18.avg: CB4AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: CB4AU18

DATE: 19/08/90 TIME: 641 UTC

POSITION: 52-50.00N 130-41.60W

BOTTOM DEPTH: 88 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

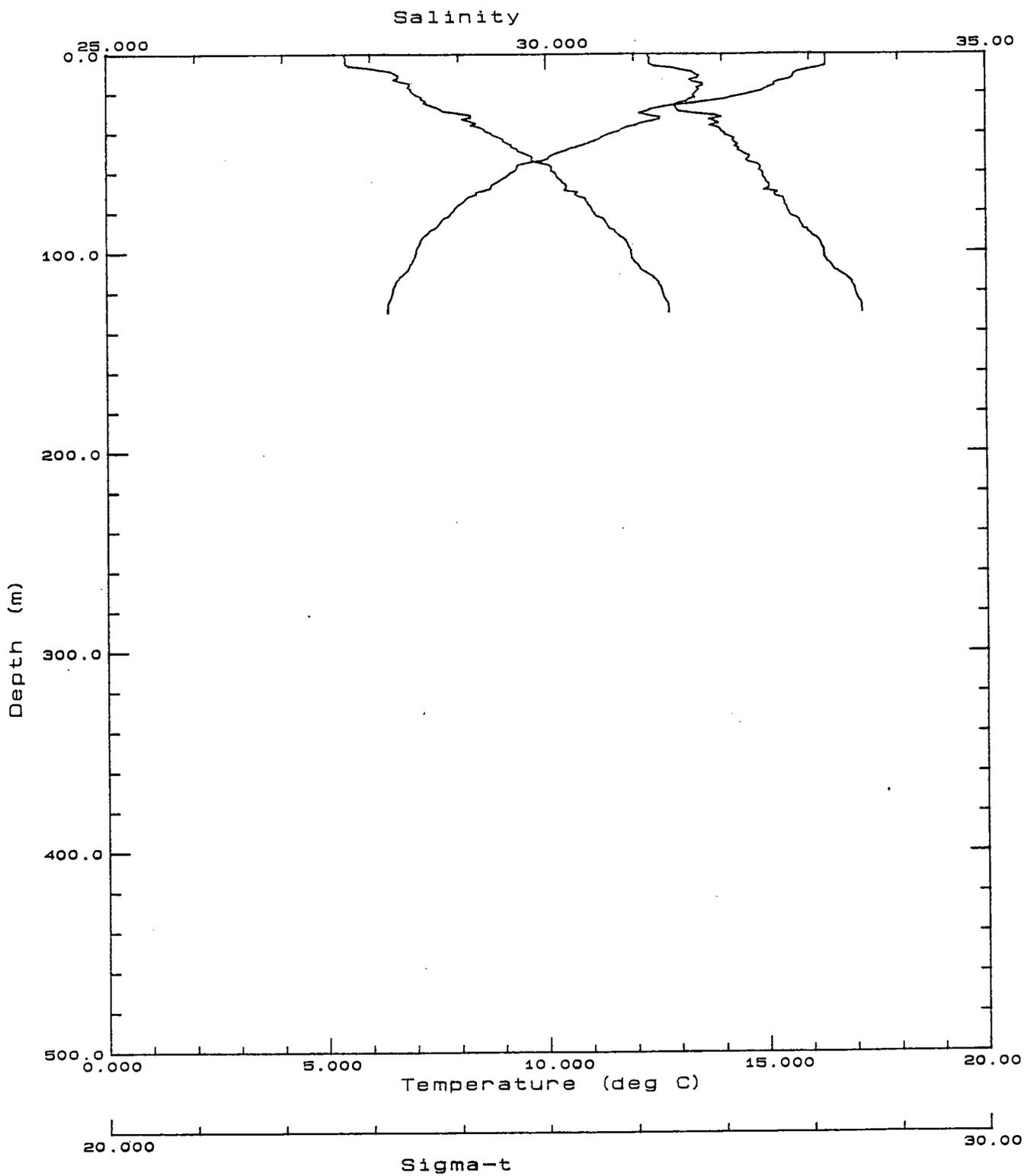
SEABIRD SBE-19 WAS USED

raw data file = DCB4AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.24	31.13	22.72	512.09	0.00
10.00	14.63	31.42	23.29	457.92	0.43
20.00	12.94	31.29	23.54	434.81	0.87
30.00	11.12	31.71	24.19	372.08	1.28
50.00	8.85	32.19	24.94	301.14	1.95
75.00	7.37	32.90	25.71	227.99	2.59

DEEPEST MEASUREMENT:

82.00	7.19	33.01	25.83	217.21	2.75
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DNR4AU18.avg: NR4AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: NR4AU18

DATE: 18/08/90 TIME: 0115 UTC

POSITION: 52-41.50N 130-37.20W

BOTTOM DEPTH: 146 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

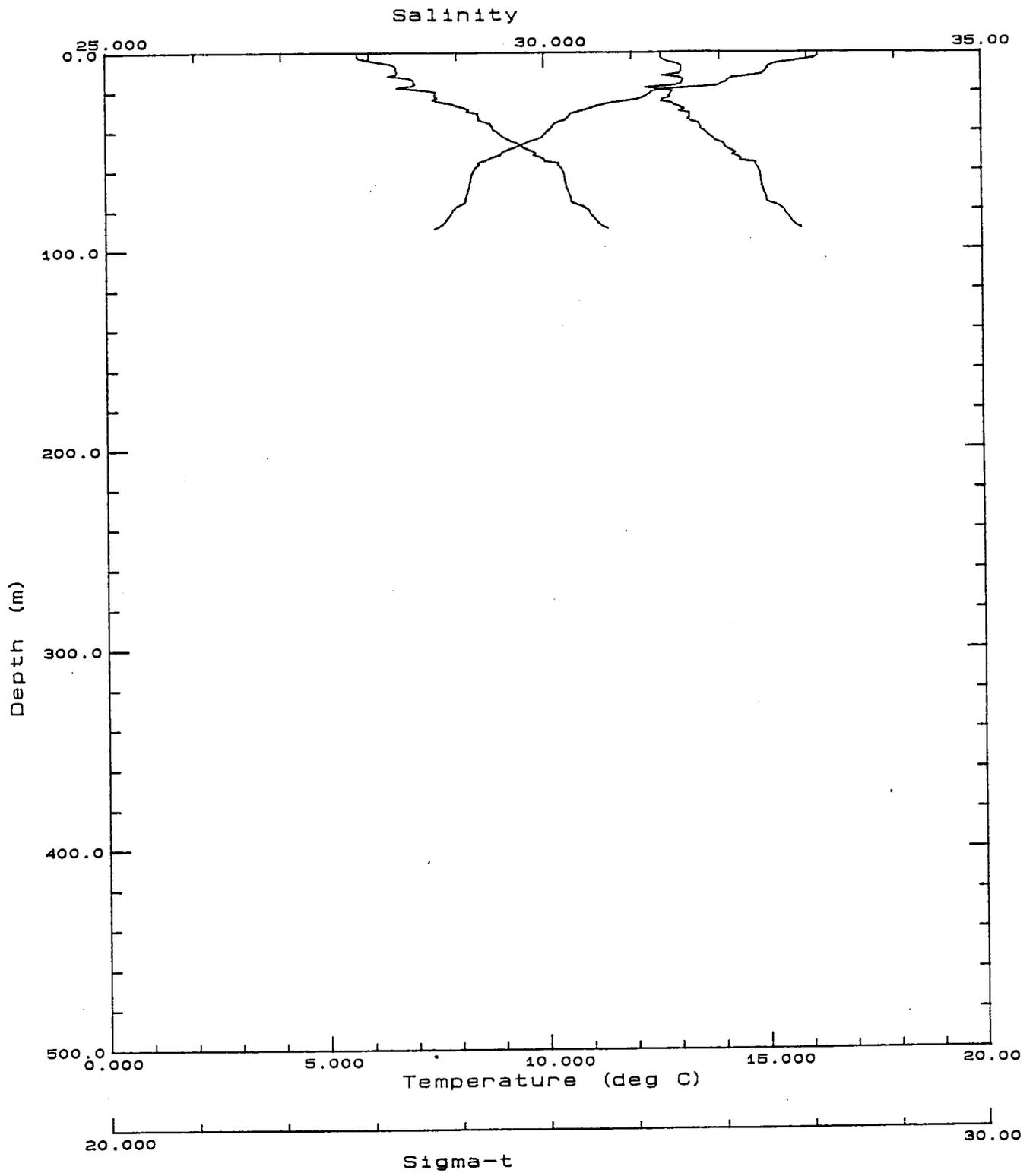
SEABIRD SBE-19 WAS USED

raw data file = DNR4AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.37	31.16	22.71	512.88	0.00
10.00	15.66	31.70	23.28	458.73	0.45
20.00	14.71	31.70	23.49	439.20	0.90
30.00	12.12	31.68	23.99	391.91	1.32
50.00	10.27	32.23	24.74	320.13	2.03
75.00	8.09	32.72	25.47	251.27	2.74
100.00	7.04	33.15	25.96	204.88	3.31
125.00	6.41	33.57	26.37	166.07	3.77

DEEPEST MEASUREMENT:

130.00	6.38	33.59	26.39	164.68	3.85
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DNR5AU18.avg: NR5AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: NRS5AU18

DATE: 19/08/90 TIME: 0249 UTC

POSITION: 52-39.10N 130-53.20W

BOTTOM DEPTH: 298 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

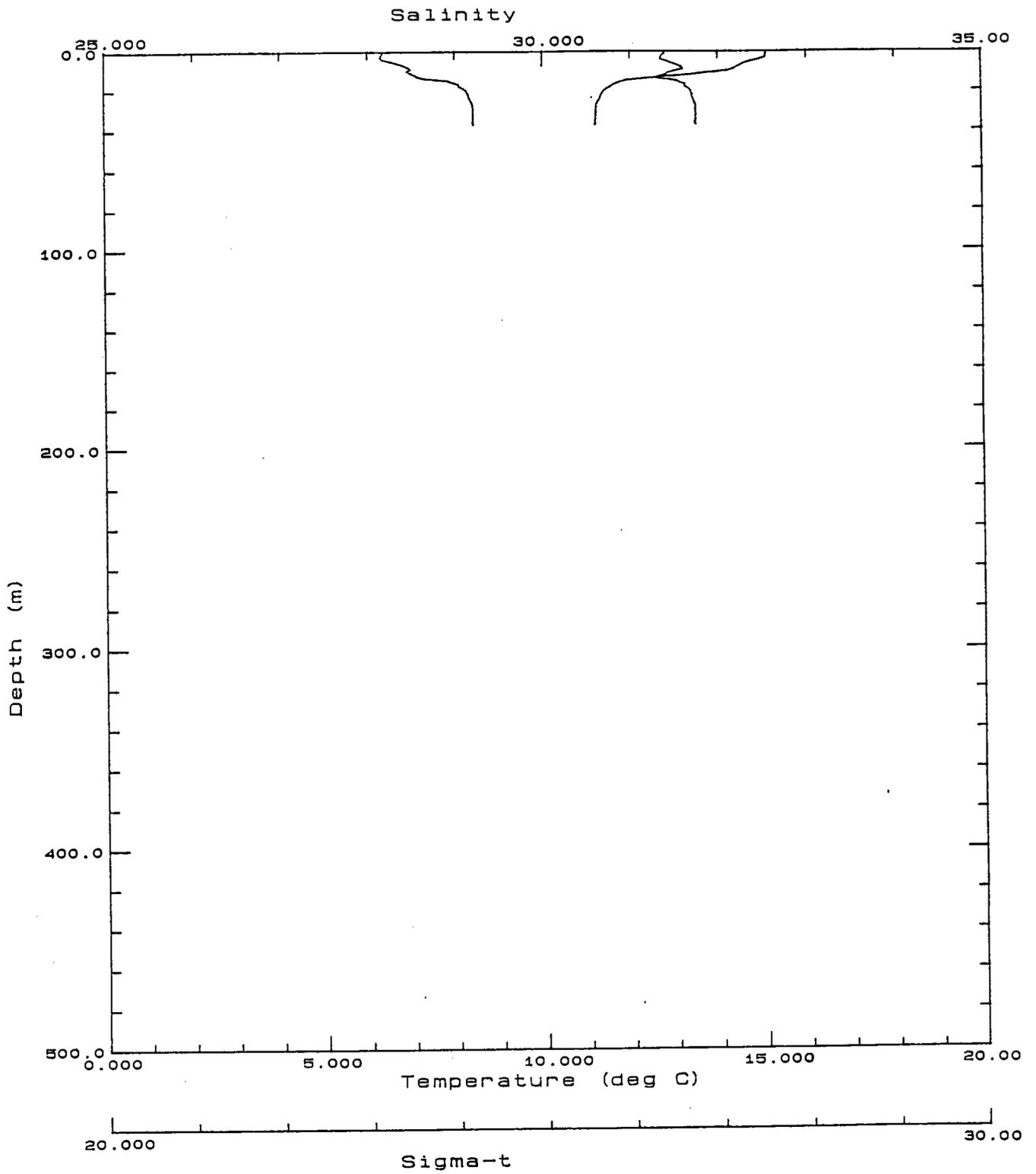
SEABIRD SBE-19 WAS USED

raw data file = DNR5AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.25	31.33	22.87	498.03	0.00
10.00	15.02	31.57	23.32	454.97	0.43
20.00	12.46	31.46	23.76	413.72	0.87
30.00	10.77	31.54	24.12	379.08	1.27
50.00	9.09	32.13	24.86	308.75	1.96
75.00	8.20	32.53	25.31	266.77	2.66

DEEPEST MEASUREMENT:

89.00	7.49	32.92	25.72	228.00	3.00
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DCB5AU18.avg: CB5AU18

SEAKEM OCEANOGRAPHY LTD.

STATION: CB5AU18

DATE: 19/08/90 TIME: 1037 UTC

POSITION: 52-47.50N 130-57.30W

BOTTOM DEPTH: 44 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

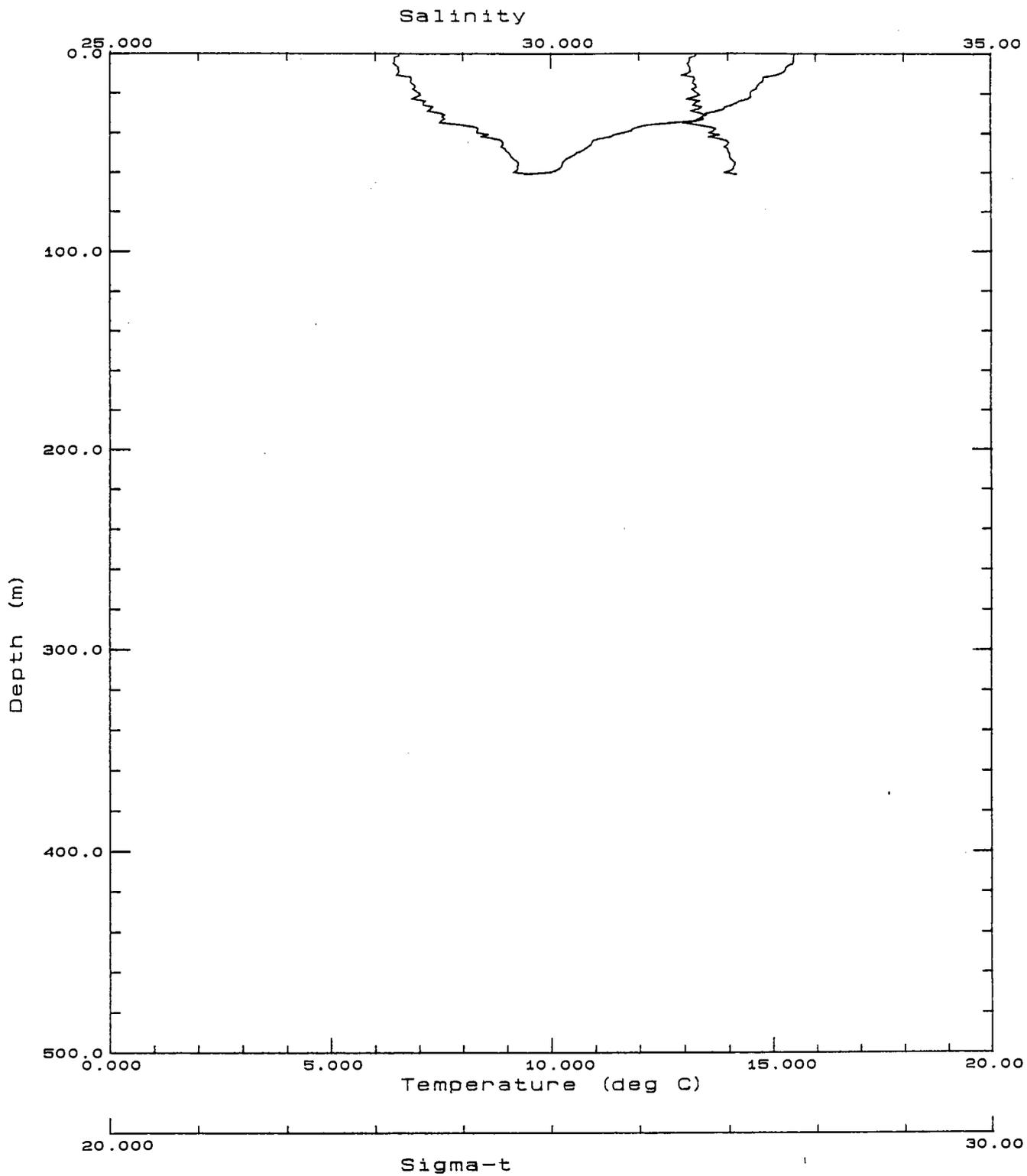
SEABIRD SBE-19 WAS USED

raw data file = DCB5AU18.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.10	31.40	23.17	468.81	0.00
10.00	14.20	31.51	23.45	442.40	0.41
20.00	11.42	31.70	24.13	378.03	0.82
30.00	11.22	31.75	24.21	370.82	1.19

DEEPEST MEASUREMENT:

37.00	11.20	31.75	24.21	370.46	1.45
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DRJ22.avg: RJ22

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ22

DATE: 19/08/90 TIME: 1240 UTC

POSITION: 52-38.99N 131-00.80W

BOTTOM DEPTH: 71 M

SECCHI DEPTH: 5 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

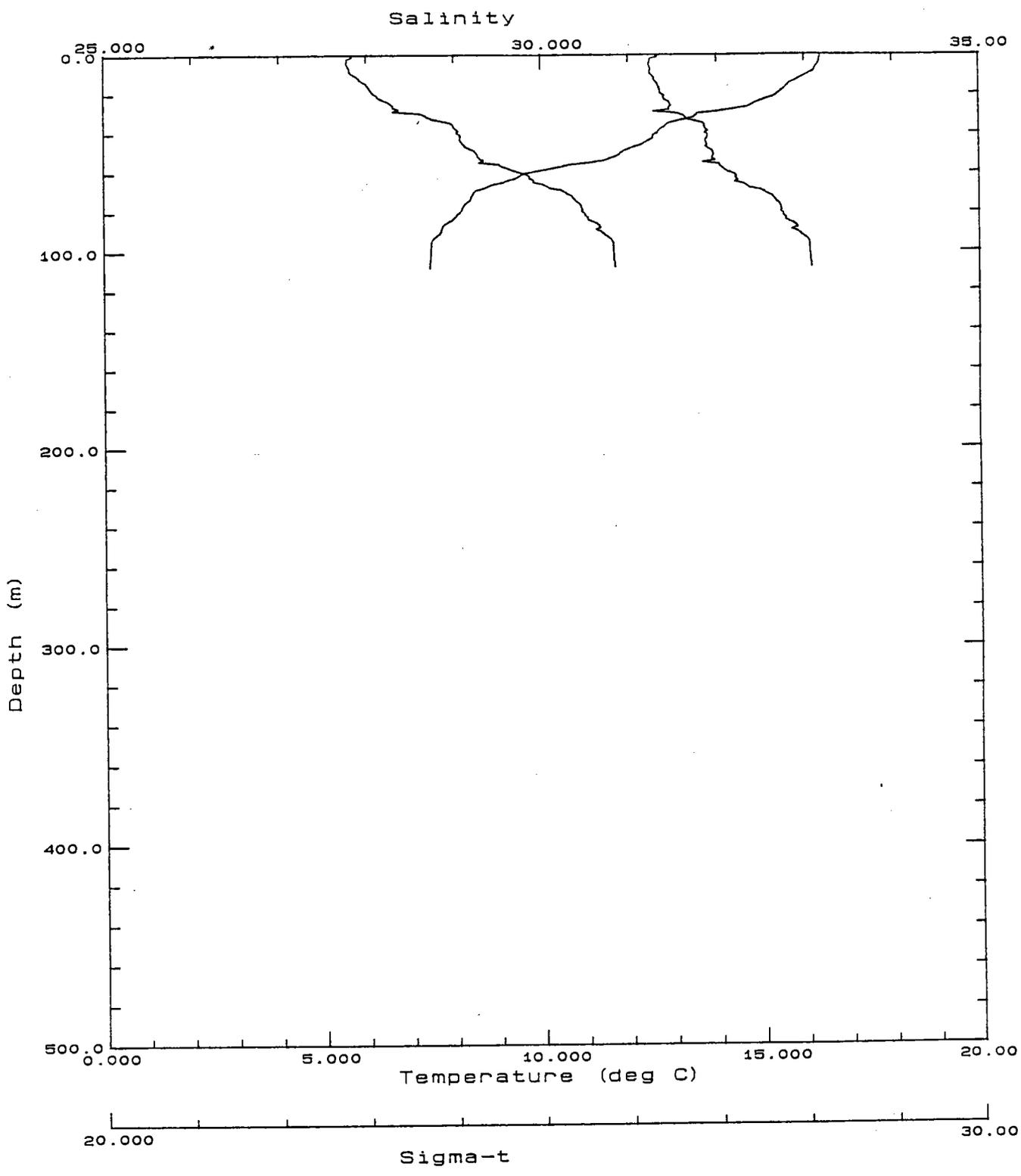
SEABIRD SBE-19 WAS USED

raw data file = DRJ22.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.52	31.64	23.27	459.39	0.00
10.00	15.21	31.55	23.27	460.30	0.42
20.00	14.51	31.66	23.50	437.89	0.86
30.00	13.53	31.69	23.72	417.21	1.30
50.00	10.60	32.01	24.52	341.38	2.05

DEEPEST MEASUREMENT:

61.00	9.40	32.09	24.78	317.18	2.42
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DRH33.avg: RH33

SEAKEM OCEANOGRAPHY LTD.

