

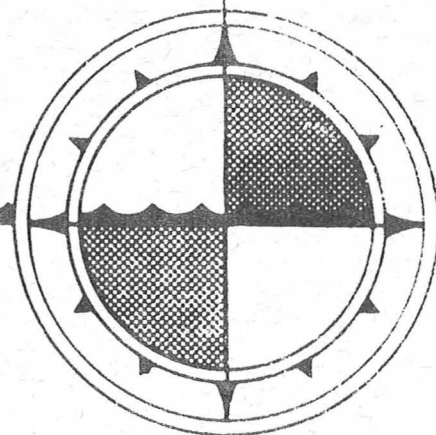
**OCEANOGRAPHIC OBSERVATIONS IN
BARROW STRAIT AND
WELLINGTON CHANNEL, N.W.T.**

APRIL 1973

by

R.H. Herlinveaux, D.B. Fissel and S.E.G. Wilson

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A B S T R A C T

Oceanographic measurements were obtained in Barrow Strait and Wellington Channel, N.W.T., in April, 1973 through a landfast ice-cover. Repeated vertical profiles of temperature and salinity at a fixed location showed little variation in the salinity structure but showed an intermittent temperature maximum and minimum. The temperature maximum and minimum had mean temperatures of -1.45°C and -1.59°C , respectively, with departures of approximately 0.2°C from ambient values. The near-bottom currents were weak, 20 cm/s or less, and exhibited a diurnal variation in direction but less regular changes in speed. In the upper 45 m, the current-speed generally increased with depth. The maximum observed current-speed was 44 cm/s at 45 m depth. The directions of the currents varied considerably from one level to another; differences of 40° or more, over 10 m in depth, were common. No systematic rotation of the current with depth was observed.

Acknowledgments

We wish to express our thanks to A. R. Milne* and other personnel of Defence Research Establishment Pacific who made this work possible and the Canadian Forces and their personnel who manned the helicopter. We thank Mr. F.G. Barber, Dr. R.E. Thomson and Dr. E.R. Walker for their comments on the manuscript.

* Now with Institute of Ocean Sciences, Patricia Bay.

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1. Introduction

With increasing activity in the Canadian Arctic Archipelago, a knowledge of environmental factors becomes more desirable. Towards this end an oceanographic program was carried out in Barrow Strait and Wellington Channel, N.W.T. in 1973. The program was divided into two phases: one for the measurement of water properties and ocean currents under a cover of land-fast ice in April, 1973, another for the measurement of water properties and ocean currents with little or no ice cover in August - September, 1973. In this report, the results of the first phase are presented while the results of the second phase, including seasonal comparisons between spring and summer observations, are found in a companion report (Herlinveaux et al, 1978), at present in the course of preparation.

2. Review

2.1 Bathymetry

Barrow Strait is a part of Parry Channel which connects the Beaufort Sea of the Arctic Ocean in the west to Baffin Bay in the east as shown in Figure 1. At the western end of Barrow Strait, between Bathurst Island and Prince of Wales Island, the exchange of water through Parry Channel is limited by a sill. Due to the irregular bathymetry within the sill region, the limiting sill depth remains somewhat uncertain because of incomplete surveys but is thought to be less than 130 m (see Figure 2). Barrow Strait deepens and acquires a more U-shaped vertical cross-section eastward towards Lancaster Sound.

A series of channels branches northward and southward. To the north are Wellington Channel and McDougall Sound while Prince Regent Inlet and Peel Sound adjoin the southern side of Barrow Strait. While the bathymetry in each of these adjoining water bodies is uncertain due to incomplete hydrographic surveys, the existing sparsely distributed soundings suggest that each has areas where the depths exceed those of Barrow Strait. However, for water to travel from either the Arctic Ocean or Baffin Bay into Barrow Strait through these channels, the effective sill depth in each case appears to be less than the 130 m sill depth of Barrow Strait.

Wellington Channel has a relatively deep basin with maximum recorded depths of 330 m being observed off the north end of Cornwallis Island. On the Barrow Strait end of Wellington Channel, a broad sill is found with a depth of approximately 140 m. At the north end of Wellington Channel, a shallower sill occurs but its depth is difficult to determine due to the lack of soundings. We estimate that the sill depth is probably less than 50 m although more complete surveys are needed to be certain.

2.2 Ice Cover

The seasonal pattern of ice growth and decay varies considerably both from one year to another and within different areas of Barrow Strait and Wellington Channel. Since the growth and decay of sea ice has an important influence on the heat and salt content of the ocean below, we shall examine ice climate patterns in some detail.

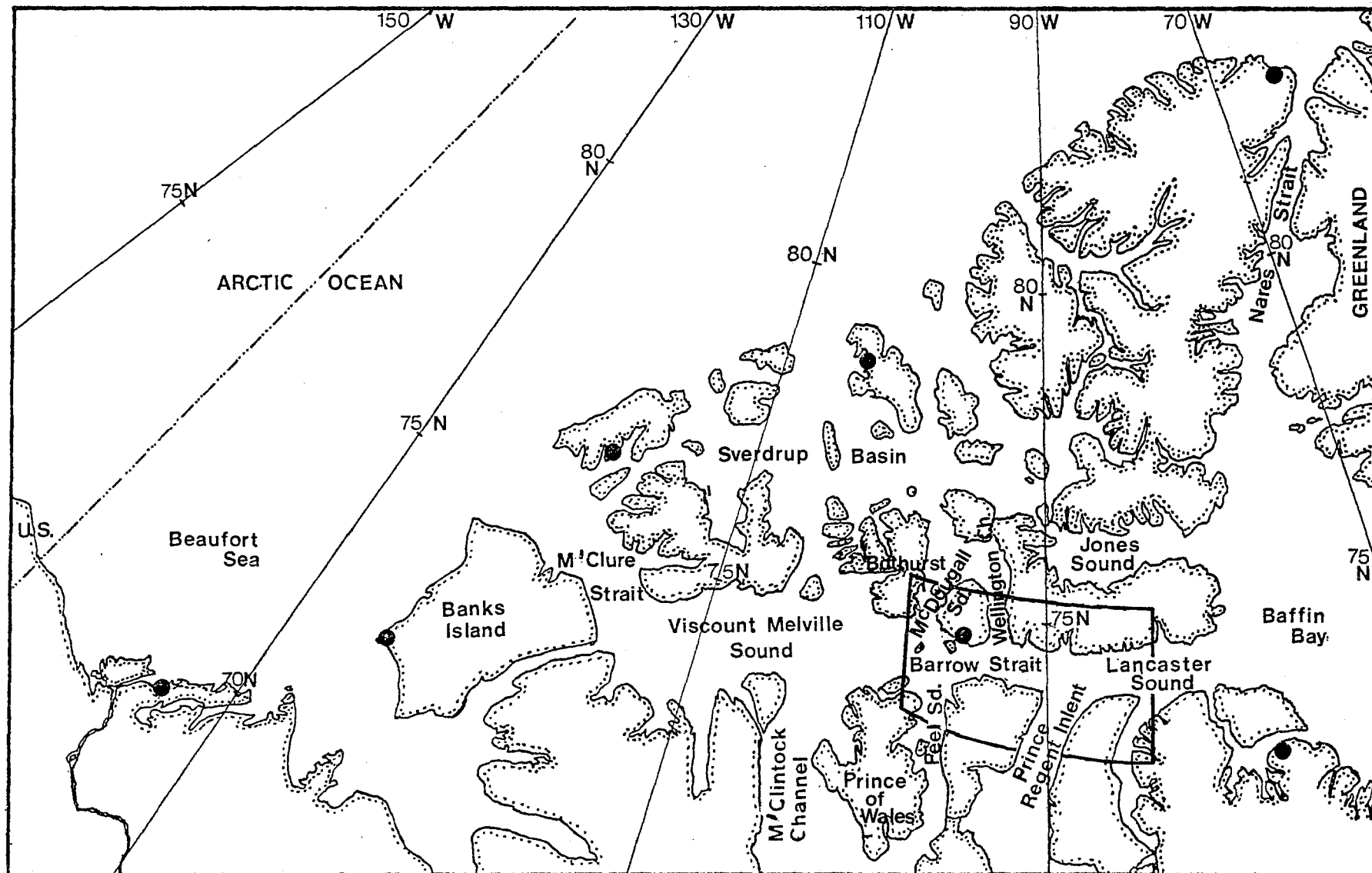


Figure 1: Map of Parry Channel in the Canadian Arctic Islands. The outlined area indicates the region in which oceanographic measurements were made.

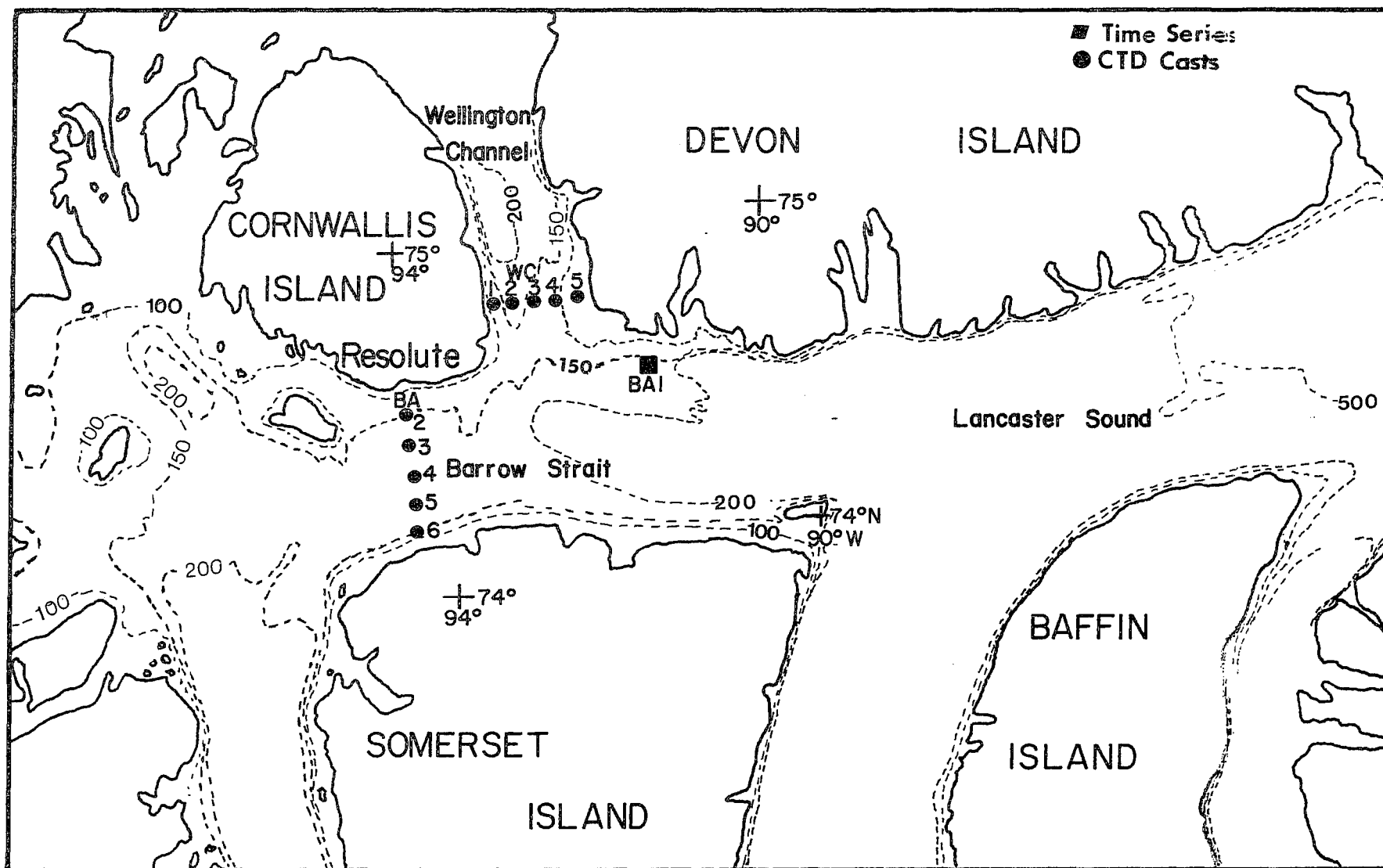


Figure 2: The location of oceanographic stations in Barrow Strait and Wellington Channel. The bathymetry is indicated by the 100, 150, 200 and 500 m depth contours.

Ice coverage data was collected for four locations using ship and air surveillance reports. The data was taken from Swithenbank's (1960) ice atlas compiled from reports up to and including 1958; from Lindsay's (1974) ice atlas compiled from 1960 to 1968 air surveillance flights; and from unpublished ice charts of Ice Central, Department of Fisheries and the Environment, Ottawa for the years 1970 to 1976 inclusive. The four sites chosen coincide with Stations 141, 161, 160 and 162 of Swithenbank (1960) which are located in the western, central, and eastern Barrow Strait and Wellington Channel, respectively (see Figure 3). At each station, the ice coverage data was collected for four reporting periods in each month, between mid-June and mid-November. As a result of these variations in both the length of the season between break-up and re-freezing as well as the ice coverage during the season, the number of ice-free days varies considerably through Barrow Strait and Wellington Channel. The average number of ice-free days (N) at each site between June 15 and November 15 was computed using the relation

$$N = 7.825 \sum_{i=1}^{19} P_i(0) + 0.7 P_i(1-5) + 0.35 P_i(5-8) + 0.1 P_i(8-10)$$

where N = no. of ice-free days

$P_i(n)$ = probability of n-tenths ice coverage for ith reporting period (each reporting period is one-quarter of a month).

The number of ice-free days was 78.2 in eastern Barrow Strait, 63.0 in central Barrow Strait, 50.5 in Wellington Channel and only 19.9 in western Barrow Strait over the period June 15 to November 15.

These results indicate that there is markedly less exposure of the water surface to solar insolation in western Barrow Strait than the central and eastern parts of Barrow Strait. Wellington Channel, though break-up and re-freezing occur at approximately the same time as western Barrow Strait, has 250% more ice-free days.

From these many years of observations, some consistent features emerge. The ice break-up occurs first in eastern Barrow Strait, with break-up occurring later as one proceeds to the west. An examination of satellite imagery indicates that break-up in eastern Barrow Strait can occur much earlier than elsewhere in the strait. An ice-edge often forms across Barrow Strait in the vicinity of Prince Leopold Island as early as April with fast ice to the west and little or no ice to the east (J. R. Marko, personal communication).

For the purposes of estimating the incident solar radiation at the water surface, and therefore the amount of local heating during the open water season, it is desirable to know the number of ice-free days at each site under consideration. This quantity depends not only on the length of time between break-up and re-freezing but on the extent of ice coverage during this period as well. Considerable variations are found among the four sites in this respect. During the period when the ice coverage is less than complete or ten-tenths, both eastern Barrow Strait and Wellington Channel are ice-free in most of the reporting years. In about one-half of the years surveyed,

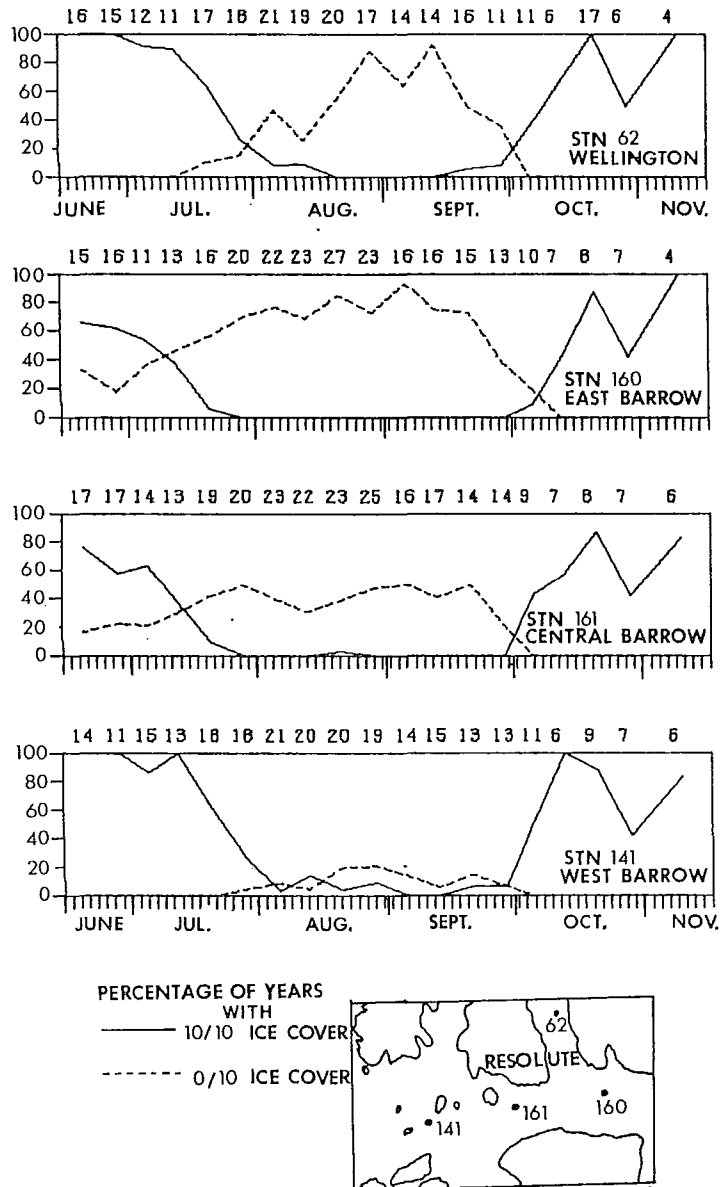


Figure 3: Percentage of years with no ice cover (dashed line) and solid ice cover (solid line) from mid-June to mid-November at four locations. The numbers above each plot are the number of years of observations for each plotted value.

Central Barrow Strait was ice-free (zero-tenths coverage) with the remainder of the years having reports of some ice (greater than zero-tenths and less than ten-tenths). In western Barrow Strait, the number of years which had zero-tenths ice coverage was less than 20% of the total number of years surveyed.

Important differences in ice coverage are found across the channels at the stations discussed above. The 1970-1976 Ice Central Charts show there was a distinct tendency for the ice to be more concentrated on the southern side than the northern side in Barrow Strait and more concentrated in the west side than the east side of Wellington Channel. However, a similar examination of the 1960-1968 ice charts by Lindsey indicated no pronounced differences in either Barrow Strait or Wellington Channel.

In 1972, the year preceding the observations, the ice free season was shorter than average throughout the study area. In western Barrow Strait and Wellington Channel, the ice did not begin to break up until between Aug. 9 and Aug. 16, some three weeks later than usual. Refreezing occurred throughout the area between Sept. 20 and Sept. 27 two to three weeks earlier than normal. As well, during the period between breakup and refreezing, western and central Barrow Strait were more congested with ice than usual.

The 1973 ice-free season was more typical than the short 1972 season. The ice was somewhat late in leaving central and eastern Barrow Strait as the entire region changed from complete ice cover to a partial ice cover between 18 July and 25 July. Through most of the 1973 season, the remaining ice was concentrated on the southern side of Barrow Strait. A complete ice cover did not re-form until after Oct. 17, resulting in an ice-free season that was approximately average in length, though late in starting and late in ending.

2.3 Surface Wind

Knowledge of the surface wind-field in Barrow Strait and Wellington Channel is derivable from the mean pressure distribution over the Arctic Islands and the measured surface winds at Resolute, N.W.T. Neither of these sources of information is entirely satisfactory. The distribution of mean sea level pressure indicates a general flow to the south in the winter months over the entire Arctic Islands. In summer months, the flow to the south persists but is less intense (Anon., 1970). Superimposed on the mean monthly pressure distributions are cyclonic and anti-cyclonic disturbances. These account for most of the fluctuations in the surface wind as measured at Resolute.

Wind statistics gathered over a 10 year period (Anon., 1975) at Resolute indicate that while winds can blow from any direction, winds from directions between the north and northwest and between south and southeast are more common (see Table 1). In most months the northerly winds are most frequent (October to June, inclusive), while the largest mean speeds are recorded in directions around east by southeast over most of the year.

The applicability of the measured winds at Resolute to Barrow Strait remains somewhat uncertain. The terrain around Resolute, gently

RESOLUTE (A), N.W.T.

PERIOD 1963-72	PÉRIODE												HEIGHT OF ANEMOMETER 40'	HAUTEUR DE L'ANÉMOMÈTRE
JAN JANV	FEB FÉV	MAR MARS	APR AVR	MAY MAI	JUN JUIN	JUL JUIL	AUG AOÛT	SEP SEPT	OCT OCT	NOV NOV	DEC DEC	YEAR ANNUEL		
PERCENTAGE FREQUENCY													FRÉQUENCE EN %	
N	8	9	8	7	9	10	6	8	18	11	9	8	9	N
NNE	5	4	3	4	6	6	5	4	8	5	5	3	5	NNE
NE	8	8	5	5	5	6	6	4	10	8	10	5	7	NE
ENE	3	3	4	3	3	2	4	2	3	4	5	3	3	ENE
E	5	5	5	6	5	4	6	9	6	6	9	6	6	E
ESE	8	10	10	10	7	7	6	11	6	9	8	9	8	ESE
SE	8	7	11	10	11	8	9	11	5	9	7	11	9	SE
SSE	3	2	4	6	5	4	7	7	2	3	2	4	4	SSE
S	3	3	3	3	4	3	4	5	4	3	3	4	4	S
SSW	1	1	1	1	3	1	1	1	2	3	1	2	1	SSW
SW	1	1	1	1	2	1	1	1	2	3	1	1	1	SW
WSW	*	1	1	1	2	2	3	2	1	3	1	1	1	WSW
W	3	3	2	3	3	8	11	6	3	5	2	3	4	W
WNW	3	5	4	4	5	9	8	8	3	2	2	3	5	WNW
NW	11	11	12	9	9	12	8	8	9	9	9	10	10	NW
NNW	15	15	12	12	13	13	9	8	15	12	12	15	13	NNW
Calm	15	12	14	15	8	4	6	5	3	5	14	13	10	Calm
AVERAGE WIND SPEED IN MILES PER HOUR													VITESSE MOYENNE DES VENTS EN MILES/HEURE	
N	14.0	16.7	13.5	11.9	14.6	14.9	16.0	14.1	16.6	13.4	10.0	11.9	14.0	N
NNE	31.0	25.0	20.7	15.7	19.9	16.2	16.6	17.6	17.8	21.2	16.4	19.0	19.8	NNE
NE	26.8	25.4	20.7	20.1	19.3	17.7	16.4	16.8	18.8	22.1	22.0	23.8	20.8	NE
ENE	20.2	19.9	20.1	16.9	15.8	16.9	18.1	16.3	17.2	18.6	16.2	19.2	18.0	ENE
E	19.5	21.9	23.5	24.2	19.5	18.5	23.9	25.6	21.9	20.9	24.5	24.5	22.4	E
ESE	15.4	19.5	22.0	22.1	20.0	22.6	18.6	21.9	18.7	21.5	18.9	16.5	19.8	ESE
SE	13.6	15.4	15.9	13.4	16.9	17.4	12.7	12.2	14.1	18.0	15.2	15.3	15.0	SE
SSE	14.2	12.2	13.1	12.5	12.6	11.2	9.5	10.1	12.3	14.0	12.0	13.9	12.3	SSE
S	13.3	12.8	14.5	12.1	13.1	9.6	7.6	9.2	13.7	13.5	13.3	16.1	12.4	S
SSW	13.4	12.9	16.4	11.5	12.6	11.0	9.0	11.1	14.3	13.5	14.1	13.6	12.8	SSW
SW	10.7	7.1	11.4	9.4	10.4	12.7	8.3	11.7	11.3	12.3	9.6	11.5	10.5	SW
WSW	7.9	9.3	8.6	11.2	9.9	9.9	10.2	12.3	12.7	13.5	9.2	11.9	10.6	WSW
W	8.8	8.3	8.5	8.8	7.9	9.3	9.6	10.0	11.0	12.8	7.7	9.3	9.3	W
WNW	9.5	8.3	9.3	9.1	8.2	11.2	8.7	10.4	12.6	10.2	8.4	10.3	9.7	WNW
NW	11.3	11.5	11.0	9.3	11.0	12.4	10.7	10.6	15.0	13.3	11.7	11.6	11.6	NW
NNW	12.6	13.9	12.0	10.5	12.9	13.8	16.2	13.9	16.0	14.2	11.0	12.0	13.3	NNW
All Directions													Toutes directions	
	13.5	14.1	13.4	12.3	13.5	13.8	12.6	14.0	15.9	15.6	13.1	13.0	13.7	
Maximum Observed Hourly Speed	88 k												Vitesse horaire maximale observée	
Maximum Observed Gust Speed	98												Vitesse maximale observée des rafales	
Probable Maximum Gust for Maximum Hourly Speed	119												Rafale maximale en rapport avec vitesse maximale des vents horaires	

Table 1: The frequency distribution of measured winds and the average measured wind speed at Resolute, N.W.T. [from Anon. (1975)].

rolling with a few hills of 60 to 200 m elevation, may result in some distortion to wind measurements as compared to the wind over the water of Barrow Strait. Danard (1977) has prepared a numerical model to predict winds in Barrow Strait based on rawinsonde winds from Resolute at 850 and 900 mb, the heights and temperatures at these levels from radiosonde data, and the surface temperature at Resolute. For one case only, the model indicates that the largest spatial differences with the Resolute wind are found northwest of Somerset Island, southeast of Resolute and south of Devon Island. The differences are of the order of 30 to 40 degrees in direction and 2 to 4 m/s in wind speed for a north by northwest wind of 8 m/s at Resolute. Clearly, further observations are required to test the model by directly observing spatial differences in the wind field.

2.4 Previous Oceanography

Over the past thirty years, a considerable amount of serial oceanographic data (temperature, salinities and, less often, dissolved oxygen and nutrient concentrations) have been collected in Barrow Strait. A summary of the oceanographic observations in Barrow Strait and Wellington Channel of which we are aware is listed in Table 2. The great bulk of this data has been collected during ice-free periods in the summer months. Prior to this study, the only previous data collected under conditions of fast ice cover was by Milne (1960) at one station in western Barrow Strait. An investigation is at present underway by the Ice Physics Group at McGill University which includes oceanographic data gathered in April, 1977 in Barrow Strait.

While a large number of summer observations has been collected, the amount of analysis of this data is rather scanty. Bailey (1957) and Collin (1962) have examined the data collected aboard the CCGS *Labrador* in 1954 and 1957, respectively. Barber and Huyer (1971) compiled an oceanographic atlas of the Canadian Arctic Archipelago based on 1961 and 1962 observations, while a heat budget of Barrow Strait was computed by Huyer and Barber (1970).

Our knowledge of currents in Barrow Strait and Wellington Channel is sketchy, at best, with no direct current measurements having been made prior to this study. According to the Pilot of Arctic Canada (Anon. 1968, Vol. III, p. 261), "The ebb stream sets to the eastward with flood setting in the opposite direction; as there is a general flow of water from west to east through Barrow Strait, the ebb tidal stream has the greater velocity, estimated to be as much as 3 knots" (155 cm/s). Bailey (1957) on the basis of geostrophic computations from the 1954 *Labrador* temperature and salinity data, found "no indication of any strong flow through the strait at the time". At the south end of Wellington Channel, he found the movement of water to be "predominantly southward . . . across the entire section and was strongest on the west side". Collin (1958) found a surface current of 0.2 knots (10.3 cm/s) eastward, with westward surface currents on each side of the strait. Smith (1965), using hydrographic data from the CSS *Baffin* in 1962, inferred currents of both eastward and westward direction which he related to tidal variation. In the central part of Barrow Strait, a net eastward current of 0.4 knots (20.6 cm/s) was estimated. Herlinveaux (1974) reported an easterly surface current in Barrow Strait 10 miles south of Resolute, based

Table 2. Listing of sources of oceanographic data taken in Barrow Strait and Lancaster Sound.

Year	Platform	Reference
1948	USS Eastwind	Metcalfe (1949)
1950	USS Edisto	H.O. Pub. 618-A (Anon., 1954)
1952	USS Edisto	H.O. Pub. 618-A (Anon., 1954)
1954	HMCS Labrador	Bailey (1957)
1956	CCGS Labrador	CODC (unpublished); Collin (1958)
1957	CCGS Labrador	CODC (unpublished); Collin (1962)
1959	Ice Camp	Milne (1960); Herlinveaux (1961)
1960	CCGS Labrador	CODC (1964); Barber (1977)
1961	CCGS Labrador	CODC (1966b)
	CCGS John A. MacDonald	CODC (1966b)
1962	CCGS John A. MacDonald	CODC (1966a)
	"small boat"	CODC (1963)
1962	CSS Baffin	Smith (1965)
1967	CCGS Labrador	CODC (1968)
1968	CCGS Labrador	Herlinveaux (1970)
1970	CSS Hudson	
1972	CCGS Louis S. St-Laurent	Herlinveaux and Wilson (1974)
1973	CCGS Louis S. St-Laurent	Codispoti and Owens (1975)
1973	Ice camp	This Study
1973	CCGS William Alexander	Herlinveaux et al (1977)
1977	Ice camp	Pounder ¹

¹ Personal communication

on ship drift observations, with a speed of approximately 0.6 knots (31.0 cm/s).

To summarize, previous observations of currents in Barrow Strait suggest a net eastward flow, though the currents may have a strong time dependence.

3. Observation Program

3.1 Ice Camp Measurements

From April 10 to April 27, 1973, a camp was established at 74°30'N, 91°21'W on the landfast ice over water 155 m deep, hereafter referred to as station BA1 (figure 2) and used as a site for oceanographic measurements. The equipment for the ice camp was slung out to the site by a Canadian Forces helicopter. One octagon shaped shelter was erected primarily as an oceanographic and diving facility over a 2.5 m diameter hole blasted in the 2 m thick sea ice. Two winches, used for lowering the CTD (Conductivity, Temperature and Depth Recorder) and current meter probes, were set up within this shelter. The winches were powered by a Briggs and Stratton engine through a specially built hydraulic drive unit (designed by Mr. J. Wilson, Defence Research Establishment Pacific, (DREP), Department of National Defence, Esquimalt, B.C.).

3.1.1 Current Profiles at the Camp

From April 15 to April 19, 1973 inclusive, a total of 27 current profiles measurements was made over the upper 45 m of the water column. Due to a lack of manpower, the sampling times of the current profiles were distributed irregularly over the 5 day period, as illustrated in Figure 4. The profiling current meter had to be modified since the horizontal component of the earth's magnetic field is too small in this area to be effective for a magnetic compass. A Hydro Products Savonius rotor meter normally used with a magnetic compass was locked into position relative to the current meter body. The meter was then attached to a length of torsionally-rigid hydraulic hose and lowered and raised with the direction determined from the hydraulic hose orientation at the surface. The current meter depth was determined from the length of electrical cable payed out and corrected for the wire angle at the surface. At each depth the current meter was suspended at a fixed depth, either 3 m or 45 m, for several hours and the currents recorded.

3.1.2 CTD Profiles and Bottle Casts at the Ice Camp

A total of 24 CTD casts were made at the ice camp from April 18 to April 21, 1973 inclusive. As a check on the CTD casts, two Fjarlie reversing water bottles were used at various depths between 2314 April 20 and 0050 April 21 G.M.T. Reversing thermometers attached to each bottle measured the in situ water temperature while the water samples were collected and later analysed to determine the salinity. These water samples also were analysed for the silicate (SiO_3), nitrate (NO_3) and phosphate content (PO_4).

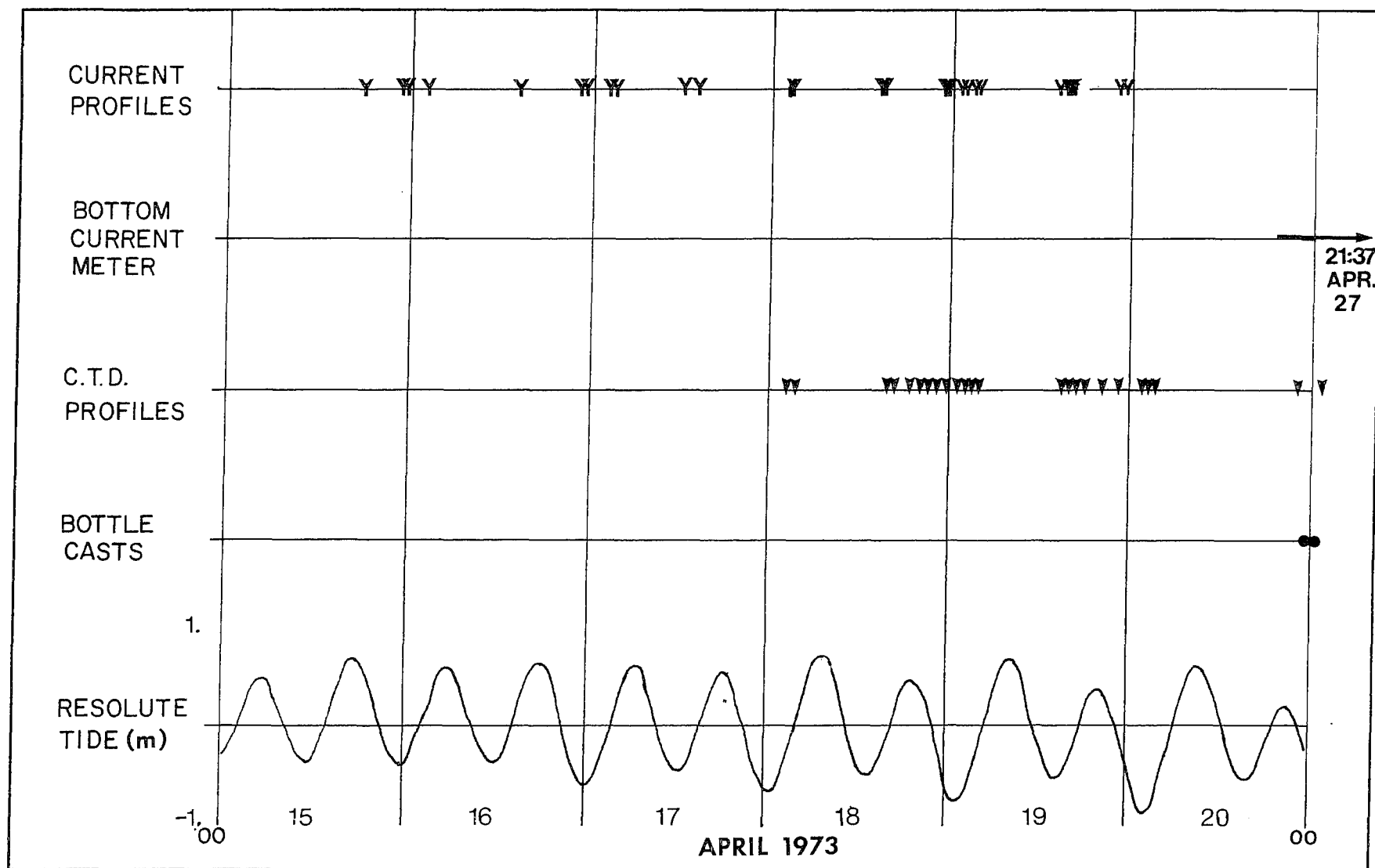


Figure 4: Schematic diagram of the observation times of current profiles, CTD profiles, bottle casts and the bottom current meter. Also shown is the measured tide at Resolute.

3.1.3 Current Meter Measurements at the Ice Camp

An Aanderaa RCM-4 current meter was deployed from the Ice Camp to measure the currents near the bottom. The current meter, located on a rigid bottom mount 2 m above the bottom, was free to rotate with the current, relative to the bottom mount. An artificial horizontal magnetic field, obtained from a rigidly mounted permanent magnet beneath the meter, provided a stable reference for the current meter compass. The bottom mount, in turn, was attached to a trolley used for placing the meter assembly on the bottom. The whole assembly was lowered to the bottom on the trolley which rode on a nylon rope strung between two holes in the ice, 33 m apart, oriented on a line north and south, thereby keeping the trolley on a north-south heading. The rope was strung under the ice between the two holes by shooting a "kite-dart", with a monofilament nylon line attached, from beneath one hole to a target suspended from beneath the other ice hole. The current meter was installed on April 20 and recovered April 27. Unfortunately the timing mechanism failed and as a result the meter sampled erratically at a faster rate than expected. Part of the data record was used, covering the period 0048 GMT Apr. 22 to 20:38 GMT Apr. 27, as described in section 3.3.

The currents 3 m below the bottom of the ice were measured with a Braincon recording current meter. Unfortunately, the film recordings were over-developed by a commercial film processor and the results were lost.

3.2 CTD Profiles across Barrow Strait and Wellington Channel

Working from a Canadian Forces helicopter, five CTD casts were made across Barrow Strait (Station BA2 to BA6 in Figure 1), and another 5 CTD casts were taken across Wellington Channel (Stations WC2 to WC5). The first three CTD casts in Barrow Strait were made on April 22 and completed on April 23. All five Wellington Channel casts were also carried out on April 23.

The helicopter, a Bell 211, is capable of carrying a payload of 2500 lbs including the pilot, co-pilot and flight engineer. The CTD and winch were mounted in the helicopter with the winch placed just inside the door. The 110v AC generator, hydraulic drive unit, boom, block, ice drill, drill motor and shovel were all loaded into the helicopter from its opposite door. Two people operated the CTD and drilled the ice holes, assisted by two members of the helicopter's crew. The procedure was to land the helicopter on the ice - preferably one year ice - take out the AC generator, start the generator and then supply power to heat the CTD sea unit to its operating temperature. The ice hole was drilled and the block assembled on the boom over the ice hole. When the CTD sea unit reached its operating temperature, it was removed from its tank of fresh water where it is normally stored. The sea unit was put in the ice hole and moved up and down by hand until most of the ice was flushed from the hole. The unit was then lowered by gravity to near the bottom and the data was recorded on an X-Y-Y chart recorder in the helicopter. The hydraulic power unit was started up, the hydraulic motor attached to the CTD winch, and the sea unit was hauled up. Finally, the helicopter was reloaded and flown to the next site. During this interval, one of the helicopter's turbines was left running because of starter battery problems, the only effect being that it was somewhat cooler working beneath the rotating blades. As a result, fuel consumption was

excessive which could limit range in other such programs. The time interval between landing at one site and landing at the next site five miles or 8 kilometers away was twenty-five minutes.

3.3 Instruments and Data Processing

3.3.1 CTD and Bottle Casts

The CTD unit consisted of a Guildline 8101 Arctic probe together with a model 8202 deck unit. The data was recorded as analog traces on a two pen drum chart recorder, with the drum being driven by the pressure output signal from the CTD probe. The conductivity signal is proportional to the conductivity of water at the measured depth and temperature, less the conductivity of a sea water sample with a salinity of 33‰, at atmospheric pressure and at the in-situ temperature. According to the manufacturer the instrument is accurate to $\pm 0.2\%$ full scale pressure equivalent to ± 1.4 m depth, the temperature is accurate to ± 0.02 °C and the equivalent accuracy of the conductivity output, in terms of salinity is ± 0.04 ‰. The corresponding accuracy of the bottle cast data is 0.01 °C in temperature and ± 0.01 ‰ in salinity.

The digitized chart records were transferred to computer magnetic tape. Using the CTD profiles (Figure 5) taken immediately before and after the bottle casts, the bottle cast temperatures were fitted to the CTD temperatures at depths where the vertical temperature gradients were small (depths of 10, 20, 30, 150 m). Suitable weights were applied to reflect the elapsed time (up to 2½ hours) between bottle cast and CTD data at each depth. The resulting least squares fit is:

$$T_{\text{bot}} = 1.123 \cdot T_{\text{CTD}} + 0.212 \quad (1)$$

with a root mean square of 0.027°C.

The Guildline 8101 CTD measures a relative conductivity (ΔC) rather than an absolute conductivity (C). The conductivity output from the CTD was fitted to the conductivity of the seawater less the conductivity of a sea water sample of 33‰ salinity at 0.0 decibars (dbar) pressure and the in-situ temperature, i.e.

$$(\Delta C)_{\text{CTD}} = C(S, T, p) - C(33.0\text{‰}, T, 0.0 \text{ dbar}) \quad (2)$$

where S is the in-situ salinity
T is the in-situ temperature and
P is the in-situ pressure.

The conductivity difference (ΔC) computed from the bottle cast temperature, salinity and depth data was fitted to the conductivity difference measured by the CTD at depths of 0, 10, 75, 100, 125 and 150 m. The resulting least squares fit is

$$(\Delta C)_{\text{bot}} = 1.120 \cdot (\Delta C)_{\text{CTD}} + 0.245 \quad (3)$$

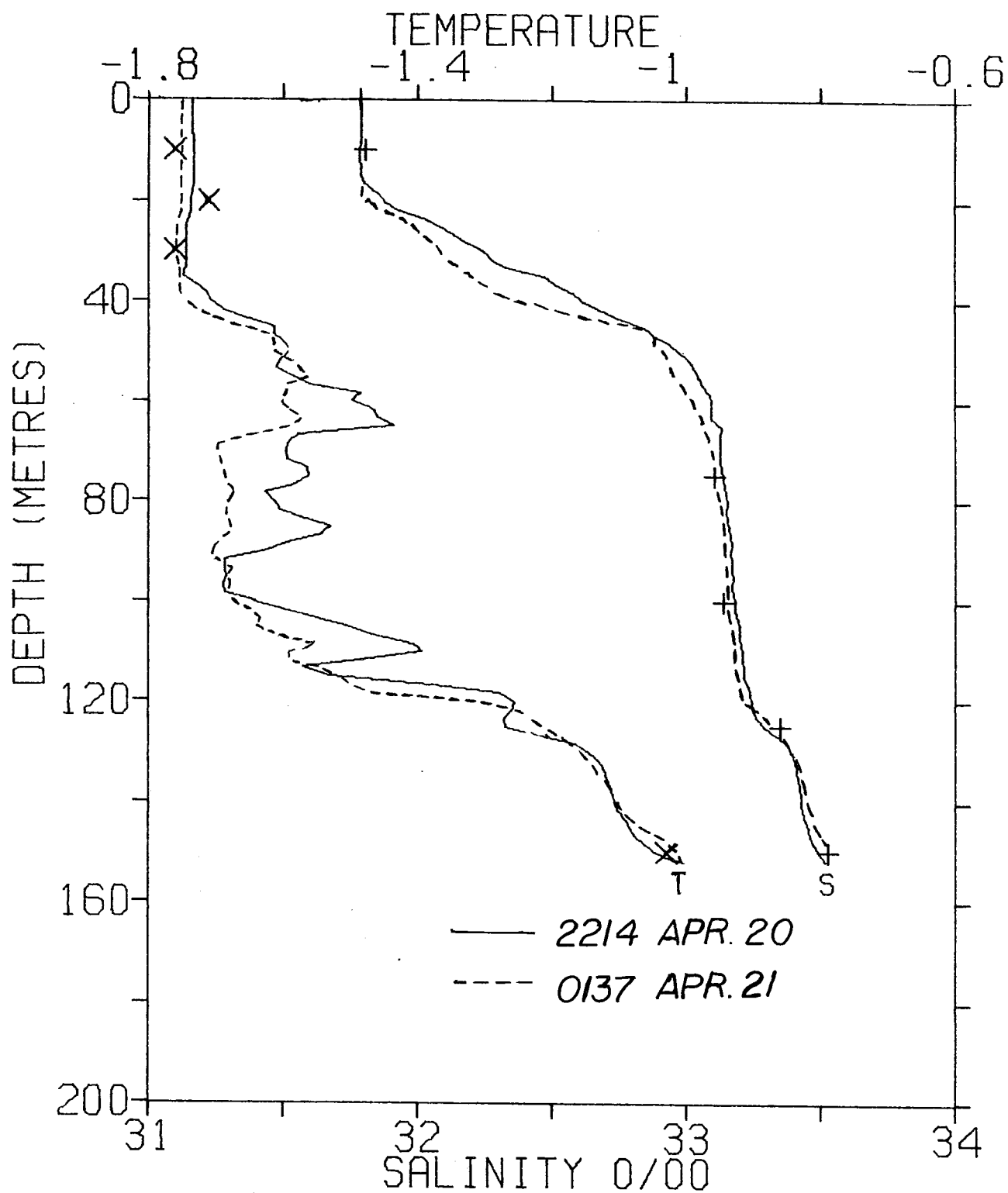


Figure 5: Measurements of temperature and salinity from the bottle cast (plotted symbols) together with the CTD salinity and temperature profiles before (solid line) and after (dashed line) the bottle cast.

where ΔC is in mmho/cm. The root mean square error in the fit was 0.018 mmho/cm. The results of the least squares fits (1) and (3) were then applied as corrections to all of the CTD data. From the conductivity, temperature and pressure readings, the salinity was computed using the Perkin-Walker algorithm (Perkin and Walker, 1972).

All of the digitized salinity, temperature and pressure data is presented in Appendix 1, at the digitization interval of 1.67 m. At each depth, the specific gravity anomaly (SIGMA-T or σ_t) was also computed using Knudsen's formula as quoted by Fofonoff (1962). In addition, at standard depths only, some derived quantities computed from the salinity, temperature and pressure data are presented in Appendix 1. These are:

- SVA - Specific volume anomaly computed using Formulae (25) and (26) in Fofonoff (1962)
- DEPTH - computed from the SVA values assuming that the water column is hydrostatic
- DELTA D - geopotential anomaly in J/kg
- POT EN - potential energy in units of 10^8 ergs/cm
- SOUND VEL - speed of sound in water computed using formula of Wilson (1960)

The amounts of silicate (SiO_3), nitrate (NO_3) and phosphate (PO_4) in the water samples collected with the bottle casts are listed in Table 3. The Ocean Chemistry Group of the Institute of Ocean Sciences, Patricia Bay, carried out the chemical analysis. The nitrate and phosphate measurements were made on an Auto-analyzer while the silicate content was manually determined following the method described by Strickland and Parsons (1965). The phosphate results may be subject to question as the samples were stored in polythene bottles which tend to absorb or desorb phosphates at the wall of the container (Strickland and Parsons 1965).

3.3.2 Current Profiles

The Hydro Products Savonius rotor current meter used for the current profiles has a speed accuracy of ± 1.5 cm/s according to the manufacturer. Because the Savonius rotor has a threshold speed of 2.6 cm/s, recorded speeds below this value are unreliable and therefore set to zero. The direction data was corrected to degrees clockwise from the true north after allowing for the reference direction of the hydraulic hose. These current data were then key-punched onto computer cards for data processing. The current profile data is presented in Appendix 2 as listings and plots of the current vector with time and depth.

3.3.3 Current Meter Data

The Aanderaa RCM-4 current meter has an accuracy of ± 5 degrees in direction and $\pm 0.1^\circ\text{C}$ in temperature (manufacturers specification). While the manufacturer does not specify the accuracy of speed measurements, comparisons

Table 3

Temperature, salinity, silicate, nitrate and
phosphate data from bottle casts taken between 2314
April 20 and 0126 21 GMT at Station AB01.

Denth (m)	T°C	S°/‰	SiO_3 $\mu\text{g-at/l}$	NO_3 $\mu\text{g-at/l}$	PO_4 $\mu\text{g-at/l}$
0	-	31.791	21	11.9	2.2
10	-1.76	31.805	22	11.5	1.8
20	-1.71	31.833	19	11.1	1.8
30	-1.76	32.119	21	9.7	1.6
50	-1.57	33.030	19	9.6	1.6
75	-1.64	33.104	12	5.1	1.5
100	-1.46	33.141	8	3.2	0.9
125	-1.22	33.349	8	3.1	0.9
150	-1.03	33.530	8	3.0	0.9

with other current meters indicate good performance (Unesco, 1969) with a threshold of 2.2 cm/s. The meter records the data in a digital code on 1/4 inch magnetic tape. After being translated onto computer compatible 9 track magnetic tape, the data was plotted and examined for erroneous values.

The readings recorded by the current meter numbered 9426 rather than the 5254 expected. The first half of the record shows currents that were either very small (less than 3.0 cm/s) or zero. In contrast, the second half of the record indicates a current with speeds up to 20 cm/s and oscillations with diurnal and semi-diurnal frequencies. We hypothesize that when the instrument was started or during the installation, the timing circuit malfunctioned and the meter began recording at higher rate than once every two minutes, possibly at one reading every 27 seconds, the time required for the data encoder to write a complete sequence onto tape. After about 31 hours, the timer circuit reverted to normal operation and the meter began recording every two minutes. This explanation is consistent with the data record. Therefore the current meter data discussed will be limited to the latter half of the recorded data and the measurement times are computed on the basis of the stop time of the instrument and a two minute sampling rate. It should be recognized that the current measurement times are in doubt and that conclusions based on this data are necessarily tentative.

Aside from timing problems, the current data exhibited no obviously erroneous data. For the purpose of this study, the data is subsampled to produce one reading every 10 minutes. This procedure reduces computing costs and increases the least bit resolution of the speed measurements. (The current meter records the cumulative numbers of Savonius rotor revolutions rather than the speed. Therefore, increasing the sampling interval results in an increase of the resolution of the speed data).

4. Observed Distributions

4.1 Water Properties

Using the data from the 34 CTD casts presented in Appendix 1, the vertical structure of the temperature, salinity and density is discussed. We shall examine the spatial variation of these properties across Barrow Strait and Wellington Channel and discuss the time variations of these properties at the ice camp station in Barrow Strait (BA1).

4.1.1 Mean Profiles at Station BA1

Using the temperature and salinity data obtained from the 24 CTD casts at Station BA1, the mean and standard deviation of the temperature, salinity and sigma-t (σ_t) were computed and are displayed in Figure 6. The salinity and σ_t profiles are virtually identical in shape since variations in salinity account almost entirely for variations in σ_t at near freezing water temperatures.

The mean profiles can be characterized by four distinct layers;

- a) a surface layer with near-freezing temperatures and a nearly uniform

STATION BA01 24 STD CASTS
3:10 18 APR. GMT TO 1:37 21 APR. GMT

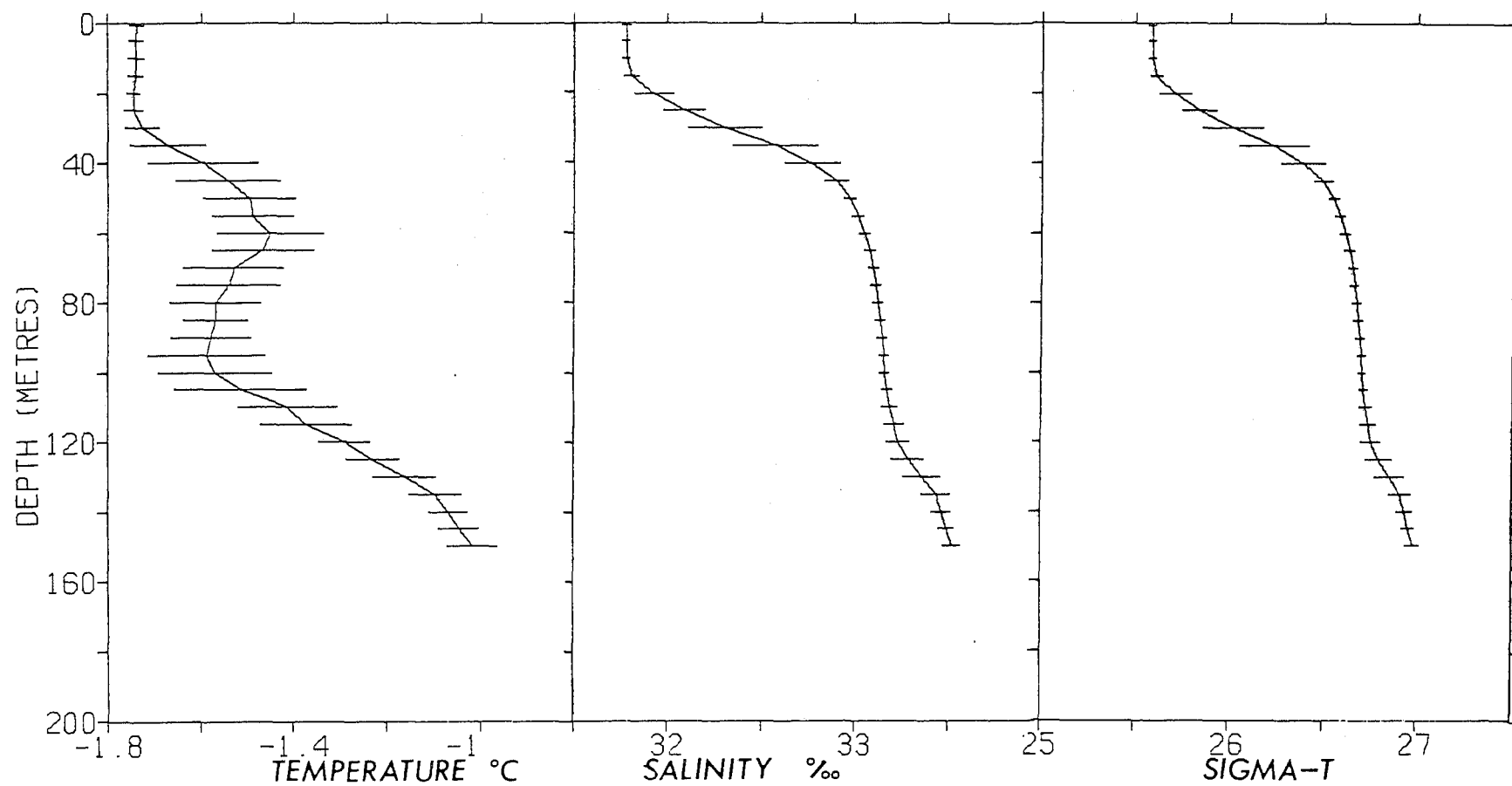


Figure 6: Mean temperature, salinity and sigma-t profiles at station BA1. The horizontal error bars represent standard deviations about the mean values at 5 m depth increments.

salinity of 31.8‰ to a depth of 20 m.

- b) a subsurface layer with a pronounced halocline extending from 20 to 50 m depth; the temperature also increases with depth in this layer.
- c) a lower layer where the salinity increases more slowly with depth than in the layer above. The salinity averages 32.98‰ at 50 m, and increases to 33.23‰ at 120 m. In the upper part of this layer a temperature maximum is found at an average depth of 60 m with a mean value of -1.45°C . Below this the temperature minimum occurs at a depth of about 95 m with a mean value of -1.59°C . However, as the large standard deviations suggest, the temperatures within this layer exhibit considerable variations in terms of the size of the temperature maximum and minimum. An examination of the individual temperature profiles (Appendix 1) shows that the size of each maximum and minimum fluctuates considerably from one CTD profile to the next. Often, weaker secondary maximums and minimums are found.
- d) A bottom layer where the rate of change of salinity with depth increases in comparison to the layer above. This layer extends from 130 m to the bottom at 155 m. While this feature is found in all of the salinity profiles at Station BA1, its form varies from one CTD cast to the next and hence the larger standard deviations in this layer as compared to the layer above.

The observed surface salinities of 31.8‰ in comparison to previous observations in other parts of Parry Channel, suggest a west to east increase in surface salinity under fast ice conditions. Herlinveaux et al (1976) report surface salinities of 31.3‰ or less in the Beaufort Sea off Banks Island in March, 1975 while surface salinities of 31.5 to 31.6‰ have been observed in McClure Strait in May, 1966 (CODC, unpublished data). This increase in salinity from west to east may be explained by the higher continental runoff into the Beaufort Sea as compared to the lesser precipitation and drainage area and hence runoff in the Canadian Arctic Islands. Assuming an easterly transport through Parry Channel, mixing of the relatively fresh water of the Beaufort Sea with local water would result in an increase of salinity as the water moves east.

The subsurface layer or halocline layer observed in Barrow Strait covers only 30 m extending from 20 m to 50 m depth. In contrast the subsurface layer in the Arctic Ocean typically spans more than 75 to 100 m in the vertical. The difference appears to arise from the low rate of change of salinity with depth below 50 m depth rather than an abnormally large rate of change of salinity above 50 m depth in comparison with under ice measurements in the western Arctic Ocean. In contrast, similar low rates of change of salinity with depth are found in Baffin Bay off Lancaster Sound in summer although the mean profiles tend to be about 0.2‰ higher in absolute value as shown by unpublished CODC data (1954, 1960, 1961, 1963). Unfortunately, we know of no spring data in western Baffin Bay which would provide for a comparison free of possible seasonal differences. One possible explanation for this low rate of change of salinity with depth below the halocline would be that vertical mixing has occurred within this layer with a resulting reduction in the vertical salinity gradient. The fact that the depth of the lower limit of the layer (120 to 130 m) is approximately the same as the sill depths in Barrow Strait (130 m) and Wellington Channel

(approximately 140 m) adds some support to the vertical mixing hypothesis.

