Southwest Fisheries Science Center
Administrative Report H-90-17

OCEANOGRAPHIC OBSERVATIONS IN THE NORTH PACIFIC SUBARCTIC FRONTAL ZONE DURING 11 OCTOBER-5 NOVEMBER 1989

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NOT FOR PUBLICATION

This Administrative Report is issued as an informal document to ensure prompt dissemination of preliminary results, interim reports, and special studies. We recommend that it not be abstracted or cited.

INTRODUCTION

In an effort to further our understanding of the physical and biological environment in which the North Pacific high seas driftnet fisheries operate, a collaborative multinational research cruise was conducted within waters of the North Pacific subarctic frontal zone. During 11 October-5 November 1989, personnel from the Honolulu Laboratory of the Southwest Fisheries Science Center, Auke Bay Laboratory of the Alaska Fisheries Science Center, National Marine Mammal Laboratory, Taiwan Fisheries Research Institute, and the Korea Ocean Research and Development Institute participated in the NOAA ship *Townsend Cromwell* cruise 89-09 conducting operations to observe and quantify the distribution and abundance of pelagic fish, cephalopod, and marine mammal species of the central North Pacific in relation to the ocean temperature and salinity structure near the subarctic boundary. This report presents the hydrographic observations made with expendable bathythermograph (XBT) and conductivity-temperature-depth (CTD) casts during the course of the cruise. We emphasize that the intent of this compilation is not to analyze the thermohaline structure of the subarctic frontal zone but rather to simply present the oceanographic observations in a summarized form for the information of interested parties.

The cruise track, schematically represented in Figure 1, originated in Juneau, Alaska (departing 11 October 1989), and concluded in Honolulu, Hawaii (arriving 5 November 1989). While in transit to and from the sampling transect, XBT casts were made every 6 hours. Within the study area, CTD and XBT casts were planned at stations 15 nmi apart along the 155°W and 165°W meridians between latitudes 38°N and 46°N. At selected sites, biological sampling accompanied the environmental observations. Unfortunately, due to adverse weather and sea conditions, many of the operations scheduled on the original station plan were altered or abandoned (see TC 89-09 Final Cruise Instructions and Narrative Cruise Report). The operations and relative positions of the completed sampling stations are presented in Figure 2. Nearly all of the environmental stations along the 155°W meridional transect were completed and enabled compilation of south to north vertical profiles (averaged in 5 m bins) of temperature, salinity, and density (sigma-t) distribution (Fig. 3).

A total of 43 CTD casts, primarily at 15 nmi intervals along the meridional transects, were made with a SeaBird model SBE 9/11 CTD system configuration. The casts were initially conducted to a depth of 1,000 m; however, on the seventeenth cast the conducting cable on the hydrographic midwinch of the vessel was damaged at the 960 m mark. Subsequent casts were conducted only to a depth of 900 m.

Downcast CTD data were averaged in 5 m bins to create the tabular summaries in this report and in 2 m bins for the graphic temperature-salinity profiles. Each tabular summary includes the water properties: pressure (decibars), temperature (°C), salinity (ppt), density (sigma-t), and sound velocity (m/s). For pressures between 100 and 250 dbars, corresponding water properties are presented for only each 10 dbar change, and for pressures greater than 250 dbars, observations are listed for each 50 dbar change. The data from cast no. 38 (Stn. 111) conducted at 43°00.2'N 165°00.0'W was lost on a defective data storage disk and thus is not presented among the tables and plots.

During the cruise, 101 XBT casts were made through the Shipboard Environmental (Data) Acquisition System (SEAS) III. The unedited temperature profiles and whole degree isotherms as determined through the SEAS III software for 99 of the casts are presented; two casts (no. 48 and 77) were deemed unusable.

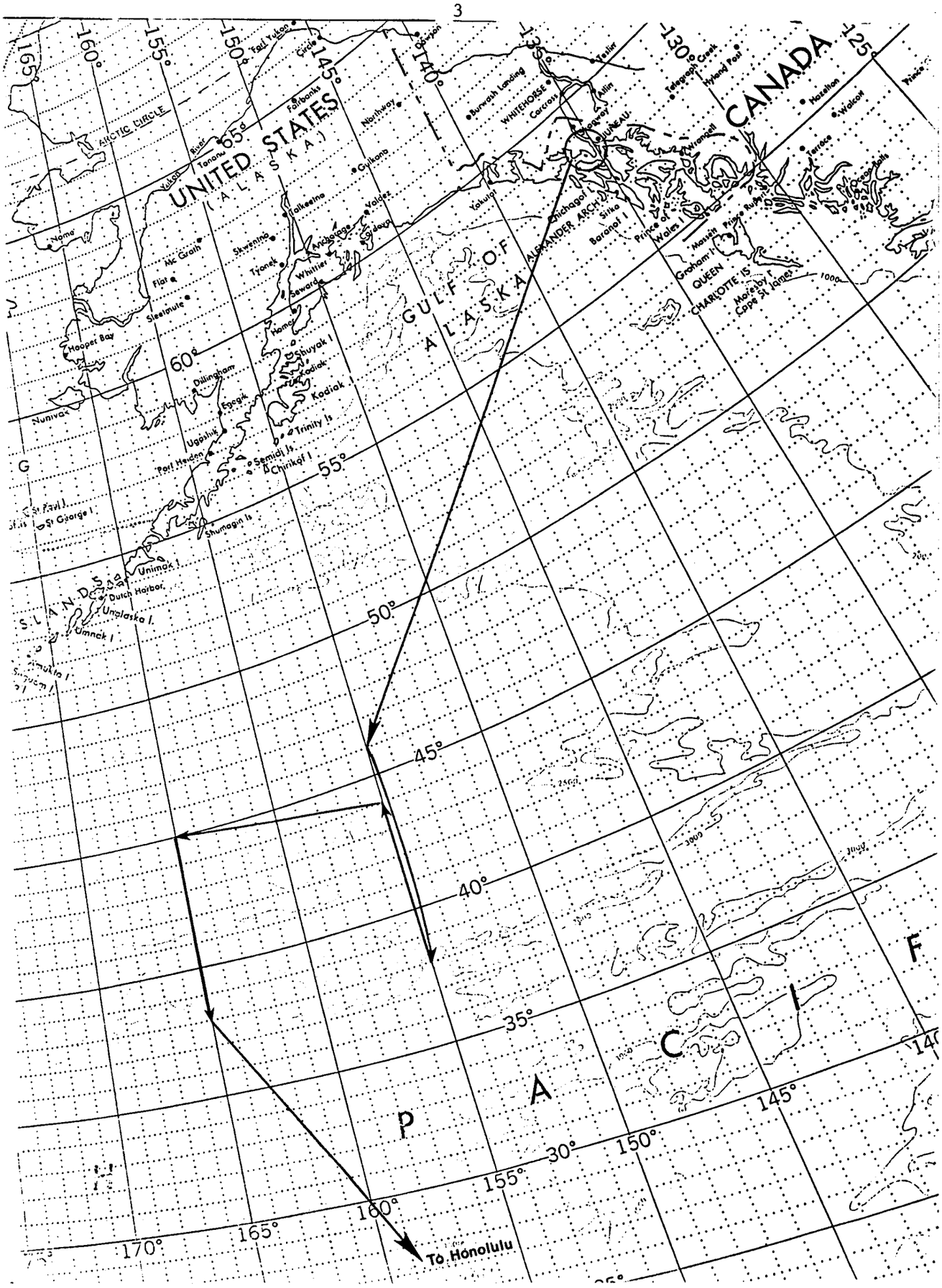


Fig 1.--Track of the Townsend Cromwell cruise 89-09 (TC-147), October 11 to November 5, 1989.

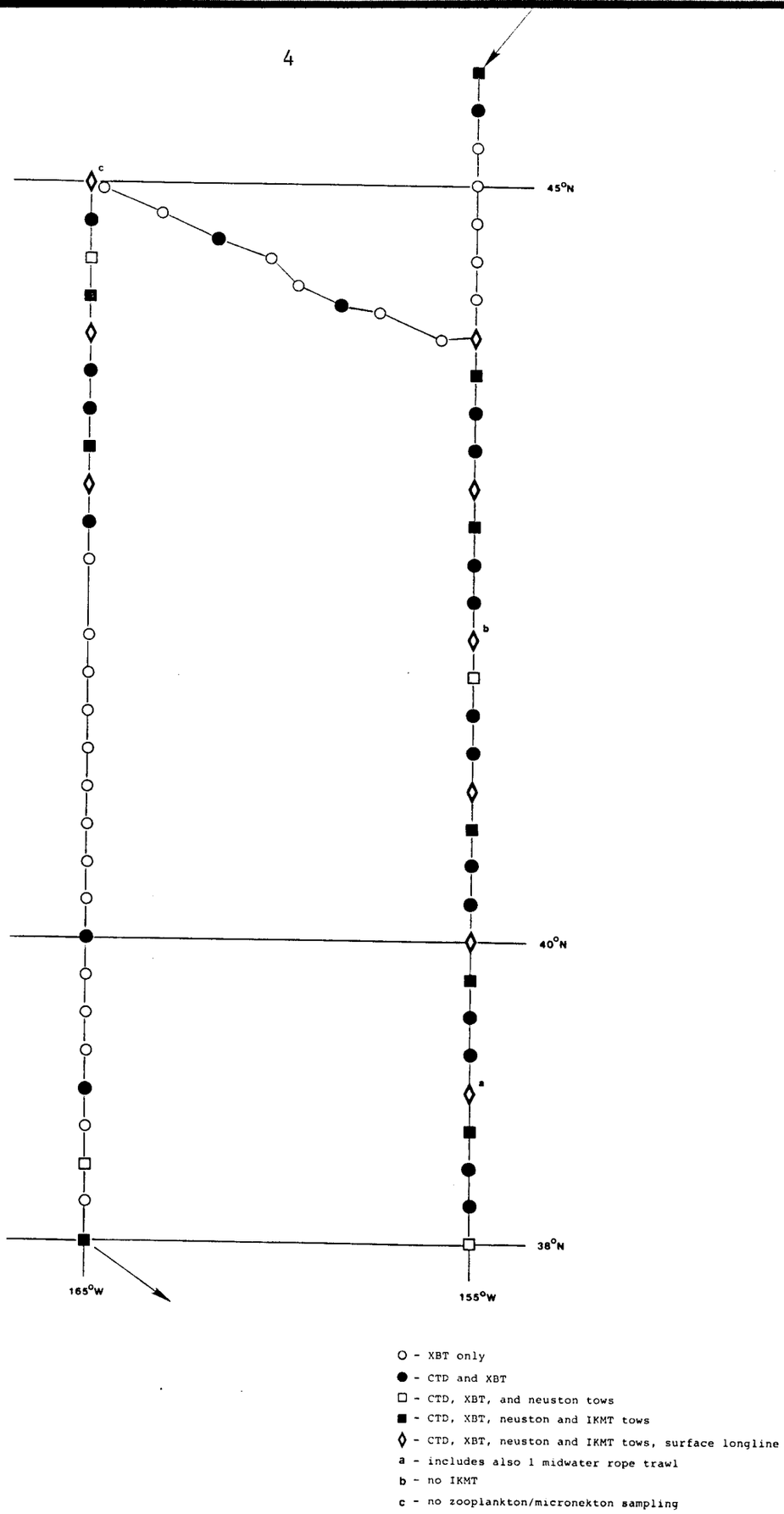


Figure 2.--Sampling stations on *Townsend Cromwell* cruise 89-09, October 11 to November 5, 1989.

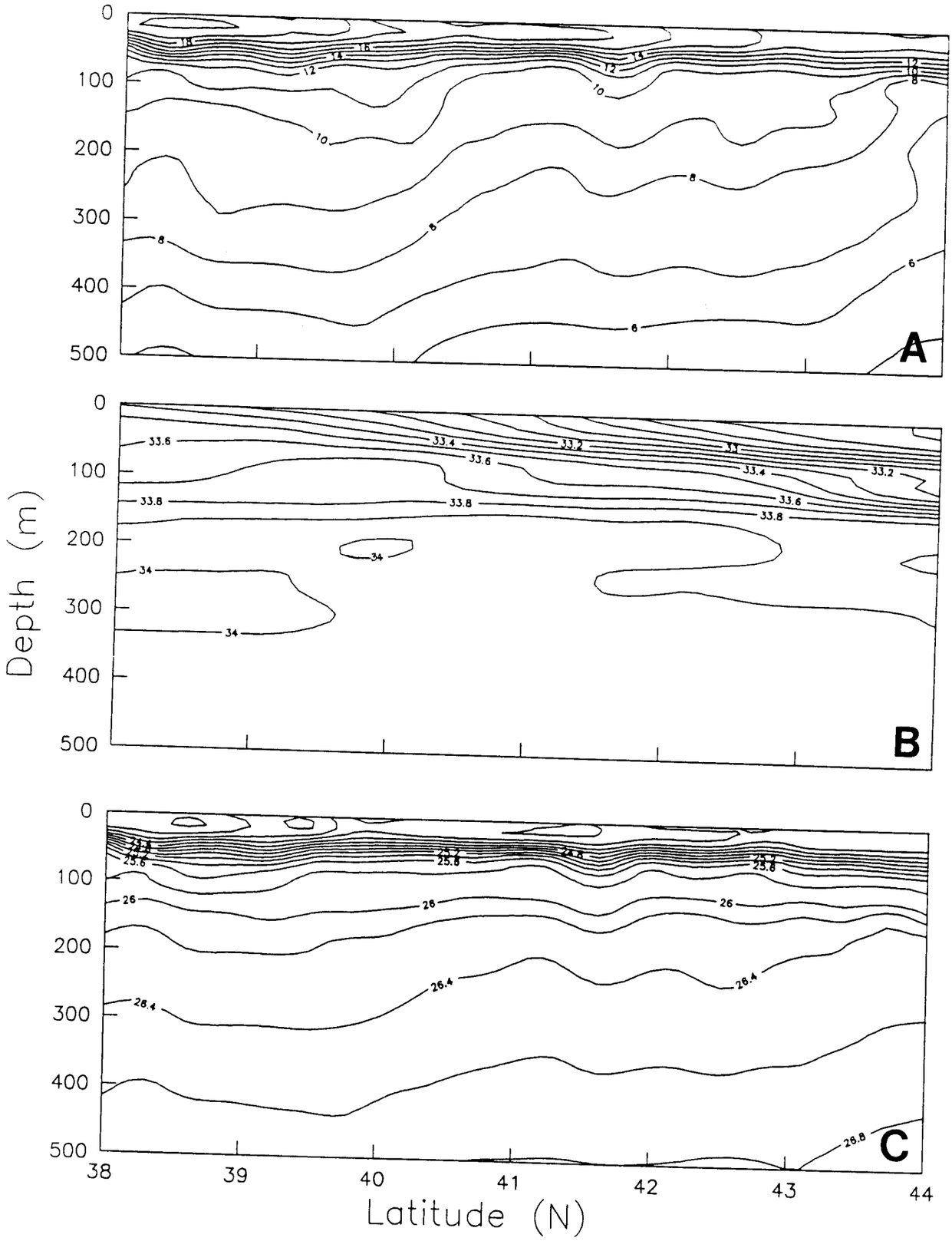
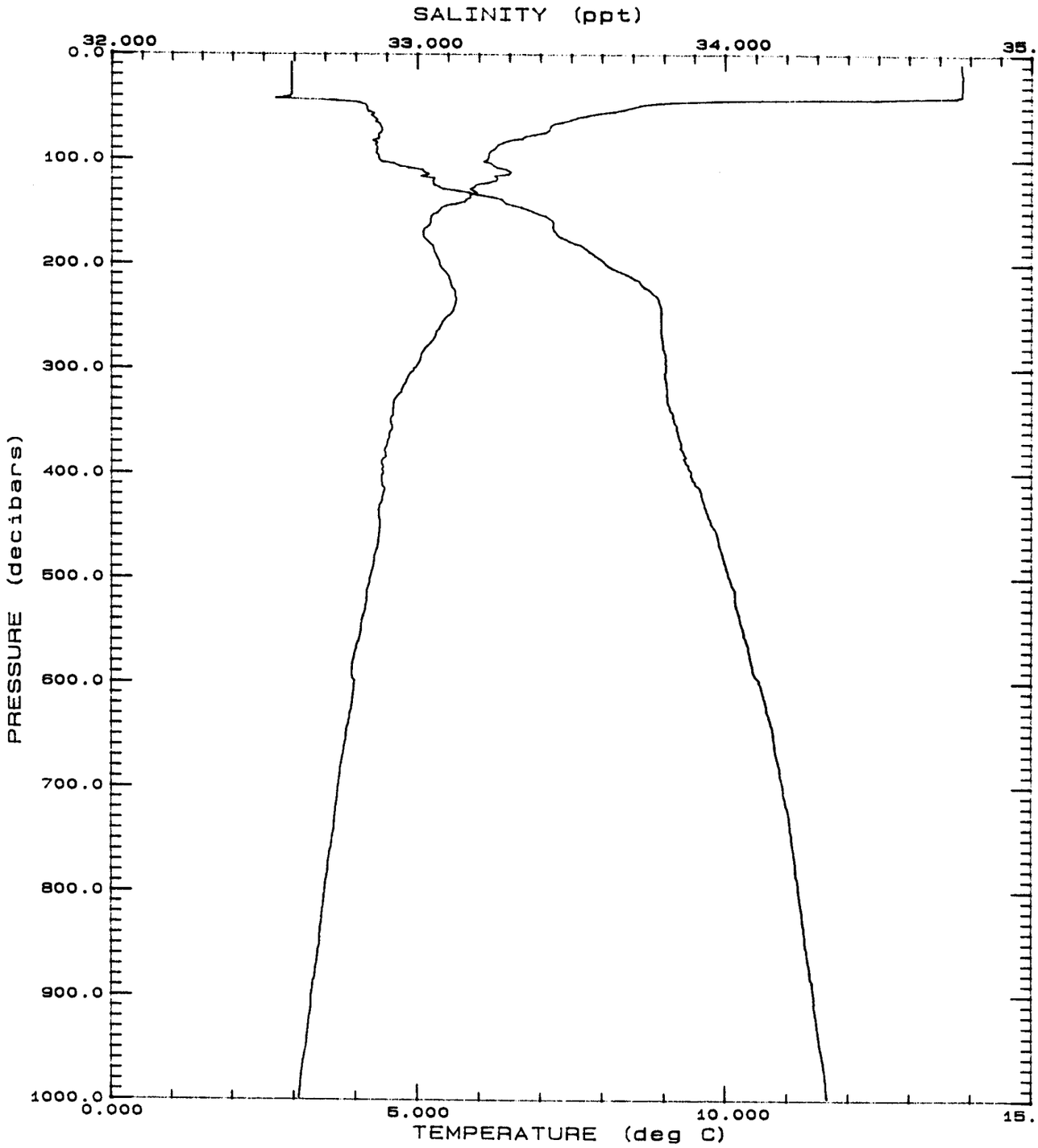


Figure 3.--South-north vertical sections of water properties at 155°W in the central North Pacific: (A) temperature (°C), (B) salinity (ppt), (C) density (sigma-t).

CTD CASTS

TC 89-09, Stn. 1, CTD cast 1, 46°00.8'N 155°01.6'W,
15 October 1989, (raw data averaged in 5m bins).

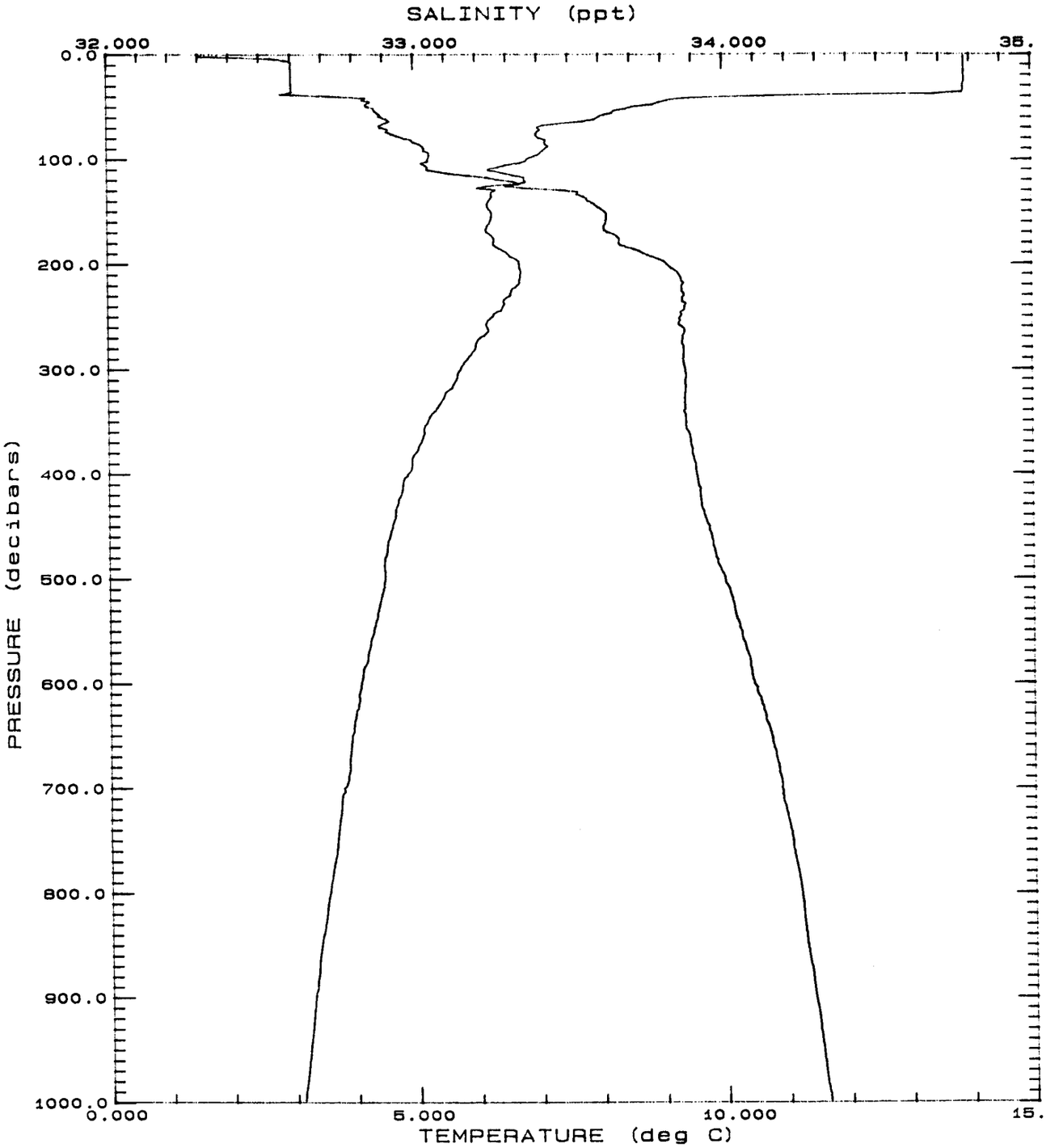
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	13.8527	32.5899	24.3562	1500.31	16
15.000	13.8627	32.5900	24.3542	1500.43	14
20.000	13.8732	32.5896	24.3517	1500.55	14
25.000	13.8699	32.5904	24.3530	1500.62	19
30.000	13.8670	32.5903	24.3535	1500.70	13
35.000	13.8606	32.5904	24.3549	1500.76	13
40.000	13.5504	32.5649	24.3981	1499.79	12
45.000	9.4710	32.7629	25.2927	1485.92	13
50.000	8.4756	32.8372	25.5056	1482.40	15
55.000	8.0597	32.8495	25.5768	1480.93	15
60.000	7.6067	32.8594	25.6495	1479.30	15
65.000	7.2845	32.8721	25.7044	1478.16	12
70.000	7.1438	32.8837	25.7328	1477.71	13
75.000	6.9954	32.8778	25.7481	1477.21	12
80.000	6.6497	32.8701	25.7878	1475.93	16
85.000	6.3367	32.8648	25.8238	1474.77	14
90.000	6.2365	32.8684	25.8393	1474.46	14
95.000	6.1523	32.8701	25.8512	1474.21	14
100.000	6.1063	32.8753	25.8610	1474.12	15
110.000	6.4240	33.0046	25.9230	1475.70	14
120.000	6.2466	33.0541	25.9846	1475.23	17
130.000	5.9021	33.1266	26.0846	1474.11	14
140.000	5.7333	33.2798	26.2263	1473.79	18
150.000	5.3097	33.3770	26.3534	1472.37	17
160.000	5.2015	33.4418	26.4171	1472.18	18
170.000	5.0900	33.4502	26.4366	1471.90	11
180.000	5.2066	33.5111	26.4715	1472.62	13
190.000	5.2938	33.5683	26.5067	1473.21	13
200.000	5.3600	33.6124	26.5338	1473.69	12
210.000	5.4868	33.6773	26.5702	1474.45	15
220.000	5.5501	33.7287	26.6033	1474.94	18
230.000	5.6178	33.7725	26.6299	1475.43	12
240.000	5.5973	33.7894	26.6457	1475.53	15
250.000	5.4835	33.7912	26.6607	1475.24	12
300.000	4.9427	33.8061	26.7354	1473.89	11
350.000	4.5632	33.8336	26.7992	1473.18	11
400.000	4.4338	33.8906	26.8584	1473.54	14
450.000	4.3854	33.9597	26.9185	1474.25	15
500.000	4.2228	34.0156	26.9801	1474.47	12
550.000	4.0760	34.0597	27.0304	1474.74	14
600.000	3.9715	34.1120	27.0828	1475.20	11
650.000	3.8358	34.1567	27.1321	1475.51	10
700.000	3.7059	34.1882	27.1702	1475.83	10
750.000	3.6090	34.2176	27.2031	1476.28	12
800.000	3.4885	34.2397	27.2325	1476.63	13
850.000	3.4030	34.2602	27.2571	1477.12	13
900.000	3.2680	34.2890	27.2928	1477.41	13
950.000	3.1781	34.3101	27.3181	1477.88	17
995.000	3.0791	34.3310	27.3439	1478.23	16



dcast-01.avg: tc 89-09, 46.00N 155.02W, 10-16-1989

TC 89-09, Stn. 6, CTD cast 2, 45°45.3'N 155°00.8'W,
16 October 1989, (raw data averaged in 5m bins).

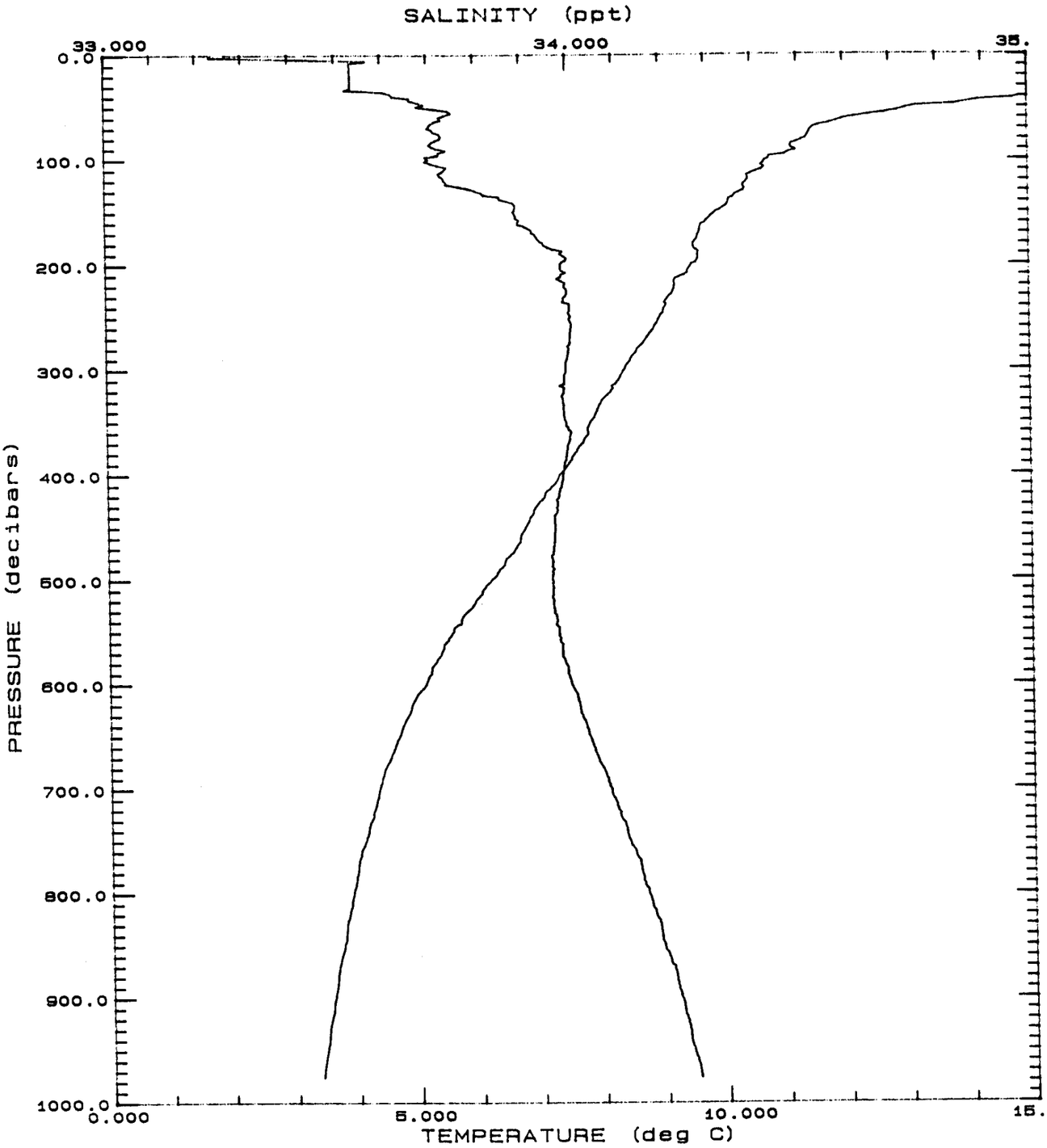
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	13.9076	32.5412	24.3073	1500.36	43
10.000	13.9112	32.6023	24.3537	1500.52	49
15.000	13.9121	32.6033	24.3543	1500.61	44
20.000	13.9116	32.6036	24.3547	1500.69	34
25.000	13.9132	32.6033	24.3541	1500.78	47
30.000	13.8947	32.6044	24.3587	1500.80	46
35.000	13.8812	32.6032	24.3606	1500.84	47
40.000	11.0303	32.7166	24.9921	1491.37	43
45.000	9.1177	32.8462	25.4131	1484.71	47
50.000	8.5818	32.8477	25.4978	1482.81	44
55.000	8.1864	32.8799	25.5822	1481.45	36
60.000	7.9916	32.9036	25.6292	1480.82	21
65.000	7.6703	32.9169	25.6859	1479.70	17
70.000	6.9121	32.8892	25.7688	1476.82	32
75.000	6.9968	32.9218	25.7826	1477.27	58
80.000	7.0461	32.9694	25.8134	1477.60	40
85.000	7.1370	33.0093	25.8325	1478.09	41
90.000	7.1364	33.0333	25.8515	1478.19	48
95.000	7.0281	33.0510	25.8801	1477.88	26
100.000	6.8496	33.0472	25.9010	1477.26	37
110.000	6.2047	33.0430	25.9811	1474.88	18
120.000	6.8015	33.2745	26.0865	1477.69	61
130.000	6.1373	33.4435	26.3058	1475.45	42
140.000	6.2117	33.5684	26.3950	1476.06	21
150.000	6.2309	33.6160	26.4301	1476.36	44
160.000	6.2251	33.6210	26.4348	1476.51	24
170.000	6.1684	33.6256	26.4456	1476.46	46
180.000	6.2733	33.6629	26.4617	1477.08	25
190.000	6.4915	33.7421	26.4960	1478.21	25
200.000	6.7178	33.8203	26.5278	1479.36	26
210.000	6.7256	33.8593	26.5575	1479.60	20
220.000	6.6714	33.8688	26.5722	1479.56	46
230.000	6.5359	33.8709	26.5918	1479.20	40
240.000	6.4451	33.8797	26.6106	1479.02	27
250.000	6.2543	33.8608	26.6204	1478.41	37
300.000	5.7270	33.8752	26.6978	1477.15	40
350.000	5.1978	33.8770	26.7623	1475.84	25
400.000	4.8703	33.9105	26.8263	1475.37	33
450.000	4.6043	33.9487	26.8861	1475.14	24
500.000	4.4775	34.0005	26.9410	1475.51	42
550.000	4.2872	34.0518	27.0020	1475.61	25
600.000	4.0775	34.0919	27.0559	1475.61	48
650.000	3.9260	34.1462	27.1147	1475.87	15
700.000	3.8040	34.1787	27.1528	1476.23	45
750.000	3.6730	34.2129	27.1931	1476.55	40
800.000	3.5367	34.2406	27.2285	1476.83	41
850.000	3.3922	34.2584	27.2566	1477.07	30
900.000	3.2820	34.2835	27.2871	1477.46	26
950.000	3.1963	34.3062	27.3133	1477.95	23
1000.000	3.1026	34.3287	27.3399	1478.41	25
1050.000	3.0213	34.3466	27.3616	1478.91	10



dcast-02.avg: TC 89-09, 45.45N 155.00W, 10-16-1989

TC 89-09, Stn. 7, CTD cast 3, 37°59.8'N 154°59.4'W, 18 October 1989 (raw data averaged in 5m bins).

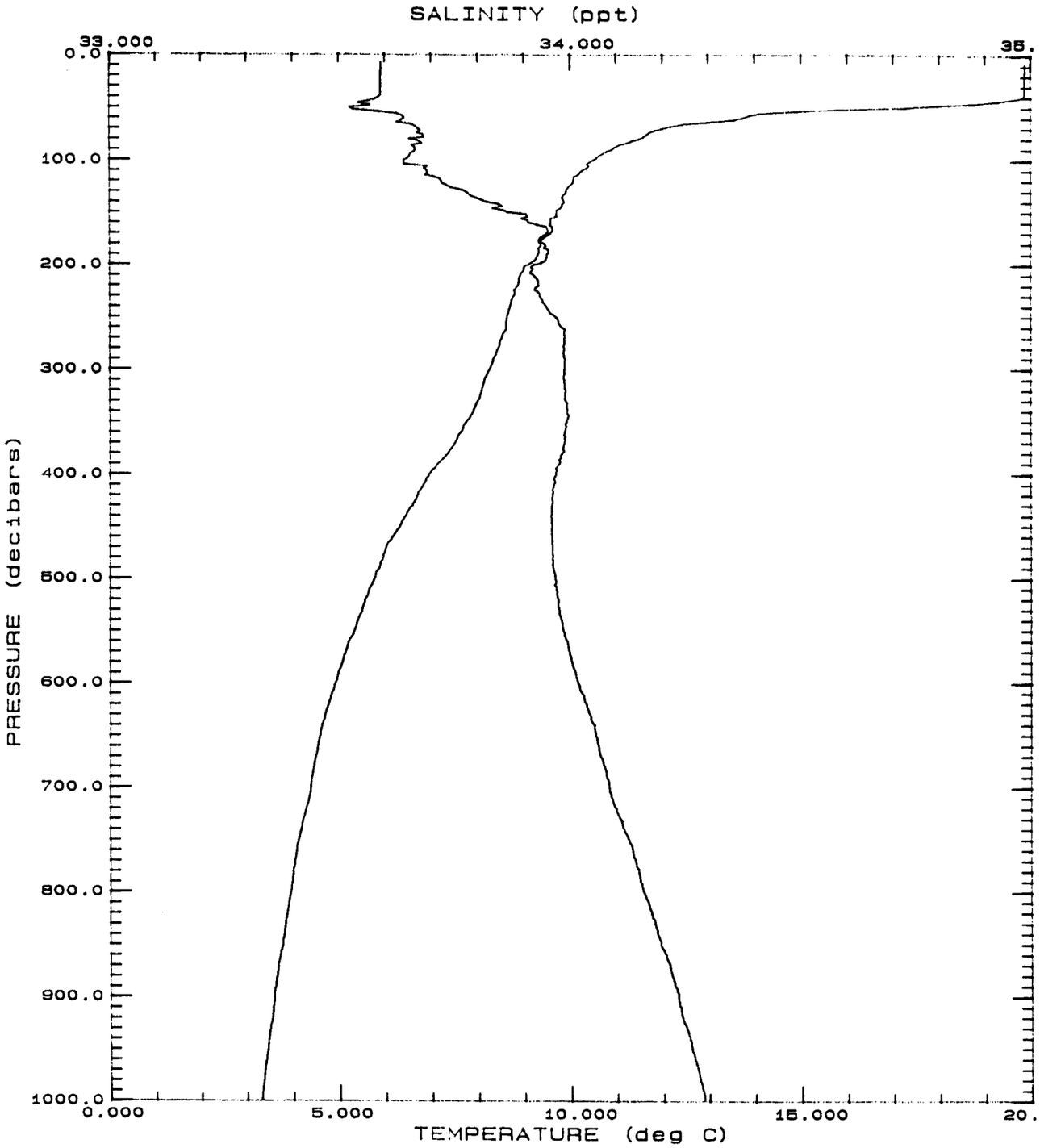
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	19.5002	33.3971	23.6702	1518.34	38
10.000	19.5001	33.5355	23.7759	1518.59	45
15.000	19.5010	33.5346	23.7749	1518.68	33
20.000	19.5019	33.5349	23.7749	1518.76	20
25.000	19.4988	33.5352	23.7760	1518.84	13
30.000	19.4793	33.5358	23.7814	1518.87	9
35.000	18.2120	33.5795	24.1333	1515.36	43
40.000	15.5097	33.6359	24.8180	1507.42	31
45.000	13.7093	33.6825	25.2364	1501.77	18
50.000	13.2814	33.6864	25.3201	1500.39	47
55.000	12.7912	33.7497	25.4662	1498.91	53
60.000	12.2022	33.7312	25.5656	1496.98	50
65.000	11.8210	33.7115	25.6225	1495.73	33
70.000	11.5180	33.7074	25.6756	1494.76	35
75.000	11.4396	33.7197	25.6995	1494.59	33
80.000	11.3774	33.7264	25.7161	1494.46	36
85.000	11.2025	33.7074	25.7331	1493.91	42
90.000	11.1706	33.7234	25.7513	1493.90	49
95.000	11.0595	33.7203	25.7689	1493.59	40
100.000	10.7905	33.7011	25.8018	1492.71	33
110.000	10.6645	33.7368	25.8518	1492.47	32
120.000	10.4392	33.7360	25.8904	1491.83	47
130.000	10.3484	33.7990	25.9552	1491.75	41
140.000	10.1193	33.8698	26.0496	1491.18	25
150.000	9.9381	33.8867	26.0935	1490.71	48
160.000	9.7289	33.8930	26.1333	1490.13	35
170.000	9.6424	33.9262	26.1736	1490.02	45
180.000	9.5564	33.9473	26.2043	1489.90	53
190.000	9.6210	33.9853	26.2234	1490.34	21
200.000	9.5360	33.9861	26.2380	1490.20	37
210.000	9.4119	33.9913	26.2624	1489.92	53
220.000	9.2315	33.9918	26.2920	1489.42	45
230.000	9.1475	33.9948	26.3078	1489.28	32
240.000	9.1074	34.0121	26.3277	1489.32	14
250.000	8.9860	34.0049	26.3415	1489.03	52
300.000	8.4073	33.9945	26.4233	1487.69	45
350.000	7.8544	33.9937	26.5052	1486.42	43
400.000	7.3428	33.9859	26.5725	1485.28	43
450.000	6.7766	33.9675	26.6359	1483.88	39
500.000	6.2140	33.9608	26.7045	1482.48	35
550.000	5.5719	33.9740	26.7949	1480.76	40
600.000	5.1298	33.9995	26.8672	1479.83	26
650.000	4.6804	34.0381	26.9487	1478.86	29
700.000	4.3529	34.0828	27.0197	1478.39	32
750.000	4.1199	34.1222	27.0756	1478.30	25
800.000	3.9098	34.1619	27.1287	1478.30	40
850.000	3.7512	34.1945	27.1707	1478.50	44
900.000	3.5890	34.2295	27.2145	1478.69	44
950.000	3.4490	34.2561	27.2494	1478.96	35
975.000	3.3876	34.2701	27.2664	1479.13	40



dcast-03.avg: TC 89-09, 38.00N 154.59W, 10-18-1989

TC 89-09, Stn. 10, CTD cast 4, 38°15.5'N 154.59.9'W, 18 October 1989 (raw data averaged in 5m bins).

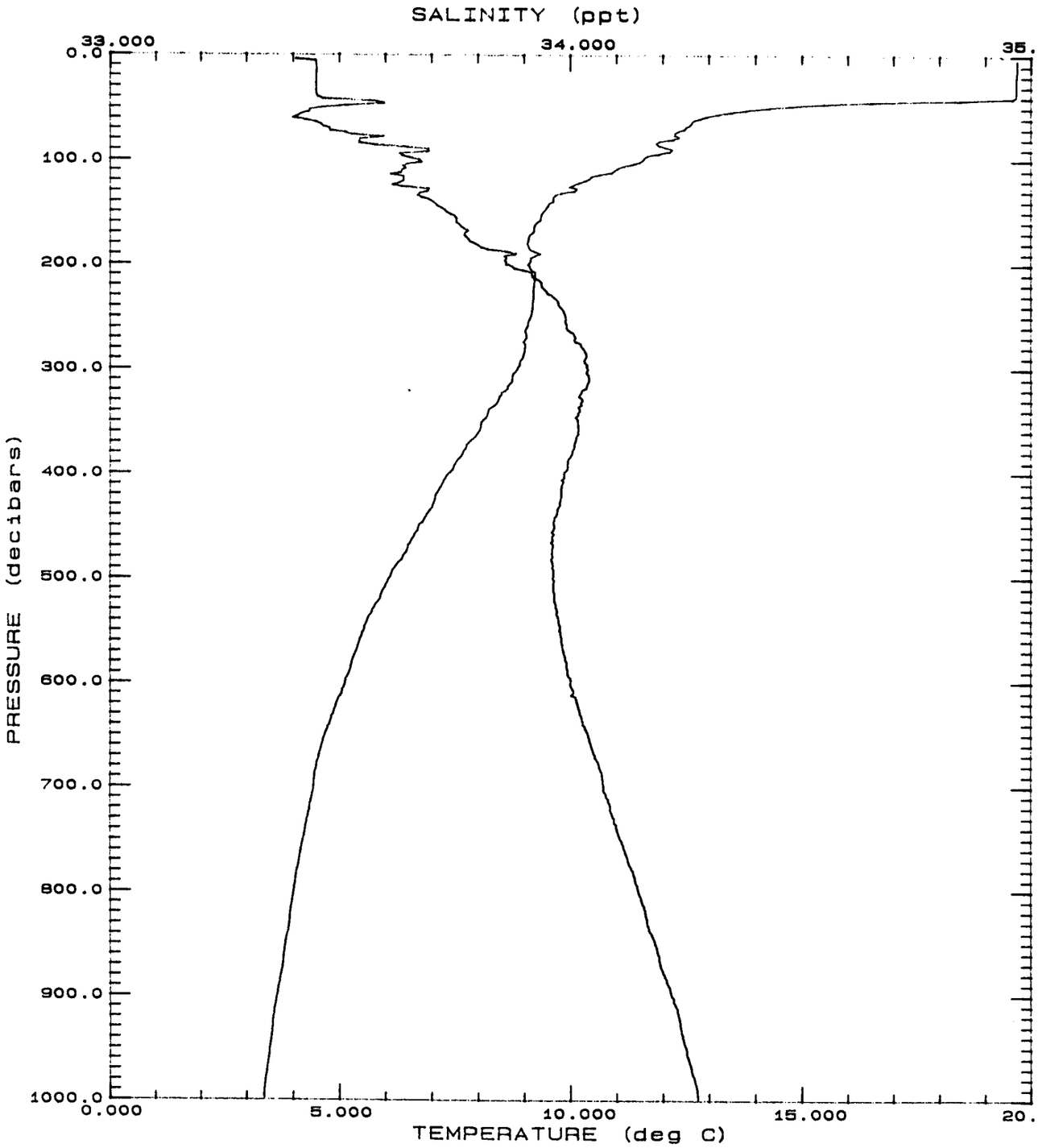
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	19.8752	33.5922	23.7221	1519.70	35
15.000	19.8768	33.5921	23.7215	1519.79	35
20.000	19.8726	33.5915	23.7222	1519.87	22
25.000	19.8698	33.5913	23.7228	1519.94	29
30.000	19.8700	33.5914	23.7228	1520.03	26
35.000	19.8666	33.5918	23.7240	1520.10	28
40.000	19.7795	33.5873	23.7432	1519.93	28
45.000	19.0516	33.5556	23.9059	1517.93	20
50.000	17.2554	33.5546	24.3480	1512.78	10
55.000	14.5637	33.6037	24.9880	1504.54	33
60.000	13.7681	33.6375	25.1827	1502.10	32
65.000	12.7219	33.6434	25.3971	1498.71	28
70.000	11.9958	33.6724	25.5594	1496.37	30
75.000	11.6993	33.6788	25.6198	1495.44	34
80.000	11.4948	33.6771	25.6563	1494.81	21
85.000	11.1503	33.6744	25.7169	1493.69	32
90.000	10.8813	33.6635	25.7564	1492.82	35
95.000	10.6711	33.6543	25.7863	1492.14	35
100.000	10.5011	33.6424	25.8067	1491.61	22
110.000	10.2566	33.6877	25.8841	1490.96	27
120.000	10.0595	33.7230	25.9452	1490.46	33
130.000	9.9032	33.7726	26.0102	1490.12	25
140.000	9.8641	33.8201	26.0539	1490.20	27
150.000	9.6915	33.8691	26.1209	1489.80	21
160.000	9.5665	33.9161	26.1783	1489.57	28
170.000	9.5667	33.9488	26.2038	1489.77	35
180.000	9.3364	33.9417	26.2359	1489.09	29
190.000	9.3091	33.9534	26.2494	1489.17	32
200.000	9.0922	33.9253	26.2623	1488.50	31
210.000	8.9181	33.9215	26.2869	1488.02	32
220.000	8.8513	33.9287	26.3030	1487.94	32
230.000	8.7685	33.9355	26.3213	1487.81	32
240.000	8.6935	33.9485	26.3431	1487.71	31
250.000	8.6245	33.9684	26.3695	1487.64	35
300.000	8.2429	33.9875	26.4427	1487.06	34
350.000	7.7425	33.9906	26.5191	1485.99	30
400.000	6.9485	33.9679	26.6130	1483.73	29
450.000	6.3057	33.9597	26.6919	1482.02	38
500.000	5.7551	33.9672	26.7672	1480.66	36
550.000	5.3217	33.9849	26.8333	1479.77	29
600.000	4.9065	34.0165	26.9063	1478.94	36
650.000	4.5718	34.0554	26.9744	1478.44	20
700.000	4.3696	34.0842	27.0190	1478.47	27
750.000	4.1063	34.1265	27.0804	1478.25	34
800.000	3.9403	34.1585	27.1229	1478.42	30
850.000	3.7644	34.1946	27.1694	1478.56	21
900.000	3.5758	34.2323	27.2181	1478.64	31
950.000	3.4344	34.2617	27.2552	1478.91	35
1000.000	3.3012	34.2899	27.2904	1479.21	34



dcast-04.avg: TC 89-09, 38.15N 155.00W, 10-18-1989

TC 89-09, Stn. 11, CTD cast 5, 38°30.0'N 154°59.9'W, 18 October 1989 (raw data averaged in 5m bins).

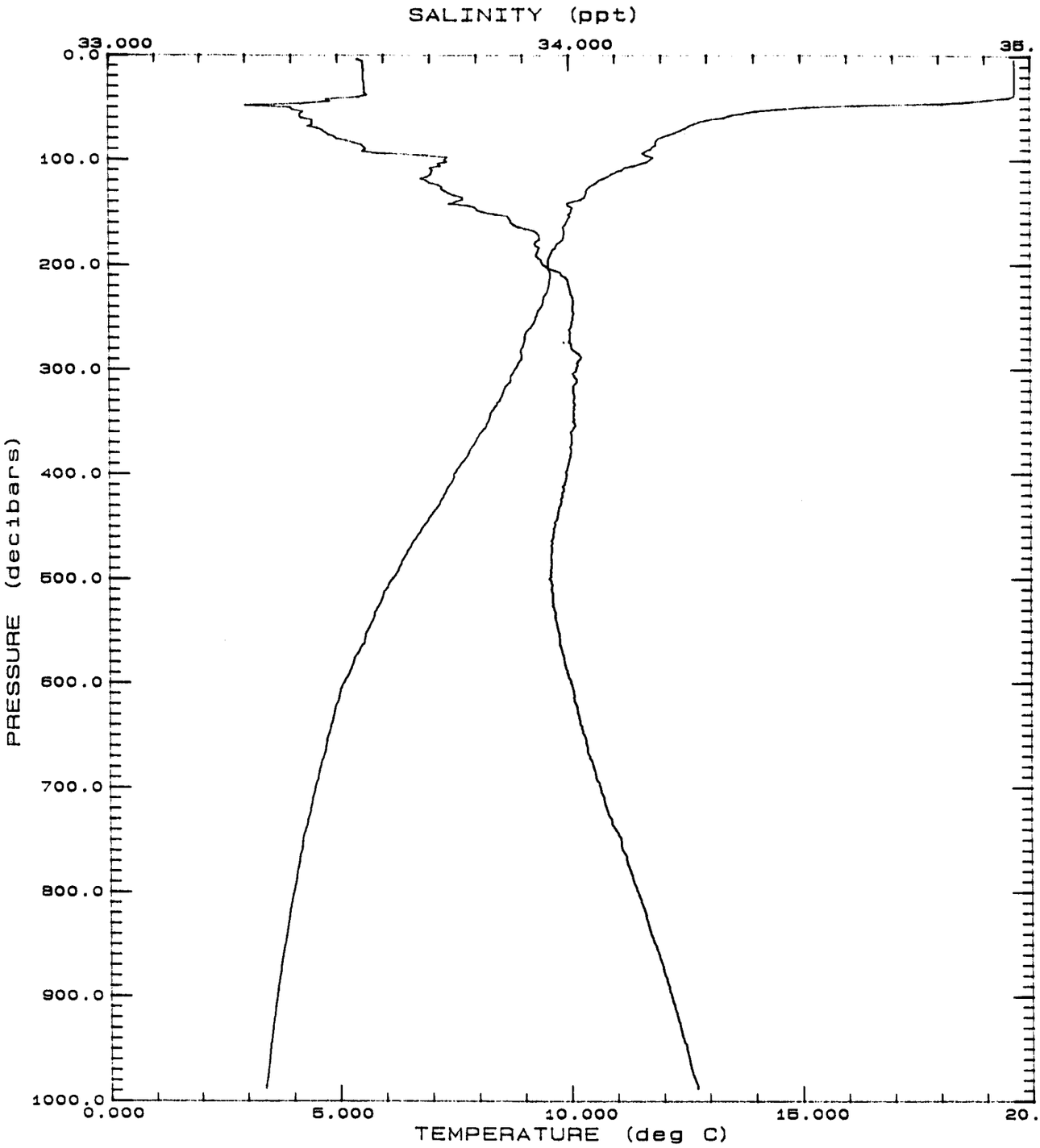
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	19.6973	33.4510	23.6606	1519.05	9
15.000	19.6944	33.4509	23.6612	1519.13	20
20.000	19.6823	33.4502	23.6638	1519.18	13
25.000	19.6789	33.4501	23.6646	1519.25	21
30.000	19.6779	33.4500	23.6648	1519.33	13
35.000	19.6759	33.4501	23.6654	1519.41	11
40.000	19.4024	33.4572	23.7412	1518.73	12
45.000	16.0841	33.5688	24.6248	1509.10	16
50.000	14.3156	33.4705	24.9393	1503.51	13
55.000	13.3333	33.4232	25.1053	1500.33	15
60.000	12.7971	33.4067	25.1993	1498.61	19
65.000	12.6114	33.4519	25.2705	1498.12	13
70.000	12.4440	33.4752	25.3209	1497.66	19
75.000	12.2592	33.5249	25.3950	1497.17	11
80.000	12.1711	33.5635	25.4416	1497.00	13
85.000	11.8420	33.5527	25.4954	1495.95	19
90.000	12.1426	33.6791	25.5368	1497.21	13
95.000	11.8049	33.6462	25.5748	1496.09	10
100.000	11.5634	33.6699	25.6380	1495.37	15
110.000	10.9647	33.6397	25.7231	1493.41	9
120.000	10.3103	33.6387	25.8367	1491.25	13
130.000	10.0014	33.6807	25.9220	1490.36	19
140.000	9.5988	33.7015	26.0052	1489.09	15
150.000	9.4147	33.7328	26.0598	1488.62	13
160.000	9.2795	33.7554	26.0993	1488.32	14
170.000	9.1842	33.7758	26.1305	1488.16	18
180.000	9.0740	33.7914	26.1604	1487.94	12
190.000	9.3180	33.8750	26.1866	1489.10	18
200.000	9.1039	33.8639	26.2124	1488.47	17
210.000	9.2365	33.9169	26.2325	1489.18	11
220.000	9.2108	33.9381	26.2533	1489.28	14
230.000	9.2008	33.9588	26.2711	1489.43	18
240.000	9.1810	33.9773	26.2887	1489.55	12
250.000	9.1316	33.9899	26.3065	1489.55	16
300.000	8.8396	34.0375	26.3901	1489.35	13
350.000	8.0774	34.0161	26.4899	1487.29	16
400.000	7.3500	33.9859	26.5716	1485.31	11
450.000	6.7066	33.9640	26.6425	1483.60	12
500.000	6.0635	33.9622	26.7248	1481.89	15
550.000	5.5116	33.9767	26.8042	1480.52	10
600.000	5.1085	34.0001	26.8702	1479.74	11
650.000	4.6631	34.0383	26.9507	1478.79	22
700.000	4.4211	34.0718	27.0037	1478.66	13
750.000	4.1966	34.1084	27.0566	1478.60	15
800.000	3.9977	34.1470	27.1079	1478.65	14
850.000	3.8195	34.1837	27.1552	1478.78	14
900.000	3.6403	34.2201	27.2021	1478.90	14
950.000	3.4877	34.2504	27.2411	1479.12	15
1000.000	3.3533	34.2778	27.2758	1479.41	17



dcast-05.avg: TC 89-09, 38.30N 155.00W, 10-18-1989

TC 89-09, Stn. 13, CTD cast 6, 38°44.9'N 155°00.0'W, 18 October 1989 (raw data averaged in 5m bins).