STATION: RH33

DATE: 19/08/90 TIME: 1334 UTC

POSITION: 52-36.11N 131-01.80W

BOTTOM DEPTH: 117 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

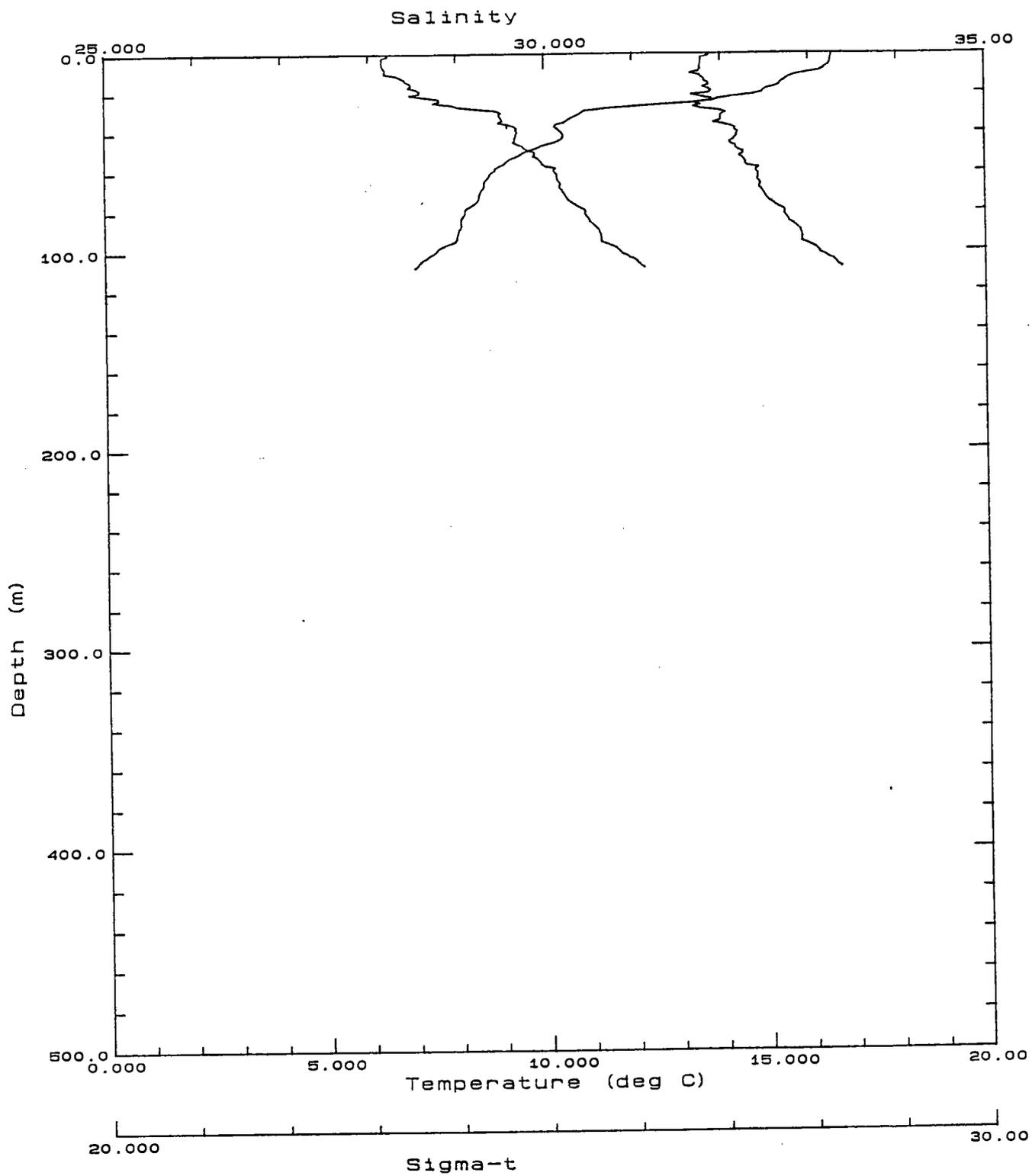
SEABIRD SBE-19 WAS USED

raw data file = DRH33.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.38	31.33	22.84	500.71	0.00
10.00	16.11	31.25	22.84	500.88	0.45
20.00	15.41	31.37	23.08	477.89	0.94
30.00	13.57	31.55	23.61	427.63	1.40
50.00	11.84	31.95	24.25	367.13	2.18
75.00	8.31	32.68	25.41	257.03	2.96
100.00	7.47	33.06	25.83	217.66	3.55

DEEPEST MEASUREMENT:

108.00	7.44	33.08	25.84	216.12	3.72
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DRJ21.avg: RJ21

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ21

DATE: 19/08/90 TIME: 1535 UTC

POSITION: 52-24.04N 130-57.74W

BOTTOM DEPTH: 117 M

SECCHI DEPTH: 8 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DRJ21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.54	31.87	23.22	464.24	0.00
10.00	15.98	31.67	23.19	467.64	0.42
20.00	14.94	31.88	23.58	430.60	0.87
30.00	10.84	32.06	24.51	341.83	1.26
50.00	9.54	32.25	24.88	306.81	1.92
75.00	8.45	32.56	25.29	268.03	2.64
100.00	7.52	33.11	25.86	214.58	3.24

DEEPEST MEASUREMENT:

108.00	7.04	33.36	26.13	189.31	3.40
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SEAKEM OCEANOGRAPHY LTD.

STATION: LI33RH37

DATE: 20/08/90 TIME: 130 UTC

POSITION: 52-30.76N 130-32.37W

BOTTOM DEPTH: 144 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

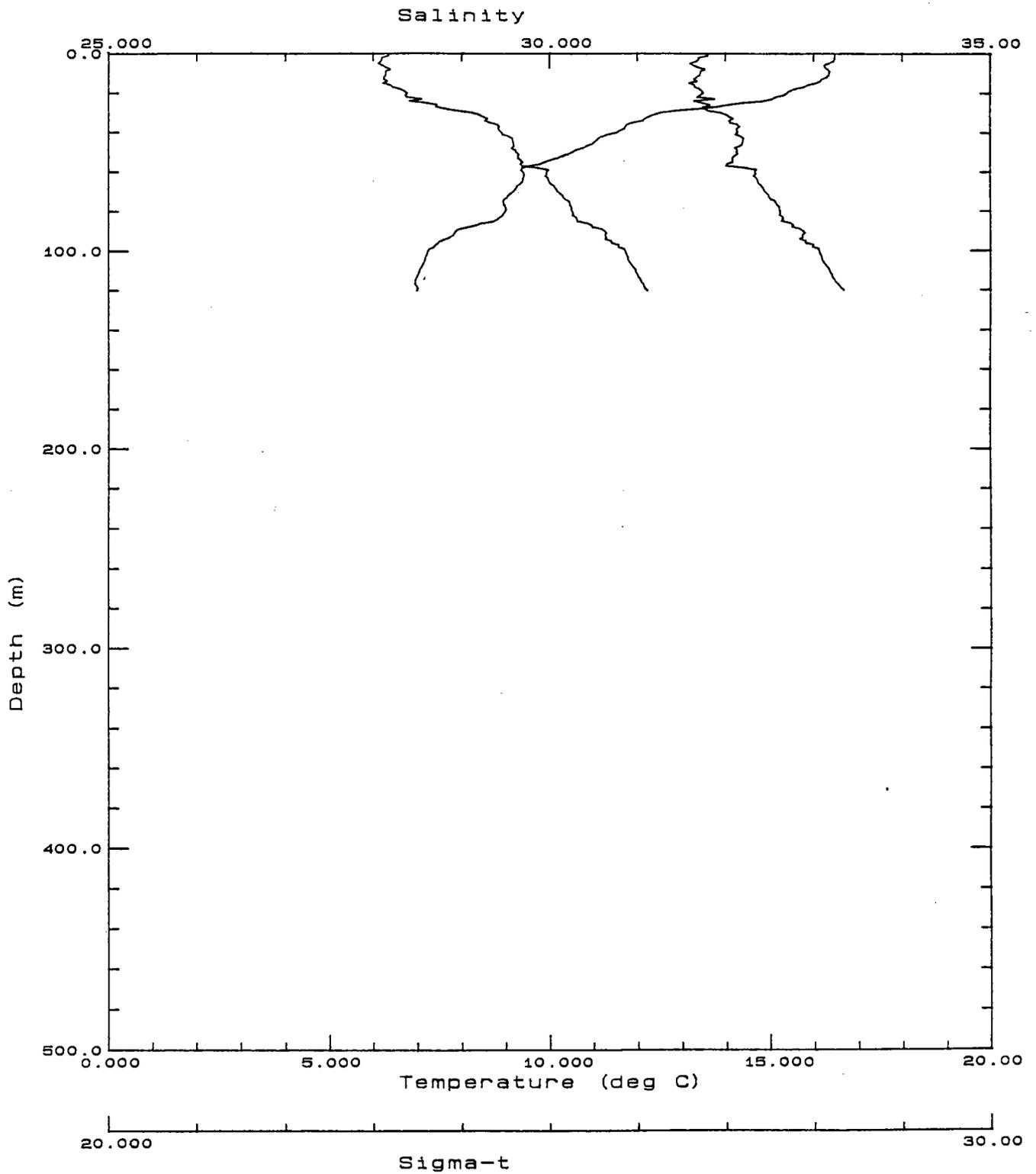
SEABIRD SBE-19 WAS USED

raw data file = DLI33RH3.dat

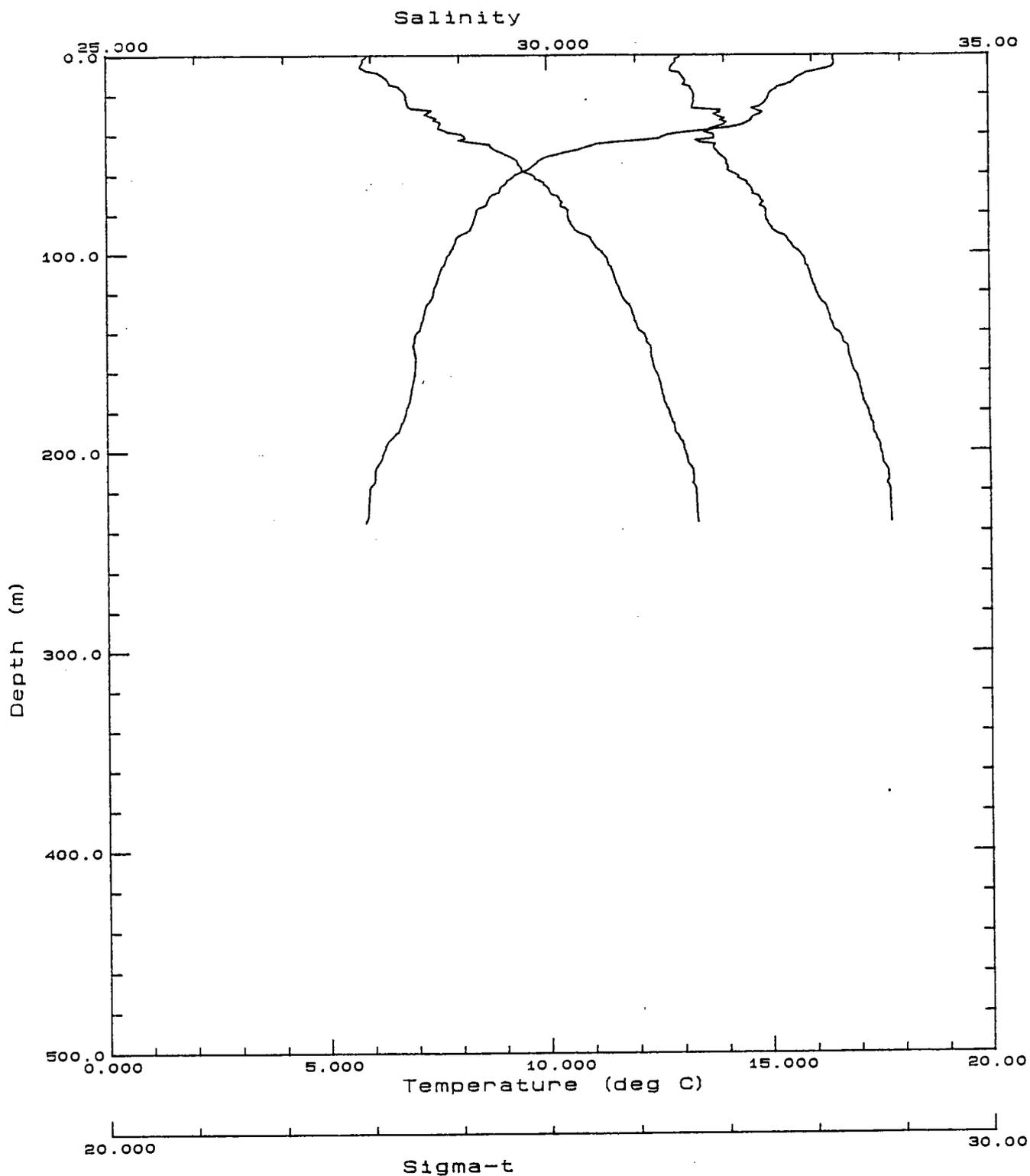
METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.49	31.80	23.17	468.86	0.00
10.00	16.36	31.72	23.14	472.16	0.43
20.00	15.40	31.75	23.38	449.68	0.89
30.00	12.53	31.94	24.12	379.69	1.32
50.00	10.52	32.12	24.62	332.07	2.02
75.00	8.93	32.56	25.22	275.26	2.77
100.00	7.24	33.06	25.86	214.49	3.40

DEEPEST MEASUREMENT:

120.00	6.99	33.34	26.11	190.95	3.81
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DLI33RH3.avg: LI33RH37



DM4AU19.avg: M4AU19

SEAKEM OCEANOGRAPHY LTD.

STATION: M4AU19

DATE: 20/08/90 TIME: 440 UTC

POSITION: 52-34.18N 129-55.93W

BOTTOM DEPTH: 246 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

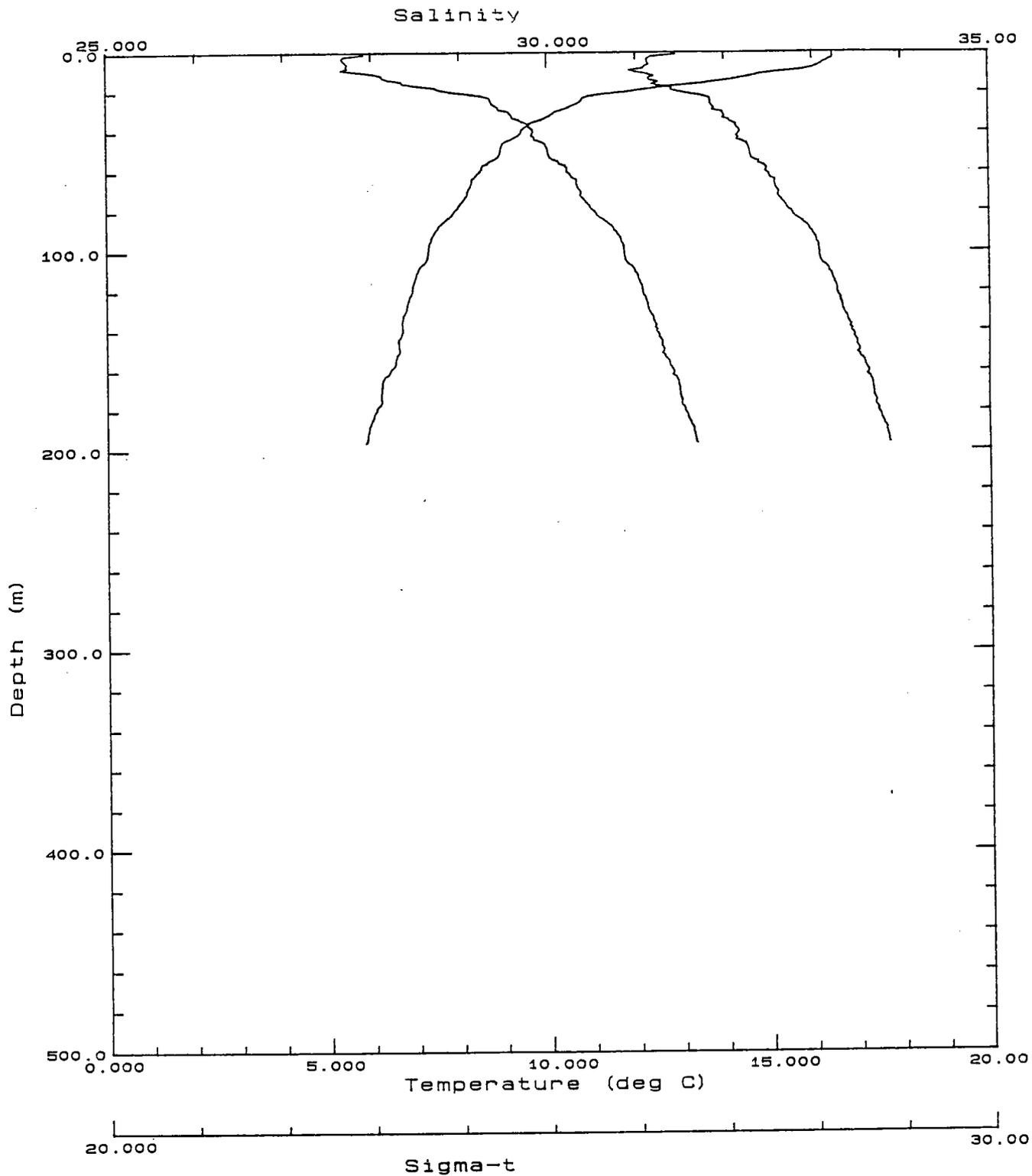
SEABIRD SBE-19 WAS USED

raw data file = DM4AU19.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.49	31.50	22.95	490.32	0.00
10.00	15.79	31.51	23.12	474.67	0.44
20.00	15.03	31.66	23.39	448.53	0.90
30.00	14.81	31.88	23.61	427.78	1.34
50.00	10.24	31.94	24.52	341.07	2.12
75.00	8.63	32.42	25.15	281.24	2.89
100.00	7.77	32.86	25.63	236.60	3.55
125.00	7.28	33.10	25.89	212.25	4.11
150.00	6.97	33.39	26.16	186.70	4.60
175.00	6.84	33.56	26.31	172.98	5.05
200.00	6.26	33.75	26.54	151.44	5.46
225.00	5.91	33.86	26.66	139.46	5.82

DEEPEST MEASUREMENT:

235.00	5.85	33.87	26.68	138.14	5.96
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DRI31.avg: RI31

SEAKEM OCEANOGRAPHY LTD.

STATION: RI31

DATE: 20/08/90 TIME: 1251 UTC

POSITION: 53-07.33N 130-17.00W

BOTTOM DEPTH: 210 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

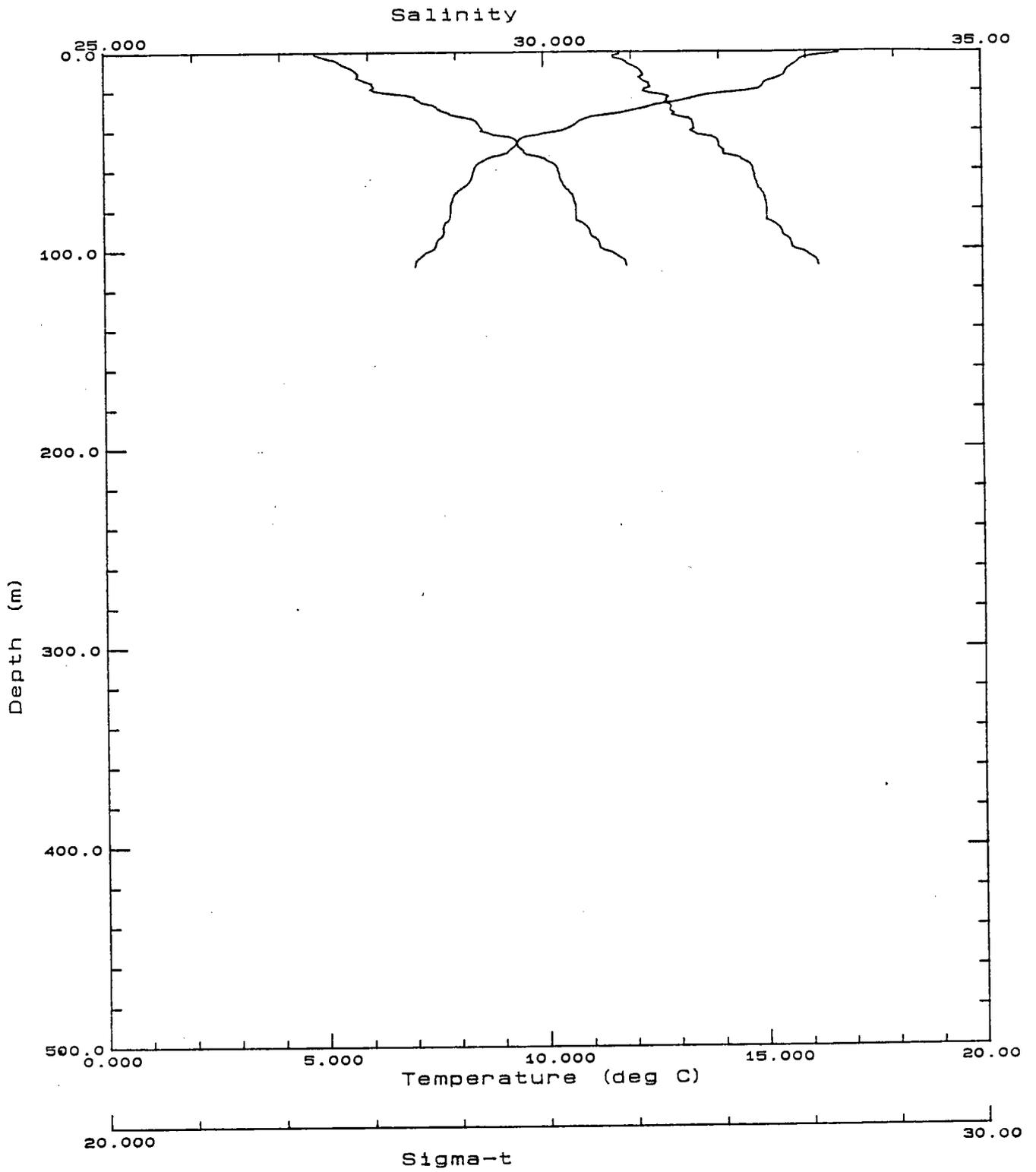
SEABIRD SBE-19 WAS USED

raw data file = DRI31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.47	31.45	22.92	493.28	0.00
10.00	15.21	31.01	22.85	499.96	0.46
20.00	11.78	31.48	23.90	400.41	0.91
30.00	10.18	31.98	24.56	337.02	1.27
50.00	8.94	32.29	25.01	294.77	1.90
75.00	8.06	32.66	25.43	255.30	2.58
100.00	7.28	33.07	25.86	214.34	3.15
125.00	6.82	33.31	26.11	190.72	3.66
150.00	6.62	33.52	26.30	173.09	4.11
175.00	6.21	33.71	26.51	153.75	4.52

DEEPEST MEASUREMENT:

196.00	5.85	33.86	26.67	138.75	4.82
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DLJ31.avg; LJ31

SEAKEM OCEANOGRAPHY LTD.