The bottom layer observed at Station BA1 is seen in all of the salinity profiles and most of the temperature profiles. The depth of this feature varies from 125 m to 140 m among the individual profiles. Since the water depth at Station BA1 is 155 m, the bottom layer has a total depth ranging from 15 to 30 m. This bottom layer may simply be an extension of a deeper more saline water mass extending from Lancaster Sound in the east. Because this water is deeper than the sills to the west and the north, it is not affected by the apparent mixing associated with the sills as discussed above. Thus the properties of this bottom layer show a rather abrupt change at the boundary of the two layers with more uniform properties through the layer itself.

4.1.2 Time variations at Station BA1

By examining the data collected from the 24 CTD casts at Station BA1, a preliminary analysis of the temporal variations of salinity and temperature can be made. The CTD casts cover the period 0310 April 18 to 0137 April 21 GMT. Unfortunately, the distribution in time of the measurements is not evenly spaced; there are three gaps of 11 hours or more in the sampling times.

Contours of the computed salinities for all of the CTD casts at Station BA1 (Figure 7) show that the largest variations of salinity occur through the halocline or subsurface layer with smaller variations in the surface layer and lower layer (see Figure 6). Near the bottom, the sizes of the variations increase again. This observed distribution of the amplitude of the salinity variations with depth is consistent with the amplitude variations of internal waves. Internal waves are largest in the region of large vertical gradients of density (and hence salinity).

A rough estimate of the periodicity of the salinity variations can be made by examining the changes in depth of the isohalines plotted in Figure 7. Clearly the variations do not show any one well-defined frequency; however, fluctuations with periods greater than 6 hours seem to be more prevalent than those of shorter period. No obvious change in the periodicities with depth is observed. It should be noted that at this latitude (74.5°N) the periods of any internal tides cannot exceed 12.46 hours, the period of the Coriolis parameter. The M_2 constituent (12.42 hours period) and other semi-diurnal constituents may be present. A more reliable study of the periodicities requires a much longer and more regularly sampled time series.

The temperature variations with time are shown in Figure 7. From the mean profile (Figure 6), the largest standard deviations in temperature are found at mid-depths (35 m to 120 m). These large temperature variations are associated with a temperature maximum at 60 m and a temperature minimum at 95 m depth in the mean profile.

Identifying the core of the warm water as that part of the water column with temperatures above -1.4°C , the depth of the core ranges from 50 to 80 m.

STN-BA01 START TIME 310 APR. 18/73

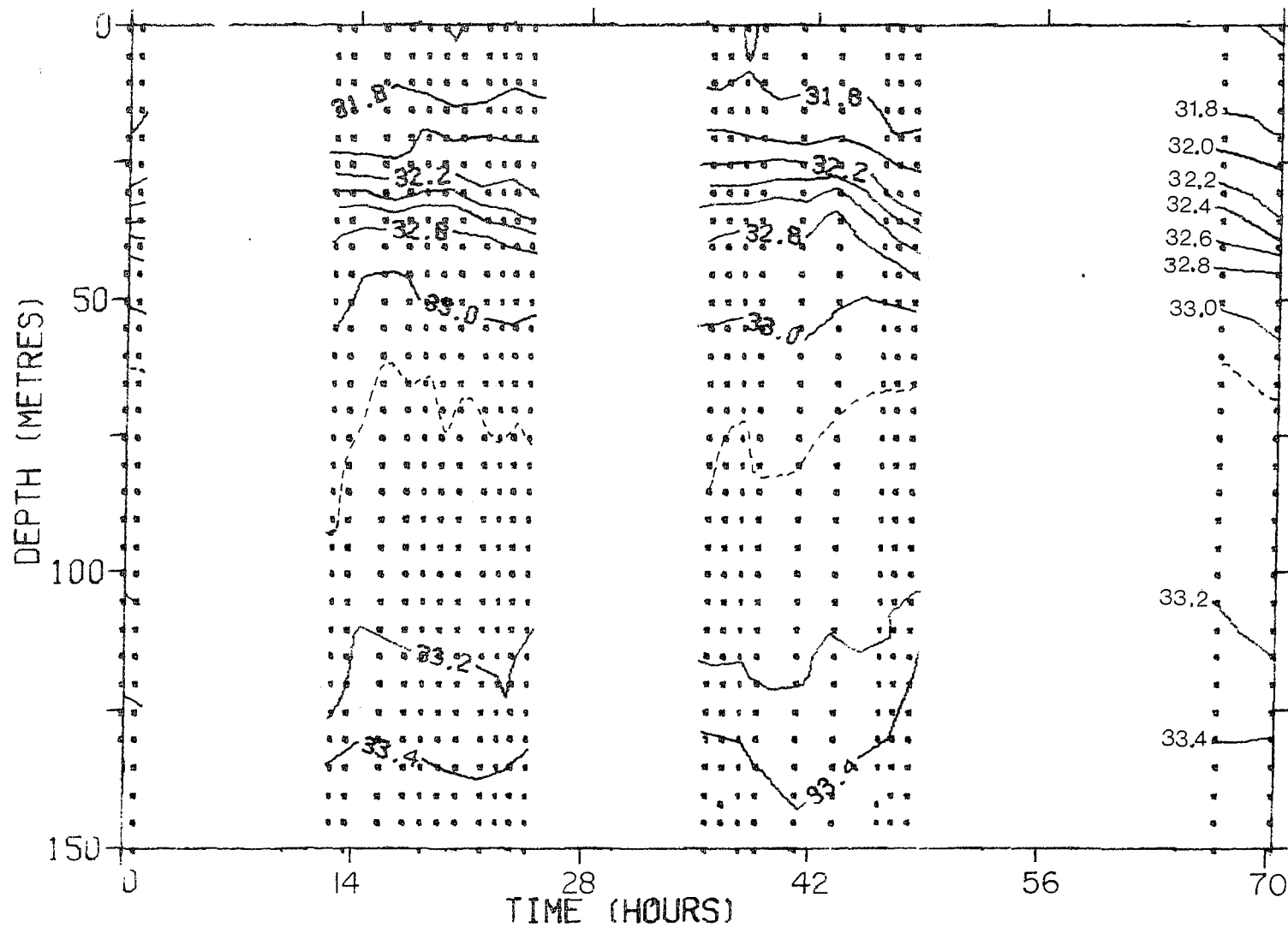
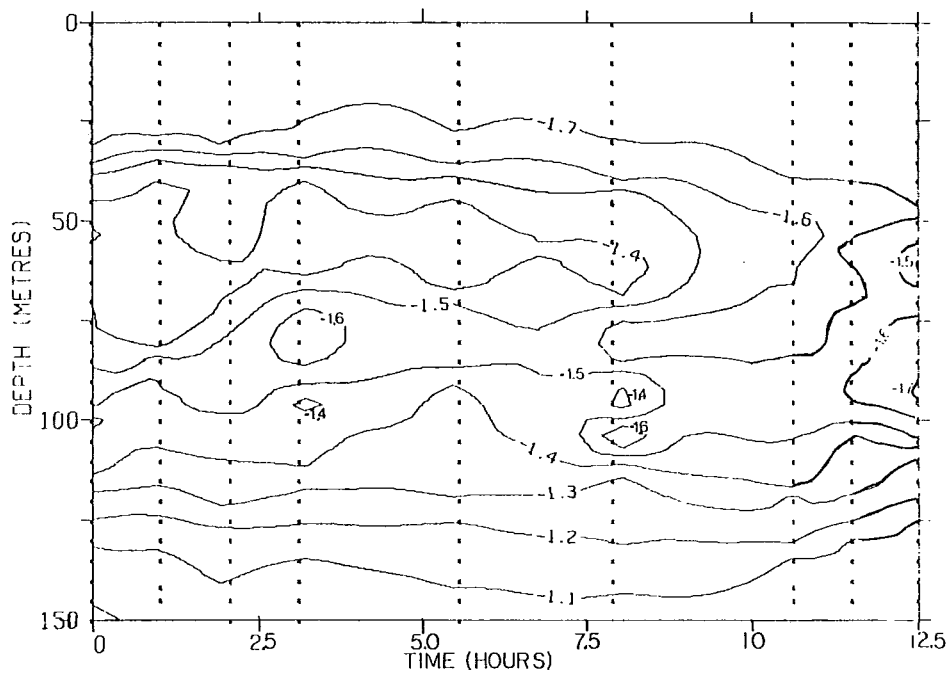


Figure 7: Contours of salinity with time at station BA1.



STN-BA01 START TIME 1600 APR. 18/73

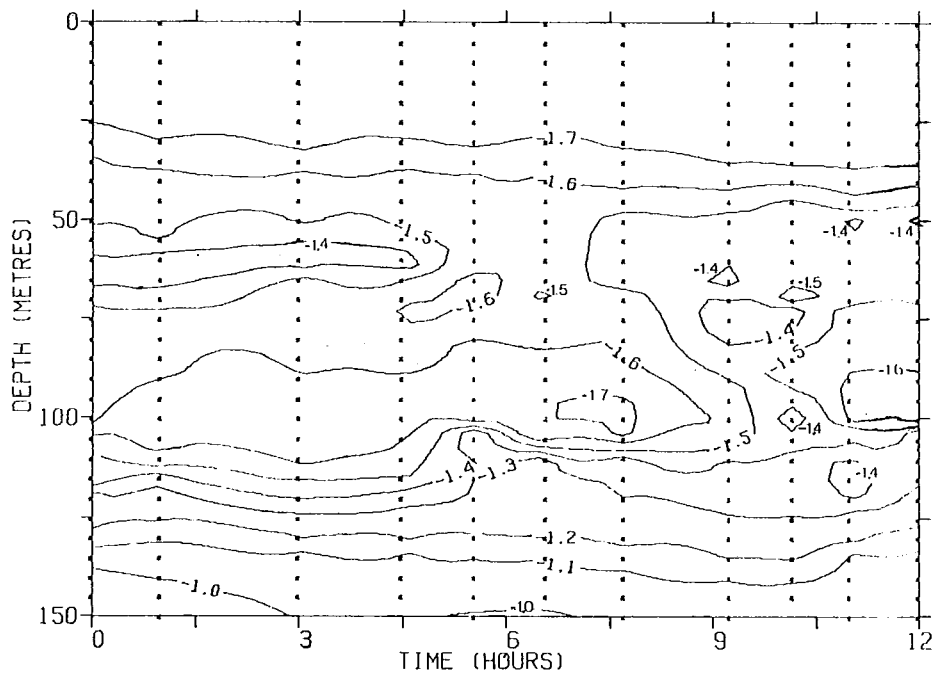


Figure 8: Temperature contours at station BA1 over two periods at station BA1.

The time variations of the temperature maximum and minimum are clearly evident in Figure 8. Both these features are seen to change over periods of several hours; at 1600 April 18 both the maximum and minimum are present. After 6 hours, the maximum virtually disappears for 2-3 hours and then reappears extending to a depth of at least 90 m as the minimum becomes very weak. On the following day (Figure 8), beginning at 1500 April 19 GMT, the temperature maximum is broad and pronounced with a very weak temperature minimum below. After 7 to 10 hours, the maximum weakens and then disappears, leaving cold water (-1.5°C) extending to a depth of 100 m. On the last CTD cast shown in Figure 15, the temperature maximum appears to be re-emerging.

The most likely explanation for this feature would be that a source of relatively warm water exists from which water is advected past the measurement site, accounting for the temperature maximum. Horizontal processes are thought to be more likely than vertical processes due to the large amount of energy required to penetrate the main halocline above the temperature maximum. Either the advecting current or the water source itself or both must be fluctuating with periods of the order of several hours to one day. Other periodicities may well occur but a longer time series record would be required to identify them.

The source region of the warm water is not clear. Across both Wellington Channel and Barrow Strait, similar temperature maxima do not appear. In Wellington Channel, no temperatures were recorded above -1.5°C (Figure 10). The temperatures in the Barrow Strait cross-section (Figure 9) are generally lower than at Station BA1, over the depths of the temperature maxima; however, at the mid-channel station, the temperature does rise above -1.5°C between 55 and 65 m and therefore the warm water could be advected eastward through Barrow Strait but this seems unlikely as the salinities recorded at these depths are 0.4 to 0.5‰ lower than at Station BA1. CTD casts at additional stations, especially in eastern and southern directions, are required to establish the origin of this water.

The ultimate source area of the warm water is unknown. Coachman and Barnes (1961) have shown that Bering Sea water entering the Arctic Ocean in summer sinks and results in a temperature maximum of -1.4°C to -1.2°C between 50 and 100 m depth in the Beaufort Sea. Another possibility is that the warm water is a remnant left over from heating due to solar insolation in the previous summer with wind mixing the warmer water downwards.

By the same reasoning as above, the variable temperature minimum is thought to be advected past the measurement site. From the salinity and temperature data obtained in the transects of Barrow Strait and Wellington Channel, both regions have water with similar properties as those of the temperature minimum. At the central Wellington Channel station (WC3), similar temperatures and salinities are observed from 25 to 130 m depth. At the two northernmost stations in Barrow Strait (BA2 and BA3), similar temperature and slightly lower salinities (by 0.15‰ to 0.2‰) are found at about the same depths.

4.1.3 Cross-section through Barrow Strait

Using the CTD data obtained at Stations BA2 to BA6 (Figure 2), the spatial variations of the temperature, salinity and sigma-t through a cross-section of Barrow Strait are examined. The salinity and temperature data are displayed as contours plotted on a cross-section of the strait (Figure 9) using the computer algorithm of Taylor et al (1971). The depths of the data values used to determine the contours are represented as plotted points. At stations BA4, BA5 and BA6 for depths shallower than 10 m, the conductivity data was not recorded and as a result lack salinity values.

In comparison to the temperature and salinity properties described above at Station BA1, significant differences are found in the Barrow Strait cross-section. The uniform surface layer is shallower; at all 5 stations it is less than 15 m depth and at Station BA2 the depth of water of uniform salinity is less than 2 m. In the lower layer below the main halocline, the salinity is 0.1‰ to 0.5‰ lower in the cross-section than at Station BA1, a significant difference given the small standard deviation of the observed salinities at BA1 as shown in Figure 6. Even at Station BA2 which like Station BA1 is located on the north side of the strait, the salinity is consistently lower by 0.13‰ or more at depths greater than 60 m. This observed difference is consistent with observations taken in the summers of 1961 and 1962 (Barber and Huyer, 1971) where at 75 and 100 m depths, the salinity increases to the east through eastern Barrow Strait. On a larger scale, summer observations indicate a west to east gradient along Parry Channel in the lower layer with typical salinities at 75 m of 32.0 to 32.5‰ in western M'Clure Strait and 33.3 to 33.8‰ in Baffin Bay off Lancaster Sound. Unlike salinity, the temperature shows no consistent differences in the lower layer at the same depths. However, below 130 m, the temperatures measured through the Barrow Strait cross-section are colder than at Station BA1 by 0.1 to 0.4 °C.

The bottom layer observed at Station BA1 (as described in the previous section) is also found in the vertical profiles at Stations BA5 and BA6 (Appendix 1) but not at Stations BA2 and BA3. At Station BA4, there is a sharp increase in salinity at the bottom of the profile which may be associated with this feature. At Stations BA5 and BA6, the bottom layer is deeper (beginning at 145 m) than at Station BA1 (125 to 140 m) and less saline (33.1‰ compared to 33.4 - 33.5‰).

The salinity distribution across Barrow Strait in Figure 9 shows that the salinity generally increases from the south to the north side of the strait. The difference in salinity between Stations BA2 and BA6 ranges from 0.8‰ at 20 m to 0.2‰ at 135 m depth. Since sigma-t is almost entirely determined by variations in salinity, the distribution of sigma-t across the strait is virtually identical to that of the salinity. If we assume that a geostrophic balance exists between the Coriolis force and the horizontal pressure gradient (as inferred from the density field), the distribution of density across the strait suggests that there is an eastward flow through almost the entire cross-section relative to the flow near the bottom.

It should be noted that this consistent slope in the isohalines

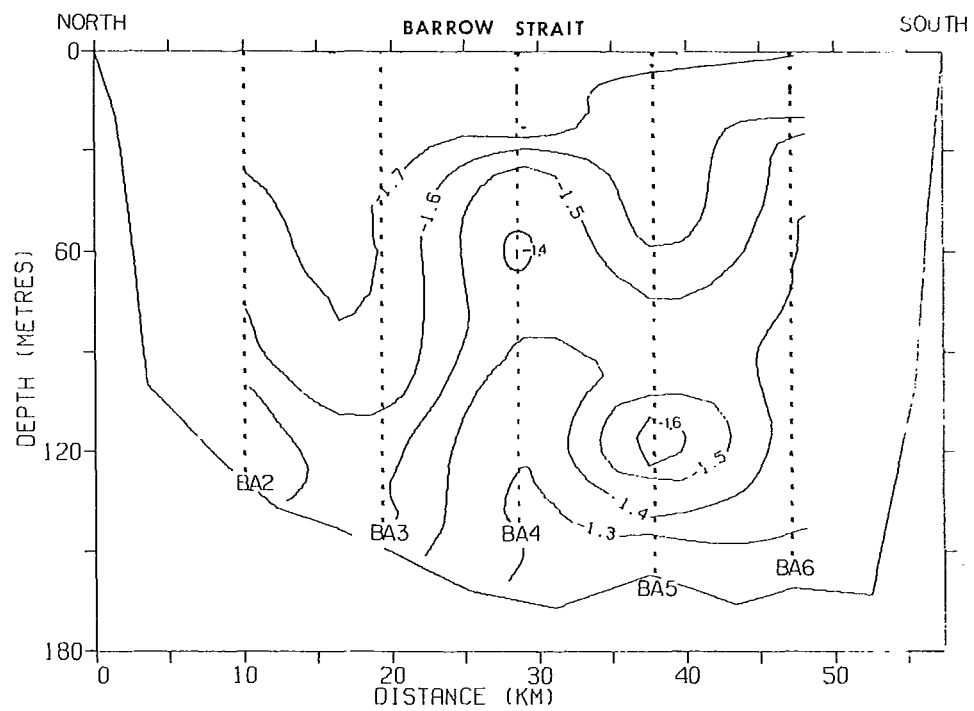
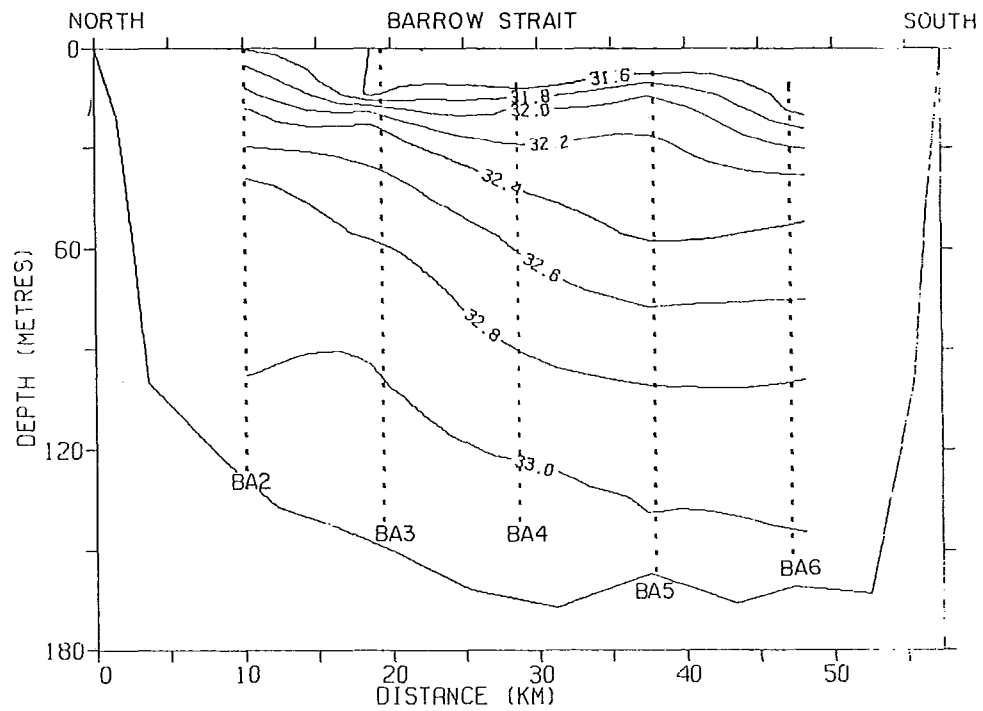


Figure 9: Distribution of salinity and temperature through a cross-section of Barrow Strait.

and hence isopycnals seems to be real and not due to confusion of time variations with spatial variations. Over a period of four days relatively small changes in the salinity were observed at Station BA1. Taking these time variations as representative of those that would be encountered at Station BA2 to BA6, simple calculations show that the consistent change in σ_t across the strait is greater than changes due to the time-variations of temperature and salinity.

The computed baroclinic volume transport through Barrow Strait between Stations BA2 and BA6 is 0.3 ± 0.09 Sverdrups [Sv] ($1 \text{ Sv} = 10^6 \text{ m}^3/\text{s}$) relative to the 125 m geopotential level. The quoted uncertainty of ± 0.09 Sv is due to the assumed temporal variations and does not include measurement error, or deviations from a geostrophic balance. It should be noted that the density distribution as inferred from Figure 9 indicates that there is a horizontal pressure gradient at 125 m depth and no obvious level of no-motion exists in the strait. As a result, it must be emphasized that the sign and magnitude of the calculated volume transport are relative values only.

The geostrophic method provides only a tentative estimate of volume transport and underscores the need for direct current meter measurements in order to determine the total volume transports and their temporal variability. Since most channels of the Arctic Islands are relatively shallow, direct current measurements will be increasingly relied on for volume transport estimates.

4.1.4 Cross-section through Wellington Channel

The salinity and temperature distributions in Wellington Channel (Figure 10) differ markedly from those in Barrow Strait. In Wellington Channel, the surface salinities are higher with a mean of 32.44‰ at 10 m depth against 31.69‰ at 10 m depth in the Barrow Strait cross-section and 31.78‰ at Station BA1. The salinity profiles below the main halocline at depths greater than 40 m are remarkable for their near uniformity with depth. An examination of the individual profiles in Appendix 1 indicates that from 40 m depth downwards, the increase in salinity is less than 0.1‰ in each of the 5 profiles. Because of this, the stratification (i.e. change in density as a function of depth) is small and little energy would be required to induce vertical movements in the water column.

The temperatures measured in Wellington Channel are uniformly cold ranging from the freezing point up to -1.56°C . Unlike Barrow Strait, the temperatures show very little warming with depth.

The uniformity of both the temperature and salinity structure in Wellington Channel implies that baroclinic volume transport and baroclinic geostrophic currents through Wellington Channel are very small.

4.2 Currents

4.2.1 Bottom Currents

The currents 2 m above the bottom at Station BA1 measured over a 6 day period are displayed in Figure 12 with the statistics given in Table 4. Twice-daily reversals are found in the current direction with the flow being

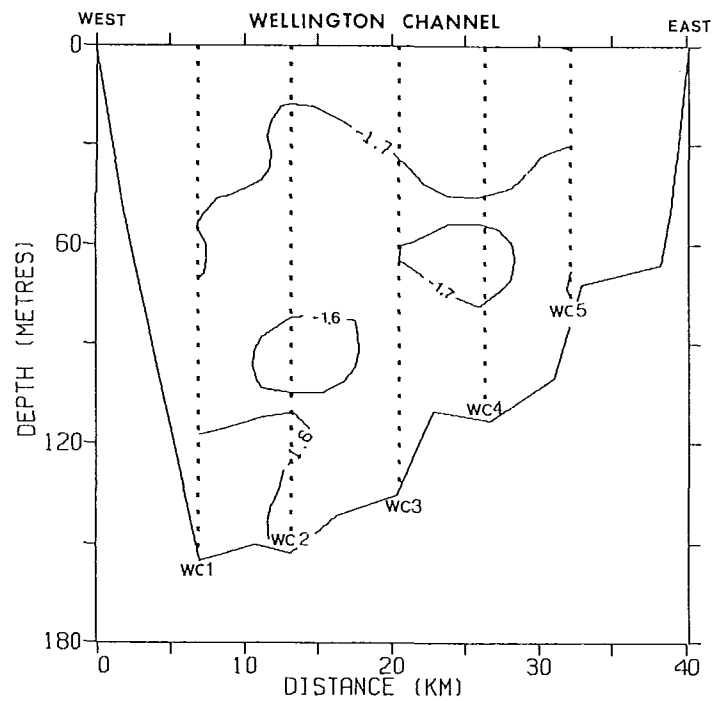
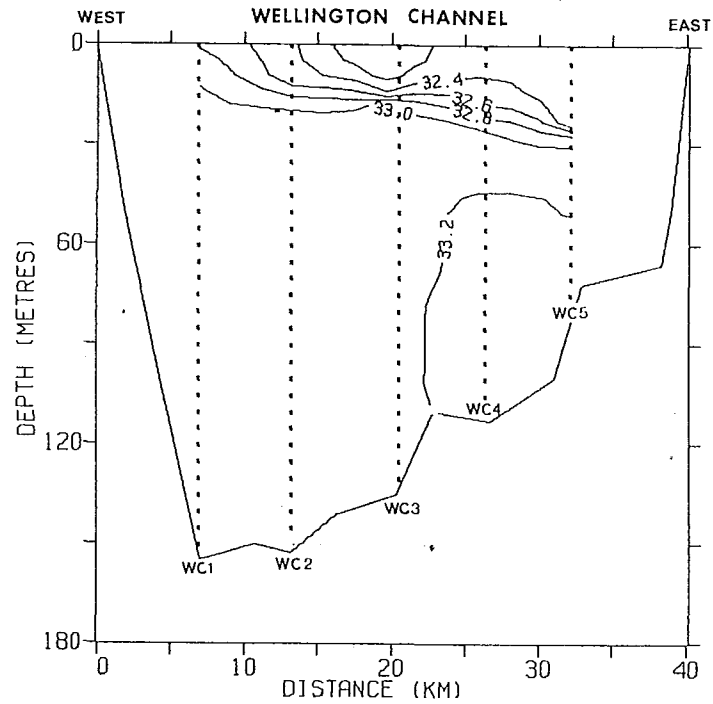


Figure 10: Distribution of salinity and temperature through a cross-section of Wellington Channel.

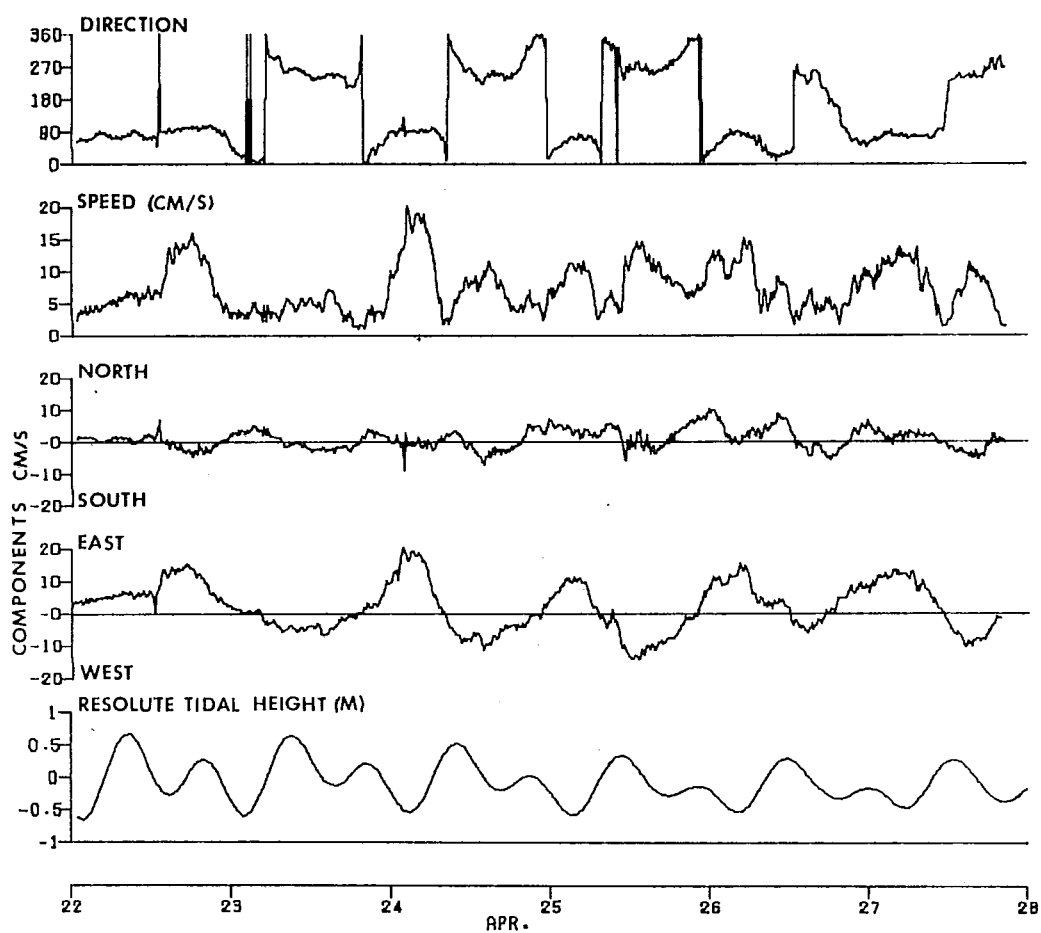


Figure 12: The direction, speed, north-south current component and east-west current component measured 2 m above the bottom at station BA1. Also plotted is the measured sea level variations at Resolute, N.W.T.

Table 3: Statistics of the current meter measurements at Station BA2 at a depth of 153 m (2 m above the bottom).

No. of readings - 840
 First reading at 00.48 Apr.22 GMT
 Last reading at 20.38 Apr.27 GMT
 Sampling interval - 10 min.

	Temperature C	Speed cm/s	E-W Comp. cm/s	N-S Comp. cm/s
Mean	-1.59	7.5	2.0	0.8
Std.Dev	0.03	3.8	7.5	3.1
Maximum	-1.54	20.2	20.2	10.1
Minimum	-1.64	1.0	-14.4	-8.9

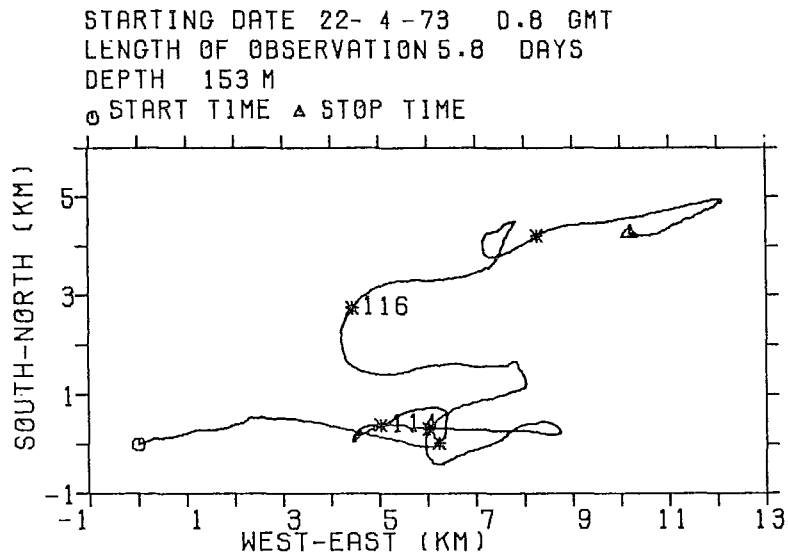


Figure 11: Progressive vector diagram of bottom currents at station BA 1.

bimodal; either nearly eastward or westward. The recorded speeds range from 1.0 cm/s to 20.2 cm/s about a mean of 7.5 cm/s. In comparison, the variations in the speed are less regular than the direction signal with large day to day changes. The north-south current component is small with a mean and standard deviation of 0.8 ± 3.1 cm/s. Due to the regular direction reversal, the east-west component has a marked diurnal character with a mean and standard deviation of 2.0 ± 7.5 cm/s.

The low frequency behaviour of the current is seen in the progressive vector diagram (Figure 11) where a net drift to the east at a mean rate of 2.2 cm/s or 1.9 km/day is found. The major part of the net drift occurs on April 22 and April 26 with a confused and reversing pattern being experienced on the other days.

The short record of current observations obtained in this study suggests that the near bottom currents are a mixture of tidal currents and less regular and longer period currents. It is interesting that the observed periodicity is diurnal while the known tides in the area are mixed diurnal and semi-diurnal (Dohler, 1964). However, for this particular time period, the tidal height record at Resolute is characterized by two daily peaks with one being considerably larger than the other; as a result, the tidal height record has a pronounced diurnal character. The less regular variations in the current record which seem to be associated with periods larger than one day are particularly noticeable in the speed record. Further time series measurements are required to gain some insight into the nature of these; both for longer periods at one depth and at other depths throughout the water column.

4.2.2 Current Profiles at Station BA1.

A great amount of variability is found among the 28 individual current profiles, each of which is displayed in Appendix 2. Currents above about 20 m depth are observed to have directions in all four quadrants. The deeper current measurements, down to 45 m, tend to have directions in the southeast or southwest quadrants.

In Figure 13, the difference between the current direction at various depths and the current direction at 45 m depth is plotted for all of the current profiles. Among the individual profiles, the current direction relative to 45 m depth varies considerably. The mean value of the relative current direction at each depth is small, ranging from -9° (25 m) to 13° (6 m) but the standard deviation is remarkably large, exceeding 40° at all depths above 35 m and reaching values of 70° to 110° above 10 m depth. Within individual profiles, differences in direction of 90° or more are not uncommon. In a few profiles, a monotonic change in direction with depth is evident; both clockwise and anti-clockwise turning of the current vector occurs. Most profiles, however, do not exhibit a consistent turning in direction with depth.

Current speeds of up to 44 cm/s are measured at 40 and 45 m depth. At shallower depths, the maximum observed currents decrease with 18 cm/s being the largest speed measured at 3 m depth.

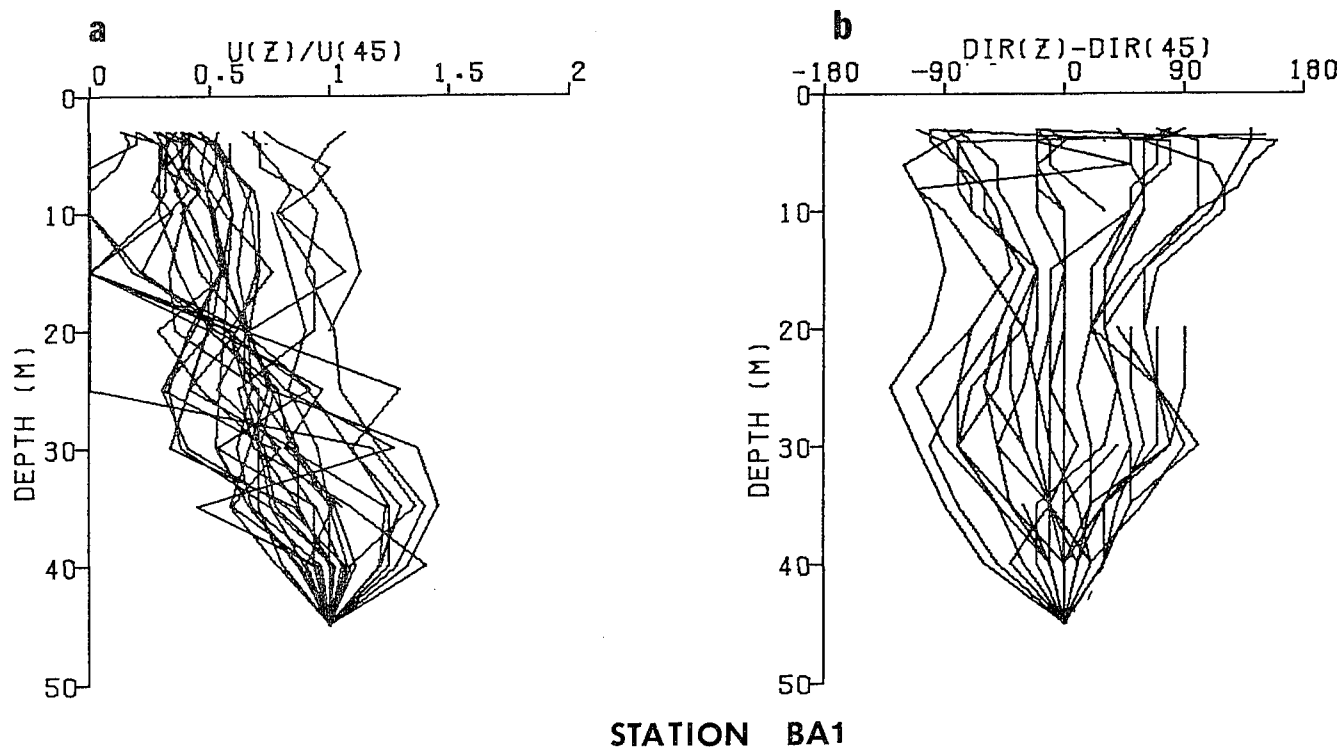


Figure 13: (a) 28 individual profiles of the ratio of the measured current speed at each level to that of the current speed at 45 m depth.
 (b) 28 individual profiles of the current direction less the measured direction at 45 m depth for speeds exceeding 2.5 cm/s.

The individual current-speed profiles are presented in Figure 14 as the ratio of the current at each measurement-depth to the current measured at 45 m depth. The current ratio exhibits somewhat less variability among the individual current profiles with a maximum in the speed rates at 40 m depth (1.04 ± 0.16) and then a consistent decrease as one moves upwards with a speed ratio $\pm$ standard deviation of 0.60 ± 0.21 at 20 m, 0.47 ± 0.28 at 10 m, and 0.37 ± 0.24 at 3 m depth.

The variability among the current profiles shows that the currents in this region are complex in nature. No simple relation between tidal heights at Resolute and currents appears to exist when the individual profiles in Appendix 2 are examined. A longer and more evenly sampled record of current profiles is required to identify the physical mechanisms producing the variations.

These results emphasize the need for both experimental and theoretical studies of the currents beneath the ice. We have seen that the current at one depth in the upper 45 m of the water column may not be representative of the current several metres above or below the measurement level. A knowledge of the vertical structure of the currents is necessary to monitoring the movement of pollutants beneath the ice.

5. Summary and Conclusions

Oceanographic measurements were obtained in Barrow Strait and Wellington Channel, N.W.T., in April, 1973 under the condition of solid ice cover. From CTD and bottle casts, the variations of temperature, salinity and density were studied. Currents were observed by means of a self-recording current meter, mounted just above the bottom, and repeated profiles of the currents over the upper 45 m.

On the basis of the bottle and CTD cast data, the water column in Barrow Strait can be divided into four distinct layers according to the salinity and, therefore, the density structure. These are a surface layer, characterized by uniform salinities and near-freezing temperatures, a sub-surface layer with a pronounced halocline, a lower layer where the salinity increases more slowly with depth than in the layer above, and a bottom layer characterized by a larger increase in salinity with depth. While these layers are almost always found at each station, the depth of the layers varies markedly from one position to another. However, repeated casts at one station showed that the salinity structure varied little with time over a 3-day period.

Significant spatial gradients in salinity are found along Barrow Strait with the largest differences occurring in the lower layer below the main halocline. Being located below the halocline, one can surmise that these differences in salinity are related to horizontal processes such as advection rather than vertical processes being driven by surface exchanges.

By applying the geostrophic assumption, spatial differences observed in the salinity values through a cross-section of Barrow Strait suggest that an eastward flow exists through almost the entire cross-section

of Barrow Strait relative to the flow near the bottom. However, a reliable quantitative estimate of the flow is not possible because the data indicates a level of no motion does not exist in the strait and because of the possible confusion between temporal and spatial changes.

Pronounced differences in salinity across Wellington Channel are limited to the upper 30 m of the water column. Below this level, the salinity of Wellington Channel is very nearly uniform across the strait indicating that only a very weak (if any) baroclinic geostrophic current exists through most of the cross-section. Also noteworthy in Wellington Channel is the almost neutral stability of the water column below the main halocline.

An intermittent temperature maximum and minimum is found at station BA1 in the lower layer from repeated CTD casts. The temperature maximum is centered at approximately 60 m depth while the temperature minimum is generally found at about 95 m depth. While these features are relatively small in scale, typically having departures of 0.2°C or less from the temperatures above and below, they can be interpreted as being representative of physical processes occurring in this part of the water column. The maximum and minimum vary with time; they are present over periods of several hours, disappear and then re-emerge a few hours later; this behavior suggests that a time scale of approximately 10 hours or more characterizes the phenomena. While horizontal advection of water of differing properties past the measurement site seems the most likely explanation for the existence of the temperature maximum and minimum, repeated time series measurements of salinity and temperature at one or more locations together with a dense spatial network of CTD casts would be required to test this hypothesis.

The near (2 m) bottom currents at station BA1 are weak (20 cm/s or less) and exhibit a diurnal variation in direction but less regular changes in speed. The measured currents in the upper 45 m are complex in nature. The current speed tends to increase with increasing depth; the maximum observed current is 44 cm/s at 45 m depth. The current directions are extremely variable with time, particularly in the upper 10 m. Furthermore, even currents observed in the same individual profile can differ by 40° or more over depths of 10 m. No systematic rotation of the current with depth is observed.

From this study we see that the oceanographic conditions of the region of Barrow Strait adjacent to Wellington Channel are far from simple even under solid ice cover. As a result, far more questions are raised in this study than are answered. With the increasing economic and commercial activity in the Parry Channel area of the Canadian Arctic Islands, it is desirable to improve our knowledge of the oceanography of the area so as to be in a position to assess the environmental impact of these activities.

Studying the ocean when it is covered by solid ice presents a special advantage for oceanographic studies; the existence of a solid platform on the surface from which to work. Instruments can be suspended from this platform and oriented relative to it.

Based on the results of this study, further oceanographic

investigations in this region should have the following elements. Time series measurements of currents at fixed depths are needed since geostrophic estimates of the currents and water transport are not reliable in the relatively shallow channels of the Canadian Arctic. Therefore, direct measurements from moored current meters are required which would provide the temporal variations in the current. At present, we lack adequate information to determine the necessary spatial distribution of meters to adequately sample the transport through a channel. The results of this study suggest that near the surface (depths less than 45 m) several current meters through the water column are needed at each station. As this would amount to a prohibitive number of current meters needed for the entire width of the entire channel, current profiles obtained from one current meter would be used to supplement the fixed position current meter data.

In addition, significant variations in temperature and salinity are present which should be further studied. In addition to being important for their own sake, it may be possible to use water properties, including temperature, salinity and nutrient measurements, as tracers for horizontal and vertical movements of water. In doing so, it is essential not to confuse temporal and spatial variations; we have shown this problem can be avoided by the use of a helicopter equipped with a winch and CTD. In this study, the total elapsed time between two CTD stations at sites separated by 8 km was 25 minutes. Monitoring of the time variations at least at one site can be achieved by means of repeated CTD casts or, preferably, the use of thermistor and conductivity chains.

Measurements of silicate and phosphates have been used by Codispoti and Owens (1975) to formulate a budget of these respective nutrients for the Arctic Ocean. Their results indicate that 60% of the Bering Strait inflow to the Arctic Ocean exits through Lancaster Sound into Baffin Bay. Measurements of nutrients could be used to test their results and to attempt to devise more localized budget studies for the Arctic Islands.

Ultimately, theoretical analysis could be made of the increasing observations to devise analytical or numerical models of the oceanography of the Canadian Arctic.

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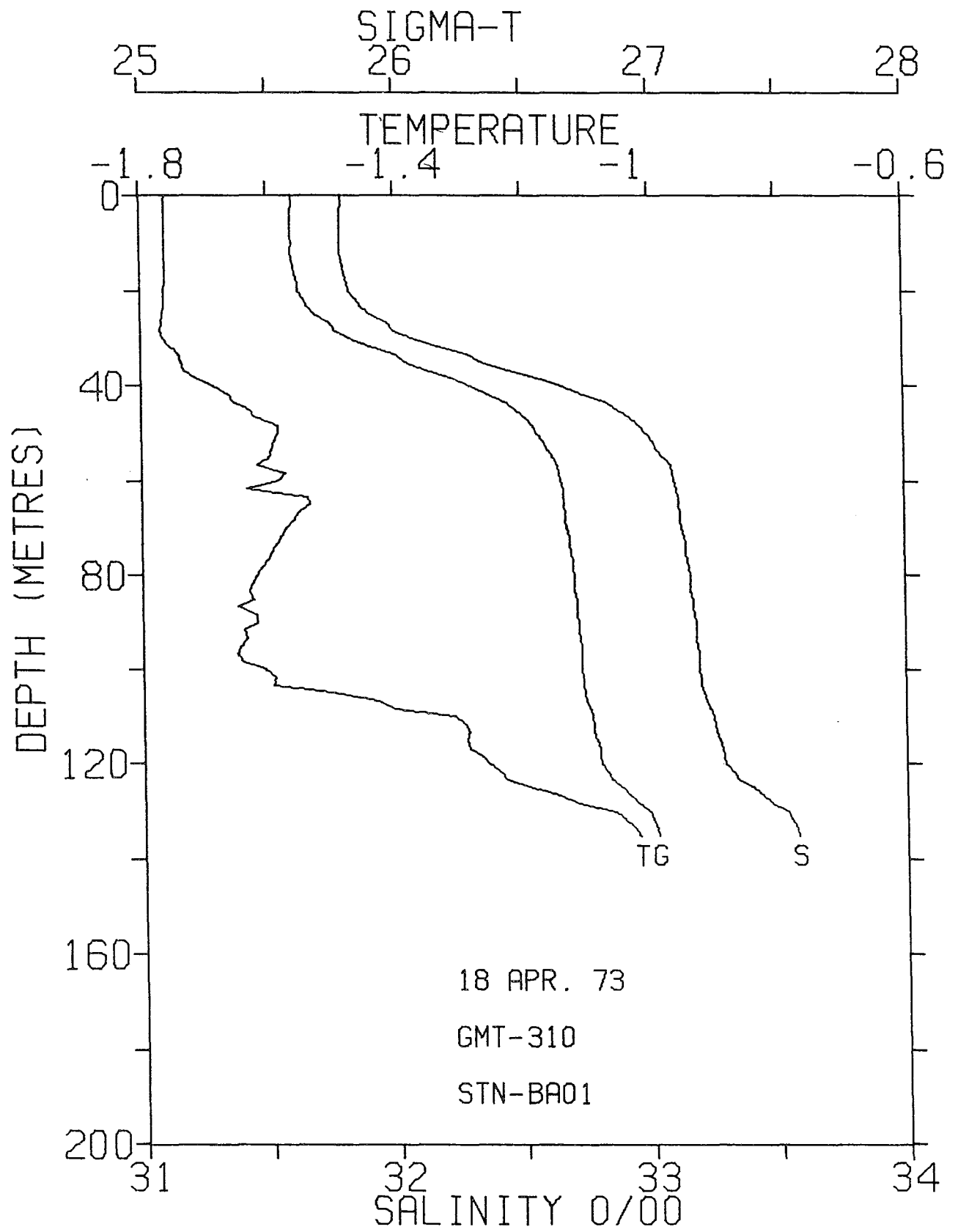
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Appendix 1

CTD Profiles

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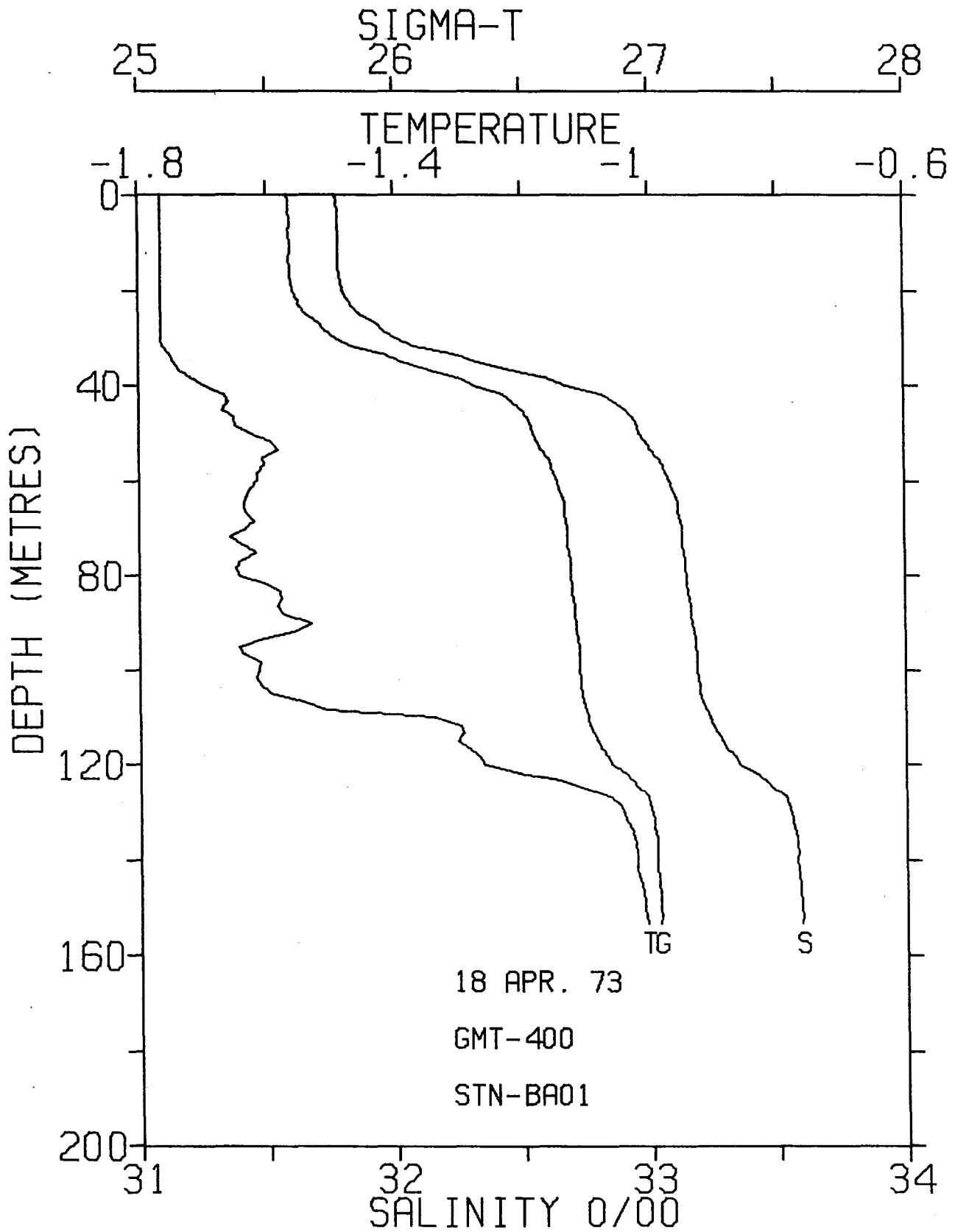


REFERENCE NO. 73-473- 1 STN- BA01 DATE 18/ 4/73
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 RESULTS OF STD CAST 82 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.76	31.80	25.60	68.33	-1.56	33.12	26.67
1.67	-1.76	31.79	25.60	70.00	-1.57	33.12	26.67
3.33	-1.76	31.79	25.60	71.67	-1.58	33.14	26.68
5.00	-1.76	31.79	25.60	73.33	-1.59	33.14	26.69
6.67	-1.76	31.79	25.59	75.00	-1.60	33.14	26.69
8.33	-1.76	31.79	25.60	76.67	-1.60	33.15	26.69
10.00	-1.76	31.79	25.60	78.33	-1.61	33.15	26.69
11.67	-1.76	31.79	25.60	80.00	-1.62	33.15	26.70
13.33	-1.76	31.80	25.60	81.67	-1.63	33.16	26.70
15.00	-1.76	31.80	25.60	83.33	-1.63	33.16	26.70
16.67	-1.76	31.81	25.61	85.00	-1.62	33.17	26.71
18.33	-1.76	31.82	25.62	86.67	-1.65	33.17	26.71
20.00	-1.76	31.82	25.62	88.33	-1.62	33.17	26.71
21.67	-1.76	31.85	25.65	90.00	-1.62	33.18	26.72
23.33	-1.76	31.87	25.66	91.67	-1.64	33.18	26.72
25.00	-1.76	31.91	25.69	93.33	-1.64	33.18	26.72
26.67	-1.77	31.97	25.74	95.00	-1.64	33.19	26.73
28.33	-1.77	32.00	25.77	96.67	-1.65	33.19	26.73
30.00	-1.76	32.07	25.82	98.33	-1.64	33.19	26.73
31.67	-1.75	32.17	25.91	100.00	-1.61	33.19	26.73
33.33	-1.74	32.29	26.00	101.67	-1.59	33.20	26.73
35.00	-1.74	32.35	26.05	103.33	-1.60	33.20	26.73
36.67	-1.73	32.45	26.13	105.00	-1.50	33.20	26.74
38.33	-1.71	32.56	26.22	106.67	-1.43	33.22	26.75
40.00	-1.68	32.66	26.30	108.33	-1.40	33.24	26.76
41.67	-1.66	32.74	26.37	110.00	-1.31	33.25	26.77
43.33	-1.65	32.83	26.44	111.67	-1.29	33.25	26.77
45.00	-1.63	32.88	26.48	113.33	-1.29	33.26	26.77
46.67	-1.62	32.92	26.51	115.00	-1.29	33.27	26.78
48.33	-1.59	32.96	26.54	116.67	-1.29	33.28	26.79
50.00	-1.58	32.99	26.56	118.33	-1.27	33.28	26.80
51.67	-1.59	33.01	26.58	120.00	-1.26	33.29	26.80
53.33	-1.60	33.03	26.60	121.67	-1.24	33.32	26.83
55.00	-1.60	33.06	26.62	123.33	-1.23	33.34	26.84
56.67	-1.62	33.08	26.64	125.00	-1.19	33.40	26.89
58.33	-1.57	33.09	26.65	126.67	-1.15	33.43	26.91
60.00	-1.59	33.10	26.65	128.34	-1.12	33.47	26.94
61.67	-1.63	33.10	26.66	130.00	-1.06	33.53	26.99
63.33	-1.54	33.11	26.66	131.67	-1.04	33.55	27.00
65.00	-1.54	33.11	26.66	133.34	-1.03	33.57	27.02
66.67	-1.55	33.12	26.67	135.00	-1.02	33.57	27.02

REFERENCE NO. 73-473- 1 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 3.2
 RESULTS OF STD CAST 82 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.76	31.80	0	25.60	239.4	0.0	0.0	1437.
1	-1.76	31.79	1	25.60	239.8	0.02	0.00	1437.
3	-1.76	31.79	3	25.60	240.2	0.07	0.00	1437.
5	-1.76	31.79	5	25.60	240.3	0.12	0.00	1437.
7	-1.76	31.79	7	25.59	240.2	0.17	0.01	1437.
10	-1.76	31.79	10	25.60	239.9	0.24	0.01	1437.
15	-1.76	31.80	15	25.60	239.4	0.36	0.03	1437.
20	-1.76	31.82	20	25.62	237.4	0.48	0.05	1437.
30	-1.76	32.07	30	25.82	218.3	0.71	0.11	1437.
50	-1.58	32.99	50	26.56	147.9	1.06	0.25	1440.
75	-1.60	33.14	74	26.69	136.1	1.41	0.47	1440.
100	-1.61	33.19	99	26.73	131.9	1.75	0.77	1441.
125	-1.19	33.40	124	26.89	117.1	2.06	1.13	1444.