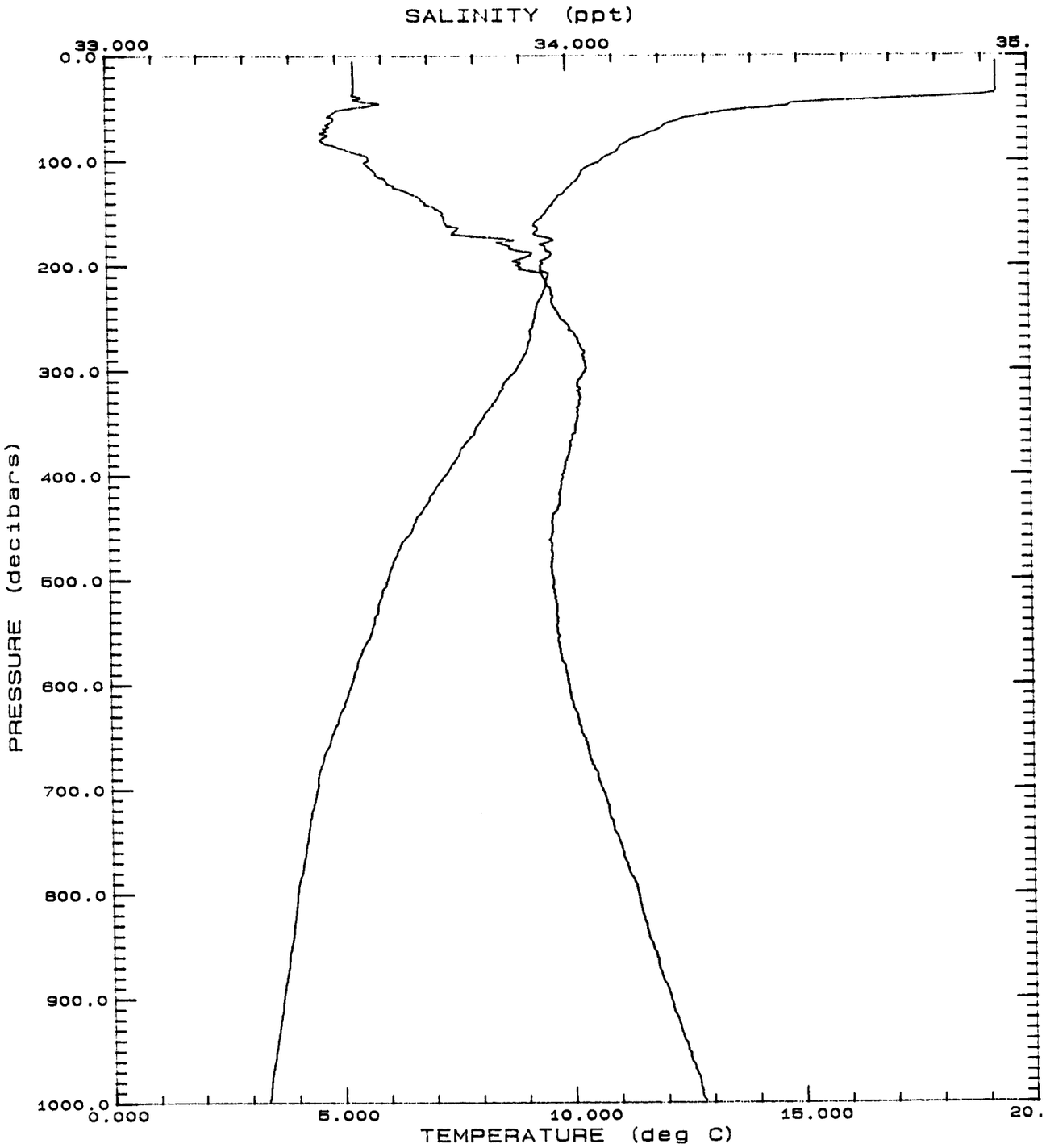
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	19.6638	33.5568	23.7498	1519.08	68
15.000	19.6658	33.5576	23.7500	1519.17	42
20.000	19.6674	33.5570	23.7492	1519.25	58
25.000	19.6670	33.5581	23.7500	1519.34	66
30.000	19.6660	33.5591	23.7511	1519.42	58
35.000	19.6651	33.5600	23.7520	1519.50	60
40.000	19.4940	33.5365	23.7782	1519.08	56
45.000	18.3335	33.4522	24.0062	1515.74	56
50.000	15.2842	33.3906	24.6667	1506.48	59
55.000	13.8980	33.4183	24.9867	1502.18	64
60.000	13.3026	33.4303	25.1172	1500.32	47
65.000	12.7814	33.4457	25.2325	1498.68	72
70.000	12.5220	33.4523	25.2881	1497.90	43
75.000	12.2473	33.4781	25.3608	1497.08	66
80.000	11.9603	33.5027	25.4343	1496.21	60
85.000	11.8756	33.5418	25.4805	1496.05	52
90.000	11.7576	33.5610	25.5175	1495.75	61
95.000	11.6695	33.6426	25.5972	1495.62	44
100.000	11.7602	33.7322	25.6500	1496.13	56
110.000	11.1035	33.7002	25.7454	1493.97	55
120.000	10.6643	33.6878	25.8136	1492.57	39
130.000	10.3784	33.7321	25.8978	1491.77	41
140.000	10.1155	33.7588	25.9636	1491.03	54
150.000	10.0219	33.8147	26.0232	1490.93	45
160.000	9.9358	33.8765	26.0859	1490.86	56
170.000	9.8874	33.9308	26.1364	1490.91	59
180.000	9.7496	33.9267	26.1563	1490.57	52
190.000	9.5966	33.9302	26.1843	1490.19	68
200.000	9.5436	33.9449	26.2046	1490.18	58
210.000	9.5880	33.9851	26.2286	1490.55	55
220.000	9.5540	33.9998	26.2457	1490.61	39
230.000	9.4614	34.0065	26.2662	1490.45	73
240.000	9.3942	34.0077	26.2781	1490.37	60
250.000	9.2765	34.0080	26.2974	1490.10	51
300.000	8.8160	34.0147	26.3759	1489.23	61
350.000	8.2275	34.0097	26.4624	1487.85	41
400.000	7.5039	33.9921	26.5546	1485.90	53
450.000	6.8250	33.9671	26.6291	1484.07	56
500.000	6.1574	33.9580	26.7095	1482.26	53
550.000	5.6084	33.9745	26.7908	1480.91	54
600.000	5.0948	34.0017	26.8730	1479.69	71
650.000	4.7522	34.0296	26.9339	1479.15	61
700.000	4.4640	34.0645	26.9932	1478.83	39
750.000	4.1910	34.1095	27.0581	1478.58	42
800.000	3.9938	34.1450	27.1067	1478.63	50
850.000	3.7986	34.1819	27.1559	1478.69	43
900.000	3.6266	34.2168	27.2008	1478.83	56
950.000	3.4748	34.2495	27.2416	1479.06	51
985.000	3.3788	34.2716	27.2685	1479.26	59



cast6.avg: TC 89-09, 38.45N 155.00W, 10-18-1989

TC 89-09, Stn. 18, CTD cast 7, 39°00.1'N 155°00.3'W, 18 October 1989 (raw data averaged in 5m bins).

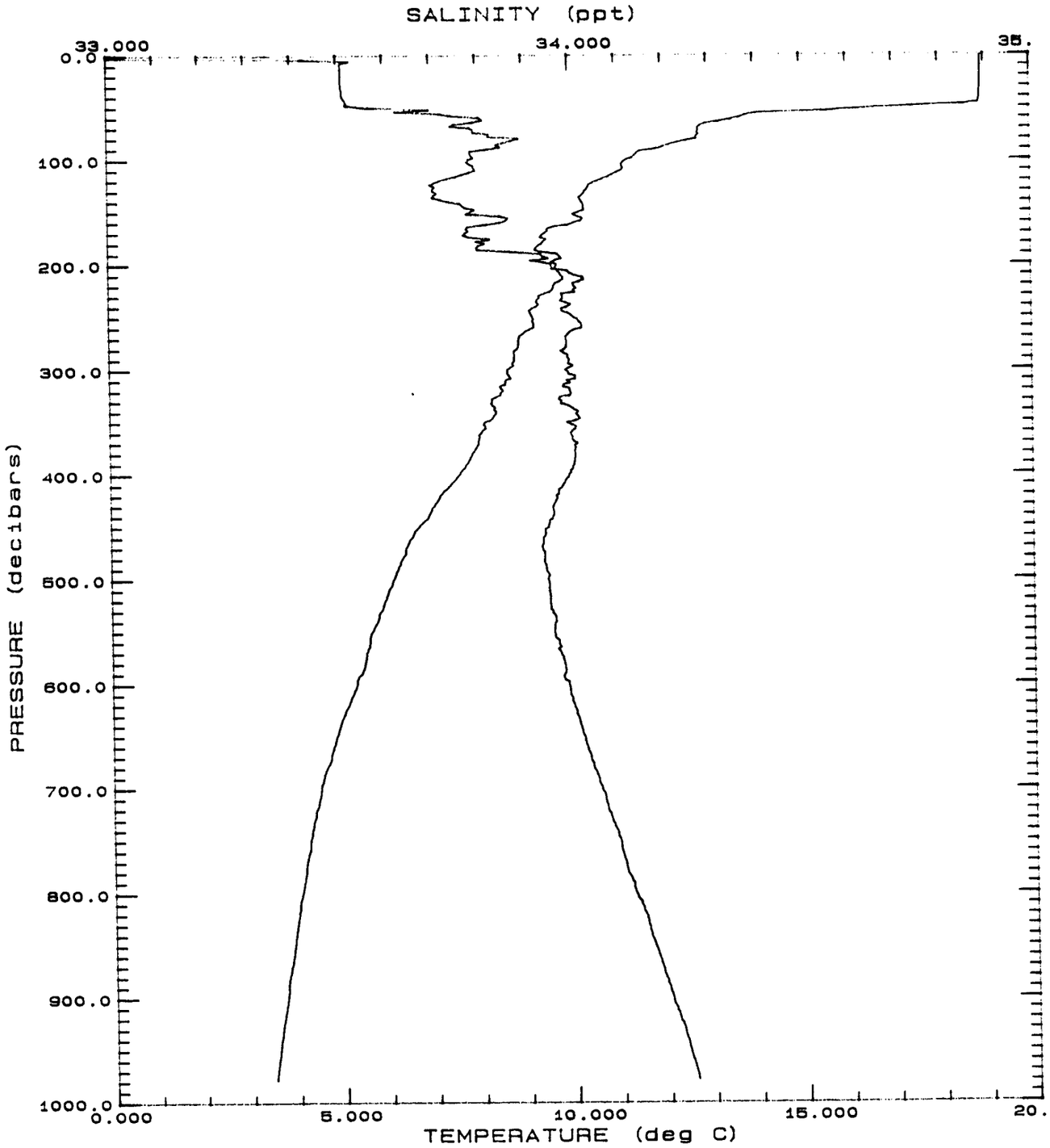
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	19.3229	33.5397	23.8244	1518.10	60
15.000	19.3235	33.5399	23.8244	1518.18	51
20.000	19.3236	33.5399	23.8244	1518.26	63
25.000	19.3215	33.5402	23.8252	1518.34	77
30.000	19.3205	33.5404	23.8256	1518.42	61
35.000	19.2898	33.5408	23.8337	1518.42	61
40.000	18.0276	33.5493	24.1558	1514.87	61
45.000	15.2854	33.5726	24.8096	1506.64	64
50.000	14.3001	33.5318	24.9903	1503.54	64
55.000	13.1633	33.4909	25.1922	1499.85	49
60.000	12.5619	33.4923	25.3114	1497.91	59
65.000	12.1937	33.4832	25.3750	1496.74	48
70.000	12.0145	33.4803	25.4067	1496.20	54
75.000	11.7521	33.4726	25.4498	1495.38	53
80.000	11.4316	33.4684	25.5056	1494.34	43
85.000	11.2196	33.4858	25.5576	1493.71	54
90.000	11.1171	33.5201	25.6027	1493.47	63
95.000	10.9161	33.5599	25.6696	1492.90	60
100.000	10.7412	33.5702	25.7085	1492.37	65
110.000	10.3407	33.5823	25.7875	1491.13	51
120.000	10.1843	33.6091	25.8351	1490.77	53
130.000	9.9553	33.6537	25.9087	1490.16	48
140.000	9.7139	33.6916	25.9785	1489.50	61
150.000	9.5360	33.7298	26.0376	1489.06	69
160.000	9.3004	33.7378	26.0822	1488.38	63
170.000	9.3183	33.7647	26.1003	1488.64	48
180.000	9.5012	33.8554	26.1415	1489.58	39
190.000	9.6583	33.9221	26.1678	1490.40	47
200.000	9.4367	33.8946	26.1827	1489.73	54
210.000	9.5916	33.9499	26.2005	1490.52	53
220.000	9.5306	33.9591	26.2178	1490.48	47
230.000	9.4355	33.9668	26.2393	1490.30	47
240.000	9.3237	33.9712	26.2610	1490.07	41
250.000	9.2820	33.9838	26.2776	1490.09	62
300.000	8.8670	34.0373	26.3856	1489.45	50
350.000	8.0621	34.0157	26.4919	1487.24	54
400.000	7.3095	33.9857	26.5770	1485.15	44
450.000	6.5856	33.9622	26.6573	1483.13	46
500.000	6.0254	33.9633	26.7304	1481.74	53
550.000	5.6616	33.9706	26.7813	1481.12	57
600.000	5.2118	33.9940	26.8534	1480.16	47
650.000	4.7674	34.0262	26.9296	1479.21	63
700.000	4.4485	34.0641	26.9946	1478.77	39
750.000	4.2240	34.1008	27.0477	1478.71	49
800.000	4.0007	34.1401	27.1021	1478.65	48
850.000	3.8562	34.1696	27.1403	1478.91	36
900.000	3.6725	34.2069	27.1884	1479.01	37
950.000	3.5019	34.2450	27.2354	1479.17	38
1000.000	3.3323	34.2822	27.2813	1479.33	53



dcast-07.avg: TC 89-09, 39.00N 155.00W, 10-18-1989

TC 89-09, Stn. 25, CTD cast 8, 39°15.0'N 154°59.1'W, 15 October 1989 (raw data averaged in 5m bins).

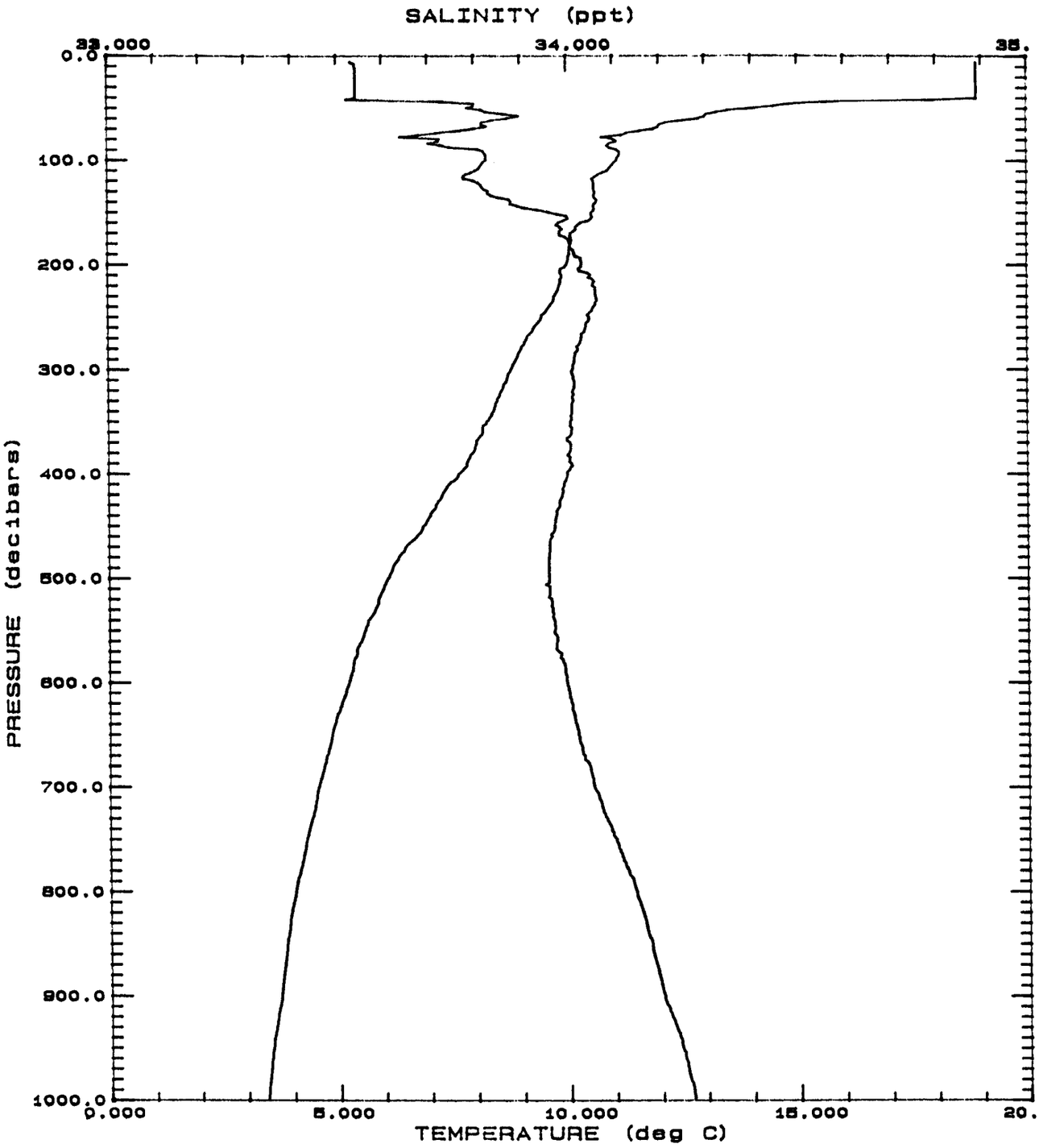
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	18.9417	33.3855	23.8034	1516.75	21
10.000	18.9416	33.5087	23.8976	1516.98	20
15.000	18.9411	33.5103	23.8990	1517.06	14
20.000	18.9376	33.5103	23.8998	1517.13	15
25.000	18.9312	33.5106	23.9017	1517.20	19
30.000	18.9260	33.5111	23.9033	1517.27	13
35.000	18.9187	33.5124	23.9062	1517.33	10
40.000	18.9130	33.5145	23.9093	1517.40	16
45.000	18.8919	33.5210	23.9195	1517.43	17
50.000	17.2667	33.6071	24.3826	1512.85	12
55.000	14.8241	33.6882	24.9991	1505.48	17
60.000	13.7703	33.7881	25.2983	1502.28	14
65.000	13.1298	33.7764	25.4198	1500.24	14
70.000	12.8168	33.7751	25.4809	1499.27	10
75.000	12.8131	33.8130	25.5109	1499.39	14
80.000	12.7149	33.8738	25.5773	1499.21	13
85.000	12.2615	33.8518	25.6481	1497.74	11
90.000	11.8162	33.8238	25.7107	1496.26	16
95.000	11.4720	33.7932	25.7506	1495.12	11
100.000	11.2624	33.7849	25.7825	1494.46	15
110.000	11.1187	33.7928	25.8146	1494.14	10
120.000	10.6251	33.7207	25.8461	1492.47	16
130.000	10.3551	33.7083	25.8833	1491.66	16
140.000	10.2819	33.7428	25.9228	1491.61	11
150.000	10.2044	33.7827	25.9672	1491.54	10
160.000	10.1373	33.8472	26.0289	1491.55	11
170.000	9.4713	33.7766	26.0848	1489.21	12
180.000	9.3812	33.8059	26.1224	1489.08	15
190.000	9.6755	33.9231	26.1656	1490.46	12
200.000	9.6966	33.9580	26.1895	1490.75	18
210.000	9.8174	34.0135	26.2128	1491.42	10
220.000	9.6548	34.0087	26.2361	1490.99	16
230.000	9.3423	33.9795	26.2644	1489.98	15
240.000	9.2708	33.9957	26.2887	1489.90	17
250.000	9.1925	34.0107	26.3131	1489.80	13
300.000	8.6457	33.9918	26.3845	1488.57	16
350.000	8.1410	33.9969	26.4653	1487.51	17
400.000	7.5611	33.9948	26.5486	1486.13	18
450.000	6.6671	33.9464	26.6339	1483.43	12
500.000	6.1157	33.9466	26.7058	1482.08	11
550.000	5.6351	33.9590	26.7753	1481.00	14
600.000	5.2960	33.9894	26.8398	1480.49	11
650.000	4.8475	34.0208	26.9163	1479.53	22
700.000	4.4958	34.0581	26.9847	1478.95	12
750.000	4.2538	34.0966	27.0412	1478.83	11
800.000	4.0602	34.1288	27.0870	1478.89	10
850.000	3.8821	34.1684	27.1367	1479.02	13
900.000	3.7128	34.2043	27.1823	1479.18	15
950.000	3.5381	34.2414	27.2290	1479.32	10
975.000	3.4600	34.2572	27.2492	1479.42	20



dcast-08.avg: TC 89-09, 39.15N 154.59W, 10-19-1989

TC 89-09, Stn. 26, CTD cast 9, 39°30.0'N 155°00.9'W,
19 October 1989 (raw data averaged in 5m bins).

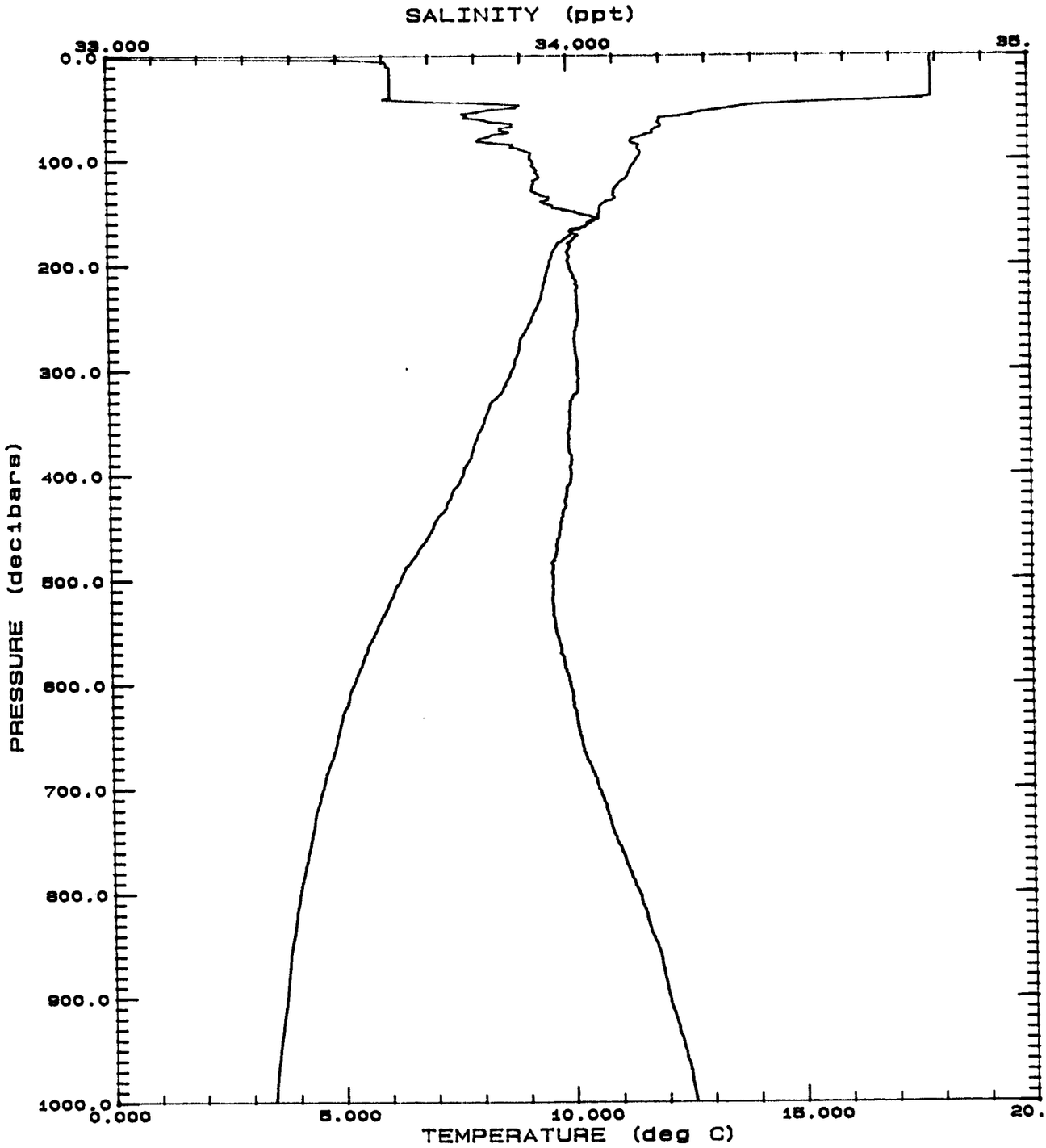
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	18.8998	33.5424	23.9338	1516.90	17
15.000	18.9030	33.5433	23.9338	1516.99	16
20.000	18.9039	33.5436	23.9338	1517.07	19
25.000	18.9054	33.5433	23.9332	1517.16	16
30.000	18.9092	33.5430	23.9320	1517.25	18
35.000	18.9066	33.5434	23.9329	1517.33	15
40.000	18.8360	33.5116	23.9264	1517.18	10
45.000	15.2775	33.7573	24.9562	1506.86	13
50.000	14.0255	33.7993	25.2542	1502.96	12
55.000	13.1682	33.8490	25.4682	1500.29	11
60.000	12.8243	33.8795	25.5603	1499.26	13
65.000	12.0951	33.8161	25.6522	1496.80	13
70.000	11.8385	33.8057	25.6925	1495.99	14
75.000	11.2005	33.6973	25.7256	1493.73	14
80.000	10.9572	33.7020	25.7729	1492.97	15
85.000	10.9192	33.7120	25.7874	1492.93	14
90.000	11.0692	33.7956	25.8257	1493.64	13
95.000	11.1464	33.8256	25.8352	1494.02	11
100.000	11.0796	33.8253	25.8470	1493.87	12
110.000	10.8549	33.8022	25.8691	1493.22	14
120.000	10.5696	33.7943	25.9132	1492.37	13
130.000	10.6042	33.8279	25.9333	1492.69	12
140.000	10.6299	33.8774	25.9673	1493.01	14
150.000	10.5407	33.9597	26.0471	1492.96	11
160.000	10.3392	33.9853	26.1021	1492.44	13
170.000	10.0918	33.9839	26.1433	1491.71	11
180.000	10.0736	34.0070	26.1645	1491.84	11
190.000	10.0353	34.0169	26.1787	1491.88	11
200.000	9.9757	34.0325	26.2010	1491.85	10
210.000	9.8754	34.0511	26.2324	1491.68	11
220.000	9.8208	34.0578	26.2468	1491.65	11
230.000	9.7220	34.0635	26.2677	1491.46	11
240.000	9.6036	34.0583	26.2833	1491.19	12
250.000	9.4379	34.0476	26.3022	1490.74	20
300.000	8.7739	34.0104	26.3792	1489.07	15
350.000	8.2507	34.0074	26.4571	1487.94	14
400.000	7.6423	33.9974	26.5390	1486.44	14
450.000	6.8671	33.9705	26.6261	1484.24	15
500.000	6.0768	33.9578	26.7196	1481.94	15
550.000	5.5720	33.9695	26.7913	1480.76	14
600.000	5.2075	33.9966	26.8559	1480.14	12
650.000	4.8347	34.0209	26.9178	1479.48	19
700.000	4.5375	34.0545	26.9773	1479.12	9
750.000	4.2741	34.1011	27.0427	1478.92	10
800.000	4.0263	34.1443	27.1029	1478.77	14
850.000	3.8345	34.1769	27.1483	1478.83	14
900.000	3.7023	34.2034	27.1826	1479.14	8
950.000	3.5230	34.2425	27.2313	1479.26	11
1000.000	3.4046	34.2698	27.2645	1479.62	15



dcast-09.avg: TC 89-09, 39.30N 155.01W, 10-19-1989

TC 89-09, Stn. 27, CTD cast 10, 39°45.0'N 155°00.0'W, 19 October 1989 (raw data averaged in 5m bins).

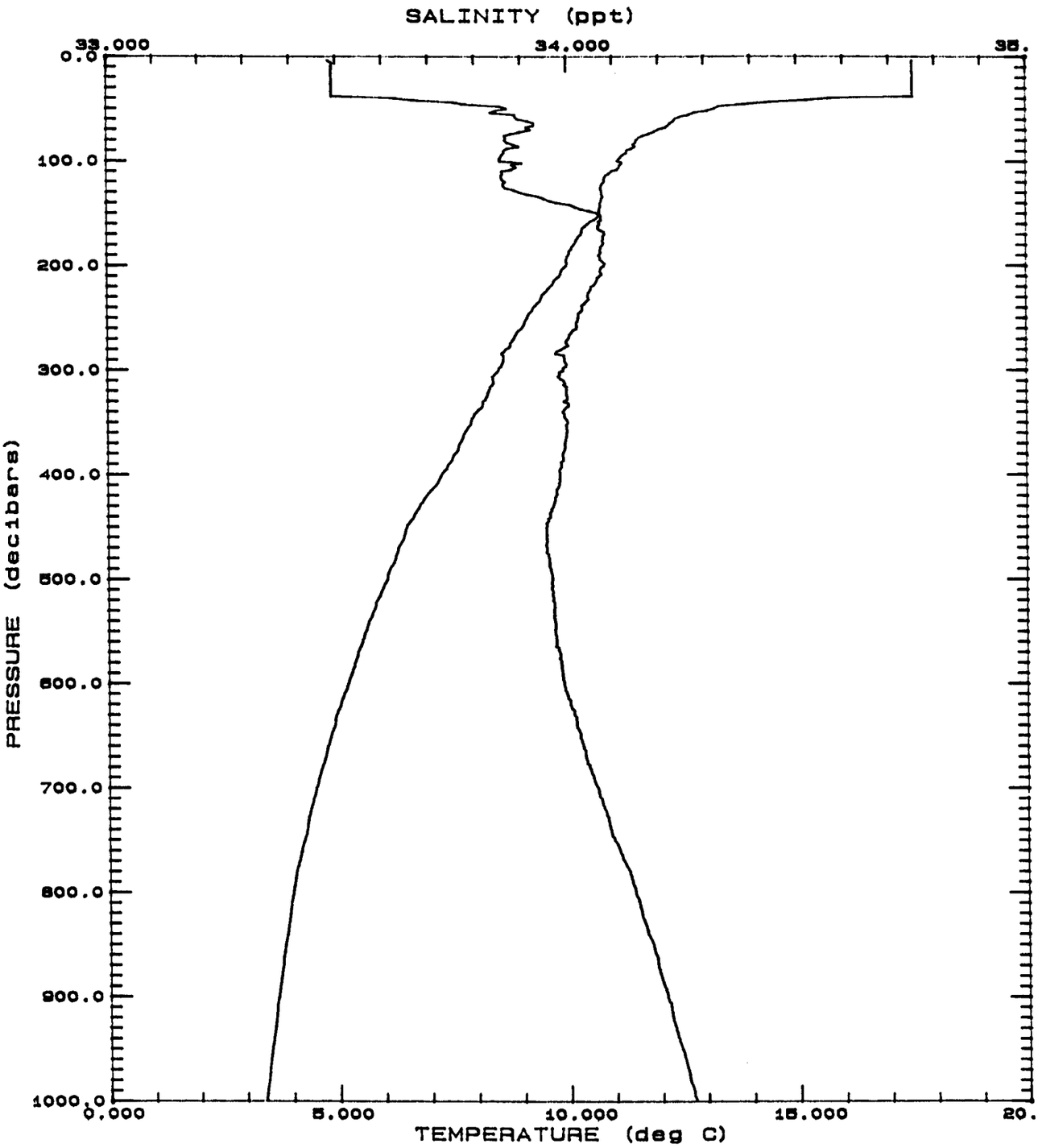
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	17.8833	33.5122	24.1625	1513.82	19
10.000	17.8921	33.6162	24.2398	1514.05	12
15.000	17.8956	33.6173	24.2398	1514.15	17
20.000	17.8969	33.6178	24.2399	1514.24	13
25.000	17.8973	33.6181	24.2400	1514.32	10
30.000	17.8962	33.6182	24.2404	1514.40	14
35.000	17.8967	33.6181	24.2402	1514.48	13
40.000	17.8626	33.6150	24.2461	1514.46	11
45.000	15.7382	33.7546	24.8494	1508.27	12
50.000	13.5815	33.8788	25.4079	1501.61	14
55.000	12.7784	33.7922	25.5019	1498.92	15
60.000	12.0932	33.7874	25.6303	1496.67	13
65.000	11.9852	33.8566	25.7044	1496.47	12
70.000	11.9244	33.8649	25.7223	1496.35	12
75.000	11.7529	33.8544	25.7463	1495.84	12
80.000	11.4305	33.8137	25.7743	1494.75	13
85.000	11.4715	33.8540	25.7981	1495.03	11
90.000	11.5386	33.8956	25.8181	1495.39	14
95.000	11.5706	33.9225	25.8331	1495.62	10
100.000	11.4906	33.9220	25.8475	1495.42	13
110.000	11.3503	33.9324	25.8813	1495.11	14
120.000	11.1796	33.9294	25.9100	1494.68	10
130.000	10.9965	33.9265	25.9407	1494.20	14
140.000	10.8402	33.9482	25.9854	1493.84	13
150.000	10.6911	34.0139	26.0630	1493.56	12
160.000	10.4984	34.0466	26.1223	1493.08	11
170.000	10.0493	34.0098	26.1708	1491.59	12
180.000	9.7881	34.0036	26.2099	1490.81	12
190.000	9.6422	33.9996	26.2310	1490.44	15
200.000	9.5814	34.0026	26.2434	1490.39	9
210.000	9.5085	34.0107	26.2617	1490.29	11
220.000	9.4516	34.0189	26.2775	1490.26	13
230.000	9.4028	34.0183	26.2850	1490.25	16
240.000	9.3148	34.0196	26.3003	1490.09	15
250.000	9.2034	34.0212	26.3195	1489.85	15
300.000	8.7579	34.0182	26.3878	1489.02	13
350.000	8.1326	34.0000	26.4690	1487.48	11
400.000	7.6596	34.0019	26.5400	1486.51	9
450.000	6.9977	33.9769	26.6134	1484.75	16
500.000	6.2810	33.9597	26.6950	1482.75	12
550.000	5.7288	33.9662	26.7696	1481.38	13
600.000	5.2397	33.9956	26.8514	1480.27	11
650.000	4.8740	34.0175	26.9107	1479.63	14
700.000	4.5412	34.0563	26.9784	1479.14	14
750.000	4.2755	34.0936	27.0365	1478.91	12
800.000	4.0218	34.1408	27.1006	1478.74	14
850.000	3.8390	34.1777	27.1485	1478.85	14
900.000	3.7119	34.2028	27.1812	1479.17	13
950.000	3.5566	34.2358	27.2227	1479.39	11
1000.000	3.4482	34.2581	27.2510	1479.79	18



dcast10.avg: TC 89-09, 39.45N 155.00W, 10-19-1989

TC 89-09, Stn. 32, CTD cast 11, 40°00.1'N 154°59.8'W, 19 October 1989 (raw data averaged in 5m bins).

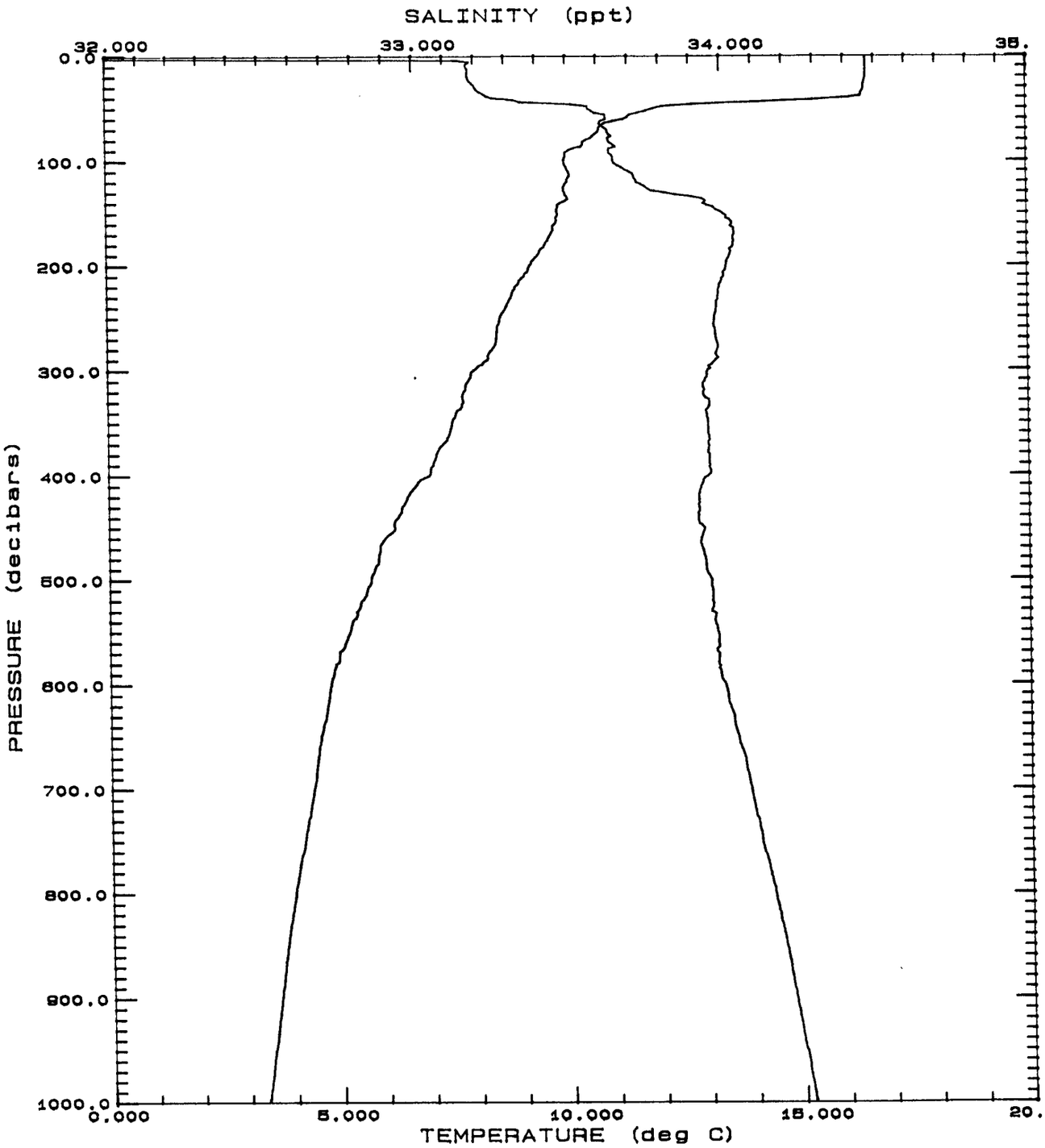
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	17.5163	33.4866	24.2313	1512.70	15
10.000	17.5160	33.4927	24.2361	1512.80	10
15.000	17.5185	33.4919	24.2349	1512.89	20
20.000	17.5185	33.4922	24.2351	1512.97	11
25.000	17.5190	33.4923	24.2350	1513.06	9
30.000	17.5181	33.4924	24.2353	1513.14	11
35.000	17.5188	33.4926	24.2353	1513.22	15
40.000	16.1565	33.5964	24.6340	1509.31	16
45.000	14.1061	33.7654	25.2123	1503.11	13
50.000	13.2327	33.8580	25.4621	1500.43	10
55.000	12.7431	33.8648	25.5647	1498.89	10
60.000	12.3681	33.9015	25.6662	1497.75	15
65.000	12.2438	33.9295	25.7118	1497.44	13
70.000	12.0288	33.9103	25.7379	1496.77	13
75.000	11.7278	33.8756	25.7675	1495.77	10
80.000	11.5261	33.8684	25.7993	1495.15	11
85.000	11.4702	33.8869	25.8239	1495.06	17
90.000	11.3405	33.8646	25.8303	1494.67	13
95.000	11.2148	33.8590	25.8488	1494.30	11
100.000	11.1471	33.8708	25.8703	1494.16	9
110.000	11.0063	33.8676	25.8931	1493.83	11
120.000	10.8036	33.8645	25.9267	1493.28	14
130.000	10.7654	33.8974	25.9591	1493.35	12
140.000	10.7340	33.9826	26.0311	1493.51	10
150.000	10.6978	34.0668	26.1031	1493.64	11
160.000	10.4575	34.0711	26.1485	1492.96	14
170.000	10.2968	34.0822	26.1850	1492.57	15
180.000	10.1440	34.0794	26.2090	1492.18	20
190.000	10.0174	34.0728	26.2254	1491.88	11
200.000	9.9738	34.0813	26.2394	1491.90	15
210.000	9.8264	34.0727	26.2575	1491.52	14
220.000	9.6300	34.0553	26.2766	1490.96	13
230.000	9.4306	34.0458	26.3019	1490.38	20
240.000	9.2684	34.0333	26.3185	1489.94	14
250.000	9.1212	34.0238	26.3347	1489.55	18
300.000	8.4859	33.9896	26.4075	1487.97	15
350.000	7.8950	33.9999	26.5041	1486.58	13
400.000	7.2580	33.9829	26.5821	1484.95	17
450.000	6.4937	33.9535	26.6625	1482.76	10
500.000	6.0668	33.9655	26.7269	1481.91	12
550.000	5.5932	33.9711	26.7900	1480.84	12
600.000	5.2056	33.9898	26.8508	1480.12	10
650.000	4.8295	34.0253	26.9219	1479.46	14
700.000	4.5055	34.0621	26.9869	1479.00	15
750.000	4.2431	34.0989	27.0442	1478.78	10
800.000	3.9978	34.1436	27.1052	1478.64	10
850.000	3.8206	34.1806	27.1526	1478.78	12
900.000	3.6675	34.2115	27.1925	1479.00	10
950.000	3.5198	34.2430	27.2321	1479.24	11
1000.000	3.3828	34.2733	27.2694	1479.53	13



doast-11.avg: TC 89-09, 40.00N 155.00W, 10-19-1989

TC 89-09, Stn. 38, CTD cast 12, 40°15.1'N 155°00.5'W, 20 October 1989 (raw data averaged in 5m bins).

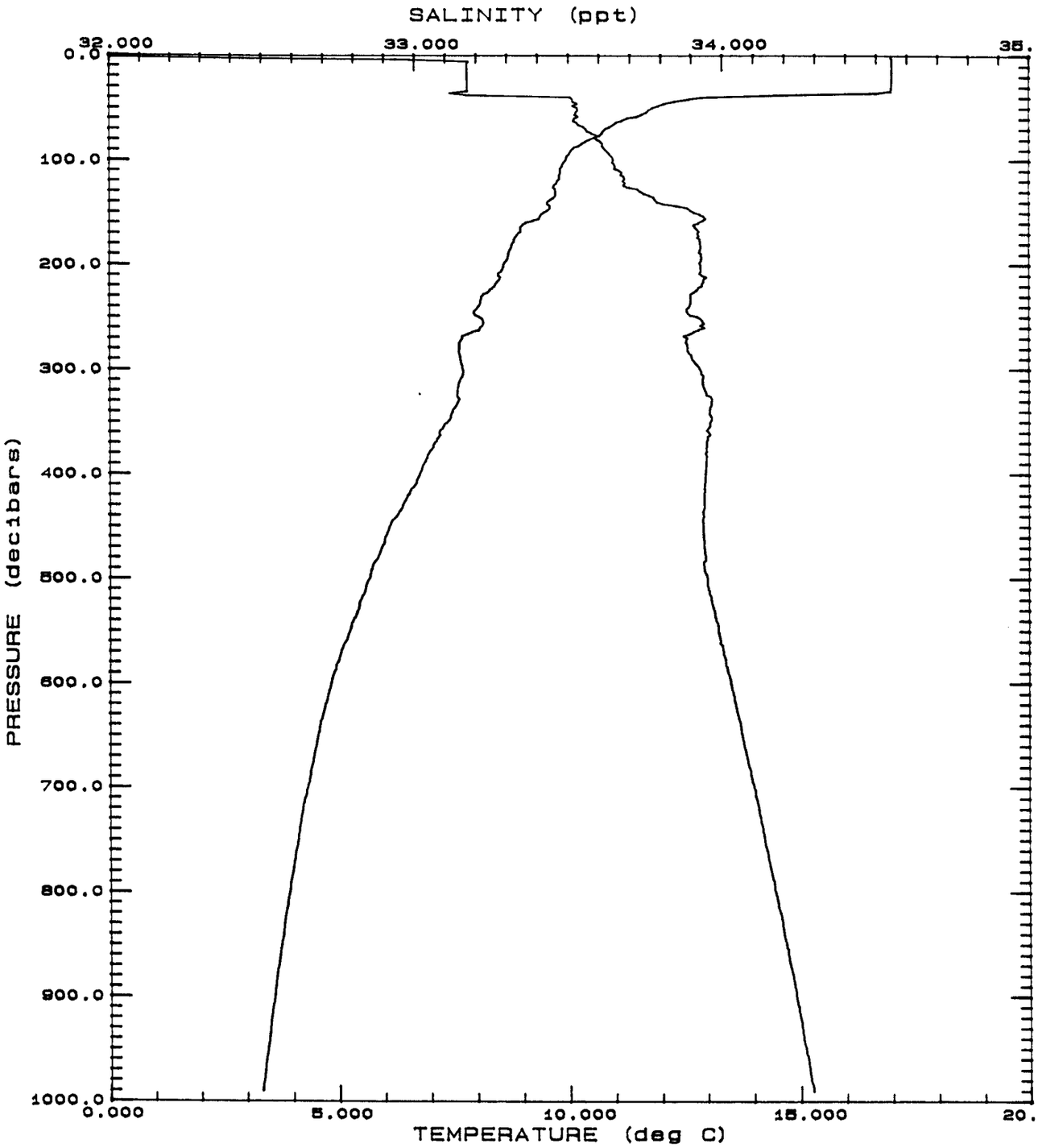
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	16.4910	33.0797	24.1600	1509.15	23
10.000	16.4919	33.1799	24.2367	1509.36	18
15.000	16.4904	33.1825	24.2391	1509.44	17
20.000	16.4860	33.1839	24.2411	1509.51	15
25.000	16.4578	33.1941	24.2555	1509.52	18
30.000	16.4402	33.2076	24.2699	1509.56	17
35.000	16.4035	33.2252	24.2918	1509.55	18
40.000	16.0083	33.2734	24.4188	1508.48	11
45.000	13.4328	33.4551	25.1075	1500.51	13
50.000	11.7943	33.5867	25.5314	1495.25	19
55.000	11.4774	33.6113	25.6083	1494.26	18
60.000	11.2087	33.6247	25.6676	1493.42	20
65.000	10.8110	33.6146	25.7308	1492.10	12
70.000	10.7073	33.6335	25.7638	1491.84	13
75.000	10.6175	33.6437	25.7874	1491.61	10
80.000	10.4405	33.6397	25.8151	1491.06	12
85.000	10.3305	33.6540	25.8452	1490.77	16
90.000	10.0500	33.6400	25.8820	1489.83	12
95.000	9.9680	33.6502	25.9038	1489.63	12
100.000	9.9522	33.6543	25.9096	1489.66	14
110.000	10.0445	33.7040	25.9329	1490.21	13
120.000	9.9956	33.7303	25.9617	1490.24	12
130.000	9.9563	33.8140	26.0336	1490.36	12
140.000	9.8678	33.9509	26.1554	1490.37	17
150.000	9.7924	34.0093	26.2136	1490.34	13
160.000	9.7358	34.0352	26.2433	1490.33	21
170.000	9.6456	34.0446	26.2656	1490.18	13
180.000	9.5138	34.0404	26.2841	1489.86	17
190.000	9.3528	34.0279	26.3006	1489.42	12
200.000	9.1875	34.0169	26.3187	1488.96	22
210.000	9.0472	34.0070	26.3334	1488.60	15
220.000	8.8755	33.9934	26.3499	1488.11	12
230.000	8.7665	33.9889	26.3634	1487.87	21
240.000	8.6571	33.9839	26.3766	1487.62	13
250.000	8.5262	33.9774	26.3917	1487.29	11
300.000	7.9399	33.9548	26.4621	1485.87	19
350.000	7.4609	33.9544	26.5311	1484.87	15
400.000	6.9362	33.9524	26.6024	1483.66	11
450.000	6.2016	33.9372	26.6875	1481.58	12
500.000	5.6785	33.9604	26.7711	1480.35	13
550.000	5.2027	33.9801	26.8434	1479.28	18
600.000	4.7858	34.0028	26.9090	1478.43	15
650.000	4.5601	34.0434	26.9661	1478.38	10
700.000	4.3955	34.0826	27.0150	1478.57	10
750.000	4.1897	34.1165	27.0638	1478.58	9
800.000	3.9722	34.1566	27.1182	1478.55	12
850.000	3.7921	34.1915	27.1642	1478.67	10
900.000	3.6483	34.2217	27.2026	1478.93	16
950.000	3.4982	34.2524	27.2416	1479.16	11
1000.000	3.3529	34.2816	27.2789	1479.41	14



dcast-12.avg; TC 89-09, 40.15N 155.00W, 10-20-1989

TC 89-09, Stn. 39, CTD cast 13, 40°30.4'N 155°00.8'W,
20 October 1989 (raw data averaged in 5m bins).

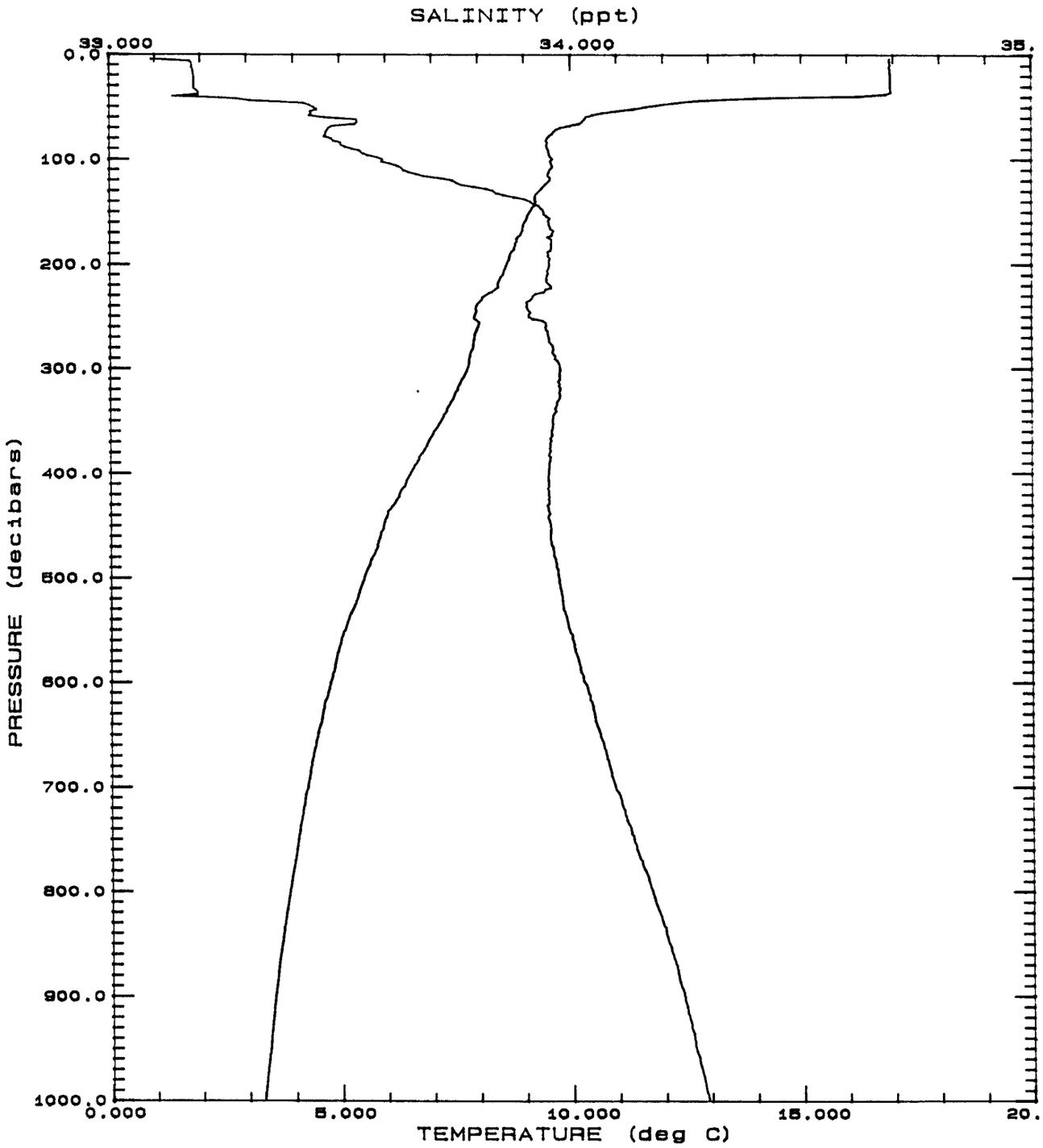
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	17.0014	33.0008	23.9810	1510.61	19
10.000	17.0019	33.1610	24.1037	1510.88	10
15.000	17.0035	33.1708	24.1109	1510.98	13
20.000	17.0030	33.1707	24.1109	1511.06	17
25.000	16.9966	33.1710	24.1126	1511.13	19
30.000	16.9914	33.1709	24.1138	1511.19	14
35.000	16.8079	33.1580	24.1468	1510.71	17
40.000	13.1515	33.4287	25.1459	1499.48	9
45.000	12.1924	33.5187	25.4028	1496.44	12
50.000	11.8328	33.5263	25.4764	1495.30	17
55.000	11.6344	33.5265	25.5135	1494.70	12
60.000	11.3064	33.5213	25.5696	1493.64	10
65.000	11.0016	33.5301	25.6312	1492.67	17
70.000	10.8050	33.5561	25.6863	1492.09	19
75.000	10.6960	33.5823	25.7258	1491.82	12
80.000	10.4582	33.5961	25.7780	1491.07	16
85.000	10.2401	33.6123	25.8282	1490.39	15
90.000	10.0608	33.6211	25.8654	1489.84	15
95.000	9.9835	33.6362	25.8902	1489.67	12
100.000	9.9276	33.6462	25.9074	1489.56	13
110.000	9.8095	33.6627	25.9401	1489.32	12
120.000	9.7538	33.6800	25.9628	1489.30	13
130.000	9.7110	33.7298	26.0088	1489.37	18
140.000	9.5499	33.7897	26.0822	1489.02	20
150.000	9.4615	33.9113	26.1917	1489.01	12
160.000	9.0906	33.9237	26.2613	1487.83	19
170.000	8.9074	33.9210	26.2882	1487.32	15
180.000	8.7782	33.9292	26.3149	1487.01	13
190.000	8.6918	33.9322	26.3307	1486.86	17
200.000	8.5906	33.9289	26.3437	1486.64	10
210.000	8.4756	33.9342	26.3656	1486.39	12
220.000	8.3859	33.9312	26.3769	1486.21	18
230.000	8.1108	33.8959	26.3906	1485.30	10
240.000	8.0313	33.8897	26.3975	1485.15	13
250.000	8.0545	33.9161	26.4148	1485.44	17
300.000	7.7080	33.9288	26.4755	1484.96	11
350.000	7.3589	33.9618	26.5513	1484.49	10
400.000	6.7560	33.9446	26.6207	1482.95	18
450.000	6.1028	33.9369	26.6998	1481.19	14
500.000	5.6571	33.9508	26.7661	1480.25	17
550.000	5.2264	33.9870	26.8461	1479.38	11
600.000	4.8203	34.0275	26.9247	1478.60	15
650.000	4.5303	34.0629	26.9848	1478.28	12
700.000	4.3011	34.1019	27.0404	1478.20	14
750.000	4.0955	34.1345	27.0879	1478.22	15
800.000	3.9059	34.1693	27.1351	1478.29	13
850.000	3.7338	34.2040	27.1800	1478.44	12
900.000	3.5796	34.2354	27.2202	1478.66	12
950.000	3.4271	34.2658	27.2592	1478.88	20
985.000	3.3235	34.2879	27.2867	1479.05	14



dcast-13.avg: TC 89-09, 40.30N 155.01W, 10-20-1989

TC 89-09, Stn. 40, CTD cast 14, 40°45.3'N 155°00.0'W, 20 October 1989 (raw data averaged in 5m bins).