STATION: LJ31

DATE: 20/08/90 TIME: 1530 UTC

POSITION: 53-00.14N 130-37.72W

BOTTOM DEPTH: 124 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: 30.83 o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

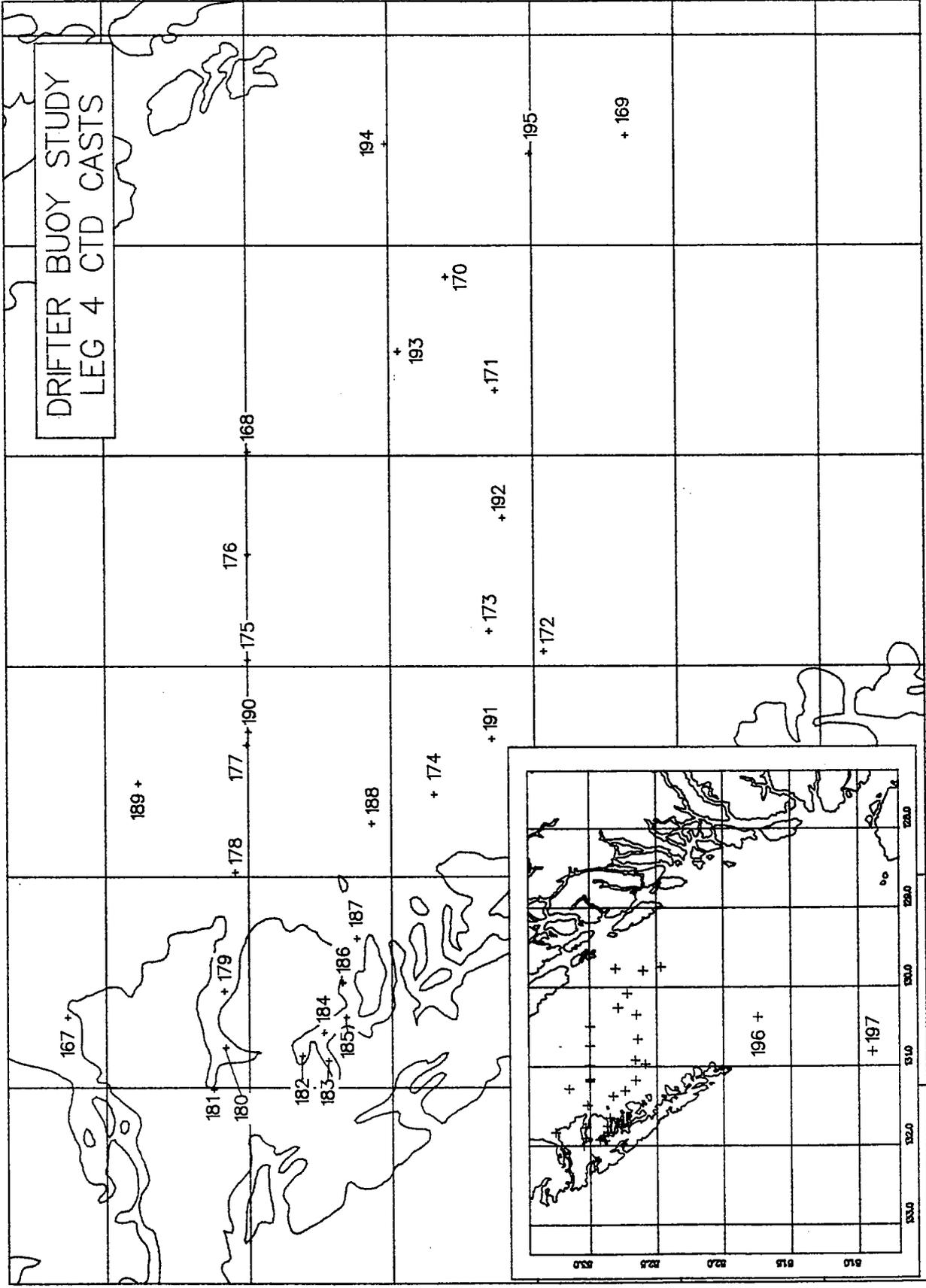
raw data file = DLJ31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.75	30.87	22.40	543.18	0.00
10.00	15.54	31.11	22.86	498.83	0.47
20.00	14.64	31.14	23.07	478.86	0.95
30.00	11.97	31.45	23.84	405.81	1.39
50.00	9.22	32.05	24.77	317.06	2.09
75.00	7.91	32.52	25.34	263.79	2.80
100.00	7.42	32.87	25.69	230.88	3.43

DEEPEST MEASUREMENT:

108.00	7.05	33.12	25.93	207.60	3.60
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DRIFTER BUOY STUDY
LEG 4 CTD CASTS



53.2

53.0

52.8

129.5

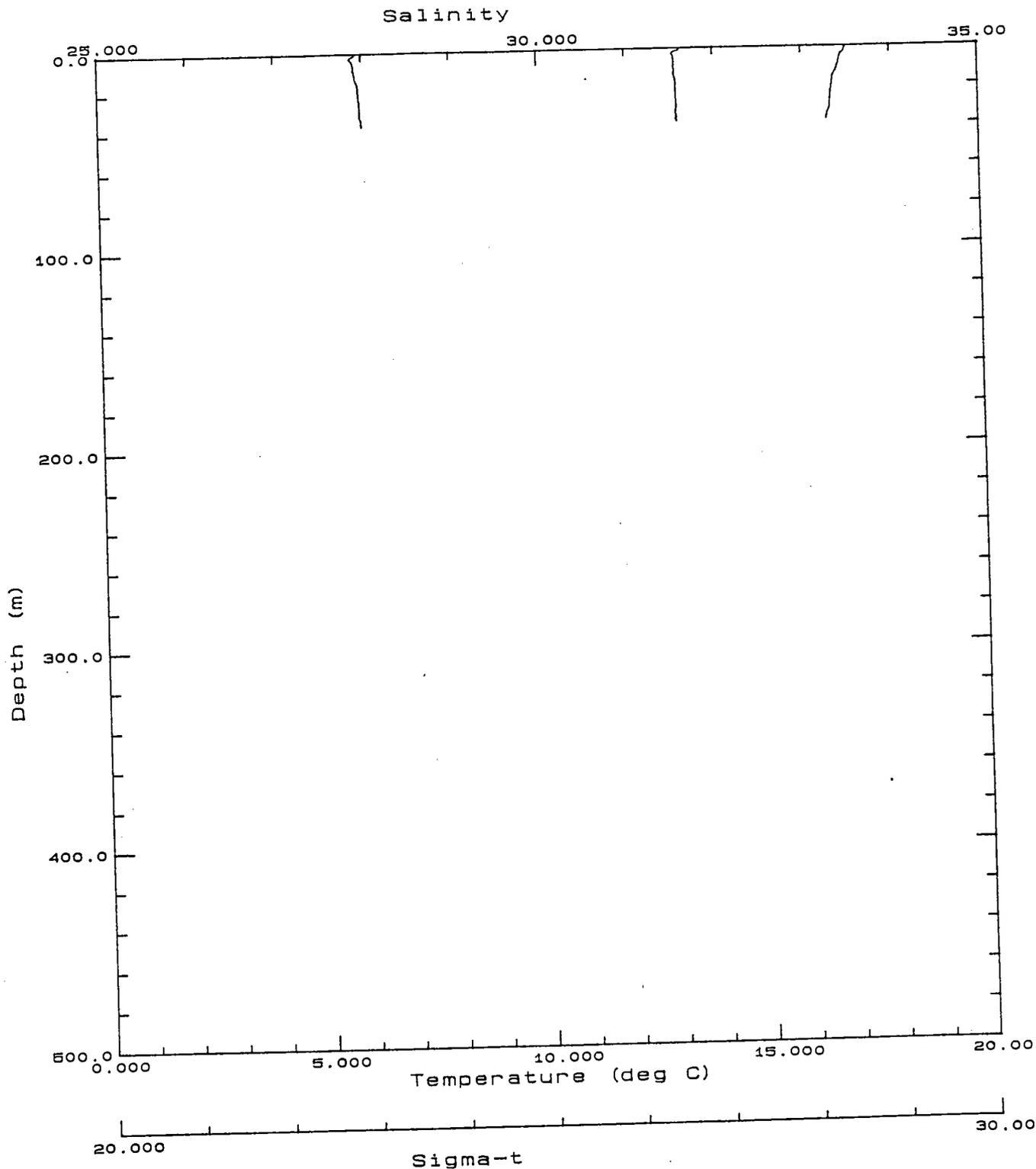
130.0

130.5

131.0

131.5

132.0



DSK1AU23.avg: SK1AU23

SEAKEM OCEANOGRAPHY LTD.

STATION: SK1AU23

DATE: 23/08/90 TIME: 1250 UTC

POSITION: 53-15.25N 131-50.00W

BOTTOM DEPTH: --- M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

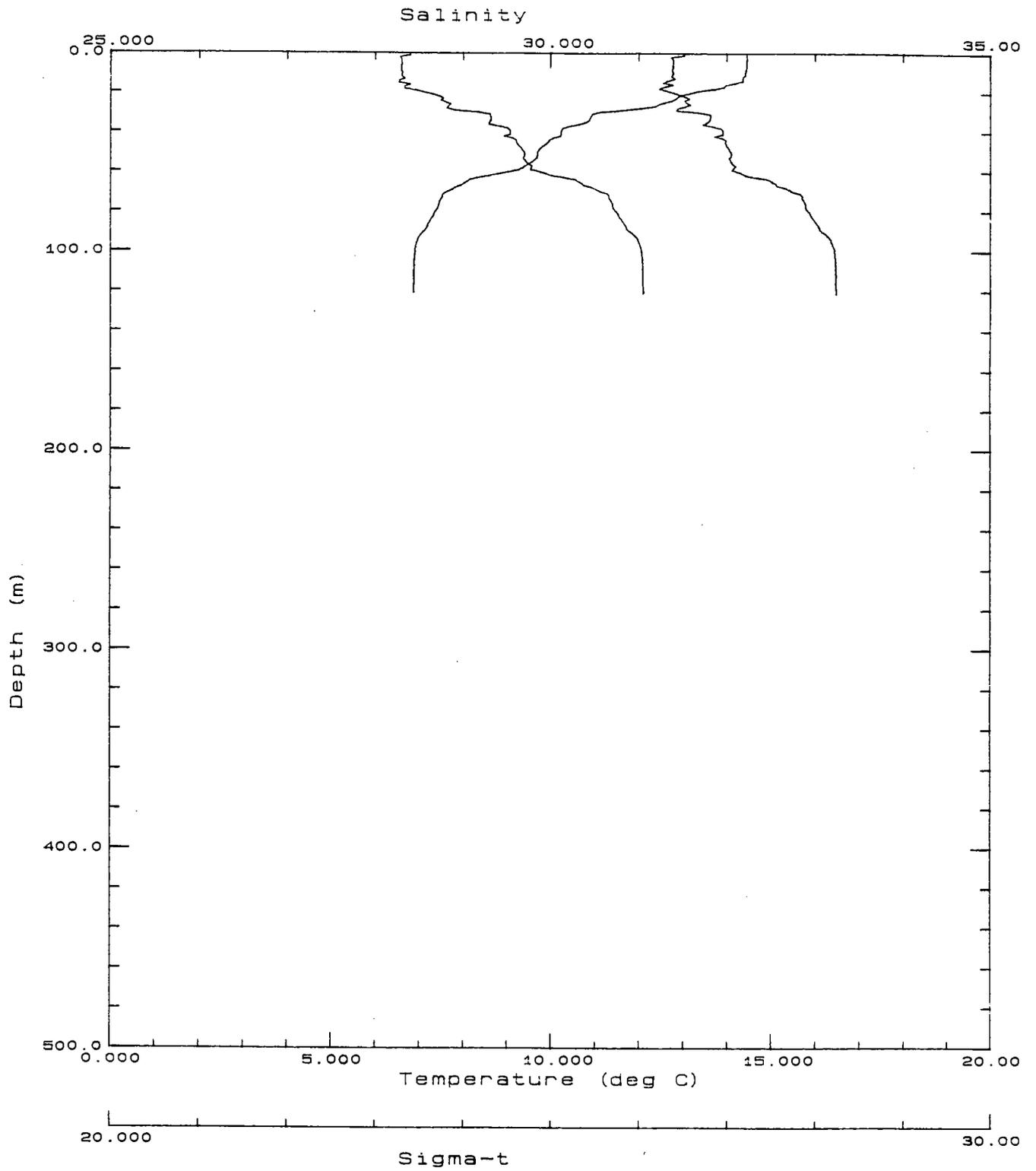
SEABIRD SBE-19 WAS USED

raw data file = DSK1AU23.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.00	31.63	22.93	492.50	0.00
10.00	16.83	31.56	22.92	493.48	0.45
20.00	16.70	31.58	22.96	489.71	0.94
30.00	16.64	31.59	22.98	488.20	1.43

DEEPEST MEASUREMENT:

37.00	16.56	31.59	23.00	486.57	1.77
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DLJ30.avg: LJ30

SEAKEM OCEANOGRAPHY LTD.

STATION: LJ30

DATE: 23/08/90 TIME: 2123 UTC

POSITION: 52-59.90N 130-29.37W

BOTTOM DEPTH: 118 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

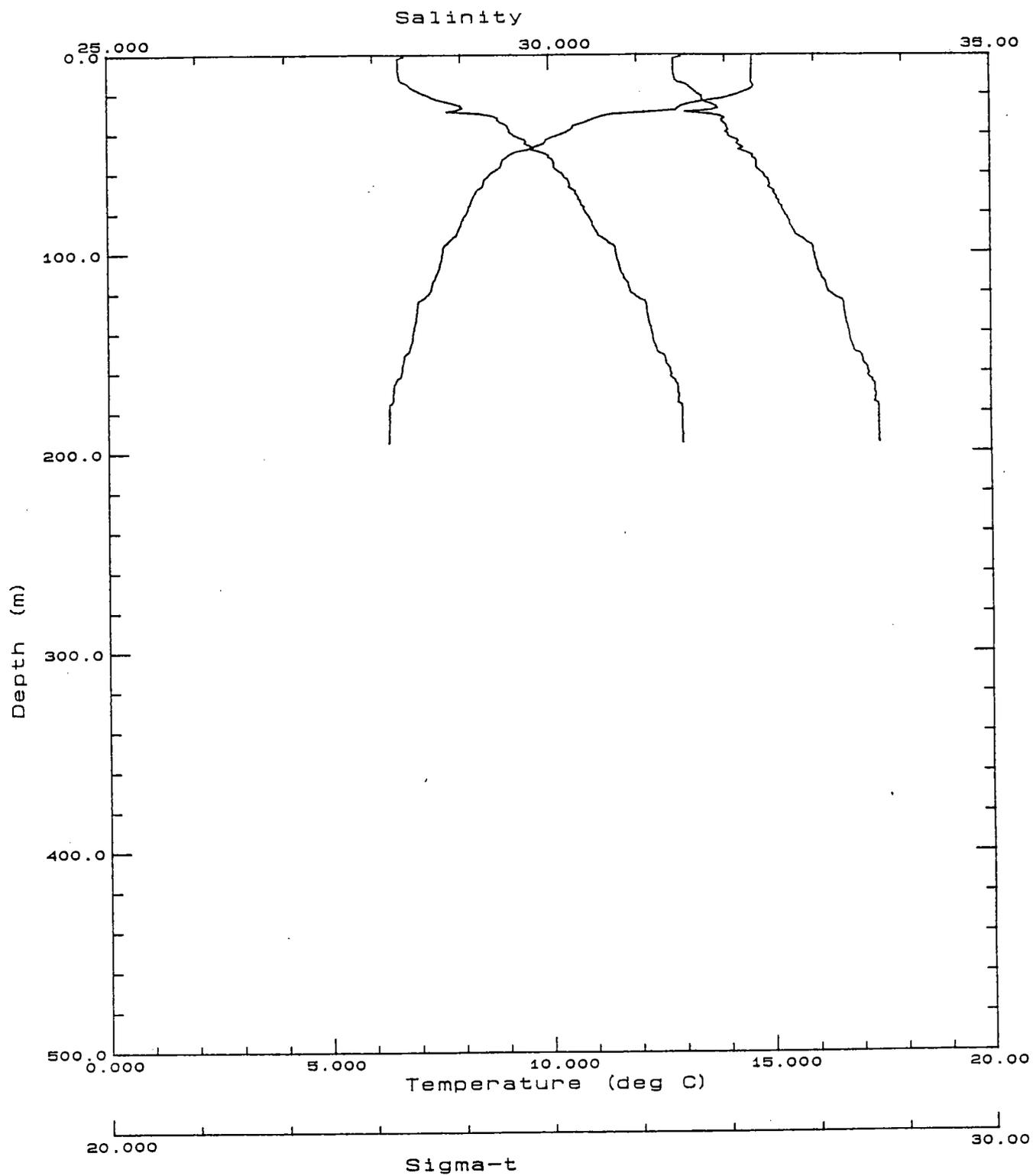
SEABIRD SBE-19 WAS USED

raw data file = DLJ30.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.46	31.51	23.40	447.23	0.00
10.00	14.42	31.39	23.31	455.81	0.41
20.00	13.19	31.38	23.56	432.78	0.86
30.00	11.07	31.68	24.18	373.35	1.27
50.00	9.70	32.05	24.70	324.31	1.96
75.00	7.46	32.88	25.69	230.50	2.67
100.00	6.91	33.22	26.03	198.28	3.21

DEEPEST MEASUREMENT:

121.00	6.88	33.24	26.05	196.62	3.62
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DRI34.avg: RI34

SEAKEM OCEANOGRAPHY LTD.

STATION: RI34

DATE: 24/08/90 TIME: 0900 UTC

POSITION: 52-28.09N 129-44.22W

BOTTOM DEPTH: 204 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

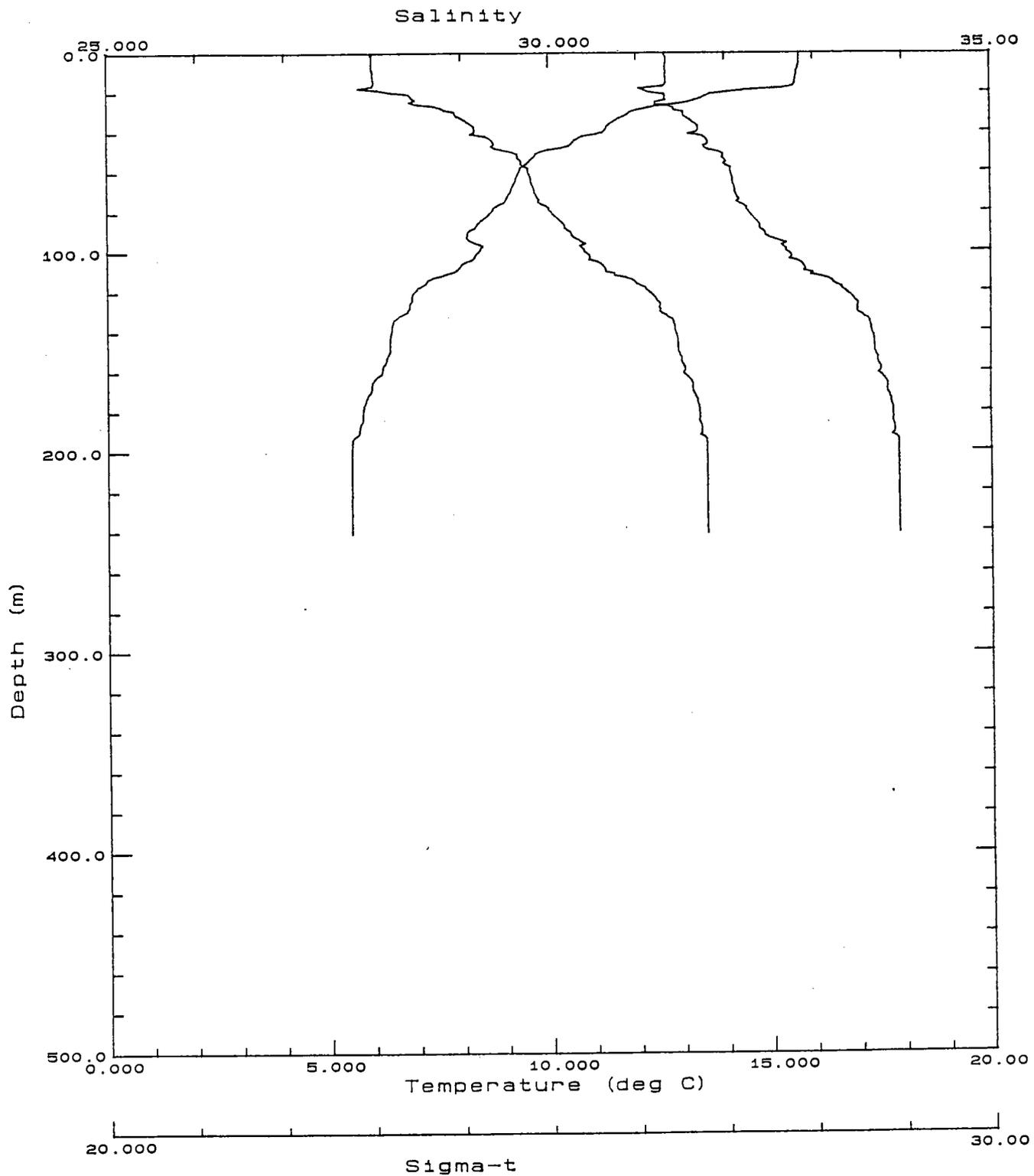
SEABIRD SBE-19 WAS USED

raw data file = DRI34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.62	31.50	23.36	451.29	0.00
10.00	14.60	31.42	23.30	457.01	0.41
20.00	14.29	31.70	23.58	430.81	0.86
30.00	11.46	31.81	24.22	370.07	1.26
50.00	9.16	32.27	24.96	299.84	1.93
75.00	8.22	32.60	25.36	261.92	2.63
100.00	7.57	32.99	25.76	224.21	3.24
125.00	7.01	33.32	26.09	192.56	3.77
150.00	6.79	33.45	26.23	180.29	4.24
175.00	6.42	33.66	26.44	159.95	4.65

DEEPEST MEASUREMENT:

195.00	6.34	33.72	26.50	154.92	4.97
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DLL21RJ3.avg: LL21RJ31

SEAKEM OCEANOGRAPHY LTD.