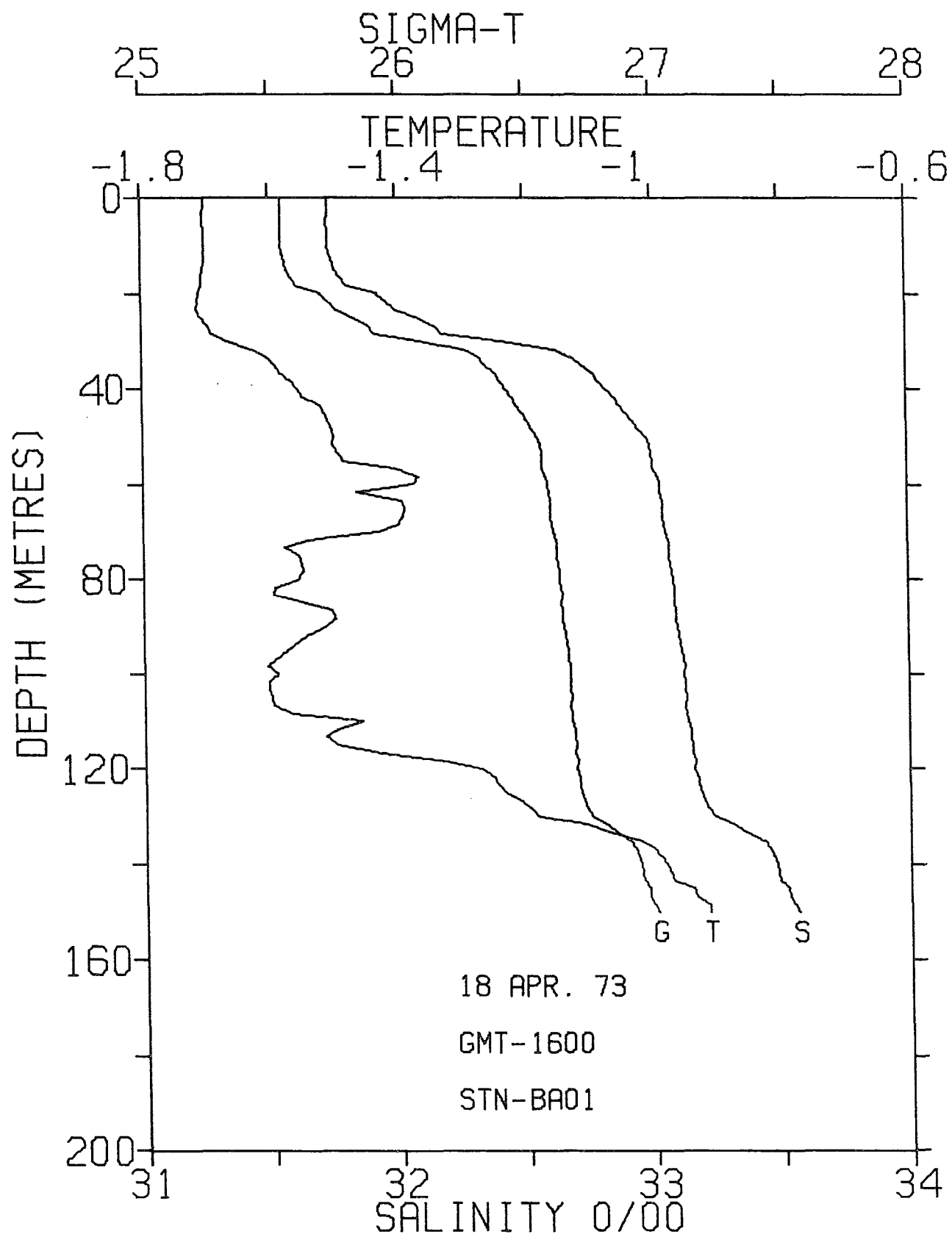


REFERENCE NO. 73-473- 2 STN= HA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 4,0
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.76	31.77	25.58	78.33	-1.65	33.14	26.69
1.67	-1.76	31.78	25.59	80.00	-1.64	33.14	26.69
3.33	-1.76	31.78	25.59	81.67	-1.60	33.15	26.69
5.00	-1.76	31.78	25.59	83.33	-1.58	33.15	26.70
6.67	-1.76	31.78	25.59	85.00	-1.58	33.16	26.70
8.33	-1.76	31.78	25.59	86.67	-1.59	33.16	26.70
10.00	-1.76	31.78	25.59	88.33	-1.57	33.16	26.71
11.67	-1.76	31.78	25.59	90.00	-1.53	33.17	26.71
13.33	-1.76	31.78	25.59	91.67	-1.55	33.17	26.71
15.00	-1.76	31.79	25.59	93.33	-1.61	33.18	26.72
16.67	-1.76	31.79	25.59	95.00	-1.64	33.18	26.72
18.33	-1.76	31.79	25.60	96.67	-1.64	33.18	26.72
20.00	-1.76	31.80	25.61	98.33	-1.61	33.18	26.72
21.67	-1.76	31.82	25.62	100.00	-1.61	33.18	26.72
23.33	-1.76	31.84	25.64	101.67	-1.62	33.19	26.73
25.00	-1.76	31.86	25.66	103.33	-1.61	33.19	26.73
26.67	-1.76	31.93	25.71	105.00	-1.60	33.19	26.73
28.33	-1.76	31.96	25.74	106.67	-1.54	33.21	26.74
30.00	-1.76	32.00	25.77	108.33	-1.51	33.22	26.75
31.67	-1.76	32.08	25.84	110.00	-1.34	33.23	26.76
33.33	-1.75	32.24	25.96	111.67	-1.30	33.24	26.76
35.00	-1.74	32.33	26.03	113.33	-1.29	33.26	26.78
36.67	-1.73	32.47	26.15	115.00	-1.30	33.28	26.79
38.33	-1.72	32.60	26.25	116.67	-1.28	33.30	26.81
40.00	-1.70	32.68	26.32	118.33	-1.27	33.33	26.83
41.67	-1.67	32.82	26.43	120.00	-1.26	33.35	26.85
43.33	-1.66	32.86	26.46	121.67	-1.21	33.41	26.90
45.00	-1.67	32.91	26.50	123.33	-1.14	33.45	26.93
46.67	-1.65	32.93	26.52	125.00	-1.10	33.48	26.95
48.33	-1.65	32.95	26.54	126.67	-1.07	33.53	26.99
50.00	-1.62	32.96	26.54	128.34	-1.05	33.54	27.00
51.67	-1.60	32.98	26.56	130.00	-1.04	33.55	27.00
53.33	-1.58	33.00	26.58	131.67	-1.04	33.56	27.01
55.00	-1.61	33.04	26.60	133.34	-1.03	33.56	27.01
56.67	-1.61	33.05	26.62	135.00	-1.03	33.57	27.02
58.33	-1.62	33.06	26.62	136.67	-1.02	33.57	27.02
60.00	-1.62	33.08	26.64	138.34	-1.02	33.58	27.02
61.67	-1.63	33.09	26.65	140.00	-1.02	33.57	27.02
63.33	-1.63	33.10	26.66	141.67	-1.02	33.58	27.02
65.00	-1.64	33.11	26.67	143.34	-1.02	33.58	27.03
66.67	-1.63	33.11	26.67	145.00	-1.02	33.58	27.03
68.33	-1.62	33.12	26.67	146.67	-1.01	33.59	27.03
70.00	-1.63	33.13	26.68	148.34	-1.01	33.59	27.04
71.67	-1.66	33.13	26.68	150.00	-1.01	33.59	27.03
73.33	-1.64	33.13	26.68	151.67	-1.01	33.59	27.04
75.00	-1.62	33.13	26.68	153.34	-1.01	33.59	27.03
76.67	-1.64	33.14	26.69				

REFERENCE NO. 73-473- 2 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 4.0
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
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1	-1.76	31.78	1	25.59	241.0	0.02	0.00	1437.
3	-1.76	31.78	3	25.59	240.7	0.07	0.00	1437.
5	-1.76	31.78	5	25.59	240.5	0.12	0.00	1437.
7	-1.76	31.78	7	25.59	240.6	0.17	0.01	1437.
10	-1.76	31.78	10	25.59	240.5	0.24	0.01	1437.
15	-1.76	31.79	15	25.59	240.3	0.36	0.03	1437.
20	-1.76	31.80	20	25.61	239.1	0.48	0.05	1437.
30	-1.76	32.00	30	25.77	223.4	0.71	0.11	1437.
50	-1.62	32.96	50	26.54	149.8	1.07	0.25	1440.
75	-1.62	33.13	74	26.68	136.4	1.42	0.47	1440.
100	-1.61	33.18	99	26.72	132.5	1.75	0.77	1441.
125	-1.10	33.48	124	26.95	110.7	2.07	1.13	1444.
150	-1.01	33.59	149	27.03	102.9	2.33	1.50	1445.

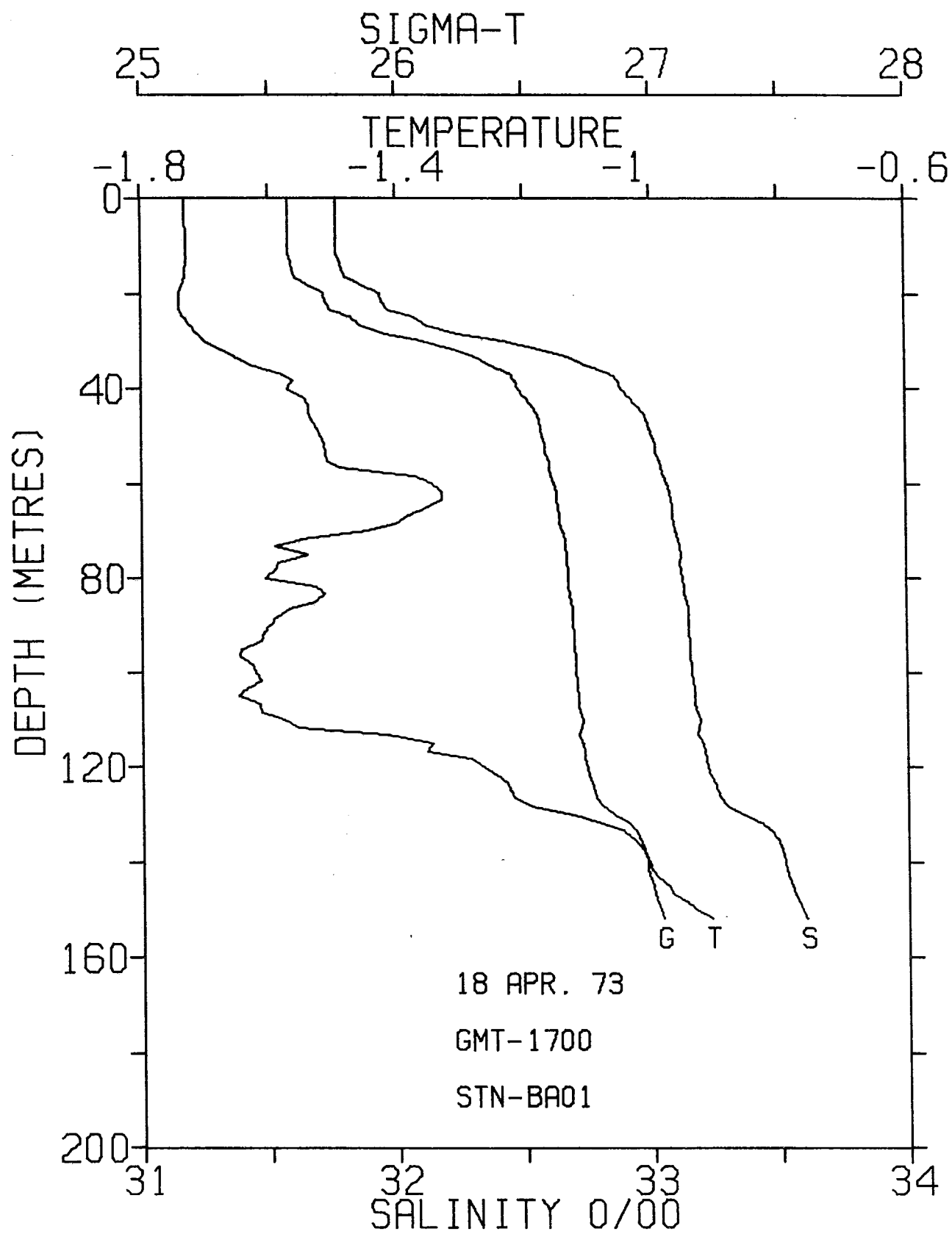


REFERENCE NO. 73-473- 3 STN= BA01 DATE 18/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 16.0
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.70	31.73	25.55	76.67	-1.55	33.07	26.63
1.67	-1.70	31.73	25.55	78.33	-1.55	33.07	26.63
3.33	-1.70	31.73	25.55	80.00	-1.56	33.08	26.64
5.00	-1.70	31.73	25.55	81.67	-1.59	33.08	26.64
6.67	-1.70	31.73	25.55	83.33	-1.60	33.08	26.64
8.33	-1.70	31.73	25.55	85.00	-1.54	33.08	26.64
10.00	-1.70	31.73	25.55	86.67	-1.51	33.09	26.64
11.67	-1.70	31.74	25.55	88.33	-1.50	33.09	26.65
13.33	-1.70	31.75	25.57	90.00	-1.52	33.10	26.65
15.00	-1.70	31.76	25.57	91.67	-1.54	33.10	26.66
16.67	-1.70	31.78	25.59	93.33	-1.56	33.11	26.66
18.33	-1.71	31.81	25.61	95.00	-1.58	33.11	26.66
20.00	-1.71	31.93	25.71	96.67	-1.59	33.11	26.67
21.67	-1.71	31.96	25.73	98.33	-1.61	33.12	26.67
23.33	-1.71	32.00	25.77	100.00	-1.59	33.12	26.67
25.00	-1.71	32.08	25.83	101.67	-1.60	33.12	26.67
26.67	-1.70	32.15	25.89	103.33	-1.60	33.12	26.67
28.33	-1.69	32.18	25.91	105.00	-1.60	33.13	26.68
30.00	-1.66	32.41	26.10	106.67	-1.60	33.12	26.67
31.67	-1.63	32.62	26.27	108.33	-1.57	33.13	26.68
33.33	-1.61	32.69	26.32	110.00	-1.46	33.13	26.68
35.00	-1.59	32.73	26.35	111.67	-1.50	33.14	26.69
36.67	-1.58	32.77	26.39	113.33	-1.52	33.15	26.69
38.33	-1.57	32.79	26.40	115.00	-1.50	33.15	26.69
40.00	-1.55	32.82	26.43	116.67	-1.43	33.15	26.69
41.67	-1.55	32.85	26.45	118.33	-1.34	33.16	26.70
43.33	-1.52	32.87	26.47	120.00	-1.27	33.16	26.69
45.00	-1.51	32.90	26.49	121.67	-1.25	33.17	26.70
46.67	-1.51	32.92	26.51	123.33	-1.25	33.17	26.70
48.33	-1.50	32.94	26.53	125.00	-1.23	33.18	26.71
50.00	-1.50	32.98	26.55	126.67	-1.21	33.20	26.72
51.67	-1.50	32.99	26.56	128.34	-1.20	33.21	26.73
53.33	-1.49	32.99	26.57	130.00	-1.18	33.24	26.76
55.00	-1.48	33.00	26.57	131.67	-1.11	33.30	26.81
56.67	-1.40	33.00	26.57	133.34	-1.07	33.36	26.85
58.33	-1.37	33.02	26.58	135.00	-1.02	33.43	26.90
60.00	-1.38	33.03	26.59	136.67	-1.00	33.45	26.92
61.67	-1.46	33.03	26.59	138.34	-0.99	33.47	26.93
63.33	-1.39	33.04	26.60	140.00	-0.98	33.48	26.94
65.00	-1.39	33.04	26.60	141.67	-0.98	33.49	26.95
66.67	-1.39	33.04	26.60	143.34	-0.97	33.49	26.95
68.33	-1.40	33.04	26.60	145.00	-0.94	33.52	26.98
70.00	-1.43	33.05	26.61	146.67	-0.93	33.53	26.98
71.67	-1.54	33.06	26.62	148.34	-0.92	33.55	27.00
73.33	-1.58	33.06	26.62	150.00	-0.92	33.56	27.01
75.00	-1.56	33.06	26.62				

REFERENCE NO. 73-473- 3 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 16.0
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.70	31.73	0	25.55	244.4	0.0	0.0	1437.
1	-1.70	31.73	1	25.55	244.7	0.02	0.00	1437.
3	-1.70	31.73	3	25.55	244.7	0.07	0.00	1437.
5	-1.70	31.73	5	25.55	244.8	0.12	0.00	1437.
7	-1.70	31.73	7	25.55	244.6	0.17	0.01	1437.
10	-1.70	31.73	10	25.55	244.5	0.24	0.01	1437.
15	-1.70	31.76	15	25.57	242.5	0.37	0.03	1437.
20	-1.71	31.93	20	25.71	229.6	0.49	0.05	1437.
30	-1.66	32.41	30	26.10	192.4	0.70	0.10	1438.
50	-1.50	32.98	50	26.55	149.1	1.03	0.24	1440.
75	-1.56	33.06	74	26.62	142.2	1.39	0.47	1441.
100	-1.59	33.12	99	26.67	137.5	1.74	0.78	1441.
125	-1.23	33.18	124	26.71	133.6	2.08	1.16	1443.

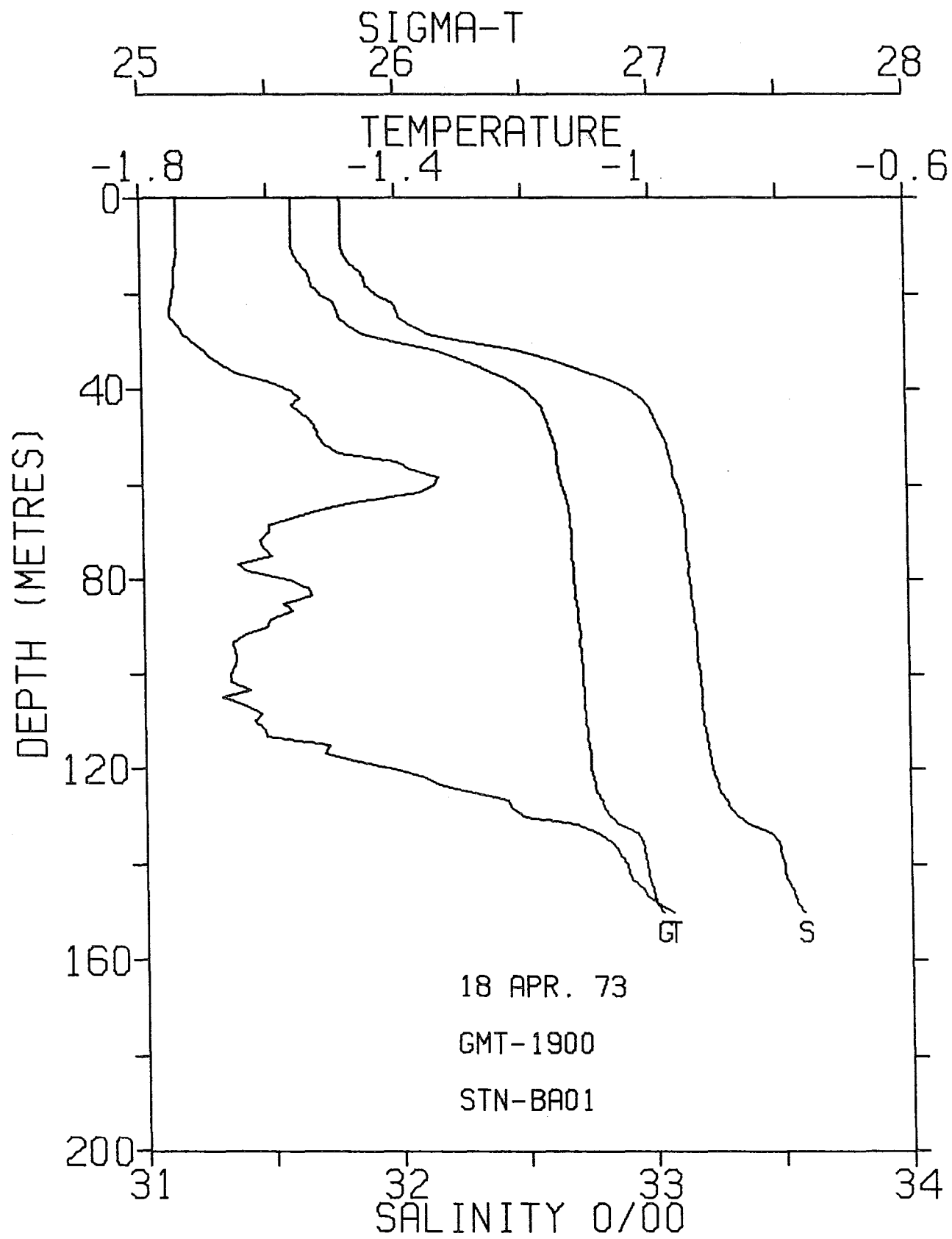


REFERENCE NO. 73-473- 4 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 17.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.73	31.77	25.58	76.67	-1.59	33.11	26.67
1.67	-1.73	31.77	25.58	78.33	-1.59	33.12	26.67
3.33	-1.73	31.77	25.58	80.00	-1.61	33.12	26.67
5.00	-1.73	31.77	25.58	81.67	-1.53	33.13	26.67
6.67	-1.73	31.77	25.58	83.33	-1.51	33.13	26.68
8.33	-1.73	31.77	25.58	85.00	-1.53	33.14	26.68
10.00	-1.73	31.76	25.58	86.67	-1.57	33.14	26.69
11.67	-1.73	31.77	25.58	88.33	-1.59	33.14	26.69
13.33	-1.73	31.78	25.59	90.00	-1.60	33.14	26.69
15.00	-1.73	31.79	25.59	91.67	-1.61	33.15	26.69
16.67	-1.73	31.80	25.61	93.33	-1.61	33.15	26.69
18.33	-1.73	31.87	25.66	95.00	-1.64	33.15	26.70
20.00	-1.74	31.94	25.72	96.67	-1.65	33.15	26.70
21.67	-1.74	31.95	25.72	98.33	-1.63	33.15	26.70
23.33	-1.74	31.97	25.75	100.00	-1.62	33.16	26.70
25.00	-1.73	32.07	25.82	101.67	-1.61	33.16	26.70
26.67	-1.72	32.12	25.86	103.33	-1.63	33.16	26.71
28.33	-1.71	32.24	25.96	105.00	-1.65	33.17	26.71
30.00	-1.70	32.42	26.11	106.67	-1.62	33.17	26.71
31.67	-1.68	32.57	26.23	108.33	-1.61	33.18	26.72
33.33	-1.65	32.67	26.31	110.00	-1.58	33.19	26.73
35.00	-1.63	32.74	26.37	111.67	-1.55	33.18	26.72
36.67	-1.59	32.84	26.44	113.33	-1.42	33.18	26.71
38.33	-1.56	32.87	26.47	115.00	-1.34	33.20	26.73
40.00	-1.57	32.88	26.48	116.67	-1.35	33.21	26.73
41.67	-1.55	32.91	26.50	118.33	-1.29	33.21	26.74
43.33	-1.54	32.94	26.53	120.00	-1.27	33.22	26.74
45.00	-1.54	32.97	26.55	121.67	-1.24	33.23	26.75
46.67	-1.53	32.98	26.56	123.33	-1.23	33.24	26.76
48.33	-1.52	32.99	26.57	125.00	-1.22	33.26	26.77
50.00	-1.52	33.00	26.57	126.67	-1.22	33.27	26.78
51.67	-1.51	33.01	26.58	128.34	-1.19	33.30	26.80
53.33	-1.51	33.02	26.59	130.00	-1.12	33.35	26.85
55.00	-1.51	33.03	26.60	131.67	-1.09	33.42	26.90
56.67	-1.49	33.04	26.60	133.34	-1.05	33.46	26.93
58.33	-1.37	33.05	26.61	135.00	-1.03	33.49	26.95
60.00	-1.34	33.06	26.62	136.67	-1.02	33.50	26.96
61.67	-1.33	33.07	26.63	138.34	-1.01	33.51	26.97
63.33	-1.33	33.08	26.63	140.00	-1.01	33.52	26.98
65.00	-1.35	33.08	26.63	141.67	-1.00	33.52	26.98
66.67	-1.38	33.08	26.64	143.34	-0.99	33.53	26.99
68.33	-1.40	33.09	26.64	145.00	-0.98	33.55	27.00
70.00	-1.45	33.10	26.65	146.67	-0.97	33.56	27.01
71.67	-1.55	33.11	26.66	148.34	-0.95	33.57	27.02
73.33	-1.59	33.11	26.66	150.00	-0.93	33.58	27.03
75.00	-1.54	33.11	26.67	151.67	-0.91	33.60	27.04

REFERENCE NO. 73-473- 4 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 17.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.73	31.77	0	25.58	241.8	0.0	0.0	1437.
1	-1.73	31.77	1	25.58	241.9	0.02	0.00	1437.
3	-1.73	31.77	3	25.58	241.8	0.07	0.00	1437.
5	-1.73	31.77	5	25.58	241.9	0.12	0.00	1437.
7	-1.73	31.77	7	25.58	242.0	0.17	0.01	1437.
10	-1.73	31.76	10	25.58	242.1	0.24	0.01	1437.
15	-1.73	31.79	15	25.59	240.3	0.36	0.03	1437.
20	-1.74	31.94	20	25.72	228.6	0.48	0.05	1437.
30	-1.70	32.42	30	26.11	191.4	0.70	0.10	1438.
50	-1.52	33.00	50	26.57	146.9	1.02	0.23	1440.
75	-1.54	33.11	74	26.67	138.1	1.37	0.46	1441.
100	-1.62	33.16	99	26.70	134.5	1.71	0.76	1441.
125	-1.22	33.26	124	26.77	127.9	2.04	1.14	1443.
150	-0.93	33.58	149	27.03	103.8	2.32	1.53	1445.

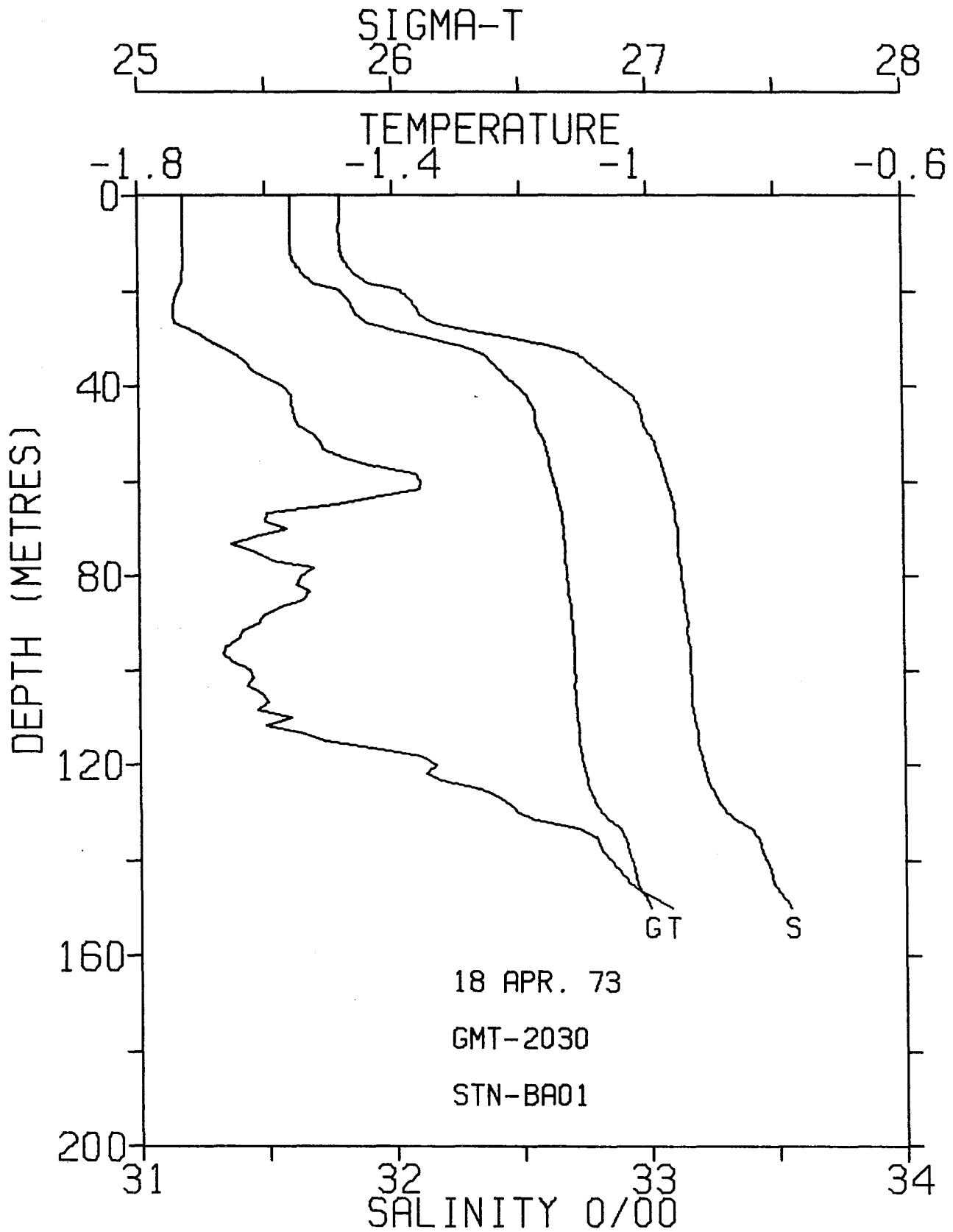


REFERENCE NO. 73-473- 5 STN- HA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 19.0
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.79	25.59	76.67	-1.65	33.14	26.69
1.67	-1.74	31.79	25.59	78.33	-1.63	33.14	26.69
3.33	-1.74	31.79	25.59	80.00	-1.57	33.14	26.69
5.00	-1.74	31.79	25.60	81.67	-1.54	33.15	26.69
6.67	-1.74	31.79	25.59	83.33	-1.53	33.15	26.69
8.33	-1.74	31.79	25.60	85.00	-1.58	33.16	26.70
10.00	-1.74	31.79	25.60	86.67	-1.57	33.16	26.70
11.67	-1.74	31.79	25.60	88.33	-1.60	33.16	26.71
13.33	-1.74	31.82	25.62	90.00	-1.61	33.17	26.71
15.00	-1.75	31.86	25.65	91.67	-1.64	33.17	26.71
16.67	-1.75	31.88	25.67	93.33	-1.66	33.17	26.71
18.33	-1.75	31.88	25.67	95.00	-1.66	33.17	26.72
20.00	-1.75	31.92	25.70	96.67	-1.66	33.17	26.71
21.67	-1.75	31.98	25.75	98.33	-1.66	33.18	26.72
23.33	-1.75	32.01	25.77	100.00	-1.66	33.18	26.72
25.00	-1.75	32.01	25.78	101.67	-1.66	33.18	26.72
26.67	-1.74	32.06	25.82	103.33	-1.63	33.19	26.73
28.33	-1.73	32.13	25.87	105.00	-1.68	33.19	26.73
30.00	-1.72	32.27	25.98	106.67	-1.64	33.19	26.73
31.67	-1.70	32.47	26.15	108.33	-1.62	33.19	26.73
33.33	-1.69	32.58	26.23	110.00	-1.63	33.20	26.73
35.00	-1.67	32.68	26.31	111.67	-1.61	33.20	26.74
36.67	-1.65	32.77	26.39	113.33	-1.61	33.21	26.74
38.33	-1.60	32.86	26.46	115.00	-1.51	33.21	26.75
40.00	-1.57	32.91	26.50	116.67	-1.52	33.22	26.75
41.67	-1.55	32.96	26.54	118.33	-1.47	33.22	26.75
43.33	-1.56	32.99	26.57	120.00	-1.41	33.23	26.75
45.00	-1.55	33.01	26.58	121.67	-1.36	33.24	26.76
46.67	-1.53	33.02	26.59	123.33	-1.34	33.25	26.77
48.33	-1.53	33.04	26.60	125.00	-1.28	33.26	26.77
50.00	-1.52	33.05	26.61	126.67	-1.23	33.29	26.80
51.67	-1.51	33.06	26.62	128.34	-1.22	33.29	26.80
53.33	-1.49	33.07	26.63	130.00	-1.21	33.33	26.83
55.00	-1.40	33.08	26.63	131.67	-1.12	33.37	26.86
56.67	-1.38	33.08	26.63	133.34	-1.09	33.45	26.93
58.33	-1.34	33.09	26.64	135.00	-1.07	33.48	26.95
60.00	-1.34	33.10	26.65	136.67	-1.06	33.49	26.96
61.67	-1.37	33.11	26.65	138.34	-1.05	33.49	26.96
63.33	-1.46	33.12	26.67	140.00	-1.04	33.51	26.97
65.00	-1.51	33.12	26.67	141.67	-1.04	33.51	26.97
66.67	-1.56	33.13	26.68	143.34	-1.04	33.52	26.98
68.33	-1.60	33.13	26.68	145.00	-1.02	33.53	26.99
70.00	-1.60	33.13	26.68	146.67	-1.01	33.54	27.00
71.67	-1.62	33.14	26.68	148.34	-0.99	33.56	27.01
73.33	-1.61	33.13	26.68	150.00	-0.97	33.58	27.03
75.00	-1.60	33.14	26.69				

REFERENCE NO. 73-473- 5 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 19.0
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.79	0	25.59	240.4	0.0	0.0	1437.
1	-1.74	31.79	1	25.59	240.5	0.02	0.00	1437.
3	-1.74	31.79	3	25.59	240.5	0.07	0.00	1437.
5	-1.74	31.79	5	25.60	240.3	0.12	0.00	1437.
7	-1.74	31.79	7	25.59	240.2	0.17	0.01	1437.
10	-1.74	31.79	10	25.60	240.2	0.24	0.01	1437.
15	-1.75	31.86	15	25.65	235.0	0.36	0.03	1437.
20	-1.75	31.92	20	25.70	229.9	0.48	0.05	1437.
30	-1.72	32.27	30	25.98	203.2	0.70	0.10	1438.
50	-1.52	33.05	50	26.61	143.5	1.02	0.23	1440.
75	-1.60	33.14	74	26.69	136.2	1.36	0.45	1440.
100	-1.66	33.18	99	26.72	132.4	1.70	0.75	1441.
125	-1.28	33.26	124	26.77	127.7	2.03	1.13	1443.

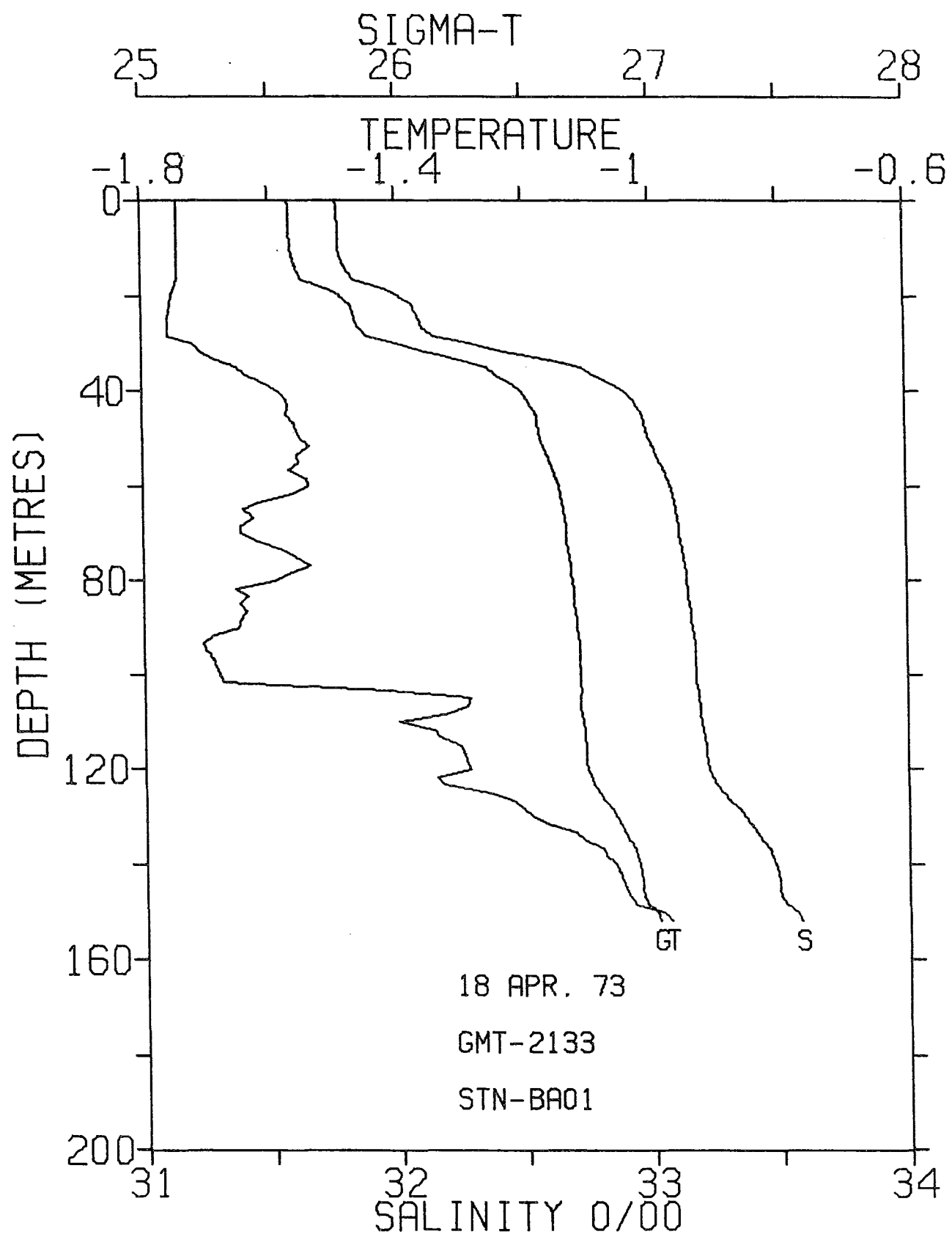


REFERENCE NO. 73-473- 6 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 20.5
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	=1.73	31.80	25.60	76.67	=1.59	33.12	26.67
1.67	=1.73	31.79	25.60	78.33	=1.53	33.13	26.68
3.33	=1.73	31.79	25.60	80.00	=1.55	33.13	26.68
5.00	=1.73	31.79	25.60	81.67	=1.55	33.14	26.68
6.67	=1.73	31.79	25.60	83.33	=1.53	33.14	26.68
8.33	=1.73	31.79	25.60	85.00	=1.54	33.14	26.69
10.00	=1.73	31.79	25.60	86.67	=1.58	33.15	26.69
11.67	=1.73	31.79	25.60	88.33	=1.60	33.15	26.69
13.33	=1.73	31.80	25.61	90.00	=1.61	33.15	26.70
15.00	=1.73	31.83	25.63	91.67	=1.64	33.15	26.70
16.67	=1.73	31.86	25.65	93.33	=1.64	33.16	26.70
18.33	=1.73	31.90	25.69	95.00	=1.66	33.16	26.71
20.00	=1.74	32.03	25.79	96.67	=1.67	33.16	26.70
21.67	=1.74	32.07	25.82	98.33	=1.65	33.16	26.71
23.33	=1.74	32.10	25.84	100.00	=1.63	33.16	26.71
25.00	=1.74	32.11	25.85	101.67	=1.62	33.17	26.71
26.67	=1.74	32.16	25.90	103.33	=1.63	33.16	26.71
28.33	=1.71	32.31	26.02	105.00	=1.61	33.17	26.71
30.00	=1.69	32.48	26.15	106.67	=1.60	33.17	26.71
31.67	=1.67	32.64	26.28	108.33	=1.62	33.17	26.72
33.33	=1.65	32.73	26.35	110.00	=1.56	33.18	26.72
35.00	=1.63	32.77	26.39	111.67	=1.60	33.18	26.72
36.67	=1.62	32.81	26.42	113.33	=1.55	33.19	26.72
38.33	=1.60	32.85	26.45	115.00	=1.51	33.19	26.72
40.00	=1.57	32.90	26.49	116.67	=1.42	33.20	26.73
41.67	=1.56	32.94	26.52	118.33	=1.36	33.20	26.73
43.33	=1.56	32.96	26.54	120.00	=1.34	33.21	26.74
45.00	=1.56	32.97	26.55	121.67	=1.35	33.22	26.75
46.67	=1.55	32.98	26.55	123.33	=1.33	33.23	26.75
48.33	=1.55	32.99	26.56	125.00	=1.27	33.24	26.76
50.00	=1.53	33.00	26.58	126.67	=1.24	33.26	26.78
51.67	=1.52	33.03	26.59	128.34	=1.22	33.28	26.79
53.33	=1.51	33.04	26.60	130.00	=1.21	33.30	26.81
55.00	=1.48	33.05	26.61	131.67	=1.18	33.34	26.84
56.67	=1.44	33.05	26.61	133.34	=1.11	33.40	26.88
58.33	=1.37	33.06	26.62	135.00	=1.09	33.42	26.90
60.00	=1.36	33.07	26.63	136.67	=1.08	33.43	26.91
61.67	=1.36	33.08	26.64	138.34	=1.07	33.44	26.92
63.33	=1.43	33.09	26.65	140.00	=1.06	33.45	26.93
65.00	=1.49	33.10	26.65	141.67	=1.05	33.47	26.94
66.67	=1.60	33.10	26.66	143.34	=1.04	33.48	26.94
68.33	=1.60	33.11	26.66	145.00	=1.03	33.48	26.95
70.00	=1.57	33.11	26.67	146.67	=1.01	33.50	26.97
71.67	=1.62	33.12	26.67	148.34	=0.99	33.53	26.99
73.33	=1.66	33.12	26.67	150.00	=0.97	33.55	27.00
75.00	=1.62	33.12	26.67				

REFERENCE NO. 73-473- 6 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 20.5
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.73	31.80	0	25.60	239.6	0.0	0.0	1437.
1	-1.73	31.79	1	25.60	239.8	0.02	0.00	1437.
3	-1.73	31.79	3	25.60	239.9	0.07	0.00	1437.
5	-1.73	31.79	5	25.60	240.0	0.12	0.00	1437.
7	-1.73	31.79	7	25.60	240.0	0.17	0.01	1437.
10	-1.73	31.79	10	25.60	239.9	0.24	0.01	1437.
15	-1.73	31.83	15	25.63	236.9	0.36	0.03	1437.
20	-1.74	32.03	20	25.79	221.4	0.48	0.05	1437.
30	-1.69	32.48	30	26.15	187.2	0.69	0.10	1438.
50	-1.53	33.00	50	26.58	146.8	1.00	0.23	1440.
75	-1.62	33.12	74	26.67	137.7	1.35	0.45	1440.
100	-1.63	33.16	99	26.71	134.0	1.69	0.75	1441.
125	-1.27	33.24	124	26.76	128.7	2.02	1.13	1443.

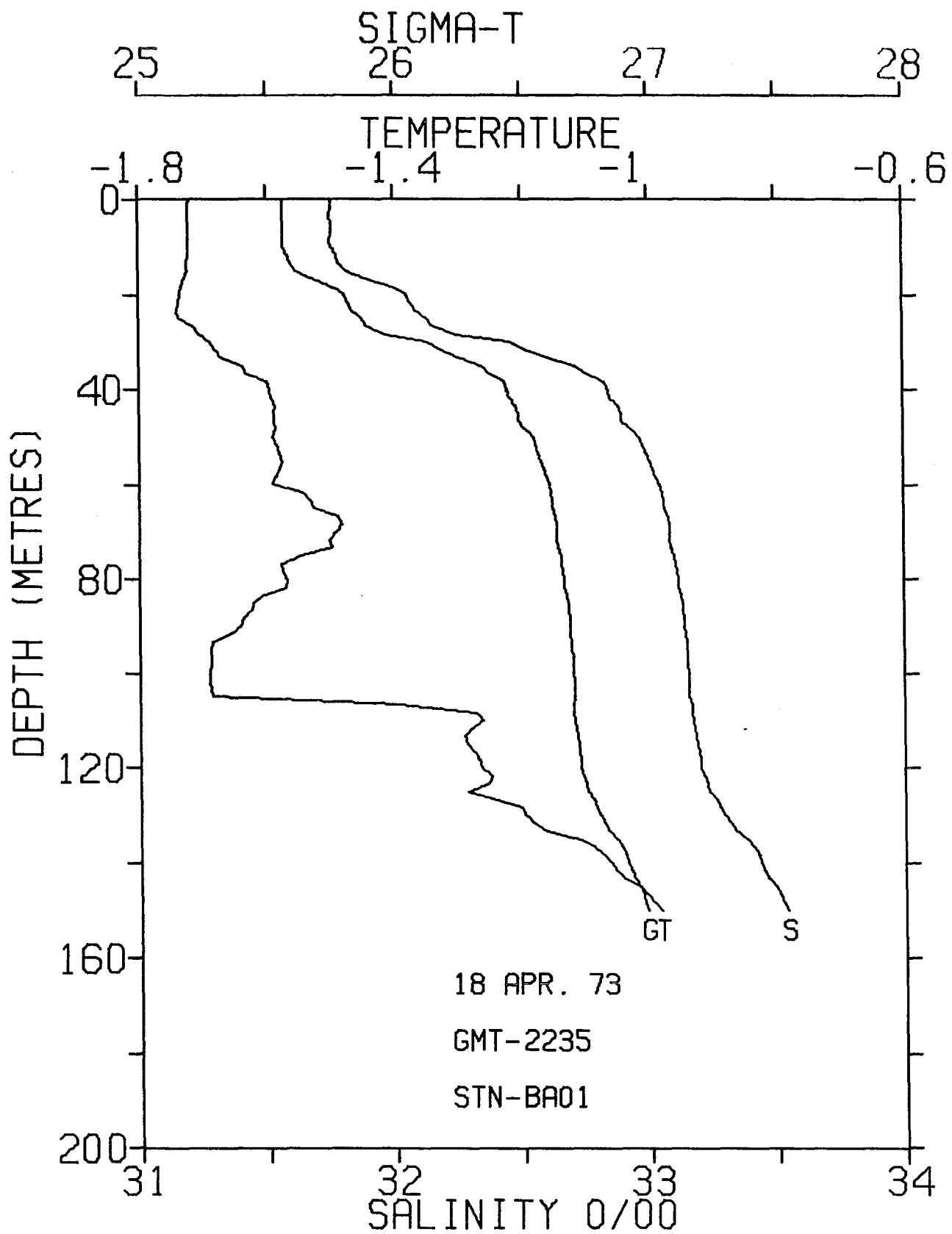


REFERENCE NO. 73-473- 7 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 21.5
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.77	25.58	76.67	-1.54	33.14	26.68
1.67	-1.74	31.77	25.58	78.33	-1.57	33.14	26.69
3.33	-1.74	31.77	25.58	80.00	-1.60	33.14	26.69
5.00	-1.74	31.78	25.59	81.67	-1.65	33.15	26.69
6.67	-1.74	31.78	25.58	83.33	-1.63	33.14	26.69
8.33	-1.74	31.78	25.59	85.00	-1.65	33.15	26.70
10.00	-1.74	31.78	25.59	86.67	-1.64	33.16	26.70
11.67	-1.74	31.78	25.59	88.33	-1.65	33.16	26.70
13.33	-1.74	31.80	25.61	90.00	-1.65	33.16	26.70
15.00	-1.74	31.81	25.62	91.67	-1.69	33.17	26.71
16.67	-1.74	31.84	25.64	93.33	-1.71	33.17	26.71
18.33	-1.75	31.95	25.73	95.00	-1.70	33.17	26.72
20.00	-1.75	32.02	25.78	96.67	-1.69	33.17	26.72
21.67	-1.75	32.07	25.82	98.33	-1.69	33.17	26.72
23.33	-1.76	32.08	25.83	100.00	-1.68	33.17	26.72
25.00	-1.76	32.09	25.84	101.67	-1.68	33.17	26.72
26.67	-1.76	32.11	25.85	103.33	-1.42	33.19	26.72
28.33	-1.76	32.15	25.89	105.00	-1.29	33.18	26.71
30.00	-1.72	32.29	26.01	106.67	-1.29	33.19	26.72
31.67	-1.71	32.43	26.12	108.33	-1.33	33.19	26.72
33.33	-1.69	32.59	26.24	110.00	-1.40	33.19	26.73
35.00	-1.65	32.73	26.36	111.67	-1.34	33.20	26.73
36.67	-1.63	32.78	26.40	113.33	-1.33	33.21	26.74
38.33	-1.61	32.84	26.45	115.00	-1.30	33.21	26.74
40.00	-1.59	32.90	26.49	116.67	-1.30	33.21	26.74
41.67	-1.57	32.93	26.52	118.33	-1.29	33.22	26.74
43.33	-1.57	32.95	26.53	120.00	-1.29	33.22	26.75
45.00	-1.57	32.97	26.55	121.67	-1.34	33.24	26.76
46.67	-1.56	32.98	26.56	123.33	-1.33	33.25	26.77
48.33	-1.56	32.99	26.56	125.00	-1.26	33.28	26.79
50.00	-1.55	32.99	26.57	126.67	-1.22	33.30	26.81
51.67	-1.54	33.01	26.58	128.34	-1.20	33.34	26.84
53.33	-1.56	33.02	26.59	130.00	-1.19	33.36	26.85
55.00	-1.55	33.04	26.60	131.67	-1.17	33.39	26.87
56.67	-1.57	33.05	26.62	133.34	-1.12	33.41	26.89
58.33	-1.54	33.06	26.63	135.00	-1.11	33.43	26.91
60.00	-1.54	33.08	26.64	136.67	-1.08	33.46	26.93
61.67	-1.56	33.09	26.65	138.34	-1.07	33.46	26.94
63.33	-1.62	33.10	26.65	140.00	-1.06	33.48	26.95
65.00	-1.64	33.10	26.66	141.67	-1.05	33.49	26.95
66.67	-1.63	33.11	26.66	143.34	-1.05	33.49	26.96
68.33	-1.65	33.11	26.67	145.00	-1.04	33.49	26.96
70.00	-1.65	33.11	26.67	146.67	-1.04	33.50	26.96
71.67	-1.62	33.12	26.67	148.34	-1.03	33.52	26.98
73.33	-1.59	33.12	26.67	150.00	-0.99	33.56	27.01
75.00	-1.56	33.13	26.68	151.67	-0.97	33.58	27.02

REFERENCE NO. 73-473- 7 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 21.5
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.77	0	25.58	241.5	0.0	0.0	1437.
1	-1.74	31.77	1	25.58	241.5	0.02	0.00	1437.
3	-1.74	31.77	3	25.58	241.4	0.07	0.00	1437.
5	-1.74	31.78	5	25.59	241.2	0.12	0.00	1437.
7	-1.74	31.78	7	25.58	241.2	0.17	0.01	1437.
10	-1.74	31.78	10	25.59	240.9	0.24	0.01	1437.
15	-1.74	31.81	15	25.62	238.2	0.36	0.03	1437.
20	-1.75	32.02	20	25.78	222.3	0.48	0.05	1437.
30	-1.72	32.29	30	26.01	201.1	0.69	0.10	1438.
50	-1.55	32.99	50	26.57	147.5	1.01	0.23	1440.
75	-1.56	33.13	74	26.68	136.9	1.37	0.46	1441.
100	-1.68	33.17	99	26.72	133.1	1.70	0.76	1441.
125	-1.26	33.28	124	26.79	126.1	2.03	1.13	1443.
150	-0.99	33.56	149	27.01	105.4	2.32	1.53	1445.

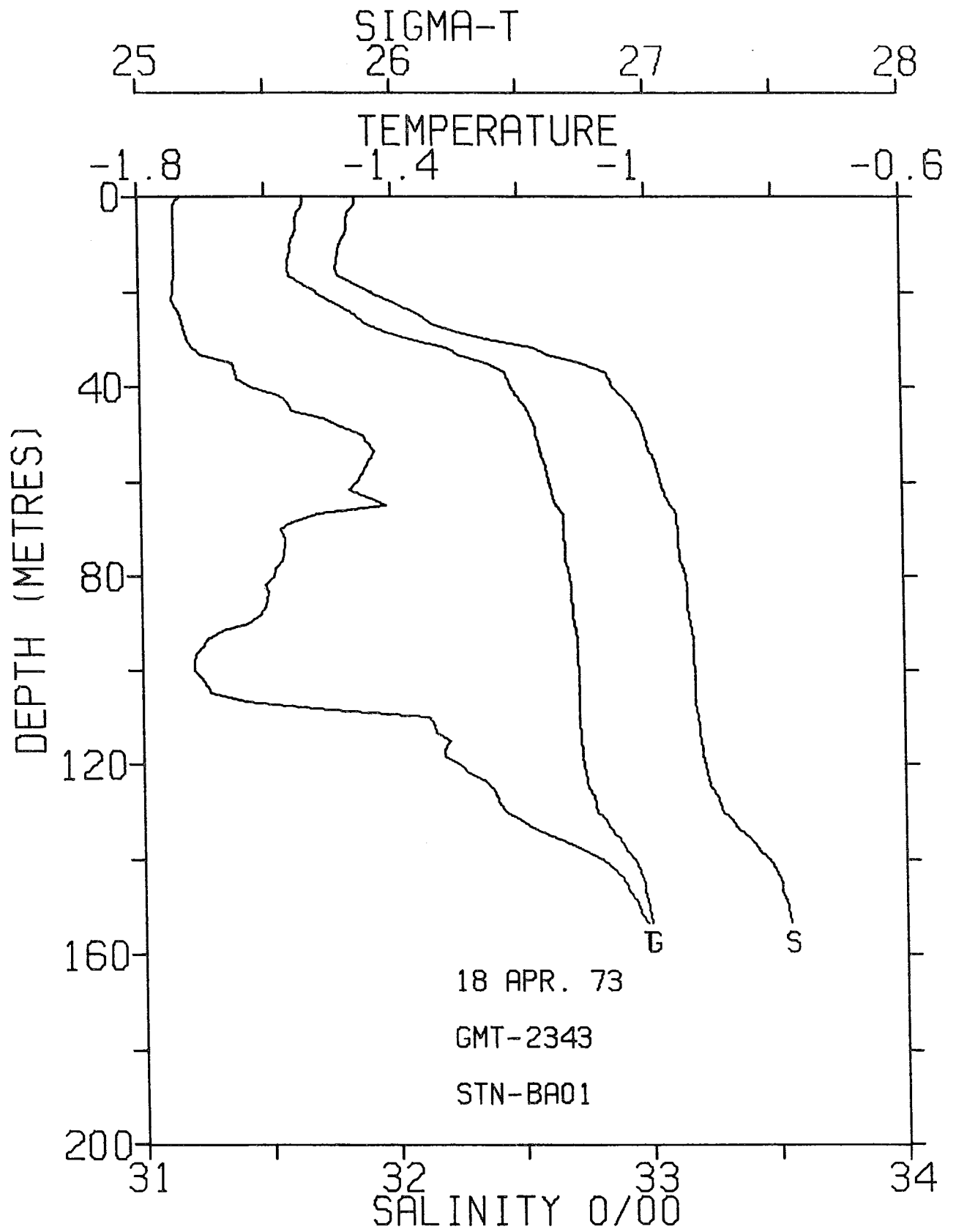


REFERENCE NO. 73-473- 8 STN- BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.6
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.72	31.75	25.57	76.67	-1.58	33.10	26.66
1.67	-1.72	31.75	25.57	78.33	-1.58	33.11	26.66
3.33	-1.72	31.75	25.57	80.00	-1.57	33.11	26.67
5.00	-1.72	31.75	25.57	81.67	-1.57	33.12	26.67
6.67	-1.72	31.75	25.57	83.33	-1.60	33.13	26.68
8.33	-1.72	31.75	25.57	85.00	-1.62	33.13	26.68
10.00	-1.72	31.75	25.57	86.67	-1.63	33.13	26.68
11.67	-1.72	31.78	25.58	88.33	-1.64	33.14	26.69
13.33	-1.72	31.78	25.59	90.00	-1.64	33.14	26.69
15.00	-1.73	31.81	25.62	91.67	-1.66	33.14	26.69
16.67	-1.73	31.89	25.68	93.33	-1.69	33.15	26.70
18.33	-1.73	32.00	25.76	95.00	-1.69	33.15	26.70
20.00	-1.74	32.05	25.81	96.67	-1.69	33.15	26.70
21.67	-1.74	32.07	25.82	98.33	-1.69	33.15	26.70
23.33	-1.74	32.09	25.84	100.00	-1.69	33.15	26.70
25.00	-1.74	32.13	25.87	101.67	-1.69	33.16	26.70
26.67	-1.72	32.16	25.89	103.33	-1.69	33.16	26.70
28.33	-1.71	32.25	25.97	105.00	-1.69	33.16	26.70
30.00	-1.69	32.46	26.14	106.67	-1.39	33.16	26.70
31.67	-1.68	32.52	26.19	108.33	-1.27	33.17	26.70
33.33	-1.67	32.61	26.26	110.00	-1.26	33.17	26.70
35.00	-1.64	32.71	26.34	111.67	-1.28	33.18	26.71
36.67	-1.63	32.76	26.38	113.33	-1.29	33.18	26.72
38.33	-1.60	32.83	26.43	115.00	-1.29	33.19	26.72
40.00	-1.60	32.84	26.45	116.67	-1.28	33.20	26.72
41.67	-1.59	32.85	26.45	118.33	-1.27	33.20	26.73
43.33	-1.59	32.88	26.48	120.00	-1.27	33.20	26.73
45.00	-1.59	32.89	26.49	121.67	-1.25	33.22	26.74
46.67	-1.59	32.90	26.49	123.33	-1.25	33.23	26.75
48.33	-1.59	32.93	26.52	125.00	-1.29	33.23	26.75
50.00	-1.59	32.97	26.55	126.67	-1.25	33.26	26.78
51.67	-1.59	32.98	26.56	128.34	-1.20	33.28	26.79
53.33	-1.58	32.99	26.57	130.00	-1.20	33.30	26.80
55.00	-1.57	33.01	26.58	131.67	-1.18	33.32	26.82
56.67	-1.58	33.02	26.59	133.34	-1.16	33.34	26.84
58.33	-1.59	33.03	26.60	135.00	-1.11	33.39	26.87
60.00	-1.59	33.04	26.61	136.67	-1.09	33.41	26.89
61.67	-1.54	33.06	26.62	138.34	-1.07	33.43	26.90
63.33	-1.53	33.06	26.62	140.00	-1.06	33.43	26.91
65.00	-1.53	33.06	26.62	141.67	-1.05	33.45	26.93
66.67	-1.49	33.08	26.64	143.34	-1.04	33.47	26.94
68.33	-1.48	33.08	26.64	145.00	-1.02	33.50	26.96
70.00	-1.49	33.09	26.64	146.67	-1.00	33.51	26.97
71.67	-1.50	33.08	26.64	148.34	-0.99	33.52	26.98
73.33	-1.50	33.09	26.64	150.00	-0.98	33.54	26.99
75.00	-1.55	33.10	26.66				

REFERENCE NO. 73-473- 8 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.6
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.72	31.75	0	25.57	242.7	0.0	0.0	1437.
1	-1.72	31.75	1	25.57	243.0	0.02	0.00	1437.
3	-1.72	31.75	3	25.57	243.1	0.07	0.00	1437.
5	-1.72	31.75	5	25.57	242.9	0.12	0.00	1437.
7	-1.72	31.75	7	25.57	243.0	0.17	0.01	1437.
10	-1.72	31.75	10	25.57	242.8	0.24	0.01	1437.
15	-1.73	31.81	15	25.62	238.2	0.36	0.03	1437.
20	-1.74	32.05	20	25.81	220.1	0.48	0.05	1437.
30	-1.69	32.46	30	26.14	188.7	0.69	0.10	1438.
50	-1.59	32.97	50	26.55	149.3	1.02	0.23	1440.
75	-1.55	33.10	74	26.66	139.0	1.37	0.46	1441.
100	-1.69	33.15	99	26.70	134.5	1.72	0.76	1440.
125	-1.29	33.23	124	26.75	129.6	2.05	1.14	1443.