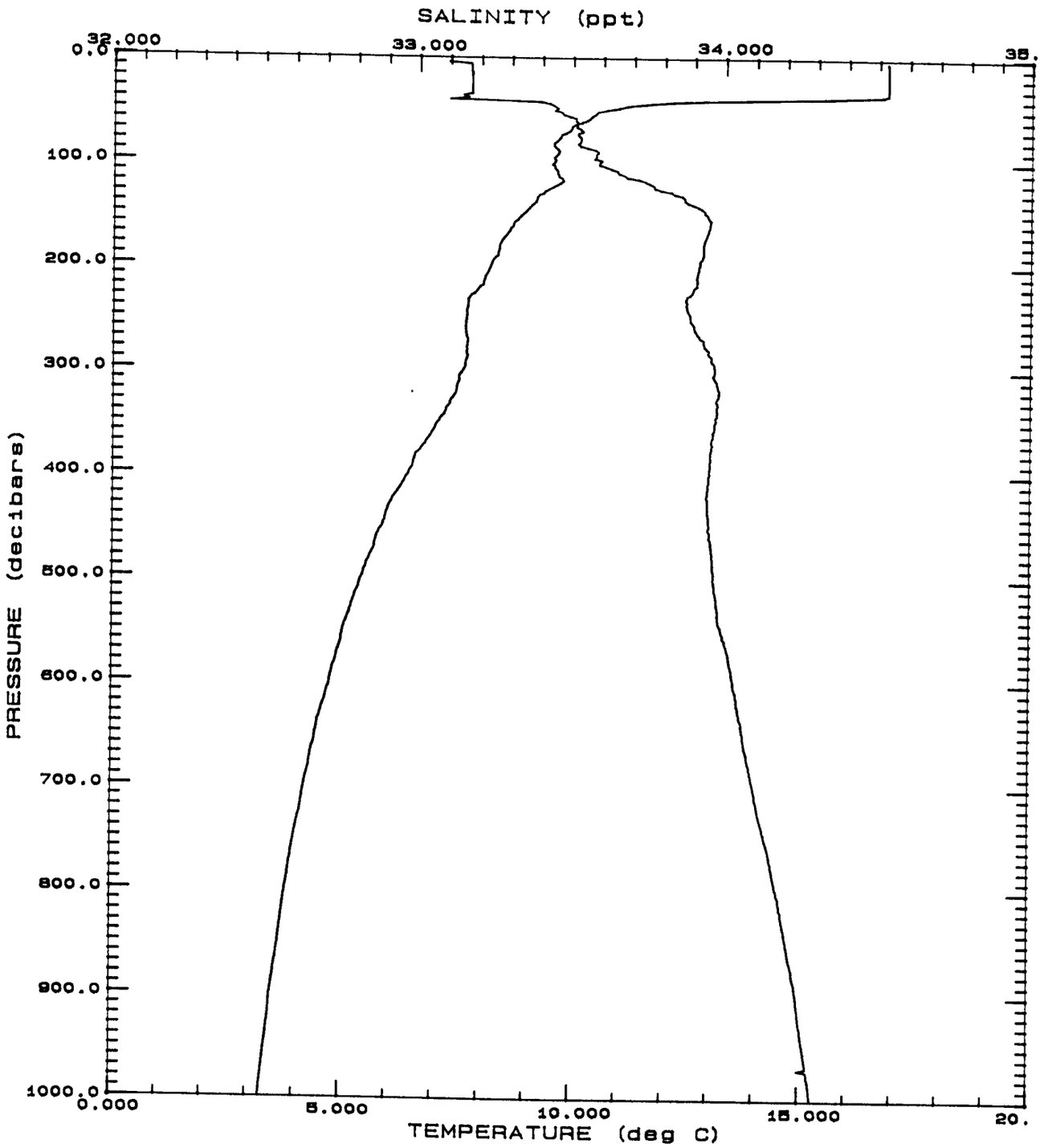
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	16.9272	33.1821	24.1374	1510.68	14
15.000	16.9336	33.1842	24.1375	1510.79	15
20.000	16.9450	33.1864	24.1365	1510.91	16
25.000	16.9467	33.1869	24.1365	1511.00	17
30.000	16.9462	33.1867	24.1365	1511.08	14
35.000	16.9538	33.1925	24.1392	1511.19	15
40.000	15.6334	33.1991	24.4450	1507.22	12
45.000	12.6850	33.3652	25.1863	1497.91	9
50.000	11.6409	33.4451	25.4492	1494.55	14
55.000	10.8501	33.4388	25.5868	1491.86	19
60.000	10.3680	33.4820	25.7045	1490.28	14
65.000	10.2382	33.5362	25.7691	1489.97	18
70.000	9.8109	33.4785	25.7958	1488.44	14
75.000	9.6175	33.4681	25.8197	1487.81	14
80.000	9.5045	33.4794	25.8470	1487.49	14
85.000	9.4910	33.5012	25.8663	1487.55	14
90.000	9.5134	33.5289	25.8843	1487.75	18
95.000	9.5482	33.5571	25.9006	1487.99	12
100.000	9.5990	33.5923	25.9198	1488.30	14
110.000	9.5633	33.6391	25.9623	1488.39	16
120.000	9.5617	33.7448	26.0451	1488.68	14
130.000	9.3372	33.8317	26.1497	1488.13	17
140.000	9.2441	33.9127	26.2281	1488.06	10
150.000	9.1230	33.9420	26.2704	1487.81	12
160.000	9.0130	33.9530	26.2966	1487.58	16
170.000	8.9436	33.9623	26.3148	1487.50	18
180.000	8.8264	33.9591	26.3308	1487.23	11
190.000	8.7092	33.9520	26.3435	1486.95	11
200.000	8.6226	33.9542	26.3586	1486.79	14
210.000	8.5262	33.9498	26.3700	1486.59	14
220.000	8.4288	33.9559	26.3898	1486.40	15
230.000	8.1531	33.9210	26.4040	1485.49	15
240.000	7.9567	33.9046	26.4202	1484.89	18
250.000	7.9098	33.9104	26.4317	1484.88	11
300.000	7.7563	33.9767	26.5061	1485.20	11
350.000	7.1800	33.9600	26.5749	1483.79	16
400.000	6.5145	33.9503	26.6572	1482.01	14
450.000	5.9273	33.9549	26.7361	1480.51	14
500.000	5.4996	33.9723	26.8022	1479.64	16
550.000	5.0752	33.9952	26.8702	1478.78	18
600.000	4.7597	34.0286	26.9323	1478.35	14
650.000	4.4753	34.0607	26.9891	1478.05	11
700.000	4.2568	34.0933	27.0383	1478.01	11
750.000	4.0528	34.1329	27.0910	1478.04	19
800.000	3.8633	34.1716	27.1412	1478.12	14
850.000	3.6875	34.2082	27.1879	1478.25	14
900.000	3.5396	34.2400	27.2278	1478.50	10
950.000	3.4276	34.2647	27.2583	1478.88	12
1000.000	3.2973	34.2928	27.2931	1479.19	17



dcast-14.avg: TC 89-09, 40.45N 155.00W, 10-20-1989

TC 89-09, Stn. 45, CTD cast 15, 40°59.5'N 155°00.5'W, 20 October 1989 (raw data averaged in 5m bins).

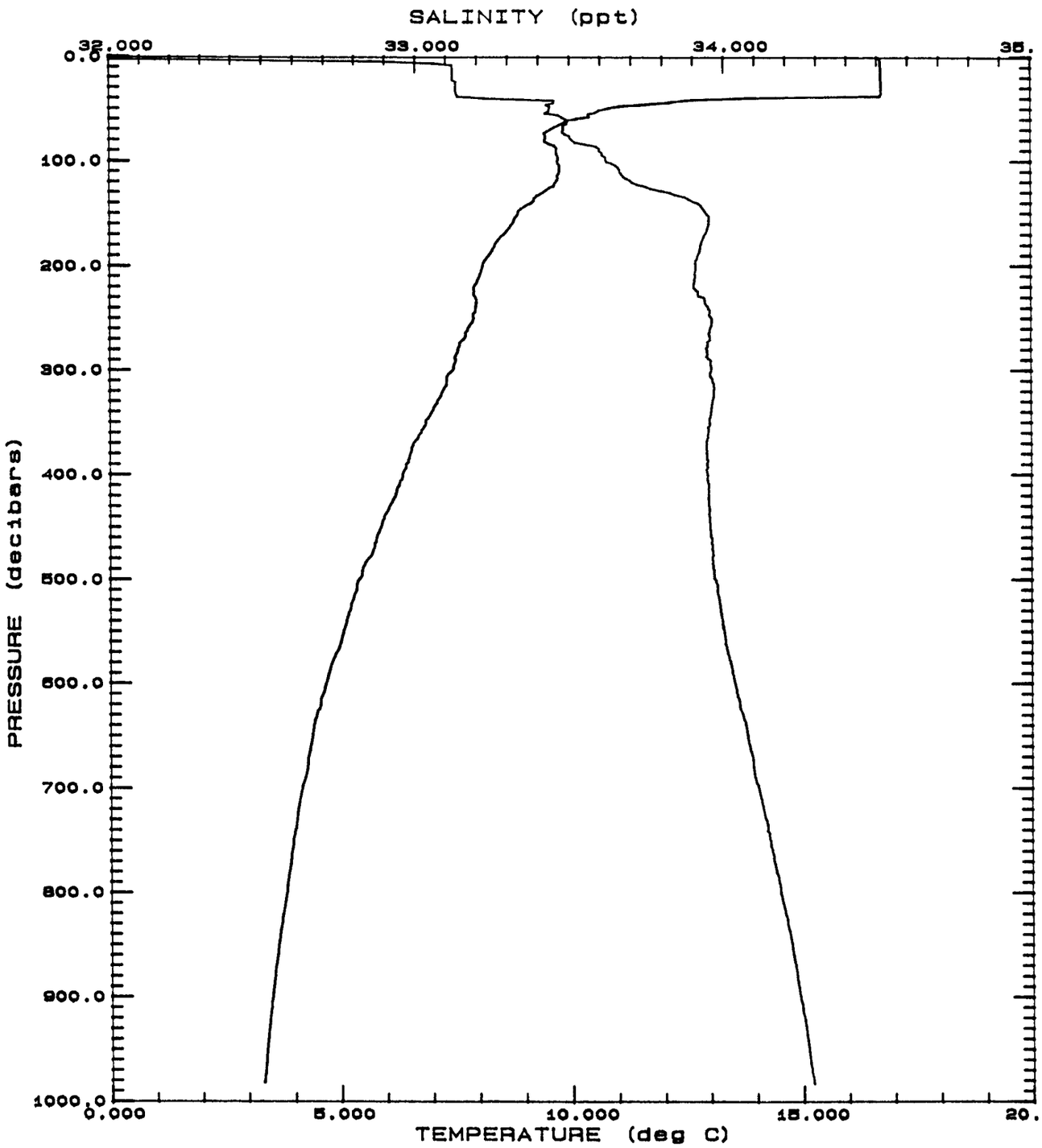
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	16.8454	33.1665	24.1445	1510.42	47
15.000	16.8447	33.1679	24.1458	1510.50	50
20.000	16.8437	33.1685	24.1465	1510.58	43
25.000	16.8441	33.1683	24.1463	1510.66	38
30.000	16.8433	33.1686	24.1466	1510.74	54
35.000	16.7275	33.1498	24.1592	1510.45	37
40.000	13.8983	33.2068	24.8246	1501.70	35
45.000	11.3781	33.4308	25.4865	1493.54	48
50.000	10.7454	33.4484	25.6127	1491.42	64
55.000	10.4431	33.4810	25.6909	1490.47	49
60.000	10.2790	33.5117	25.7430	1490.00	54
65.000	10.0091	33.5126	25.7895	1489.11	58
70.000	9.9095	33.5288	25.8188	1488.86	67
75.000	9.7252	33.5223	25.8444	1488.26	71
80.000	9.6286	33.5214	25.8595	1487.99	49
85.000	9.5761	33.5339	25.8779	1487.90	66
90.000	9.6835	33.5801	25.8964	1488.43	44
95.000	9.6057	33.5768	25.9066	1488.22	47
100.000	9.5858	33.5897	25.9200	1488.25	45
110.000	9.6582	33.6535	25.9579	1488.76	70
120.000	9.7155	33.7506	26.0243	1489.25	65
130.000	9.3307	33.8387	26.1562	1488.12	57
140.000	9.1414	33.8924	26.2286	1487.65	43
150.000	8.9145	33.9406	26.3024	1487.04	50
160.000	8.7021	33.9499	26.3430	1486.43	64
170.000	8.5478	33.9386	26.3579	1486.00	56
180.000	8.4017	33.9284	26.3723	1485.61	53
190.000	8.3418	33.9263	26.3797	1485.55	51
200.000	8.2048	33.9147	26.3913	1485.18	48
210.000	8.0941	33.9083	26.4028	1484.92	42
220.000	7.9865	33.9002	26.4124	1484.67	48
230.000	7.7467	33.8731	26.4261	1483.89	48
240.000	7.7062	33.8765	26.4347	1483.90	46
250.000	7.6871	33.8877	26.4462	1484.01	49
300.000	7.6164	33.9683	26.5198	1484.66	65
350.000	7.0750	33.9686	26.5962	1483.40	39
400.000	6.4282	33.9505	26.6687	1481.67	40
450.000	5.8750	33.9499	26.7386	1480.30	49
500.000	5.4270	33.9669	26.8065	1479.34	37
550.000	5.0359	33.9946	26.8742	1478.62	54
600.000	4.7521	34.0338	26.9373	1478.33	36
650.000	4.4442	34.0666	26.9971	1477.93	35
700.000	4.2118	34.1015	27.0496	1477.83	49
750.000	4.0007	34.1404	27.1024	1477.83	53
800.000	3.8183	34.1791	27.1517	1477.94	42
850.000	3.6734	34.2115	27.1919	1478.20	40
900.000	3.5083	34.2445	27.2344	1478.37	49
950.000	3.3910	34.2676	27.2641	1478.73	48
995.000	3.2858	34.2909	27.2926	1479.06	29



dcast-15.avg: TC 89-09, 40.59N 155.00W, 10-20-1989

TC 89-09, Stn. 51, CTD cast 16, 41°15.3'N 155°02.3'W, 21 October 1989 (raw data averaged in 5m bins).

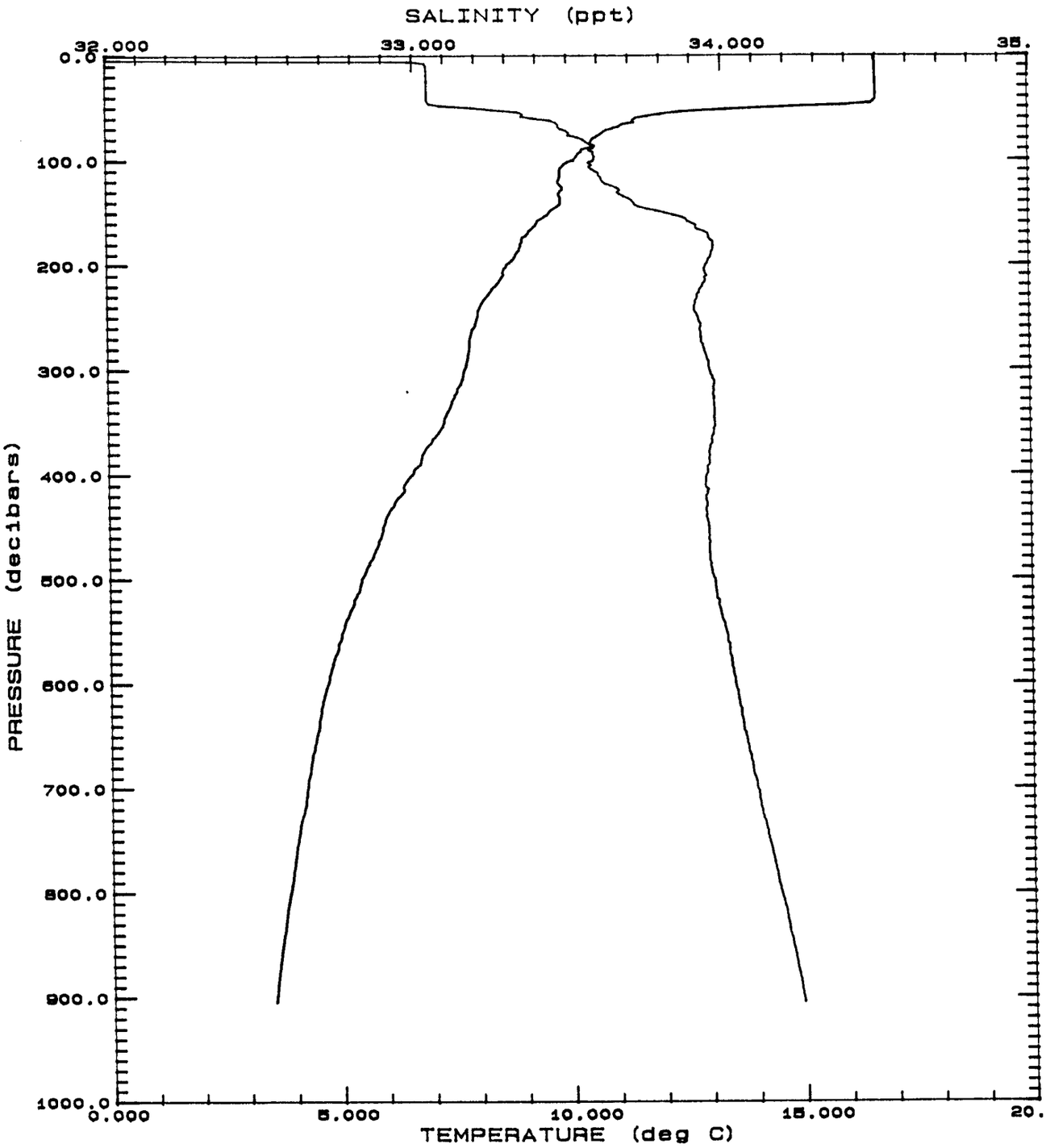
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	16.7412	32.8797	23.9488	1509.68	19
10.000	16.7456	33.1132	24.1269	1510.05	12
15.000	16.7497	33.1236	24.1339	1510.16	18
20.000	16.7474	33.1224	24.1335	1510.23	13
25.000	16.7573	33.1327	24.1392	1510.36	11
30.000	16.7566	33.1334	24.1398	1510.44	11
35.000	16.7601	33.1354	24.1405	1510.54	10
40.000	14.5334	33.2596	24.7320	1503.81	13
45.000	11.8653	33.4411	25.4048	1495.24	11
50.000	10.8217	33.4386	25.5919	1491.68	14
55.000	10.4849	33.4460	25.6563	1490.57	12
60.000	10.1378	33.4864	25.7473	1489.46	13
65.000	9.8136	33.4861	25.8015	1488.38	10
70.000	9.5963	33.4797	25.8322	1487.66	15
75.000	9.4671	33.4917	25.8627	1487.29	13
80.000	9.4639	33.5099	25.8775	1487.38	9
85.000	9.5953	33.5671	25.9007	1488.01	16
90.000	9.7146	33.5996	25.9065	1488.57	11
95.000	9.7313	33.6118	25.9132	1488.72	13
100.000	9.7363	33.6253	25.9230	1488.84	12
110.000	9.7760	33.6666	25.9487	1489.20	11
120.000	9.7032	33.7053	25.9910	1489.15	11
130.000	9.4313	33.8233	26.1278	1488.47	17
140.000	9.1682	33.9177	26.2441	1487.78	15
150.000	8.8874	33.9481	26.3125	1486.95	13
160.000	8.7578	33.9518	26.3358	1486.64	12
170.000	8.5706	33.9386	26.3545	1486.09	12
180.000	8.3826	33.9258	26.3731	1485.53	10
190.000	8.2453	33.9160	26.3862	1485.17	18
200.000	8.1103	33.9095	26.4013	1484.82	14
210.000	8.0427	33.9072	26.4095	1484.72	11
220.000	7.9300	33.9039	26.4236	1484.46	13
230.000	7.9488	33.9320	26.4429	1484.73	12
240.000	7.9578	33.9522	26.4574	1484.95	19
250.000	7.9093	33.9617	26.4720	1484.94	9
300.000	7.4600	33.9588	26.5347	1484.05	13
350.000	6.8776	33.9551	26.6126	1482.61	13
400.000	6.3711	33.9471	26.6735	1481.44	12
450.000	5.8910	33.9553	26.7409	1480.37	11
500.000	5.4156	33.9727	26.8125	1479.31	19
550.000	5.0692	34.0004	26.8750	1478.76	11
600.000	4.6872	34.0344	26.9450	1478.06	13
650.000	4.3882	34.0749	27.0097	1477.71	10
700.000	4.1627	34.1103	27.0617	1477.64	16
750.000	3.9686	34.1471	27.1110	1477.70	12
800.000	3.8216	34.1805	27.1525	1477.95	16
850.000	3.6430	34.2167	27.1991	1478.08	13
900.000	3.5073	34.2427	27.2330	1478.36	9
950.000	3.3857	34.2690	27.2657	1478.71	18
980.000	3.3227	34.2831	27.2829	1478.96	10



2mavg16.avg: TC 89-09, 41.15N 155.02W, 10-21-1989

TC 89-09, Stn. 52, CTD cast 17, 41°26.2'N 155°00.7'W, 21 October 1989 (raw data averaged in 5m bins).

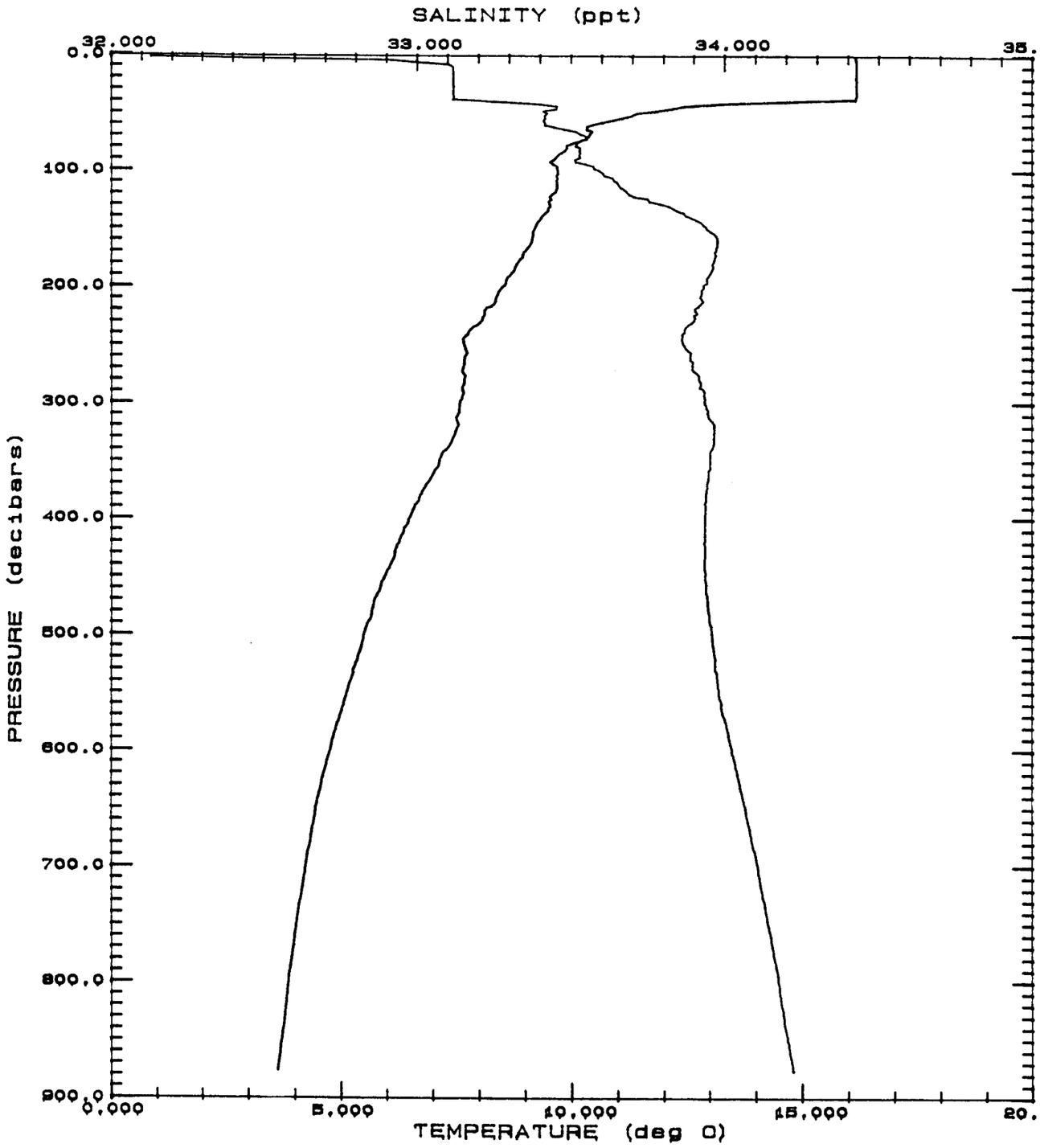
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	16.6521	32.8409	23.9395	1509.38	18
10.000	16.6615	33.0347	24.0861	1509.71	12
15.000	16.6631	33.0478	24.0959	1509.81	13
20.000	16.6632	33.0481	24.0960	1509.89	17
25.000	16.6679	33.0482	24.0950	1509.99	11
30.000	16.6694	33.0482	24.0947	1510.08	13
35.000	16.6698	33.0483	24.0946	1510.16	11
40.000	16.6717	33.0483	24.0942	1510.25	11
45.000	16.5993	33.0534	24.1149	1510.12	12
50.000	14.8885	33.1666	24.5854	1505.02	15
55.000	12.2549	33.3488	25.2597	1496.63	12
60.000	11.5284	33.3919	25.4284	1494.26	11
65.000	11.3078	33.4706	25.5298	1493.67	10
70.000	10.9877	33.4838	25.5976	1492.64	11
75.000	10.7404	33.5085	25.6606	1491.88	11
80.000	10.5700	33.5492	25.7221	1491.41	15
85.000	10.5231	33.5823	25.7560	1491.37	17
90.000	10.3923	33.5797	25.7766	1490.98	12
95.000	10.2262	33.5882	25.8117	1490.48	16
100.000	10.1252	33.5844	25.8259	1490.19	11
110.000	9.8368	33.5914	25.8798	1489.33	11
120.000	9.8073	33.6178	25.9053	1489.42	10
130.000	9.8592	33.6701	25.9375	1489.83	11
140.000	9.8459	33.7151	25.9749	1490.01	9
150.000	9.5985	33.8159	26.0946	1489.40	12
160.000	9.3325	33.9045	26.2074	1488.70	16
170.000	9.1375	33.9557	26.2788	1488.21	10
180.000	8.9890	33.9722	26.3154	1487.85	18
190.000	8.8743	33.9644	26.3274	1487.58	14
200.000	8.6870	33.9482	26.3439	1487.03	14
210.000	8.5911	33.9483	26.3589	1486.83	9
220.000	8.4202	33.9345	26.3742	1486.34	13
230.000	8.2352	33.9184	26.3896	1485.79	14
240.000	8.0797	33.9092	26.4056	1485.36	16
250.000	8.0221	33.9215	26.4239	1485.32	12
300.000	7.7330	33.9576	26.4945	1485.09	15
350.000	7.2795	33.9729	26.5712	1484.19	10
400.000	6.5854	33.9437	26.6427	1482.28	10
450.000	5.9461	33.9495	26.7295	1480.58	11
500.000	5.4761	33.9673	26.8010	1479.54	13
550.000	5.0454	34.0040	26.8806	1478.67	12
600.000	4.7133	34.0315	26.9398	1478.17	10
650.000	4.4580	34.0641	26.9936	1477.98	16
700.000	4.2484	34.0989	27.0436	1477.98	15
750.000	4.0348	34.1357	27.0952	1477.96	10
800.000	3.8552	34.1727	27.1429	1478.09	12
850.000	3.6761	34.2086	27.1894	1478.20	10
900.000	3.5324	34.2402	27.2286	1478.47	14



dcast-17.avg: TC 89-09, 41.26N 155.01W, 10-21-1989

TC 89-09, Stn. 53, CTD cast 18, 41°44.8'N 155°00.6'W, 21 October 1989 (raw data averaged in 5m bins).

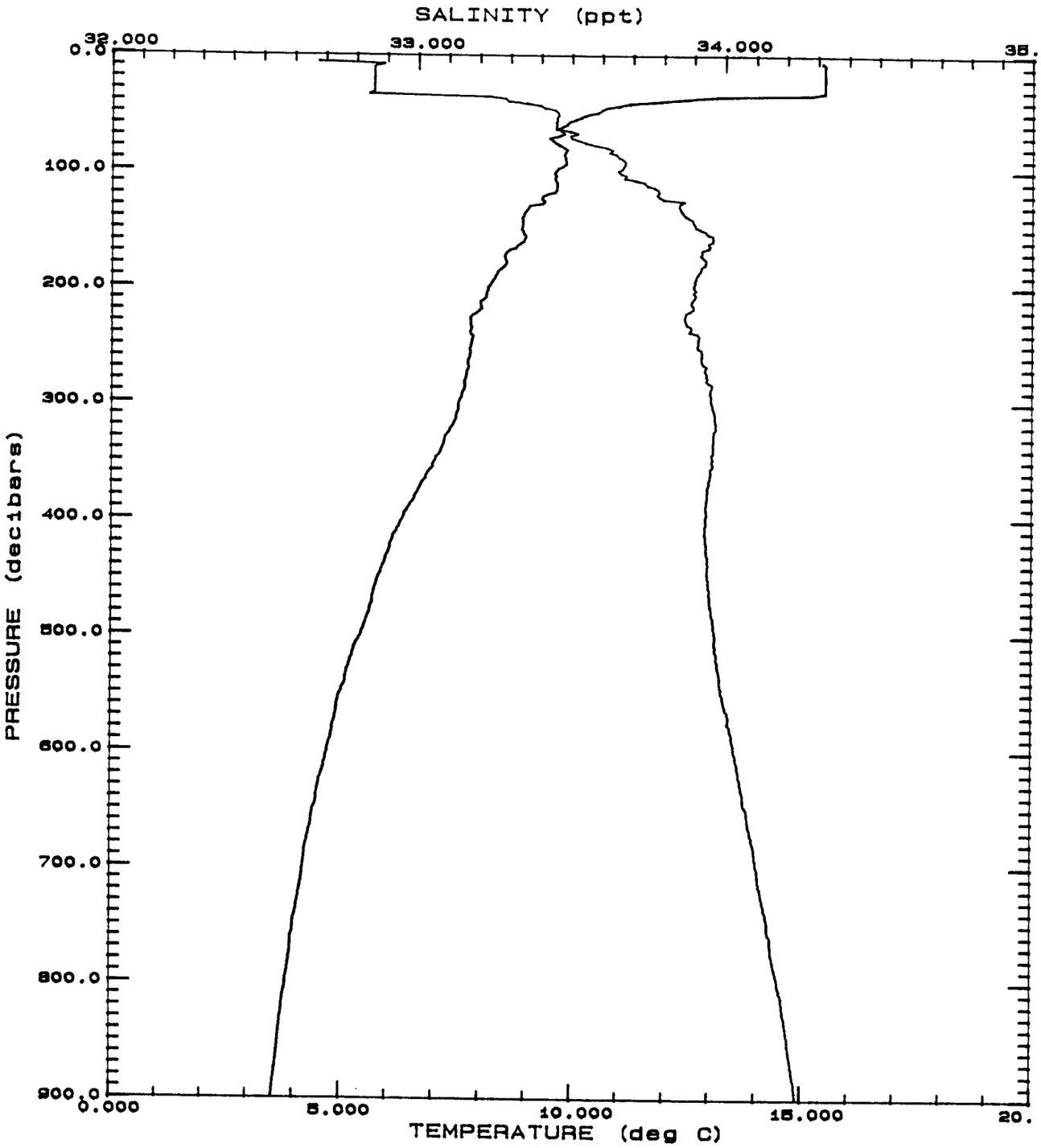
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	16.1745	32.9242	24.1129	1508.01	17
10.000	16.1727	33.1110	24.2567	1508.30	14
15.000	16.1717	33.1187	24.2629	1508.39	9
20.000	16.1758	33.1187	24.2620	1508.48	10
25.000	16.1746	33.1188	24.2623	1508.56	12
30.000	16.1779	33.1189	24.2616	1508.66	11
35.000	16.1740	33.1201	24.2634	1508.73	11
40.000	14.6599	33.2512	24.6978	1504.20	11
45.000	12.2852	33.4510	25.3330	1496.68	13
50.000	11.4719	33.4190	25.4596	1493.93	12
55.000	11.0014	33.4119	25.5391	1492.36	12
60.000	10.4573	33.4213	25.6420	1490.53	11
65.000	10.3768	33.4961	25.7141	1490.41	25
70.000	10.3746	33.5439	25.7517	1490.54	10
75.000	10.1205	33.5258	25.7810	1489.70	11
80.000	9.9024	33.5275	25.8189	1488.99	20
85.000	9.7463	33.5278	25.8451	1488.51	10
90.000	9.6001	33.5158	25.8599	1488.05	10
95.000	9.6342	33.5585	25.8876	1488.31	13
100.000	9.7042	33.5912	25.9017	1488.68	14
110.000	9.6864	33.6485	25.9494	1488.85	10
120.000	9.5912	33.6891	25.9967	1488.72	12
130.000	9.5239	33.8125	26.1043	1488.79	19
140.000	9.3478	33.8923	26.1953	1488.41	12
150.000	9.1922	33.9469	26.2631	1488.07	14
160.000	9.1365	33.9776	26.2961	1488.07	15
170.000	8.9765	33.9704	26.3160	1487.63	16
180.000	8.8208	33.9636	26.3352	1487.21	10
190.000	8.6606	33.9480	26.3479	1486.76	13
200.000	8.5049	33.9300	26.3578	1486.33	11
210.000	8.3611	33.9260	26.3766	1485.95	13
220.000	8.1145	33.9048	26.3971	1485.16	10
230.000	8.0285	33.8926	26.4002	1484.98	10
240.000	7.7504	33.8646	26.4189	1484.05	11
250.000	7.6892	33.8679	26.4304	1483.99	18
300.000	7.5813	33.9370	26.5002	1484.49	11
350.000	7.1339	33.9531	26.5759	1483.61	15
400.000	6.4784	33.9364	26.6510	1481.85	12
450.000	5.9416	33.9366	26.7199	1480.55	12
500.000	5.4883	33.9602	26.7939	1479.58	14
550.000	5.1136	33.9819	26.8552	1478.92	14
600.000	4.7482	34.0238	26.9298	1478.30	12
650.000	4.4344	34.0679	26.9991	1477.89	11
700.000	4.2142	34.1075	27.0541	1477.85	14
750.000	4.0175	34.1412	27.1013	1477.90	10
800.000	3.8467	34.1757	27.1461	1478.05	13
850.000	3.7040	34.2053	27.1840	1478.32	10
875.000	3.6238	34.2214	27.2047	1478.41	19



dcast-18.avg: TC 89-09, 41.45N 155.01W, 10-21-1989

TC 89-09, Stn. 56, CTD cast 19, 42°00.6'N 155°00.2'W,
21 October 1989 (raw data averaged in 5m bins).

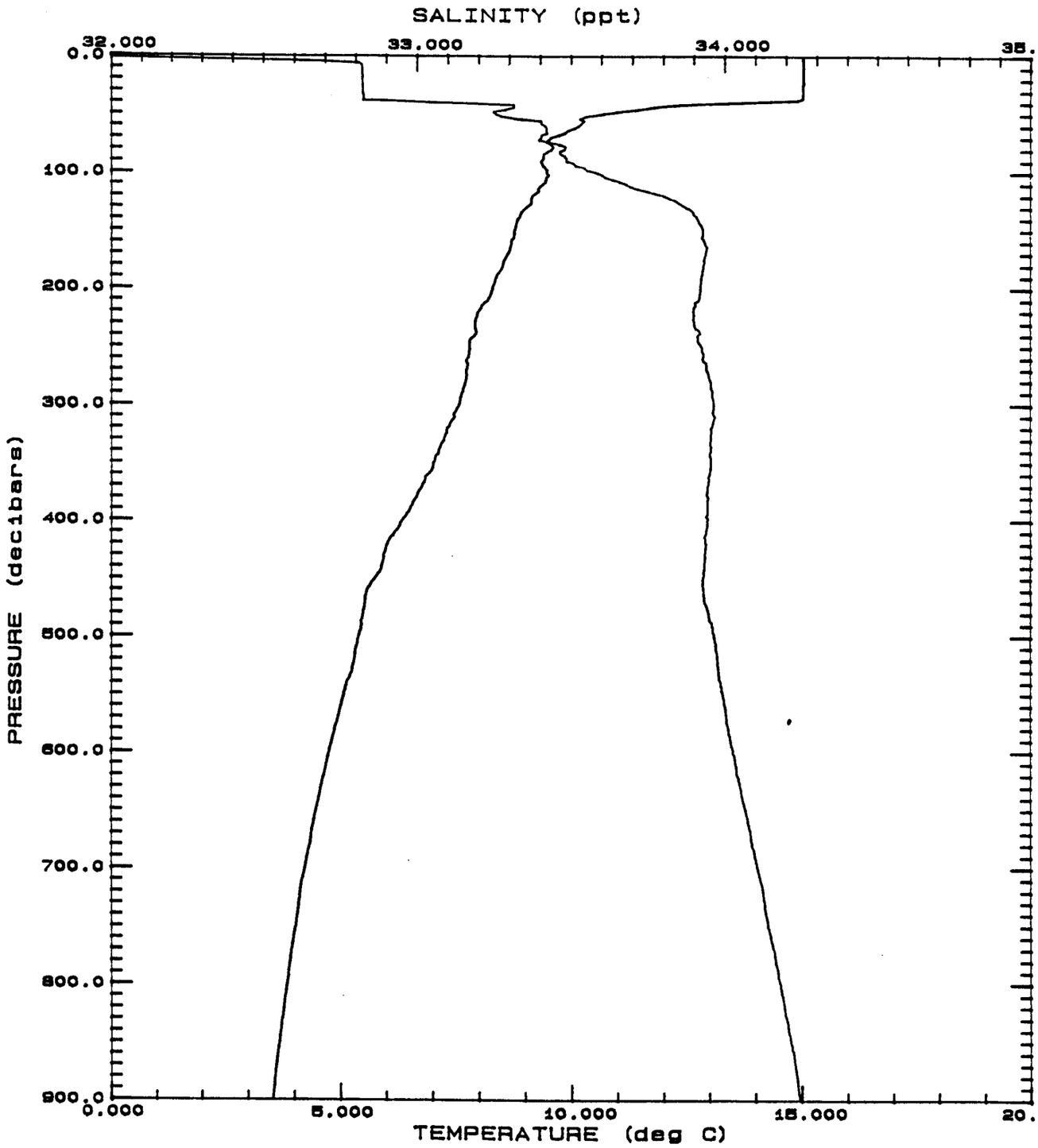
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	15.4585	32.8554	24.2199	1505.78	16
15.000	15.4600	32.8554	24.2195	1505.87	13
20.000	15.4616	32.8555	24.2193	1505.96	9
25.000	15.4602	32.8558	24.2198	1506.03	12
30.000	15.4588	32.8556	24.2199	1506.11	11
35.000	14.0939	33.0444	24.6572	1502.05	14
40.000	11.9115	33.2930	25.2794	1495.12	11
45.000	10.8742	33.4073	25.5583	1491.74	17
50.000	10.5099	33.4528	25.6573	1490.59	10
55.000	10.1247	33.4492	25.7206	1489.29	13
60.000	9.8475	33.4493	25.7671	1488.37	12
65.000	9.7365	33.4726	25.8037	1488.08	12
70.000	9.6406	33.4950	25.8370	1487.84	15
75.000	9.6003	33.5320	25.8725	1487.82	9
80.000	9.7981	33.6103	25.9010	1488.72	11
85.000	9.8348	33.6347	25.9140	1488.96	14
90.000	9.8528	33.6652	25.9348	1489.15	10
95.000	9.8235	33.6715	25.9446	1489.13	12
100.000	9.6329	33.6552	25.9634	1488.50	10
110.000	9.6528	33.7315	26.0197	1488.83	14
120.000	9.4581	33.7802	26.0897	1488.35	16
130.000	9.1271	33.8499	26.1977	1487.38	17
140.000	8.9206	33.8813	26.2550	1486.82	14
150.000	8.9087	33.9183	26.2858	1486.99	10
160.000	8.9369	33.9561	26.3110	1487.31	9
170.000	8.5624	33.9209	26.3418	1486.04	12
180.000	8.5543	33.9342	26.3535	1486.19	10
190.000	8.3343	33.9081	26.3666	1485.49	8
200.000	8.1734	33.8999	26.3844	1485.04	19
210.000	8.0696	33.8952	26.3962	1484.81	19
220.000	7.9811	33.8871	26.4029	1484.63	12
230.000	7.7915	33.8719	26.4187	1484.06	11
240.000	7.8117	33.9059	26.4425	1484.34	13
250.000	7.7945	33.9122	26.4500	1484.45	13
300.000	7.5408	33.9585	26.5229	1484.36	11
350.000	7.0112	33.9599	26.5981	1483.14	18
400.000	6.3233	33.9385	26.6729	1481.24	11
450.000	5.8024	33.9465	26.7449	1480.00	18
500.000	5.4301	33.9706	26.8091	1479.36	12
550.000	4.9923	33.9924	26.8774	1478.44	11
600.000	4.7145	34.0341	26.9418	1478.18	10
650.000	4.4179	34.0744	27.0061	1477.83	12
700.000	4.2075	34.1086	27.0556	1477.82	12
750.000	4.0045	34.1430	27.1041	1477.85	12
800.000	3.8459	34.1772	27.1474	1478.05	8
850.000	3.6847	34.2106	27.1901	1478.24	11
900.000	3.5505	34.2380	27.2251	1478.54	11



dcast-19.avg: TC 89-09, 42.01N 155.00W, 10-21-1989

TC 89-09, Stn. 60, CTD cast 20, 42°15.7'N 155°01.7'W, 22 October 1989 (raw data averaged in 5m bins).

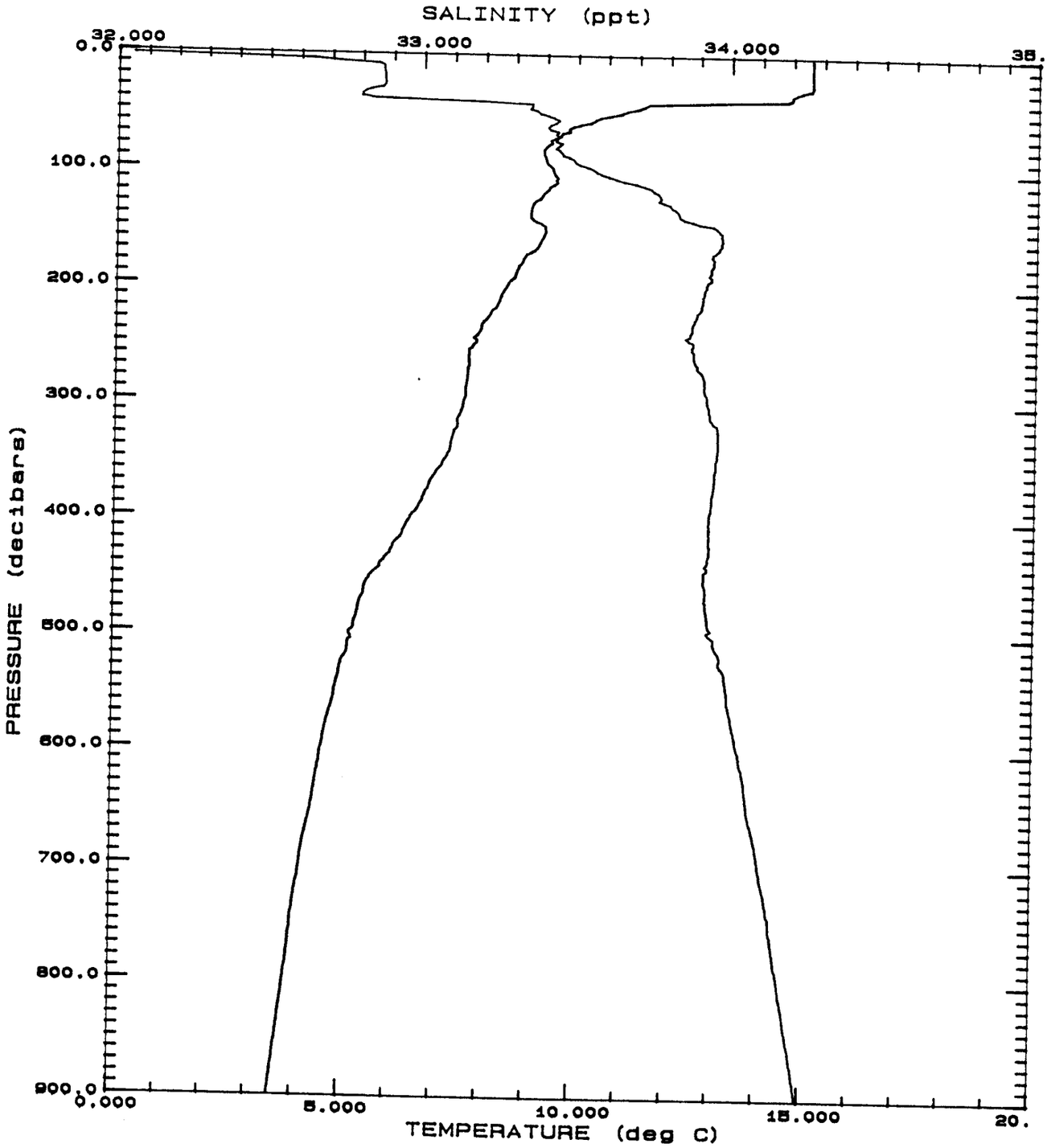
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	15.0368	32.7101	24.2000	1504.19	21
10.000	15.0380	32.8212	24.2853	1504.41	16
15.000	15.0351	32.8211	24.2858	1504.49	21
20.000	15.0400	32.8210	24.2847	1504.58	17
25.000	15.0307	32.8223	24.2877	1504.64	17
30.000	15.0292	32.8226	24.2882	1504.72	15
35.000	15.0226	32.8253	24.2918	1504.78	13
40.000	13.5189	33.0684	24.7938	1500.28	11
45.000	11.5718	33.3104	25.3577	1494.07	15
50.000	10.6474	33.2561	25.4802	1490.84	10
55.000	10.2592	33.3600	25.6280	1489.66	20
60.000	10.1540	33.4158	25.6894	1489.43	9
65.000	9.9043	33.4188	25.7337	1488.62	14
70.000	9.5831	33.3996	25.7718	1487.51	15
75.000	9.5324	33.4441	25.8149	1487.47	16
80.000	9.5765	33.4791	25.8350	1487.75	14
85.000	9.3890	33.4694	25.8579	1487.14	12
90.000	9.3634	33.4899	25.8781	1487.15	14
95.000	9.4214	33.5306	25.9006	1487.50	13
100.000	9.4796	33.5783	25.9284	1487.85	10
110.000	9.3845	33.6790	26.0226	1487.79	10
120.000	9.1697	33.8005	26.1522	1487.32	17
130.000	9.0312	33.8753	26.2328	1487.06	10
140.000	8.8487	33.9120	26.2904	1486.60	12
150.000	8.7738	33.9298	26.3160	1486.50	11
160.000	8.7040	33.9353	26.3312	1486.42	18
170.000	8.6232	33.9382	26.3460	1486.28	10
180.000	8.5119	33.9307	26.3572	1486.02	13
190.000	8.3725	33.9233	26.3727	1485.66	13
200.000	8.2881	33.9208	26.3836	1485.50	14
210.000	8.1746	33.9102	26.3923	1485.23	9
220.000	7.9811	33.8984	26.4117	1484.64	11
230.000	7.9130	33.9003	26.4233	1484.55	12
240.000	7.9001	33.9150	26.4367	1484.69	10
250.000	7.7956	33.9237	26.4588	1484.46	14
300.000	7.5599	33.9640	26.5245	1484.44	11
350.000	7.0195	33.9544	26.5926	1483.17	15
400.000	6.3346	33.9433	26.6751	1481.29	15
450.000	5.7395	33.9276	26.7378	1479.73	9
500.000	5.3864	33.9658	26.8105	1479.18	11
550.000	5.0622	33.9931	26.8700	1478.72	10
600.000	4.7384	34.0271	26.9335	1478.26	8
650.000	4.4580	34.0673	26.9961	1477.98	10
700.000	4.2168	34.1063	27.0528	1477.86	8
750.000	4.0221	34.1410	27.1006	1477.92	10
800.000	3.8355	34.1799	27.1506	1478.01	11
850.000	3.6681	34.2149	27.1952	1478.18	9
900.000	3.5274	34.2438	27.2320	1478.45	9



dcast-20.avg: TC 89-09, 42.16N 155.02W, 10-22-1989

TC 89-09, Stn. 61, CTD cast 21, 42°30.1'N 155°00.6'W, 22 October 1989 (raw data averaged in 5m bins).

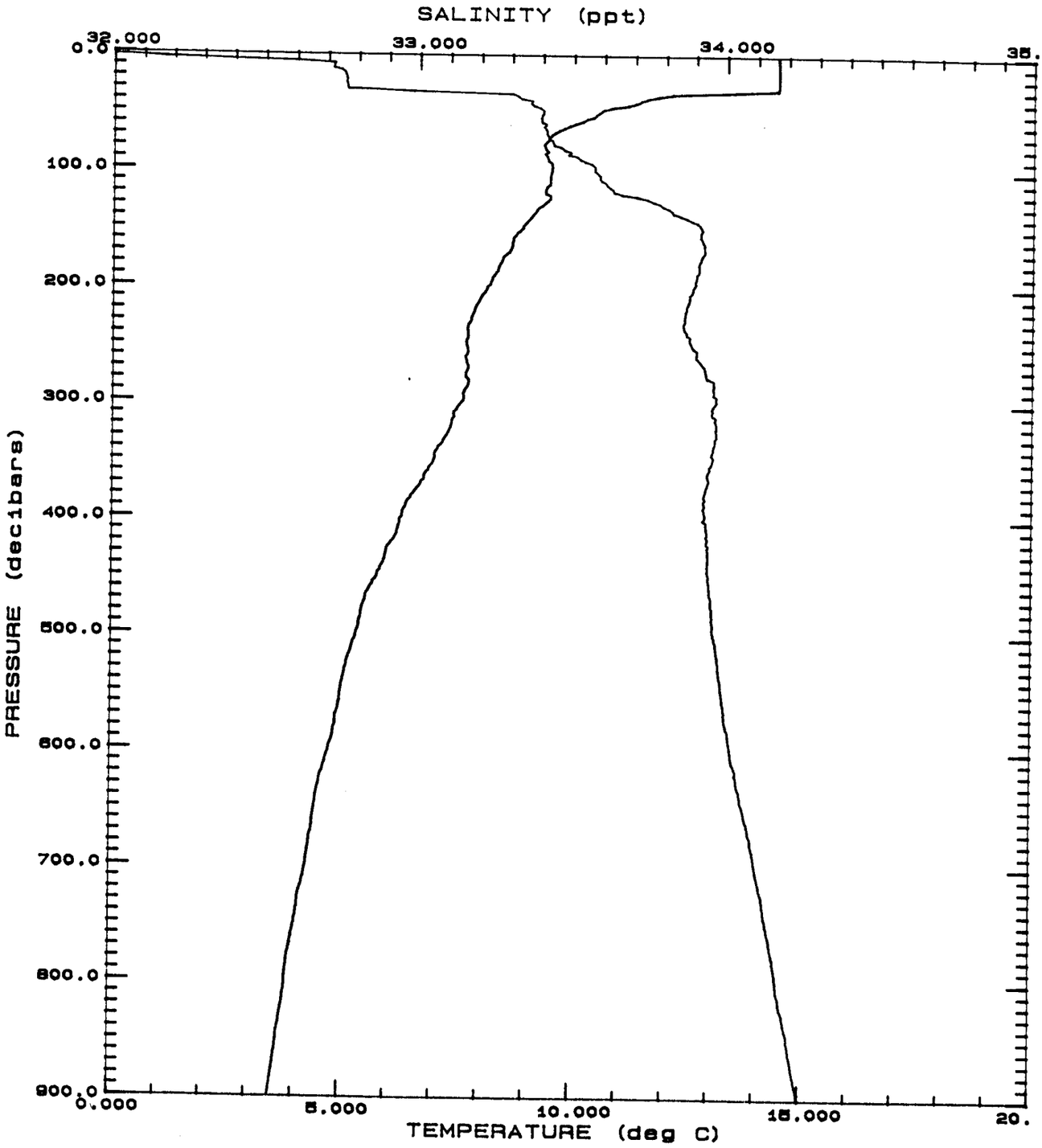
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	15.0833	32.6873	24.1724	1504.32	15
10.000	15.0802	32.8714	24.3148	1504.60	17
15.000	15.0819	32.8722	24.3151	1504.69	12
20.000	15.0854	32.8741	24.3158	1504.79	11
25.000	15.0871	32.8748	24.3159	1504.88	12
30.000	14.9242	32.8408	24.3249	1504.40	17
35.000	14.6262	32.7966	24.3545	1503.48	17
40.000	13.3497	33.0597	24.8218	1499.71	17
45.000	11.4167	33.3438	25.4110	1493.56	11
50.000	10.9229	33.3876	25.5342	1491.97	16
55.000	10.4614	33.4310	25.6487	1490.47	16
60.000	10.1116	33.4170	25.6976	1489.28	11
65.000	9.8158	33.4222	25.7512	1488.31	13
70.000	9.6213	33.4401	25.7972	1487.70	12
75.000	9.4565	33.4423	25.8259	1487.19	14
80.000	9.3329	33.4377	25.8422	1486.81	9
85.000	9.2865	33.4546	25.8629	1486.74	20
90.000	9.3326	33.4894	25.8827	1487.04	14
95.000	9.3975	33.5230	25.8985	1487.40	16
100.000	9.4961	33.5665	25.9165	1487.90	16
110.000	9.5541	33.6913	26.0046	1488.42	14
120.000	9.2961	33.7710	26.1088	1487.74	20
130.000	9.0524	33.8127	26.1804	1487.06	13
140.000	9.0281	33.8566	26.2187	1487.19	16
150.000	9.3381	33.9677	26.2559	1488.63	14
160.000	9.2493	33.9761	26.2768	1488.48	13
170.000	9.0338	33.9483	26.2896	1487.82	12
180.000	8.8190	33.9480	26.3232	1487.19	14
190.000	8.6956	33.9424	26.3381	1486.89	12
200.000	8.5035	33.9233	26.3527	1486.31	11
210.000	8.3717	33.9151	26.3664	1485.97	9
220.000	8.2311	33.9015	26.3770	1485.59	13
230.000	8.0248	33.8822	26.3926	1484.95	15
240.000	7.9135	33.8702	26.3996	1484.68	10
250.000	7.8134	33.8818	26.4233	1484.48	12
300.000	7.5956	33.9357	26.4972	1484.54	14
350.000	7.1860	33.9630	26.5764	1483.82	10
400.000	6.4575	33.9424	26.6585	1481.78	11
450.000	5.6094	33.9275	26.7535	1479.21	14
500.000	5.1646	33.9523	26.8258	1478.26	13
550.000	4.8610	34.0087	26.9052	1477.92	12
600.000	4.5781	34.0468	26.9668	1477.63	14
650.000	4.3846	34.0771	27.0118	1477.69	9
700.000	4.1487	34.1164	27.0680	1477.59	13
750.000	3.9712	34.1521	27.1147	1477.72	10
800.000	3.8265	34.1830	27.1539	1477.98	13
850.000	3.6721	34.2144	27.1944	1478.20	15
900.000	3.5216	34.2458	27.2341	1478.43	8



dcast-21.avg: TC 89-09, 42.30N 155.01W, 10-22-1989

TC 89-09, Stn. 62, CTD cast 22, 42°44.9'N 155°00.1'W, 22 October 1989 (raw data averaged in 5m bins).