STATION: LL21RJ31

DATE: 24/08/90 TIME: 1252 UTC

POSITION: 52-43.22N 130-04.47W

BOTTOM DEPTH: 254 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

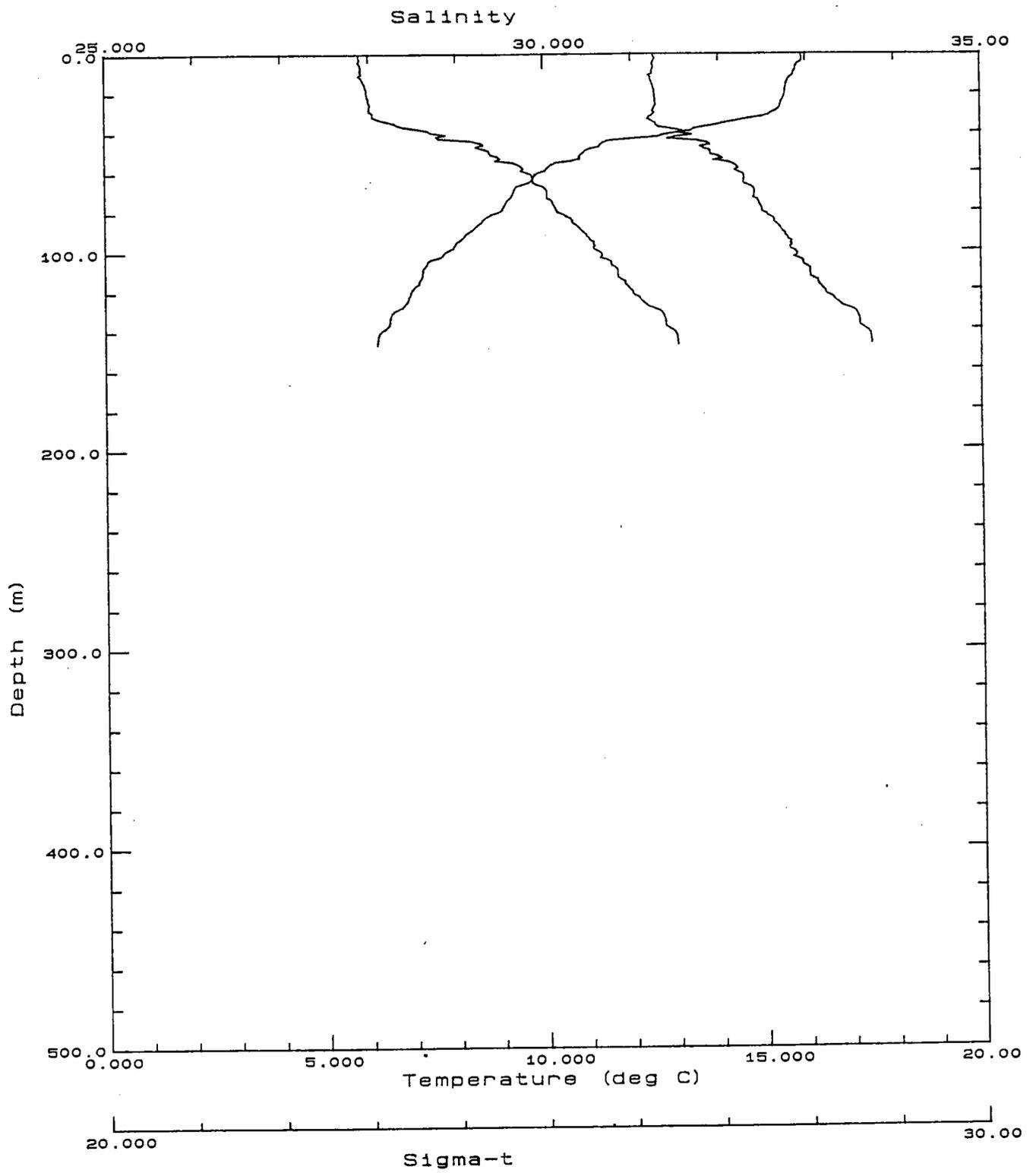
SEABIRD SBE-19 WAS USED

raw data file = DLL21RJ3.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.70	31.32	22.99	486.95	0.00
10.00	15.64	31.34	23.01	484.69	0.44
20.00	14.05	31.14	23.20	467.09	0.92
30.00	11.85	31.53	23.93	397.65	1.36
50.00	9.80	31.92	24.58	335.25	2.10
75.00	8.99	32.13	24.88	307.87	2.89
100.00	8.40	32.69	25.40	258.12	3.59
125.00	6.87	33.47	26.23	179.59	4.14
150.00	6.38	33.68	26.46	157.62	4.55
175.00	5.83	33.86	26.67	137.96	4.92
200.00	5.52	33.95	26.78	127.96	5.25
225.00	5.51	33.95	26.78	128.09	5.57

DEEPEST MEASUREMENT:

241.00	5.51	33.95	26.78	128.16	5.77
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DLJ34RI3.avg: LJ34RI32

SEAKEM OCEANOGRAPHY LTD.

STATION: LJ34RI32

DATE: 24/08/90 TIME: 1500 UTC

POSITION: 52-39.12N 130-20.64W

BOTTOM DEPTH: 176 M

SECCHI DEPTH: 5 M SST: 16.6 C SURFACE SALINITY: 31.33 o/oo

RESULTS OF CTD CAST

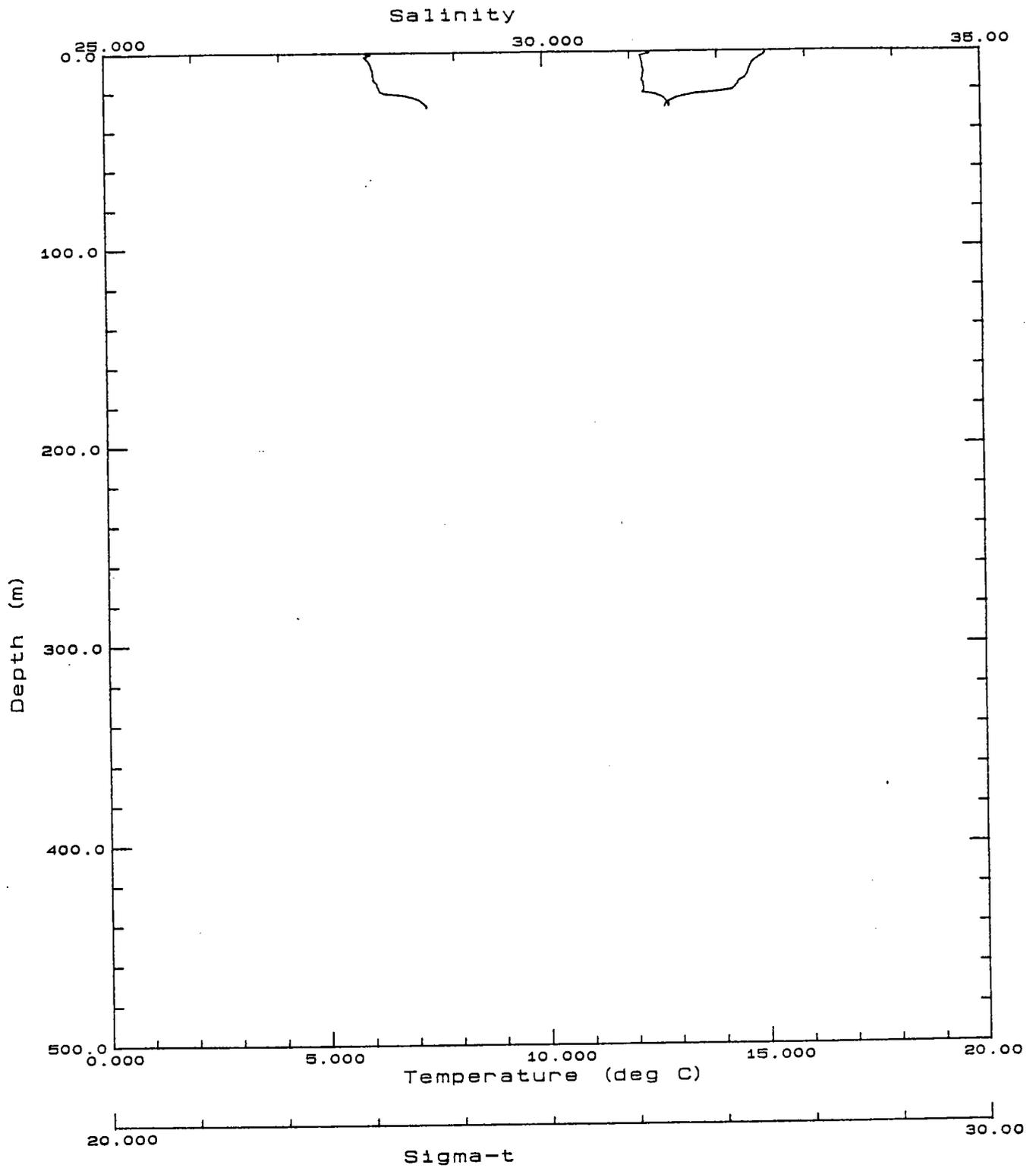
SEABIRD SBE-19 WAS USED

raw data file = DLJ34RI3.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.91	31.26	22.89	495.65	0.00
10.00	15.73	31.25	22.92	492.97	0.44
20.00	15.53	31.27	22.99	487.41	0.94
30.00	15.21	31.27	23.05	481.45	1.42
50.00	10.92	31.90	24.38	354.65	2.26
75.00	9.15	32.46	25.10	286.22	3.04
100.00	7.75	32.87	25.64	235.24	3.69
125.00	6.88	33.32	26.12	190.46	4.22

DEEPEST MEASUREMENT:

147.00	6.18	33.73	26.53	151.40	4.59
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DLJ36.avg: LJ36

SEAKEM OCEANOGRAPHY LTD.

STATION: LJ36

DATE: 26/08/90 TIME: 20 UTC

POSITION: 52-60.00N 130-59.03W

BOTTOM DEPTH: 33 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

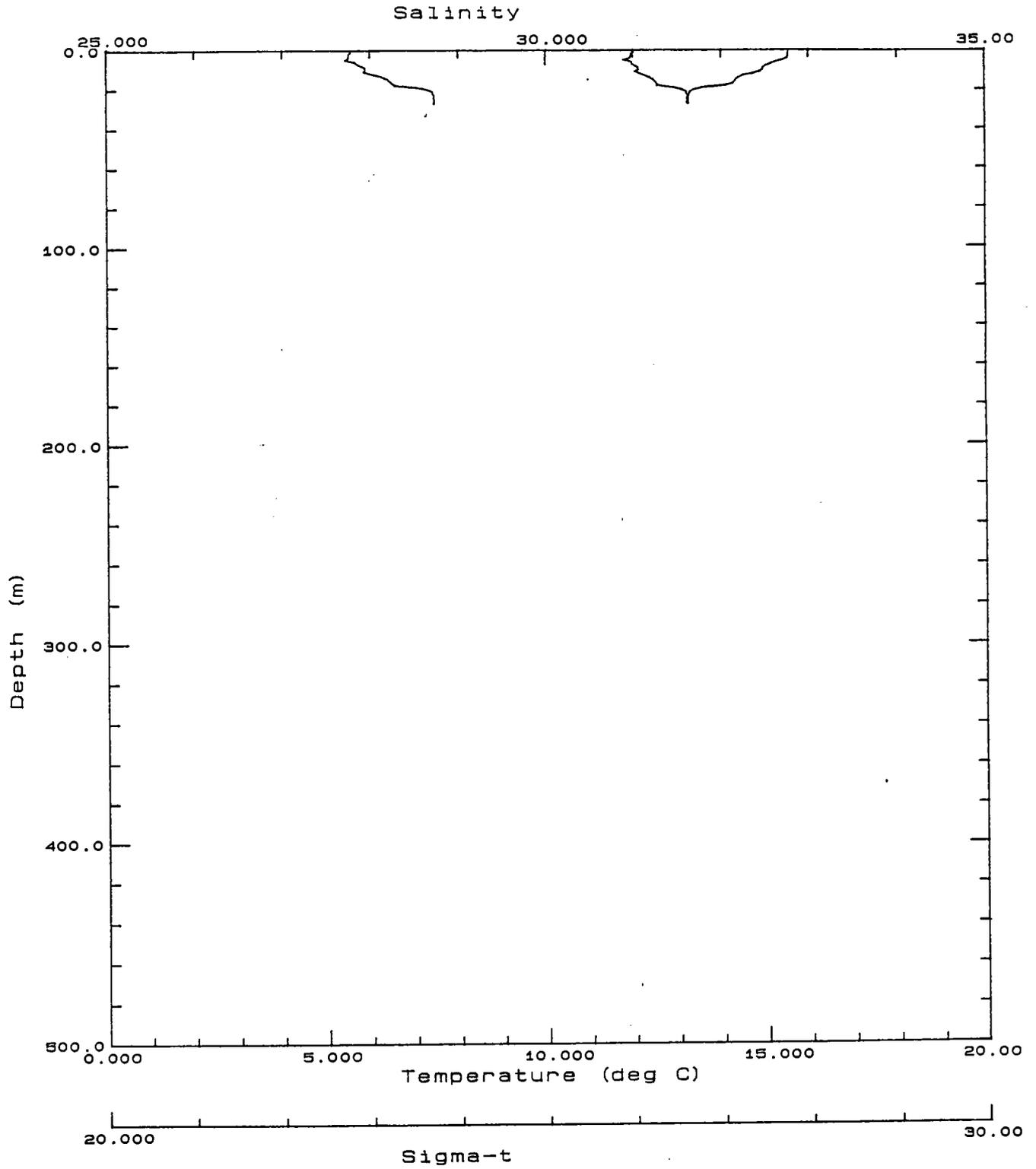
SEABIRD SBE-19 WAS USED

raw data file = DLJ36.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.11	31.23	23.05	481.08	0.00
10.00	14.73	31.16	23.07	478.84	0.43
20.00	14.34	31.17	23.16	470.93	0.91

DEEPEST MEASUREMENT:

28.00	12.82	31.45	23.68	420.85	1.26
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DLK31.avg: LK31

SEAKEM OCEANOGRAPHY LTD.

STATION: LK31

DATE: 26/08/90 TIME: 443 UTC

POSITION: 53-00.12N 131-11.21W

BOTTOM DEPTH: 29.2 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

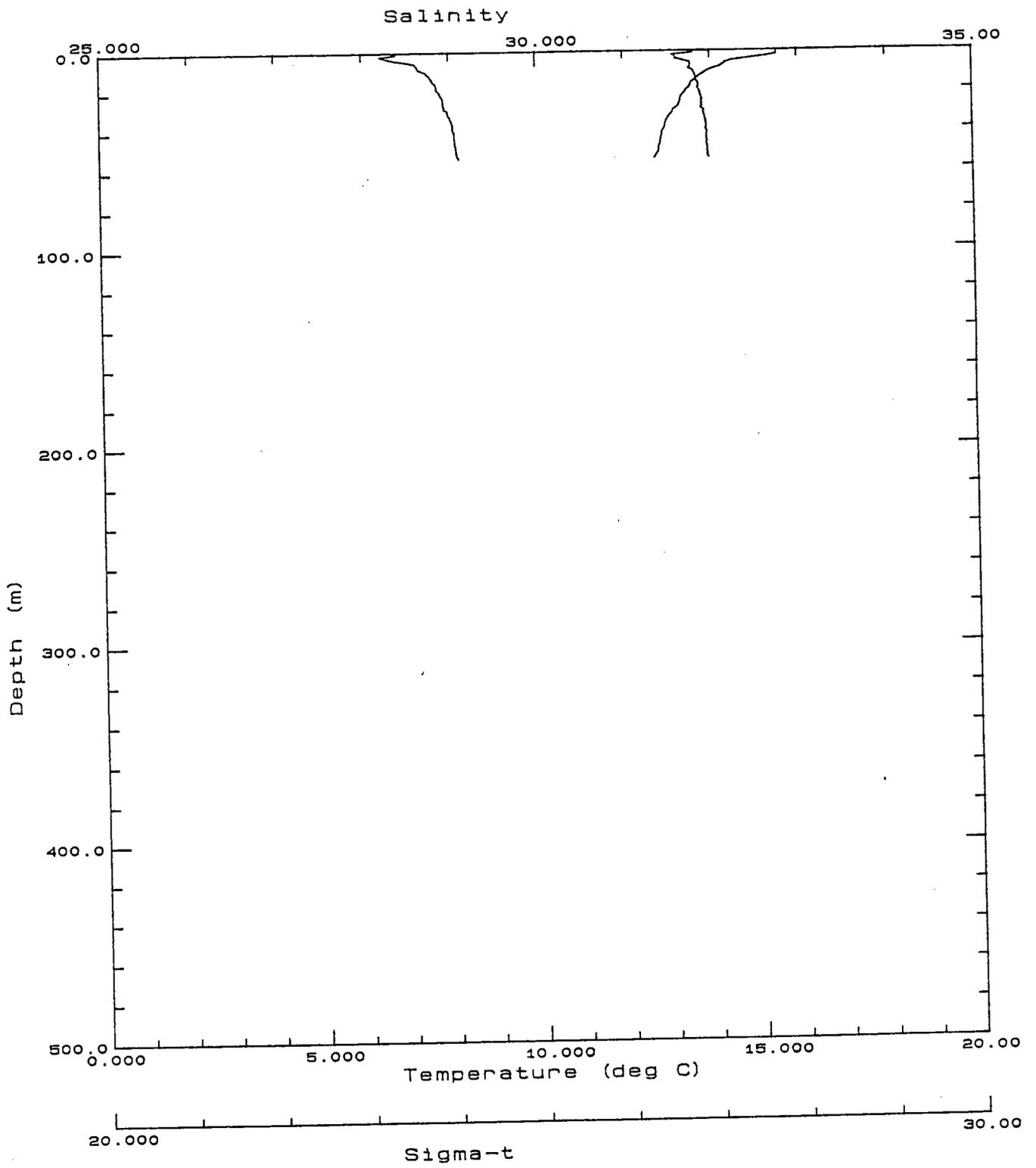
SEABIRD SBE-19 WAS USED

raw data file = DLK31.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.54	31.01	22.78	506.31	0.00
10.00	14.95	31.06	22.95	490.45	0.45
20.00	13.39	31.55	23.65	424.11	0.92

DEEPEST MEASUREMENT:

27.00	13.26	31.62	23.73	416.71	1.21
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ds11au26.avg: SI1AU26

SEAKEM OCEANOGRAPHY LTD.

