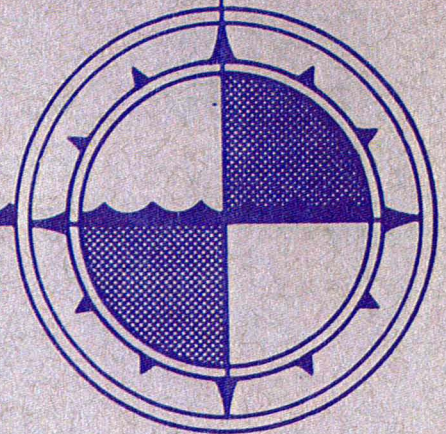


**OCEANOGRAPHIC OBSERVATIONS AT
OCEAN STATION P (50°N, 145°W)
VOLUME 57
May 11 - September 19, 1973**

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MARINE SCIENCES DIRECTORATE, PACIFIC REGION

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OCEANOGRAPHIC OBSERVATIONS AT OCEAN STATION P (50°N, 145°W)

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by

B. Minkley, C. Jackson, K. Abbott-Smith

Victoria, B.C.
Marine Sciences Directorate, Pacific Region
Environment Canada
April 1974

INTRODUCTION

Canadian operation of Ocean Weather Station P (latitude 50°00'N, longitude 145°00'W) was inaugurated in December, 1950. The station is occupied primarily to make meteorological observations of the surface and upper air and to provide an air-sea rescue service. The station is manned by two vessels operated by the Marine Services Branch of the Ministry of Transport. They are the CCGS Vancouver and the CCGS Quadra. Each ship remains on station for a period of six weeks, and is then relieved by the alternate ship, thus maintaining a continuous watch.

Bathythermograph observations have been made at Station P since July, 1952. A program of more extensive oceanographic observations was commenced in August, 1956. This was further extended in April, 1959, by the addition of a series of oceanographic stations along the route to and from Station P and Swiftsure Bank. These stations are known as Line P stations. The number of stations on Line P has been increased twice and now consists of twelve stations (Fig. 1). Bathythermograph observations and surface salinity sample collections in addition to being made on Line P oceanographic stations are also made at odd meridians at 40' i.e., 139°40'W, 141°40'W, etc. These stations are known as Line P BT stations. Data observed prior to 1968 has been indexed by Collins et al, (1969).

The present record includes hydrographic and continuously sampled STD data collected from the Quadra during the period May 11 to June 27, 1973; surface temperature and salinity data collected from the Vancouver during the period June 22 to August 8, 1973; and hydrographic and continuously sampled STD data collected from the Quadra during the period August 3 to September 19, 1973.

All physical oceanographic data have been stored by the Canadian Oceanographic Data Centre (CODC), 615 Booth Street, Ottawa, Ontario, Canada. Requests for these data should be directed to CODC.

Biological and productivity data are published in the Manuscript Report series of the Fisheries Research Board of Canada (FRB), the Biological Station, Nanaimo, B.C., Canada. Requests for these data should be directed to FRB.

Marine geochemical data are for the Ocean Chemistry Group, Marine Sciences Directorate, Department of the Environment, 512-1230 Government St., Victoria, B.C., Canada.

Bird observations are sent to Dr. M. Myres, University of Calgary, Calgary, Alberta, Canada; and marine mammal observations to Mr. I. McAskie, Fisheries Research Board of Canada, the Biological Station, Nanaimo, B.C., Canada.

Program of Observations from CCGS Quadra, May 11 to June 27, 1973
(P-73-4) (CODC Ref. No. 15-73-004)

Oceanographic observations were made by Mr. B. Minkley, Marine Sciences Directorate, Department of the Environment.

En route to Station P, Stations 1 to 8 and 10 to 12 were occupied and a STD profile made to near bottom or 1500 metres. Station 9 was missed due to bad weather. Mechanical BT or XBT's were taken at all Line P hydrographic and BT stations. The surface temperature recorder and thermosalinograph were run continuously along Line P. The temperature pen ink system of the thermosalinograph recorder broke down at Station 8 leaving salinity trace only from Stations 8 to 12. Salinity and nitrate samples were taken from the seawater loop at all Line P stations. Tar ball tows were made at Stations 2, 4, 7, and 10, at a speed of 4 knots.

At Station P the oceanographic program was carried out as follows:

I) Physical Oceanography

- 1) Profiles of salinity, temperature and oxygen were obtained from 4 hydrographic stations to near bottom (4200 metres).
- 2) STD profiles to 1500 metres following the hydrographic stations.
- 3) Five STD profiles to 300 metres between the hydrographic stations.
- 4) Mechanical BT's were taken every 3 hours to coincide with meteorological observations and encoded and transmitted according to the IGOSS format.
- 5) Salinity sample daily from the seawater loop at 0000 hrs. GMT.
- 6) The wave recorder was run every 3 hours for 20 minutes to coincide with the meteorological observations.

II) Biological and Productivity

Samples were obtained as follows:

- 1) Plankton
A total of 12-150 metre, 1-1200 metre vertical plankton hauls and 4-10 minute horizontal surface tows.
- 2) Two profiles to 200 metres for plant pigment, nitrate and C-14 productivity.

III) Marine Geochemistry

Samples were obtained as follows:

- 1) Oxygen - samples were taken from all hydrographic stations.
- 2) Nutrient and salinity samples daily at 0000 hrs. GMT, plus

hourly sampling for one 24 hour period from the seawater loop.

- 3) Alkalinity samples every 3 days from the seawater loop.
- 4) Air CO₂ samples weekly in duplicate.
- 5) Two seawater C-14 samples from the seawater loop.

IV) Marine Mammal, Bird and Data for Other Institutes

- 1) Marine mammal and bird observations were recorded.
- 2) Five samples to 400 metres for seawater C-14 were taken for the University of Washington.
- 3) A deep sea tide gauge of the University of Hawaii, Joint Tsunami Research Effort, was installed at Station P on the 1st of June.
- 4) Observation of a 16 foot diameter disc buoy anchored by the University of California.

The ship left Station P on June 7 to take a sick seaman to Quatsino Sound, returned on station by June 11.

En route from Station P, all stations except Station 7 were occupied and a STD profile made to near bottom or 1500 metres. Station 7 was missed due to bad weather. Mechanical BT or XBT's were taken at all Line P hydrographic and BT stations. The surface temperature recorder and thermosalinograph recorder were run continuously along Line P. Salinity, nitrate and nutrient samples were taken from the seawater loop at all Line P stations and tar ball tows made at Stations 12, 10, and 7, at a speed of 4 knots.

Program of Observations from CCGS Vancouver, June 22 to August 8, 1973 (P-73-5) (CODC Ref. No. 15-73-005)

Oceanographic observations were made by the ship's officers.

En route to Station P, mechanical BT's were taken at all Line P hydrographic and BT stations. Salinity, nitrate and nutrient samples were taken from the seawater loop.

At Station P the oceanographic program was carried out as follows:

I) Physical Oceanography

- 1) Mechanical BT's were taken every 3 hours to coincide with meteorological observations and encoded and transmitted according to the IGOSS format.
- 2) Salinity sample daily from the seawater loop at 0000 hrs. GMT.

II) Biological and Productivity

Samples were obtained as follows:

- 1) Daily 150 metre vertical plankton hauls.
- 2) Nitrate sample weekly at 0000 hrs. GMT from the seawater loop.

III) Marine Geochemistry

Samples were obtained as follows:

- 1) Nutrient samples daily at 0000 hrs. GMT from the seawater loop.
- 2) Alkalinity samples every 3 days from the seawater loop.
- 3) Air CO₂ samples weekly in duplicate.

IV) Marine Mammal, Bird and Data for Other Institutes

- 1) Marine mammal and bird observations were recorded.
- 2) Recordings were made from the deep sea tide gauge of the University of Hawaii, Joint Tsunami Research Effort.
- 3) Observation of a 16 foot diameter disc buoy anchored by the University of California.

En route from Station P, mechanical BT's were taken at all Line P hydrographic and BT stations. Salinity, nitrate and nutrient samples were taken from the seawater loop. The surface temperature recorder was run continuously along Line P.

Program of Observations from CCGS Quadra, August 3 to September 19, 1973 (P-73-6) (CODC Ref. No. 15-73-006)

Oceanographic observations were made by Messrs. C. Jackson, J. Pannekoek, and K. Johnson of the Marine Sciences Directorate, Department of the Environment.

En route to Station P, Stations 1 to 7 and 10 to 12 were occupied and a STD profile made to near bottom or 1500 metres. Stations 8 and 9 were missed due to bad weather. Mechanical BT or XBT's were taken at all Line P hydrographic and BT stations. The surface temperature recorder and thermosalinograph were run continuously along Line P. Salinity, nitrate, alkalinity, total CO₂ and hydrocarbon samples were taken from the seawater loop at all stations. The P-CO₂ system was run continuously until Station 5½, when it malfunctioned and was shut down. Four tar ball tows were made at a speed of 4 knots.

At Station P the oceanographic program was carried out as follows:

I) Physical Oceanography

- 1) Profiles of salinity, temperature and oxygen were obtained from six hydrographic stations to near bottom (4200 metres).
- 2) STD profiles to 1500 metres following the hydrographic stations.
- 3) Eleven STD profiles to 300 metres between the hydrographic stations.
- 4) Mechanical BT's were taken every 3 hours to coincide with meteorological observations and encoded and transmitted according to the IGOSS format.
- 5) The surface temperature recorder was run from about one half hour before to one half hour after and during all hydrographic and STD stations.
- 6) Salinity sample daily from the seawater loop at 0000 hrs. GMT.
- 7) The wave recorder was run every 3 hours for 20 minutes to coincide with the meteorological observations.

II) Biological and Productivity

Samples were obtained as follows:

- 1) Plankton
A total of 34-150 metre, 2-1200 metre vertical plankton hauls, 9-10 minute horizontal surface tows and daily sample for micro-organisms taken from the seawater loop.
- 2) Three profiles to 200 metres and three surface samples for plant pigment, nitrate and C-14 productivity.
- 3) The high frequency echo sounder was run twice daily from 0900-1100 local time and from one hour before to one hour after sunset.
- 4) A few hundred pomfret and one 18" mackerel jack were caught in the fishing program.

III) Marine Geochemistry

Samples were obtained as follows:

- 1) Oxygen samples were taken from all hydrographic stations. Once duplicates were taken to compare the results of a modified oxygen titration kit to the existing one.
- 2) Alkalinity samples were taken in duplicate, together with an oxygen sample, every 3 days at 0000 hrs. GMT from the seawater loop. One alkalinity sample was analyzed on board and the other preserved for shore analysis.
- 3) Five alkalinity and total CO₂ samples were taken from depths to 500 metres on the weekly hydrographic stations. The alkalinity samples were analyzed on board. Duplicate samples were taken from one station for storage test.

- 4) One profile to 4200 metres for total CO₂ and alkalinity, temperature, salinity and oxygen data were also taken.
- 5) Nutrient samples were taken from depths to 500 metres on one of the weekly hydrographic stations.
- 6) A tritium profile was obtained from depths to 500 metres together with temperature and salinity data.
- 7) Rainwater and surface seawater samples were collected for tritium analysis.
- 8) Nutrient and salinity samples daily at 0000 hrs. GMT, plus hourly sampling for one 24 hour period from the seawater loop.
- 9) Air CO₂ samples weekly in duplicate.
- 10) Two seawater C-14 samples from the seawater loop and two collected with a Hydro-Bio 200 litre sampler. With the loop samples, air C-14, air C-13, seawater C-13, salinity and alkalinity samples were also taken at this time.
- 11) A 50 litre water sample (metal free) was taken from 4000 metres with 2-30 litre Niskin samplers. Sample was acidified and frozen. A smaller sample was taken in glass, acidified and kept at room temperature. Temperature, salinity, oxygen, pH, alkalinity and total CO₂ samples were taken of the same water.
- 12) The P-CO₂ system was run on station and notated about every 4 hours. The system was shut down several times for repairs or adjustments.
- 13) Hydrocarbon samples were collected daily, and once every 3 hours for a 24 hour period. Samples were analyzed on board.
- 14) Three tar ball tows were made at a speed of 4 knots.

IV) Marine Mammal, Bird and Data for Other Institutes

- 1) Marine mammal and bird observations were recorded.
- 2) Twice in the early part of the cruise a signal was received and recorded from the deep sea tide gauge of the University of Hawaii, Joint Tsunami Research Effort.
- 3) Plankton samples were taken from the seawater loop at all Line P inbound stations for the Institute of Oceanography, University of British Columbia.

En route from Station P, all stations except Stations 12, 11, 6 and 5 were occupied and a STD cast made to near bottom or 1500 metres. Stations 12, 11, 6 and 5 were missed due to bad weather. Mechanical BT or XBT's were taken at all Line P hydrographic and BT stations. The surface temperature recorder, thermosalinograph and P-CO₂ system were run continuously along Line P. Salinity, nitrate, alkalinity, total CO₂ and hydrocarbon samples were taken from the seawater loop at all stations.

Data was processed by Messrs. C. de Jong, B. Minkley, E. Marles, and E. Luscombe, and assembled and edited for publication by Mr. C. de Jong.

Observational Procedures

Temperatures at depth were measured by deep-sea reversing thermometers of German (Richter and Wiese) or Japanese (Yoshino Keiko Co.) manufacture. Two protected thermometers were used on all Nansen bottles, and one unprotected thermometer was used on each bottle at depths of 300 m or greater. The accuracy of protected reversing thermometers is believed to be $\pm 0.02^{\circ}\text{C}$.

Surface water temperatures were measured from a bucket sample using a deck thermometer of $\pm 0.1^{\circ}\text{C}$ accuracy.

Salinity determinations were made aboard ship with either an Auto-Lab Model 601 Mark III inductive salinometer or a Hytech Model 6220 lab salinometer. Accuracy using duplicate determinations is estimated to be ± 0.003 ppt.

Depth determinations were made using the "depth difference" method described in the U.S.N. Hydrographic Office Publication No. 607 (1955). Depth estimates have an approximate accuracy of ± 5 m for depths less than 1000 m, and $\pm 0.5\%$ of depth for depths greater than 1000 m.

The dissolved oxygen analyses were done in the shipboard laboratory by a modified Winkler method (Carpenter, 1965).

Line P engine intake continuous temperatures on both ships were recorded by a Honeywell Model 15303836 Recorder. The temperature probe is at a depth of approximately 3 metres below the sea surface and the instrument accuracy is believed to be $\pm 0.1^{\circ}\text{C}$.

CCGS Quadra is equipped with a Bissett Berman Model 6600-T thermosalinograph which is used, on Line P, for continuous recording of surface temperatures and salinities from the ship's seawater loop. The temperature probe is mounted at the seawater loop intake (approximately 3 metres below the surface) and the salinity probe and recorder is situated in the dry lab. The accuracy of this instrument is believed to be $\pm 0.1^{\circ}\text{C}$ for temperature and ± 0.1 ppt for salinity.

CCGS Vancouver and CCGS Quadra were equipped with a Bissett-Berman Model 9006 STD.

Computations

All hydrographic data were processed with the aid of an IBM 360 computer. Reversing thermometer temperature corrections, thermometric depth calculations, and accepted depth from the "depth difference" method were computed. Extraneous thermometric depths caused by thermometer malfunctions are automatically edited and replaced. A Calcomp 565 Offline Plotter was used to plot temperature-salinity and temperature-oxygen diagrams, as well as plots of temperature, salinity and dissolved oxygen vs \log_{10} depth. These plots were used to check the data for errors.

Missing hydrographic data were obtained using a weighted parabolae interpolation method (Reiniger and Ross, 1968). These data are indicated with an asterisk in this data record.

Data values which we suspect but which we have included in this data record are indicated with a plus. These data have been removed from punch card and magnetic tape records.

Analog records from the salinity-temperature-pressure instrument have been machine digitized, then replotted using the Calcomp Plotter.

Digitization was continued until original and computer plotted traces were coincident. Temperature and salinity values were listed at standard pressures; integrals (depths, geopotential anomaly, and potential energy anomaly) were computed from the entire array of digitized data.

The headings for the data listings are explained as follows:

PRESS	is pressure (decibars)
TEMP	is temperature (degrees Celsius)
SAL	is salinity (parts per thousand)
DEPTH	is reported in metres
SIGMA-T	is specific gravity anomaly
SVA	is specific volume anomaly
THETA	is potential temperature (degrees Celsius)
SVA (THETA)	is potential specific volume anomaly
DELTA D	is geopotential anomaly (J/kg)
POT EN	is potential energy in units of 10^8 ergs/cm ²
OXY	is the concentration of dissolved oxygen expressed in millilitres per litre
B-V PERIOD	is the Brunt-Vaisala period in minutes

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- Reiniger, R.F., and C.K. Ross. 1968. A method of interpolation with application to oceanographic data. *Deep Sea Res.*, 15: 185-193.
- U.S.N. Hydrographic Office. 1955. Instruction manual for oceanographic observations, Publ. no. 607.

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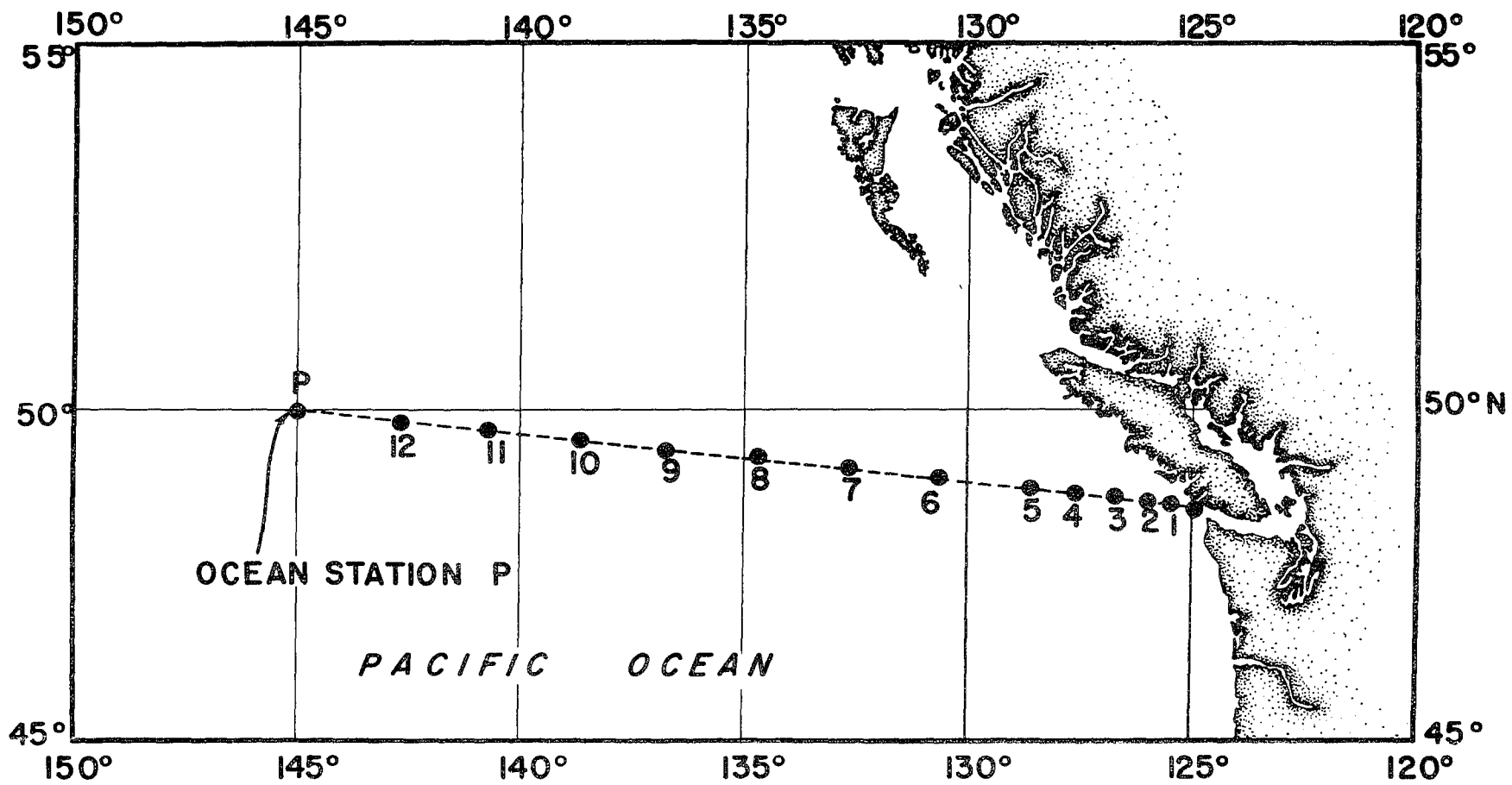


Fig. 1 Chart showing Line P station positions.

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OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-73-4

(CODC REFERENCE NO. 15-73-004)

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RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-73-4)

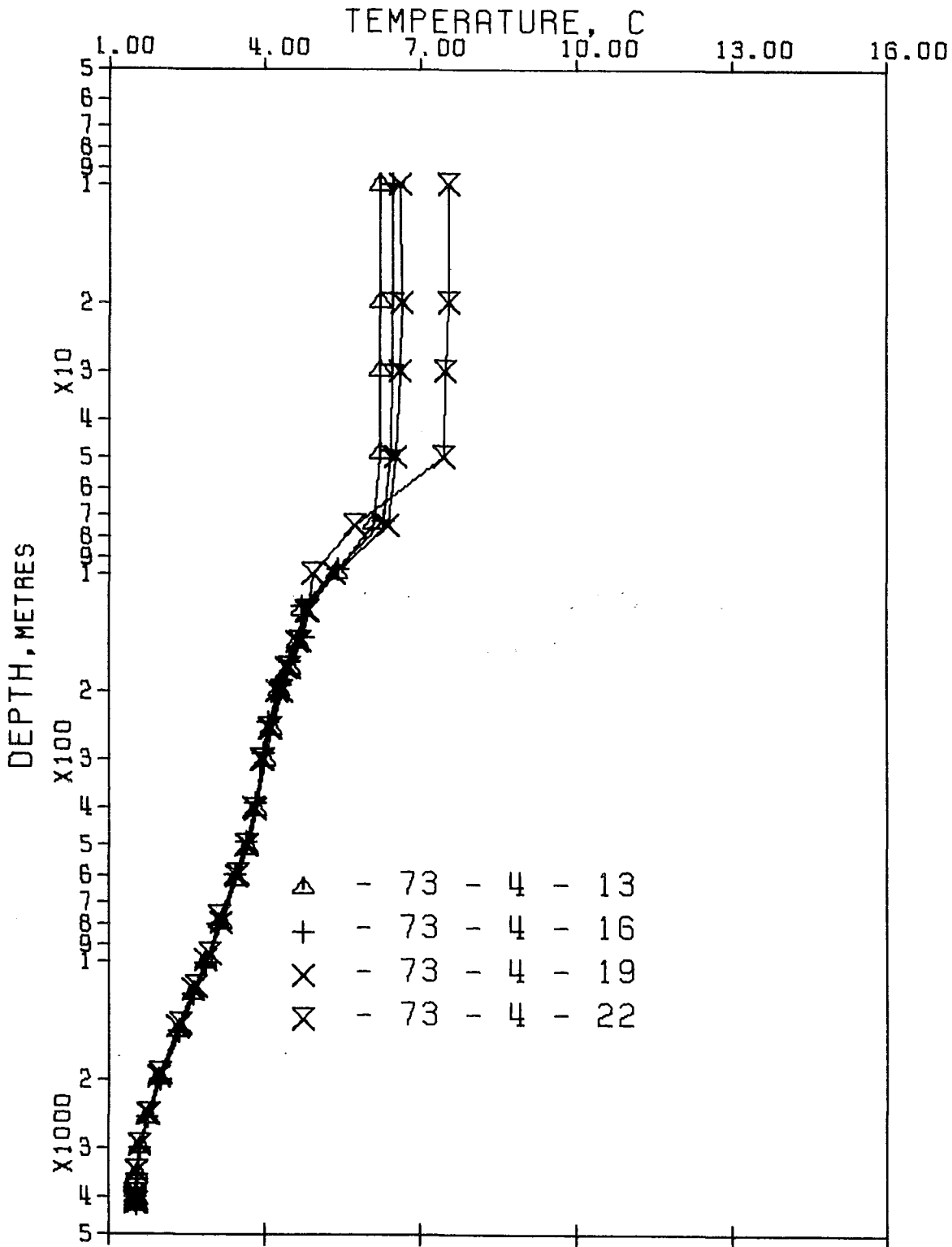


Figure 2 Composite plot of temperature vs \log_{10} depth. P-73-4.

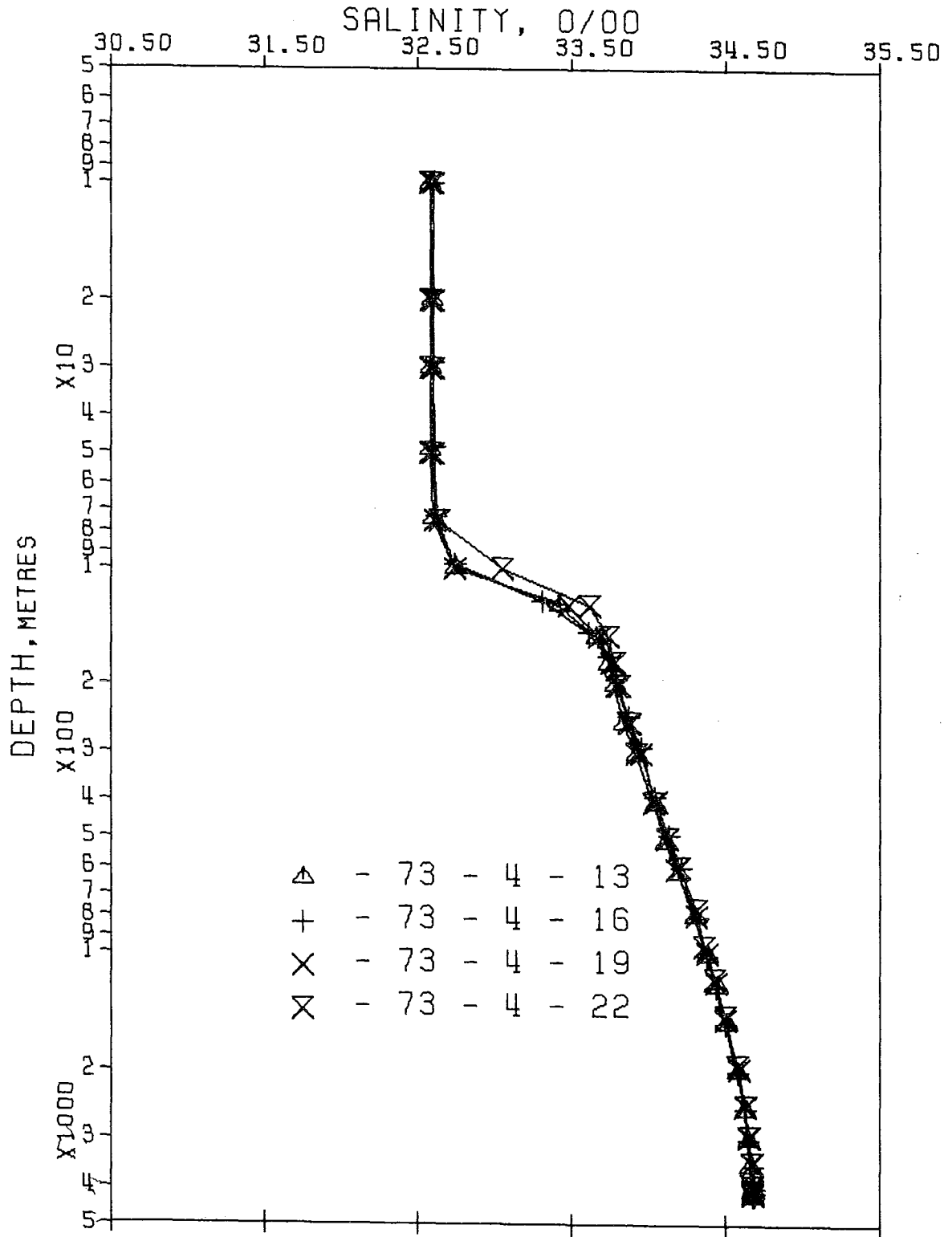


Figure 3 Composite plot of salinity vs \log_{10} depth. P-73-4.

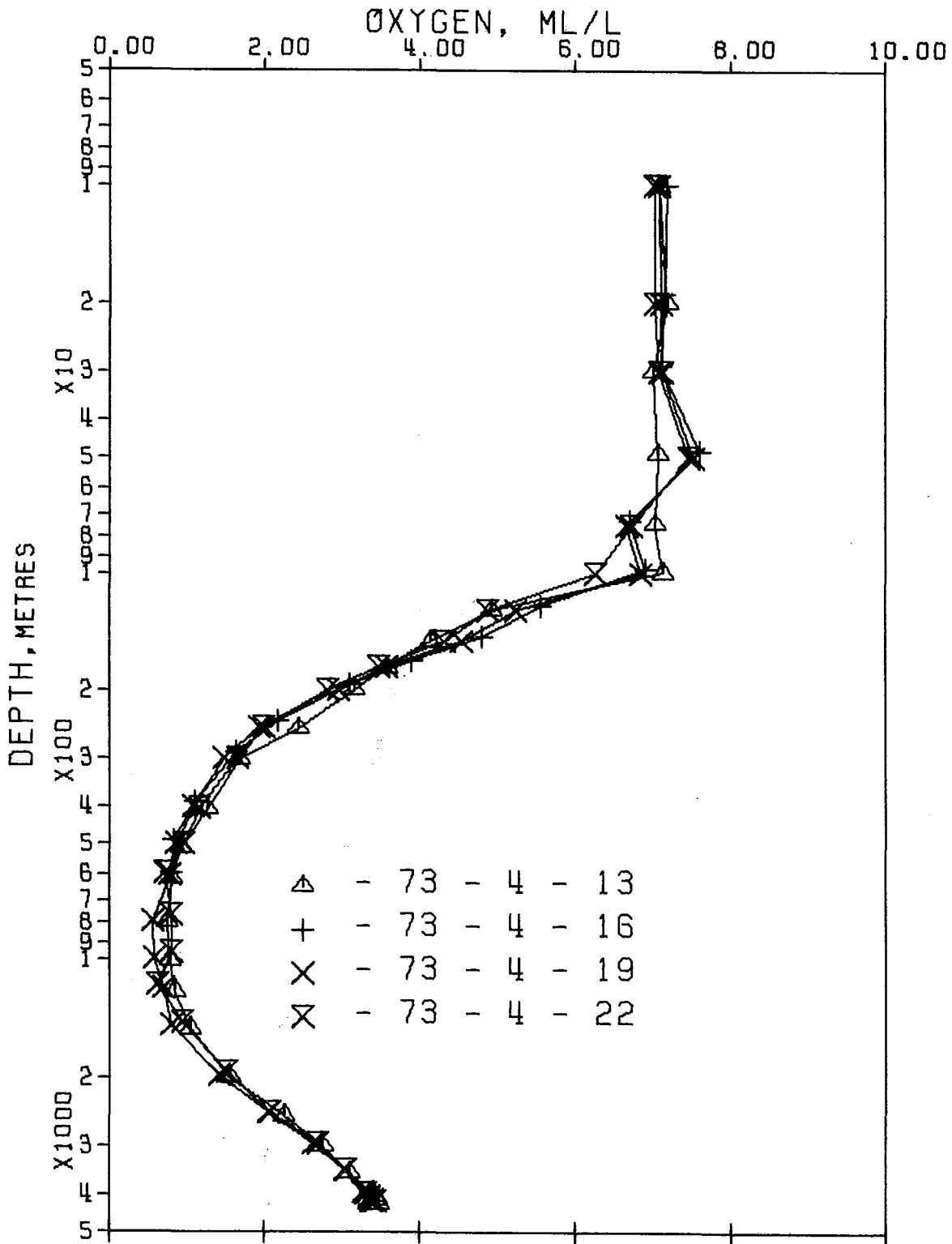
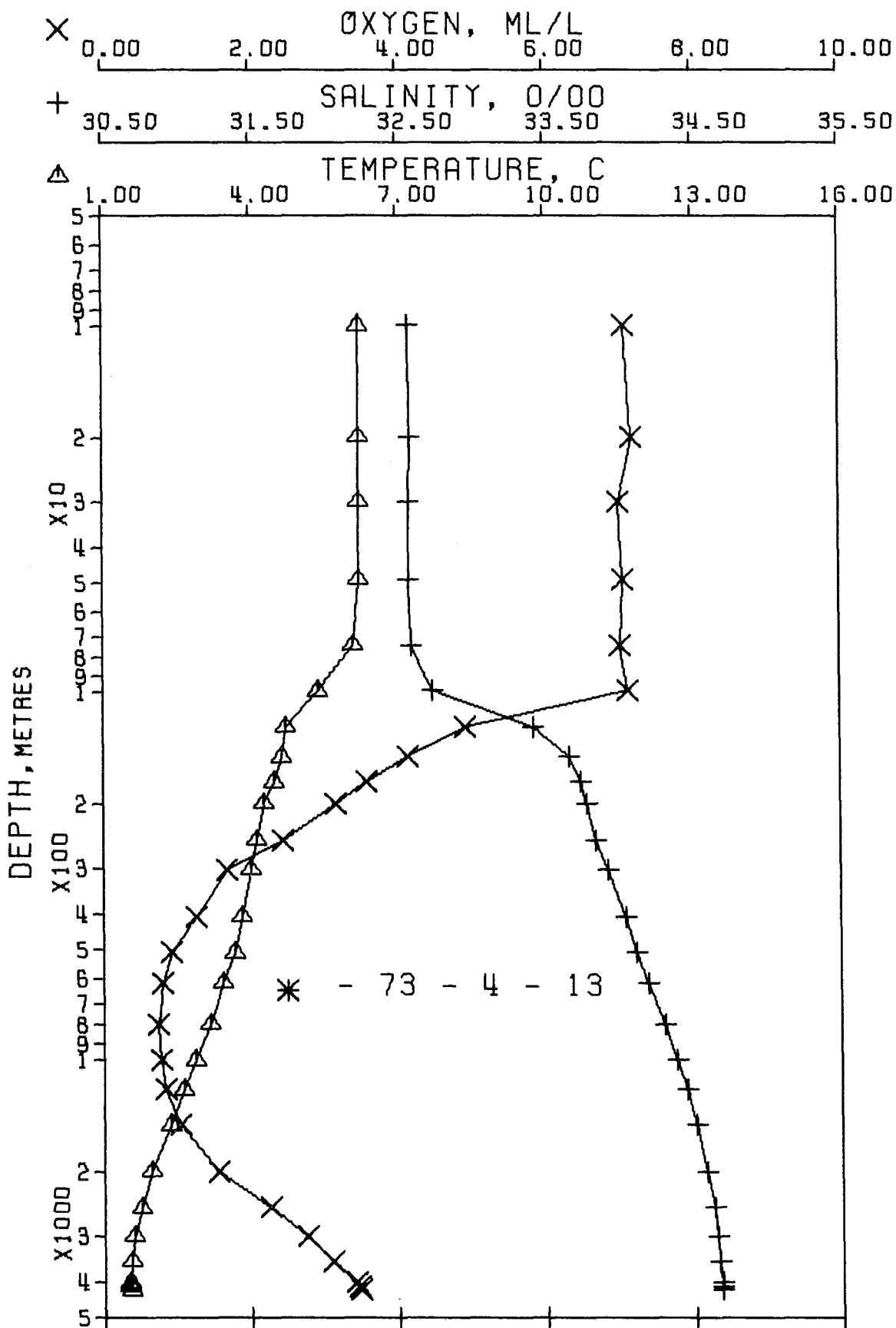


Figure 4 Composite plot of oxygen vs \log_{10} depth. P-73-4.

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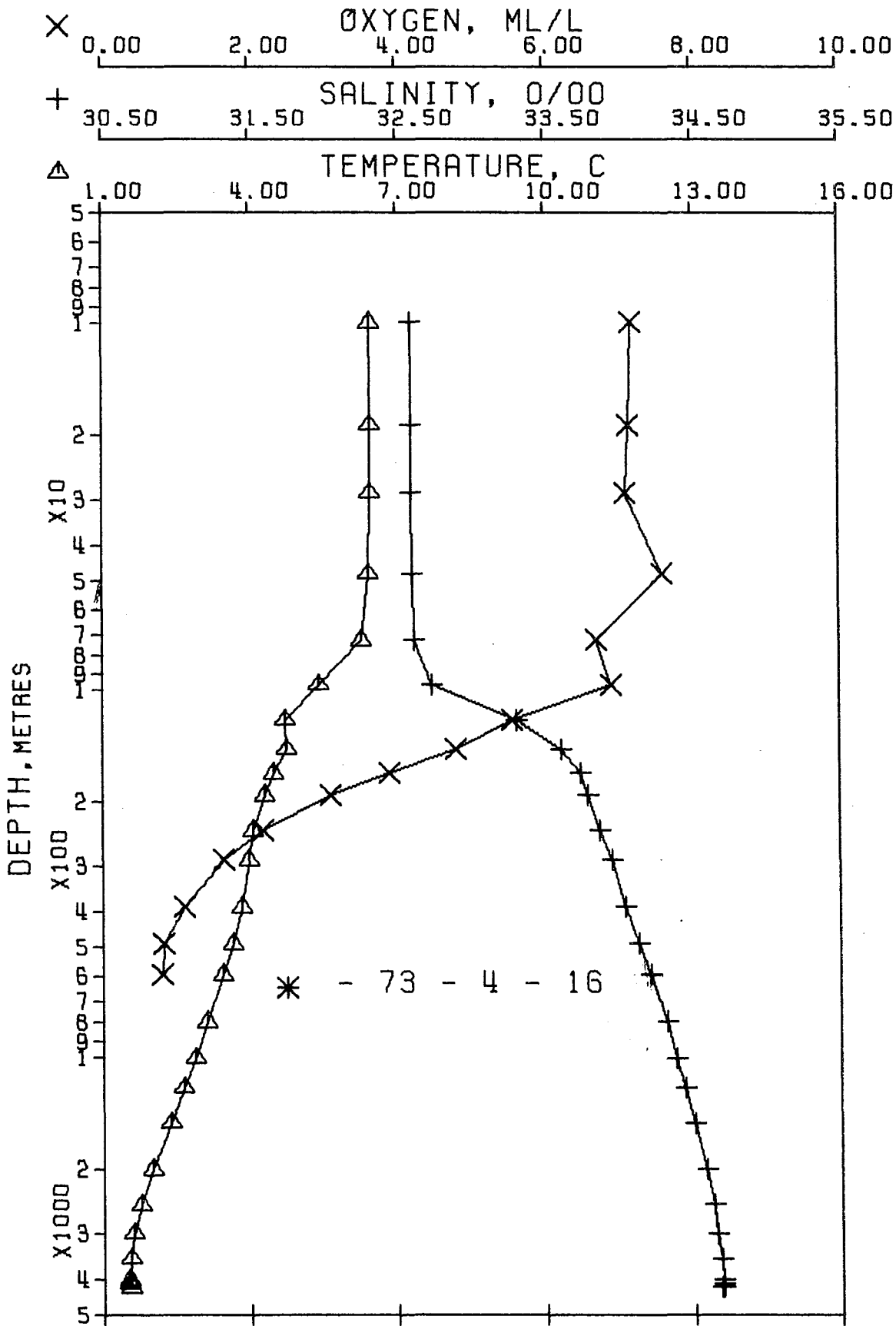
REFERENCE NO. 73- 4- 13

DATE 15/ 5/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.3

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.25	32.572	0	25.630	237.0	6.25	236.7	0.0	0.0	7.18	1473.
10	6.23	32.579	10	25.638	236.3	6.23	236.0	0.24	0.01	7.08	1473.
20	6.23	32.590	20	25.647	235.6	6.23	235.1	0.48	0.05	7.19	1473.
30	6.23	32.592	30	25.641	236.3	6.23	235.7	0.71	0.11	7.00	1473.
49	6.21	32.578	49	25.640	236.6	6.21	235.7	1.17	0.29	7.06	1474.
74	6.10	32.596	74	25.668	234.3	6.09	233.1	1.76	0.67	7.01	1474.
100	5.38	32.743	99	25.870	215.2	5.37	213.9	2.34	1.18	7.11	1471.
125	4.71	33.421	124	26.482	157.2	4.70	155.8	2.80	1.71	4.91	1470.
151	4.64	33.661	150	26.679	138.8	4.63	137.0	3.18	2.25	4.14	1470.
176	4.49	33.743	175	26.761	131.3	4.48	129.2	3.52	2.81	3.58	1470.
201	4.28	33.776	200	26.809	126.8	4.27	124.6	3.85	3.44	3.16	1470.
254	4.11	33.843	252	26.880	120.5	4.09	117.9	4.49	4.94	2.43	1470.
305	4.01	33.917	303	26.949	114.3	3.99	111.3	5.10	6.66	1.67	1470.
410	3.83	34.037	407	27.063	104.3	3.80	100.5	6.24	10.83	1.27	1472.
515	3.67	34.114	511	27.140	97.7	3.63	93.2	7.30	15.83	0.92	1473.
621	3.44	34.193	616	27.225	90.2	3.40	85.0	8.29	21.59	0.80	1474.
805	3.17	34.296	798	27.333	80.9	3.11	74.7	9.86	32.99	0.75	1476.
1009	2.96	34.376	999	27.425	73.0	2.79	65.9	11.42	47.43	0.77	1478.
1212	2.81	34.447	1200	27.503	66.1	2.53	58.4	12.84	63.41	0.83	1480.
1519	2.34	34.506	1502	27.573	60.3	2.24	51.6	14.76	90.22	1.05	1484.
2030	1.97	34.580	2005	27.662	52.8	1.83	42.9	17.63	142.16	1.56	1491.
2542	1.74	34.626	2508	27.717	48.4	1.56	37.5	20.21	202.17	2.25	1499.
3055	1.50	34.654	3010	27.750	46.1	1.37	34.2	22.61	270.82	2.76	1507.
3568	1.54	34.665	3512	27.763	45.9	1.26	32.5	24.97	350.33	3.10	1515.
4083	1.52	34.678	4014	27.775	46.1	1.19	31.1	27.33	442.25	3.42	1524.
4187	1.52	34.676	4115	27.773	46.4	1.18	31.2	27.81	462.47	3.46	1526.
4289	1.53	34.676	4215	27.772	46.9	1.17	31.2	28.28	483.17	3.47	1528.



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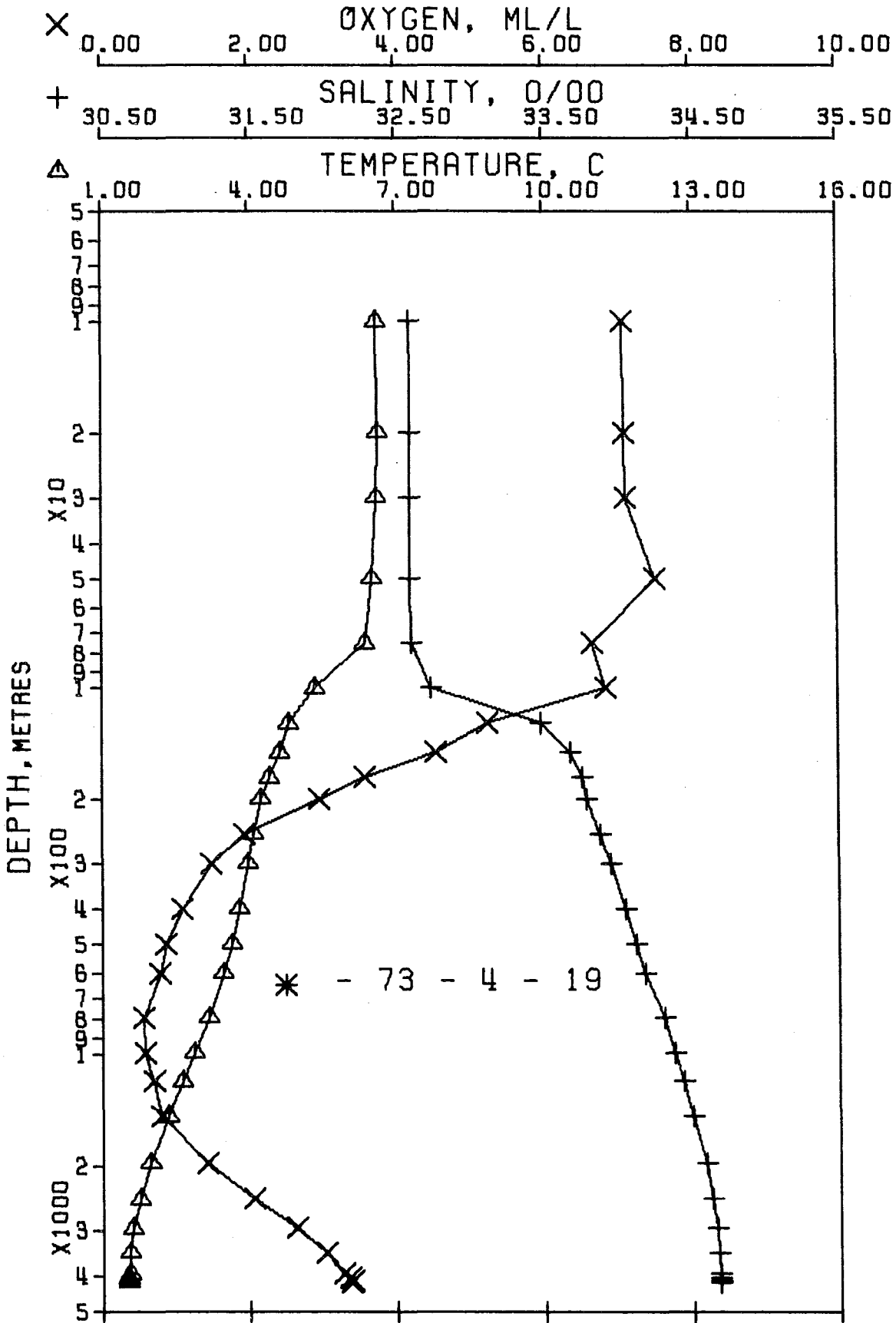
REFERENCE NO. 73- 4- 16

DATE 22/ 5/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.4

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.47	32.601	0	25.625	237.4	6.47	237.2	0.0	0.0	7.12	1474.
10	6.45	32.599	10	25.626	237.4	6.45	237.1	0.24	0.01	7.18	1474.
19	6.46	32.602	19	25.627	237.5	6.46	237.0	0.45	0.04	7.14	1474.
29	6.45	32.604	29	25.630	237.3	6.45	236.7	0.69	0.10	7.10	1474.
48	6.43	32.608	48	25.636	237.0	6.43	236.2	1.15	0.28	7.60	1474.
73	6.27	32.618	73	25.664	234.6	6.26	233.5	1.74	0.65	6.71	1474.
98	5.42	32.739	97	25.362	215.9	5.41	214.6	2.29	1.13	6.90	1471.
122	4.72	33.306	121	26.390	166.0	4.71	164.5	2.76	1.65	5.55	1470.
146	4.74	33.608	145	26.626	143.8	4.73	142.0	3.13	2.15	4.80	1470.
170	4.48	33.743	169	26.762	131.1	4.47	129.2	3.46	2.68	3.91	1470.
195	4.30	33.795	194	26.822	125.5	4.29	123.5	3.78	3.29	3.10	1470.
244	4.07	33.874	242	26.909	117.7	4.05	115.2	4.36	4.60	2.18	1470.
293	3.98	33.951	291	26.979	111.4	3.96	108.5	4.93	6.15	1.63	1470.
393	3.33	34.043	390	27.067	103.7	3.80	100.0	6.00	9.89	1.09	1471.
495	3.64	34.133	491	27.158	95.8	3.61	91.4	7.02	14.49	0.82	1472.
602	3.44	34.209	597	27.238	88.9	3.40	83.8	8.00	20.02	0.80	1473.
807	3.11	34.316	800	27.354	78.9	3.05	72.6	9.72	32.31	0.0	1475.
1013	2.87	34.333	1003	27.429	72.6	2.80	65.4	11.27	46.71	0.0	1478.
1218	2.61	34.445	1205	27.502	66.3	2.53	58.6	12.69	62.83	0.0	1480.
1525	2.34	34.505	1508	27.572	60.5	2.24	51.7	14.62	89.95	0.0	1484.
2035	1.98	34.584	2010	27.665	52.6	1.84	42.7	17.49	141.92	0.0	1491.
2544	1.74	34.632	2510	27.721	47.9	1.56	37.1	20.03	201.26	0.0	1499.
3055	1.59	34.654	3010	27.750	45.9	1.36	34.1	22.42	269.32	0.0	1507.
3557	1.54	34.678	3511	27.773	45.0	1.26	31.6	24.74	347.65	0.0	1515.
4032	1.52	34.686	4013	27.781	45.5	1.19	30.5	27.07	438.66	0.0	1524.
4186	1.51	34.691	4114	27.786	45.3	1.17	30.0	27.54	458.46	0.0	1526.
4277	1.53	34.690	4205	27.784	45.9	1.17	30.1	27.96	476.58	0.0	1528.
4239	1.53	34.682	4215	27.777	46.5	1.17	30.7	28.01	478.65	0.0	1528.



OFFSHORE OCEANOGRAPHY GROUP

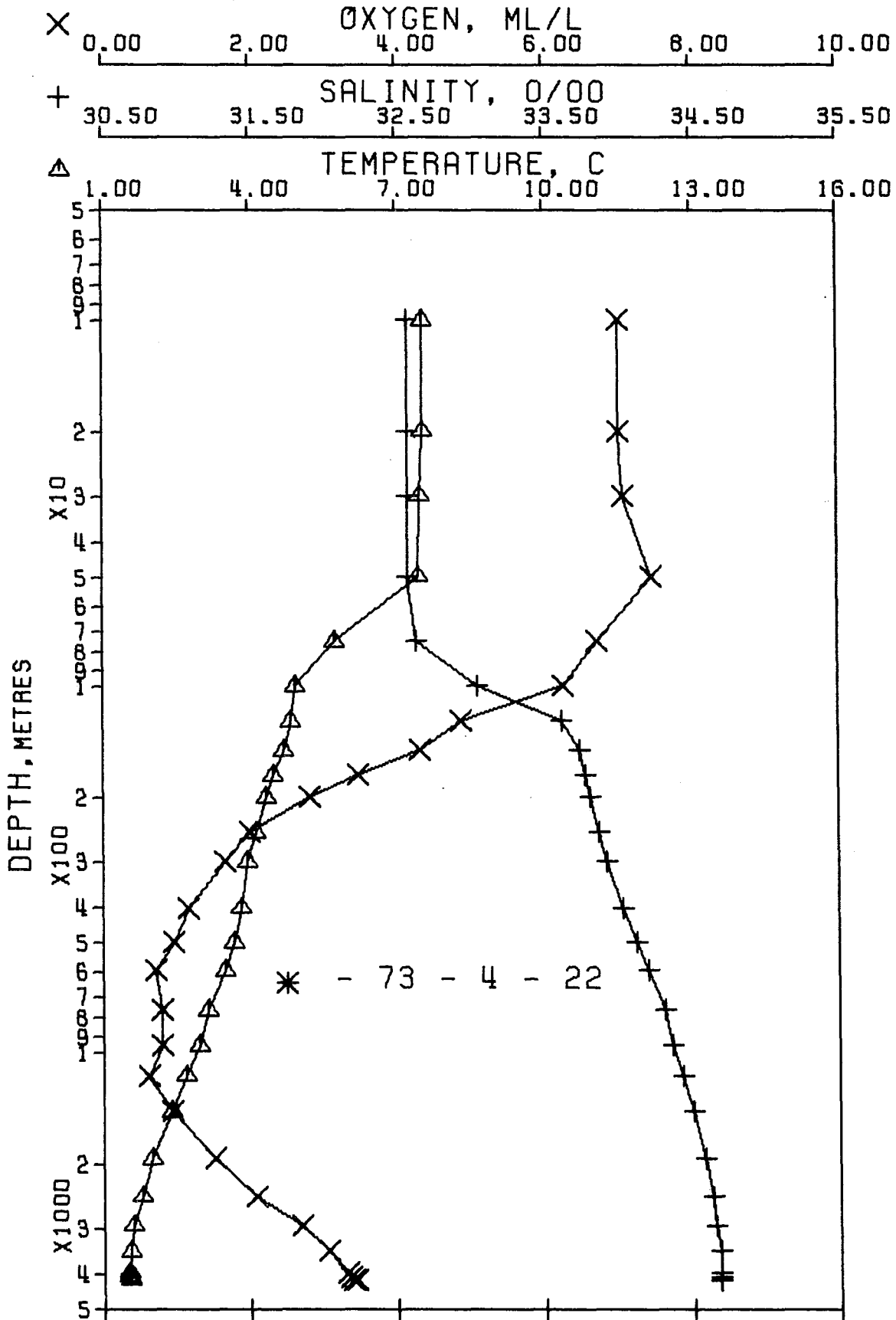
REFERENCE NO. 73- 4- 19

DATE 29/ 5/73

POSITION 50- 5.0 N, 144-55.0 W GMT 18.2

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	6.63	32.600	0	25.604	239.5	6.63	239.3	0.0	0.0	7.13	1474.
10	6.62	32.600	10	25.605	239.5	6.62	239.1	0.24	0.01	7.09	1475.
20	6.64	32.598	20	25.601	240.0	6.64	239.6	0.48	0.05	7.10	1475.
30	6.60	32.601	30	25.609	239.4	6.60	238.8	0.72	0.11	7.12	1475.
50	6.53	32.604	50	25.620	238.6	6.53	237.6	1.20	0.31	7.53	1475.
75	6.36	32.611	75	25.647	236.3	6.35	235.1	1.81	0.69	6.66	1475.
101	5.36	32.736	100	25.867	215.5	5.35	214.2	2.38	1.21	6.85	1471.
126	4.32	33.482	125	26.518	153.9	4.81	152.3	2.85	1.75	5.25	1470.
151	4.63	33.680	150	26.696	137.2	4.62	135.5	3.21	2.25	4.54	1470.
176	4.42	33.757	175	26.779	129.4	4.41	127.5	3.54	2.81	3.58	1470.
201	4.25	33.795	200	26.827	125.1	4.24	122.9	3.86	3.43	2.97	1470.
252	4.08	33.880	250	26.913	117.4	4.06	114.9	4.47	4.84	1.94	1470.
302	3.93	33.952	300	26.930	111.4	3.96	108.4	5.05	6.46	1.48	1470.
403	3.79	34.055	400	27.081	102.5	3.76	98.8	6.12	10.33	1.08	1471.
504	3.65	34.125	500	27.151	96.6	3.61	92.1	7.12	14.97	0.85	1472.
605	3.45	34.184	600	27.217	90.8	3.41	85.7	8.07	20.32	0.77	1473.
797	3.15	34.309	790	27.345	79.7	3.10	73.6	9.70	31.98	0.56	1475.
994	2.36	34.383	984	27.430	72.4	2.79	65.4	11.19	45.55	0.59	1477.
1191	2.63	34.438	1179	27.494	66.9	2.55	59.2	12.56	60.84	0.70	1480.
1489	2.33	34.501	1473	27.570	60.4	2.23	52.0	14.46	86.69	0.80	1484.
1991	1.96	34.586	1967	27.668	52.1	1.82	42.5	17.26	136.31	1.41	1490.
2497	1.75	34.631	2464	27.720	48.0	1.57	37.2	19.77	193.92	2.07	1498.
3006	1.59	34.663	2962	27.758	45.2	1.37	33.5	22.13	259.98	2.63	1506.
3513	1.53	34.675	3458	27.772	44.9	1.26	31.8	24.40	335.57	3.05	1514.
4018	1.53	34.684	3951	27.779	45.6	1.20	30.7	26.69	423.31	3.28	1523.
4119	1.51	34.683	4049	27.779	45.7	1.17	30.6	27.14	442.34	3.37	1525.
4209	1.51	34.682	4137	27.779	46.0	1.16	30.6	27.56	459.91	3.41	1526.
4220	1.52	34.684	4147	27.779	46.0	1.17	30.6	27.61	461.93	3.38	1527.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 22

DATE 17/ 6/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 17.9

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	7.55	32.586	0	25.469	252.4	7.55	252.2	0.0	0.0	6.97	1478.
10	7.54	32.578	10	25.464	253.0	7.54	252.6	0.25	0.01	7.03	1478.
20	7.55	32.582	20	25.466	252.9	7.55	252.4	0.51	0.05	7.02	1478.
30	7.49	32.581	30	25.473	252.3	7.49	251.6	0.76	0.12	7.07	1478.
50	7.44	32.582	50	25.481	251.9	7.44	250.9	1.27	0.33	7.47	1478.
75	5.75	32.643	75	25.748	226.6	5.74	225.5	1.88	0.72	6.72	1472.
101	4.93	33.053	100	26.166	187.0	4.92	185.7	2.40	1.19	6.25	1470.
126	4.83	33.620	125	26.626	143.6	4.82	142.1	2.82	1.66	4.87	1471.
151	4.69	33.741	150	26.737	133.3	4.68	131.5	3.16	2.14	4.32	1471.
176	4.48	33.779	175	26.790	128.5	4.47	126.4	3.49	2.69	3.48	1470.
202	4.33	33.807	201	26.829	125.0	4.32	122.8	3.82	3.33	2.81	1470.
253	4.11	33.867	251	26.899	118.7	4.09	116.1	4.43	4.76	2.00	1470.
304	3.94	33.921	302	26.959	113.3	3.92	110.3	5.03	6.45	1.65	1470.
406	3.81	34.027	403	27.057	104.8	3.78	101.0	6.14	10.47	1.16	1471.
506	3.67	34.124	502	27.148	96.9	3.63	92.3	7.15	15.15	0.96	1473.
602	3.50	34.202	597	27.226	90.1	3.46	84.8	8.04	20.22	0.72	1474.
771	3.12	34.309	764	27.348	79.3	3.07	73.3	9.46	30.15	0.81	1475.
966	2.94	34.360	957	27.405	74.8	2.87	67.8	10.96	43.44	0.80	1477.
1164	2.68	34.430	1152	27.484	67.9	2.60	60.3	12.37	58.73	0.62	1480.
1463	2.37	34.504	1447	27.569	60.5	2.27	52.1	14.28	84.30	0.93	1483.
1969	1.99	34.579	1945	27.660	52.8	1.85	43.2	17.12	133.95	1.52	1490.
2482	1.78	34.626	2449	27.714	48.7	1.60	37.9	19.71	192.76	2.07	1498.
2998	1.60	34.654	2955	27.750	45.9	1.38	34.2	22.14	260.74	2.71	1506.
3516	1.54	34.676	3461	27.772	45.0	1.27	31.8	24.48	338.51	3.06	1515.
4033	1.51	34.682	3965	27.779	45.5	1.18	30.7	26.82	428.34	3.33	1523.
4135	1.51	34.684	4065	27.780	45.6	1.17	30.6	27.29	447.79	3.37	1525.
4228	1.54	34.683	4155	27.777	46.4	1.19	30.7	27.71	465.84	3.43	1527.
4238	1.54*	34.681	4165	27.775	46.6	1.19	30.9	27.76	467.90	3.40	1527.

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RESULTS OF STD OBSERVATIONS

(P-73-4)

SALINITY DIFFERENCE, BOTTLE - S.T.D. ‰

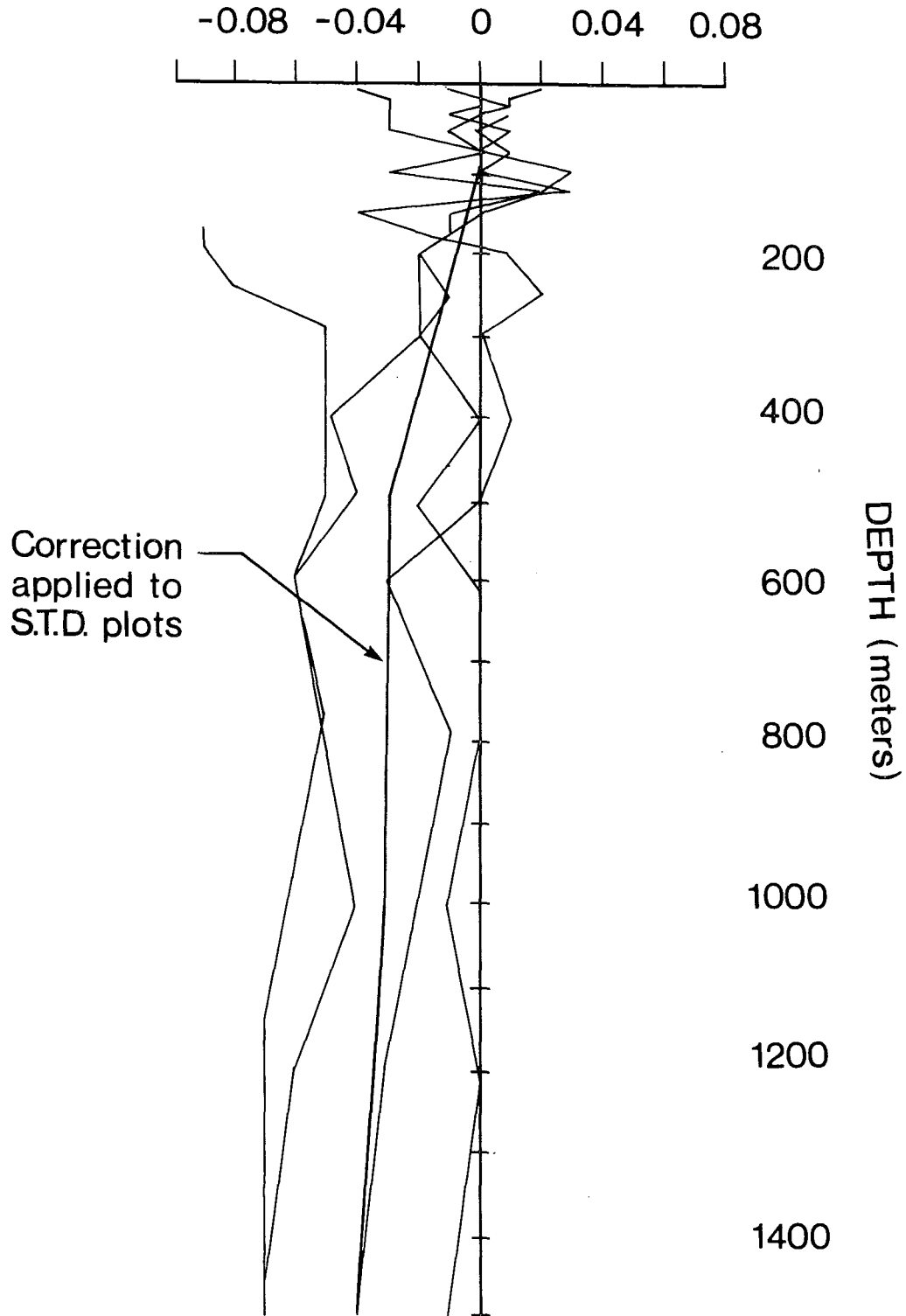


Figure 5 Salinity difference between hydro data and STD. P-73-4.