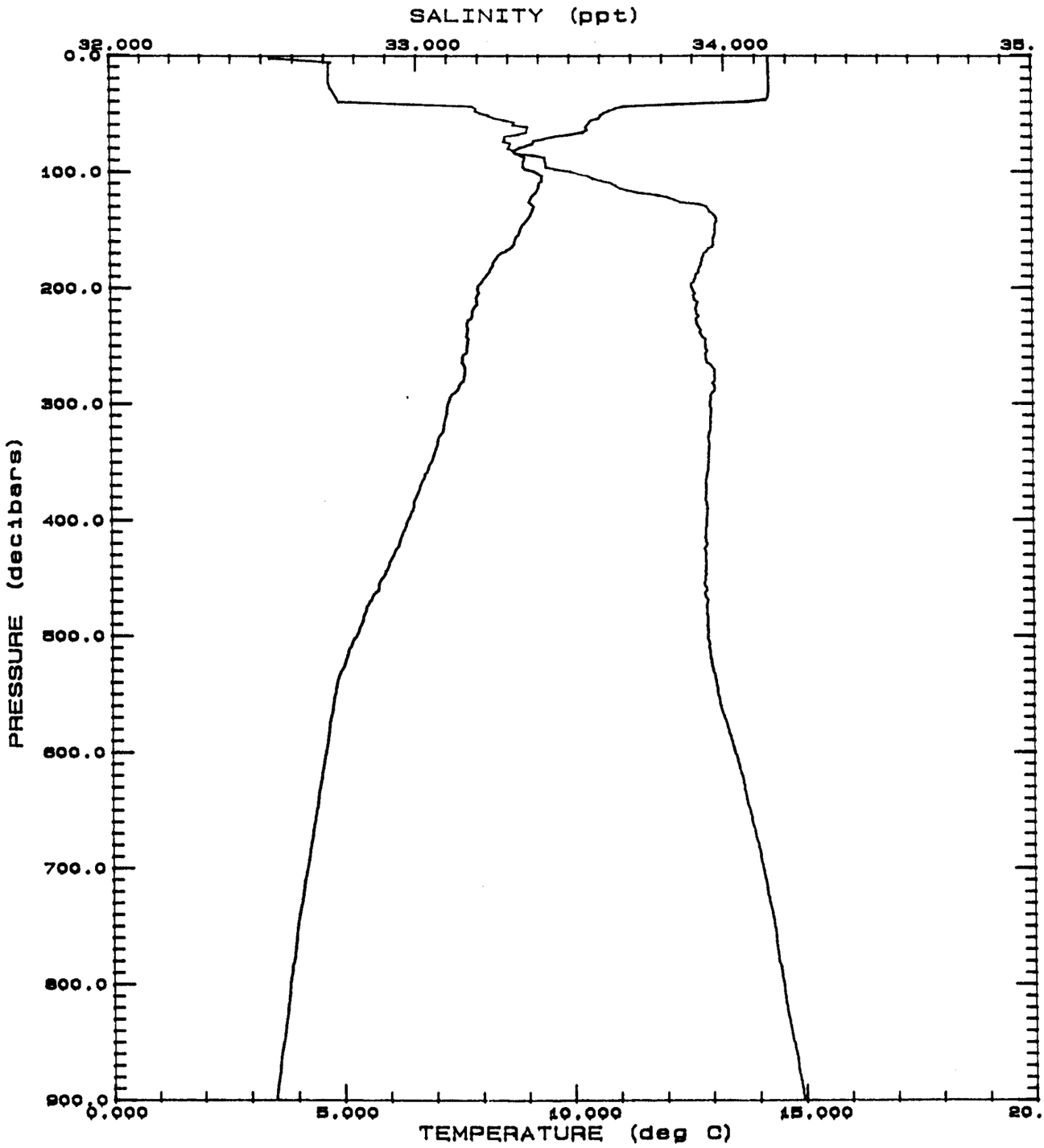
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	14.4304	32.3213	24.0293	1501.79	23
10.000	14.4326	32.6830	24.3078	1502.31	16
15.000	14.4338	32.7472	24.3570	1502.47	10
20.000	14.4350	32.7585	24.3655	1502.57	10
25.000	14.4363	32.7590	24.3656	1502.66	12
30.000	14.2622	32.7964	24.4310	1502.23	10
35.000	12.0072	33.3097	25.2769	1495.41	13
40.000	11.4767	33.3513	25.4062	1493.70	10
45.000	10.9815	33.3800	25.5179	1492.09	16
50.000	10.5771	33.3971	25.6022	1490.76	13
55.000	10.3530	33.3929	25.6377	1490.04	15
60.000	10.0269	33.4053	25.7027	1488.96	15
65.000	9.7346	33.4100	25.7551	1488.00	13
70.000	9.5158	33.4148	25.7947	1487.29	14
75.000	9.4236	33.4311	25.8224	1487.05	19
80.000	9.3659	33.4530	25.8488	1486.95	14
85.000	9.3939	33.4826	25.8675	1487.17	10
90.000	9.4369	33.5230	25.8921	1487.46	11
95.000	9.5175	33.5610	25.9087	1487.88	17
100.000	9.5235	33.5721	25.9164	1488.00	15
110.000	9.4956	33.6024	25.9446	1488.10	14
120.000	9.4378	33.6682	26.0055	1488.14	16
130.000	9.3269	33.7930	26.1210	1488.05	10
140.000	9.0951	33.8677	26.2167	1487.45	13
150.000	8.8901	33.9185	26.2890	1486.92	18
160.000	8.6973	33.9229	26.3225	1486.38	12
170.000	8.6115	33.9271	26.3391	1486.23	12
180.000	8.4274	33.9112	26.3549	1485.68	11
190.000	8.2915	33.9037	26.3696	1485.33	13
200.000	8.1602	33.8926	26.3806	1484.99	11
210.000	7.9904	33.8787	26.3949	1484.49	12
220.000	7.8644	33.8677	26.4048	1484.16	12
230.000	7.7700	33.8616	26.4138	1483.96	12
240.000	7.7325	33.8735	26.4285	1484.00	14
250.000	7.7093	33.8894	26.4444	1484.09	12
300.000	7.5915	33.9657	26.5213	1484.56	12
350.000	6.9990	33.9562	26.5969	1483.09	16
400.000	6.2867	33.9330	26.6732	1481.09	8
450.000	5.7759	33.9476	26.7491	1479.90	9
500.000	5.3316	33.9660	26.8172	1478.96	14
550.000	4.9972	33.9933	26.8776	1478.46	17
600.000	4.7488	34.0234	26.9294	1478.30	12
650.000	4.4539	34.0663	26.9958	1477.97	11
700.000	4.2748	34.1066	27.0469	1478.10	10
750.000	4.0404	34.1430	27.1004	1478.00	16
800.000	3.8475	34.1761	27.1463	1478.06	14
850.000	3.6736	34.2140	27.1939	1478.20	11
900.000	3.5028	34.2500	27.2393	1478.35	17



dcast-22.avg: TC 89-09, 42.45N 155.00W, 10-22-1989

TC 89-09, Stn. 67, CTD cast 23, 42°59.7'N 155°00.1'W,
22 October 1989 (raw data averaged in 5m bins).

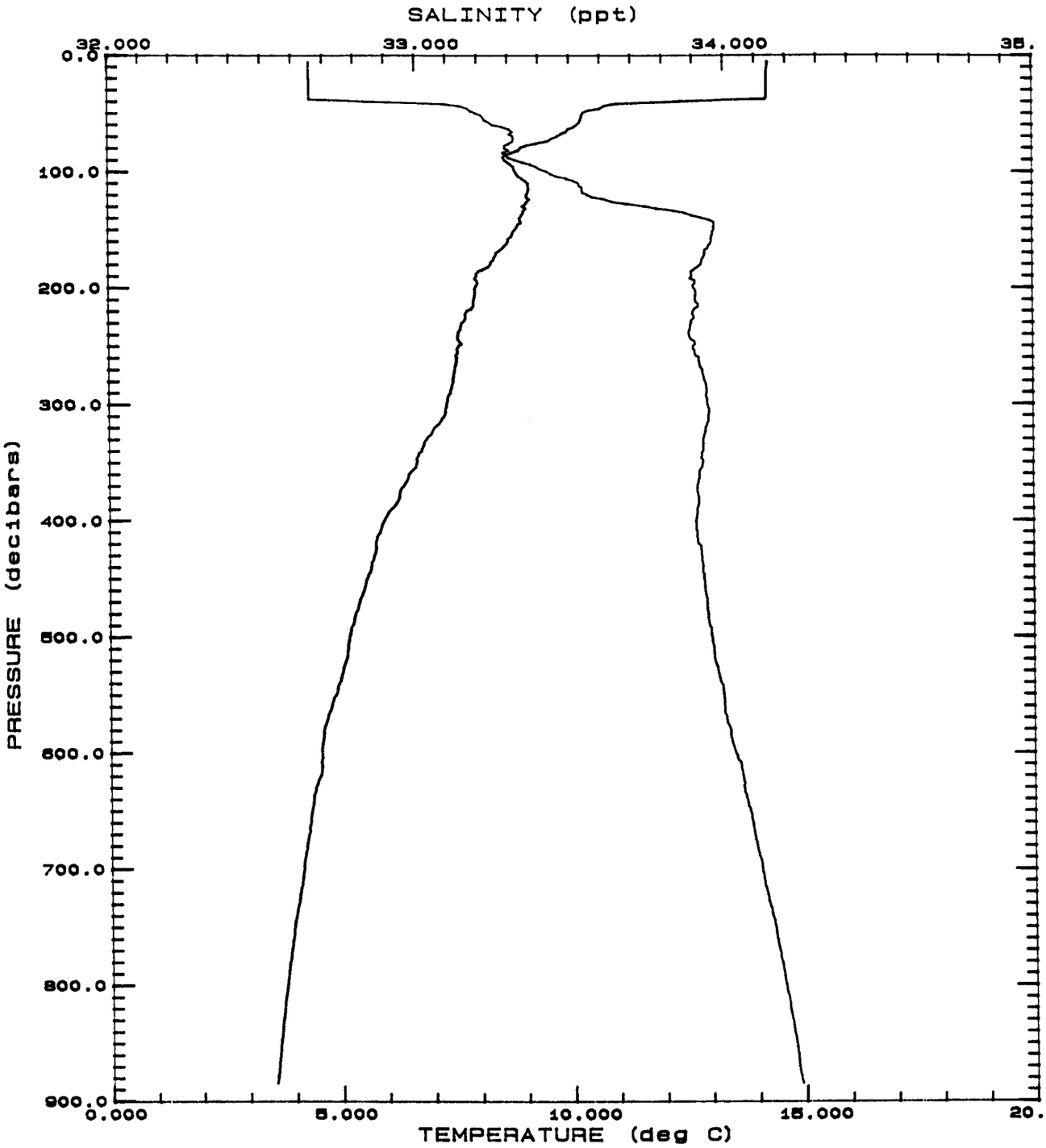
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	14.2863	32.6621	24.3223	1501.73	57
10.000	14.2875	32.7168	24.3642	1501.88	35
15.000	14.2907	32.7164	24.3633	1501.98	40
20.000	14.2914	32.7163	24.3630	1502.06	42
25.000	14.2933	32.7183	24.3642	1502.15	53
30.000	14.2919	32.7272	24.3713	1502.24	41
35.000	14.2756	32.7383	24.3833	1502.28	39
40.000	13.6407	32.7963	24.5588	1500.36	50
45.000	11.1673	33.1639	25.3158	1492.47	52
50.000	10.7439	33.2119	25.4289	1491.13	42
55.000	10.5492	33.2743	25.5115	1490.59	37
60.000	10.3802	33.3291	25.5833	1490.14	61
65.000	10.2978	33.3563	25.6186	1489.96	54
70.000	9.7122	33.3017	25.6742	1487.87	46
75.000	9.1613	33.2898	25.7542	1485.92	57
80.000	8.8957	33.3069	25.8091	1485.04	44
85.000	8.8580	33.3514	25.8498	1485.04	71
90.000	8.9899	33.4177	25.8811	1485.69	41
95.000	8.9803	33.4240	25.8876	1485.74	49
100.000	9.1970	33.4999	25.9126	1486.72	55
110.000	9.3499	33.6317	25.9912	1487.61	55
120.000	9.2055	33.7757	26.1271	1487.42	62
130.000	9.1986	33.9482	26.2632	1487.77	50
140.000	9.0931	33.9760	26.3018	1487.58	49
150.000	8.9053	33.9710	26.3277	1487.04	47
160.000	8.7832	33.9657	26.3427	1486.75	44
170.000	8.4962	33.9362	26.3640	1485.81	46
180.000	8.3051	33.9238	26.3833	1485.24	40
190.000	8.1460	33.9070	26.3940	1484.78	36
200.000	7.9747	33.8963	26.4111	1484.29	56
210.000	7.9434	33.9072	26.4242	1484.35	39
220.000	7.8634	33.9099	26.4381	1484.21	51
230.000	7.7327	33.9102	26.4573	1483.88	53
240.000	7.7304	33.9237	26.4683	1484.05	40
250.000	7.7359	33.9395	26.4799	1484.26	45
300.000	7.3149	33.9523	26.5500	1483.48	35
350.000	6.9410	33.9458	26.5966	1482.85	57
400.000	6.4336	33.9390	26.6589	1481.68	47
450.000	5.8644	33.9335	26.7270	1480.24	45
500.000	5.2977	33.9405	26.8010	1478.79	37
550.000	4.8356	33.9742	26.8807	1477.77	40
600.000	4.6254	34.0283	26.9470	1477.80	56
650.000	4.4194	34.0747	27.0062	1477.83	60
700.000	4.2130	34.1168	27.0615	1477.86	60
750.000	3.9998	34.1517	27.1114	1477.84	40
800.000	3.8270	34.1805	27.1519	1477.98	37
850.000	3.6710	34.2121	27.1927	1478.19	58
900.000	3.5145	34.2424	27.2321	1478.39	43



dcast-23.avg: TC 89-09, 43.00N 155.00W, 10-22-1989

TC 89-09, Stn. 72, CTD cast 24, 43°15.0'N 155°00.3'W, 23 October 1989 (raw data averaged in 5m bins).

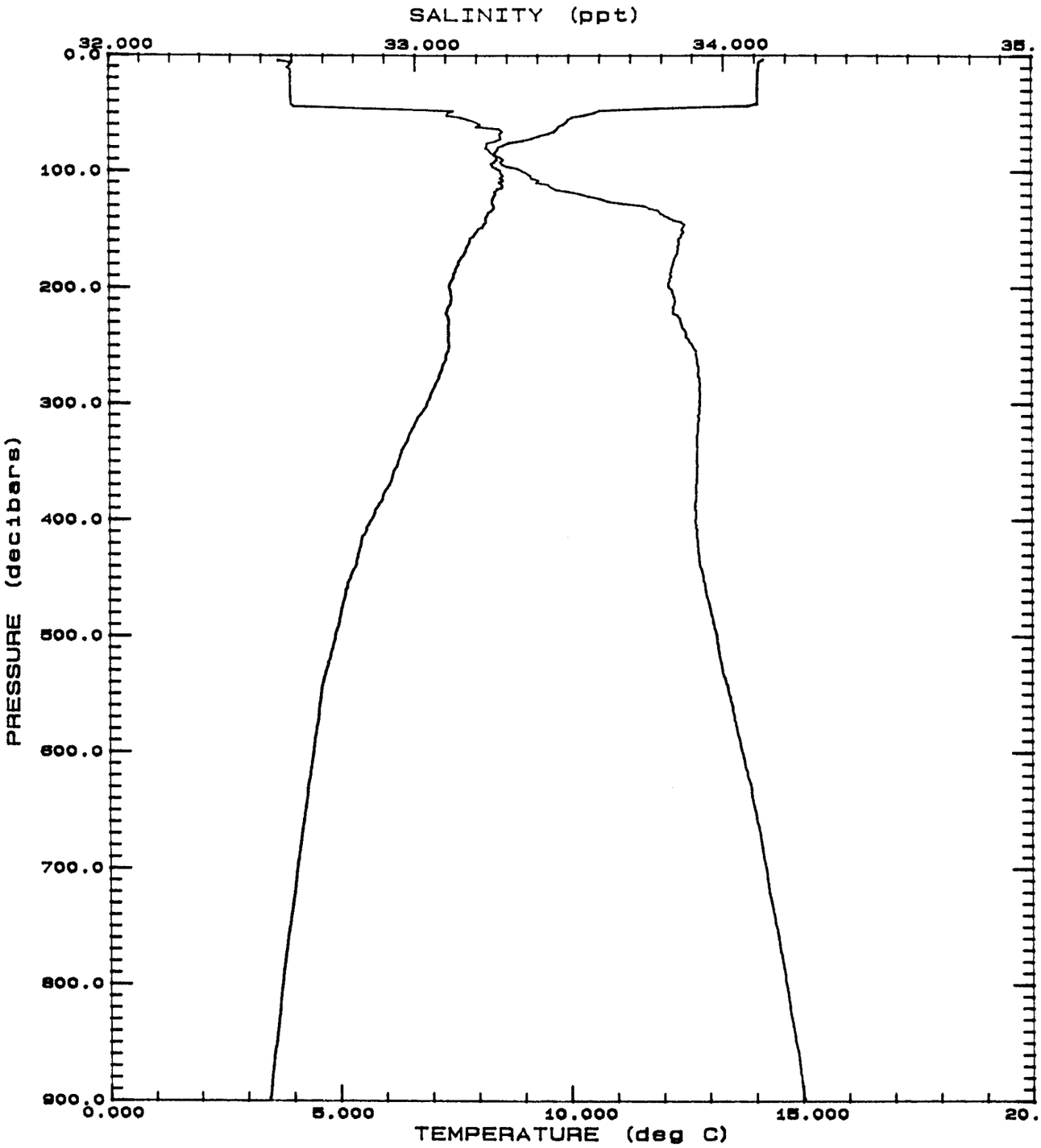
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	14.2715	32.6577	24.3218	1501.76	13
15.000	14.2568	32.6581	24.3253	1501.80	16
20.000	14.2557	32.6585	24.3259	1501.88	13
25.000	14.2555	32.6587	24.3261	1501.96	13
30.000	14.2540	32.6589	24.3266	1502.04	13
35.000	14.2522	32.6597	24.3275	1502.12	15
40.000	12.1774	32.9155	24.9352	1495.57	14
45.000	10.6234	33.1575	25.4081	1490.56	10
50.000	10.3025	33.2005	25.4963	1489.54	10
55.000	10.2464	33.2241	25.5243	1489.45	15
60.000	10.1637	33.2563	25.5634	1489.28	15
65.000	9.9484	33.3116	25.6428	1488.65	16
70.000	9.7142	33.3123	25.6821	1487.89	17
75.000	9.4020	33.3113	25.7322	1486.83	17
80.000	8.9838	33.2993	25.7892	1485.36	14
85.000	8.6862	33.2896	25.8280	1484.32	11
90.000	8.5655	33.3203	25.8705	1483.99	17
95.000	8.7536	33.3841	25.8917	1484.85	16
100.000	8.8244	33.4237	25.9117	1485.25	13
110.000	9.0868	33.5267	25.9511	1486.51	14
120.000	9.0747	33.5593	25.9786	1486.67	13
130.000	9.0127	33.7335	26.1248	1486.82	17
140.000	8.9272	33.9256	26.2886	1486.90	10
150.000	8.8104	33.9681	26.3403	1486.69	16
160.000	8.6546	33.9593	26.3576	1486.26	15
170.000	8.4157	33.9378	26.3775	1485.51	11
180.000	8.2633	33.9242	26.3899	1485.08	16
190.000	7.9526	33.8925	26.4113	1484.04	20
200.000	7.9382	33.9010	26.4201	1484.16	9
210.000	7.9064	33.9077	26.4301	1484.21	11
220.000	7.7744	33.8994	26.4428	1483.86	15
230.000	7.6569	33.8917	26.4538	1483.57	15
240.000	7.5696	33.8863	26.4621	1483.39	13
250.000	7.5844	33.9011	26.4715	1483.63	19
300.000	7.3149	33.9456	26.5447	1483.47	17
350.000	6.6667	33.9285	26.6199	1481.76	14
400.000	5.9548	33.9064	26.6943	1479.74	14
450.000	5.5733	33.9317	26.7612	1479.07	14
500.000	5.1910	33.9566	26.8262	1478.38	22
550.000	4.8821	33.9936	26.8909	1477.99	19
600.000	4.5809	34.0315	26.9543	1477.62	11
650.000	4.3520	34.0777	27.0158	1477.56	14
700.000	4.1732	34.1127	27.0625	1477.69	10
750.000	3.9596	34.1541	27.1174	1477.67	12
800.000	3.7940	34.1865	27.1600	1477.85	15
850.000	3.6463	34.2184	27.2001	1478.09	12
880.000	3.5734	34.2334	27.2192	1478.30	18



dcast-24.avg: TC 89-09, 43.15N 155.00W, 10-23-1989

TC 89-09, Stn. 73, CTD cast 25, 43°30.7'N 155°00.8'W, 23 October 1989 (raw data averaged in 5m bins).

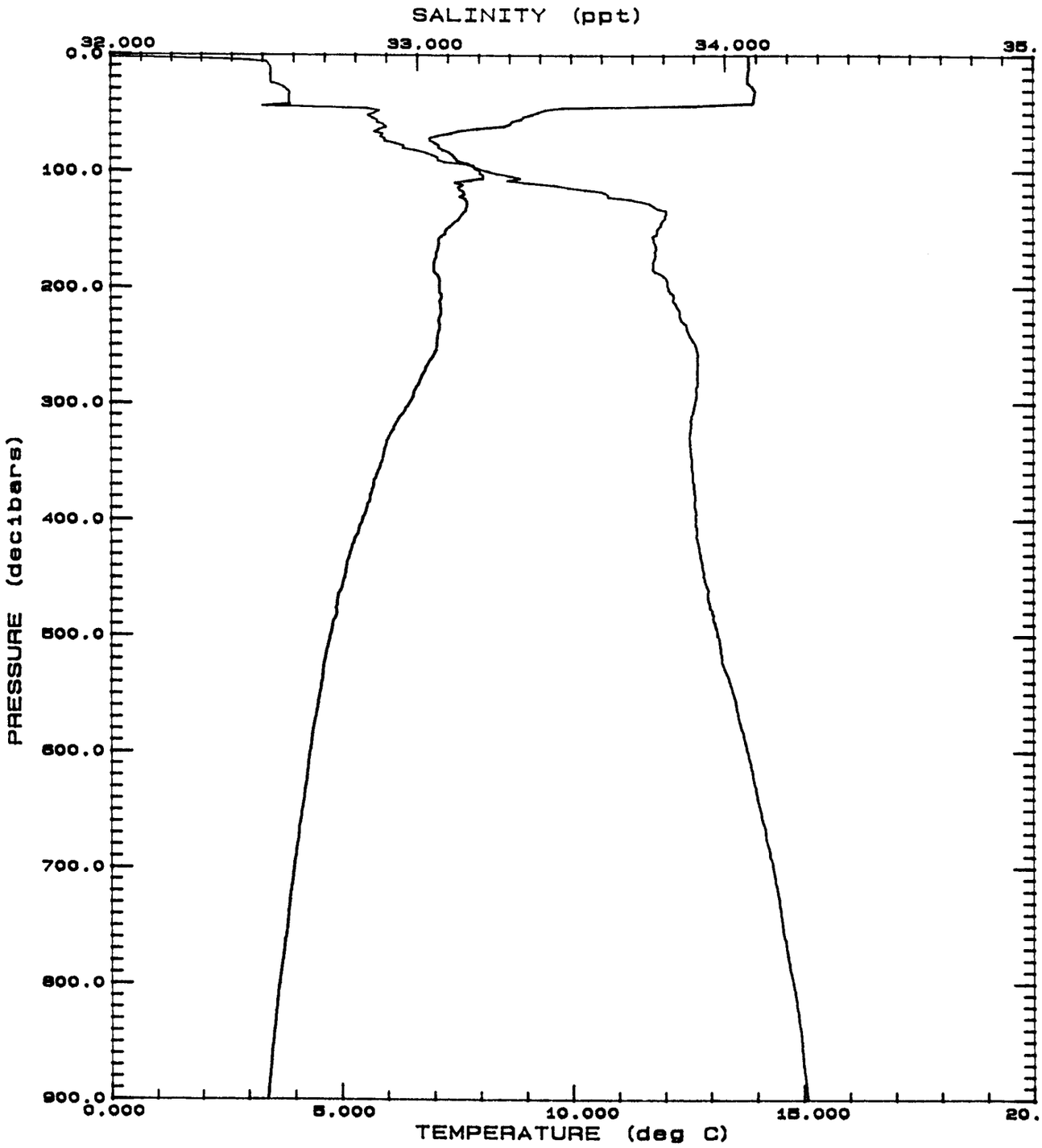
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	14.1424	32.5742	24.2846	1501.16	17
10.000	14.0807	32.5906	24.3098	1501.06	11
15.000	14.0691	32.5952	24.3157	1501.11	11
20.000	14.0645	32.5948	24.3163	1501.18	19
25.000	14.0618	32.5949	24.3170	1501.26	16
30.000	14.0609	32.5953	24.3175	1501.34	17
35.000	14.0607	32.5956	24.3178	1501.42	14
40.000	14.0610	32.5970	24.3188	1501.50	10
45.000	12.6400	32.7763	24.7409	1497.08	11
50.000	10.4101	33.1278	25.4228	1489.85	11
55.000	10.0120	33.1591	25.5132	1488.53	9
60.000	9.8786	33.2047	25.5709	1488.19	10
65.000	9.7020	33.2726	25.6531	1487.71	11
70.000	9.3577	33.2754	25.7113	1486.54	8
75.000	8.8660	33.2535	25.7721	1484.78	14
80.000	8.4957	33.2330	25.8127	1483.46	16
85.000	8.3937	33.2517	25.8428	1483.18	10
90.000	8.4215	33.2804	25.8611	1483.40	23
95.000	8.3166	33.2866	25.8817	1483.10	11
100.000	8.4934	33.3524	25.9067	1483.93	11
110.000	8.5261	33.4082	25.9455	1484.28	20
120.000	8.3763	33.5326	26.0657	1484.04	14
130.000	8.3533	33.7239	26.2192	1484.35	16
140.000	8.1942	33.8217	26.3199	1484.04	17
150.000	8.0379	33.8670	26.3787	1483.67	15
160.000	7.8359	33.8557	26.3996	1483.05	13
170.000	7.7344	33.8490	26.4090	1482.82	10
180.000	7.5849	33.8340	26.4187	1482.40	10
190.000	7.4822	33.8264	26.4274	1482.16	10
200.000	7.3966	33.8243	26.4378	1481.99	15
210.000	7.4307	33.8406	26.4459	1482.31	18
220.000	7.3389	33.8364	26.4555	1482.11	13
230.000	7.3756	33.8618	26.4703	1482.45	13
240.000	7.3797	33.8773	26.4819	1482.65	9
250.000	7.3846	33.9002	26.4992	1482.86	10
300.000	6.9031	33.9222	26.5832	1481.85	14
350.000	6.2758	33.9123	26.6583	1480.20	15
400.000	5.6912	33.9066	26.7270	1478.69	11
450.000	5.2251	33.9334	26.8038	1477.66	17
500.000	4.8974	33.9763	26.8754	1477.20	10
550.000	4.5899	34.0160	26.9411	1476.82	16
600.000	4.4221	34.0578	26.9925	1477.00	14
650.000	4.2481	34.0991	27.0438	1477.16	10
700.000	4.0664	34.1336	27.0902	1477.27	9
750.000	3.9047	34.1661	27.1326	1477.46	11
800.000	3.7414	34.1975	27.1740	1477.64	16
850.000	3.6080	34.2266	27.2104	1477.94	16
895.000	3.4761	34.2516	27.2431	1478.16	20



dcast-25.avg: TC 89-09, 43.31N 155.01W, 10-23-1989

TC 89-09, Stn. 74, CTD cast 26, 43°45.0'N 154°59.8'W, 23 October 1989 (raw data averaged in 5m bins).

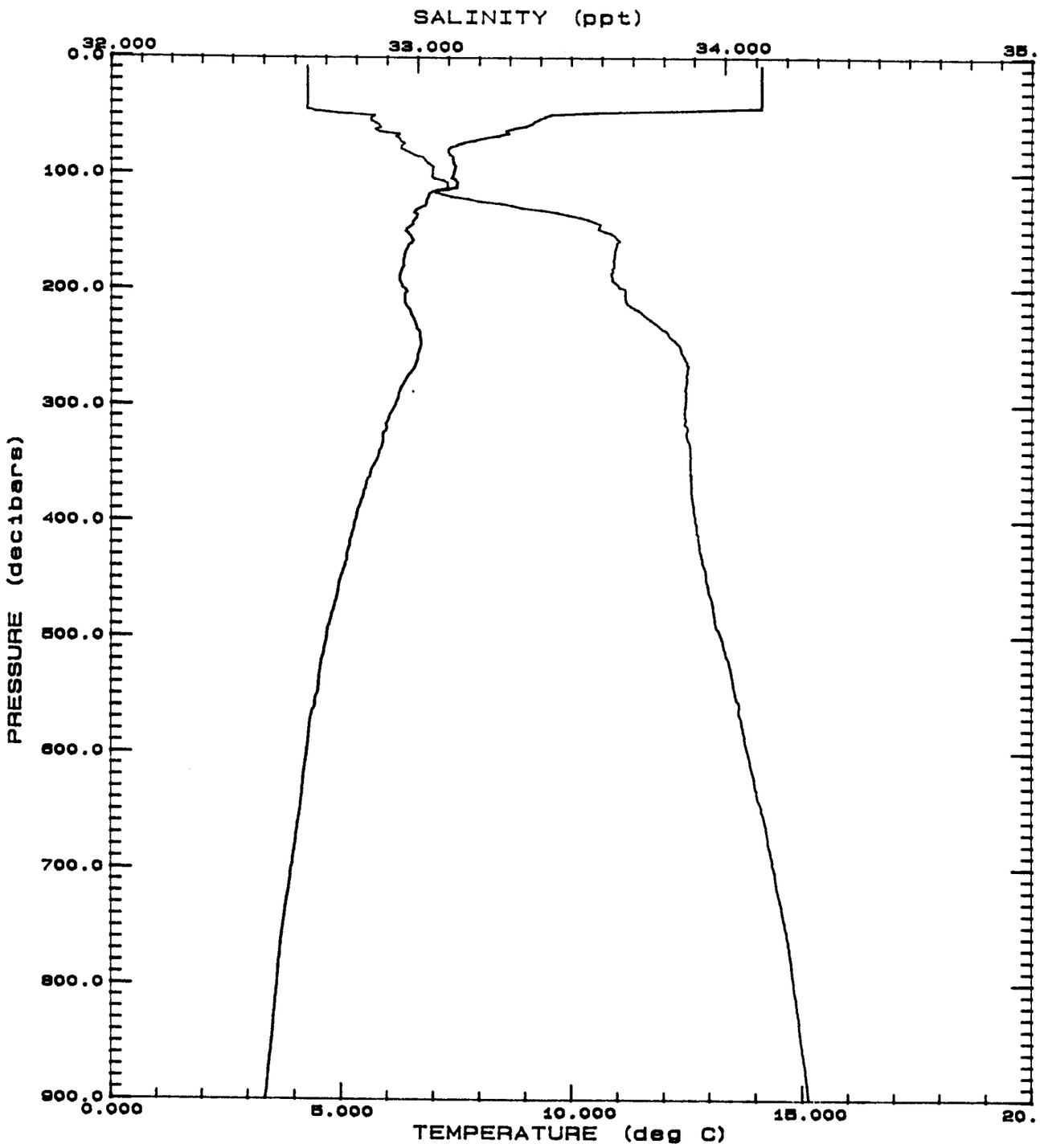
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	13.8363	32.4611	24.2600	1500.03	19
10.000	13.8382	32.5239	24.3081	1500.19	16
15.000	13.8269	32.5256	24.3117	1500.24	15
20.000	13.8112	32.5257	24.3150	1500.27	15
25.000	13.8315	32.5370	24.3196	1500.43	16
30.000	13.9514	32.5780	24.3267	1500.96	11
35.000	13.9597	32.5838	24.3294	1501.07	18
40.000	13.9537	32.5852	24.3318	1501.14	15
45.000	11.8836	32.6495	24.7897	1494.38	14
50.000	9.2511	32.8646	25.4078	1485.32	19
55.000	8.9381	32.8607	25.4532	1484.24	15
60.000	8.6473	32.8931	25.5233	1483.28	14
65.000	7.8170	32.8699	25.6283	1480.20	14
70.000	7.1255	32.8834	25.7348	1477.64	13
75.000	7.0257	32.9186	25.7762	1477.38	14
80.000	7.1423	32.9670	25.7985	1477.97	12
85.000	7.3810	33.0400	25.8232	1479.07	18
90.000	7.5004	33.0684	25.8288	1479.64	14
95.000	7.7958	33.1657	25.8632	1480.98	11
100.000	7.9851	33.2224	25.8804	1481.85	12
110.000	7.6040	33.3542	26.0389	1480.72	15
120.000	7.6188	33.6047	26.2336	1481.26	18
130.000	7.7374	33.7712	26.3474	1482.08	13
140.000	7.5762	33.8028	26.3954	1481.67	13
150.000	7.2957	33.7790	26.4163	1480.73	16
160.000	7.1084	33.7668	26.4327	1480.15	13
170.000	7.0709	33.7715	26.4415	1480.18	10
180.000	7.0112	33.7646	26.4443	1480.10	12
190.000	7.0986	33.7988	26.4593	1480.65	17
200.000	7.1342	33.8143	26.4666	1480.97	15
210.000	7.1574	33.8296	26.4754	1481.24	13
220.000	7.1666	33.8505	26.4906	1481.47	12
230.000	7.1254	33.8652	26.5078	1481.49	11
240.000	7.0965	33.8824	26.5254	1481.56	10
250.000	7.0716	33.9043	26.5461	1481.66	15
300.000	6.4769	33.8997	26.6223	1480.15	12
350.000	5.8754	33.8902	26.6914	1478.58	11
400.000	5.4571	33.9038	26.7530	1477.74	15
450.000	5.0584	33.9313	26.8215	1476.98	17
500.000	4.7534	33.9763	26.8916	1476.61	10
550.000	4.5268	34.0256	26.9556	1476.57	18
600.000	4.3139	34.0710	27.0145	1476.57	19
650.000	4.1459	34.1124	27.0651	1476.75	13
700.000	3.9724	34.1530	27.1153	1476.90	10
750.000	3.8289	34.1826	27.1534	1477.16	13
800.000	3.6512	34.2171	27.1986	1477.28	9
850.000	3.5157	34.2441	27.2334	1477.57	9
895.000	3.4115	34.2609	27.2568	1477.90	14



dcast-26.avg: TC 89-09, 43.45N 155.00W, 10-23-1989

TC 89-09, Stn. 79, CTD cast 27, 44°00.0'N 155°00.4'W,
23 October 1989 (raw data averaged in 5m bins).

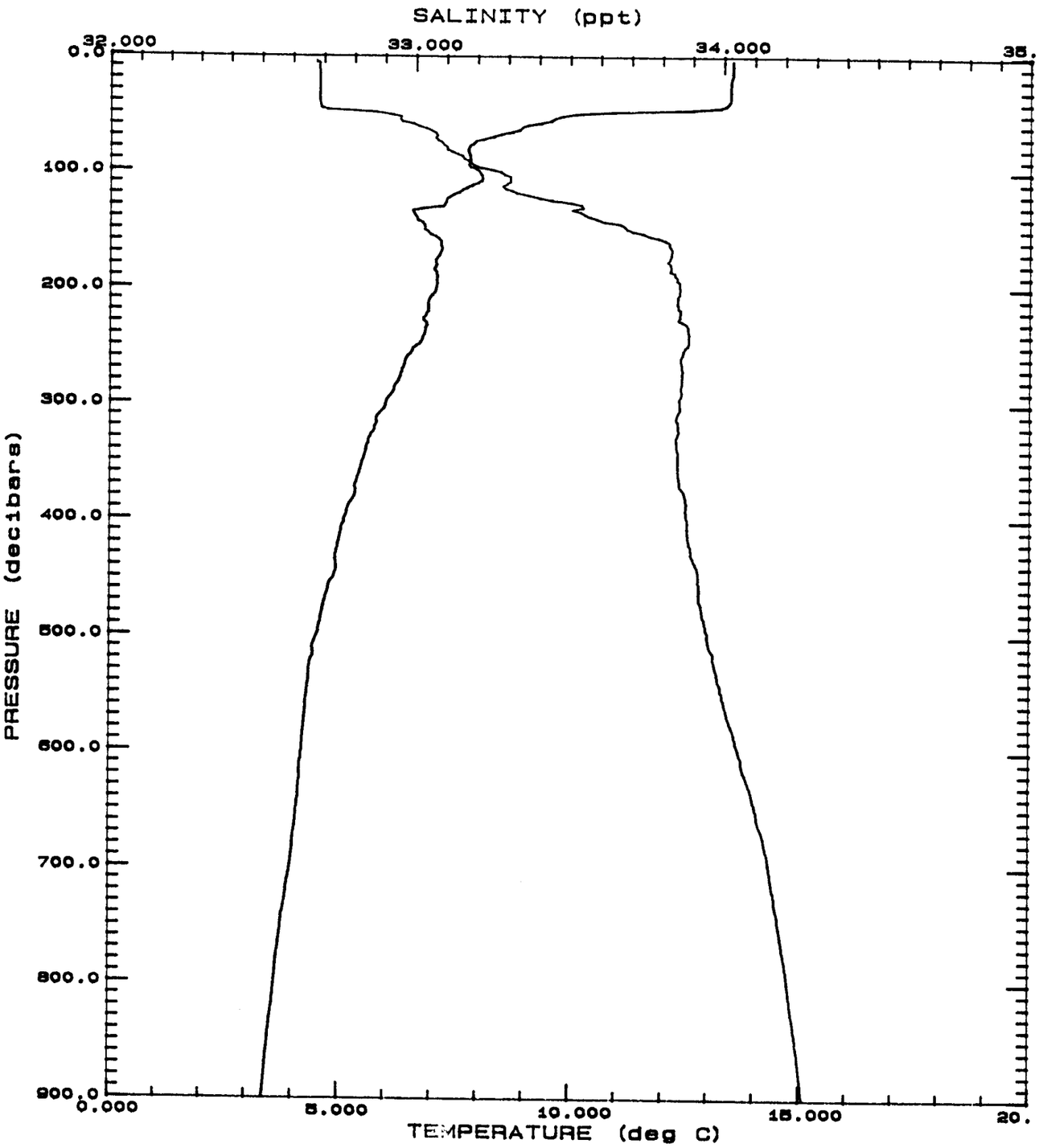
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	14.1102	32.6413	24.3428	1501.22	17
15.000	14.1088	32.6406	24.3425	1501.30	13
20.000	14.1101	32.6412	24.3428	1501.38	16
25.000	14.1118	32.6411	24.3424	1501.47	12
30.000	14.1135	32.6415	24.3423	1501.56	15
35.000	14.1171	32.6418	24.3418	1501.66	15
40.000	14.1114	32.6408	24.3422	1501.72	14
45.000	13.0548	32.6656	24.5744	1498.34	19
50.000	9.9049	32.8153	25.2589	1487.61	14
55.000	9.2184	32.8535	25.4038	1485.27	17
60.000	8.9725	32.8728	25.4574	1484.46	20
65.000	8.6228	32.9136	25.5431	1483.29	18
70.000	8.1413	32.9347	25.6317	1481.59	14
75.000	7.5755	32.9541	25.7285	1479.54	17
80.000	7.3186	32.9583	25.7675	1478.64	17
85.000	7.3860	33.0030	25.7933	1479.04	17
90.000	7.4338	33.0303	25.8082	1479.34	18
95.000	7.4687	33.0497	25.8185	1479.58	13
100.000	7.4389	33.0475	25.8210	1479.54	17
110.000	7.5069	33.0959	25.8495	1480.03	18
120.000	6.8630	33.1111	25.9496	1477.72	20
130.000	6.7235	33.3421	26.1501	1477.63	12
140.000	6.5903	33.5516	26.3328	1477.54	12
150.000	6.4090	33.6071	26.4003	1477.06	16
160.000	6.5051	33.6491	26.4209	1477.65	15
170.000	6.3799	33.6408	26.4306	1477.31	20
180.000	6.3450	33.6379	26.4328	1477.33	12
190.000	6.2696	33.6331	26.4386	1477.19	15
200.000	6.3850	33.6705	26.4534	1477.86	18
210.000	6.3871	33.6792	26.4599	1478.04	11
220.000	6.5118	33.7266	26.4811	1478.76	16
230.000	6.6241	33.7774	26.5064	1479.43	17
240.000	6.7191	33.8191	26.5267	1480.02	16
250.000	6.7145	33.8551	26.5557	1480.21	14
300.000	6.1666	33.8702	26.6391	1478.89	13
350.000	5.7287	33.8887	26.7083	1477.99	15
400.000	5.2957	33.9048	26.7729	1477.09	16
450.000	4.9683	33.9400	26.8386	1476.63	17
500.000	4.6737	33.9882	26.9098	1476.30	14
550.000	4.4591	34.0344	26.9699	1476.30	13
600.000	4.2460	34.0751	27.0250	1476.29	18
650.000	4.1031	34.1193	27.0750	1476.58	12
700.000	3.9172	34.1588	27.1255	1476.68	17
750.000	3.7384	34.1955	27.1727	1476.80	13
800.000	3.6119	34.2227	27.2069	1477.13	12
850.000	3.4973	34.2475	27.2378	1477.50	12
900.000	3.3674	34.2731	27.2707	1477.81	17



dcast-27.avg: TC 89-09, 44.00N 155.00W, 10-23-1989

TC 89-09, Stn. 85, CTD cast 28, 44°12.2'N 158°14.5'W, 24 October 1989 (raw data averaged in 5m bins).

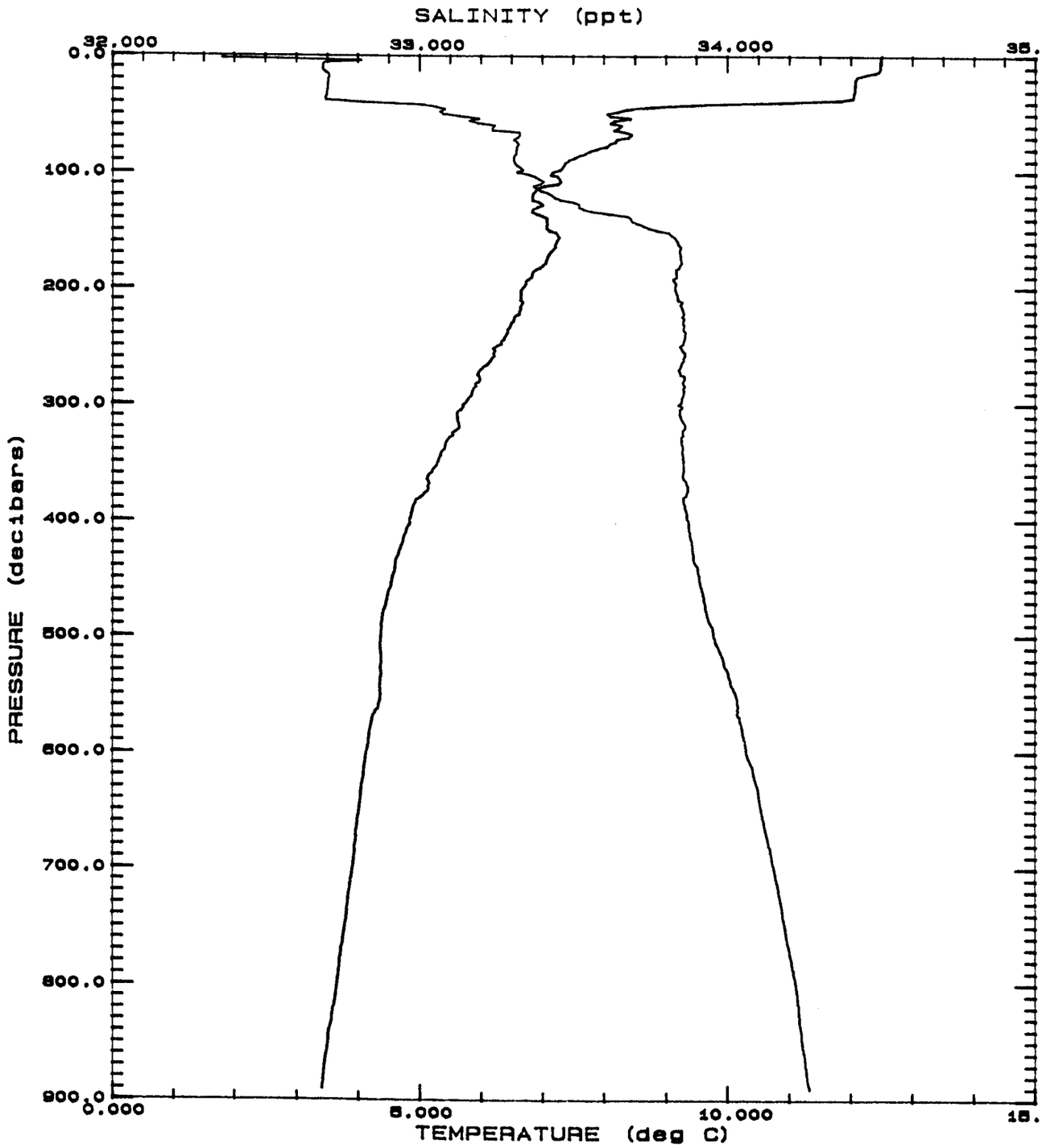
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	13.5141	32.6874	24.5001	1499.32	13
15.000	13.5086	32.6883	24.5020	1499.38	17
20.000	13.4807	32.6887	24.5079	1499.37	13
25.000	13.4686	32.6889	24.5105	1499.42	15
30.000	13.4673	32.6886	24.5106	1499.50	12
35.000	13.4653	32.6885	24.5109	1499.57	15
40.000	13.4269	32.6899	24.5196	1499.53	18
45.000	12.7199	32.7175	24.6802	1497.28	13
50.000	10.3449	32.9147	25.2643	1489.33	13
55.000	9.5814	32.9614	25.4300	1486.73	13
60.000	9.1379	33.0141	25.5421	1485.25	19
65.000	8.8122	33.0594	25.6283	1484.18	15
70.000	8.3322	33.0685	25.7083	1482.48	11
75.000	7.9148	33.0887	25.7857	1481.01	12
80.000	7.7935	33.1063	25.8170	1480.65	19
85.000	7.8180	33.1446	25.8435	1480.87	16
90.000	7.8368	33.1716	25.8620	1481.06	14
95.000	7.8244	33.2027	25.8882	1481.13	14
100.000	8.0225	33.2769	25.9177	1482.06	20
110.000	8.0092	33.2982	25.9363	1482.20	16
120.000	7.4941	33.3672	26.0646	1480.48	19
130.000	7.1397	33.5303	26.2422	1479.49	17
140.000	6.6834	33.5903	26.3510	1477.95	16
150.000	6.8876	33.7132	26.4206	1479.06	15
160.000	7.1964	33.8229	26.4647	1480.56	12
170.000	7.2018	33.8327	26.4717	1480.76	15
180.000	7.1078	33.8315	26.4837	1480.56	14
190.000	7.1252	33.8506	26.4964	1480.81	15
200.000	7.1049	33.8622	26.5083	1480.92	19
210.000	6.9606	33.8543	26.5219	1480.51	15
220.000	6.9242	33.8626	26.5334	1480.54	20
230.000	6.8900	33.8807	26.5523	1480.60	14
240.000	6.8496	33.8909	26.5657	1480.62	17
250.000	6.6800	33.8795	26.5795	1480.10	17
300.000	6.0152	33.8613	26.6512	1478.28	20
350.000	5.5152	33.8541	26.7068	1477.09	18
400.000	5.1180	33.8871	26.7796	1476.35	16
450.000	4.8779	33.9233	26.8356	1476.23	16
500.000	4.5313	33.9545	26.8987	1475.67	18
550.000	4.3221	34.0033	26.9598	1475.69	14
600.000	4.2199	34.0580	27.0141	1476.16	17
650.000	4.1139	34.1147	27.0702	1476.62	13
700.000	3.9792	34.1585	27.1189	1476.94	16
750.000	3.7863	34.1903	27.1638	1476.99	11
800.000	3.6470	34.2193	27.2007	1477.27	17
850.000	3.5168	34.2452	27.2341	1477.58	14
895.000	3.4085	34.2667	27.2617	1477.89	16



dcast-28.avg: TC 89-09, 44.12N 158.14W, 10-24-1989

TC 89-09, Stn. 86, CTD cast 29, 44°38.5'N 161°41.6'W, 25 October 1989 (raw data averaged in 5m bins).

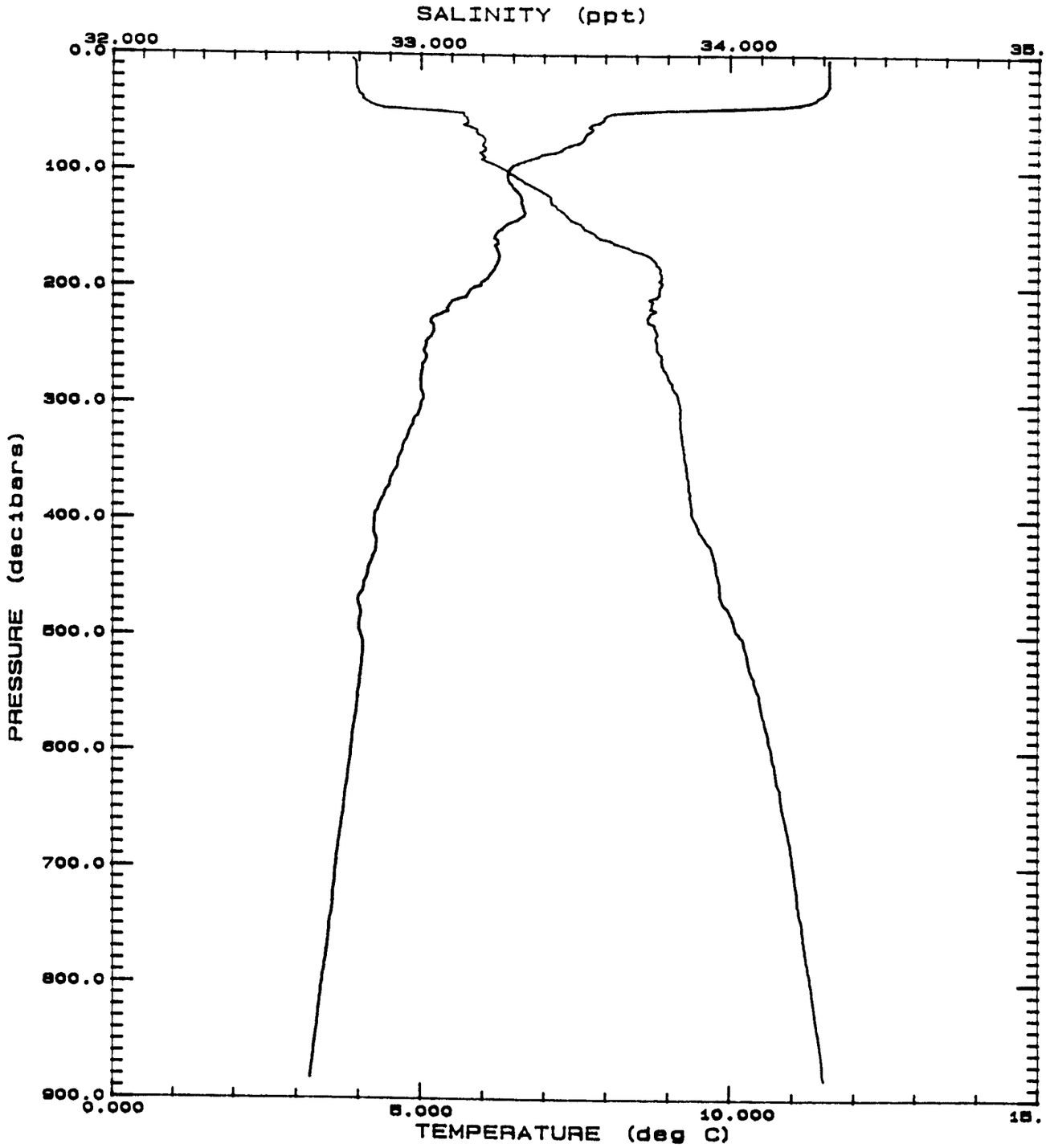
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	12.4718	32.7270	24.7355	1495.79	23
10.000	12.4703	32.6821	24.7010	1495.82	12
15.000	12.3278	32.6958	24.7388	1495.43	17
20.000	12.0742	32.7032	24.7923	1494.66	21
25.000	12.0599	32.7007	24.7931	1494.69	17
30.000	12.0513	32.6988	24.7932	1494.74	17
35.000	12.0273	32.6939	24.7939	1494.73	17
40.000	10.8481	32.8102	25.0981	1490.85	12
45.000	8.5703	33.0642	25.6690	1482.95	18
50.000	8.1101	33.0864	25.7553	1481.33	12
55.000	8.2454	33.1784	25.8075	1482.04	12
60.000	8.2042	33.2258	25.8508	1482.03	14
65.000	8.2498	33.2757	25.8832	1482.34	13
70.000	8.4014	33.3248	25.8990	1483.05	20
75.000	8.1427	33.3191	25.9331	1482.15	15
80.000	7.8964	33.3148	25.9659	1481.30	14
85.000	7.6432	33.3115	25.9997	1480.41	17
90.000	7.4301	33.3072	26.0264	1479.67	14
95.000	7.3232	33.3204	26.0517	1479.36	17
100.000	7.1851	33.3355	26.0827	1478.93	14
110.000	7.2184	33.3935	26.1237	1479.29	17
120.000	6.8330	33.4320	26.2064	1478.01	16
130.000	6.9057	33.5225	26.2679	1478.57	20
140.000	7.0476	33.6814	26.3738	1479.48	10
150.000	7.1092	33.7703	26.4353	1480.00	16
160.000	7.2260	33.8388	26.4732	1480.70	17
170.000	7.1110	33.8486	26.4968	1480.43	19
180.000	7.0096	33.8480	26.5102	1480.20	11
190.000	6.8145	33.8319	26.5240	1479.58	10
200.000	6.6694	33.8307	26.5424	1479.18	15
210.000	6.6552	33.8455	26.5560	1479.31	10
220.000	6.6280	33.8580	26.5694	1479.38	11
230.000	6.4942	33.8574	26.5866	1479.02	14
240.000	6.4025	33.8628	26.6028	1478.83	18
250.000	6.2432	33.8512	26.6142	1478.35	16
300.000	5.7163	33.8487	26.6781	1477.07	10
350.000	5.2845	33.8583	26.7374	1476.16	13
400.000	4.8293	33.8729	26.8011	1475.15	14
450.000	4.5470	33.9103	26.8619	1474.86	14
500.000	4.3612	33.9574	26.9192	1474.97	15
550.000	4.3521	34.0276	26.9760	1475.85	18
600.000	4.1260	34.0620	27.0271	1475.78	10
650.000	4.0075	34.1106	27.0780	1476.17	12
700.000	3.9012	34.1508	27.1208	1476.60	11
750.000	3.7720	34.1863	27.1620	1476.93	16
800.000	3.6427	34.2220	27.2033	1477.26	10
850.000	3.4952	34.2427	27.2342	1477.49	19
885.000	3.4136	34.2612	27.2568	1477.74	16



dcast-29.avg: TC 89-09, 44.38N 161.42W, 10-25-1989

TC 89-09, Stn. 88, CTD cast 30, 44°59.1'N 164°58.1'W, 26 October 1989 (raw data averaged in 5m bins).