STATION: SI1AU26

DATE: 27/08/90 TIME: 20 UTC

POSITION: 52-53.40N 131-56.10W

BOTTOM DEPTH: 55 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

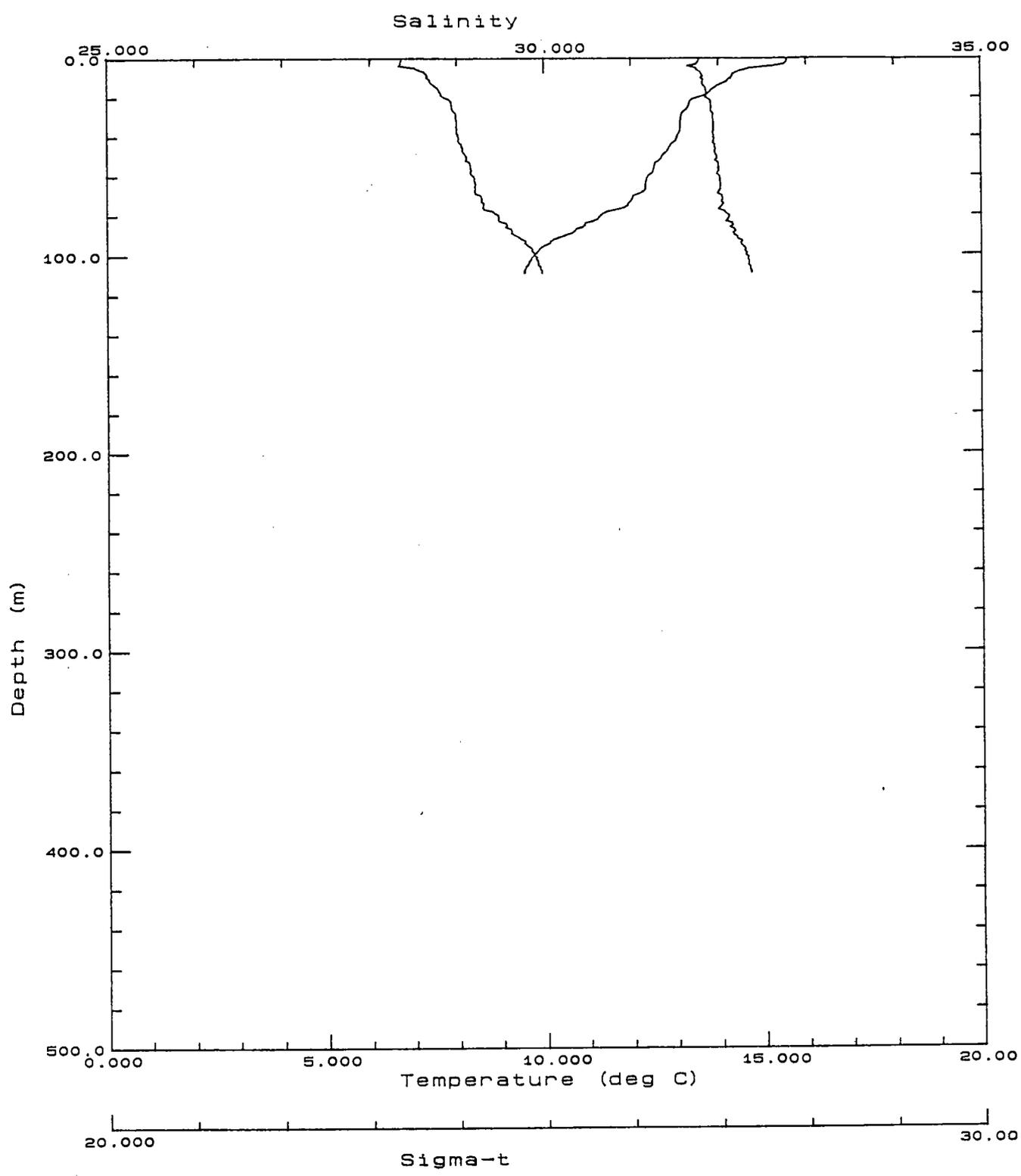
SEABIRD SBE-19 WAS USED

raw data file = DSII1AU26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.54	31.81	23.39	447.99	0.00
10.00	13.98	31.81	23.73	416.32	0.39
20.00	13.46	31.87	23.88	401.62	0.80
30.00	13.16	31.93	23.98	392.40	1.20
50.00	12.81	31.97	24.08	383.38	1.97

DEEPEST MEASUREMENT:

54.00	12.71	31.98	24.11	381.09	2.13
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ds12au26.avg: SI2AU26

SEAKEM OCEANOGRAPHY LTD.

STATION: SI2AU26

DATE: 27/08/90 TIME: 50 UTC

POSITION: 52-53.80N 131-52.10W

BOTTOM DEPTH: 117 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

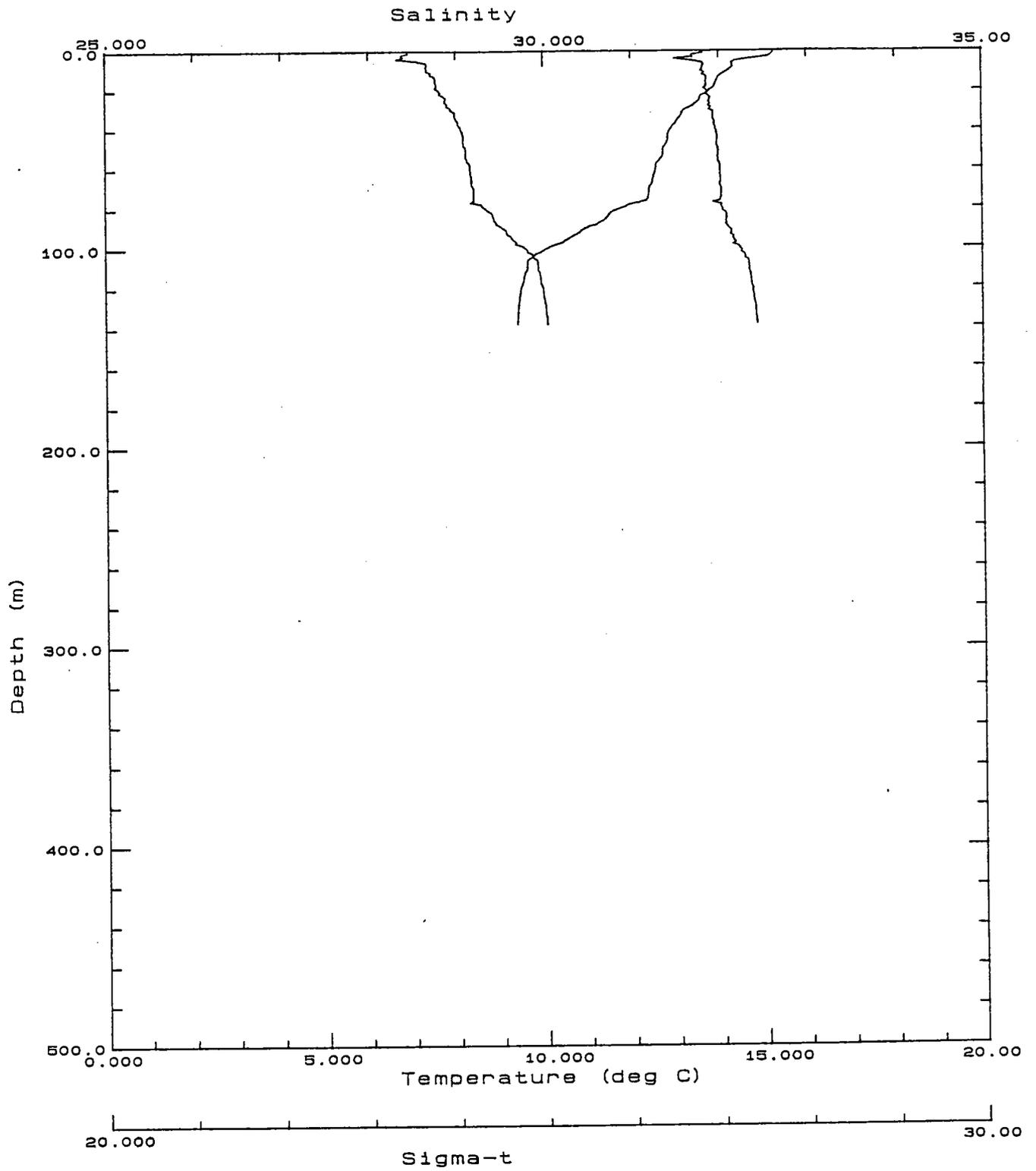
SEABIRD SBE-19 WAS USED

raw data file = DSI2AU26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.57	31.78	23.37	450.32	0.00
10.00	14.29	31.80	23.66	422.94	0.39
20.00	13.53	31.85	23.85	404.58	0.81
30.00	13.15	31.94	23.99	391.49	1.20
50.00	12.71	31.98	24.11	380.52	1.98
75.00	11.92	32.04	24.31	362.43	2.91
100.00	9.78	32.31	24.89	307.30	3.74

DEEPEST MEASUREMENT:

109.00	9.55	32.37	24.97	299.08	4.01
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dsi3au26.avg: SI3AU26

SEAKEM OCEANOGRAPHY LTD.

STATION: SI3AU26

DATE: 27/08/90 TIME: 115 UTC

POSITION: 52-51.90N 131-49.90W

BOTTOM DEPTH: 150 M

SECCHI DEPTH: 9 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

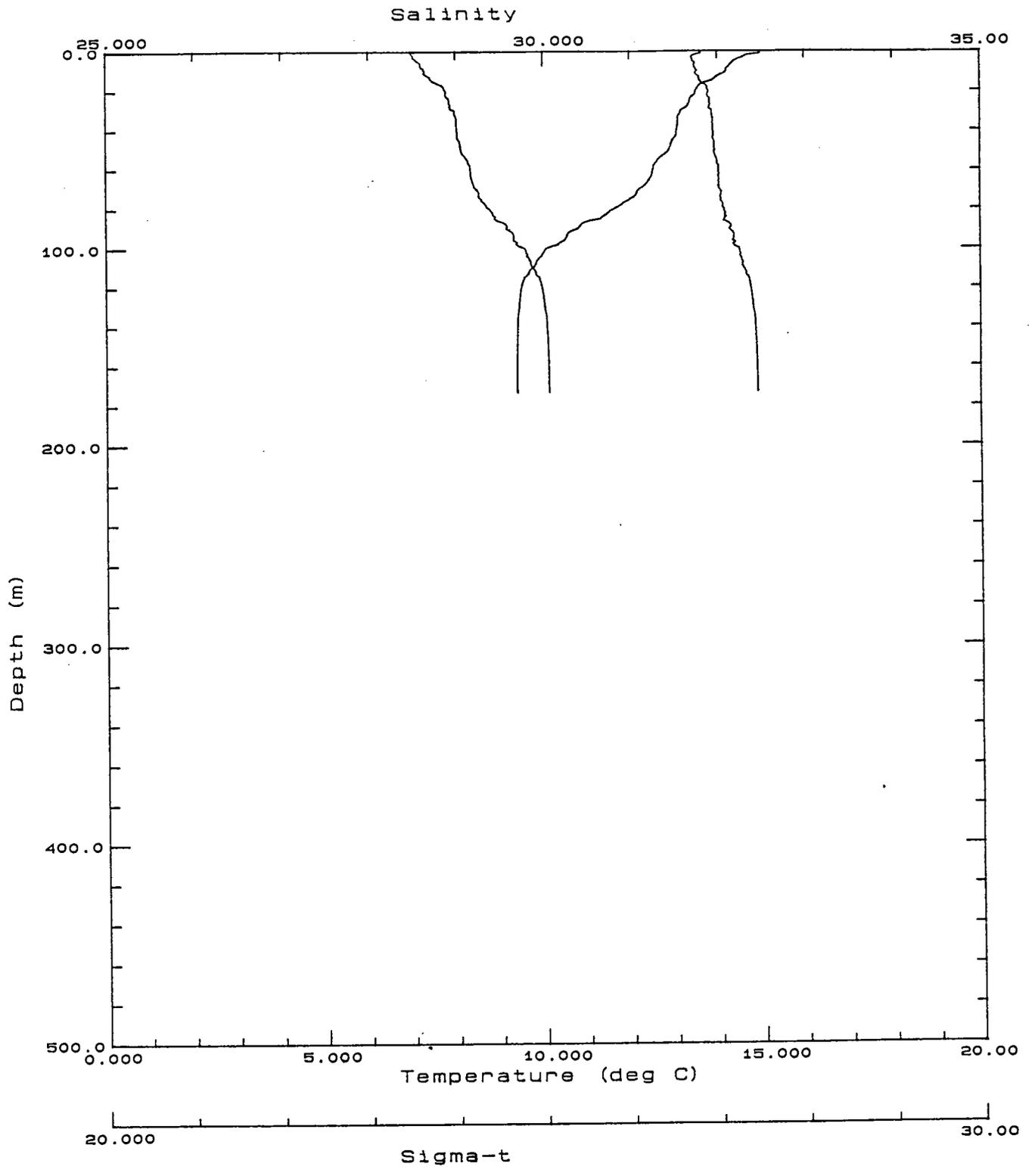
SEABIRD SBE-19 WAS USED

raw data file = DSI3AU26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.25	31.82	23.46	441.29	0.00
10.00	14.22	31.80	23.67	421.73	0.39
20.00	13.79	31.86	23.80	409.44	0.80
30.00	13.23	31.89	23.94	396.27	1.21
50.00	12.73	31.99	24.11	380.28	1.98
75.00	12.38	32.02	24.20	372.33	2.92
100.00	10.07	32.24	24.78	317.21	3.78
125.00	9.45	32.39	25.00	296.55	4.54

DEEPEST MEASUREMENT:

138.00	9.39	32.42	25.04	293.50	4.92
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ds14au26.avg: SI4AU26

SEAKEM OCEANOGRAPHY LTD.

STATION: SI4AU26

DATE: 27/08/90 TIME: 200 UTC

POSITION: 52-52.20N 131-45.00W

BOTTOM DEPTH: 188 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

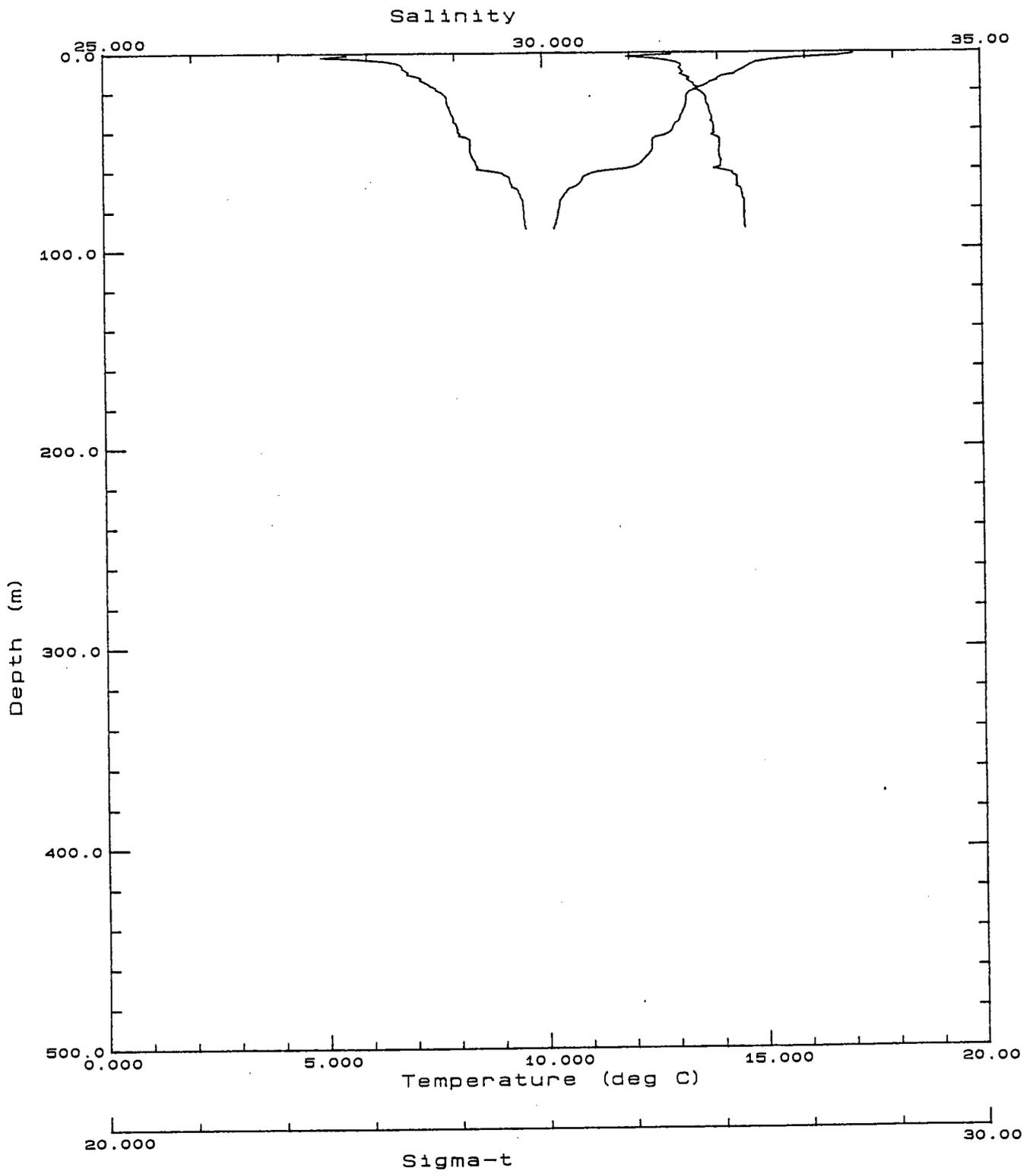
SEABIRD SBE-19 WAS USED

raw data file = DSI4AU26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.99	31.81	23.50	437.80	0.00
10.00	14.21	31.77	23.65	423.72	0.39
20.00	13.51	31.90	23.89	401.04	0.80
30.00	13.17	31.94	23.99	391.83	1.20
50.00	12.89	31.97	24.07	384.97	1.98
75.00	12.01	32.04	24.29	364.06	2.91
100.00	10.07	32.24	24.79	316.84	3.77
125.00	9.47	32.39	25.00	296.88	4.53
150.00	9.40	32.44	25.05	292.60	5.26

DEEPEST MEASUREMENT:

173.00	9.39	32.45	25.06	292.12	5.94
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ds15au26.avg: SI5AU26

SEAKEM OCEANOGRAPHY LTD.

STATION: SI5AU26

DATE: 27/08/90 TIME: 243 UTC

POSITION: 52-51.00N 131-38.70W

BOTTOM DEPTH: 97 M

SECCHI DEPTH: 8 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

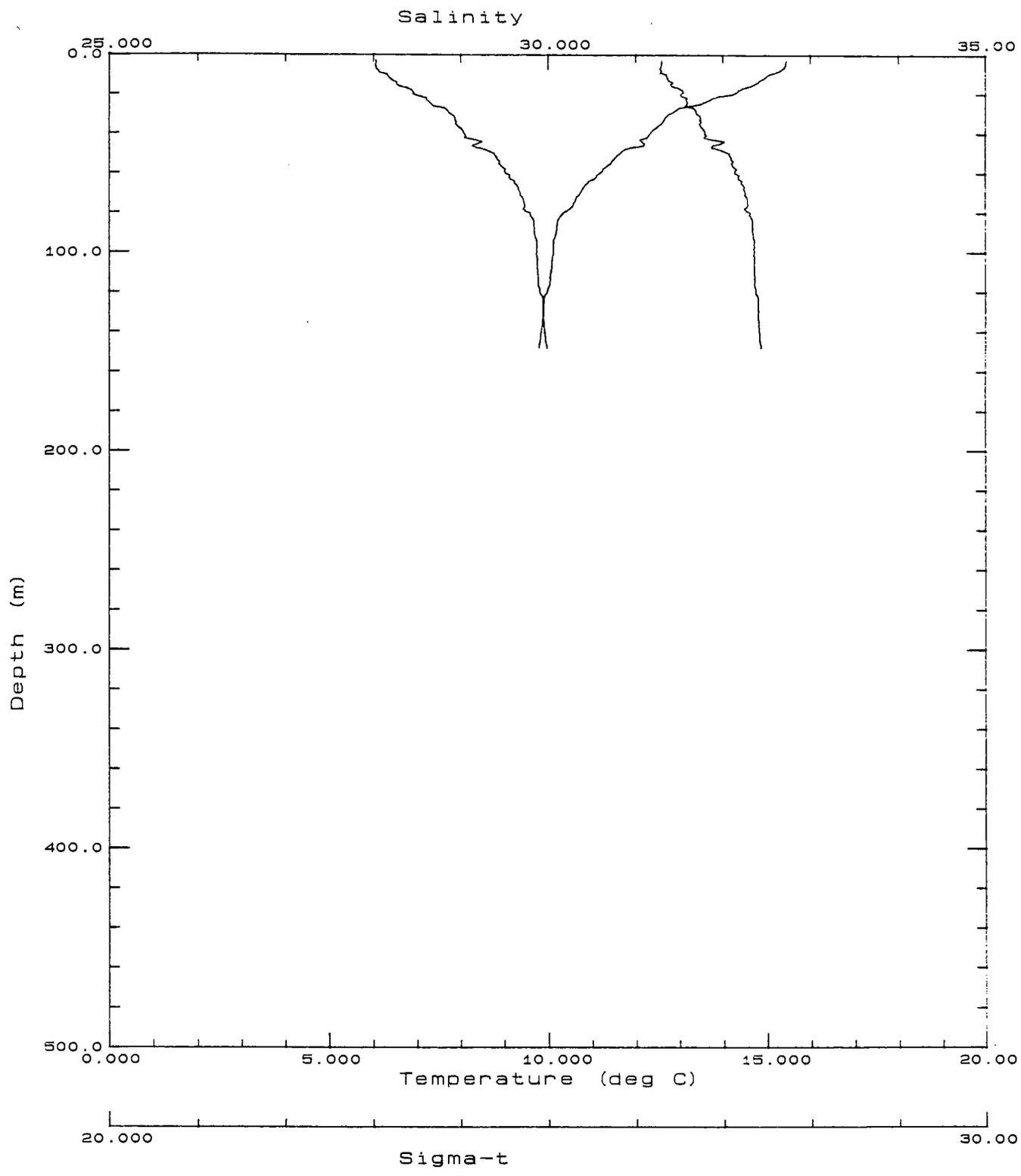
SEABIRD SBE-19 WAS USED

raw data file = DSI5AU26.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	17.09	31.47	22.77	507.33	0.00
10.00	14.44	31.61	23.48	439.96	0.42
20.00	13.38	31.80	23.84	405.38	0.84
30.00	13.22	31.91	23.96	394.84	1.24
50.00	12.50	32.01	24.17	374.60	2.01
75.00	10.39	32.29	24.77	317.83	2.87

DEEPEST MEASUREMENT:

89.00	10.25	32.30	24.81	314.92	3.32
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DRJ35.avg: RJ35