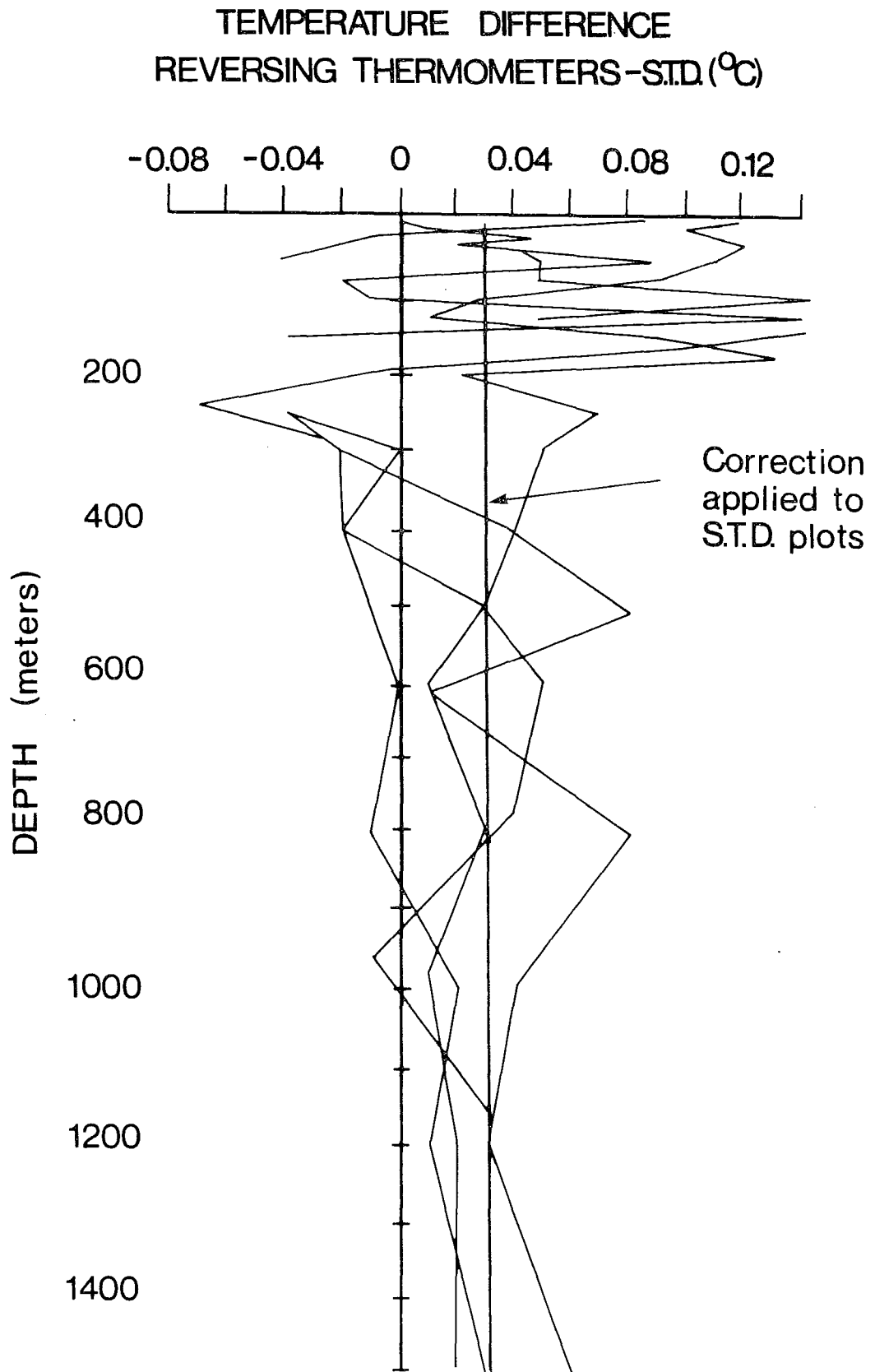


Figure 6 Temperature difference between hydro data and STD. P-73-4.

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 1

DATE 11/ 5/73

POSITION 48-33.0N, 125-32.0W GMT 23.7

RESULTS OF STP CAST 99 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.17	32.03	0	24.63	331.8	0.0	0.0	1487.
10	9.66	32.03	10	24.72	324.2	0.33	0.02	1485.
20	8.82	32.19	20	24.97	299.9	0.64	0.06	1483.
30	8.44	32.35	30	25.16	282.6	0.93	0.14	1482.
50	7.69	32.84	50	25.65	235.7	1.46	0.35	1480.
75	7.31	33.42	75	26.16	188.1	2.00	0.70	1479.
100	7.01	33.61	99	26.35	170.3	2.44	1.09	1479.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.17	32.03	27.	8.52	32.25	72.	7.38	33.27
2.	10.10	32.03	29.	8.46	32.28	73.	7.38	33.32
2.	10.15	32.03	30.	8.44	32.35	73.	7.36	33.35
4.	10.01	32.03	31.	8.26	32.36	74.	7.35	33.41
4.	10.05	32.03	33.	8.25	32.36	76.	7.27	33.43
5.	10.02	32.03	35.	8.25	32.40	78.	7.25	33.46
6.	10.05	32.03	35.	8.23	32.39	79.	7.25	33.46
7.	10.07	32.03	36.	8.23	32.42	79.	7.23	33.46
7.	9.93	32.03	38.	8.15	32.47	80.	7.23	33.46
8.	9.88	32.03	40.	8.05	32.55	81.	7.23	33.48
9.	9.75	32.03	41.	8.00	32.56	82.	7.23	33.48
10.	9.66	32.03	42.	7.99	32.56	83.	7.22	33.48
10.	9.63	32.03	43.	7.98	32.60	84.	7.20	33.50
11.	9.50	32.06	44.	7.94	32.63	85.	7.19	33.50
11.	9.48	32.06	45.	7.89	32.69	86.	7.18	33.55
12.	9.41	32.06	46.	7.87	32.74	88.	7.08	33.58
13.	9.31	32.09	49.	7.75	32.83	89.	7.08	33.59
13.	9.29	32.09	49.	7.70	32.84	90.	7.07	33.59
13.	9.20	32.09	51.	7.69	32.85	90.	7.06	33.59
14.	9.11	32.09	51.	7.69	32.85	93.	7.06	33.59
15.	9.07	32.10	55.	7.69	32.86	93.	7.04	33.59
17.	8.98	32.12	56.	7.69	32.90	95.	7.03	33.60
18.	8.95	32.16	56.	7.63	32.94	95.	7.02	33.60
18.	8.93	32.16	58.	7.58	32.97	96.	7.02	33.61
19.	8.78	32.16	59.	7.56	32.98	100.	7.01	33.61
19.	8.78	32.16	59.	7.56	32.98	101.	7.01	33.62
20.	8.82	32.19	60.	7.56	32.99	101.	7.00	33.62
21.	8.70	32.19	61.	7.55	33.02	105.	6.99	33.62
22.	8.69	32.20	67.	7.55	33.07	106.	6.97	33.62
23.	8.68	32.22	68.	7.50	33.19	108.	6.97	33.62
23.	8.64	32.22	69.	7.38	33.25	113.	6.97	33.62
25.	8.59	32.23	70.	7.38	33.26			
26.	8.57	32.23	71.	7.38	33.26			
27.	8.56	32.25	72.	7.38	33.27			

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REFERENCE NO. 73- 4- 2

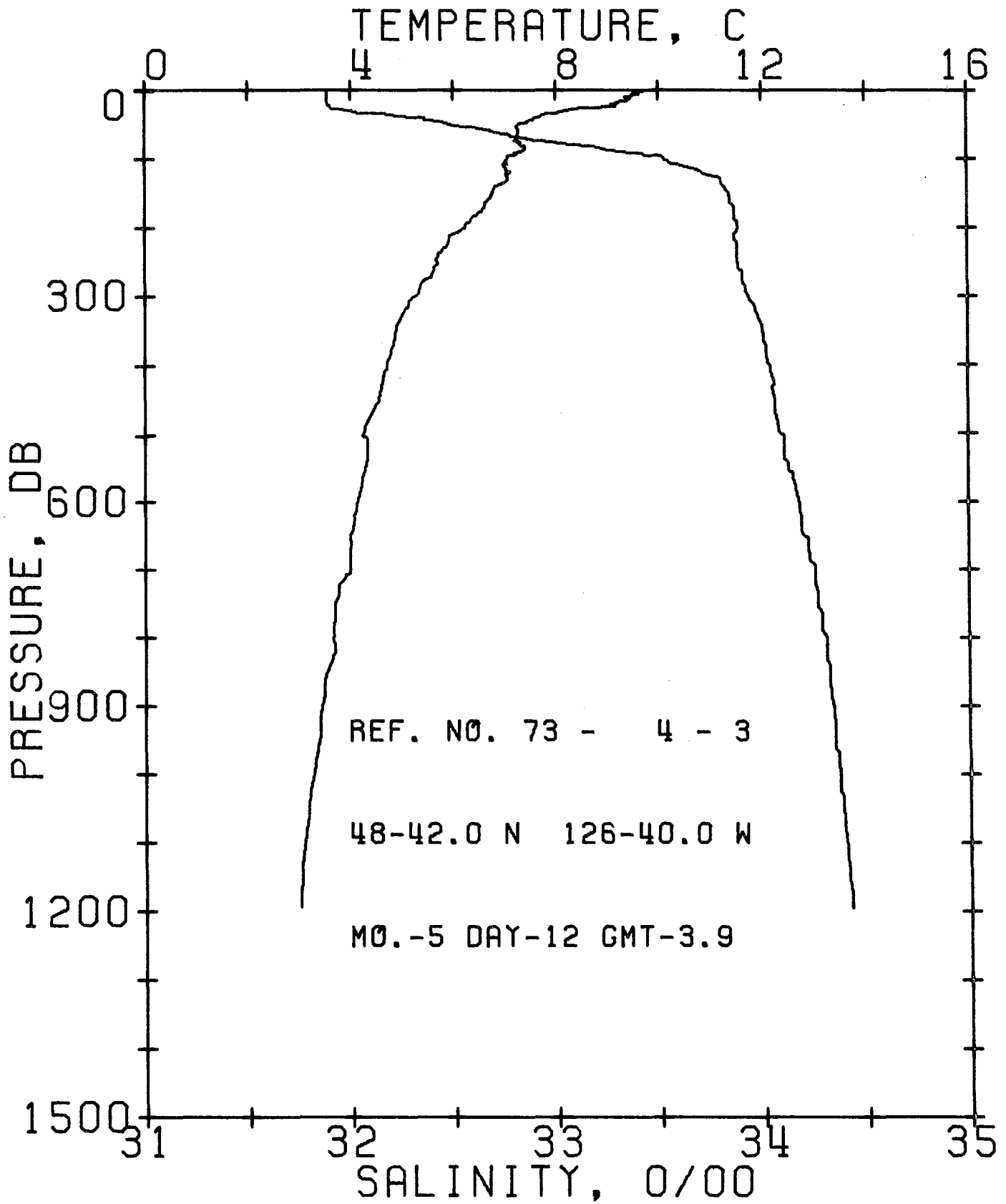
DATE 12/ 5/73

POSITION 48-38.0N, 126- 0.0W GMT 1.6

RESULTS OF STP CAST 87 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.32	31.81	0	24.44	350.5	0.0	0.0	1487.
10	9.85	31.79	10	24.50	345.0	0.35	0.02	1486.
20	9.44	31.82	20	24.59	336.2	0.69	0.07	1485.
30	8.91	31.76	30	24.78	318.4	1.02	0.15	1483.
50	7.34	32.92	50	25.76	225.3	1.52	0.36	1478.
75	7.29	33.22	75	26.00	202.5	2.06	0.70	1479.
100	7.00	33.77	99	26.47	158.3	2.50	1.09	1479.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	10.32	31.81	38.	7.41	32.62	82.	7.22	33.46
1.	10.34	31.80	40.	7.41	32.64	82.	7.20	33.47
1.	10.30	31.80	41.	7.40	32.65	84.	7.19	33.50
4.	10.14	31.79	42.	7.38	32.68	84.	7.18	33.52
4.	10.10	31.79	43.	7.37	32.72	86.	7.18	33.56
5.	10.09	31.79	44.	7.37	32.75	86.	7.15	33.62
6.	9.94	31.79	45.	7.36	32.76	86.	7.14	33.64
9.	9.86	31.79	45.	7.36	32.86	87.	7.10	33.64
12.	9.84	31.79	46.	7.34	32.87	88.	7.10	33.65
16.	9.82	31.79	47.	7.34	32.89	89.	7.10	33.67
17.	9.79	31.79	48.	7.34	32.90	93.	7.09	33.67
18.	9.65	31.82	50.	7.34	32.92	93.	7.09	33.69
19.	9.51	31.82	51.	7.34	32.93	94.	7.08	33.69
21.	9.37	31.83	53.	7.34	32.93	95.	7.08	33.70
22.	9.36	31.85	56.	7.34	32.97	96.	7.07	33.72
23.	9.30	31.86	56.	7.36	32.97	96.	7.06	33.72
24.	9.21	31.86	57.	7.35	32.97	97.	7.04	33.73
25.	9.15	31.90	58.	7.35	32.99	100.	7.00	33.77
26.	9.01	31.91	59.	7.34	33.00	101.	6.98	33.78
27.	9.00	31.91	60.	7.34	33.01	103.	6.96	33.78
28.	8.94	31.93	61.	7.33	33.05	103.	6.94	33.78
29.	8.92	31.94	61.	7.32	33.06	109.	6.94	33.79
30.	8.91	31.96	63.	7.32	33.07	110.	6.92	33.79
31.	8.69	32.00	65.	7.32	33.10			
32.	8.42	32.19	68.	7.32	33.12			
33.	8.18	32.35	70.	7.30	33.13			
34.	7.63	32.44	71.	7.28	33.20			
35.	7.60	32.46	74.	7.29	33.22			
35.	7.60	32.49	77.	7.30	33.23			
36.	7.55	32.52	78.	7.30	33.30			
37.	7.54	32.56	79.	7.30	33.33			
38.	7.47	32.62	80.	7.24	33.39			



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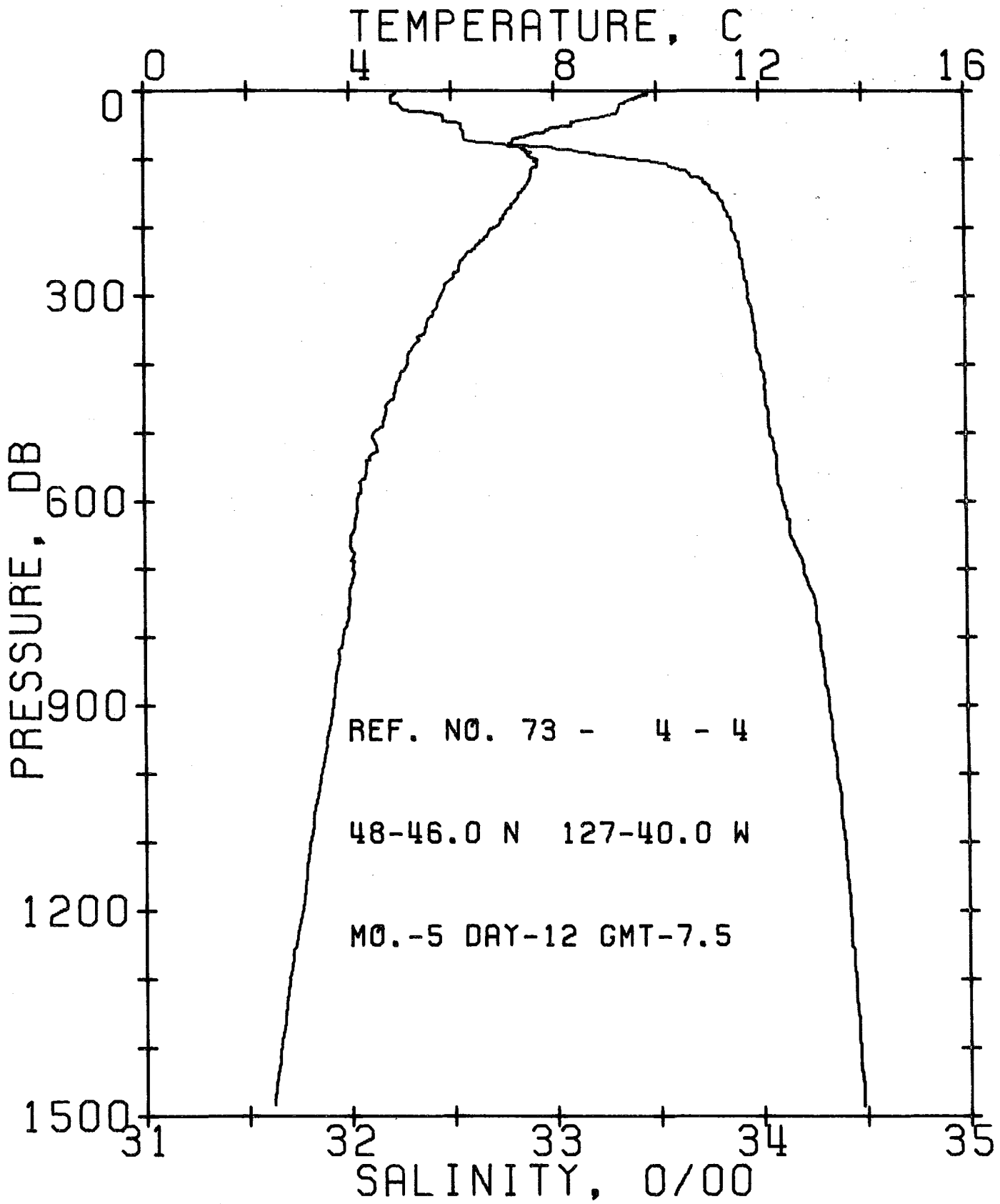
REFERENCE NO. 73- 4- 3

DATE 12/ 5/73

POSITION 48-42.0N, 126-40.0W GMT 3.9

RESULTS OF STP CAST 281 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.96	31.89	0	24.56	338.8	0.0	0.0	1486.
10	9.46	31.89	10	24.64	331.5	0.33	0.02	1485.
20	9.21	31.89	20	24.68	327.9	0.66	0.07	1484.
30	8.18	31.98	30	24.90	306.5	0.98	0.15	1480.
50	7.32	32.47	50	25.41	258.3	1.54	0.37	1478.
75	7.25	32.99	75	25.83	219.3	2.14	0.76	1479.
100	7.08	33.53	99	26.27	177.2	2.64	1.20	1479.
125	7.05	33.77	124	26.47	159.3	3.06	1.68	1480.
150	6.78	33.84	149	26.56	150.9	3.45	2.22	1479.
175	6.57	33.87	174	26.61	146.2	3.82	2.84	1479.
200	6.24	33.89	199	26.67	140.9	4.18	3.52	1478.
225	5.87	33.88	223	26.71	137.3	4.53	4.28	1477.
250	5.69	33.88	248	26.73	135.5	4.87	5.10	1476.
300	5.26	33.93	298	26.82	127.0	5.53	6.94	1476.
400	4.58	34.03	397	26.97	113.9	6.71	11.17	1475.
500	4.26	34.09	496	27.06	106.1	7.82	16.22	1475.
600	4.13	34.17	595	27.14	98.9	8.85	21.99	1476.
800	3.64	34.30	793	27.29	85.4	10.69	35.09	1478.
1000	3.25	34.37	991	27.38	77.7	12.32	50.05	1479.



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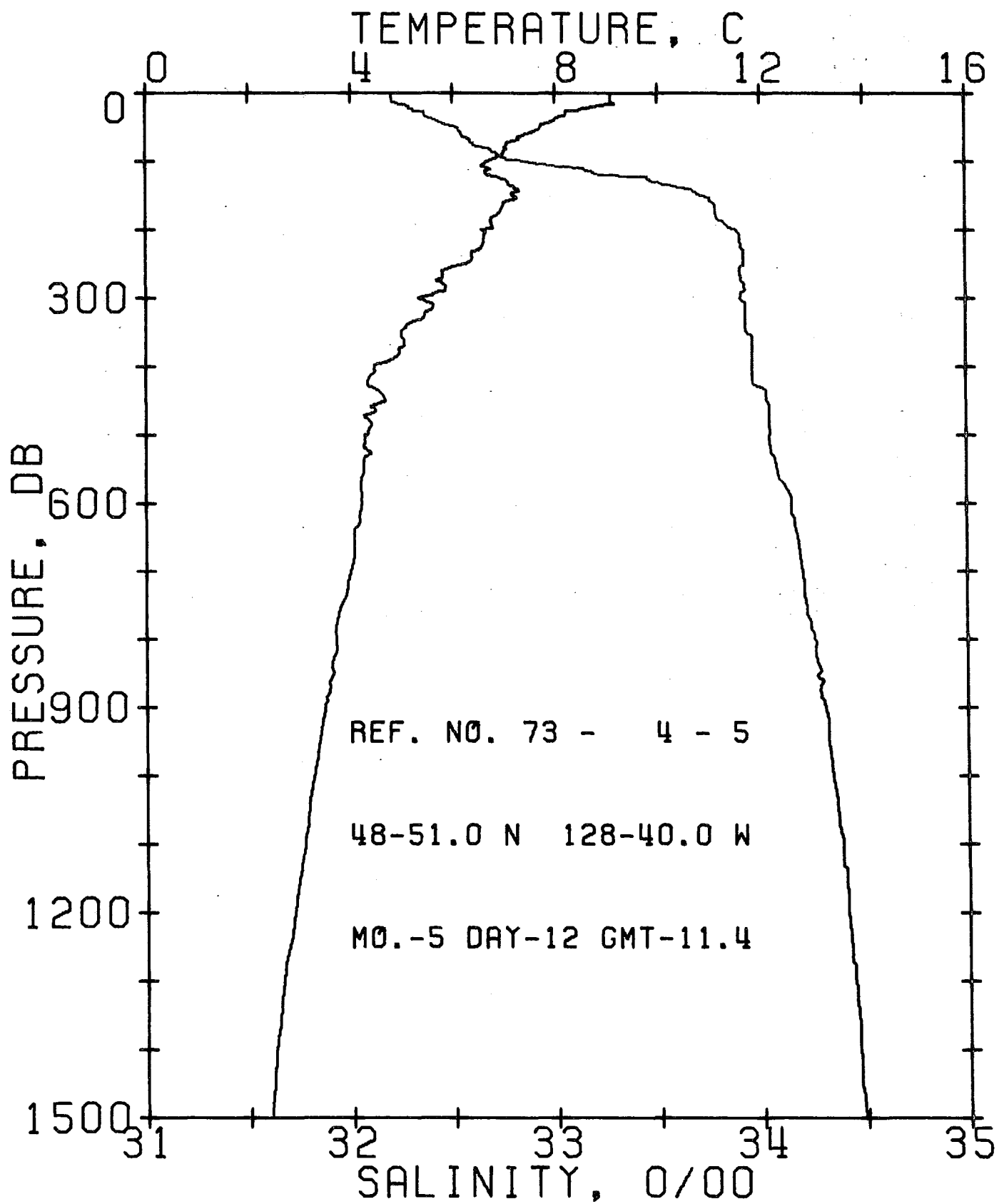
REFERENCE NO. 73- 4- 4

DATE 12/ 5/73

POSITION 48-46.0N, 127-40.0W GMT 7.5

RESULTS OF STP CAST 307 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.82	32.23	0	24.85	311.4	0.0	0.0	1486.
10	9.64	32.21	10	24.86	310.5	0.31	0.02	1486.
20	9.28	32.24	20	24.94	303.0	0.62	0.06	1485.
30	9.25	32.32	30	25.01	296.7	0.92	0.14	1485.
50	8.35	32.55	50	25.33	266.8	1.48	0.37	1482.
75	7.16	32.54	75	25.56	244.2	2.12	0.78	1478.
100	7.62	33.36	99	26.07	197.1	2.67	1.26	1481.
125	7.54	33.67	124	26.32	173.3	3.12	1.78	1481.
150	7.36	33.79	149	26.44	162.6	3.54	2.36	1481.
175	7.07	33.94	174	26.52	155.1	3.94	3.02	1481.
200	6.86	33.37	199	26.57	150.5	4.32	3.75	1480.
225	6.52	33.90	223	26.64	144.1	4.69	4.55	1479.
250	6.17	33.92	248	26.70	138.5	5.04	5.40	1478.
300	5.76	33.74	298	26.77	132.2	5.72	7.30	1478.
400	5.11	34.01	397	26.90	120.5	6.98	11.80	1477.
500	4.47	34.05	496	27.01	111.2	8.14	17.12	1476.
600	4.13	34.11	595	27.09	103.7	9.22	23.15	1476.
800	3.86	34.29	793	27.26	89.2	11.15	36.85	1478.
1000	3.41	34.36	991	27.36	80.2	12.84	52.33	1480.
1200	3.03	34.42	1138	27.45	72.5	14.35	69.33	1482.



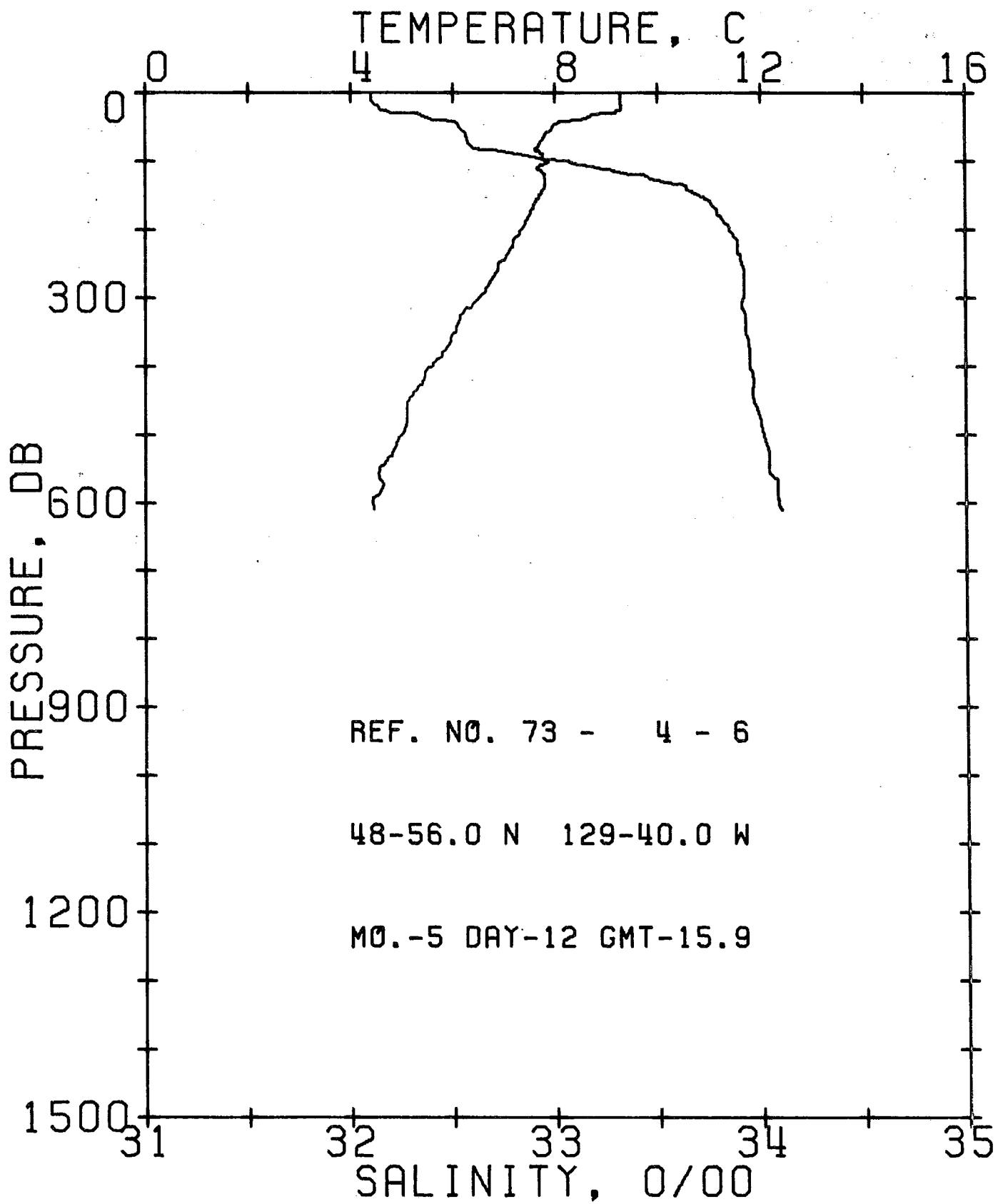
OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 5 DATE 12/ 5/73

POSITION 48-51.0N, 128-40.0W GMT 11.4

RESULTS OF STP CAST 295 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.10	32.20	0	24.94	302.7	0.0	0.0	1483.
10	9.10	32.20	10	24.94	303.0	0.30	0.02	1484.
20	8.79	32.29	20	25.06	292.0	0.60	0.06	1483.
30	8.22	32.36	30	25.20	278.8	0.89	0.13	1481.
50	7.71	32.51	50	25.39	260.5	1.43	0.35	1479.
75	7.07	32.60	75	25.55	246.0	2.06	0.76	1477.
100	6.71	32.83	99	25.78	224.2	2.65	1.28	1477.
125	6.95	33.45	124	26.23	181.8	3.16	1.86	1479.
150	7.16	33.71	149	26.41	165.6	3.60	2.47	1480.
175	6.91	33.78	174	26.49	157.4	4.00	3.14	1480.
200	6.66	33.88	199	26.61	147.0	4.38	3.87	1479.
225	6.56	33.91	223	26.64	143.8	4.74	4.65	1480.
250	6.22	33.92	248	26.70	139.1	5.10	5.51	1479.
300	5.35	33.90	298	26.79	130.1	5.77	7.39	1476.
400	4.46	33.96	397	26.94	116.8	7.02	11.85	1474.
500	4.31	34.04	496	27.02	109.7	8.15	17.02	1475.
600	4.21	34.15	595	27.11	101.6	9.21	22.97	1476.
800	3.69	34.25	793	27.25	90.0	11.13	36.63	1478.
1000	3.24	34.34	991	27.36	79.9	12.82	52.11	1479.
1200	2.85	34.41	1188	27.45	71.5	14.33	68.95	1481.



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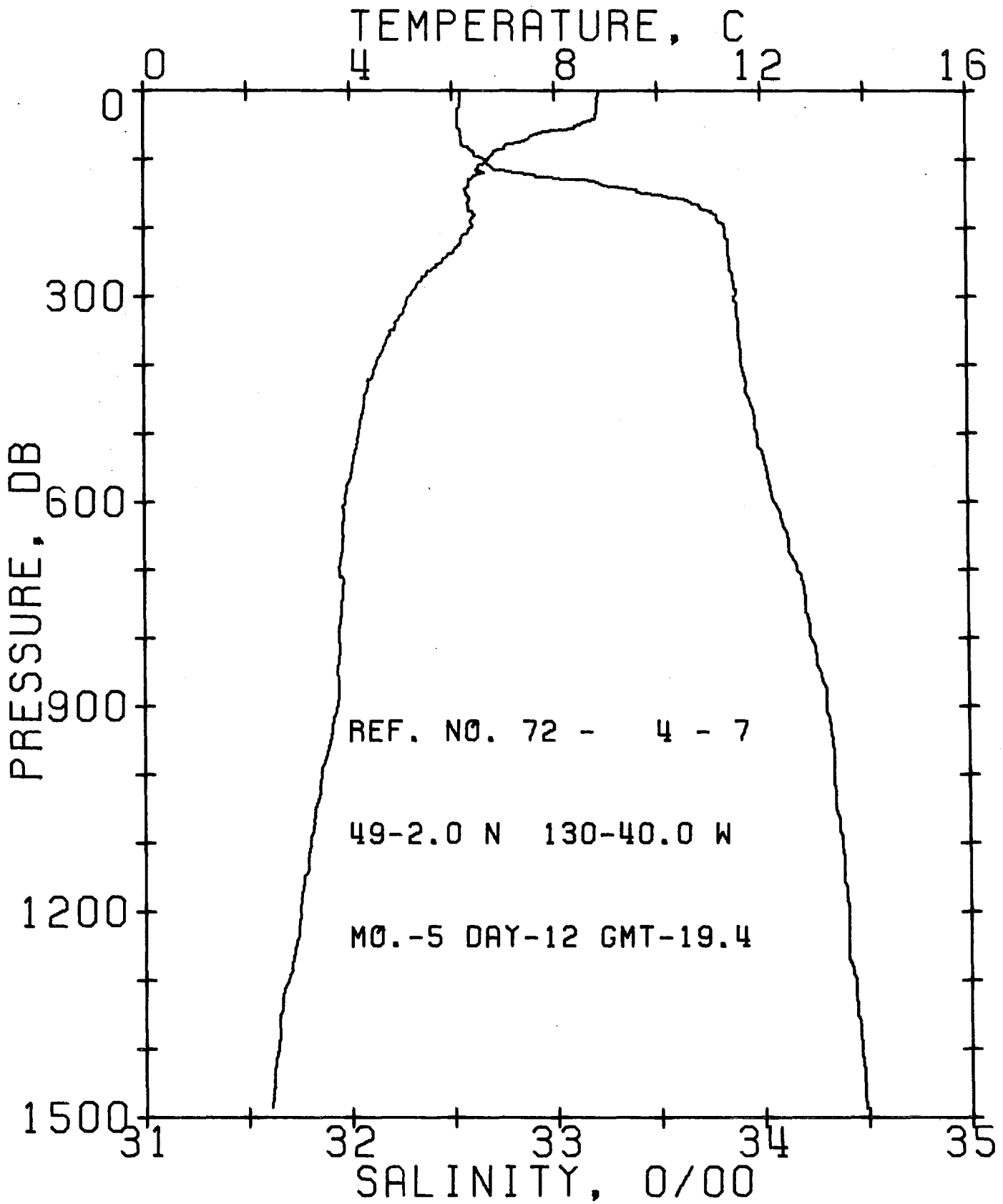
REFERENCE NO. 73- 4- 6

DATE 12/ 5/73

POSITION 48-56.0N, 129-40.0W GMT 15.9

RESULTS OF STP CAST 179 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.29	32.10	0	24.83	313.0	0.0	0.0	1484.
10	9.29	32.10	10	24.83	313.3	0.31	0.02	1484.
20	9.31	32.13	20	24.85	311.5	0.63	0.06	1485.
30	9.18	32.20	30	24.92	304.6	0.93	0.14	1484.
50	7.95	32.53	50	25.37	262.9	1.49	0.37	1480.
75	7.69	32.58	75	25.44	255.9	2.14	0.78	1480.
100	7.82	33.03	99	25.78	224.4	2.74	1.32	1481.
125	7.80	33.46	124	26.12	192.6	3.26	1.91	1482.
150	7.70	33.70	149	26.32	173.8	3.72	2.55	1483.
175	7.51	33.79	174	26.42	164.8	4.14	3.25	1482.
200	7.34	33.35	199	26.49	158.5	4.54	4.02	1482.
225	7.16	33.89	223	26.55	153.3	4.93	4.86	1482.
250	6.90	33.91	248	26.60	148.9	5.31	5.78	1481.
300	6.50	33.92	298	26.66	143.6	6.04	7.83	1481.
400	5.59	33.95	397	26.80	130.8	7.41	12.70	1479.
500	4.98	34.01	496	26.92	119.8	8.66	18.42	1479.
600	4.44	34.09	595	27.04	108.8	9.80	24.79	1477.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 72- 4- 7

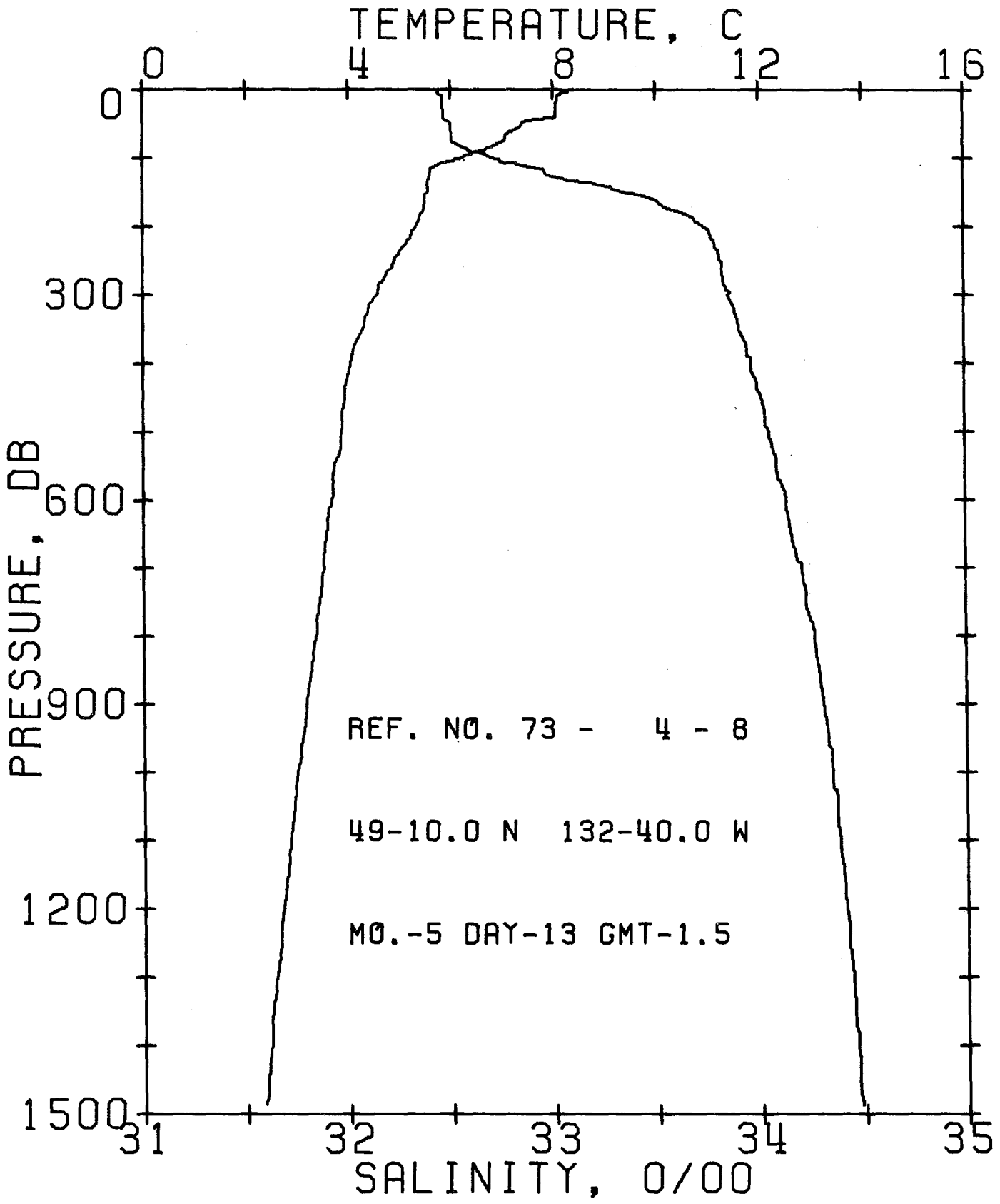
DATE 12/ 5/72

POSITION 49- 2.0N, 130-40.0W

GMT 19.4

RESULTS OF STP CAST 326 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.88	32.54	0	25.24	274.2	0.0	0.0	1483.
10	8.84	32.54	10	25.24	274.0	0.27	0.01	1483.
20	8.83	32.54	20	25.24	274.0	0.55	0.06	1483.
30	8.83	32.53	30	25.24	274.9	0.82	0.13	1483.
50	8.47	32.53	50	25.29	270.0	1.37	0.35	1482.
75	7.32	32.55	75	25.47	253.0	2.02	0.76	1478.
100	6.71	32.66	99	25.64	237.2	2.64	1.31	1476.
125	6.41	32.91	124	25.88	215.1	3.21	1.97	1476.
150	6.30	33.43	149	26.30	175.3	3.69	2.63	1477.
175	6.33	33.76	174	26.56	151.4	4.09	3.30	1478.
200	6.37	33.82	199	26.60	147.5	4.46	4.01	1478.
225	6.12	33.84	223	26.65	143.4	4.83	4.80	1478.
250	5.80	33.85	248	26.69	139.1	5.18	5.66	1477.
300	5.15	33.87	298	26.79	130.1	5.85	7.53	1475.
400	4.50	33.70	397	26.89	121.6	7.11	12.01	1474.
500	4.16	33.98	495	26.98	112.9	8.28	17.36	1474.
600	3.89	34.06	595	27.07	105.1	9.37	23.47	1475.
800	3.77	34.23	793	27.22	92.3	11.31	37.30	1478.
1000	3.42	34.34	991	27.34	81.8	13.04	53.14	1480.
1200	2.99	34.41	1188	27.44	73.1	14.59	70.46	1481.



OFFSHORE OCEANOGRAPHY GROUP

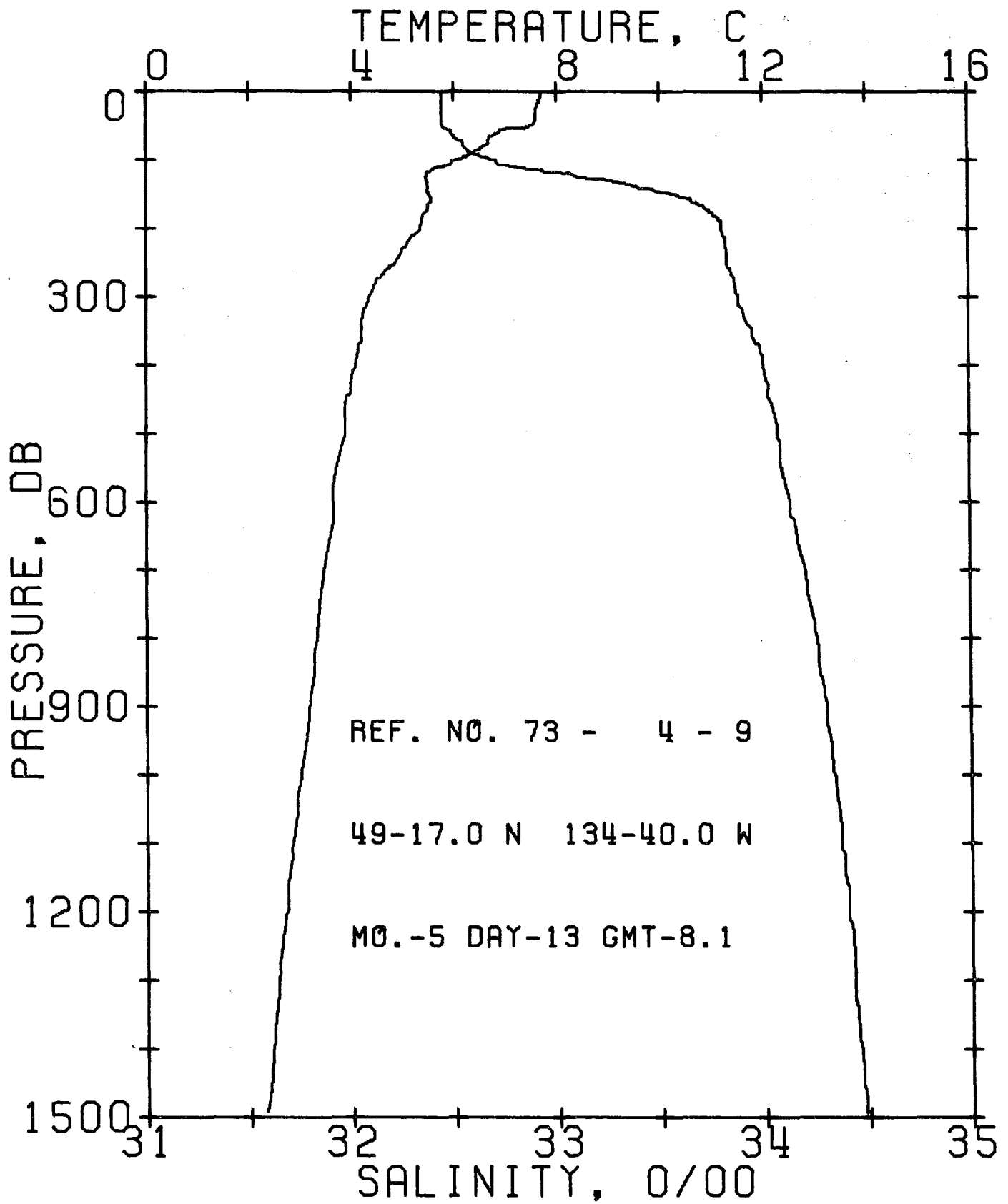
REFERENCE NO. 73- 4- 8

DATE 13/ 5/73

POSITION 49-10.0N, 132-40.0W GMT 1.5

RESULTS OF STP CAST 217 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.39	32.44	0	25.23	274.6	0.0	0.0	1481.
10	8.09	32.46	10	25.29	269.2	0.27	0.01	1480.
20	8.06	32.46	20	25.30	268.9	0.54	0.05	1480.
30	8.05	32.46	30	25.30	268.7	0.81	0.12	1480.
50	7.42	32.50	50	25.42	258.0	1.34	0.34	1478.
75	7.05	32.51	75	25.48	252.5	1.98	0.75	1477.
100	6.25	32.70	99	25.73	228.5	2.58	1.28	1475.
125	5.59	32.97	124	26.02	201.1	3.11	1.89	1473.
150	5.54	33.33	149	26.31	173.6	3.58	2.54	1473.
175	5.46	33.57	174	26.51	155.3	3.98	3.21	1474.
200	5.31	33.73	199	26.66	141.5	4.35	3.91	1474.
225	5.13	33.78	223	26.72	135.9	4.70	4.66	1474.
250	4.91	33.81	248	26.77	131.6	5.03	5.47	1473.
300	4.56	33.85	298	26.84	124.8	5.67	7.27	1473.
400	4.03	33.96	397	26.98	112.2	6.85	11.47	1472.
500	3.84	34.05	496	27.07	104.2	7.93	16.42	1473.
600	3.65	34.13	595	27.15	97.0	8.95	22.08	1474.
800	3.33	34.26	793	27.29	85.3	10.78	35.10	1476.
1000	2.97	34.35	990	27.39	76.1	12.39	49.90	1478.
1200	2.69	34.41	1188	27.47	69.8	13.85	66.24	1480.



OFFSHORE OCEANOGRAPHY GROUP

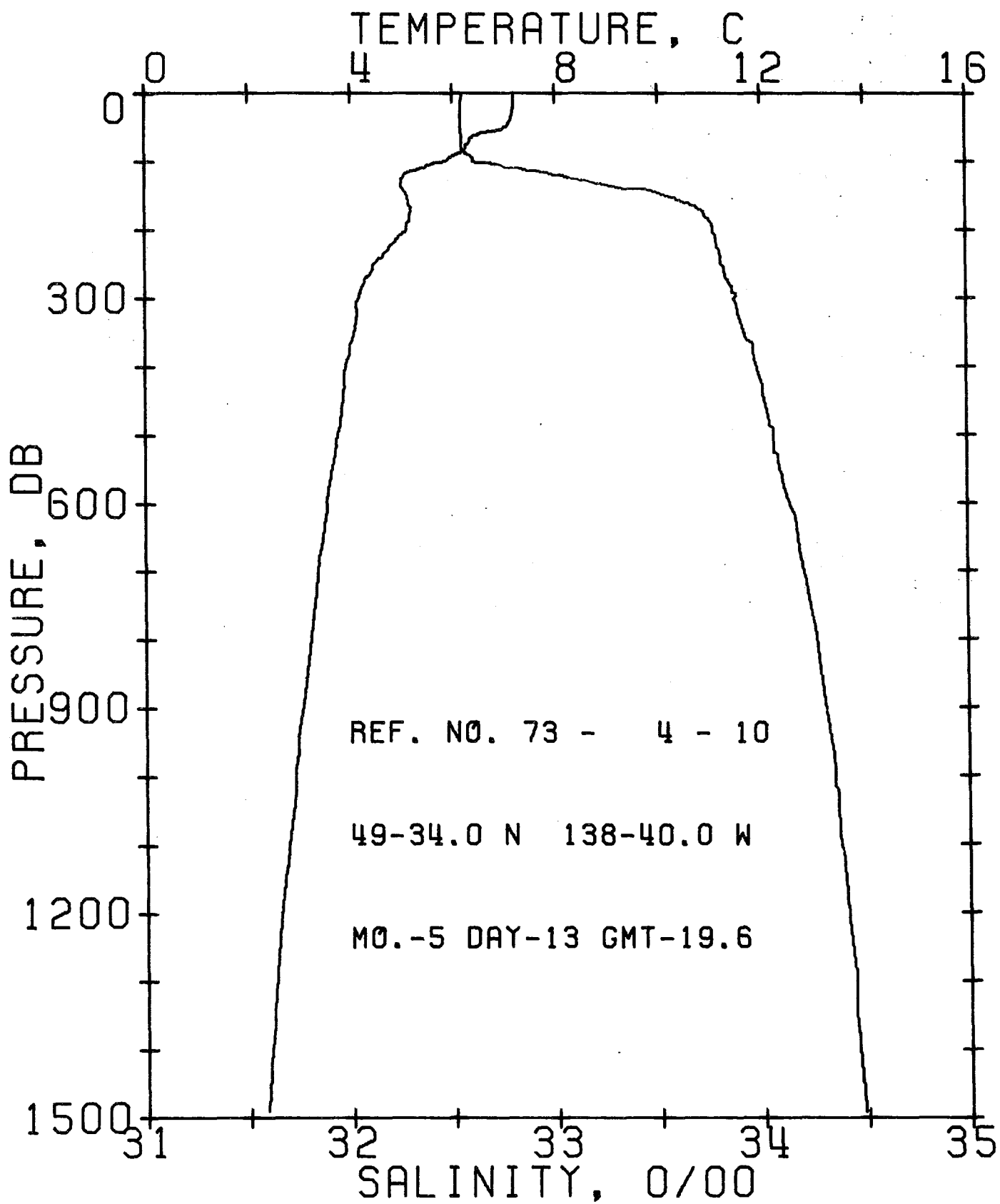
REFERENCE NO. 73- 4- 9

DATE 13/ 5/73

POSITION 49-17.0N, 134-40.0W GMT 8.1

RESULTS OF STP CAST 235 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PJT. EN	SOUND
0	7.71	32.44	0	25.33	265.1	0.0	0.0	1478.
10	7.68	32.44	10	25.34	265.1	0.27	0.01	1479.
20	7.62	32.44	20	25.34	264.4	0.53	0.05	1478.
30	7.60	32.44	30	25.35	264.3	0.79	0.12	1479.
50	7.51	32.45	50	25.37	262.7	1.32	0.34	1479.
75	6.69	32.55	75	25.56	244.9	1.95	0.74	1476.
100	6.14	32.68	99	25.73	228.8	2.55	1.27	1474.
125	5.47	33.11	124	26.15	189.0	3.08	1.87	1472.
150	5.52	33.55	149	26.49	156.0	3.50	2.47	1474.
175	5.45	33.74	174	26.65	142.2	3.87	3.08	1474.
200	5.34	33.80	199	26.71	136.7	4.22	3.74	1474.
225	5.08	33.82	223	26.76	132.5	4.55	4.47	1473.
250	4.85	33.83	248	26.79	129.5	4.88	5.26	1473.
300	4.34	33.88	298	26.89	120.5	5.50	7.00	1472.
400	4.08	34.00	397	27.01	109.6	6.65	11.08	1472.
500	3.86	34.07	496	27.09	102.9	7.71	15.93	1473.
600	3.63	34.13	595	27.16	96.8	8.71	21.53	1474.
800	3.30	34.25	793	27.28	85.7	10.53	34.49	1476.
1000	2.99	34.34	990	27.38	77.3	12.16	49.44	1478.
1200	2.70	34.40	1188	27.46	70.6	13.63	65.88	1480.



OFFSHORE OCEANOGRAPHY GROUP

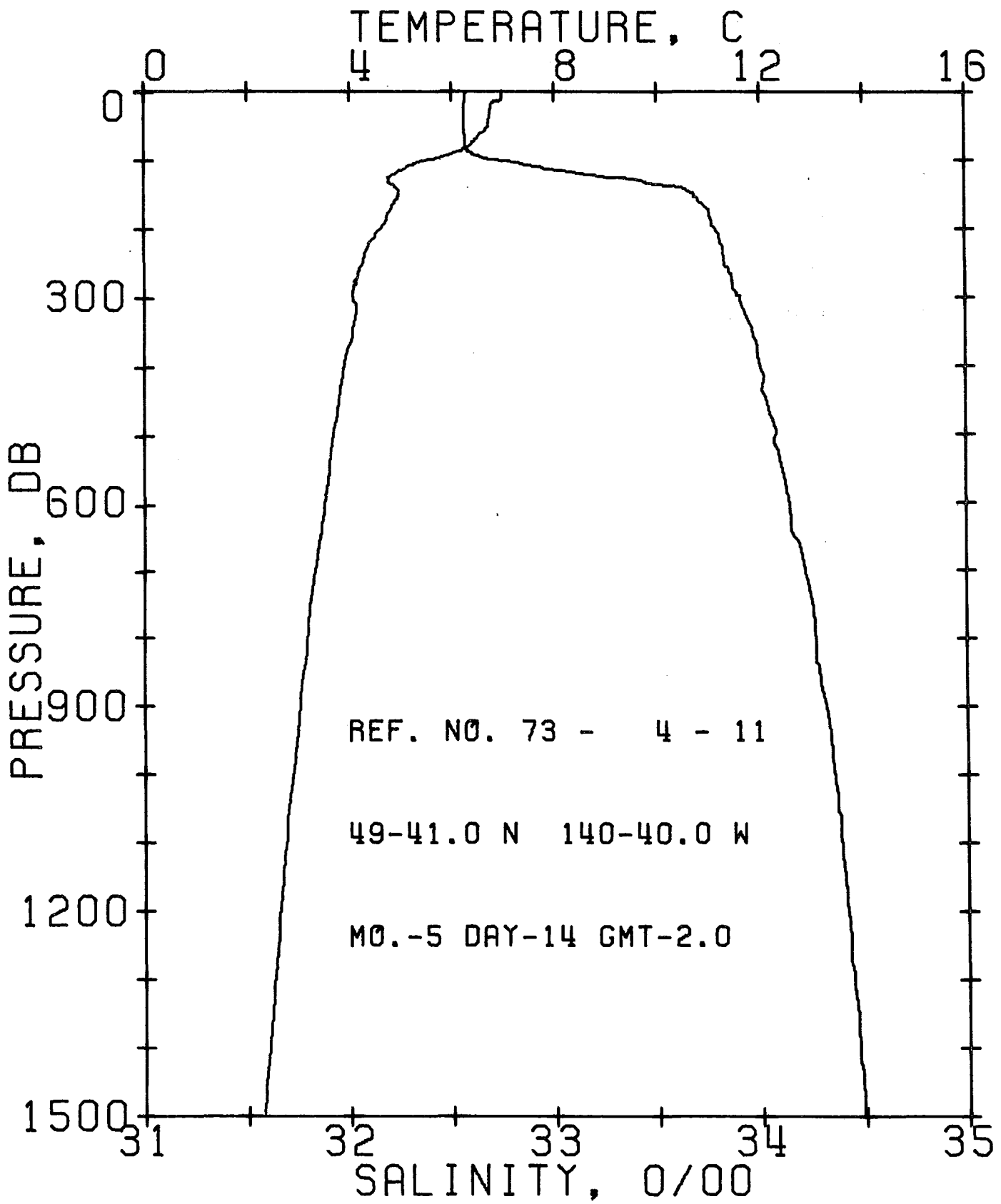
REFERENCE NO. 73- 4- 10

DATE 13/ 5/73

POSITION 49-34.0N, 138-40.0W GMT 19.6

RESULTS OF STP CAST 178 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.20	32.55	0	25.49	250.3	0.0	0.0	1477.
10	7.20	32.55	10	25.49	250.9	0.25	0.01	1477.
20	7.20	32.54	20	25.48	251.4	0.50	0.05	1477.
30	7.16	32.54	30	25.49	251.1	0.75	0.12	1477.
50	7.05	32.54	50	25.50	249.9	1.25	0.32	1477.
75	6.30	32.55	75	25.61	240.1	1.86	0.71	1474.
100	5.38	32.50	99	25.70	231.7	2.45	1.23	1473.
125	5.00	33.08	124	26.18	186.0	2.97	1.83	1470.
150	5.12	33.53	149	26.52	153.6	3.39	2.41	1472.
175	5.16	33.72	174	26.67	140.4	3.76	3.01	1473.
200	5.10	33.77	199	26.71	136.2	4.10	3.67	1473.
225	4.76	33.79	223	26.77	131.2	4.44	4.40	1472.
250	4.47	33.81	248	26.82	126.7	4.76	5.18	1471.
300	4.17	33.87	293	26.90	119.5	5.37	6.89	1471.
400	3.90	33.98	397	27.01	109.2	6.52	10.97	1472.
500	3.73	34.06	496	27.09	102.3	7.58	15.82	1473.
600	3.52	34.13	595	27.17	95.4	8.57	21.38	1473.
800	3.19	34.26	793	27.30	83.6	10.35	34.06	1476.
1000	2.88	34.35	990	27.40	75.1	11.94	48.57	1478.
1200	2.61	34.41	1188	27.47	69.1	13.38	64.73	1480.



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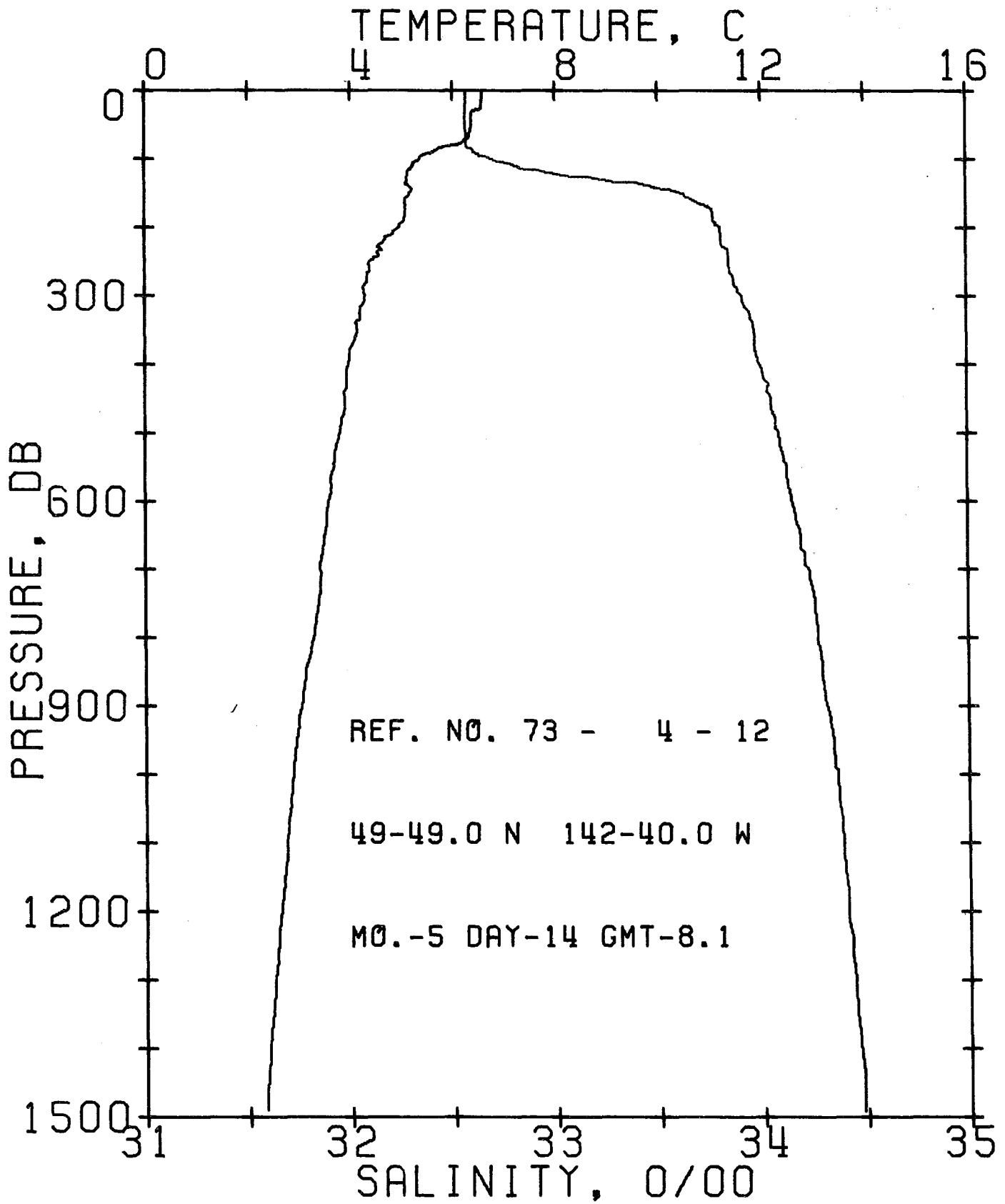
REFERENCE NO. 73- 4- 11

DATE 14/ 5/73

POSITION 49-41.0N, 140-40.0W GMT 2.0

RESULTS OF STP CAST 197 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.98	32.58	0	25.54	245.2	0.0	0.0	1476.
10	6.98	32.57	10	25.53	246.2	0.25	0.01	1476.
20	6.77	32.56	20	25.55	244.5	0.49	0.05	1475.
30	6.75	32.56	30	25.56	244.3	0.74	0.11	1475.
50	6.72	32.56	50	25.56	244.2	1.22	0.31	1476.
75	6.39	32.57	75	25.61	239.7	1.83	0.70	1475.
100	5.60	32.58	99	25.79	223.1	2.42	1.22	1472.
125	4.79	33.24	124	26.33	171.5	2.91	1.78	1470.
150	4.95	33.58	149	26.66	140.7	3.29	2.31	1471.
175	4.79	33.75	174	26.73	134.0	3.63	2.88	1471.
200	4.61	33.78	199	26.78	130.0	3.96	3.51	1471.
225	4.38	33.82	223	26.83	125.0	4.28	4.20	1471.
250	4.26	33.83	248	26.85	121.0	4.59	4.95	1470.
300	4.06	33.91	298	26.94	115.6	5.18	6.02	1471.
400	3.90	34.00	397	27.03	107.7	6.30	10.60	1472.
500	3.67	34.08	495	27.11	100.2	7.35	15.38	1472.
600	3.51	34.14	595	27.17	95.0	8.33	20.86	1473.
800	3.16	34.27	793	27.31	83.0	10.09	33.44	1475.
1000	2.87	34.35	990	27.40	74.7	11.67	47.87	1478.
1200	2.61	34.41	1188	27.48	68.5	13.10	63.84	1490.