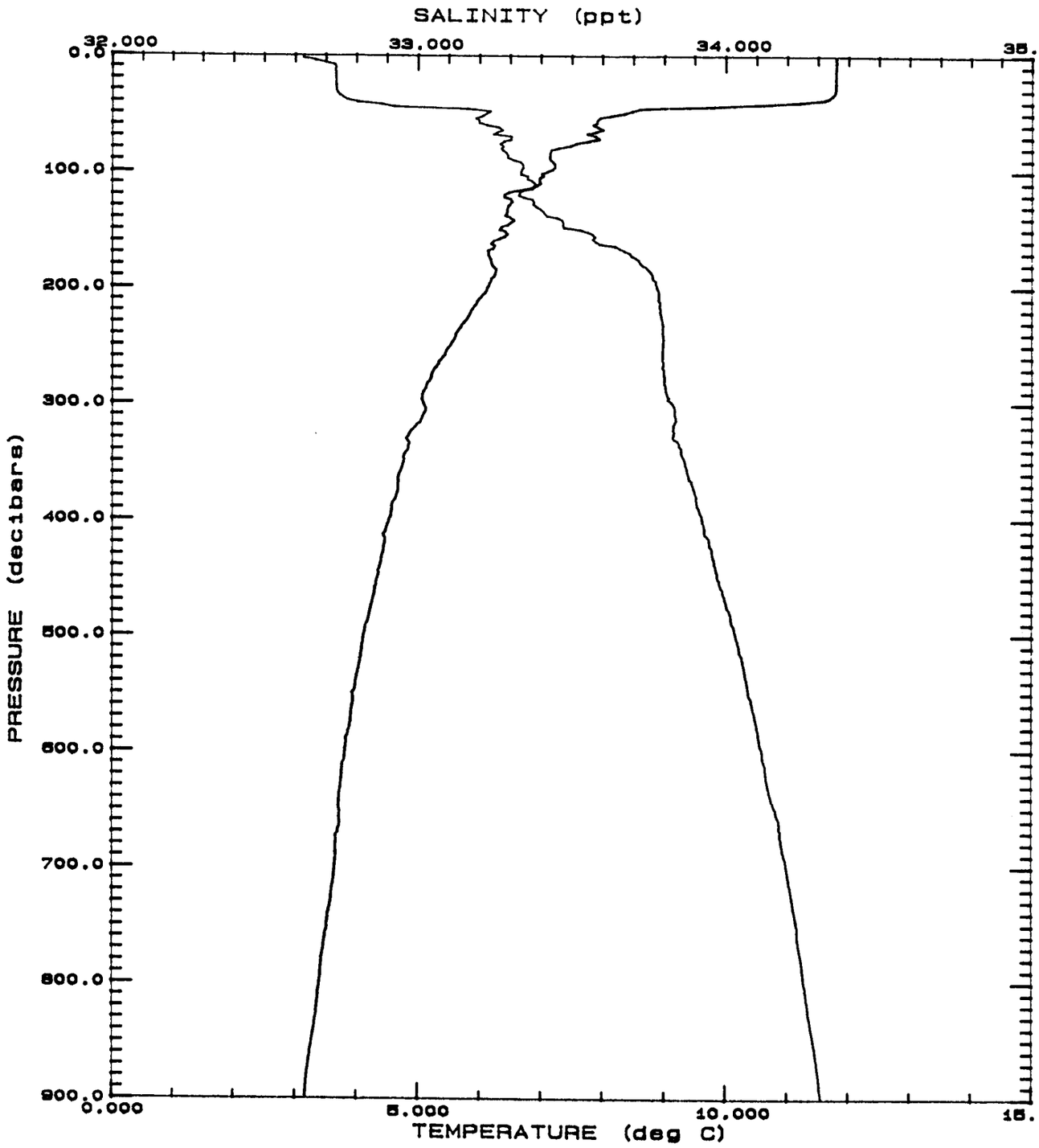
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	11.5840	32.7906	24.9509	1492.91	12
15.000	11.5848	32.7913	24.9513	1492.99	10
20.000	11.5876	32.7909	24.9505	1493.08	11
25.000	11.5875	32.7910	24.9506	1493.16	13
30.000	11.5453	32.7954	24.9617	1493.11	13
35.000	11.4499	32.8070	24.9881	1492.87	15
40.000	11.2774	32.8220	25.0308	1492.37	9
45.000	10.3774	32.8714	25.2274	1489.33	10
50.000	8.2316	33.1260	25.7680	1481.84	12
55.000	7.9798	33.1502	25.8245	1481.00	9
60.000	7.8165	33.1511	25.8488	1480.46	10
65.000	7.7692	33.1791	25.8776	1480.40	11
70.000	7.6759	33.1986	25.9063	1480.15	9
75.000	7.5934	33.2050	25.9231	1479.92	9
80.000	7.3315	33.2062	25.9608	1479.00	11
85.000	7.0558	33.1983	25.9923	1478.01	16
90.000	6.7910	33.2065	26.0343	1477.07	12
95.000	6.5319	33.2403	26.0949	1476.18	16
100.000	6.4253	33.2788	26.1391	1475.89	14
110.000	6.4453	33.3407	26.1854	1476.21	17
120.000	6.6021	33.4095	26.2192	1477.07	12
130.000	6.6547	33.4373	26.2342	1477.48	9
140.000	6.6302	33.4803	26.2714	1477.60	15
150.000	6.3089	33.5357	26.3568	1476.57	18
160.000	6.2318	33.6105	26.4256	1476.52	8
170.000	6.2584	33.7139	26.5039	1476.92	11
180.000	6.2298	33.7664	26.5490	1477.04	10
190.000	6.1078	33.7803	26.5754	1476.74	16
200.000	5.8717	33.7748	26.6006	1475.96	17
210.000	5.6183	33.7525	26.6140	1475.08	10
220.000	5.4125	33.7492	26.6359	1474.41	10
230.000	5.1761	33.7450	26.6603	1473.61	10
240.000	5.1869	33.7651	26.6749	1473.84	13
250.000	5.0809	33.7655	26.6875	1473.58	15
300.000	5.0042	33.8399	26.7552	1474.18	17
350.000	4.6252	33.8590	26.8126	1473.47	18
400.000	4.2482	33.8883	26.8762	1472.77	10
450.000	4.1228	33.9642	26.9496	1473.17	16
500.000	4.0392	34.0359	27.0153	1473.73	16
550.000	3.9834	34.0936	27.0669	1474.40	17
600.000	3.8696	34.1353	27.1117	1474.80	11
650.000	3.7550	34.1707	27.1513	1475.19	13
700.000	3.6249	34.2054	27.1918	1475.51	13
750.000	3.5179	34.2335	27.2247	1475.92	12
800.000	3.3992	34.2606	27.2577	1476.28	11
850.000	3.2847	34.2881	27.2905	1476.65	10
880.000	3.2191	34.3005	27.3065	1476.88	14



dcast-30.avg: TC 89-09, 44.59N 164.58W, 10-26-1989

TC 89-09, Stn. 89, CTD cast 31, 44°45.2'N 164°58.9'W, 26 October 1989 (raw data averaged in 5m bins).

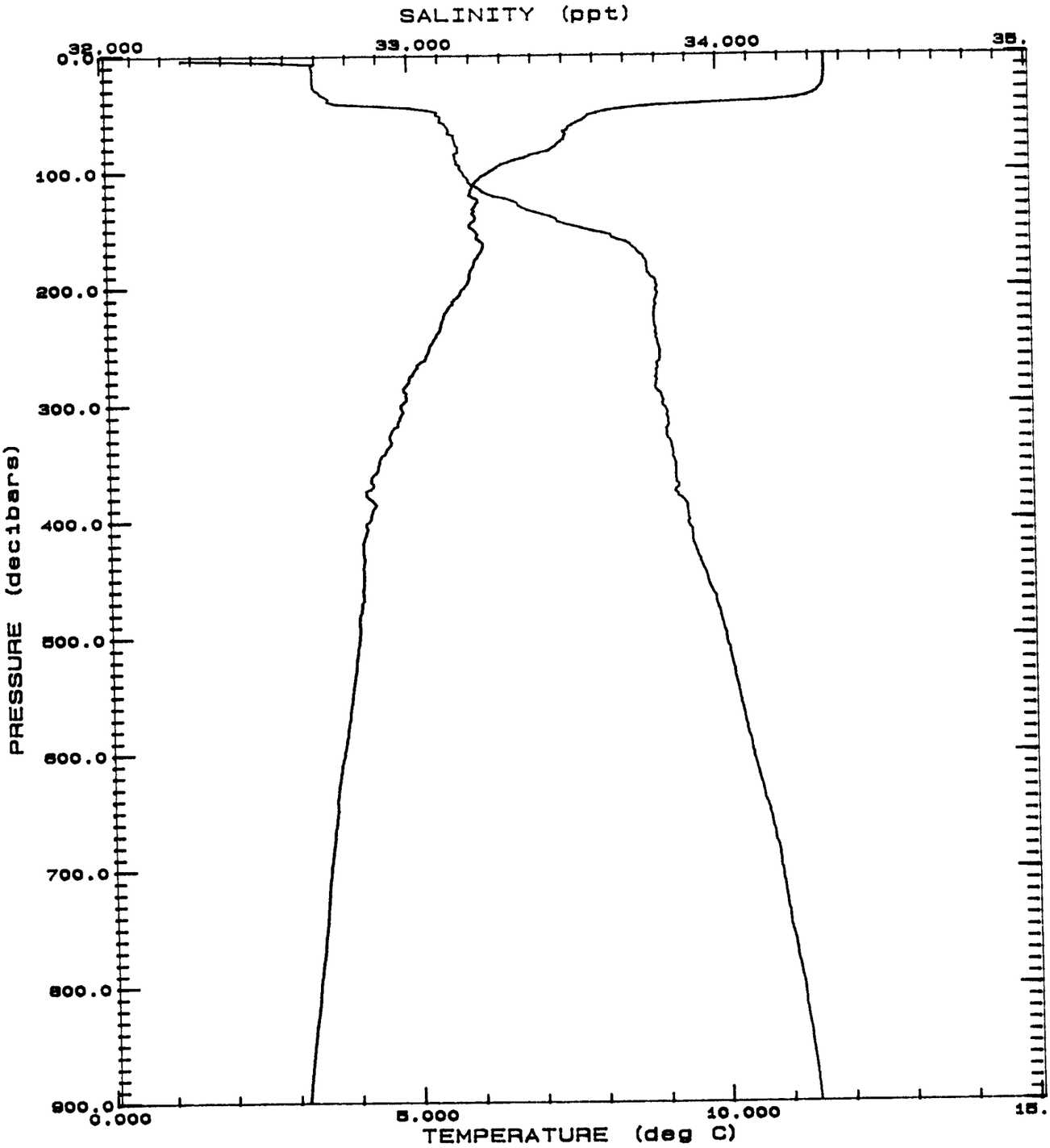
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	11.7982	32.6873	24.8314	1493.44	18
10.000	11.7935	32.7312	24.8663	1493.56	16
15.000	11.7897	32.7324	24.8679	1493.63	18
20.000	11.7882	32.7325	24.8683	1493.71	13
25.000	11.7877	32.7328	24.8687	1493.79	16
30.000	11.7790	32.7353	24.8721	1493.84	10
35.000	11.7099	32.7511	24.8972	1493.71	12
40.000	11.1445	32.8188	25.0522	1491.90	13
45.000	9.2706	33.0572	25.5537	1485.53	10
50.000	8.3515	33.2170	25.8218	1482.40	15
55.000	7.9425	33.1926	25.8632	1480.91	15
60.000	7.8829	33.2292	25.9006	1480.81	12
65.000	7.9208	33.2622	25.9210	1481.08	10
70.000	7.8690	33.2926	25.9524	1481.00	12
75.000	7.6506	33.2749	25.9698	1480.23	14
80.000	7.3107	33.2735	26.0166	1479.01	13
85.000	7.1464	33.2893	26.0516	1478.47	11
90.000	7.1600	33.3128	26.0682	1478.64	11
95.000	7.2238	33.3411	26.0818	1479.00	12
100.000	7.0957	33.3335	26.0933	1478.58	11
110.000	6.9702	33.3780	26.1454	1478.31	19
120.000	6.4256	33.3332	26.1820	1476.28	14
130.000	6.4663	33.3864	26.2187	1476.68	14
140.000	6.4811	33.4444	26.2625	1476.97	23
150.000	6.3597	33.5179	26.3362	1476.75	15
160.000	6.2338	33.5782	26.3999	1476.49	11
170.000	6.1436	33.6856	26.4961	1476.43	15
180.000	6.2059	33.7298	26.5232	1476.90	14
190.000	6.2267	33.7619	26.5459	1477.19	12
200.000	6.1266	33.7785	26.5717	1476.98	15
210.000	5.9914	33.7834	26.5926	1476.61	11
220.000	5.8652	33.7882	26.6120	1476.28	10
230.000	5.7464	33.7956	26.6325	1475.97	15
240.000	5.6207	33.7964	26.6484	1475.64	16
250.000	5.5197	33.7966	26.6607	1475.39	11
300.000	5.0938	33.8282	26.7357	1474.53	11
350.000	4.7643	33.8685	26.8048	1474.06	12
400.000	4.5331	33.9253	26.8753	1474.00	18
450.000	4.3397	33.9758	26.9362	1474.08	11
500.000	4.1181	34.0339	27.0055	1474.06	16
550.000	3.9417	34.0758	27.0570	1474.20	15
600.000	3.8121	34.1199	27.1052	1474.54	12
650.000	3.7207	34.1623	27.1481	1475.03	9
700.000	3.6462	34.2002	27.1856	1475.59	13
750.000	3.5179	34.2334	27.2246	1475.92	19
800.000	3.3956	34.2570	27.2552	1476.26	15
850.000	3.2680	34.2875	27.2916	1476.58	21
900.000	3.1612	34.3120	27.3211	1476.98	11



dcast-31.avg: TC 89-09, 44.45N 164.59W, 10-26-1989

TC 89-09, Stn. 90, CTD cast 32, 44°30.0'N 165°00.1'W,
26 October 1989 (raw data averaged in 5m bins).

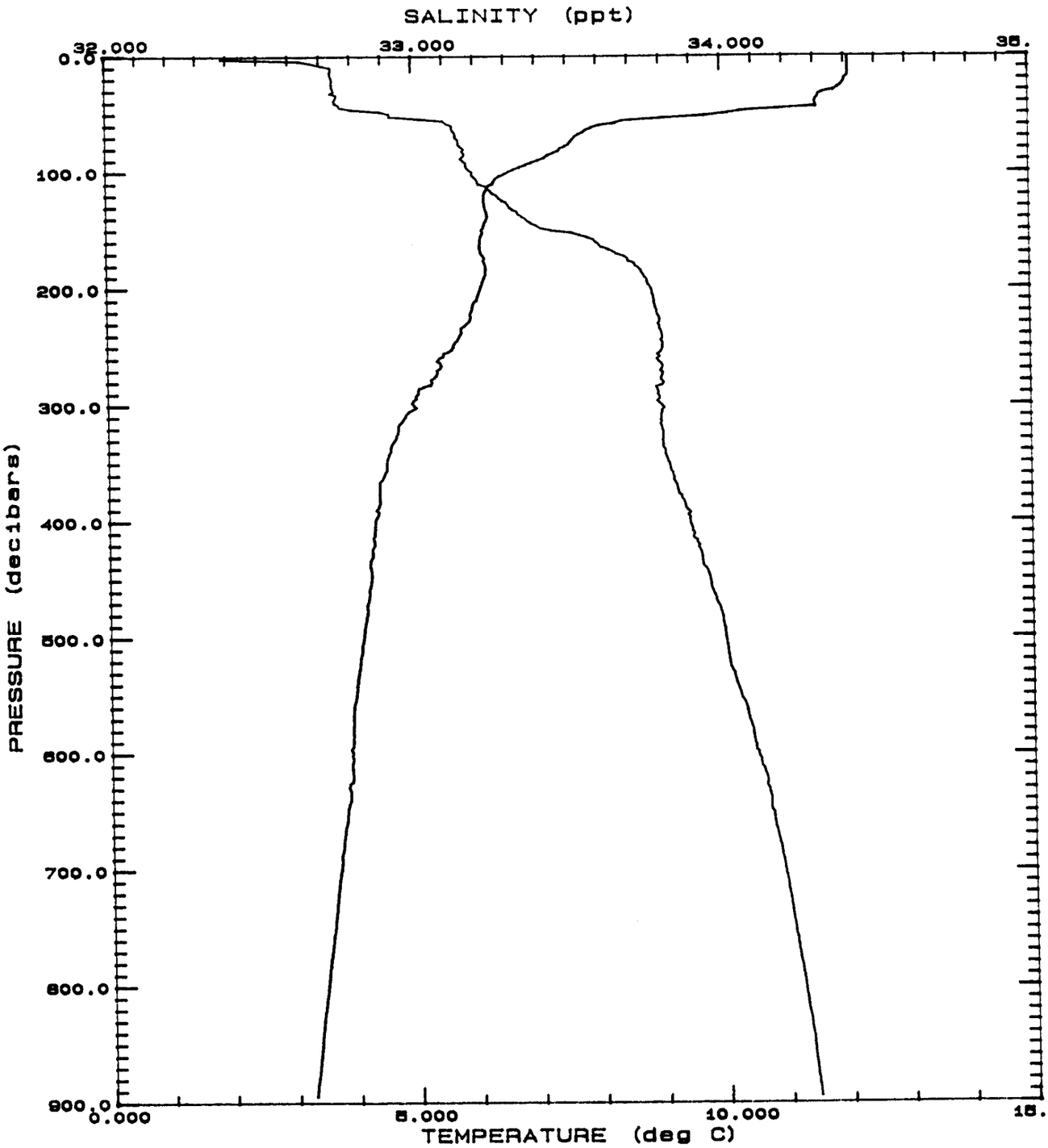
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	11.7938	32.6110	24.7730	1493.33	18
10.000	11.7942	32.7004	24.8422	1493.52	11
15.000	11.7937	32.7058	24.8465	1493.61	10
20.000	11.7829	32.7064	24.8490	1493.66	11
25.000	11.7688	32.7081	24.8529	1493.69	15
30.000	11.7093	32.7240	24.8762	1493.59	10
35.000	11.5722	32.7512	24.9225	1493.23	11
40.000	10.6387	32.8166	25.1392	1490.11	12
45.000	8.7670	33.0398	25.6193	1483.65	12
50.000	8.0972	33.1103	25.7759	1481.31	12
55.000	7.8816	33.1179	25.8134	1480.59	10
60.000	7.6924	33.1377	25.8561	1479.97	15
65.000	7.5913	33.1476	25.8783	1479.68	18
70.000	7.5734	33.1615	25.8917	1479.71	14
75.000	7.4862	33.1660	25.9075	1479.46	22
80.000	7.3734	33.1750	25.9303	1479.12	13
85.000	7.0867	33.1629	25.9602	1478.08	11
90.000	6.7784	33.1670	26.0048	1476.97	10
95.000	6.5035	33.1775	26.0491	1475.99	11
100.000	6.3508	33.1894	26.0781	1475.48	11
110.000	6.0981	33.2181	26.1327	1474.68	11
120.000	6.0276	33.2888	26.1973	1474.65	13
130.000	6.0954	33.3790	26.2601	1475.20	15
140.000	6.1060	33.4890	26.3456	1475.54	18
150.000	6.0670	33.6010	26.4390	1475.69	15
160.000	6.1738	33.7080	26.5100	1476.42	18
170.000	6.1752	33.7575	26.5489	1476.65	13
180.000	6.0706	33.7791	26.5792	1476.43	9
190.000	5.9965	33.7932	26.5997	1476.31	13
200.000	5.9041	33.8084	26.6232	1476.13	12
210.000	5.7562	33.8035	26.6376	1475.70	12
220.000	5.6199	33.7995	26.6509	1475.31	10
230.000	5.5400	33.8007	26.6616	1475.15	11
240.000	5.4612	33.8053	26.6746	1475.00	10
250.000	5.3488	33.8142	26.6949	1474.73	11
300.000	4.8781	33.8252	26.7577	1473.65	14
350.000	4.5000	33.8646	26.8306	1472.96	14
400.000	4.3183	33.9051	26.8822	1473.08	15
450.000	4.2202	33.9649	26.9401	1473.57	8
500.000	4.1345	34.0227	26.9950	1474.11	20
550.000	4.0033	34.0642	27.0415	1474.44	11
600.000	3.8565	34.1050	27.0889	1474.70	11
650.000	3.7293	34.1556	27.1418	1475.06	13
700.000	3.6076	34.1930	27.1837	1475.42	21
750.000	3.5197	34.2206	27.2142	1475.91	9
800.000	3.4061	34.2574	27.2545	1476.30	11
850.000	3.2910	34.2826	27.2855	1476.67	11
900.000	3.1943	34.3043	27.3119	1477.11	14



dcast-32.avg: TC 89-09, 44.30N 165.00W, 10-26-1989

TC 89-09, Stn. 93, CTD cast 33, 44°15.1'N 164°59.7'W, 26 October 1989 (raw data averaged in 5m bins).

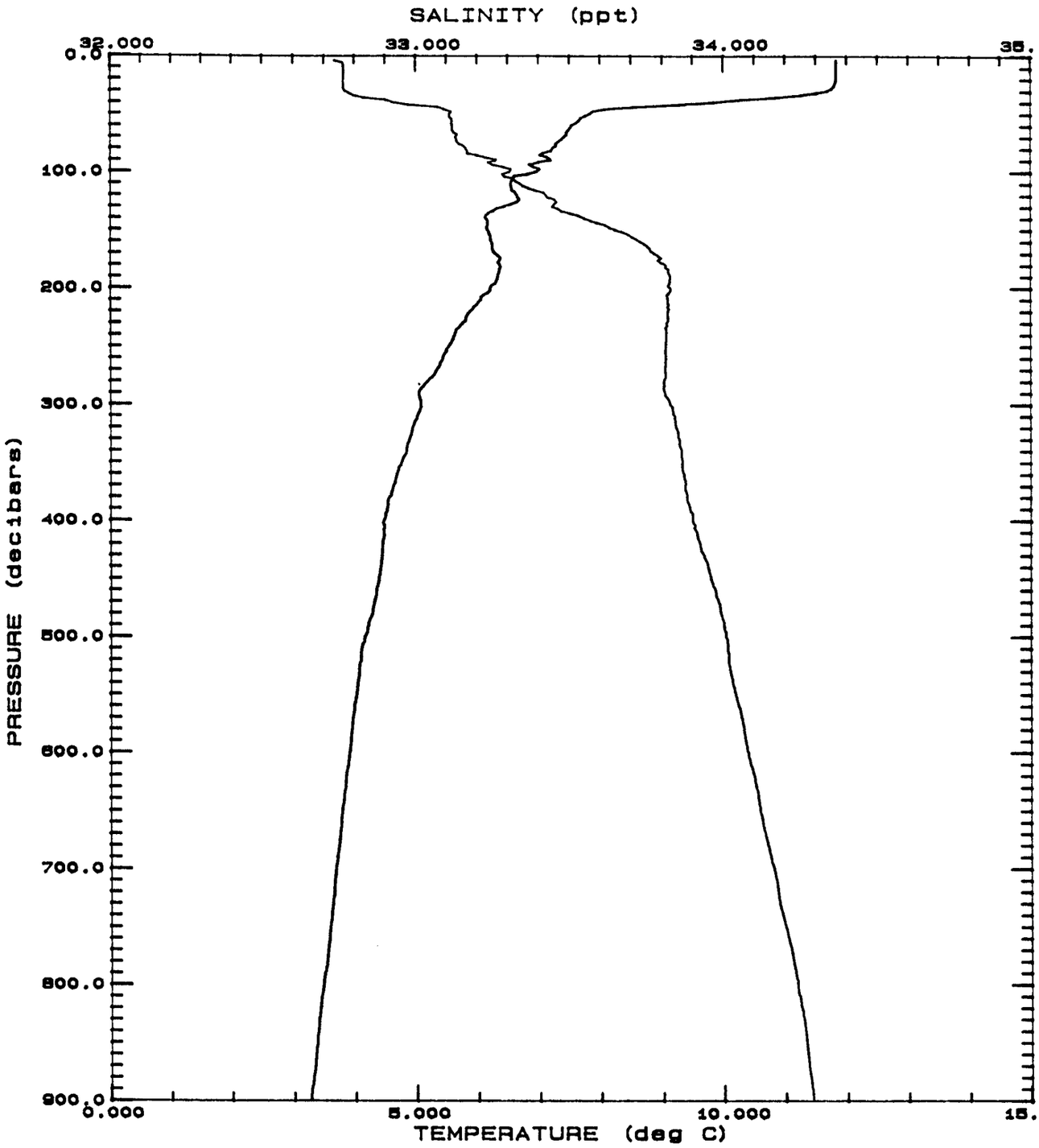
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	12.0646	32.6380	24.7436	1494.29	17
10.000	12.0646	32.7340	24.8180	1494.49	12
15.000	12.0662	32.7380	24.8209	1494.59	11
20.000	12.0234	32.7421	24.8320	1494.53	13
25.000	11.9649	32.7432	24.8438	1494.41	10
30.000	11.8033	32.7453	24.8754	1493.94	10
35.000	11.5881	32.7544	24.9220	1493.29	10
40.000	11.5322	32.7543	24.9322	1493.18	11
45.000	11.1876	32.7937	25.0249	1492.10	9
50.000	10.0161	32.9280	25.3324	1488.18	11
55.000	8.7464	33.0593	25.6385	1483.77	12
60.000	8.0678	33.1270	25.7934	1481.39	10
65.000	7.8015	33.1380	25.8407	1480.47	10
70.000	7.6445	33.1450	25.8687	1479.96	15
75.000	7.5606	33.1524	25.8863	1479.73	10
80.000	7.4177	33.1657	25.9168	1479.28	11
85.000	7.2451	33.1679	25.9425	1478.70	14
90.000	7.0444	33.1665	25.9688	1478.00	10
95.000	6.7964	33.1785	26.0115	1477.14	10
100.000	6.5602	33.1933	26.0542	1476.31	17
110.000	6.2911	33.2201	26.1100	1475.45	18
120.000	6.1622	33.2732	26.1682	1475.17	10
130.000	6.1706	33.3166	26.2014	1475.42	14
140.000	6.2047	33.3667	26.2366	1475.78	11
150.000	6.1290	33.4644	26.3234	1475.77	11
160.000	6.0853	33.5947	26.4317	1475.92	16
170.000	6.1083	33.6644	26.4839	1476.27	14
180.000	6.1699	33.7222	26.5217	1476.75	10
190.000	6.1541	33.7511	26.5466	1476.89	13
200.000	6.0831	33.7703	26.5707	1476.79	16
210.000	6.0091	33.7786	26.5866	1476.67	9
220.000	5.9288	33.7882	26.6041	1476.53	13
230.000	5.8619	33.7952	26.6180	1476.44	10
240.000	5.7456	33.8044	26.6395	1476.15	14
250.000	5.6283	33.8045	26.6539	1475.84	11
300.000	4.9953	33.8028	26.7268	1474.10	15
350.000	4.5310	33.8233	26.7945	1473.04	14
400.000	4.3336	33.8901	26.8686	1473.13	9
450.000	4.2607	33.9533	26.9266	1473.73	9
500.000	4.1236	34.0020	26.9797	1474.04	9
550.000	3.9898	34.0489	27.0307	1474.37	15
600.000	3.9182	34.1017	27.0800	1474.96	12
650.000	3.8279	34.1462	27.1246	1475.46	10
700.000	3.7089	34.1847	27.1671	1475.84	14
750.000	3.5926	34.2146	27.2023	1476.21	13
800.000	3.4709	34.2445	27.2380	1476.56	17
850.000	3.3556	34.2713	27.2704	1476.93	12
890.000	3.2673	34.2889	27.2928	1477.24	9



dcast-33.avg: TC 89-09, 44.15N 165.00W, 10-26-1989

TC 89-09, Stn. 98, CTD cast 34, 44°00.2'N 165°00.0'W, 26 October 1989 (raw data averaged in 5m bins).

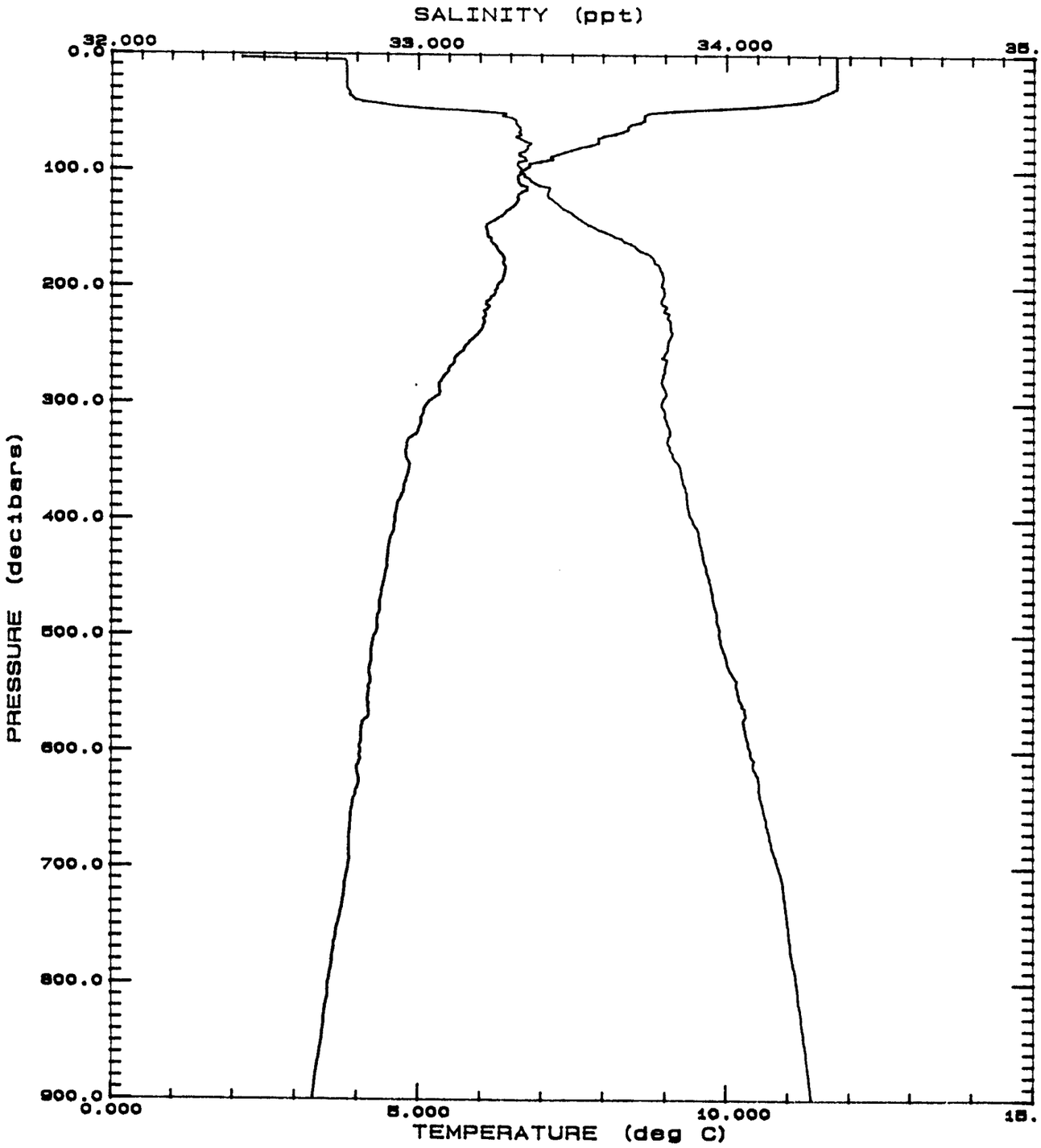
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	11.8279	32.7408	24.8674	1493.60	14
10.000	11.8271	32.7662	24.8873	1493.72	12
15.000	11.8261	32.7657	24.8870	1493.79	13
20.000	11.8232	32.7652	24.8872	1493.87	13
25.000	11.7997	32.7652	24.8916	1493.87	15
30.000	11.6490	32.7716	24.9242	1493.44	15
35.000	11.0154	32.8208	25.0766	1491.37	13
40.000	9.8173	32.9380	25.3734	1487.32	11
45.000	8.3285	33.0861	25.7234	1482.08	18
50.000	7.8155	33.1132	25.8192	1480.25	10
55.000	7.6757	33.1164	25.8417	1479.80	13
60.000	7.5429	33.1185	25.8622	1479.38	15
65.000	7.4703	33.1238	25.8766	1479.19	10
70.000	7.4102	33.1318	25.8913	1479.05	13
75.000	7.3036	33.1382	25.9111	1478.73	18
80.000	7.2315	33.1638	25.9412	1478.56	10
85.000	7.0559	33.1828	25.9801	1477.99	14
90.000	7.1284	33.2461	26.0200	1478.43	15
95.000	6.8841	33.2687	26.0709	1477.59	10
100.000	6.9905	33.3136	26.0919	1478.14	11
110.000	6.5492	33.3367	26.1687	1476.61	13
120.000	6.6426	33.4231	26.2246	1477.25	14
130.000	6.4275	33.4536	26.2767	1476.61	10
140.000	6.1432	33.5478	26.3874	1475.77	12
150.000	6.1610	33.6487	26.4649	1476.13	21
160.000	6.2252	33.7283	26.5195	1476.65	9
170.000	6.2869	33.7736	26.5473	1477.11	12
180.000	6.3579	33.8064	26.5641	1477.60	12
190.000	6.3282	33.8258	26.5833	1477.67	13
200.000	6.2151	33.8258	26.5978	1477.39	10
210.000	6.0347	33.8184	26.6148	1476.83	13
220.000	5.8797	33.8188	26.6344	1476.37	13
230.000	5.7598	33.8162	26.6471	1476.05	8
240.000	5.6238	33.8132	26.6614	1475.67	12
250.000	5.5279	33.8114	26.6715	1475.45	23
300.000	5.0780	33.8288	26.7380	1474.47	11
350.000	4.7602	33.8665	26.8037	1474.04	15
400.000	4.4687	33.9013	26.8631	1473.70	14
450.000	4.3815	33.9600	26.9192	1474.24	12
500.000	4.1585	34.0086	26.9812	1474.20	12
550.000	4.0159	34.0400	27.0209	1474.46	12
600.000	3.9006	34.0791	27.0638	1474.86	12
650.000	3.7838	34.1192	27.1075	1475.24	12
700.000	3.6744	34.1636	27.1537	1475.66	16
750.000	3.5816	34.2016	27.1931	1476.15	10
800.000	3.4649	34.2388	27.2341	1476.53	11
850.000	3.3638	34.2683	27.2673	1476.96	11
895.000	3.2648	34.2887	27.2929	1477.31	19



dcast-34.avg: TC 89-09, 44.00N 165.00W, 10-26-1989

TC 89-09, Stn. 104, CTD cast 35, 43°45.8'N 165°01.0'W, 27 October 1989 (raw data averaged in 5m bins).

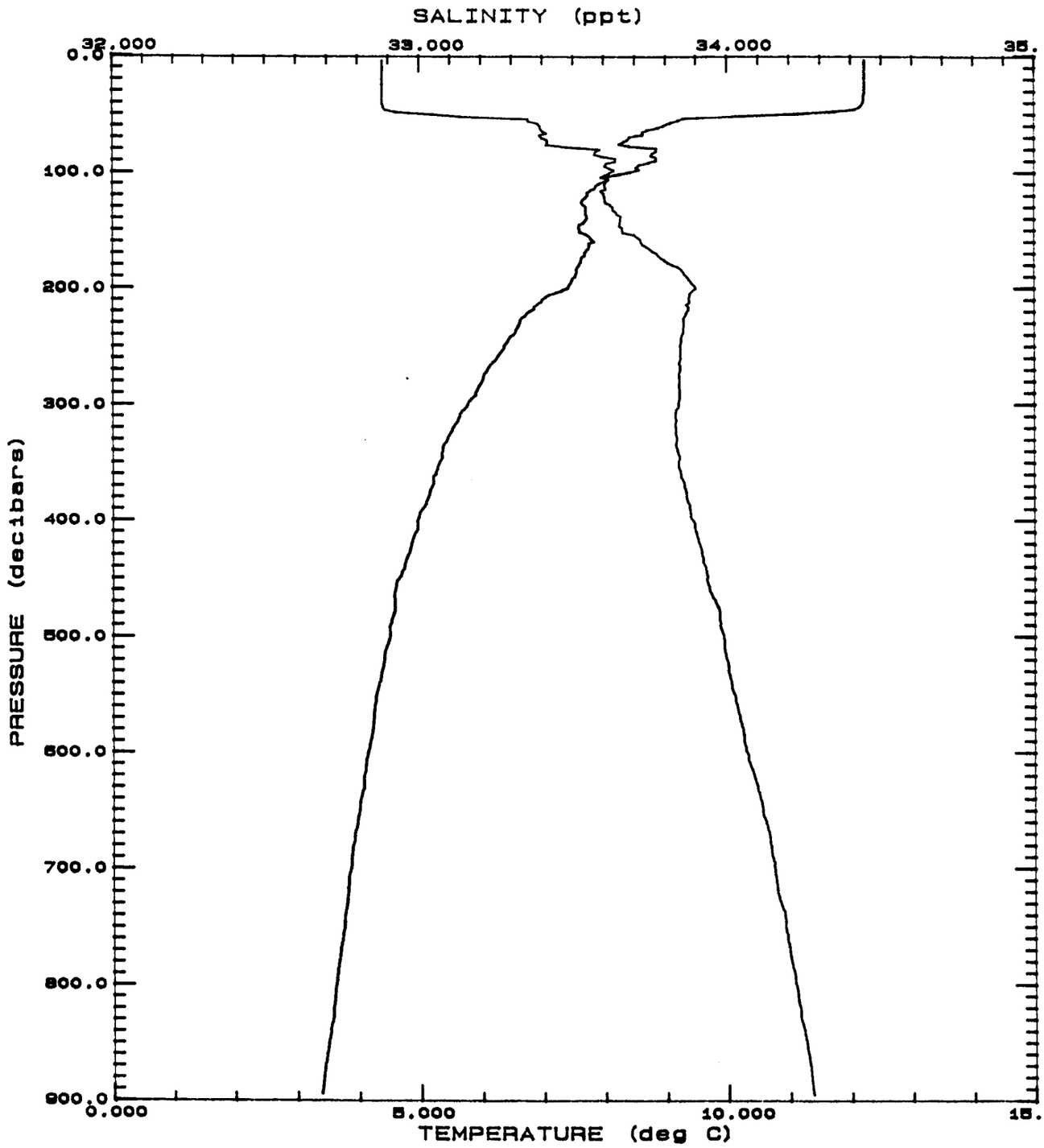
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	11.8043	32.7539	24.8819	1493.53	70
10.000	11.8055	32.7735	24.8970	1493.65	56
15.000	11.8059	32.7737	24.8970	1493.73	64
20.000	11.8076	32.7738	24.8968	1493.82	54
25.000	11.8079	32.7738	24.8967	1493.91	54
30.000	11.7290	32.7800	24.9161	1493.72	54
35.000	11.5234	32.7865	24.9588	1493.10	45
40.000	11.1641	32.8372	25.0629	1491.99	60
45.000	10.2310	32.9924	25.3466	1488.95	50
50.000	8.7734	33.2854	25.8120	1484.07	54
55.000	8.6765	33.3174	25.8513	1483.83	53
60.000	8.4852	33.3303	25.8906	1483.21	50
65.000	8.3714	33.3374	25.9133	1482.87	40
70.000	8.0692	33.3364	25.9576	1481.82	47
75.000	7.9292	33.3603	25.9968	1481.40	66
80.000	7.6455	33.3593	26.0369	1480.40	64
85.000	7.3382	33.3344	26.0607	1479.27	37
90.000	7.1295	33.3538	26.1047	1478.57	45
95.000	6.8231	33.3304	26.1277	1477.43	41
100.000	6.7256	33.3459	26.1528	1477.15	43
110.000	6.6602	33.3857	26.1928	1477.11	54
120.000	6.6559	33.4279	26.2266	1477.31	54
130.000	6.5650	33.4694	26.2713	1477.17	50
140.000	6.3219	33.5269	26.3482	1476.45	50
150.000	6.1299	33.5944	26.4259	1475.94	59
160.000	6.2130	33.6808	26.4836	1476.54	33
170.000	6.3520	33.7434	26.5151	1477.33	46
180.000	6.4161	33.7833	26.5383	1477.80	48
190.000	6.4081	33.8012	26.5535	1477.95	52
200.000	6.2954	33.8014	26.5682	1477.67	45
210.000	6.1662	33.7962	26.5806	1477.32	51
220.000	6.1089	33.8091	26.5981	1477.27	52
230.000	6.0886	33.8263	26.6142	1477.38	65
240.000	5.9799	33.8278	26.6291	1477.11	57
250.000	5.7907	33.8154	26.6428	1476.51	43
300.000	5.1634	33.7958	26.7020	1474.77	34
350.000	4.8592	33.8472	26.7773	1474.42	61
400.000	4.6390	33.8981	26.8422	1474.40	67
450.000	4.4693	33.9519	26.9033	1474.59	47
500.000	4.3006	33.9867	26.9489	1474.76	50
550.000	4.2057	34.0472	27.0070	1475.27	58
600.000	4.0726	34.0859	27.0516	1475.58	38
650.000	3.9322	34.1297	27.1009	1475.88	44
700.000	3.8733	34.1784	27.1456	1476.52	52
750.000	3.7006	34.2090	27.1873	1476.66	72
800.000	3.5473	34.2362	27.2239	1476.87	75
850.000	3.4386	34.2604	27.2538	1477.27	42
900.000	3.3020	34.2853	27.2866	1477.55	50



dcast-35.avg: TC 89-09, 43.46N 165.01W, 10-27-1989

TC 89-09, Stn. 105, CTD cast 36, 43°30.2'N 165°00.0'W, 27 October 1989 (raw data averaged in 5m bins).

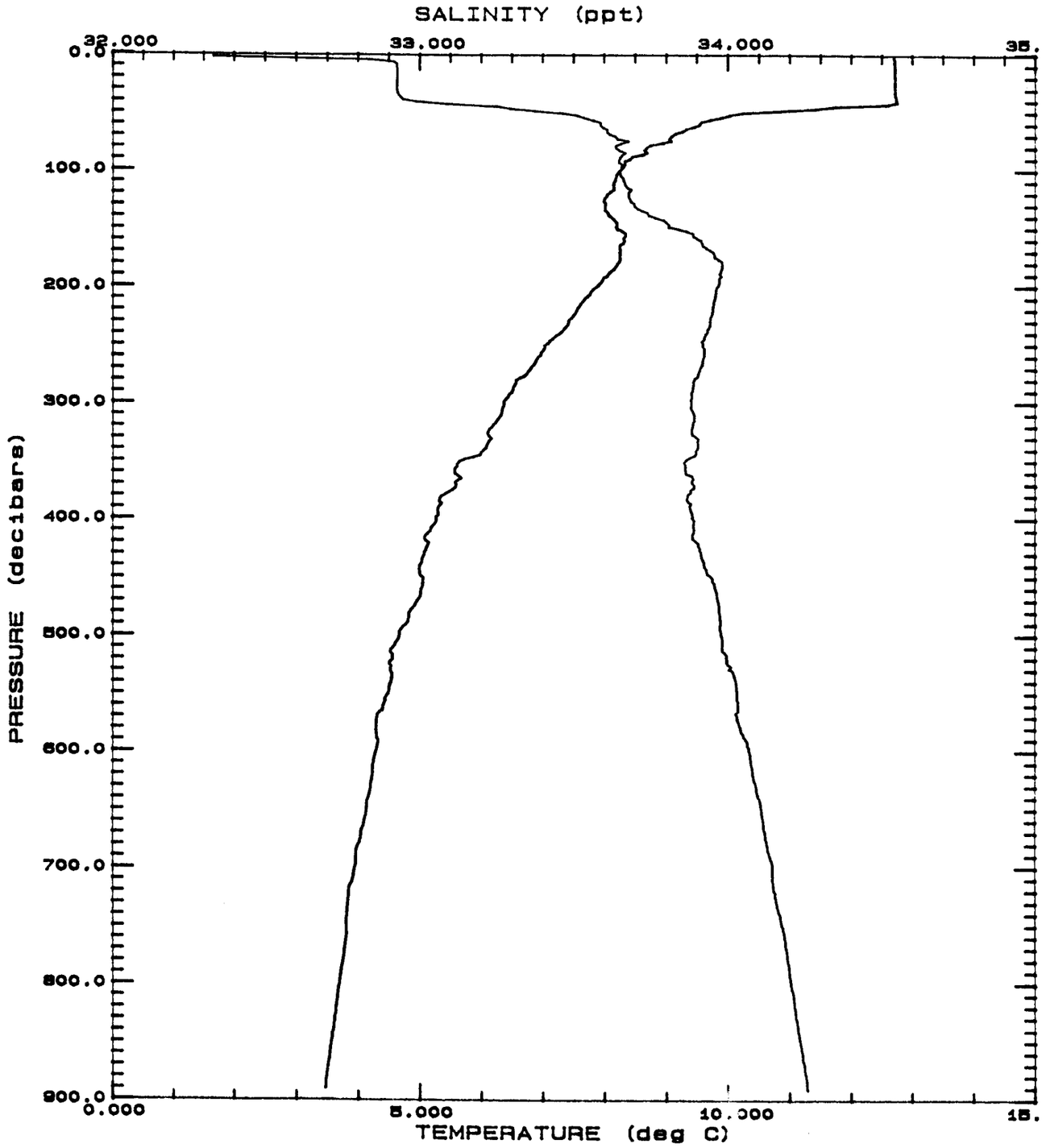
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	12.2206	32.8816	24.9032	1495.21	48
15.000	12.2202	32.8812	24.9030	1495.28	50
20.000	12.2197	32.8812	24.9030	1495.37	35
25.000	12.2195	32.8811	24.9030	1495.45	52
30.000	12.2204	32.8812	24.9029	1495.53	59
35.000	12.2099	32.8807	24.9045	1495.58	50
40.000	12.1954	32.8816	24.9080	1495.61	60
45.000	12.1012	32.8879	24.9306	1495.38	66
50.000	11.1587	33.0191	25.2057	1492.36	63
55.000	9.2080	33.3574	25.8003	1485.85	51
60.000	8.9810	33.3916	25.8621	1485.13	67
65.000	8.6633	33.4066	25.9232	1484.05	56
70.000	8.4618	33.4020	25.9503	1483.38	44
75.000	8.2943	33.4194	25.9892	1482.85	48
80.000	8.6962	33.5527	26.0327	1484.60	51
85.000	8.7895	33.5862	26.0444	1485.07	41
90.000	8.8217	33.6281	26.0722	1485.32	48
95.000	8.5679	33.6170	26.1027	1484.45	52
100.000	8.4089	33.6180	26.1278	1483.94	51
105.000	8.0898	33.6073	26.1671	1482.80	47
110.000	7.9308	33.6037	26.1877	1482.28	54
120.000	7.7128	33.6008	26.2171	1481.61	44
130.000	7.6904	33.6284	26.2420	1481.72	68
140.000	7.7120	33.6539	26.2589	1482.00	43
150.000	7.6020	33.6610	26.2803	1481.76	40
160.000	7.8050	33.7226	26.2995	1482.77	56
170.000	7.6931	33.7691	26.3522	1482.57	61
180.000	7.5917	33.8244	26.4102	1482.41	57
190.000	7.5156	33.8701	26.4570	1482.34	73
200.000	7.3897	33.8965	26.4956	1482.06	65
210.000	6.9962	33.8775	26.5353	1480.68	57
220.000	6.7968	33.8699	26.5563	1480.06	67
230.000	6.6206	33.8595	26.5716	1479.52	69
240.000	6.5124	33.8532	26.5809	1479.25	73
250.000	6.3736	33.8472	26.5943	1478.86	81
300.000	5.7716	33.8417	26.6659	1477.28	46
350.000	5.3151	33.8416	26.7206	1476.27	65
400.000	4.9615	33.8904	26.8001	1475.71	61
450.000	4.6558	33.9347	26.8693	1475.34	48
500.000	4.5034	33.9881	26.9283	1475.60	47
550.000	4.2815	34.0236	26.9802	1475.55	53
600.000	4.1444	34.0639	27.0267	1475.85	53
650.000	4.0083	34.1131	27.0799	1476.17	46
700.000	3.8638	34.1510	27.1248	1476.44	42
750.000	3.7530	34.1855	27.1633	1476.85	52
800.000	3.6155	34.2188	27.2035	1477.14	58
850.000	3.4916	34.2527	27.2425	1477.48	45
890.000	3.3908	34.2725	27.2680	1477.74	65



dcast-36.avg: TC 89-09, 43.30N 165.00W, 10-27-1989

TC 89-09, Stn. 106, CTD cast 37, 43°13.5'N 164°59.3'W, 27 October 1989 (raw data averaged in 5m bins).

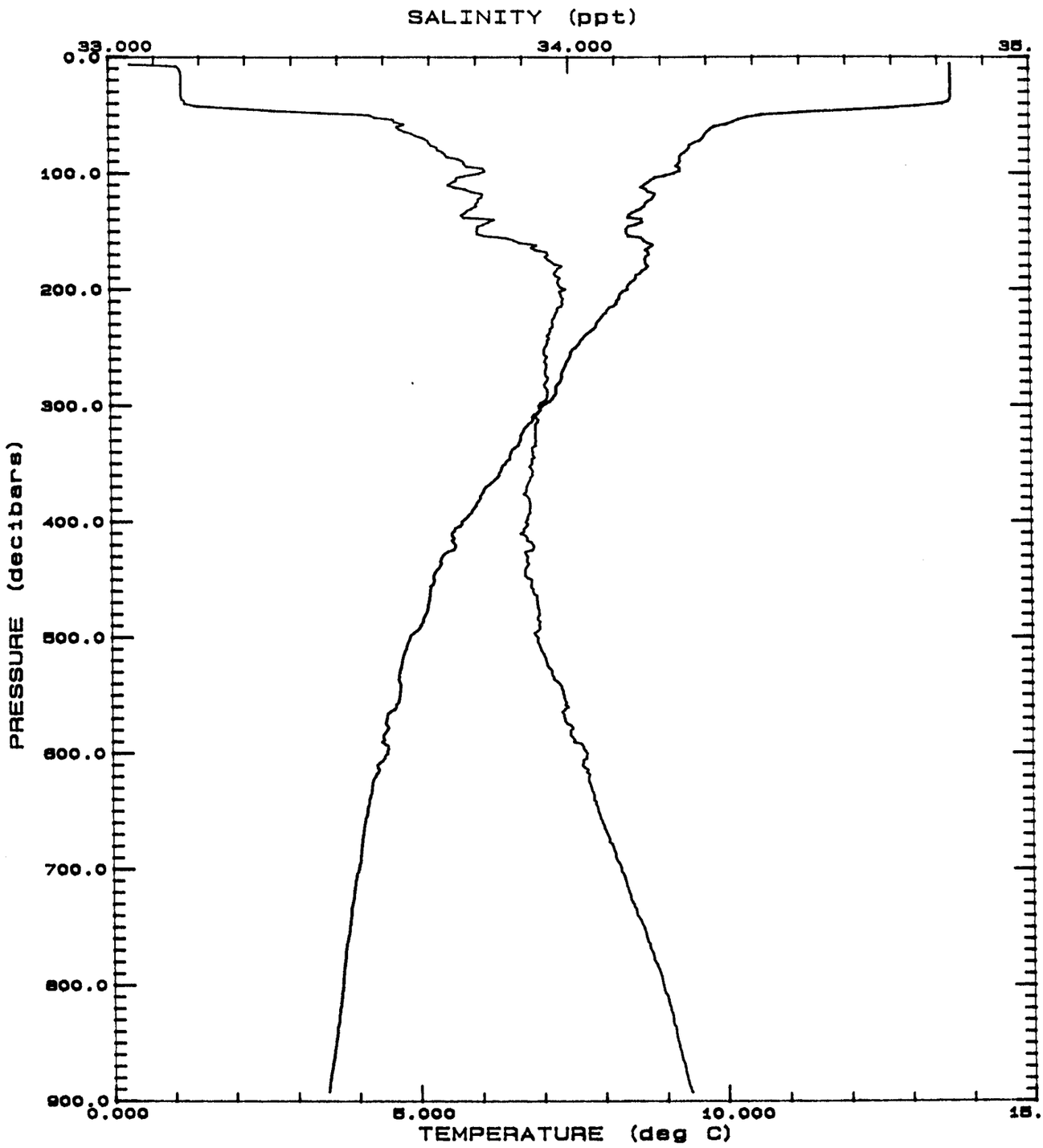
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	12.6984	32.8578	24.7933	1496.72	24
10.000	12.7021	32.9292	24.8479	1496.89	12
15.000	12.7049	32.9271	24.8457	1496.98	12
20.000	12.7052	32.9268	24.8454	1497.07	19
25.000	12.7052	32.9265	24.8452	1497.15	13
30.000	12.7061	32.9270	24.8454	1497.24	17
35.000	12.7173	32.9342	24.8488	1497.36	11
40.000	12.7128	32.9970	24.8983	1497.51	13
45.000	11.5822	33.2746	25.3274	1494.06	10
50.000	10.3273	33.4504	25.6873	1489.94	11
55.000	9.8027	33.5480	25.8514	1488.25	12
60.000	9.4978	33.5907	25.9351	1487.27	10
65.000	9.2866	33.6105	25.9848	1486.61	10
70.000	9.0889	33.6349	26.0354	1485.99	17
75.000	8.9731	33.6565	26.0707	1485.67	15
80.000	8.6947	33.6422	26.1029	1484.71	14
85.000	8.6435	33.6648	26.1286	1484.62	20
90.000	8.3914	33.6487	26.1545	1483.74	13
95.000	8.3127	33.6562	26.1723	1483.54	14
100.000	8.2382	33.6521	26.1802	1483.34	15
110.000	8.1498	33.6664	26.2046	1483.19	14
120.000	8.0505	33.6804	26.2303	1482.99	12
130.000	8.0031	33.6996	26.2524	1483.00	20
140.000	8.1032	33.7628	26.2872	1483.62	17
150.000	8.2292	33.8412	26.3299	1484.36	11
160.000	8.3121	33.9131	26.3738	1484.92	12
170.000	8.2504	33.9519	26.4136	1484.91	12
180.000	8.2090	33.9840	26.4451	1484.95	12
190.000	8.0352	33.9769	26.4654	1484.45	20
200.000	7.8577	33.9653	26.4824	1483.93	8
210.000	7.6775	33.9572	26.5022	1483.40	15
220.000	7.5448	33.9511	26.5165	1483.05	10
230.000	7.4107	33.9431	26.5293	1482.69	10
240.000	7.2552	33.9292	26.5402	1482.24	17
250.000	7.0376	33.9199	26.5630	1481.55	17
300.000	6.3612	33.8810	26.6226	1479.68	9
350.000	5.6357	33.8593	26.6963	1477.58	14
400.000	5.2577	33.8890	26.7648	1476.92	12
450.000	5.0292	33.9496	26.8393	1476.89	16
500.000	4.6574	33.9816	26.9064	1476.23	11
550.000	4.4728	34.0301	26.9650	1476.35	18
600.000	4.2776	34.0710	27.0183	1476.42	15
650.000	4.1271	34.1101	27.0652	1476.67	18
700.000	3.9337	34.1446	27.1125	1476.73	16
750.000	3.8001	34.1777	27.1524	1477.03	12
800.000	3.6828	34.2067	27.1872	1477.40	9
850.000	3.5565	34.2370	27.2237	1477.74	11
885.000	3.4681	34.2575	27.2486	1477.97	19



dcast-37.avg: TC 89-09, 43.13N 164.59W, 10-27-1989

TC 89-09, Stn. 117, CTD cast 39, 42°45.1'N 164°58.8'W, 28 October 1989 (raw data averaged in 5m bins).