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ35

DATE: 27/08/90 TIME: 1000 UTC

POSITION: 52-49.69N 131-22.33W

BOTTOM DEPTH: 159 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

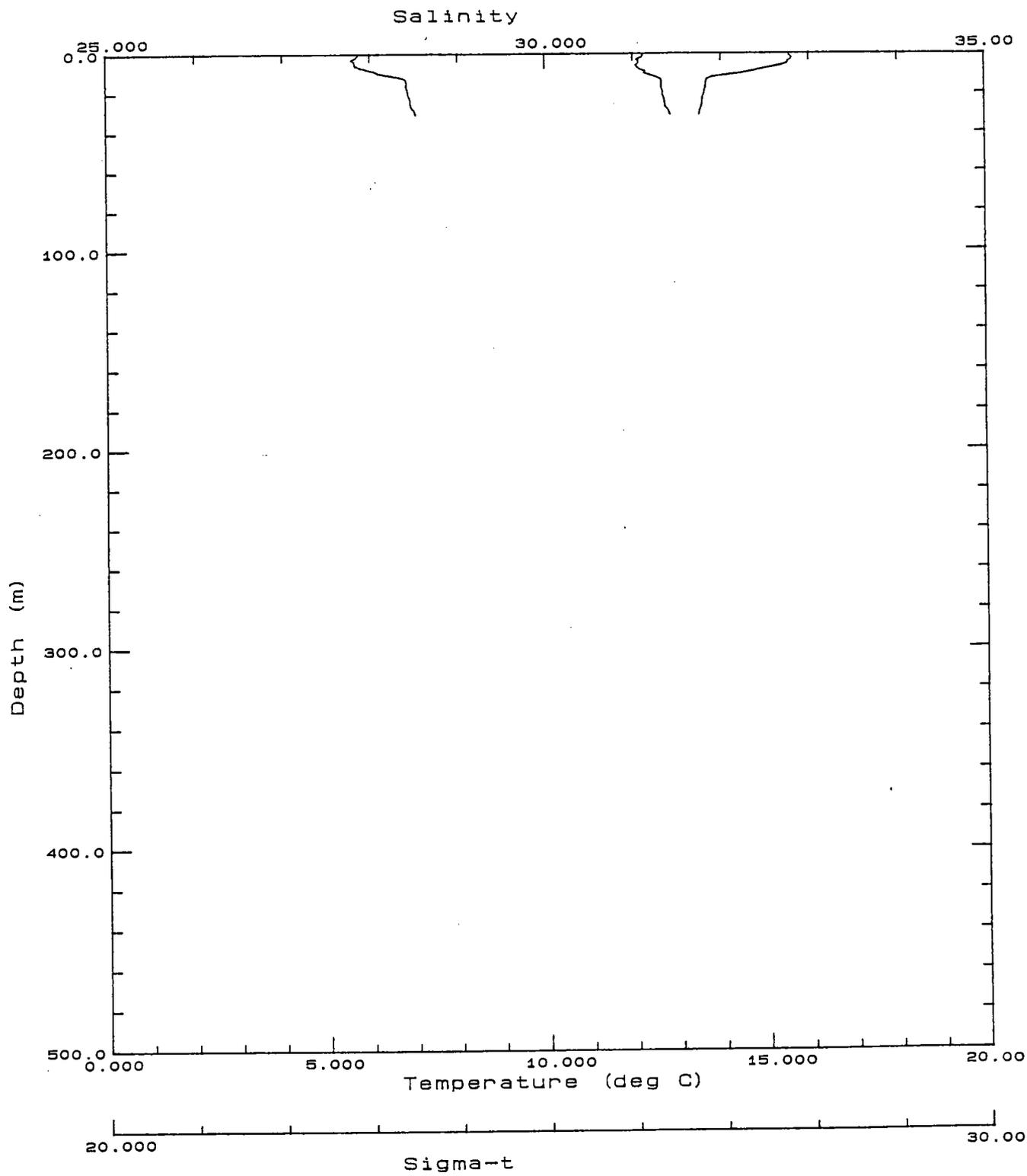
SEABIRD SBE-19 WAS USED

raw data file = DRJ35.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
3.00	15.45	31.30	23.03	483.01	0.00
10.00	15.04	31.35	23.16	470.91	0.34
20.00	14.22	31.52	23.45	442.53	0.79
30.00	12.77	31.70	23.89	401.68	1.21
50.00	11.64	32.07	24.38	354.58	1.98
75.00	10.58	32.28	24.73	322.03	2.82
100.00	10.12	32.36	24.87	309.03	3.61
125.00	9.90	32.40	24.94	302.73	4.37

DEEPEST MEASUREMENT:

148.00	9.79	32.43	24.98	298.90	5.07
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drj31.avg: RJ31

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ31

DATE: 27/08/90 TIME: 1415 UTC

POSITION: 53-09.24N 131-16.57W

BOTTOM DEPTH: 35 M

SECCHI DEPTH: 7 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

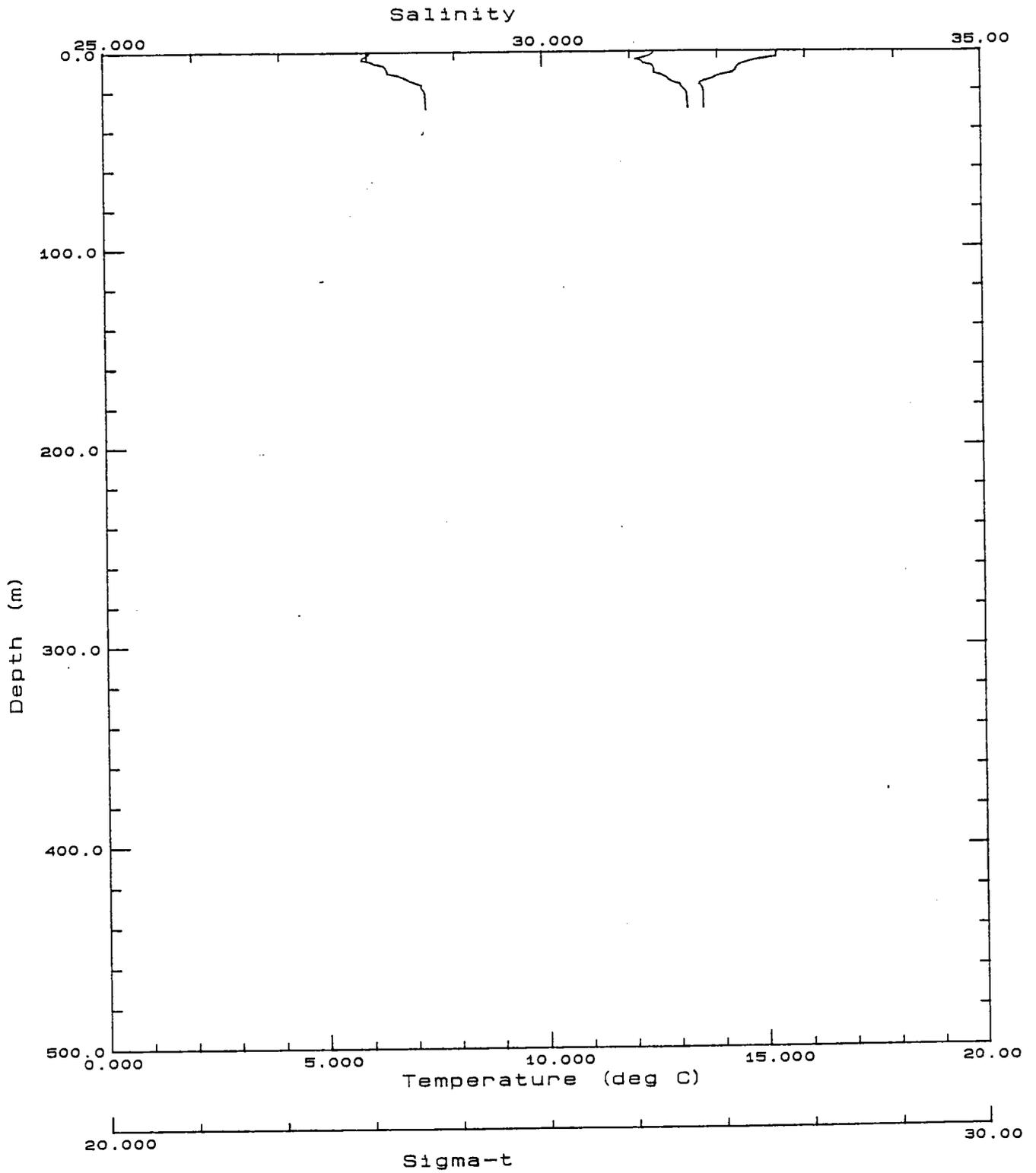
SEABIRD SBE-19 WAS USED

raw data file = DRJ33.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.56	31.12	22.86	498.43	0.00
10.00	14.51	31.13	23.10	476.32	0.45
20.00	13.63	31.34	23.44	444.21	0.90
30.00	13.52	31.41	23.52	436.95	1.34

DEEPEST MEASUREMENT:

31.00	13.51	31.42	23.52	436.36	1.38
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drj36.avg: RJ36

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ36

DATE: 27/08/90 TIME: 1605 UTC

POSITION: 52-59.97N 131-09.24W

BOTTOM DEPTH: 31 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

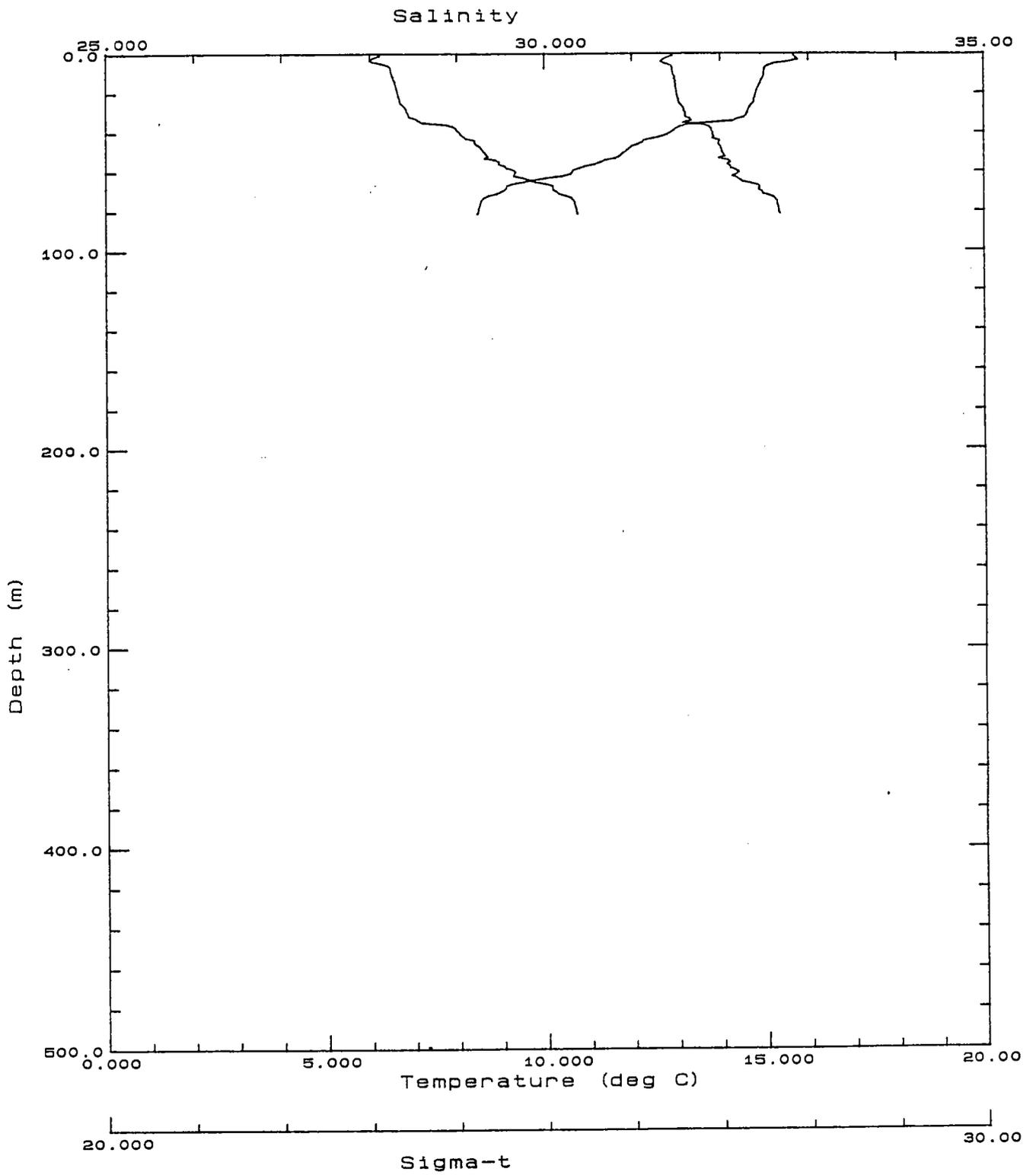
SEABIRD SBE-19 WAS USED

raw data file = DRJ36.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.36	31.28	23.03	483.06	0.00
10.00	14.41	31.29	23.24	463.18	0.43
20.00	13.68	31.63	23.65	423.78	0.87

DEEPEST MEASUREMENT:

29.00	13.69	31.66	23.67	421.74	1.25
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DRJ32.avg: RJ32

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ32

DATE: 28/08/90 TIME: 215 UTC

POSITION: 52-39.53N 131-10.28W

BOTTOM DEPTH: 87 M

SECCHI DEPTH: 6 M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

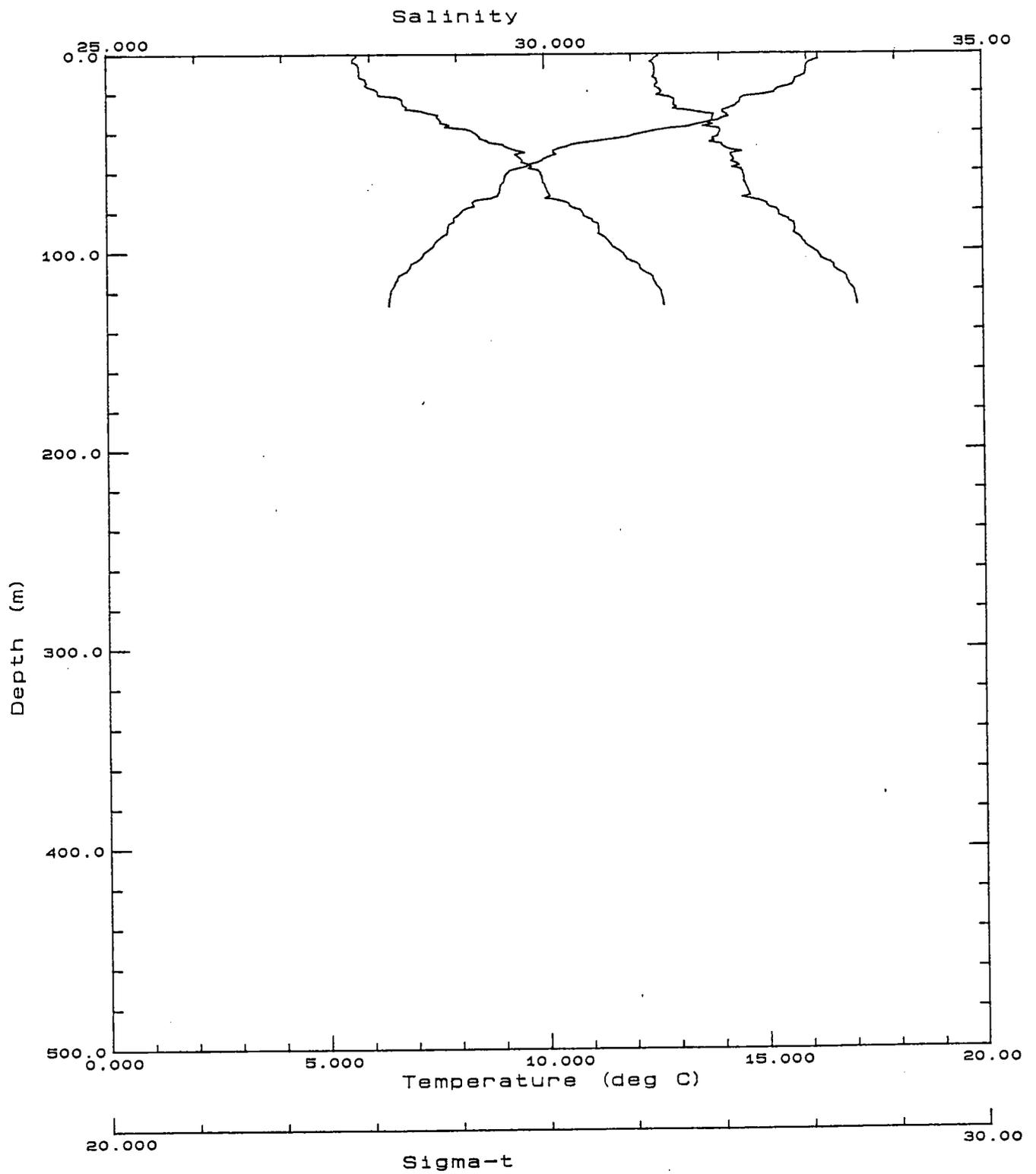
SEABIRD SBE-19 WAS USED

raw data file = DRJ32.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.66	31.46	23.11	474.96	0.00
10.00	15.00	31.47	23.25	461.79	0.42
20.00	14.82	31.51	23.32	455.24	0.88
30.00	14.62	31.60	23.44	444.68	1.33
50.00	11.82	32.02	24.31	361.40	2.13
75.00	8.55	32.64	25.34	263.57	2.91

DEEPEST MEASUREMENT:

81.00	8.47	32.67	25.38	260.33	3.07
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drj34.avg: RJ34

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ34

DATE: 28/08/90 TIME: 455 UTC

POSITION: 52-38.58N 130-38.75W

BOTTOM DEPTH: 137 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

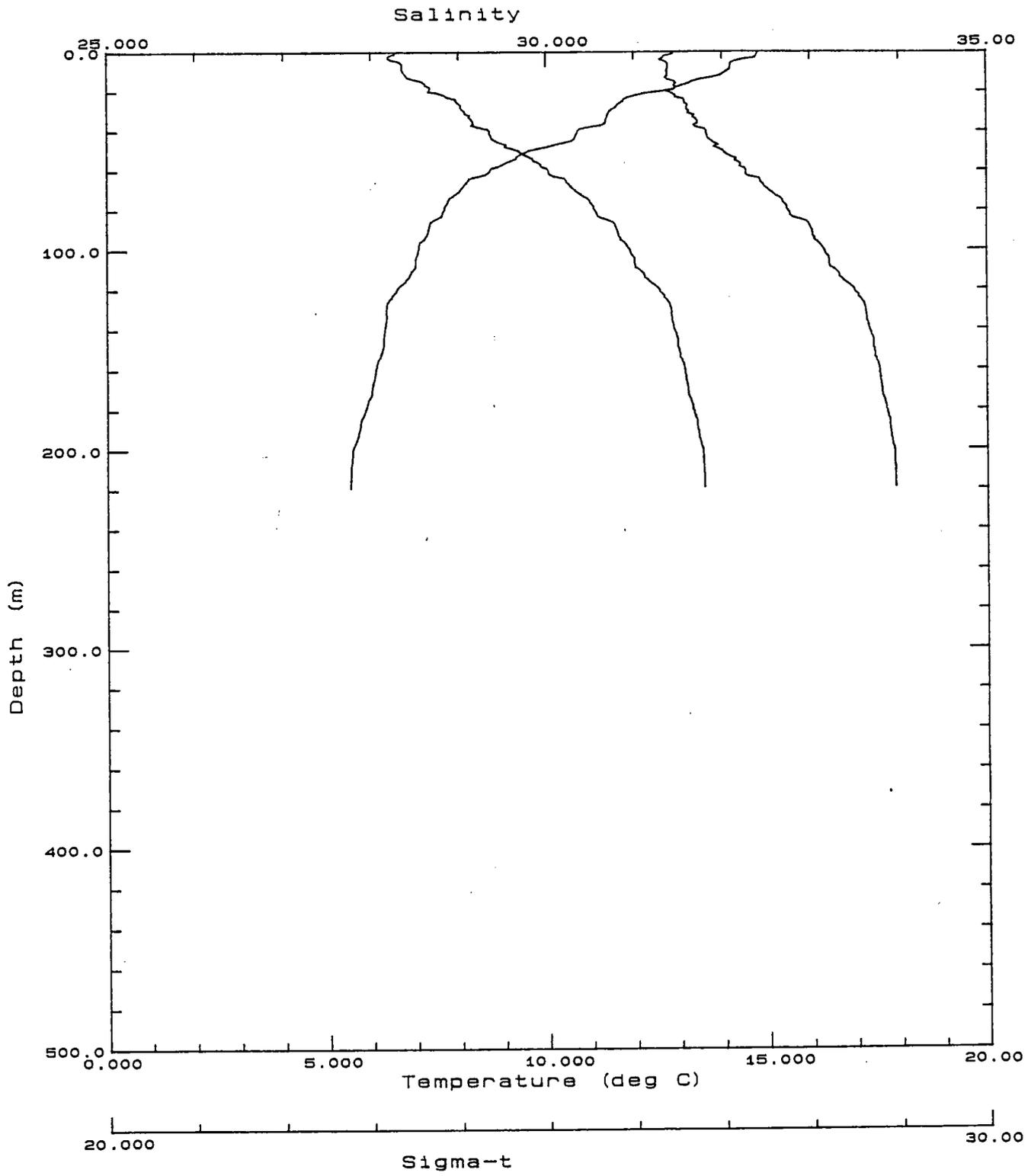
SEABIRD SBE-19 WAS USED

raw data file = DRJ34.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.26	31.31	22.86	499.22	0.00
10.00	15.99	31.27	22.89	496.69	0.45
20.00	15.25	31.34	23.10	476.65	0.94
30.00	14.08	31.77	23.68	421.72	1.39
50.00	10.20	32.25	24.78	317.00	2.14
75.00	8.35	32.47	25.24	273.23	2.89
100.00	7.28	33.08	25.87	213.42	3.50
125.00	6.43	33.55	26.35	167.69	3.96

DEEPEST MEASUREMENT:

127.00	6.43	33.56	26.36	167.37	3.99
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DRJ33.avg: RJ33