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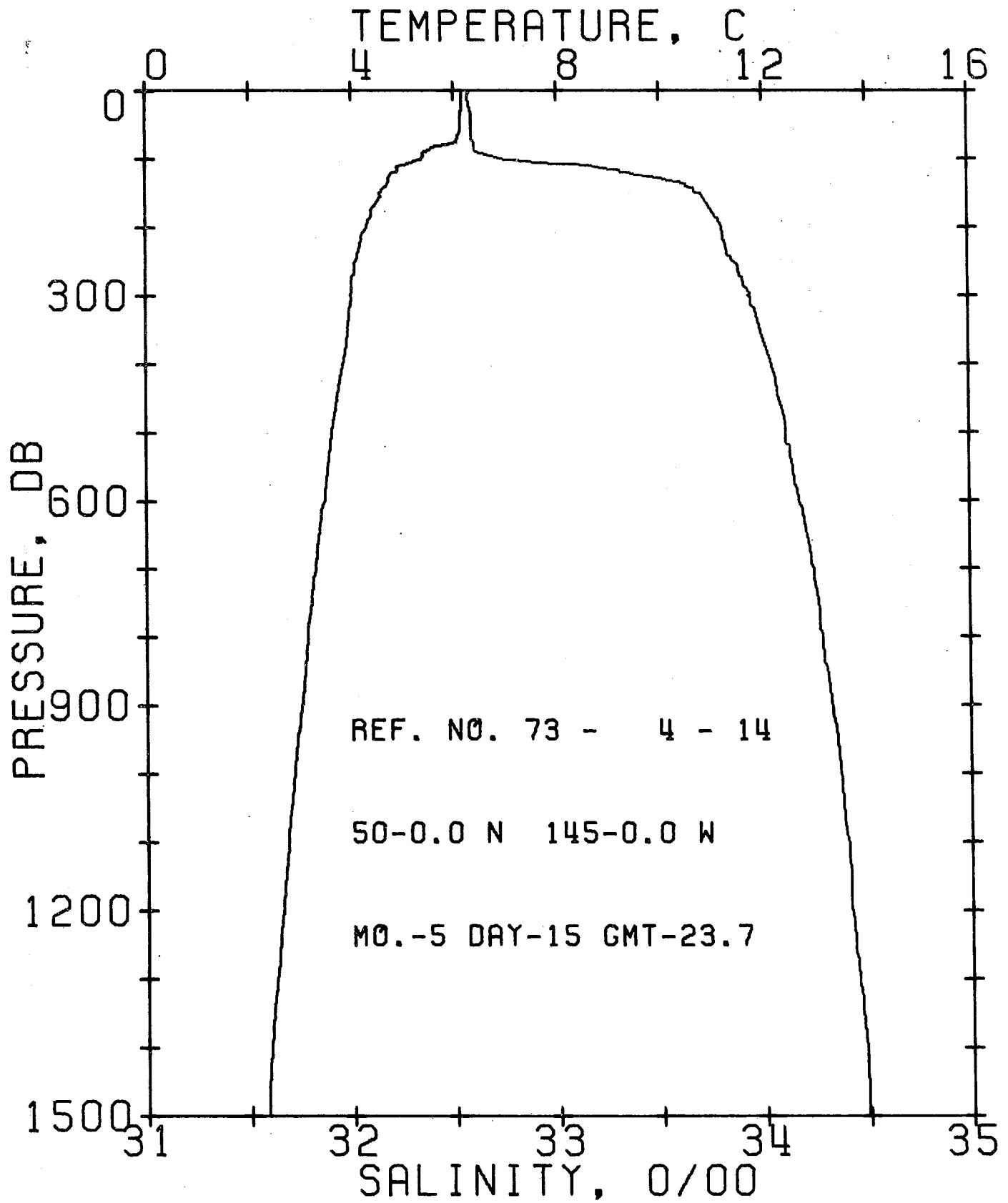
REFERENCE NO. 73- 4- 12

DATE 14/ 5/73

POSITION 49-49.0N, 142-40.0W GMT 8.1

RESULTS OF STP CAST 221 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.59	32.57	0	25.59	241.0	0.0	0.0	1474.
10	6.58	32.57	10	25.59	241.2	0.24	0.01	1474.
20	6.57	32.56	20	25.58	242.0	0.48	0.05	1474.
30	6.44	32.56	30	25.60	240.5	0.72	0.11	1474.
50	6.36	32.56	50	25.61	239.8	1.20	0.31	1474.
75	6.21	32.57	75	25.63	237.4	1.80	0.69	1474.
100	5.35	32.69	99	25.83	218.8	2.33	1.20	1471.
125	5.10	33.06	124	26.16	188.2	2.89	1.79	1471.
150	5.17	33.61	149	26.58	148.3	3.30	2.36	1472.
175	5.08	33.76	174	26.71	136.3	3.65	2.94	1473.
200	4.95	33.80	199	26.75	132.3	3.99	3.59	1472.
225	4.59	33.81	223	26.80	127.6	4.32	4.29	1471.
250	4.39	33.84	248	26.85	123.6	4.63	5.05	1471.
300	4.28	33.90	298	26.91	118.2	5.24	6.75	1471.
400	3.95	33.99	397	27.01	109.3	6.36	10.77	1472.
500	3.78	34.08	496	27.10	101.3	7.41	15.57	1473.
600	3.55	34.14	595	27.17	95.0	8.39	21.06	1474.
800	3.24	34.27	793	27.30	83.6	10.17	33.68	1476.
1000	2.85	34.36	990	27.41	73.9	11.74	48.08	1477.
1200	2.61	34.41	1188	27.47	68.8	13.16	64.03	1480.



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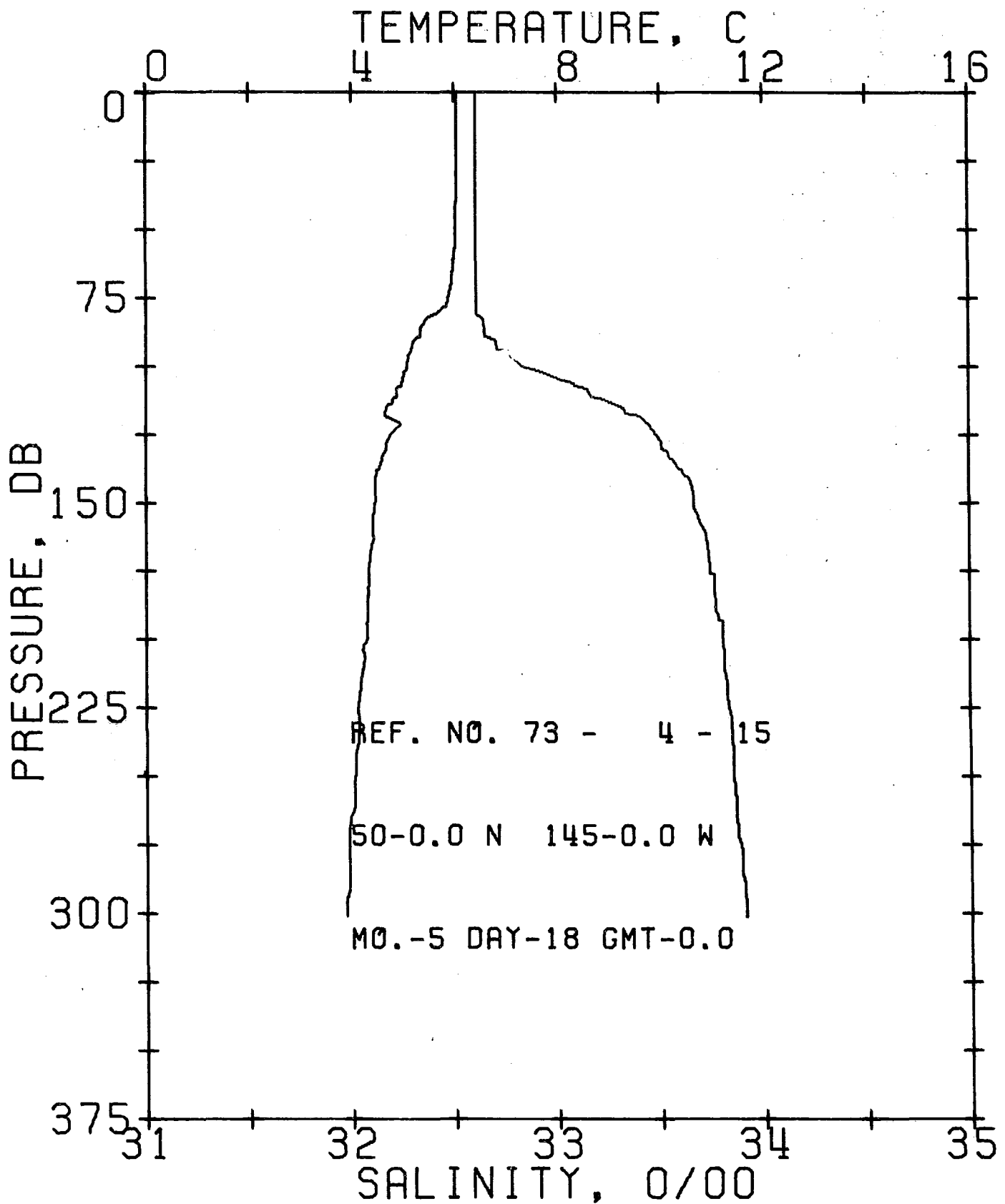
REFERENCE NO. 73- 4- 14

DATE 15/ 5/73

POSITION 50- 0.0N, 145- 0.0W GMT 23.7

RESULTS OF STP CAST 166 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.16	32.58	0	25.65	235.1	0.0	0.0	1473.
10	6.16	32.57	10	25.64	236.1	0.24	0.01	1473.
20	6.16	32.57	20	25.64	235.9	0.47	0.05	1473.
30	6.15	32.58	30	25.65	235.5	0.71	0.11	1473.
50	6.13	32.59	50	25.66	234.8	1.18	0.30	1473.
75	6.04	32.60	75	25.68	233.4	1.76	0.67	1473.
100	5.36	32.73	99	25.86	215.9	2.33	1.18	1471.
125	4.74	33.41	124	26.47	158.2	2.79	1.70	1470.
150	4.56	33.68	149	26.70	136.5	3.15	2.20	1470.
175	4.38	33.75	174	26.78	129.6	3.48	2.75	1470.
200	4.29	33.80	199	26.83	125.1	3.80	3.36	1470.
225	4.17	33.82	223	26.86	122.6	4.11	4.03	1470.
250	4.06	33.85	248	26.89	119.1	4.41	4.76	1470.
300	3.98	33.93	298	26.96	113.0	4.99	6.38	1470.
400	3.82	34.04	397	27.06	104.2	6.07	10.25	1471.
500	3.60	34.11	496	27.14	97.2	7.08	14.84	1472.
600	3.46	34.17	595	27.21	92.0	8.02	20.15	1473.
800	3.12	34.28	793	27.32	81.6	9.74	32.39	1475.
1000	2.85	34.36	990	27.42	73.7	11.30	46.60	1477.
1200	2.61	34.41	1188	27.48	68.6	12.71	62.43	1480.



OFFSHORE OCEANOGRAPHY GROUP

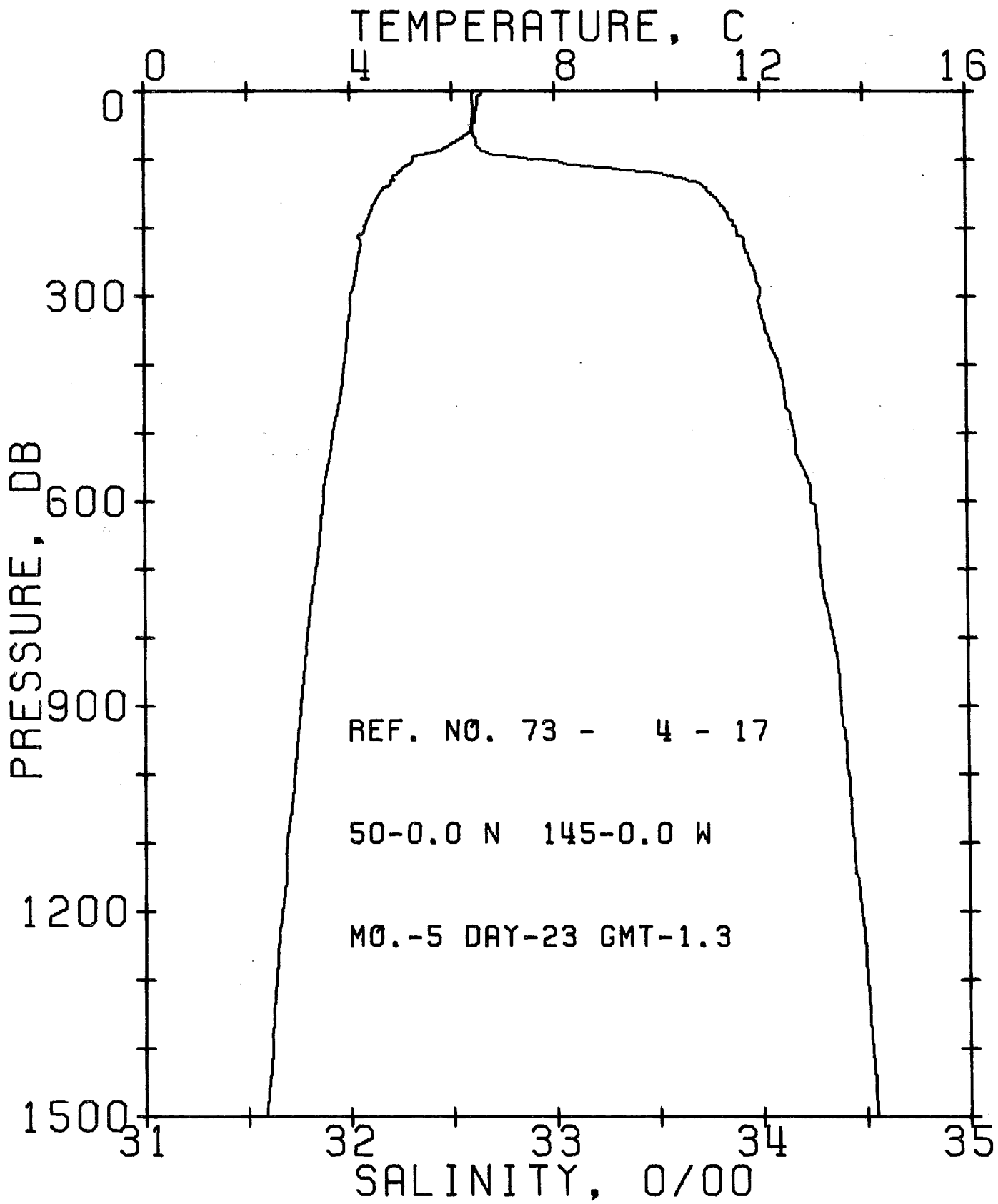
REFERENCE NO. 73- 4- 15

DATE 18/ 5/73

POSITION 50- 0.0N, 145- 0.0W GMT 0.0

RESULTS OF STP CAST 114 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.05	32.61	0	25.69	231.6	0.0	0.0	1472.
10	6.05	32.61	10	25.69	231.8	0.23	0.01	1472.
20	6.04	32.61	20	25.69	231.9	0.46	0.05	1472.
30	6.04	32.61	30	25.69	232.0	0.70	0.11	1473.
50	6.02	32.61	50	25.69	232.0	1.16	0.30	1473.
75	5.87	32.61	75	25.71	230.5	1.74	0.66	1473.
100	5.07	32.83	99	25.97	205.3	2.29	1.15	1470.
125	4.74	33.48	124	26.53	153.2	2.72	1.65	1470.
150	4.43	33.66	149	26.70	136.6	3.08	2.15	1469.
175	4.32	33.74	174	26.78	129.7	3.41	2.70	1469.
200	4.29	33.80	199	26.83	125.1	3.73	3.30	1470.
225	4.11	33.83	223	26.87	121.3	4.04	3.97	1469.
250	4.02	33.85	248	26.89	119.0	4.34	4.70	1469.
300	3.88	33.91	298	26.96	113.4	4.92	6.32	1470.



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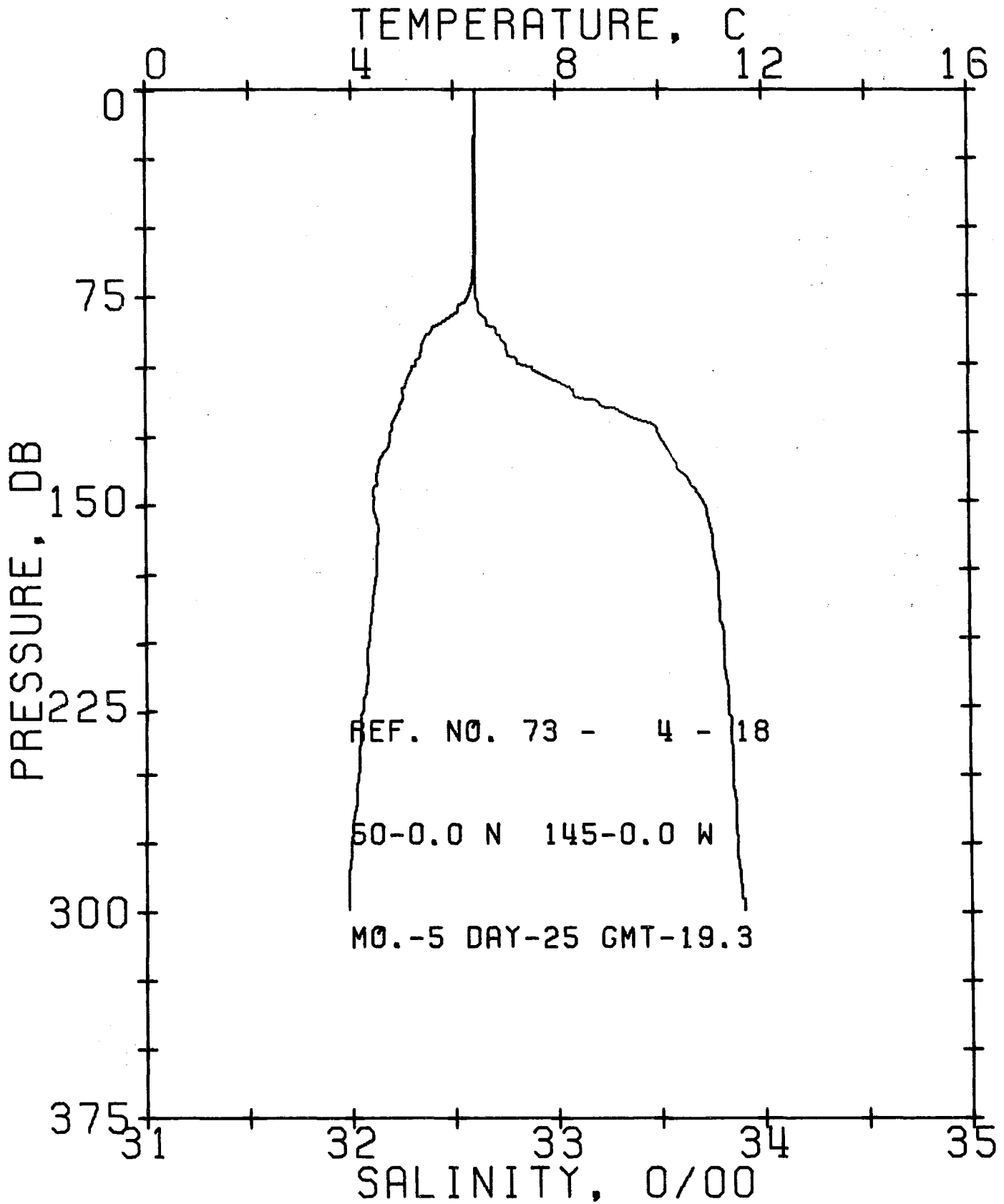
REFERENCE NO. 73- 4- 17

DATE 23/ 5/73

POSITION 50- 0.0N, 145- 0.0W GMT 1.3

RESULTS OF STP CAST 162 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.59	32.61	0	25.62	238.0	0.0	0.0	1474.
10	6.52	32.60	10	25.62	238.3	0.24	0.01	1474.
20	6.49	32.60	20	25.63	237.7	0.48	0.05	1474.
30	6.46	32.61	30	25.63	237.0	0.71	0.11	1474.
50	6.39	32.60	50	25.63	237.2	1.19	0.30	1474.
75	6.05	32.62	75	25.69	231.8	1.78	0.68	1473.
100	5.22	32.88	99	26.00	202.9	2.33	1.17	1471.
125	4.85	33.58	124	26.59	146.9	2.77	1.67	1471.
150	4.59	33.75	149	26.76	131.3	3.11	2.15	1470.
175	4.41	33.83	174	26.84	123.6	3.43	2.68	1470.
200	4.29	33.89	199	26.90	118.3	3.73	3.25	1470.
225	4.21	33.92	223	26.93	115.5	4.03	3.89	1470.
250	4.12	33.95	248	26.96	112.6	4.31	4.58	1470.
300	4.01	34.00	298	27.01	108.1	4.86	6.12	1470.
400	3.89	34.09	397	27.10	101.1	5.92	9.88	1472.
500	3.66	34.16	496	27.18	94.1	6.90	14.36	1472.
600	3.47	34.24	595	27.26	86.9	7.80	19.41	1473.
800	3.15	34.34	793	27.37	77.1	9.44	31.09	1475.
1000	2.90	34.42	990	27.45	70.4	10.91	44.54	1478.
1200	2.64	34.47	1188	27.52	64.5	12.26	59.69	1480.



OFFSHORE OCEANOGRAPHY GROUP

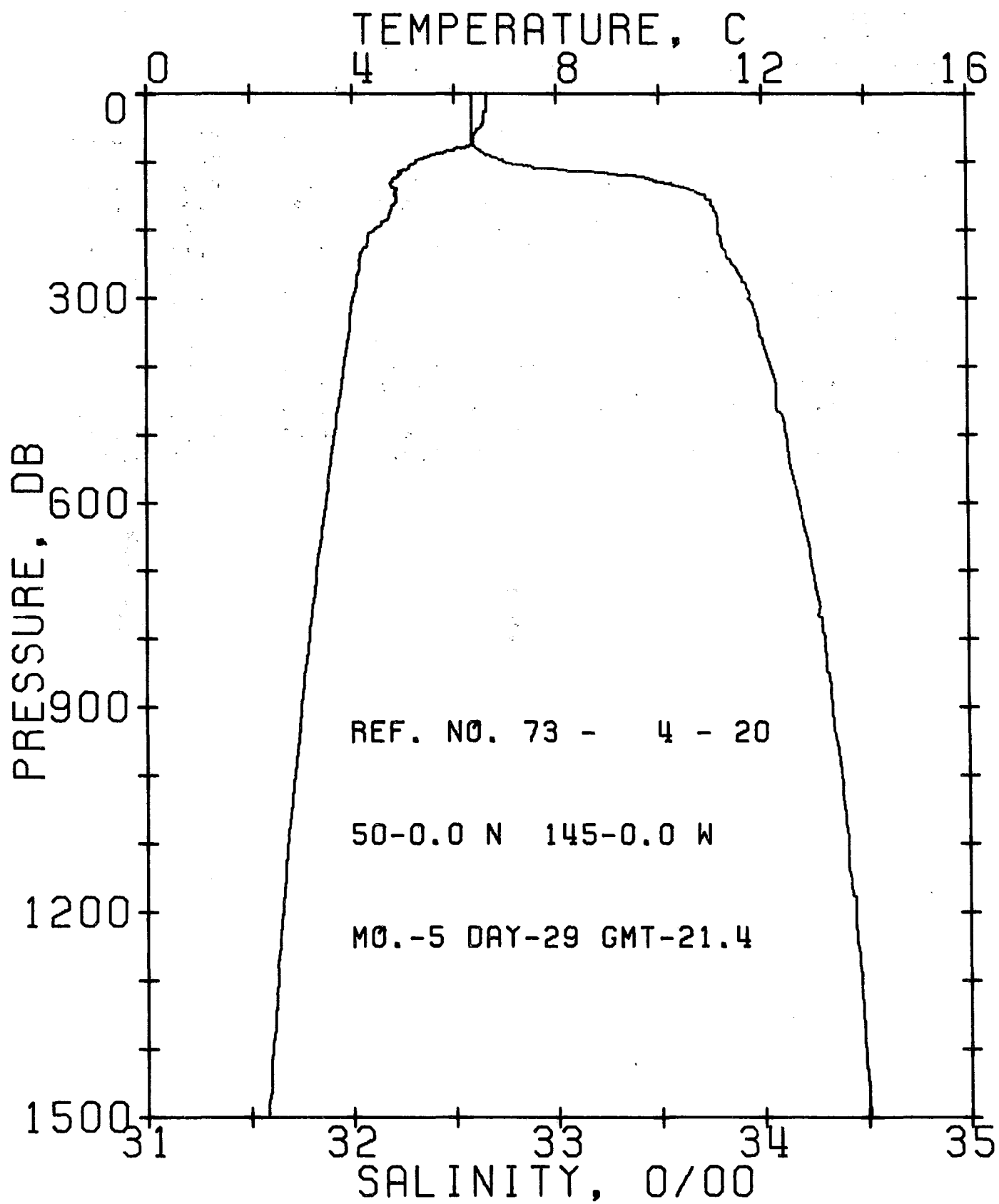
REFERENCE NO. 73- 4- 18

DATE 25/ 5/73

POSITION 50- 0.0N, 145- 0.0W GMT 19.3

RESULTS OF STP CAST 105 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.42	32.61	0	25.64	235.9	0.0	0.0	1474.
10	6.42	32.61	10	25.64	236.3	0.24	0.01	1474.
20	6.41	32.61	20	25.64	236.4	0.47	0.05	1474.
30	6.41	32.61	30	25.64	236.4	0.71	0.11	1474.
50	6.40	32.61	50	25.64	236.5	1.18	0.30	1474.
75	6.28	32.61	75	25.66	235.4	1.77	0.68	1474.
100	5.26	32.81	99	25.94	208.8	2.33	1.17	1471.
125	4.75	33.49	124	26.53	152.6	2.78	1.68	1470.
150	4.43	33.71	149	26.74	132.9	3.13	2.18	1469.
175	4.47	33.77	174	26.79	128.6	3.46	2.72	1470.
200	4.34	33.81	199	26.83	124.8	3.78	3.33	1470.
225	4.21	33.83	223	26.86	122.3	4.09	4.00	1470.
250	4.10	33.85	248	26.89	119.8	4.39	4.73	1470.



OFFSHORE OCEANOGRAPHY GROUP

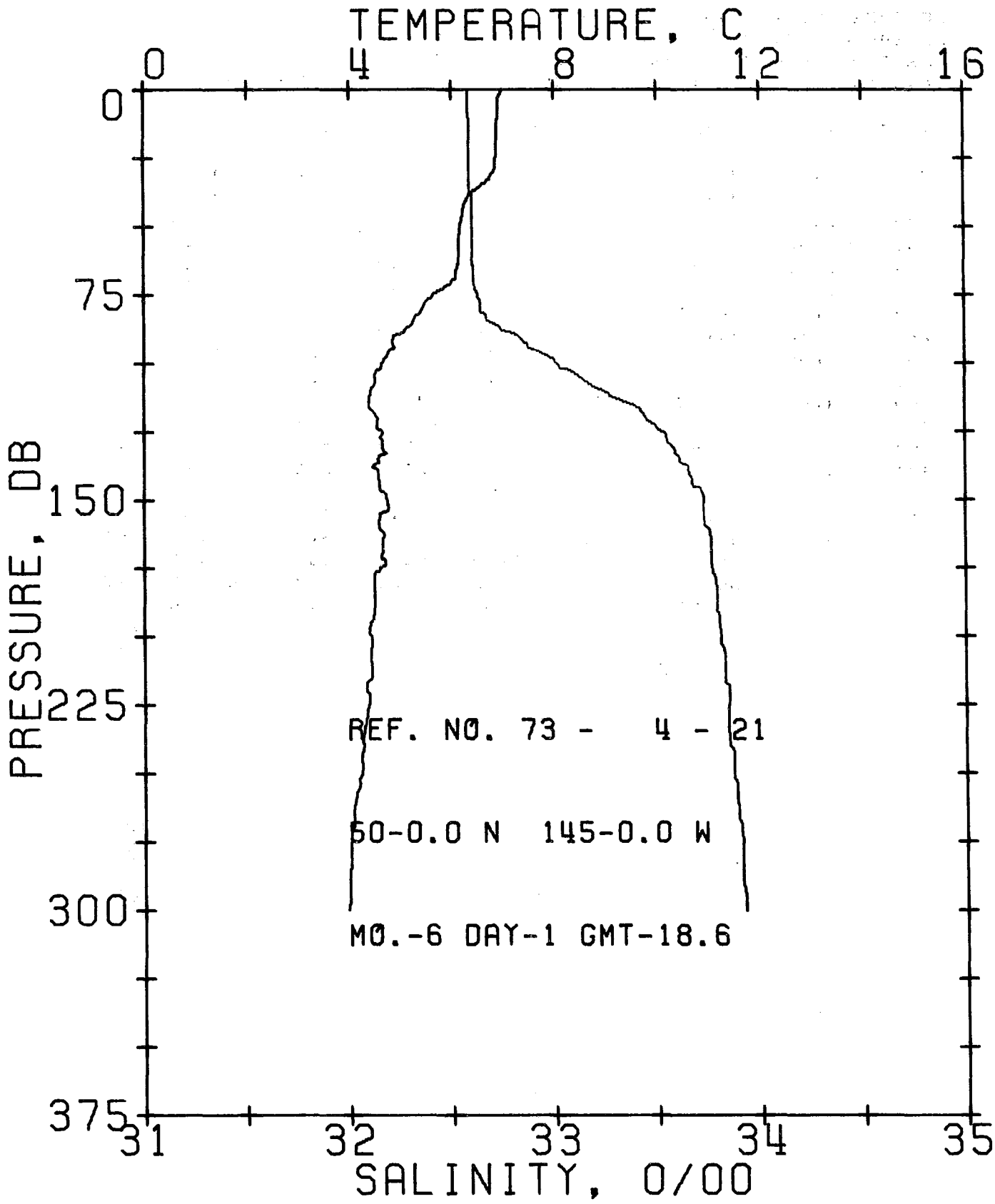
REFERENCE NO. 73- 4- 20

DATE 29/ 5/73

POSITION 50- 0.0N, 145- 0.0W GMT 21.4

RESULTS OF STP CAST 217 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	0.05	32.58	0	25.59	241.0	0.0	0.0	1474.
10	6.64	32.59	10	25.59	240.5	0.24	0.01	1475.
20	0.64	32.59	20	25.59	240.6	0.48	0.05	1475.
30	6.60	32.59	30	25.60	240.2	0.72	0.11	1475.
50	6.51	32.59	50	25.61	239.4	1.20	0.31	1475.
75	6.34	32.59	75	25.63	237.7	1.80	0.69	1474.
100	5.25	32.74	99	25.88	214.0	2.36	1.19	1471.
125	4.82	33.45	124	26.49	156.3	2.83	1.72	1470.
150	4.35	33.73	149	26.71	135.9	3.19	2.23	1471.
175	4.75	33.78	174	26.76	131.6	3.53	2.78	1471.
200	4.45	33.79	199	26.80	127.6	3.85	3.40	1470.
225	4.27	33.81	223	26.84	124.4	4.17	4.08	1470.
250	4.15	33.86	248	26.89	119.9	4.47	4.82	1470.
300	4.01	33.93	298	26.96	113.3	5.05	6.44	1470.
400	3.83	34.04	397	27.06	104.1	6.13	10.30	1471.
500	3.65	34.11	496	27.14	97.4	7.14	14.91	1472.
600	3.47	34.17	595	27.21	91.7	8.09	20.22	1473.
800	3.14	34.30	793	27.34	80.3	9.80	32.41	1475.
1000	2.85	34.37	990	27.42	72.9	11.34	46.46	1478.
1200	2.61	34.44	1188	27.50	66.6	12.73	62.09	1480.



OFFSHORE OCEANOGRAPHY GROUP

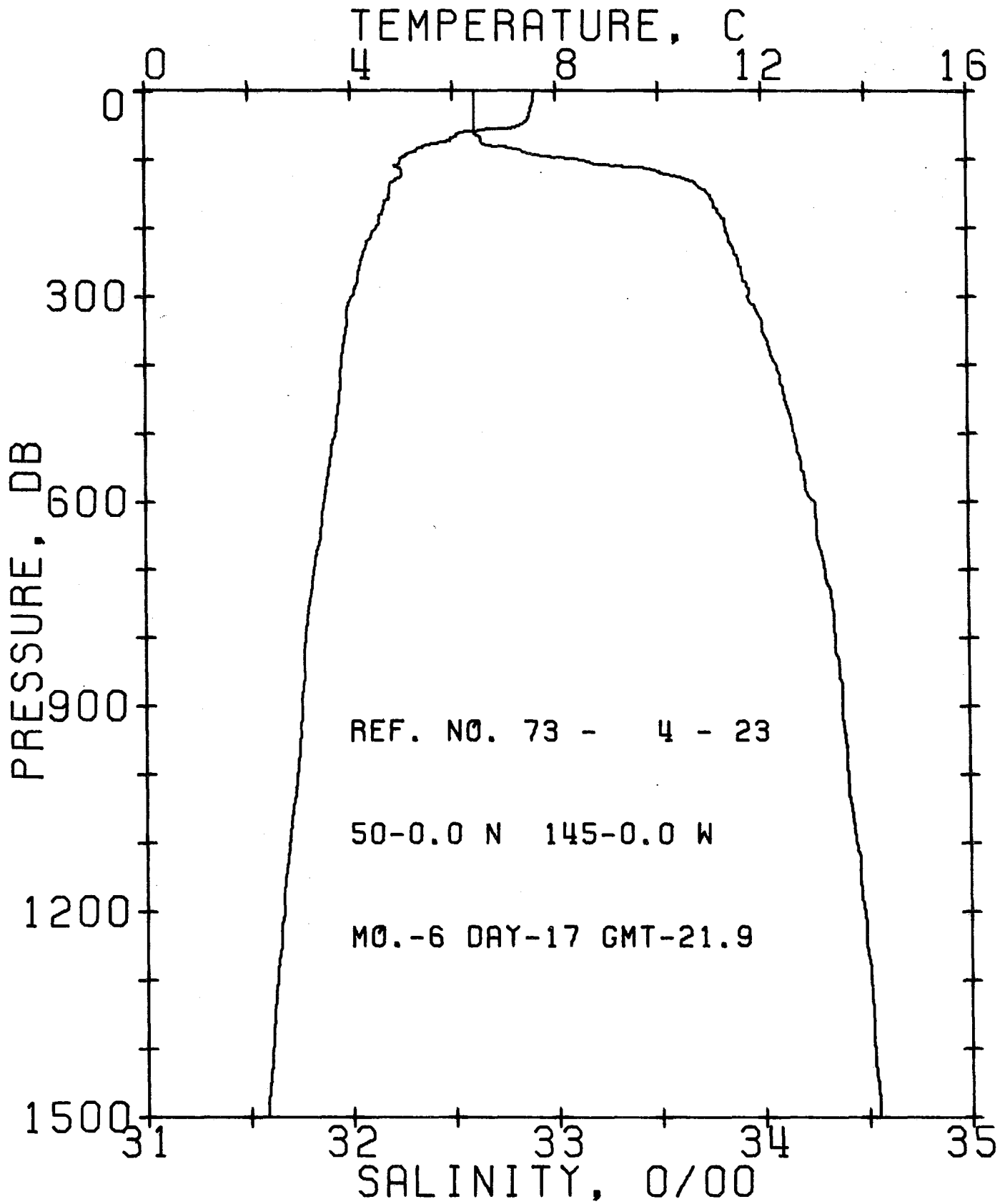
REFERENCE NO. 73- 4- 21

DATE 1/ 6/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.6

RESULTS OF STP CAST 171 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	6.98	32.58	0	25.54	245.2	0.0	0.0	1476.
10	6.90	32.58	10	25.56	244.1	0.24	0.01	1476.
20	6.87	32.59	20	25.56	243.5	0.49	0.05	1476.
30	6.82	32.59	30	25.57	243.0	0.73	0.11	1476.
50	6.17	32.60	50	25.66	234.5	1.21	0.31	1473.
75	5.62	32.63	75	25.75	226.1	1.79	0.68	1472.
100	4.62	33.01	99	26.17	187.0	2.31	1.14	1468.
125	4.65	33.53	124	26.57	148.5	2.72	1.61	1470.
150	4.74	33.73	149	26.72	134.6	3.08	2.10	1471.
175	4.61	33.76	174	26.76	131.2	3.41	2.65	1471.
200	4.44	33.81	199	26.82	126.0	3.73	3.26	1470.
225	4.35	33.85	223	26.86	122.5	4.04	3.93	1470.
250	4.22	33.87	248	26.89	119.6	4.34	4.66	1470.
300	3.95	33.92	298	26.96	113.4	4.92	6.28	1470.



OFFSHORE OCEANOGRAPHY GROUP

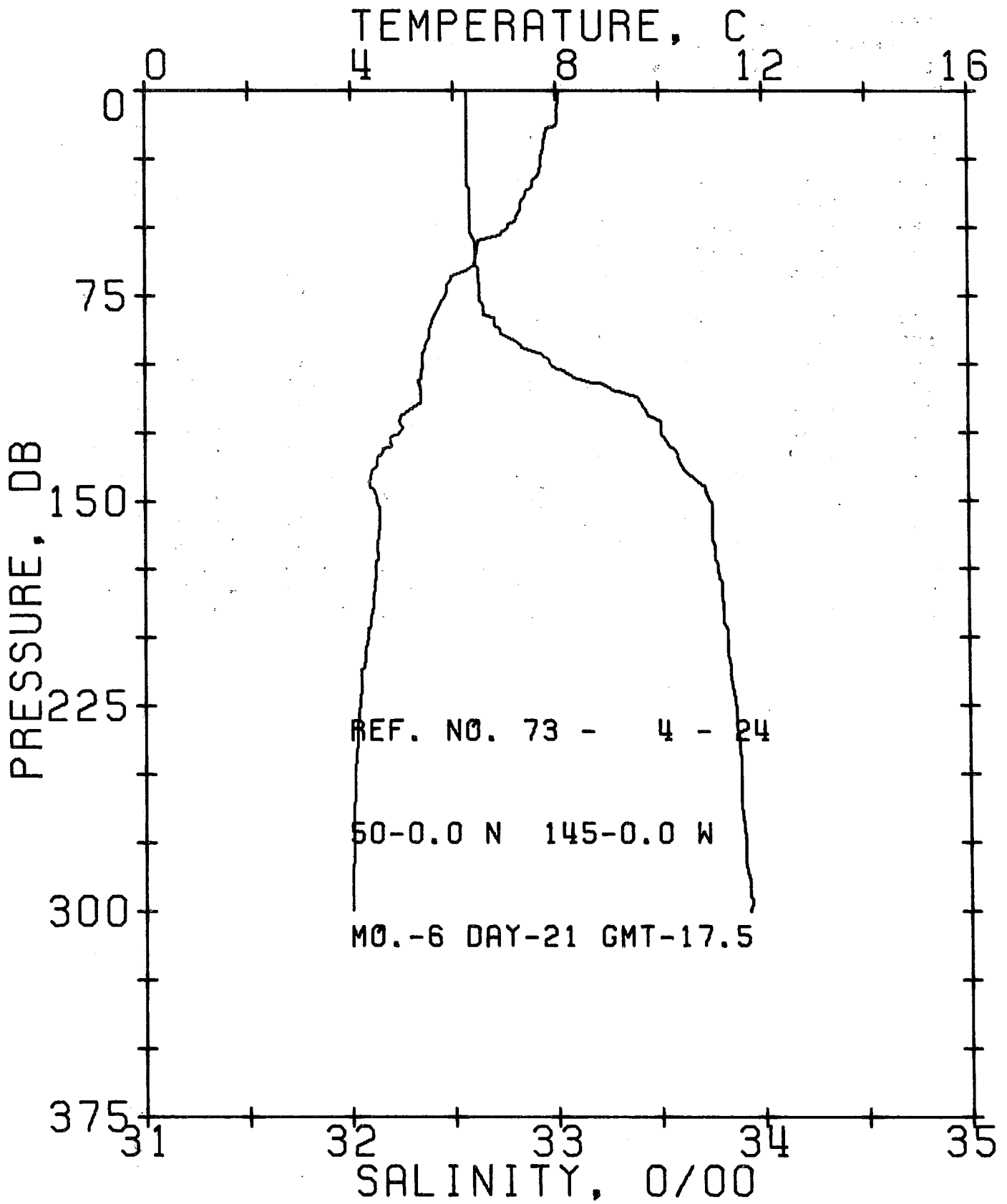
REFERENCE NO. 73- 4- 23

DATE 17/ 6/73

POSITION 50- 0.0N, 145- 0.0W GMT 21.9

RESULTS OF STP CAST 179 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.59	32.61	0	25.48	250.9	0.0	0.0	1478.
10	7.56	32.61	10	25.49	250.9	0.25	0.01	1478.
20	7.55	32.61	20	25.49	250.8	0.50	0.05	1478.
30	7.51	32.61	30	25.49	250.4	0.75	0.11	1478.
50	7.36	32.61	50	25.51	248.7	1.25	0.32	1478.
75	5.82	32.64	75	25.74	227.7	1.84	0.69	1472.
100	4.98	33.08	99	26.18	185.5	2.36	1.15	1470.
125	5.00	33.58	124	26.58	148.2	2.78	1.63	1471.
150	4.77	33.74	149	26.73	134.4	3.12	2.11	1471.
175	4.63	33.79	174	26.78	129.3	3.45	2.66	1471.
200	4.49	33.82	199	26.83	125.4	3.77	3.27	1471.
225	4.31	33.85	223	26.87	121.5	4.08	3.94	1470.
250	4.19	33.89	248	26.91	117.7	4.38	4.66	1470.
300	4.03	33.93	298	26.96	113.6	4.96	6.28	1470.
400	3.81	34.07	397	27.09	101.4	6.03	10.08	1471.
500	3.68	34.15	496	27.17	94.9	7.01	14.58	1473.
600	3.46	34.24	595	27.26	86.4	7.92	19.68	1473.
800	3.09	34.35	793	27.38	76.4	9.54	31.21	1475.
1000	2.91	34.41	990	27.44	71.3	11.01	44.71	1478.
1200	2.63	34.48	1188	27.53	64.0	12.36	59.82	1480.



OFFSHORE OCEANOGRAPHY GROUP

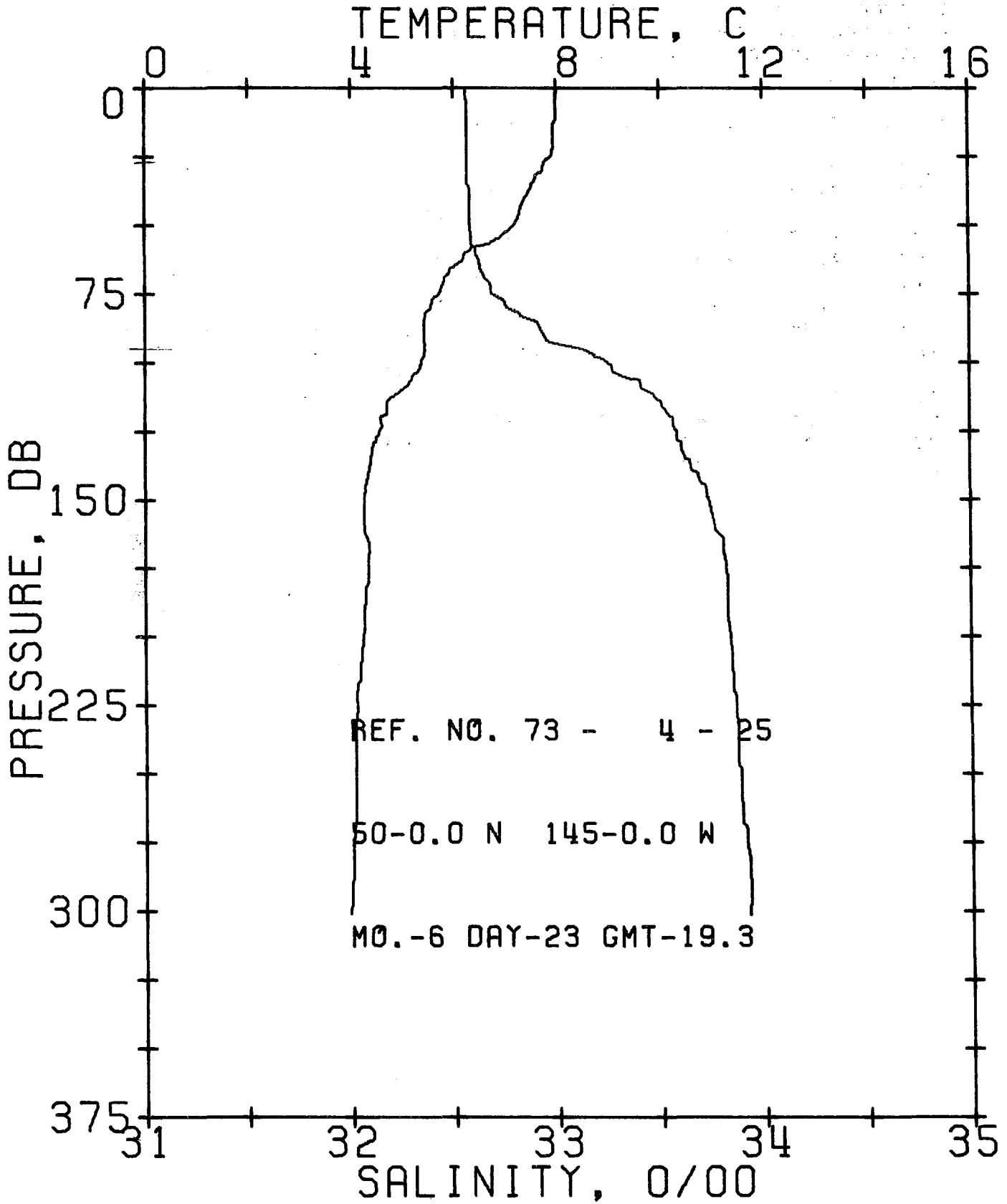
REFERENCE NO. 73- 4- 24

DATE 21/ 6/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 153 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.05	32.57	0	25.38	260.1	0.0	0.0	1480.
10	8.02	32.57	10	25.39	260.1	0.26	0.01	1480.
20	7.76	32.57	20	25.43	256.7	0.52	0.05	1479.
30	7.67	32.57	30	25.44	255.6	0.77	0.12	1479.
50	7.07	32.58	50	25.53	247.1	1.28	0.32	1477.
75	5.84	32.63	75	25.73	228.6	1.87	0.70	1473.
100	5.38	32.77	99	26.05	198.2	2.41	1.18	1471.
125	4.94	33.51	124	26.53	153.1	2.83	1.66	1471.
150	4.50	33.74	149	26.76	131.4	3.18	2.16	1470.
175	4.49	33.78	174	26.79	128.5	3.51	2.70	1470.
200	4.32	33.83	199	26.85	123.2	3.83	3.30	1470.
225	4.15	33.86	223	26.89	119.4	4.13	3.95	1470.
250	4.06	33.89	248	26.92	116.4	4.42	4.67	1470.
300	3.99	33.93	298	26.96	113.1	5.00	6.27	1470.



OFFSHORE OCEANOGRAPHY GROUP

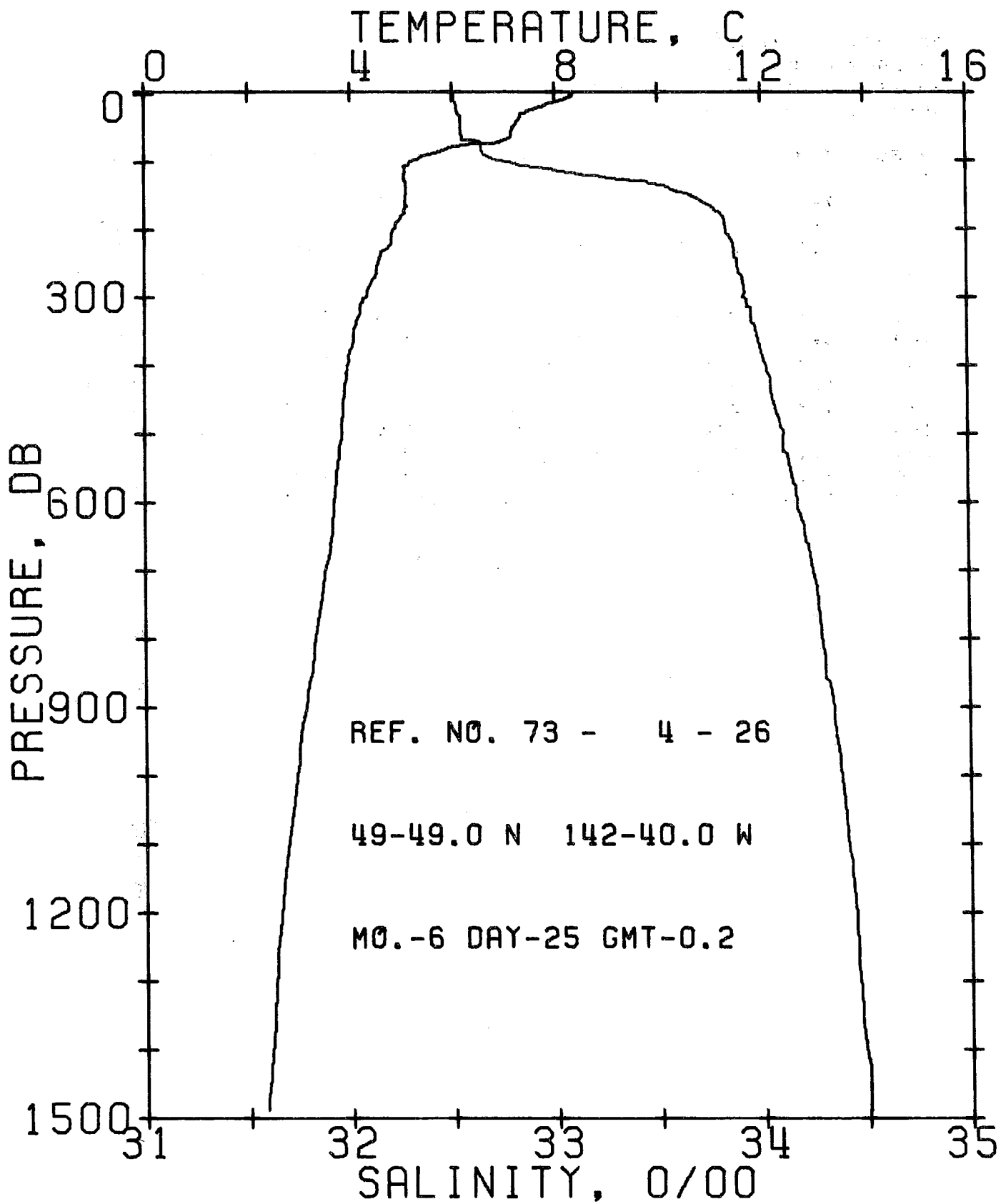
REFERENCE NO. 73- 4- 25

DATE 23/ 6/73

POSITION 50- 0.0N, 145- 0.0W GMT 19.3

RESULTS OF STP CAST 135 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	7.99	32.56	0	25.39	260.0	0.0	0.0	1480.
10	8.00	32.57	10	25.39	259.8	0.26	0.01	1480.
20	7.94	32.57	20	25.40	259.1	0.52	0.05	1480.
30	7.73	32.57	30	25.43	256.4	0.78	0.12	1479.
50	7.16	32.58	50	25.52	248.3	1.28	0.32	1477.
75	5.71	32.68	75	25.78	223.4	1.87	0.70	1472.
100	5.37	33.25	99	26.27	177.1	2.37	1.14	1472.
125	4.54	33.58	124	26.63	143.6	2.76	1.59	1469.
150	4.24	33.73	149	26.78	129.2	3.10	2.07	1469.
175	4.32	33.81	174	26.84	124.2	3.42	2.59	1469.
200	4.22	33.83	199	26.86	121.8	3.73	3.18	1469.
225	4.10	33.86	223	26.89	118.8	4.03	3.83	1469.
250	4.04	33.88	248	26.92	117.0	4.32	4.55	1470.
300	3.96	33.92	298	26.96	113.5	4.90	6.15	1470.



OFFSHORE OCEANOGRAPHY GROUP

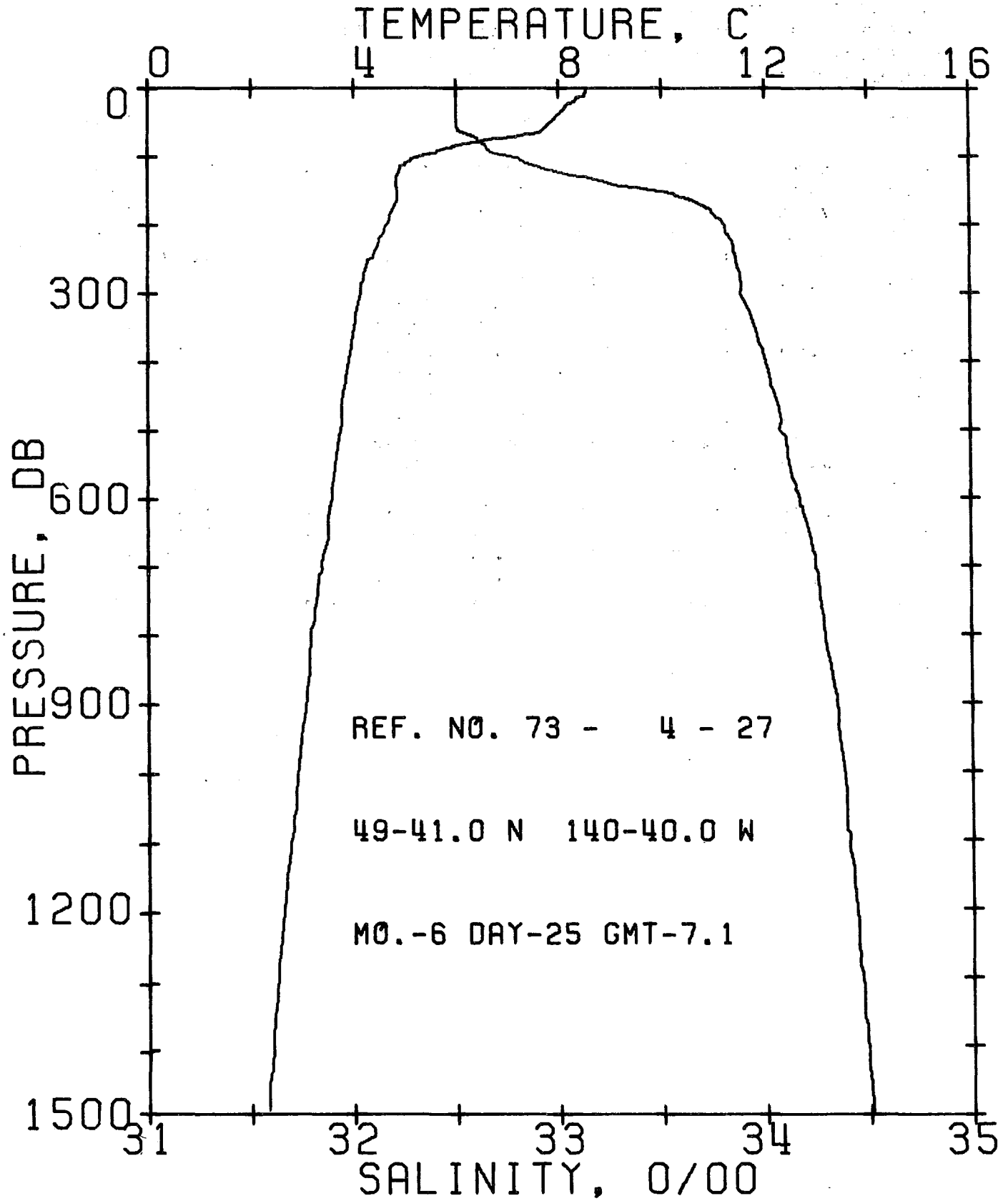
REFERENCE NO. 73- 4- 26

DATE 25/ 6/73

POSITION 49-49.0N, 142-40.0W GMT 0.2

RESULTS OF STP CAST 209 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.40	32.51	0	25.29	269.5	0.0	0.0	1481.
10	8.21	32.51	10	25.31	267.1	0.27	0.01	1481.
20	7.83	32.52	20	25.38	261.3	0.53	0.05	1479.
30	7.46	32.53	30	25.43	256.0	0.79	0.12	1478.
50	7.20	32.54	50	25.48	251.9	1.30	0.33	1477.
75	6.74	32.64	75	25.62	238.8	1.92	0.72	1476.
100	5.31	32.72	99	25.86	216.1	2.49	1.23	1471.
125	5.04	33.26	124	26.32	173.0	2.93	1.79	1471.
150	5.09	33.66	149	26.63	143.8	3.37	2.33	1472.
175	5.03	33.80	174	26.75	132.9	3.72	2.91	1472.
200	4.88	33.83	199	26.79	129.3	4.04	3.53	1472.
225	4.76	33.86	223	26.82	125.9	4.36	4.22	1472.
250	4.54	33.88	248	26.86	122.2	4.67	4.97	1472.
300	4.32	33.91	298	26.91	118.1	5.27	5.65	1472.
400	3.93	34.02	397	27.04	106.6	6.38	10.62	1472.
500	3.81	34.11	496	27.12	99.6	7.42	15.36	1473.
600	3.67	34.17	595	27.18	94.3	8.39	20.80	1474.
800	3.28	34.29	793	27.31	82.8	10.15	33.33	1476.
1000	2.91	34.37	990	27.42	73.6	11.71	47.61	1478.
1200	2.60	34.44	1188	27.50	66.5	13.11	63.24	1480.



OFFSHORE OCEANOGRAPHY GROUP

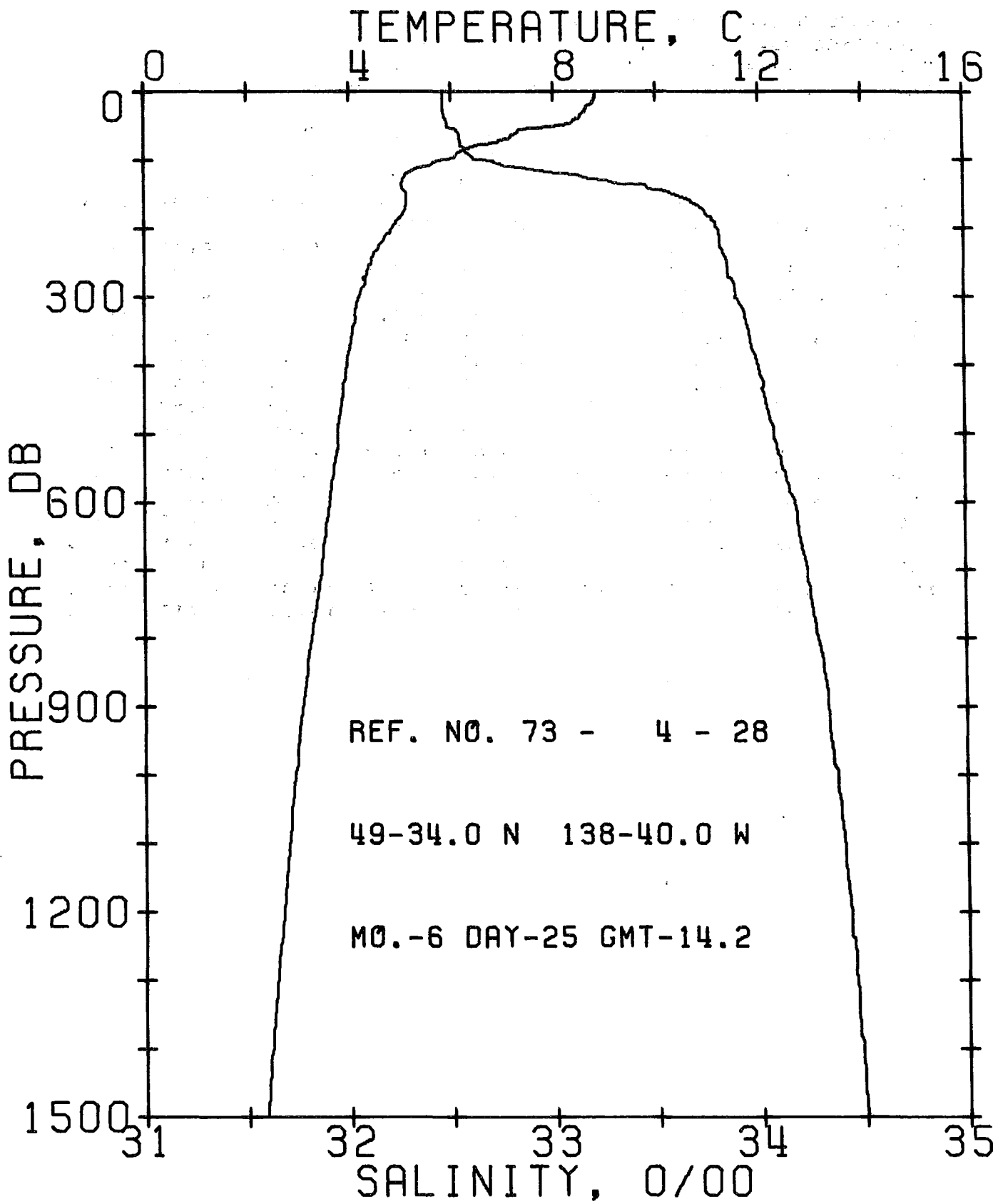
REFERENCE NO. 73- 4- 27

DATE 25/ 6/73

POSITION 49-41.0N, 140-40.0W GMT 7.1

RESULTS OF STP CAST 183 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.56	32.50	0	25.25	272.5	0.0	0.0	1482.
10	8.51	32.50	10	25.26	272.1	0.27	0.01	1482.
20	8.31	32.50	20	25.29	269.5	0.54	0.06	1481.
30	8.10	32.50	30	25.32	266.7	0.81	0.12	1481.
50	7.85	32.50	50	25.36	263.6	1.34	0.34	1480.
75	6.71	32.61	75	25.60	240.7	1.98	0.75	1476.
100	5.36	32.76	99	25.89	213.7	2.56	1.26	1471.
125	4.87	33.01	124	26.14	190.0	3.06	1.83	1470.
150	4.86	33.44	149	26.48	157.7	3.49	2.44	1471.
175	4.77	33.71	174	26.70	136.7	3.86	3.04	1471.
200	4.63	33.80	199	26.79	128.7	4.19	3.67	1471.
225	4.47	33.84	223	26.84	124.2	4.50	4.36	1471.
250	4.35	33.86	248	26.87	121.7	4.81	5.10	1471.
300	4.12	33.88	298	26.91	118.2	5.41	6.77	1471.
400	3.89	34.00	397	27.03	107.5	6.53	10.77	1472.
500	3.73	34.07	496	27.10	101.5	7.57	15.52	1473.
600	3.56	34.17	595	27.19	93.3	8.54	20.95	1474.
800	3.16	34.29	793	27.33	81.2	10.27	33.29	1475.
1000	2.89	34.38	990	27.42	73.2	11.81	47.41	1478.
1200	2.62	34.43	1188	27.49	67.2	13.22	63.18	1480.