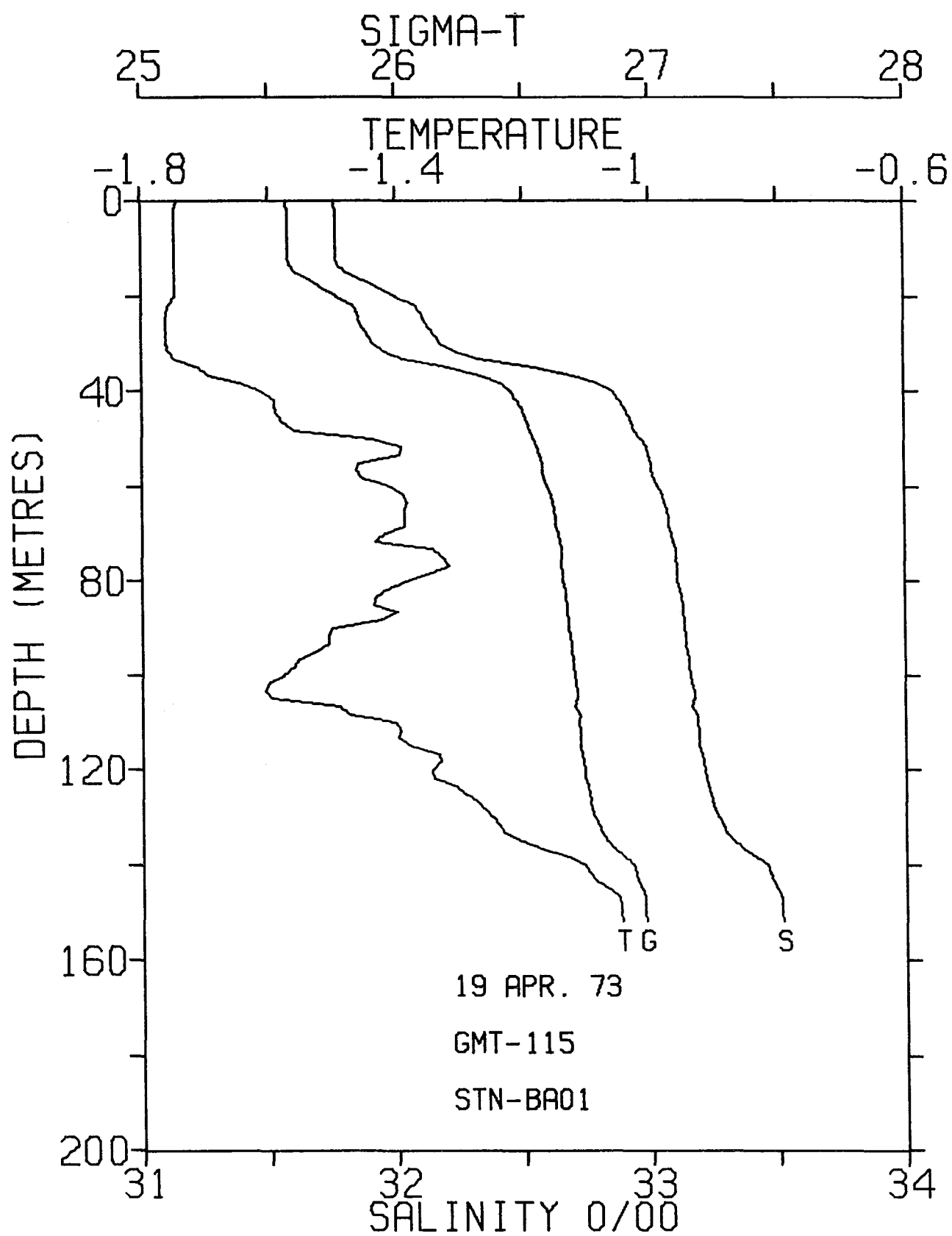


REFERENCE NO. 73-473- 9 STN= BA01 DATE 18/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 23.7
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.73	31.86	25.65	78.33	-1.59	33.14	26.69
1.67	-1.74	31.86	25.65	80.00	-1.59	33.14	26.69
3.33	-1.74	31.83	25.63	81.67	-1.61	33.15	26.69
5.00	-1.74	31.82	25.62	83.33	-1.60	33.15	26.70
6.67	-1.74	31.82	25.62	85.00	-1.60	33.15	26.70
8.33	-1.74	31.81	25.61	86.67	-1.61	33.15	26.70
10.00	-1.74	31.80	25.60	88.33	-1.61	33.16	26.70
11.67	-1.74	31.79	25.60	90.00	-1.63	33.16	26.71
13.33	-1.74	31.78	25.59	91.67	-1.67	33.17	26.71
15.00	-1.74	31.78	25.59	93.33	-1.70	33.17	26.71
16.67	-1.74	31.79	25.60	95.00	-1.71	33.17	26.72
18.33	-1.74	31.85	25.65	96.67	-1.72	33.17	26.72
20.00	-1.74	31.92	25.70	98.33	-1.72	33.17	26.72
21.67	-1.75	31.98	25.75	100.00	-1.72	33.18	26.72
23.33	-1.74	32.06	25.81	101.67	-1.71	33.18	26.72
25.00	-1.73	32.11	25.86	103.33	-1.70	33.18	26.72
26.67	-1.73	32.16	25.89	105.00	-1.69	33.18	26.72
28.33	-1.73	32.26	25.98	106.67	-1.64	33.18	26.72
30.00	-1.73	32.38	26.07	108.33	-1.50	33.18	26.72
31.67	-1.72	32.56	26.22	110.00	-1.35	33.19	26.72
33.33	-1.70	32.61	26.26	111.67	-1.34	33.19	26.72
35.00	-1.65	32.75	26.37	113.33	-1.34	33.19	26.73
36.67	-1.65	32.83	26.44	115.00	-1.32	33.20	26.73
38.33	-1.65	32.86	26.46	116.67	-1.32	33.21	26.73
40.00	-1.63	32.86	26.46	118.33	-1.32	33.21	26.73
41.67	-1.58	32.90	26.49	120.00	-1.30	33.22	26.74
43.33	-1.57	32.93	26.51	121.67	-1.29	33.22	26.74
45.00	-1.56	32.95	26.53	123.33	-1.26	33.23	26.75
46.67	-1.51	32.97	26.55	125.00	-1.25	33.24	26.76
48.33	-1.48	32.99	26.56	126.67	-1.24	33.26	26.78
50.00	-1.45	32.99	26.56	128.34	-1.24	33.27	26.79
51.67	-1.44	33.00	26.57	130.00	-1.23	33.28	26.79
53.33	-1.43	33.01	26.58	131.67	-1.21	33.32	26.82
55.00	-1.44	33.03	26.59	133.34	-1.19	33.34	26.84
56.67	-1.44	33.03	26.60	135.00	-1.15	33.38	26.87
58.33	-1.45	33.04	26.60	136.67	-1.13	33.40	26.89
60.00	-1.46	33.05	26.61	138.34	-1.10	33.43	26.91
61.67	-1.47	33.06	26.62	140.00	-1.08	33.46	26.93
63.33	-1.44	33.07	26.63	141.67	-1.06	33.48	26.95
65.00	-1.41	33.09	26.64	143.34	-1.05	33.50	26.96
66.67	-1.52	33.11	26.66	145.00	-1.04	33.51	26.97
68.33	-1.56	33.11	26.66	146.67	-1.04	33.51	26.97
70.00	-1.58	33.11	26.67	148.34	-1.02	33.53	26.98
71.67	-1.57	33.12	26.67	150.00	-1.02	33.53	26.99
73.33	-1.57	33.12	26.67	151.67	-1.02	33.54	26.99
75.00	-1.58	33.12	26.67	153.34	-1.01	33.54	27.00
76.67	-1.58	33.12	26.67				

REFERENCE NO. 73-473- 9 STN= BA01 DATE 18/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 23.7
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.73	31.86	0	25.65	234.7	0.0	0.0	1437.
1	-1.74	31.86	1	25.65	235.0	0.02	0.00	1437.
3	-1.74	31.83	3	25.63	236.8	0.07	0.00	1437.
5	-1.74	31.82	5	25.62	237.8	0.12	0.00	1437.
7	-1.74	31.82	7	25.62	237.8	0.17	0.01	1437.
10	-1.74	31.80	10	25.60	239.7	0.24	0.01	1437.
15	-1.74	31.78	15	25.59	240.8	0.36	0.03	1437.
20	-1.74	31.92	20	25.70	230.0	0.48	0.05	1437.
30	-1.73	32.38	30	26.07	194.5	0.69	0.10	1438.
50	-1.45	32.99	50	26.56	148.0	1.01	0.23	1441.
75	-1.58	33.12	74	26.67	137.5	1.37	0.46	1441.
100	-1.72	33.18	99	26.72	132.8	1.70	0.76	1440.
125	-1.25	33.24	124	26.76	129.2	2.03	1.13	1443.
150	-1.02	33.53	149	26.99	107.1	2.32	1.54	1445.

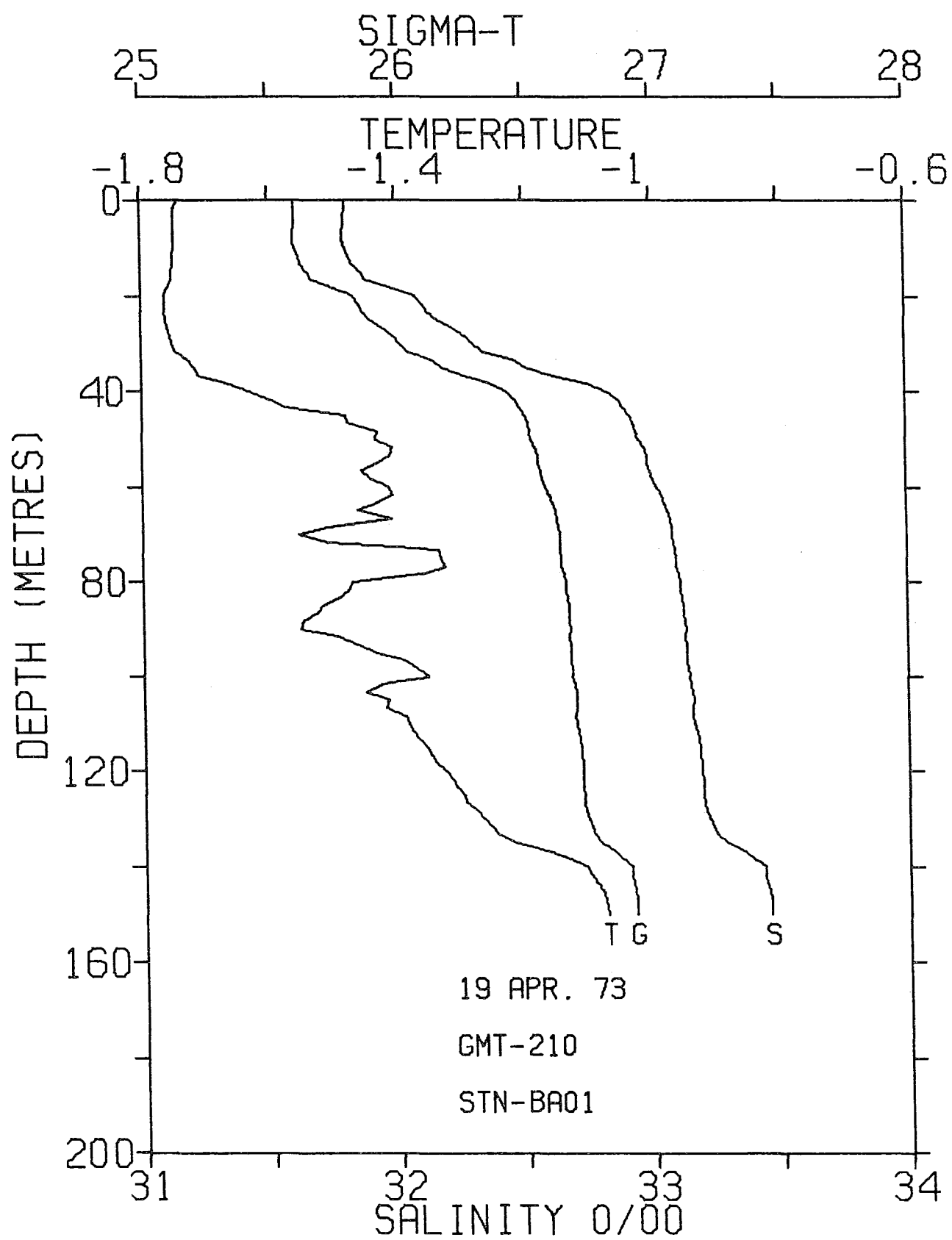


REFERENCE NO. 73-473- 10 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 1.3
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.76	25.57	76.67	-1.32	33.10	26.65
1.67	-1.75	31.77	25.58	78.33	-1.34	33.11	26.65
3.33	-1.75	31.77	25.58	80.00	-1.39	33.11	26.66
5.00	-1.75	31.77	25.58	81.67	-1.42	33.12	26.66
6.67	-1.75	31.77	25.58	83.33	-1.43	33.12	26.67
8.33	-1.75	31.76	25.58	85.00	-1.43	33.13	26.67
10.00	-1.75	31.77	25.58	86.67	-1.40	33.13	26.67
11.67	-1.75	31.77	25.58	88.33	-1.42	33.13	26.68
13.33	-1.75	31.77	25.58	90.00	-1.50	33.13	26.68
15.00	-1.75	31.81	25.61	91.67	-1.51	33.14	26.68
16.67	-1.75	31.87	25.66	93.33	-1.51	33.14	26.69
18.33	-1.75	31.94	25.72	95.00	-1.53	33.14	26.69
20.00	-1.75	32.00	25.76	96.67	-1.55	33.15	26.69
21.67	-1.75	32.07	25.83	98.33	-1.56	33.15	26.70
23.33	-1.76	32.10	25.85	100.00	-1.58	33.15	26.70
25.00	-1.76	32.11	25.86	101.67	-1.60	33.16	26.71
26.67	-1.76	32.13	25.87	103.33	-1.61	33.17	26.71
28.33	-1.76	32.16	25.90	105.00	-1.60	33.17	26.71
30.00	-1.76	32.18	25.91	106.67	-1.49	33.16	26.70
31.67	-1.75	32.24	25.96	108.33	-1.47	33.19	26.72
33.33	-1.75	32.33	26.03	110.00	-1.40	33.18	26.72
35.00	-1.71	32.55	26.21	111.67	-1.39	33.19	26.72
36.67	-1.69	32.70	26.33	113.33	-1.40	33.19	26.72
38.33	-1.64	32.80	26.41	115.00	-1.38	33.19	26.72
40.00	-1.61	32.85	26.46	116.67	-1.33	33.20	26.73
41.67	-1.59	32.88	26.47	118.33	-1.33	33.20	26.73
43.33	-1.59	32.90	26.49	120.00	-1.34	33.21	26.74
45.00	-1.59	32.91	26.51	121.67	-1.34	33.21	26.74
46.67	-1.58	32.93	26.52	123.33	-1.31	33.22	26.75
48.33	-1.56	32.94	26.53	125.00	-1.29	33.23	26.75
50.00	-1.44	32.97	26.55	126.67	-1.28	33.24	26.76
51.67	-1.39	32.99	26.56	128.34	-1.26	33.25	26.77
53.33	-1.39	33.00	26.57	130.00	-1.25	33.27	26.78
55.00	-1.46	33.01	26.58	131.67	-1.24	33.28	26.79
56.67	-1.46	33.01	26.58	133.34	-1.23	33.29	26.80
58.33	-1.45	33.01	26.58	135.00	-1.20	33.33	26.83
60.00	-1.41	33.03	26.59	136.67	-1.17	33.36	26.86
61.67	-1.39	33.05	26.61	138.34	-1.13	33.41	26.89
63.33	-1.38	33.06	26.62	140.00	-1.11	33.45	26.93
65.00	-1.39	33.07	26.62	141.67	-1.10	33.47	26.94
66.67	-1.39	33.07	26.63	143.34	-1.09	33.48	26.95
68.33	-1.39	33.07	26.63	145.00	-1.07	33.49	26.96
70.00	-1.42	33.08	26.64	146.67	-1.05	33.51	26.97
71.67	-1.43	33.09	26.64	148.34	-1.05	33.51	26.97
73.33	-1.34	33.10	26.65	150.00	-1.05	33.51	26.97
75.00	-1.33	33.10	26.65	151.67	-1.05	33.52	26.98

REFERENCE NO. 73-473- 10 STN= BA01 DATE 19/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 1.3
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.76	0	25.57	242.3	0.0	0.0	1437.
1	-1.74	31.76	1	25.57	242.2	0.02	0.00	1437.
3	-1.75	31.77	3	25.58	241.9	0.07	0.00	1437.
5	-1.75	31.77	5	25.58	242.0	0.12	0.00	1437.
7	-1.75	31.77	7	25.58	242.0	0.17	0.01	1437.
10	-1.75	31.77	10	25.58	241.8	0.24	0.01	1437.
15	-1.75	31.81	15	25.61	238.4	0.36	0.03	1437.
20	-1.75	32.00	20	25.76	224.0	0.48	0.05	1437.
30	-1.76	32.18	30	25.91	210.0	0.69	0.10	1438.
50	-1.44	32.97	50	26.55	149.7	1.03	0.24	1441.
75	-1.33	33.10	74	26.65	139.7	1.39	0.47	1442.
100	-1.58	33.15	99	26.70	134.9	1.73	0.77	1441.
125	-1.29	33.23	124	26.75	129.5	2.06	1.15	1443.
150	-1.05	33.51	149	26.97	108.7	2.36	1.56	1445.

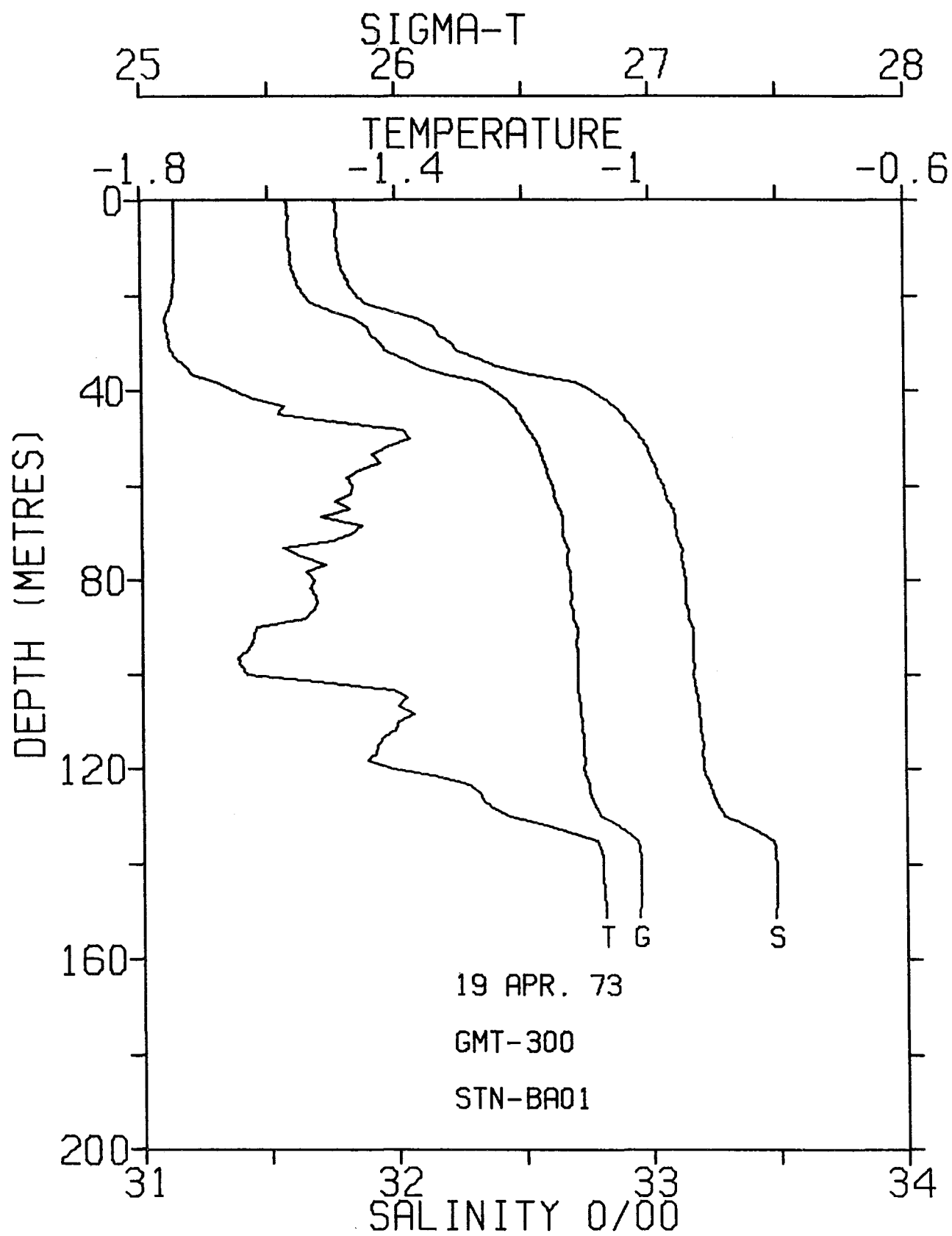


REFERENCE NO. 73-473- 11 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 2.2
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.80	25.61	76.67	-1.32	33.10	26.65
1.67	-1.75	31.80	25.61	78.33	-1.36	33.11	26.65
3.33	-1.75	31.80	25.61	80.00	-1.47	33.11	26.66
5.00	-1.75	31.80	25.61	81.67	-1.48	33.11	26.66
6.67	-1.75	31.80	25.60	83.33	-1.49	33.12	26.67
8.33	-1.75	31.79	25.60	85.00	-1.52	33.12	26.67
10.00	-1.75	31.80	25.61	86.67	-1.53	33.12	26.67
11.67	-1.75	31.82	25.62	88.33	-1.55	33.13	26.67
13.33	-1.75	31.83	25.63	90.00	-1.55	33.13	26.68
15.00	-1.75	31.86	25.66	91.67	-1.50	33.13	26.67
16.67	-1.75	31.88	25.67	93.33	-1.46	33.13	26.68
18.33	-1.76	31.99	25.76	95.00	-1.43	33.13	26.68
20.00	-1.76	32.08	25.83	96.67	-1.39	33.14	26.68
21.67	-1.76	32.11	25.85	98.33	-1.37	33.14	26.68
23.33	-1.76	32.13	25.87	100.00	-1.35	33.14	26.68
25.00	-1.76	32.16	25.90	101.67	-1.43	33.15	26.69
26.67	-1.76	32.23	25.95	103.33	-1.45	33.16	26.70
28.33	-1.75	32.28	25.99	105.00	-1.42	33.16	26.70
30.00	-1.75	32.31	26.02	106.67	-1.42	33.16	26.70
31.67	-1.74	32.35	26.05	108.33	-1.39	33.16	26.70
33.33	-1.73	32.46	26.14	110.00	-1.39	33.16	26.70
35.00	-1.72	32.51	26.18	111.67	-1.38	33.17	26.71
36.67	-1.71	32.62	26.27	113.33	-1.37	33.18	26.71
38.33	-1.67	32.75	26.37	115.00	-1.36	33.18	26.71
40.00	-1.63	32.83	26.43	116.67	-1.35	33.18	26.72
41.67	-1.60	32.87	26.47	118.33	-1.34	33.19	26.72
43.33	-1.58	32.89	26.49	120.00	-1.33	33.19	26.72
45.00	-1.48	32.92	26.51	121.67	-1.31	33.19	26.72
46.67	-1.48	32.93	26.51	123.33	-1.31	33.19	26.72
48.33	-1.43	32.94	26.52	125.00	-1.30	33.20	26.73
50.00	-1.43	32.95	26.53	126.67	-1.30	33.20	26.73
51.67	-1.41	32.97	26.55	128.34	-1.28	33.21	26.73
53.33	-1.41	32.98	26.56	130.00	-1.27	33.22	26.75
55.00	-1.43	32.98	26.56	131.67	-1.26	33.23	26.75
56.67	-1.46	32.99	26.57	133.34	-1.24	33.25	26.77
58.33	-1.44	33.00	26.57	135.00	-1.21	33.29	26.80
60.00	-1.41	33.02	26.59	136.67	-1.17	33.34	26.84
61.67	-1.41	33.04	26.60	138.34	-1.13	33.39	26.87
63.33	-1.43	33.05	26.61	140.00	-1.11	33.43	26.91
65.00	-1.46	33.06	26.62	141.67	-1.10	33.43	26.91
66.67	-1.41	33.07	26.63	143.34	-1.09	33.44	26.92
68.33	-1.51	33.08	26.63	145.00	-1.08	33.45	26.92
70.00	-1.55	33.08	26.64	146.67	-1.08	33.46	26.93
71.67	-1.51	33.08	26.64	148.34	-1.08	33.46	26.93
73.33	-1.34	33.09	26.64	150.00	-1.07	33.46	26.93
75.00	-1.33	33.09	26.64				

REFERENCE NO. 73-473-11 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 2.2
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.80	0	25.61	238.9	0.0	0.0	1437.
1	-1.74	31.80	1	25.61	239.1	0.02	0.00	1437.
3	-1.75	31.80	3	25.61	239.2	0.07	0.00	1437.
5	-1.75	31.80	5	25.61	239.3	0.12	0.00	1437.
7	-1.75	31.80	7	25.60	239.6	0.17	0.01	1437.
10	-1.75	31.80	10	25.61	238.9	0.24	0.01	1437.
15	-1.75	31.86	15	25.66	234.3	0.36	0.03	1437.
20	-1.76	32.08	20	25.83	217.7	0.47	0.05	1437.
30	-1.75	32.31	30	26.02	200.1	0.68	0.10	1438.
50	-1.43	32.95	50	26.53	151.2	1.02	0.24	1441.
75	-1.33	33.09	74	26.64	140.4	1.38	0.46	1442.
100	-1.35	33.14	99	26.68	136.3	1.72	0.77	1442.
125	-1.30	33.20	124	26.73	132.1	2.06	1.15	1443.

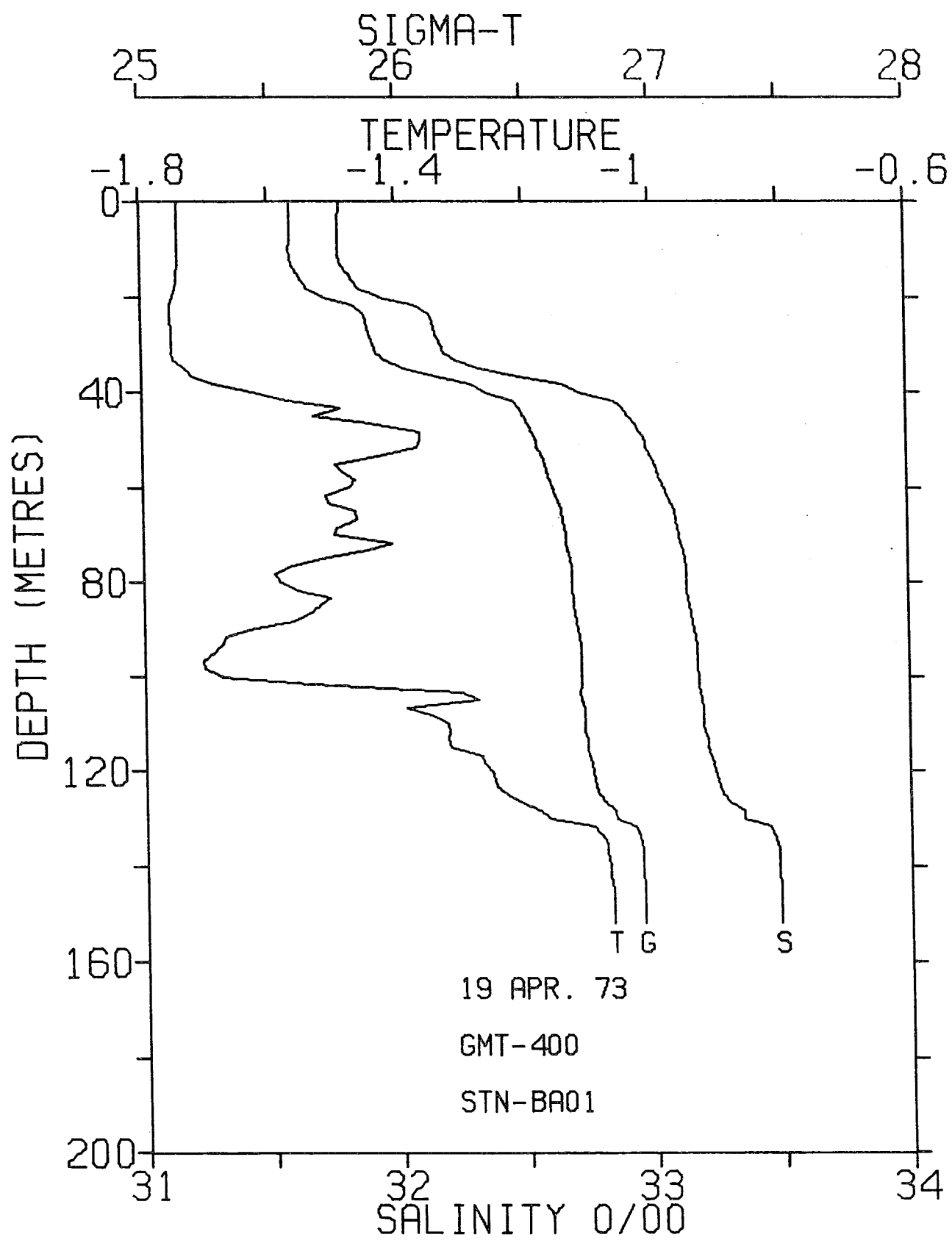


REFERENCE NO. 73-473-12 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 3.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.75	31.76	25.57	76.67	-1.51	33.13	26.67
1.67	-1.75	31.77	25.58	78.33	-1.54	33.13	26.68
3.33	-1.75	31.77	25.58	80.00	-1.53	33.14	26.68
5.00	-1.75	31.77	25.58	81.67	-1.54	33.14	26.69
6.67	-1.75	31.77	25.58	83.33	-1.53	33.14	26.69
8.33	-1.75	31.77	25.58	85.00	-1.52	33.14	26.69
10.00	-1.75	31.77	25.58	86.67	-1.53	33.15	26.69
11.67	-1.75	31.78	25.59	88.33	-1.54	33.15	26.69
13.33	-1.75	31.78	25.59	90.00	-1.62	33.17	26.71
15.00	-1.75	31.80	25.60	91.67	-1.63	33.16	26.71
16.67	-1.75	31.81	25.61	93.33	-1.63	33.16	26.71
18.33	-1.75	31.82	25.62	95.00	-1.64	33.17	26.71
20.00	-1.75	31.85	25.65	96.67	-1.65	33.17	26.71
21.67	-1.75	31.88	25.67	98.33	-1.64	33.17	26.71
23.33	-1.76	31.99	25.76	100.00	-1.63	33.17	26.71
25.00	-1.76	32.09	25.84	101.67	-1.52	33.17	26.71
26.67	-1.76	32.15	25.89	103.33	-1.41	33.18	26.71
28.33	-1.76	32.17	25.91	105.00	-1.39	33.18	26.72
30.00	-1.76	32.22	25.94	106.67	-1.40	33.19	26.72
31.67	-1.75	32.24	25.96	108.33	-1.37	33.19	26.72
33.33	-1.74	32.32	26.03	110.00	-1.40	33.19	26.73
35.00	-1.73	32.40	26.09	111.67	-1.40	33.19	26.73
36.67	-1.72	32.54	26.20	113.33	-1.42	33.20	26.73
38.33	-1.68	32.71	26.34	115.00	-1.43	33.20	26.73
40.00	-1.65	32.77	26.39	116.67	-1.43	33.20	26.73
41.67	-1.62	32.82	26.43	118.33	-1.45	33.20	26.74
43.33	-1.58	32.86	26.46	120.00	-1.41	33.20	26.73
45.00	-1.59	32.89	26.49	121.67	-1.33	33.22	26.74
46.67	-1.50	32.91	26.50	123.33	-1.29	33.23	26.75
48.33	-1.39	32.94	26.52	125.00	-1.27	33.24	26.76
50.00	-1.38	32.97	26.54	126.67	-1.27	33.25	26.77
51.67	-1.41	32.99	26.56	128.34	-1.25	33.27	26.78
53.33	-1.44	33.00	26.57	130.00	-1.22	33.29	26.80
55.00	-1.42	33.02	26.58	131.67	-1.18	33.36	26.85
56.67	-1.46	33.03	26.59	133.34	-1.13	33.42	26.90
58.33	-1.48	33.04	26.60	135.00	-1.09	33.48	26.94
60.00	-1.47	33.06	26.62	136.67	-1.08	33.48	26.95
61.67	-1.47	33.06	26.62	138.34	-1.08	33.49	26.95
63.33	-1.50	33.07	26.63	140.00	-1.08	33.49	26.95
65.00	-1.47	33.09	26.65	141.67	-1.08	33.49	26.95
66.67	-1.52	33.10	26.65	143.34	-1.08	33.49	26.96
68.33	-1.45	33.10	26.65	145.00	-1.08	33.49	26.95
70.00	-1.47	33.11	26.66	146.67	-1.08	33.49	26.95
71.67	-1.50	33.11	26.66	148.34	-1.07	33.49	26.95
73.33	-1.58	33.13	26.68	150.00	-1.07	33.49	26.95
75.00	-1.55	33.12	26.67				

REFERENCE NO. 73-473- 12 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 3.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	31.76	0	25.57	242.0	0.0	0.0	1437.
1	-1.75	31.77	1	25.58	242.0	0.02	0.00	1437.
3	-1.75	31.77	3	25.58	241.6	0.07	0.00	1437.
5	-1.75	31.77	5	25.58	241.7	0.12	0.00	1437.
7	-1.75	31.77	7	25.58	241.7	0.17	0.01	1437.
10	-1.75	31.77	10	25.58	241.4	0.24	0.01	1437.
15	-1.75	31.80	15	25.60	239.6	0.36	0.03	1437.
20	-1.75	31.85	20	25.65	235.2	0.48	0.05	1437.
30	-1.76	32.22	30	25.94	207.1	0.70	0.10	1438.
50	-1.38	32.97	50	26.54	149.9	1.05	0.24	1441.
75	-1.55	33.12	74	26.67	137.3	1.40	0.47	1441.
100	-1.63	33.17	99	26.71	133.5	1.74	0.77	1441.
125	-1.27	33.24	124	26.76	129.1	2.07	1.15	1443.
150	-1.07	33.49	149	26.95	110.7	2.36	1.55	1445.

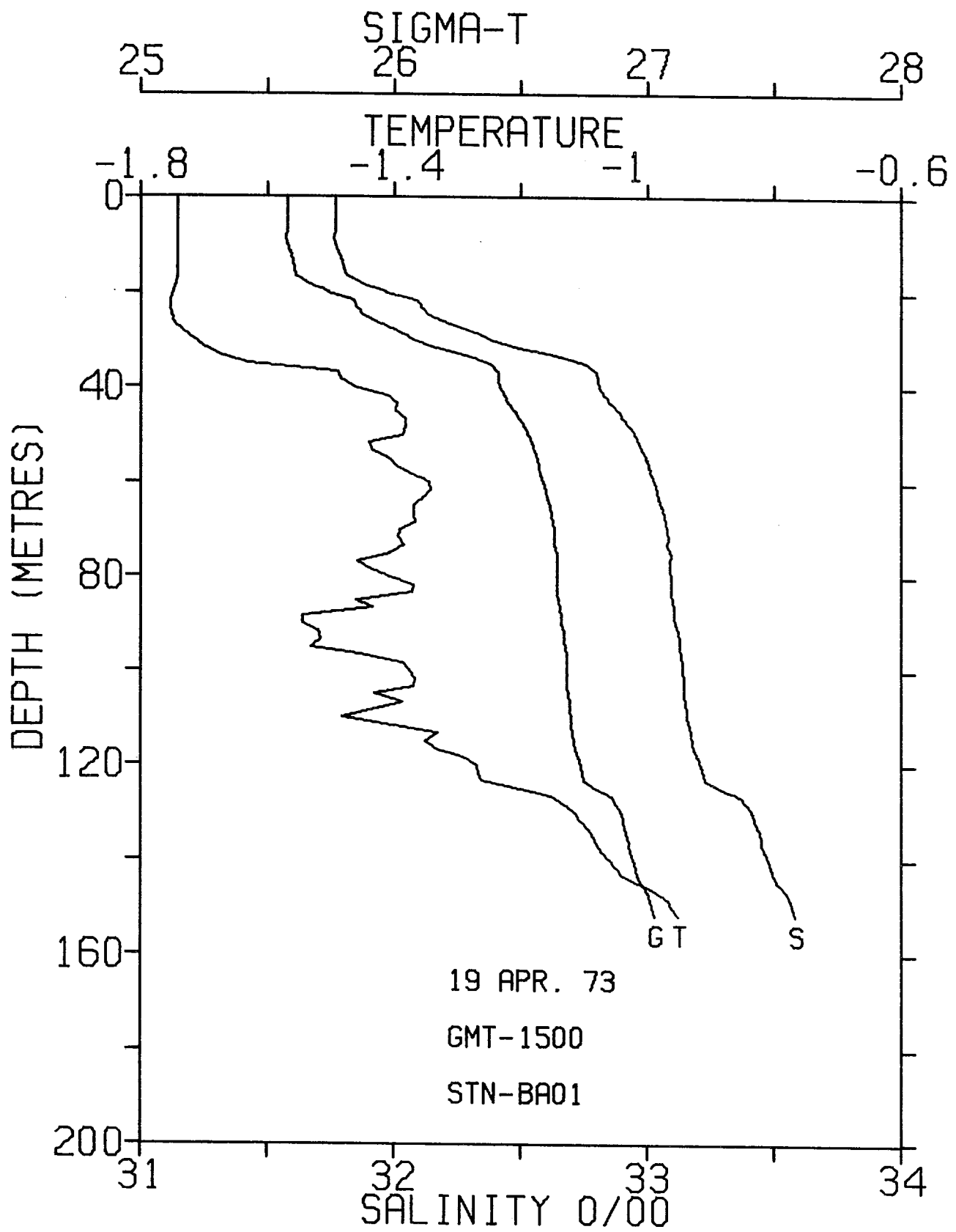


REFERENCE NO. 73-473- 13 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 4.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.78	25.59	76.67	-1.57	33.13	26.68
1.67	-1.74	31.78	25.59	78.33	-1.59	33.13	26.68
3.33	-1.74	31.78	25.59	80.00	-1.59	33.13	26.68
5.00	-1.74	31.78	25.59	81.67	-1.56	33.14	26.68
6.67	-1.74	31.78	25.59	83.33	-1.51	33.14	26.69
8.33	-1.74	31.78	25.59	85.00	-1.52	33.15	26.69
10.00	-1.74	31.78	25.59	86.67	-1.54	33.15	26.69
11.67	-1.74	31.78	25.59	88.33	-1.56	33.15	26.70
13.33	-1.74	31.79	25.60	90.00	-1.64	33.16	26.71
15.00	-1.74	31.82	25.62	91.67	-1.67	33.17	26.71
16.67	-1.74	31.84	25.63	93.33	-1.68	33.17	26.71
18.33	-1.74	31.86	25.66	95.00	-1.69	33.17	26.72
20.00	-1.75	31.94	25.72	96.67	-1.71	33.17	26.72
21.67	-1.75	32.07	25.83	98.33	-1.70	33.17	26.72
23.33	-1.75	32.13	25.87	100.00	-1.68	33.18	26.72
25.00	-1.75	32.14	25.88	101.67	-1.54	33.18	26.72
26.67	-1.75	32.15	25.89	103.33	-1.30	33.18	26.71
28.33	-1.75	32.16	25.90	105.00	-1.28	33.19	26.72
30.00	-1.75	32.18	25.91	106.67	-1.39	33.20	26.73
31.67	-1.75	32.19	25.92	108.33	-1.34	33.19	26.73
33.33	-1.75	32.23	25.96	110.00	-1.32	33.20	26.73
35.00	-1.73	32.33	26.03	111.67	-1.32	33.20	26.73
36.67	-1.72	32.49	26.16	113.33	-1.32	33.21	26.74
38.33	-1.68	32.65	26.29	115.00	-1.32	33.21	26.74
40.00	-1.62	32.72	26.35	116.67	-1.27	33.22	26.74
41.67	-1.57	32.85	26.46	118.33	-1.27	33.23	26.75
43.33	-1.49	32.89	26.48	120.00	-1.26	33.24	26.76
45.00	-1.53	32.91	26.50	121.67	-1.25	33.25	26.77
46.67	-1.44	32.94	26.52	123.33	-1.25	33.25	26.77
48.33	-1.36	32.96	26.53	125.00	-1.23	33.27	26.78
50.00	-1.36	32.98	26.55	126.67	-1.21	33.30	26.80
51.67	-1.37	32.98	26.55	128.34	-1.18	33.35	26.85
53.33	-1.43	33.00	26.57	130.00	-1.17	33.35	26.85
55.00	-1.50	33.02	26.58	131.67	-1.10	33.45	26.92
56.67	-1.49	33.02	26.59	133.34	-1.08	33.47	26.94
58.33	-1.47	33.03	26.60	135.00	-1.08	33.48	26.94
60.00	-1.48	33.05	26.61	136.67	-1.08	33.48	26.95
61.67	-1.51	33.06	26.62	138.34	-1.07	33.48	26.95
63.33	-1.51	33.08	26.64	140.00	-1.07	33.48	26.95
65.00	-1.47	33.09	26.64	141.67	-1.07	33.48	26.95
66.67	-1.46	33.10	26.65	143.34	-1.07	33.49	26.96
68.33	-1.50	33.10	26.65	145.00	-1.07	33.49	26.95
70.00	-1.50	33.11	26.66	146.67	-1.07	33.49	26.96
71.67	-1.41	33.11	26.66	148.34	-1.07	33.49	26.96
73.33	-1.45	33.12	26.67	150.00	-1.07	33.49	26.96
75.00	-1.52	33.13	26.68	151.67	-1.07	33.49	26.96

REFERENCE NO. 73-473- 13 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 4.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.78	0	25.59	240.5	0.0	0.0	1437.
1	-1.74	31.78	1	25.59	240.8	0.02	0.00	1437.
3	-1.74	31.78	3	25.59	240.9	0.07	0.00	1437.
5	-1.74	31.78	5	25.59	241.0	0.12	0.00	1437.
7	-1.74	31.78	7	25.59	241.1	0.17	0.01	1437.
10	-1.74	31.78	10	25.59	241.1	0.24	0.01	1437.
15	-1.74	31.82	15	25.62	237.9	0.36	0.03	1437.
20	-1.75	31.94	20	25.72	228.4	0.48	0.05	1437.
30	-1.75	32.18	30	25.91	210.0	0.69	0.10	1438.
50	-1.36	32.98	50	26.55	149.5	1.04	0.24	1441.
75	-1.52	33.13	74	26.68	137.0	1.40	0.47	1441.
100	-1.68	33.18	99	26.72	132.9	1.74	0.77	1441.
125	-1.23	33.27	124	26.78	126.6	2.06	1.14	1443.
150	-1.07	33.49	149	26.96	110.2	2.35	1.54	1445.

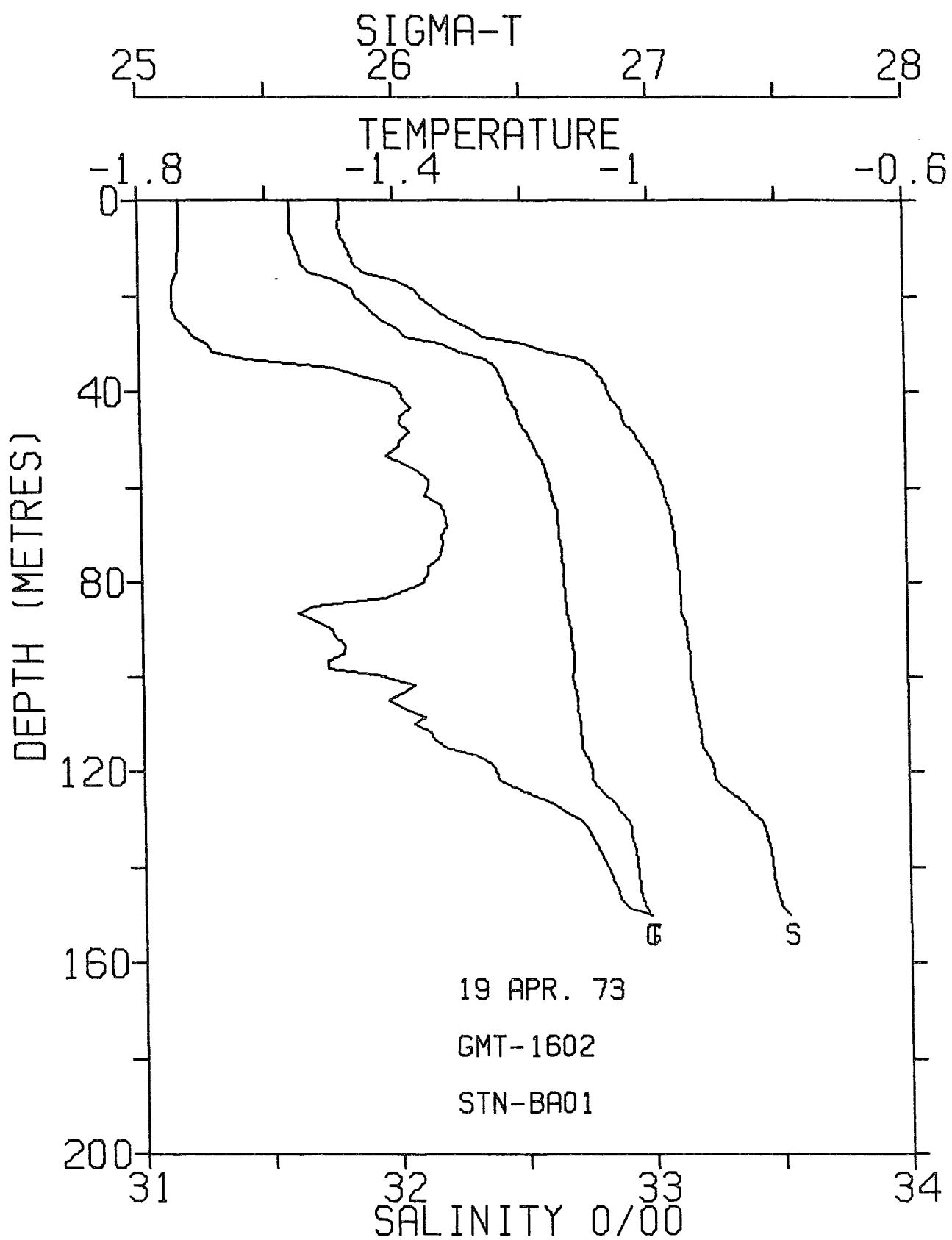


REFERENCE NO. 73-473- 14 STN= BA01 DATE 19/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 15.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.77	25.58	76.67	-1.46	33.09	26.64
1.67	-1.74	31.77	25.58	78.33	-1.44	33.09	26.64
3.33	-1.74	31.77	25.58	80.00	-1.41	33.10	26.65
5.00	-1.74	31.77	25.58	81.67	-1.37	33.09	26.64
6.67	-1.74	31.77	25.58	83.33	-1.37	33.10	26.65
8.33	-1.74	31.76	25.57	85.00	-1.46	33.10	26.65
10.00	-1.74	31.77	25.58	86.67	-1.43	33.10	26.65
11.67	-1.74	31.78	25.59	88.33	-1.54	33.11	26.66
13.33	-1.74	31.79	25.60	90.00	-1.54	33.11	26.66
15.00	-1.74	31.80	25.60	91.67	-1.52	33.12	26.67
16.67	-1.74	31.81	25.61	93.33	-1.52	33.13	26.67
18.33	-1.74	31.88	25.67	95.00	-1.53	33.13	26.68
20.00	-1.75	31.97	25.74	96.67	-1.45	33.14	26.68
21.67	-1.75	32.09	25.84	98.33	-1.39	33.14	26.68
23.33	-1.75	32.11	25.86	100.00	-1.38	33.14	26.68
25.00	-1.75	32.14	25.88	101.67	-1.37	33.14	26.68
26.67	-1.75	32.22	25.95	103.33	-1.37	33.14	26.69
28.33	-1.73	32.32	26.03	105.00	-1.43	33.14	26.69
30.00	-1.72	32.38	26.07	106.67	-1.39	33.15	26.69
31.67	-1.70	32.50	26.17	108.33	-1.44	33.15	26.70
33.33	-1.67	32.64	26.28	110.00	-1.48	33.16	26.70
35.00	-1.63	32.76	26.38	111.67	-1.40	33.16	26.70
36.67	-1.49	32.80	26.41	113.33	-1.33	33.17	26.71
38.33	-1.49	32.80	26.41	115.00	-1.35	33.18	26.71
40.00	-1.46	32.81	26.42	116.67	-1.33	33.18	26.72
41.67	-1.41	32.84	26.44	118.33	-1.29	33.20	26.73
43.33	-1.40	32.85	26.45	120.00	-1.27	33.21	26.74
45.00	-1.40	32.89	26.48	121.67	-1.27	33.22	26.74
46.67	-1.38	32.91	26.49	123.33	-1.26	33.23	26.75
48.33	-1.38	32.94	26.52	125.00	-1.20	33.29	26.80
50.00	-1.39	32.95	26.53	126.67	-1.15	33.37	26.86
51.67	-1.44	32.97	26.54	128.34	-1.13	33.39	26.88
53.33	-1.43	32.98	26.56	130.00	-1.11	33.42	26.90
55.00	-1.41	33.00	26.57	131.67	-1.11	33.42	26.90
56.67	-1.40	33.01	26.57	133.34	-1.09	33.44	26.91
58.33	-1.37	33.01	26.58	135.00	-1.09	33.45	26.92
60.00	-1.34	33.03	26.59	136.67	-1.08	33.45	26.93
61.67	-1.34	33.04	26.60	138.34	-1.07	33.46	26.94
63.33	-1.36	33.05	26.60	140.00	-1.06	33.48	26.94
65.00	-1.37	33.06	26.61	141.67	-1.05	33.49	26.96
66.67	-1.37	33.07	26.62	143.34	-1.04	33.50	26.96
68.33	-1.37	33.07	26.63	145.00	-1.01	33.52	26.98
70.00	-1.39	33.08	26.63	146.67	-0.99	33.55	27.00
71.67	-1.39	33.08	26.64	148.34	-0.97	33.57	27.01
73.33	-1.38	33.08	26.63	150.00	-0.96	33.57	27.02
75.00	-1.41	33.09	26.64	151.67	-0.95	33.58	27.03

REFERENCE NO. 73-473- 14 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 15.0
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.77	0	25.58	241.5	0.0	0.0	1437.
1	-1.74	31.77	1	25.58	241.8	0.02	0.00	1437.
3	-1.74	31.77	3	25.58	241.9	0.07	0.00	1437.
5	-1.74	31.77	5	25.58	241.9	0.12	0.00	1437.
7	-1.74	31.76	7	25.58	242.0	0.17	0.01	1437.
10	-1.74	31.77	10	25.58	241.8	0.24	0.01	1437.
15	-1.74	31.80	15	25.60	239.3	0.36	0.03	1437.
20	-1.75	31.97	20	25.74	226.2	0.48	0.05	1437.
30	-1.72	32.38	30	26.07	194.5	0.69	0.10	1438.
50	-1.39	32.95	50	26.53	151.1	1.02	0.23	1441.
75	-1.41	33.09	74	26.64	140.2	1.38	0.46	1441.
100	-1.38	33.14	99	26.68	136.4	1.73	0.77	1442.
125	-1.20	33.29	124	26.80	125.1	2.06	1.15	1443.
150	-0.96	33.57	149	27.02	104.6	2.34	1.55	1445.