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ33

DATE: 28/08/90 TIME: 0025 UTC

POSITION: 52-47.25N 130-15.02W

BOTTOM DEPTH: 230 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

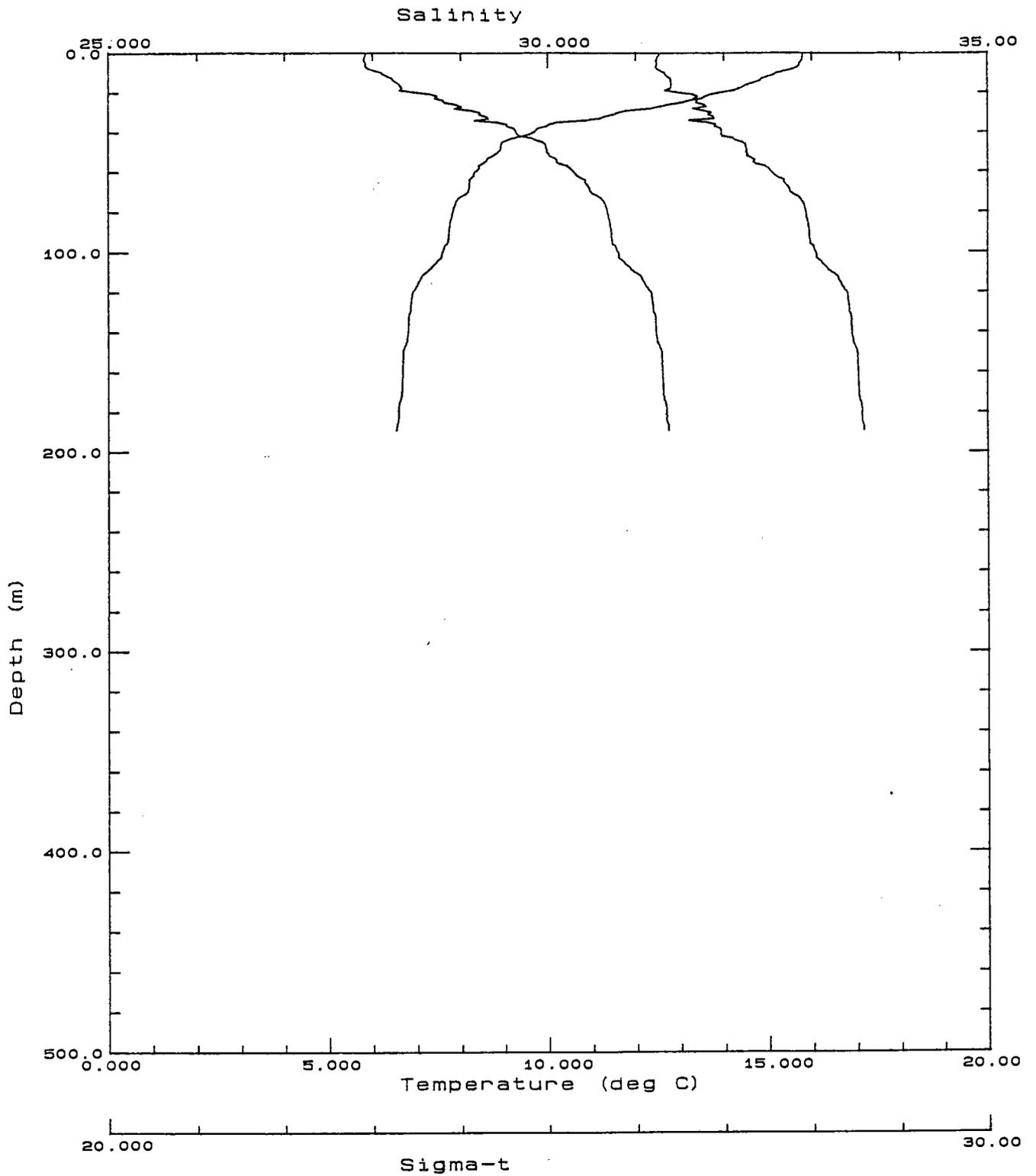
SEABIRD SBE-19 WAS USED

raw data file = DRJ33B.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	14.81	31.45	23.28	459.11	0.00
10.00	14.11	31.38	23.37	450.52	0.41
20.00	12.65	31.38	23.66	422.92	0.85
30.00	11.46	31.63	24.07	384.00	1.24
50.00	9.59	32.01	24.68	325.91	1.96
75.00	7.75	32.68	25.49	249.35	2.68
100.00	7.08	33.15	25.95	205.96	3.25
125.00	6.41	33.56	26.37	166.59	3.72
150.00	6.26	33.72	26.51	153.66	4.12
175.00	5.93	33.83	26.63	141.60	4.49
200.00	5.56	33.94	26.77	129.11	4.83

DEEPEST MEASUREMENT:

219.00	5.51	33.95	26.78	127.84	5.07
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DRJ30.avg: RJ30

SEAKEM OCEANOGRAPHY LTD.

STATION: RJ30

DATE: 28/08/90 TIME: 0300 UTC

POSITION: 52-48.25N 129-45.46W

BOTTOM DEPTH: 206 M

SECCHI DEPTH: -- M SST: ----- C

SURFACE SALINITY: ----- o/oo

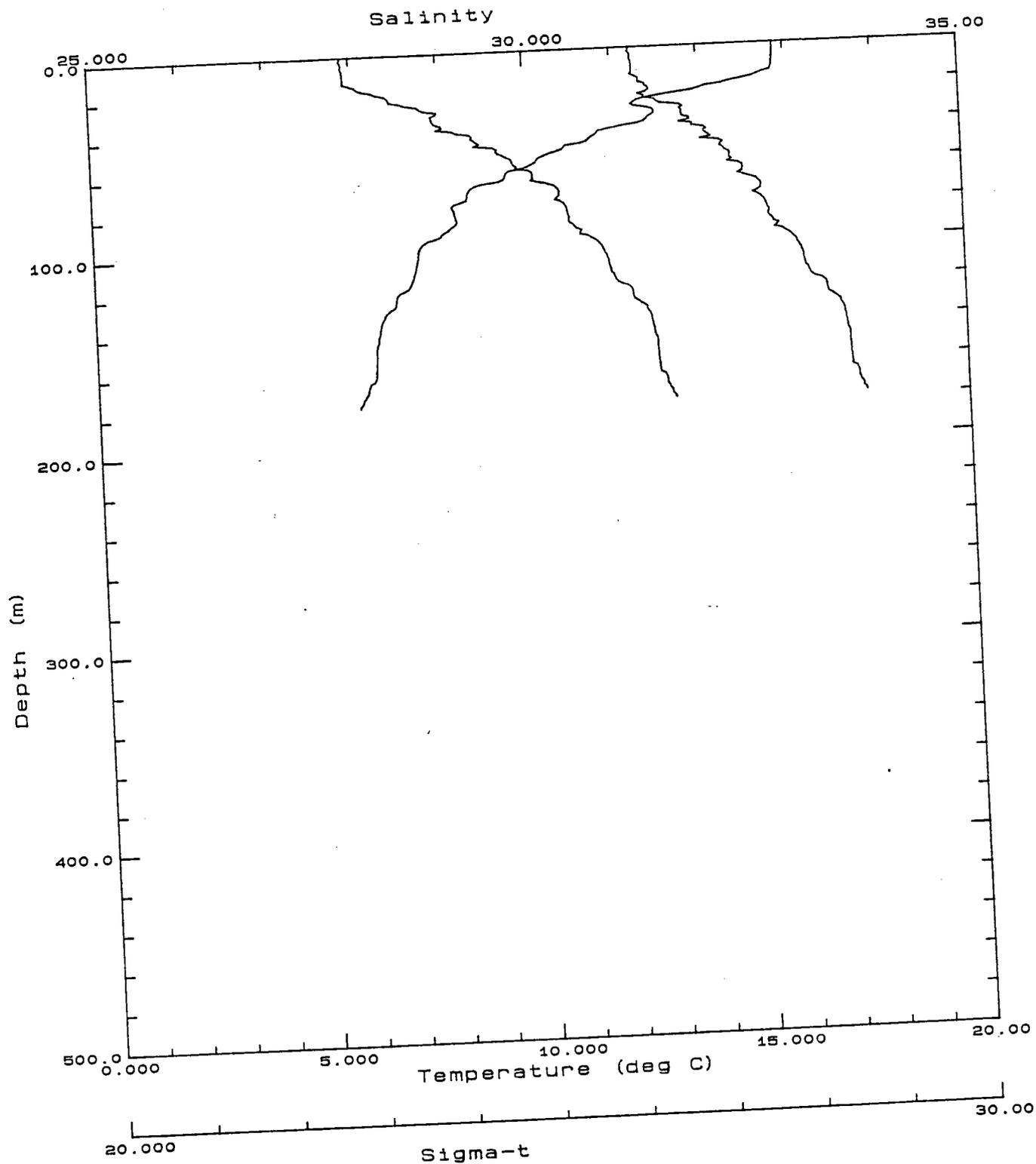
RESULTS OF CTD CAST
SEABIRD SBE-19 WAS USED

raw data file = DRJ30.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.80	31.27	22.92	493.04	0.00
10.00	15.20	31.32	23.10	476.58	0.44
20.00	13.93	31.45	23.46	441.80	0.90
30.00	11.60	31.85	24.22	369.60	1.31
50.00	8.86	32.25	24.99	296.39	1.97
75.00	7.88	32.90	25.64	235.04	2.63
100.00	7.58	33.04	25.80	220.32	3.20
125.00	6.87	33.41	26.19	183.74	3.70
150.00	6.69	33.51	26.29	174.29	4.15
175.00	6.60	33.55	26.33	170.80	4.58

DEEPEST MEASUREMENT:

189.00	6.53	33.58	26.37	167.45	4.82
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DRL21.avg: RL21

SEAKEM OCEANOGRAPHY LTD.

STATION: RL21

DATE: 28/08/90 TIME: 0450 UTC

POSITION: 52-36.14N 129-46.82W

BOTTOM DEPTH: 188 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

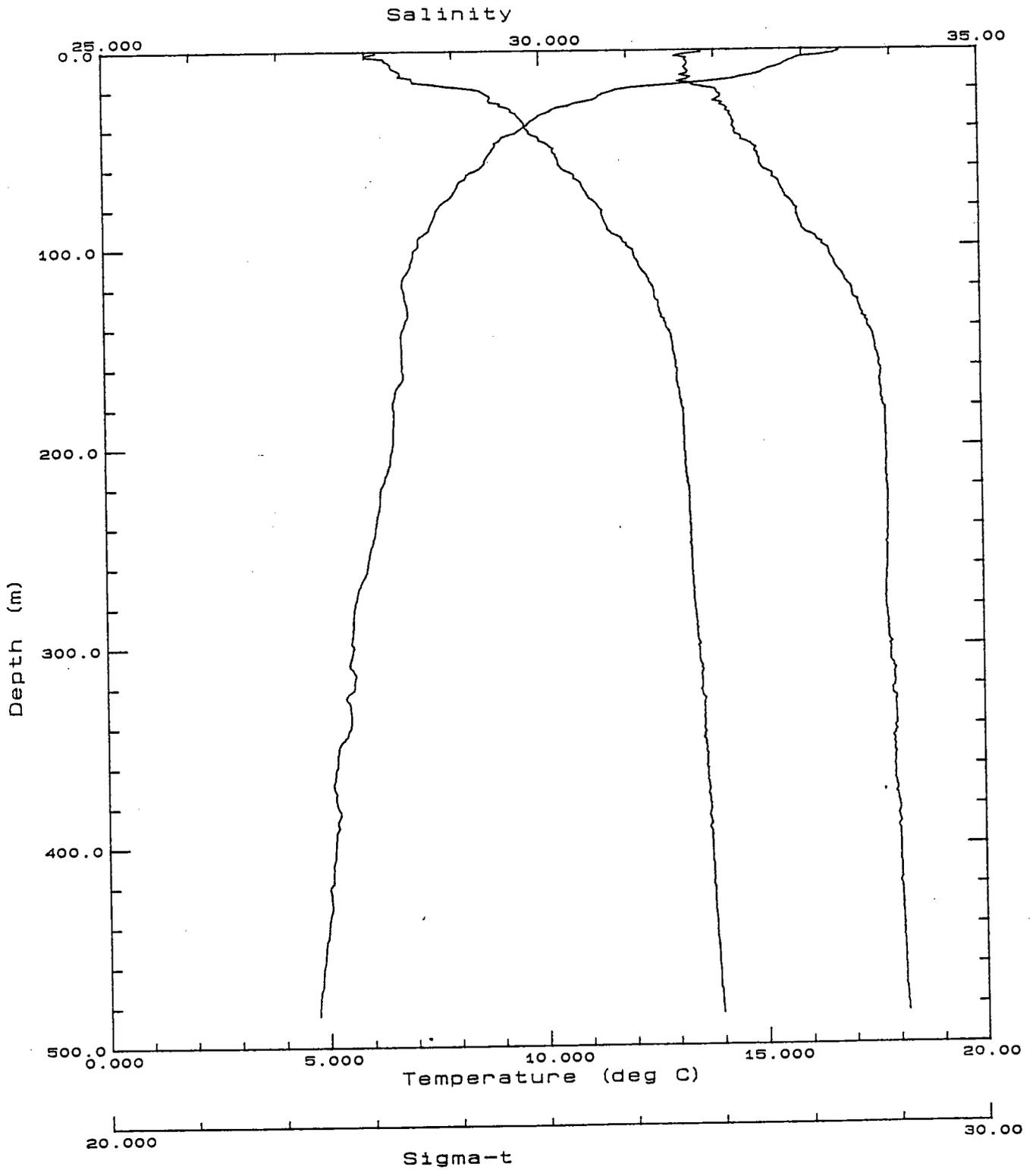
SEABIRD SBE-19 WAS USED

raw data file = DRL21.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.76	31.23	22.90	494.67	0.00
10.00	15.74	31.26	22.93	492.53	0.44
20.00	14.57	31.40	23.29	458.19	0.93
30.00	12.53	31.78	23.99	391.71	1.36
50.00	10.88	32.27	24.67	327.02	2.10
75.00	8.58	32.65	25.34	263.60	2.83
100.00	7.45	33.06	25.83	217.40	3.45
125.00	6.90	33.40	26.17	184.92	3.96
150.00	6.40	33.64	26.43	160.69	4.38
175.00	6.04	33.78	26.59	146.16	4.77

DEEPEST MEASUREMENT:

178.00	5.97	33.82	26.62	142.98	4.81
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DR8094.avg: R8094

SEAKEM OCEANOGRAPHY LTD.

STATION: R8094

DATE: 28/08/90 TIME: 2000 UTC

POSITION: 50-54.06N 130-49.06W

BOTTOM DEPTH: 520 M

SECCHI DEPTH: 6 M SST: 17.3 C SURFACE SALINITY: 31.77 o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DR8094.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	16.85	31.86	23.13	472.85	0.00
10.00	15.24	31.69	23.37	450.39	0.42
20.00	11.77	32.01	24.31	360.53	0.84
30.00	10.30	32.15	24.68	325.77	1.19
50.00	8.92	32.48	25.16	280.71	1.80
75.00	7.90	32.80	25.56	242.77	2.46
100.00	7.13	33.23	26.01	200.38	3.02
125.00	6.86	33.55	26.30	173.31	3.48
150.00	6.78	33.80	26.50	154.16	3.88
175.00	6.59	33.86	26.57	147.56	4.26
200.00	6.54	33.91	26.62	143.73	4.62
225.00	6.25	33.92	26.67	139.23	4.98
250.00	6.03	33.90	26.68	138.14	5.32
300.00	5.62	33.92	26.75	132.49	6.00

DEEPEST MEASUREMENT:

484.00	4.74	34.09	26.98	111.30	8.23
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APPENDIX I
LIST OF CTD STATIONS NAMING EXPLANATION

LEG 4, continued

REFERENCE NUMBER	STATION	EXPLANATION
191	RJ32	BUOY 32, RECOVERY TRACK J
192	RJ34	BUOY 34, RECOVERY TRACK J
193	RJ33	BUOY 33, RECOVERY TRACK J
194	RJ30	BUOY 30, RECOVERY TRACK J
195	RL21	BUOY 21, RECOVERY TRACK L
196	RB8090	ARGOS BUOY 8090, RECOVERY TRACK B
197	R8094	ARGOS BUOY 8094, RECOVERY

1-3 SPECIFICATIONS

Measurement Range:	Temperature Conductivity Pressure	-5 to +35 °C 0 to 7 S/m (0 to 70 mmho/cm) 50, 100, 150, 200, 300, 500, 1000, 2000, 3000, 5000, or 10,000 psia
Accuracy:	Temperature Conductivity Pressure	0.01 °C/6 months 0.001 S/m/month 0.5% of full scale range
Resolution:	Temperature Conductivity Pressure	0.001 °C 0.0001 S/m 0.03% of full scale range
Sensor Calibration:	Temperature Conductivity	-1 to +31 °C (measurements outside this range may be at slightly reduced accuracy due to extrapolation errors) 0 to 7 S/m. Physical calibration over the range 1.4 to 6 S/m. Measurements outside this range may be at slightly reduced accuracy due to extrapolation errors.
Pressure:	0 to full scale in 20% steps	
Counter time-base:	Quartz TCXO, +/- 2 ppm per year aging; +/- 2 ppm vs. temperature (- 5 to + 30 °C).	
Memory:	CMOS static RAM, 64K or (optional) 256K byte; battery backed for minimum 2 years data retention.	
Real-time clock:	Watch-crystal type 32,768 Hz; battery backed for minimum of 1 year operation irrespective of condition of main battery. Corrected for drift and aging by comparison to SEACAT counter time-base.	
Batteries:	6 alkaline 'D'-cells provide 48 hours continuous operation and 2 year data retention reserve.	
Materials:	600 Meter Pressure Case, acetal copolymer (plastic) 3400 Meter Pressure Case, 6061-T6 anodized aluminum 6800 Meter Pressure Case, 7075-T6 anodized aluminum	

SYSTEM CONFIGURATION

Model SBE 19

S/N 193390-451

Instrument type

5 SEACAT PROFILER

Firmware Version

2.0d

0 conductivity raw frequency

3028 Hz

Baud rate

9600

Number of data words

4

memory

64K

housing

600 meter (Celcon plastic)

pressure sensor

1000 psi S/N 136413

pump (SBE 5-01LD)

S/N 277

SEA - BIRD ELECTRONICS, INC.
 1808 136th Place N.E., Bellevue, Washington 98005
 Telephone: (206) 643-9866 Telex: 292915 SBEI UR

CONDUCTIVITY CALIBRATION DATA
 CALIBRATION DATE: 04-27-90

PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

SENSOR SERIAL NUMBER = 451

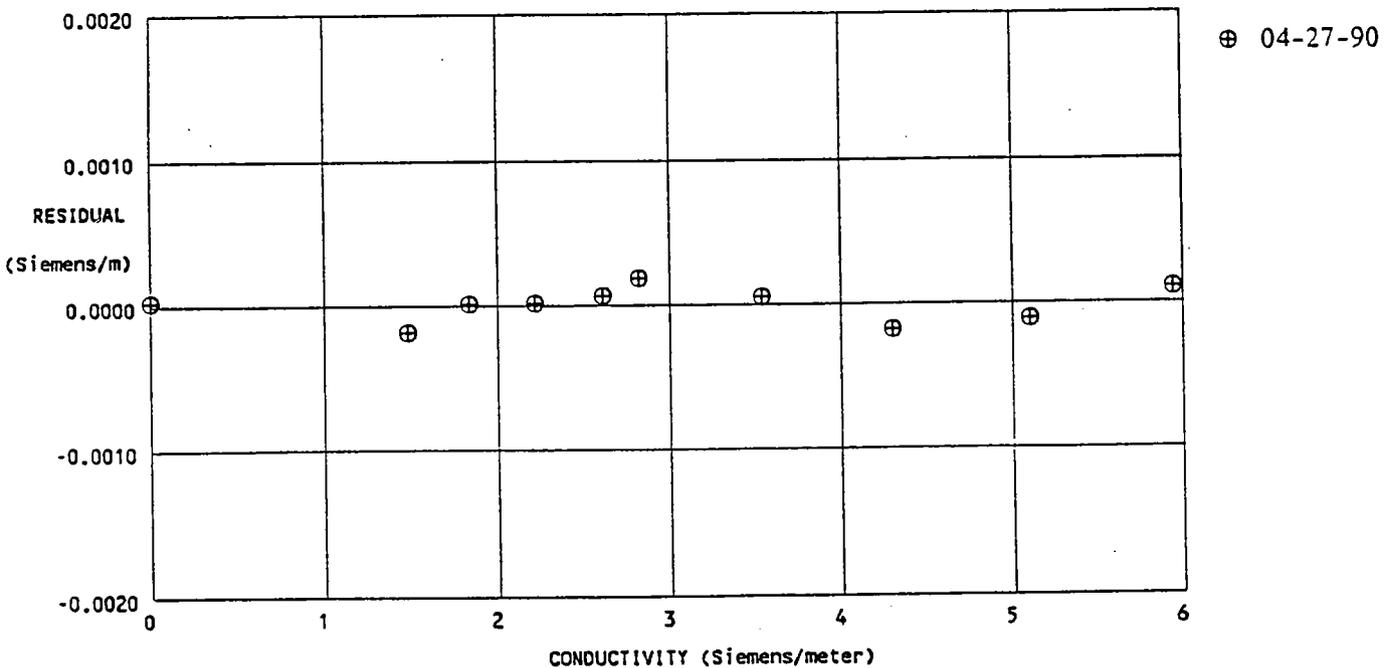
a = 7.98033991e-04 b = 4.44919687e-01
 c = -3.71946816e+00 d = 3.75311849e-04
 m = 2.9

BATH TEMP (°C)	BATH SAL (°/oo)	BATH COND (Siemens/m)	INST FREQ (kHz)	INST COND (Siemens/m)	RESIDUAL (Siemens/m)
31.0319	34.9695	5.94088	11.81326	5.94099	0.00011
23.0449	34.9707	5.09956	11.00343	5.09945	-0.00011
15.0550	34.9703	4.29355	10.16614	4.29337	-0.00018
7.0932	34.9703	3.53420	9.30766	3.53425	0.00005
-1.0134	34.9699	2.81467	8.41216	2.81486	0.00019
27.0065	15.2267	2.60414	8.12943	2.60420	0.00006
19.0679	15.2266	2.21147	7.57706	2.21149	0.00002
11.0355	15.2264	1.83370	7.00412	1.83371	0.00001
3.0008	15.2264	1.47953	6.41974	1.47935	-0.00018
0.0000	0.0000	0.00000	2.88474	0.00003	0.00003