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REFERENCE NO. 73- 4- 28

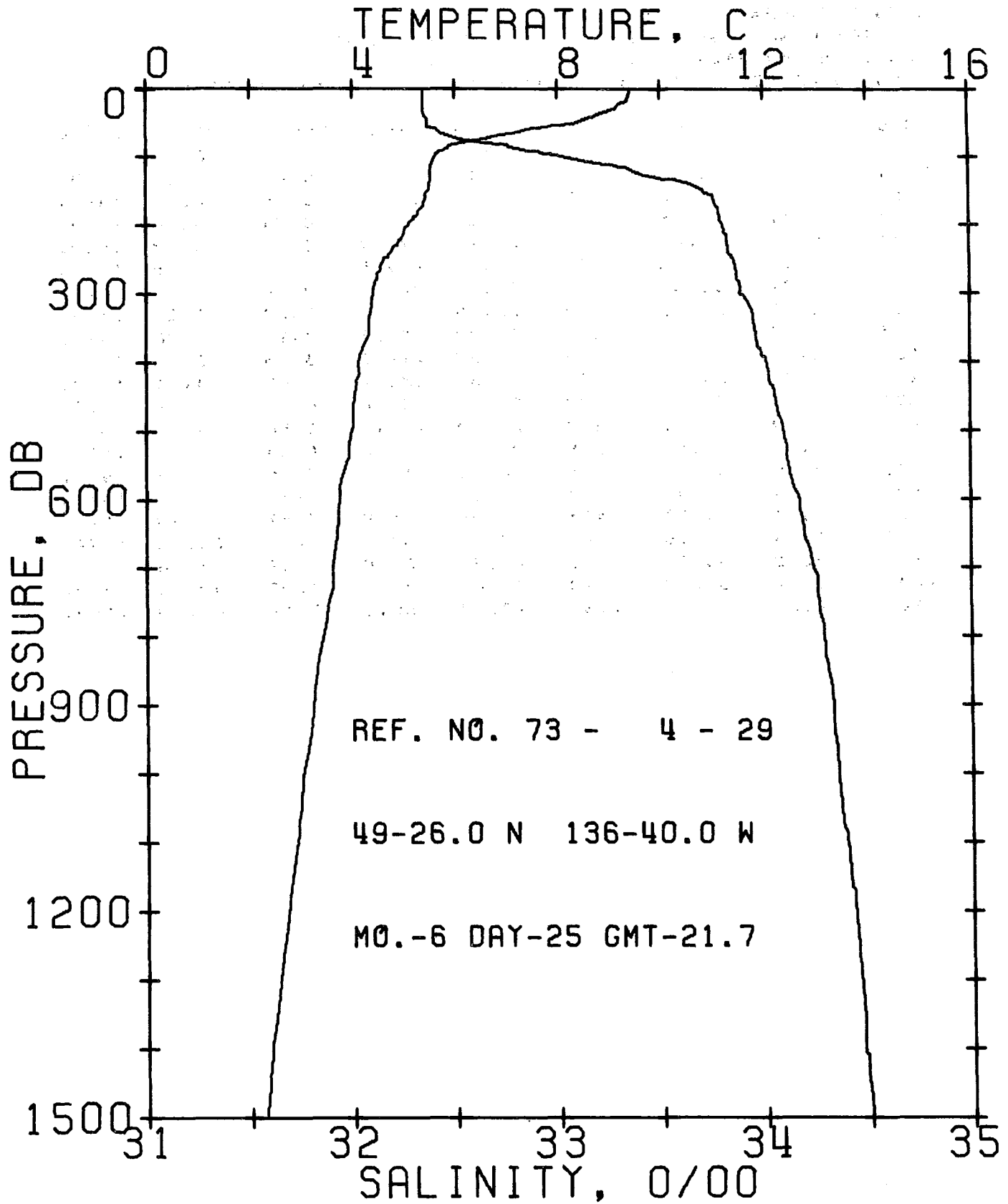
DATE 25/ 6/73

POSITION 49-34.0N, 138-40.0W

GMT 14.2

RESULTS OF STP CAST 193 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	8.82	32.46	0	25.18	279.3	0.0	0.0	1483.
10	8.82	32.46	10	25.18	279.7	0.28	0.01	1483.
20	8.71	32.46	20	25.20	278.2	0.56	0.06	1483.
30	8.60	32.46	30	25.22	276.7	0.84	0.13	1482.
50	8.17	32.48	50	25.30	269.5	1.38	0.35	1481.
75	6.91	32.55	75	25.53	247.7	2.02	0.76	1477.
100	5.95	32.61	99	25.70	231.7	2.62	1.29	1473.
125	5.08	33.14	124	26.22	182.3	3.13	1.88	1471.
150	5.11	33.59	149	26.57	149.2	3.55	2.45	1472.
175	5.08	33.73	174	26.69	138.4	3.90	3.04	1472.
200	4.83	33.79	199	26.76	131.6	4.24	3.69	1472.
225	4.59	33.81	223	26.80	127.8	4.56	4.39	1471.
250	4.42	33.84	248	26.84	124.0	4.88	5.15	1471.
300	4.20	33.88	298	26.90	119.1	5.48	6.84	1471.
400	3.94	33.99	397	27.02	108.8	6.61	10.87	1472.
500	3.77	34.07	456	27.09	101.9	7.67	15.70	1473.
600	3.59	34.16	595	27.19	93.7	8.65	21.21	1474.
800	3.22	34.28	793	27.31	83.0	10.42	33.78	1476.
1000	2.91	34.37	990	27.41	74.0	11.99	48.14	1478.
1200	2.67	34.43	1188	27.48	68.1	13.41	64.09	1480.



OFFSHORE OCEANOGRAPHY GROUP

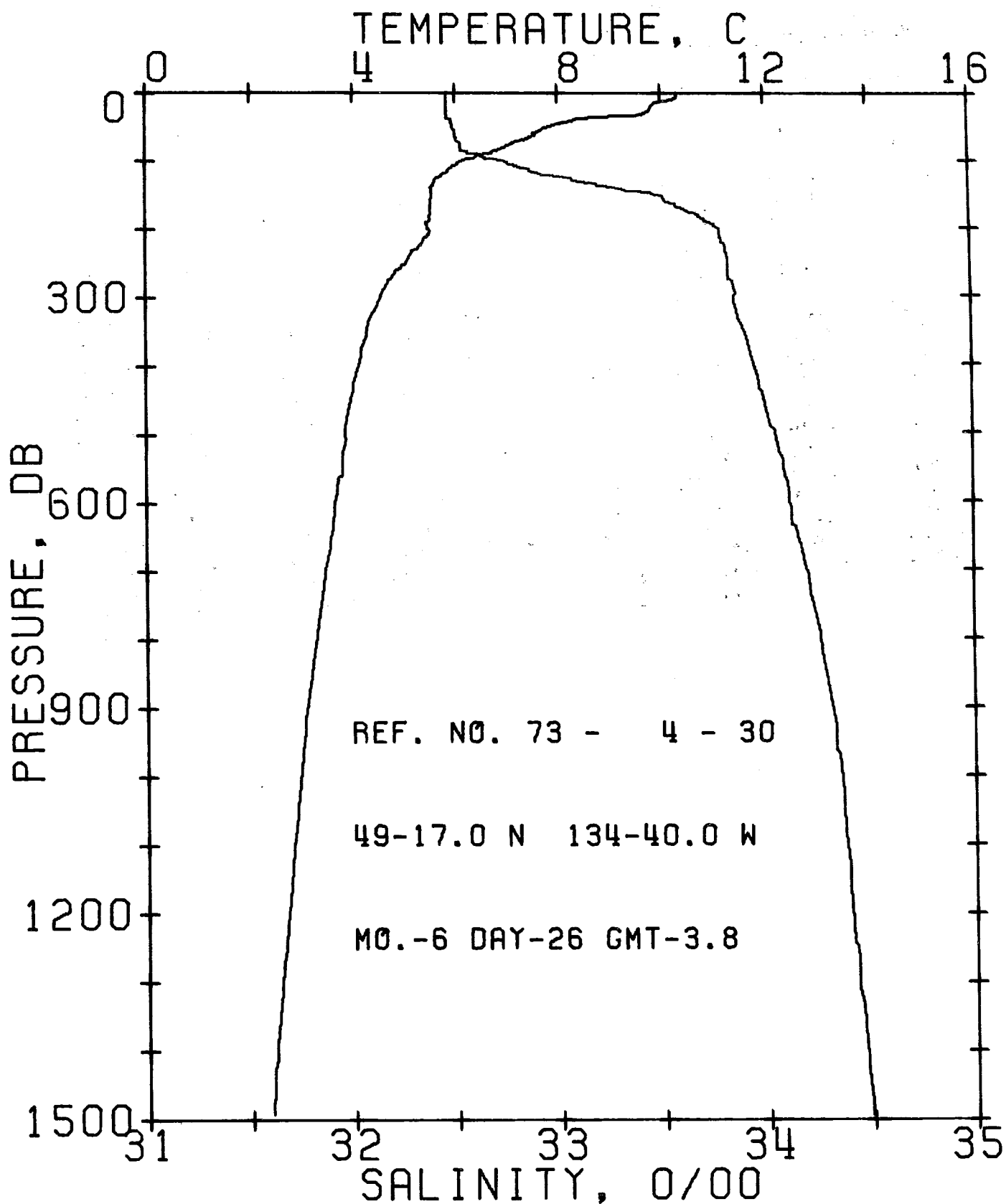
REFERENCE NO. 73- 4- 29

DATE 25/ 6/73

POSITION 49-26.0N, 136-40.0W GMT 21.7

RESULTS OF STP CAST 188 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	9.40	32.35	0	25.01	296.1	0.0	0.0	1485.
10	9.39	32.35	10	25.01	296.3	0.30	0.02	1485.
20	9.29	32.35	20	25.03	294.9	0.59	0.06	1485.
30	9.12	32.35	30	25.05	292.5	0.89	0.14	1484.
50	8.39	32.37	50	25.18	280.7	1.46	0.37	1482.
75	6.49	32.54	75	25.57	243.4	2.12	0.78	1475.
100	5.51	33.00	99	26.05	198.2	2.66	1.27	1472.
125	5.52	33.41	124	26.38	167.1	3.11	1.79	1473.
150	5.48	33.70	149	26.62	144.8	3.50	2.33	1474.
175	5.33	33.78	174	26.70	137.8	3.85	2.91	1474.
200	5.11	33.80	199	26.74	134.1	4.19	3.56	1473.
225	4.89	33.82	223	26.78	130.3	4.52	4.28	1473.
250	4.60	33.85	248	26.83	125.1	4.84	5.05	1472.
300	4.39	33.88	298	26.88	121.1	5.46	6.77	1472.
400	4.11	34.01	397	27.01	109.2	6.60	10.86	1473.
500	3.97	34.09	496	27.09	102.5	7.66	15.71	1474.
600	3.73	34.16	595	27.17	95.3	8.66	21.28	1474.
800	3.40	34.28	793	27.30	84.4	10.46	34.07	1476.
1000	3.00	34.35	990	27.39	76.5	12.06	48.76	1478.
1200	2.71	34.43	1188	27.48	68.6	13.52	65.06	1480.
1500	2.27	34.50	1484	27.57	59.9	15.44	91.41	1483.



OFFSHORE OCEANOGRAPHY GROUP

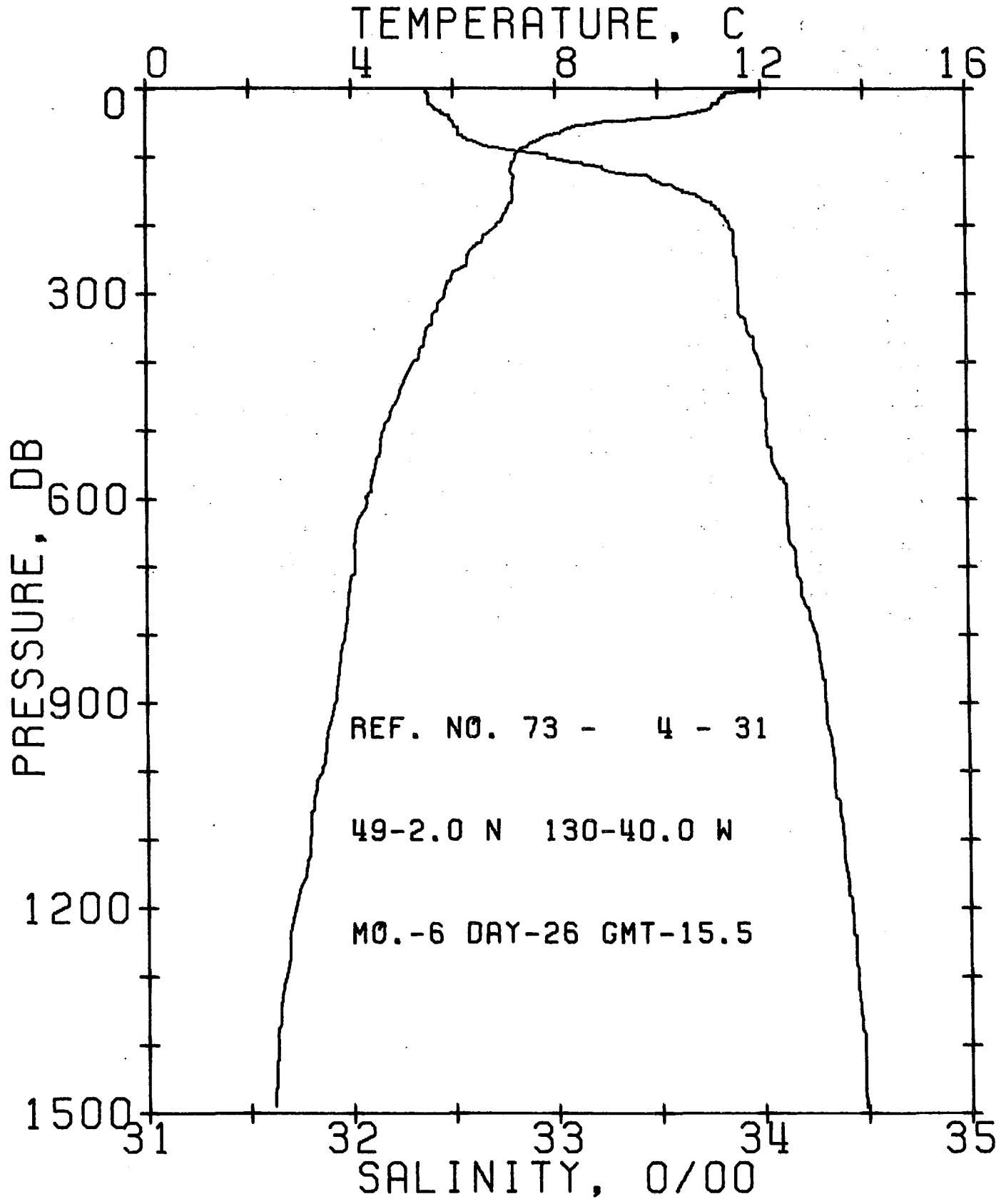
REFERENCE NO. 73- 4- 30

DATE 26/ 6/73

POSITION 49-17.0N, 134-40.0W GMT 3.8

RESULTS OF STP CAST 219 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	10.31	32.46	0	24.94	302.1	0.0	0.0	1483.
10	10.26	32.46	10	24.95	301.8	0.30	0.02	1488.
20	9.83	32.46	20	25.02	295.1	0.60	0.06	1487.
30	9.72	32.46	30	25.04	293.5	0.89	0.14	1487.
50	7.86	32.49	50	25.35	264.4	1.45	0.36	1480.
75	7.11	32.53	75	25.49	251.7	2.09	0.77	1477.
100	6.21	32.71	99	25.74	227.3	2.70	1.31	1475.
125	5.69	33.03	124	26.06	197.6	3.24	1.93	1473.
150	5.55	33.46	149	26.41	164.2	3.70	2.57	1474.
175	5.52	33.62	174	26.55	152.0	4.09	3.22	1474.
200	5.46	33.77	199	26.67	140.4	4.46	3.92	1475.
225	5.33	33.81	223	26.72	136.2	4.80	4.67	1474.
250	5.05	33.82	248	26.76	132.4	5.14	5.48	1474.
300	4.54	33.85	298	26.84	125.0	5.78	7.28	1472.
400	4.10	33.94	397	26.96	114.1	6.97	11.53	1472.
500	3.85	34.04	496	27.07	104.8	8.07	16.55	1473.
600	3.63	34.11	595	27.14	98.3	9.09	22.23	1474.
800	3.26	34.25	793	27.29	85.1	10.92	35.25	1476.
1000	2.94	34.35	990	27.40	75.7	12.52	49.89	1478.
1200	2.69	34.40	1183	27.46	70.6	13.98	66.26	1480.



OFFSHORE OCEANOGRAPHY GROUP

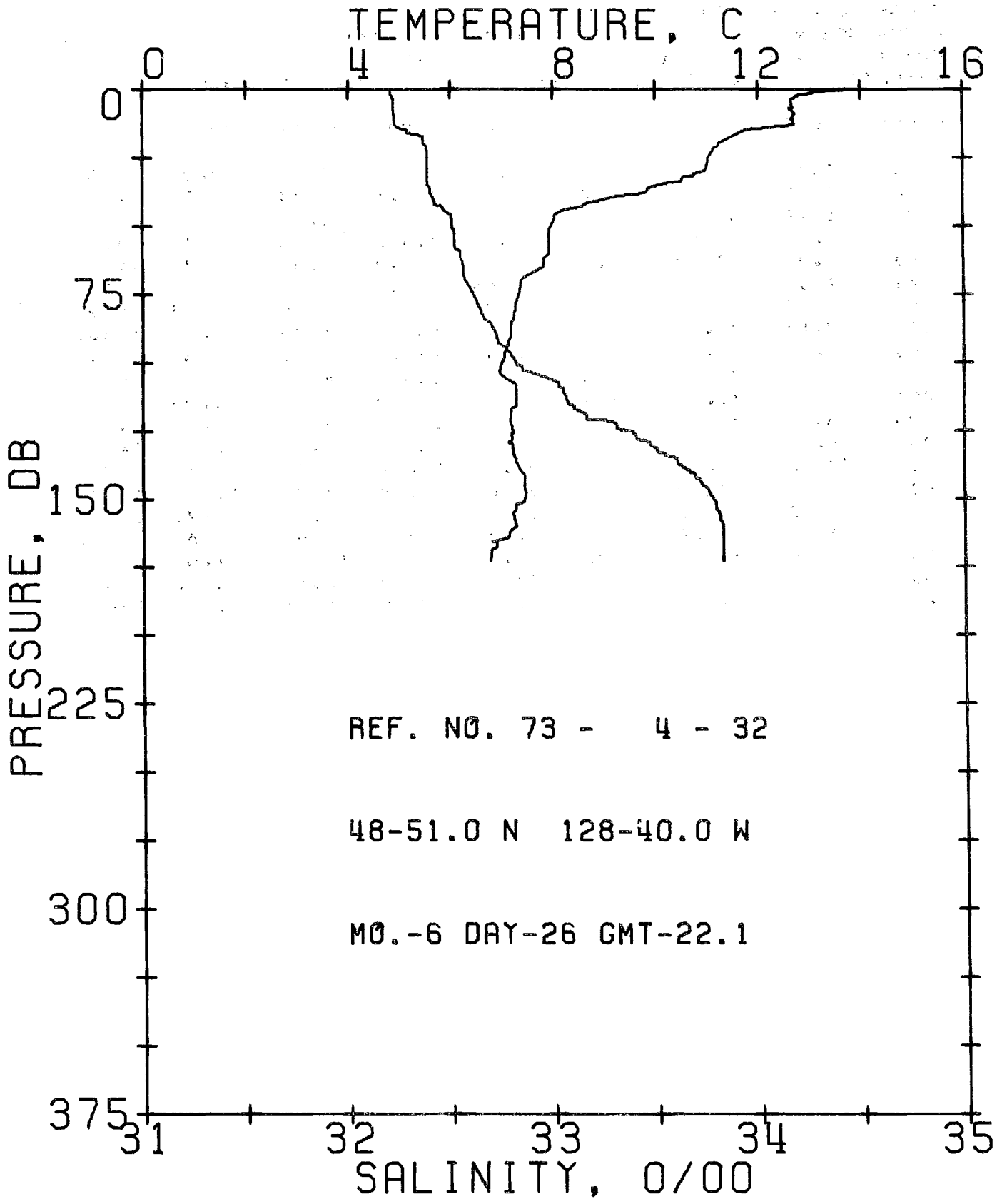
REFERENCE NO. 73- 4- 31

DATE 26/ 6/73

POSITION 49- 2.0N, 130-40.0W GMT 15.5

RESULTS OF STP CAST 282 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.75	32.37	0	24.62	333.0	0.0	0.0	1493.
10	11.31	32.38	10	24.71	325.1	0.33	0.02	1492.
20	11.19	32.38	20	24.73	323.2	0.65	0.07	1492.
30	11.03	32.41	30	24.78	318.6	0.98	0.15	1491.
50	8.92	32.50	50	25.20	278.9	1.58	0.39	1484.
75	7.68	32.57	75	25.44	256.4	2.24	0.82	1480.
100	7.23	32.96	99	25.81	221.6	2.84	1.35	1479.
125	7.17	33.37	124	26.14	190.7	3.36	1.94	1480.
150	7.17	33.62	149	26.33	172.4	3.81	2.57	1480.
175	7.16	33.78	174	26.47	159.4	4.22	3.25	1481.
200	6.86	33.85	199	26.56	151.9	4.61	3.99	1480.
225	6.55	33.87	223	26.61	146.7	4.98	4.80	1479.
250	6.26	33.88	243	26.66	142.6	5.34	5.67	1479.
300	5.82	33.89	298	26.72	136.9	6.04	7.62	1478.
400	5.21	33.99	397	26.87	123.4	7.35	12.28	1477.
500	4.62	34.03	496	26.97	114.7	8.53	17.71	1476.
600	4.29	34.12	595	27.08	104.8	9.63	23.87	1477.
800	3.86	34.26	793	27.23	91.4	11.61	37.93	1478.
1000	3.38	34.34	991	27.35	81.3	13.33	53.68	1480.
1200	2.87	34.42	1183	27.46	70.9	14.85	70.72	1481.



OFFSHORE OCEANOGRAPHY GROUP

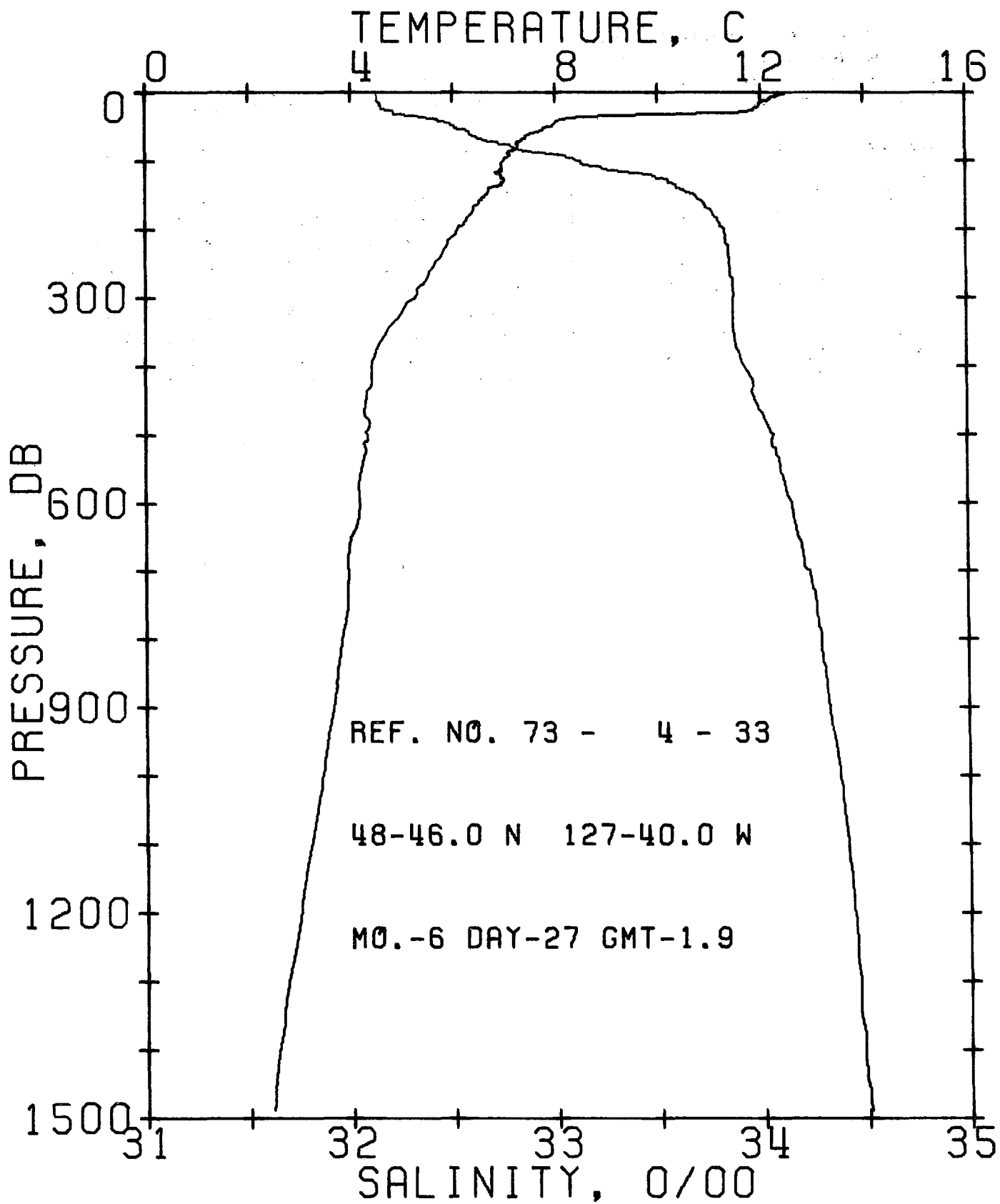
REFERENCE NO. 73- 4- 32

DATE 26/ 6/73

POSITION 48-51.0N, 128-40.0W GMT 22.1

RESULTS OF STP CAST 143 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.85	32.21	0	24.09	383.6	0.0	0.0	1500.
10	12.66	32.23	10	24.34	360.1	0.36	0.02	1496.
20	11.23	32.37	20	24.71	324.7	0.71	0.07	1492.
30	10.97	32.39	30	24.77	319.0	1.03	0.15	1491.
50	7.95	32.51	50	25.35	264.2	1.60	0.39	1480.
75	7.30	32.61	75	25.52	248.4	2.25	0.80	1478.
100	6.99	32.81	99	25.73	229.3	2.85	1.33	1478.
125	7.20	33.36	124	26.12	191.8	3.38	1.94	1480.
150	7.43	33.77	149	26.42	164.7	3.82	2.55	1482.



OFFSHORE OCEANOGRAPHY GROUP

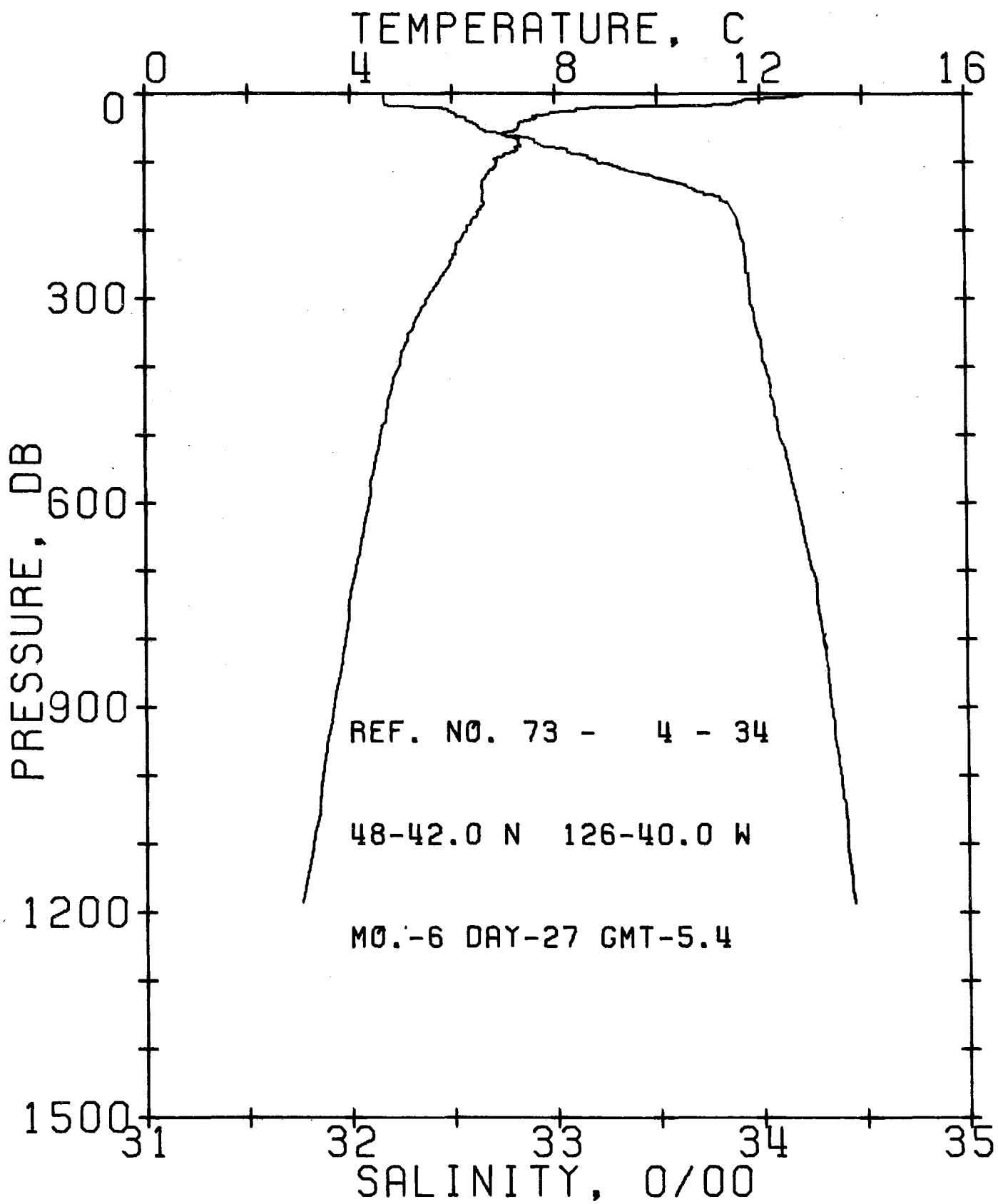
REFERENCE NO. 73- 4- 33

DATE 27/ 6/73

POSITION 48-46.0N, 127-40.0W GMT 1.9

RESULTS OF STP CAST 289 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.35	32.12	0	24.31	362.1	0.0	0.0	1495.
10	12.18	32.13	10	24.35	358.7	0.36	0.02	1495.
20	11.95	32.15	20	24.41	353.4	0.72	0.07	1494.
30	11.49	32.21	30	24.54	341.1	1.07	0.16	1493.
50	7.94	32.51	50	25.35	264.0	1.63	0.39	1480.
75	7.24	32.73	75	25.62	238.5	2.26	0.79	1478.
100	6.99	33.11	99	25.96	207.3	2.82	1.29	1478.
125	6.94	33.49	124	26.26	178.7	3.31	1.84	1479.
150	6.66	33.68	149	26.45	161.2	3.73	2.44	1478.
175	6.37	33.76	174	26.55	152.0	4.12	3.09	1478.
200	6.09	33.82	199	26.63	144.2	4.49	3.79	1477.
225	5.87	33.84	223	26.68	140.3	4.85	4.56	1477.
250	5.65	33.85	248	26.71	137.2	5.20	5.41	1476.
300	5.24	33.87	298	26.77	131.6	5.87	7.29	1475.
400	4.39	33.91	397	26.91	119.6	7.13	11.77	1474.
500	4.32	34.06	496	27.03	108.7	8.27	17.01	1475.
600	4.16	34.14	595	27.11	101.9	9.33	22.93	1476.
800	3.79	34.28	793	27.26	89.0	11.23	36.42	1478.
1000	3.41	34.37	991	27.37	79.6	12.92	51.90	1480.
1200	2.97	34.43	1188	27.46	71.1	14.42	68.68	1481.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 34

DATE 27/ 6/73

POSITION 48-42.0N, 126-40.0W GMT 5.4

RESULTS OF STP CAST 245 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.83	32.17	0	24.26	367.2	0.0	0.0	1497.
10	11.69	32.17	10	24.47	347.2	0.36	0.02	1493.
20	9.58	32.31	20	24.95	302.0	0.70	0.07	1486.
30	7.90	32.51	30	25.36	262.9	0.97	0.14	1480.
50	7.29	32.63	50	25.54	246.3	1.48	0.34	1478.
75	7.31	32.94	75	25.78	223.8	2.06	0.71	1479.
100	6.89	33.21	99	26.05	198.5	2.59	1.18	1478.
125	6.64	33.53	124	26.33	171.9	3.05	1.71	1478.
150	6.60	33.78	149	26.54	153.0	3.46	2.28	1478.
175	6.49	33.88	174	26.63	144.4	3.83	2.90	1478.
200	6.30	33.90	199	26.67	140.9	4.18	3.58	1478.
225	6.08	33.92	223	26.71	137.0	4.53	4.33	1478.
250	5.94	33.93	248	26.74	134.8	4.87	5.15	1478.
300	5.49	33.95	298	26.81	128.5	5.53	7.00	1477.
400	4.94	34.02	397	26.93	117.6	6.76	11.36	1476.
500	4.58	34.09	496	27.02	109.6	7.89	16.55	1476.
600	4.34	34.17	595	27.12	101.6	8.94	22.43	1477.
800	3.89	34.30	793	27.26	88.7	10.83	35.86	1479.
1000	3.42	34.38	991	27.37	79.0	12.50	51.19	1480.

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 35

DATE 27/ 6/73

POSITION 48-38.0N, 126- 0.0W GMT 7.8

RESULTS OF STP CAST 83 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.36	32.15	0	24.34	360.0	0.0	0.0	1495.
10	11.80	32.15	10	24.44	350.5	0.36	0.02	1493.
20	11.37	32.15	20	24.52	342.9	0.71	0.07	1492.
30	9.71	32.27	30	24.89	307.5	1.04	0.15	1486.
50	7.45	32.87	50	25.71	230.5	1.56	0.37	1479.
75	6.39	33.48	75	26.26	177.8	2.07	0.68	1478.
100	6.35	33.79	99	26.58	148.5	2.47	1.04	1477.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	12.36	32.15	50.	7.45	32.87
0.	12.37	32.15	51.	7.43	32.94
0.	12.47	32.15	52.	7.26	32.99
4.	12.58	32.15	53.	7.18	33.03
4.	12.64	32.15	54.	7.16	33.05
6.	12.64	32.15	54.	7.12	33.06
6.	12.62	32.15	57.	7.10	33.08
7.	12.62	32.15	59.	7.09	33.09
8.	12.55	32.15	60.	7.03	33.11
9.	12.51	32.15	60.	6.97	33.12
10.	11.80	32.15	61.	6.97	33.12
12.	11.61	32.15	61.	6.97	33.15
14.	11.58	32.15	62.	6.97	33.15
15.	11.50	32.15	63.	6.96	33.19
16.	11.48	32.15	63.	6.95	33.19
18.	11.47	32.15	64.	6.94	33.19
19.	11.41	32.15	66.	6.88	33.24
23.	11.25	32.17	68.	6.91	33.28
23.	11.14	32.17	69.	6.89	33.31
24.	10.99	32.20	69.	6.89	33.33
25.	10.66	32.22	69.	6.92	33.37
25.	10.44	32.23	71.	6.93	33.42
25.	10.22	32.24	74.	6.91	33.45
27.	10.03	32.24	74.	6.90	33.48
28.	9.97	32.24	76.	6.89	33.49
29.	9.85	32.26	77.	6.87	33.50
31.	9.58	32.29	79.	6.85	33.53
32.	9.52	32.30	79.	6.81	33.53
32.	9.49	32.30	80.	6.79	33.56
34.	9.09	32.31	80.	6.79	33.59
35.	8.66	32.44	81.	6.78	33.60
37.	8.17	32.47	82.	6.72	33.61
39.	8.13	32.48	85.	6.64	33.65
40.	7.96	32.54	86.	6.62	33.67
41.	7.92	32.58	87.	6.53	33.70
42.	7.91	32.61	88.	6.53	33.70
42.	7.87	32.64	89.	6.52	33.74
44.	7.76	32.74	90.	6.41	33.76
46.	7.59	32.82	96.	6.36	33.78
47.	7.51	32.83	100.	6.35	33.79
48.	7.49	32.84	101.	6.34	33.79
49.	7.46	32.87			

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 4- 36

DATE 27/ 6/73

POSITION 48-33.0N, 125-33.0W GMT 9.6

RESULTS OF STP CAST 74 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.44	31.62	0	24.09	383.0	0.0	0.0	1491.
10	11.44	31.62	10	24.09	383.4	0.38	0.02	1491.
20	9.56	31.73	20	24.50	345.0	0.75	0.07	1485.
30	8.57	32.05	30	24.90	306.8	1.07	0.16	1482.
50	8.06	32.43	50	25.27	271.9	1.65	0.39	1481.
75	7.35	33.29	75	26.05	198.3	2.22	0.75	1479.
100	6.65	33.64	99	26.42	163.4	2.68	1.16	1478.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	11.44	31.62	53.	8.04	32.58
10.	11.44	31.62	55.	7.90	32.67
12.	11.12	31.62	56.	7.93	32.74
14.	10.58	31.62	58.	7.98	32.90
14.	10.38	31.62	59.	7.95	32.90
15.	10.20	31.62	60.	7.94	32.91
15.	10.04	31.61	61.	7.94	32.95
16.	10.02	31.66	61.	7.87	33.00
17.	9.65	31.66	62.	7.80	33.00
19.	9.62	31.66	64.	7.80	33.01
19.	9.61	31.69	65.	7.79	33.02
20.	9.56	31.73	66.	7.79	33.07
21.	9.55	31.79	67.	7.73	33.10
23.	9.33	31.80	67.	7.68	33.14
24.	9.22	31.83	69.	7.50	33.21
25.	9.16	31.84	70.	7.47	33.22
27.	8.67	31.92	71.	7.46	33.22
27.	8.64	31.96	73.	7.41	33.24
29.	8.57	32.00	73.	7.41	33.25
30.	8.57	32.05	74.	7.40	33.26
32.	8.62	32.07	74.	7.35	33.27
33.	8.61	32.08	75.	7.35	33.29
33.	8.60	32.08	77.	7.35	33.29
35.	8.57	32.10	78.	7.32	33.31
35.	8.53	32.10	80.	7.29	33.31
36.	8.51	32.11	81.	7.16	33.40
37.	8.49	32.16	83.	7.15	33.40
38.	8.40	32.17	84.	7.15	33.41
39.	8.37	32.18	86.	7.10	33.43
40.	8.28	32.25	89.	7.00	33.47
42.	8.26	32.33	90.	6.99	33.49
43.	8.17	32.40	91.	6.88	33.52
44.	8.10	32.40	94.	6.87	33.52
45.	8.09	32.41	95.	6.84	33.56
46.	8.09	32.42	98.	6.70	33.61
47.	8.07	32.42	100.	6.65	33.64
52.	8.05	32.44	101.	6.62	33.64

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SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-73-4)

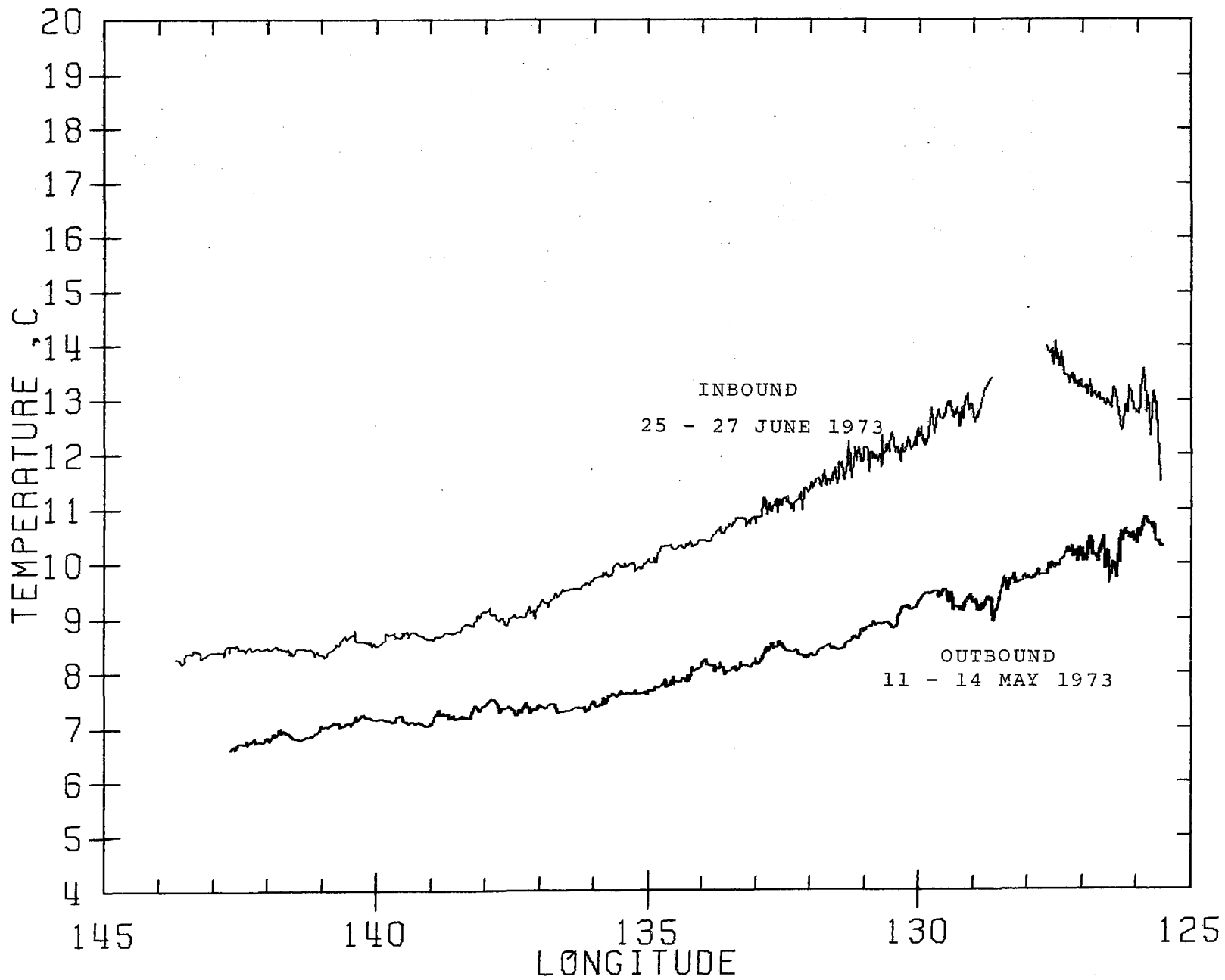


Figure 7 Surface temperature along Line P recorded from engine room intake. P-73-4.

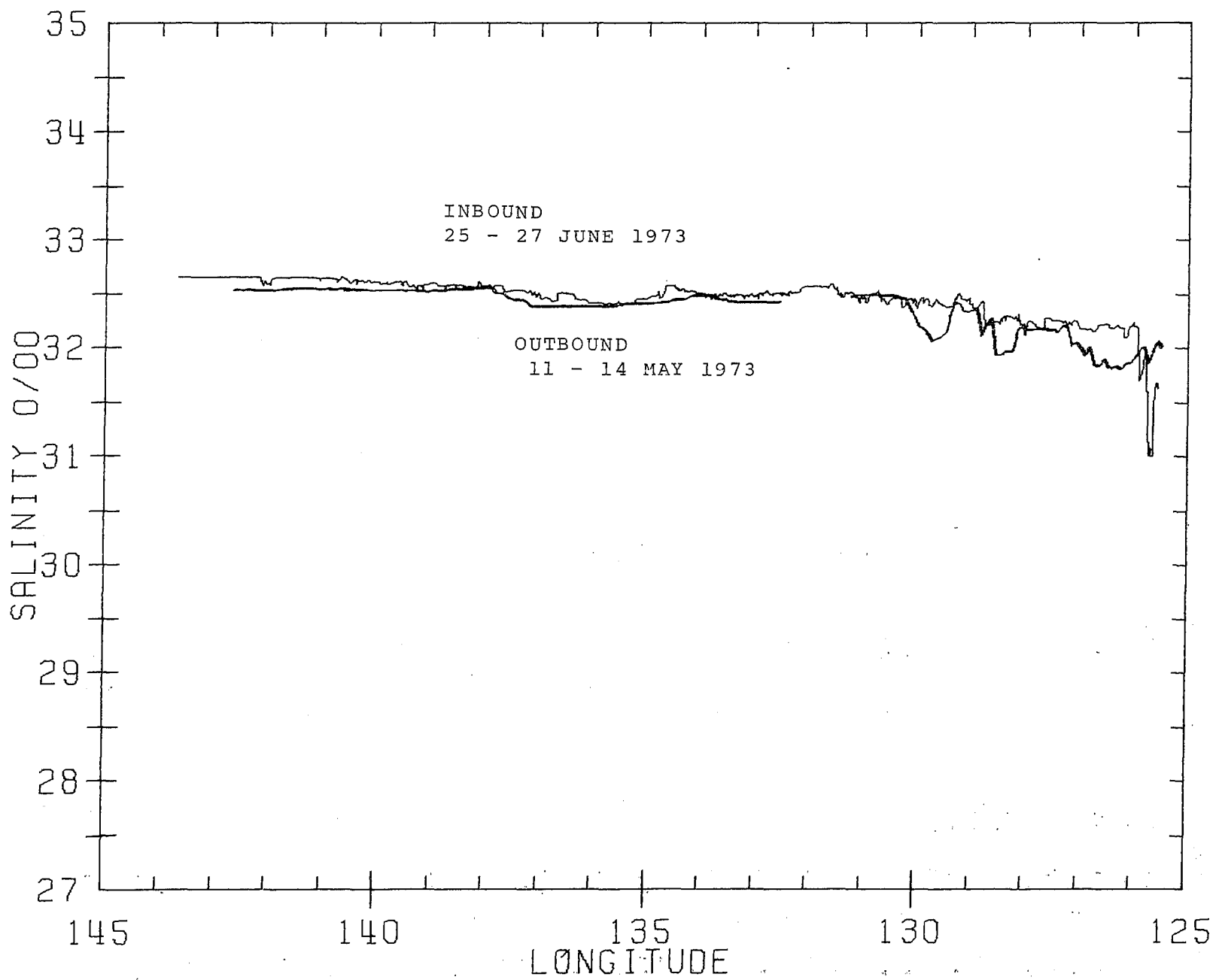


Figure 8 Surface salinity along Line P recorded from thermosalinograph. P-73-4.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
 CRUISE REFERENCE NUMBER 73- 4

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	‰	°C	WEST
73	5	11	2341	32.033		125-33
73	5	12	126	31.798	10.5	126- 0
73	5	12	352	31.868	9.9	126-40
73	5	12	733	32.220	10.0	127-40
73	5	12	1122	32.191	9.3	128-40
73	5	12	1553	32.072	9.5	129-40
73	5	12	1925	32.520	9.1	130-40
73	5	13	130	32.436	8.5	132-40
73	5	13	800	32.426	8.2	134-40
73	5	13	1347	32.379		136-40
73	5	13	1932	32.544	7.5	138-40
73	5	14	155	32.552	7.2	140-40
73	5	14	805	32.547	6.7	142-40
73	5	15	0	32.602	6.6	145- 0
73	5	16	0	32.557	6.4	ON STATION
73	5	17	0	32.597	6.4	ON STATION
73	5	18	0	32.605	6.2	ON STATION
73	5	19	0	32.581	6.4	ON STATION
73	5	20	0	32.593	6.4	ON STATION
73	5	21	0	32.592	6.4	ON STATION
73	5	22	0	32.574	6.3	ON STATION
73	5	23	0	32.614	6.4	ON STATION
73	5	24	0	32.610	6.6	ON STATION
73	5	25	0	32.605	6.3	ON STATION
73	5	26	0	32.611	6.5	ON STATION
73	5	27	0	32.614	6.7	ON STATION
73	5	28	0	32.615	6.7	ON STATION
73	5	29	0	32.571	6.7	ON STATION
73	5	30	0	32.609	6.9	ON STATION
73	5	31	0	32.601	7.0	ON STATION
73	6	1	0	32.600	7.0	ON STATION
73	6	2	0	32.602	7.2	ON STATION
73	6	3	0	32.581	7.1	ON STATION
73	6	4	0	32.567	7.2	ON STATION
73	6	5	0	32.590	7.2	ON STATION
73	6	6	0	32.577	7.1	ON STATION
73	6	7	0	32.569	7.2	ON STATION
73	6	8	0	32.590	7.3	ON STATION
73	6	12	0	32.573	7.7	ON STATION
73	6	13	0	32.570	7.3	ON STATION
73	6	14	0	32.588	7.4	ON STATION
73	6	15	0	32.590	7.4	ON STATION
73	6	16	0	32.581	7.5	ON STATION
73	6	17	0	32.580	7.5	ON STATION
73	6	18	0	32.577	7.6	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
 CRUISE REFERENCE NUMBER 73- 4

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	‰	C	WEST
73	6	18	0	32.577	7.6	ON STATION
73	6	19	0	32.572	7.8	ON STATION
73	6	20	0	32.565	8.0	ON STATION
73	6	21	0	32.566	8.2	ON STATION
73	6	22	0	32.571	8.3	ON STATION
73	6	23	0	32.571	8.1	ON STATION
73	6	24	0	32.568	8.2	ON STATION
73	6	25	12	32.497	8.8	142-40
73	6	25	705	32.487	8.7	140-40
73	6	25	1415	32.455	9.0	138-40
73	6	25	2142	32.352	9.7	136-40
73	6	25	350	32.459	11.0	134-40
73	6	26	1531	32.355	12.2	130-40
73	6	26	2208	32.174	14.0	128-40
73	6	27	150	32.201	13.5	127-40
73	6	27	522	32.156	12.6	126-40
73	6	27	750	32.151	12.4	126- 0
73	6	27	934	31.601	11.5	125-33

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OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-73-5

(CODC REFERENCE NO. 15-73-005)

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SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-73-5)

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
 CRUISE REFERENCE NUMBER 73- 5

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT	0/00	C	WEST
73	6	22	2240	31.839	12.7	125-33
73	6	23	0	32.060	12.3	126- 0
73	6	23	230	32.121	11.7	126-40
73	6	23	530	32.215	12.2	127-40
73	6	23	950	32.192	11.9	128-40
73	6	23	1200	32.370	11.5	129-40
73	6	23	1500	32.271	11.4	130-40
73	6	23	2100	32.436	10.5	132-40
73	6	24	0	32.410	10.1	133-40
73	6	24	300	32.397	9.9	134-40
73	6	24	920	32.357	9.3	136-40
73	6	24	1205	32.456	9.2	137-40
73	6	24	1515	32.475	8.9	138-40
73	6	24	2150	32.508	8.8	140-40
73	6	25	30	32.500	8.4	141-40
73	6	25	300	32.502	8.5	142-40
73	6	25	0	32.588	8.4	ON STATION
73	6	26	0	32.566	8.1	ON STATION
73	6	27	0	32.582	8.4	ON STATION
73	6	28	0	32.580	8.7	ON STATION
73	6	29	0	32.584	8.7	ON STATION
73	6	30	0	32.561	8.9	ON STATION
73	7	1	0	32.560	8.3	ON STATION
73	7	2	0	32.560	8.7	ON STATION
73	7	3	0	32.557	8.9	ON STATION
73	7	4	0	32.551	9.1	ON STATION
73	7	5	0	32.558	8.9	ON STATION
73	7	6	0	32.514	9.2	ON STATION
73	7	7	0	32.509	9.5	ON STATION
73	7	8	0	32.524	10.5	ON STATION
73	7	9	0	32.445	9.9	ON STATION
73	7	10	0	32.467	10.5	ON STATION
73	7	11	0	32.462	9.7	ON STATION
73	7	12	0	32.460	9.6	ON STATION
73	7	13	0	32.502	9.6	ON STATION
73	7	14	0	32.461	10.7	ON STATION
73	7	15	0	32.460	10.2	ON STATION
73	7	16	0	32.461	10.4	ON STATION
73	7	17	0	32.459	10.4	ON STATION
73	7	18	0	32.482	10.4	ON STATION
73	7	19	0	32.457	10.4	ON STATION
73	7	20	0	32.468	11.0	ON STATION
73	7	21	0	32.461	10.5	ON STATION
73	7	22	0	32.460	11.0	ON STATION
73	7	23	0	32.459	10.7	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
 CRUISE REFERENCE NUMBER 73- 5

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DAY	GMT			
73	7	23	0	32.459	10.7	0N STATION
73	7	24	0	32.458	11.0	0N STATION
73	7	25	0	32.453	11.2	0N STATION
73	7	26	0	32.467	11.2	0N STATION
73	7	27	0	32.467	11.3	0N STATION
73	7	28	0	32.464	11.1	0N STATION
73	7	29	0	32.474	11.3	0N STATION
73	7	30	0		11.5	0N STATION
73	7	31	0	32.495	11.6	0N STATION
73	8	1	0	32.488	11.7	0N STATION
73	8	2	0	32.472	12.4	0N STATION
73	8	3	0	32.485	11.7	0N STATION
73	8	4	0	32.499	11.7	0N STATION
73	8	5	0	32.453	11.7	0N STATION
73	8	6	230	32.467	12.3	142-40
73	8	6	805	32.419	12.2	141-40
73	8	6	1130	32.402	12.4	140-40
73	8	6	1430	32.320	12.7	139-40
73	8	6	1700	32.417	12.9	138-40
73	8	6	2020	32.414	13.3	137-40
73	8	6	2315	32.319	13.3	136-40
73	8	7	200	32.348	13.9	135-40
73	8	7	615	32.373	13.8	134-40
73	8	7	810	32.429	13.8	133-40
73	8	7	1115	32.474	14.1	132-40
73	8	7	1400	32.398	14.6	131-40
73	8	7	1700	32.178	14.8	130-40
73	8	7	2050	32.370	14.5	129-40
73	8	7	2225	32.054	14.5	128-40
73	8	8	100	32.001	13.7	127-40
73	8	8	400	32.141	13.7	126-40
73	8	8	600	31.657	11.1	126- 0
73	8	8	830	32.223	11.4	125-33

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OCEANOGRAPHIC DATA OBTAINED ON CRUISE P-73-6

(CODC REFERENCE NO. 15-73-006)

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RESULTS OF HYDROGRAPHIC OBSERVATIONS

(P-73-6)

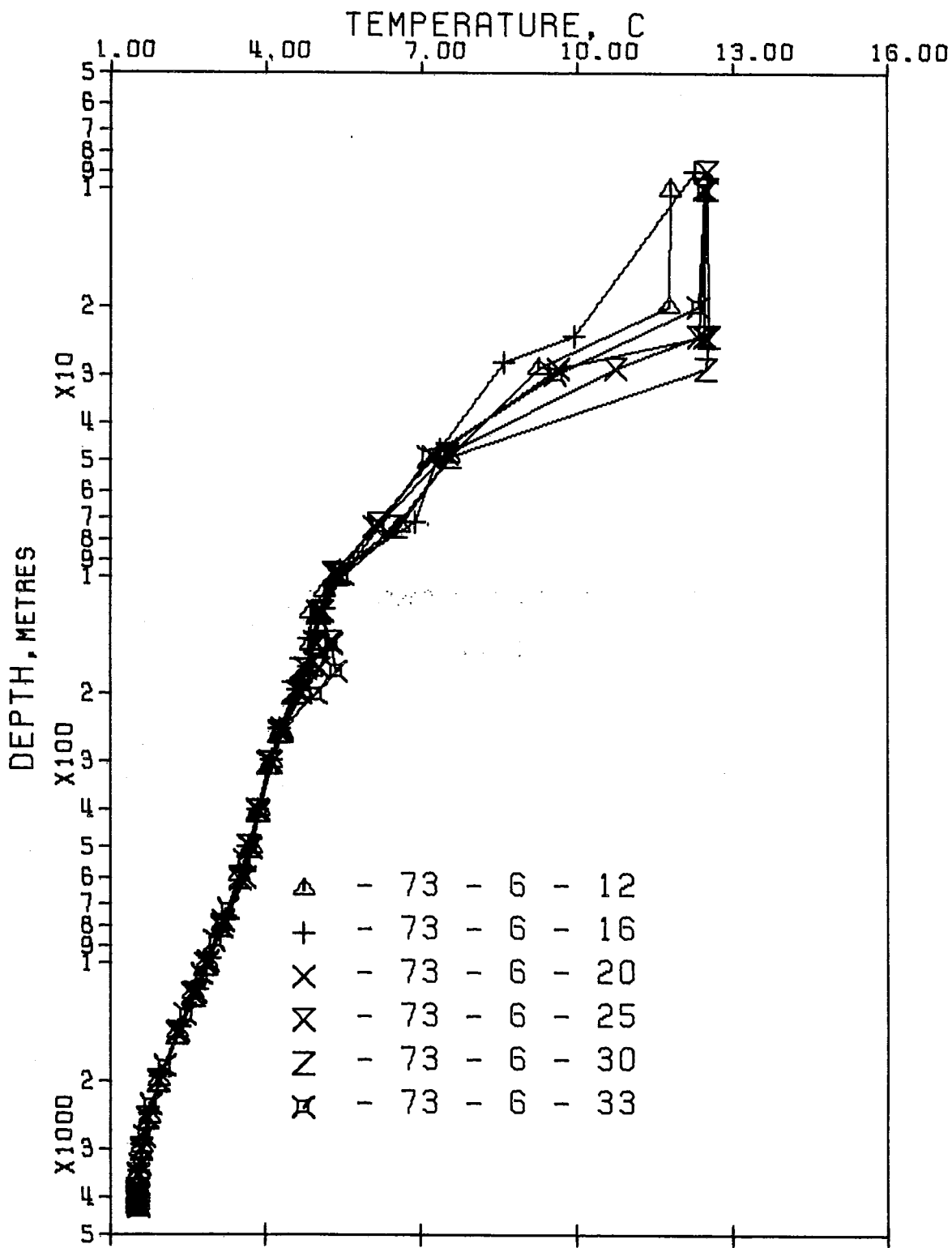


Figure 9 Composite plot of temperature vs \log_{10} depth. P-73-6.