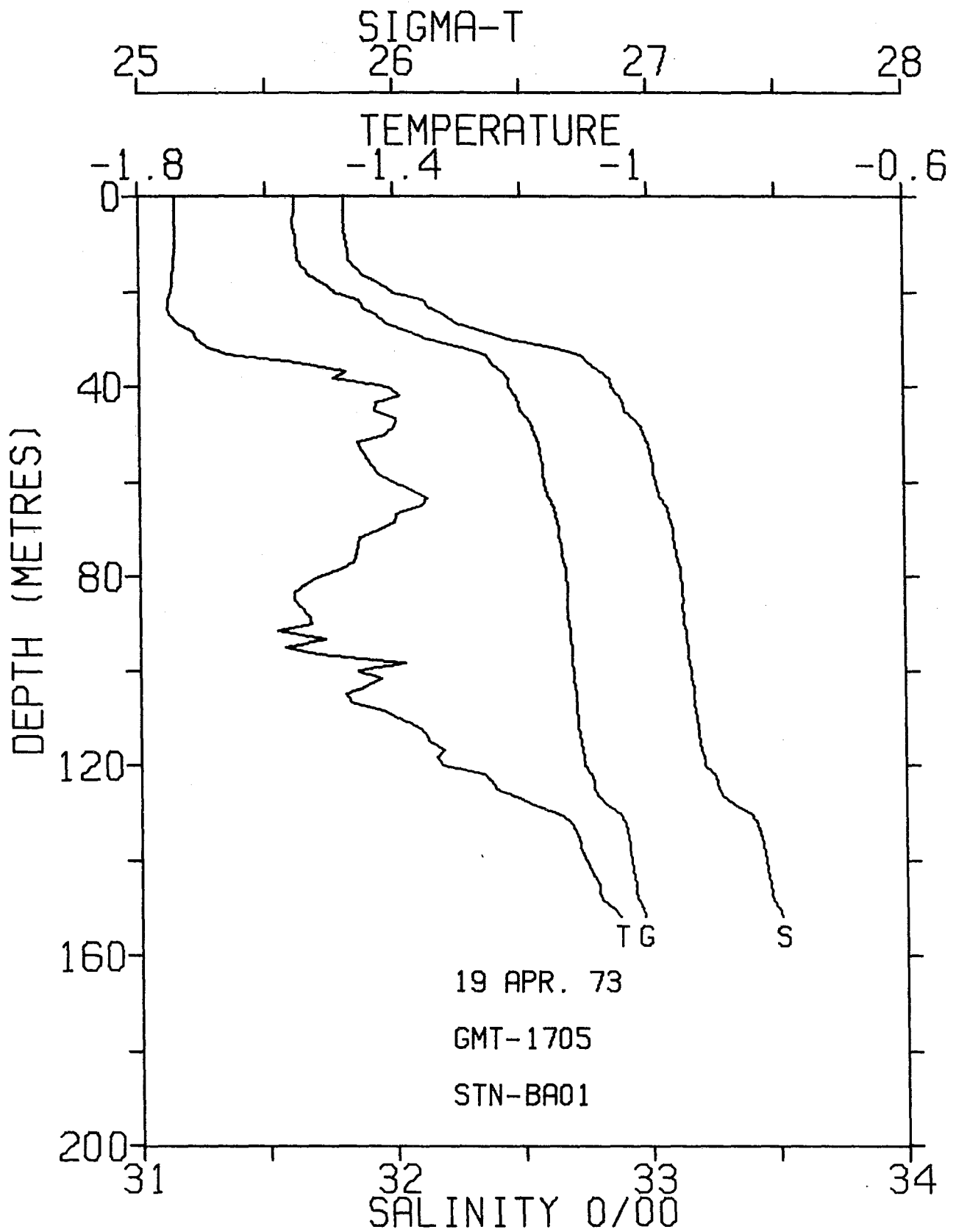


REFERENCE NO. 73-473- 15 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 16.0
 RESULTS OF STD CAST 90 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.73	31.79	25.60	76.67	-1.35	33.11	26.65
1.67	-1.73	31.79	25.59	78.33	-1.35	33.11	26.66
3.33	-1.73	31.79	25.59	80.00	-1.36	33.11	26.66
5.00	-1.73	31.79	25.59	81.67	-1.39	33.11	26.66
6.67	-1.73	31.79	25.59	83.33	-1.42	33.12	26.66
8.33	-1.73	31.81	25.61	85.00	-1.53	33.11	26.67
10.00	-1.74	31.81	25.62	86.67	-1.55	33.12	26.67
11.67	-1.74	31.84	25.63	88.33	-1.53	33.13	26.68
13.33	-1.74	31.84	25.64	90.00	-1.50	33.14	26.68
15.00	-1.74	31.88	25.67	91.67	-1.50	33.14	26.68
16.67	-1.74	32.01	25.77	93.33	-1.48	33.14	26.69
18.33	-1.75	32.08	25.83	95.00	-1.48	33.15	26.69
20.00	-1.75	32.10	25.85	96.67	-1.51	33.15	26.70
21.67	-1.75	32.14	25.88	98.33	-1.51	33.15	26.69
23.33	-1.74	32.18	25.91	100.00	-1.42	33.15	26.69
25.00	-1.74	32.23	25.95	101.67	-1.37	33.15	26.69
26.67	-1.72	32.30	26.01	103.33	-1.39	33.16	26.70
28.33	-1.71	32.35	26.05	105.00	-1.42	33.17	26.71
30.00	-1.69	32.51	26.18	106.67	-1.39	33.17	26.71
31.67	-1.69	32.61	26.26	108.33	-1.36	33.18	26.71
33.33	-1.63	32.74	26.36	110.00	-1.38	33.18	26.72
35.00	-1.50	32.79	26.40	111.67	-1.35	33.19	26.72
36.67	-1.45	32.81	26.41	113.33	-1.34	33.19	26.72
38.33	-1.41	32.83	26.43	115.00	-1.32	33.19	26.72
40.00	-1.39	32.84	26.44	116.67	-1.27	33.22	26.74
41.67	-1.39	32.85	26.45	118.33	-1.26	33.23	26.75
43.33	-1.38	32.88	26.47	120.00	-1.25	33.24	26.76
45.00	-1.39	32.89	26.48	121.67	-1.24	33.25	26.76
46.67	-1.39	32.90	26.49	123.33	-1.22	33.27	26.78
48.33	-1.38	32.94	26.52	125.00	-1.19	33.31	26.82
50.00	-1.39	32.95	26.53	126.67	-1.16	33.35	26.85
51.67	-1.40	32.97	26.55	128.34	-1.14	33.38	26.87
53.33	-1.42	32.99	26.56	130.00	-1.11	33.42	26.90
55.00	-1.39	33.02	26.58	131.67	-1.10	33.43	26.91
56.67	-1.36	33.03	26.59	133.34	-1.10	33.44	26.91
58.33	-1.35	33.04	26.60	135.00	-1.09	33.45	26.92
60.00	-1.35	33.05	26.61	136.67	-1.09	33.45	26.93
61.67	-1.35	33.06	26.61	138.34	-1.08	33.46	26.93
63.33	-1.33	33.07	26.62	140.00	-1.07	33.46	26.94
65.00	-1.32	33.08	26.63	141.67	-1.07	33.47	26.94
66.67	-1.32	33.08	26.64	143.34	-1.06	33.47	26.94
68.33	-1.32	33.09	26.64	145.00	-1.06	33.48	26.95
70.00	-1.33	33.09	26.64	146.67	-1.05	33.49	26.95
71.67	-1.33	33.10	26.65	148.34	-1.04	33.50	26.96
73.33	-1.33	33.10	26.65	150.00	-1.00	33.53	26.98
75.00	-1.33	33.10	26.65				

REFERENCE NO. 73-473- 15 STN= 8A01 DATE 19/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 16.0
 RESULTS OF STD CAST 90 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.73	31.79	0	25.60	240.1	0.0	0.0	1437.
1	-1.73	31.79	1	25.59	240.3	0.02	0.00	1437.
3	-1.73	31.79	3	25.59	240.4	0.07	0.00	1437.
5	-1.73	31.79	5	25.59	240.4	0.12	0.00	1437.
7	-1.73	31.79	7	25.60	240.0	0.17	0.01	1437.
10	-1.74	31.81	10	25.62	238.2	0.24	0.01	1437.
15	-1.74	31.88	15	25.67	232.8	0.36	0.03	1437.
20	-1.75	32.10	20	25.85	215.7	0.47	0.05	1437.
30	-1.69	32.51	30	26.18	184.3	0.67	0.10	1438.
50	-1.39	32.95	50	26.53	151.1	1.00	0.23	1441.
75	-1.33	33.10	74	26.65	139.5	1.35	0.46	1442.
100	-1.42	33.15	99	26.69	135.6	1.70	0.76	1442.
125	-1.19	33.31	124	26.82	123.5	2.03	1.14	1443.

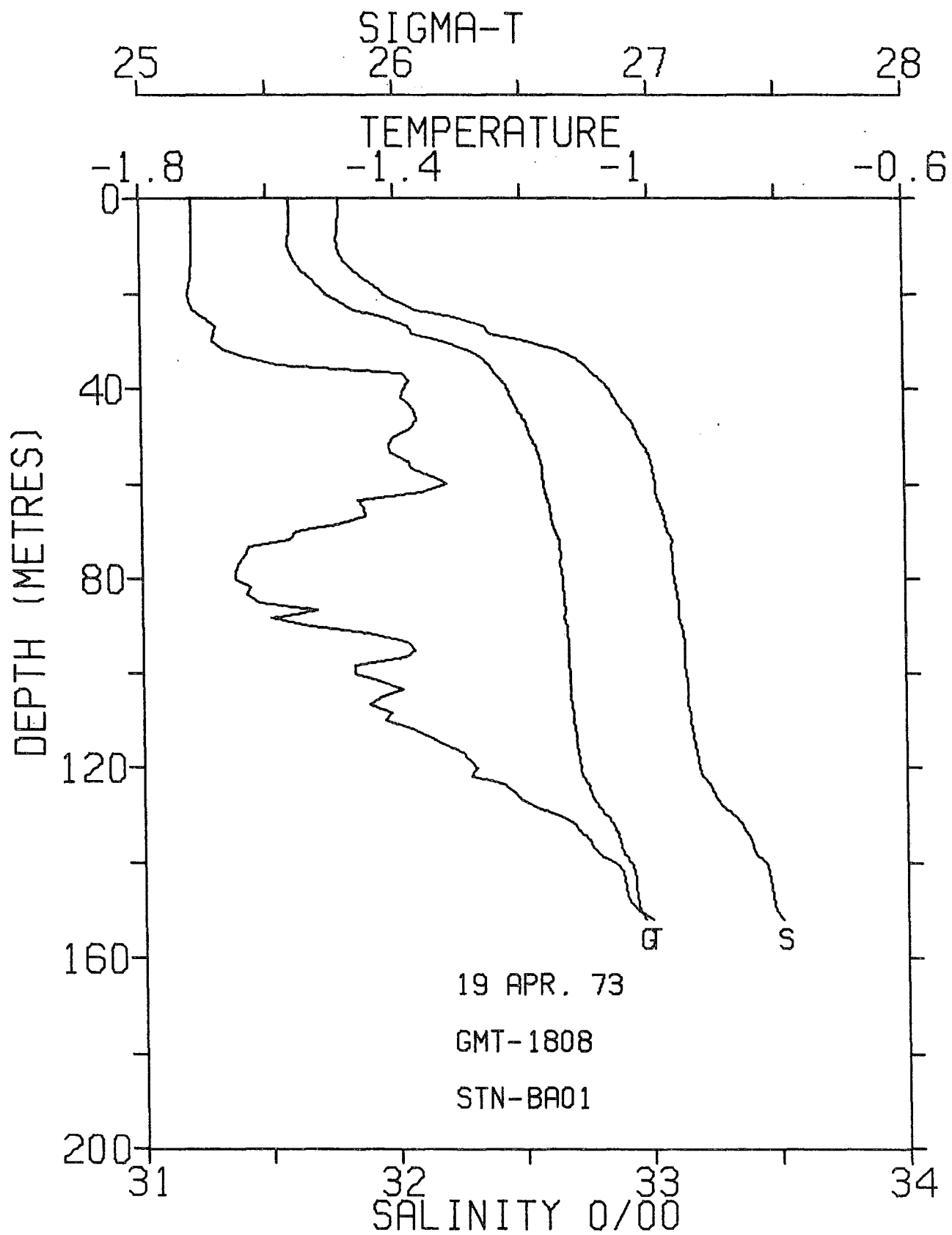


REFERENCE NO. 73-473- 16 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 17.1
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	=1.74	31.81	25.61	76.67	=1.46	33.11	26.66
1.67	=1.74	31.81	25.61	78.33	=1.48	33.12	26.67
3.33	=1.74	31.81	25.61	80.00	=1.52	33.12	26.67
5.00	=1.74	31.80	25.61	81.67	=1.54	33.13	26.68
6.67	=1.74	31.80	25.61	83.33	=1.56	33.13	26.68
8.33	=1.74	31.81	25.61	85.00	=1.56	33.13	26.68
10.00	=1.74	31.82	25.62	86.67	=1.55	33.13	26.68
11.67	=1.74	31.82	25.62	88.33	=1.54	33.13	26.68
13.33	=1.74	31.82	25.62	90.00	=1.53	33.13	26.68
15.00	=1.74	31.86	25.65	91.67	=1.59	33.14	26.69
16.67	=1.75	31.89	25.67	93.33	=1.51	33.14	26.69
18.33	=1.75	31.95	25.73	95.00	=1.57	33.15	26.70
20.00	=1.75	32.00	25.76	96.67	=1.52	33.15	26.70
21.67	=1.75	32.12	25.86	98.33	=1.39	33.16	26.70
23.33	=1.75	32.15	25.89	100.00	=1.46	33.16	26.70
25.00	=1.75	32.20	25.93	101.67	=1.42	33.16	26.70
26.67	=1.74	32.25	25.97	103.33	=1.45	33.17	26.71
28.33	=1.71	32.37	26.06	105.00	=1.48	33.17	26.71
30.00	=1.71	32.45	26.13	106.67	=1.47	33.17	26.71
31.67	=1.69	32.63	26.27	108.33	=1.42	33.18	26.71
33.33	=1.66	32.73	26.36	110.00	=1.40	33.18	26.72
35.00	=1.55	32.77	26.38	111.67	=1.37	33.19	26.72
36.67	=1.48	32.81	26.42	113.33	=1.35	33.19	26.72
38.33	=1.50	32.85	26.45	115.00	=1.35	33.20	26.73
40.00	=1.41	32.86	26.45	116.67	=1.32	33.20	26.73
41.67	=1.39	32.89	26.48	118.33	=1.34	33.21	26.74
43.33	=1.43	32.90	26.49	120.00	=1.33	33.21	26.74
45.00	=1.43	32.91	26.49	121.67	=1.26	33.25	26.77
46.67	=1.40	32.94	26.52	123.33	=1.25	33.26	26.78
48.33	=1.40	32.97	26.54	125.00	=1.24	33.27	26.78
50.00	=1.42	32.98	26.55	126.67	=1.21	33.29	26.80
51.67	=1.46	32.99	26.57	128.34	=1.18	33.33	26.83
53.33	=1.45	33.00	26.57	130.00	=1.15	33.39	26.88
55.00	=1.44	33.01	26.58	131.67	=1.13	33.41	26.90
56.67	=1.43	33.02	26.58	133.34	=1.12	33.42	26.90
58.33	=1.42	33.01	26.58	135.00	=1.11	33.44	26.91
60.00	=1.41	33.03	26.59	136.67	=1.11	33.44	26.92
61.67	=1.37	33.03	26.60	138.34	=1.11	33.44	26.92
63.33	=1.35	33.05	26.60	140.00	=1.10	33.45	26.92
65.00	=1.36	33.07	26.62	141.67	=1.10	33.46	26.93
66.67	=1.40	33.08	26.63	143.34	=1.09	33.46	26.93
68.33	=1.40	33.08	26.64	145.00	=1.08	33.47	26.94
70.00	=1.42	33.09	26.64	146.67	=1.08	33.47	26.94
71.67	=1.45	33.09	26.65	148.34	=1.08	33.48	26.95
73.33	=1.46	33.10	26.65	150.00	=1.06	33.50	26.96
75.00	=1.46	33.11	26.66	151.67	=1.05	33.51	26.97

REFERENCE NO. 73-473- 16 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 17.1
 RESULTS OF STD CAST. 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.81	0	25.61	238.6	0.0	0.0	1437.
1	-1.74	31.81	1	25.61	238.8	0.02	0.00	1437.
3	-1.74	31.81	3	25.61	238.9	0.07	0.00	1437.
5	-1.74	31.80	5	25.61	239.0	0.12	0.00	1437.
7	-1.74	31.81	7	25.61	239.0	0.17	0.01	1437.
10	-1.74	31.82	10	25.62	237.9	0.24	0.01	1437.
15	-1.74	31.86	15	25.65	235.0	0.36	0.03	1437.
20	-1.75	32.00	20	25.76	224.0	0.47	0.05	1437.
30	-1.71	32.45	30	26.13	189.1	0.68	0.10	1438.
50	-1.42	32.98	50	26.55	149.1	1.00	0.23	1441.
75	-1.46	33.11	74	26.66	138.8	1.36	0.46	1441.
100	-1.46	33.16	99	26.70	134.5	1.70	0.76	1442.
125	-1.24	33.27	124	26.78	127.1	2.03	1.14	1443.
150	-1.06	33.50	149	26.96	109.6	2.32	1.54	1445.

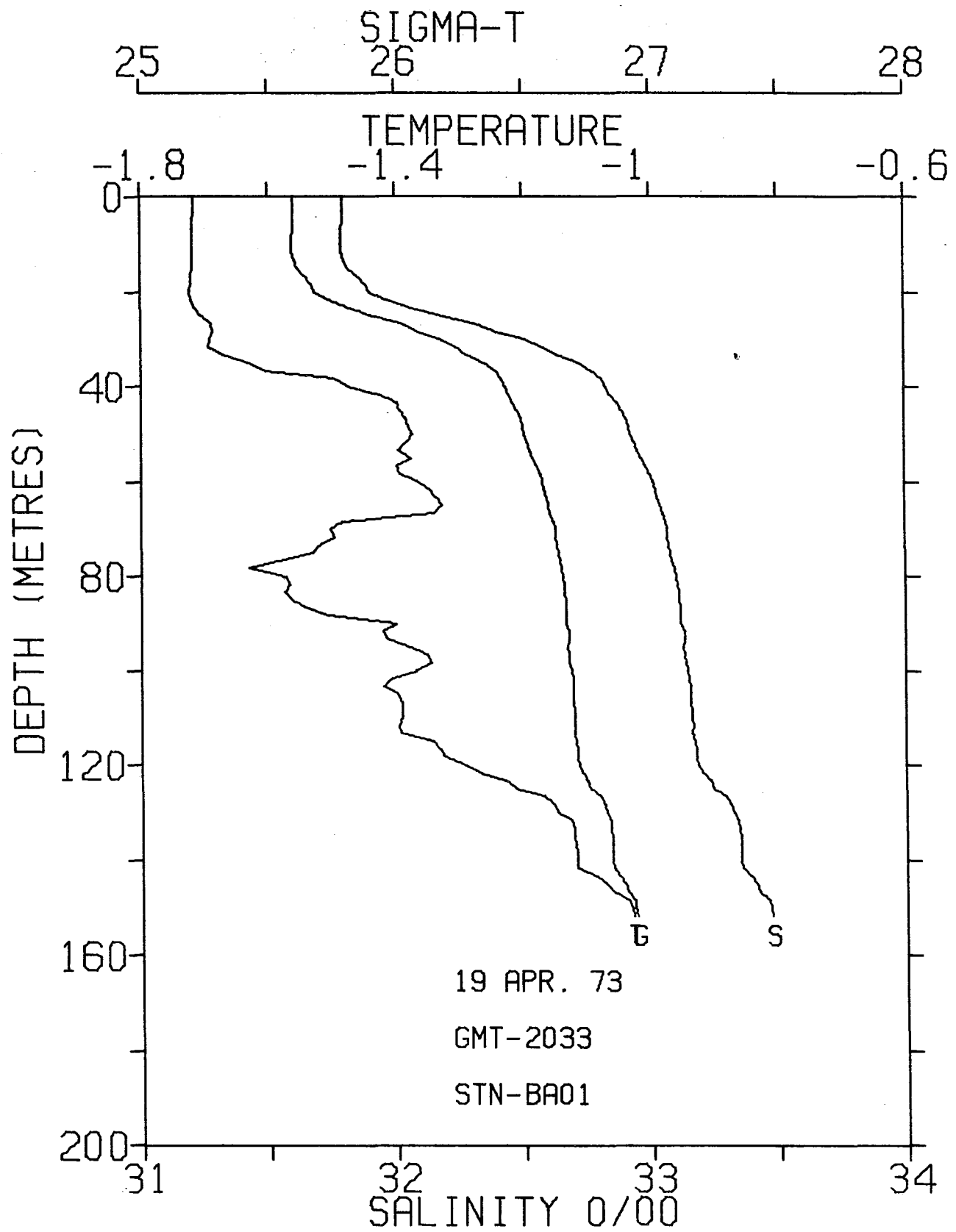


REFERENCE NO. 73-473- 17 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 18.1
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.72	31.78	25.59	76.67	-1.65	33.09	26.65
1.67	-1.72	31.78	25.59	78.33	-1.65	33.09	26.65
3.33	-1.72	31.78	25.59	80.00	-1.65	33.10	26.65
5.00	-1.72	31.78	25.59	81.67	-1.63	33.10	26.66
6.67	-1.72	31.78	25.59	83.33	-1.63	33.10	26.66
8.33	-1.72	31.77	25.58	85.00	-1.62	33.11	26.66
10.00	-1.72	31.78	25.59	86.67	-1.52	33.11	26.66
11.67	-1.72	31.79	25.59	88.33	-1.60	33.11	26.66
13.33	-1.72	31.81	25.61	90.00	-1.53	33.12	26.67
15.00	-1.72	31.84	25.63	91.67	-1.45	33.13	26.67
16.67	-1.72	31.87	25.66	93.33	-1.39	33.13	26.68
18.33	-1.72	31.92	25.70	95.00	-1.37	33.13	26.68
20.00	-1.72	31.95	25.73	96.67	-1.39	33.13	26.68
21.67	-1.72	32.02	25.78	98.33	-1.47	33.14	26.68
23.33	-1.72	32.09	25.84	100.00	-1.47	33.14	26.68
25.00	-1.70	32.24	25.96	101.67	-1.43	33.14	26.69
26.67	-1.68	32.35	26.05	103.33	-1.39	33.14	26.69
28.33	-1.69	32.38	26.07	105.00	-1.42	33.14	26.69
30.00	-1.69	32.52	26.19	106.67	-1.44	33.15	26.69
31.67	-1.67	32.64	26.28	108.33	-1.41	33.15	26.69
33.33	-1.64	32.71	26.34	110.00	-1.42	33.16	26.70
35.00	-1.59	32.75	26.37	111.67	-1.38	33.16	26.70
36.67	-1.39	32.79	26.40	113.33	-1.35	33.17	26.70
38.33	-1.38	32.82	26.42	115.00	-1.33	33.17	26.71
40.00	-1.39	32.85	26.44	116.67	-1.30	33.18	26.71
41.67	-1.39	32.86	26.46	118.33	-1.29	33.19	26.72
43.33	-1.38	32.88	26.47	120.00	-1.28	33.19	26.72
45.00	-1.37	32.90	26.49	121.67	-1.28	33.20	26.73
46.67	-1.37	32.93	26.51	123.33	-1.23	33.23	26.75
48.33	-1.38	32.94	26.52	125.00	-1.22	33.25	26.76
50.00	-1.40	32.95	26.53	126.67	-1.21	33.25	26.77
51.67	-1.41	32.97	26.55	128.34	-1.18	33.28	26.79
53.33	-1.41	32.99	26.56	130.00	-1.14	33.32	26.82
55.00	-1.38	33.01	26.57	131.67	-1.12	33.35	26.84
56.67	-1.38	33.01	26.58	133.34	-1.11	33.37	26.86
58.33	-1.34	33.01	26.58	135.00	-1.10	33.39	26.88
60.00	-1.32	33.02	26.59	136.67	-1.09	33.39	26.88
61.67	-1.36	33.02	26.59	138.34	-1.08	33.41	26.89
63.33	-1.46	33.03	26.60	140.00	-1.06	33.44	26.92
65.00	-1.45	33.04	26.61	141.67	-1.05	33.46	26.93
66.67	-1.45	33.05	26.61	143.34	-1.04	33.46	26.93
68.33	-1.49	33.06	26.62	145.00	-1.04	33.47	26.94
70.00	-1.56	33.06	26.63	146.67	-1.04	33.47	26.94
71.67	-1.57	33.09	26.65	148.34	-1.03	33.48	26.94
73.33	-1.63	33.08	26.64	150.00	-1.02	33.48	26.95
75.00	-1.64	33.09	26.65	151.67	-1.00	33.51	26.97

REFERENCE NO. 73-473- 17 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 18.1
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.72	31.78	0	25.59	240.5	0.0	0.0	1437.
1	-1.72	31.78	1	25.59	240.8	0.02	0.00	1437.
3	-1.72	31.78	3	25.59	240.9	0.07	0.00	1437.
5	-1.72	31.78	5	25.59	240.9	0.12	0.00	1437.
7	-1.72	31.78	7	25.59	241.1	0.17	0.01	1437.
10	-1.72	31.78	10	25.59	241.1	0.24	0.01	1437.
15	-1.72	31.84	15	25.63	236.4	0.36	0.03	1437.
20	-1.72	31.95	20	25.73	227.4	0.48	0.05	1437.
30	-1.69	32.52	30	26.19	183.6	0.68	0.10	1438.
50	-1.40	32.95	50	26.53	151.0	1.01	0.23	1441.
75	-1.64	33.09	74	26.65	139.7	1.37	0.46	1440.
100	-1.47	33.14	99	26.68	136.2	1.71	0.77	1442.
125	-1.22	33.25	124	26.76	128.6	2.05	1.15	1443.
150	-1.02	33.48	149	26.95	110.9	2.34	1.56	1445.

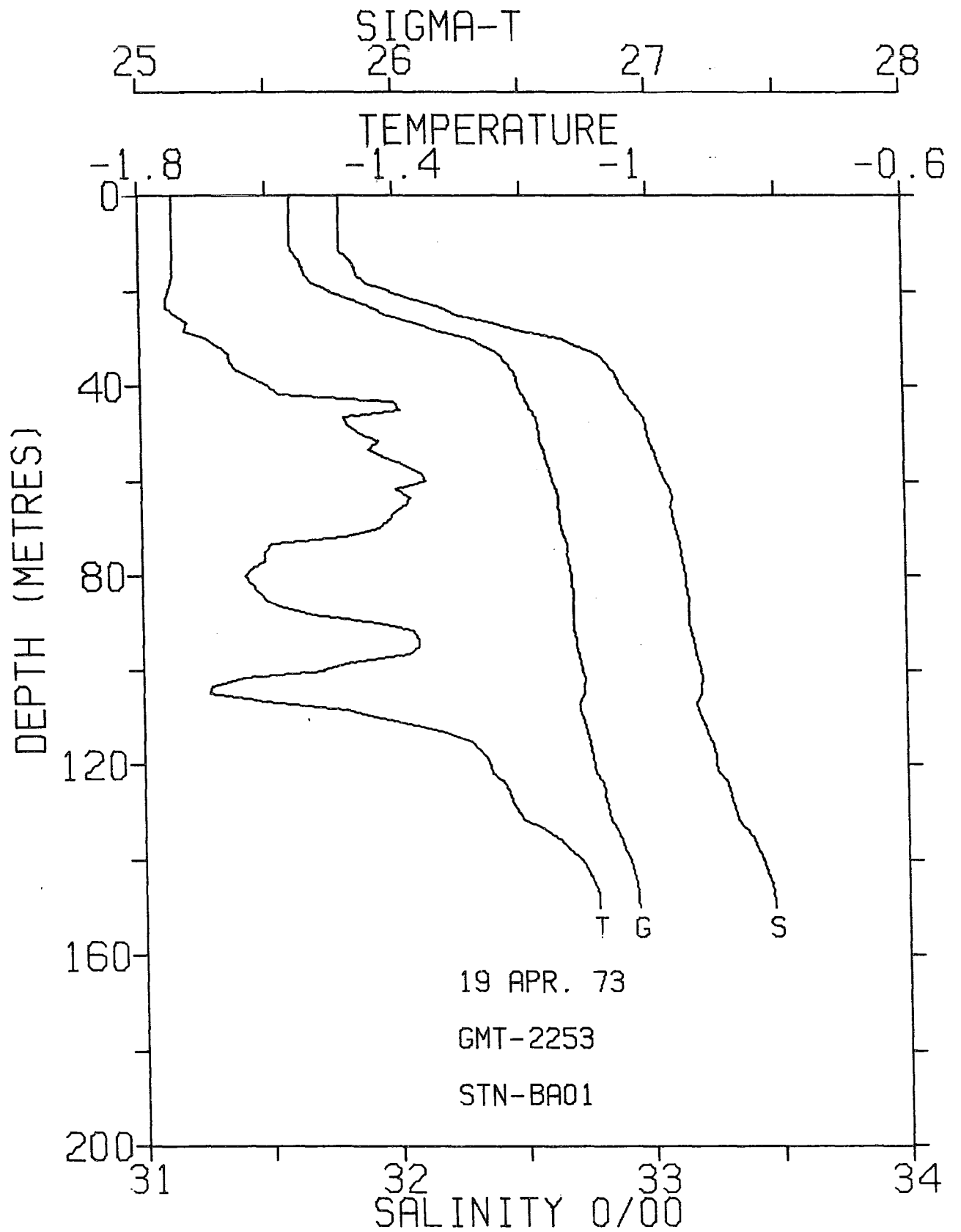


REFERENCE NO. 73-473- 18 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 20.5
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.72	31.80	25.60	76.67	-1.59	33.09	26.64
1.67	-1.72	31.79	25.60	78.33	-1.63	33.09	26.65
3.33	-1.72	31.79	25.60	80.00	-1.57	33.10	26.66
5.00	-1.72	31.79	25.60	81.67	-1.57	33.11	26.66
6.67	-1.72	31.79	25.60	83.33	-1.57	33.11	26.66
8.33	-1.72	31.79	25.60	85.00	-1.56	33.11	26.66
10.00	-1.72	31.79	25.60	86.67	-1.54	33.12	26.67
11.67	-1.72	31.79	25.60	88.33	-1.51	33.12	26.67
13.33	-1.72	31.80	25.60	90.00	-1.40	33.12	26.66
15.00	-1.72	31.82	25.62	91.67	-1.42	33.13	26.68
16.67	-1.72	31.85	25.65	93.33	-1.41	33.13	26.68
18.33	-1.72	31.88	25.67	95.00	-1.38	33.13	26.67
20.00	-1.72	31.90	25.69	96.67	-1.35	33.13	26.68
21.67	-1.72	31.97	25.74	98.33	-1.34	33.14	26.68
23.33	-1.71	32.07	25.82	100.00	-1.37	33.15	26.69
25.00	-1.71	32.17	25.90	101.67	-1.41	33.15	26.69
26.67	-1.69	32.31	26.02	103.33	-1.42	33.15	26.69
28.33	-1.69	32.40	26.09	105.00	-1.40	33.16	26.70
30.00	-1.69	32.50	26.17	106.67	-1.39	33.16	26.70
31.67	-1.69	32.58	26.24	108.33	-1.39	33.16	26.70
33.33	-1.67	32.63	26.28	110.00	-1.39	33.16	26.70
35.00	-1.63	32.72	26.35	111.67	-1.40	33.16	26.70
36.67	-1.61	32.77	26.39	113.33	-1.39	33.16	26.70
38.33	-1.50	32.81	26.42	115.00	-1.34	33.17	26.71
40.00	-1.47	32.83	26.43	116.67	-1.33	33.18	26.71
41.67	-1.42	32.84	26.44	118.33	-1.32	33.18	26.71
43.33	-1.40	32.87	26.46	120.00	-1.29	33.18	26.72
45.00	-1.39	32.89	26.48	121.67	-1.27	33.20	26.73
46.67	-1.39	32.91	26.49	123.33	-1.23	33.23	26.75
48.33	-1.38	32.92	26.50	125.00	-1.21	33.25	26.76
50.00	-1.37	32.92	26.51	126.67	-1.17	33.29	26.80
51.67	-1.38	32.94	26.52	128.34	-1.15	33.31	26.81
53.33	-1.40	32.95	26.53	130.00	-1.15	33.32	26.82
55.00	-1.38	32.97	26.54	131.67	-1.13	33.34	26.84
56.67	-1.40	32.98	26.56	133.34	-1.12	33.35	26.84
58.33	-1.39	33.00	26.57	135.00	-1.12	33.35	26.84
60.00	-1.37	33.01	26.58	136.67	-1.12	33.35	26.84
61.67	-1.35	33.02	26.59	138.34	-1.12	33.35	26.85
63.33	-1.34	33.03	26.59	140.00	-1.12	33.35	26.85
65.00	-1.33	33.04	26.60	141.67	-1.12	33.35	26.85
66.67	-1.34	33.05	26.61	143.34	-1.09	33.39	26.87
68.33	-1.48	33.06	26.62	145.00	-1.07	33.41	26.89
70.00	-1.50	33.07	26.63	146.67	-1.06	33.42	26.90
71.67	-1.50	33.07	26.63	148.34	-1.04	33.46	26.93
73.33	-1.52	33.07	26.63	150.00	-1.03	33.47	26.94
75.00	-1.53	33.08	26.64	151.67	-1.03	33.47	26.94

REFERENCE NO. 73-473- 18 STN- BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 20.5
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.72	31.80	0	25.60	239.6	0.0	0.0	1437.
1	-1.72	31.79	1	25.60	239.8	0.02	0.00	1437.
3	-1.72	31.79	3	25.60	239.9	0.07	0.00	1437.
5	-1.72	31.79	5	25.60	240.0	0.12	0.00	1437.
7	-1.72	31.79	7	25.60	240.1	0.17	0.01	1437.
10	-1.72	31.79	10	25.60	240.1	0.24	0.01	1437.
15	-1.72	31.82	15	25.62	238.2	0.36	0.03	1437.
20	-1.72	31.90	20	25.69	231.5	0.48	0.05	1437.
30	-1.69	32.50	30	26.17	185.0	0.69	0.10	1438.
50	-1.37	32.92	50	26.51	153.5	1.01	0.23	1441.
75	-1.53	33.08	74	26.64	140.8	1.38	0.46	1441.
100	-1.37	33.15	99	26.69	135.9	1.72	0.77	1442.
125	-1.21	33.25	124	26.76	128.6	2.06	1.15	1443.
150	-1.03	33.47	149	26.94	112.3	2.36	1.57	1445.

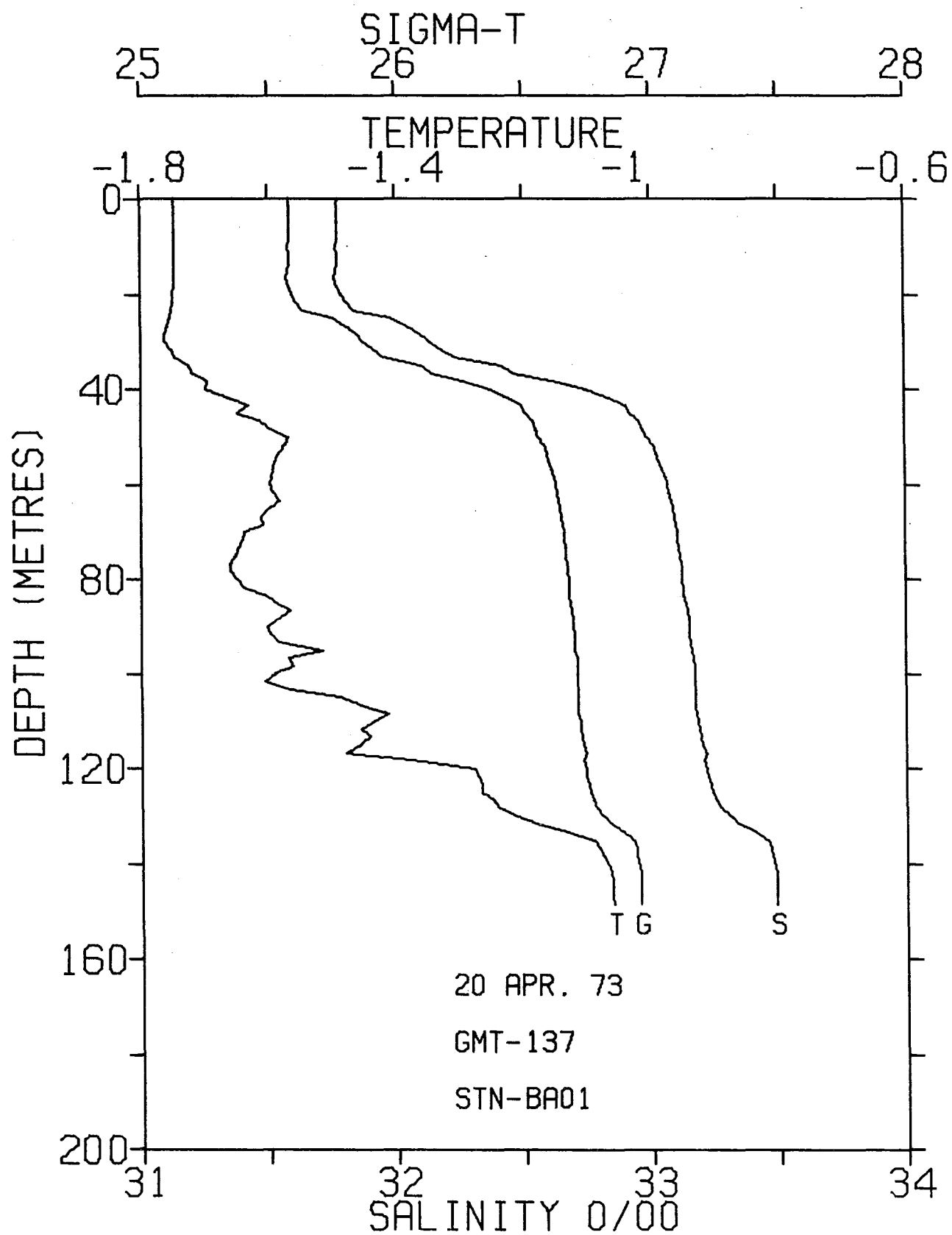


REFERENCE NO. 73-473- 19 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.9
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.75	31.79	25.60	76.67	-1.61	33.13	26.68
1.67	-1.75	31.79	25.60	78.33	-1.62	33.13	26.68
3.33	-1.75	31.79	25.60	80.00	-1.64	33.14	26.69
5.00	-1.75	31.79	25.60	81.67	-1.63	33.14	26.69
6.67	-1.75	31.79	25.59	83.33	-1.62	33.14	26.69
8.33	-1.75	31.79	25.60	85.00	-1.61	33.15	26.70
10.00	-1.75	31.79	25.60	86.67	-1.58	33.15	26.70
11.67	-1.75	31.79	25.60	88.33	-1.53	33.15	26.69
13.33	-1.75	31.83	25.63	90.00	-1.43	33.15	26.69
15.00	-1.75	31.85	25.64	91.67	-1.38	33.16	26.70
16.67	-1.75	31.85	25.65	93.33	-1.37	33.17	26.71
18.33	-1.75	31.89	25.68	95.00	-1.37	33.17	26.71
20.00	-1.75	31.98	25.75	96.67	-1.38	33.18	26.71
21.67	-1.76	32.07	25.83	98.33	-1.47	33.19	26.72
23.33	-1.76	32.19	25.92	100.00	-1.52	33.19	26.73
25.00	-1.74	32.24	25.96	101.67	-1.64	33.20	26.74
26.67	-1.72	32.39	26.08	103.33	-1.69	33.20	26.74
28.33	-1.73	32.50	26.18	105.00	-1.70	33.20	26.73
30.00	-1.70	32.66	26.30	106.67	-1.61	33.18	26.72
31.67	-1.68	32.73	26.35	108.33	-1.48	33.18	26.72
33.33	-1.66	32.80	26.41	110.00	-1.43	33.19	26.73
35.00	-1.66	32.83	26.44	111.67	-1.37	33.21	26.74
36.67	-1.65	32.86	26.46	113.33	-1.33	33.22	26.74
38.33	-1.62	32.88	26.48	115.00	-1.29	33.23	26.76
40.00	-1.60	32.89	26.48	116.67	-1.27	33.24	26.76
41.67	-1.58	32.91	26.50	118.33	-1.26	33.25	26.77
43.33	-1.40	32.93	26.51	120.00	-1.26	33.25	26.77
45.00	-1.39	32.95	26.53	121.67	-1.25	33.26	26.78
46.67	-1.48	32.98	26.56	123.33	-1.24	33.29	26.80
48.33	-1.47	32.99	26.56	125.00	-1.23	33.30	26.81
50.00	-1.45	32.99	26.57	126.67	-1.22	33.31	26.81
51.67	-1.43	33.00	26.57	128.34	-1.22	33.32	26.82
53.33	-1.44	33.01	26.58	130.00	-1.21	33.33	26.83
55.00	-1.41	33.03	26.59	131.67	-1.20	33.33	26.83
56.67	-1.39	33.04	26.60	133.34	-1.17	33.36	26.86
58.33	-1.36	33.05	26.61	135.00	-1.15	33.39	26.87
60.00	-1.35	33.06	26.62	136.67	-1.14	33.40	26.89
61.67	-1.40	33.08	26.63	138.34	-1.13	33.42	26.90
63.33	-1.38	33.09	26.64	140.00	-1.11	33.43	26.91
65.00	-1.38	33.09	26.64	141.67	-1.10	33.44	26.92
66.67	-1.40	33.09	26.64	143.34	-1.10	33.45	26.93
68.33	-1.41	33.09	26.64	145.00	-1.09	33.46	26.93
70.00	-1.43	33.10	26.65	146.67	-1.09	33.47	26.94
71.67	-1.48	33.11	26.66	148.34	-1.09	33.47	26.94
73.33	-1.60	33.12	26.67	150.00	-1.09	33.47	26.94
75.00	-1.61	33.12	26.67				

REFERENCE NO. 73-473-19 STN= BA01 DATE 19/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.9
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	31.79	0	25.60	239.8	0.0	0.0	1437.
1	-1.75	31.79	1	25.60	240.1	0.02	0.00	1437.
3	-1.75	31.79	3	25.60	240.2	0.07	0.00	1437.
5	-1.75	31.79	5	25.60	240.3	0.12	0.00	1437.
7	-1.75	31.79	7	25.59	240.2	0.17	0.01	1437.
10	-1.75	31.79	10	25.60	240.2	0.24	0.01	1437.
15	-1.75	31.85	15	25.64	235.5	0.36	0.03	1437.
20	-1.75	31.98	20	25.75	225.2	0.48	0.05	1437.
30	-1.70	32.66	30	26.30	173.2	0.68	0.10	1439.
50	-1.45	32.99	50	26.57	147.7	0.99	0.23	1441.
75	-1.61	33.12	74	26.67	137.4	1.35	0.45	1440.
100	-1.52	33.19	99	26.73	131.9	1.68	0.75	1441.
125	-1.23	33.30	124	26.81	124.3	2.01	1.12	1443.

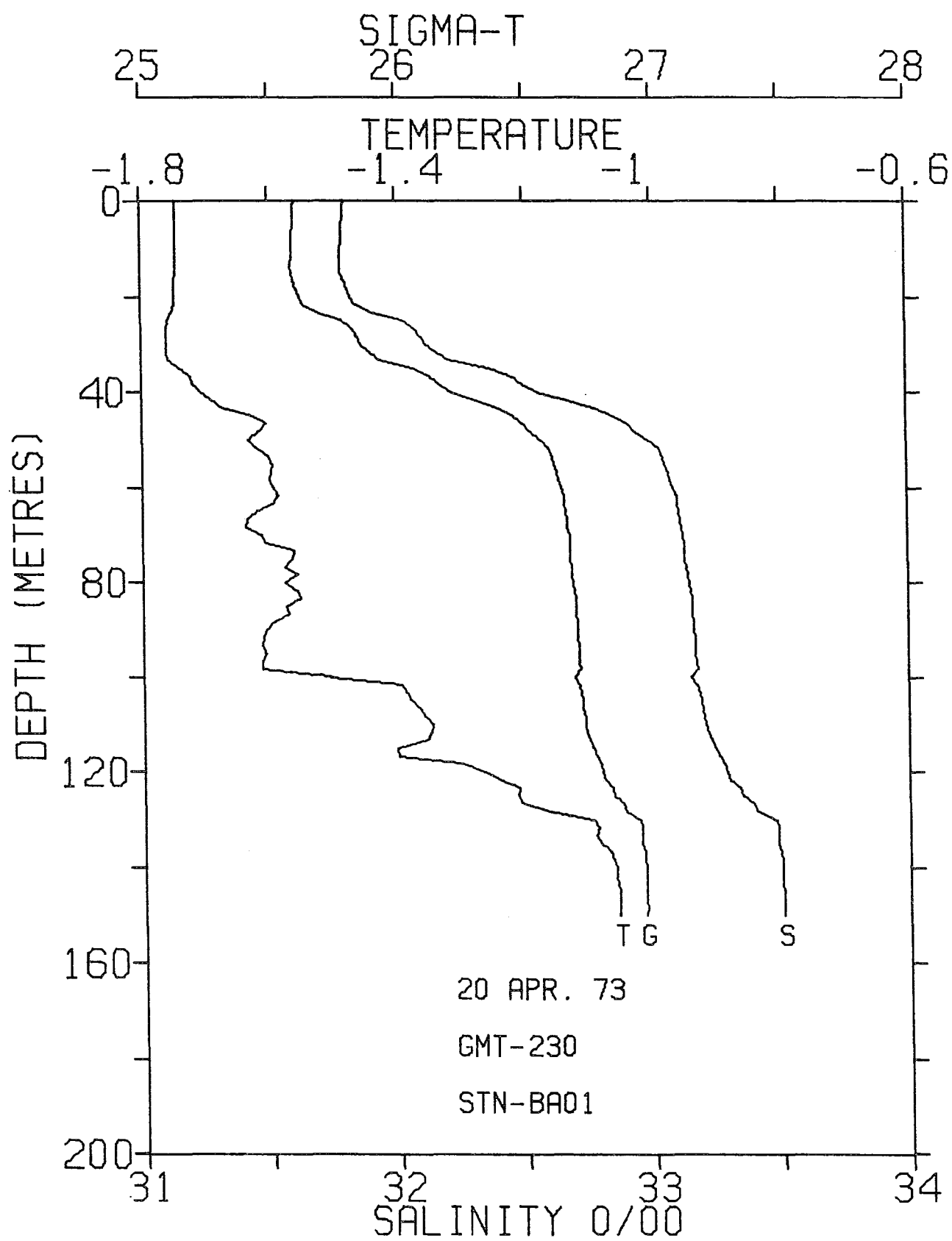


REFERENCE NO. 73-473- 20 STN- BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-20.0W GMT 1.6
 RESULTS OF STD CAST 89 POINTS TAKEN FROM ANALOG TRACE

PRFSS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.75	31.78	25.58	75.00	-1.65	33.11	26.67
1.67	-1.75	31.77	25.58	76.67	-1.66	33.12	26.67
3.33	-1.75	31.77	25.58	78.33	-1.66	33.12	26.67
5.00	-1.75	31.77	25.58	80.00	-1.65	33.12	26.68
6.67	-1.75	31.77	25.58	81.67	-1.64	33.13	26.68
8.33	-1.75	31.77	25.58	83.33	-1.61	33.13	26.68
10.00	-1.75	31.77	25.58	85.00	-1.59	33.14	26.69
11.67	-1.75	31.77	25.58	86.67	-1.57	33.15	26.69
13.33	-1.75	31.77	25.58	88.33	-1.59	33.15	26.69
15.00	-1.75	31.77	25.58	90.00	-1.60	33.15	26.70
16.67	-1.75	31.76	25.57	91.67	-1.60	33.15	26.70
18.33	-1.75	31.77	25.58	93.33	-1.59	33.15	26.70
20.00	-1.75	31.79	25.60	95.00	-1.52	33.16	26.70
21.67	-1.75	31.81	25.61	96.67	-1.57	33.17	26.71
23.33	-1.75	31.84	25.64	98.33	-1.56	33.17	26.71
25.00	-1.75	31.98	25.75	100.00	-1.59	33.17	26.71
26.67	-1.76	32.05	25.80	101.67	-1.61	33.17	26.71
28.33	-1.76	32.10	25.85	103.33	-1.57	33.17	26.71
30.00	-1.76	32.13	25.87	105.00	-1.49	33.17	26.71
31.67	-1.75	32.18	25.92	106.67	-1.46	33.17	26.71
33.33	-1.75	32.23	25.96	108.33	-1.41	33.18	26.71
35.00	-1.73	32.41	26.10	110.00	-1.44	33.18	26.72
36.67	-1.72	32.46	26.14	111.67	-1.45	33.19	26.72
38.33	-1.70	32.62	26.27	113.33	-1.44	33.20	26.73
40.00	-1.70	32.75	26.37	115.00	-1.46	33.20	26.73
41.67	-1.66	32.84	26.44	116.67	-1.48	33.22	26.75
43.33	-1.63	32.90	26.50	118.33	-1.38	33.20	26.73
45.00	-1.65	32.92	26.51	120.00	-1.28	33.22	26.74
46.67	-1.61	32.95	26.54	121.67	-1.27	33.22	26.75
48.33	-1.60	32.97	26.55	123.33	-1.27	33.23	26.75
50.00	-1.57	32.99	26.56	125.00	-1.27	33.24	26.76
51.67	-1.57	33.01	26.58	126.67	-1.25	33.26	26.77
53.33	-1.59	33.02	26.59	128.34	-1.24	33.27	26.78
55.00	-1.59	33.04	26.60	130.00	-1.21	33.31	26.81
56.67	-1.59	33.04	26.61	131.67	-1.18	33.34	26.84
58.33	-1.60	33.06	26.62	133.34	-1.13	33.41	26.89
60.00	-1.60	33.07	26.63	135.00	-1.09	33.45	26.93
61.67	-1.59	33.07	26.63	136.67	-1.08	33.47	26.94
63.33	-1.58	33.08	26.64	138.34	-1.08	33.47	26.94
65.00	-1.60	33.09	26.65	140.00	-1.07	33.48	26.95
66.67	-1.61	33.09	26.65	141.67	-1.06	33.49	26.95
68.33	-1.61	33.10	26.66	143.34	-1.06	33.49	26.95
70.00	-1.64	33.11	26.66	145.00	-1.06	33.49	26.96
71.67	-1.64	33.11	26.66	146.67	-1.06	33.49	26.96
73.33	-1.65	33.11	26.66	148.34	-1.06	33.49	26.95

REFERENCE NO. 73-473- 20 STN. BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-20.0W GMT 1.6
 RESULTS OF STD CAST 89 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	31.78	0	25.58	241.1	0.0	0.0	1437.
1	-1.75	31.77	1	25.58	241.3	0.02	0.00	1437.
3	-1.75	31.77	3	25.58	241.4	0.07	0.00	1437.
5	-1.75	31.77	5	25.58	241.4	0.12	0.00	1437.
7	-1.75	31.77	7	25.58	241.5	0.17	0.01	1437.
10	-1.75	31.77	10	25.58	241.8	0.24	0.01	1437.
15	-1.75	31.77	15	25.58	241.8	0.36	0.03	1437.
20	-1.75	31.79	20	25.60	240.0	0.48	0.05	1437.
30	-1.76	32.13	30	25.87	213.5	0.71	0.11	1438.
50	-1.57	32.99	50	26.56	148.0	1.06	0.25	1440.
75	-1.65	33.11	74	26.67	137.8	1.41	0.47	1440.
100	-1.59	33.17	99	26.71	133.3	1.75	0.77	1441.
125	-1.27	33.24	124	26.76	128.9	2.08	1.15	1443.

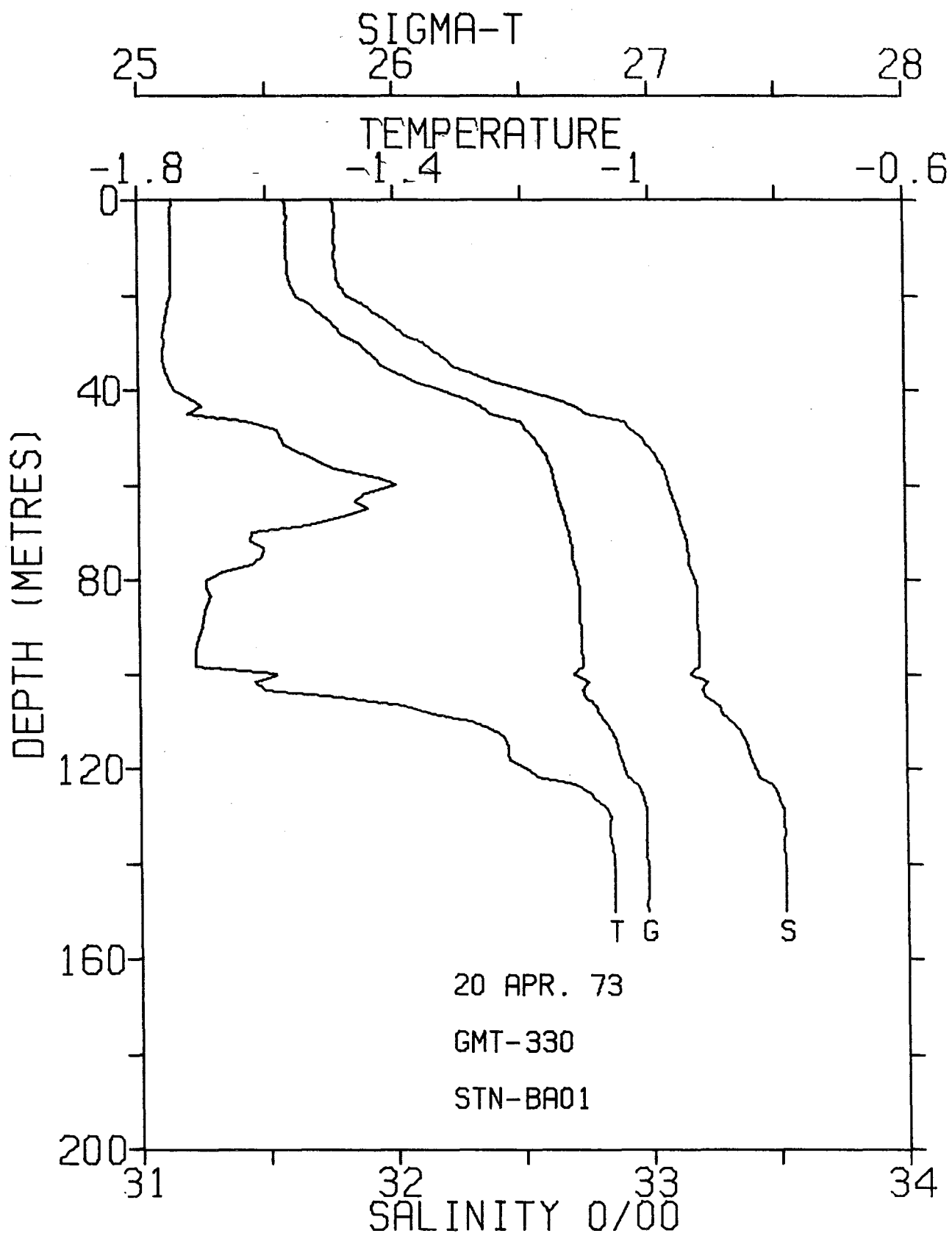


REFERENCE NO. 73-473- 21 STN- BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 2.5
 RESULTS OF STD CAST 90 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74	31.80	25.60	76.67	-1.58	33.13	26.68
1.67	-1.74	31.80	25.60	78.33	-1.56	33.14	26.68
3.33	-1.74	31.79	25.60	80.00	-1.58	33.14	26.69
5.00	-1.74	31.79	25.60	81.67	-1.56	33.15	26.70
6.67	-1.74	31.79	25.59	83.33	-1.55	33.15	26.70
8.33	-1.74	31.79	25.59	85.00	-1.58	33.16	26.70
10.00	-1.74	31.79	25.59	86.67	-1.57	33.16	26.70
11.67	-1.74	31.78	25.59	88.33	-1.59	33.16	26.71
13.33	-1.74	31.78	25.59	90.00	-1.61	33.16	26.71
15.00	-1.74	31.79	25.59	91.67	-1.61	33.16	26.71
16.67	-1.75	31.80	25.60	93.33	-1.61	33.17	26.71
18.33	-1.75	31.81	25.61	95.00	-1.61	33.17	26.71
20.00	-1.75	31.82	25.62	96.67	-1.61	33.17	26.71
21.67	-1.75	31.84	25.64	98.33	-1.61	33.18	26.72
23.33	-1.75	31.92	25.70	100.00	-1.51	33.15	26.69
25.00	-1.76	32.03	25.79	101.67	-1.40	33.17	26.71
26.67	-1.76	32.07	25.83	103.33	-1.39	33.19	26.72
28.33	-1.76	32.10	25.85	105.00	-1.38	33.19	26.72
30.00	-1.76	32.11	25.86	106.67	-1.37	33.19	26.72
31.67	-1.76	32.16	25.90	108.33	-1.36	33.20	26.73
33.33	-1.76	32.21	25.93	110.00	-1.35	33.21	26.73
35.00	-1.74	32.37	26.06	111.67	-1.35	33.21	26.74
36.67	-1.72	32.46	26.14	113.33	-1.35	33.23	26.75
38.33	-1.72	32.49	26.17	115.00	-1.40	33.24	26.77
40.00	-1.71	32.56	26.22	116.67	-1.40	33.26	26.78
41.67	-1.69	32.67	26.31	118.33	-1.30	33.28	26.79
43.33	-1.67	32.78	26.40	120.00	-1.26	33.29	26.80
45.00	-1.63	32.86	26.46	121.67	-1.24	33.30	26.81
46.67	-1.61	32.90	26.50	123.33	-1.21	33.34	26.84
48.33	-1.62	32.94	26.53	125.00	-1.21	33.35	26.85
50.00	-1.63	32.99	26.57	126.67	-1.21	33.39	26.88
51.67	-1.62	33.03	26.60	128.34	-1.16	33.41	26.89
53.33	-1.60	33.04	26.61	130.00	-1.10	33.48	26.95
55.00	-1.60	33.05	26.62	131.67	-1.09	33.48	26.95
56.67	-1.60	33.07	26.63	133.34	-1.09	33.48	26.95
58.33	-1.60	33.07	26.63	135.00	-1.08	33.48	26.95
60.00	-1.60	33.09	26.64	136.67	-1.07	33.49	26.96
61.67	-1.59	33.10	26.65	138.34	-1.06	33.50	26.96
63.33	-1.60	33.10	26.66	140.00	-1.06	33.50	26.96
65.00	-1.62	33.11	26.66	141.67	-1.06	33.50	26.97
66.67	-1.64	33.11	26.67	143.34	-1.06	33.50	26.96
68.33	-1.64	33.12	26.67	145.00	-1.06	33.50	26.97
70.00	-1.61	33.12	26.68	146.67	-1.06	33.51	26.97
71.67	-1.61	33.13	26.68	148.34	-1.06	33.51	26.97
73.33	-1.56	33.13	26.68	150.00	-1.06	33.51	26.97
75.00	-1.56	33.13	26.68				

REFERENCE NO. 73-473- 21 STN= BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 2.5
 RESULTS OF STD CAST 90 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.74	31.80	0	25.60	239.4	0.0	0.0	1437.
1	-1.74	31.80	1	25.60	239.6	0.02	0.00	1437.
3	-1.74	31.79	3	25.60	239.9	0.07	0.00	1437.
5	-1.74	31.79	5	25.60	240.0	0.12	0.00	1437.
7	-1.74	31.79	7	25.59	240.3	0.17	0.01	1437.
10	-1.74	31.79	10	25.59	240.4	0.24	0.01	1437.
15	-1.74	31.79	15	25.59	240.3	0.36	0.03	1437.
20	-1.75	31.82	20	25.62	237.4	0.48	0.05	1437.
30	-1.76	32.11	30	25.86	214.9	0.70	0.11	1438.
50	-1.63	32.99	50	26.57	147.6	1.06	0.25	1440.
75	-1.56	33.13	74	26.68	136.9	1.41	0.47	1441.
100	-1.51	33.15	99	26.69	135.3	1.75	0.77	1441.
125	-1.21	33.35	124	26.85	120.8	2.07	1.14	1443.