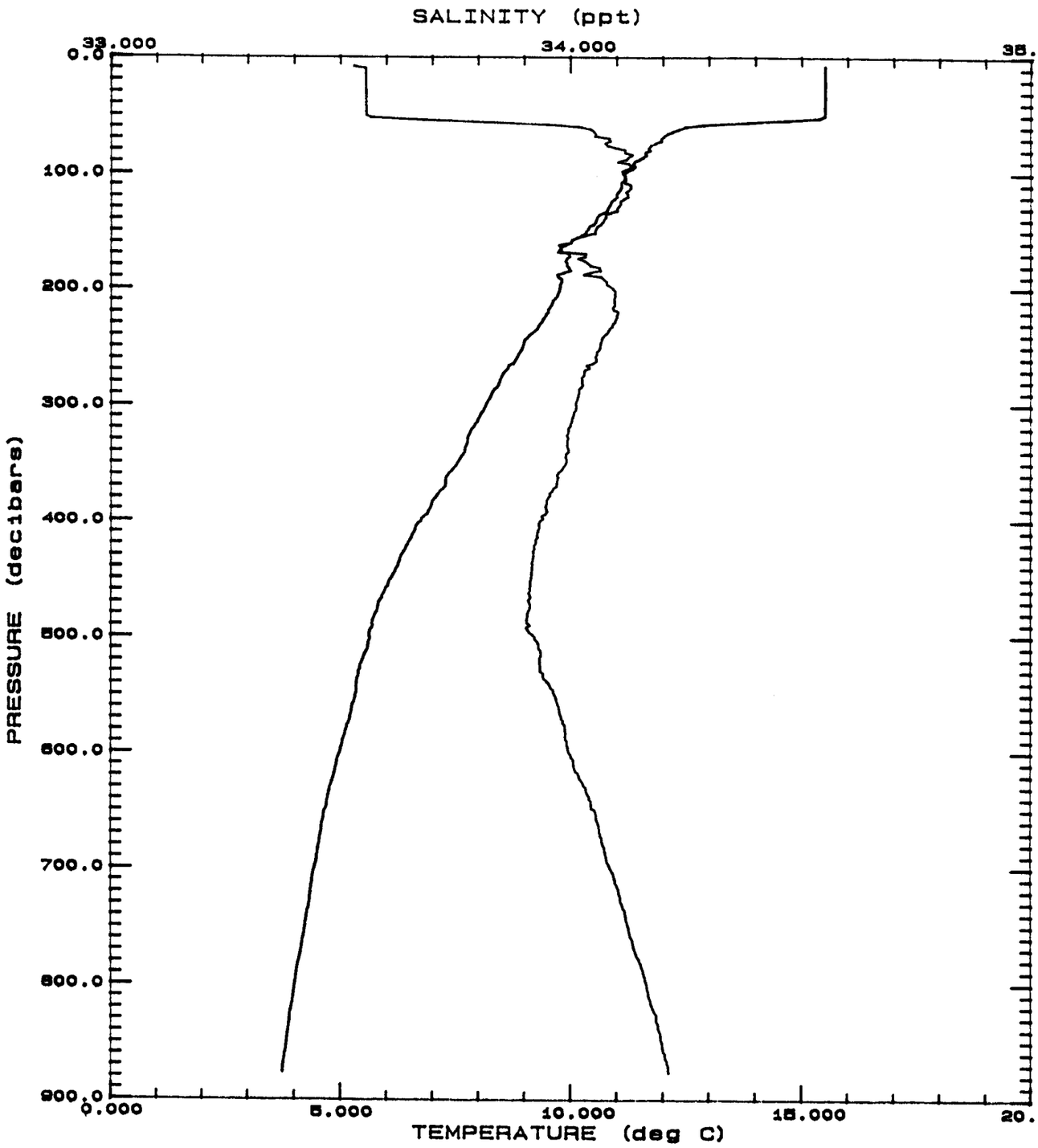
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	13.7058	33.1563	24.8237	1500.50	61
15.000	13.7074	33.1599	24.8262	1500.59	54
20.000	13.7082	33.1602	24.8263	1500.68	52
25.000	13.7074	33.1600	24.8263	1500.76	81
30.000	13.7076	33.1599	24.8262	1500.84	51
35.000	13.7045	33.1617	24.8282	1500.92	42
40.000	13.4893	33.1721	24.8799	1500.30	52
45.000	12.3595	33.3145	25.2125	1496.77	73
50.000	10.6402	33.5520	25.7134	1491.18	58
55.000	10.2186	33.6242	25.8410	1489.84	51
60.000	9.9160	33.6391	25.9039	1488.85	60
65.000	9.7420	33.6526	25.9434	1488.32	45
70.000	9.6778	33.6857	25.9799	1488.21	56
75.000	9.5051	33.7006	26.0199	1487.68	61
80.000	9.4323	33.7209	26.0476	1487.52	57
85.000	9.3236	33.7365	26.0774	1487.23	57
90.000	9.3048	33.7713	26.1077	1487.28	66
95.000	9.2628	33.7925	26.1310	1487.24	58
100.000	9.2084	33.8035	26.1484	1487.13	49
110.000	8.7087	33.7440	26.1806	1485.38	49
120.000	8.8688	33.8088	26.2063	1486.21	45
130.000	8.6682	33.7905	26.2233	1485.61	55
140.000	8.6160	33.8169	26.2520	1485.61	58
150.000	8.4318	33.8009	26.2677	1485.07	57
160.000	8.7714	33.9010	26.2938	1486.62	48
170.000	8.7758	33.9523	26.3333	1486.87	49
180.000	8.7566	33.9779	26.3564	1486.99	42
190.000	8.5651	33.9752	26.3839	1486.44	38
200.000	8.4130	33.9827	26.4131	1486.05	41
210.000	8.2731	33.9852	26.4364	1485.69	51
220.000	8.0780	33.9708	26.4542	1485.10	50
230.000	7.9297	33.9626	26.4697	1484.69	46
240.000	7.7424	33.9535	26.4900	1484.13	50
250.000	7.5835	33.9457	26.5067	1483.68	46
300.000	7.0488	33.9330	26.5717	1482.43	67
350.000	6.4270	33.9150	26.6409	1480.80	54
400.000	5.7304	33.9038	26.7201	1478.84	71
450.000	5.2583	33.9105	26.7818	1477.77	50
500.000	4.8666	33.9250	26.8383	1477.01	43
550.000	4.6930	33.9828	26.9034	1477.20	74
600.000	4.4781	34.0306	26.9648	1477.20	65
650.000	4.1544	34.0563	27.0196	1476.71	69
700.000	4.0036	34.1043	27.0734	1476.97	47
750.000	3.8481	34.1518	27.1270	1477.20	64
800.000	3.7292	34.1930	27.1716	1477.58	49
850.000	3.6043	34.2256	27.2099	1477.92	54
890.000	3.4861	34.2517	27.2423	1478.12	75



dcast-39.avg: TC 89-09, 42.45N 164.59W, 10-28-1989

TC 89-09, Stn. 118, CTD cast 40, 40°00.1'N 165°00.3'W, 30 October 1989 (raw data averaged in 5m bins).

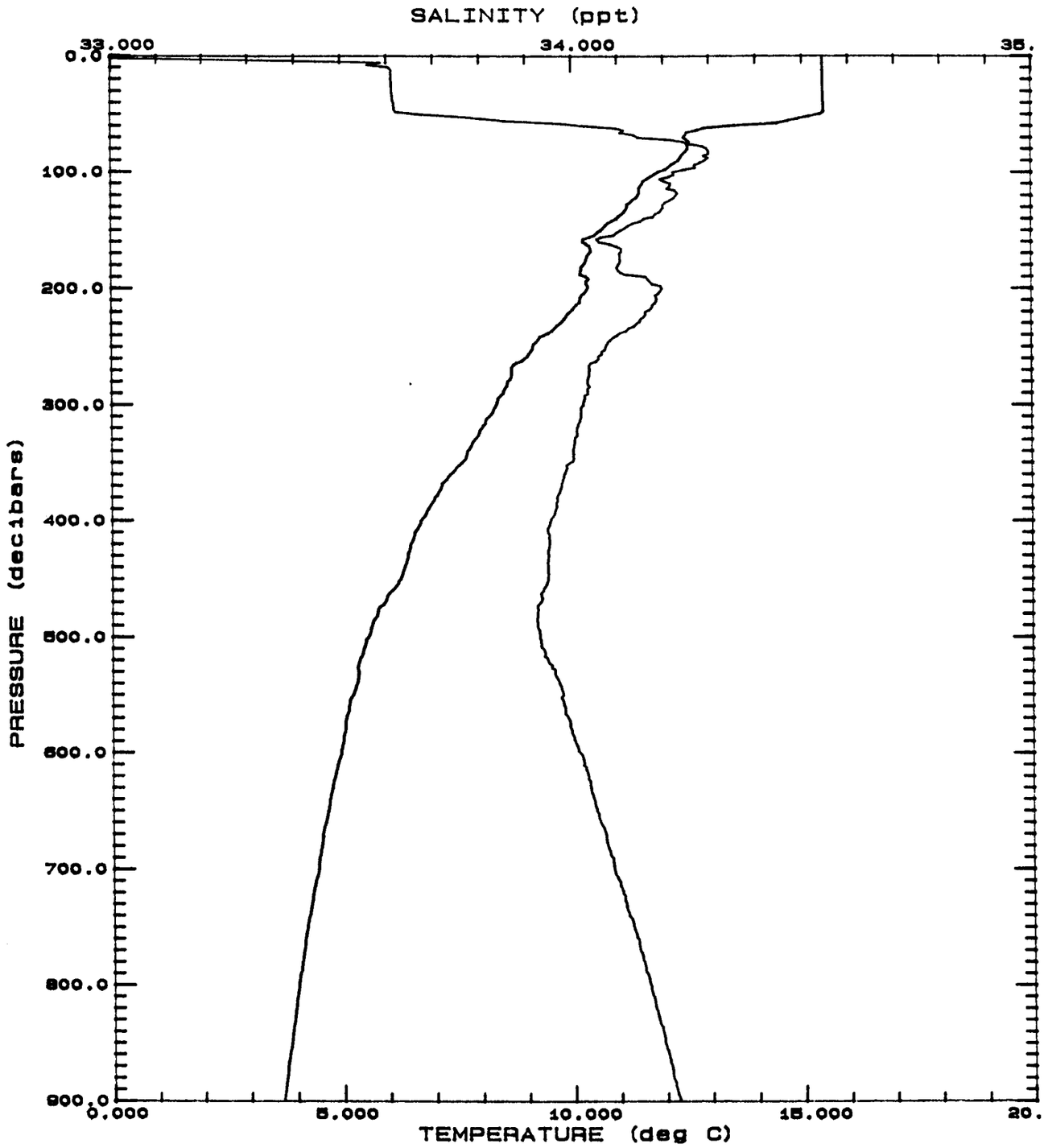
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
10.000	15.5018	33.5552	24.7489	1506.73	58
15.000	15.5018	33.5555	24.7491	1506.81	56
20.000	15.5026	33.5556	24.7490	1506.90	45
25.000	15.5040	33.5557	24.7488	1506.98	50
30.000	15.5051	33.5558	24.7486	1507.07	71
35.000	15.5033	33.5561	24.7492	1507.15	42
40.000	15.5033	33.5559	24.7491	1507.23	52
45.000	15.5010	33.5567	24.7502	1507.31	42
50.000	15.4843	33.5573	24.7543	1507.34	46
55.000	14.2088	33.7534	25.1804	1503.58	79
60.000	12.4746	34.0167	25.7359	1498.25	43
65.000	12.1495	34.0540	25.8265	1497.27	40
70.000	11.9844	34.0765	25.8753	1496.81	42
75.000	11.7896	34.0815	25.9159	1496.23	41
80.000	11.6741	34.1110	25.9604	1495.95	50
85.000	11.6002	34.1296	25.9886	1495.80	41
90.000	11.4000	34.1150	26.0142	1495.17	44
95.000	11.3608	34.1269	26.0306	1495.14	47
100.000	11.1872	34.1139	26.0522	1494.60	49
110.000	11.0987	34.1273	26.0786	1494.47	60
120.000	10.9918	34.1227	26.0943	1494.25	49
130.000	10.8160	34.1029	26.1102	1493.78	48
140.000	10.5609	34.0727	26.1317	1493.00	54
150.000	10.3575	34.0543	26.1528	1492.42	53
160.000	9.9816	33.9958	26.1713	1491.17	46
170.000	9.9041	34.0137	26.1983	1491.07	58
180.000	9.9332	34.0477	26.2201	1491.39	46
190.000	9.7054	34.0466	26.2573	1490.73	53
200.000	9.7628	34.0932	26.2841	1491.15	50
210.000	9.6233	34.0956	26.3092	1490.82	41
220.000	9.4981	34.1000	26.3332	1490.53	45
230.000	9.3393	34.0926	26.3534	1490.11	53
240.000	9.1067	34.0743	26.3766	1489.39	54
250.000	8.9553	34.0638	26.3925	1488.99	41
300.000	8.1572	34.0121	26.4748	1486.77	50
350.000	7.5360	33.9893	26.5478	1485.20	48
400.000	6.7300	33.9346	26.6163	1482.84	42
450.000	6.0837	33.9132	26.6835	1481.08	49
500.000	5.6270	33.9211	26.7463	1480.09	44
550.000	5.3210	33.9658	26.8183	1479.74	43
600.000	4.9754	33.9976	26.8835	1479.20	41
650.000	4.6548	34.0524	26.9628	1478.78	53
700.000	4.4283	34.0876	27.0154	1478.71	37
750.000	4.2252	34.1262	27.0677	1478.75	47
800.000	4.0070	34.1654	27.1216	1478.71	35
850.000	3.8264	34.1983	27.1662	1478.82	45
875.000	3.7433	34.2129	27.1861	1478.91	40



dcast-40.avg: TC 89-09, 40.00N 165.00W, 10-30-1989

TC 89-09, Stn. 119, CTD cast 41, 39°00.2'N 165°01.4'W, 30 October 1989 (raw data averaged in 5m bins).

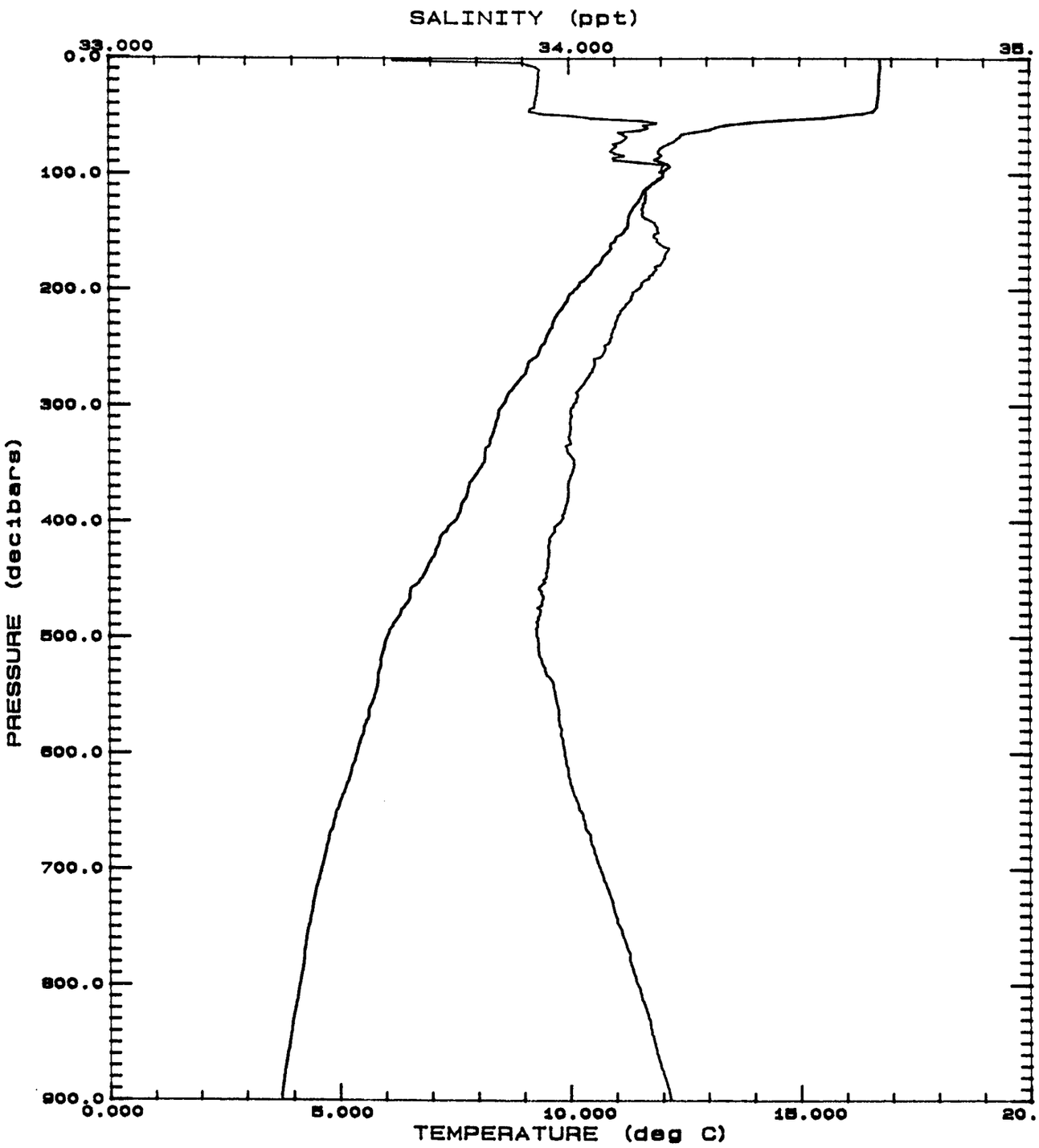
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	15.4509	33.5076	24.7235	1506.43	15
10.000	15.4507	33.5930	24.7893	1506.61	13
15.000	15.4513	33.6118	24.8037	1506.72	20
20.000	15.4530	33.6113	24.8029	1506.81	18
25.000	15.4552	33.6121	24.8030	1506.90	14
30.000	15.4584	33.6126	24.8027	1506.99	11
35.000	15.4644	33.6146	24.8029	1507.09	13
40.000	15.4694	33.6164	24.8031	1507.19	12
45.000	15.4732	33.6178	24.8034	1507.29	12
50.000	15.3856	33.6651	24.8592	1507.15	17
55.000	14.8155	33.8306	25.1111	1505.63	11
60.000	13.6457	34.0403	25.5197	1502.17	12
65.000	12.6659	34.1055	25.7663	1499.07	13
70.000	12.4717	34.1655	25.8510	1498.58	12
75.000	12.5526	34.2580	25.9069	1499.04	10
80.000	12.5390	34.2977	25.9404	1499.13	15
85.000	12.4319	34.2946	25.9589	1498.84	13
90.000	12.3344	34.2951	25.9781	1498.60	14
95.000	12.1485	34.2696	25.9940	1498.02	11
100.000	11.9088	34.2286	26.0077	1497.23	10
110.000	11.5327	34.2114	26.0647	1496.08	15
120.000	11.4428	34.2273	26.0936	1495.95	11
130.000	11.2017	34.1983	26.1152	1495.24	13
140.000	10.9706	34.1625	26.1291	1494.56	11
150.000	10.6389	34.1074	26.1451	1493.49	15
160.000	10.2784	34.0686	26.1775	1492.32	15
170.000	10.3812	34.1053	26.1884	1492.90	10
180.000	10.2452	34.1008	26.2083	1492.57	15
190.000	10.2798	34.1467	26.2382	1492.91	12
200.000	10.3455	34.1953	26.2648	1493.37	13
210.000	10.1718	34.1829	26.2850	1492.90	10
220.000	9.9610	34.1623	26.3048	1492.28	12
230.000	9.7323	34.1405	26.3262	1491.60	15
240.000	9.3926	34.0970	26.3481	1490.47	12
250.000	9.1420	34.0726	26.3696	1489.69	10
300.000	8.3447	34.0220	26.4543	1487.48	10
350.000	7.6018	33.9941	26.5422	1485.46	11
400.000	6.7096	33.9497	26.6309	1482.78	15
450.000	6.2609	33.9442	26.6854	1481.83	21
500.000	5.5532	33.9274	26.7602	1479.80	14
550.000	5.2236	33.9766	26.8382	1479.36	13
600.000	4.9591	34.0146	26.8988	1479.15	9
650.000	4.6688	34.0510	26.9602	1478.83	13
700.000	4.4537	34.0875	27.0126	1478.82	14
750.000	4.2020	34.1285	27.0720	1478.65	13
800.000	4.0111	34.1633	27.1196	1478.73	8
850.000	3.8509	34.1943	27.1605	1478.92	12
900.000	3.6806	34.2262	27.2029	1479.07	9



dcast-41.avg: TC 89-09, 39.00N 165.01W, 10-30-1989

TC 89-09, Stn. 120, CTD cast 42, 38°29.7'N 164°58.6'W, 30 October 1989 (raw data averaged in 5m bins).

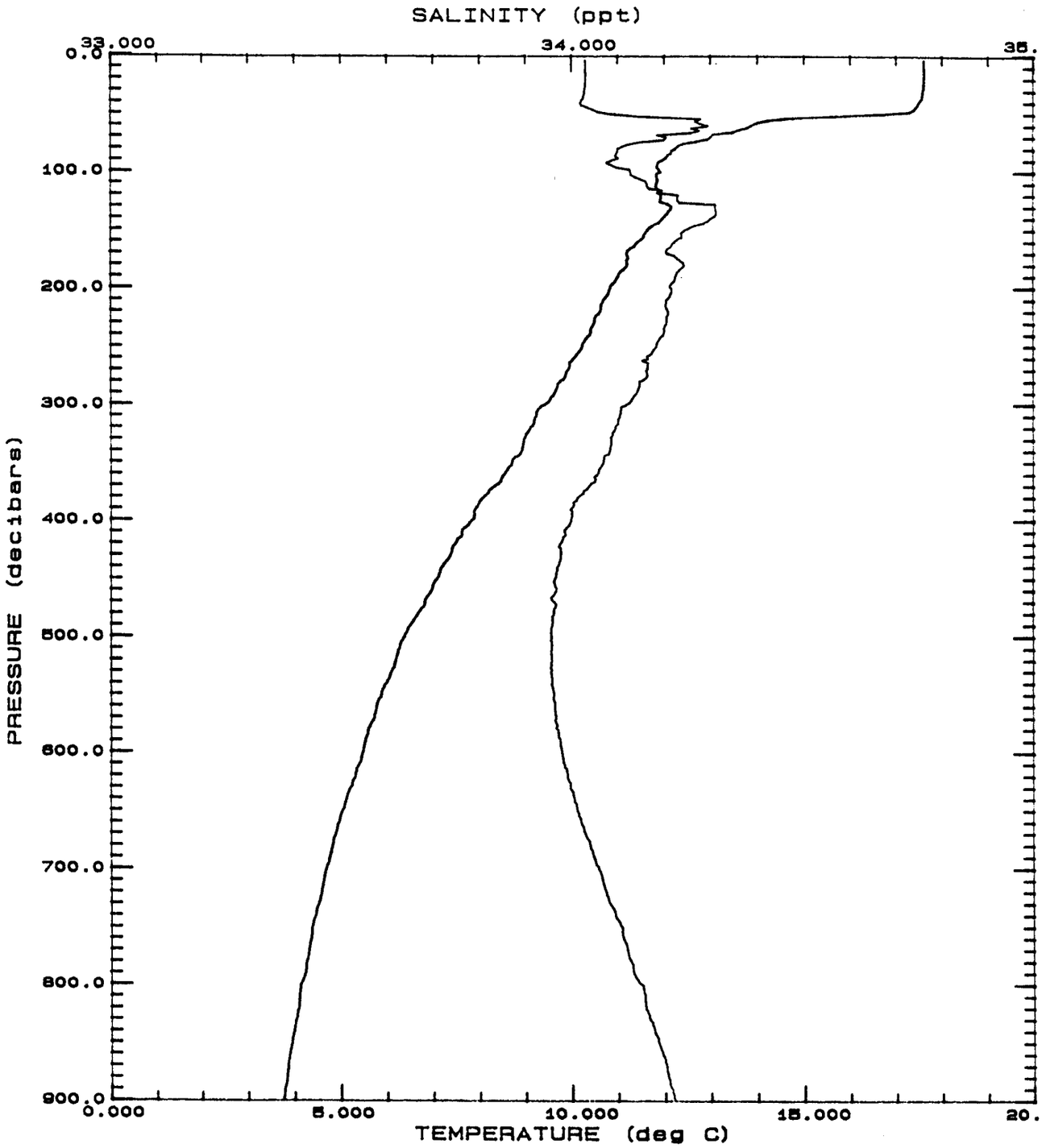
Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	16.7496	33.8821	24.7161	1510.86	20
10.000	16.7510	33.9421	24.7618	1511.02	13
15.000	16.7310	33.9345	24.7607	1511.03	11
20.000	16.7246	33.9338	24.7616	1511.10	11
25.000	16.7207	33.9320	24.7612	1511.17	14
30.000	16.7185	33.9314	24.7612	1511.24	12
35.000	16.7000	33.9280	24.7629	1511.26	14
40.000	16.6863	33.9257	24.7643	1511.30	19
45.000	16.6162	33.9172	24.7741	1511.16	11
50.000	15.9532	33.9952	24.9863	1509.30	10
55.000	14.2680	34.1773	25.4965	1504.28	16
60.000	13.2485	34.1648	25.6962	1501.01	16
65.000	12.6063	34.1193	25.7888	1498.89	13
70.000	12.3432	34.1201	25.8406	1498.09	11
75.000	12.1134	34.1015	25.8702	1497.37	10
80.000	11.9459	34.0924	25.8949	1496.87	10
85.000	11.9728	34.1129	25.9058	1497.06	20
90.000	11.9917	34.1509	25.9317	1497.26	12
95.000	12.1362	34.1997	25.9421	1497.89	11
100.000	12.0498	34.2029	25.9610	1497.68	15
110.000	11.7663	34.1764	25.9940	1496.84	10
120.000	11.5502	34.1663	26.0264	1496.25	18
130.000	11.3772	34.1595	26.0530	1495.81	9
140.000	11.2812	34.1760	26.0834	1495.66	12
150.000	11.1784	34.1922	26.1147	1495.49	15
160.000	10.9270	34.1965	26.1634	1494.77	12
170.000	10.7818	34.2083	26.1984	1494.44	12
180.000	10.5844	34.1903	26.2192	1493.89	12
190.000	10.3689	34.1704	26.2413	1493.26	12
200.000	10.1330	34.1470	26.2637	1492.55	19
210.000	9.9439	34.1303	26.2827	1492.02	13
220.000	9.7629	34.1097	26.2970	1491.50	12
230.000	9.6329	34.0998	26.3109	1491.19	15
240.000	9.5094	34.0907	26.3241	1490.89	13
250.000	9.3796	34.0787	26.3360	1490.57	13
300.000	8.5368	34.0067	26.4130	1488.19	16
350.000	8.1126	34.0102	26.4800	1487.42	12
400.000	7.4783	33.9778	26.5470	1485.79	15
450.000	6.7562	33.9453	26.6212	1483.77	13
500.000	6.0248	33.9294	26.7037	1481.69	19
550.000	5.7576	33.9684	26.7678	1481.50	10
600.000	5.3686	33.9885	26.8306	1480.78	13
650.000	4.9327	34.0241	26.9093	1479.88	12
700.000	4.5949	34.0663	26.9804	1479.37	12
750.000	4.3139	34.1087	27.0445	1479.09	12
800.000	4.1169	34.1462	27.0950	1479.15	19
850.000	3.9046	34.1822	27.1454	1479.13	10
895.000	3.7349	34.2148	27.1885	1479.20	11



dcast-42.avg: TC 89-09, 38.30N 164.59W, 10-30-1989

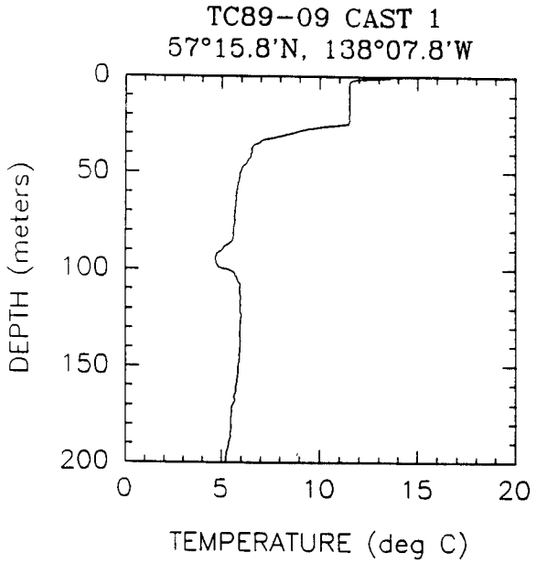
TC 89-09, Stn. 123, CTD cast 43, 38°00.4'N 164°59.7'W, 30 October 1989 (raw data averaged in 5m bins).

Pressure (decibars)	Temp. (°C)	Salinity (ppt)	Density (sigma-t)	Sound velocity	nbin
5.000	17.6014	34.0310	24.6280	1513.58	19
10.000	17.6018	34.0311	24.6279	1513.67	20
15.000	17.6044	34.0315	24.6276	1513.76	17
20.000	17.6041	34.0312	24.6275	1513.84	13
25.000	17.5975	34.0306	24.6286	1513.90	16
30.000	17.5792	34.0285	24.6314	1513.93	15
35.000	17.5539	34.0257	24.6354	1513.94	13
40.000	17.4875	34.0202	24.6471	1513.82	17
45.000	17.4053	34.0391	24.6813	1513.68	14
50.000	16.6199	34.0962	24.9107	1511.46	12
55.000	14.4036	34.2670	25.5368	1504.82	12
60.000	13.8502	34.2861	25.6674	1503.13	19
65.000	13.5276	34.2546	25.7094	1502.12	13
70.000	12.9909	34.1978	25.7739	1500.36	12
75.000	12.5278	34.1372	25.8180	1498.81	21
80.000	12.2158	34.1010	25.8503	1497.80	15
85.000	12.0959	34.0970	25.8701	1497.47	14
90.000	11.9587	34.0868	25.8882	1497.07	12
95.000	11.8345	34.0925	25.9160	1496.73	17
100.000	11.8722	34.1276	25.9362	1496.98	11
110.000	11.8258	34.1611	25.9709	1497.03	13
120.000	11.9025	34.2189	26.0014	1497.53	11
130.000	12.1271	34.3111	26.0303	1498.57	12
140.000	11.9595	34.3004	26.0539	1498.15	12
150.000	11.6359	34.2447	26.0715	1497.14	16
160.000	11.4396	34.2209	26.0893	1496.59	10
170.000	11.1854	34.2073	26.1252	1495.86	10
180.000	11.1876	34.2405	26.1506	1496.07	10
190.000	10.9977	34.2242	26.1723	1495.55	16
200.000	10.8185	34.2127	26.1953	1495.07	20
210.000	10.6904	34.2052	26.2122	1494.78	13
220.000	10.6039	34.2074	26.2291	1494.64	14
230.000	10.4761	34.2032	26.2482	1494.34	16
240.000	10.3759	34.1949	26.2592	1494.14	13
250.000	10.2177	34.1811	26.2758	1493.72	15
300.000	9.4172	34.1166	26.3595	1491.57	14
350.000	8.6945	34.0673	26.4361	1489.67	10
400.000	7.8237	33.9968	26.5121	1487.13	16
450.000	7.0765	33.9626	26.5913	1485.04	10
500.000	6.3674	33.9556	26.6806	1483.08	13
550.000	5.8720	33.9611	26.7478	1481.95	11
600.000	5.4707	33.9787	26.8107	1481.18	10
650.000	5.0374	34.0132	26.8888	1480.29	19
700.000	4.6746	34.0593	26.9661	1479.69	14
750.000	4.3700	34.1077	27.0377	1479.32	15
800.000	4.1198	34.1513	27.0987	1479.16	17
850.000	3.9246	34.1872	27.1474	1479.22	10
895.000	3.7612	34.2186	27.1889	1479.32	12



dcast-43.avg: TC 89-09, 38.00N 165.00W, 10-30-1989

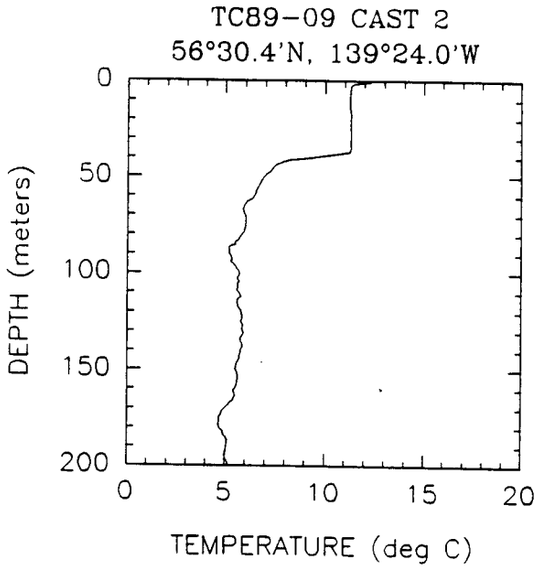
XBT CASTS



T-10 XBT probe
12 October 1989, 12:02 GMT
Bottom depth: 2,700 m

Surface temp. (2.52 m): 11.55°C
Bottom temp. (200.04 m): 5.18°C
Whole degree isotherms:

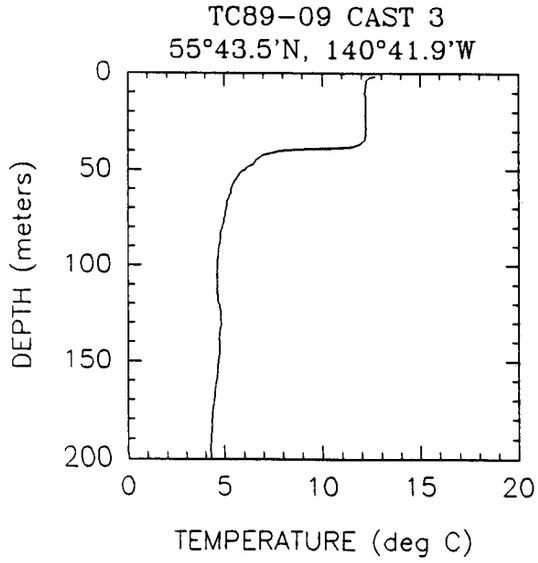
Temp. (°C)	Depth (m)
11	25.2
10	26.4
9	28.3
8	31.5
7	34.0
6	49.0
5	90.3



T-10 XBT probe
12 October 1989, 17:51 GMT
Bottom depth: 3,000 m

Surface temp. (2.52 m): 11.32°C
Bottom temp. (200.04 m): 5.13°C
Whole degree isotherms:

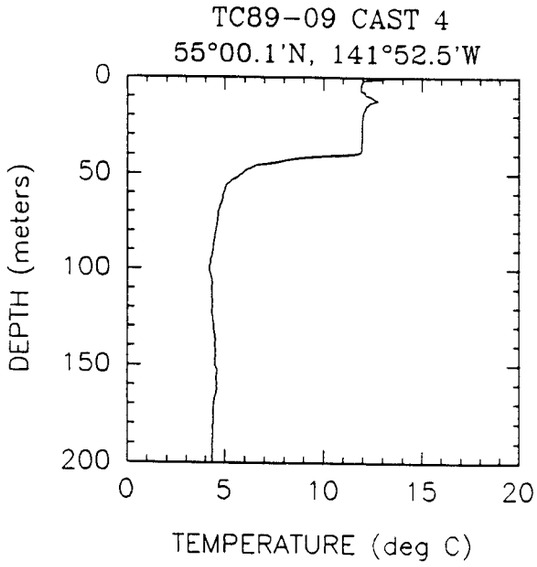
Temp. (°C)	Depth (m)
11	37.7
10	39.0
9	40.9
8	42.1
7	49.6
6	64.7
5	169.8



T-10 XBT probe
12 October 1989, 23:57 GMT
Bottom depth: 3,600 m

Surface temp. (2.52 m): 12.42°C
Bottom temp. (200.04 m): 4.27°C
Whole degree isotherms:

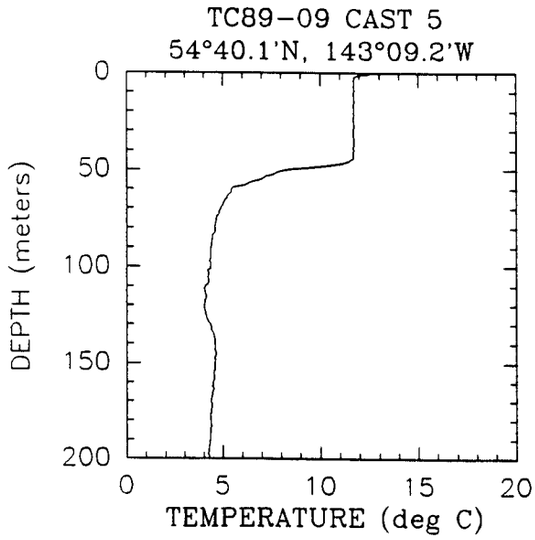
Temp. (°C)	Depth (m)
12	35.8
11	38.4
9	39.6
8	40.2
7	42.1
6	50.3
5	74.7



T-6 XBT probe
13 October 1989, 05:50 GMT
Bottom depth: 3,840 m

Surface temp. (2.59 m): 11.98°C
Bottom temp. (--): --
Whole degree isotherms:

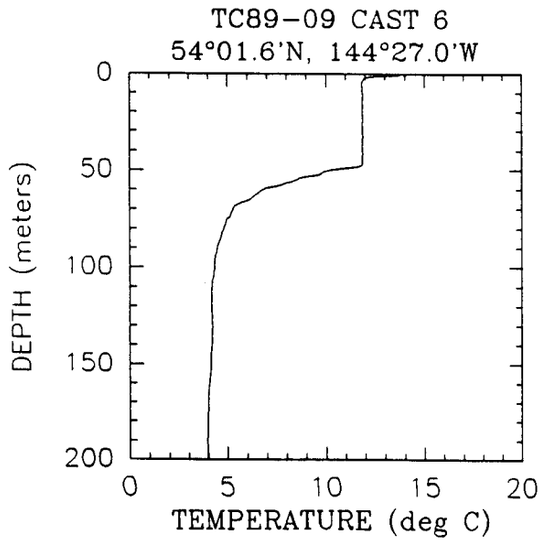
Temp. (°C)	Depth (m)
12	2.6
11	40.0
10	40.7
9	41.3
8	43.3
7	44.6
6	48.4
5	57.4



T-10 XBT probe
13 October 1989, 11:54 GMT
Bottom depth: 3,780 m

Surface temp. (2.52 m): 11.70°C
Bottom temp. (200.04 m): 4.27°C
Whole degree isotherms:

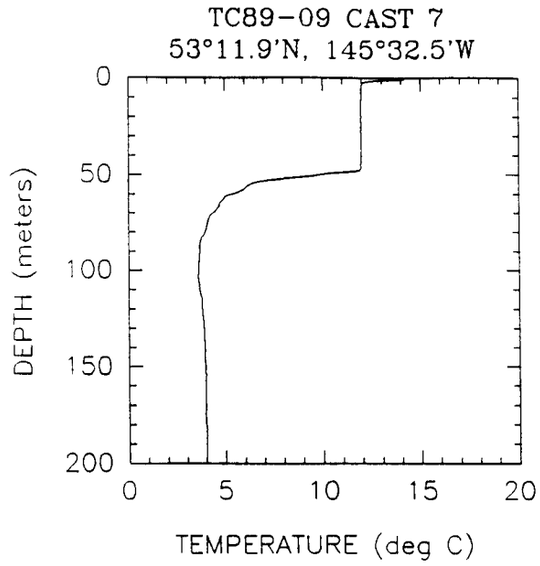
Temp. (°C)	Depth (m)
11	46.5
10	48.4
9	49.0
8	50.3
7	54.7
6	57.8
5	67.2



T-10 XBT probe
13 October 1989, 17:56 GMT
Bottom depth: 3,600 m

Surface temp. (2.52 m): 11.95°C
Bottom temp. (200.04 m): 3.98°C
Whole degree isotherms:

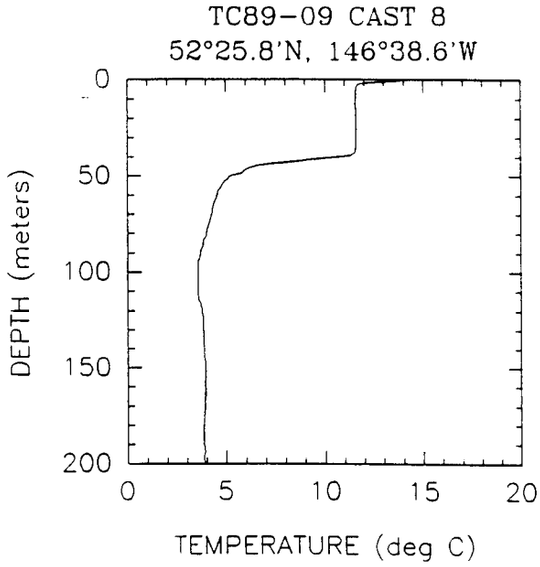
Temp. (°C)	Depth (m)
12	2.5
11	49.0
10	50.3
9	53.4
8	56.5
7	59.0
6	65.3
5	74.7



T-10 XBT probe
14 October 1989, 00:00 GMT
Bottom depth: 4,104 m

Surface temp. (2.52 m): 12.06°C
Bottom temp. (200.04 m): 3.98°C
Whole degree isotherms:

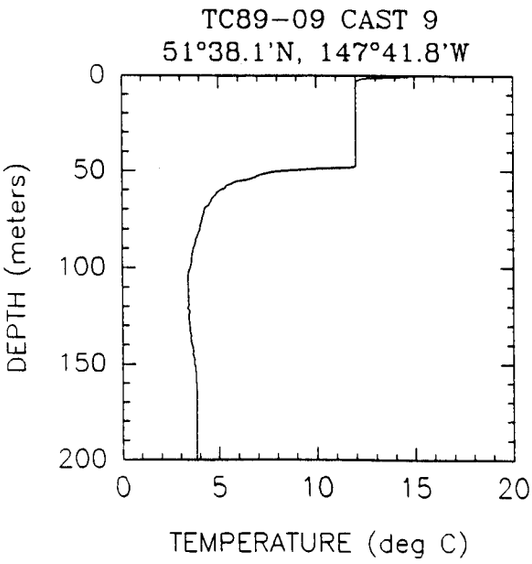
Temp. (°C)	Depth (m)
12	3.1
11	48.4
10	49.6
9	50.9
8	51.5
7	52.8
6	57.2
5	61.5
4	79.0



T-10 XBT probe
14 October 1989, 05:44 GMT
Bottom depth: 4,300 m

Surface temp. (2.52 m): 11.67°C
Bottom temp. (200.04 m): 3.95°C
Whole degree isotherms:

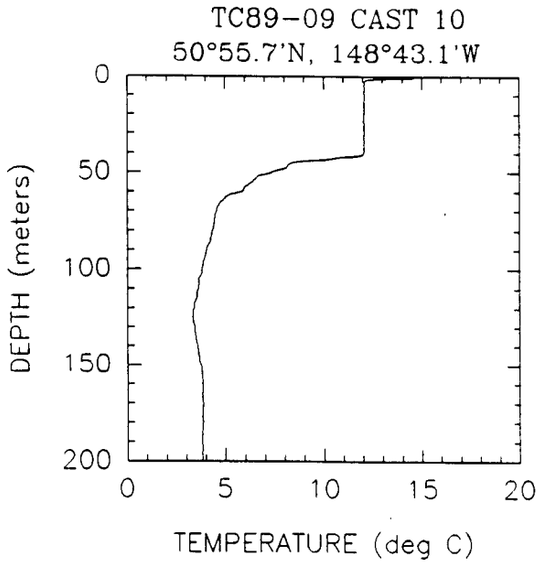
Temp. (°C)	Depth (m)
11	39.6
10	40.2
9	41.5
8	42.7
7	44.0
6	46.5
5	52.1
4	80.3



T-10 XBT probe
14 October 1989, 11:58 GMT
Bottom depth: 4,140 m

Surface temp. (2.52 m): 12.15°C
Bottom temp. (200.04 m): 3.82°C
Whole degree isotherms:

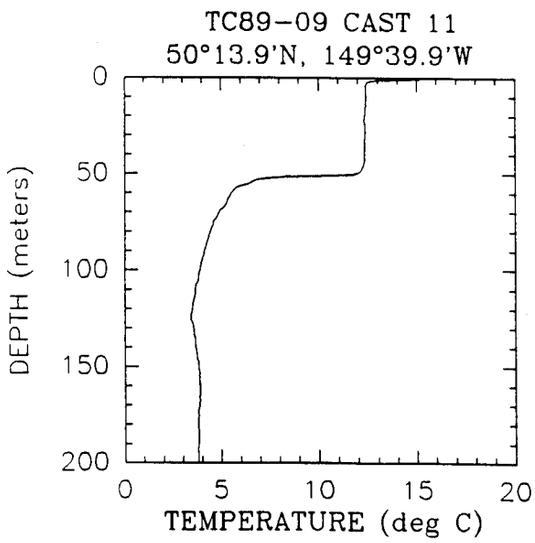
Temp. (°C)	Depth (m)
12	9.4
10	49.0
9	49.6
8	50.3
7	52.8
6	55.3
5	60.9
4	80.9



T-10 XBT probe
14 October 1989, 17:56 GMT
Bottom depth: 4,500 m

Surface temp. (2.52 m): 12.12°C
Bottom temp. (200.04 m): 3.82°C
Whole degree isotherms:

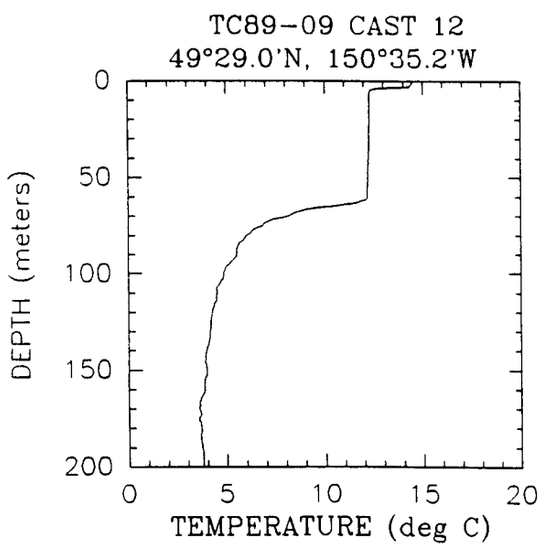
Temp. (°C)	Depth (m)
12	40.9
11	42.1
10	43.4
9	44.0
8	47.8
7	50.9
6	57.8
5	63.4
4	92.2



T-10 XBT probe
14 October 1989, 23:55 GMT
Bottom depth: 4,680 m

Surface temp. (2.52 m): 12.47°C
Bottom temp. (200.04 m): 3.79°C
Whole degree isotherms:

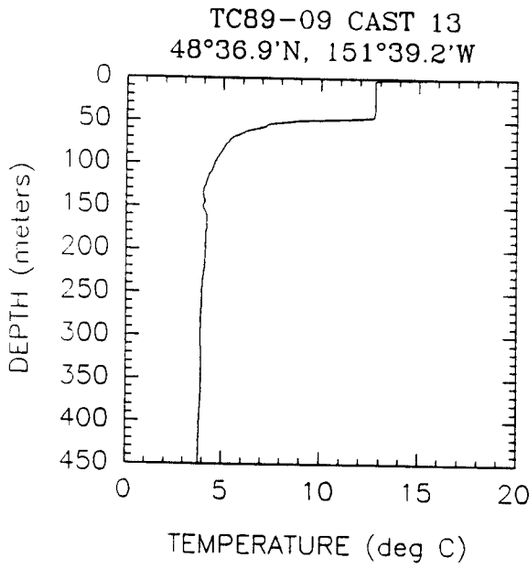
Temp. (°C)	Depth (m)
12	49.6
11	50.9
8	51.5
7	52.8
6	56.5
5	68.4
4	95.3



T-10 XBT probe
15 October 1989, 05:41 GMT
Bottom depth: 4,840 m

Surface temp. (1.0 m): 14.5°C
Bottom temp. (200.04 m): 3.78°C
Whole degree isotherms:

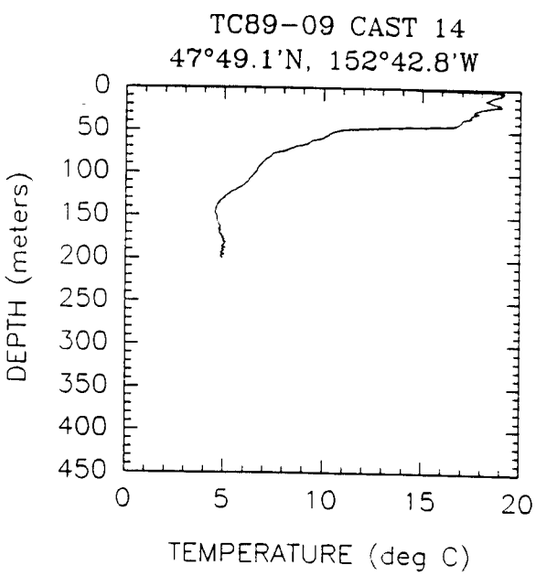
Temp. (°C)	Depth (m)
14	3.1
13	3.8
12	61.5
11	64.0
10	65.3
9	66.5
8	70.3
7	73.4
6	80.3
5	95.9
4	138.2



T-06 XBT probe
15 October 1989, 11:53 GMT
Bottom depth: 4,860 m

Surface temp. (2.59 m): 12.86°C
Bottom temp. (459.71 m): 3.87°C
Whole degree isotherms:

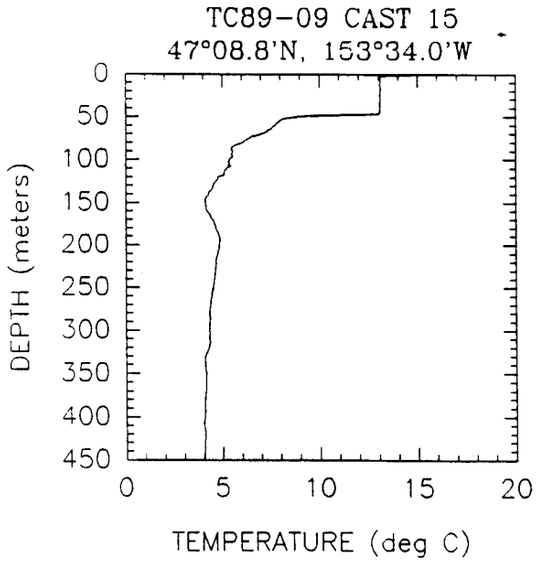
Temp. (°C)	Depth (m)
13	1.9
12	47.1
11	47.8
10	49.1
9	49.7
8	52.3
7	58.1
6	64.5
5	83.1
4	131.8



T-10 XBT probe
15 October 1989, 17:46 GMT
Bottom depth: 5,000 m

Surface temp. (2.52 m): 18.99°C
Bottom temp. (200.04 m): 4.87°C
Whole degree isotherms:

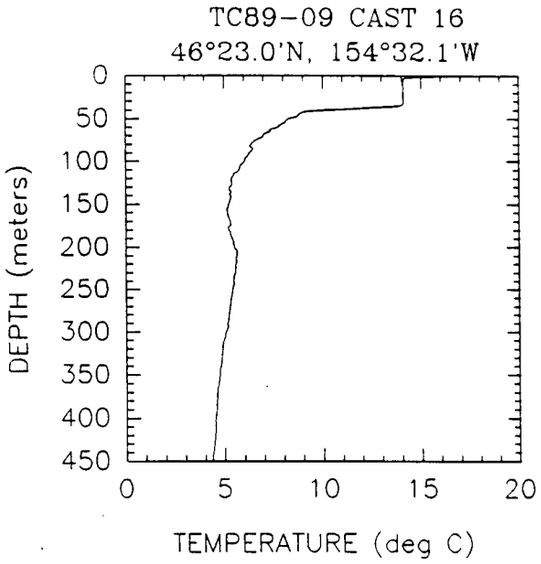
Temp. (°C)	Depth (m)
19	3.1
18	22.7
17	37.1
15	45.3
14	45.9
13	46.5
12	47.8
11	49.0
10	58.4
9	66.5
8	74.7
7	86.5
6	114.6
5	129.5



T-06 XBT probe
16 October 1989, 00:08 GMT
Bottom depth: 5,112 m

Surface temp. (2.52 m): 13.09°C
Bottom temp. (200.04 m): 4.04°C
Whole degree isotherms:

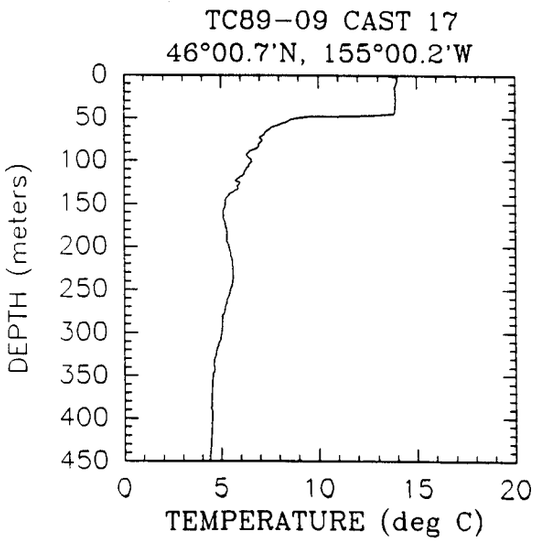
Temp. (°C)	Depth (m)
13	46.5
12	47.8
10	48.4
9	49.7
8	54.2
7	69.6
6	79.9
5	118.4
4	406.4



T-06 XBT probe
16 October 1989, 05:51 GMT
Bottom depth: 5,180 m

Surface temp. (2.52 m): 14.19°C
Bottom temp. (200.04 m): 4.38°C
Whole degree isotherms:

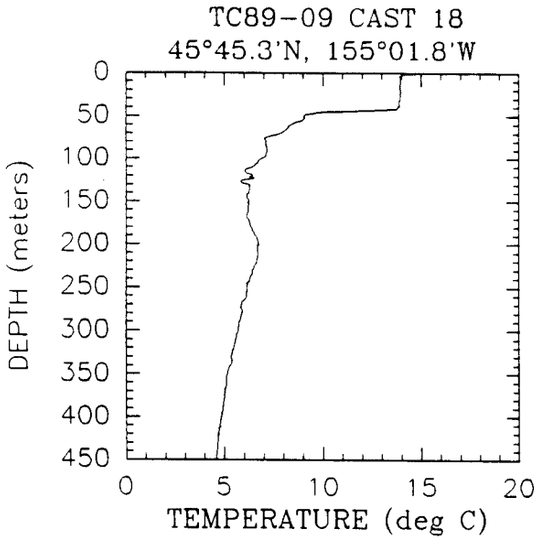
Temp. (°C)	Depth (m)
14	34.2
13	36.8
12	38.1
11	39.4
10	40.0
9	42.6
8	56.1
7	68.4
6	101.1
5	306.3



T-04 XBT probe
16 October 1989, 08:46 GMT
Bottom depth: 3,660 m

Surface temp. (2.59 m): 13.96°C
Bottom temp. (459.71 m): 4.38°C
Whole degree isotherms:

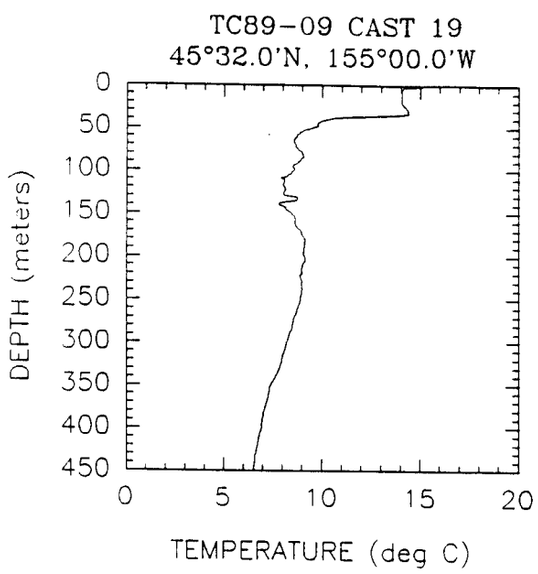
Temp. (°C)	Depth (m)
13	46.5
12	47.1
10	47.8
9	49.1
8	57.4
7	79.9
6	119.0
5	302.5



T-04 XBT probe
16 October 1989, 19:25 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 13.99°C
Bottom temp. (459.71 m): 4.53°C
Whole degree isotherms:

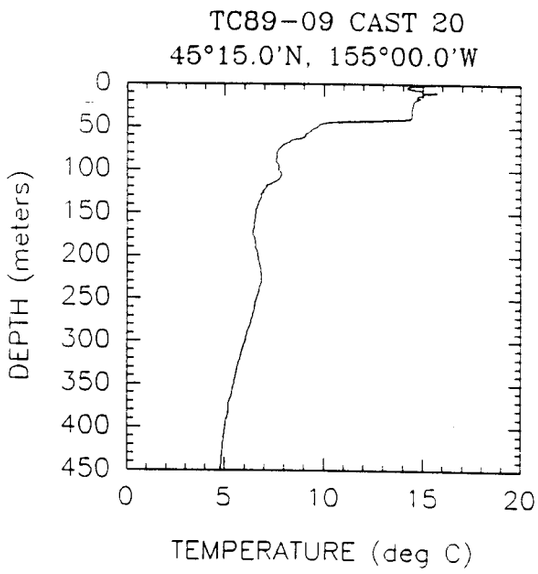
Temp. (°C)	Depth (m)
14	2.6
12	43.3
11	44.6
10	45.2
9	53.6
8	67.7
7	98.5
6	124.7
5	367.5



T-04 XBT probe
16 October 1989, 22:01 GMT
Bottom depth: 5,220 m

Surface temp. (2.59 m): 14.15°C
Bottom temp. (459.71 m): 6.49°C
Whole degree isotherms:

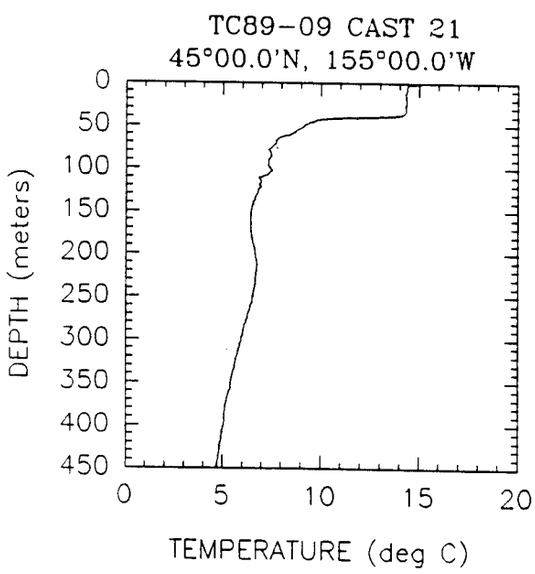
Temp. (°C)	Depth (m)
14	34.2
13	35.5
12	36.8
11	38.1
10	42.0
9	54.2
8	107.5
9	174.4
8	316.9
7	387.4



T-04 XBT probe
16 October 1989, 23:29 GMT
Bottom depth: 5,220 m

Surface temp. (2.59 m): 14.30°C
Bottom temp. (459.71 m): 4.75°C
Whole degree isotherms:

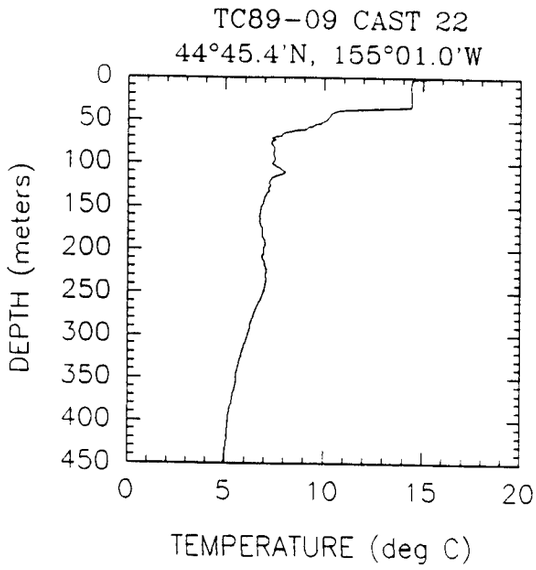
Temp. (°C)	Depth (m)
14	41.3
13	42.0
12	43.3
11	43.9
10	46.5
9	62.6
8	70.3
7	122.8
6	302.5
5	402.3



T-04 XBT probe
17 October 1989, 01:10 GMT
Bottom depth: 5,220 m

Surface temp. (2.59 m): 14.41°C
Bottom temp. (459.71 m): 4.64°C
Whole degree isotherms:

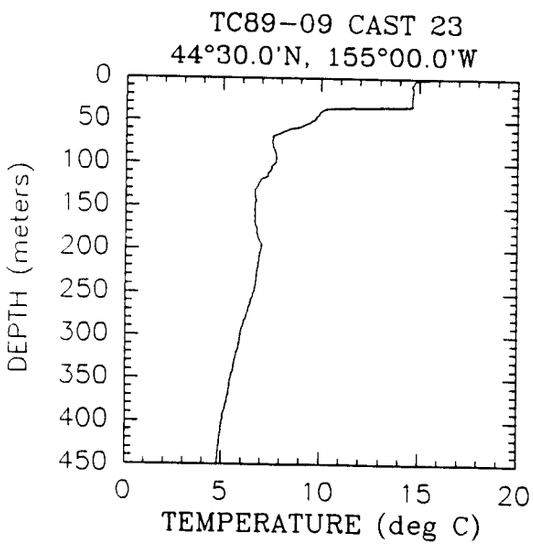
Temp. (°C)	Depth (m)
14	38.1
13	39.4
11	41.3
10	43.3
9	52.9
8	62.6
7	109.4
6	296.3
5	402.9



T-04 XBT probe
17 October 1989, 02:45 GMT
Bottom depth: 5,315 m

Surface temp. (2.59 m): 14.45°C
Bottom temp. (459.71 m): 4.87°C
Whole degree isotherms:

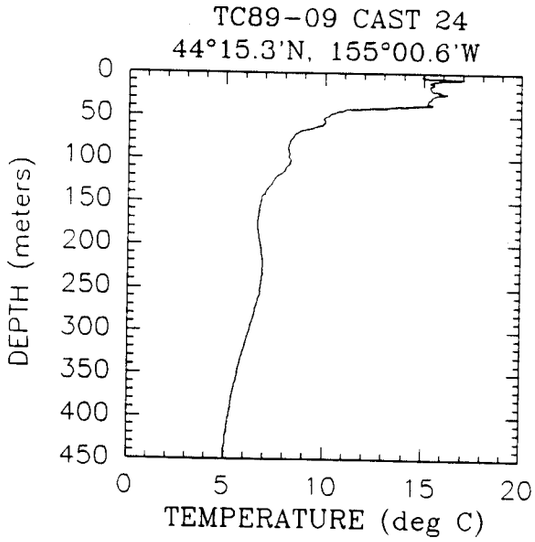
Temp. (°C)	Depth (m)
14	35.5
13	36.2
12	37.5
11	38.8
10	51.6
9	60.6
8	65.1
7	138.8
6	310.1
5	435.7



T-04 XBT probe
17 October 1989, 04:18 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 14.77°C
Bottom temp. (459.71 m): 4.72°C
Whole degree isotherms:

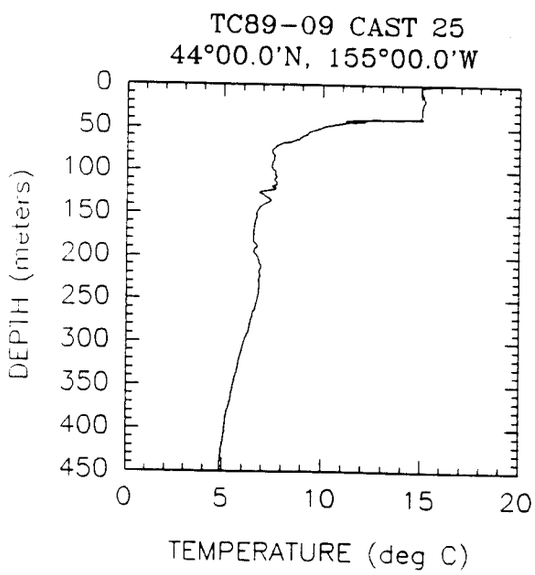
Temp. (°C)	Depth (m)
14	34.2
12	34.9
11	35.5
10	40.0
9	57.4
8	64.5
7	118.4
6	294.4
5	400.4



T-04 XBT probe
17 October 1989, 05:42 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 14.96°C
Bottom temp. (459.71 m): 4.92°C
Whole degree isotherms:

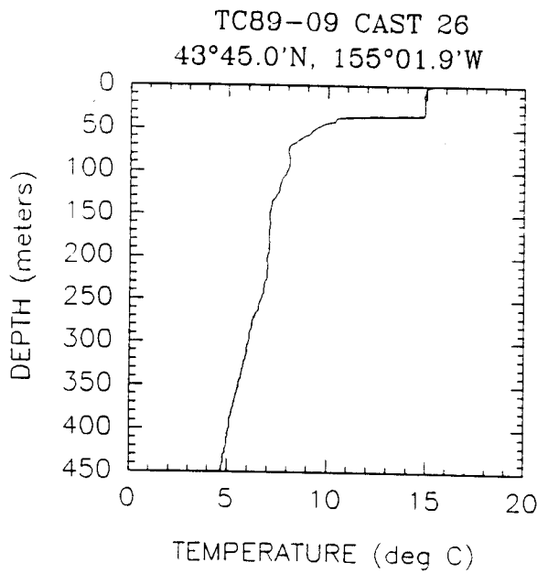
Temp. (°C)	Depth (m)
14	38.8
13	40.7
12	42.0
11	43.3
10	52.3
9	66.4
8	113.2
7	142.0
6	320.1
5	443.1



T-04 XBT probe
17 October 1989, 07:31 GMT
Bottom depth: 5,200 m

Surface temp. (2.59 m): 15.05°C
Bottom temp. (459.71 m): 4.82°C
Whole degree isotherms:

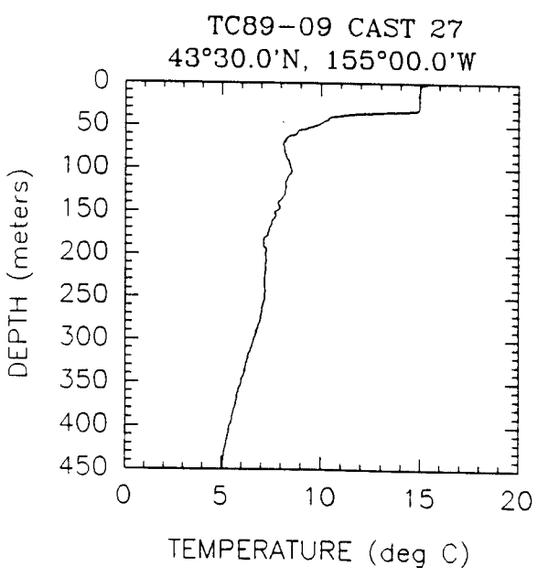
Temp. (°C)	Depth (m)
15	3.9
13	40.0
12	40.7
11	44.6
10	49.7
9	60.6
8	68.4
7	124.1
6	306.9
5	417.7



T-04 XBT probe
17 October 1989, 09:09 GMT
Bottom depth: 5,500 m

Surface temp. (2.59 m): 15.01°C
Bottom temp. (459.71 m): 4.67°C
Whole degree isotherms:

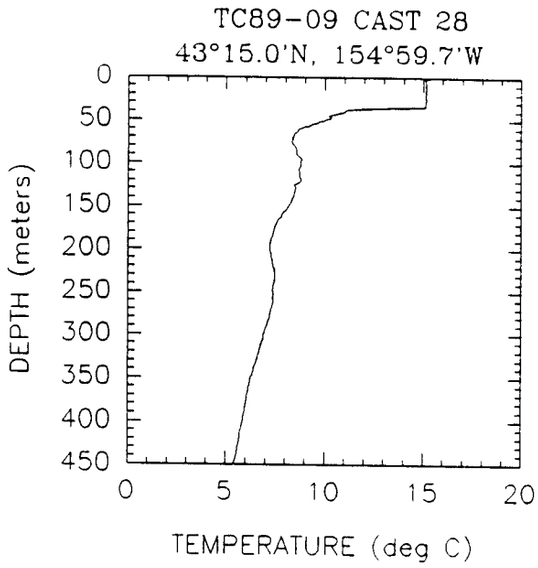
Temp. (°C)	Depth (m)
15	2.6
13	35.5
12	36.2
11	36.8
10	43.9
9	58.1
8	97.9
7	197.9
6	303.2
5	404.7



T-04 XBT probe
17 October 1989, 10:22 GMT
Bottom depth: 5,580 m

Surface temp. (2.59 m): 15.05°C
Bottom temp. (459.71 m): 4.91°C
Whole degree isotherms:

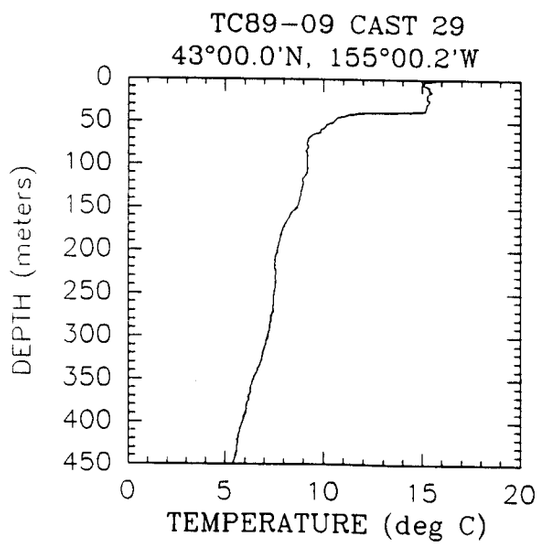
Temp. (°C)	Depth (m)
15	8.4
14	33.6
13	34.9
12	36.2
11	38.8
10	47.8
9	55.5
8	136.2
7	269.3
6	346.3
5	450.5



T-04 XBT probe
17 October 1989, 11:51 GMT
Bottom depth: 5,760 m

Surface temp. (2.59 m): 15.08°C
Bottom temp. (459.71 m): 5.27°C
Whole degree isotherms:

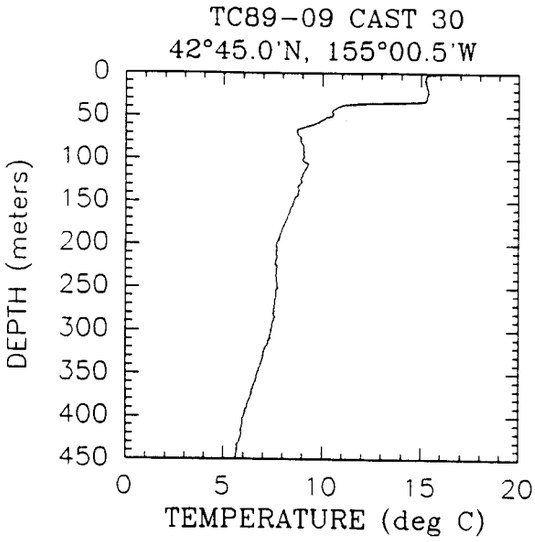
Temp. (°C)	Depth (m)
15	34.2
14	35.5
13	36.2
12	36.8
11	39.4
10	50.4
9	58.1
8	155.4
7	292.5
6	381.2



T-04 XBT probe
17 October 1989, 13:02 GMT
Bottom depth: 5,040 m

Surface temp. (2.59 m): 15.13°C
Bottom temp. (459.71 m): 5.32°C
Whole degree isotherms:

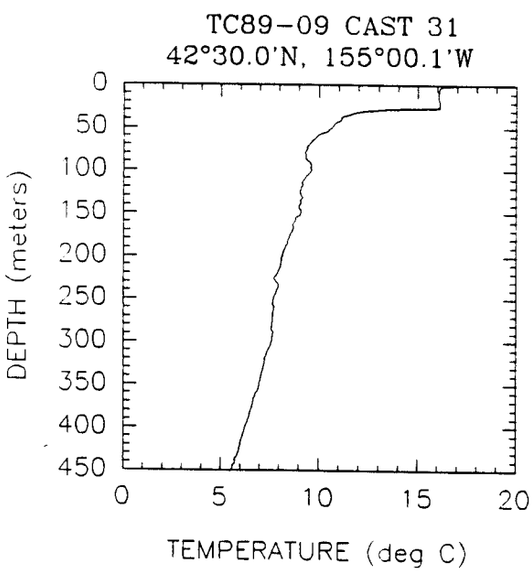
Temp. (°C)	Depth (m)
15	38.1
13	38.8
12	40.0
11	43.3
10	57.4
9	115.2
8	172.5
7	313.8
6	390.5



T-04 XBT probe
17 October 1989, 14:33 GMT
Bottom depth: 5,040 m

Surface temp. (2.59 m): 15.33°C
Bottom temp. (459.71 m): 5.46°C
Whole degree isotherms:

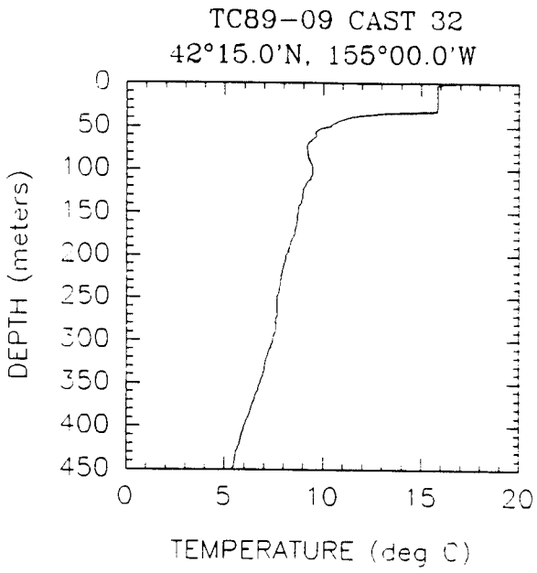
Temp. (°C)	Depth (m)
15	33.6
14	34.9
13	35.5
12	36.2
11	38.1
10	54.2
9	63.2
8	180.8
7	330.1
6	401.0



T-04 XBT probe
17 October 1989, 15:58 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 16.16°C
Bottom temp. (459.71 m): 5.49°C
Whole degree isotherms:

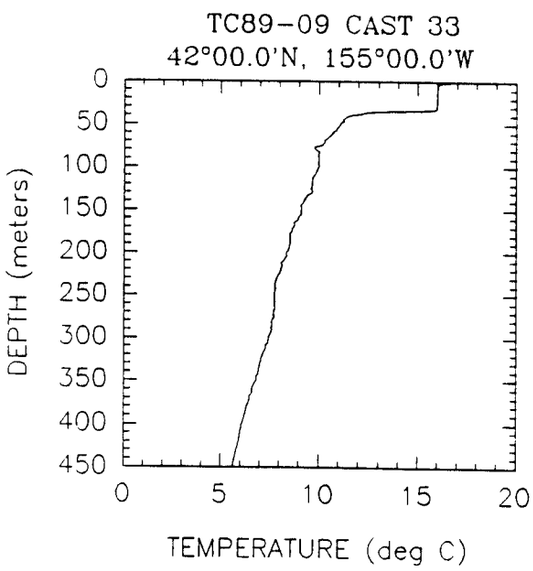
Temp. (°C)	Depth (m)
16	25.9
15	27.1
14	27.8
13	28.4
12	31.7
11	42.6
10	58.1
9	141.3
8	215.0
7	346.9
6	420.2



T-04 XBT probe
17 October 1989, 17:20 GMT
Bottom depth: 5,100 m

Surface temp. (2.59 m): 15.92°C
Bottom temp. (459.71 m): 5.42°C
Whole degree isotherms:

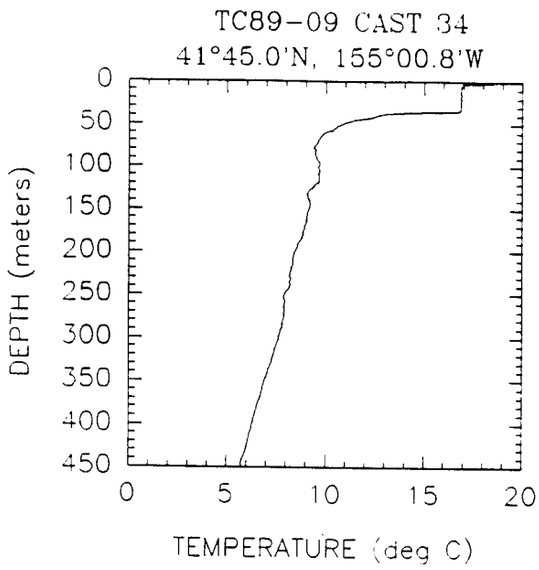
Temp. (°C)	Depth (m)
16	33.0
14	33.6
13	34.9
12	36.8
11	42.0
10	51.6
9	122.2
8	210.0
7	336.3
6	399.8



T-04 XBT probe
17 October 1989, 18:42 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 16.07°C
Bottom temp. (459.71 m): 5.56°C
Whole degree isotherms:

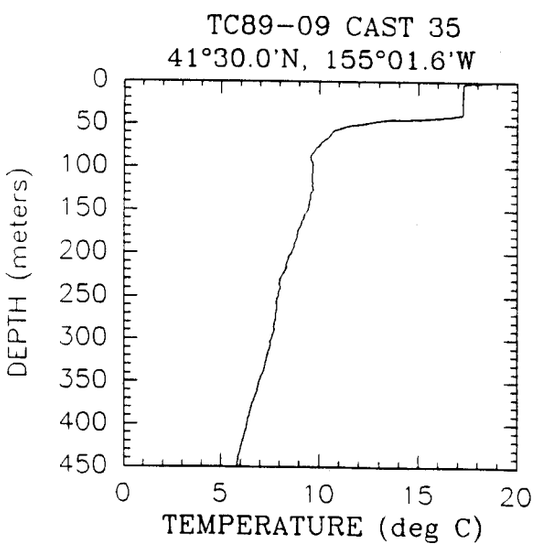
Temp. (°C)	Depth (m)
16	12.3
15	34.2
14	34.9
13	35.5
12	38.8
11	52.9
10	75.4
9	158.5
8	225.1
7	329.5
6	409.7



T-04 XBT probe
17 October 1989, 20:02 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 17.07°C
Bottom temp. (459.71 m): 5.61°C
Whole degree isotherms:

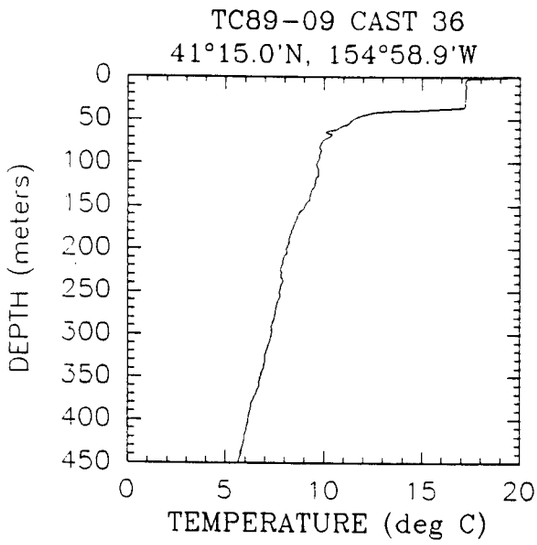
Temp. (°C)	Depth (m)
17	3.2
16	34.9
15	35.5
14	36.2
13	38.1
12	43.3
11	48.4
10	60.0
9	166.2
8	246.0
7	345.1
6	425.8



T-04 XBT probe
17 October 1989, 21:39 GMT
Bottom depth: 5,220 m

Surface temp. (2.59 m): 17.39°C
Bottom temp. (459.71 m): 5.69°C
Whole degree isotherms:

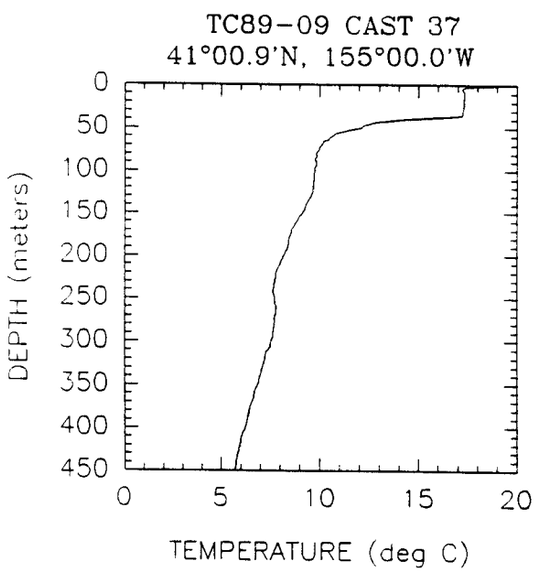
Temp. (°C)	Depth (m)
17	40.0
16	42.6
15	43.9
14	44.6
13	46.5
12	50.4
11	55.5
10	76.1
9	170.6
8	231.5
7	347.6
6	428.9



T-04 XBT probe
17 October 1989, 22:58 GMT
Bottom depth: 5,256 m

Surface temp. (2.59 m): 17.37°C
Bottom temp. (459.71 m): 5.49°C
Whole degree isotherms:

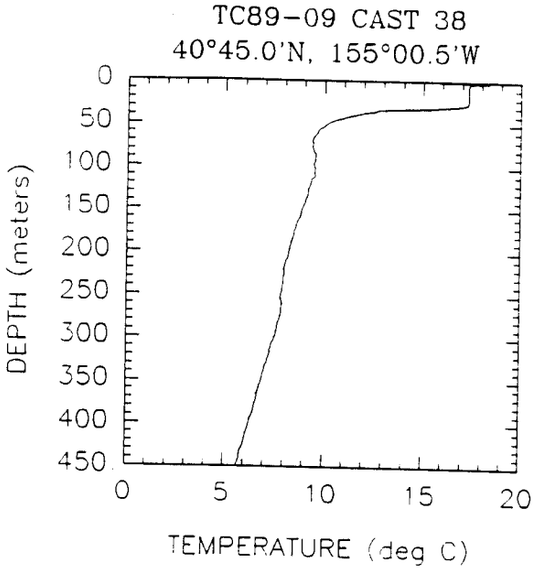
Temp. (°C)	Depth (m)
17	36.2
16	37.5
15	38.8
14	39.4
13	40.0
12	43.9
11	56.1
10	72.2
9	150.9
8	206.8
7	326.3
6	415.3



T-04 XBT probe
18 October 1989, 00:22 GMT
Bottom depth: 5,130 m

Surface temp. (2.59 m): 17.38°C
Bottom temp. (459.71 m): 5.59°C
Whole degree isotherms:

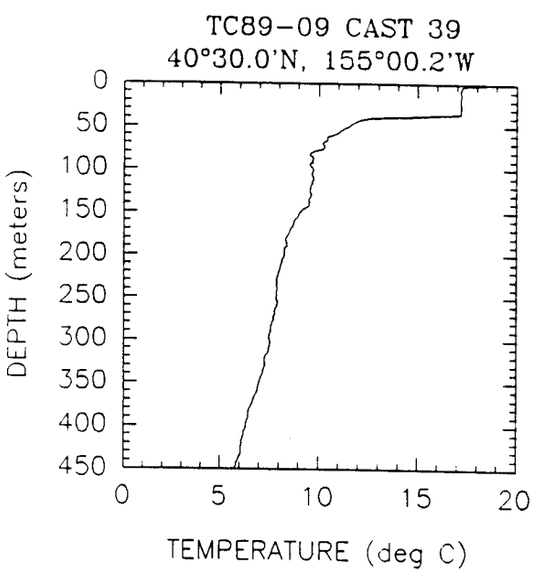
Temp. (°C)	Depth (m)
17	35.5
16	37.5
15	38.8
14	40.0
13	42.6
12	50.4
11	55.5
10	73.5
9	153.4
8	209.3
7	338.8
6	412.8



T-04 XBT probe
18 October 1989, 01:51 GMT
Bottom depth: 5,300 m

Surface temp. (2.59 m): 17.44°C
Bottom temp. (459.71 m): 5.55°C
Whole degree isotherms:

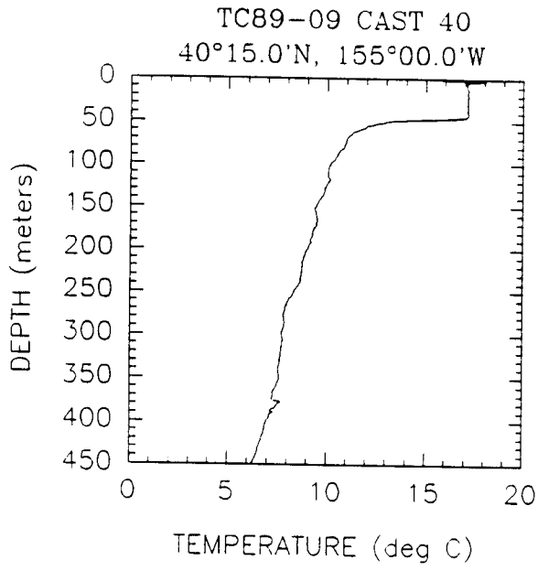
Temp. (°C)	Depth (m)
17	27.8
16	29.7
15	31.0
14	31.7
13	33.0
12	36.8
11	42.6
10	52.9
9	143.9
8	218.8
7	338.2
6	423.9



T-04 XBT probe
18 October 1989, 03:13 GMT
Bottom depth: 5,200 m

Surface temp. (2.59 m): 17.29°C
Bottom temp. (459.71 m): 5.67°C
Whole degree isotherms:

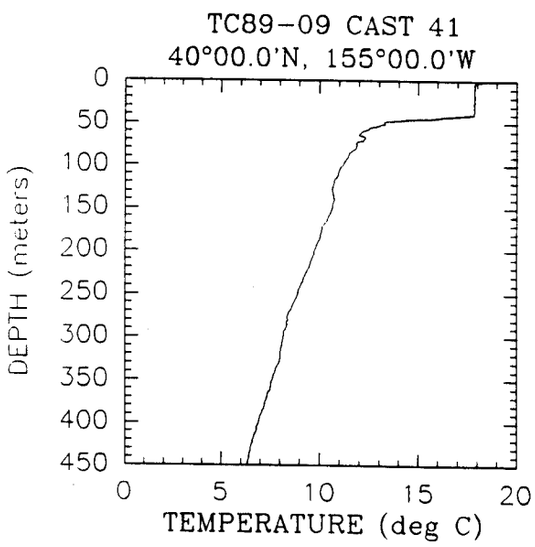
Temp. (°C)	Depth (m)
17	35.3
16	36.8
15	38.1
14	38.8
13	40.0
12	43.3
11	57.4
10	77.4
9	154.1
8	219.4
7	350.0
6	435.7



T-04 XBT probe
18 October 1989, 04:35 GMT
Bottom depth: 5,200 m

Surface temp. (2.59 m): 17.47°C
Bottom temp. (459.71 m): 6.06°C
Whole degree isotherms:

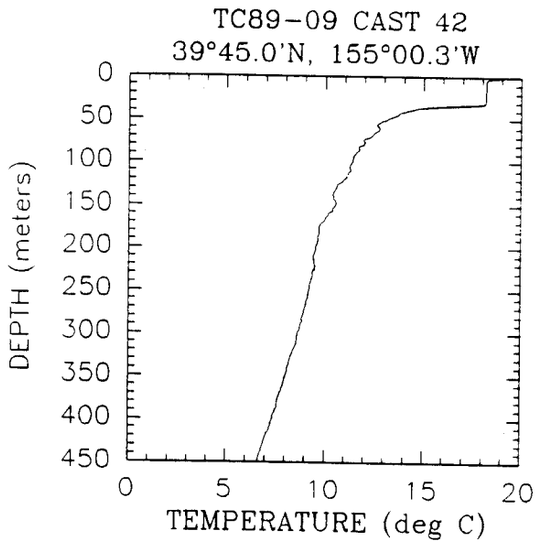
Temp. (°C)	Depth (m)
17	44.6
16	46.5
15	47.1
14	47.8
13	49.7
12	55.5
11	69.6
10	124.1
9	200.5
8	262.4
7	397.9



T-04 XBT probe
18 October 1989, 05:56 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 17.87°C
Bottom temp. (459.71 m): 6.25°C
Whole degree isotherms:

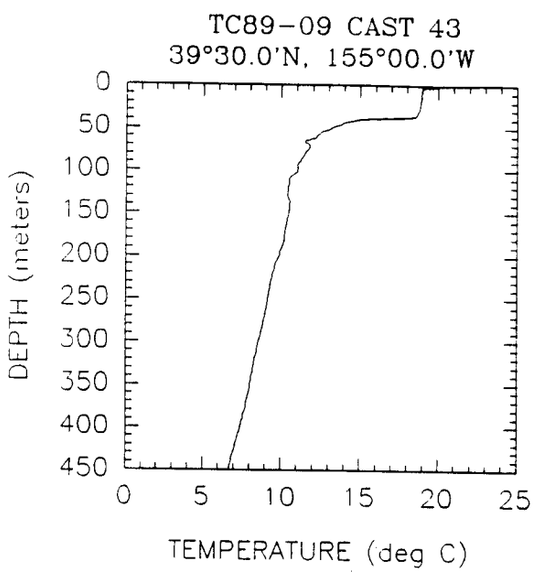
Temp. (°C)	Depth (m)
17	41.3
16	43.3
15	45.2
14	46.5
13	52.3
12	63.2
11	104.9
10	187.1
9	242.2
8	324.5
7	391.1



T-04 XBT probe
18 October 1989, 07:17 GMT
Bottom depth: 4,900 m

Surface temp. (2.59 m): 18.27°C
Bottom temp. (459.71 m): 6.48°C
Whole degree isotherms:

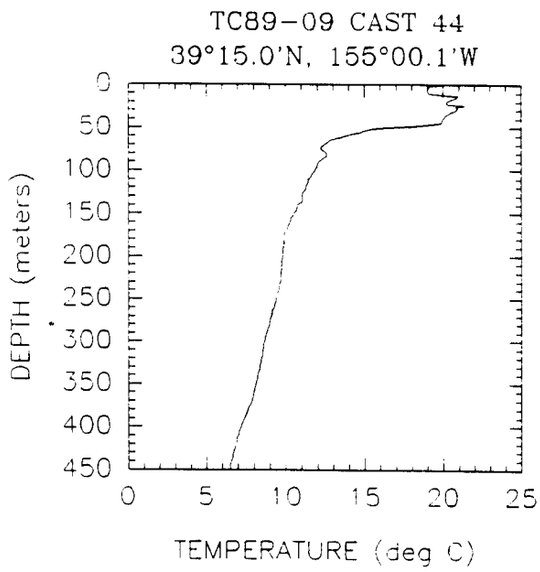
Temp. (°C)	Depth (m)
18	31.7
17	33.0
16	34.2
15	35.5
14	40.7
13	51.0
12	72.2
11	119.0
10	165.5
9	269.9
8	350.0
7	420.8



T-04 XBT probe
18 October 1989, 08:39 GMT
Bottom depth: 5,550 m

Surface temp. (2.59 m): 19.08°C
Bottom temp. (459.71 m): 6.54°C
Whole degree isotherms:

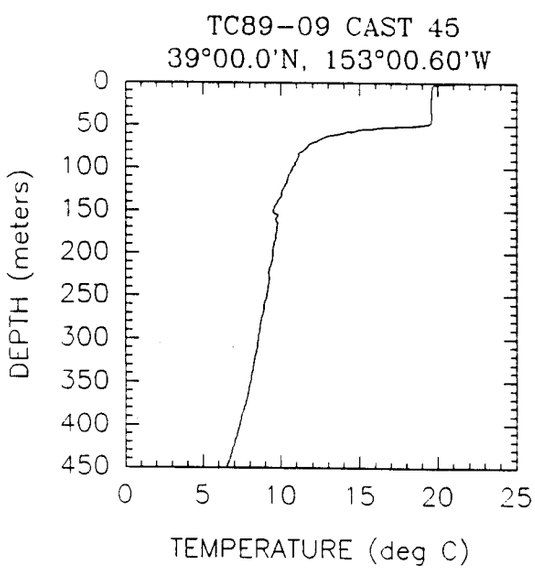
Temp. (°C)	Depth (m)
19	3.2
18	36.8
17	38.1
16	38.8
15	40.0
14	43.3
13	52.3
12	62.6
11	101.7
10	192.2
9	268.6
8	356.3
7	427.0



T-04 XBT probe
18 October 1989, 09:52 GMT
Bottom depth: 4,320 m

Surface temp. (2.59 m): 19.11°C
Bottom temp. (459.71 m): 6.34°C
Whole degree isotherms:

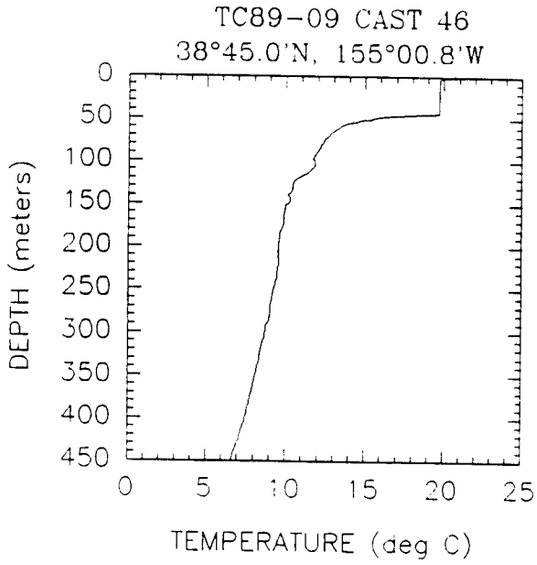
Temp. (°C)	Depth (m)
19	47.1
18	48.4
17	49.7
16	51.0
15	54.2
14	58.7
13	63.9
12	94.0
11	136.9
10	171.3
9	277.4
8	358.8
7	411.6



T-04 XBT probe
18 October 1989, 11:11 GMT
Bottom depth: 4,860 m

Surface temp. (2.59 m): 19.72°C
Bottom temp. (459.71 m): 6.33°C
Whole degree isotherms:

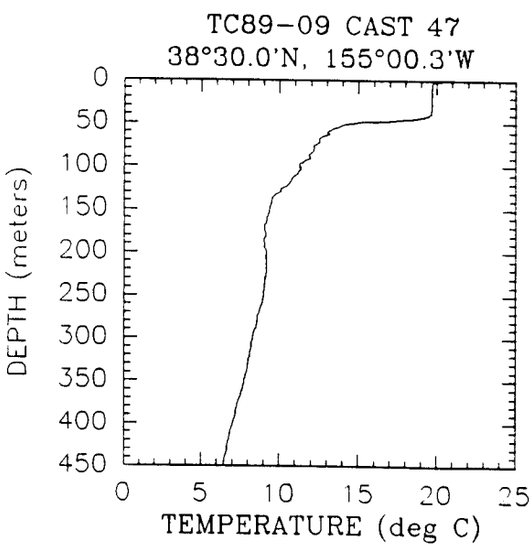
Temp. (°C)	Depth (m)
19	49.7
18	51.0
17	52.3
16	53.6
15	55.5
14	58.7
13	62.6
12	69.6
11	91.5
10	133.7
9	256.1
8	354.4
7	423.3



T-04 XBT probe
18 October 1989, 12:28 GMT
Bottom depth: 4,140 m

Surface temp. (2.59 m): 19.77°C
Bottom temp. (459.71 m): 6.55°C
Whole degree isotherms:

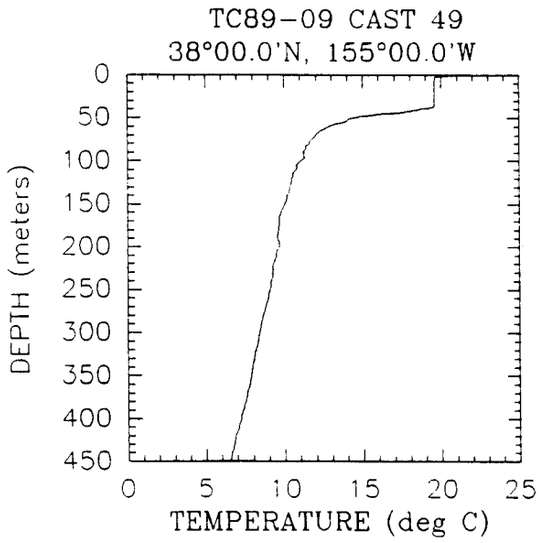
Temp. (°C)	Depth (m)
19	44.6
18	45.8
17	46.5
16	48.4
15	51.6
14	55.5
13	65.1
12	88.3
11	117.1
10	150.9
9	281.8
8	358.8
7	428.3



T-04 XBT probe
18 October 1989, 13:51 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 19.74°C
Bottom temp. (459.71 m): 6.25°C
Whole degree isotherms:

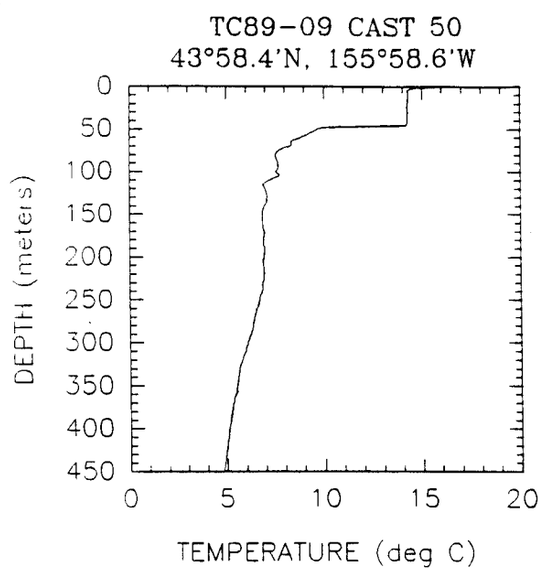
Temp. (°C)	Depth (m)
19	42.6
18	45.2
17	46.5
16	47.8
15	49.1
14	52.3
13	63.2
12	84.4
11	110.7
10	130.5
9	245.3
8	330.1
7	402.9



T-04 XBT probe
18 October 1989, 16:36 GMT
Bottom depth: 5,300 m

Surface temp. (2.59 m): 19.58°C
Bottom temp. (459.71 m): 6.37°C
Whole degree isotherms:

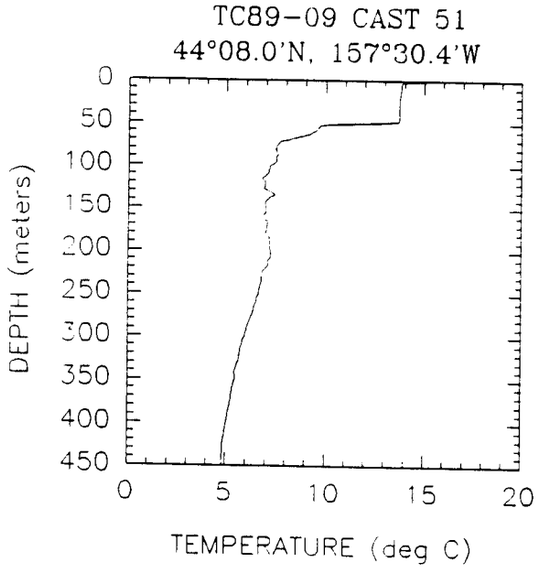
Temp. (°C)	Depth (m)
19	38.8
18	42.0
17	44.6
16	45.8
15	47.8
14	52.9
13	58.7
12	69.6
11	99.8
10	150.9
9	254.8
8	336.3
7	413.4



T-06 XBT probe
24 October 1989, 23:51 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 14.37°C
Bottom temp. (459.71 m): 4.78°C
Whole degree isotherms:

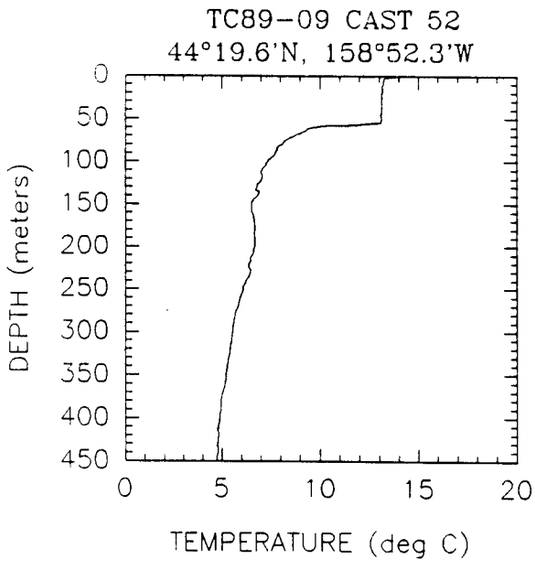
Temp. (°C)	Depth (m)
14	45.2
12	46.5
11	47.1
10	48.4
9	58.1
8	70.9
7	112.6
6	306.3
5	416.5



T-06 XBT probe
25 October 1989, 05:51 GMT
Bottom depth: 5,460 m

Surface temp. (2.59 m): 13.84°C
Bottom temp. (459.71 m): 4.96°C
Whole degree isotherms:

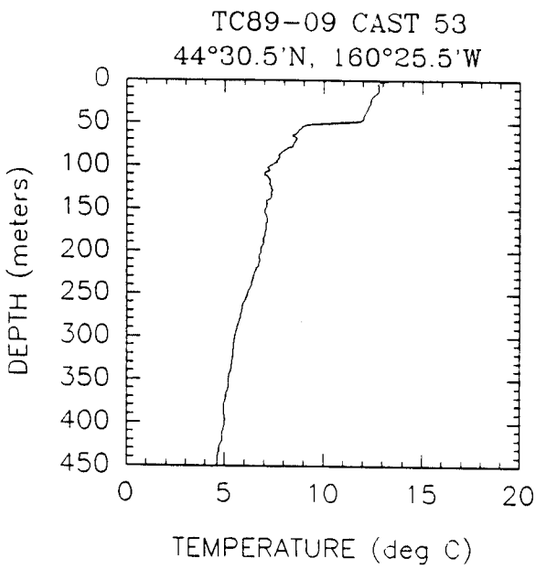
Temp. (°C)	Depth (m)
13	49.1
12	50.4
11	51.0
10	52.3
9	64.5
8	70.3
7	111.3
6	294.4
5	404.1



T-06 XBT probe
25 October 1989, 11:50 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 13.26°C
Bottom temp. (459.71 m): 4.65°C
Whole degree isotherms:

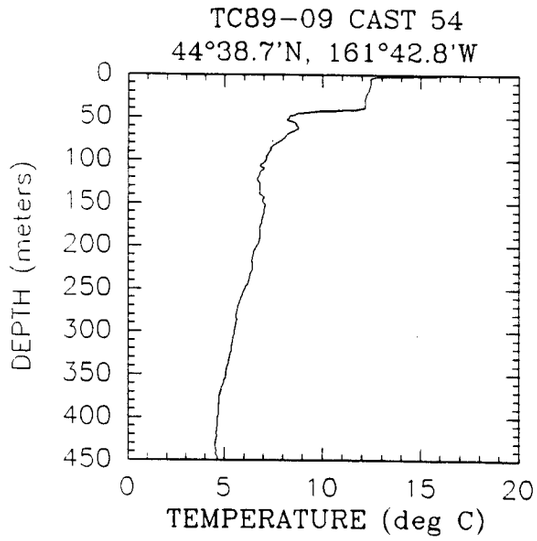
Temp. (°C)	Depth (m)
13	54.9
12	56.1
11	57.4
10	58.7
9	67.1
8	80.6
7	111.3
6	256.1
5	373.7



T-06 XBT probe
25 October 1989, 18:00 GMT
Bottom depth: 6,000 m

Surface temp. (2.59 m): 12.81°C
Bottom temp. (459.71 m): 4.57°C
Whole degree isotherms:

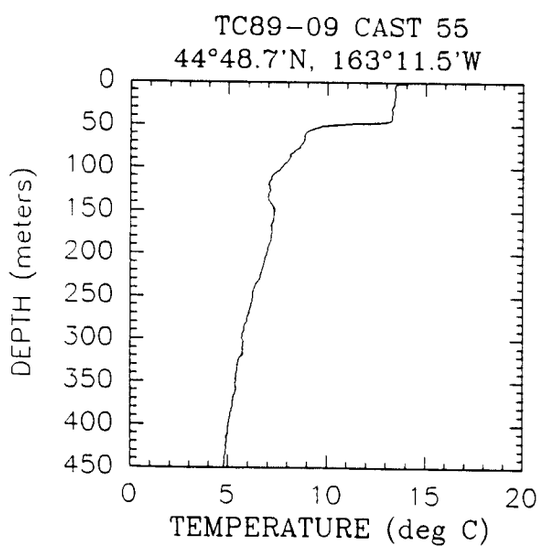
Temp. (°C)	Depth (m)
12	45.8
11	49.7
10	50.4
9	53.6
8	82.5
7	108.8
6	258.6
5	375.0



T-06 XBT probe
25 October 1989, 23:49 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 12.77°C
Bottom temp. (459.71 m): 5.01°C
Whole degree isotherms:

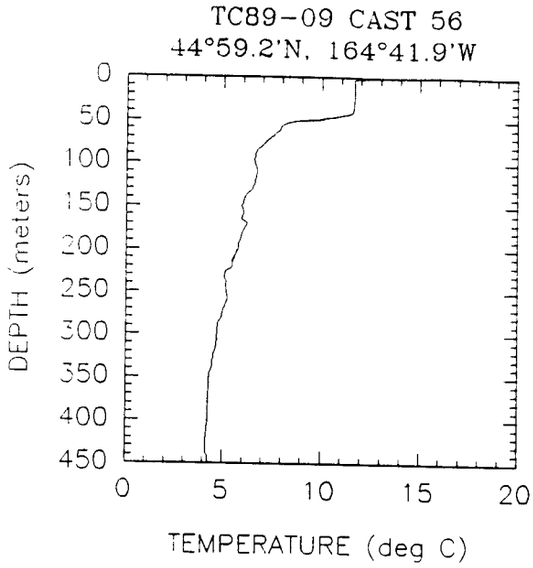
Temp. (°C)	Depth (m)
13	2.6
12	39.4
11	41.3
10	42.6
9	44.6
8	75.4
7	103.0
6	252.3
5	355.0



T-06 XBT probe
26 October 1989, 05:51 GMT
Bottom depth: 5,440 m

Surface temp. (2.59 m): 13.48°C
Bottom temp. (459.71 m): 4.73°C
Whole degree isotherms:

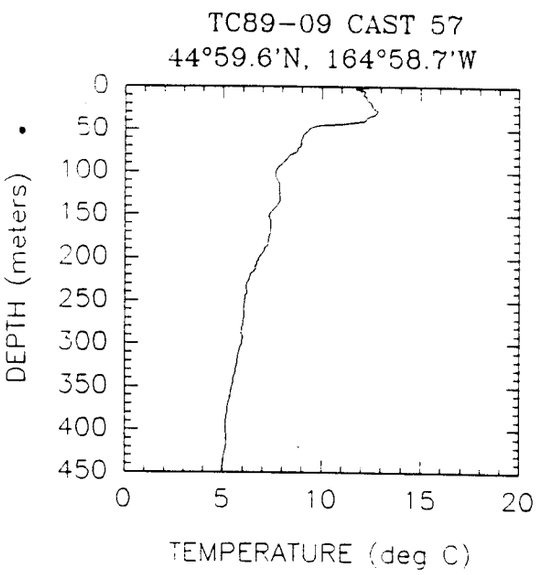
Temp. (°C)	Depth (m)
13	46.5
12	47.8
11	49.1
10	51.0
9	57.4
8	92.1
7	192.2
6	271.8
5	401.0



T-06 XBT probe
26 October 1989, 11:52 GMT
Bottom depth: 5,310 m

Surface temp. (2.59 m): 11.66°C
Bottom temp. (459.71 m): 4.22°C
Whole degree isotherms:

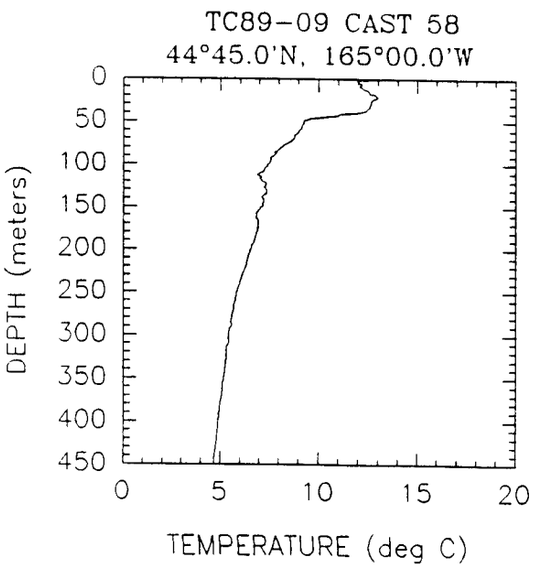
Temp. (°C)	Depth (m)
11	43.9
10	48.4
9	50.4
8	56.1
7	79.3
6	147.7
5	271.2



T-04 XBT probe
26 October 1989, 16:06 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 11.75°C
Bottom temp. (459.71 m): 4.88°C
Whole degree isotherms:

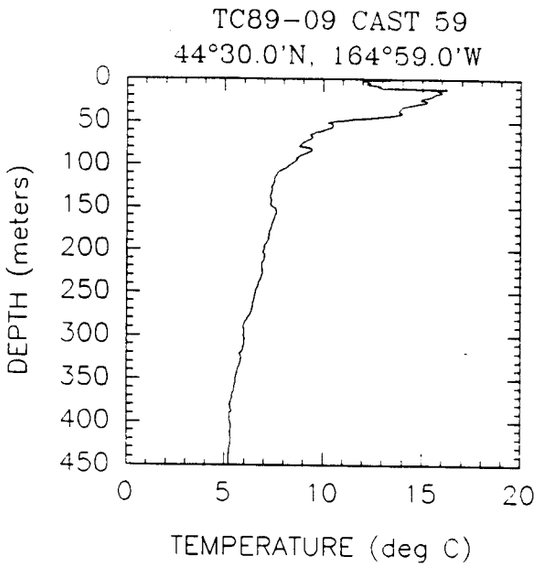
Temp. (°C)	Depth (m)
12	3.9
11	43.9
10	45.2
9	60.6
8	90.8
7	193.5
6	278.7
5	441.2



T-04 XBT probe
26 October 1989, 21:07 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 11.95°C
Bottom temp. (459.71 m): 4.62°C
Whole degree isotherms:

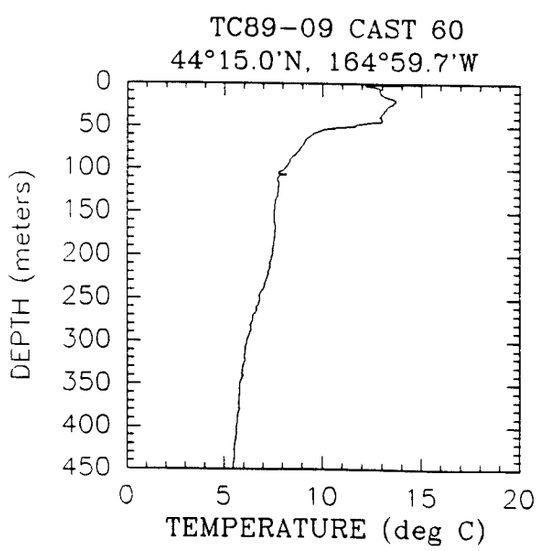
Temp. (°C)	Depth (m)
12	3.2
11	42.6
10	45.8
9	61.9
8	81.8
7	110.0
6	238.4
5	379.3



T-04 XBT probe
26 October 1989, 23:19 GMT
Bottom depth: 4,544 m

Surface temp. (2.59 m): 12.09°C
Bottom temp. (459.71 m): 5.16°C
Whole degree isotherms:

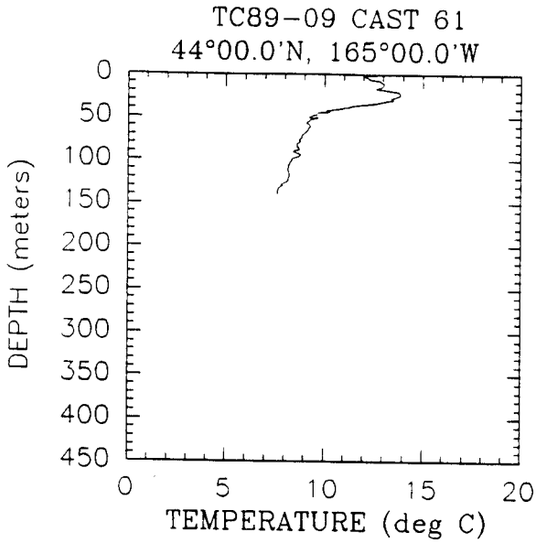
Temp. (°C)	Depth (m)
16	11.6
15	22.6
14	33.6
13	44.6
12	46.5
11	49.1
10	60.0
9	74.1
8	105.6
7	200.5
6	286.9