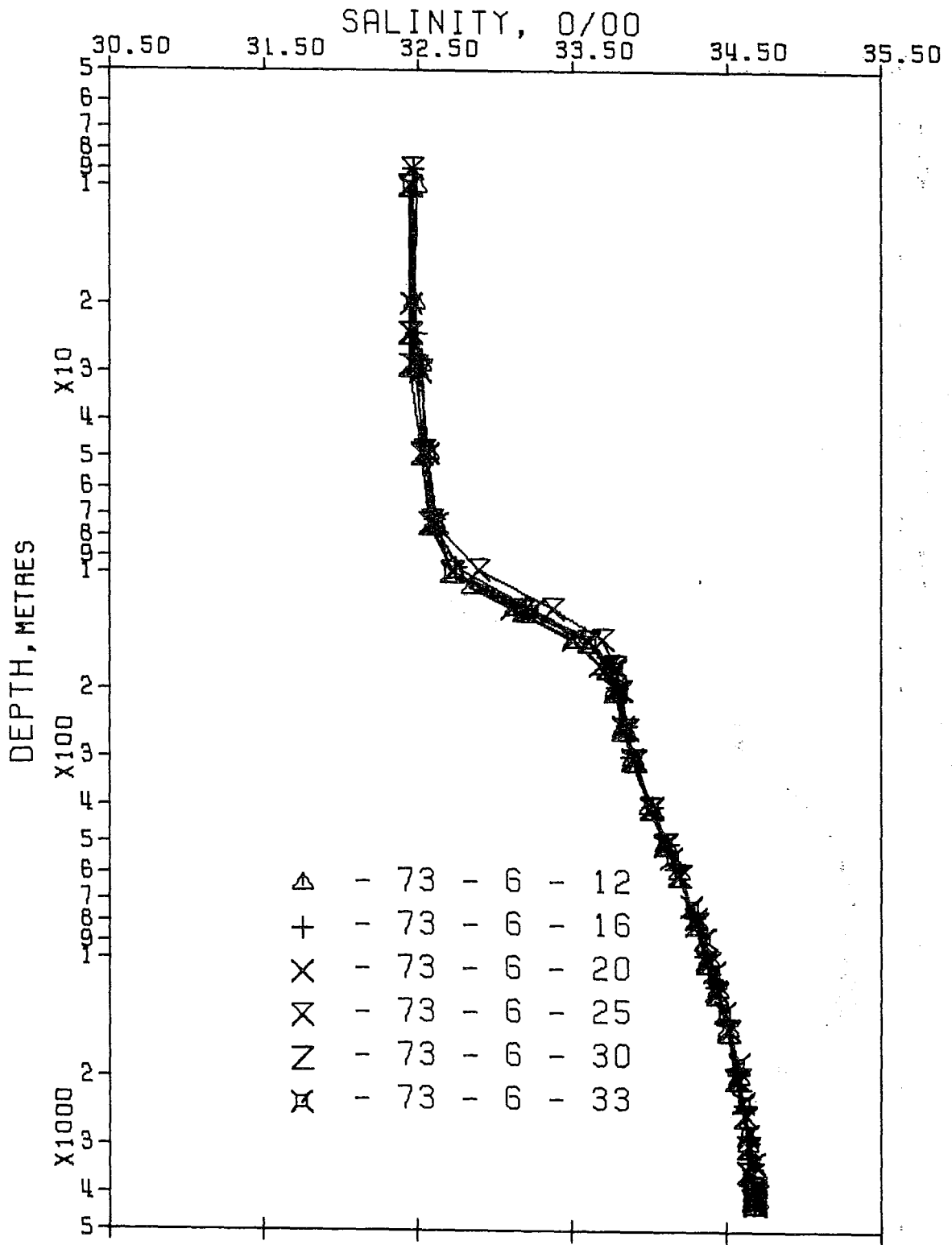


Figure 10 Composite plot of salinity vs \log_{10} depth. P-73-6.

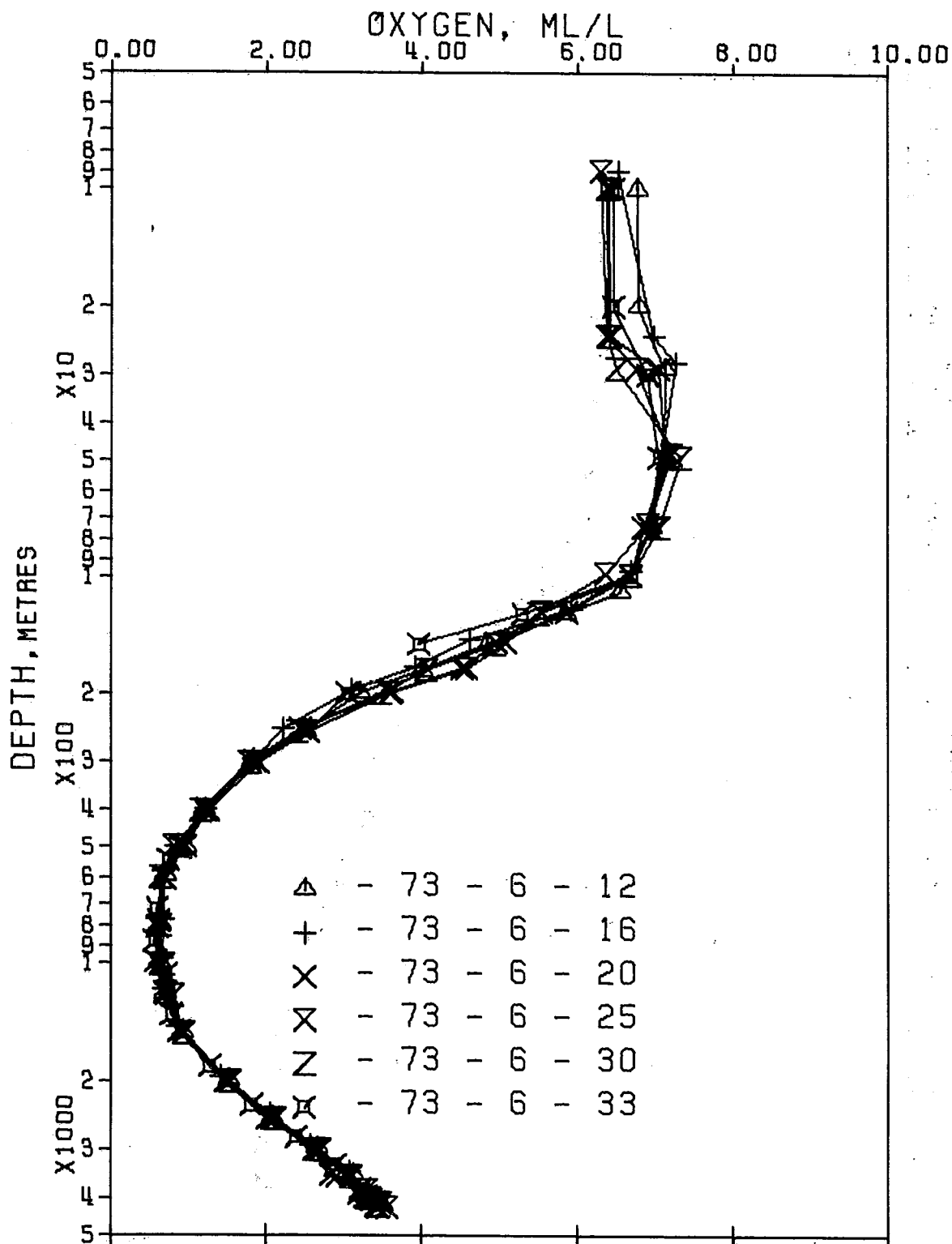
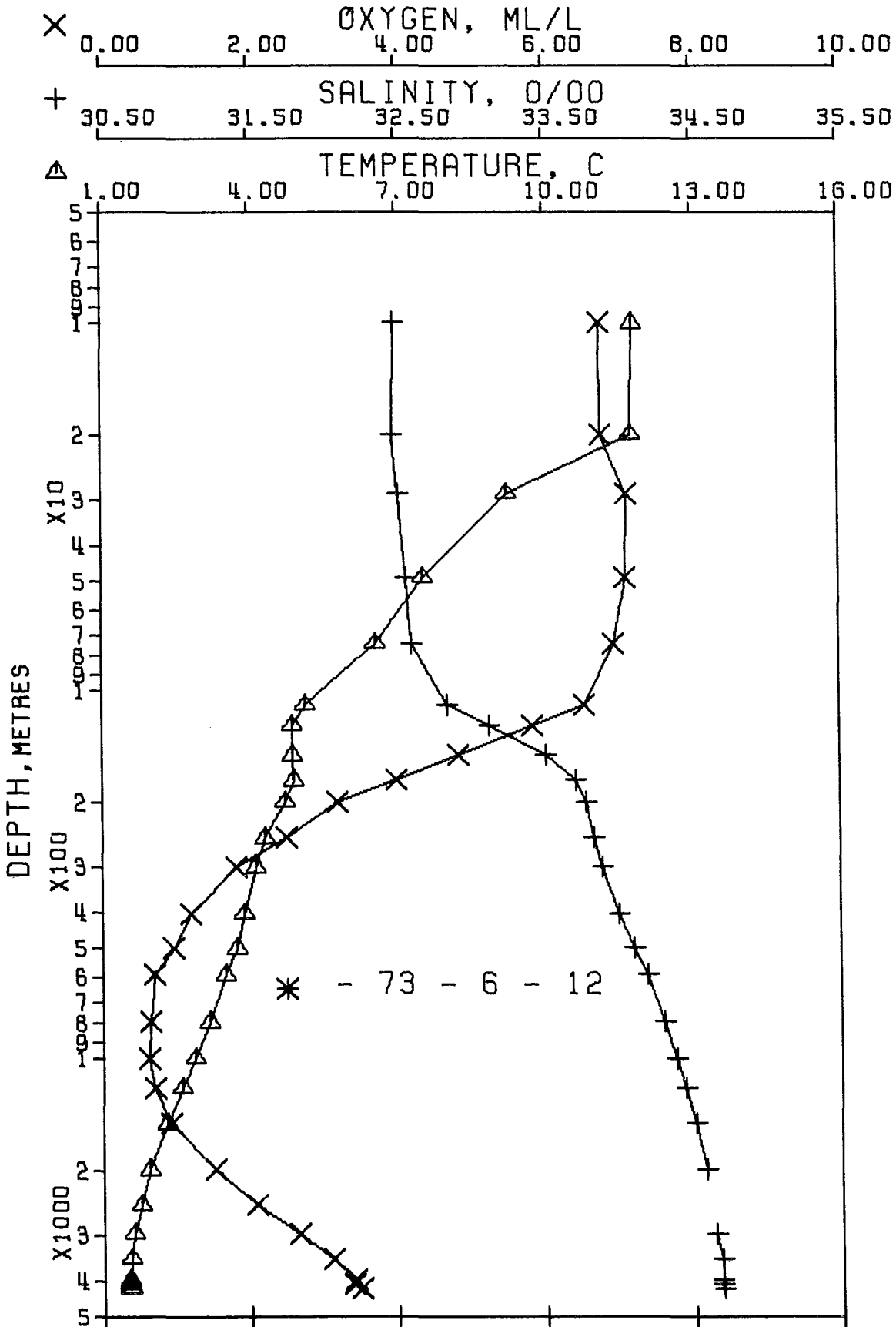


Figure 11 Composite plot of oxygen vs \log_{10} depth. P-73-6.

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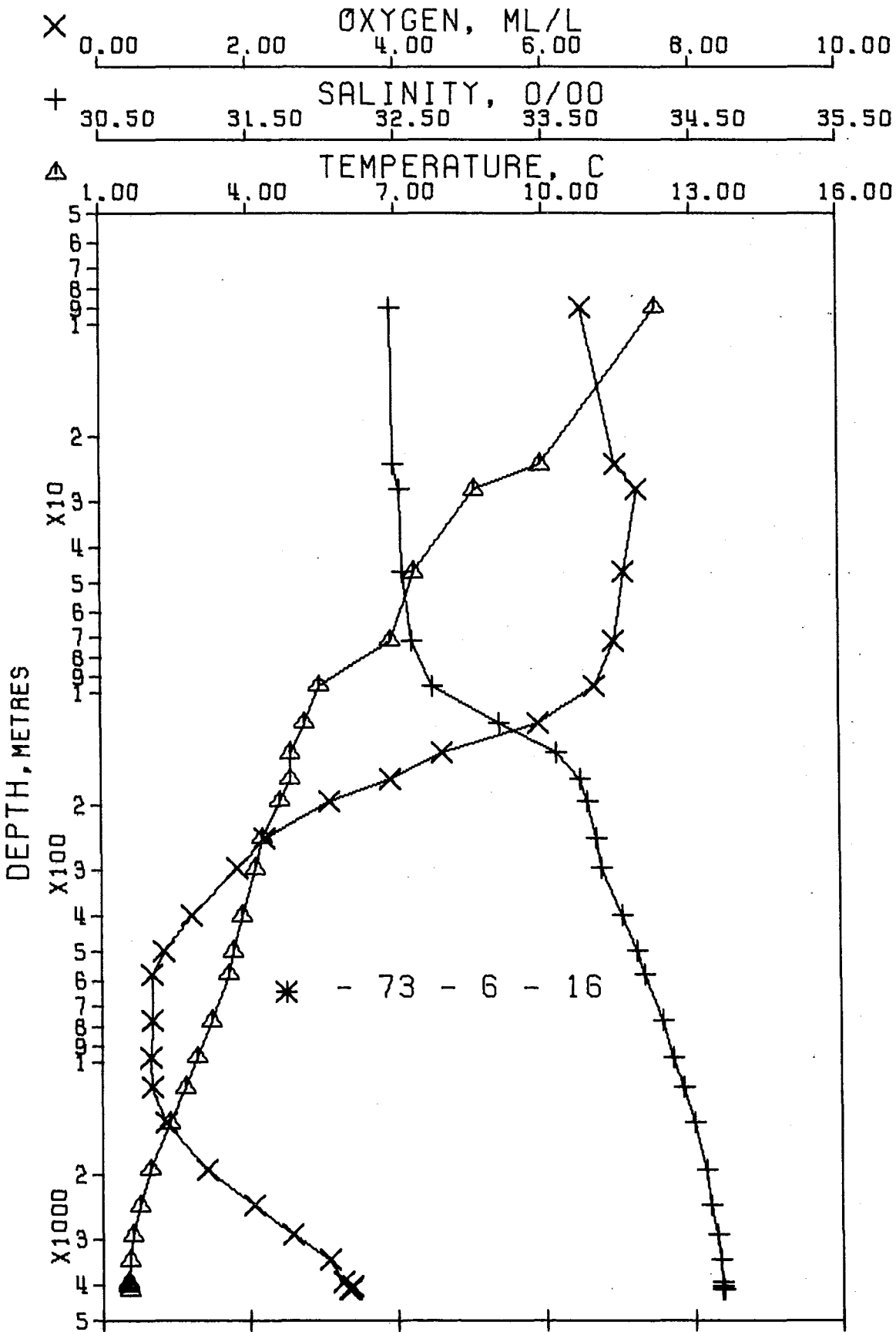
REFERENCE NO. 73- 6- 12

DATE 8/ 8/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 19.3

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	DOY	SOUND
0	11.84	32.477	0	24.685	326.9	11.84	326.7	0.0	0.0	6.76	1494.
10	11.80	32.488	10	24.701	325.6	11.80	325.1	0.33	0.02	6.76	1494.
20	11.77	32.479	20	24.700	326.0	11.77	325.2	0.66	0.07	6.78	1494.
29	9.25	32.525	29	25.167	281.5	9.25	280.7	0.93	0.14	7.13	1485.
49	7.55	32.574	49	25.459	253.9	7.55	253.0	1.46	0.35	7.10	1479.
74	6.57	32.606	74	25.616	239.2	6.56	238.0	2.08	0.74	6.94	1475.
110	5.15	32.853	109	25.983	204.5	5.14	203.1	2.87	1.48	6.54	1471.
125	4.88	33.132	124	26.234	180.8	4.87	179.3	3.16	1.83	5.83	1470.
151	4.88	33.515	150	26.537	152.3	4.87	150.5	3.59	2.44	4.83	1471.
176	4.90	33.711	175	26.690	138.1	4.89	135.9	3.95	3.04	3.99	1472.
201	4.72	33.785	200	26.769	130.8	4.70	128.5	4.29	3.69	3.21	1472.
253	4.29	33.831	251	26.852	123.2	4.27	120.6	4.94	5.20	2.50	1471.
304	4.11	33.887	302	26.915	117.6	4.09	114.6	5.56	6.95	1.82	1471.
406	3.88	34.002	403	27.030	107.5	3.85	103.6	6.70	11.10	1.19	1472.
505	3.72	34.097	501	27.121	99.5	3.68	94.9	7.73	15.85	0.96	1473.
596	3.48	34.187	591	27.216	90.9	3.44	85.8	8.59	20.70	0.69	1473.
801	3.16	34.302	794	27.338	80.4	3.10	74.2	10.33	33.10	0.63	1475.
1007	2.87	34.379	997	27.426	72.8	2.80	65.8	11.90	47.55	0.62	1478.
1210	2.60	34.436	1198	27.495	66.9	2.52	59.1	13.32	63.59	0.71	1480.
1515	2.30	34.506	1498	27.576	59.8	2.20	51.3	15.24	90.24	0.92	1484.
2019	1.94	34.580	1994	27.665	52.4	1.80	42.7	18.03	140.59	1.52	1491.
2522	1.75	34.617*	2488	27.708	49.1	1.57	38.3	20.57	199.37	2.09	1498.
3026	1.59	34.641	2982	27.740	46.8	1.37	35.1	22.98	267.62	2.65	1506.
3533	1.54	34.678	3478	27.773	44.9	1.27	31.6	25.30	344.97	3.11	1515.
4047	1.52	34.682	3979	27.778	45.7	1.19	30.8	27.62	434.69	3.41	1524.
4151	1.51	34.684	4080	27.780	45.7	1.17	30.6	28.09	454.45	3.39	1525.
4244	1.54	34.686*	4171	27.779	46.3	1.19	30.6	28.53	472.98	0.0	1527.
4254	1.52	34.686	4181	27.781	45.9	1.17	30.4	28.57	475.04	3.49	1527.



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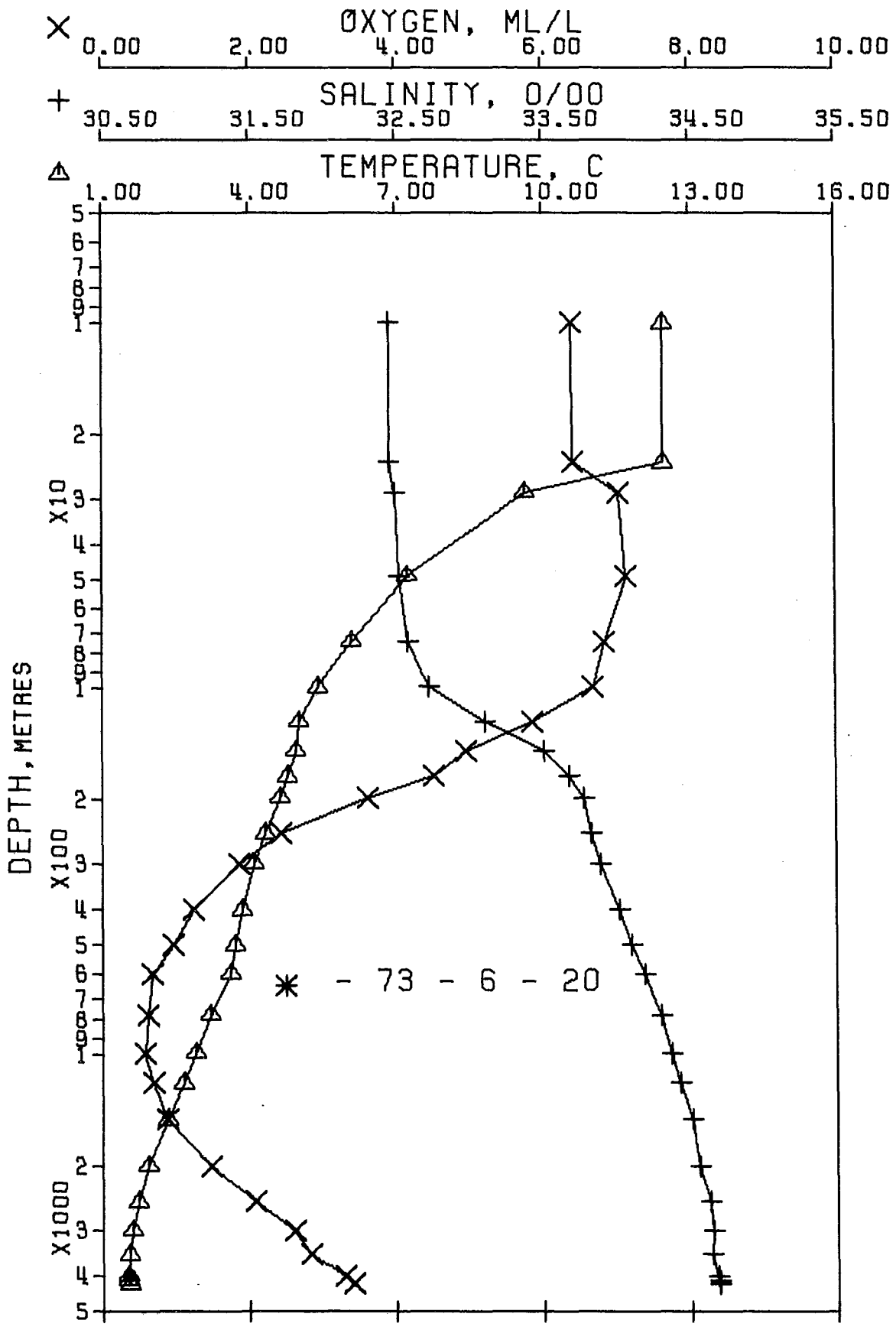
REFERENCE NO. 73- 6- 16

DATE 15/ 8/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.7

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.31	32.477	0	24.597	335.2	12.31	335.0	0.0	0.0	6.52	1495.
9	12.28	32.475	9	24.601	335.1	12.28	334.7	0.30	0.01	6.52	1495.
24	9.93	32.488	24	25.028	294.6	9.93	294.0	0.79	0.10	6.97	1487.
28	8.60	32.534	28	25.275	271.2	8.60	270.5	0.90	0.13	7.25	1482.
47	7.35	32.550	47	25.468	253.0	7.35	252.1	1.39	0.31	7.08	1473.
72	6.89	32.613	72	25.580	242.7	6.88	241.5	2.01	0.70	6.94	1477.
97	5.43	32.746	96	25.867	215.4	5.42	214.2	2.57	1.18	6.69	1471.
122	5.14	33.198	121	26.257	178.6	5.13	177.1	3.06	1.73	5.92	1471.
147	4.83	33.585	146	26.598	146.5	4.82	144.7	3.47	2.28	4.63	1471.
172	4.93	33.743	171	26.723	134.9	4.82	132.8	3.82	2.85	3.93	1471.
198	4.02	33.794	197	26.787	129.0	4.61	126.8	4.16	3.50	3.09	1471.
250	4.28	33.846	248	26.865	122.0	4.26	119.4	4.81	4.97	2.21	1471.
301	4.11	33.881	299	26.910	118.0	4.09	115.0	5.42	6.71	1.85	1471.
405	3.85	34.021	402	27.048	105.7	3.82	101.9	6.59	10.89	1.23	1472.
506	3.86	34.119	502	27.145	97.2	3.62	92.6	7.61	15.63	0.83	1473.
533	3.57	34.166	578	27.191	93.3	3.53	88.3	8.34	19.68	0.69	1473.
781	3.23	34.286	774	27.319	82.1	3.18	76.0	10.07	31.74	0.68	1475.
979	2.91	34.363	970	27.410	74.3	2.84	67.3	11.62	45.61	0.66	1477.
1179	2.67	34.430	1167	27.484	67.9	2.59	60.2	13.03	61.17	0.68	1480.
1478	2.34	34.504	1462	27.572	60.3	2.24	51.8	14.94	87.02	0.85	1483.
1978	1.97	34.584	1954	27.665	52.3	1.83	42.7	17.72	135.97	1.43	1490.
2431	1.76	34.615	2448	27.706	49.2	1.58	38.5	20.25	193.75	2.07	1498.
2980	1.60	34.655	2943	27.750	45.8	1.38	34.1	22.65	260.29	2.58	1506.
3495	1.55	34.658	3440	27.764	45.6	1.28	32.5	24.96	336.73	3.07	1514.
4004	1.52	34.680	3937	27.776	45.7	1.20	31.0	27.28	425.30	3.27	1523.
4107	1.52	34.680	4037	27.776	46.0	1.18	30.9	27.75	444.75	3.38	1525.
4199	1.54	34.685	4127	27.779	46.2	1.19	30.6	28.18	462.88	3.34	1526.
4209	1.53	34.687	4137	27.781	45.9	1.18	30.4	28.23	464.90	3.36	1526.



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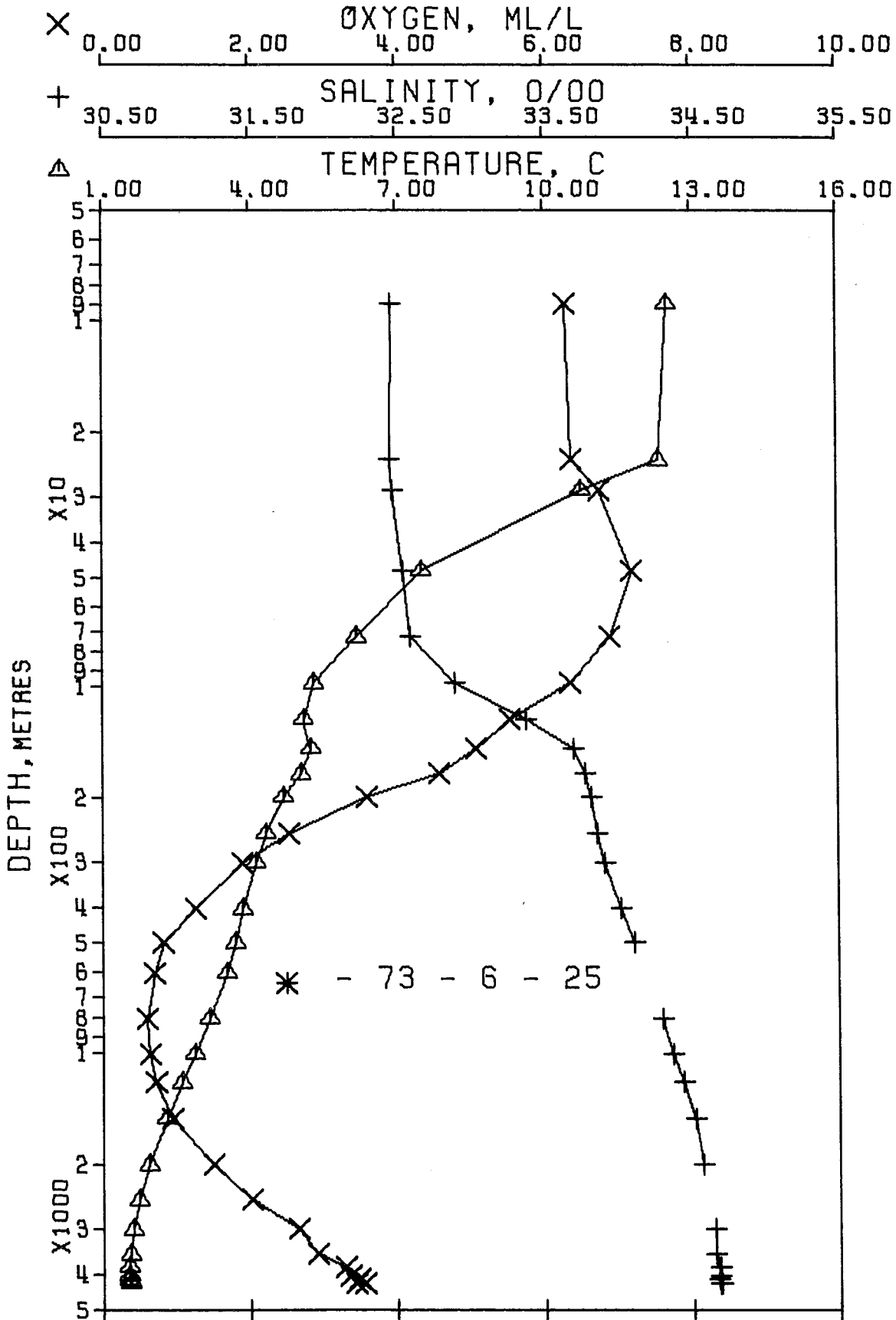
REFERENCE NO. 73- 6- 20

DATE 23/ 8/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.9

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.50	32.452	0	24.542	340.6	12.50	340.4	0.0	0.0	6.42	1496.
10	12.47	32.457	10	24.551	339.8	12.47	339.4	0.34	0.02	6.40	1496.
24	12.46	32.458	24	24.554	340.0	12.46	339.1	0.84	0.11	6.43	1496.
29	9.64	32.497	29	25.083	289.6	9.64	288.8	1.00	0.15	7.04	1486.
49	7.25	32.535	49	25.470	252.9	7.25	251.9	1.51	0.36	7.13	1473.
74	6.10	32.591	74	25.664	234.6	6.09	233.5	2.12	0.74	6.83	1474.
100	5.42	32.730	99	25.855	216.6	5.41	215.3	2.69	1.25	6.69	1471.
124	5.03	33.108	123	26.198	184.1	5.02	182.6	3.17	1.80	5.86	1471.
149	4.95	33.510	148	26.525	153.5	4.94	151.6	3.59	2.39	4.97	1471.
175	4.77	33.685	174	26.684	138.6	4.76	136.6	3.97	3.01	4.51	1471.
200	4.62	33.777	199	26.773	130.3	4.60	128.1	4.31	3.66	3.62	1471.
251	4.33	33.835	249	26.851	123.3	4.31	120.7	4.95	5.12	2.44	1471.
302	4.08	33.887	300	26.918	117.3	4.06	114.2	5.56	6.86	1.85	1471.
404	3.86	34.021	401	27.047	105.8	3.83	102.0	6.70	10.94	1.25	1472.
505	3.70	34.100	501	27.126	99.0	3.66	94.4	7.73	15.73	0.96	1473.
605	3.60	34.188	600	27.206	92.1	3.56	86.8	8.63	21.13	0.68	1474.
783	3.19	34.299	776	27.333	80.8	3.14	74.6	10.22	31.96	0.62	1475.
996	2.90	34.374	986	27.419	73.5	2.83	66.4	11.85	46.75	0.58	1478.
1205	2.64	34.435	1193	27.491	67.3	2.56	59.5	13.32	63.27	0.71	1480.
1518	2.32	34.512	1501	27.580	59.6	2.22	51.0	15.29	90.63	0.87	1484.
2031	1.94	34.560	2006	27.649	53.9	1.80	44.3	18.18	143.00	1.49	1491.
2540	1.73	34.630	2506	27.721	47.9	1.55	37.2	20.76	202.96	2.09	1499.
3047	1.59	34.646	3003	27.744	46.5	1.36	34.7	23.13	270.58	2.62	1507.
3558	1.54	34.636	3502	27.740	47.9	1.26	34.8	25.54	351.95	2.84	1515.
4074	1.52	34.684	4005	27.779	45.6	1.19	30.6	27.96	445.88	3.31	1524.
4178	1.51	34.688	4107	27.783	45.4	1.17	30.2	28.44	465.90	0.0	1526.
4273	1.54	34.693	4199	27.785	45.9	1.18	29.9	28.86	484.33	3.42	1528.
4283	1.53	34.686	4209	27.780	46.2	1.17	30.4	28.91	486.39	3.43	1528.



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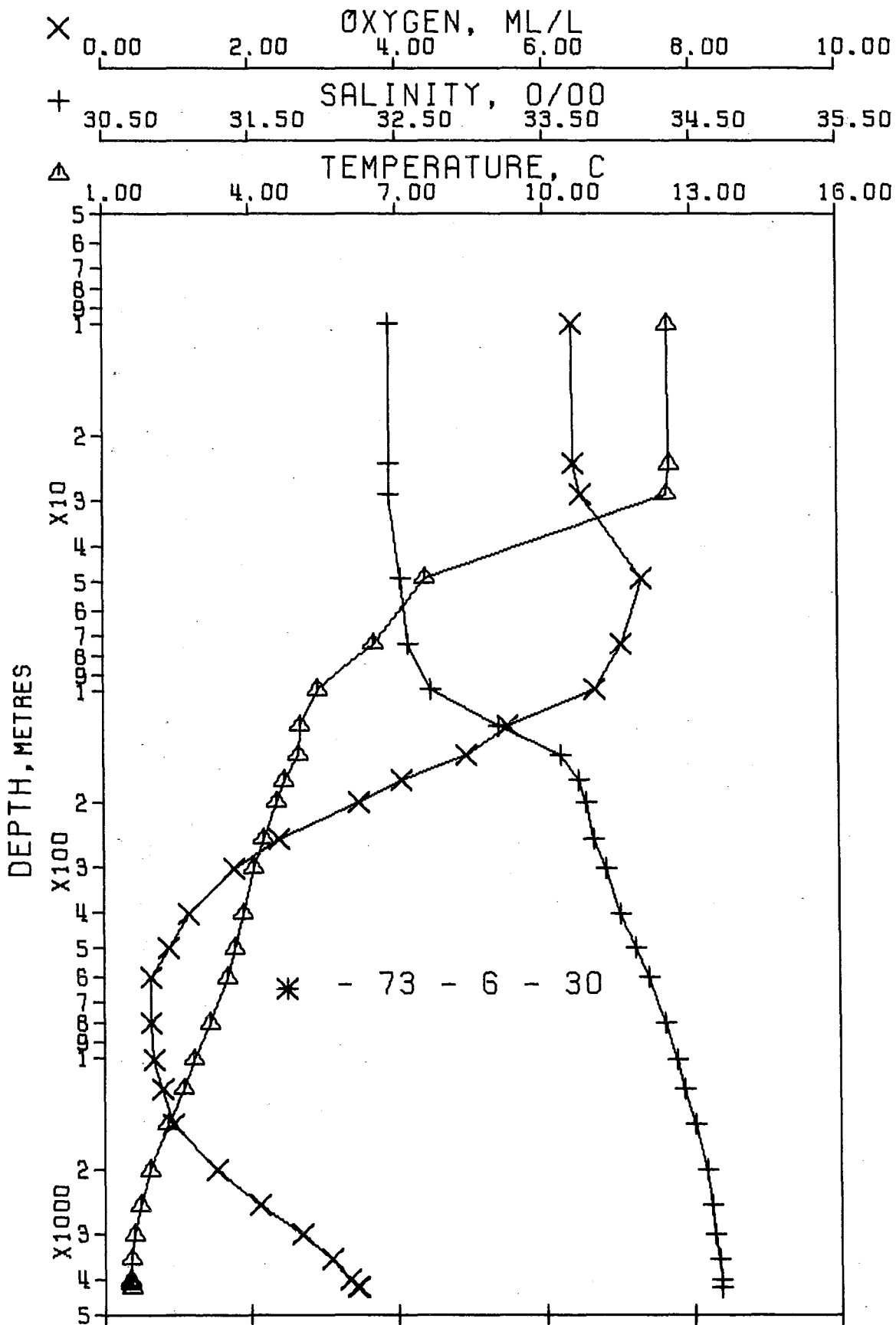
REFERENCE NO. 73- 6- 25

DATE 30/ 8/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 18.7

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.57	32.465	0	24.539	340.9	12.57	340.7	0.0	0.0	6.33	1496.
9	12.51	32.466	9	24.551	339.9	12.51	339.5	0.31	0.01	6.30	1496.
24	12.35	32.465	24	24.580	337.4	12.35	336.6	0.83	0.10	6.38	1496.
29	10.74	32.481	29	24.886	308.4	10.74	307.5	0.99	0.15	6.75	1490.
48	7.50	32.553	48	25.450	254.8	7.50	253.9	1.52	0.35	7.21	1479.
73	6.18	32.596	73	25.658	235.2	6.17	234.0	2.13	0.74	6.91	1474.
99	5.31	32.904	98	26.005	202.3	5.30	201.0	2.68	1.22	6.36	1471.
124	5.10	33.381	123	26.406	164.5	5.09	162.9	3.14	1.74	5.53	1471.
149	5.25	33.704	148	26.645	142.3	5.24	140.3	3.52	2.27	5.08	1473.
175	5.06	33.779	174	26.726	134.8	5.05	132.6	3.88	2.87	4.58	1472.
201	4.70	33.824	200	26.802	127.7	4.68	125.4	4.23	3.53	3.61	1471.
254	4.34	33.861	252	26.870	121.6	4.32	118.8	4.88	5.04	2.54	1471.
306	4.12	33.913	304	26.935	115.8	4.10	112.7	5.50	6.81	1.90	1471.
408	3.85	34.016	405	27.044	106.1	3.82	102.3	6.63	10.92	1.26	1472.
505	3.69	34.108	501	27.133	98.3	3.65	93.8	7.62	15.53	0.83	1473.
610	3.53	34.190*	605	27.214	91.3	3.49	86.0	8.61	21.18	0.59	1474.
811	3.17	34.304	804	27.339	80.4	3.11	74.1	10.33	33.63	0.61	1476.
1014	2.87	34.371	1004	27.420	73.5	2.80	66.3	11.88	48.09	0.64	1478.
1216	2.60	34.444	1204	27.502	66.3	2.52	58.6	13.30	64.16	0.72	1480.
1522	2.29	34.516	1505	27.585	59.0	2.19	50.4	15.20	90.66	0.94	1484.
2035	1.94	34.572	2010	27.658	53.0	1.80	43.4	18.04	142.33	1.50	1491.
2549	1.72	34.620*	2515	27.714	48.6	1.54	37.8	20.64	203.10	2.03	1499.
3066	1.59	34.650	3021	27.747	46.3	1.36	34.4	23.08	272.74	2.67	1507.
3583	1.54	34.649	3526	27.750	47.1	1.26	33.8	25.49	354.79	2.92	1516.
3891	1.52	34.676	3827	27.773	45.7	1.21	31.4	26.92	409.18	3.31	1521.
4097	1.52	34.678	4028	27.775	46.1	1.19	31.1	27.87	447.65	3.37	1524.
4200	1.51	34.674	4128	27.772	46.5	1.16	31.3	28.34	467.75	3.47	1526.
4292	1.54	34.682	4218	27.776	46.7	1.18	30.7	28.78	486.66	3.55	1528.
4303	1.53	34.689	4228	27.783	46.0	1.17	30.2	28.83	488.75	3.45	1528.



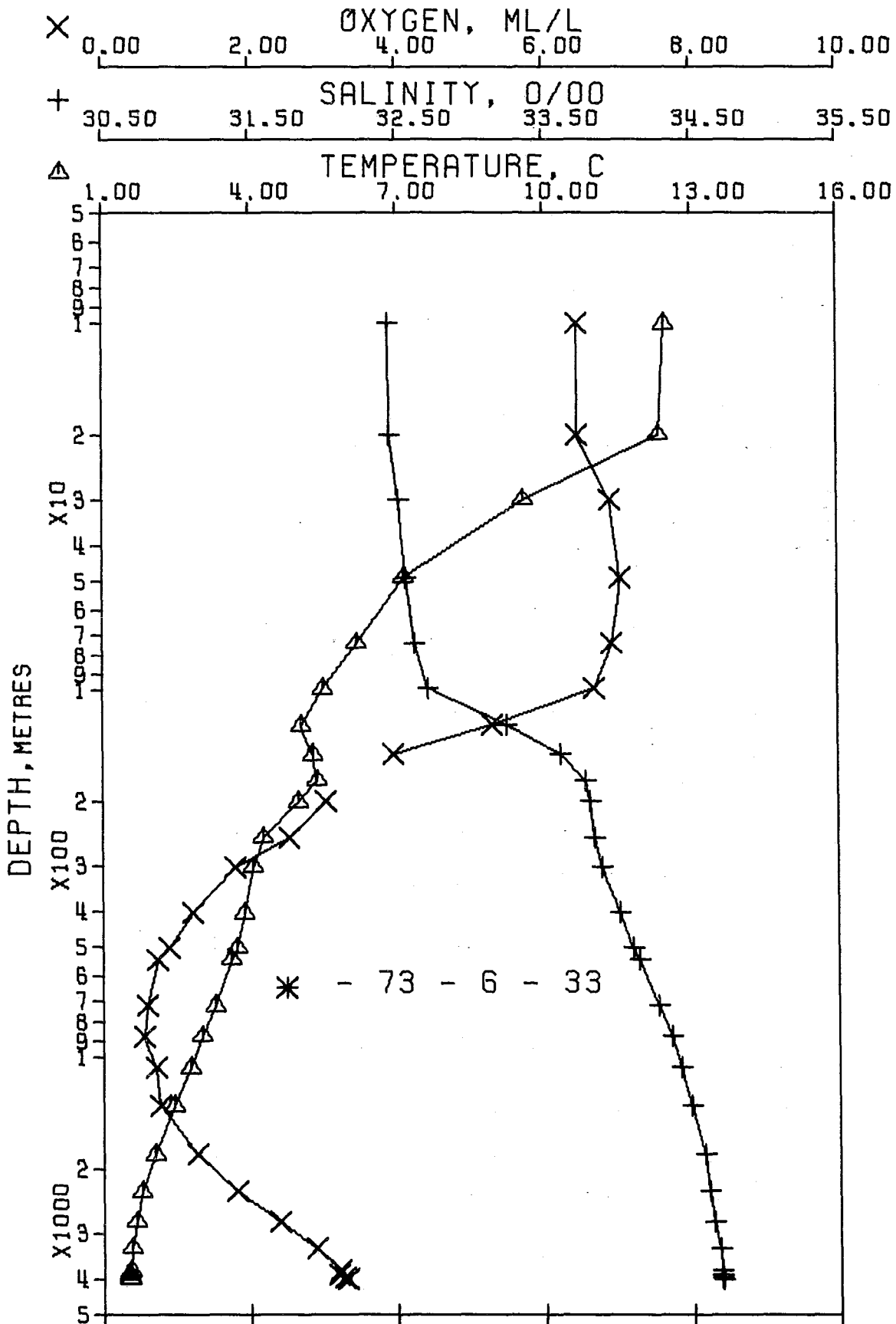
OFFSHORE OCEANOGRAPHY GROUP
 POSITION 50- 0.0 N, 145- 0.0 W
 HYDROGRAPHIC CAST DATA

REFERENCE NO. 73- 6- 30

DATE 5/ 9/73

GMT 18.7

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.56	32.456	0	24.533	341.3	12.56	341.1	0.0	0.0	6.34	1496.
10	12.53	32.450	10	24.535	341.5	12.53	341.0	0.34	0.02	6.37	1496.
24	12.54	32.455	24	24.537	341.6	12.54	340.7	0.82	0.10	6.39	1497.
29	12.50	32.455	29	24.544	341.0	12.50	340.0	1.00	0.15	6.50	1496.
49	7.56	32.532	49	25.425	257.2	7.56	256.2	1.61	0.39	7.32	1479.
74	6.53	32.579	74	25.600	240.8	6.52	239.6	2.22	0.78	7.03	1475.
100	5.38	32.734	99	25.863	215.8	5.37	214.5	2.80	1.29	6.68	1471.
125	5.03	33.195	124	26.267	177.7	5.02	176.1	3.29	1.86	5.51	1471.
150	5.00	33.608	149	26.597	146.7	4.99	144.8	3.70	2.42	4.93	1472.
176	4.70	33.730	175	26.728	134.5	4.69	132.4	4.06	3.03	4.05	1471.
201	4.54	33.783	200	26.787	129.0	4.52	126.8	4.39	3.67	3.47	1471.
254	4.28	33.829	252	26.851	123.3	4.26	120.7	5.05	5.20	2.40	1471.
305	4.06	33.913	303	26.941	115.2	4.04	112.1	5.66	6.94	1.78	1471.
407	3.86	34.008	404	27.037	106.8	3.83	102.9	6.79	11.04	1.16	1472.
506	3.66	34.114	502	27.141	97.5	3.62	93.1	7.80	15.74	0.89	1472.
608	3.51	34.200	603	27.224	90.3	3.47	85.1	8.76	21.17	0.64	1474.
810	3.15	34.308	803	27.344	79.9	3.09	73.6	10.47	33.54	0.65	1476.
1015	2.82	34.386	1005	27.436	71.9	2.75	64.8	12.01	47.90	0.69	1478.
1218	2.61	34.438	1206	27.496	66.9	2.53	59.0	13.42	63.94	0.80	1480.
1524	2.28	34.510	1507	27.581	59.3	2.18	50.9	15.34	90.78	0.94	1484.
2036	1.93	34.588	2011	27.672	51.8	1.79	42.0	18.15	141.81	1.53	1491.
2548	1.72	34.623	2514	27.716	48.3	1.54	37.6	20.70	201.31	2.11	1499.
3061	1.60	34.645	3016	27.742	46.8	1.37	34.8	23.13	270.81	2.71	1507.
3572	1.55	34.668	3516	27.764	45.8	1.27	32.5	25.49	350.70	3.10	1516.
4084	1.52	34.679	4015	27.775	46.0	1.19	31.0	27.81	441.01	3.33	1524.
4186	1.52	34.667*	4114	27.766	47.1	1.18	31.9	28.28	460.98	0.0	1526.
4278	1.54	34.677	4204	27.772	47.0	1.18	31.2	28.72	479.95	3.45	1528.
4288	1.53	34.682	4214	27.777	46.5	1.17	30.7	28.77	482.05	3.44	1528.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 33

DATE 11/ 9/73

POSITION 50- 0.0 N, 145- 0.0 W GMT 19.7

HYDROGRAPHIC CAST DATA

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	THETA	SVA (THETA)	DELTA D	POT. EN	OXY	SOUND
0	12.51	32.450	0	24.538	340.9	12.51	340.7	0.0	0.0	6.42	1496.
10	12.45	32.449	10	24.549	340.1	12.45	339.7	0.34	0.02	6.46	1496.
20	12.34	32.464	20	24.582	337.2	12.34	336.5	0.69	0.07	6.46	1496.
30	9.59	32.517	30	25.107	287.3	9.59	286.5	1.00	0.15	6.90	1486.
49	7.14	32.574	49	25.516	248.5	7.14	247.6	1.50	0.35	7.05	1477.
74	6.18	32.626	74	25.682	232.9	6.17	231.8	2.10	0.73	6.91	1474.
100	5.50	32.716	99	25.835	218.6	5.49	217.2	2.67	1.24	6.68	1472.
126	5.04	33.246	125	26.306	174.0	5.03	172.4	3.19	1.83	5.29	1471.
151	5.29	33.614	150	26.569	149.5	5.28	147.5	3.59	2.40	3.96	1473.
177	5.38	33.783	176	26.692	138.2	5.37	135.8	3.97	3.03	0.0	1474.
202	4.99	33.813	201	26.761	131.8	4.97	129.2	4.30	3.68	3.05	1473.
254	4.26	33.844	252	26.865	122.0	4.24	119.3	4.95	5.19	2.54	1471.
306	4.07	33.895	304	26.925	116.6	4.05	113.6	5.58	6.98	1.79	1471.
408	3.89	34.011	405	27.036	106.9	3.86	103.0	6.72	11.11	1.22	1472.
507	3.73	34.099	503	27.122	99.4	3.69	94.8	7.74	15.89	0.91	1473.
547	3.61	34.144	542	27.170	95.1	3.57	90.3	8.12	17.95	0.75	1473.
733	3.27	34.273	726	27.305	83.2	3.22	77.3	9.76	28.65	0.60	1475.
883	3.02	34.359	875	27.397	75.2	2.96	68.6	10.95	38.44	0.56	1476.
1078	2.77	34.417	1067	27.465	69.4	2.70	62.0	12.35	52.42	0.71	1479.
1370	2.45	34.490	1355	27.551	62.0	2.36	53.8	14.26	76.25	0.78	1482.
1855	2.05	34.576	1833	27.653	53.4	1.92	43.9	17.03	121.81	1.27	1489.
2343	1.78	34.614	2313	27.704	49.1	1.62	38.9	19.51	174.96	1.82	1496.
2837	1.65	34.638	2797	27.733	47.2	1.44	35.8	21.89	237.68	2.40	1503.
3341	1.56	34.676	3290	27.770	44.7	1.31	32.0	24.20	310.37	2.90	1512.
3857	1.53	34.688	3794	27.782	44.9	1.22	30.6	26.50	394.86	3.21	1520.
3963	1.52	34.687	3897	27.782	45.1	1.20	30.5	26.97	413.80	3.21	1522.
4057	1.54	34.686	3989	27.780	45.7	1.21	30.6	27.41	431.79	3.28	1524.
4069	1.52	34.700	4000	27.792	44.5	1.19	29.5	27.47	433.90	3.32	1524.

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RESULTS OF STD OBSERVATIONS

(P-73-6)

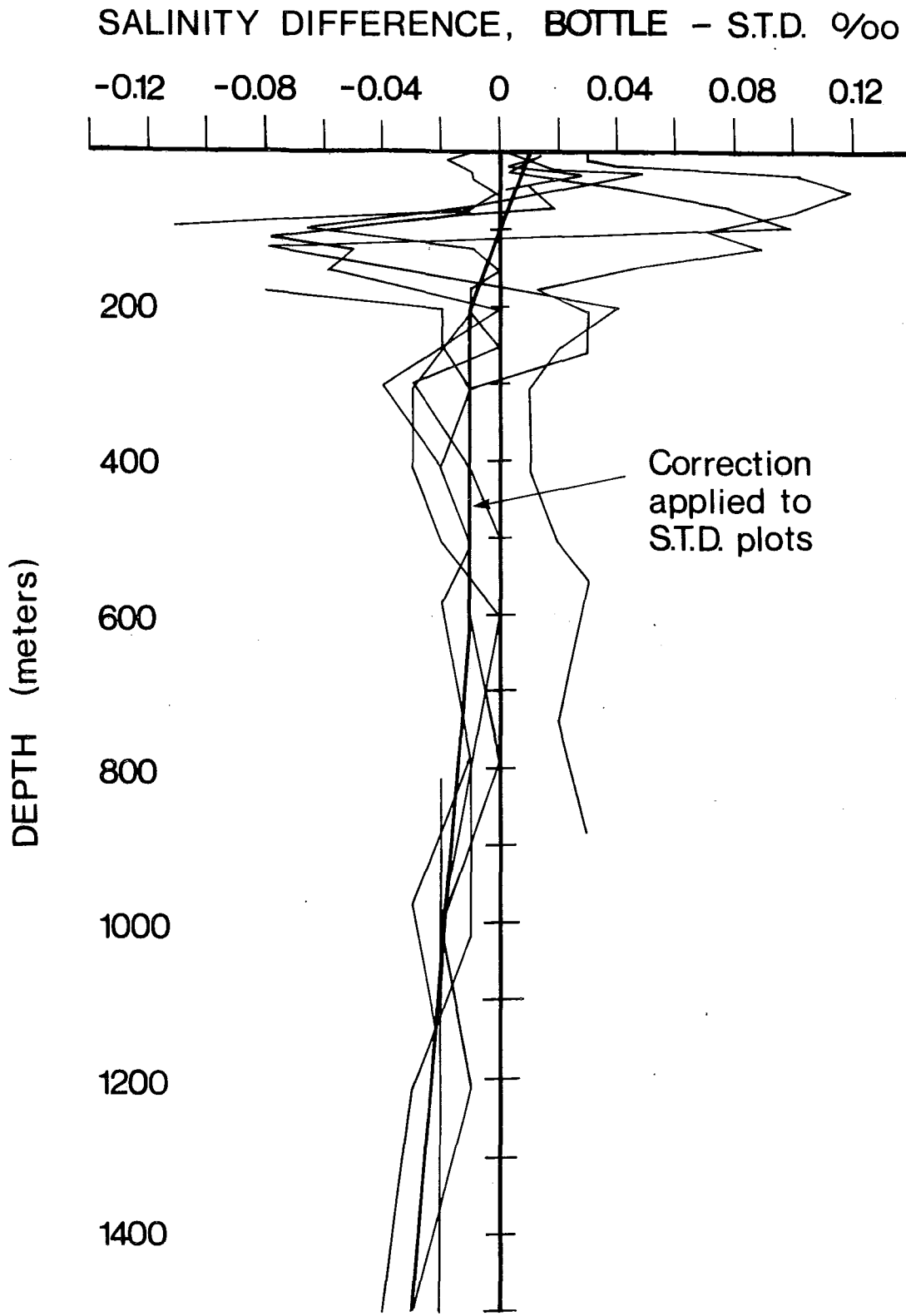


Figure 12 Salinity difference between hydro data and STD. P-73-6.

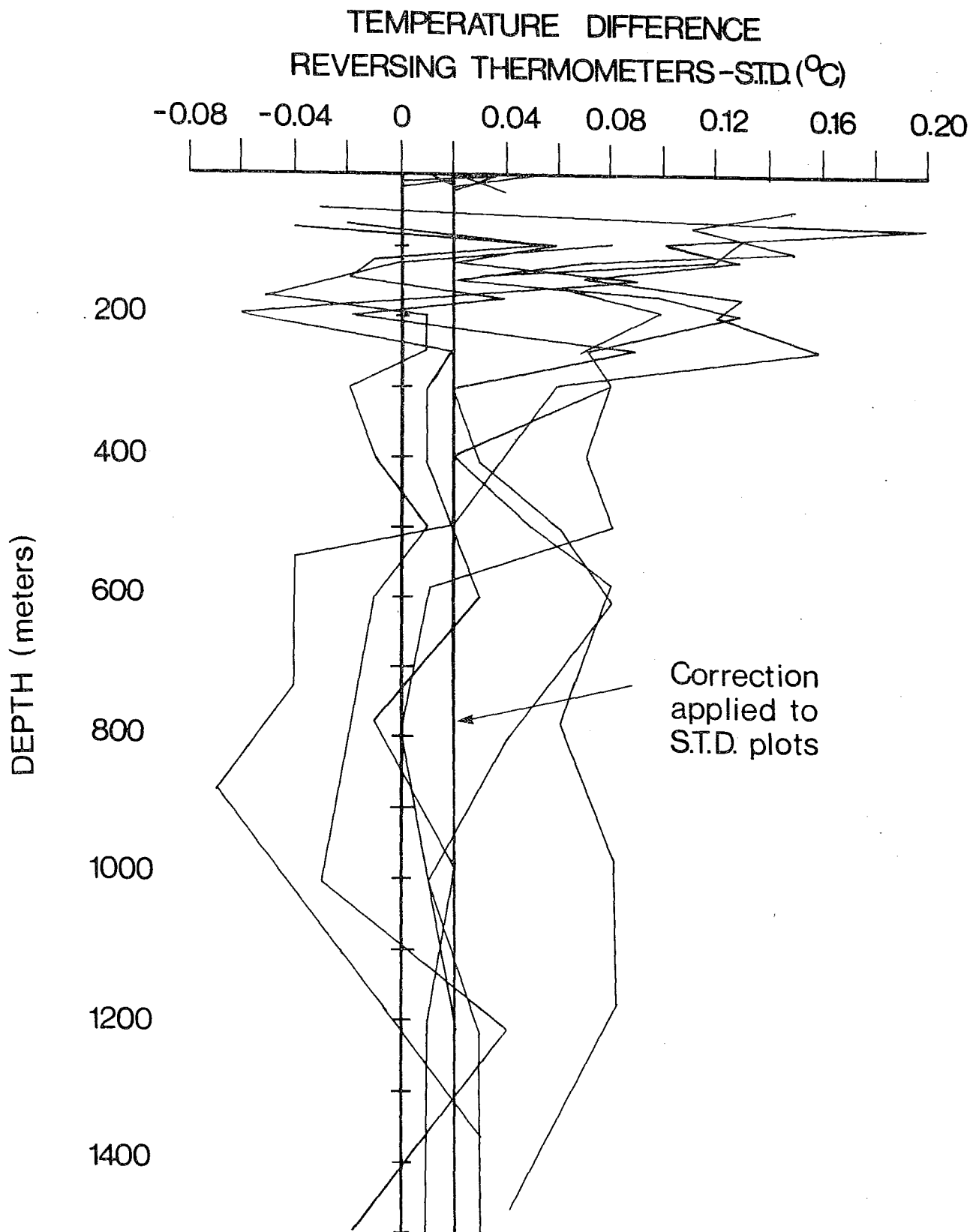


Figure 13 Temperature difference between hydro data and STD. P-73-6.