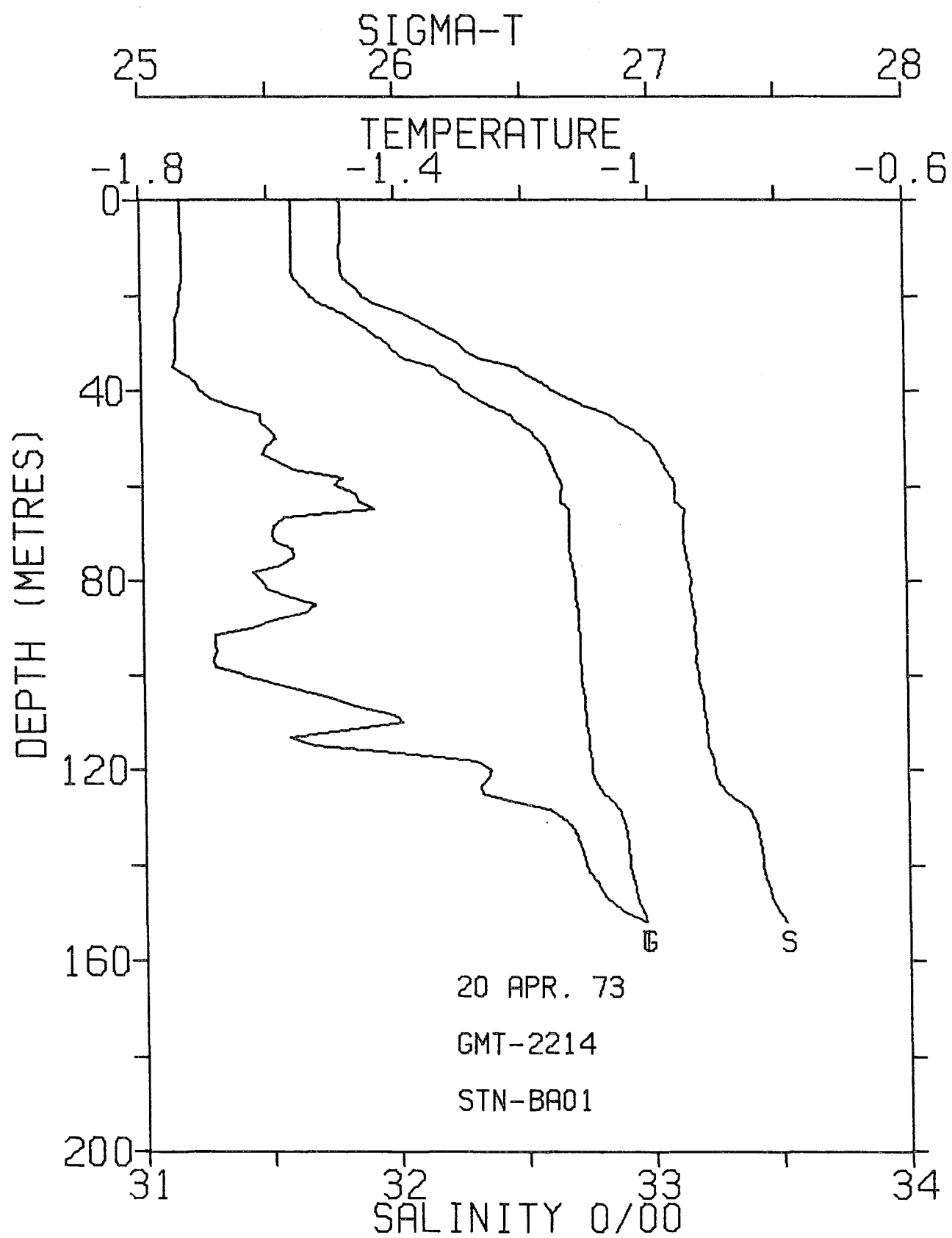


REFERENCE NO. 73-473- 22 STN= BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 3.5
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.75	31.76	25.57	76.67	-1.62	33.15	26.70
1.67	-1.75	31.77	25.58	78.33	-1.67	33.16	26.71
3.33	-1.75	31.77	25.58	80.00	-1.70	33.18	26.72
5.00	-1.75	31.77	25.58	81.67	-1.70	33.18	26.72
6.67	-1.75	31.77	25.58	83.33	-1.69	33.18	26.72
8.33	-1.75	31.77	25.58	85.00	-1.69	33.18	26.72
10.00	-1.75	31.77	25.58	86.67	-1.70	33.18	26.72
11.67	-1.75	31.77	25.58	88.33	-1.70	33.18	26.72
13.33	-1.75	31.77	25.58	90.00	-1.70	33.19	26.73
15.00	-1.75	31.78	25.59	91.67	-1.71	33.19	26.73
16.67	-1.75	31.78	25.59	93.33	-1.71	33.19	26.73
18.33	-1.75	31.79	25.60	95.00	-1.71	33.19	26.73
20.00	-1.75	31.81	25.62	96.67	-1.71	33.19	26.73
21.67	-1.75	31.88	25.67	98.33	-1.71	33.19	26.73
23.33	-1.75	31.92	25.70	100.00	-1.59	33.15	26.70
25.00	-1.76	31.96	25.74	101.67	-1.62	33.22	26.75
26.67	-1.76	32.01	25.77	103.33	-1.61	33.20	26.74
28.33	-1.76	32.04	25.80	105.00	-1.49	33.22	26.75
30.00	-1.76	32.11	25.86	106.67	-1.39	33.26	26.78
31.67	-1.76	32.15	25.89	108.33	-1.34	33.28	26.79
33.33	-1.76	32.20	25.93	110.00	-1.28	33.31	26.82
35.00	-1.76	32.23	25.95	111.67	-1.25	33.34	26.84
36.67	-1.75	32.32	26.03	113.33	-1.23	33.36	26.86
38.33	-1.75	32.39	26.09	115.00	-1.22	33.38	26.87
40.00	-1.74	32.52	26.19	116.67	-1.22	33.38	26.87
41.67	-1.72	32.63	26.28	118.33	-1.22	33.39	26.88
43.33	-1.70	32.71	26.34	120.00	-1.20	33.41	26.90
45.00	-1.72	32.76	26.38	121.67	-1.18	33.42	26.90
46.67	-1.63	32.90	26.50	123.33	-1.12	33.47	26.94
48.33	-1.58	32.93	26.52	125.00	-1.10	33.50	26.96
50.00	-1.58	32.97	26.55	126.67	-1.09	33.50	26.97
51.67	-1.57	32.99	26.57	128.34	-1.07	33.52	26.98
53.33	-1.54	33.02	26.59	130.00	-1.07	33.52	26.98
55.00	-1.52	33.04	26.61	131.67	-1.07	33.52	26.98
56.67	-1.49	33.06	26.62	133.34	-1.07	33.52	26.98
58.33	-1.43	33.06	26.62	135.00	-1.07	33.52	26.98
60.00	-1.40	33.07	26.63	136.67	-1.06	33.52	26.98
61.67	-1.44	33.08	26.64	138.34	-1.06	33.52	26.98
63.33	-1.46	33.09	26.65	140.00	-1.06	33.52	26.98
65.00	-1.44	33.11	26.66	141.67	-1.06	33.52	26.98
66.67	-1.48	33.12	26.67	143.34	-1.06	33.52	26.98
68.33	-1.54	33.12	26.67	145.00	-1.06	33.52	26.98
70.00	-1.63	33.13	26.68	146.67	-1.06	33.52	26.98
71.67	-1.63	33.14	26.69	148.34	-1.06	33.52	26.98
73.33	-1.61	33.15	26.69	150.00	-1.06	33.52	26.98
75.00	-1.61	33.15	26.70				

REFERENCE NO. 73-473- 22 STN= BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 3.5
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	31.76	0	25.57	242.1	0.0	0.0	1437.
1	-1.75	31.77	1	25.58	242.0	0.02	0.00	1437.
3	-1.75	31.77	3	25.58	241.6	0.07	0.00	1437.
5	-1.75	31.77	5	25.58	241.7	0.12	0.00	1437.
7	-1.75	31.77	7	25.58	241.8	0.17	0.01	1437.
10	-1.75	31.77	10	25.58	241.7	0.24	0.01	1437.
15	-1.75	31.78	15	25.59	241.1	0.36	0.03	1437.
20	-1.75	31.81	20	25.62	238.1	0.48	0.05	1437.
30	-1.76	32.11	30	25.86	214.9	0.71	0.11	1438.
50	-1.58	32.97	50	26.55	149.2	1.08	0.25	1440.
75	-1.61	33.15	74	26.70	135.2	1.43	0.48	1440.
100	-1.59	33.15	99	26.70	134.8	1.76	0.77	1441.
125	-1.10	33.50	124	26.96	109.8	2.06	1.12	1444.

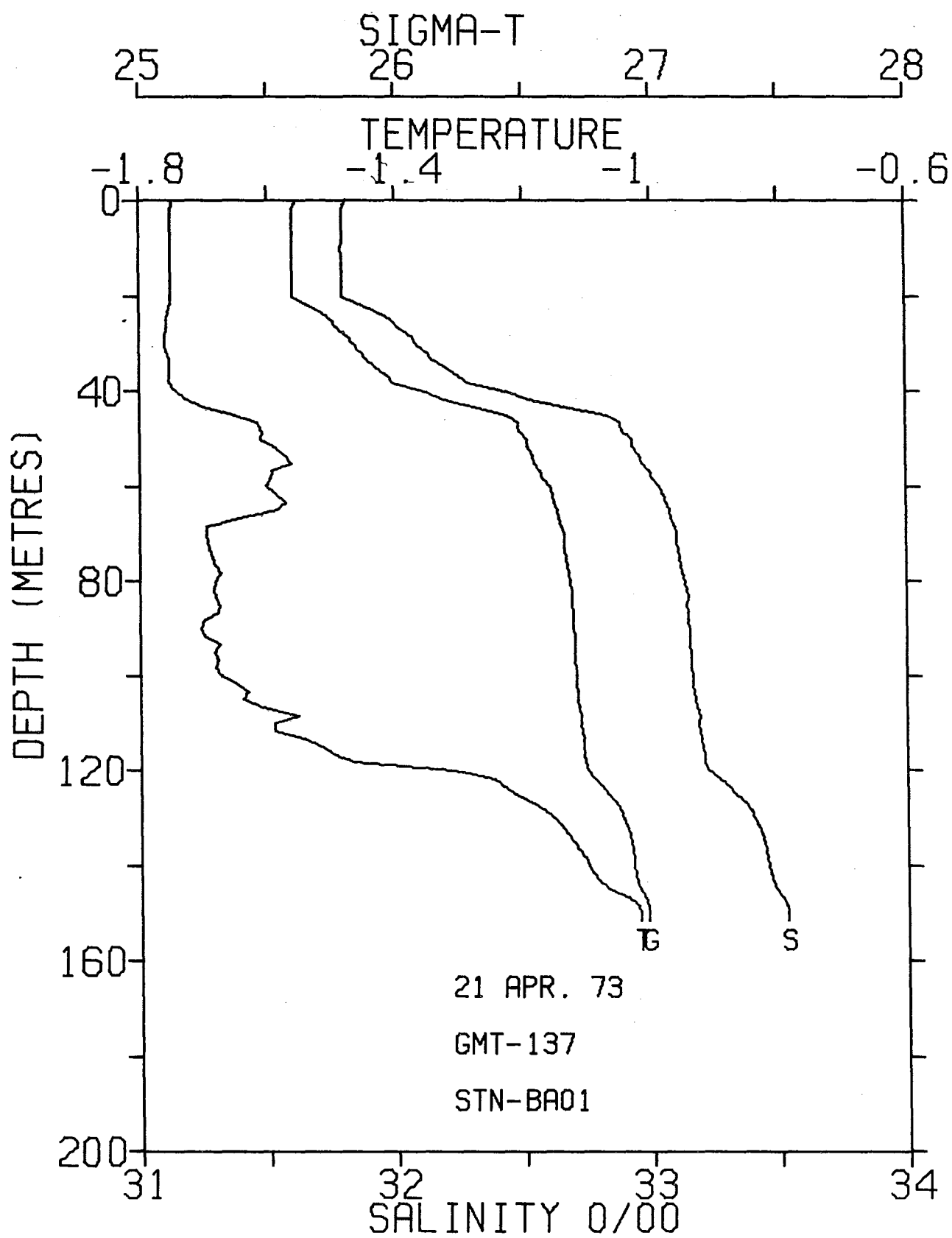


REFERENCE NO. 73-473- 23 STN- BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.2
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.73	31.79	25.59	76.67	-1.59	33.15	26.69
1.67	-1.73	31.79	25.59	78.33	-1.63	33.15	26.70
3.33	-1.73	31.79	25.59	80.00	-1.61	33.15	26.70
5.00	-1.73	31.79	25.60	81.67	-1.61	33.15	26.70
6.67	-1.73	31.79	25.59	83.33	-1.57	33.16	26.70
8.33	-1.73	31.79	25.59	85.00	-1.53	33.16	26.70
10.00	-1.73	31.79	25.59	86.67	-1.54	33.17	26.71
11.67	-1.73	31.78	25.59	88.33	-1.59	33.17	26.71
13.33	-1.73	31.79	25.59	90.00	-1.63	33.17	26.71
15.00	-1.73	31.79	25.60	91.67	-1.69	33.17	26.72
16.67	-1.73	31.80	25.60	93.33	-1.69	33.17	26.72
18.33	-1.73	31.84	25.64	95.00	-1.68	33.18	26.72
20.00	-1.74	31.87	25.67	96.67	-1.69	33.17	26.72
21.67	-1.74	31.91	25.70	98.33	-1.69	33.18	26.72
23.33	-1.74	32.02	25.78	100.00	-1.64	33.18	26.72
25.00	-1.74	32.08	25.83	101.67	-1.60	33.18	26.72
26.67	-1.74	32.14	25.88	103.33	-1.55	33.19	26.73
28.33	-1.74	32.19	25.92	105.00	-1.51	33.20	26.73
30.00	-1.74	32.25	25.97	106.67	-1.47	33.20	26.73
31.67	-1.74	32.28	25.99	108.33	-1.41	33.21	26.74
33.33	-1.74	32.33	26.03	110.00	-1.39	33.21	26.74
35.00	-1.75	32.47	26.15	111.67	-1.49	33.21	26.74
36.67	-1.73	32.51	26.18	113.33	-1.57	33.21	26.75
38.33	-1.71	32.58	26.24	115.00	-1.53	33.22	26.75
40.00	-1.71	32.61	26.26	116.67	-1.38	33.23	26.76
41.67	-1.69	32.69	26.32	118.33	-1.28	33.24	26.76
43.33	-1.66	32.75	26.37	120.00	-1.26	33.24	26.76
45.00	-1.61	32.85	26.45	121.67	-1.26	33.25	26.77
46.67	-1.61	32.88	26.47	123.33	-1.27	33.27	26.78
48.33	-1.60	32.94	26.53	125.00	-1.27	33.30	26.81
50.00	-1.59	32.98	26.55	126.67	-1.23	33.34	26.84
51.67	-1.61	33.01	26.58	128.34	-1.17	33.38	26.87
53.33	-1.61	33.03	26.60	130.00	-1.14	33.39	26.88
55.00	-1.59	33.05	26.61	131.67	-1.13	33.40	26.89
56.67	-1.56	33.06	26.62	133.34	-1.12	33.41	26.89
58.33	-1.49	33.09	26.64	135.00	-1.12	33.42	26.90
60.00	-1.50	33.09	26.65	136.67	-1.11	33.42	26.90
61.67	-1.46	33.09	26.65	138.34	-1.11	33.43	26.91
63.33	-1.46	33.09	26.65	140.00	-1.11	33.43	26.91
65.00	-1.43	33.14	26.68	141.67	-1.10	33.43	26.91
66.67	-1.58	33.13	26.68	143.34	-1.09	33.45	26.92
68.33	-1.59	33.13	26.68	145.00	-1.09	33.45	26.93
70.00	-1.60	33.13	26.68	146.67	-1.08	33.46	26.93
71.67	-1.59	33.13	26.68	148.34	-1.06	33.48	26.94
73.33	-1.56	33.13	26.68	150.00	-1.04	33.50	26.96
75.00	-1.56	33.14	26.68	151.67	-1.01	33.51	26.97

REFERENCE NO. 73-473- 23 STN= BA01 DATE 20/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 22.2
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.73	31.79	0	25.59	240.4	0.0	0.0	1437.
1	-1.73	31.79	1	25.59	240.4	0.02	0.00	1437.
3	-1.73	31.79	3	25.59	240.4	0.07	0.00	1437.
5	-1.73	31.79	5	25.60	240.3	0.12	0.00	1437.
7	-1.73	31.79	7	25.59	240.3	0.17	0.01	1437.
10	-1.73	31.79	10	25.59	240.4	0.24	0.01	1437.
15	-1.73	31.79	15	25.60	240.1	0.36	0.03	1437.
20	-1.74	31.87	20	25.67	233.5	0.48	0.05	1437.
30	-1.74	32.25	30	25.97	204.7	0.70	0.10	1438.
50	-1.59	32.98	50	26.55	148.9	1.05	0.24	1440.
75	-1.56	33.14	74	26.68	136.3	1.40	0.47	1441.
100	-1.64	33.18	99	26.72	132.5	1.73	0.77	1441.
125	-1.27	33.30	124	26.81	124.6	2.06	1.14	1443.
150	-1.04	33.50	149	26.96	109.9	2.35	1.54	1445.

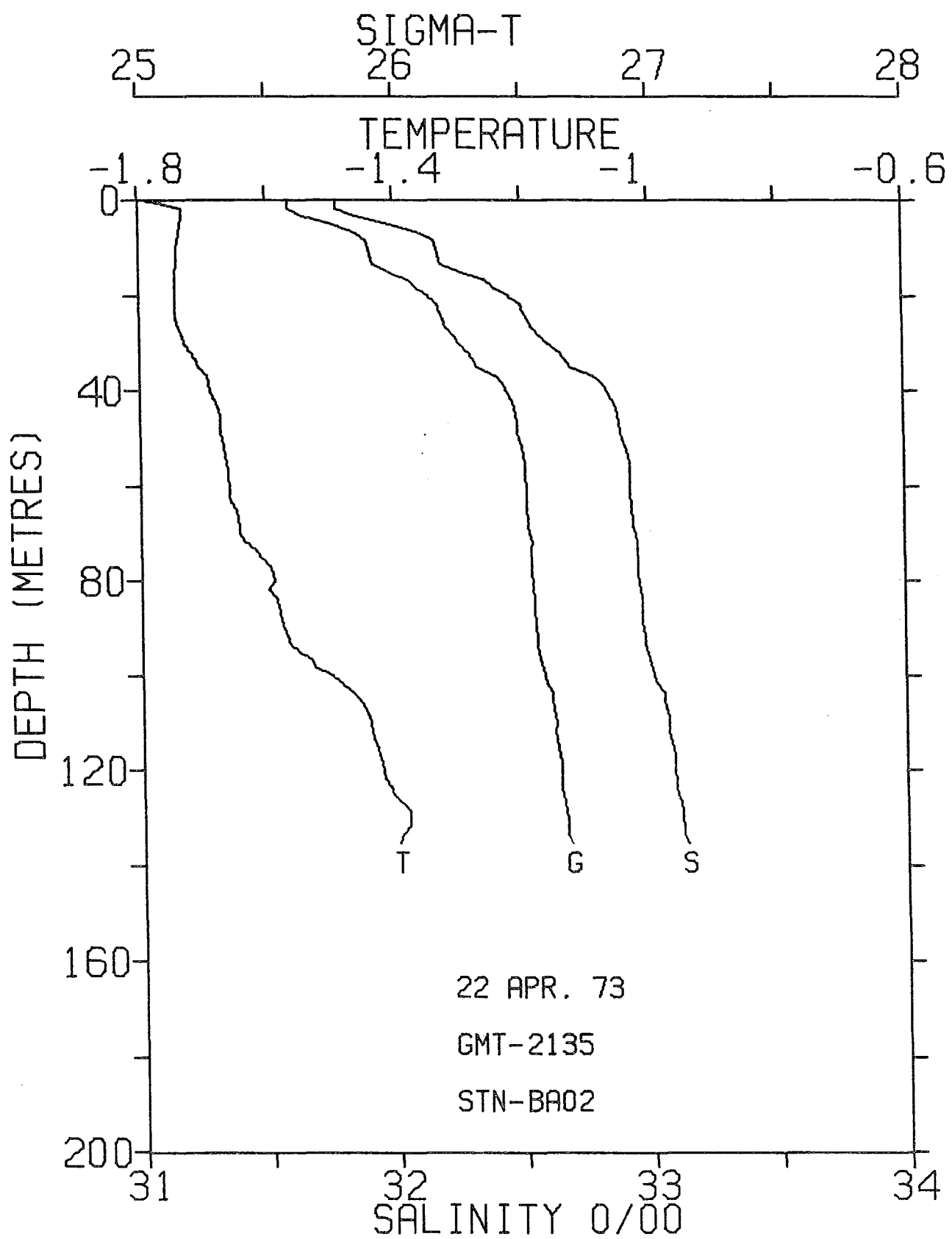


REFERENCE NO. 73-473- 24 STN= BA01 DATE 21/ 4/73
 POSITION 74=30.0N, 91=21.0W GMT 1.6
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	=1.75	31.81	25.62	76.67	=1.68	33.12	26.67
1.67	=1.75	31.79	25.60	78.33	=1.67	33.12	26.68
3.33	=1.75	31.80	25.60	80.00	=1.68	33.13	26.68
5.00	=1.75	31.79	25.60	81.67	=1.69	33.14	26.69
6.67	=1.75	31.79	25.60	83.33	=1.68	33.14	26.69
8.33	=1.75	31.79	25.60	85.00	=1.68	33.14	26.69
10.00	=1.75	31.79	25.60	86.67	=1.68	33.14	26.69
11.67	=1.75	31.79	25.60	88.33	=1.70	33.15	26.69
13.33	=1.75	31.79	25.60	90.00	=1.71	33.15	26.70
15.00	=1.75	31.79	25.60	91.67	=1.70	33.15	26.70
16.67	=1.75	31.79	25.60	93.33	=1.68	33.15	26.70
18.33	=1.75	31.80	25.60	95.00	=1.68	33.15	26.70
20.00	=1.75	31.80	25.60	96.67	=1.68	33.16	26.70
21.67	=1.75	31.86	25.65	98.33	=1.68	33.16	26.70
23.33	=1.75	31.94	25.72	100.00	=1.67	33.16	26.71
25.00	=1.76	31.98	25.75	101.67	=1.65	33.16	26.71
26.67	=1.76	32.02	25.78	103.33	=1.63	33.17	26.71
28.33	=1.76	32.06	25.82	105.00	=1.64	33.17	26.71
30.00	=1.76	32.09	25.84	106.67	=1.61	33.18	26.72
31.67	=1.76	32.12	25.86	108.33	=1.55	33.19	26.72
33.33	=1.75	32.15	25.89	110.00	=1.59	33.18	26.72
35.00	=1.75	32.20	25.93	111.67	=1.59	33.19	26.73
36.67	=1.75	32.25	25.97	113.33	=1.55	33.20	26.73
38.33	=1.75	32.28	26.00	115.00	=1.52	33.20	26.73
40.00	=1.74	32.43	26.12	116.67	=1.50	33.20	26.74
41.67	=1.73	32.53	26.19	118.33	=1.47	33.20	26.74
43.33	=1.70	32.66	26.30	120.00	=1.31	33.22	26.75
45.00	=1.65	32.83	26.44	121.67	=1.25	33.26	26.78
46.67	=1.62	32.89	26.48	123.33	=1.23	33.30	26.81
48.33	=1.61	32.89	26.49	125.00	=1.21	33.33	26.83
50.00	=1.61	32.93	26.52	126.67	=1.19	33.36	26.86
51.67	=1.59	32.93	26.52	128.34	=1.17	33.39	26.88
53.33	=1.57	32.95	26.54	130.00	=1.15	33.40	26.89
55.00	=1.56	32.97	26.55	131.67	=1.14	33.42	26.90
56.67	=1.59	32.99	26.57	133.34	=1.13	33.43	26.91
58.33	=1.60	33.01	26.58	135.00	=1.12	33.44	26.92
60.00	=1.60	33.04	26.60	136.67	=1.12	33.44	26.92
61.67	=1.59	33.05	26.61	138.34	=1.10	33.45	26.93
63.33	=1.57	33.06	26.62	140.00	=1.10	33.45	26.93
65.00	=1.59	33.07	26.63	141.67	=1.09	33.46	26.93
66.67	=1.65	33.08	26.64	143.34	=1.08	33.47	26.94
68.33	=1.70	33.09	26.65	145.00	=1.07	33.48	26.95
70.00	=1.70	33.10	26.66	146.67	=1.04	33.51	26.97
71.67	=1.69	33.10	26.66	148.34	=1.02	33.53	26.98
73.33	=1.69	33.11	26.66	150.00	=1.02	33.53	26.98
75.00	=1.69	33.11	26.67				

REFERENCE NO. 73-473- 24 STN= BA01 DATE 21/ 4/73
 POSITION 74-30.0N, 91-21.0W GMT 1.6
 RESULTS OF STD CAST 92 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	31.81	0	25.62	238.2	0.0	0.0	1437.
1	-1.75	31.80	1	25.61	239.3	0.02	0.00	1437.
3	-1.75	31.80	3	25.60	239.7	0.07	0.00	1437.
5	-1.75	31.79	5	25.60	239.8	0.12	0.00	1437.
7	-1.75	31.79	7	25.60	239.9	0.17	0.01	1437.
10	-1.75	31.79	10	25.60	239.9	0.24	0.01	1437.
15	-1.75	31.79	15	25.60	239.9	0.36	0.03	1437.
20	-1.75	31.80	20	25.60	239.6	0.48	0.05	1437.
30	-1.76	32.09	30	25.84	217.1	0.71	0.11	1437.
50	-1.61	32.93	50	26.52	152.5	1.08	0.26	1440.
75	-1.69	33.11	74	26.67	137.9	1.44	0.48	1440.
100	-1.67	33.16	99	26.71	134.0	1.78	0.78	1441.
125	-1.21	33.33	124	26.83	122.4	2.11	1.16	1443.
150	-1.02	33.53	149	26.98	107.6	2.39	1.56	1445.

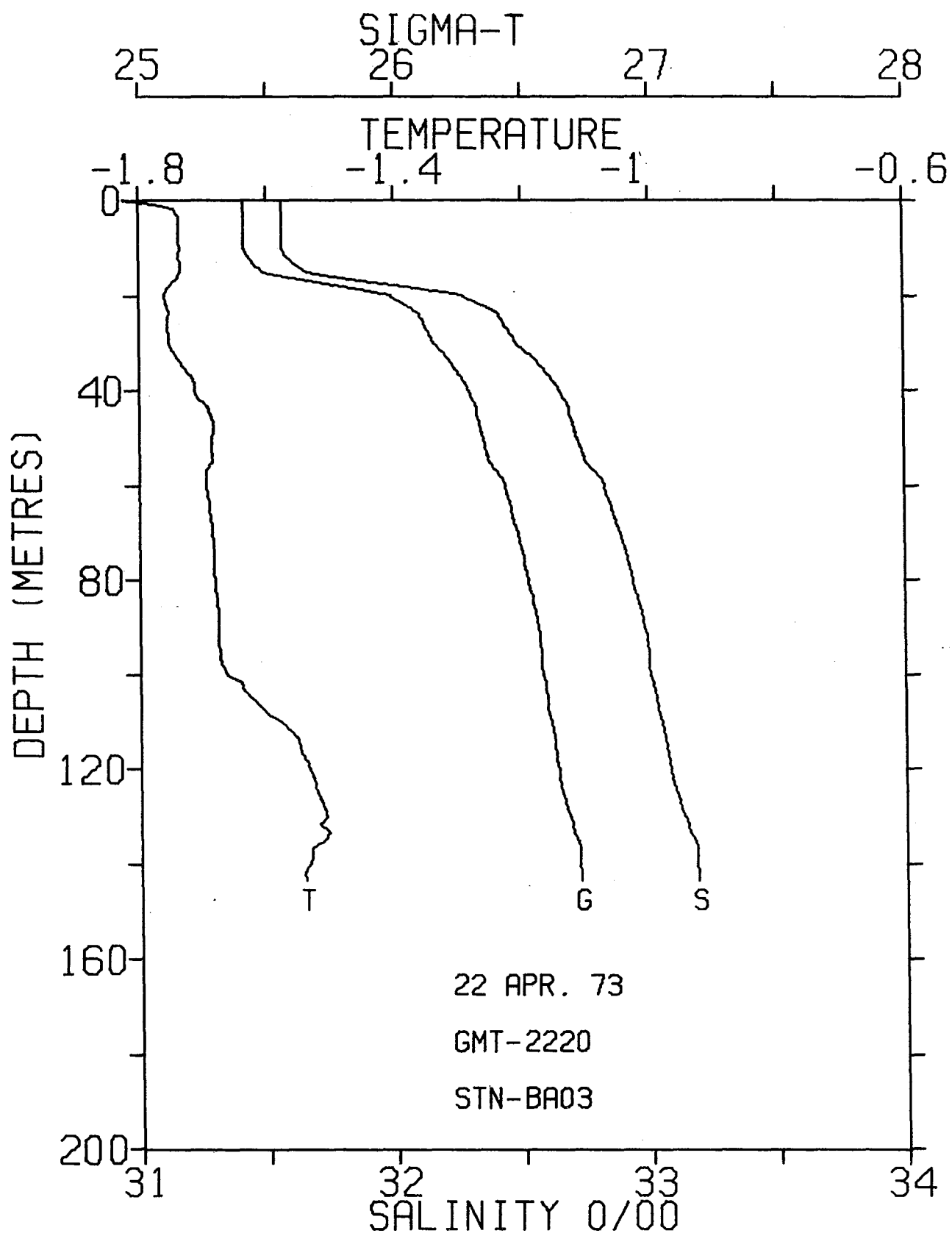


REFERENCE NO. 73-473- 25 STN- BA02 DATE 22/ 4/73
 POSITION 74-33.0N, 94-19.0W GMT 21.6
 RESULTS OF STD CAST 82 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.79	31.78	25.59	68.33	-1.64	32.94	26.52
1.67	-1.73	31.78	25.59	70.00	-1.64	32.94	26.53
3.33	-1.73	31.85	25.65	71.67	-1.63	32.95	26.54
5.00	-1.73	32.00	25.76	73.33	-1.62	32.95	26.54
6.67	-1.74	32.11	25.86	75.00	-1.61	32.95	26.53
8.33	-1.74	32.16	25.90	76.67	-1.60	32.95	26.53
10.00	-1.74	32.17	25.90	78.33	-1.59	32.95	26.54
11.67	-1.74	32.18	25.91	80.00	-1.59	32.95	26.54
13.33	-1.74	32.19	25.92	81.67	-1.60	32.96	26.54
15.00	-1.74	32.27	25.99	83.33	-1.59	32.96	26.55
16.67	-1.74	32.36	26.06	85.00	-1.59	32.97	26.55
18.33	-1.74	32.40	26.09	86.67	-1.58	32.97	26.55
20.00	-1.74	32.46	26.14	88.33	-1.58	32.97	26.55
21.67	-1.74	32.50	26.17	90.00	-1.58	32.97	26.55
23.33	-1.74	32.51	26.18	91.67	-1.57	32.98	26.55
25.00	-1.74	32.53	26.19	93.33	-1.57	32.98	26.56
26.67	-1.74	32.54	26.21	95.00	-1.55	32.99	26.56
28.33	-1.73	32.58	26.24	96.67	-1.53	32.99	26.57
30.00	-1.73	32.60	26.26	98.33	-1.53	33.00	26.58
31.67	-1.72	32.65	26.29	100.00	-1.50	33.01	26.58
33.33	-1.71	32.67	26.31	101.67	-1.49	33.02	26.59
35.00	-1.71	32.69	26.33	103.33	-1.47	33.05	26.61
36.67	-1.69	32.78	26.40	105.00	-1.46	33.05	26.61
38.33	-1.69	32.82	26.43	106.67	-1.45	33.06	26.62
40.00	-1.69	32.84	26.45	108.33	-1.44	33.07	26.62
41.67	-1.68	32.86	26.46	110.00	-1.44	33.07	26.63
43.33	-1.68	32.87	26.47	111.67	-1.44	33.07	26.62
45.00	-1.67	32.88	26.48	113.33	-1.44	33.07	26.63
46.67	-1.67	32.89	26.48	115.00	-1.43	33.08	26.64
48.33	-1.67	32.89	26.48	116.67	-1.43	33.09	26.64
50.00	-1.67	32.90	26.49	118.33	-1.42	33.09	26.64
51.67	-1.67	32.90	26.50	120.00	-1.42	33.09	26.64
53.33	-1.67	32.92	26.51	121.67	-1.42	33.09	26.64
55.00	-1.66	32.92	26.51	123.33	-1.41	33.10	26.65
56.67	-1.66	32.92	26.51	125.00	-1.41	33.10	26.65
58.33	-1.66	32.92	26.51	126.67	-1.40	33.11	26.66
60.00	-1.66	32.92	26.51	128.34	-1.38	33.12	26.66
61.67	-1.66	32.92	26.51	130.00	-1.38	33.12	26.67
63.33	-1.66	32.93	26.52	131.67	-1.38	33.12	26.67
65.00	-1.65	32.93	26.52	133.34	-1.39	33.12	26.67
66.67	-1.65	32.93	26.52	135.00	-1.40	33.14	26.68

REFERENCE NO. 73-473- 25 STN= BA02 DATE 22/ 4/73
 POSITION 74-33.0N, 94-19.0W GMT 21.6
 RESULTS OF STD CAST 82 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.79	31.78	0	25.59	240.9	0.0	0.0	1436.
1	-1.76	31.78	1	25.59	241.1	0.02	0.00	1437.
3	-1.73	31.84	3	25.64	236.5	0.07	0.00	1437.
5	-1.73	32.00	5	25.76	224.2	0.12	0.00	1437.
7	-1.74	32.12	7	25.86	214.8	0.16	0.01	1437.
10	-1.74	32.17	10	25.90	210.8	0.23	0.01	1437.
15	-1.74	32.27	15	25.99	202.9	0.33	0.02	1438.
20	-1.74	32.46	20	26.14	188.6	0.43	0.04	1438.
30	-1.73	32.60	30	26.26	177.3	0.61	0.09	1438.
50	-1.67	32.90	50	26.49	154.8	0.93	0.22	1439.
75	-1.61	32.95	74	26.53	150.5	1.32	0.46	1440.
100	-1.50	33.01	99	26.58	145.9	1.69	0.79	1441.
125	-1.41	33.10	124	26.65	139.2	2.04	1.20	1442.

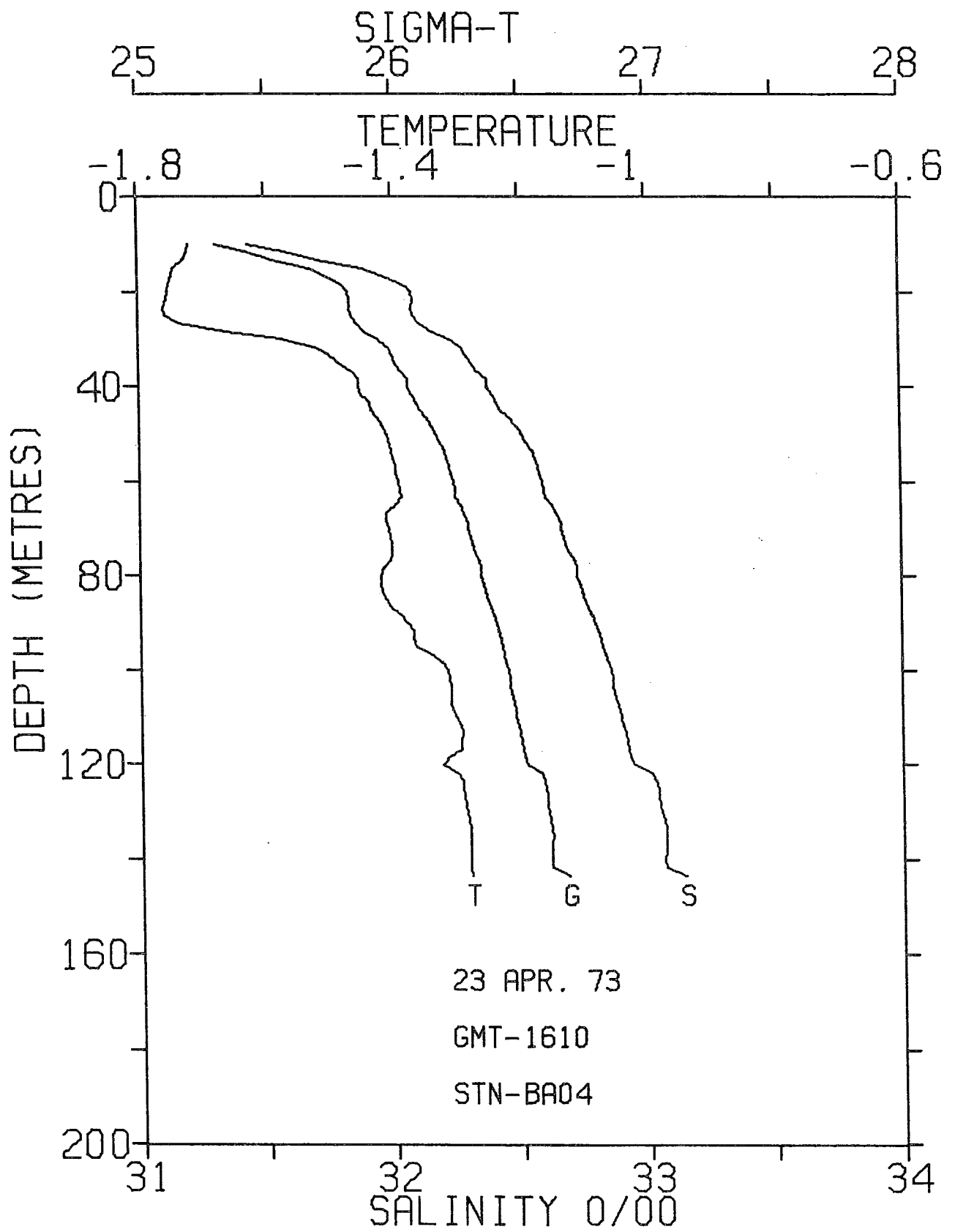


REFERENCE NO. 73-473- 26 STN- BA03 DATE 22/ 4/73
 POSITION 74-28.0N, 94-19.0W GMT 22.3
 RESULTS OF STD CAST 87 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.83	31.56	25.41	73.33	-1.68	32.90	26.50
1.67	-1.74	31.56	25.41	75.00	-1.68	32.91	26.50
3.33	-1.74	31.56	25.41	76.67	-1.68	32.91	26.51
5.00	-1.74	31.56	25.41	78.33	-1.68	32.93	26.52
6.67	-1.74	31.56	25.41	80.00	-1.68	32.94	26.52
8.33	-1.74	31.56	25.41	81.67	-1.68	32.94	26.53
10.00	-1.74	31.56	25.41	83.33	-1.68	32.95	26.54
11.67	-1.74	31.58	25.43	85.00	-1.68	32.96	26.54
13.33	-1.74	31.61	25.45	86.67	-1.68	32.97	26.55
15.00	-1.74	31.66	25.49	88.33	-1.68	32.97	26.56
16.67	-1.74	31.83	25.63	90.00	-1.68	32.98	26.56
18.33	-1.76	32.09	25.84	91.67	-1.68	32.99	26.57
20.00	-1.76	32.27	25.99	93.33	-1.68	32.99	26.57
21.67	-1.76	32.34	26.04	95.00	-1.68	32.99	26.57
23.33	-1.75	32.40	26.09	96.67	-1.67	32.99	26.57
25.00	-1.75	32.42	26.11	98.33	-1.67	33.00	26.57
26.67	-1.75	32.44	26.12	100.00	-1.66	33.00	26.58
28.33	-1.75	32.47	26.15	101.67	-1.64	33.01	26.59
30.00	-1.75	32.48	26.15	103.33	-1.64	33.02	26.59
31.67	-1.75	32.52	26.19	105.00	-1.63	33.02	26.59
33.33	-1.74	32.55	26.21	106.67	-1.61	33.03	26.60
35.00	-1.73	32.58	26.24	108.33	-1.60	33.04	26.60
36.67	-1.72	32.60	26.26	110.00	-1.58	33.04	26.61
38.33	-1.71	32.63	26.28	111.67	-1.57	33.05	26.62
40.00	-1.71	32.65	26.29	113.33	-1.55	33.06	26.62
41.67	-1.71	32.67	26.31	115.00	-1.55	33.06	26.62
43.33	-1.69	32.69	26.32	116.67	-1.55	33.06	26.63
45.00	-1.69	32.68	26.32	118.33	-1.54	33.07	26.63
46.67	-1.68	32.70	26.33	120.00	-1.53	33.08	26.64
48.33	-1.68	32.70	26.34	121.67	-1.53	33.08	26.64
50.00	-1.69	32.72	26.35	123.33	-1.53	33.09	26.64
51.67	-1.69	32.73	26.36	125.00	-1.52	33.10	26.65
53.33	-1.69	32.74	26.36	126.67	-1.52	33.11	26.66
55.00	-1.69	32.75	26.37	128.34	-1.51	33.12	26.67
56.67	-1.70	32.78	26.39	130.00	-1.51	33.14	26.68
58.33	-1.70	32.81	26.42	131.67	-1.52	33.15	26.69
60.00	-1.70	32.82	26.43	133.34	-1.50	33.15	26.70
61.67	-1.69	32.83	26.44	135.00	-1.52	33.17	26.71
63.33	-1.69	32.84	26.45	136.67	-1.53	33.18	26.71
65.00	-1.69	32.85	26.45	138.34	-1.53	33.18	26.72
66.67	-1.69	32.86	26.46	140.00	-1.54	33.18	26.72
68.33	-1.69	32.87	26.47	141.67	-1.54	33.18	26.72
70.00	-1.69	32.88	26.48	143.34	-1.54	33.18	26.72
71.67	-1.69	32.89	26.49				

REFERENCE NO. 73-473- 26 STN= BA03 DATE 22/ 4/73
 POSITION 74-28.0N, 94-19.0W GMT 22.3
 RESULTS OF STD CAST 87 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.83	31.56	0	25.41	257.5	0.0	0.0	1436.
1	-1.78	31.56	1	25.41	257.6	0.03	0.00	1436.
3	-1.74	31.56	3	25.41	257.6	0.08	0.00	1436.
5	-1.74	31.56	5	25.41	257.7	0.13	0.00	1436.
7	-1.74	31.56	7	25.41	257.7	0.18	0.01	1436.
10	-1.74	31.56	10	25.41	257.9	0.26	0.01	1437.
15	-1.74	31.66	15	25.49	250.0	0.39	0.03	1437.
20	-1.76	32.27	20	25.99	202.9	0.50	0.05	1438.
30	-1.75	32.48	30	26.15	186.9	0.69	0.10	1438.
50	-1.69	32.72	50	26.35	168.3	1.04	0.24	1439.
75	-1.68	32.91	74	26.50	153.5	1.44	0.49	1440.
100	-1.66	33.00	99	26.58	146.2	1.81	0.83	1440.
125	-1.52	33.10	124	26.65	139.1	2.17	1.23	1442.

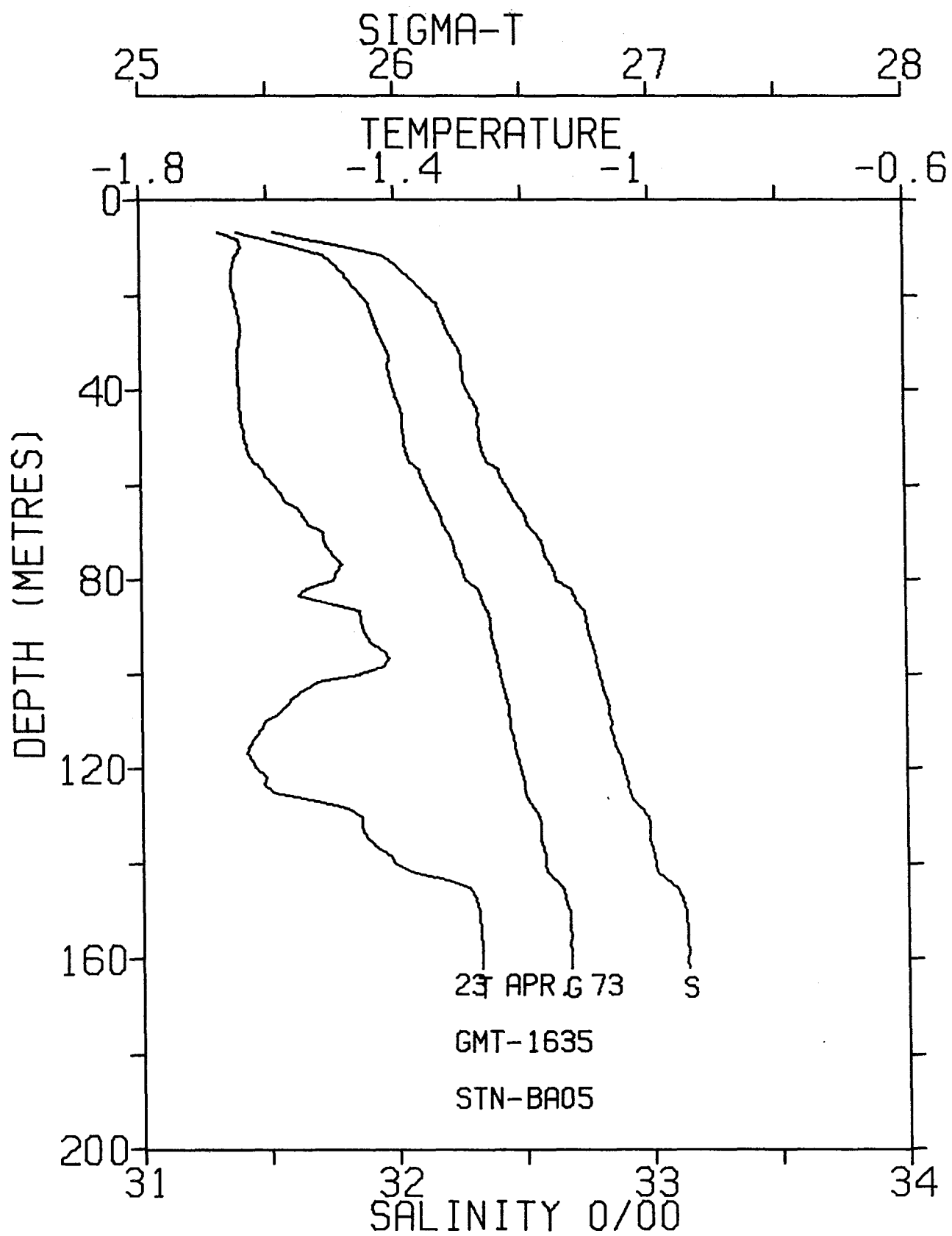


REFERENCE NO. 73-473- 27 STN- BA04 DATE 23/ 4/73
 POSITION 74-23.0N, 94-19.0W GMT 16.2
 RESULTS OF STD CAST 87 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.81			73.33	-1.40	32.68	26.31
1.67	-1.72			75.00	-1.40	32.69	26.32
3.33	-1.72			76.67	-1.40	32.72	26.34
5.00	-1.72	off scale		78.33	-1.42	32.72	26.34
6.67	-1.72			80.00	-1.42	32.72	26.35
8.33	-1.72			81.67	-1.42	32.74	26.36
10.00	-1.72	31.44	25.31	83.33	-1.42	32.74	26.36
11.67	-1.72	31.58	25.43	85.00	-1.41	32.75	26.37
13.33	-1.73	31.71	25.53	86.67	-1.41	32.77	26.38
15.00	-1.74	31.89	25.68	88.33	-1.39	32.78	26.39
16.67	-1.75	31.96	25.74	90.00	-1.38	32.80	26.40
18.33	-1.75	32.04	25.80	91.67	-1.37	32.81	26.41
20.00	-1.75	32.08	25.83	93.33	-1.37	32.82	26.42
21.67	-1.76	32.08	25.83	95.00	-1.36	32.82	26.43
23.33	-1.76	32.08	25.83	96.67	-1.34	32.83	26.43
25.00	-1.76	32.09	25.84	98.33	-1.32	32.84	26.44
26.67	-1.73	32.11	25.86	100.00	-1.32	32.86	26.45
28.33	-1.66	32.16	25.90	101.67	-1.31	32.86	26.45
30.00	-1.57	32.23	25.95	103.33	-1.31	32.86	26.46
31.67	-1.52	32.27	25.98	105.00	-1.31	32.87	26.46
33.33	-1.50	32.29	26.00	106.67	-1.31	32.88	26.47
35.00	-1.49	32.31	26.01	108.33	-1.31	32.89	26.48
36.67	-1.46	32.33	26.03	110.00	-1.30	32.89	26.48
38.33	-1.45	32.37	26.06	111.67	-1.30	32.90	26.49
40.00	-1.45	32.37	26.06	113.33	-1.29	32.91	26.49
41.67	-1.45	32.39	26.08	115.00	-1.30	32.92	26.50
43.33	-1.44	32.41	26.09	116.67	-1.30	32.92	26.50
45.00	-1.43	32.43	26.11	118.33	-1.31	32.93	26.51
46.67	-1.42	32.46	26.14	120.00	-1.32	32.94	26.52
48.33	-1.42	32.49	26.15	121.67	-1.30	33.01	26.58
50.00	-1.41	32.51	26.17	123.33	-1.29	33.03	26.59
51.67	-1.41	32.52	26.18	125.00	-1.29	33.04	26.60
53.33	-1.40	32.55	26.20	126.67	-1.29	33.04	26.60
55.00	-1.40	32.56	26.21	128.34	-1.29	33.04	26.60
56.67	-1.40	32.57	26.22	130.00	-1.29	33.05	26.61
58.33	-1.40	32.58	26.23	131.67	-1.28	33.06	26.61
60.00	-1.39	32.59	26.24	133.34	-1.28	33.06	26.62
61.67	-1.39	32.60	26.24	135.00	-1.28	33.07	26.62
63.33	-1.39	32.60	26.25	136.67	-1.28	33.07	26.62
65.00	-1.40	32.63	26.27	138.34	-1.28	33.06	26.62
66.67	-1.41	32.64	26.28	140.00	-1.28	33.06	26.62
68.33	-1.41	32.66	26.29	141.67	-1.28	33.07	26.62
70.00	-1.41	32.66	26.30	143.34	-1.28	33.15	26.68
71.67	-1.40	32.67	26.31				

REFERENCE NO. 73-473- 27 STN- BA04 DATE 23/ 4/73
 POSITION 74-23.0N, 94-19.0W GMT 16.2
 RESULTS OF STD CAST 87 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
9	-1.72	31.43	10	25.31	263.0	0.0	0.0	1436.
15	-1.74	31.89	15	25.68	232.5	0.13	0.02	1437.
20	-1.75	32.08	20	25.83	217.9	0.24	0.04	1437.
30	-1.57	32.23	30	25.95	206.7	0.45	0.09	1439.
50	-1.41	32.51	50	26.17	184.9	0.84	0.25	1440.
75	-1.40	32.69	74	26.32	170.7	1.29	0.53	1441.
100	-1.32	32.86	99	26.45	158.4	1.70	0.90	1442.
125	-1.29	33.04	124	26.60	144.4	2.08	1.33	1443.