Conductivity = $(af^m + bf^2 + c + dt) / [10(1 - 9.57(10^{-8})p)]$ Siemens/meter, where p = pressure in dbars

Residual = instrument conductivity - bath conductivity

NOTE: Multiply Siemens/meter by 10 to obtain mmho/cm



SEA - BIRD ELECTRONICS, INC.
 1808 136th Place N.E., Bellevue, Washington 98005
 Telephone: (206) 643-9866 Telex: 292915 SBEI UR

TEMPERATURE CALIBRATION DATA
 CALIBRATION DATE: 04-27-90

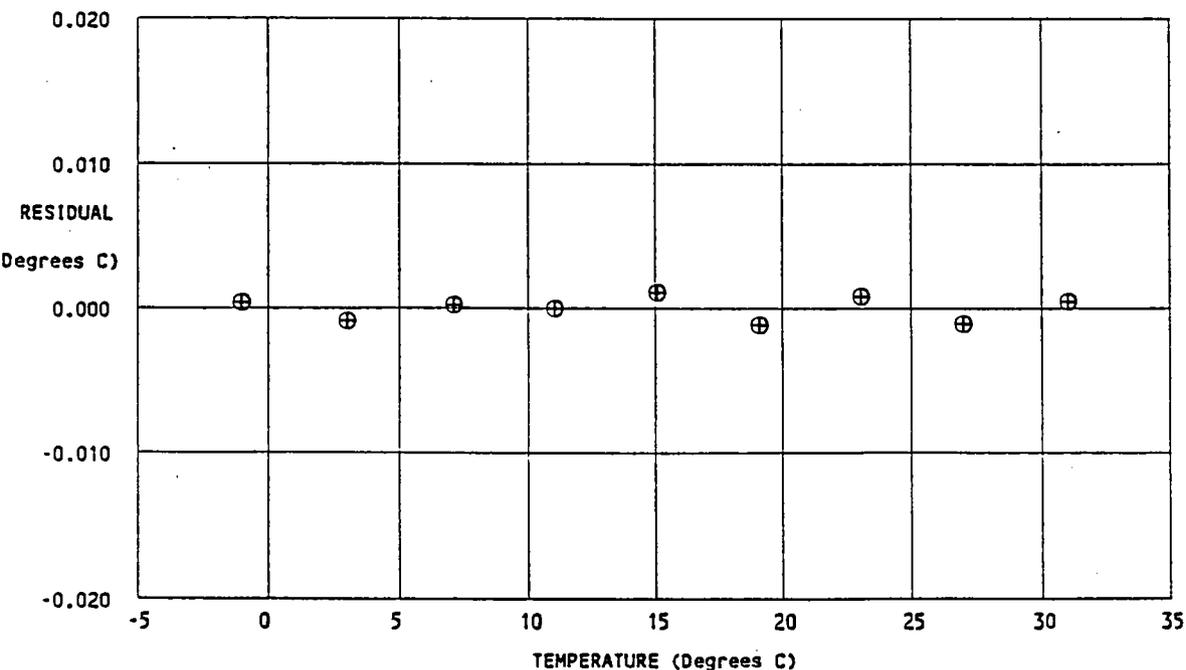
SENSOR SERIAL NUMBER = 451

a = 3.67461970e-03 b = 5.75829215e-04
 c = 7.20327372e-06 d = -2.41778872e-06
 $f_0 = 2463.76$

BATH TEMP (°C)	INSTRUMENT FREQ (Hz)	INST TEMP (°C)	RESIDUAL (°C)
31.0319	4860.10	31.0324	0.00050
23.0449	4153.86	23.0458	0.00085
15.0550	3522.89	15.0561	0.00113
7.0932	2964.58	7.0934	0.00022
-1.0134	2463.76	-1.0130	0.00040
27.0065	4494.28	27.0054	-0.00106
19.0679	3830.47	19.0667	-0.00117
11.0355	3232.47	11.0355	0.00000
3.0008	2703.46	2.9999	-0.00089

$$\text{Temperature} = 1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15 \text{ (°C)}$$

$$\text{Residual} = \text{instrument temperature} - \text{bath temperature}$$



SBE SEA-BIRD ELECTRONICS, INC.
 1808 - 136th Place Northeast, Bellevue, Washington 98005
 Telephone: (206) 643-9866 Fax: (206) 643-9954 Telex: 292915 SBEI UR

SBE 193390-451

3 May 1990

Pressure calibration: Paine 211-75-710-03 1000 psia S/N 136413

Straight Line Fit:

$$\text{Pressure(psia)} = M * N + B \quad (N = \text{Binary output})$$

$$M = -0.13035 \quad B = 497.29$$

Quadratic Fit:

$$\text{Pressure(psia)} = A0 + A1 * N + A2 * N * N \quad (N = \text{binary output})$$

$$A0 = 496.44719 \quad A1 = -1.303331e-01 \quad A2 = 1.261220e-07$$

Pressure (psi)	Output (N)	Straight Line Fit		Quadratic Fit	
		error, psi	error, %FS	error, psi	error, %FS
14.79	<u>3708.15</u>	-0.865	-0.09	0.097	0.01
212.10	<u>2190.17</u>	-0.304	-0.03	-0.499	-0.05
409.20	<u>673.99</u>	0.232	0.02	-0.539	-0.05
606.30	<u>-842.23</u>	0.774	0.08	0.007	0.00
803.40	<u>-2349.52</u>	0.151	0.02	-0.036	-0.00
1000.60	<u>-3852.83</u>	-1.090	-0.11	-0.130	-0.01
803.40	<u>-2351.65</u>	0.429	0.04	0.242	0.02
606.30	<u>-846.32</u>	1.307	0.13	0.541	0.05
409.20	<u>668.08</u>	1.003	0.10	0.231	0.02
212.10	<u>2186.80</u>	0.135	0.01	-0.062	-0.01
14.79	<u>3706.73</u>	-0.683	-0.07	0.278	0.03

Output binary values are averages of 101 samples taken at 2 Hz.

SEASOFT Versions 3.3M and higher will prompt for A0, A1, and A2

SEASOFT Versions 3.3L and lower will prompt for M and B

APPENDIX III

**SEA-BIRD ELECTRONICS, INC. BIN-AVERAGING ALGORITHM
FROM CTD ACQUISITION SOFTWARE MANUAL
SEASOFT VERSION 3.3
JANUARY 1990**

6-4 BINA VG: DETAILED EXPLANATION

Binavg is used to produce bin averaged data in ASCII engineering units. The user selects either pressure, depth, or time bins and the bin size. The file SEASOFT.CFG in the current directory must correspond with the raw data file. This can be ensured by copying the file FILENAME.CON (made when the data file was created) to SEASOFT.CFG in the current directory. The bin averaged data is written to a file with the extension .AVG. A summary is written to a file with the extension .SUM. To process ALL scans without averaging or interpolation select scan number bins with a bin size of 1 scan and include all scans (do not use the pressure filter).

6-4.1 BINA VG: DESCRIPTION OF ALGORITHM

The bin averages are computed as follows:

1. Data (temperature, conductivity, pressure, frequencies and voltages) in the bin are summed together (if the pressure filter option is chosen scans where the pressure signal is not increasing by at least 0.25 meters per second are not included in the sum).
2. When the pressure, depth, or time data is greater than the maximum for this bin all the sums are divided by the number of scans in the sum to obtain current averages. The derived variables salinity, density, and sound velocity etc. are computed from the current average values of temperature, conductivity, and pressure.
3. Target = maximum pressure, depth, or time value for this bin - (binsize / 2)
PAP = average pressure, depth or time from previous bin
CAP = current average pressure, depth, or time from this bin
 $M = (Target - PAP) / (CAP - PAP)$
4. PAV = average value from previous bin
CAV = current average value from this bin

For each variable the bin averaged value = $PAV + M * (CAV - PAV)$

Example:

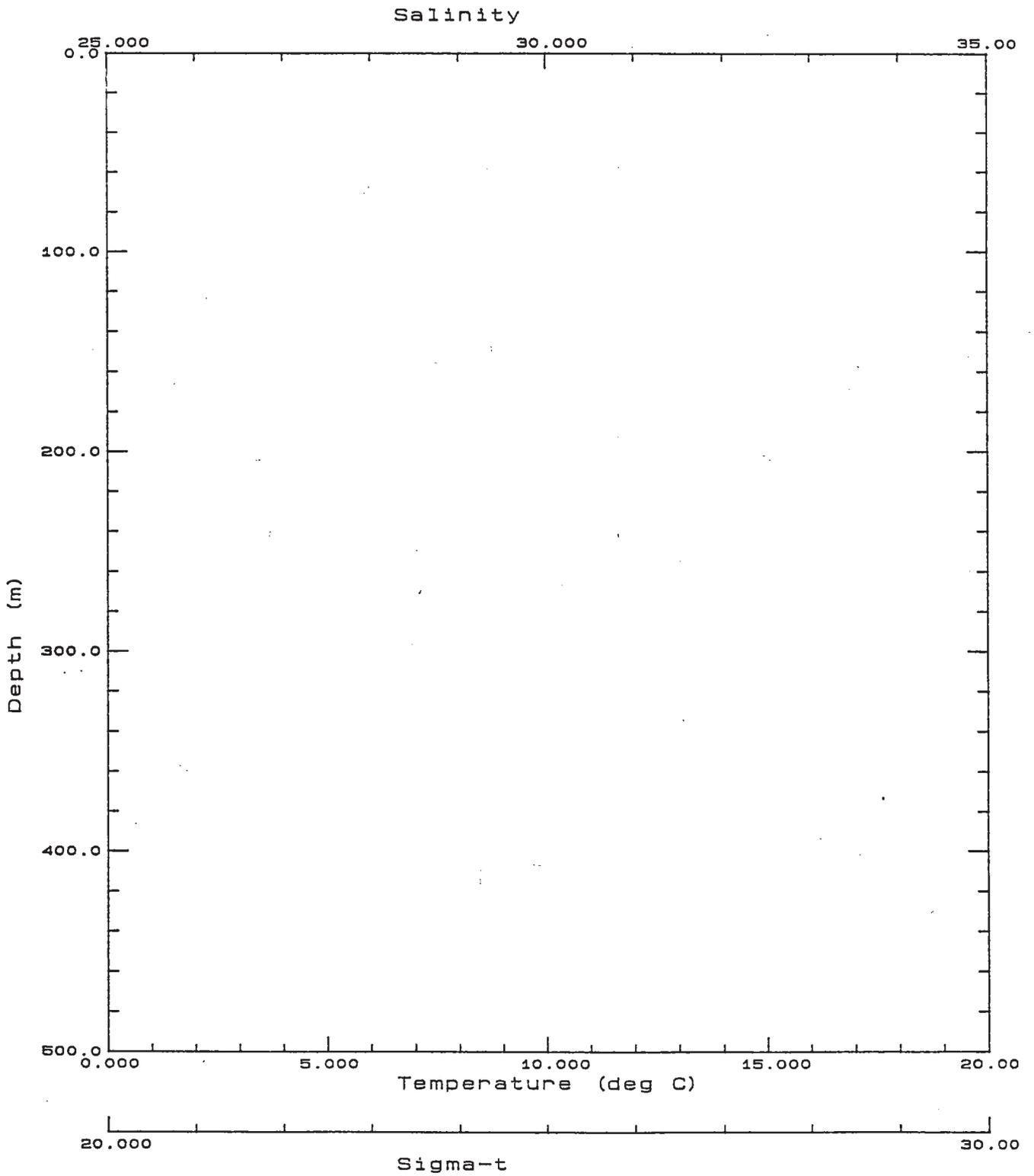
Bin size = 10 meters

maximum depth for previous bin = 35 meters

current maximum depth for this bin is 45 meters

scans with depth values from 35 to 45 meters will be summed in this bin

APPENDIX IV
IRREGULAR DATA



DCJWSST.avg: CJWSST

SEAKEM OCEANOGRAPHY LTD.

STATION: CJWSST

DATE: 14/07/90 TIME: 1508 UTC

POSITION: 51-55.43N 131-00.33W

BOTTOM DEPTH: --- M

SECCHI DEPTH: -- M SST: 14.63 C SURFACE SALINITY: 32.20 o/oo

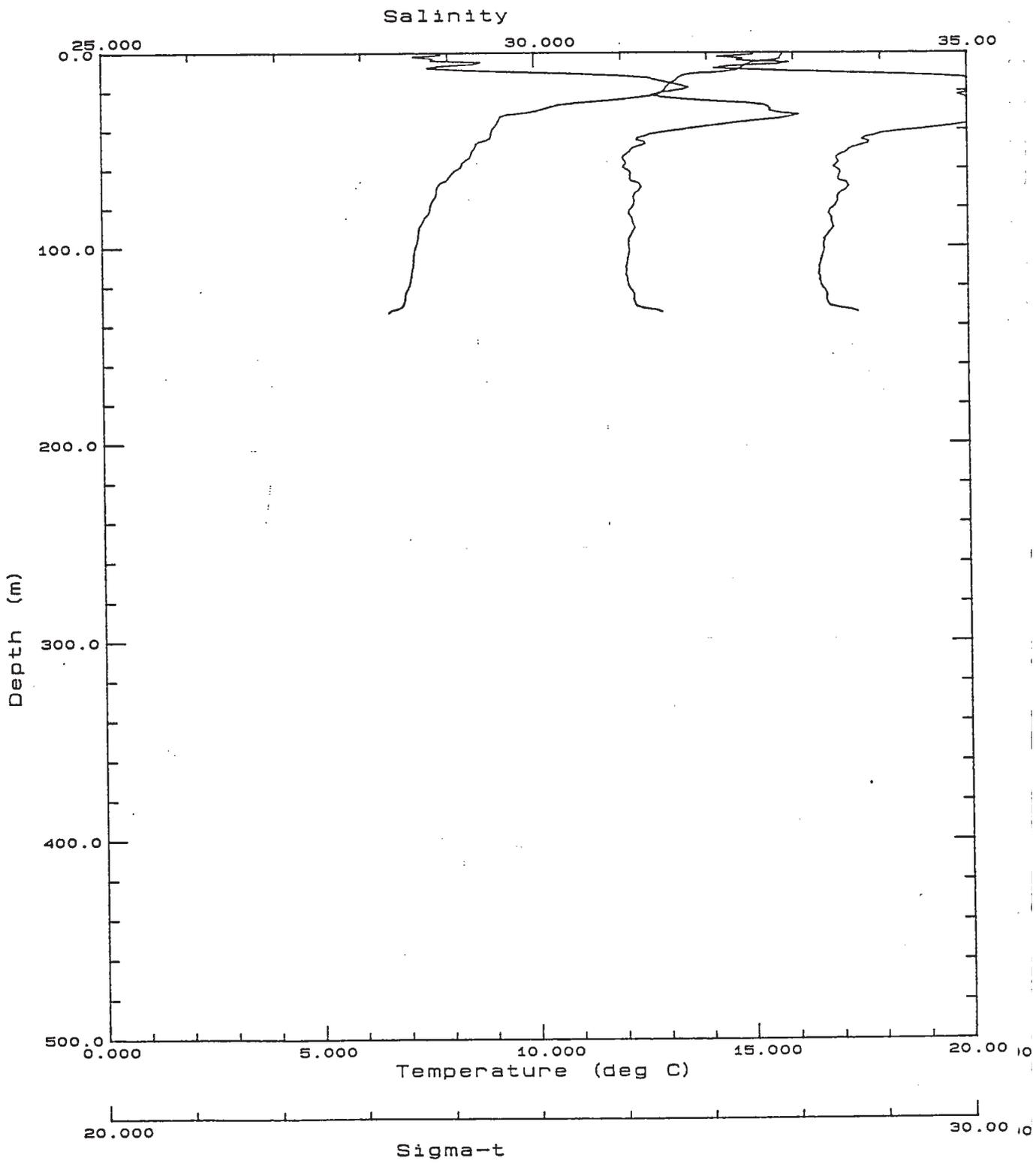
RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DCJWSST.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
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DEEPEST MEASUREMENT:



D32D18JL.avg: 32D18JL

SEAKEM OCEANOGRAPHY LTD.

STATION: 32D18JL

DATE: 19/07/90 TIME: 200 UTC

POSITION: 52-30.60N 130-30.55W

BOTTOM DEPTH: 152 M

SECCHI DEPTH: -- M SST: 16.2 C SURFACE SALINITY: 31.78 o/oo

RESULTS OF CTD CAST

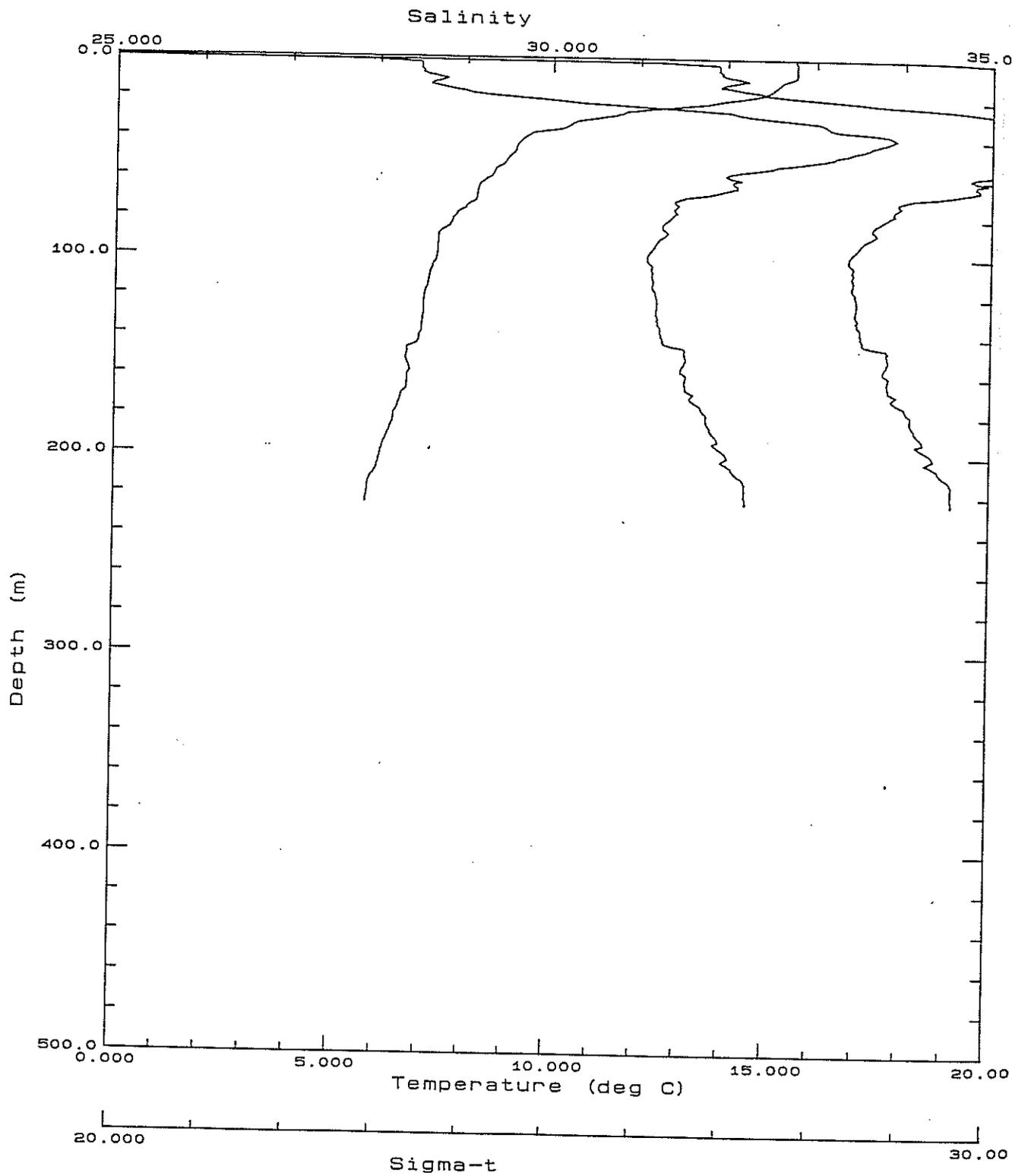
SEABIRD SBE-19 WAS USED

raw data file = D32D18JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.76	32.55	23.92	398.02	0.00
10.00	14.40	33.28	24.77	316.50	0.35
20.00	12.98	35.24	26.58	145.08	0.52
30.00	10.06	36.01	27.73	36.14	0.62
50.00	8.59	33.63	26.11	190.32	0.85
75.00	7.67	33.49	26.14	187.63	1.33
100.00	7.23	33.34	26.08	193.46	1.80
125.00	6.99	33.38	26.14	187.82	2.29

DEEPEST MEASUREMENT:

133.00	6.60	33.71	26.46	158.02	2.43
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DTST18JL.avg: TST18JL

SEAKEM OCEANOGRAPHY LTD.

STATION: TST18JL

DATE: 19/07/90 TIME: 515 UTC

POSITION: 52-19.65N 130-04.44W

BOTTOM DEPTH: 250 M

SECCHI DEPTH: -- M SST: ----- C SURFACE SALINITY: ----- o/oo

RESULTS OF CTD CAST

SEABIRD SBE-19 WAS USED

raw data file = DTST18JL.dat

METERS	TEMP	SALINITY	SIGMA-T	SVA	DELTA D
1.00	15.53	17.33	12.30	1518.70	0.00
10.00	15.46	32.13	23.66	422.63	0.45
20.00	14.32	32.97	24.56	337.57	0.86
30.00	11.15	35.97	27.51	57.56	1.04
50.00	9.00	36.37	28.19	-6.66	0.99
75.00	8.01	33.93	26.44	159.61	1.23
100.00	7.33	33.38	26.10	191.70	1.67
125.00	7.02	33.47	26.21	181.59	2.13
150.00	6.64	33.82	26.54	150.58	2.57
175.00	6.46	34.02	26.72	133.53	2.94
200.00	6.07	34.35	27.03	104.91	3.24

DEEPEST MEASUREMENT:

224.00	5.75	34.57	27.24	84.83	3.46
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OFFERING SERVICES IN CHEMICAL, PHYSICAL
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