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 1

DATE 3/ 8/73

POSITION 48-23.0N, 125-33.0W GMT 22.4

RESULTS OF STP CAST 70 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.45	31.62	0	24.09	383.2	0.0	0.0	1491.
10	11.33	31.61	10	24.11	382.3	0.38	0.02	1491.
20	8.97	31.86	20	24.69	326.6	0.74	0.07	1483.
30	8.01	32.68	30	25.48	252.0	1.03	0.15	1480.
50	7.29	33.20	50	25.99	203.9	1.48	0.33	1479.
75	6.67	33.56	75	26.35	169.2	1.94	0.62	1477.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	11.45	31.62	44.	7.54	33.07
4.	11.45	31.61	45.	7.47	33.11
7.	11.44	31.61	46.	7.43	33.15
8.	11.39	31.61	47.	7.42	33.16
10.	11.33	31.61	48.	7.38	33.16
11.	11.24	31.61	49.	7.34	33.19
13.	10.98	31.61	51.	7.25	33.21
13.	10.67	31.61	51.	7.25	33.28
13.	10.56	31.61	57.	7.25	33.29
14.	9.92	31.61	58.	7.14	33.29
15.	9.74	31.61	58.	7.07	33.39
16.	9.22	31.69	60.	6.97	33.40
18.	9.10	31.80	61.	6.97	33.43
19.	9.07	31.83	63.	6.95	33.43
19.	9.02	31.86	64.	6.93	33.45
20.	8.97	31.86	64.	6.89	33.45
22.	8.93	31.88	66.	6.88	33.45
22.	8.88	31.94	67.	6.77	33.49
25.	8.59	32.10	67.	6.76	33.52
26.	8.25	32.36	68.	6.74	33.52
27.	8.19	32.50	69.	6.72	33.52
28.	8.06	32.56	70.	6.71	33.54
29.	8.04	32.65	73.	6.69	33.54
30.	8.01	32.68	74.	6.68	33.56
31.	7.96	32.84	75.	6.67	33.56
32.	8.00	32.84	76.	6.60	33.56
33.	8.00	32.85	77.	6.54	33.59
33.	8.01	32.87	77.	6.51	33.60
35.	7.93	32.89	79.	6.47	33.63
37.	7.76	32.94	80.	6.41	33.64
38.	7.77	32.97	82.	6.36	33.69
38.	7.78	32.99	83.	6.33	33.70
39.	7.76	33.01	84.	6.31	33.71
40.	7.68	33.06	86.	6.31	33.72
42.	7.64	33.07	90.	6.30	33.73

OFFSHORE OCEANOGRAPHY GROUP

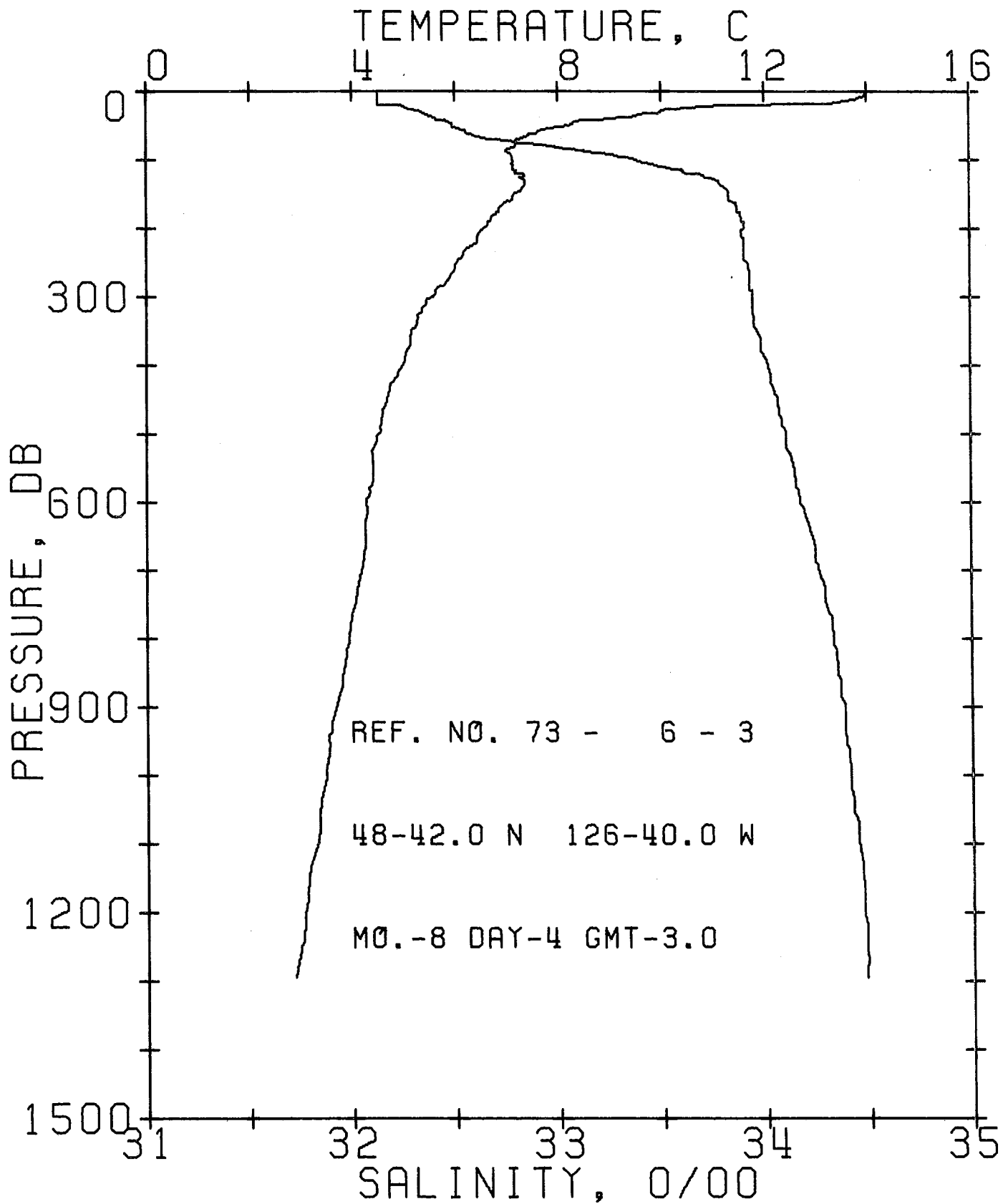
REFERENCE NO. 73- 6- 2 DATE 4/ 8/73

POSITION 48-38.0N, 126- 0.0W GMT 0.2

RESULTS OF STP CAST 64 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.21	31.75	0	23.86	405.1	0.0	0.0	1498.
10	10.62	32.44	10	24.87	309.1	0.38	0.02	1490.
20	8.83	32.57	20	25.27	271.5	0.67	0.06	1483.
30	7.89	32.85	30	25.63	237.7	0.92	0.13	1480.
50	7.39	33.12	50	25.91	211.1	1.37	0.31	1479.
75	6.40	33.82	75	26.59	146.5	1.83	0.59	1476.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	13.21	31.75	42.	7.67	33.02
3.	13.20	31.75	43.	7.67	33.03
5.	13.18	31.75	43.	7.63	33.04
5.	13.09	31.75	46.	7.51	33.04
6.	13.01	31.76	49.	7.42	33.10
7.	11.98	31.76	50.	7.39	33.12
9.	11.24	32.23	51.	7.39	33.13
8.	10.82	32.29	53.	7.32	33.17
10.	10.62	32.44	56.	7.24	33.20
10.	10.54	32.48	57.	7.22	33.23
12.	10.35	32.48	58.	7.21	33.26
13.	10.19	32.48	59.	7.21	33.27
14.	9.96	32.49	60.	7.17	33.28
15.	9.61	32.49	61.	7.07	33.32
17.	9.09	32.53	62.	7.06	33.38
19.	9.00	32.56	63.	7.02	33.44
21.	8.67	32.59	64.	6.99	33.47
21.	8.54	32.60	66.	6.82	33.54
22.	8.42	32.66	67.	6.74	33.59
23.	8.35	32.68	67.	6.70	33.64
25.	8.13	32.70	69.	6.61	33.68
26.	8.03	32.73	71.	6.55	33.71
27.	8.02	32.76	74.	6.41	33.80
29.	7.98	32.80	76.	6.39	33.84
30.	7.89	32.85	76.	6.38	33.85
30.	7.88	32.87	79.	6.37	33.87
35.	7.81	32.95	81.	6.36	33.88
36.	7.79	32.95	84.	6.36	33.89
37.	7.78	32.97	85.	6.36	33.90
39.	7.78	32.99	87.	6.35	33.91
40.	7.76	32.99	88.	6.35	33.91
41.	7.72	33.01	89.	6.35	33.91



OFFSHORE OCEANOGRAPHY GROUP

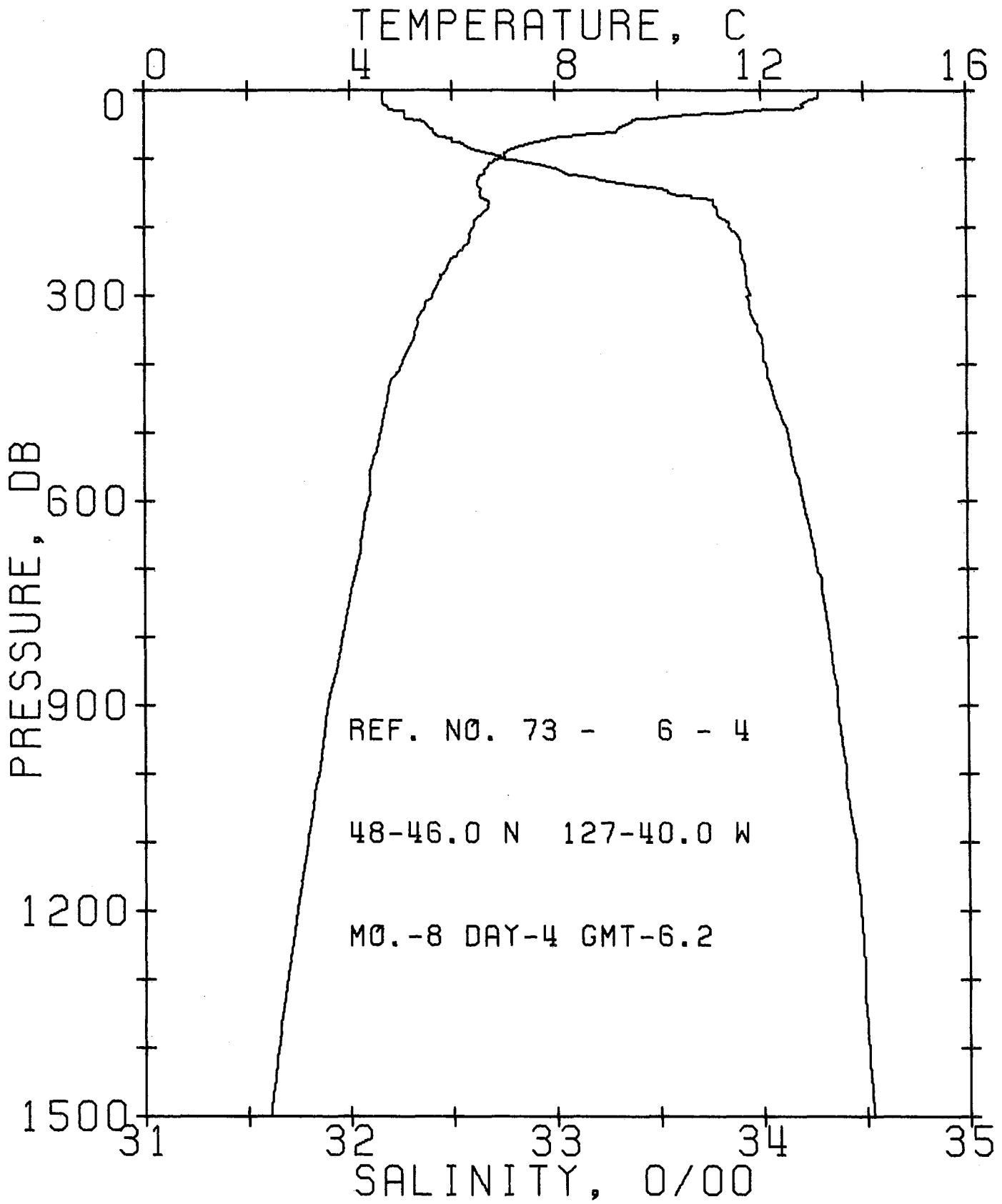
REFERENCE NO. 73- 6- 3

DATE 4/ 8/73

POSITION 48-42.0N, 126-40.0W GMT 3.0

RESULTS OF STP CAST 265 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.96	32.13	0	24.00	391.6	0.0	0.0	1500.
10	13.86	32.13	10	24.02	390.2	0.39	0.02	1500.
20	11.65	32.13	20	24.45	349.6	0.77	0.08	1493.
30	9.99	32.34	30	24.90	306.7	1.09	0.16	1487.
50	8.18	32.49	50	25.30	268.8	1.67	0.39	1481.
75	7.20	32.82	75	25.70	231.3	2.30	0.79	1478.
100	7.13	33.37	99	26.14	189.7	2.82	1.25	1479.
125	7.34	33.71	124	26.38	167.4	3.26	1.76	1481.
150	7.17	33.83	149	26.50	156.8	3.67	2.33	1481.
175	6.85	33.87	174	26.57	149.9	4.05	2.96	1480.
200	6.56	33.70	199	26.64	144.3	4.42	3.66	1479.
225	6.34	33.90	223	26.67	141.7	4.77	4.44	1479.
250	6.04	33.91	248	26.71	137.3	5.12	5.28	1478.
300	5.57	33.94	298	26.79	130.1	5.79	7.15	1477.
400	4.96	34.01	397	26.92	118.5	7.03	11.58	1476.
500	4.50	34.10	496	27.04	107.7	8.16	15.75	1476.
600	4.27	34.17	595	27.12	100.9	9.21	22.60	1477.
800	3.92	34.33	793	27.29	86.6	11.08	35.89	1479.
1000	3.47	34.41	991	27.39	77.2	12.71	50.83	1480.
1200	3.05	34.47	1188	27.48	69.4	14.17	67.15	1482.



OFFSHORE OCEANOGRAPHY GROUP

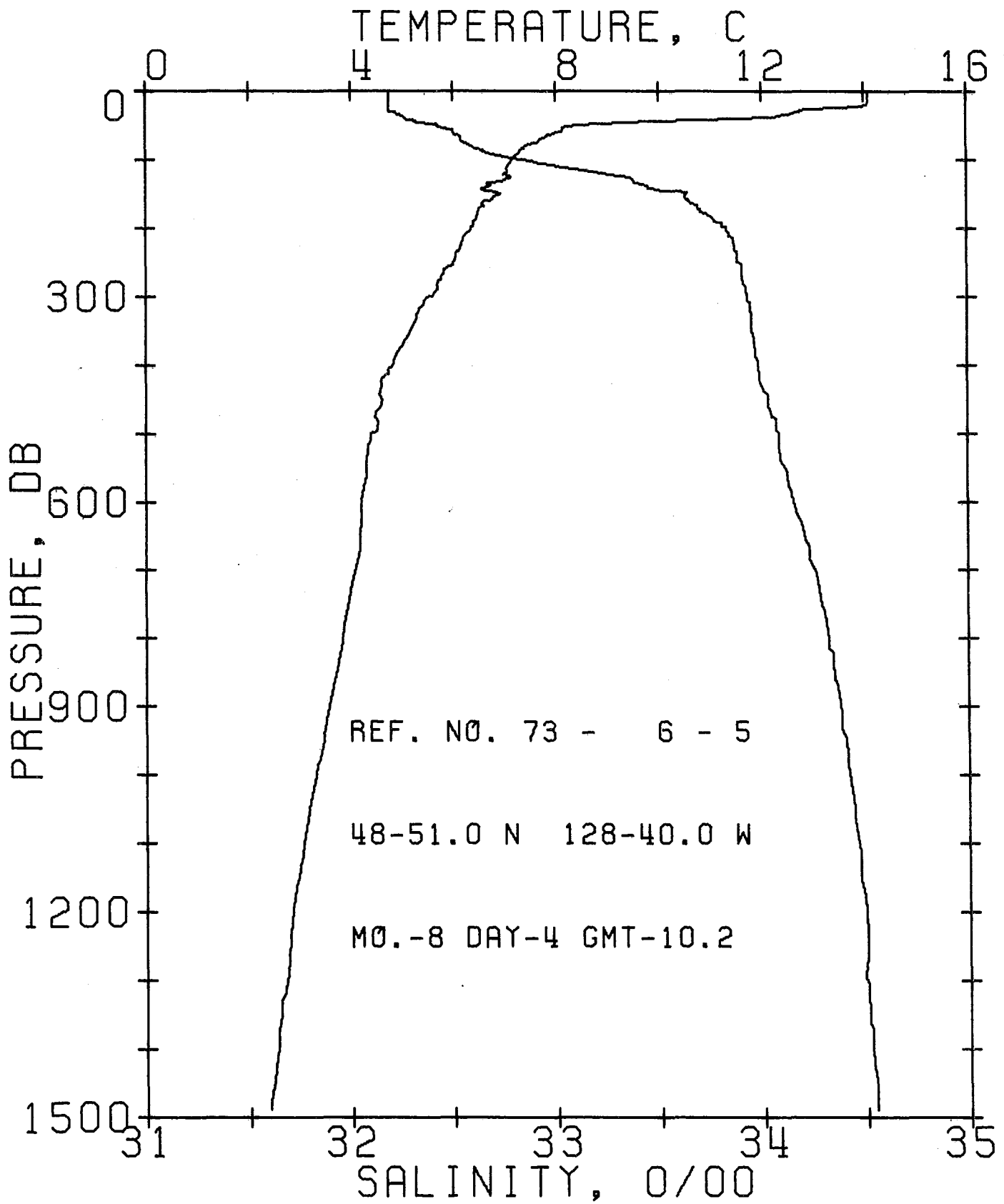
REFERENCE NO. 73- 6- 4

DATE 4/ 8/73

POSITION 48-46.0N, 127-40.0W GMT 6.2

RESULTS OF STP CAST 184 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	13.11	32.17	0	24.21	372.4	0.0	0.0	1498.
10	13.11	32.16	10	24.20	373.6	0.37	0.02	1498.
20	12.77	32.16	20	24.26	367.5	0.74	0.08	1497.
30	11.90	32.22	30	24.48	347.5	1.11	0.17	1494.
50	9.42	32.38	50	25.03	295.3	1.74	0.42	1486.
75	7.68	32.50	75	25.38	261.5	2.45	0.87	1480.
100	7.02	32.74	99	25.67	234.9	3.06	1.42	1478.
125	6.54	33.11	124	26.02	201.5	3.60	2.04	1477.
150	6.53	33.55	149	26.36	169.2	4.06	2.68	1478.
175	6.66	33.79	174	26.53	153.6	4.46	3.34	1479.
200	6.42	33.84	199	26.61	146.6	4.83	4.05	1478.
225	6.28	33.90	224	26.67	141.0	5.19	4.83	1478.
250	5.94	33.91	248	26.73	136.2	5.54	5.67	1477.
300	5.61	33.95	298	26.80	129.9	6.20	7.53	1477.
400	4.99	34.02	397	26.92	118.5	7.45	11.96	1476.
500	4.57	34.12	496	27.05	106.8	8.57	17.11	1476.
600	4.33	34.20	595	27.14	99.5	9.60	22.88	1477.
800	3.84	34.32	793	27.29	86.5	11.46	36.06	1478.
1000	3.36	34.40	991	27.40	76.7	13.08	50.92	1480.
1200	2.94	34.47	1188	27.49	68.0	14.52	67.07	1481.



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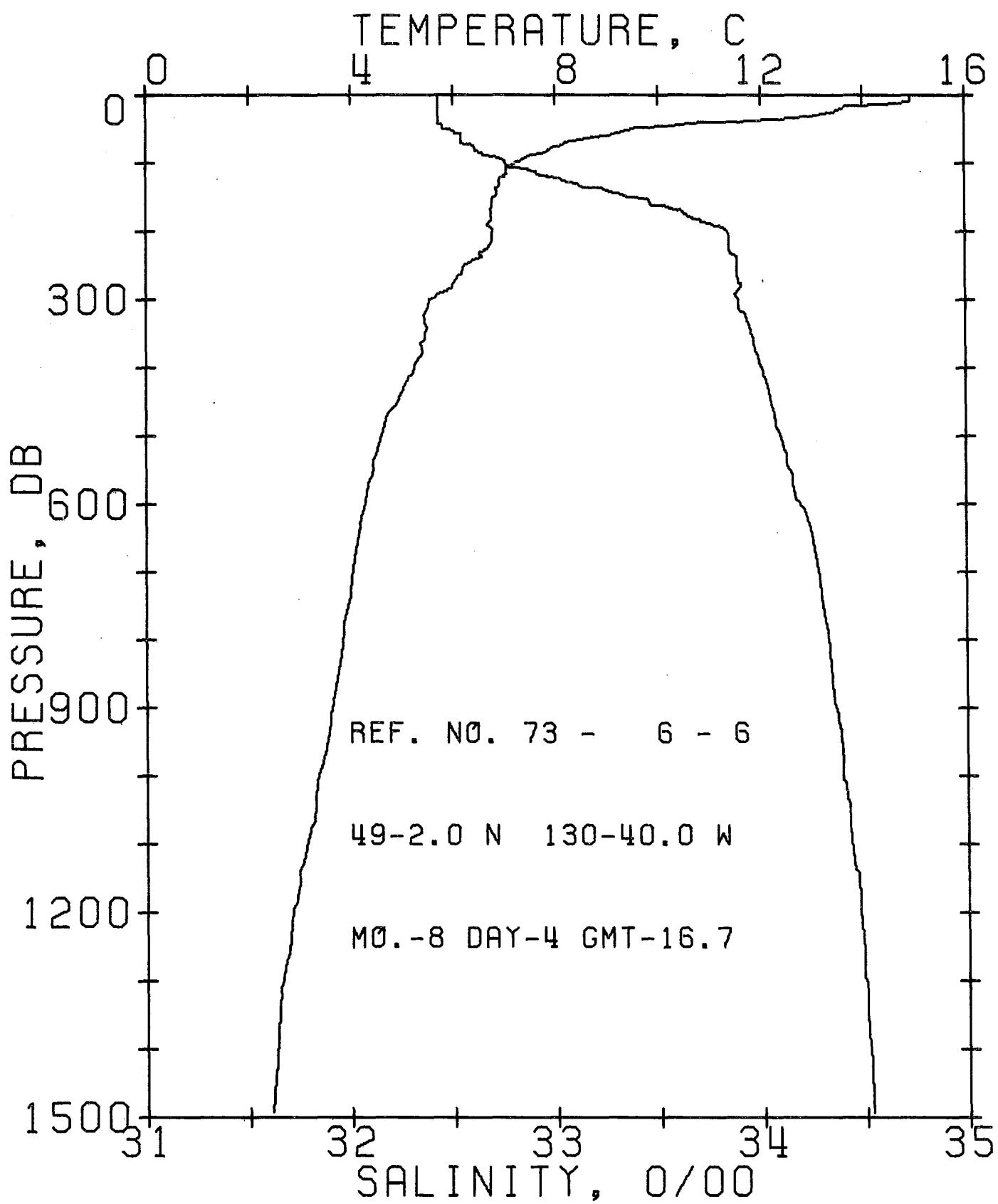
REFERENCE NO. 73- 6- 5

DATE 4/ 8/73

POSITION 48-51.0N, 128-40.0W GMT 10.2

RESULTS OF STP CAST 254 POINTS TAKEN FROM ANALOG TRACE

PRFSS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.07	32.19	0	24.03	389.3	0.0	0.0	1501.
10	14.07	32.19	10	24.03	389.8	0.39	0.02	1501.
20	14.04	32.19	20	24.03	389.5	0.78	0.08	1501.
30	12.74	32.19	30	24.29	364.9	1.15	0.17	1497.
50	9.61	32.42	50	25.18	280.2	1.82	0.44	1483.
75	7.64	32.56	75	25.44	256.5	2.48	0.86	1480.
100	7.15	32.83	99	25.72	230.3	3.09	1.41	1478.
125	7.13	33.36	124	26.13	190.8	3.62	2.01	1479.
150	6.91	33.63	149	26.38	168.2	4.07	2.64	1479.
175	6.49	33.70	174	26.49	157.9	4.48	3.32	1478.
200	6.34	33.83	199	26.61	146.6	4.86	4.05	1478.
225	6.15	33.87	224	26.66	141.7	5.22	4.83	1478.
250	6.00	33.88	248	26.69	139.3	5.57	5.68	1478.
300	5.56	33.93	298	26.79	130.8	6.25	7.56	1477.
400	4.81	33.98	397	26.91	119.3	7.49	11.99	1475.
500	4.41	34.08	496	27.03	108.4	8.63	17.20	1476.
600	4.20	34.15	595	27.11	101.5	9.68	23.09	1476.
800	3.82	34.32	793	27.29	86.4	11.55	36.39	1478.
1000	3.28	34.42	991	27.42	74.6	13.16	51.07	1479.
1200	2.82	34.49	1188	27.52	64.9	14.55	66.64	1481.



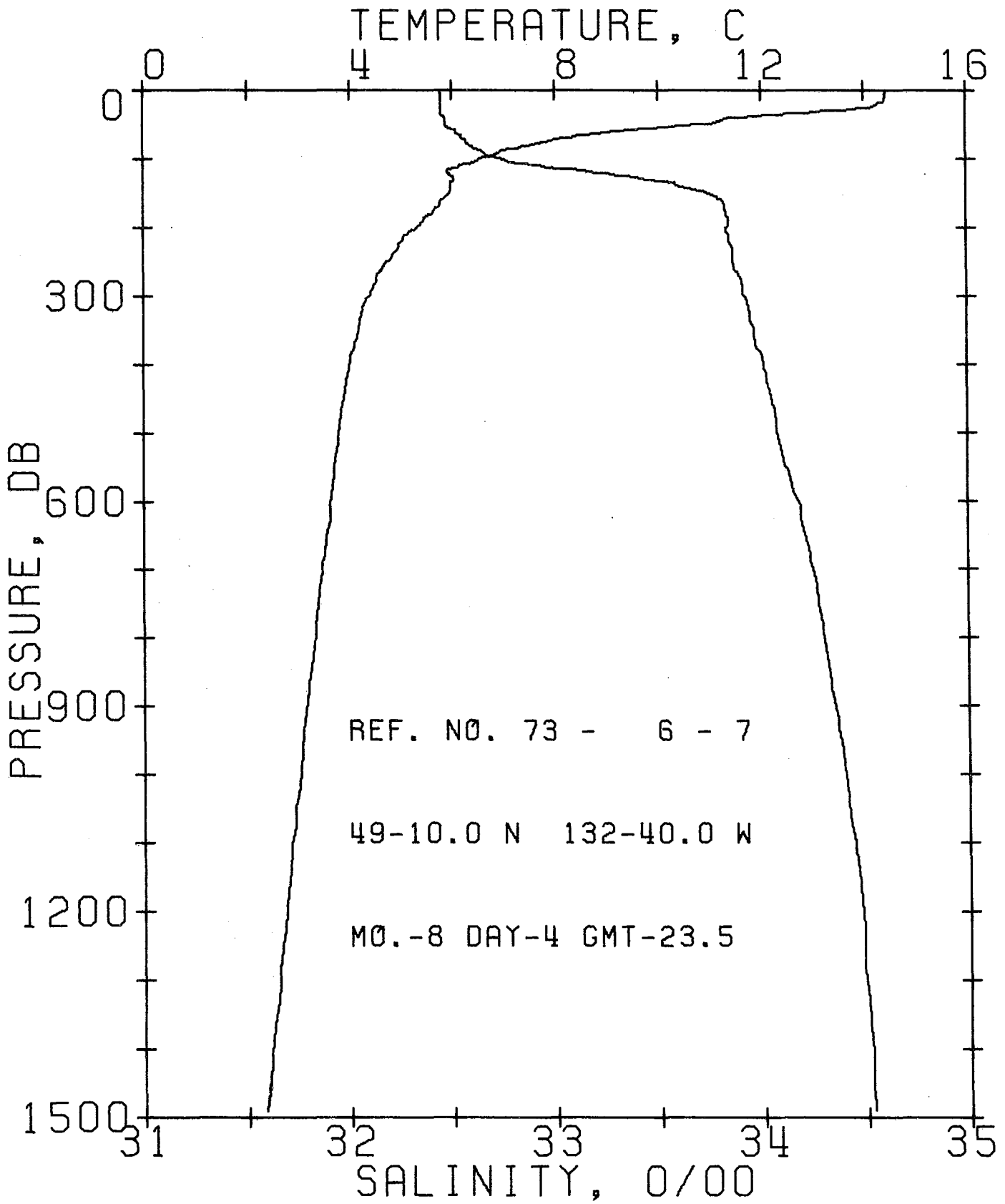
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REFERENCE NO. 73- 6- 6 DATE 4/ 8/73

POSITION 49- 2.0N, 130-40.0W GMT 16.7

RESULTS OF STP CAST 240 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.93	32.43	0	24.03	388.9	0.0	0.0	1504.
10	14.91	32.43	10	24.04	389.0	0.39	0.02	1504.
20	13.60	32.43	20	24.31	363.3	0.76	0.08	1500.
30	13.06	32.43	30	24.42	353.2	1.12	0.17	1498.
50	9.51	32.46	50	25.08	290.6	1.77	0.43	1486.
75	8.11	32.60	75	25.40	260.0	2.46	0.87	1481.
100	7.21	32.75	99	25.64	237.1	3.08	1.42	1479.
125	6.90	33.03	124	25.91	212.2	3.64	2.06	1478.
150	6.79	33.35	149	26.17	187.5	4.14	2.76	1478.
175	6.75	33.63	174	26.40	166.3	4.58	3.48	1479.
200	6.76	33.83	199	26.56	151.9	4.97	4.24	1480.
225	6.66	33.84	224	26.58	150.4	5.35	5.06	1480.
250	6.22	33.88	248	26.66	142.1	5.72	5.94	1479.
300	5.55	33.89	298	26.75	133.9	6.41	7.89	1477.
400	5.23	34.00	397	26.88	122.6	7.70	12.46	1477.
500	4.59	34.09	496	27.03	109.4	8.85	17.76	1476.
600	4.25	34.18	595	27.14	99.6	9.90	23.61	1477.
800	3.81	34.32	793	27.29	86.0	11.73	36.64	1478.
1000	3.33	34.39	991	27.39	77.1	13.36	51.59	1480.
1200	2.82	34.47	1188	27.50	66.6	14.80	67.68	1481.



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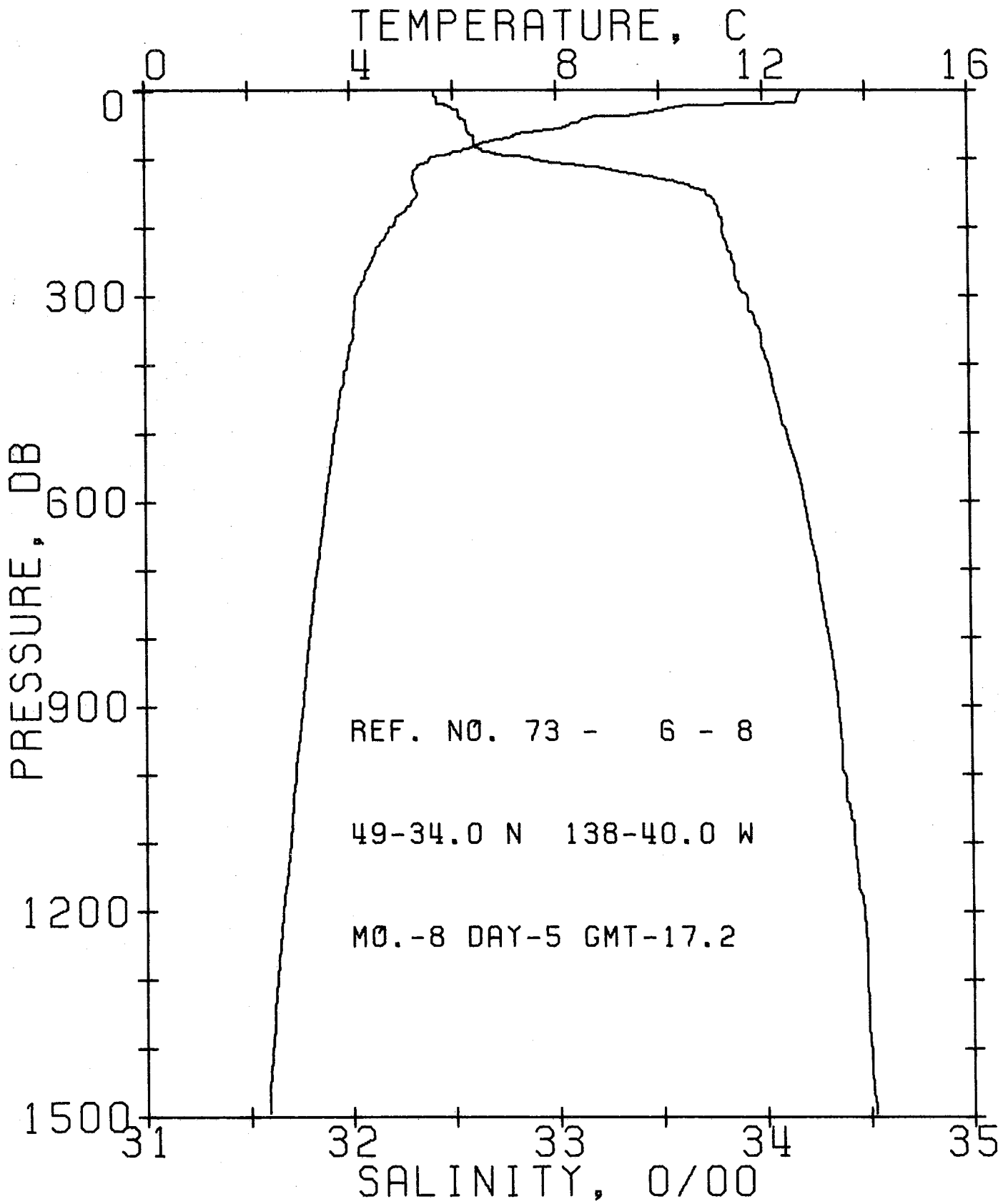
REFERENCE NO. 73- 6- 7

DATE 4/ 8/73

POSITION 49-10.0N, 132-40.0W GMT 23.5

RESULTS OF STP CAST 201 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.43	32.44	0	24.15	378.1	0.0	0.0	1502.
10	14.42	32.45	10	24.16	377.6	0.38	0.02	1503.
20	14.27	32.45	20	24.19	375.0	0.75	0.08	1502.
30	13.60	32.45	30	24.32	362.1	1.13	0.17	1500.
50	11.02	32.47	50	24.83	314.3	1.79	0.44	1492.
75	7.88	32.57	75	25.41	259.4	2.49	0.88	1481.
100	6.58	32.71	99	25.70	231.9	3.10	1.43	1476.
125	5.97	33.29	124	26.23	181.1	3.62	2.02	1475.
150	5.94	33.73	149	26.58	148.7	4.03	2.59	1476.
175	5.64	33.82	174	26.69	138.5	4.39	3.18	1475.
200	5.32	33.84	199	26.74	133.5	4.72	3.83	1474.
225	4.96	33.85	223	26.79	128.9	5.05	4.54	1473.
250	4.73	33.86	248	26.83	125.9	5.37	5.31	1472.
300	4.36	33.91	298	26.91	118.5	5.98	7.01	1472.
400	3.99	34.01	397	27.02	108.3	7.11	11.04	1472.
500	3.76	34.07	496	27.10	101.8	8.16	15.84	1473.
600	3.62	34.17	595	27.19	93.6	9.14	21.34	1474.
800	3.30	34.29	793	27.32	82.5	10.89	33.81	1476.
1000	2.99	34.39	990	27.43	73.1	12.45	48.01	1478.
1200	2.72	34.47	1188	27.51	65.5	13.83	63.49	1480.



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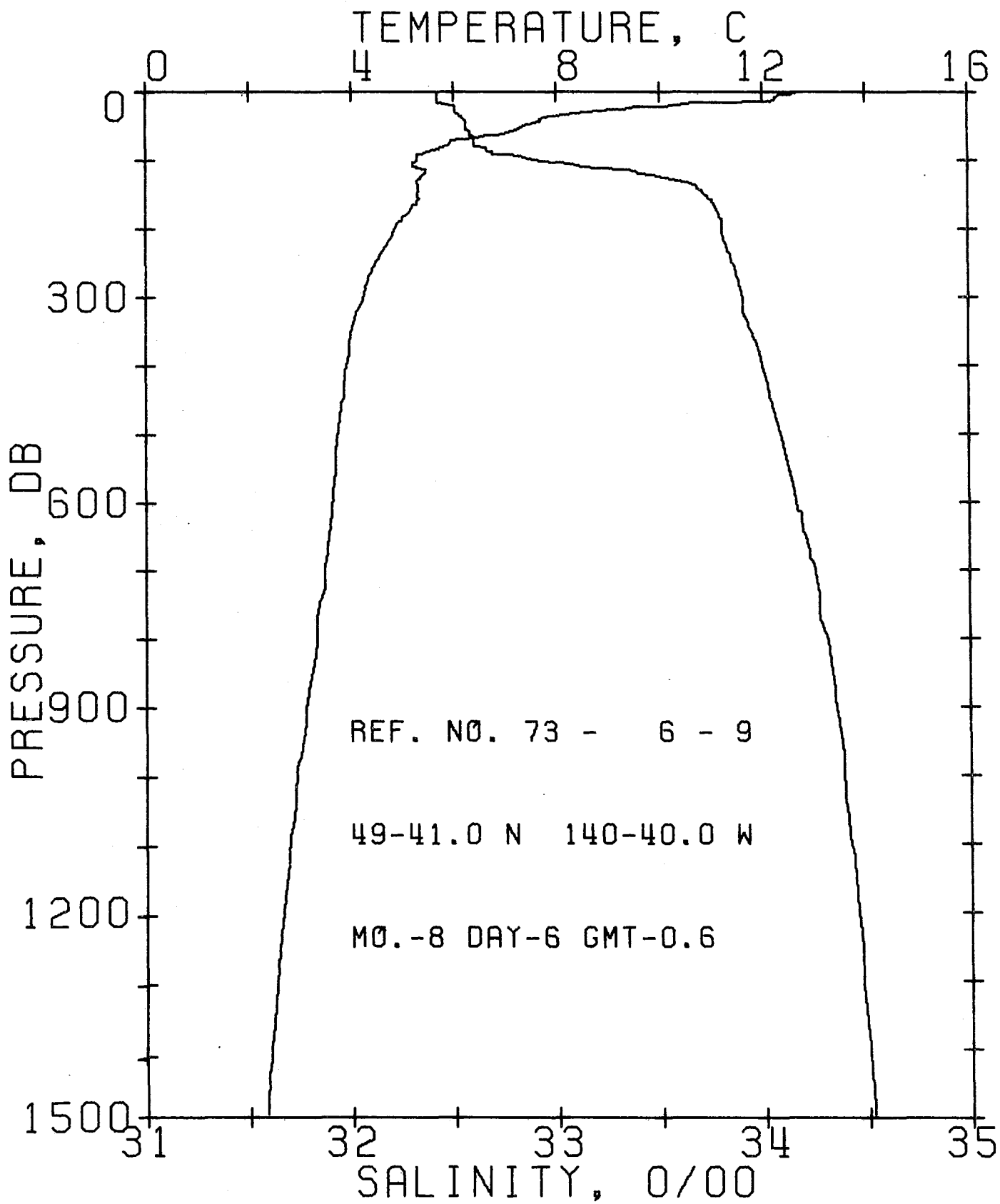
REFERENCE NO. 73- 6- 8

DATE 5/ 8/73

POSITION 49-34.0N, 138-40.0W GMT 17.2

RESULTS OF STP CAST 193 POINTS TAKEN FROM ANALOG TRACE

PRFS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.74	32.41	0	24.46	347.8	0.0	0.0	1497.
10	12.68	32.42	10	24.48	346.6	0.35	0.02	1497.
20	12.05	32.42	20	24.60	335.2	0.69	0.07	1495.
30	10.07	32.53	30	25.04	293.9	1.00	0.15	1488.
50	8.27	32.56	50	25.34	264.9	1.55	0.37	1482.
75	6.72	32.60	75	25.59	241.6	2.19	0.77	1476.
100	5.56	32.88	99	25.96	206.7	2.76	1.29	1472.
125	5.20	33.44	124	26.44	161.2	3.22	1.81	1472.
150	5.30	33.73	149	26.66	141.2	3.59	2.33	1473.
175	5.08	33.78	174	26.72	134.9	3.94	2.90	1473.
200	4.81	33.81	199	26.78	130.3	4.27	3.53	1472.
225	4.58	33.82	223	26.81	127.0	4.59	4.23	1471.
250	4.40	33.85	248	26.86	122.7	4.90	4.99	1471.
300	4.07	33.92	298	26.95	114.7	5.50	6.66	1471.
400	3.91	34.02	397	27.04	106.4	6.61	10.61	1472.
500	3.67	34.11	496	27.13	98.2	7.63	15.30	1472.
600	3.49	34.19	595	27.22	90.6	8.57	20.56	1473.
800	3.17	34.30	793	27.34	80.2	10.28	32.70	1475.
1000	2.88	34.38	990	27.42	73.0	11.80	46.64	1478.
1200	2.63	34.47	1188	27.52	65.0	13.18	62.08	1480.



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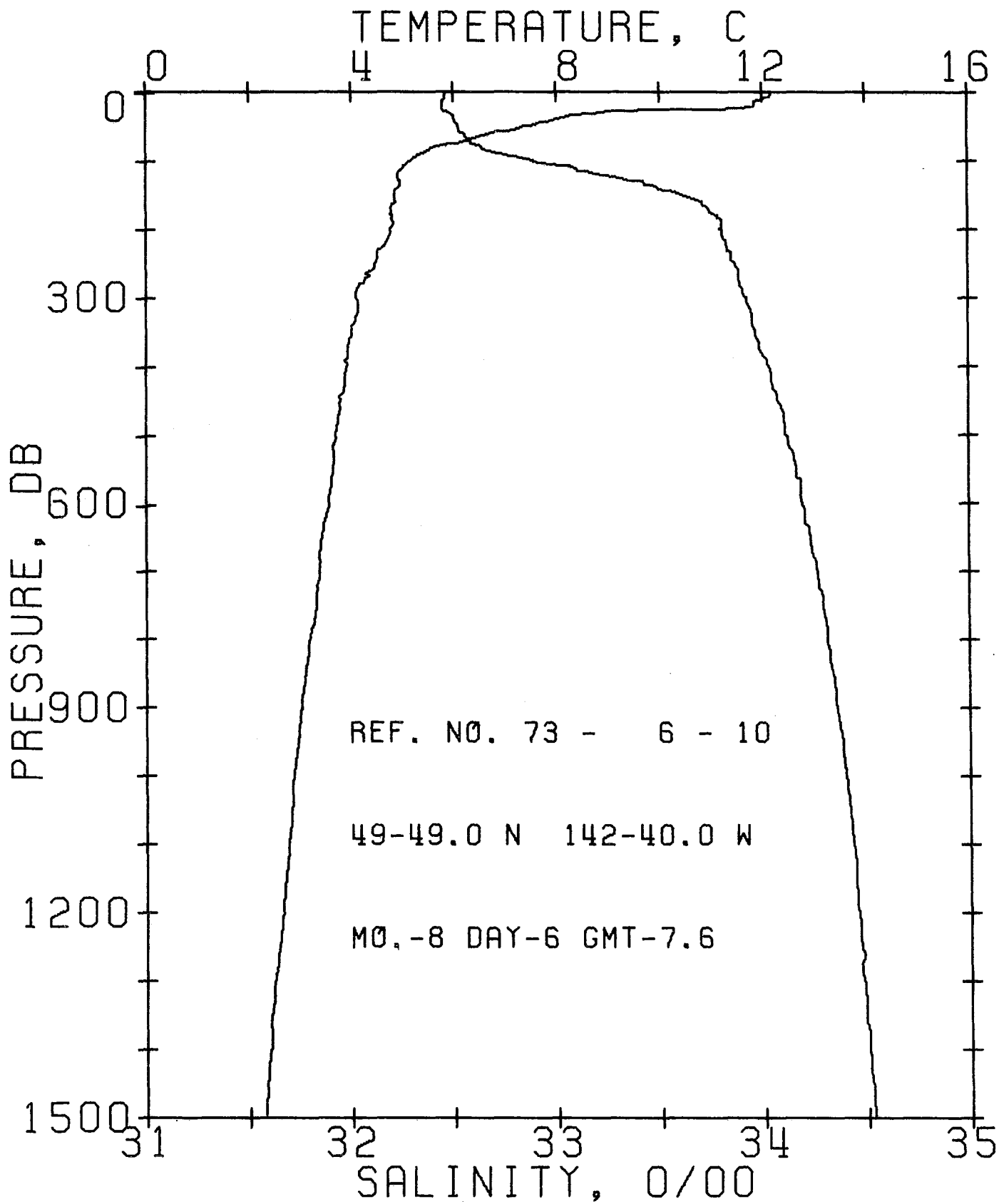
REFERENCE NO. 73- 6- 9

DATE 6/ 8/73

POSITION 49-41.0N, 140-40.0W GMT 0.6

RESULTS OF STP CAST 186 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	12.65	32.42	0	24.49	345.5	0.0	0.0	1496.
10	12.23	32.42	10	24.57	338.2	0.34	0.02	1495.
20	10.32	32.50	20	24.97	299.9	0.67	0.07	1489.
30	8.59	32.51	30	25.26	272.9	0.95	0.14	1482.
50	7.40	32.56	50	25.47	253.1	1.47	0.35	1478.
75	5.91	32.60	75	25.69	231.7	2.08	0.74	1473.
100	5.27	32.88	99	25.99	203.4	2.63	1.23	1471.
125	5.35	33.51	124	26.48	157.7	3.08	1.74	1473.
150	5.28	33.71	149	26.65	141.9	3.45	2.25	1473.
175	5.14	33.78	174	26.72	135.7	3.80	2.83	1473.
200	4.85	33.80	199	26.77	131.1	4.13	3.46	1472.
225	4.66	33.82	223	26.80	127.8	4.45	4.17	1472.
250	4.47	33.85	243	26.85	123.8	4.77	4.93	1471.
300	4.23	33.90	298	26.91	118.0	5.37	6.62	1471.
400	3.91	33.99	397	27.02	108.4	6.50	10.64	1472.
500	3.73	34.08	496	27.11	100.6	7.55	15.43	1473.
600	3.62	34.16	595	27.18	94.7	8.52	20.90	1474.
800	3.30	34.30	793	27.33	81.6	10.28	33.40	1476.
1000	2.90	34.38	990	27.43	73.0	11.82	47.52	1478.
1200	2.64	34.45	1188	27.50	66.2	13.22	63.13	1480.



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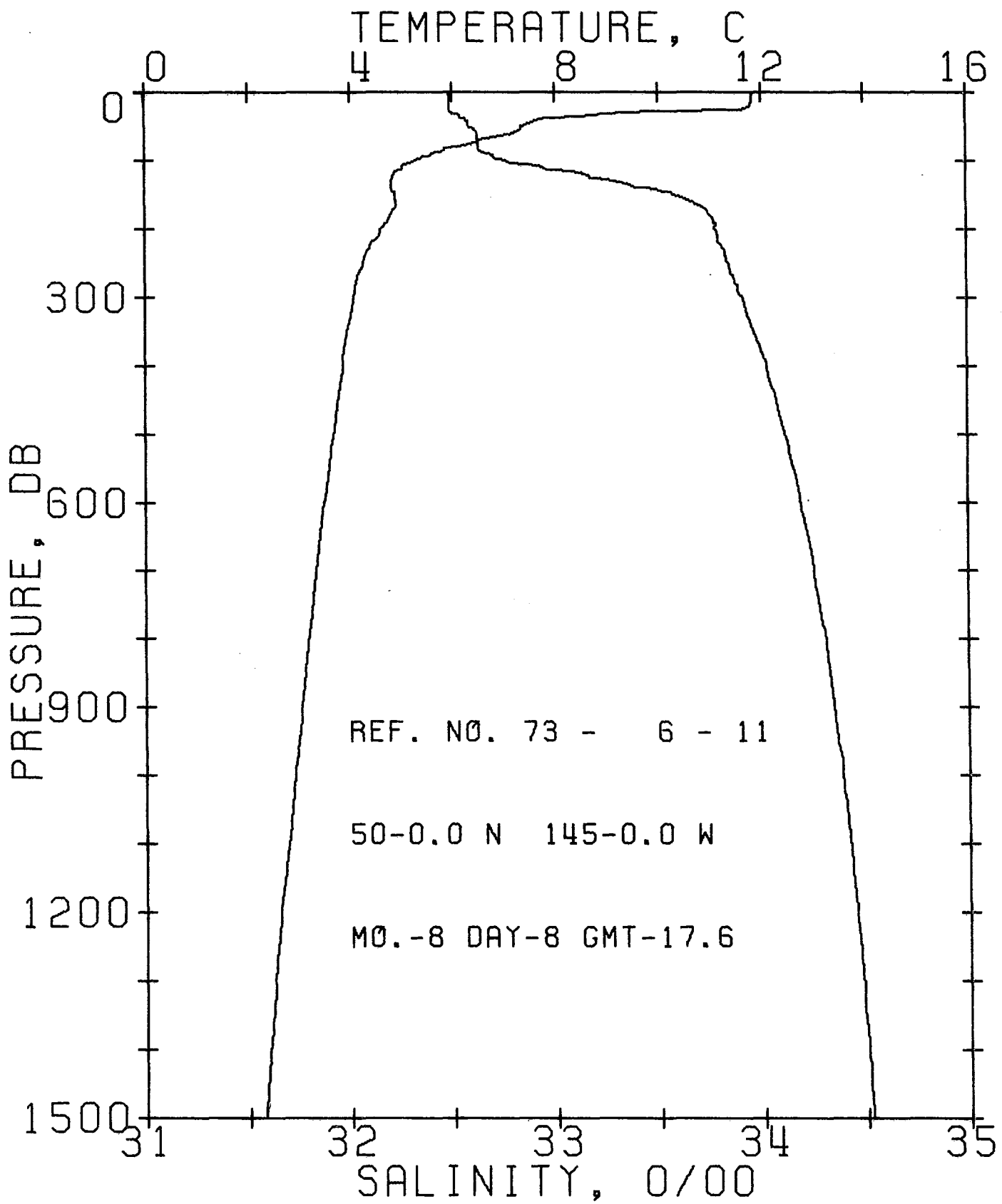
REFERENCE NO. 73- 6- 10

DATE 6/ 8/73

POSITION 49-49.0N, 142-40.0W GMT 7.6

RESULTS OF STP CAST 233 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.15	32.46	0	24.61	333.4	0.0	0.0	1495.
10	12.05	32.46	10	24.63	332.2	0.33	0.02	1495.
20	11.83	32.45	20	24.67	329.1	0.66	0.07	1494.
30	8.91	32.48	30	25.18	280.0	0.97	0.15	1484.
50	7.46	32.52	50	25.43	256.8	1.51	0.36	1478.
75	6.07	32.59	75	25.67	234.3	2.12	0.75	1473.
100	5.19	32.87	99	26.00	203.2	2.67	1.24	1471.
125	4.92	33.27	124	26.34	170.5	3.13	1.77	1470.
150	4.85	33.60	149	26.61	145.5	3.52	2.32	1471.
175	4.77	33.74	174	26.73	134.5	3.87	2.89	1471.
200	4.77	33.79	199	26.77	130.7	4.20	3.52	1472.
225	4.63	33.92	223	26.81	127.1	4.52	4.22	1472.
250	4.45	33.86	248	26.86	122.8	4.83	4.97	1471.
300	4.08	33.91	298	26.94	115.2	5.43	6.64	1471.
400	3.90	34.02	397	27.04	106.0	6.54	10.60	1472.
500	3.68	34.11	496	27.14	98.0	7.56	15.25	1472.
600	3.54	34.18	595	27.21	91.7	8.50	20.54	1474.
800	3.18	34.31	793	27.34	79.9	10.21	32.67	1476.
1000	2.86	34.39	990	27.44	71.6	11.72	46.50	1478.
1200	2.63	34.45	1188	27.51	65.8	13.09	61.85	1480.



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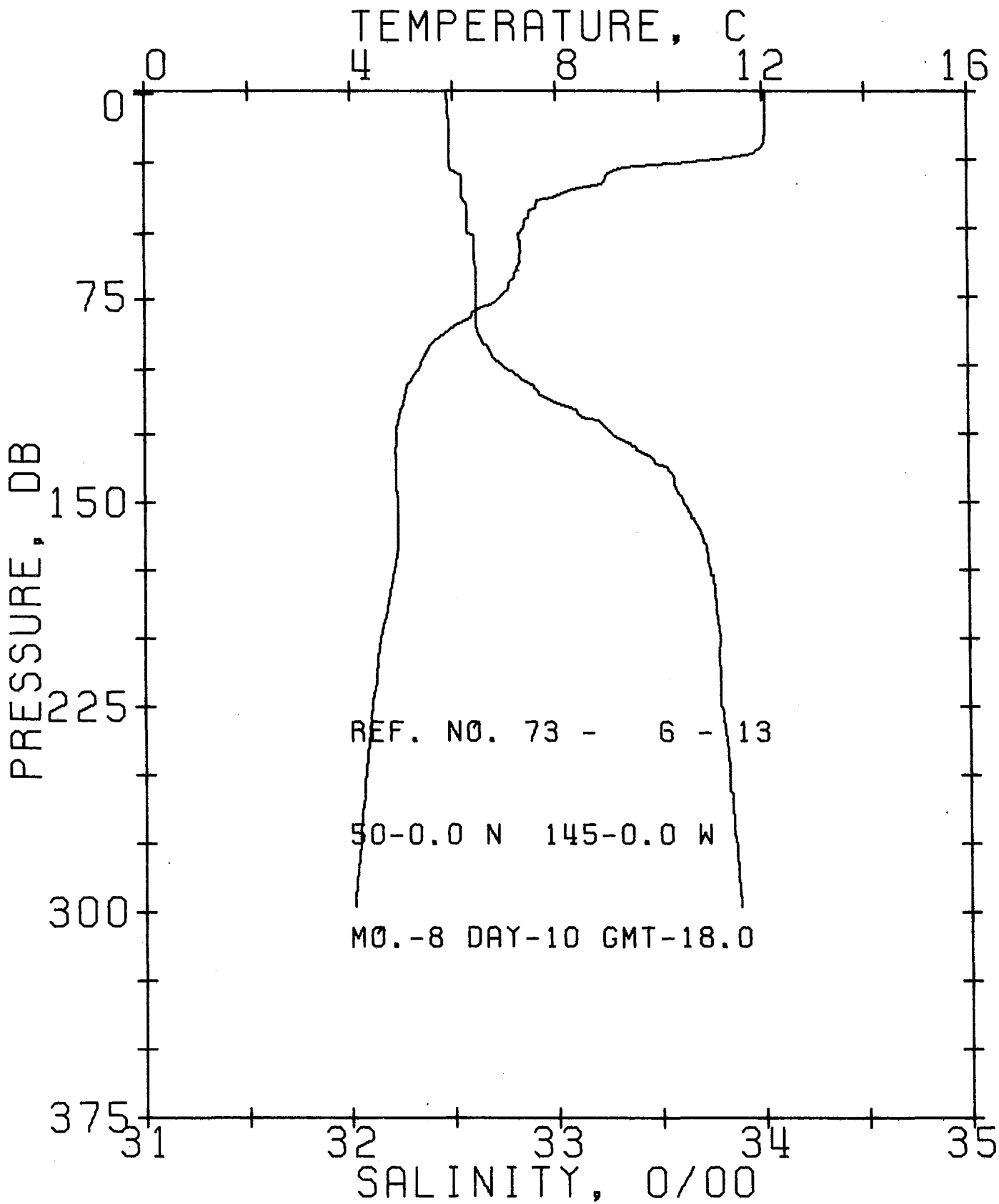
REFERENCE NO. 73- 6- 11

DATE 8/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.6

RESULTS OF STP CAST 159 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.85	32.48	0	24.69	326.7	0.0	0.0	1494.
10	11.80	32.49	10	24.70	325.4	0.33	0.02	1494.
20	11.79	32.49	20	24.70	325.5	0.65	0.07	1494.
30	9.41	32.50	30	25.12	285.8	0.97	0.15	1485.
50	7.41	32.58	50	25.48	251.6	1.49	0.36	1478.
75	6.42	32.62	75	25.65	236.0	2.10	0.75	1475.
100	5.29	32.75	99	25.89	213.6	2.67	1.25	1471.
125	4.83	33.17	124	26.27	177.4	3.15	1.80	1470.
150	4.87	33.58	149	26.59	147.5	3.55	2.37	1471.
175	4.82	33.73	174	26.72	135.5	3.91	2.95	1471.
200	4.60	33.77	199	26.77	130.6	4.24	3.58	1471.
225	4.37	33.80	223	26.82	126.0	4.56	4.28	1470.
250	4.24	33.83	248	26.86	122.5	4.87	5.03	1470.
300	4.04	33.90	298	26.93	115.9	5.46	6.70	1470.
400	3.83	34.02	397	27.05	105.5	6.57	10.63	1471.
500	3.65	34.11	496	27.14	97.8	7.59	15.31	1472.
600	3.47	34.18	595	27.21	91.1	8.53	20.59	1473.
800	3.17	34.30	793	27.34	80.4	10.25	32.77	1475.
1000	2.87	34.38	990	27.43	72.5	11.77	46.76	1478.
1200	2.59	34.45	1188	27.51	65.6	13.16	62.25	1480.



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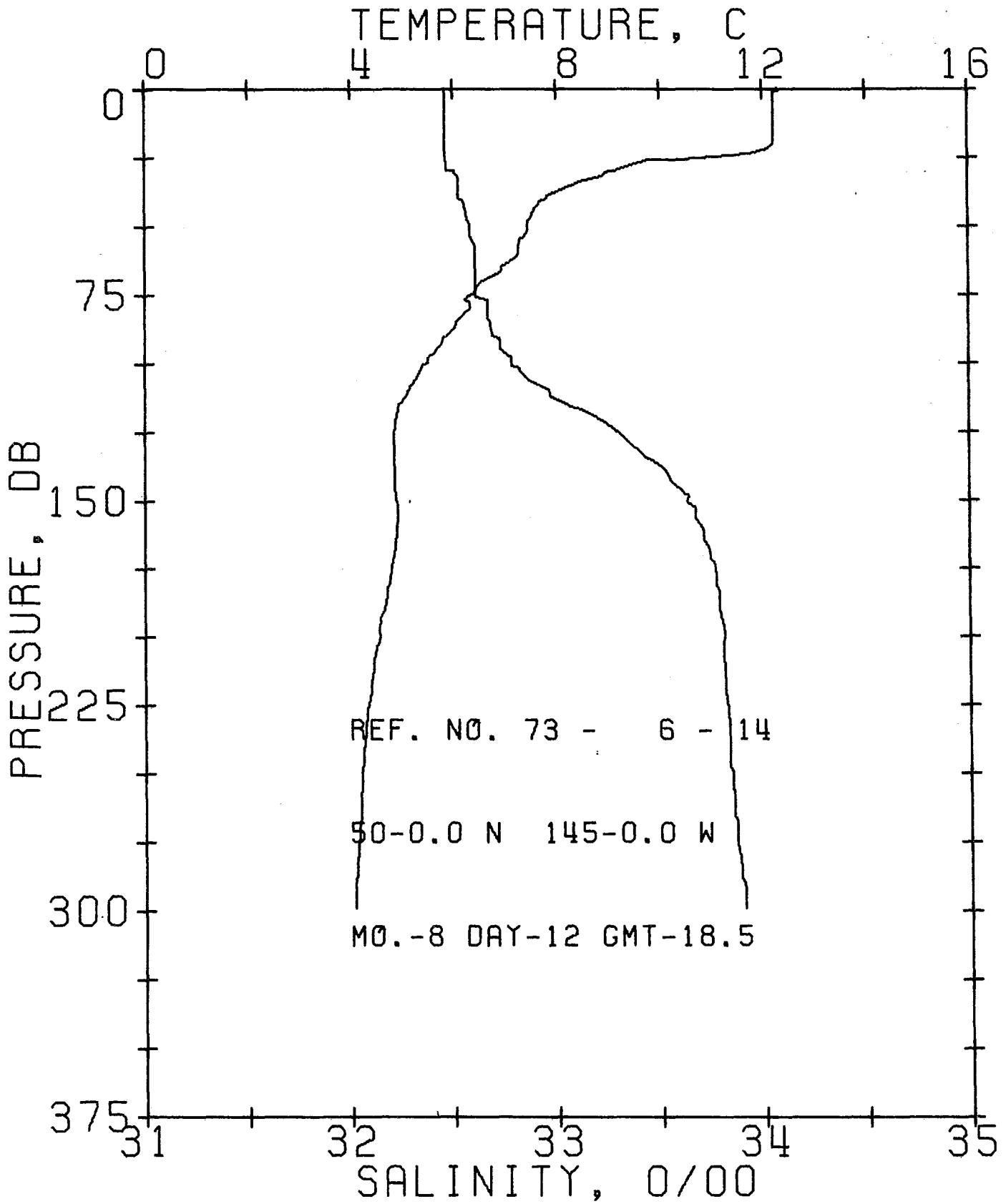
REFERENCE NO. 73- 6- 13

DATE 10/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 124 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.05	32.47	0	24.64	330.9	0.0	0.0	1494.
10	12.04	32.48	10	24.65	330.6	0.33	0.02	1495.
20	12.01	32.48	20	24.66	330.1	0.66	0.07	1495.
30	9.01	32.52	30	25.20	278.3	0.97	0.15	1484.
50	7.35	32.57	50	25.48	251.5	1.49	0.36	1478.
75	6.92	32.61	75	25.57	243.3	2.11	0.75	1477.
100	5.35	32.74	99	25.87	215.2	2.69	1.26	1471.
125	4.87	33.27	124	26.34	170.3	3.17	1.81	1470.
150	4.91	33.61	149	26.61	145.5	3.56	2.35	1471.
175	4.83	33.74	174	26.72	135.2	3.90	2.93	1471.
200	4.56	33.79	199	26.79	128.7	4.23	3.56	1471.
225	4.40	33.79	223	26.81	127.3	4.55	4.25	1471.
250	4.27	33.83	248	26.85	123.1	4.87	5.01	1470.



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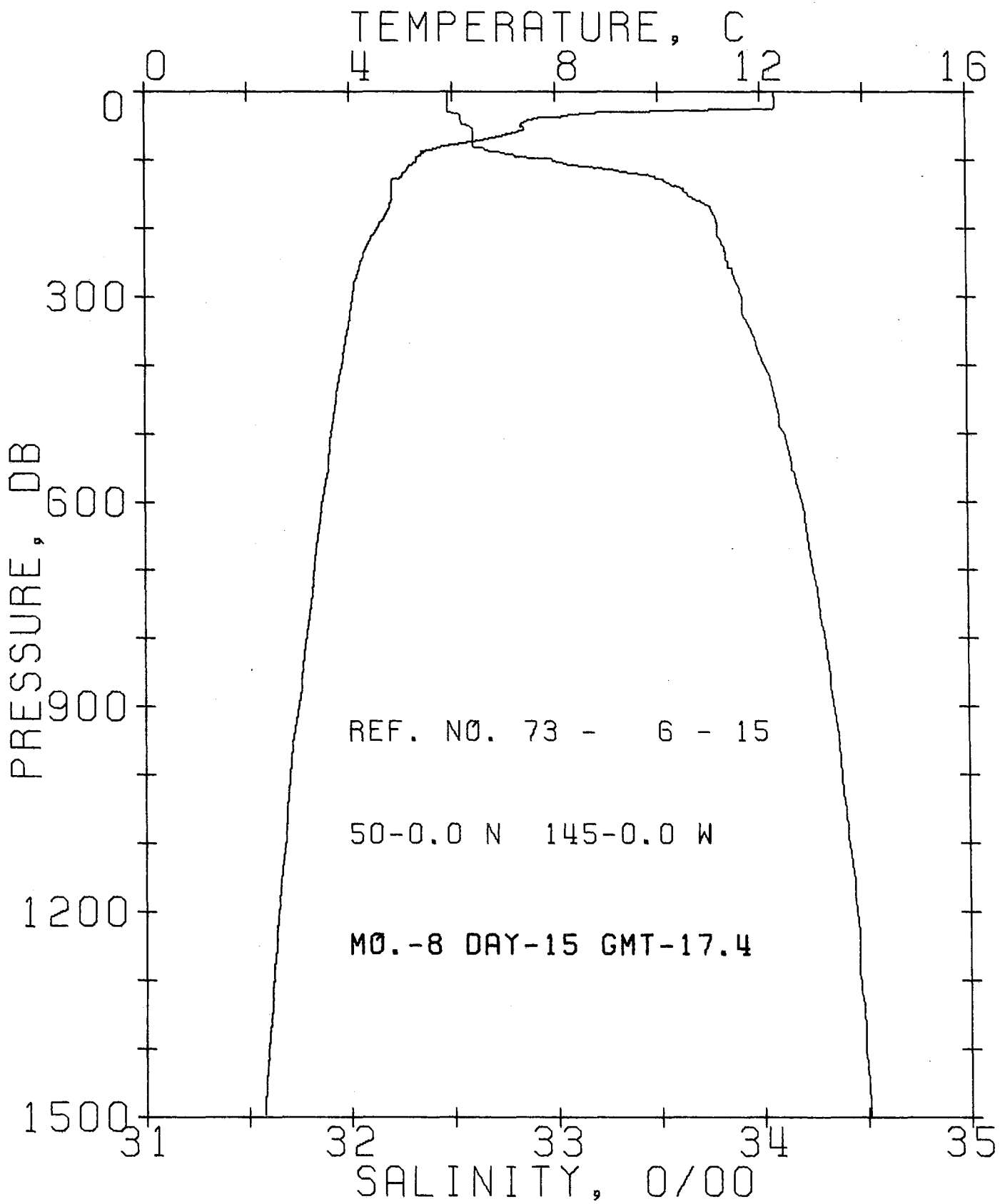
REFERENCE NO. 73- 6- 14

DATE 12/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.5

RESULTS OF STP CAST 119 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.28	32.46	0	24.59	335.7	0.0	0.0	1495.
10	12.22	32.46	10	24.60	335.0	0.34	0.02	1495.
20	12.21	32.46	20	24.60	335.1	0.67	0.07	1495.
30	9.11	32.47	30	25.15	283.5	0.98	0.15	1484.
50	7.45	32.58	50	25.48	252.2	1.51	0.36	1478.
75	6.38	32.61	75	25.64	236.6	2.12	0.75	1475.
100	5.48	32.78	99	25.89	213.5	2.68	1.25	1472.
125	4.84	33.29	124	26.37	168.3	3.16	1.80	1470.
150	4.89	33.63	149	26.63	143.5	3.55	2.34	1471.
175	4.77	33.76	174	26.75	132.8	3.89	2.91	1471.
200	4.55	33.31	199	26.81	127.1	4.22	3.53	1471.
225	4.32	33.82	223	26.84	124.3	4.53	4.21	1470.
250	4.19	33.84	248	26.87	121.5	4.84	4.96	1470.