REFERENCE NO. 73-473- 28 STN= BA05 DATE 23/ 4/73
 POSITION 74-18.0N, 94-19.0W GMT 16.6
 RESULTS OF STD CAST 98 POINTS TAKEN FROM ANALOG TRACE

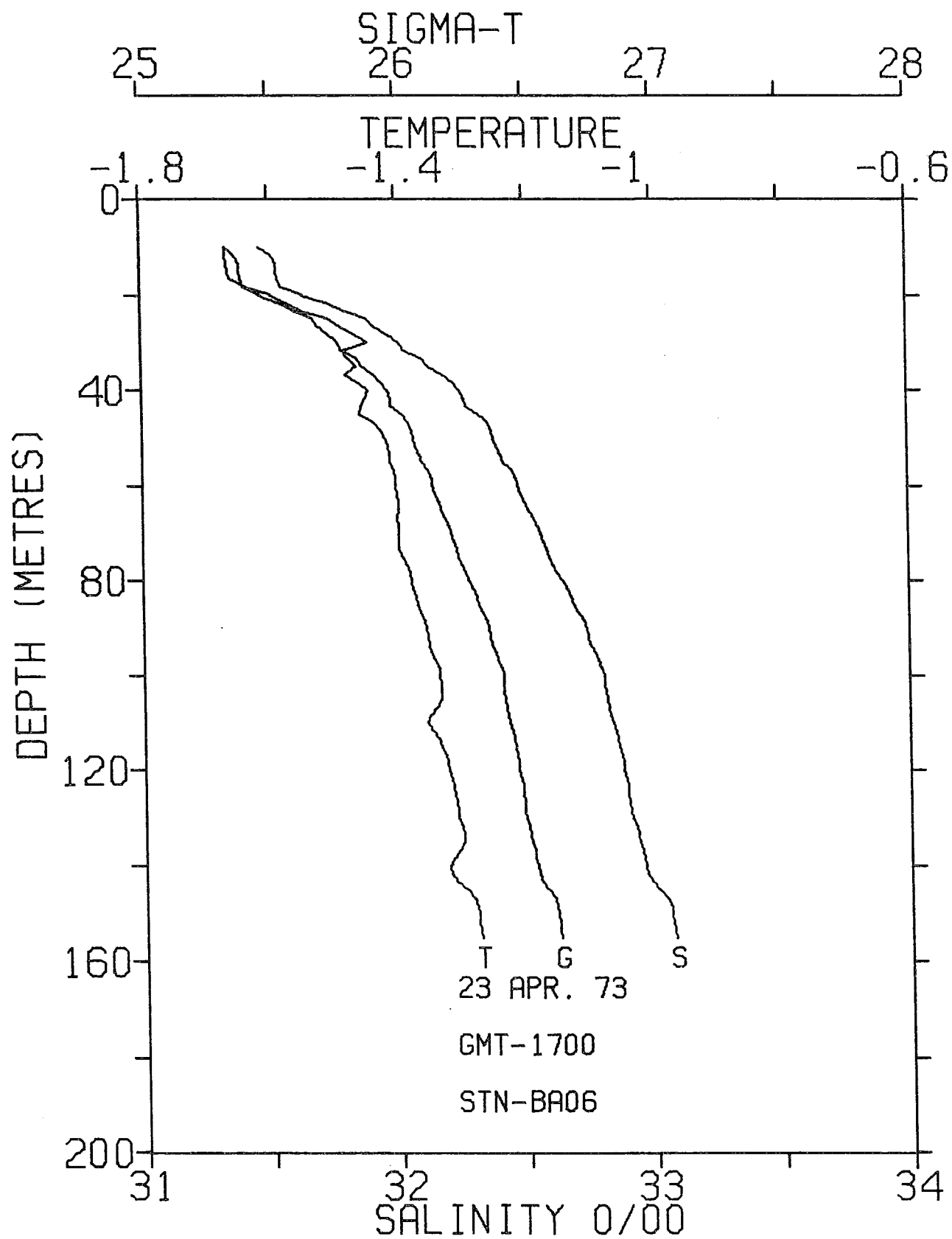
PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.77			78.33	-1.49	32.62	26.26
1.67	-1.72			80.00	-1.50	32.63	26.27
3.33	-1.71		off scale	81.67	-1.54	32.68	26.32
5.00	-1.71			83.33	-1.55	32.70	26.33
6.67	-1.68	31.54	25.39	85.00	-1.51	32.71	26.34
8.33	-1.64	31.66	25.49	86.67	-1.46	32.74	26.36
10.00	-1.64	31.83	25.62	88.33	-1.46	32.75	26.36
11.67	-1.65	31.95	25.72	90.00	-1.45	32.75	26.37
13.33	-1.65	32.00	25.76	91.67	-1.45	32.76	26.37
15.00	-1.65	32.03	25.79	93.33	-1.44	32.76	26.38
16.67	-1.66	32.06	25.82	95.00	-1.42	32.78	26.39
18.33	-1.65	32.10	25.84	96.67	-1.41	32.79	26.40
20.00	-1.65	32.13	25.87	98.33	-1.42	32.79	26.40
21.67	-1.65	32.17	25.90	100.00	-1.46	32.80	26.40
23.33	-1.65	32.17	25.90	101.67	-1.52	32.80	26.41
25.00	-1.64	32.19	25.92	103.33	-1.55	32.81	26.42
26.67	-1.64	32.20	25.93	105.00	-1.56	32.82	26.43
28.33	-1.64	32.22	25.94	106.67	-1.57	32.83	26.44
30.00	-1.64	32.23	25.95	108.33	-1.59	32.83	26.44
31.67	-1.65	32.26	25.97	110.00	-1.61	32.84	26.45
33.33	-1.65	32.26	25.98	111.67	-1.61	32.84	26.45
35.00	-1.65	32.26	25.97	113.33	-1.62	32.85	26.45
36.67	-1.65	32.26	25.98	115.00	-1.63	32.86	26.46
38.33	-1.65	32.27	25.98	116.67	-1.63	32.87	26.47
40.00	-1.64	32.28	25.99	118.33	-1.63	32.88	26.48
41.67	-1.64	32.30	26.01	120.00	-1.62	32.89	26.49
43.33	-1.64	32.31	26.02	121.67	-1.61	32.90	26.49
45.00	-1.64	32.33	26.03	123.33	-1.61	32.91	26.50
46.67	-1.64	32.32	26.03	125.00	-1.59	32.91	26.50
48.33	-1.64	32.33	26.03	126.67	-1.53	32.92	26.51
50.00	-1.64	32.33	26.03	128.34	-1.48	32.95	26.53
51.67	-1.63	32.33	26.03	130.00	-1.46	32.98	26.56
53.33	-1.63	32.34	26.04	131.67	-1.45	32.99	26.56
55.00	-1.62	32.36	26.06	133.34	-1.45	32.99	26.56
56.67	-1.61	32.40	26.09	135.00	-1.44	32.99	26.56
58.33	-1.60	32.41	26.10	136.67	-1.43	33.00	26.57
60.00	-1.59	32.43	26.12	138.34	-1.41	33.01	26.58
61.67	-1.58	32.45	26.13	140.00	-1.40	33.01	26.58
63.33	-1.57	32.47	26.14	141.67	-1.38	33.02	26.58
65.00	-1.55	32.49	26.16	143.34	-1.32	33.06	26.61
66.67	-1.54	32.51	26.18	145.00	-1.29	33.09	26.64
68.33	-1.54	32.52	26.18	146.67	-1.28	33.11	26.65
70.00	-1.51	32.55	26.20	148.34	-1.28	33.12	26.66
71.67	-1.51	32.57	26.22	150.00	-1.27	33.13	26.67
73.33	-1.51	32.58	26.23	151.67	-1.27	33.13	26.67
75.00	-1.50	32.58	26.23	153.34	-1.27	33.13	26.67
76.67	-1.49	32.61	26.25	155.00	-1.27	33.14	26.68

REFERENCE NO. 73-473- 28 STN= BA05 DATE 23/ 4/73
 POSITION 74-18.0N, 94-19.0W GMT 16.6
 RESULTS OF STD CAST 98 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
156.67	-1.27	33.13	26.67	160.00	-1.27	33.14	26.68
158.34	-1.27	33.14	26.68	161.67	-1.27	33.14	26.68

REFERENCE NO. 73-473- 28 STN= BA05 DATE 23/ 4/73
 POSITION 74-18.0N, 94-19.0W GMT 16.6
 RESULTS OF STD CAST 98 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
6	-1.68	31.53	7	25.38	257.0	0.0	0.0	1437.
10	-1.64	31.83	10	25.62	237.4	0.08	0.01	1437.
15	-1.65	32.03	15	25.79	221.4	0.20	0.02	1438.
20	-1.65	32.13	20	25.87	214.0	0.31	0.04	1438.
30	-1.64	32.23	30	25.95	206.0	0.52	0.09	1438.
50	-1.64	32.33	50	26.03	198.5	0.92	0.26	1439.
75	-1.50	32.58	74	26.23	178.9	1.39	0.56	1440.
100	-1.46	32.80	99	26.40	162.6	1.81	0.93	1441.
125	-1.59	32.91	124	26.50	153.1	2.21	1.38	1441.
150	-1.27	33.13	149	26.67	137.3	2.57	1.89	1443.

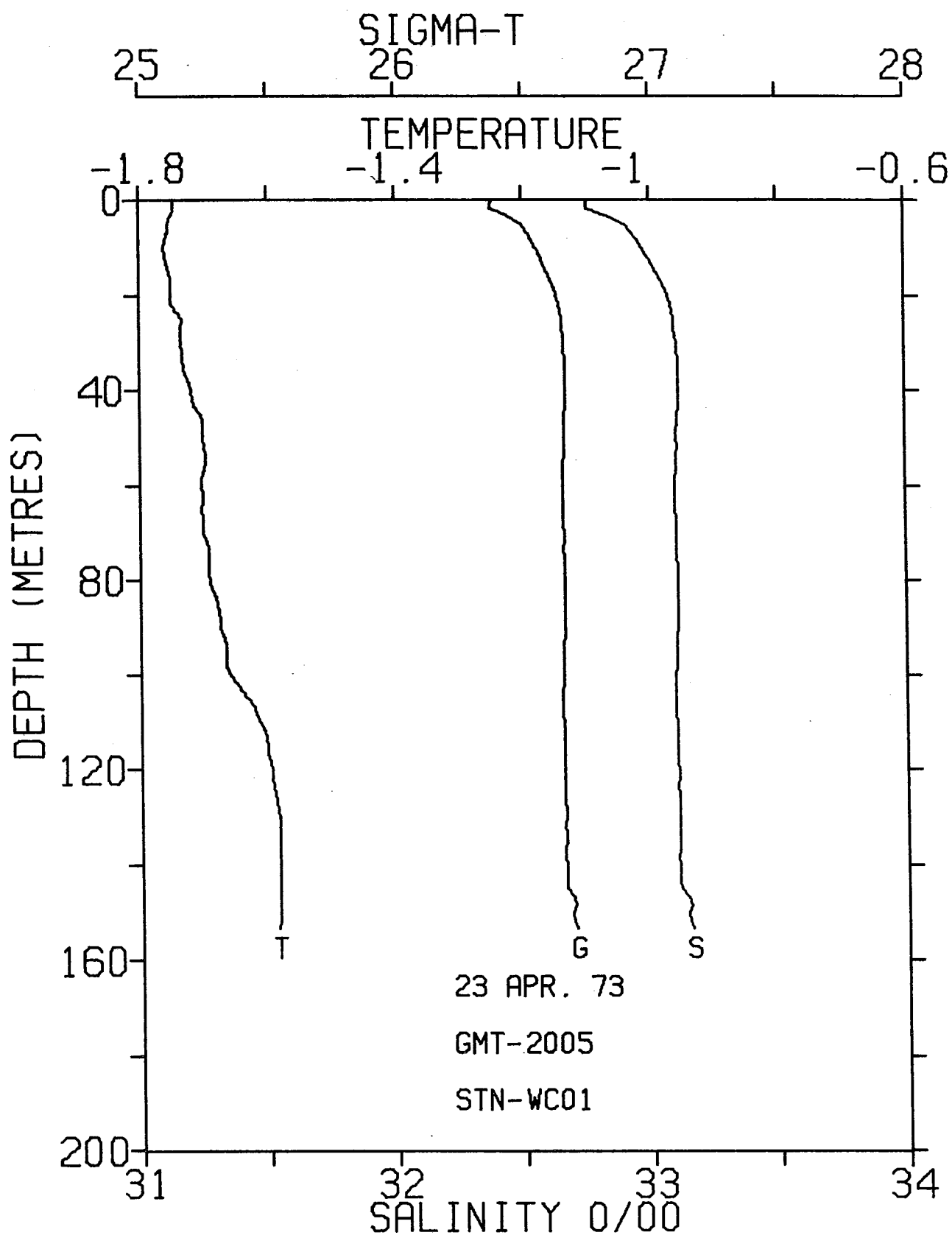


REFERENCE NO. 73-473- 29 STN- BA06 DATE 23/ 4/73
 POSITION 74-13.0N, 94-19.0W GMT 17.0
 RESULTS OF STD CAST 94 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.74			78.33	-1.38	32.62	26.26
1.67	-1.67			80.00	-1.38	32.65	26.28
3.33	-1.67			81.67	-1.38	32.67	26.30
5.00	-1.67	off scale		83.33	-1.37	32.68	26.31
6.67	-1.66			85.00	-1.37	32.69	26.32
8.33	-1.64			86.67	-1.36	32.71	26.33
10.00	-1.67	31.47	25.34	88.33	-1.36	32.73	26.35
11.67	-1.67	31.51	25.37	90.00	-1.35	32.74	26.35
13.33	-1.66	31.53	25.39	91.67	-1.35	32.74	26.36
15.00	-1.66	31.53	25.39	93.33	-1.35	32.75	26.37
16.67	-1.66	31.54	25.39	95.00	-1.35	32.77	26.38
18.33	-1.63	31.56	25.40	96.67	-1.34	32.78	26.39
20.00	-1.60	31.63	25.47	98.33	-1.34	32.80	26.40
21.67	-1.57	31.73	25.54	100.00	-1.33	32.81	26.41
23.33	-1.55	31.81	25.61	101.67	-1.33	32.81	26.41
25.00	-1.51	31.89	25.67	103.33	-1.33	32.81	26.41
26.67	-1.49	31.92	25.69	105.00	-1.33	32.82	26.42
28.33	-1.46	31.97	25.74	106.67	-1.34	32.82	26.42
30.00	-1.44	32.01	25.77	108.33	-1.35	32.83	26.43
31.67	-1.49	32.04	25.79	110.00	-1.35	32.84	26.44
33.33	-1.48	32.10	25.84	111.67	-1.35	32.85	26.45
35.00	-1.46	32.13	25.87	113.33	-1.34	32.86	26.45
36.67	-1.48	32.18	25.91	115.00	-1.33	32.86	26.46
38.33	-1.46	32.22	25.94	116.67	-1.33	32.87	26.46
40.00	-1.44	32.25	25.96	118.33	-1.32	32.88	26.47
41.67	-1.45	32.27	25.98	120.00	-1.32	32.88	26.47
43.33	-1.45	32.27	25.98	121.67	-1.32	32.89	26.48
45.00	-1.46	32.32	26.02	123.33	-1.31	32.89	26.48
46.67	-1.44	32.35	26.05	125.00	-1.31	32.90	26.48
48.33	-1.42	32.37	26.06	126.67	-1.31	32.90	26.49
50.00	-1.42	32.38	26.07	128.34	-1.31	32.90	26.49
51.67	-1.41	32.39	26.07	130.00	-1.31	32.91	26.49
53.33	-1.41	32.40	26.09	131.67	-1.30	32.93	26.51
55.00	-1.41	32.42	26.10	133.34	-1.30	32.93	26.51
56.67	-1.41	32.45	26.12	135.00	-1.30	32.94	26.52
58.33	-1.40	32.47	26.14	136.67	-1.31	32.95	26.53
60.00	-1.40	32.47	26.14	138.34	-1.32	32.95	26.53
61.67	-1.40	32.48	26.15	140.00	-1.32	32.96	26.54
63.33	-1.40	32.50	26.17	141.67	-1.32	32.97	26.54
65.00	-1.40	32.51	26.17	143.34	-1.31	32.99	26.56
66.67	-1.40	32.53	26.19	145.00	-1.30	33.01	26.58
68.33	-1.40	32.55	26.20	146.67	-1.28	33.05	26.60
70.00	-1.40	32.56	26.21	148.34	-1.28	33.06	26.61
71.67	-1.40	32.57	26.22	150.00	-1.28	33.06	26.62
73.33	-1.40	32.58	26.23	151.67	-1.28	33.07	26.62
75.00	-1.39	32.59	26.24	153.34	-1.28	33.07	26.62
76.67	-1.38	32.61	26.25	155.00	-1.27	33.08	26.63

REFERENCE NO. 73-473- 29 STN= BA06 DATE 23/ 4/73
 POSITION 74-13.0N, 94-19.0W GMT 17.0
 RESULTS OF STD CAST 94 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
9	-1.67	31.46	10	25.33	260.5	0.0	0.0	1437.
15	-1.66	31.53	15	25.39	259.8	0.13	0.02	1437.
20	-1.60	31.63	20	25.47	252.4	0.26	0.04	1437.
30	-1.44	32.01	30	25.77	223.3	0.50	0.10	1439.
50	-1.42	32.38	50	26.07	195.2	0.91	0.27	1440.
75	-1.39	32.59	74	26.24	178.4	1.37	0.56	1441.
100	-1.33	32.81	99	26.41	162.2	1.80	0.94	1442.
125	-1.31	32.90	124	26.48	155.0	2.20	1.39	1442.
150	-1.28	33.06	149	26.62	142.2	2.57	1.92	1443.

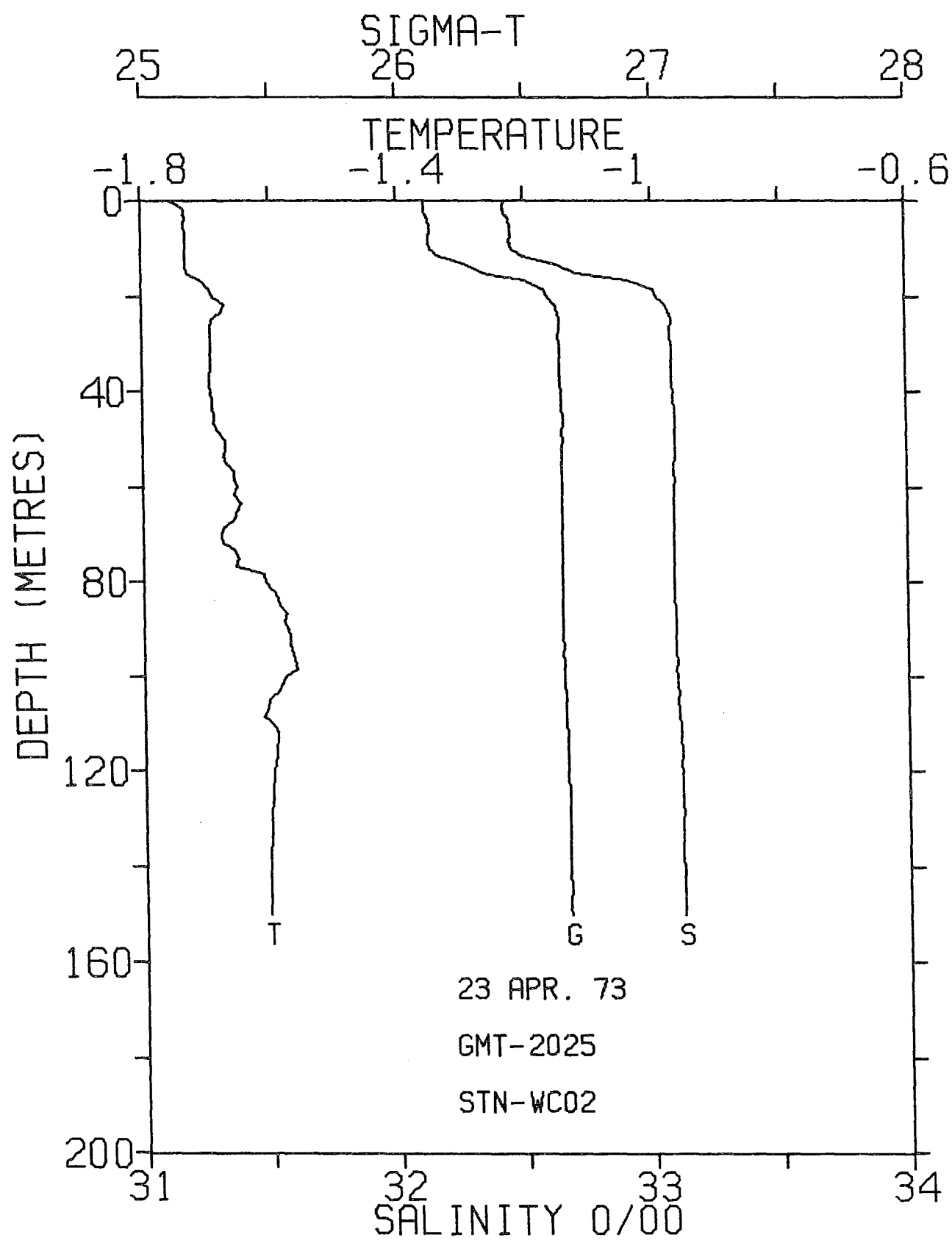


REFERENCE NO. 73-473- 30 STN= WC01 DATE 23/ 4/73
 POSITION 74-47.0N, 93-11.0W GMT 20.1
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.75	32.76	26.38	78.33	-1.69	33.10	26.66
1.67	-1.75	32.76	26.38	80.00	-1.69	33.11	26.66
3.33	-1.75	32.83	26.44	81.67	-1.69	33.11	26.66
5.00	-1.75	32.90	26.50	83.33	-1.68	33.11	26.66
6.67	-1.76	32.93	26.52	85.00	-1.68	33.11	26.66
8.33	-1.76	32.96	26.54	86.67	-1.68	33.10	26.66
10.00	-1.76	32.97	26.56	88.33	-1.68	33.10	26.66
11.67	-1.76	32.99	26.57	90.00	-1.68	33.10	26.66
13.33	-1.76	33.01	26.59	91.67	-1.67	33.10	26.66
15.00	-1.75	33.03	26.60	93.33	-1.67	33.10	26.66
16.67	-1.75	33.04	26.61	95.00	-1.67	33.10	26.66
18.33	-1.75	33.06	26.63	96.67	-1.67	33.10	26.66
20.00	-1.75	33.07	26.64	98.33	-1.67	33.10	26.66
21.67	-1.75	33.08	26.65	100.00	-1.66	33.10	26.65
23.33	-1.74	33.09	26.65	101.67	-1.65	33.10	26.65
25.00	-1.73	33.09	26.65	103.33	-1.64	33.09	26.65
26.67	-1.73	33.10	26.66	105.00	-1.63	33.09	26.65
28.33	-1.73	33.10	26.66	106.67	-1.62	33.10	26.65
30.00	-1.73	33.10	26.66	108.33	-1.62	33.10	26.65
31.67	-1.73	33.11	26.66	110.00	-1.61	33.10	26.65
33.33	-1.73	33.11	26.67	111.67	-1.61	33.10	26.65
35.00	-1.73	33.11	26.67	113.33	-1.60	33.10	26.65
36.67	-1.73	33.11	26.67	115.00	-1.60	33.10	26.66
38.33	-1.72	33.11	26.67	116.67	-1.60	33.10	26.66
40.00	-1.72	33.11	26.67	118.33	-1.60	33.10	26.66
41.67	-1.72	33.11	26.67	120.00	-1.60	33.10	26.66
43.33	-1.72	33.11	26.66	121.67	-1.60	33.10	26.66
45.00	-1.71	33.10	26.66	123.33	-1.59	33.10	26.66
46.67	-1.70	33.10	26.66	125.00	-1.59	33.10	26.66
48.33	-1.70	33.10	26.66	126.67	-1.59	33.10	26.66
50.00	-1.70	33.10	26.66	128.34	-1.59	33.11	26.66
51.67	-1.70	33.10	26.66	130.00	-1.59	33.10	26.66
53.33	-1.70	33.10	26.66	131.67	-1.59	33.10	26.66
55.00	-1.70	33.10	26.66	133.34	-1.59	33.11	26.66
56.67	-1.70	33.10	26.66	135.00	-1.59	33.10	26.66
58.33	-1.70	33.10	26.65	136.67	-1.59	33.10	26.66
60.00	-1.70	33.10	26.65	138.34	-1.58	33.10	26.66
61.67	-1.70	33.09	26.65	140.00	-1.58	33.10	26.66
63.33	-1.70	33.10	26.65	141.67	-1.58	33.11	26.66
65.00	-1.70	33.10	26.65	143.34	-1.58	33.11	26.66
66.67	-1.70	33.10	26.66	145.00	-1.58	33.11	26.66
68.33	-1.70	33.10	26.66	146.67	-1.59	33.14	26.69
70.00	-1.70	33.10	26.66	148.34	-1.59	33.15	26.70
71.67	-1.70	33.10	26.66	150.00	-1.59	33.14	26.68
73.33	-1.69	33.10	26.66	151.67	-1.59	33.14	26.69
75.00	-1.69	33.10	26.66	153.34	-1.59	33.15	26.70
76.67	-1.69	33.10	26.66				

REFERENCE NO. 73-473- 30 STN= WC01 DATE 23/ 4/73
 POSITION 74-47.0N, 93-11.0W GMT 20.1
 RESULTS OF STD CAST 93 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.75	32.76	0	26.38	165.4	0.0	0.0	1438.
1	-1.75	32.76	1	26.38	165.7	0.02	0.00	1438.
3	-1.75	32.82	3	26.43	160.9	0.05	0.00	1438.
5	-1.75	32.90	5	26.50	154.4	0.08	0.00	1438.
7	-1.76	32.94	7	26.53	151.8	0.11	0.00	1438.
10	-1.76	32.97	10	26.56	148.9	0.16	0.01	1438.
15	-1.75	33.03	15	26.60	144.8	0.23	0.02	1439.
20	-1.75	33.07	20	26.64	141.3	0.30	0.03	1439.
30	-1.73	33.10	30	26.66	138.8	0.44	0.07	1439.
50	-1.70	33.10	50	26.66	138.9	0.72	0.18	1440.
75	-1.69	33.10	74	26.66	138.7	1.07	0.40	1440.
100	-1.66	33.10	99	26.65	139.0	1.41	0.71	1441.
125	-1.59	33.10	124	26.66	138.4	1.76	1.10	1441.
150	-1.59	33.14	149	26.68	135.8	2.10	1.59	1442.

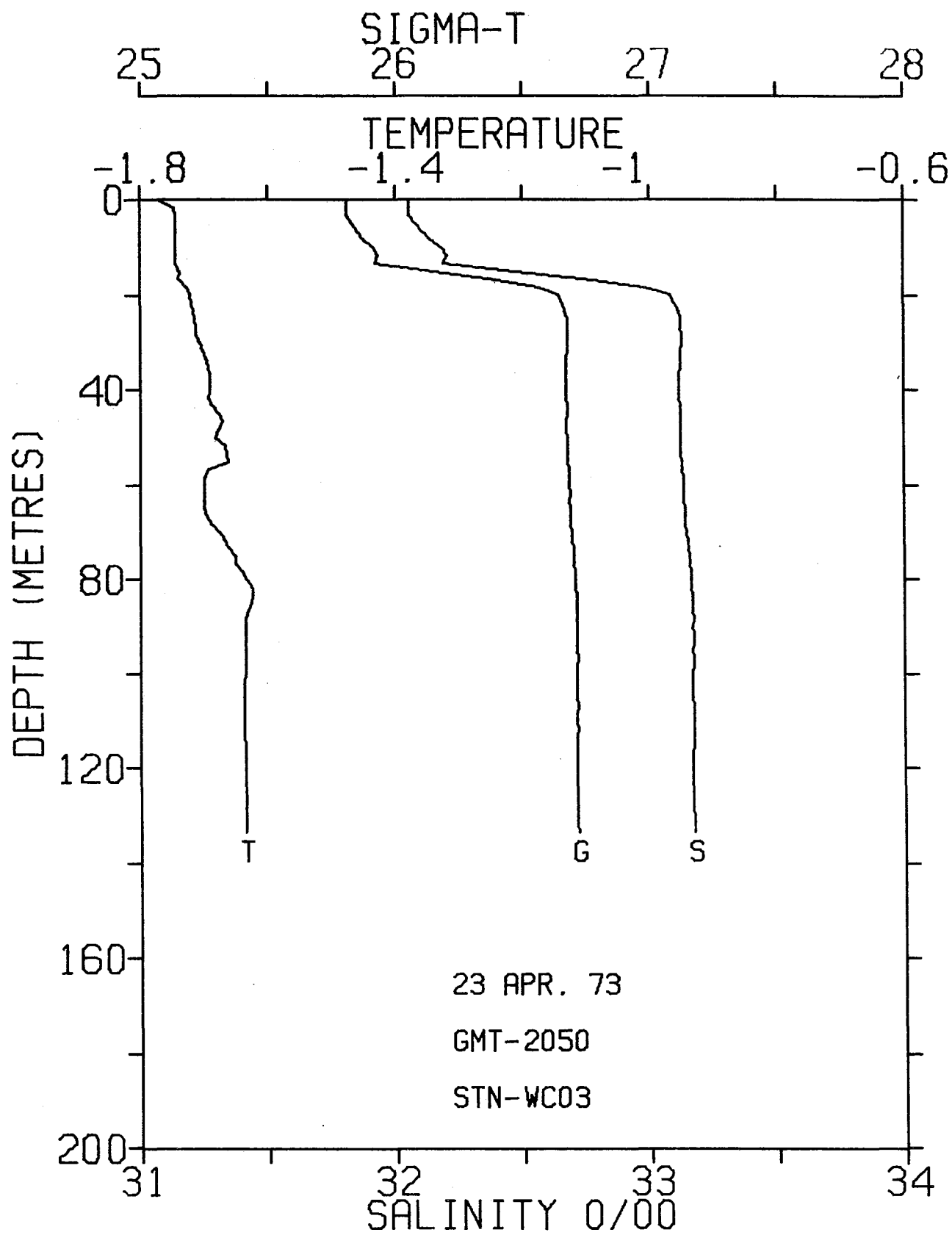


REFERENCE NO. 73-473- 31 STN= WC02 DATE 23/ 4/73
 POSITION 74-47.0N, 92-58.0W GMT 20.4
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.76	32.43	26.11	76.67	-1.65	33.08	26.64
1.67	-1.73	32.42	26.11	78.33	-1.61	33.08	26.64
3.33	-1.73	32.44	26.12	80.00	-1.61	33.08	26.64
5.00	-1.73	32.45	26.13	81.67	-1.60	33.09	26.64
6.67	-1.73	32.45	26.13	83.33	-1.59	33.08	26.64
8.33	-1.73	32.44	26.13	85.00	-1.59	33.09	26.64
10.00	-1.73	32.45	26.14	86.67	-1.57	33.09	26.65
11.67	-1.73	32.50	26.17	88.33	-1.58	33.09	26.64
13.33	-1.73	32.64	26.28	90.00	-1.57	33.09	26.65
15.00	-1.73	32.71	26.34	91.67	-1.57	33.09	26.65
16.67	-1.71	32.91	26.50	93.33	-1.57	33.09	26.65
18.33	-1.70	33.00	26.58	95.00	-1.57	33.09	26.65
20.00	-1.69	33.02	26.59	96.67	-1.56	33.09	26.65
21.67	-1.67	33.05	26.62	98.33	-1.56	33.09	26.65
23.33	-1.68	33.07	26.63	100.00	-1.58	33.10	26.65
25.00	-1.69	33.08	26.64	101.67	-1.59	33.10	26.65
26.67	-1.69	33.07	26.64	103.33	-1.59	33.10	26.65
28.33	-1.69	33.07	26.64	105.00	-1.60	33.10	26.65
30.00	-1.69	33.08	26.64	106.67	-1.61	33.10	26.66
31.67	-1.69	33.08	26.64	108.33	-1.61	33.10	26.66
33.33	-1.69	33.08	26.64	110.00	-1.60	33.10	26.66
35.00	-1.69	33.08	26.64	111.67	-1.59	33.11	26.66
36.67	-1.70	33.08	26.64	113.33	-1.59	33.11	26.66
38.33	-1.70	33.08	26.64	115.00	-1.59	33.11	26.66
40.00	-1.69	33.08	26.64	116.67	-1.59	33.11	26.66
41.67	-1.69	33.08	26.64	118.33	-1.60	33.11	26.66
43.33	-1.69	33.09	26.65	120.00	-1.60	33.11	26.66
45.00	-1.69	33.09	26.65	121.67	-1.60	33.11	26.66
46.67	-1.69	33.09	26.65	123.33	-1.60	33.11	26.66
48.33	-1.68	33.09	26.65	125.00	-1.60	33.11	26.67
50.00	-1.67	33.09	26.65	126.67	-1.60	33.11	26.67
51.67	-1.67	33.09	26.65	128.34	-1.60	33.11	26.67
53.33	-1.67	33.09	26.65	130.00	-1.60	33.11	26.67
55.00	-1.67	33.09	26.65	131.67	-1.60	33.11	26.67
56.67	-1.66	33.08	26.64	133.34	-1.60	33.11	26.66
58.33	-1.66	33.09	26.65	135.00	-1.60	33.11	26.66
60.00	-1.65	33.09	26.65	136.67	-1.60	33.11	26.67
61.67	-1.66	33.08	26.64	138.34	-1.60	33.11	26.67
63.33	-1.65	33.08	26.64	140.00	-1.61	33.11	26.67
65.00	-1.65	33.08	26.64	141.67	-1.61	33.12	26.67
66.67	-1.66	33.09	26.64	143.34	-1.61	33.12	26.67
68.33	-1.67	33.08	26.64	145.00	-1.61	33.12	26.67
70.00	-1.68	33.08	26.64	146.67	-1.61	33.12	26.67
71.67	-1.68	33.08	26.64	148.34	-1.61	33.12	26.67
73.33	-1.66	33.08	26.64	150.00	-1.61	33.12	26.67
75.00	-1.65	33.08	26.64				

REFERENCE NO. 73-473- 31 STN= WC02 DATE 23/ 4/73
 POSITION 74-47.0N, 92-58.0W GMT 20.4
 RESULTS OF STD CAST 91 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.76	32.43	0	26.11	191.0	0.0	0.0	1438.
1	-1.74	32.42	1	26.11	191.3	0.02	0.00	1438.
3	-1.73	32.43	3	26.12	190.5	0.06	0.00	1438.
5	-1.73	32.45	5	26.13	189.2	0.10	0.00	1438.
7	-1.73	32.45	7	26.13	189.4	0.13	0.00	1438.
10	-1.73	32.45	10	26.14	188.9	0.19	0.01	1438.
15	-1.73	32.71	15	26.34	169.1	0.28	0.02	1438.
20	-1.69	33.02	20	26.59	145.3	0.36	0.03	1439.
30	-1.69	33.08	30	26.64	141.1	0.50	0.07	1439.
50	-1.67	33.09	50	26.65	139.9	0.78	0.18	1440.
75	-1.65	33.08	74	26.64	140.2	1.13	0.41	1440.
100	-1.58	33.10	99	26.65	139.2	1.48	0.72	1441.
125	-1.60	33.11	124	26.67	137.7	1.83	1.12	1441.

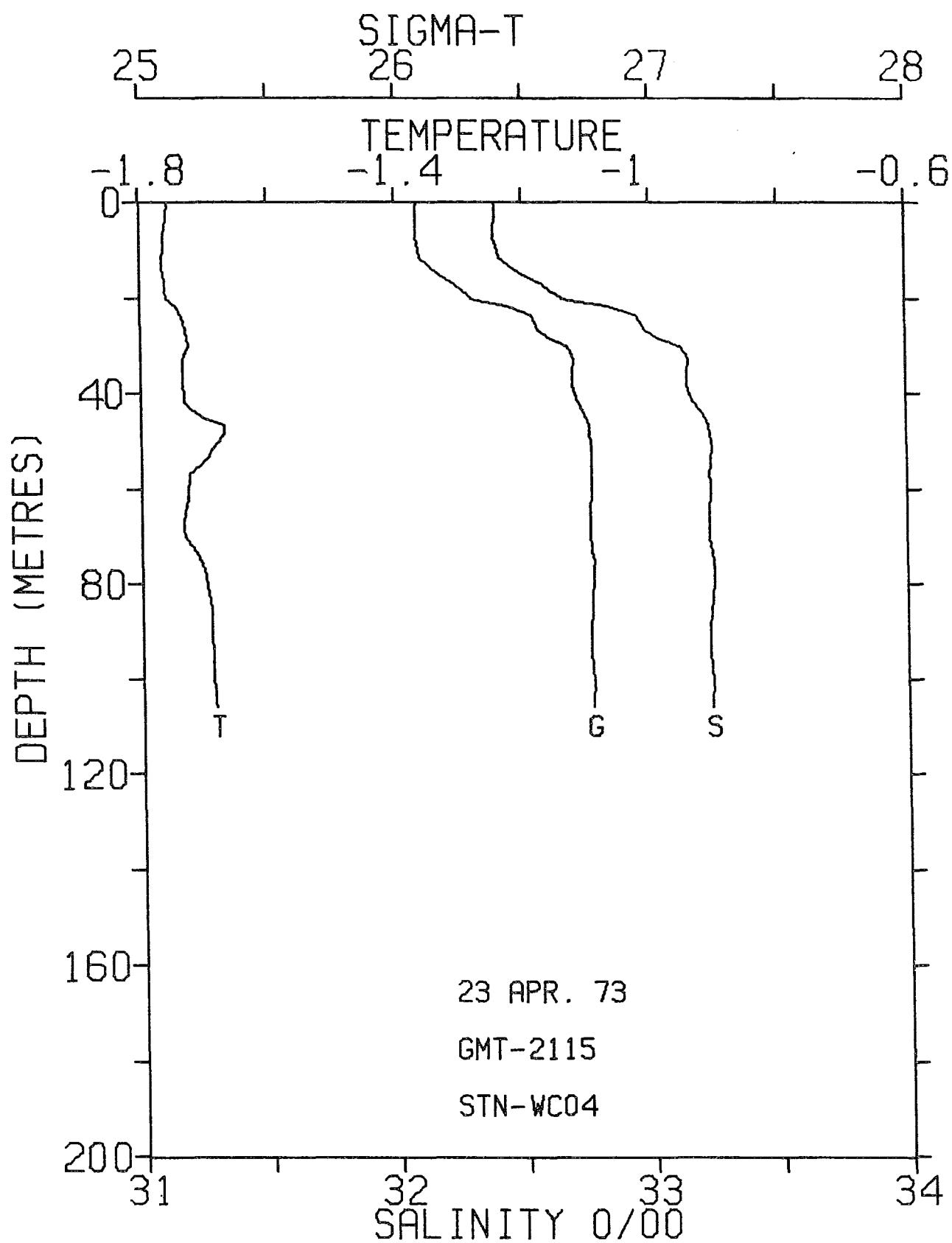


REFERENCE NO. 73-473- 32 STN. WC03 DATE 23/ 4/73
 POSITION 74-47.0N, 92-43.0W GMT 20.8
 RESULTS OF STD CAST 81 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.77	32.06	25.81	68.33	-1.69	33.14	26.69
1.67	-1.75	32.06	25.81	70.00	-1.67	33.14	26.69
3.33	-1.74	32.05	25.81	71.67	-1.67	33.15	26.70
5.00	-1.74	32.08	25.84	73.33	-1.66	33.15	26.70
6.67	-1.74	32.11	25.86	75.00	-1.65	33.15	26.70
8.33	-1.74	32.14	25.88	76.67	-1.65	33.15	26.70
10.00	-1.74	32.18	25.92	78.33	-1.64	33.16	26.70
11.67	-1.74	32.21	25.93	80.00	-1.63	33.16	26.71
13.33	-1.74	32.19	25.92	81.67	-1.63	33.16	26.71
15.00	-1.74	32.48	26.15	83.33	-1.63	33.17	26.71
16.67	-1.74	32.74	26.37	85.00	-1.63	33.17	26.71
18.33	-1.73	32.98	26.56	86.67	-1.63	33.17	26.71
20.00	-1.72	33.08	26.65	88.33	-1.63	33.17	26.71
21.67	-1.72	33.10	26.66	90.00	-1.64	33.17	26.71
23.33	-1.72	33.11	26.67	91.67	-1.63	33.17	26.71
25.00	-1.72	33.12	26.68	93.33	-1.63	33.17	26.71
26.67	-1.71	33.12	26.68	95.00	-1.63	33.17	26.71
28.33	-1.71	33.13	26.68	96.67	-1.64	33.17	26.71
30.00	-1.71	33.13	26.68	98.33	-1.64	33.17	26.71
31.67	-1.70	33.12	26.68	100.00	-1.64	33.17	26.71
33.33	-1.70	33.12	26.67	101.67	-1.64	33.17	26.71
35.00	-1.69	33.12	26.67	103.33	-1.64	33.17	26.71
36.67	-1.69	33.12	26.67	105.00	-1.64	33.17	26.71
38.33	-1.69	33.12	26.67	106.67	-1.64	33.17	26.71
40.00	-1.69	33.12	26.67	108.33	-1.64	33.17	26.71
41.67	-1.69	33.12	26.67	110.00	-1.64	33.17	26.71
43.33	-1.69	33.12	26.68	111.67	-1.64	33.17	26.71
45.00	-1.67	33.12	26.68	113.33	-1.64	33.17	26.71
46.67	-1.67	33.12	26.67	115.00	-1.64	33.17	26.71
48.33	-1.68	33.12	26.67	116.67	-1.64	33.17	26.71
50.00	-1.68	33.12	26.68	118.33	-1.64	33.17	26.71
51.67	-1.67	33.12	26.68	120.00	-1.63	33.17	26.71
53.33	-1.66	33.12	26.68	121.67	-1.63	33.17	26.71
55.00	-1.66	33.13	26.68	123.33	-1.63	33.17	26.71
56.67	-1.69	33.13	26.68	125.00	-1.63	33.17	26.71
58.33	-1.70	33.13	26.68	126.67	-1.63	33.17	26.71
60.00	-1.70	33.13	26.68	128.34	-1.63	33.17	26.71
61.67	-1.70	33.14	26.69	130.00	-1.63	33.17	26.71
63.33	-1.70	33.13	26.69	131.67	-1.63	33.17	26.71
65.00	-1.70	33.14	26.69	133.34	-1.64	33.17	26.71
66.67	-1.70	33.14	26.69				

REFERENCE NO. 73-473- 32 STN- WC03 DATE 23/ 4/73
 POSITION 74-47.0N, 92-43.0W GMT 20.8
 RESULTS OF STD CAST 81 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.77	32.06	0	25.81	219.4	0.0	0.0	1437.
1	-1.76	32.06	1	25.81	219.7	0.02	0.00	1437.
3	-1.74	32.05	3	25.81	219.8	0.07	0.00	1437.
5	-1.74	32.08	5	25.84	217.4	0.11	0.00	1437.
7	-1.74	32.12	7	25.86	214.9	0.15	0.01	1437.
10	-1.74	32.18	10	25.92	209.9	0.22	0.01	1437.
15	-1.74	32.48	15	26.15	187.2	0.32	0.02	1438.
20	-1.72	33.08	20	26.65	140.4	0.40	0.04	1439.
30	-1.71	33.13	30	26.68	137.2	0.54	0.07	1439.
50	-1.68	33.12	50	26.68	137.3	0.81	0.19	1440.
75	-1.65	33.15	74	26.70	134.9	1.15	0.40	1440.
100	-1.64	33.17	99	26.71	133.5	1.49	0.70	1441.
125	-1.63	33.17	124	26.71	133.4	1.82	1.08	1441.

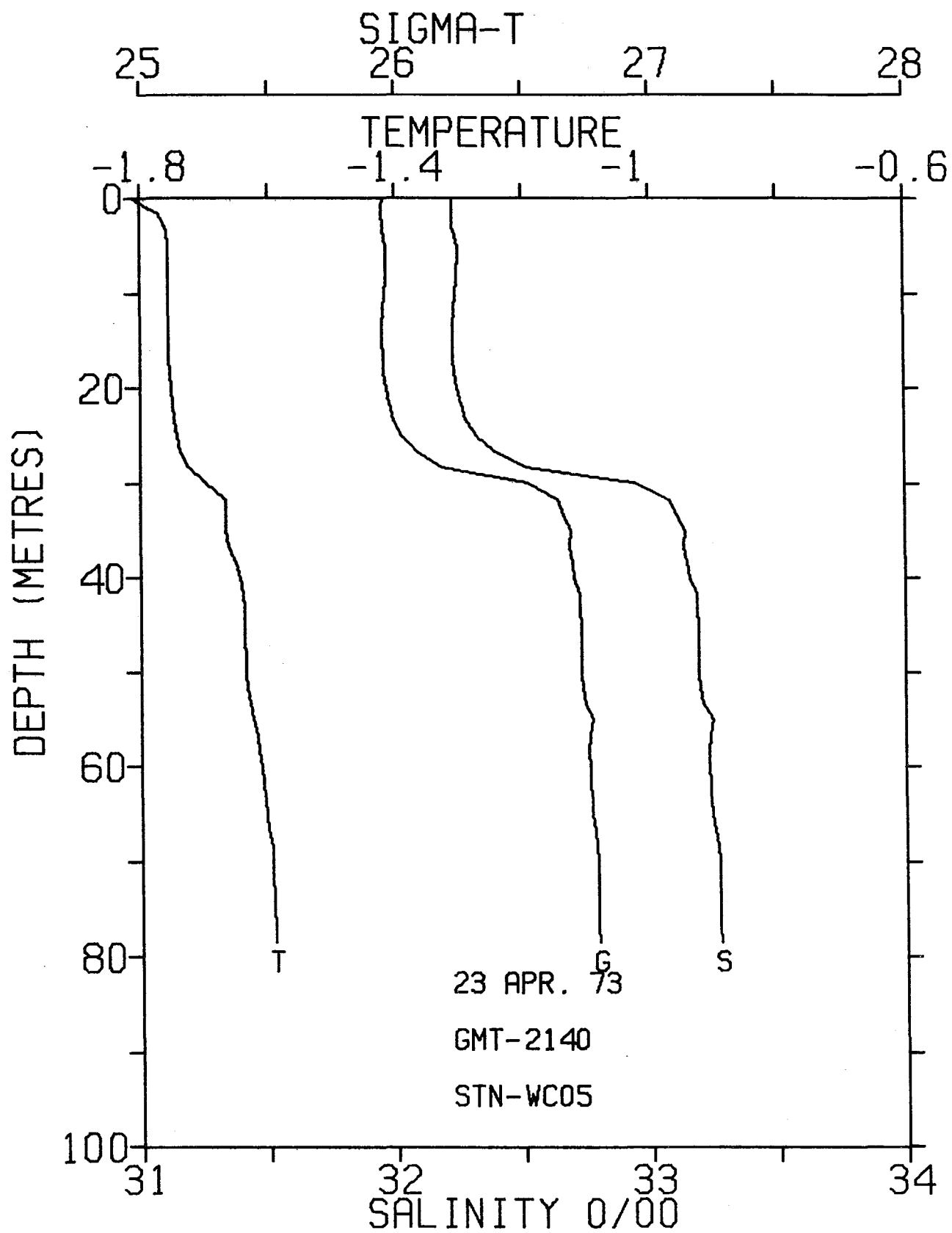


REFERENCE NO. 73-473- 33 STN- WC04 DATE 23/ 4/73
 POSITION 74-47.0N, 92-31.0W GMT 21.3
 RESULTS OF STD CAST 65 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.76	32.39	26.09	53.33	-1.70	33.24	26.77
1.67	-1.76	32.39	26.09	55.00	-1.71	33.23	26.76
3.33	-1.76	32.39	26.08	56.67	-1.72	33.23	26.76
5.00	-1.76	32.39	26.08	58.33	-1.73	33.23	26.77
6.67	-1.76	32.39	26.08	60.00	-1.73	33.23	26.76
8.33	-1.76	32.40	26.09	61.67	-1.73	33.23	26.76
10.00	-1.76	32.40	26.09	63.33	-1.73	33.23	26.76
11.67	-1.76	32.41	26.10	65.00	-1.73	33.23	26.76
13.33	-1.76	32.46	26.14	66.67	-1.73	33.23	26.76
15.00	-1.76	32.50	26.18	68.33	-1.73	33.23	26.76
16.67	-1.76	32.56	26.22	70.00	-1.73	33.23	26.76
18.33	-1.76	32.61	26.26	71.67	-1.72	33.23	26.77
20.00	-1.76	32.66	26.30	73.33	-1.71	33.24	26.77
21.67	-1.74	32.84	26.44	75.00	-1.71	33.24	26.78
23.33	-1.73	32.94	26.53	76.67	-1.70	33.24	26.77
25.00	-1.73	32.96	26.55	78.33	-1.70	33.24	26.77
26.67	-1.73	32.98	26.56	80.00	-1.70	33.24	26.77
28.33	-1.73	33.04	26.61	81.67	-1.70	33.24	26.77
30.00	-1.72	33.12	26.67	83.33	-1.69	33.24	26.77
31.67	-1.73	33.15	26.70	85.00	-1.69	33.24	26.77
33.33	-1.73	33.15	26.70	86.67	-1.69	33.23	26.76
35.00	-1.73	33.15	26.69	88.33	-1.69	33.23	26.76
36.67	-1.73	33.14	26.69	90.00	-1.69	33.23	26.76
38.33	-1.73	33.14	26.69	91.67	-1.69	33.23	26.76
40.00	-1.73	33.15	26.70	93.33	-1.69	33.23	26.76
41.67	-1.73	33.17	26.71	95.00	-1.69	33.23	26.76
43.33	-1.72	33.19	26.73	96.67	-1.69	33.23	26.76
45.00	-1.70	33.22	26.75	98.33	-1.69	33.23	26.77
46.67	-1.67	33.23	26.76	100.00	-1.69	33.24	26.77
48.33	-1.67	33.23	26.76	101.67	-1.69	33.24	26.77
50.00	-1.68	33.24	26.77	103.33	-1.69	33.23	26.77
51.67	-1.69	33.24	26.77	105.00	-1.69	33.23	26.77

REFERENCE NO. 73-473- 33 STN= WC04 DATE 23/ 4/73
 POSITION 74-47.0N, 92-31.0W GMT 21.3
 RESULTS OF STD CAST 65 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.76	32.39	0	26.09	193.4	0.0	0.0	1437.
1	-1.76	32.39	1	26.09	193.7	0.02	0.00	1437.
3	-1.76	32.39	3	26.08	193.8	0.06	0.00	1437.
5	-1.76	32.39	5	26.08	193.9	0.10	0.00	1438.
7	-1.76	32.39	7	26.08	193.8	0.14	0.00	1438.
10	-1.76	32.40	10	26.09	192.8	0.19	0.01	1438.
15	-1.76	32.50	15	26.18	184.9	0.29	0.02	1438.
20	-1.76	32.66	20	26.30	173.2	0.38	0.04	1438.
30	-1.72	33.12	30	26.67	137.8	0.53	0.08	1439.
50	-1.68	33.24	50	26.77	128.5	0.80	0.18	1440.
75	-1.71	33.24	74	26.78	127.7	1.12	0.39	1440.
100	-1.69	33.24	99	26.77	128.0	1.44	0.67	1441.



REFERENCE NO. 73-473- 34 SIN= WC05 DATE 23/ 4/73
 POSITION 74-47.0N, 92-19.0W GMT 21.7
 RESULTS OF STD CAST 48 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	SIGMA T	PRESS	TEMP	SAL	SIGMA T
0.0	-1.81	32.23	25.95	40.00	-1.64	33.15	26.70
1.67	-1.77	32.23	25.95	41.67	-1.64	33.18	26.72
3.33	-1.76	32.23	25.95	43.33	-1.64	33.18	26.72
5.00	-1.76	32.25	25.97	45.00	-1.64	33.19	26.73
6.67	-1.76	32.25	25.97	46.67	-1.64	33.19	26.73
8.33	-1.76	32.24	25.96	48.33	-1.63	33.19	26.73
10.00	-1.75	32.24	25.96	50.00	-1.63	33.19	26.73
11.67	-1.75	32.24	25.96	51.67	-1.63	33.19	26.73
13.33	-1.75	32.23	25.95	53.33	-1.63	33.21	26.74
15.00	-1.75	32.23	25.95	55.00	-1.62	33.25	26.77
16.67	-1.76	32.23	25.95	56.67	-1.62	33.23	26.76
18.33	-1.75	32.23	25.95	58.33	-1.62	33.23	26.76
20.00	-1.75	32.24	25.96	60.00	-1.61	33.23	26.76
21.67	-1.75	32.26	25.98	61.67	-1.61	33.23	26.76
23.33	-1.75	32.28	25.99	63.33	-1.61	33.24	26.77
25.00	-1.74	32.32	26.03	65.00	-1.61	33.24	26.77
26.67	-1.74	32.39	26.09	66.67	-1.60	33.25	26.78
28.33	-1.73	32.52	26.19	68.33	-1.60	33.26	26.79
30.00	-1.70	32.94	26.52	70.00	-1.60	33.27	26.79
31.67	-1.67	33.08	26.64	71.67	-1.60	33.27	26.79
33.33	-1.67	33.11	26.66	73.33	-1.59	33.27	26.79
35.00	-1.67	33.14	26.69	75.00	-1.59	33.27	26.79
36.67	-1.66	33.13	26.68	76.67	-1.59	33.27	26.79
38.33	-1.65	33.15	26.69	78.33	-1.59	33.27	26.79

REFERENCE NO. 73-473- 34 SIN= WC05 DATE 23/ 4/73
 POSITION 74-47.0N, 92-19.0W GMT 21.7
 RESULTS OF STD CAST 48 POINTS TAKEN FROM ANALOG TRACE

PRESS	TEMP	SAL	DEPTH	SIGMA T	SVA	DELTA D	POT EN	SOUND VEL
0	-1.81	32.23	0	25.95	206.1	0.0	0.0	1437.
1	-1.79	32.23	1	25.95	206.3	0.02	0.00	1437.
3	-1.76	32.23	3	25.95	206.2	0.06	0.00	1437.
5	-1.76	32.25	5	25.97	204.7	0.10	0.00	1437.
7	-1.76	32.25	7	25.97	204.9	0.14	0.01	1437.
10	-1.75	32.24	10	25.96	205.4	0.21	0.01	1437.
15	-1.75	32.23	15	25.95	206.4	0.31	0.02	1437.
20	-1.75	32.24	20	25.96	205.0	0.41	0.04	1438.
30	-1.70	32.94	30	26.52	151.7	0.60	0.09	1439.
50	-1.63	33.19	50	26.73	132.5	0.88	0.20	1440.
75	-1.59	33.27	74	26.79	126.4	1.20	0.40	1441.