T-04 XBT probe
27 October 1989, 03:44 GMT
Bottom depth: 5,300 m

Surface temp. (2.59 m): 12.22°C
Bottom temp. (459.71 m): 5.46°C
Whole degree isotherms:

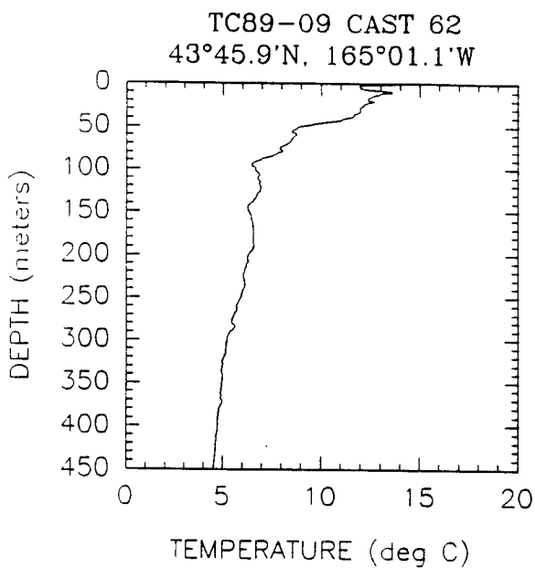
Temp. (°C)	Depth (m)
13	13.6
12	46.5
11	51.0
10	54.2
9	72.9
8	101.7
7	239.7
6	326.3



T-04 XBT probe
27 October 1989, 09:06 GMT
Bottom depth: 4,600 m

Surface temp. (2.59 m): 12.03°C
Bottom temp. (--): --
Whole degree isotherms:

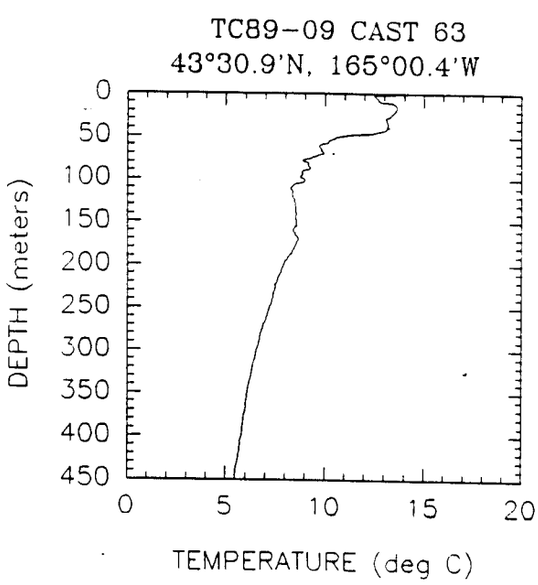
Temp. (°C)	Depth (m)
13	10.3
12	35.5
11	39.4
10	44.6
9	69.0
8	126.0



T-04 XBT probe
27 October 1989, 22:02 GMT
Bottom depth: 4,640 m

Surface temp. (2.59 m): 11.95°C
Bottom temp. (459.71 m): 4.50°C
Whole degree isotherms:

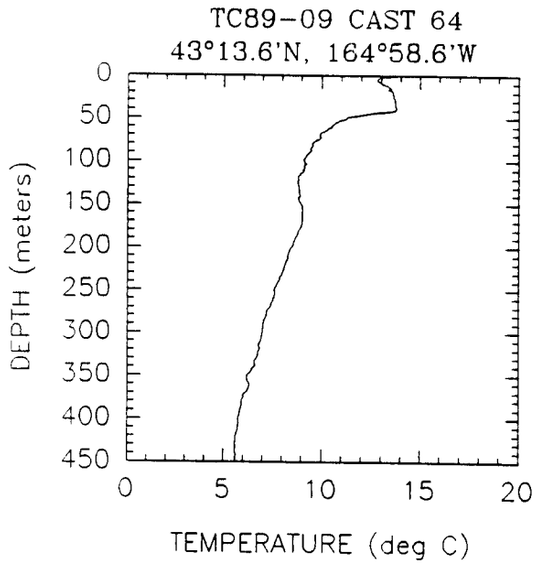
Temp. (°C)	Depth (m)
12	2.6
13	8.4
12	27.8
11	42.6
10	45.8
9	49.7
8	73.5
7	87.6
6	243.4
5	323.5



T-04 XBT probe
28 October 1989, 00:26 GMT
Bottom depth: 4,640 m

Surface temp. (2.59 m): 12.48°C
Bottom temp. (459.71 m): 5.43°C
Whole degree isotherms:

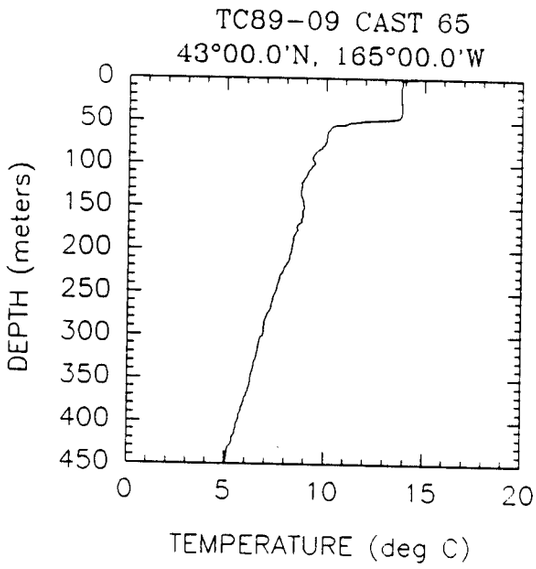
Temp. (°C)	Depth (m)
13	10.3
12	47.1
11	49.7
10	58.7
9	76.7
8	194.8
7	265.5
6	369.4



T-04 XBT probe
28 October 1989, 03:48 GMT
Bottom depth: 4,800 m

Surface temp. (2.59 m): 12.92°C
Bottom temp. (459.71 m): 5.58°C
Whole degree isotherms:

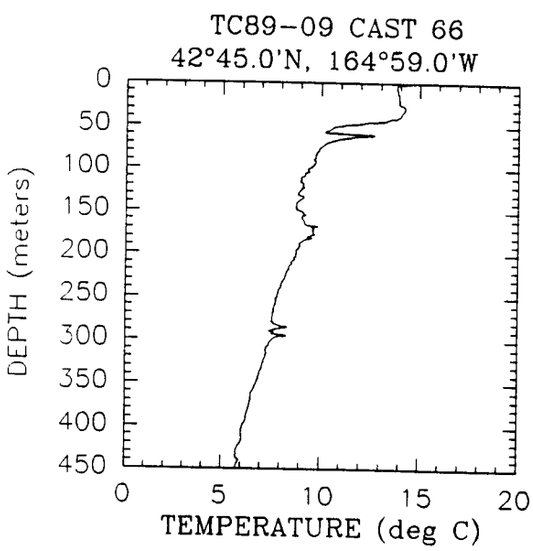
Temp. (°C)	Depth (m)
13	9.7
12	46.5
11	52.9
10	66.4
9	113.2
8	231.5
7	297.5
6	372.5



T-04 XBT probe
28 October 1989, 08:45 GMT
Bottom depth: 4,750 m

Surface temp. (2.59 m): 13.85°C
Bottom temp. (459.71 m): 4.98°C
Whole degree isotherms:

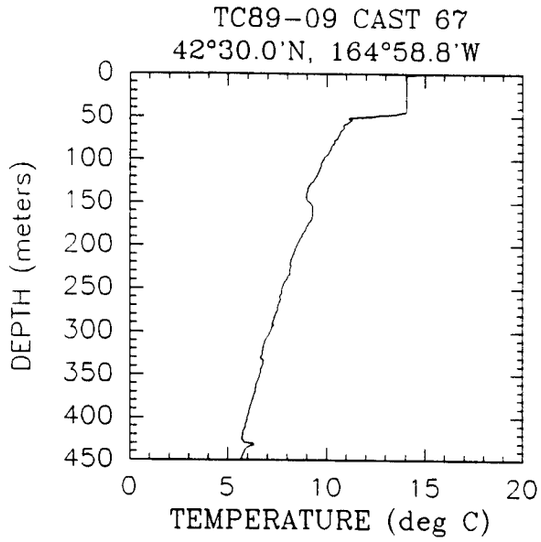
Temp. (°C)	Depth (m)
13	48.4
12	49.7
11	53.6
10	74.8
9	116.4
8	219.4
7	281.2
6	371.2
5	456.6



T-04 XBT probe
28 October 1989, 21:21 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 13.83°C
Bottom temp. (459.71 m): 5.72°C
Whole degree isotherms:

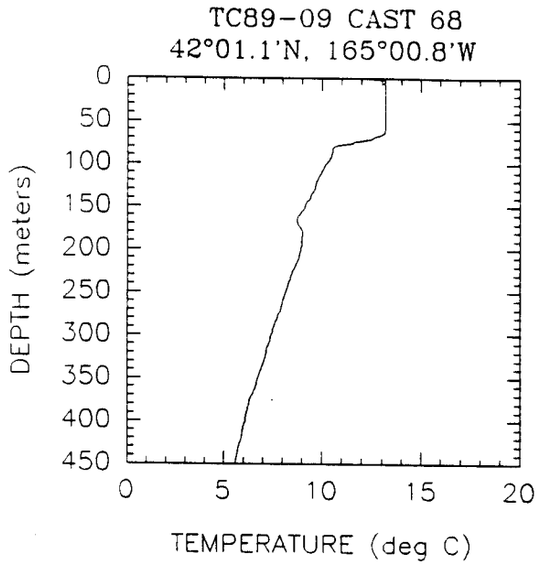
Temp. (°C)	Depth (m)
14	25.2
13	43.9
12	46.5
11	49.7
10	74.8
9	110.7
8	240.3
7	335.7
6	419.6



T-04 XBT probe
29 October 1989, 00:06 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 14.06°C
Bottom temp. (459.71 m): 5.60°C
Whole degree isotherms:

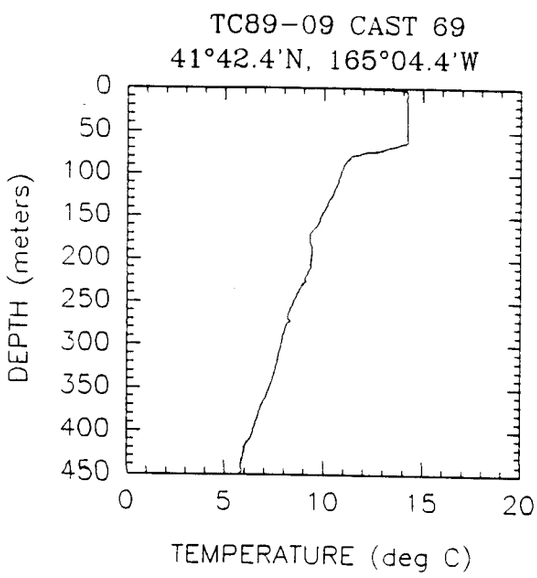
Temp. (°C)	Depth (m)
14	43.9
13	47.8
12	49.7
11	58.1
10	94.7
9	138.1
8	237.1
7	305.1
6	397.9



T-04 XBT probe
30 October 1989, 03:55 GMT
Bottom depth: 4,800 m

Surface temp. (2.59 m): 13.17°C
Bottom temp. (459.71 m): 5.53°C
Whole degree isotherms:

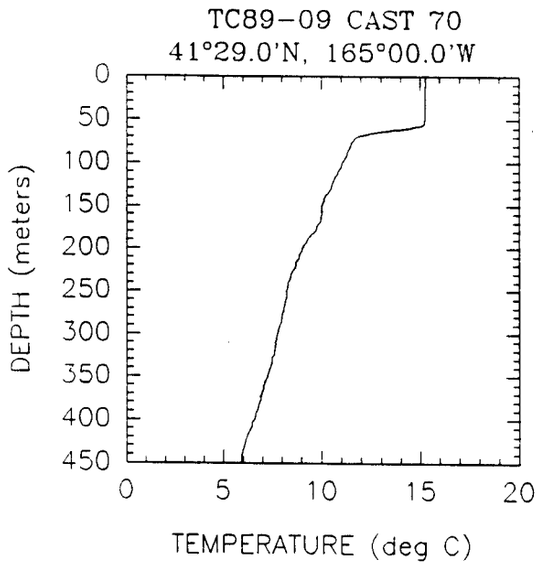
Temp. (°C)	Depth (m)
13	65.8
12	72.9
11	77.4
10	108.1
9	154.7
8	261.1
7	332.6
6	406.0



T-04 XBT probe
30 October 1989, 07:16 GMT
Bottom depth: 4,900 m

Surface temp. (2.59 m): 14.09°C
Bottom temp. (459.71 m): 5.63°C
Whole degree isotherms:

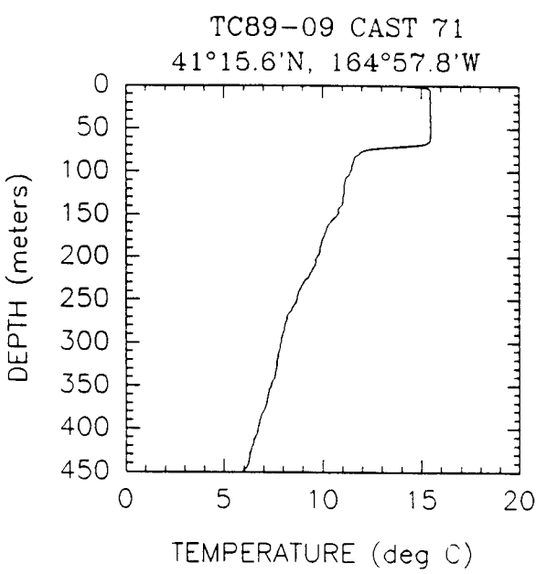
Temp. (°C)	Depth (m)
14	2.6
13	70.9
12	74.8
11	91.5
10	144.5
9	227.7
8	286.2
7	364.4
6	419.0



T-04 XBT probe
30 October 1989, 08:26 GMT
Bottom depth: 4,900 m

Surface temp. (2.59 m): 15.22°C
Bottom temp. (459.71 m): 5.82°C
Whole degree isotherms:

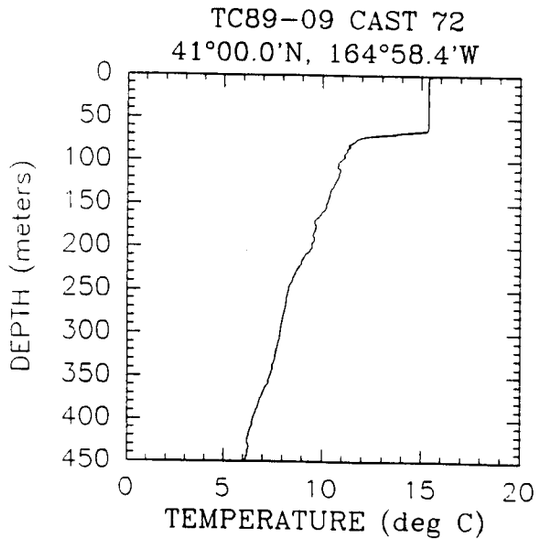
Temp. (°C)	Depth (m)
15	56.8
14	61.3
13	63.9
12	67.7
11	104.3
10	161.1
9	203.6
8	278.7
7	366.2
6	435.0



T-04 XBT probe
30 October 1989, 09:41 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.28°C
Bottom temp. (459.71 m): 5.85°C
Whole degree isotherms:

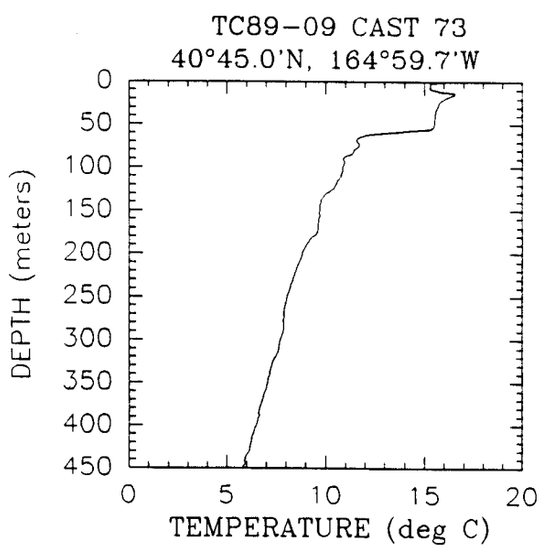
Temp. (°C)	Depth (m)
15	68.4
14	70.3
13	72.2
12	76.1
11	136.9
10	178.9
9	232.1
8	288.7
7	379.9
6	446.8



T-04 XBT probe
30 October 1989, 11:01 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.40°C
Bottom temp. (459.71 m): 5.96°C
Whole degree isotherms:

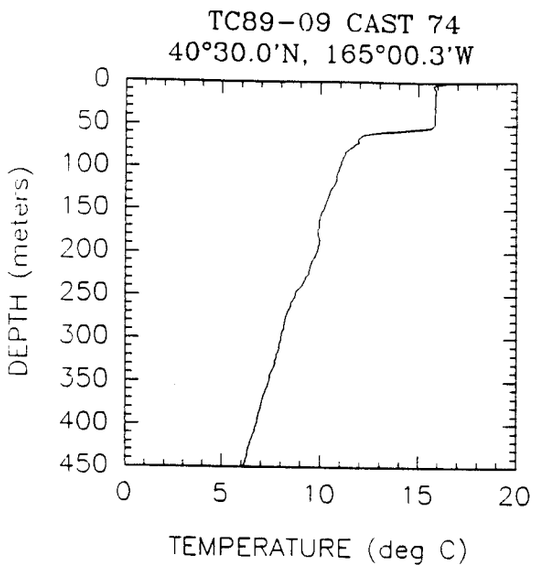
Temp. (°C)	Depth (m)
15	65.1
14	67.1
13	69.6
12	72.9
11	99.2
10	160.4
9	215.0
8	283.7
7	368.7
6	457.3



T-04 XBT probe
30 October 1989, 12:25 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.29°C
Bottom temp. (459.71 m): 5.73°C
Whole degree isotherms:

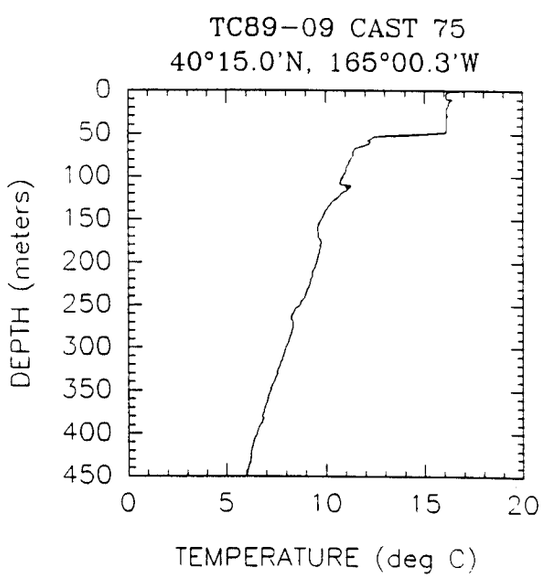
Temp. (°C)	Depth (m)
16	12.3
15	56.1
14	57.4
13	60.0
12	62.6
11	87.0
10	131.1
9	190.9
8	255.4
7	355.7
6	433.8



T-04 XBT probe
30 October 1989, 13:50 GMT
Bottom depth: 4,700 m

Surface temp. (2.59 m): 15.90°C
Bottom temp. (459.71 m): 5.99°C
Whole degree isotherms:

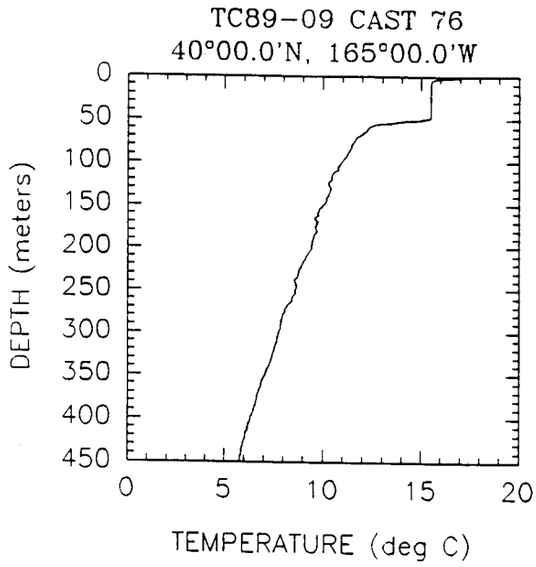
Temp. (°C)	Depth (m)
16	1.9
15	54.9
14	57.4
13	59.4
12	65.1
11	99.2
10	159.2
9	240.9
8	303.2
7	378.7
6	458.5



T-04 XBT probe
30 October 1989, 15:20 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 16.14°C
Bottom temp. (459.71 m): 5.90°C
Whole degree isotherms:

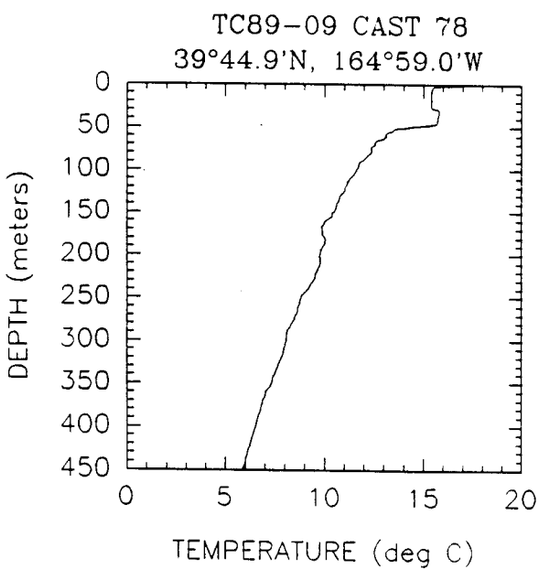
Temp. (°C)	Depth (m)
16	49.1
15	50.4
14	51.6
13	52.9
12	63.2
11	94.0
10	139.4
9	235.9
8	299.4
7	365.0
6	450.5



T-04 XBT probe
30 October 1989, 16:46 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 15.88°C
Bottom temp. (459.71 m): 5.70°C
Whole degree isotherms:

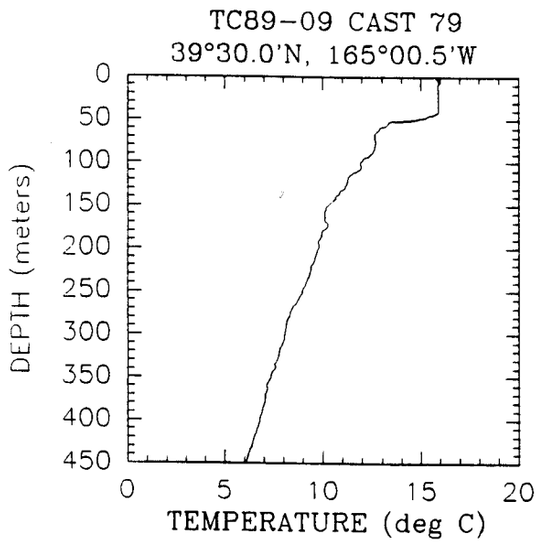
Temp. (°C)	Depth (m)
16	2.6
15	49.7
14	52.3
13	54.9
12	66.4
11	98.5
10	150.3
9	217.6
8	277.4
7	351.9
6	424.5



T-04 XBT probe
30 October 1989, 20:30 GMT
Bottom depth: 4,600 m

Surface temp. (2.59 m): 15.54°C
Bottom temp. (459.71 m): 5.79°C
Whole degree isotherms:

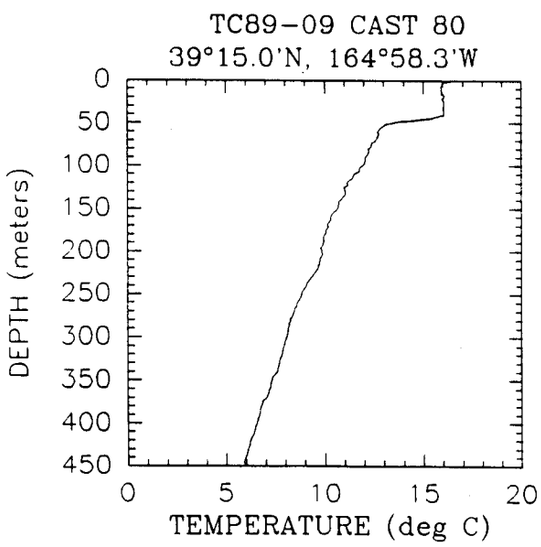
Temp. (°C)	Depth (m)
15	48.4
14	50.4
13	62.6
12	87.6
11	124.7
10	160.4
9	244.1
8	306.9
7	365.6
6	441.2



T-04 XBT probe
30 October 1989, 21:57 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.89°C
Bottom temp. (459.71 m): 5.94°C
Whole degree isotherms:

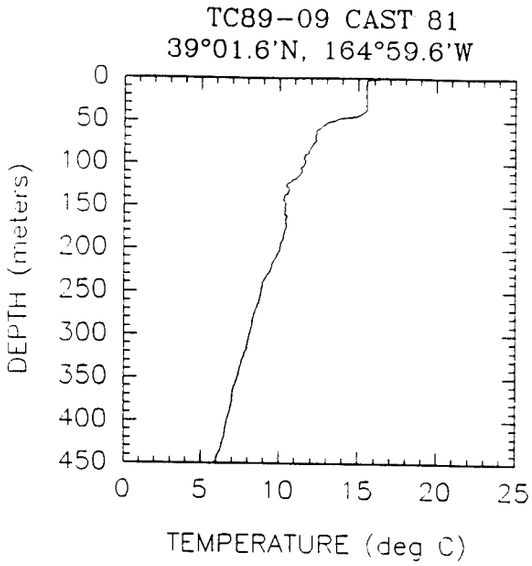
Temp. (°C)	Depth (m)
15	48.4
14	51.0
13	58.1
12	97.2
11	131.1
10	178.9
9	247.9
8	307.6
7	381.8
6	456.6



T-04 XBT probe
30 October 1989, 23:12 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.95°C
Bottom temp. (459.71 m): 5.92°C
Whole degree isotherms:

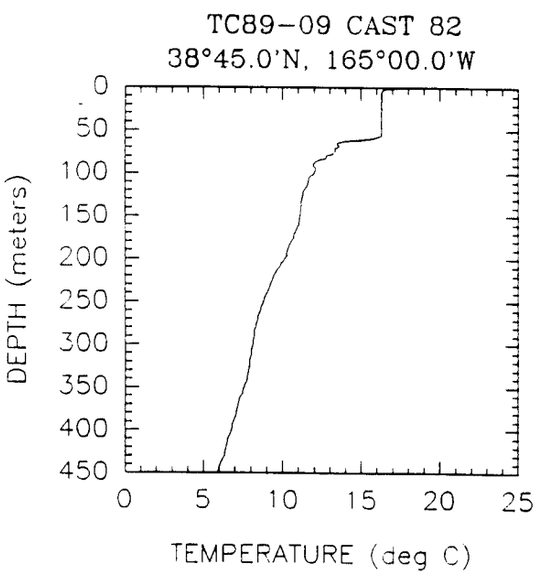
Temp. (°C)	Depth (m)
16	1.9
15	45.8
14	47.8
13	52.9
12	97.2
11	124.7
10	180.2
9	242.2
8	302.5
7	370.6
6	438.8



T-04 XBT probe
31 October 1989, 00:38 GMT
Bottom depth: 4,500 m

Surface temp. (2.59 m): 15.59°C
Bottom temp. (459.71 m): 5.76°C
Whole degree isotherms:

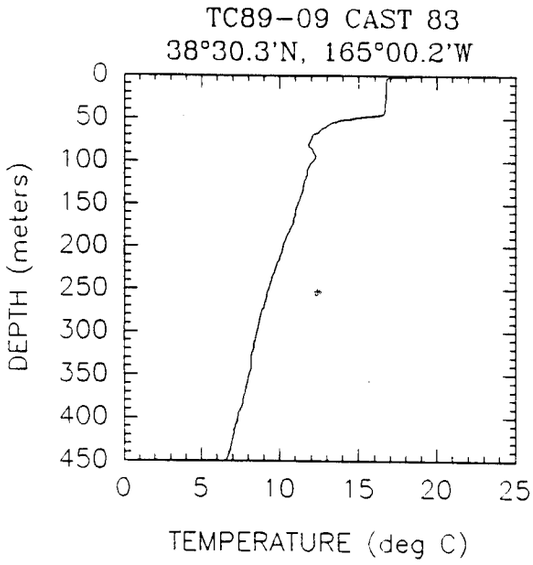
Temp. (°C)	Depth (m)
15	43.9
14	47.1
13	52.9
12	81.2
11	118.4
10	203.6
9	238.4
8	310.1
7	378.1
6	444.3



T-04 XBT probe
31 October 1989, 02:48 GMT
Bottom depth: 4,800 m

Surface temp. (2.59 m): 16.41°C
Bottom temp. (459.71 m): 5.74°C
Whole degree isotherms:

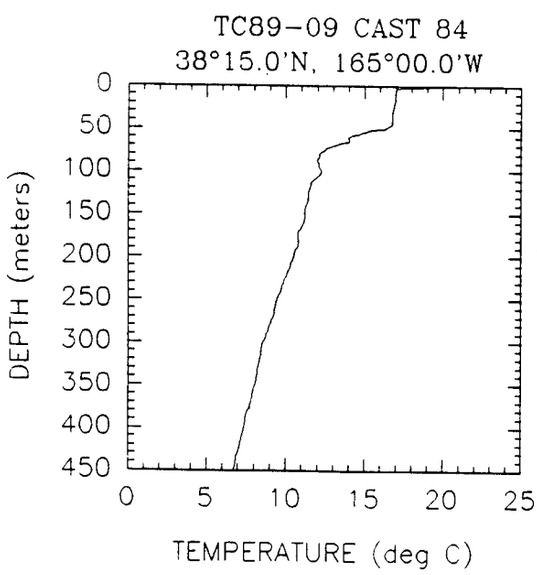
Temp. (°C)	Depth (m)
16	58.1
15	61.3
14	62.6
13	78.0
12	88.3
11	161.1
10	203.6
9	240.9
8	313.2
7	384.9
6	442.5



T-04 XBT probe
31 October 1989, 04:14 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 16.87°C
Bottom temp. (459.71 m): 6.44°C
Whole degree isotherms:

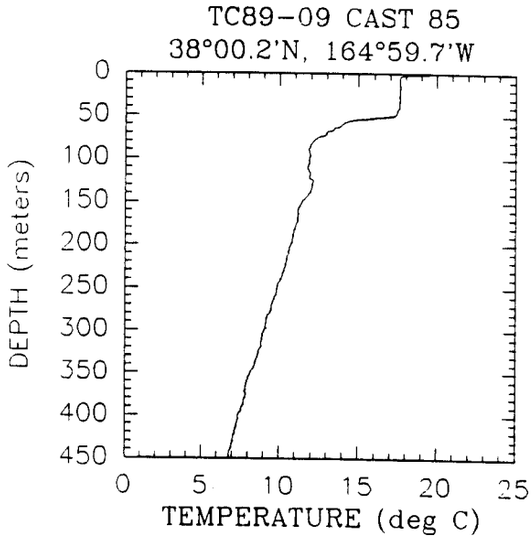
Temp. (°C)	Depth (m)
16	47.1
15	49.1
14	52.3
13	58.7
12	74.8
11	159.2
10	214.4
9	271.8
8	353.2
7	422.7



T-04 XBT probe
31 October 1989, 07:53 GMT
Bottom depth: 5,500 m

Surface temp. (2.59 m): 17.20°C
Bottom temp. (459.71 m): 6.58°C
Whole degree isotherms:

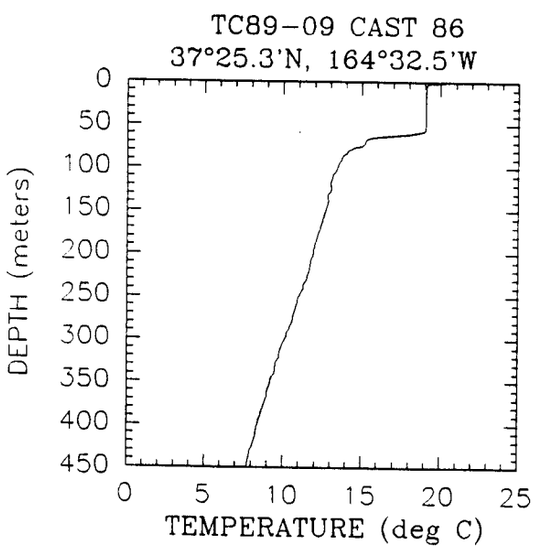
Temp. (°C)	Depth (m)
17	5.8
16	51.6
15	54.2
14	60.0
13	70.3
12	86.3
11	165.5
10	225.1
9	279.3
8	352.5
7	427.6



T-04 XBT probe
31 October 1989, 09:38 GMT
Bottom depth: 5,906 m

Surface temp. (2.59 m): 17.4°C
Bottom temp. (459.71 m): 6.54°C
Whole degree isotherms:

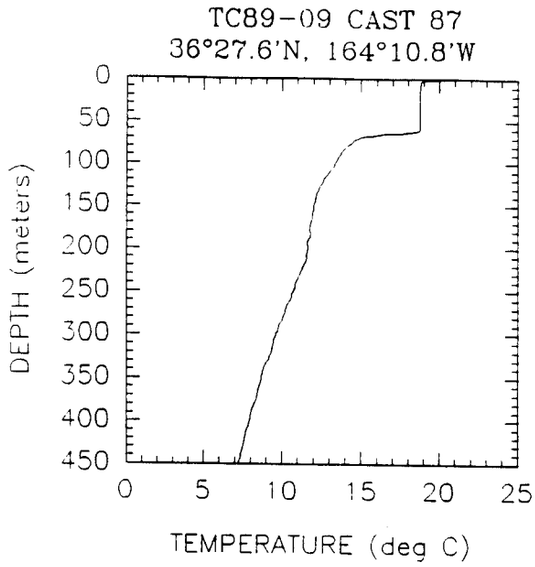
Temp. (°C)	Depth (m)
17	49.7
16	52.3
15	53.6
14	59.4
13	68.4
12	83.1
11	180.2
10	243.4
9	301.9
8	358.1
7	429.5



T-04 XBT probe
31 October 1989, 17:57 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 19.14°C
Bottom temp. (459.71 m): 7.56°C
Whole degree isotherms:

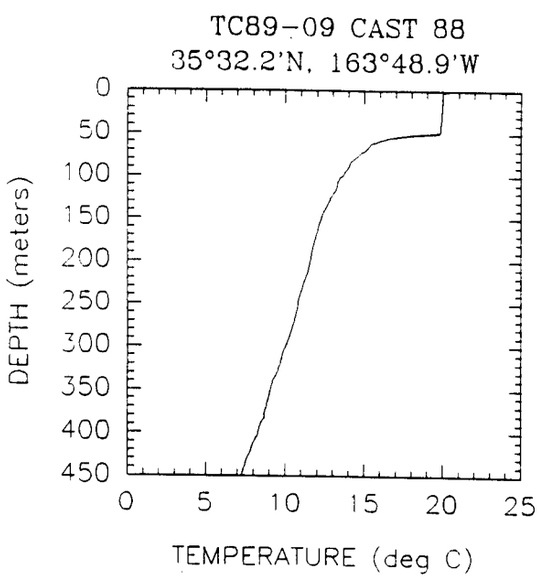
Temp. (°C)	Depth (m)
19	56.8
18	60.6
17	62.6
16	63.9
15	74.8
14	83.8
13	128.6
12	192.9
11	250.4
10	304.4
9	361.9
8	428.3



T-04 XBT probe
31 October 1989, 23:56 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 18.92°C
Bottom temp. (459.71 m): 7.09°C
Whole degree isotherms:

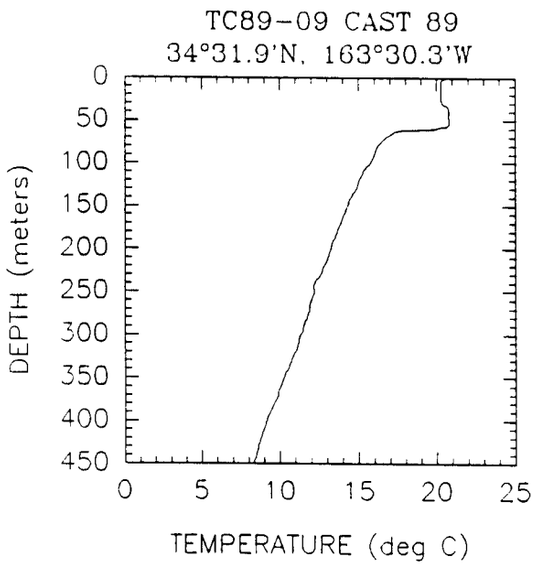
Temp. (°C)	Depth (m)
19	1.9
18	63.2
17	64.5
16	66.4
15	69.0
14	81.8
13	110.7
12	154.7
11	235.9
10	284.4
9	332.0
8	393.6



T-04 XBT probe
1 November 1989, 05:56 GMT
Bottom depth: 5,850 m

Surface temp. (2.59 m): 20.00°C
Bottom temp. (459.71 m): 7.16°C
Whole degree isotherms:

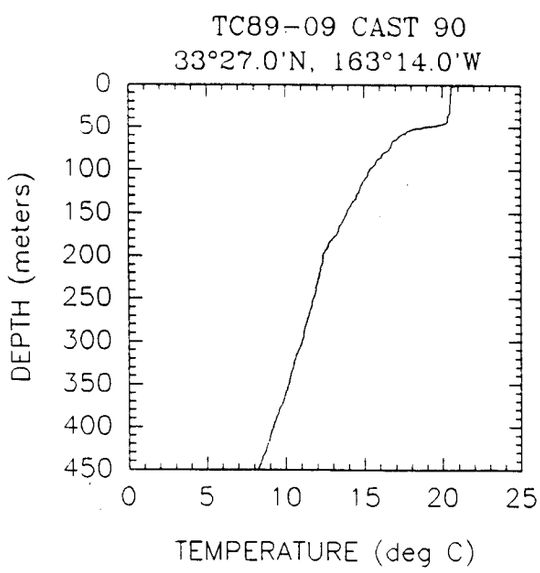
Temp. (°C)	Depth (m)
20	1.9
19	50.4
18	51.6
17	54.2
16	58.7
15	70.9
14	89.5
13	122.2
12	167.4
11	235.9
10	300.7
9	354.4
8	410.9



T-04 XBT probe
1 November 1989, 12:01 GMT
Bottom depth: 5,580 m

Surface temp. (2.59 m): 20.32°C
Bottom temp. (459.71 m): 8.03°C
Whole degree isotherms:

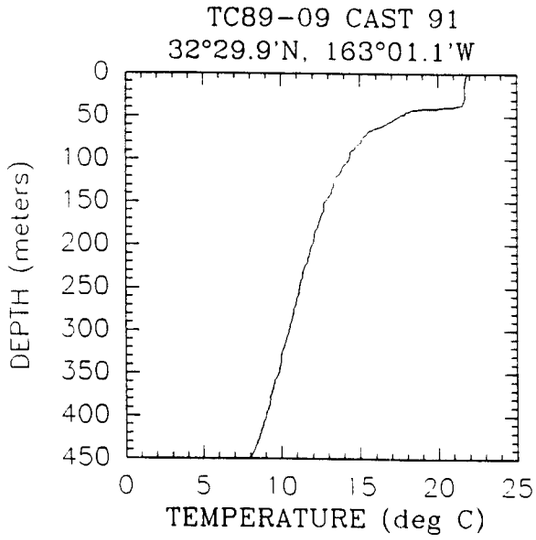
Temp. (°C)	Depth (m)
20	59.4
19	60.6
18	61.9
17	66.4
16	89.5
15	122.8
14	163.0
13	213.8
12	260.5
11	320.1
10	361.9
9	408.5



T-04 XBT probe
1 November 1989, 18:00 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 20.59°C
Bottom temp. (459.71 m): 8.08°C
Whole degree isotherms:

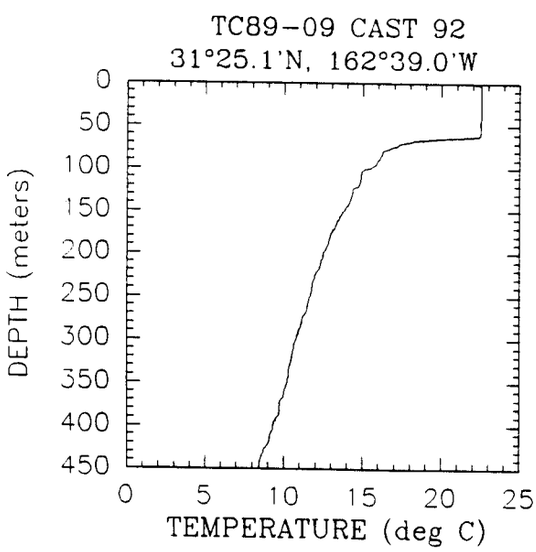
Temp. (°C)	Depth (m)
20	46.5
19	49.7
18	52.9
17	64.5
16	86.3
15	112.0
14	145.2
13	179.5
12	232.7
11	303.2
10	358.8
9	409.7



T-06 XBT probe
1 November 1989, 23:51 GMT
Bottom depth: 5,040 m

Surface temp. (2.59 m): 21.80°C
Bottom temp. (459.71 m): 7.80°C
Whole degree isotherms:

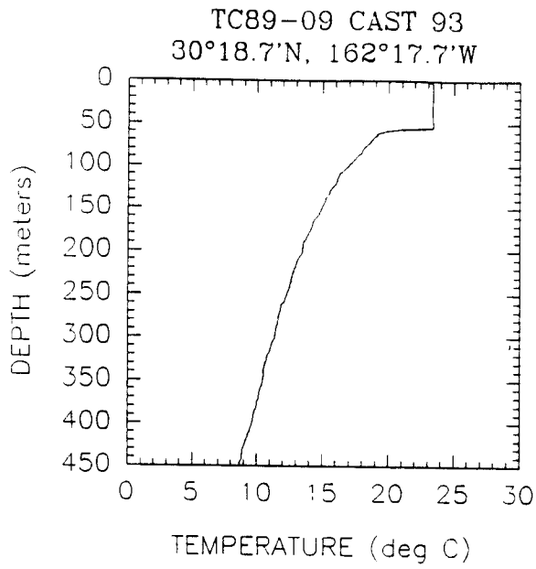
Temp. (°C)	Depth (m)
21	38.8
20	40.7
19	41.3
18	44.6
17	55.5
16	63.9
15	81.2
14	106.8
13	148.8
12	199.8
11	262.4
10	330.1
9	402.9
8	449.9



T-06 XBT probe
2 November 1989, 05:59 GMT
Bottom depth: 5,910 m

Surface temp. (2.59 m): 22.54°C
Bottom temp. (459.71 m): 8.26°C
Whole degree isotherms:

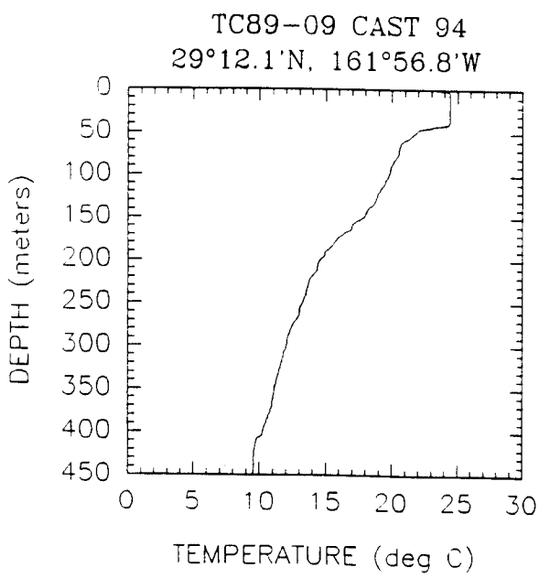
Temp. (°C)	Depth (m)
22	62.6
21	63.2
20	64.5
19	65.8
18	68.4
17	74.1
16	89.5
15	102.4
14	144.5
13	175.1
12	223.2
11	286.9
10	361.3
9	420.8



T-06 XBT probe
2 November 1989, 12:03 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 23.37°C
Bottom temp. (459.71 m): 8.52°C
Whole degree isotherms:

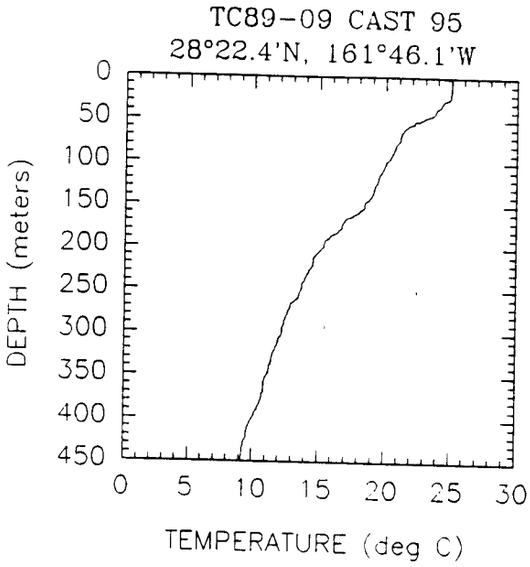
Temp. (°C)	Depth (m)
23	54.9
22	56.1
21	56.8
20	58.7
19	65.1
18	81.2
17	99.2
16	121.5
15	147.7
14	177.6
13	215.0
12	259.8
11	315.7
10	378.7
9	425.8



T-06 XBT probe
2 November 1989, 18:02 GMT
Bottom depth: 5,000 m

Surface temp. (2.59 m): 24.37°C
Bottom temp. (459.71 m): 9.01°C
Whole degree isotherms:

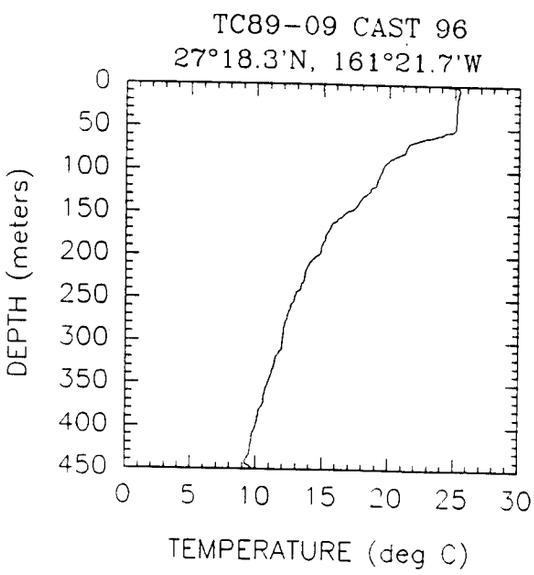
Temp. (°C)	Depth (m)
24	41.3
23	43.3
22	46.5
21	58.7
20	87.6
19	119.6
18	145.2
17	159.2
16	171.9
15	189.0
14	218.2
13	257.3
12	301.3
11	362.5
10	405.4



T-06 XBT probe
2 November 1989, 23:48 GMT
Bottom depth: 5,400 m

Surface temp. (2.59 m): 25.06°C
Bottom temp. (459.71 m): 9.21°C
Whole degree isotherms:

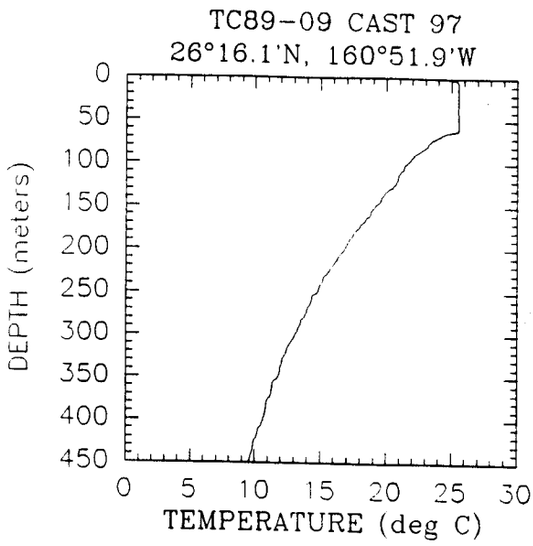
Temp. (°C)	Depth (m)
25	11.6
24	36.2
23	47.8
22	55.5
21	75.4
20	99.8
19	138.1
18	158.5
17	167.4
16	185.2
15	204.9
14	235.2
13	264.9
12	306.3
11	359.9
10	399.8



T-06 XBT probe
3 November 1989, 05:57 GMT
Bottom depth: 4,400 m

Surface temp. (2.59 m): 25.31°C
Bottom temp. (459.71 m): 9.56°C
Whole degree isotherms:

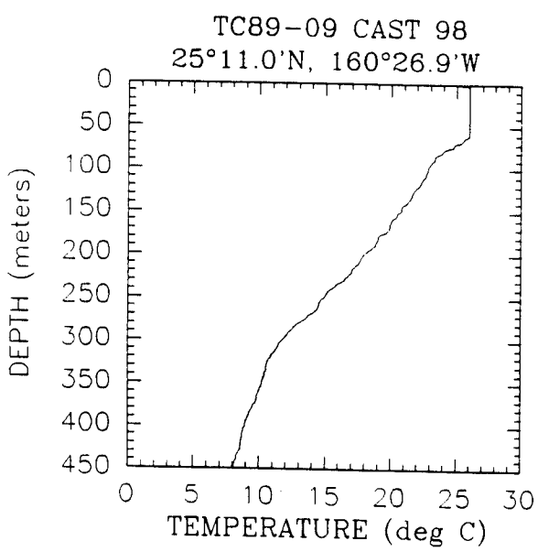
Temp. (°C)	Depth (m)
25	52.9
24	58.1
23	61.3
22	65.8
21	79.9
20	88.3
19	118.4
18	131.8
17	147.7
16	160.4
15	187.1
14	209.3
13	243.4
12	296.3
11	345.1
10	397.3



T-06 XBT probe
3 November 1989, 11:58 GMT
Bottom depth: 4,860 m

Surface temp. (2.59 m): 25.45°C
Bottom temp. (459.71 m): 9.42°C
Whole degree isotherms:

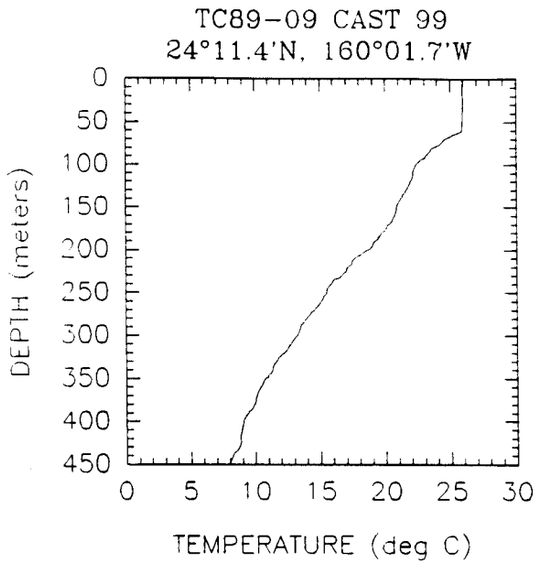
Temp. (°C)	Depth (m)
25	62.6
24	68.4
23	81.2
22	92.1
21	111.3
20	131.8
19	151.5
18	172.5
17	194.8
16	216.9
15	240.9
14	270.5
13	302.5
12	335.7
11	376.2
10	422.7



T-06 XBT probe
3 November 1989, 17:55 GMT
Bottom depth: 4,901 m

Surface temp. (2.59 m): 25.99°C
Bottom temp. (459.71 m): 7.84°C
Whole degree isotherms:

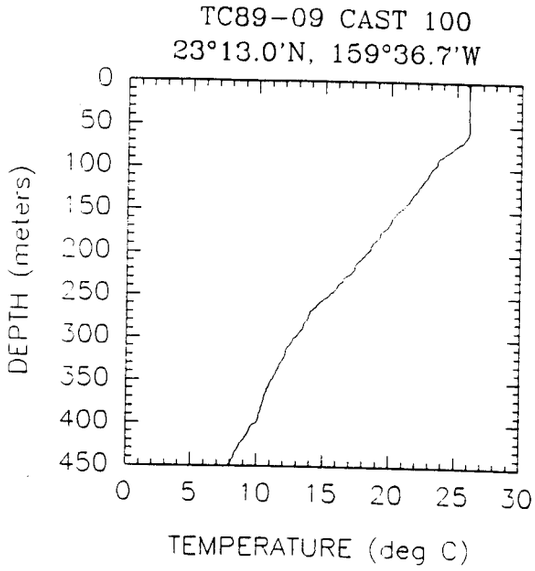
Temp. (°C)	Depth (m)
26	28.4
25	69.0
24	78.0
23	93.4
22	120.9
21	141.3
20	161.7
19	182.1
18	197.9
17	220.1
16	232.7
15	247.9
14	268.0
13	279.3
12	295.0
11	315.7
10	358.8
9	394.2
8	449.9



T-06 XBT probe
3 November 1989, 23:49 GMT
Bottom depth: 4,680 m

Surface temp. (2.59 m): 25.96°C
Bottom temp. (459.71 m): 7.63°C
Whole degree isotherms:

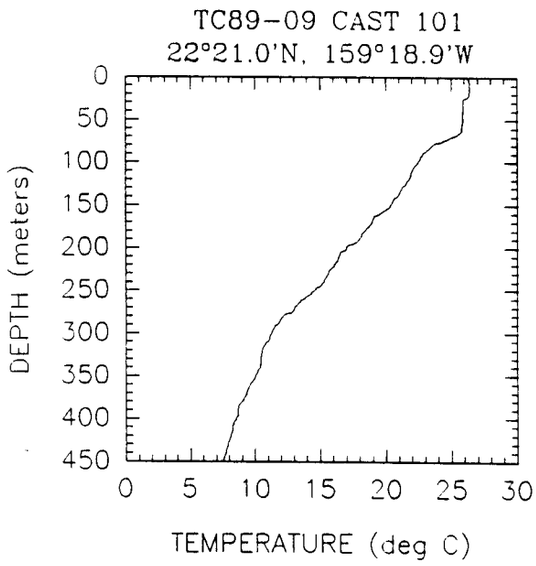
Temp. (°C)	Depth (m)
25	66.4
24	76.7
23	92.7
22	117.7
21	143.9
20	176.3
19	194.8
18	206.8
17	225.1
16	235.9
15	262.4
14	279.3
13	305.1
12	323.2
11	348.2
10	378.1
9	405.4
8	448.6



T-06 XBT probe
4 November 1989, 06:01 GMT
Bottom depth: 4,850 m

Surface temp. (2.59 m): 25.93°C
Bottom temp. (459.71 m): 7.47°C
Whole degree isotherms:

Temp. (°C)	Depth (m)
25	74.1
24	85.1
23	104.3
22	127.3
21	146.4
20	164.9
19	184.0
18	203.6
17	224.5
16	240.9
15	254.2
14	269.9
13	296.9
12	323.8
11	351.9
10	397.9
9	420.2
8	446.8



T-06 XBT probe
4 November 1989, 11:47 GMT
Bottom depth: 2,520 m

Surface temp. (2.59 m): 26.32°C
Bottom temp. (459.71 m): 7.31°C
Whole degree isotherms:

Temp. (°C)	Depth (m)
26	24.6
25	69.6
24	76.7
23	87.6
22	109.4
21	136.9
20	154.7
19	167.4
18	189.0
17	200.5
16	222.6
15	245.3
14	256.9
13	272.4
12	283.1
11	309.4
10	352.5
9	379.9
8	425.2