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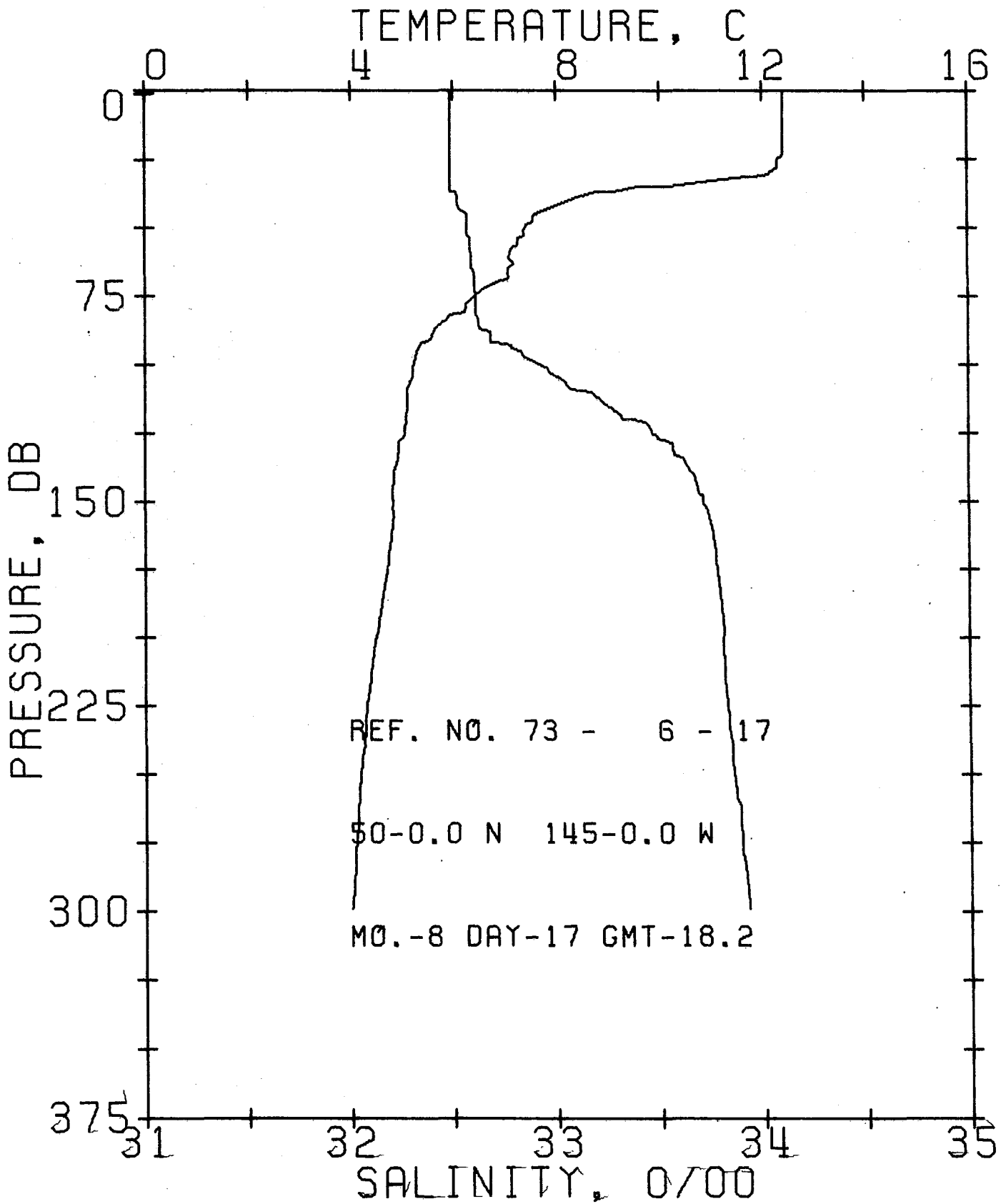
REFERENCE NO. 73- 6- 15

DATE 15/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.4

RESULTS OF STP CAST 164 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.27	32.48	0	24.61	334.1	0.0	0.0	1495.
10	12.28	32.48	10	24.61	334.7	0.33	0.02	1495.
20	12.28	32.48	20	24.61	335.0	0.67	0.07	1496.
30	9.54	32.48	30	25.09	289.3	0.99	0.15	1486.
50	7.35	32.57	50	25.48	251.6	1.51	0.36	1478.
75	6.30	32.60	75	25.65	236.4	2.13	0.75	1474.
100	5.32	32.98	99	26.07	196.4	2.68	1.24	1471.
125	5.00	33.49	124	26.50	155.3	3.12	1.75	1471.
150	4.84	33.65	149	26.65	141.7	3.49	2.26	1471.
175	4.73	33.76	174	26.75	132.5	3.83	2.83	1471.
200	4.53	33.79	199	26.79	128.5	4.16	3.45	1471.
225	4.35	33.81	223	26.83	125.0	4.48	4.14	1470.
250	4.21	33.84	248	26.87	121.7	4.78	4.89	1470.
300	4.04	33.90	298	26.94	115.5	5.38	6.55	1470.
400	3.84	34.01	397	27.04	106.4	6.49	10.52	1471.
500	3.64	34.11	496	27.14	97.5	7.51	15.17	1472.
600	3.46	34.20	595	27.23	90.1	8.45	20.43	1473.
800	3.15	34.30	793	27.34	80.1	10.15	32.55	1475.
1000	2.81	34.38	990	27.43	71.9	11.67	46.41	1477.
1200	2.58	34.45	1188	27.51	65.7	13.04	61.80	1480.



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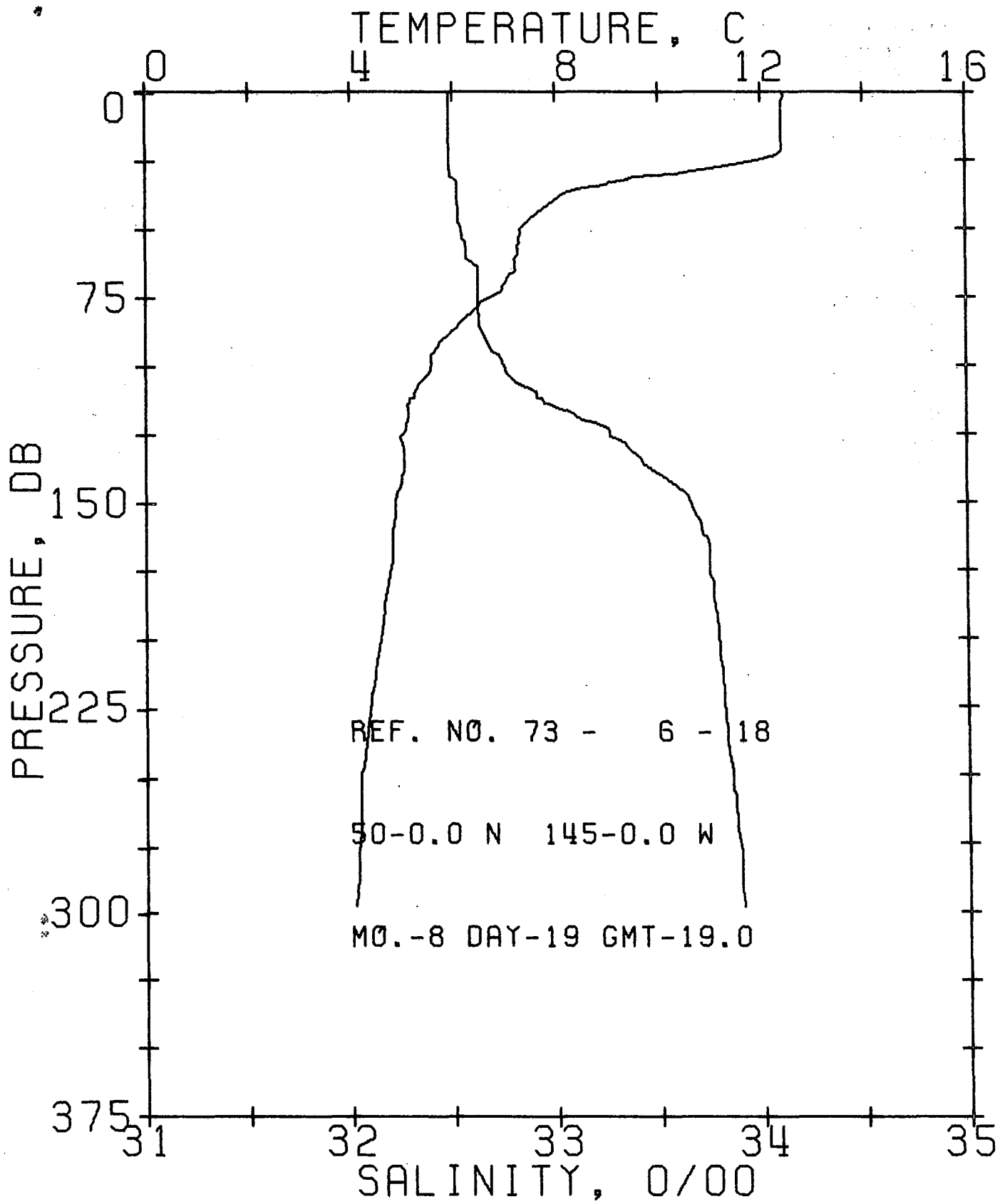
REFERENCE NO. 73- 6- 17

DATE 17/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.2

RESULTS OF STP CAST 108 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.40	32.49	0	24.59	335.7	0.0	0.0	1496.
10	12.40	32.49	10	24.59	336.2	0.34	0.02	1496.
20	12.40	32.49	20	24.59	336.4	0.67	0.07	1496.
30	12.12	32.49	30	24.64	331.6	1.01	0.15	1495.
50	7.38	32.57	50	25.48	252.0	1.56	0.38	1478.
75	6.40	32.61	75	25.64	236.9	2.18	0.77	1475.
100	5.21	32.91	99	26.03	200.4	2.73	1.26	1471.
125	5.03	33.46	124	26.48	157.8	3.18	1.77	1471.
150	4.84	33.71	149	26.70	137.3	3.54	2.28	1471.
175	4.69	33.77	174	26.76	131.0	3.88	2.83	1471.
200	4.47	33.80	199	26.81	126.6	4.20	3.44	1470.
225	4.29	33.82	223	26.84	123.9	4.51	4.12	1470.
250	4.15	33.85	248	26.88	120.3	4.82	4.86	1470.



OFFSHORE OCEANOGRAPHY GROUP

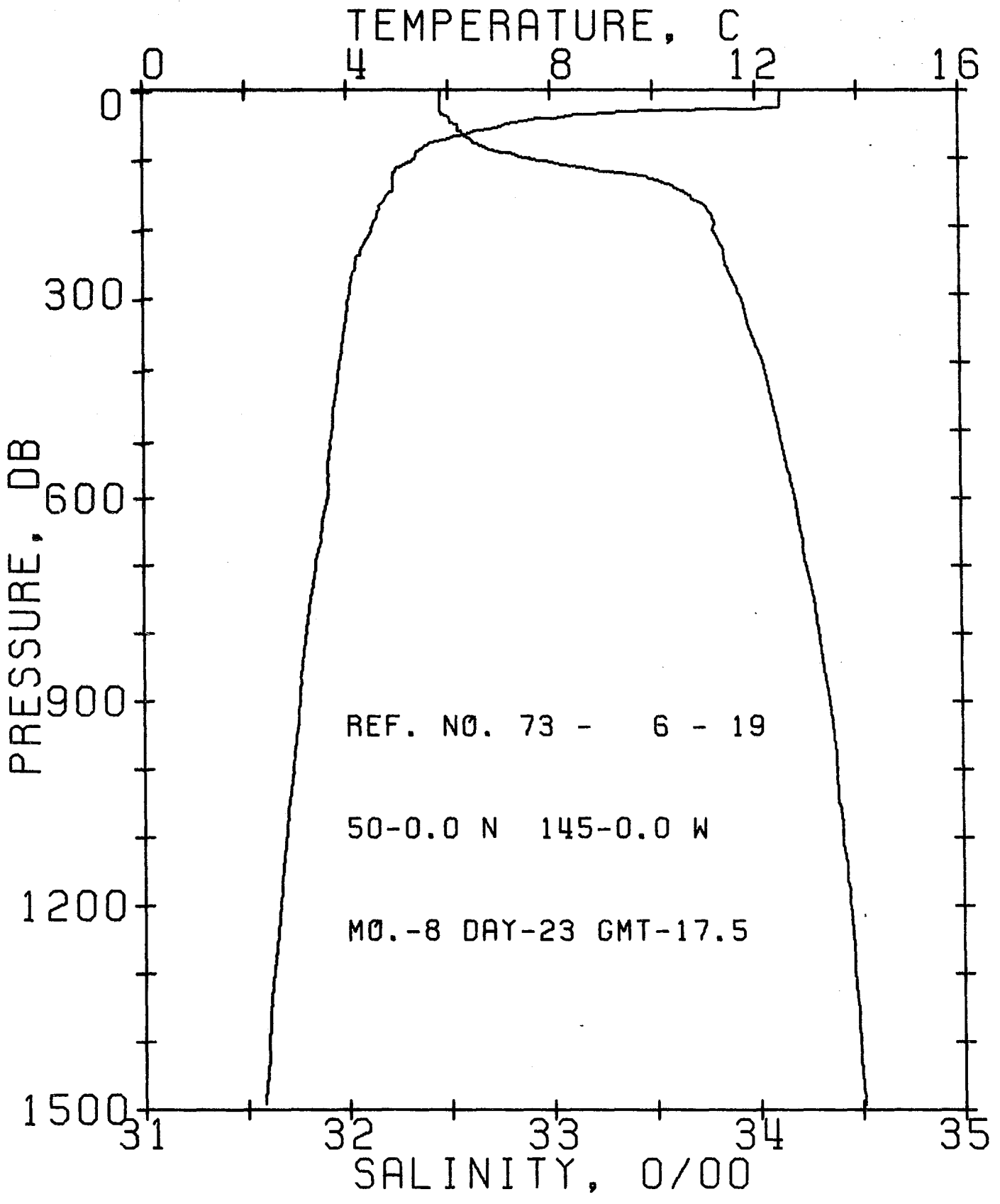
REFERENCE NO. 73- 6- 18

DATE 19/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 19.0

RESULTS OF STP CAST 118 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.43	32.48	0	24.58	337.0	0.0	0.0	1496.
10	12.41	32.48	10	24.58	337.1	0.34	0.02	1496.
20	12.39	32.48	20	24.58	337.0	0.67	0.07	1496.
30	10.28	32.49	30	24.97	300.2	1.00	0.15	1489.
50	7.31	32.54	50	25.47	253.3	1.53	0.37	1478.
75	6.73	32.62	75	25.61	240.3	2.15	0.76	1476.
100	5.56	32.74	99	25.85	217.1	2.72	1.27	1472.
125	5.01	33.26	124	26.32	172.6	3.22	1.83	1471.
150	4.86	33.65	149	26.64	142.3	3.61	2.38	1471.
175	4.75	33.74	174	26.73	134.4	3.95	2.95	1471.
200	4.57	33.78	199	26.78	129.3	4.28	3.58	1471.
225	4.36	33.81	223	26.83	125.2	4.60	4.26	1470.
250	4.17	33.85	248	26.88	120.5	4.91	5.01	1470.



OFFSHORE OCEANOGRAPHY GROUP

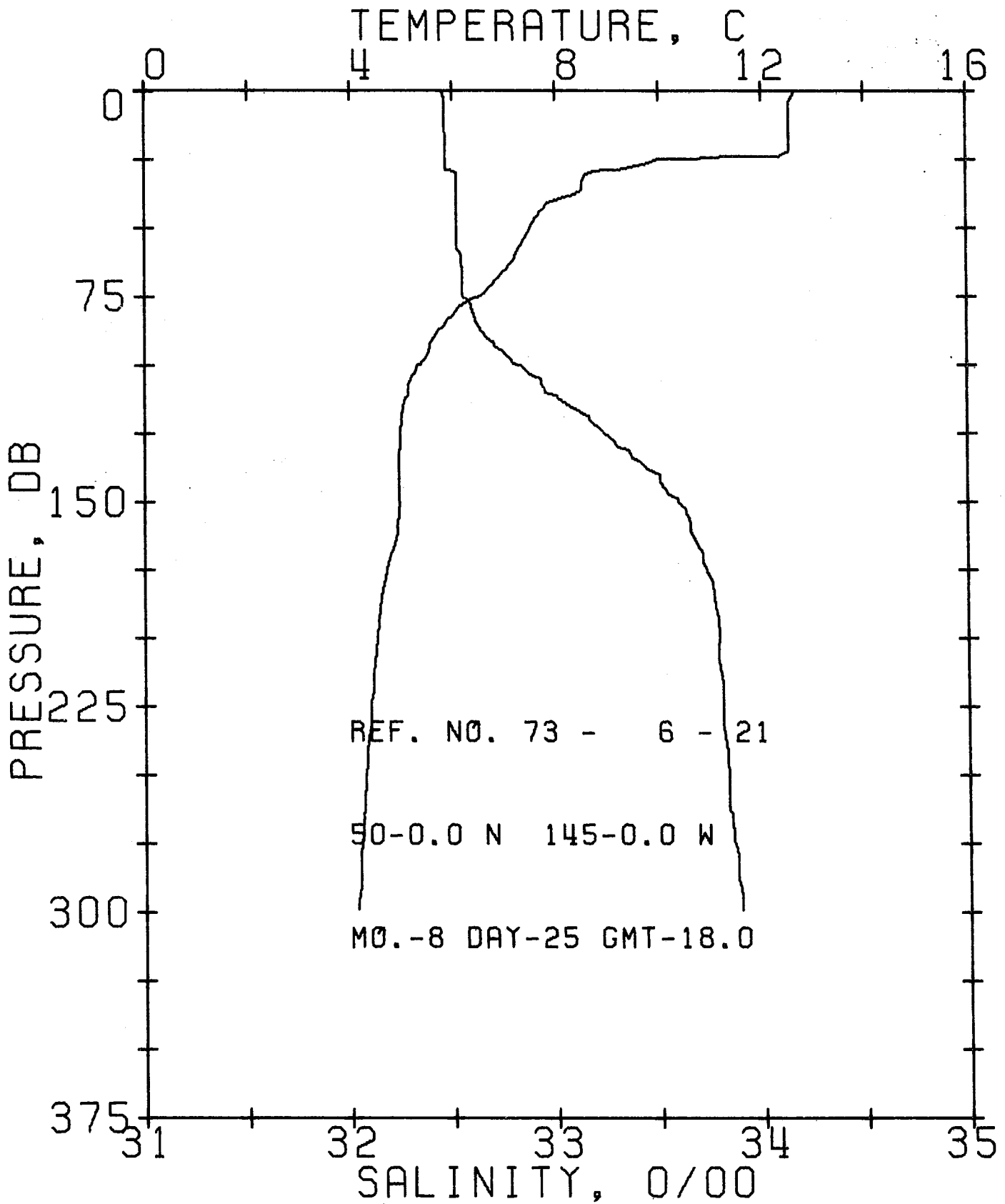
REFERENCE NO. 73- 6- 19

DATE 23/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 156 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	12.50	32.46	0	24.55	339.7	0.0	0.0	1496.
10	12.47	32.46	10	24.55	339.6	0.34	0.02	1496.
20	12.47	32.46	20	24.55	339.9	0.68	0.07	1496.
30	10.54	32.46	30	24.90	306.7	1.01	0.15	1490.
50	7.20	32.52	50	25.47	253.0	1.56	0.37	1477.
75	5.85	32.62	75	25.72	229.7	2.16	0.76	1473.
100	5.34	32.89	99	25.99	203.7	2.71	1.24	1471.
125	4.92	33.41	124	26.45	160.4	3.17	1.77	1471.
150	4.90	33.65	149	26.64	142.4	3.54	2.29	1471.
175	4.64	33.76	174	26.76	131.2	3.88	2.85	1471.
200	4.51	33.80	199	26.80	127.7	4.20	3.47	1471.
225	4.35	33.82	223	26.84	124.2	4.52	4.15	1470.
250	4.19	33.84	248	26.87	121.2	4.83	4.90	1470.
300	4.04	33.91	298	26.94	114.8	5.42	6.55	1470.
400	3.85	34.03	397	27.05	105.2	6.52	10.47	1471.
500	3.70	34.11	496	27.13	98.6	7.54	15.13	1473.
600	3.58	34.18	595	27.20	92.3	8.49	20.48	1474.
800	3.17	34.30	793	27.33	80.7	10.22	32.78	1475.
1000	2.90	34.38	990	27.42	73.0	11.75	46.77	1478.
1200	2.64	34.44	1188	27.50	66.8	13.14	62.39	1480.



OFFSHORE OCEANOGRAPHY GROUP

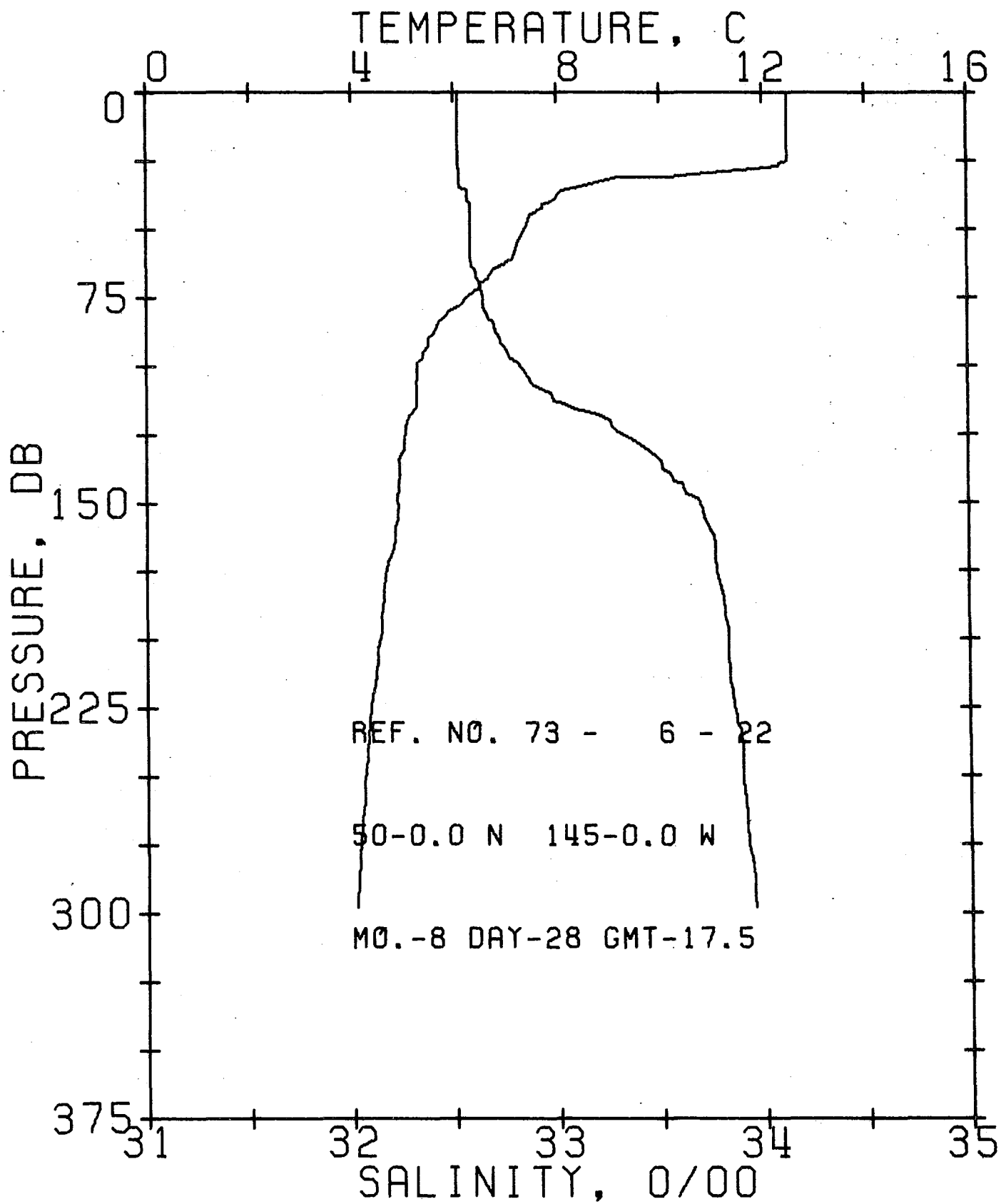
REFERENCE NO. 73- 6- 21

DATE 25/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.0

RESULTS OF STP CAST 114 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.65	32.45	0	24.51	343.2	0.0	0.0	1497.
10	12.53	32.46	10	24.54	340.6	0.34	0.02	1496.
20	12.52	32.47	20	24.55	340.2	0.68	0.07	1496.
30	8.63	32.52	30	25.26	272.7	0.99	0.15	1483.
50	7.49	32.52	50	25.43	257.1	1.52	0.36	1479.
75	6.53	32.55	75	25.58	242.9	2.15	0.76	1475.
100	5.36	32.81	99	25.93	210.0	2.71	1.26	1471.
125	4.96	33.24	124	26.31	173.8	3.19	1.81	1471.
150	4.95	33.59	149	26.59	147.4	3.59	2.37	1471.
175	4.69	33.72	174	26.72	134.8	3.94	2.95	1471.
200	4.52	33.79	199	26.79	128.3	4.27	3.57	1471.
225	4.38	33.80	223	26.82	126.3	4.59	4.26	1470.
250	4.27	33.83	248	26.85	123.1	4.90	5.02	1470.



OFFSHORE OCEANOGRAPHY GROUP

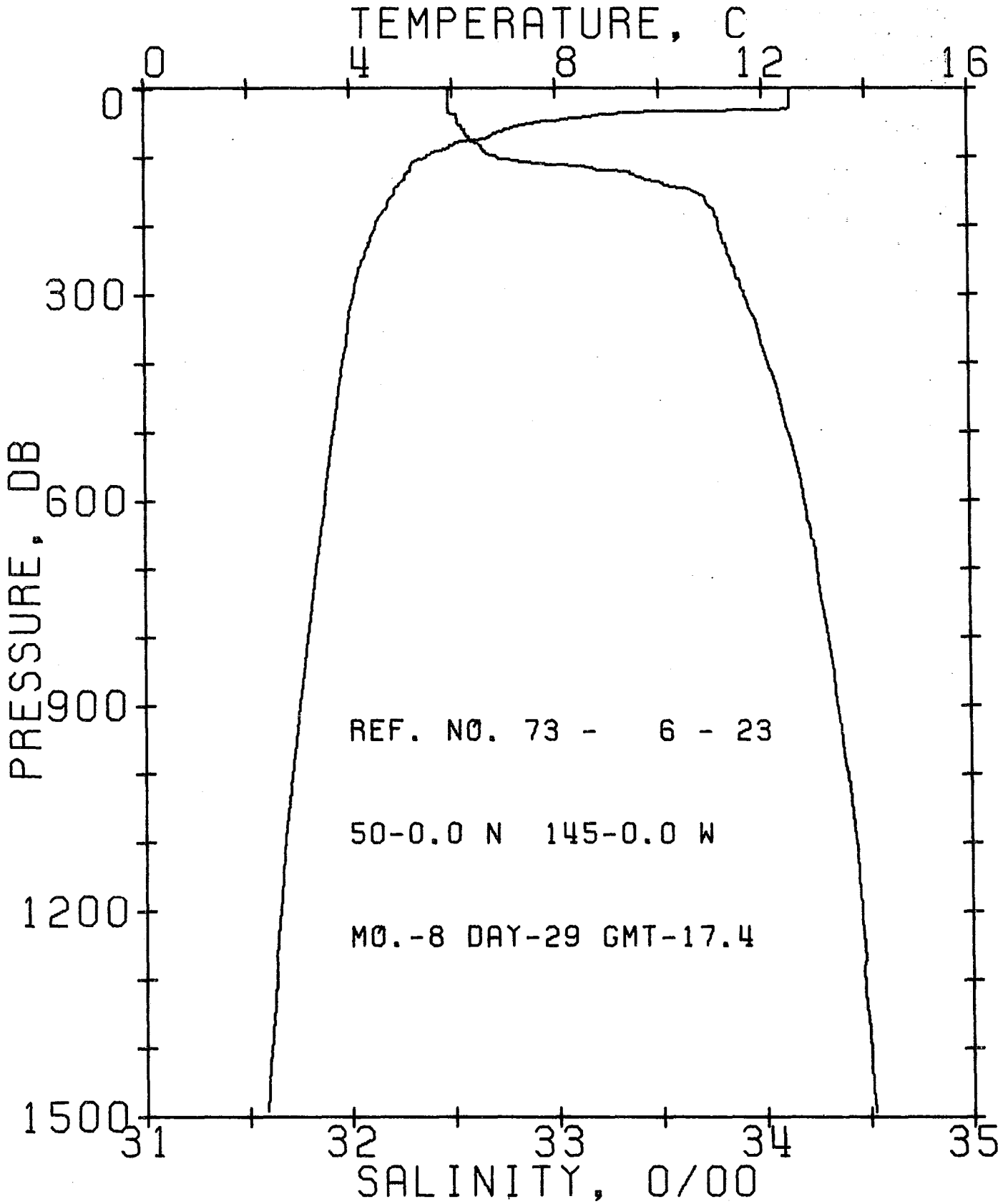
REFERENCE NO. 73- 6- 22

DATE 28/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 109 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.47	32.52	0	24.60	334.8	0.0	0.0	1496.
10	12.47	32.52	10	24.60	335.3	0.34	0.02	1496.
20	12.48	32.52	20	24.60	335.6	0.67	0.07	1496.
30	10.63	32.53	30	24.94	303.0	1.00	0.15	1490.
50	7.36	32.58	50	25.49	251.0	1.52	0.36	1478.
75	6.25	32.64	75	25.68	232.8	2.13	0.75	1474.
100	5.28	32.82	99	25.94	208.4	2.69	1.24	1471.
125	5.02	33.31	124	26.36	168.6	3.16	1.79	1471.
150	4.89	33.68	149	26.67	139.7	3.55	2.32	1471.
175	4.65	33.77	174	26.76	131.0	3.88	2.88	1471.
200	4.52	33.82	199	26.82	126.1	4.20	3.49	1471.
225	4.35	33.85	223	26.86	122.2	4.52	4.17	1470.
250	4.23	33.89	248	26.90	118.2	4.82	4.89	1470.



OFFSHORE OCEANOGRAPHY GROUP

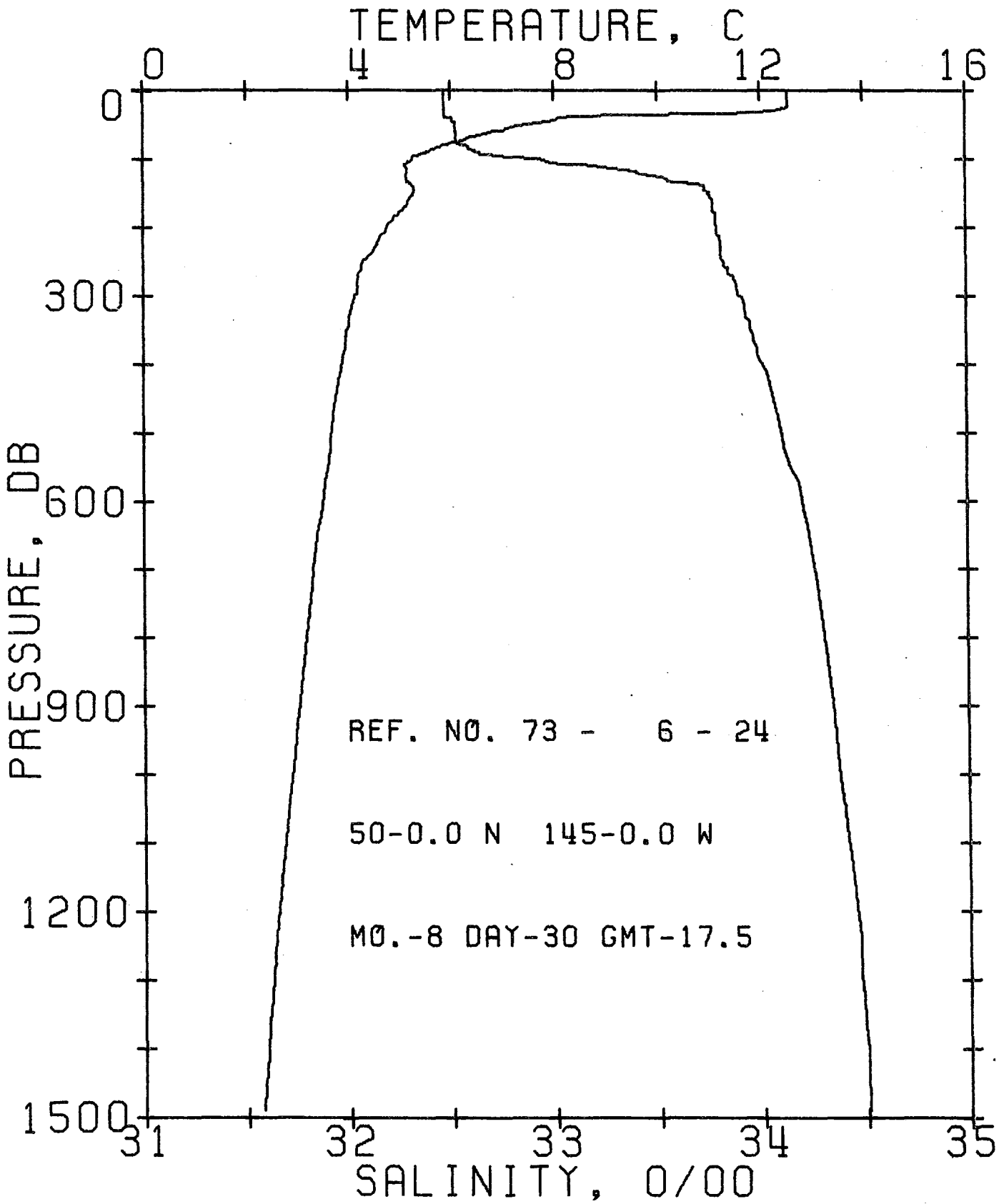
REFERENCE NO. 73- 6- 23

DATE 29/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.4

RESULTS OF STP CAST 160 FCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.52	32.48	0	24.56	338.7	0.0	0.0	1496.
10	12.52	32.48	10	24.56	339.1	0.34	0.02	1496.
20	12.52	32.48	20	24.56	339.3	0.68	0.07	1496.
30	12.45	32.48	30	24.57	338.3	1.02	0.16	1496.
50	7.72	32.53	50	25.40	259.5	1.59	0.39	1479.
75	6.45	32.59	75	25.62	238.9	2.21	0.78	1475.
100	5.48	32.71	99	25.83	218.6	2.78	1.29	1472.
125	5.10	33.36	124	26.39	166.1	3.27	1.84	1471.
150	4.88	33.66	149	26.65	141.5	3.65	2.38	1471.
175	4.69	33.75	174	26.74	133.0	3.99	2.95	1471.
200	4.51	33.78	199	26.79	128.8	4.32	3.57	1471.
225	4.37	33.81	223	26.83	125.4	4.64	4.26	1470.
250	4.26	33.84	248	26.86	122.2	4.95	5.00	1470.
300	4.06	33.91	298	26.94	115.3	5.54	6.66	1471.
400	3.86	34.02	397	27.05	105.5	6.64	10.59	1471.
500	3.66	34.12	496	27.14	97.2	7.65	15.22	1472.
600	3.49	34.19	595	27.22	90.6	8.59	20.46	1473.
800	3.16	34.31	793	27.34	79.8	10.29	32.55	1475.
1000	2.84	34.40	990	27.44	71.0	11.80	46.35	1477.
1200	2.58	34.46	1188	27.52	64.8	13.15	61.48	1480.



OFFSHORE OCEANOGRAPHY GROUP

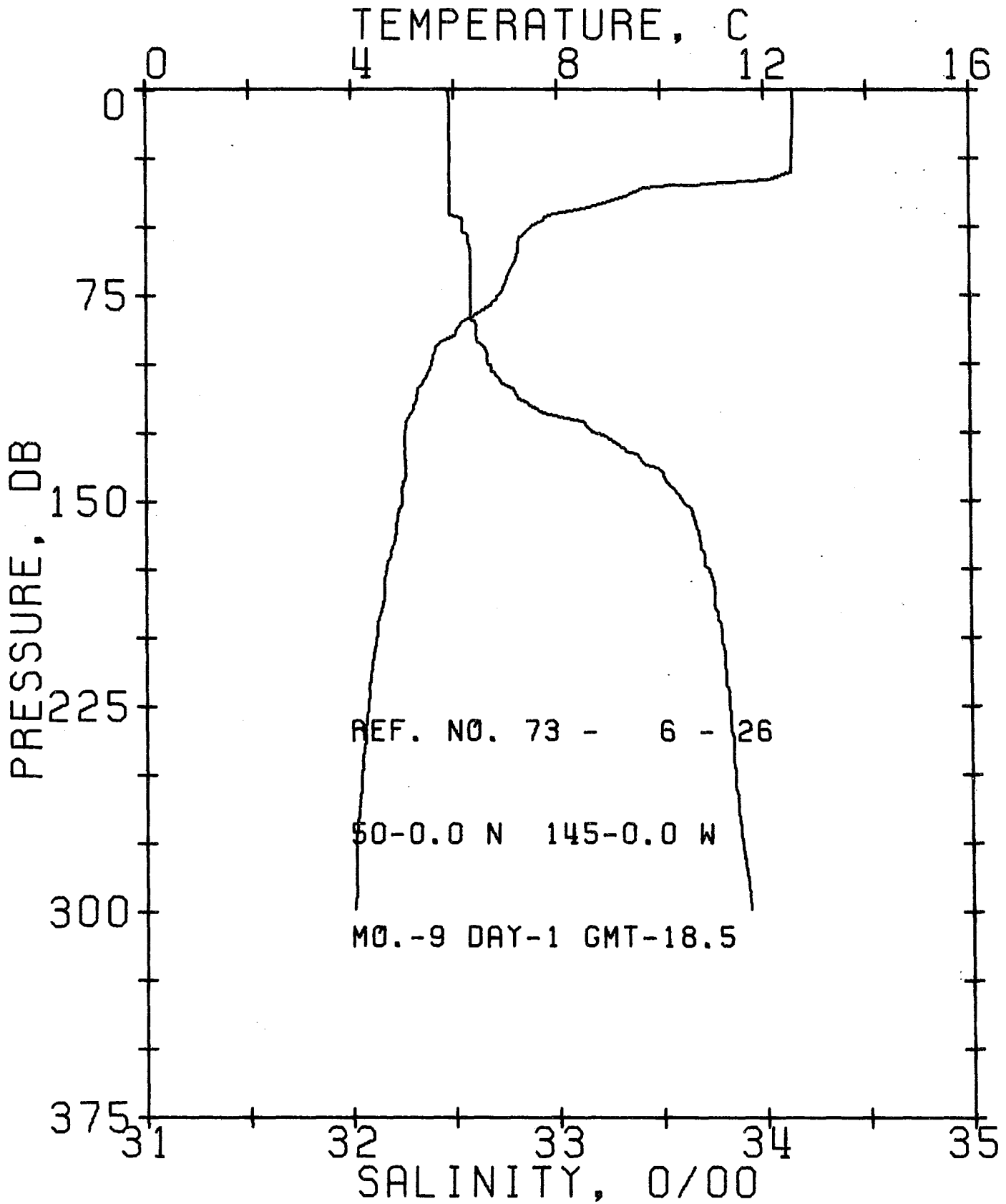
REFERENCE NO. 73- 6- 24

DATE 30/ 8/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 185 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.54	32.47	0	24.55	339.7	0.0	0.0	1496.
10	12.54	32.47	10	24.55	340.1	0.34	0.02	1496.
20	12.53	32.47	20	24.55	340.2	0.68	0.07	1496.
30	12.24	32.47	30	24.61	335.2	1.02	0.16	1496.
50	7.59	32.52	50	25.41	258.5	1.59	0.38	1479.
75	6.13	32.53	75	25.61	239.5	2.21	0.78	1474.
100	5.25	32.87	99	25.99	204.2	2.77	1.28	1471.
125	5.13	33.50	124	26.49	156.2	3.22	1.79	1472.
150	5.27	33.74	149	26.67	139.6	3.58	2.30	1473.
175	5.04	33.77	174	26.72	135.3	3.93	2.87	1472.
200	4.74	33.79	199	26.77	130.6	4.26	3.50	1472.
225	4.55	33.81	223	26.81	127.4	4.58	4.20	1471.
250	4.29	33.82	248	26.84	124.2	4.90	4.96	1471.
300	4.11	33.90	298	26.92	116.8	5.50	6.65	1471.
400	3.85	34.00	397	27.03	106.9	6.61	10.62	1471.
500	3.65	34.10	496	27.13	98.8	7.64	15.30	1472.
600	3.47	34.20	595	27.23	90.1	8.58	20.60	1473.
800	3.15	34.30	793	27.34	80.3	10.28	32.66	1475.
1000	2.86	34.37	990	27.42	73.0	11.81	46.66	1478.
1200	2.59	34.45	1188	27.51	65.5	13.19	62.14	1480.



OFFSHORE OCEANOGRAPHY GROUP

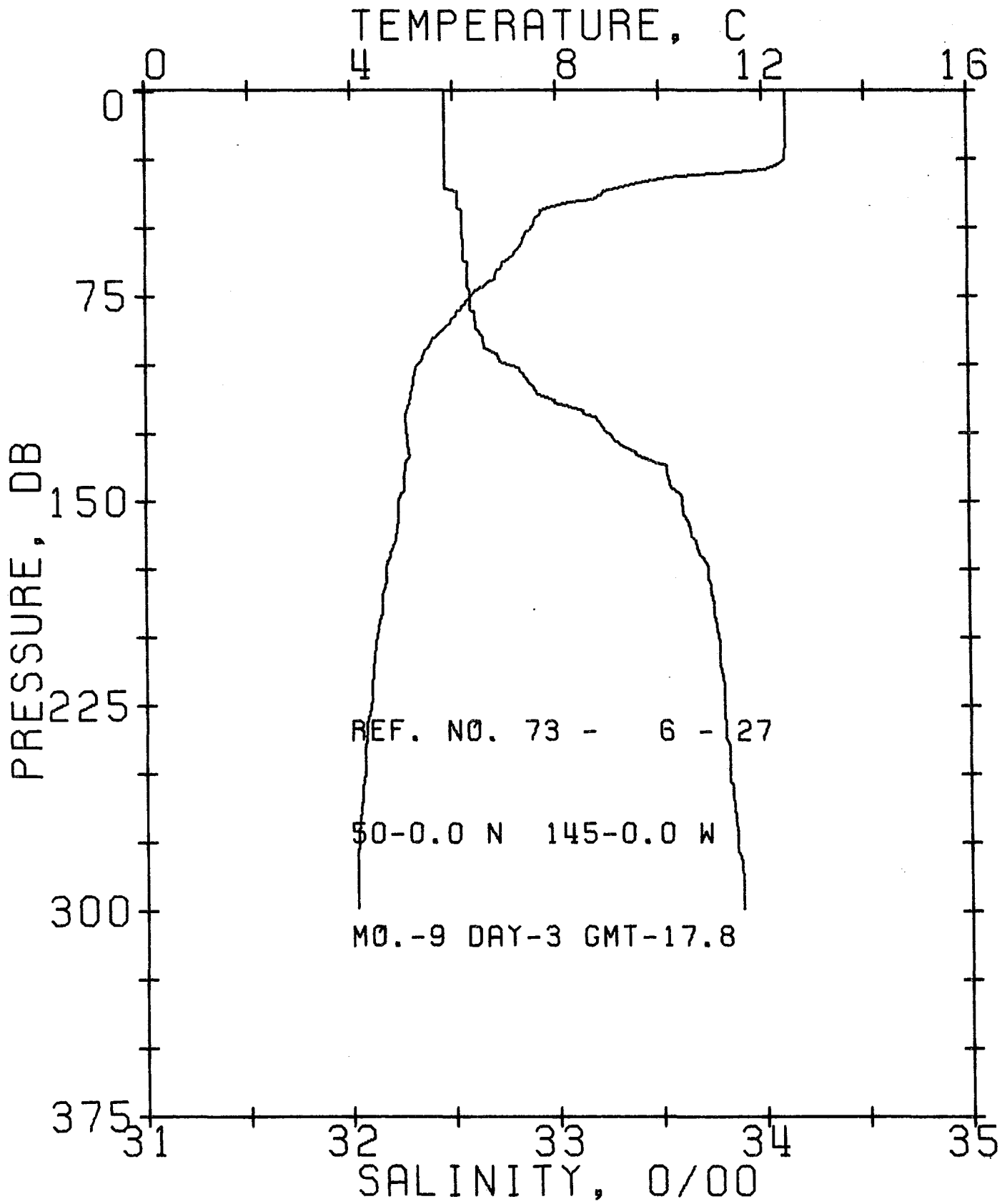
REFERENCE NO. 73- 6- 26

DATE 1/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.5

RESULTS OF STP CAST 110 POINTS TAKEN FROM ANALOG TRACE

PRFSS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.55	32.47	0	24.55	339.9	0.0	0.0	1496.
10	12.55	32.48	10	24.55	339.6	0.34	0.02	1496.
20	12.54	32.48	20	24.56	339.8	0.68	0.07	1496.
30	12.54	32.48	30	24.56	339.9	1.02	0.16	1497.
50	7.49	32.54	50	25.44	255.7	1.60	0.39	1479.
75	6.86	32.58	75	25.56	244.9	2.22	0.78	1477.
100	5.55	32.66	99	25.78	223.3	2.80	1.30	1472.
125	5.01	33.17	124	26.25	179.4	3.31	1.89	1471.
150	4.95	33.60	149	26.60	146.7	3.71	2.45	1471.
175	4.66	33.72	174	26.72	134.8	4.06	3.03	1471.
200	4.46	33.79	199	26.80	127.6	4.39	3.65	1470.
225	4.29	33.82	223	26.85	123.6	4.71	4.33	1470.
250	4.18	33.85	248	26.88	120.8	5.01	5.07	1470.



OFFSHORE OCEANOGRAPHY GROUP

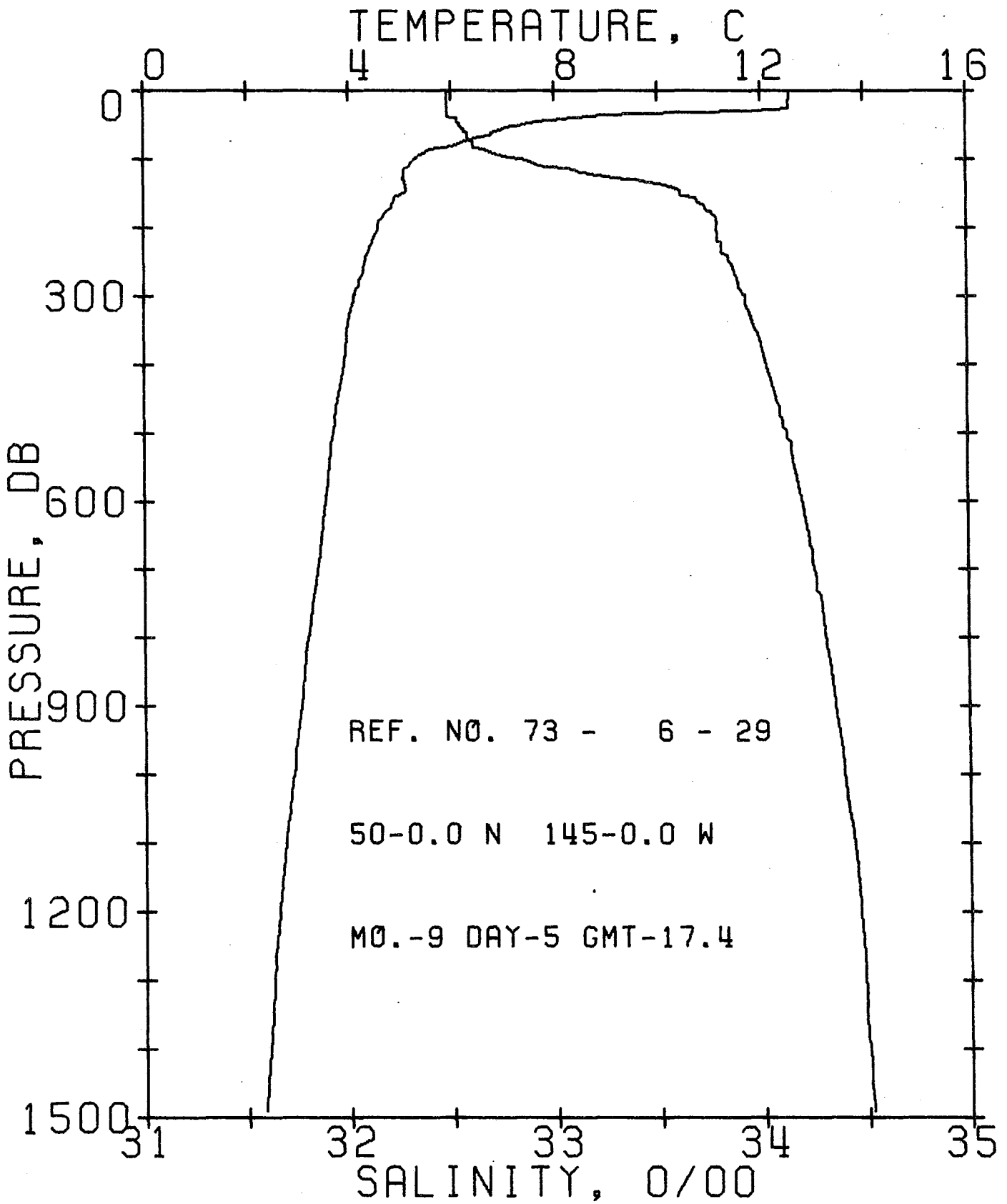
REFERENCE NO. 73- 6- 27

DATE 3/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.8

RESULTS OF STP CAST 124 POINTS TAKEN FROM ANALCG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.46	32.46	0	24.56	339.0	0.0	0.0	1496.
10	12.45	32.46	10	24.56	339.4	0.34	0.02	1496.
20	12.44	32.46	20	24.56	339.3	0.68	0.07	1496.
30	11.46	32.46	30	24.74	322.2	1.02	0.15	1493.
50	7.51	32.54	50	25.44	256.0	1.57	0.38	1479.
75	6.32	32.58	75	25.63	238.1	2.19	0.77	1474.
100	5.31	32.76	99	25.89	213.1	2.76	1.28	1471.
125	5.08	33.24	124	26.30	174.5	3.24	1.83	1471.
150	4.92	33.60	149	26.60	146.3	3.63	2.38	1471.
175	4.66	33.73	174	26.73	134.0	3.99	2.97	1471.
200	4.47	33.78	199	26.79	128.9	4.32	3.60	1470.
225	4.34	33.80	223	26.82	125.9	4.64	4.29	1470.
250	4.22	33.83	248	26.86	122.6	4.95	5.04	1470.



OFFSHORE OCEANOGRAPHY GROUP

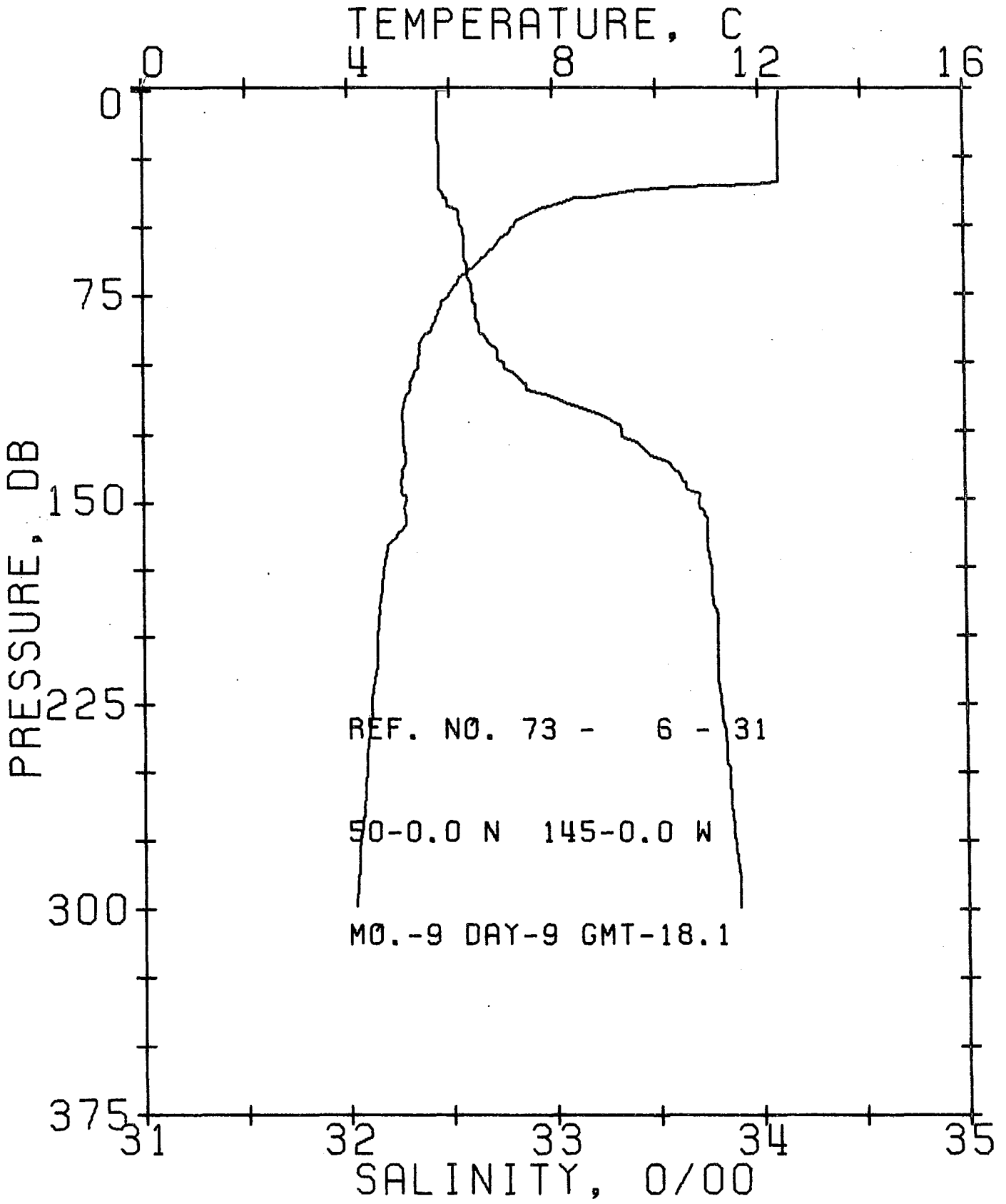
REFERENCE NO. 73- 6- 29

DATE 5/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.4

RESULTS OF STP CAST 156 POINTS TAKEN FRGM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.55	32.48	0	24.55	339.2	0.0	0.0	1496.
10	12.54	32.48	10	24.56	339.5	0.34	0.02	1496.
20	12.53	32.48	20	24.56	339.6	0.68	0.07	1496.
30	12.05	32.48	30	24.65	331.1	1.02	0.16	1495.
50	7.44	32.54	50	25.45	255.0	1.57	0.38	1478.
75	6.27	32.60	75	25.65	236.0	2.19	0.77	1474.
100	5.30	32.82	99	25.94	208.5	2.75	1.27	1471.
125	5.07	33.25	124	26.31	174.0	3.23	1.82	1471.
150	5.05	33.61	149	26.59	147.0	3.62	2.37	1472.
175	4.76	33.74	174	26.73	134.4	3.97	2.95	1471.
200	4.55	33.78	199	26.79	129.1	4.30	3.57	1471.
225	4.43	33.81	223	26.82	126.1	4.62	4.26	1471.
250	4.29	33.84	248	26.86	122.6	4.93	5.02	1471.
300	4.09	33.92	298	26.94	114.9	5.53	6.68	1471.
400	3.88	34.02	397	27.04	106.1	6.63	10.61	1472.
500	3.67	34.12	496	27.14	97.2	7.65	15.27	1472.
600	3.53	34.19	595	27.22	91.1	8.59	20.54	1474.
800	3.18	34.30	793	27.34	80.4	10.30	32.72	1476.
1000	2.88	34.39	990	27.43	72.0	11.82	46.62	1478.
1200	2.58	34.46	1188	27.52	64.8	13.18	61.85	1480.



OFFSHORE OCEANOGRAPHY GROUP

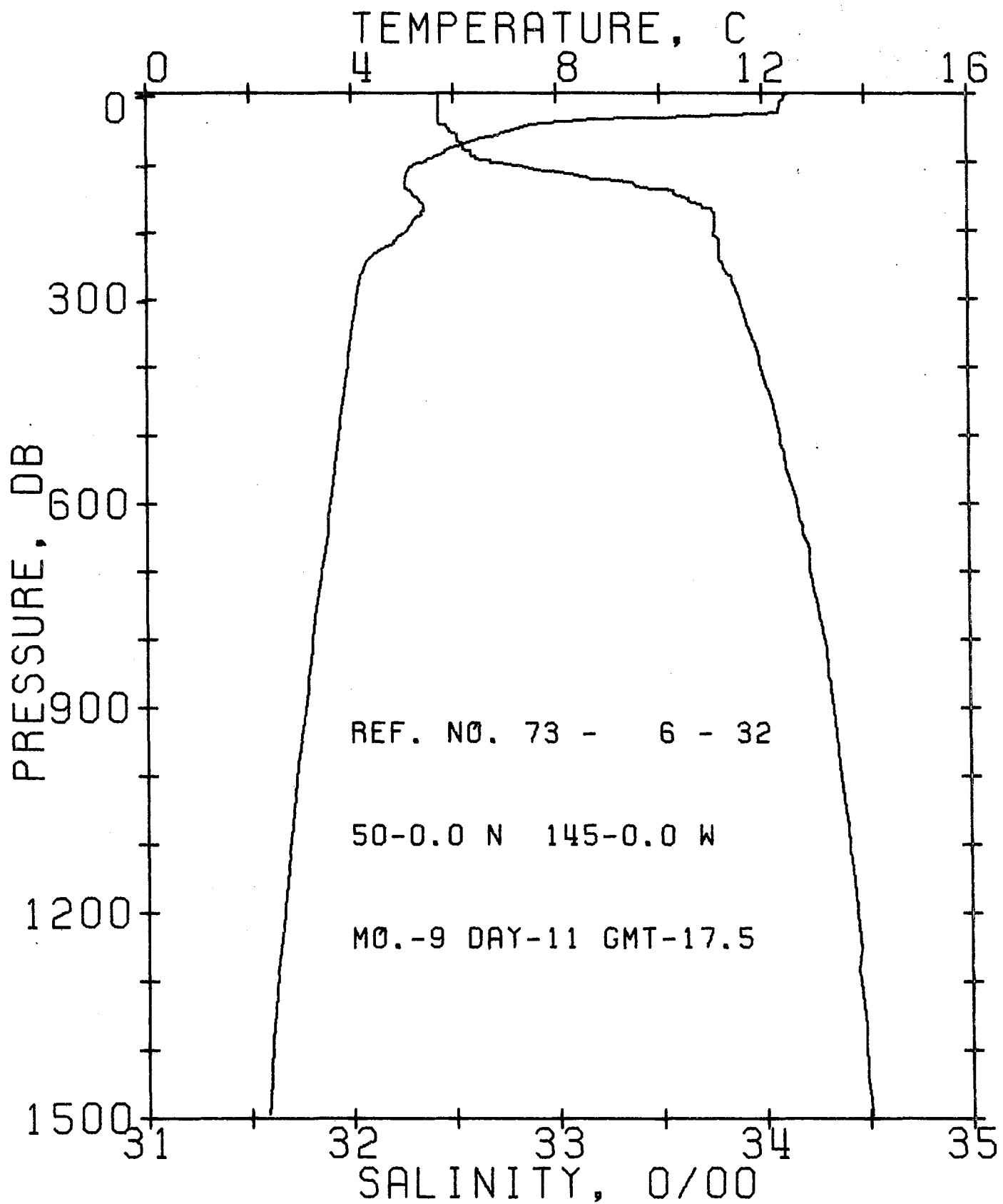
REFERENCE NO. 73- 6- 31

DATE 9/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 18.1

RESULTS OF STP CAST 113 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.39	32.44	0	24.55	339.2	0.0	0.0	1496.
10	12.36	32.44	10	24.56	339.0	0.34	0.02	1496.
20	12.36	32.44	20	24.56	339.0	0.68	0.07	1496.
30	12.36	32.45	30	24.57	338.9	1.02	0.16	1496.
50	7.24	32.55	50	25.48	251.6	1.59	0.39	1478.
75	5.97	32.60	75	25.69	232.1	2.20	0.77	1473.
100	5.35	32.76	99	25.89	213.6	2.76	1.27	1471.
125	5.06	33.33	124	26.37	167.9	3.24	1.82	1471.
150	5.12	33.70	149	26.66	141.1	3.62	2.35	1472.
175	4.68	33.76	174	26.75	132.2	3.96	2.92	1471.
200	4.54	33.79	199	26.79	128.5	4.29	3.54	1471.
225	4.44	33.80	223	26.81	126.7	4.61	4.23	1471.
250	4.30	33.84	248	26.86	122.7	4.92	4.99	1471.