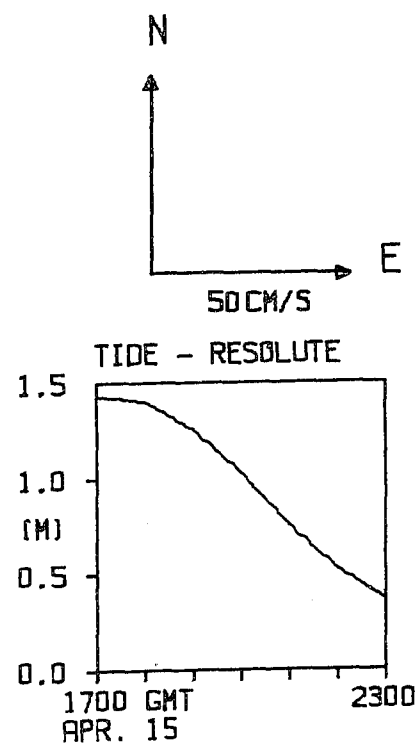
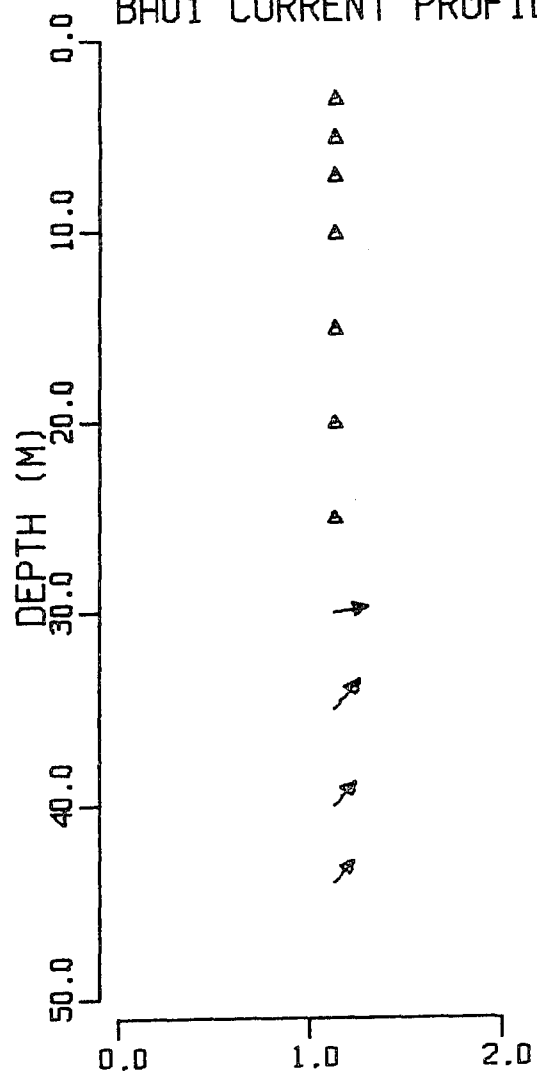
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Appendix 2

Current Profiles

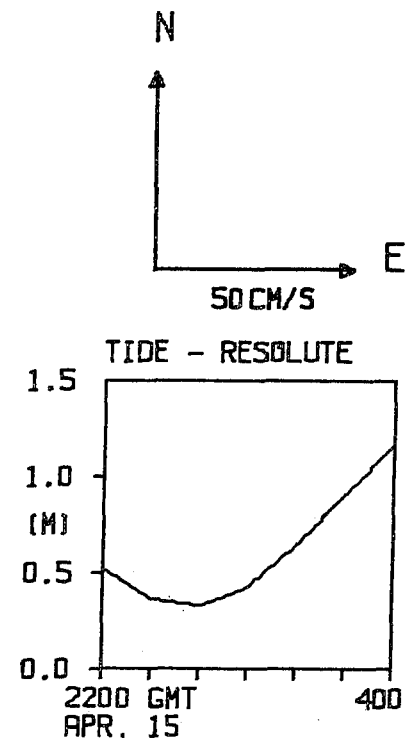
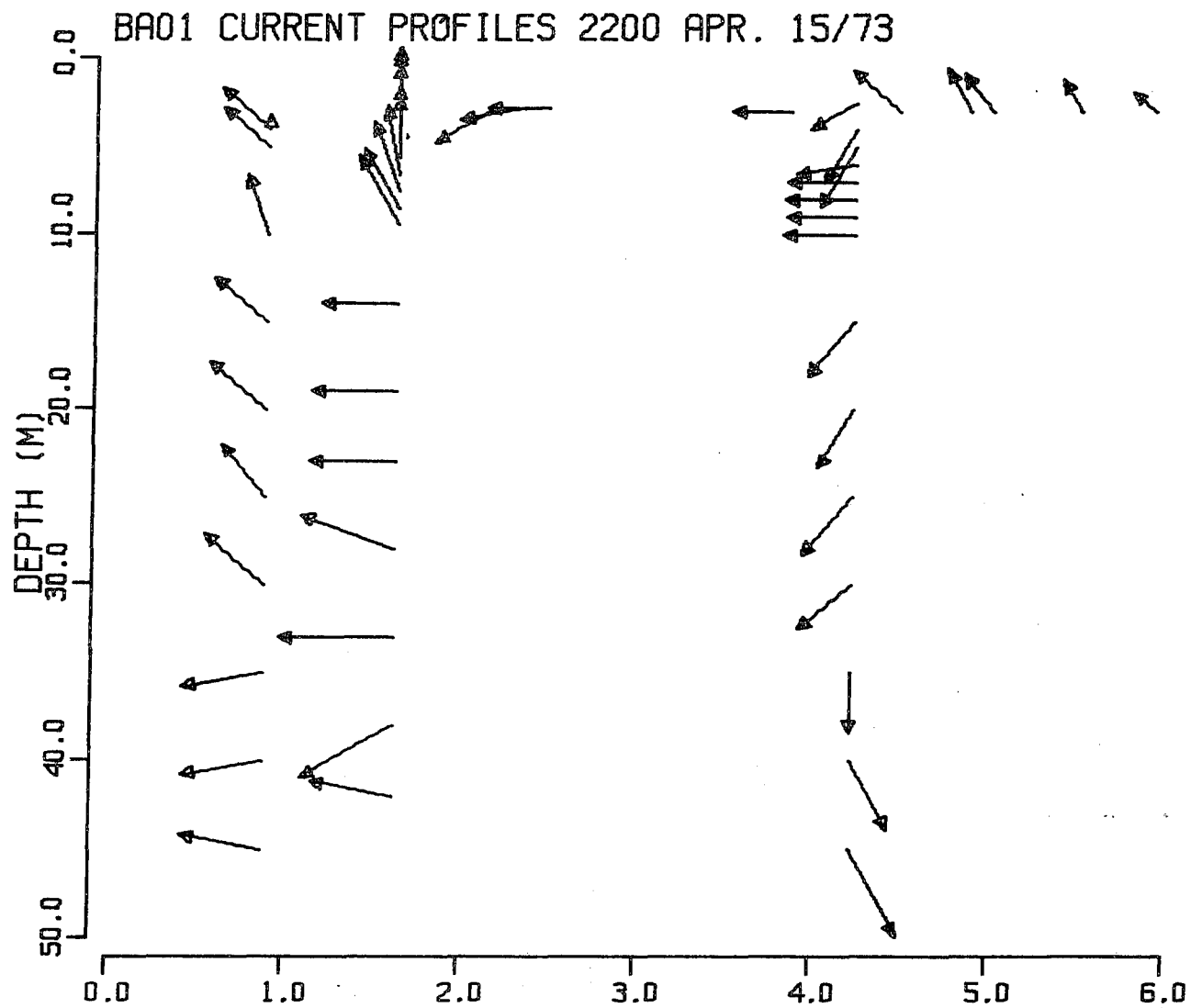
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BA01 CURRENT PROFILE 1700 APR. 15/73



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

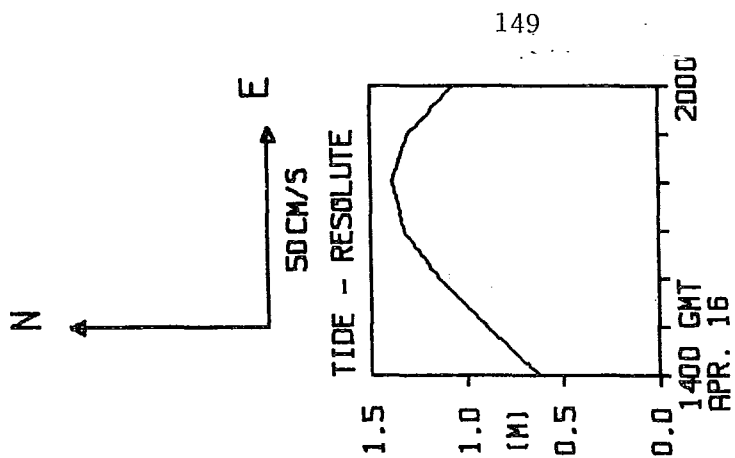
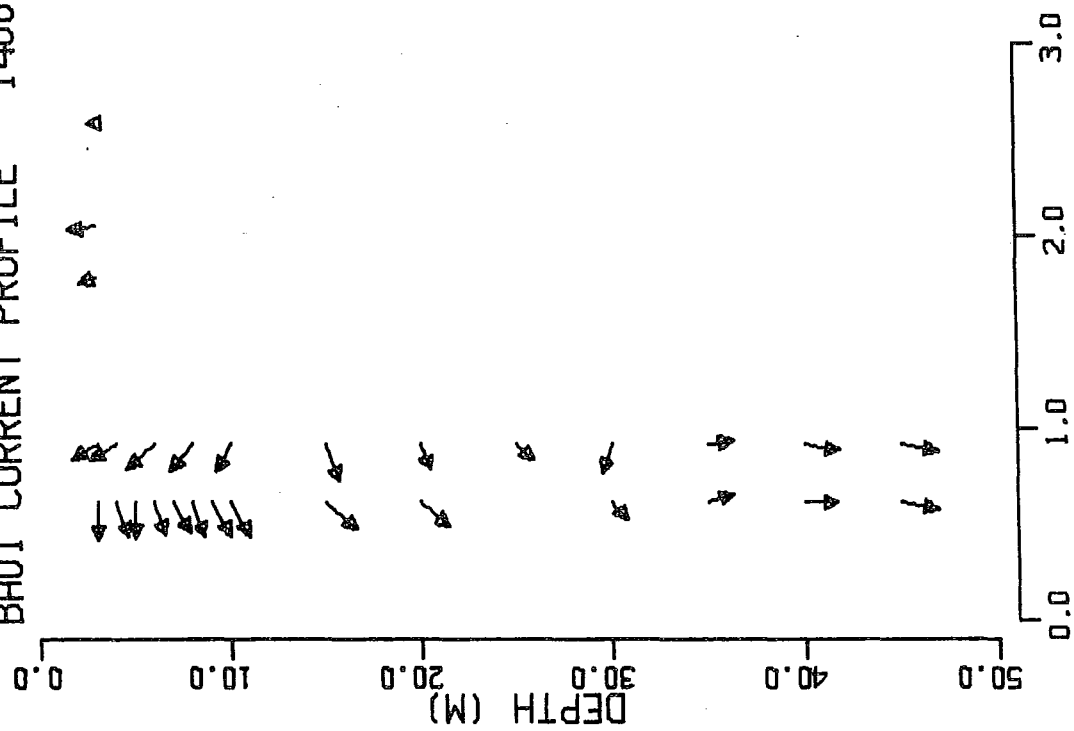
		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR, 15, 1973	18: 8	3.0	0.	0.	0.	0.
		5.0	0.	0.	0.	0.
		7.0	0.	0.	0.	0.
		10.0	0.	0.	0.	0.
		15.0	0.	0.	0.	0.
		20.0	0.	0.	0.	0.
		25.0	0.	0.	0.	0.
		30.0	7.	80.	1.	7.
		35.0	8.	40.	6.	5.
		40.0	6.	40.	5.	4.
		44.0	6.	40.	4.	4.
APR, 15, 1973	22:53	3.5	0.	0.	0.	0.
		4.0	16.	310.	10.	-12.
		5.0	15.	310.	10.	-12.
		10.0	16.	340.	15.	-6.
		15.0	18.	310.	12.	-14.
		20.0	20.	310.	13.	-15.
		25.0	18.	320.	14.	-12.
		30.0	21.	310.	13.	-16.
		35.0	22.	260.	-4.	-21.
		40.0	22.	260.	-4.	-21.
		45.0	22.	280.	4.	-21.
APR, 15, 1973	23:37	2.3	13.	0.	13.	0.
		2.8	14.	0.	14.	0.
		3.8	15.	0.	15.	0.
		4.7	14.	0.	14.	0.
		5.6	15.	0.	15.	0.
		6.6	18.	350.	18.	-3.
		7.5	19.	340.	18.	-7.
		8.5	18.	330.	16.	-9.
		9.4	21.	330.	18.	-10.
		14.0	20.	270.	-0.	-20.
		19.0	22.	270.	-0.	-22.
		23.0	23.	270.	-0.	-23.
		28.0	26.	290.	9.	-25.
		33.0	30.	270.	-0.	-30.
		38.0	28.	240.	-14.	-24.
		42.0	22.	280.	4.	-21.



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

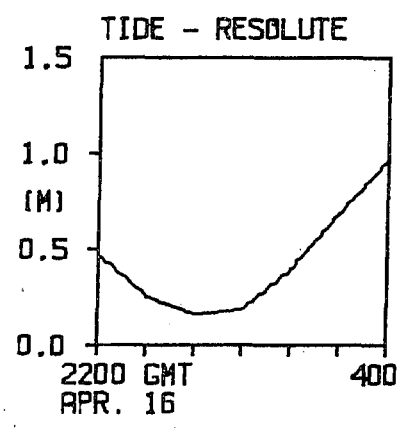
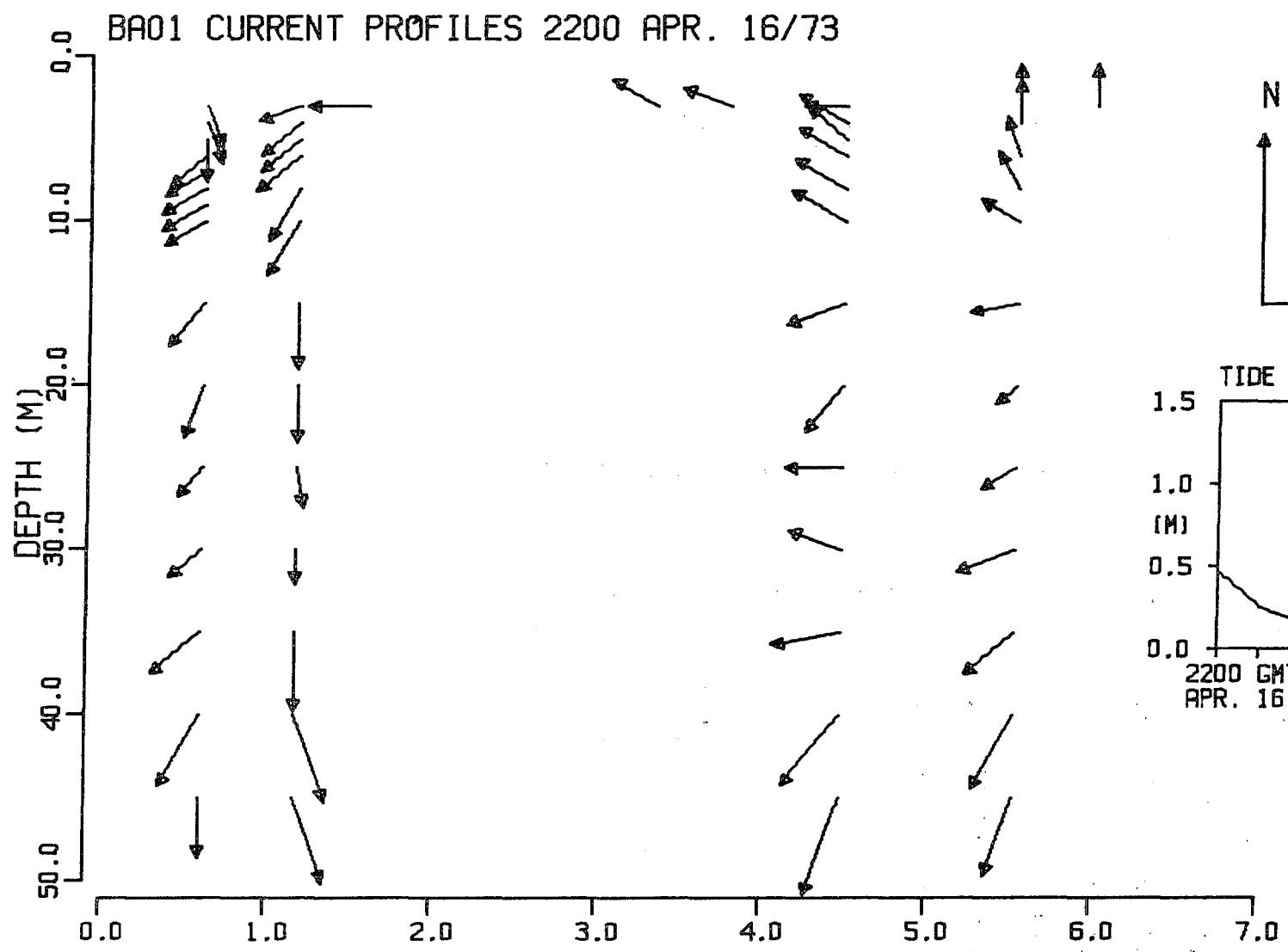
		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 16, 1973	0:10	2.8	18.	240.	-9.	-16.
APR. 16, 1973	0:20	2.8	17.	260.	-3.	-17.
APR. 16, 1973	0:28	2.8	15.	270.	-0.	-15.
APR. 16, 1973	1:51	3.0	15.	270.	-0.	-15.
APR. 16, 1973	2:13	2.5	13.	240.	-6.	-11.
		4.0	15.	210.	-13.	-8.
		5.0	18.	210.	-16.	-9.
		6.0	15.	260.	-3.	-15.
		7.0	18.	270.	-0.	-18.
		8.0	18.	270.	-0.	-18.
		9.0	18.	270.	-0.	-18.
		10.0	19.	270.	-0.	-19.
		15.0	19.	220.	-14.	-12.
		20.0	18.	210.	-15.	-9.
		25.0	20.	220.	-15.	-13.
		30.0	18.	230.	-11.	-13.
		35.0	15.	180.	-15.	0.
		40.0	21.	150.	-18.	10.
		45.0	26.	150.	-23.	13.
APR. 16, 1973	2:28	3.0	16.	310.	10.	-12.
APR. 16, 1973	2:52	3.0	12.	330.	10.	-6.
APR. 16, 1973	3: 0	3.0	12.	320.	9.	-8.
APR. 16, 1973	3:30	3.0	9.	330.	8.	-4.
APR. 16, 1973	3:55	3.0	7.	310.	4.	-5.

BA01 CURRENT PROFILE 1400 APR. 16/73



STATION BA01 BARROW STRAIT
 CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 16, 1973	4:25	3.0	7.	310.	4.	-5.
APR. 16, 1973	4:47	3.0	9.	320.	7.	-6.
APR. 16, 1973	14:37	3.0	8.	270.	-0.	-8.
		4.0	8.	250.	-3.	-7.
		5.0	8.	270.	-0.	-8.
		6.0	7.	250.	-2.	-7.
		7.0	7.	240.	-4.	-6.
		8.0	8.	250.	-3.	-7.
		9.0	8.	240.	-4.	-7.
		10.0	8.	240.	-4.	-7.
		15.0	9.	220.	-7.	-6.
		20.0	8.	220.	-6.	-5.
		30.0	4.	230.	-3.	-3.
		35.0	5.	160.	-5.	2.
		40.0	7.	180.	-7.	0.
		45.0	8.	190.	-8.	-1.
APR. 16, 1973	14:55	3.0	6.	330.	5.	-3.
		4.0	6.	330.	5.	-3.
		6.0	8.	320.	6.	-5.
		8.0	7.	310.	5.	-6.
		10.0	6.	300.	3.	-5.
		15.0	8.	250.	-3.	-8.
		20.0	5.	250.	-2.	-5.
		25.0	4.	220.	-3.	-3.
		30.0	6.	290.	2.	-6.
		35.0	5.	170.	-5.	1.
		40.0	7.	190.	-7.	-1.
		45.0	8.	190.	-8.	-1.
APR. 16, 1973	15:47	3.0	3.	340.	2.	-1.
APR. 16, 1973	16:3	3.0	5.	350.	5.	-1.



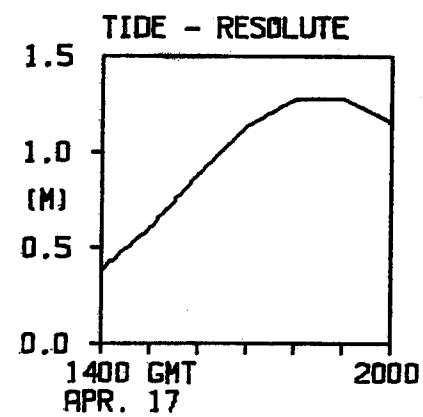
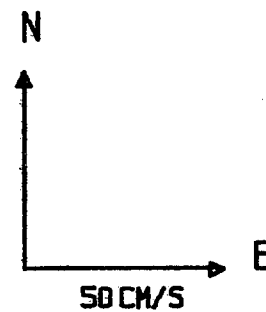
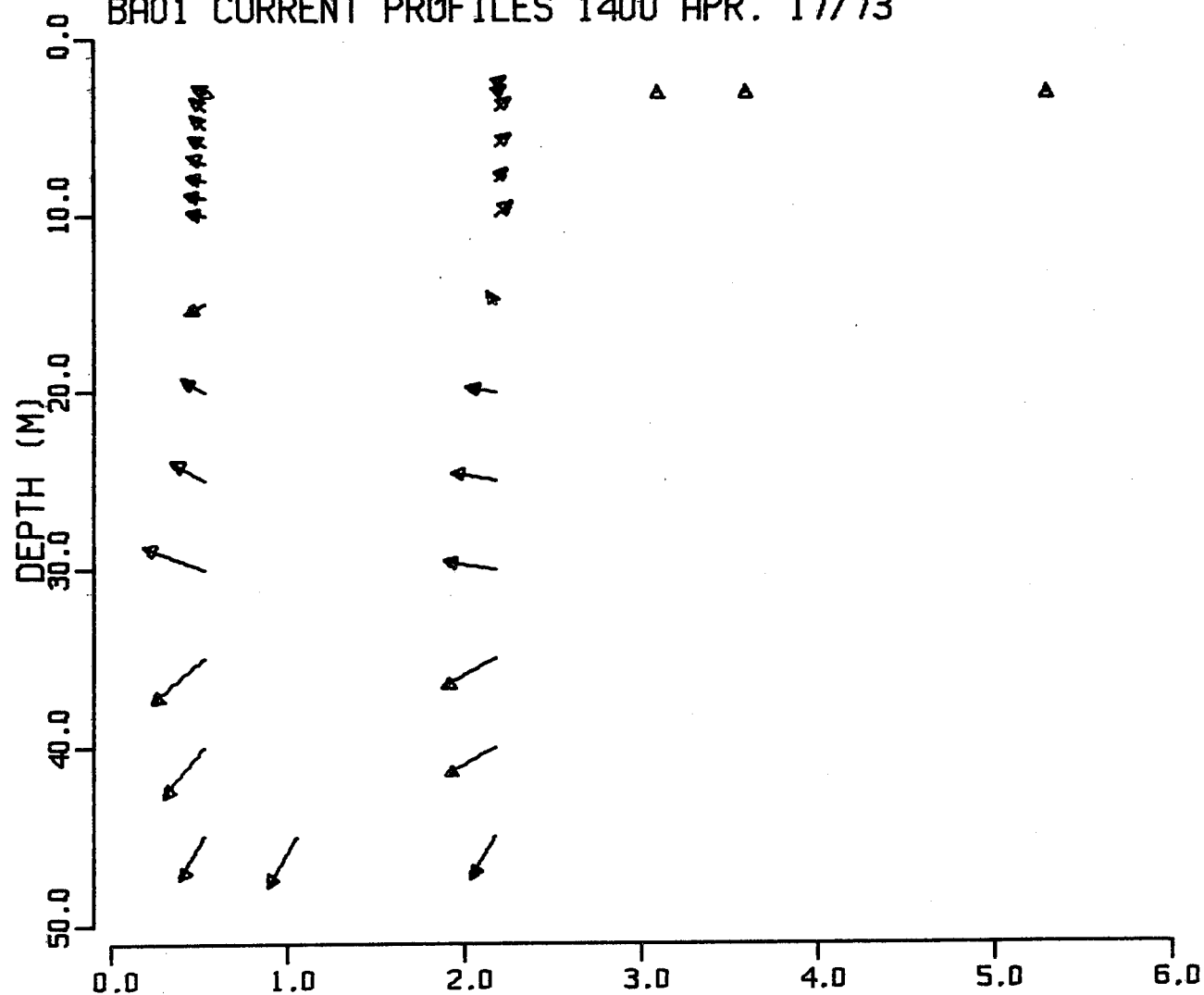
STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 16, 1973	16:35	3.0	0.	0.	0.	0.
APR. 16, 1973	20:32	3.0	7.	240.	-3.	-6.
APR. 16, 1973	20:45	3.0	8.	240.	-4.	-7.
APR. 16, 1973	21: 0	3.0	8.	250.	-3.	-8.
APR. 16, 1973	22:15	3.0	13.	260.	-2.	-13.
APR. 16, 1973	22:36	3.0	11.	160.	-11.	4.
		4.0	11.	160.	-11.	4.
		5.0	11.	180.	-11.	0.
		6.0	13.	230.	-8.	-10.
		7.0	13.	240.	-6.	-11.
		8.0	14.	240.	-7.	-12.
		9.0	14.	240.	-7.	-12.
		10.0	13.	240.	-6.	-11.
		15.0	15.	220.	-12.	-10.
		20.0	15.	200.	-15.	-5.
		25.0	10.	220.	-8.	-7.
		30.0	11.	230.	-7.	-9.
		35.0	18.	230.	-12.	-14.
		40.0	23.	210.	-20.	-12.
		45.0	16.	180.	-16.	0.

STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

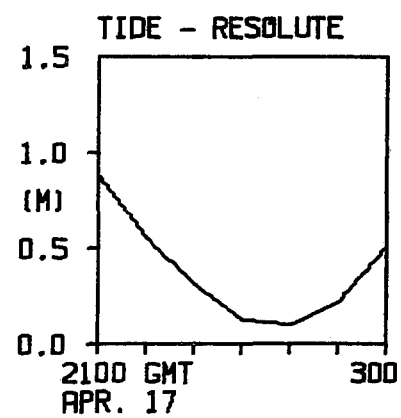
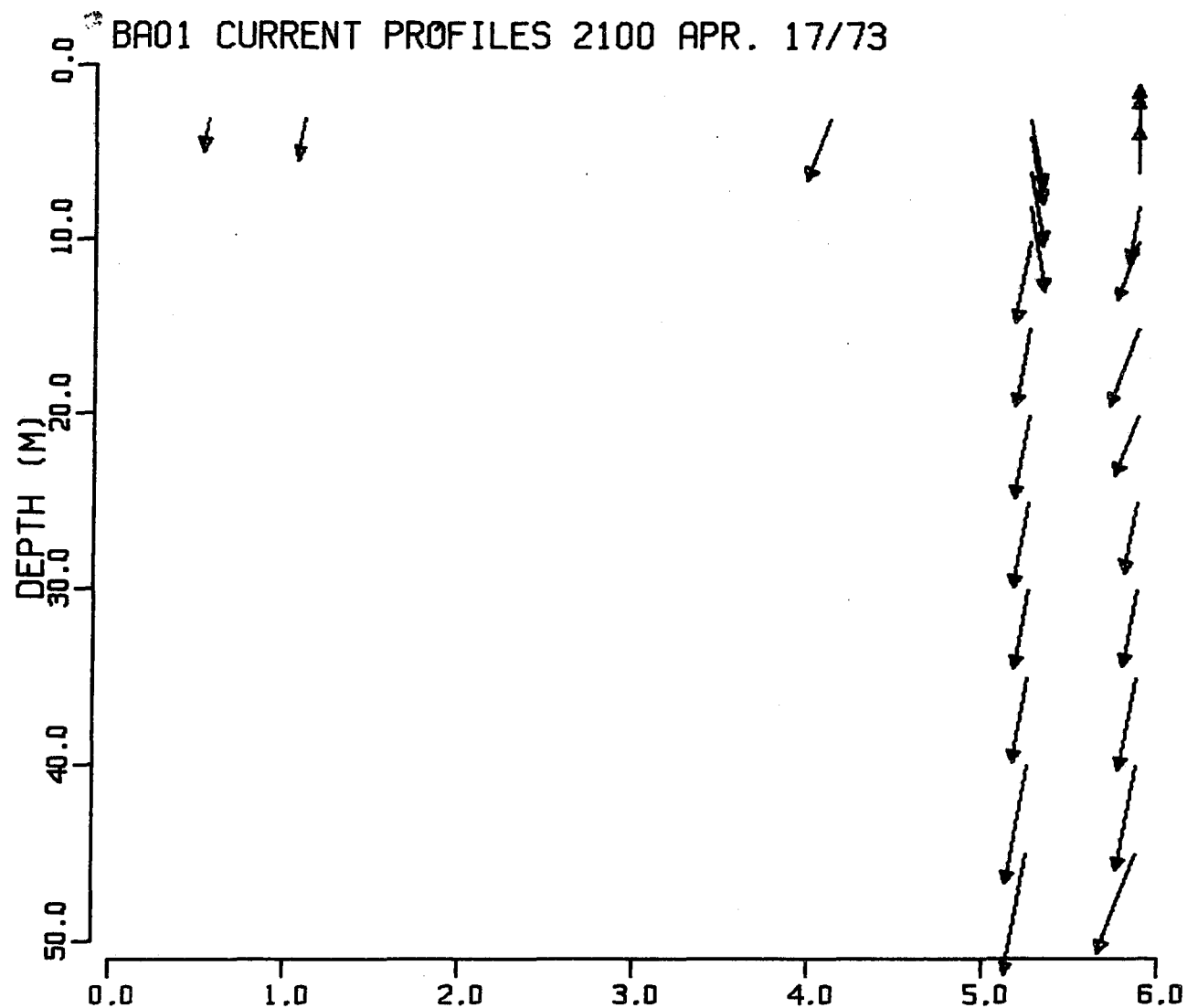
		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 16, 1973	23:10	3.0	12.	250.	-4.	-11.
		4.0	14.	230.	-9.	-11.
		5.0	14.	230.	-9.	-11.
		6.0	15.	230.	-10.	-12.
		8.0	16.	210.	-14.	-8.
		10.0	18.	210.	-15.	-9.
		15.0	18.	180.	-18.	0.
		20.0	16.	180.	-16.	0.
		25.0	11.	170.	-11.	2.
		30.0	9.	180.	-9.	0.
		35.0	22.	180.	-22.	0.
		40.0	26.	160.	-25.	9.
		45.0	26.	160.	-24.	9.
APR. 16, 1973	23:35	3.0	17.	270.	-0.	-17.
APR. 17, 1973	1:20	3.0	14.	300.	7.	-12.
APR. 17, 1973	1:47	3.0	14.	290.	5.	-14.
APR. 17, 1973	2:29	3.0	11.	270.	-0.	-11.
		4.0	15.	300.	8.	-13.
		5.0	14.	310.	9.	-11.
		6.0	15.	300.	8.	-13.
		8.0	16.	300.	8.	-14.
		10.0	18.	300.	9.	-15.
		15.0	17.	250.	-6.	-16.
		20.0	16.	220.	-13.	-11.
		25.0	16.	270.	-0.	-16.
		30.0	15.	290.	5.	-15.
		35.0	20.	260.	-3.	-19.
		40.0	26.	220.	-20.	-17.
		45.0	29.	200.	-28.	-10.

BA01 CURRENT PROFILES 1400 APR. 17/73



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

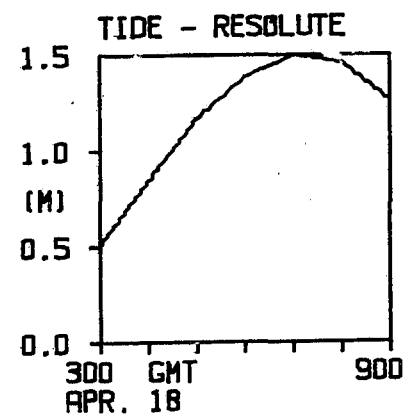
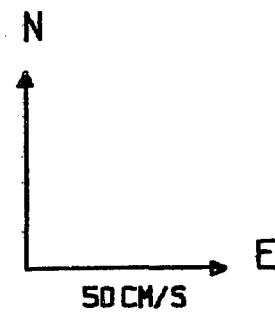
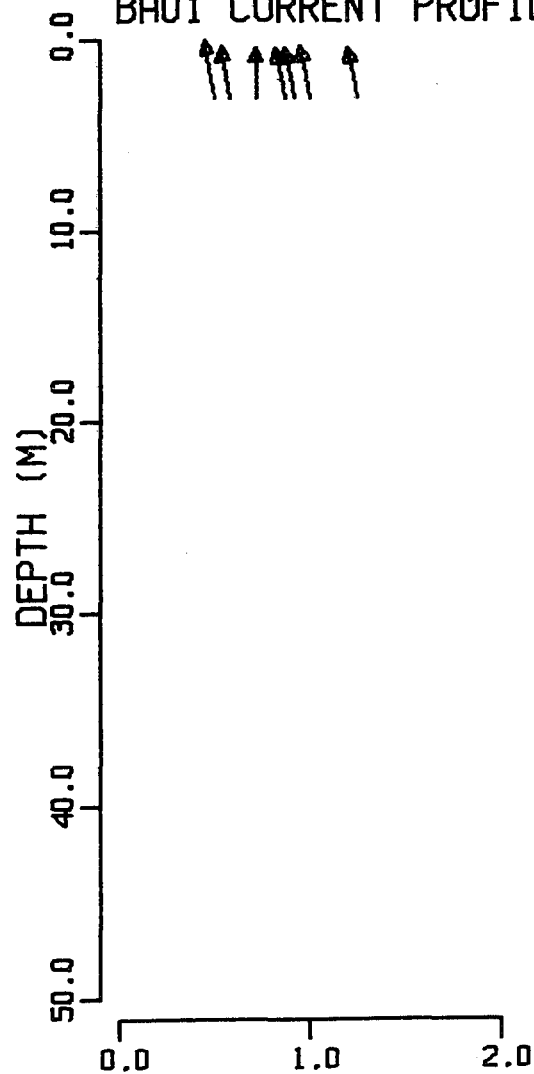
		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 17, 1973	3:32	3.0	11.	0.	11.	0.
		4.0	11.	0.	11.	0.
		6.0	11.	340.	10.	-4.
		8.0	11.	330.	10.	-6.
		10.0	12.	300.	6.	-10.
		15.0	13.	260.	-2.	-13.
		20.0	7.	230.	-4.	-5.
		25.0	11.	240.	-5.	-9.
		30.0	17.	250.	-6.	-16.
		35.0	18.	230.	-12.	-14.
		40.0	24.	210.	-21.	-12.
		45.0	23.	200.	-22.	-8.
APR. 17, 1973	4: 0	3.0	11.	0.	11.	0.
APR. 17, 1973	14:32	3.0	3.	300.	1.	-2.
		3.0	0.	340.	0.	0.
		4.0	4.	310.	2.	-3.
		5.0	4.	310.	2.	-3.
		6.0	4.	300.	2.	-3.
		7.0	4.	290.	1.	-3.
		8.0	4.	280.	1.	-4.
		9.0	4.	280.	1.	-4.
		10.0	4.	280.	1.	-4.
		15.0	5.	240.	-2.	-4.
		20.0	6.	300.	3.	-5.
		25.0	9.	300.	5.	-8.
		30.0	17.	290.	6.	-16.
		35.0	18.	230.	-12.	-14.
		40.0	16.	220.	-13.	-11.
		45.0	12.	210.	-11.	-6.
APR. 17, 1973	15: 3	45.0	14.	210.	-12.	-7.



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 17, 1973	16:10	2.5	2.	50.	1.	1.
		3.0	2.	50.	1.	1.
		4.0	4.	50.	2.	3.
		6.0	4.	50.	2.	3.
		8.0	3.	40.	2.	2.
		10.0	4.	50.	3.	3.
		15.0	3.	330.	2.	-1.
		20.0	7.	280.	1.	-7.
		25.0	11.	280.	2.	-11.
		30.0	13.	280.	2.	-13.
		35.0	15.	240.	-8.	-13.
		40.0	14.	240.	-7.	-12.
		45.0	12.	210.	-10.	-6.
APR. 17, 1973	17: 5	3.0	0.	0.	0.	0.
APR. 17, 1973	17:35	3.0	0.	0.	0.	0.
APR. 17, 1973	19:17	3.0	0.	0.	0.	0.
APR. 17, 1973	21:33	3.0	8.	190.	-8.	-1.
APR. 17, 1973	22: 6	3.0	10.	190.	-10.	-2.
APR. 18, 1973	1: 6	3.0	17.	200.	-16.	-6.

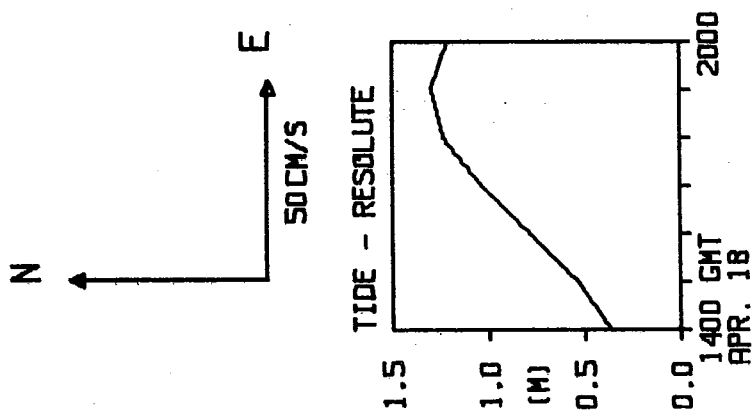
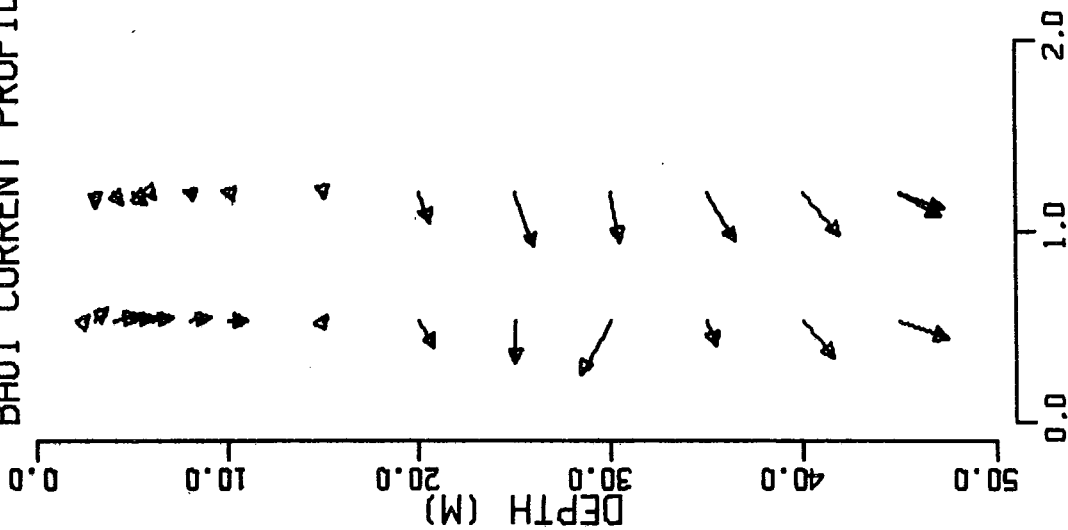
BA01 CURRENT PROFILES 0300 APR. 18/73



STATION BA01 HARROW STRAIT
 CURRENT PROFILE(S)

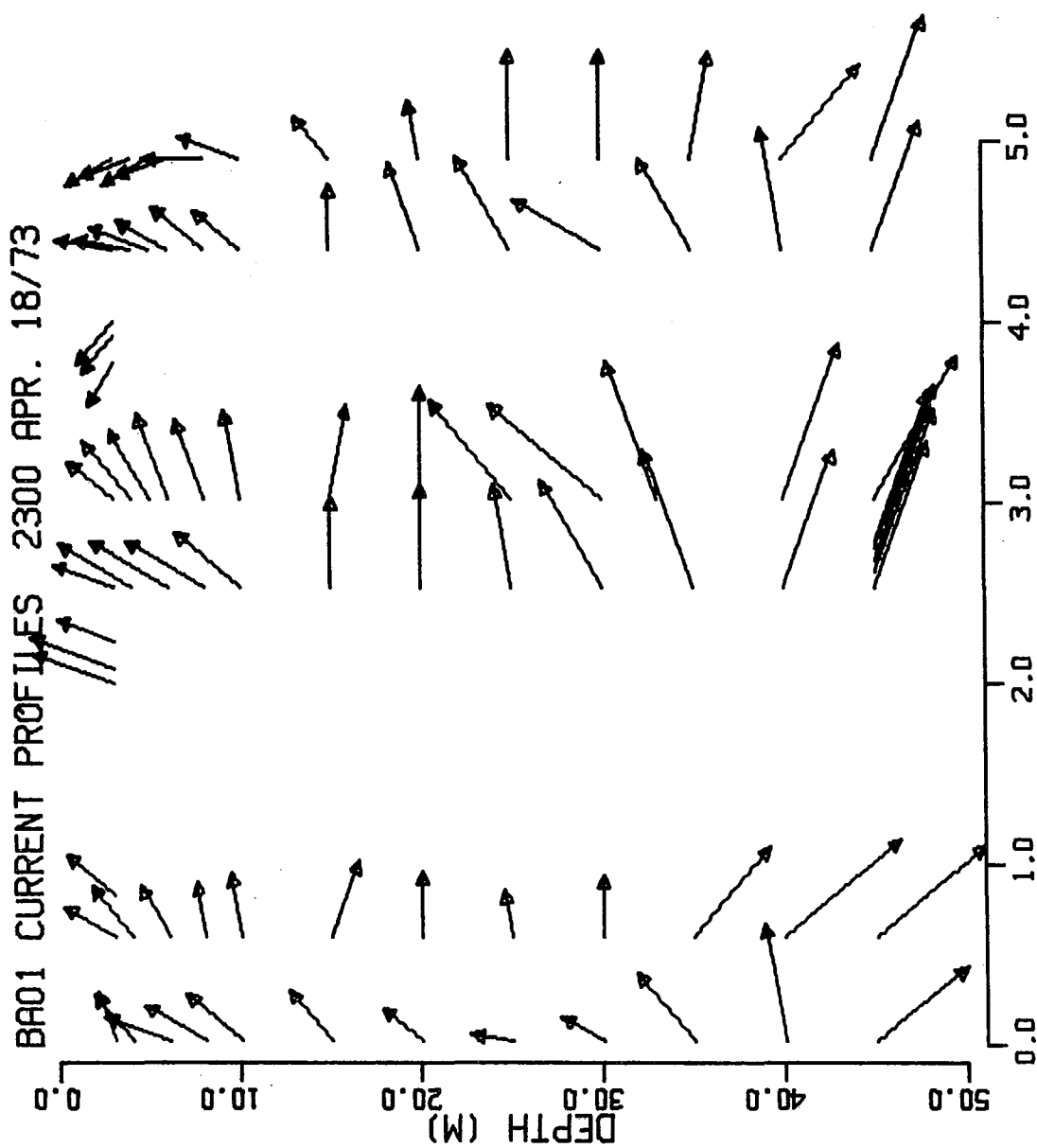
		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 18, 1973	2:15	3.0	18.	170.	-18.	3.
		4.0	18.	170.	-17.	3.
		6.0	20.	170.	-19.	3.
		8.0	23.	170.	-22.	4.
		10.0	22.	190.	-21.	-4.
		15.0	21.	190.	-20.	-4.
		20.0	22.	190.	-22.	-4.
		25.0	23.	190.	-22.	-4.
		30.0	21.	190.	-20.	-4.
		35.0	23.	190.	-22.	-4.
		40.0	32.	190.	-32.	-6.
		45.0	33.	190.	-33.	-6.
APR. 18, 1973	2:52	3.0	8.	0.	8.	0.
		4.0	10.	0.	10.	0.
		6.0	11.	0.	11.	0.
		8.0	14.	190.	-14.	-3.
		10.0	16.	200.	-15.	-5.
		15.0	22.	200.	-20.	-7.
		20.0	16.	200.	-15.	-6.
		25.0	19.	190.	-18.	-3.
		30.0	20.	190.	-20.	-3.
		35.0	25.	190.	-24.	-4.
		40.0	28.	190.	-28.	-5.
		45.0	28.	200.	-27.	-10.
APR. 18, 1973	3:30	3.0	13.	350.	13.	-2.
APR. 18, 1973	3:35	3.0	12.	350.	12.	-2.
APR. 18, 1973	3:43	3.0	11.	0.	11.	0.
APR. 18, 1973	3:52	3.0	11.	350.	11.	-2.
APR. 18, 1973	3:55	3.0	11.	350.	11.	-2.

BA01 CURRENT PROFILES 1400 APR. 18/73



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 18, 1973	4: 0	3.0	12.	350.	12.	-2.
APR. 18, 1973	4:15	3.0	11.	350.	11.	-2.
APR. 18, 1973	14:32	2.5	0.	130.	0.	0.
		3.0	3.	140.	-2.	2.
		4.0	5.	170.	-5.	1.
		5.0	4.	170.	-4.	1.
		6.0	4.	170.	-4.	1.
		8.0	4.	170.	-4.	1.
		10.0	3.	180.	-3.	0.
		15.0	0.	120.	0.	0.
		20.0	7.	240.	-3.	-6.
		25.0	9.	270.	-0.	-9.
		30.0	14.	300.	7.	-12.
		35.0	5.	250.	-2.	-5.
		40.0	11.	230.	-7.	-8.
		45.0	11.	200.	-11.	-4.
APR. 18, 1973	15:12	3.0	2.	260.	-0.	-2.
		4.0	2.	230.	-1.	-2.
		5.0	3.	220.	-2.	-2.
		6.0	0.	230.	0.	0.
		8.0	0.	20.	0.	0.
		10.0	0.	10.	0.	0.
		15.0	0.	260.	0.	0.
		20.0	7.	250.	-2.	-6.
		25.0	13.	250.	-5.	-13.
		30.0	11.	260.	-2.	-11.
		35.0	13.	240.	-6.	-11.
		40.0	13.	230.	-8.	-10.
		45.0	10.	210.	-9.	-5.



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 18, 1973	23: 1	3.0	13.	70.	4.	12.
		4.0	15.	50.	10.	12.
		6.0	18.	20.	16.	6.
		8.0	18.	30.	16.	9.
		10.0	19.	40.	14.	12.
		15.0	17.	50.	11.	13.
		20.0	13.	40.	10.	8.
		25.0	10.	10.	10.	2.
		30.0	12.	30.	10.	6.
		35.0	23.	50.	15.	18.
		40.0	31.	80.	5.	31.
		45.0	31.	140.	-24.	20.
APR. 18, 1973	23:36	3.0	14.	30.	12.	7.
		4.0	16.	50.	11.	13.
		6.0	14.	60.	7.	12.
		8.0	13.	80.	2.	13.
		10.0	16.	80.	3.	16.
		15.0	21.	110.	-7.	19.
		20.0	16.	90.	0.	16.
		25.0	11.	80.	2.	11.
		30.0	15.	90.	0.	15.
		35.0	31.	130.	-20.	24.
		40.0	40.	140.	-31.	26.
		45.0	38.	140.	-29.	24.
APR. 18, 1973	23:50	3.0	15.	40.	12.	10.
APR. 19, 1973	1: 0	3.0	22.	20.	21.	8.
APR. 19, 1973	1: 5	3.0	23.	20.	21.	8.
APR. 19, 1973	1:14	3.0	15.	20.	14.	5.

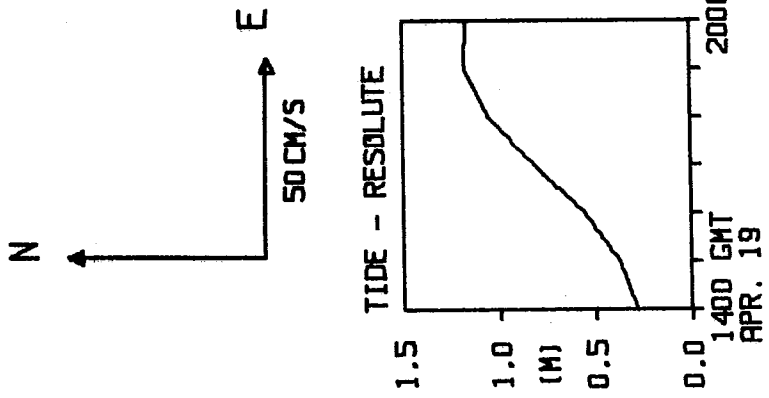
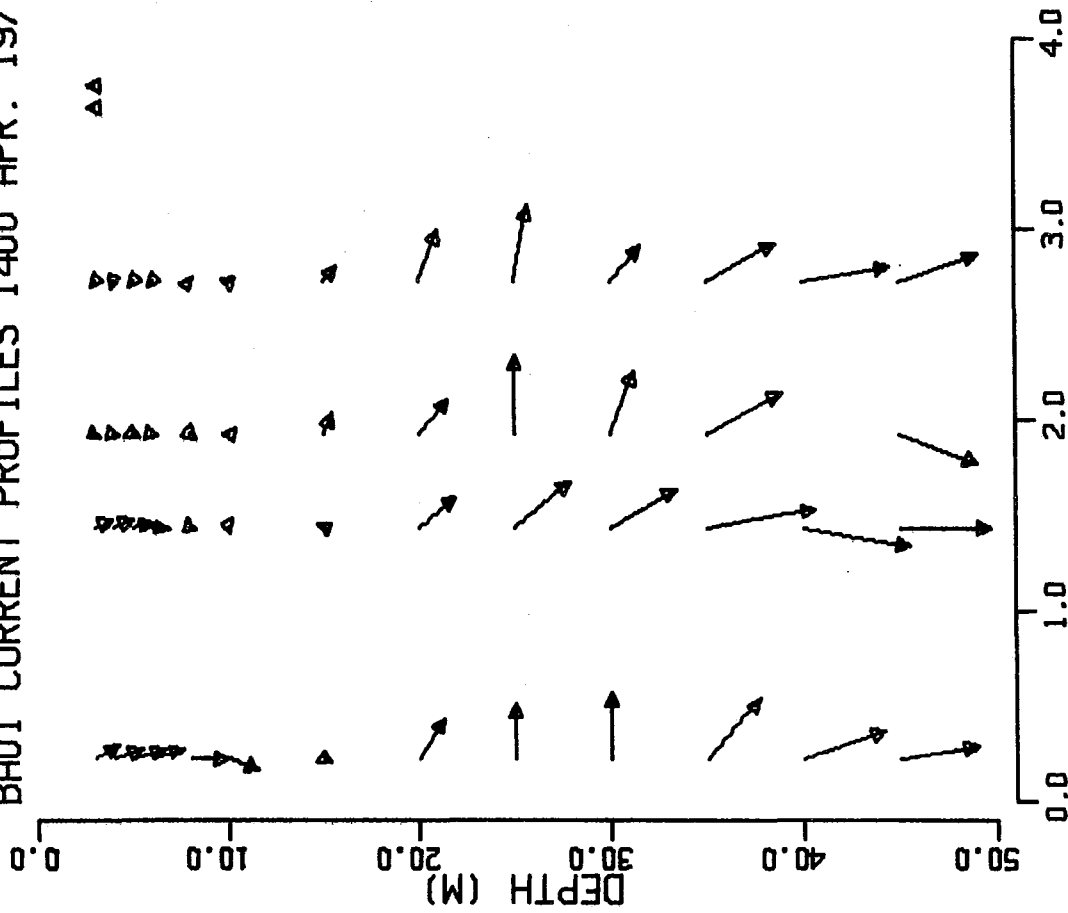
STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR, 19, 1973	1:32	3.0	16.	20.	15.	5.
		4.0	22.	30.	19.	11.
		6.0	23.	30.	20.	12.
		8.0	23.	30.	20.	12.
		10.0	22.	40.	17.	14.
		15.0	23.	90.	0.	23.
		20.0	27.	90.	0.	27.
		25.0	27.	80.	5.	26.
		30.0	32.	60.	16.	28.
		35.0	39.	70.	13.	36.
		40.0	39.	110.	-13.	36.
		45.0	41.	110.	-14.	39.
APR, 19, 1973	1:37	45.0	46.	110.	-16.	44.
APR, 19, 1973	1:41	45.0	44.	110.	-15.	41.
APR, 19, 1973	1:45	45.0	46.	110.	-16.	44.
APR, 19, 1973	1:47	45.0	42.	110.	-14.	40.
APR, 19, 1973	2: 1	3.0	14.	40.	11.	9.
		4.0	19.	50.	12.	15.
		5.0	21.	60.	10.	18.
		6.0	23.	70.	8.	22.
		8.0	22.	70.	7.	20.
		10.0	23.	80.	4.	23.
		15.0	25.	100.	-4.	24.
		20.0	29.	90.	0.	29.
		25.0	33.	50.	22.	26.
		30.0	39.	40.	30.	25.
		33.0	39.	70.	13.	36.
		40.0	44.	110.	-15.	42.
		45.0	44.	120.	-22.	38.
APR, 19, 1973	2:46	3.0	12.	300.	6.	-10.

STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 19, 1973	2:55	3.0	12.	310.	8.	-9.
APR. 19, 1973	3: 0	3.0	14.	310.	9.	-11.
APR. 19, 1973	3:24	3.0	14.	10.	14.	2.
		4.0	14.	10.	14.	2.
		5.0	15.	20.	15.	5.
		6.0	14.	30.	12.	7.
		8.0	16.	40.	13.	11.
		10.0	14.	40.	11.	9.
		15.0	16.	90.	0.	16.
		20.0	24.	70.	8.	22.
		25.0	28.	60.	14.	24.
		30.0	26.	30.	22.	13.
		35.0	27.	60.	14.	24.
		40.0	32.	80.	6.	32.
		45.0	36.	110.	-12.	34.
APR. 19, 1973	3:54	3.0	13.	330.	11.	-6.
		4.0	13.	340.	12.	-4.
		5.0	13.	330.	11.	-6.
		6.0	13.	340.	12.	-4.
		8.0	15.	0.	15.	0.
		10.0	16.	20.	15.	5.
		15.0	13.	50.	9.	10.
		20.0	14.	80.	3.	14.
		25.0	28.	90.	0.	28.
		30.0	28.	90.	0.	28.
		35.0	28.	100.	-5.	28.
		40.0	32.	130.	-21.	25.
		45.0	40.	110.	-14.	38.

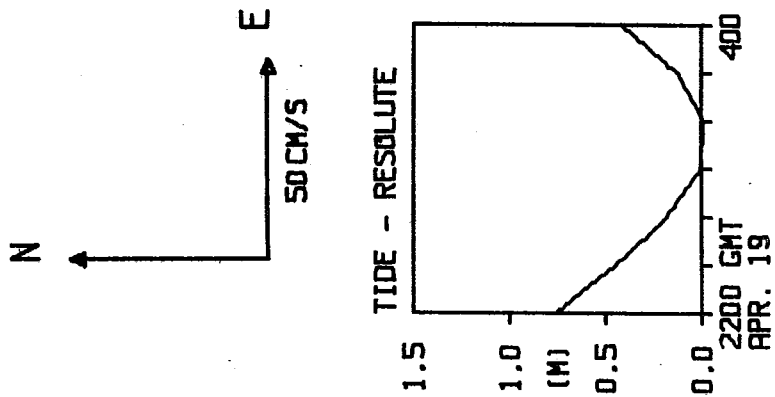
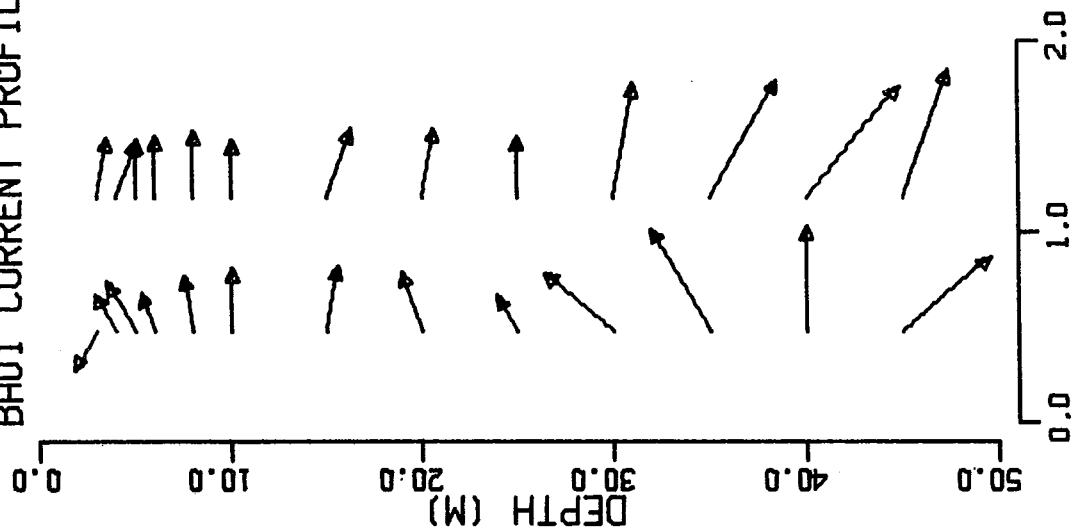
BA01 CURRENT PROFILES 1400 APR. 19/73



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR, 19, 1973	14:13	3.0	5.	150.	-4.	3.
		4.0	6.	160.	-5.	2.
		5.0	7.	160.	-6.	2.
		6.0	7.	160.	-6.	2.
		8.0	8.	180.	-8.	0.
		10.0	6.	200.	-6.	-2.
		15.0	0.	210.	0.	0.
		20.0	11.	120.	-5.	9.
		25.0	13.	90.	0.	13.
		30.0	16.	90.	0.	16.
		35.0	19.	130.	-12.	15.
		40.0	21.	160.	-19.	7.
		45.0	19.	170.	-18.	3.
APR, 19, 1973	15:26	3.0	3.	160.	-3.	1.
		4.0	4.	160.	-3.	1.
		5.0	4.	170.	-4.	1.
		6.0	3.	190.	-3.	-0.
		8.0	0.	200.	0.	0.
		10.0	0.	250.	0.	0.
		15.0	0.	20.	0.	0.
		20.0	11.	140.	-8.	7.
		25.0	17.	140.	-13.	11.
		30.0	18.	150.	-16.	9.
		35.0	27.	170.	-26.	5.
		40.0	26.	190.	-26.	-5.
		45.0	22.	180.	-22.	0.
APR, 19, 1973	15:55	3.0	0.	200.	0.	0.
		4.0	0.	190.	0.	0.
		5.0	0.	210.	0.	0.
		6.0	0.	190.	0.	0.
		8.0	0.	220.	0.	0.
		10.0	0.	10.	0.	0.
		15.0	4.	110.	-1.	4.
		20.0	10.	130.	-7.	8.
		25.0	19.	90.	0.	19.
		30.0	16.	110.	-5.	15.
		35.0	21.	150.	-18.	10.
		45.0	20.	200.	-18.	-7.

BA01 CURRENT PROFILES 2200 APR. 19/73



STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

		DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 19, 1973	16:43	3.0	0.	310.	0.	0.
		4.0	0.	290.	0.	0.
		5.0	0.	310.	0.	0.
		6.0	0.	310.	0.	0.
		8.0	0.	130.	0.	0.
		10.0	0.	20.	0.	0.
		15.0	4.	130.	-2.	3.
		20.0	13.	110.	-4.	12.
		25.0	19.	100.	-3.	18.
		30.0	11.	130.	-7.	8.
		35.0	19.	150.	-17.	10.
		40.0	21.	170.	-21.	4.
		45.0	20.	160.	-19.	7.
APR. 19, 1973	17:38	3.0	0.	0.	0.	0.
APR. 19, 1973	17:45	3.0	0.	0.	0.	0.
APR. 19, 1973	22:29	3.0	10.	0.	10.	0.
		4.0	9.	60.	5.	8.
		5.0	13.	60.	6.	11.
		6.0	9.	70.	3.	8.
		8.0	13.	80.	2.	13.
		10.0	14.	90.	0.	14.
		15.0	15.	100.	-3.	15.
		20.0	14.	70.	5.	14.
		25.0	9.	60.	4.	8.
		30.0	22.	40.	17.	14.
		35.0	29.	60.	14.	25.
		40.0	26.	90.	0.	26.
		45.0	28.	140.	-22.	18.

STATION BA01 BARROW STRAIT
CURRENT PROFILE(S)

	DEPTH (M)	SPEED (CM/S)	DIRECTION	NS COMP (CM/S)	EW COMP (CM/S)
APR. 19, 1973 23:11	3.0	14.	100.	-2.	14.
	4.0	14.	110.	-5.	13.
	5.0	13.	90.	0.	13.
	6.0	14.	90.	0.	14.
	8.0	15.	90.	0.	15.
	10.0	13.	90.	0.	13.
	15.0	17.	110.	-6.	16.
	20.0	16.	100.	-3.	16.
	25.0	14.	90.	0.	14.
	30.0	28.	100.	-5.	28.
	35.0	33.	120.	-17.	29.
	40.0	36.	130.	-23.	28.
	45.0	33.	110.	-11.	31.