OFFSHORE OCEANOGRAPHY GROUP

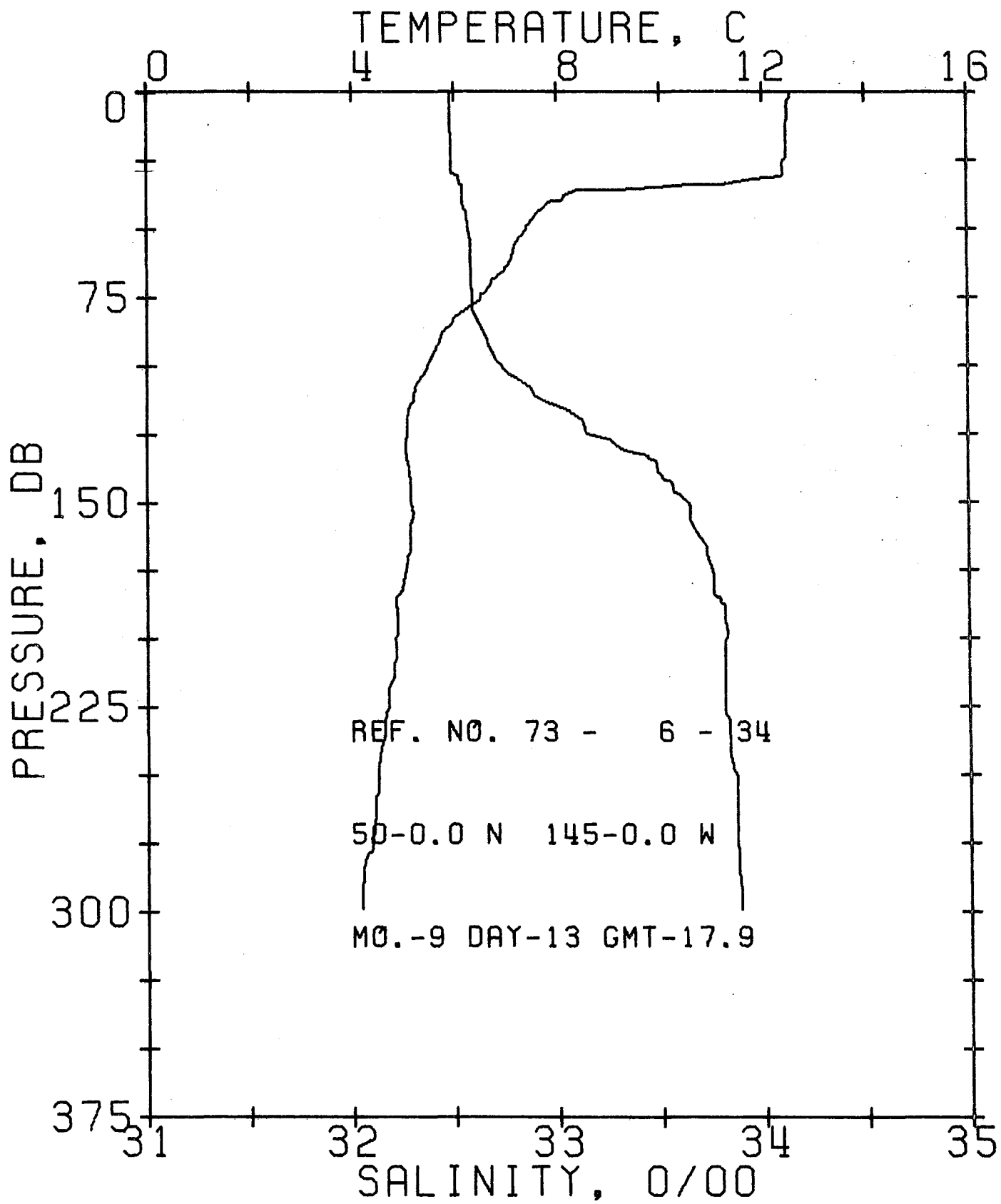
REFERENCE NO. 73- 6- 32

DATE 11/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.5

RESULTS OF STP CAST 168 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.50	32.43	0	24.52	341.9	0.0	0.0	1496.
10	12.43	32.43	10	24.54	341.1	0.34	0.02	1496.
20	12.34	32.43	20	24.56	339.7	0.68	0.07	1496.
30	11.91	32.43	30	24.64	332.3	1.02	0.16	1494.
50	7.36	32.47	50	25.40	259.1	1.59	0.39	1478.
75	6.22	32.55	75	25.61	239.4	2.22	0.78	1474.
100	5.46	32.68	99	25.91	220.8	2.79	1.30	1471.
125	5.05	33.17	124	26.25	175.7	3.29	1.87	1471.
150	5.21	33.58	149	26.55	151.2	3.69	2.43	1472.
175	5.38	33.77	174	26.68	139.1	4.06	3.03	1474.
200	5.10	33.77	199	26.71	136.2	4.40	3.68	1473.
225	4.67	33.79	223	26.78	130.1	4.73	4.41	1472.
250	4.27	33.80	243	26.83	125.1	5.05	5.18	1470.
300	4.07	33.88	298	26.91	117.5	5.66	6.87	1471.
400	3.91	33.98	397	27.01	109.1	6.79	10.89	1472.
500	3.73	34.08	496	27.11	100.9	7.83	15.68	1473.
600	3.55	34.16	595	27.19	93.6	8.81	21.15	1474.
800	3.21	34.29	793	27.32	81.8	10.57	33.63	1476.
1000	2.90	34.37	990	27.41	74.0	12.12	47.90	1478.
1200	2.63	34.44	1188	27.50	66.8	13.53	63.60	1480.



OFFSHORE OCEANOGRAPHY GROUP

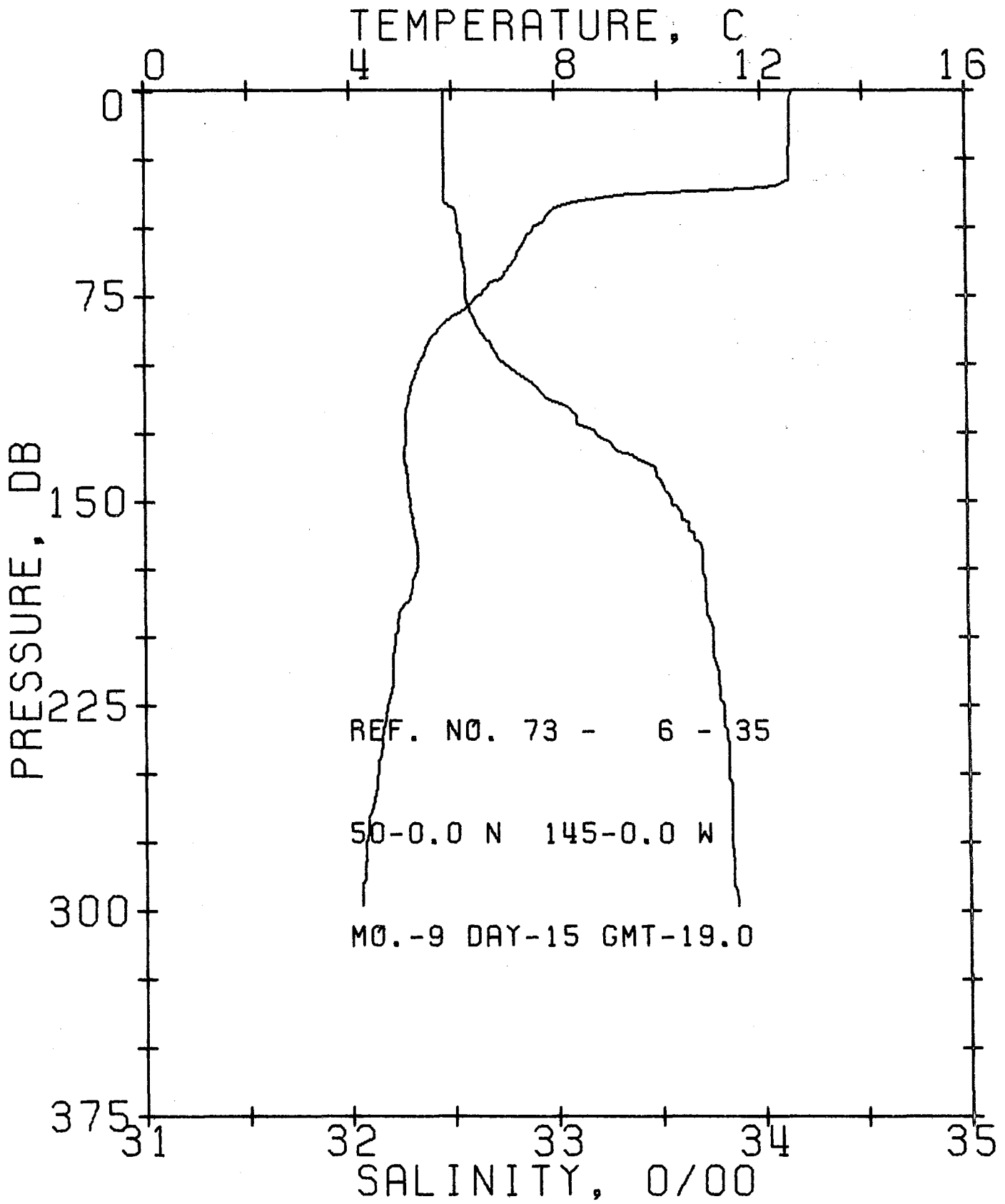
REFERENCE NO. 73- 6- 34

DATE 13/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 17.9

RESULTS OF STP CAST 131 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.54	32.48	0	24.56	339.0	0.0	0.0	1496.
10	12.45	32.48	10	24.57	337.9	0.34	0.02	1496.
20	12.45	32.49	20	24.58	337.3	0.68	0.07	1496.
30	12.39	32.49	30	24.59	336.5	1.01	0.15	1496.
50	7.41	32.57	50	25.48	252.3	1.56	0.38	1478.
75	6.51	32.59	75	25.61	239.7	2.18	0.77	1475.
100	5.43	32.72	99	25.84	217.8	2.75	1.28	1472.
125	5.06	33.14	124	26.22	182.1	3.25	1.84	1471.
150	5.15	33.63	149	26.60	146.7	3.64	2.40	1472.
175	5.03	33.74	174	26.70	137.1	4.00	2.99	1472.
200	4.84	33.82	199	26.78	129.5	4.33	3.62	1472.
225	4.68	33.81	223	26.79	128.8	4.66	4.32	1472.
250	4.48	33.85	248	26.85	123.6	4.97	5.09	1471.



OFFSHORE OCEANOGRAPHY GROUP

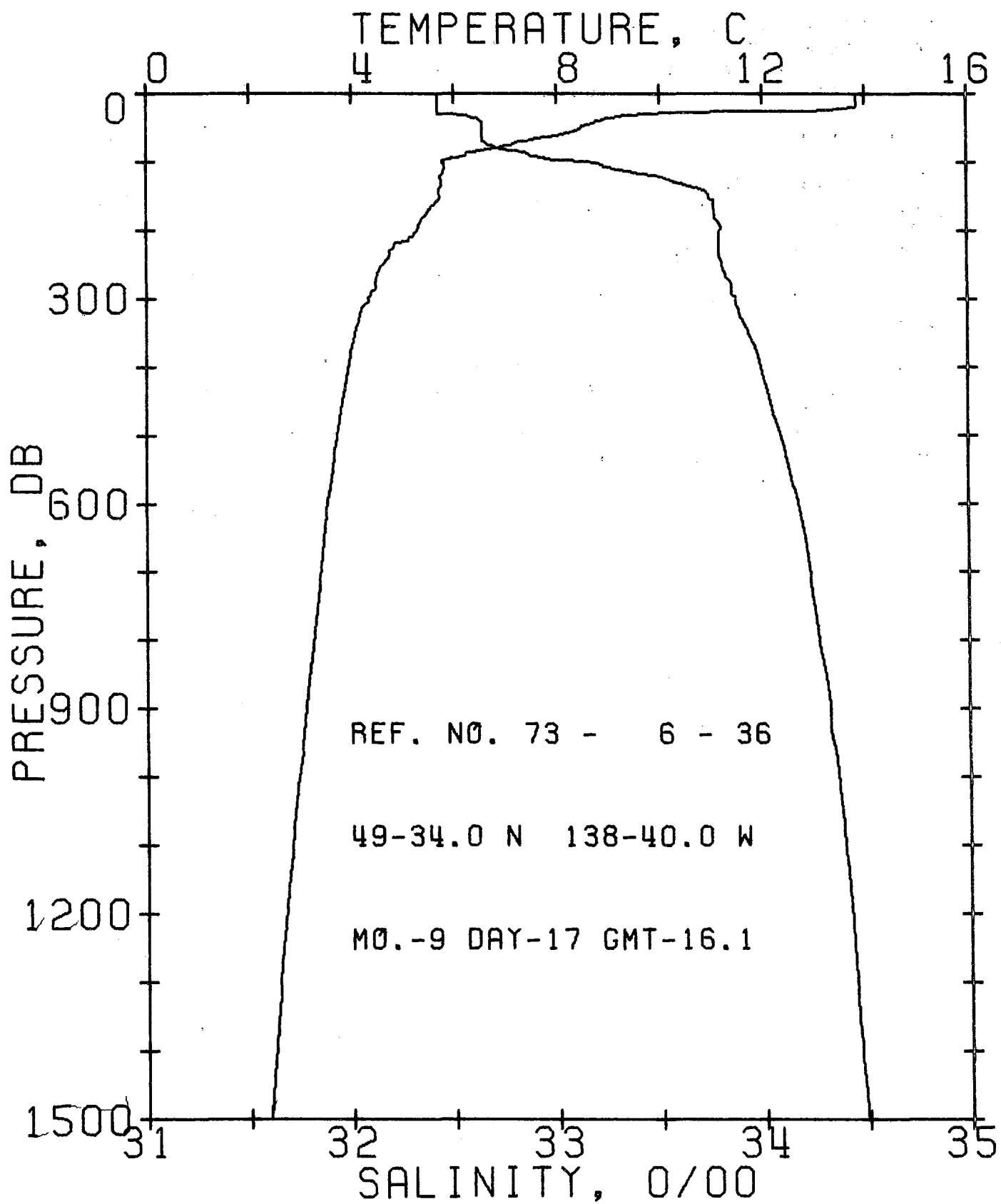
REFERENCE NO. 73- 6- 35

DATE 15/ 9/73

POSITION 50- 0.0N, 145- 0.0W GMT 19.0

RESULTS OF STP CAST 126 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	PCT. EN	SOUND
0	12.60	32.46	0	24.53	341.6	0.0	0.0	1496.
10	12.55	32.46	10	24.54	341.1	0.34	0.02	1496.
20	12.54	32.46	20	24.54	341.2	0.68	0.07	1496.
30	12.54	32.46	30	24.54	341.4	1.02	0.16	1497.
50	7.57	32.53	50	25.42	257.5	1.61	0.39	1479.
75	6.54	32.56	75	25.58	242.3	2.24	0.79	1475.
100	5.36	32.76	99	25.88	213.9	2.80	1.30	1471.
125	5.06	33.19	124	26.26	178.4	3.29	1.85	1471.
150	5.17	33.56	149	26.54	152.1	3.70	2.42	1472.
175	5.29	33.71	174	26.65	142.5	4.06	3.02	1473.
200	4.86	33.75	199	26.73	135.0	4.41	3.69	1472.
225	4.69	33.31	223	26.79	128.9	4.74	4.41	1472.
250	4.50	33.83	248	26.83	125.6	5.06	5.17	1471.



OFFSHORE OCEANOGRAPHY GROUP

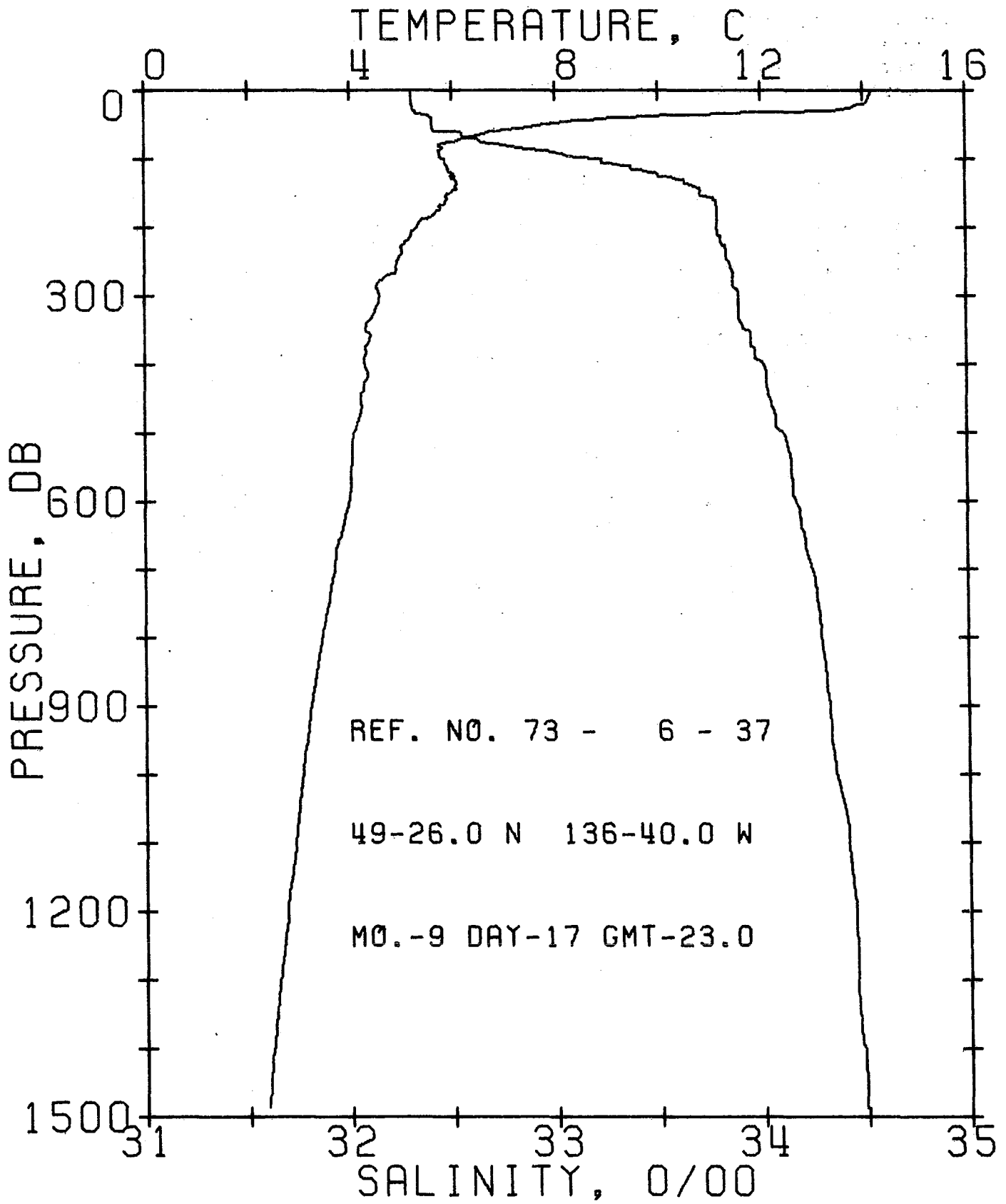
REFERENCE NO. 73- 6- 36

DATE 17/ 9/73

POSITION 49-34.0N, 138-40.0W GMT 16.1

RESULTS OF STP CAST 171 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. FN	SOUND
0	13.84	32.42	0	24.25	367.9	0.0	0.0	1500.
10	13.83	32.42	10	24.25	368.3	0.37	0.02	1501.
20	13.82	32.42	20	24.26	368.3	0.74	0.08	1501.
30	9.89	32.42	30	24.98	299.2	1.08	0.16	1487.
50	8.48	32.64	50	25.38	262.0	1.62	0.38	1483.
75	7.13	32.67	75	25.59	241.6	2.25	0.78	1478.
100	5.76	33.08	99	26.09	194.0	2.81	1.27	1473.
125	5.75	33.53	124	26.45	161.0	3.25	1.78	1474.
150	5.74	33.74	149	26.61	145.3	3.63	2.31	1475.
175	5.46	33.77	174	26.67	140.1	3.98	2.90	1474.
200	5.27	33.80	199	26.72	135.9	4.33	3.56	1474.
225	4.81	33.79	223	26.76	131.7	4.66	4.29	1472.
250	4.60	33.30	248	26.79	129.0	4.99	5.08	1472.
300	4.33	33.36	299	26.87	122.2	5.62	6.84	1472.
400	3.94	33.99	397	27.01	109.2	6.77	10.93	1472.
500	3.71	34.08	496	27.11	100.6	7.82	15.74	1473.
600	3.52	34.16	595	27.19	93.0	8.79	21.16	1474.
800	3.24	34.27	793	27.30	84.0	10.55	33.71	1476.
1000	2.95	34.35	990	27.40	75.5	12.14	48.25	1478.
1200	2.68	34.42	1188	27.47	69.1	13.58	64.40	1480.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 37

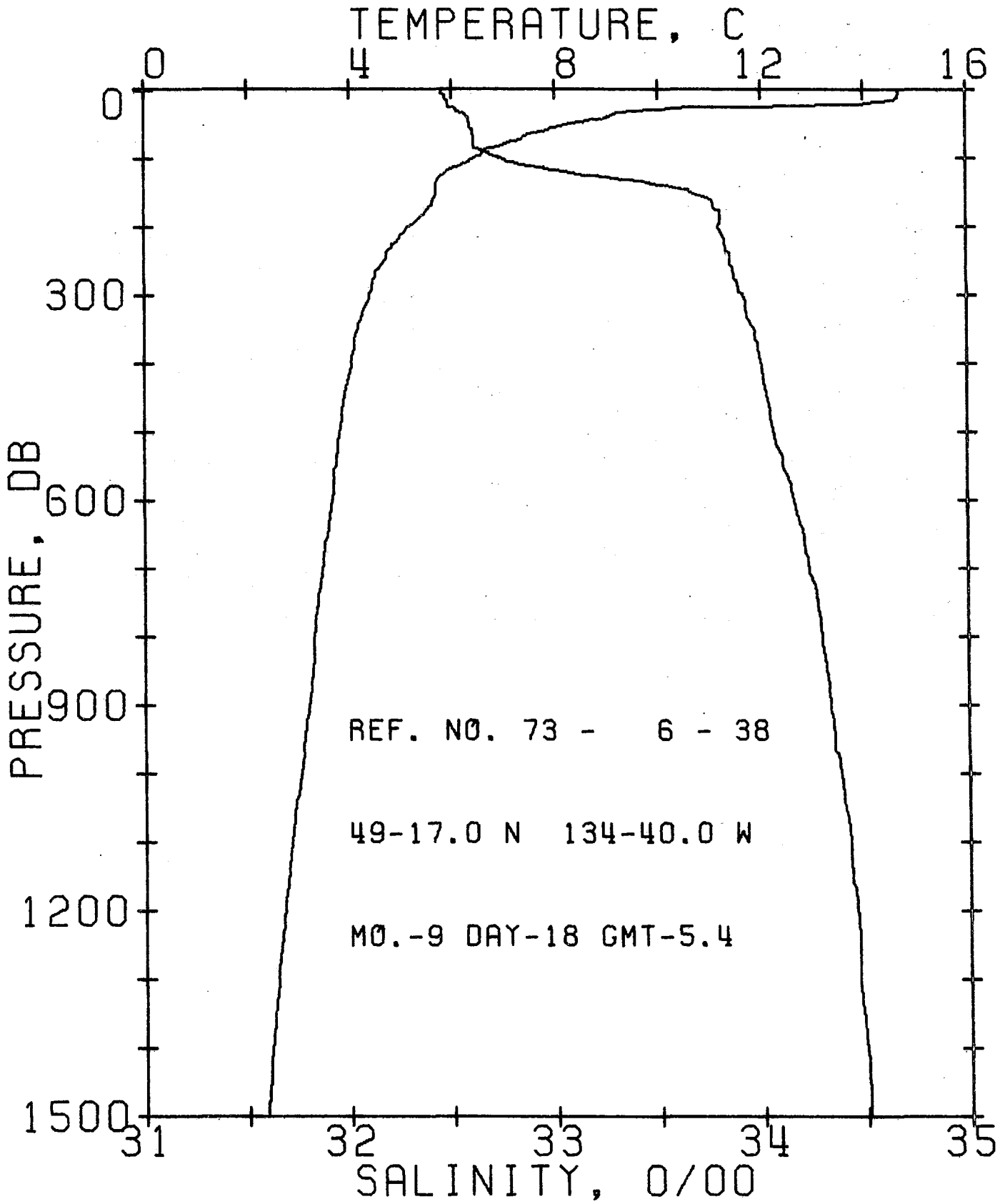
DATE 17/ 9/73

POSITION 49-26.0N, 136-40.0W

GMT 23.0

RESULTS OF STP CAST 238 PCINTS TAKEN FROM ANALOG TRACE

PRFSS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.15	32.30	0	24.10	382.8	0.0	0.0	1501.
10	14.10	32.30	10	24.11	382.3	0.38	0.02	1501.
20	14.03	32.30	20	24.12	381.2	0.76	0.08	1501.
30	13.36	32.32	30	24.27	366.9	1.14	0.17	1499.
50	7.82	32.40	50	25.28	270.5	1.75	0.42	1480.
75	6.05	32.64	75	25.71	230.4	2.37	0.81	1473.
100	5.81	33.19	99	26.17	186.6	2.89	1.27	1474.
125	5.49	33.50	124	26.39	165.9	3.33	1.78	1475.
150	5.97	33.70	149	26.55	151.1	3.72	2.32	1476.
175	5.75	33.79	174	26.65	142.0	4.08	2.92	1475.
200	5.30	33.79	199	26.70	137.2	4.43	3.59	1474.
225	5.04	33.81	223	26.75	132.8	4.77	4.32	1473.
250	4.92	33.84	248	26.79	129.4	5.10	5.11	1473.
300	4.59	33.89	298	26.87	122.6	5.72	6.87	1473.
400	4.28	34.00	397	26.99	111.5	6.90	11.07	1473.
500	4.06	34.10	496	27.09	103.0	7.99	16.04	1474.
600	3.95	34.16	595	27.15	97.9	8.99	21.65	1475.
800	3.43	34.28	793	27.30	84.7	10.80	34.50	1477.
1000	3.03	34.35	990	27.39	76.5	12.40	49.21	1478.
1200	2.72	34.44	1188	27.49	67.8	13.83	65.19	1480.



OFFSHORE OCEANOGRAPHY GROUP

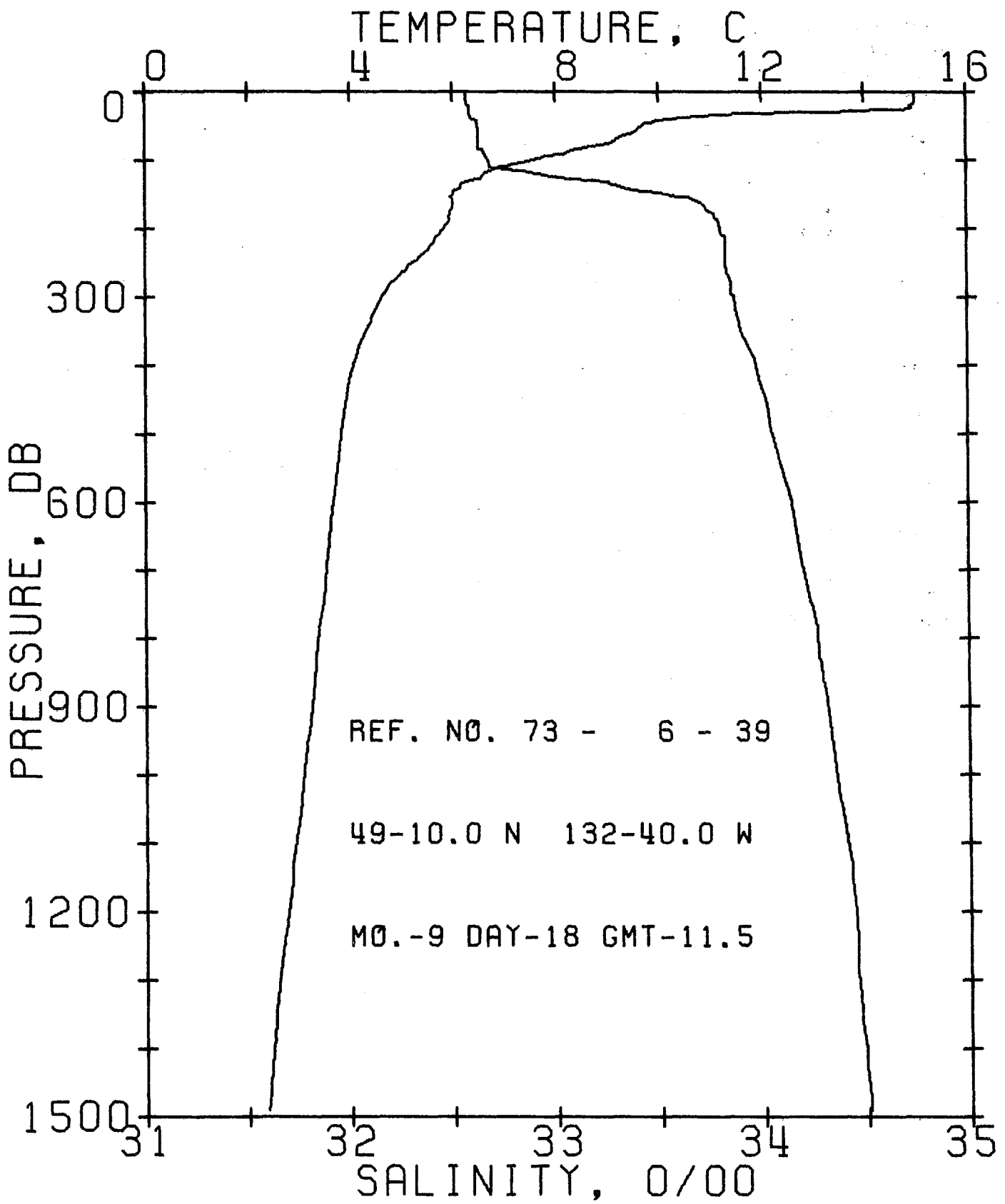
REFERENCE NO. 73- 6- 38

DATE 18/ 9/73

POSITION 49-17.0N, 134-40.0W GMT 5.4

RESULTS OF STP CAST 216 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.67	32.46	0	24.11	381.5	0.0	0.0	1503.
10	14.67	32.47	10	24.12	381.2	0.38	0.02	1503.
20	14.18	32.48	20	24.23	370.9	0.76	0.08	1502.
30	10.09	32.52	30	25.03	295.0	1.09	0.16	1488.
50	8.36	32.59	50	25.35	264.0	1.64	0.38	1482.
75	7.27	32.61	75	25.53	247.9	2.28	0.79	1478.
100	6.45	32.73	99	25.73	228.8	2.88	1.32	1476.
125	5.82	33.15	124	26.14	190.1	3.41	1.93	1474.
150	5.68	33.66	149	26.56	150.3	3.82	2.51	1474.
175	5.53	33.78	174	26.67	140.1	4.18	3.10	1474.
200	5.16	33.79	199	26.73	135.2	4.53	3.76	1473.
225	4.89	33.82	223	26.78	130.3	4.86	4.48	1473.
250	4.68	33.85	248	26.82	126.0	5.18	5.25	1472.
300	4.37	33.91	298	26.91	118.6	5.79	6.56	1472.
400	4.02	34.00	397	27.01	109.4	6.92	11.01	1472.
500	3.80	34.06	496	27.08	103.2	7.99	15.88	1473.
600	3.65	34.15	595	27.17	95.4	8.98	21.42	1474.
800	3.29	34.29	793	27.31	82.9	10.74	33.99	1476.
1000	3.01	34.37	990	27.41	74.6	12.33	48.47	1478.
1200	2.68	34.45	1188	27.50	66.7	13.73	64.21	1480.



OFFSHORE OCEANOGRAPHY GROUP

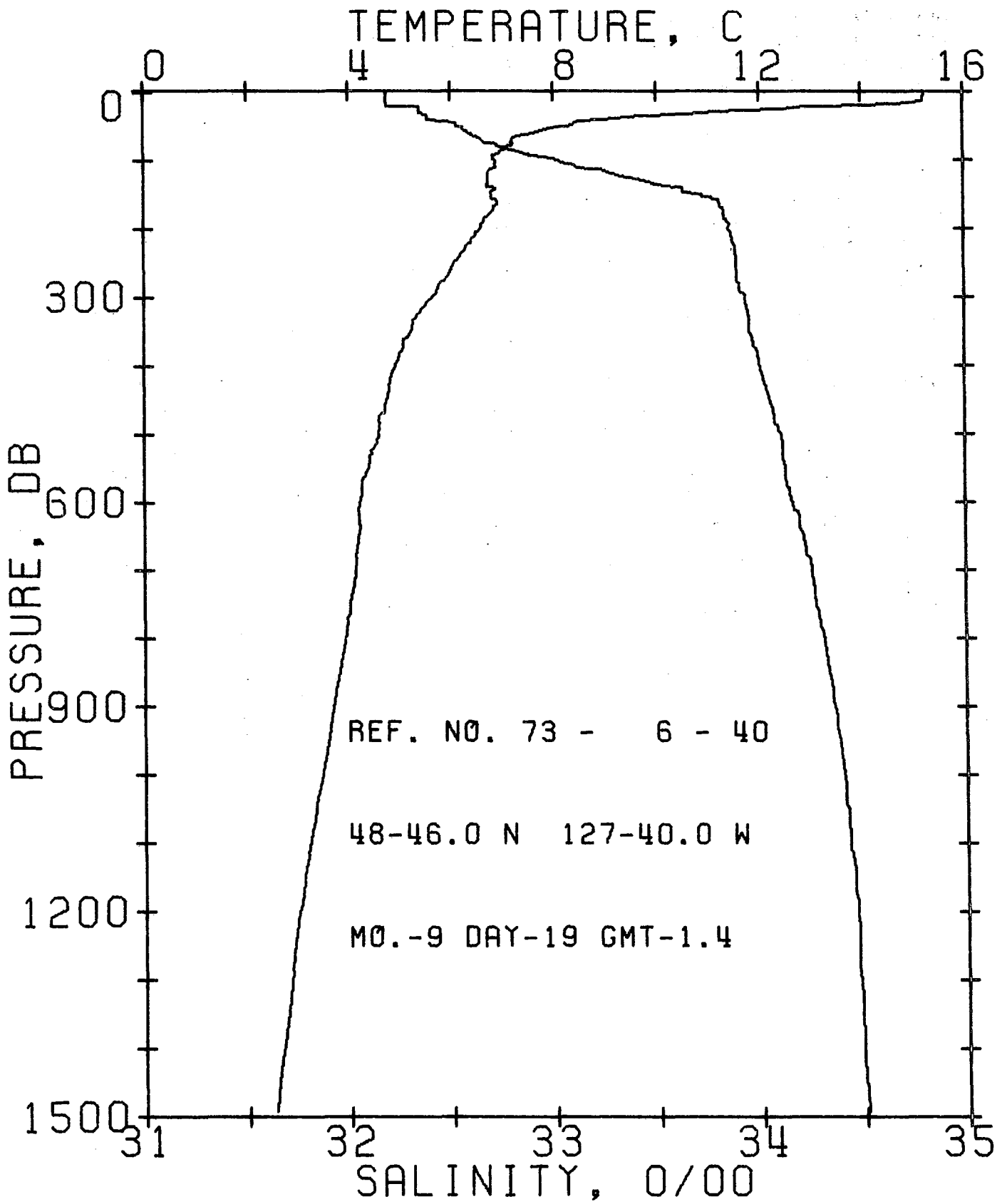
REFERENCE NO. 73- 6- 39

DATE 18/ 9/73

POSITION 49-10.0N, 132-40.0W GMT 11.5

RESULTS OF STP CAST 124 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.99	32.57	0	24.13	379.9	0.0	0.0	1504.
10	14.99	32.57	10	24.13	380.4	0.38	0.02	1505.
20	14.90	32.58	20	24.15	378.4	0.76	0.08	1504.
30	13.24	32.58	30	24.50	345.6	1.13	0.17	1499.
50	9.69	32.52	50	25.17	281.5	1.73	0.41	1487.
75	9.05	32.63	75	25.28	271.5	2.42	0.85	1485.
100	7.60	32.57	99	25.53	248.0	3.07	1.43	1480.
125	6.56	33.00	124	25.93	210.0	3.65	2.09	1477.
150	5.99	33.54	149	26.43	163.3	4.11	2.74	1476.
175	5.96	33.75	174	26.59	147.7	4.49	3.37	1476.
200	5.82	33.79	199	26.65	142.9	4.85	4.06	1476.
225	5.57	33.82	224	26.70	138.2	5.21	4.82	1475.
250	5.24	33.82	248	26.74	134.6	5.55	5.65	1474.
300	4.61	33.86	298	26.84	125.0	6.19	7.46	1473.
400	4.05	33.97	397	26.98	112.0	7.38	11.69	1472.
500	3.81	34.04	496	27.07	104.3	8.46	16.63	1473.
600	3.65	34.14	595	27.16	96.4	9.46	22.24	1474.
800	3.35	34.26	793	27.29	85.3	11.29	35.21	1476.
1000	3.07	34.35	991	27.39	76.8	12.91	50.06	1478.
1200	2.74	34.44	1188	27.48	68.2	14.35	66.22	1480.



OFFSHORE OCEANOGRAPHY GROUP

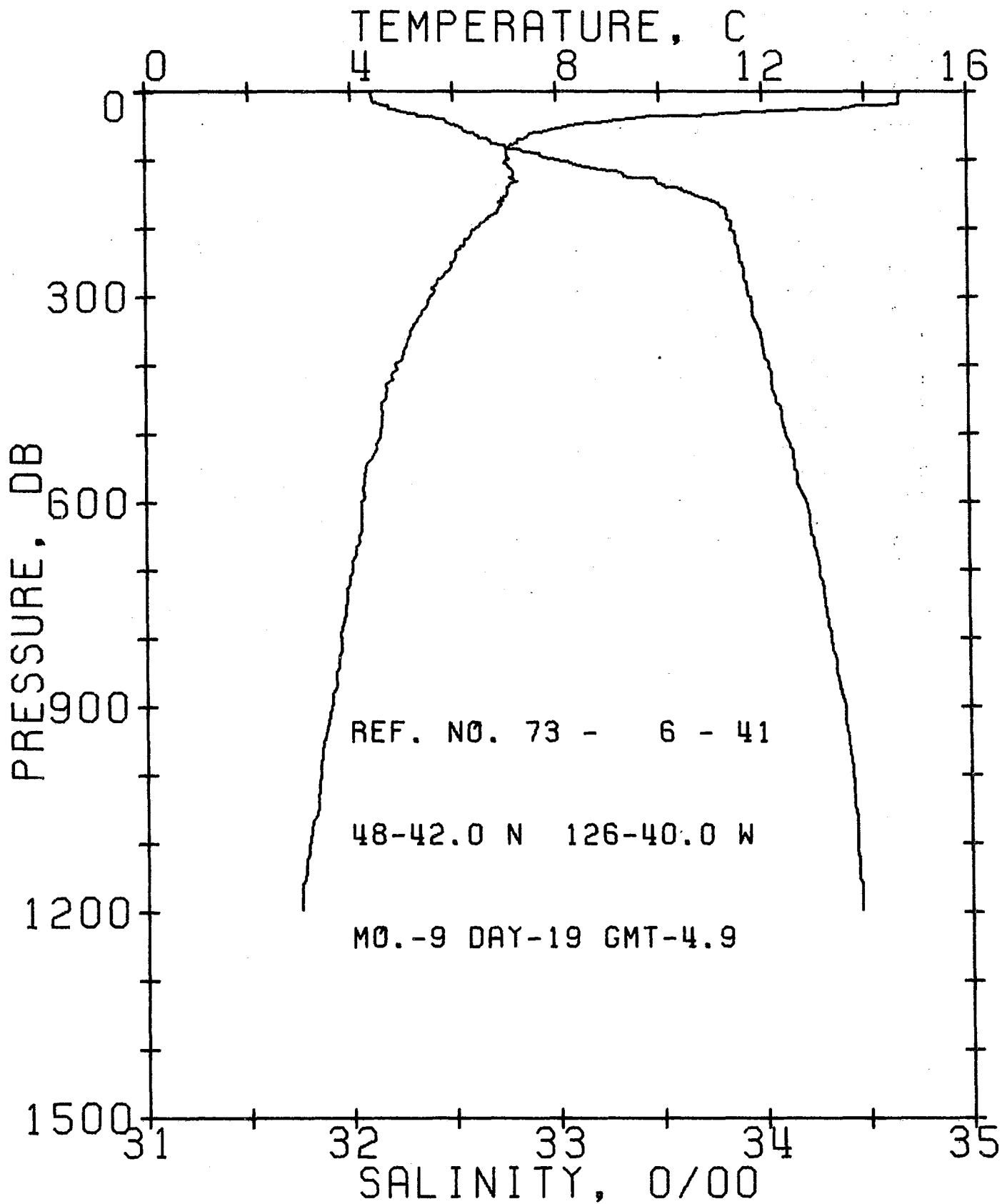
REFERENCE NO. 73- 6- 40

DATE 19/ 9/73

POSITION 48-46.0N, 127-40.0W GMT 1.4

RESULTS OF STP CAST 236 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	15.23	32.19	0	23.78	412.7	0.0	0.0	1505.
10	15.20	32.19	10	23.79	412.6	0.41	0.02	1505.
20	14.02	32.19	20	24.04	389.1	0.82	0.08	1501.
30	11.17	32.35	30	24.71	325.3	1.17	0.17	1492.
50	8.37	32.53	50	25.31	268.6	1.76	0.41	1482.
75	7.16	32.67	75	25.59	242.0	2.39	0.81	1478.
100	6.84	33.01	99	25.90	212.8	2.96	1.32	1477.
125	6.72	33.34	124	26.18	186.7	3.46	1.89	1478.
150	6.79	33.69	149	26.44	162.2	3.90	2.50	1479.
175	6.82	33.83	174	26.54	152.6	4.29	3.15	1480.
200	6.58	33.85	199	26.60	148.0	4.66	3.86	1479.
225	6.32	33.88	223	26.65	143.2	5.03	4.65	1479.
250	6.07	33.89	248	26.69	139.4	5.38	5.51	1478.
300	5.66	33.93	298	26.77	132.0	6.06	7.42	1477.
400	4.91	34.00	397	26.92	119.2	7.31	11.87	1476.
500	4.59	34.10	496	27.03	108.9	8.45	17.08	1476.
600	4.20	34.15	595	27.11	101.5	9.50	22.97	1476.
800	3.90	34.30	793	27.27	88.5	11.40	36.43	1479.
1000	3.43	34.40	991	27.39	77.4	13.05	51.57	1480.
1200	2.97	34.46	1188	27.48	69.1	14.51	67.93	1481.



OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 41

DATE 19/ 9/73

POSITION 48-42.0N, 126-40.0W GMT 4.9

RESULTS OF STP CAST 243 PCINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	14.71	32.10	0	23.83	408.7	0.0	0.0	1503.
10	14.66	32.10	10	23.84	407.9	0.41	0.02	1503.
20	14.31	32.15	20	23.95	397.7	0.81	0.08	1502.
30	12.09	32.24	30	24.46	349.1	1.19	0.18	1495.
50	8.37	32.51	50	25.29	269.7	1.79	0.42	1482.
75	7.25	32.69	75	25.59	241.6	2.42	0.82	1478.
100	7.08	33.00	99	25.86	216.7	2.99	1.33	1478.
125	7.12	33.34	124	26.12	191.9	3.50	1.91	1479.
150	7.07	33.66	149	26.38	168.0	3.94	2.53	1480.
175	6.86	33.82	174	26.53	153.7	4.34	3.19	1480.
200	6.45	33.84	199	26.61	146.9	4.71	3.90	1479.
225	6.18	33.88	223	26.67	141.2	5.07	4.68	1478.
250	5.97	33.89	248	26.70	138.2	5.42	5.52	1478.
300	5.51	33.94	298	26.80	129.4	6.09	7.40	1477.
400	4.86	34.03	397	26.95	116.1	7.32	11.79	1476.
500	4.56	34.11	496	27.04	107.9	8.44	16.91	1476.
600	4.20	34.20	595	27.15	97.8	9.47	22.64	1476.
800	3.78	34.32	793	27.29	85.8	11.30	35.67	1478.
1000	3.35	34.42	991	27.42	74.9	12.90	50.31	1480.

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 42

DATE 19/ 9/73

POSITION 48-38.0N, 126- 0.0W GMT 7.8

RESULTS OF STP CAST 52 PGINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	11.86	32.36	0	24.59	335.7	0.0	0.0	1494.
10	11.87	32.36	10	24.59	336.3	0.34	0.02	1494.
20	8.42	32.78	20	25.49	250.2	0.62	0.06	1482.
30	8.04	32.84	30	25.60	240.6	0.86	0.12	1481.
50	7.36	33.25	50	26.02	200.6	1.30	0.30	1479.
75	6.78	33.55	75	26.33	171.4	1.77	0.60	1477.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	11.86	32.36	44.	7.46	33.19
1.	11.80	32.36	44.	7.44	33.20
3.	11.85	32.36	45.	7.41	33.23
10.	11.87	32.36	51.	7.35	33.26
11.	11.17	32.36	53.	7.30	33.30
12.	10.45	32.37	55.	7.25	33.31
13.	10.19	32.50	58.	7.24	33.33
13.	9.94	32.51	59.	7.21	33.35
15.	9.40	32.55	62.	7.20	33.36
15.	9.30	32.57	62.	7.19	33.36
16.	9.11	32.61	64.	7.17	33.38
17.	9.05	32.62	66.	7.15	33.39
19.	8.66	32.67	66.	7.13	33.39
20.	8.42	32.78	69.	7.12	33.40
21.	8.20	32.80	71.	7.04	33.43
22.	8.13	32.83	73.	6.95	33.46
23.	8.09	32.83	73.	6.91	33.46
26.	8.07	32.84	75.	6.78	33.55
29.	8.07	32.84	76.	6.74	33.56
31.	8.02	32.84	80.	6.64	33.63
33.	7.84	32.91	81.	6.61	33.66
34.	7.83	32.91	82.	6.57	33.67
34.	7.83	32.94	83.	6.53	33.69
36.	7.76	32.99	86.	6.47	33.71
38.	7.72	33.02	88.	6.47	33.73
39.	7.59	33.12	89.	6.44	33.73

OFFSHORE OCEANOGRAPHY GROUP

REFERENCE NO. 73- 6- 43

DATE 19/ 9/73

POSITION 48-33.0N, 125-33.0W GMT 9.5

RESULTS OF STP CAST 42 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT. EN	SOUND
0	12.50	32.56	0	24.63	332.4	0.0	0.0	1496.
10	12.32	32.57	10	24.67	328.9	0.33	0.02	1496.
20	9.07	32.86	20	25.46	253.8	0.64	0.06	1485.
30	7.51	33.30	30	26.04	198.7	0.86	0.12	1479.
50	6.68	33.66	50	26.43	161.6	1.21	0.26	1477.
75	6.40	33.79	75	26.57	148.8	1.59	0.51	1476.

DEPTH	TEMP	SAL	DEPTH	TEMP	SAL
0.	12.50	32.56	26.	7.87	33.15
0.	12.31	32.56	29.	7.74	33.19
1.	12.45	32.56	29.	7.71	33.24
2.	12.03	32.56	31.	7.32	33.37
4.	12.04	32.57	32.	7.18	33.41
5.	11.89	32.57	33.	7.14	33.46
5.	11.65	32.57	37.	6.94	33.52
7.	12.09	32.57	38.	6.92	33.54
9.	12.37	32.57	44.	6.80	33.60
11.	12.28	32.57	46.	6.73	33.63
13.	12.38	32.57	47.	6.71	33.64
15.	12.38	32.57	49.	6.69	33.66
15.	12.38	32.58	50.	6.68	33.66
16.	11.42	32.58	57.	6.54	33.72
17.	11.62	32.59	58.	6.54	33.72
18.	10.30	32.64	68.	6.46	33.76
19.	9.80	32.69	70.	6.44	33.77
19.	9.39	32.83	78.	6.38	33.80
20.	9.07	32.86	80.	6.37	33.81
22.	8.69	32.96	88.	6.33	33.82
24.	8.34	33.08	90.	6.32	33.82

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SURFACE TEMPERATURE AND SALINITY OBSERVATIONS

(P-73-6)

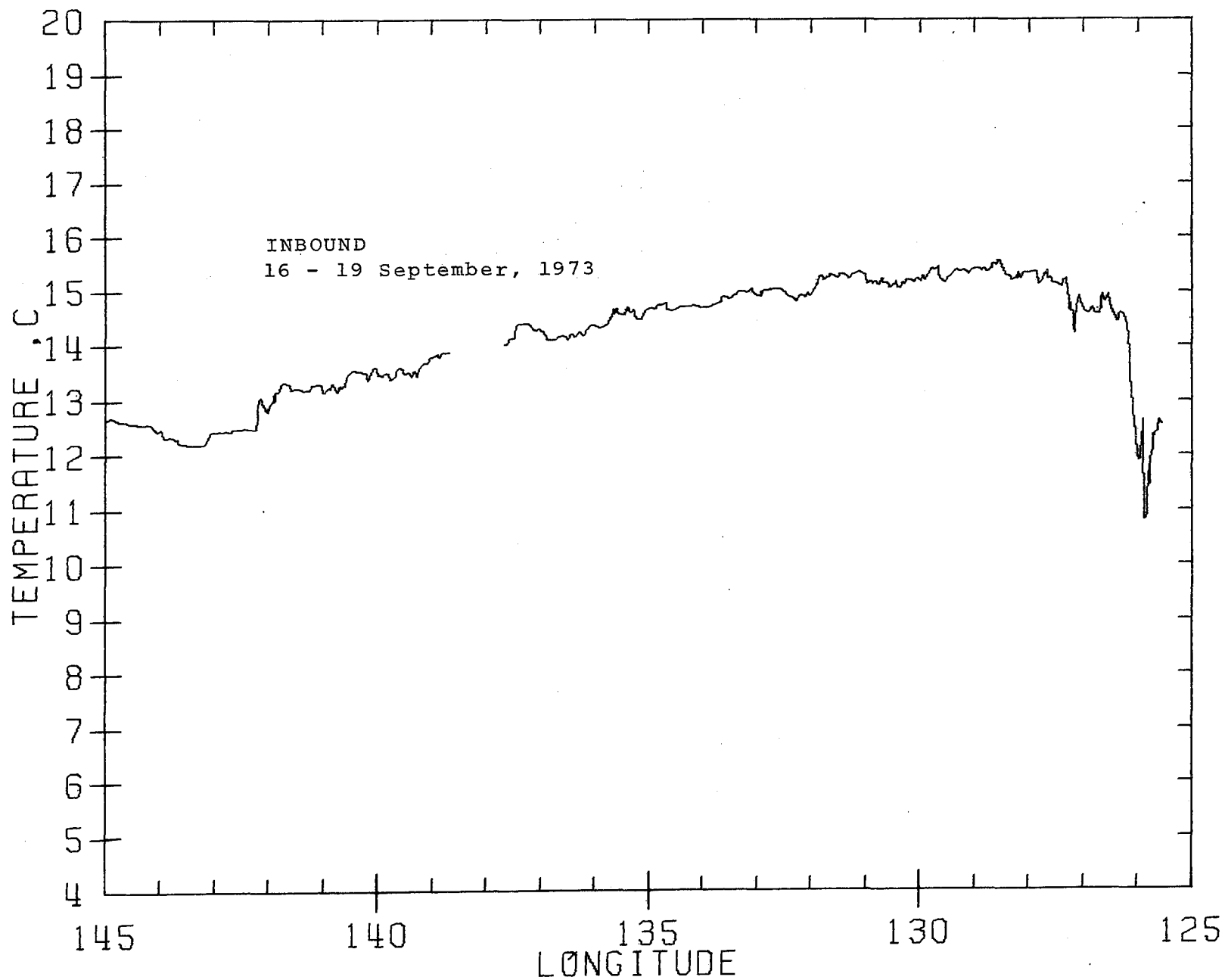


Figure 14 Surface temperature along Line P recorded from engine room intake. P-73-6.

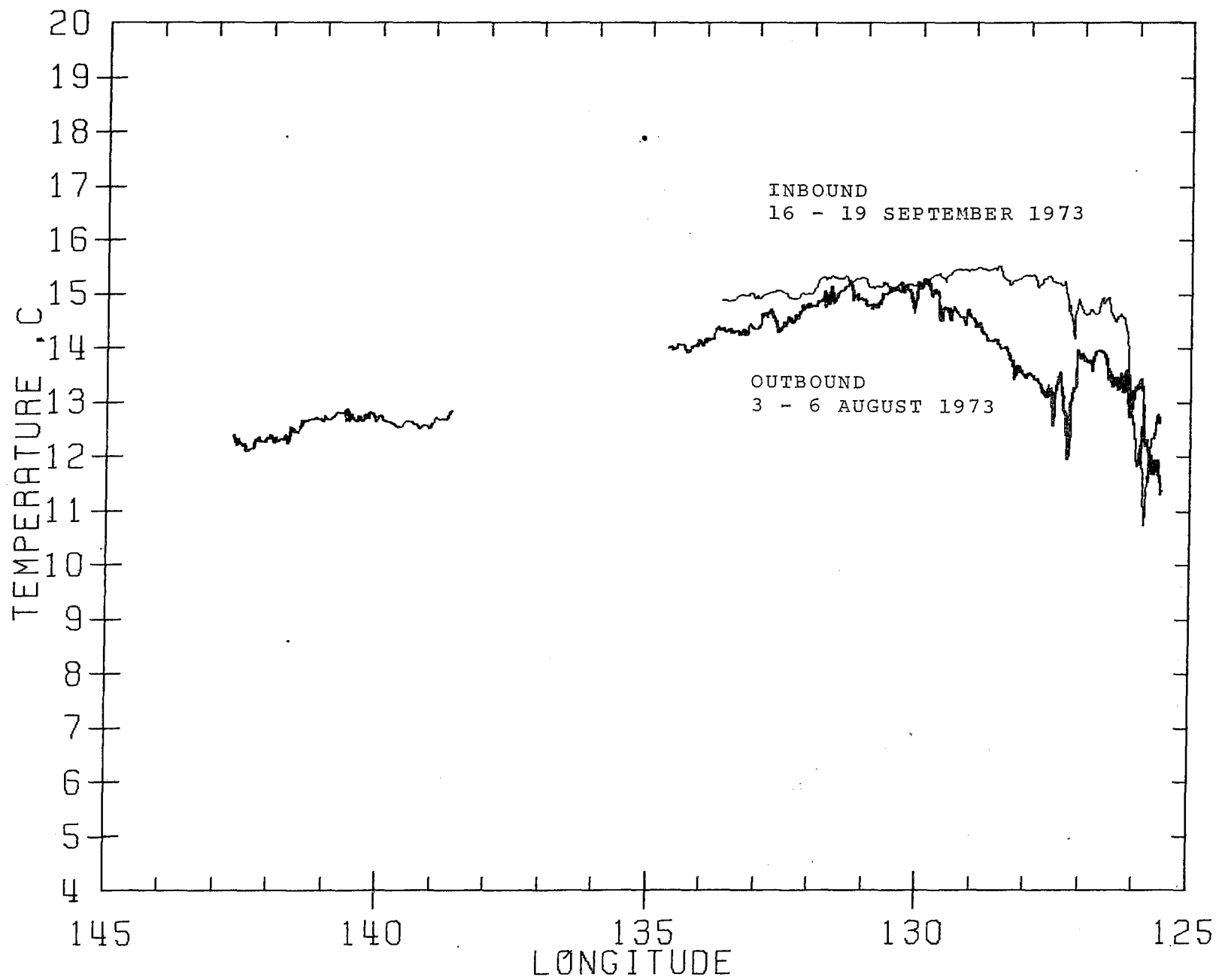


Figure 15 Surface temperature along Line P recorded from thermosalinograph. P-73-6.

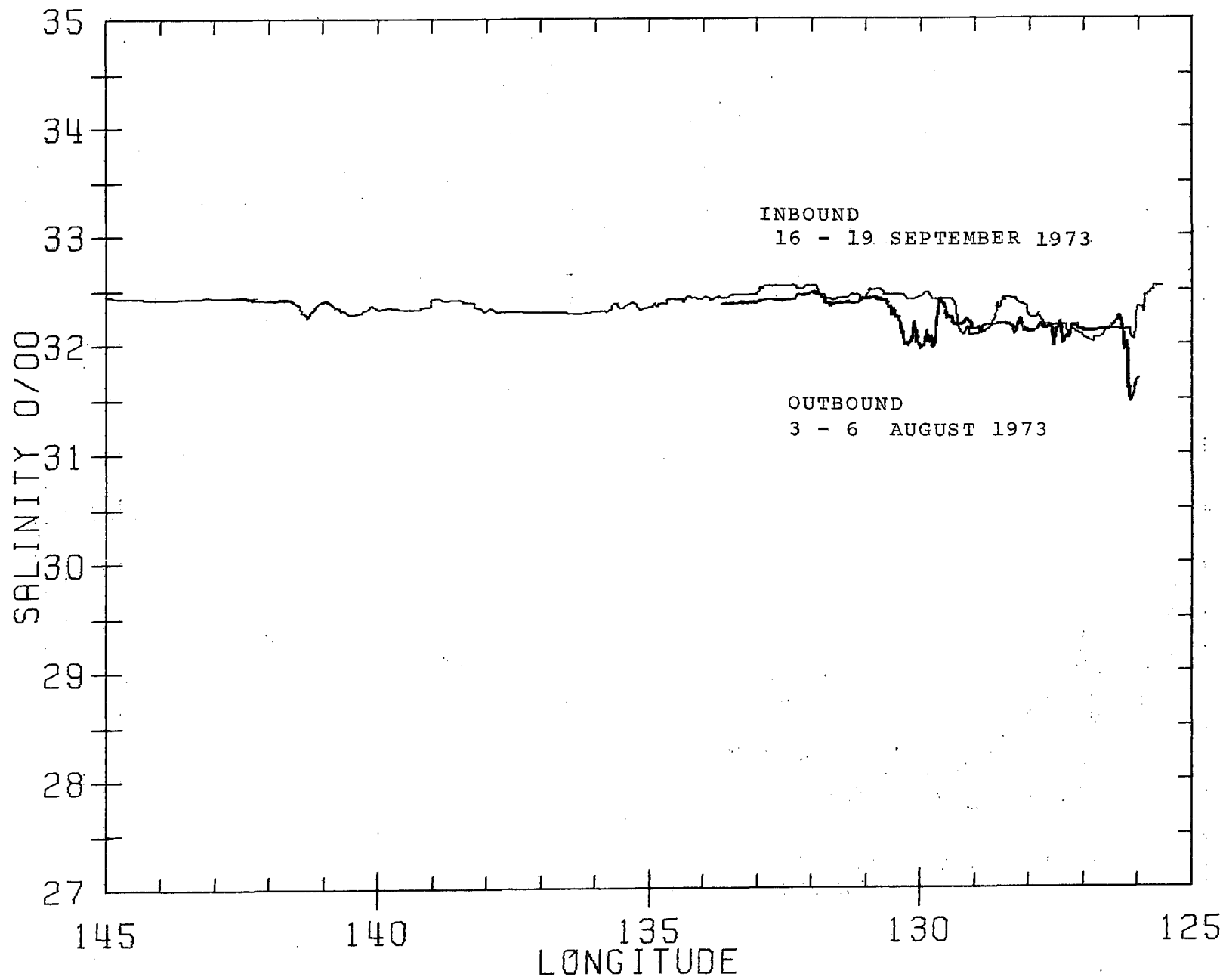


Figure 16 Surface salinity along Line P recorded from thermosalinograph. P-73-6.

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
CRUISE REFERENCE NUMBER 73- 6

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
73	8	3	2225	31.618	11.4	125-33
73	8	4	15	31.692	13.3	126- 0
73	8	4	300	32.117	14.0	126-40
73	8	4	610	32.162	13.2	127-40
73	8	4	1015	32.179	14.2	128-40
73	8	4	1345	32.427	15.0	129-40
73	8	4	1645	32.396	15.0	130-40
73	8	4	2030	32.363	15.0	131-40
73	8	4	2330	32.419	14.5	132-40
73	8	5	240	32.409	14.4	133-40
73	8	5	600	32.362	14.0	134-40
73	8	5	900	32.349	13.8	135-40
73	8	5	1532	32.379	13.0	137-40
73	8	5	1800	32.402	12.0	138-40
73	8	5	2100	32.461	12.5	139-40
73	8	6	35	32.407	12.8	140-40
73	8	6	440	32.415	12.4	141-40
73	8	6	735	32.451	12.3	142-40
73	8	6	1200	32.451	12.2	143-40
73	8	7	0	32.480	12.0	145- 0
73	8	8	0	32.471	12.1	ON STATION
73	8	9	0	32.477	12.1	ON STATION
73	8	10	0	32.456	12.3	ON STATION
73	8	11	0	32.464	12.4	ON STATION
73	8	12	0	32.457	12.3	ON STATION
73	8	13	0	32.466	12.4	ON STATION
73	8	14	0	32.467	12.4	ON STATION
73	8	15	0	32.480	12.5	ON STATION
73	8	16	0	32.474	12.7	ON STATION
73	8	17	0	32.471	12.5	ON STATION
73	8	18	0	32.479	12.7	ON STATION
73	8	19	0	32.482	12.6	ON STATION
73	8	20	3	24.731	25.0	ON STATION
73	8	21	0	32.474	12.5	ON STATION
73	8	22	0	32.470	12.6	ON STATION
73	8	23	0	32.452	12.5	ON STATION
73	8	24	0	32.471	12.6	ON STATION
73	8	25	0	32.460	12.6	ON STATION
73	8	26	0	32.461	12.7	ON STATION
73	8	27	0	32.460	12.5	ON STATION
73	8	28	0	32.463	13.0	ON STATION
73	8	29	0	32.467	12.8	ON STATION
73	8	30	0	32.466	12.7	ON STATION
73	8	31	0		12.7	ON STATION
73	9	1	0	32.468	12.7	ON STATION

SURFACE SALINITY AND TEMPERATURE OBSERVATIONS
 CRUISE REFERENCE NUMBER 73- 6

DATE/TIME				SALINITY	TEMP	LONGITUDE
YR	MO	DY	GMT	0/00	C	WEST
73	9	1	0	32.468	12.7	ON STATION
73	9	2	0	32.452	12.6	ON STATION
73	9	3	0	32.464	12.8	ON STATION
73	9	4	0	32.449	12.8	ON STATION
73	9	5	0	32.491	12.8	ON STATION
73	9	6	0	32.460	12.7	ON STATION
73	9	7	0	32.467	12.5	ON STATION
73	9	8	0	32.484	12.0	ON STATION
73	9	9	0	32.512	12.8	ON STATION
73	9	10	0	32.454	12.8	ON STATION
73	9	11	0	32.451	12.8	ON STATION
73	9	12	0	32.455	12.6	ON STATION
73	9	13	0	32.458	12.6	ON STATION
73	9	14	0	32.463	12.7	ON STATION
73	9	15	0	32.463	12.7	ON STATION
73	9	16	2330	32.424	12.4	143-40
73	9	17	355	32.440	12.5	142-40
73	9	17	745	32.387	13.4	141-40
73	9	17	1100	32.323	13.3	140-40
73	9	17	1320	32.324	13.6	139-40
73	9	17	1600	32.419	13.9	138-40
73	9	17	2000	32.313	14.0	137-40
73	9	17	2300	32.294	14.2	136-40
73	9	18	230	32.398	14.6	135-40
73	9	18	515	32.430	14.8	134-40
73	9	18	830	32.459	14.8	133-40
73	9	18	1115	32.558	15.0	132-40
73	9	18	1445	32.419	15.3	131-40
73	9	18	1720	32.486	15.1	130-40
73	9	18	1950	32.436	15.3	129-40
73	9	18	2230	32.232	15.5	128-40
73	9	19	152	32.180	15.3	127-40
73	9	19	450	32.098	14.8	126-40
73	9	19	750	32.358	12.0	126- 0
73	9	19	930	32.556	12.5	125-32